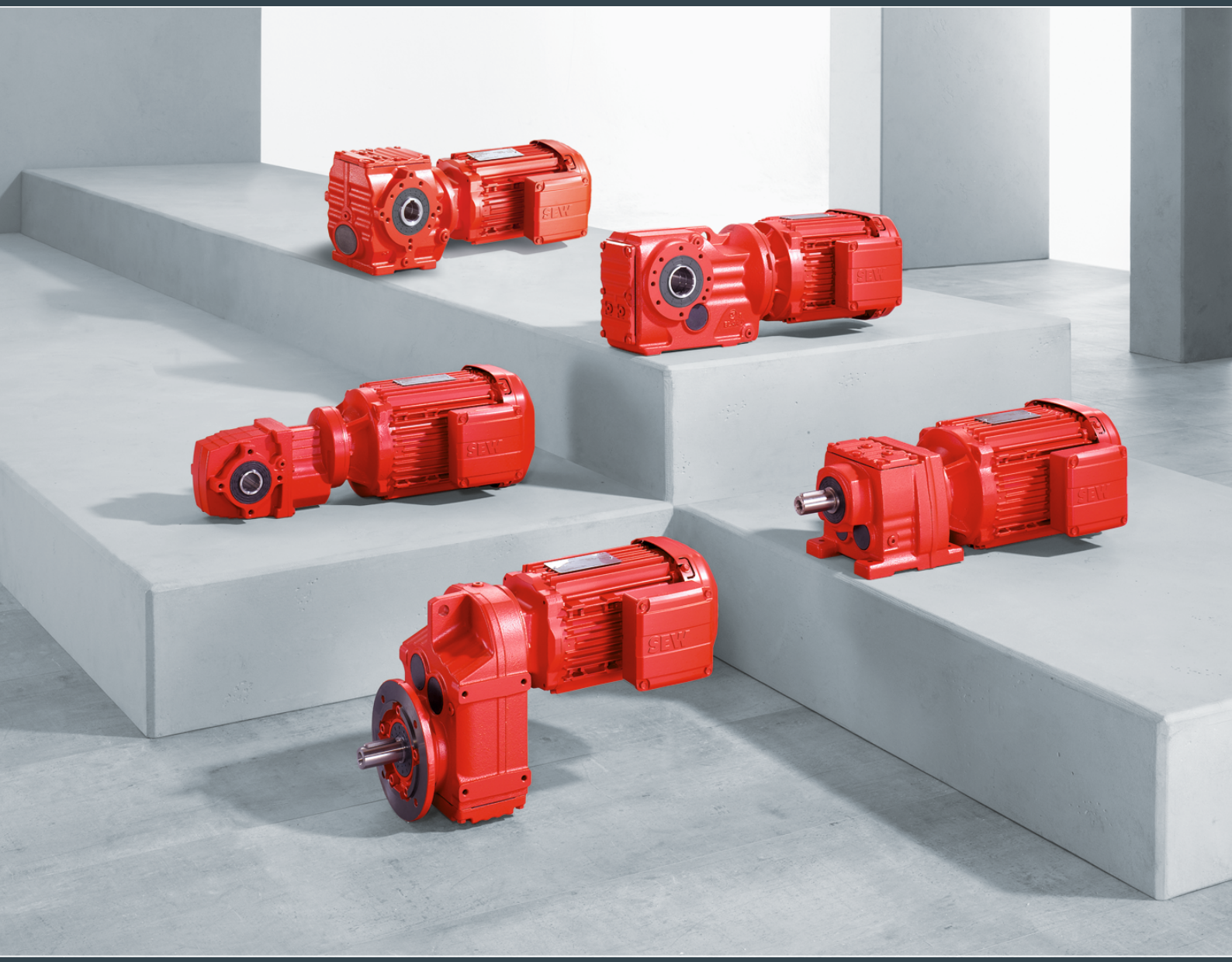
SEW EURODRIVE

Catalog



(E)DRN..(IE3) Gearmotors – 60 Hz

DRN.. and EDRN.. Gearmotors in HazLoc-NA®

Edition 08/2016

22742654/EN



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1 Introduction

1.1 The SEW-EURODRIVE group of companies

1.1.1 Global presence

Driving the world – with innovative drive solutions for all industries and for every application. Products and systems from SEW-EURODRIVE are used all over the world. Be it in the automotive, building materials, food and beverage or metal-processing industry: The decision to use drive technology "made by SEW-EURODRIVE" stands for reliability for both functionality and investment.

We are represented in the most important branches of industry all over the world: with 14 manufacturing plants and 79 Drive Technology Centers worldwide as well as our customer support, which we consider an integrative service that continues our commitment to outstanding quality.

1.1.2 Always the right drive

The SEW-EURODRIVE modular concept offers millions of combinations. This wide selection enables you to choose the correct drive for all applications, each based on the required speed and torque range, available space, and ambient conditions. Gear units and gearmotors offering a unique and finely tuned performance range and the best economic prerequisites to meet your drive requirements.

The modular DR.. motor series includes the energy-efficient motor types IE1 to IE4 and was designed and constructed with all worldwide requirements for energy efficiency classes in mind. The DR.. motor easily meets the requirements for approval and certification in all relevant countries. The energy-efficient drives achieve the highest efficiency in combination with SEW-EURODRIVE gear units.

The gearmotors are electronically enhanced by MOVITRAC® frequency inverters, MOVIDRIVE® drive inverters, and MOVIAXIS® multi-axis servo inverters – a combination that blends perfectly with the existing SEW-EURODRIVE program. As is the case with the mechanical systems, all development, production, and assembly is carried out entirely by SEW-EURODRIVE. In combination with our drive electronics, these drives provide the utmost in flexibility.

Products of the servo drive system, such as low backlash servo gear units, compact servomotors, or MOVIAXIS® multi-axis servo inverters ensure precision and dynamics. From single-axis or multi-axis applications to synchronized process sequences, servo drive systems from SEW-EURODRIVE enable flexible and customized implementation of your applications.

For economical, decentralized installations, SEW-EURODRIVE offers components from its decentralized drive system, such as MOVIMOT®, the gearmotor with integrated frequency inverter, or MOVI-SWITCH®, the gearmotor with integrated switching and protection function. SEW-EURODRIVE has developed hybrid cables to provide cost-effective functional solutions, irrespective of the system philosophy or scope. The latest developments from SEW-EURODRIVE: DRC.. electronic motor, MOVIGEAR® mechatronic drive system, MOVIFIT® decentralized drive controller, MOVIPRO® decentralized drive, positioning, and application controller, as well as MOVITRANS® system components for contactless energy transfer.

Power, quality, and robustness combined in a single standard product: with SEW-EURODRIVE, powerful movements are delivered by industrial gear units with high torques. The modular concept once again ensures optimum adaptation of industrial gear units to meet a wide range of different applications.

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1.1.3 Your ideal partner

Its global presence, extensive product range and broad spectrum of services make SEW-EURODRIVE the ideal partner for the machinery and plant construction industry when it comes to providing drive systems for demanding drive tasks in all industries and applications.

1.2 Products and systems from SEW-EURODRIVE

The products and systems by SEW-EURODRIVE are divided into the following product groups:

- Industrial gear units
- Gearmotors and frequency inverters
- Servo drive systems
- Decentralized drive systems
- MAXOLUTION®

Products and systems used in applications of several groups are listed in a separate group entitled "products and systems covering several product groups". The following tables indicate the products and systems included in the respective product group:

Industrial gear units
• X, MC, ML series helical and bevel-helical gear units • P002 – 102 series planetary gear units • XP130 – 250 series planetary gear units • P.X.. series planetary bevel-helical gear units • Application solutions with connections – Girth gears – Swing base – Gearmotor – Motor – Coupling – Brake – Lubrication system For conveyor drives, bucket conveyors, agitators, cooling towers, crane systems, and much more

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Gearmotors and frequency inverters		
Gear units / gearmotors	**Motors**	**Frequency inverters**
• Helical gear units / helical gearmotors • Parallel-shaft helical gear units / parallel-shaft helical gearmotors • Helical-bevel gear units / gearmotors • Helical-worm gear units / helical-worm gearmotors • SPIROPLAN® right-angle gearmotors • EMS drives • Geared torque motors • Pole-changing gearmotors • Variable-speed gear units / variable-speed gearmotors • Aseptic gearmotors • Explosion-proof gear units / gearmotors • Explosion-proof variable-speed gear units / variable-speed gearmotors	• Asynchronous AC motors / AC brakemotors • Pole-changing AC motors / AC brakemotors • Energy-efficient motors • Explosion-proof AC motors / AC brakemotors • Torque motors • Single-phase motors / single-phase brakemotors • Asynchronous linear motors	• MOVITRAC® frequency inverters • MOVI4R-U® frequency inverters • MOVIDRIVE® drive inverters • Control, technology and communication options for inverters

Servo drive systems		
Servo gear units / gearmotors	**Servomotors**	**Servo drive inverters / servo inverters**
• Low backlash planetary servo gear units / planetary gearmotors • Low backlash helical-bevel servo gear units / helical-bevel gear units • R, F, K, S, W gear units / gearmotors • Explosion-proof servo gear units / servo gearmotors	• Asynchronous servomotors / servo brakemotors • Synchronous servomotors / servo brakemotors • Explosion-proof servomotors / servo brakemotors • Synchronous linear motors	• MOVIDRIVE® servo drive inverters • MOVIAXIS® multi-axis servo inverter • Control, technology and communication options for servo drive inverters and servo inverters

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Decentralized drive systems		
Decentralized drives	**Communication and installation**	**Contactless energy transfer**
• DRC.. electronic motors / MOVIGEAR® mechatronic drive systems – DBC – Direct Binary Communication – DAC – Direct AS-Interface Communication – DSC – Direct SBus Communication – SNI – Single Line Network Installation • MOVIMOT® gearmotors with integrated frequency inverter • MOVIMOT® motors / brakemotors with integrated frequency inverter • MOVI-SWITCH® gearmotors with integrated switching and protection functions • MOVI-SWITCH® motors / brakemotors with integrated switching and protection function • Explosion-proof MOVIMOT® and MOVI-SWITCH® gearmotors	• Fieldbus interfaces • Field distributors for decentralized installation • MOVIFIT® product range – MOVIFIT® FDC for controlling MOVIGEAR® and DRC.. drive units – MOVIFIT® MC for controlling MOVIMOT® drives – MOVIFIT® SC with integrated electronic motor switch – MOVIFIT® FC with integrated frequency inverter • MOVIPRO® product range – MOVIPRO® SDC decentralized drive and positioning control	• MOVITRANS® system – Stationary components for energy supply – Mobile components for energy consumption – Line cables and installation material

MAXOLUTION®
• MAXOLUTION® packages for predefined application solutions • MAXOLUTION® systems for customer-specific system solutions and plants

Products and systems covering several product groups
• Operator panels • MOVI-PLC® drive-based control system • Components of the type "functional safety" • Diagnostic units

In addition to its products and systems, SEW-EURODRIVE offers a comprehensive range of services. These include:

- Technical consulting
- User software
- Seminars and training
- Extensive technical documentation
- Worldwide customer service

Visit our website at

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→ **www.sew-eurodrive.com**

The website provides comprehensive information and services.

1.3 Documentation

1.3.1 Content of this publication

The "DRN.. (IE3) – 60 Hz gearmotors and DRN.. and EDRN.. gearmotors in HazLoc-NA®" catalog describes the following product groups from SEW-EURODRIVE:

- DRN../EDRN.. helical gearmotors
- DRN../EDRN.. parallel-shaft helical gearmotors
- DRN../EDRN.. helical-bevel gearmotors
- DRN../EDRN.. helical-worm gearmotors
- DRN../EDRN.. SPIROPLAN® gearmotors

1.3.2 Additional documentation

In addition to this catalog, you can order or download other documents from the SEW-EURODRIVE homepage. The complete range of technical documentation is available in various languages for download from the web at **www.sew-eurodrive.com**.

Catalogs

- Gear units
- Servo gear units
- AC motors
- DRS.. gearmotors (IE1)
- DRE.. gearmotors (IE2)
- Synchronous servomotors
- Synchronous servo gearmotors
- Asynchronous servo gearmotors
- DRC.. gearmotors
- Gearmotors with single-phase motor
- Gearmotors with BF../BT.. double brake
- Variable-speed gearmotors
- Pole-changing gearmotors
- Geared torque motors
- Explosion-proof drives
- Explosion-proof AC motors

Drive Engineering – Practical Implementation

You find detailed documentation about the entire topic of electrical drive engineering in the publications of the "Drive Engineering - Practical Implementation" series:

- Project planning for drives

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- EMC in Drive Engineering – Basic Theoretical Principles and EMC-Compliant Installation in Practice
- Efficient Plant Automation with Mechatronic Drive Solutions
- SEW Encoder Systems
- Servo technology

1.4 Product names and trademarks

All product names included in this documentation are trademarks or registered trademarks of the respective titleholders.

1.5 Copyright notice

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2 Product description

This catalog applies to countries with a line frequency of 60 Hz.

The dimensions for the output shafts in the dimension sheets are metric. Contact your SEW-EURODRIVE sales representative if you require output shaft dimensions in inch.

The motor power is specified in Kilowatts. Refer to the chapter "Technical data of the motors" (→ 🗎 776) for the power ratings in horsepower (hp).

2.1 Product features

2.1.1 Operating temperatures

Gear units and gearmotors from SEW-EURODRIVE can be operated in a wide ambient temperature range.

Gear unit

The following standard temperature ranges are permitted for filling the gear units according to the lubricant table:

Gear unit	Filled with	Permitted standard temperature range
K..19, K..29, K..39, K..49	CLP(PG) VG460	-20 °C to +60 °C
K..37, K..47, K..57– K..187 **RX.57 – RX.107** **R.07 – R.167** **F..27 – F..157**	CLP(CC) VG220	-15 °C to +40 °C
S..37 – S..97	CLP(CC) VG680	0 °C to +40 °C
W..10 – W..30, W..37, W..47	CLP(SEW-PG) VG460	-20 °C to +40 °C

The rated data of the gear units and gearmotors specified in the catalog refer to an ambient temperature of +25 °C.

Gear units from SEW-EURODRIVE can be operated outside the standard temperature range if project planning is adapted to ambient temperatures from as low as up to -40 °C in the intensive cooling range until up to +60 °C. Project planning must take special operating conditions into account and adapt the drive to the ambient conditions by selecting suitable lubricants and seals.

SEW-EURODRIVE recommends thermal project planning for the drives in general and offers to perform the project planning.

Motors

The motors of the DR.. series are designed for use in a temperature range from -20 °C to +40 °C.

This expands the standardized temperature range required by IEC 60034.

Using the motors outside the above temperature range is possible with some special adjustments. Contact SEW-EURODRIVE in this case.

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If the drive is to be operated on a frequency inverter, you must also consider the project planning notes for the inverter and take into account the thermal effects of inverter operation.

2.1.2 Installation altitude

Due to the low air density at high installation altitudes, heat dissipation on the surface of motors and gear units decreases. The rated data listed in the catalog applies to an installation altitude of maximum 1000 m above sea level. Installation altitudes > 1000 m asl must be taken into account for project planning of gear units and gearmotors.

2.1.3 Power and torque

The power and torque ratings refer to mounting position M1 and similar mounting positions in which the input stage is not completely submerged in oil. In addition, the gearmotors are assumed to be standard versions with standard lubrication and under normal ambient conditions.

2.1.4 Speeds

The quoted output speeds of the gearmotors are recommended values. You can calculate the rated output speed based on the rated motor speed and the gear unit reduction ratio. Please note that the actual output speed depends on the motor load and the supply system conditions.

2.1.5 Noise

The noise levels of all SEW-EURODRIVE gear units, motors and gearmotors are well within the maximum permitted noise levels set forth in the VDI guideline 2159 for gear units and IEC/EN 60034 for motors.

2.1.6 Painting

The gear units, motors and gearmotors from SEW-EURODRIVE are coated as follows:

Gear unit	Coating according to standard 1843
R, F, K, S, W gear units	blue/gray RAL 7031

Exception: SPIROPLAN® W..10DT56 gearmotors have an aluminum housing and are supplied unpainted as standard.

Special coatings are available on request.

2.1.7 Surface and anti-corrosion protection

If required, all gear units, motors and gearmotors from SEW-EURODRIVE can also be supplied with surface protection for applications in extremely humid and chemically aggressive environments.

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2.1.8 Heat dissipation and accessibility

Make sure to maintain adequate distance from heat-sensitive components when installing gearmotors/geared brakemotors to the driven machine. The distance is necessary for air circulation for the heat dissipation, for maintenance of the brake and of the MOVIMOT® inverter, if installed.

Please also observe to the notes in the motor dimension sheets in the "AC Motors" catalog.

2.1.9 Weights

Please note that the weight information shown in the catalogs only apply to the gear units and gearmotors without lubricant. The weight varies according to gear unit design and gear unit size. The lubricant fill depends on the mounting position selected, which means that in this case no universally applicable information can be given. For the exact weight, refer to the quotation or the order confirmation.

2.1.10 Backlash reduction

Helical, parallel-shaft helical and helical-bevel gear units with reduced backlash (only K..7) are available as of gear unit size 37. K..9 helical-bevel gear units are not available with reduced backlash.

The rotational clearance of these gear units is considerably less than that of the standard designs so that positioning tasks can be solved with great precision. The rotational clearance is specified in angular minutes in the chapter "Geometrically possible combinations" (see chapter "Structure of the combination tables" (→ 🗎 174)). The rotational clearance for the output shaft is specified without load (max. 1% of the rated output torque); the gear unit input end is blocked. For further information, refer to chapter "Reduced backlash gear unit design /R" (→ 🗎 135).

2.1.11 Multi-stage gearmotors

You can achieve particularly low output speeds by using compound gear units or compound gearmotors. This requires a helical gear unit on the input end as a second gear unit.

It may be necessary to limit the motor power to match the maximum permitted output torque of the gear unit.

2.1.12 RM gear units, RM gearmotors

RM gear units and RM gearmotors are a special type of helical gear units with an extended output bearing hub. They were designed especially for agitating applications and allow for high overhung and axial loads and bending moments. The other data are the same as for standard helical gear units and standard helical gearmotors. You can find special project planning notes for RM gear units in the chapter "Project planning for RM gear units" (→ 🗎 69).

2.1.13 SPIROPLAN® gearmotors

SPIROPLAN® right-angle gearmotors are robust, single- and two-stage right-angle gearmotors with SPIROPLAN® gearing. The difference to the helical-worm gear units is the material combination of the steel-on-steel gearing, the special tooth meshing relation and the aluminum housing. As a result, SPIROPLAN® right-angle gearmotors are wear-free and lightweight.

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The particularly short design and the aluminum housing make for very compact and lightweight drive solutions.

The wear-free gearing and the life-long lubrication facilitate long periods of maintenance-free operation. The identical hole spacing in the foot and face as well as the same axle height to both makes for a number of mounting options.

On request, SPIROPLAN® gearmotors can be equipped with a torque arm.

2.1.14 Brakemotors

On request, motors and gearmotors can be supplied with an integrated mechanical brake. The SEW-EURODRIVE brake is an electromagnetic disk brake with a DC coil that releases electrically and brakes using spring force. Due to its operating principle, the brake is applied if the power fails. It meets the basic safety requirements. The brake can also be released mechanically if equipped with manual brake release. For this purpose, the brake comes with either a hand lever with automatic reset or an adjustable setscrew. The brake is controlled with a brake control that is either installed in the motor wiring space or the control cabinet.

A characteristic feature of the brakes is their very short design. The brake bearing endshield is a part of both the motor and the brake. The integrated construction of the SEW-EURODRIVE brakemotor permits particularly compact and robust solutions.

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2.1.15 International markets

Market access is contingent to local approvals in many countries. Additional laws, regulations and market conventions must be adhered to. Experience has shown that an identification of the product is required together with certification. This is realized at SEW-EURODRIVE with one or several logos on the main nameplate or with additional labels on the motor.

The following countries have special requirements for motors. The country-specific requirements apply to the motor in general, the efficiency and, possibly, to the explosion protection.

For details, refer to the respective motor catalog.

Contact your SEW-EURODRIVE sales representative, if required.

Canada

Mark	Meaning
MC170602 Energy Verified	SEW-EURODRIVE motors for the Canadian market comply with the general basic motor standards and, if required, the efficiency requirements of the Canadian Energy Efficiency Regulations of 2011 (EER2011). The CSA-certified explosion-proof motors of the type EDRN.. have the required CSA logo on the nameplate.

USA

Mark	Meaning
	Motors for the USA comply with the requirements stipulated by Underwriters Laboratories as UL Recognized Component and thus have the UR label.
CC056A	The motors that fulfill the efficiency requirements according to CFR 431 have the energy efficiency logo of the Department of Energy (DoE).
MC170602 c us Energy Verified	The explosion-proof motors of the type EDRN.. are CSA-certified. The CSA logo indicates that the Canadian and American standards are complied with.

South Korea

Mark	Meaning
	Korea accepts motors that are based on the IEC standard 60034. Motors that require an efficiency level must be registered at the Korean KEMCO (Korea Energy Motors Corporation) institution and get the Korean Energy Efficiency label (KEL). Explosion-proof motors are also certified by the "Korea Occupational Safety and Health Agency (KOSHA)". They are not shown in this catalog.

Brazil

Mark	Meaning
	SEW motors for the Brazilian market are registered at ABNT. They have the PROCEL logo if they fulfill the efficiency requirements. Explosion-proof motors have an additional certification based on the IECEx agreement. They are not shown in this catalog.

2.1.16 Components on the input side

The following components on the input side are available for the gear units from SEW-EURODRIVE:

- **Input shaft assembly with input shaft end,** optionally with

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  - Centering shoulder
  - Backstop
  - Motor platform
- **Adapter**
  - For mounting IEC or NEMA motors with the option of a backstop
  - For mounting servomotors with a square flange
  - With torque limiting safety couplings and speed or slip monitor
  - With hydraulic start-up coupling, also available with disk brake or backstop

2.1.17 Swing base

A swing base is a drive unit consisting of helical-bevel gear unit, hydraulic centrifugal coupling and electric motor. The complete arrangement is mounted to a rigid mounting rail.

Swing bases are available with the following optional accessories:

- Torque arm
- Mechanical thermal monitoring unit
- Contactlaess thermal monitoring unit

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2.2 Corrosion and surface protection

2.2.1 General information

For motor and gear unit operation in aggressive environments, SEW-EURODRIVE optionally offers the following preventive measure:

- KS corrosion protection for motors
- Surface protection OS for motors and gear units

For motors, optimum protection is offered by a combination of KS corrosion protection and OS surface protection.

Optional preventive measures are also available for the output shafts.

2.2.2 KS corrosion protection

KS corrosion protection for motors comprises the following measures:

- All retaining screws that are loosened during operation are made of stainless steel.
- The nameplates are made of stainless steel.
- Various motor parts are coated with a finishing varnish.
- The flange contact surfaces and shaft ends are treated with a temporary rust preventive.
- Additional measures are performed for brakemotors.

A sticker labeled "KORROSIONSSCHUTZ" (corrosion protection) on the fan guard indicates special treatment has been applied.

INFORMATION

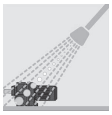
The following motor options are not available with KS corrosion protection:

- /V forced cooling fan
- Shaft-centered encoders /ES, /ES7, /EG, /EG7, /EV7, /AS, /AS7, /AG, /AG7, /AV7

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2.2.3 OS surface protection

As an option for standard surface protection, motors and gear units are also available with surface protection OS1 to OS4. The special measure "Z" is also available in addition. Special measure "Z" means that large contour recesses are filled with rubber before painting.

Surface protection[1) 2)]		Ambient conditions	Sample applications
Standard		Suitable for machines and systems within buildings and interior rooms with neutral atmospheres. Similar to corrosivity category[3)]: • C1 (negligible)	• Machines and systems in the automobile industry • Transport systems in logistics • Conveyor belts at airports
OS1		Suited for environments prone to condensation and atmospheres with low humidity or contamination, such as applications outdoors under roof or with protective device. According to corrosivity category[3)]: • C2 (low)	• Systems in saw mills • Hall gates • Agitators and mixers
OS2		Suitable for environments with high humidity or mean atmospheric contamination, such as applications outdoors subject to direct weathering. According to corrosivity category[3)]: • C3 (moderate)	• Applications in amusement parks • Funiculars and chair-lifts • Applications in gravel plants • Systems in nuclear power plants
OS3		Suitable for environments with high humidity and occasionally severe atmospheric and chemical contamination. Occasionally acidic or caustic wet cleaning. Also for applications in coastal areas with moderate salt load. According to corrosivity category[3)]: • C4 (high)	• Sewage treatment plants • Port cranes • Mining applications
OS4		Suitable for environments with permanent humidity or severe atmospheric or chemical contamination. Regular acidic and caustic wet cleaning, also with chemical cleaning agents. According to corrosivity category[3)]: • C5-1 (very high)	• Drives in malting plants • Wet areas in the beverage industry • Conveyor belts in the food industry

1) Motors/brakemotors in degree of protection IP56 or IP66 are only available with OS2, OS3, or OS4 surface protection.

2) Gearmotors with OS2 – OS4 surface protection are only offered in combination with KS corrosion protection.

3) According to DIN EN ISO 12944-2, classification of ambient conditions

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2.2.4 Special protection measures

Gearmotor output shafts can be treated with special optional protective measures for operation subject to severe environmental pollution or in particularly demanding applications.

Measure	Protection principle	Suitable for
FKM oil seal	High quality material	Drives subject to chemical contamination
Coating on output shaft end	Surface treatment on the contact surface of the oil seal	Severe environmental impact and in conjunction with fluorocarbon rubber oil seal
Output shaft made of stainless steel	Surface protection with high-quality material	Particularly demanding applications in terms of surface protection

2.2.5 NOCO® fluid

As standard, SEW-EURODRIVE supplies NOCO® fluid corrosion protection and lubricant with every hollow shaft gear unit. Use NOCO® fluid when installing hollow shaft gear units. Using this fluid helps prevent contact corrosion and makes it easier to disassemble the drive at a later time. NOCO® fluid is also suitable for protecting machined metal surfaces that do not have corrosion protection, such as parts of shaft ends or flanges. You can also order NOCO® fluid in larger quantities from SEW-EURODRIVE.

Batch size	Packaging type	Part number
5.5 g	Sachet	09107819
100 g	Tube	03253147
1 kg	Tub	09107827

NOCO® fluid is a food grade substance according to NSF-H1. The food-grade NOCO® fluid has a corresponding NSF-H1 label on the packaging.

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2.3 Extended storage

2.3.1 Variant

SEW-EURODRIVE recommends the "extended storage" gear unit design for storage periods longer than 9 months. The lubricant of gear units for extended storage is mixed with a VCI anti-corrosion agent (**v**olatile **c**orrosion **i**nhibitors). Please note that this VCI anti-corrosion agent is only effective in a temperature range of -25 °C to +50 °C. The flange contact surfaces and shaft ends are also treated with an anti-corrosion agent. As standard, the gear unit with "extended storage" option will be supplied with OS1 surface protection. Instead of OS1, you can order OS2, OS3 or OS4.

INFORMATION

To prevent the VCI anti-corrosion agent from evaporating, the gear units in "extended storage" design must remain tightly sealed until startup.

The gear units come with the oil fill according to the specified mounting position (M1 – M6). Always check the oil level before you take the gear unit into operation.

2.3.2 Storage conditions

Observe the storage conditions specified in the following table for extended storage:

Climate zone	Packaging[1)]	Storage[2)]	Storage duration
Temperate (Europe, USA, Canada, China and Russia, excluding tropical zones)	• Packed in containers • With desiccant and moisture indicator sealed in the plastic wrap	• Roofed • Protected against rain and snow • Shock-free	Up to 3 years with regular checks of the packaging and moisture indicator (rel. humidity < 50%)
	Open	• Under roof and enclosed at constant temperature and atmospheric humidity (5 °C < ϑ < 50 °C, < 50% relative humidity) • No sudden temperature variations • Controlled ventilation with filter (free from dust and dirt) • No aggressive vapors • No shocks	2 years or more with regular inspections • Check for cleanness and mechanical damage during the inspection • Check corrosion protection

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Climate zone	Packaging[1)]	Storage[2)]	Storage duration
Tropical (Asia, Africa, Central and South America, Australia, New Zealand excluding temperate zones)	• Packed in containers • With desiccant and moisture indicator sealed in the plastic wrap • Protected against insect damage and mildew by chemical treatment	• Roofed • Protected against rain and snow • Shock-free	Up to 3 years with regular checks of the packaging and moisture indicator (rel. humidity < 50%)
	Open	• Under roof and enclosed at constant temperature and atmospheric humidity (5 °C < ϑ < 50 °C, < 50% relative humidity) • No sudden temperature variations • Controlled ventilation with filter (free from dust and dirt) • No aggressive vapors • No shocks • Protected against insect damage	2 years or more with regular inspections • Check for cleanness and mechanical damage during the inspection • Check corrosion protection

1) The packaging must be carried out by an experienced company using the packaging materials that have been explicitly specified for the particular application.

2) SEW-EURODRIVE recommends to store the gear units according to the mounting position.

2.4 Condition monitoring: Oil aging sensor

2.4.1 DUO10A diagnostic unit

The diagnostic unit consists of a temperature sensor and the actual evaluation unit. The service life curves of the oil grades common in SEW-EURODRIVE gear units are stored in the evaluation unit. SEW-EURODRIVE can customize any oil grade in the diagnostic unit. Standard parameterization is performed directly on the evaluation unit. During operation, the evaluation unit uses the oil temperature to continuously calculate the remaining service life in days until the next oil change. The remaining service life is displayed directly on the evaluation unit. When the service life is expired, a binary signal can be sent to a higher-level system and evaluated or visualized in the system.

Using the DUO10A diagnostic unit, the system operator no longer has to replace the oil within predefined intervals, but can adapt the replacement interval individually to the actual load. The benefits are reduced maintenance and service costs, and increased system availability.

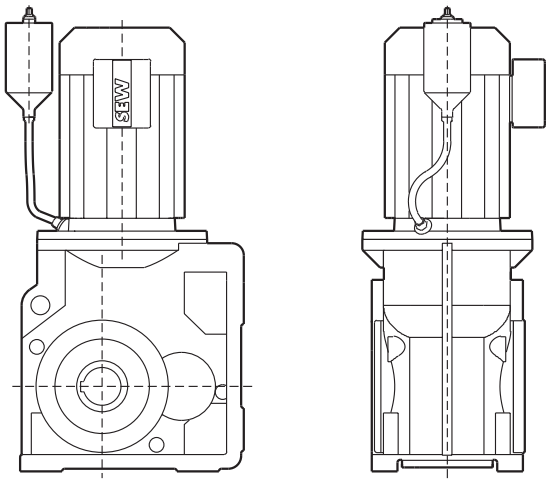
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2.5 Oil expansion tank

The oil expansion tank allows the lubricant or air space of the gear unit to expand. This means no lubricant can escape the breather valve at high operating temperatures.

SEW-EURODRIVE recommends to use oil expansion tanks for gear units and gearmotors in M4 mounting position and for input speeds > 2000 min^{-1}.

The following figure shows the oil expansion tank of a gearmotor.



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The oil expansion tank is delivered as assembly kit for mounting onto the gearmotor. In case of limited space or of gear units without motor, the oil expansion tank can also be mounted to nearby machine parts.

INFORMATION

Transverse acceleration is not permitted for gear units with expansion tank with fixed piping for third party motors and servomotors.

For further information, contact your SEW-EURODRIVE sales representative.

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3 Overview of types and type designations

3.1 Variants and gear unit options

Below an overview of type designations for R, F, K, S, and W gear units and their options.

3.1.1 Helical gear units

Designation	Description
RX..	Single-stage foot-mounted design
RXF..	Single-stage B5 flange-mounted design
R..	Foot-mounted design
R..F	Foot-mounted and B5 flange-mounted design
RF..	B5 flange-mounted design
RZ..	B14 flange-mounted design
RM..	B5 flange-mounted design with extended bearing hub

3.1.2 Parallel-shaft helical gear units

Designation	Description
F..	Foot-mounted design
FA..B	Foot-mounted design and hollow shaft
FH..B	Foot-mounted design and hollow shaft with shrink disk
FV..B	Foot-mounted design and splined hollow shaft to DIN 5480
FF..	B5 flange-mounted design
FAF..	B5 flange-mounted design and hollow shaft
FHF..	B5 flange-mounted design and hollow shaft with shrink disk
FVF..	B5 flange-mounted design and hollow shaft with splined hollow shaft to DIN 5480
FA..	Hollow shaft
FH..	Hollow shaft with shrink disk
FT..	Hollow shaft with TorqLOC® hollow shaft mounting system
FV..	Splined hollow shaft to DIN 5480
FZ..	B14 flange-mounted design
FAZ..	B14 flange-mounted design and hollow shaft
FHZ..	B14 flange-mounted design and hollow shaft with shrink disk
FVZ..	B14 flange-mounted design and hollow shaft with splined hollow shaft to DIN 5480

3.1.3 Helical-bevel gear units

Designation	
K..	Foot-mounted design

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Designation	
KA..B	Foot-mounted design and hollow shaft
KAF..B	B5 flange-mounted design, hollow shaft and foot-mounted design
KF..B	Foot-mounted design, B5 flange-mounted design
KH..B	Foot-mounted design and hollow shaft with shrink disk
KHF..B	B5 flange-mounted design and hollow shaft with shrink disk and foot-mounted design
KV..B	Foot-mounted design and hollow shaft with splined hollow shaft to DIN 5480
KF..	B5 flange-mounted design
KAF..	B5 flange-mounted design and hollow shaft
KHF..	B5 flange-mounted design and hollow shaft with shrink disk
KVF..	B5 flange-mounted design and hollow shaft with splined hollow shaft to DIN 5480
KA..	Hollow shaft
KH..	Hollow shaft with shrink disk
KT..	Hollow shaft with TorqLOC® hollow shaft mounting system
KV..	Splined hollow shaft according DIN 5480
KZ..	B14 flange-mounted design
KAZ..	B14 flange-mounted design and hollow shaft
KHZ..	B14 flange-mounted design and hollow shaft with shrink disk
KVZ..	B14 flange-mounted design and hollow shaft with splined hollow shaft to DIN 5480

3.1.4 Helical-worm gear units

Designation	Description
S..	Foot-mounted design
SF..	B5 flange-mounted design
SAF..	B5 flange-mounted design and hollow shaft
SHF..	B5 flange-mounted design and hollow shaft with shrink disk
SA..	Hollow shaft
SH..	Hollow shaft with shrink disk
ST..	Hollow shaft with TorqLOC® hollow shaft mounting system
SAZ..	B14 flange-mounted design and hollow shaft
SHZ..	B14 flange-mounted design and hollow shaft with shrink disk

3.1.5 SPIROPLAN® gear units

Designation	Description
W..	Foot-mounted design

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Designation	Description
WF..	B5 flange-mounted design
WAF..	B5 flange-mounted design and hollow shaft
WA..	Hollow shaft
WA..B	Foot-mounted design and hollow shaft
WH..B	Foot-mounted design and hollow shaft with shrink disk
WHF..	B5 flange-mounted design and hollow shaft with shrink disk
WH..	Hollow shaft with shrink disk
WT..	Hollow shaft with TorqLOC® hollow shaft mounting system

3.1.6 Options

R, F and K gear units:

Designation	Description
/R	Reduced backlash

K, S and W gear units:

Designation	Description
/T	With torque arm

F gear units:

Designation	Description
/G	With rubber buffer

3.1.7 Condition monitoring

Designation	Description
/DUO	Diagnostic Unit Oil = Oil aging sensor

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3.2 Versions and options for the DRN.. motor series

The type designations of the motor series DRN.. and the designs and options are listed in the following tables.

3.2.1 Designation of the DRN.. motors

Designation	Description
DRN..	Energy-efficient motors of energy efficiency class IE3
80 – 315	Sizes: 80 / 90 / 100 / 112 / 132 / 160 / 180 / 200 / 225 / 250 / 280 / 315
S, MS, M, ME, LM, L, H	Lengths: S = Short; M = Medium; L = Long; H = Extra-long design MS = short variant of length M ME = longer variant of length M LM = Length L with shorter package
2, 4, 6	Number of poles

3.2.2 Output variants

Designation	Description	Size DRN..
/FI	IEC foot-mounted motor	80MS – 315H
/F.A, /F.B	Universal foot-mounted motor	80MS – 132S 225S – 315H
/FG	7-series integral motor as stand-alone motor	80MS – 315H
/FF	IEC flange-mounted motor with bore	80MS – 315H
/FT	IEC flange-mounted motor with threads	80MS – 100L
/FL	Flange mounted motor (deviating from IEC)	80MS – 315H
/FM	7-series integral motor with IEC feet	80MS – 315H
/FE	IEC flange-mounted motor with bore and IEC feet	80MS – 315H
/FY	IEC flange-mounted motor with threads and IEC feet	80MS – 100L
/FK	Flange-mounted motor (deviating from IEC) with feet	80MS – 280M
/FC	C-face flange-mounted motor, dimensions in inch	80MS – 160L

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3.2.3 Mechanical attachments

Designation	Description	Size
/BE..	Spring-loaded brake with specification of size	80MS – 315H
HR	Manual brake release of the brake, automatic re-engaging function	80MS – 315H
HF	Manual brake release, lockable	80MS – 315H
/RS	Backstop	80MS – 315H
/MSW	MOVI-SWITCH®	80MS – 100L
/MI	Motor identification module for MOVIMOT®	80MS – 112M
/MM03 – MM40	MOVIMOT®	80MS – 112M
/MO	MOVIMOT® option(s)	80MS – 112M

3.2.4 Encoders

Designation	Description	Size
/ES7S[1)]	Add-on speed sensor with Sin/Cos interface	80MS – 132S
/EG7S[1)]		132M – 280M
/EV7S		80MS – 280M
/EH7S		315S – 315H
/ES7R	Add-on speed sensor with TTL (RS-422) interface, V = 9 – 26 V	80MS – 132S
/EG7R		132M – 280M
/EV7R		80MS – 280M
/EH7R		315S – 315H
/EI7C[1)]	Built-in incremental encoder with HTL interface, 24 periods	80MS – 132S
/EI76	Built-in incremental encoder with HTL interface and 6 / 2 / 1 period(s)	80MS – 132S
/EI72		80MS – 132S
/EI71		80MS – 132S
/AS7W[1)]	Add-on absolute encoder, RS-485 interface (multi-turn)	80MS – 132S
/AG7W[1)]		132M – 280M
/AV7W		80MS – 280M
/AS7Y[1)]	Add-on absolute encoder, SSI interface (multi-turn)	80MS – 132S
/AG7Y[1)]		132M – 280M
/AV7Y		80MS – 280M
/AH7Y		315S – 315H
/ES7A	Mounting adapter for speed sensor from the SEW-EURODRIVE portfolio	80MS – 132S
/EG7A		132M – 280M
/EV7A		80MS – 280M
/EH7A		315S – 315H

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Designation	Description	Size
/ES7C	Add-on speed sensor with HTL interface	80MS – 132S
/EG7C		132M – 280M
/EV7C		80MS – 280M
/EH7C		315S – 315H
/EH7T	Add-on speed sensor with TTL(RS422) interface	315S – 315H
/XV.A	Mounting adapter for third-party speed sensors	80MS – 280M
/XH1.	Mounted third-party speed sensor	80MS – 132S[2)]
/XV..		80MS – 280M

1) also available in safety-rated design
2) in preparation

3.2.5 Temperature sensor / temperature detection

Designation	Description	Size
/TF	Temperature sensor (PTC thermistor or PTC resistor)	80MS – 315H
/TH	Thermostat (bimetallic switch)	80MS – 315H
/PT	1 or 3 PT100 sensor(s)	80MS – 315H
/PK	1 or 3 PT1000 sensor(s)	80MS – 315H

3.2.6 Connection alternatives

Designation	Description	Size
/IS	Integrated plug connector	80MS – 132S
/ASE.	HAN 10ES plug connector on terminal box with single locking latch (cage clamp contacts on the motor side)	80MS – 132S
/ASB.	HAN 10ES plug connector on terminal box with double locking latch (cage clamp contacts on the motor side)	80MS – 132S
/ACE.	HAN 10E plug connector on terminal box with single locking latch (crimp contacts on the motor side)	80MS – 132S
/ACB.	HAN 10E plug connector on terminal box with double locking latch (crimp contacts on the motor side)	80MS – 132S
/AME.	HAN Modular 10B plug connector on terminal box with single locking latch (crimp contacts on the motor side)	80MS – 132S
/ABE.		80MS – 225M
/ADE.		80MS – 225M
/AKE.		132M – 225M
/AMB.	HAN Modular 10B plug connector on terminal box with double locking latch (crimp contacts on the motor side)	80MS – 132S
/ABB.		80MS – 225M
/ADB.		80MS – 225M
/AKB.		132M – 225M
/AND.	Harting Han® Q8/0, single locking latch	80MS – 132S

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Designation	Description	Size
/AFQ.	Round plug connector Molex/Amphenol, 4-pole power 1 3/8" (AFQ8 housing Al), 3-pole brake connection 7/8", 3 fixed ends, max. 25 A, BG/BGE/BSR/BUR brake	80MS – 132S
/AFL.	Round plug connector Molex/Amphenol, 4-pole power 7/8" (AFL8 housing Al), 3-pole brake connection 7/8", 3 ends, max. 25 A, BG/BGE/BSR/BUR brake	80MS – 100L
/KCC	6 or 10-pole terminal strip with cage clamp contacts	80MS – 132S
/KC1	C1-profile-compliant connection of the electrified monorail system drive (VDI guideline 3643) (for DR71, 80). Alternatively for DR.90 – 132 for a more compact connection range	80MS – 132S
/IV	Other industrial plug connectors according to customer specifications	80MS – 225M

3.2.7 Ventilation

Designation	Description	Size
/V	Forced cooling fan	80MS – 315H
/Z	Additional inertia (flywheel fan)	80MS – 132L
/AL	Metal fan	80MS – 315H
/U	Non-ventilated (without fan)	80MS – 315H
/OL	Non-ventilated (closed B-side)	80MS – 132S
/C	Canopy for the fan guard	80MS – 315H

3.2.8 Bearings

Designation	Description	Size
/NS	Relubrication device	225S – 315H
/ERF	Reinforced bearings on A-side with rolling bearing	250M – 315H
/NIB	Insulated bearing B-side	200L – 315H

3.2.9 Condition monitoring

Designation	Description	Size
/DUE	Diagnostic Unit Eddy Current = function/wear monitoring for BE1 – BE122 brake	80MS – 315H

3.2.10 Other additional features

Designation	Description	Size
/DH	Condensation drain hole	80MS – 315H
/RI	Reinforced winding insulation	80MS – 315H
/RI2	Reinforced winding insulation with increased resistance against partial discharge	112M – 315H
/2W	2nd shaft end on the motor/brakemotor	80MS – 315H

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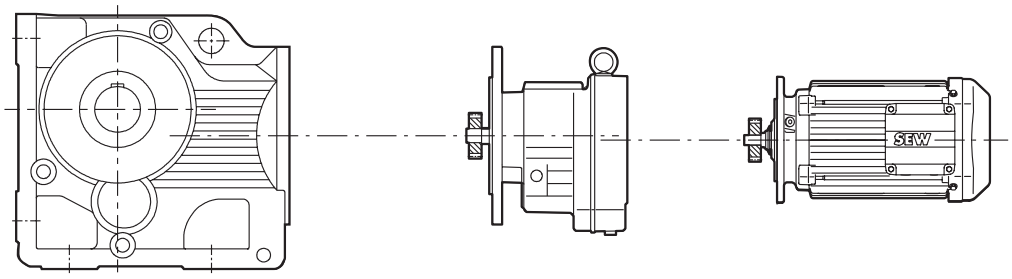
3.2.11 Example type designation of a DRN.. gearmotor

The type designation of the gearmotor starts from the component on the output end.

For instance, a multi-stage helical-bevel gearmotor with temperature sensor in the motor winding has the following type designation:

Example: K107R77DRN90L4 /TF		
Gear unit type	K	1. Gear unit
Gear unit size	107	
Gear unit series	R	2. Gear unit
Gear unit size	77	
Motor series	DRN..	Motor
Motor size	90	
Length	L	
Number of poles	4	
Motor option temperature sensor	/TF	Option

Example: DRN.. gearmotor



K107 R77 DRN90L4/TF

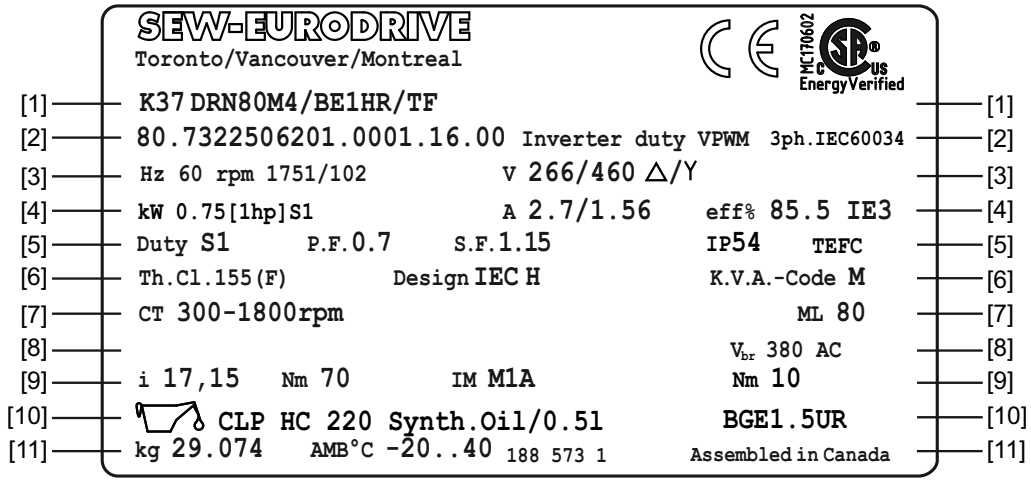
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3.3 DRN.. gearmotor nameplate

The gearmotors have a country-specific nameplate. In the following section, example nameplates for the Canadian and the South Korean market are shown.

3.3.1 Canadian DRN.. gearmotor nameplate

The following figure shows an example of the nameplate of a DRN.. gearmotor for Canada. Depending on the design specification, the nameplate may contain the CE mark.



Gearmotor nameplate

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Line	Information
[1]	• Type designation gearmotor
[2]	• Serial number • Suitability for inverter operation • Number of phases and underlying rating and performance standards (IEC 60034X and/or equivalent national standard)
[3]	• Rated frequency • Nominal speed motor/gear unit output • Nominal voltage with connection type
[4]	• Nominal power in kW/hp and duty type • Rated current • Efficiency information with nominal efficiency and IE class
[5]	• Duty type • Power factor • Service factor according to NEMA • Degree of protection and cooling
[6]	• Thermal class • Design letter acc. to IEC (Starting behavior to IEC 60034-12) • KVA code according to NEMA MG1
[7]	• Speed range with constant torque • ML = Mounting Location

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Line	Information
[8]	• Nominal voltage of brake
[9]	• Gear unit ratio • Output torque • Mounting position • Braking torque
[10]	• Oil type and oil fill volume • Brake control
[11]	• Weight • Ambient temperature

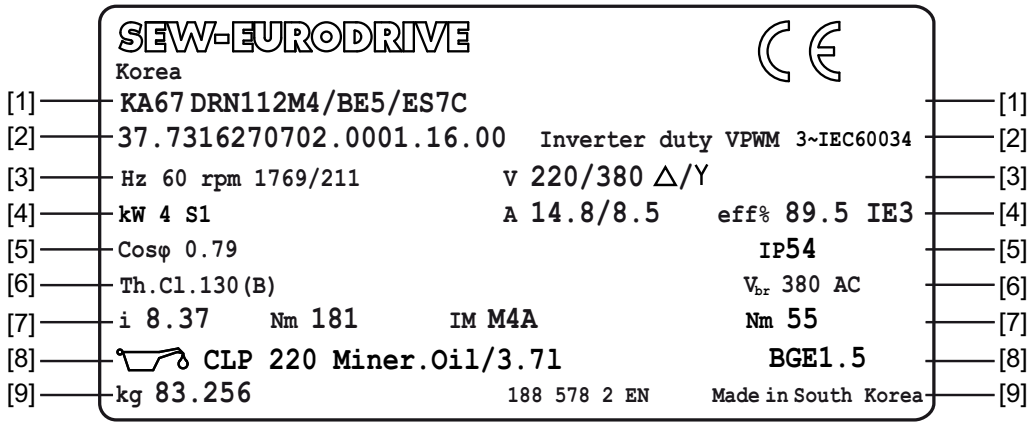
Some specifications on the nameplate can be given either in SI units or imperial units.

	SI unit	Imperial unit
Power rating	kW	hp
Braking torque	Nm	lb-in
Weight	kg	lb
Gear unit torque	Nm	lb-in

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3.3.2 Korean DRN.. gearmotor nameplate

The following figure shows an example of the nameplate of a DRN.. gearmotor for Korea. Depending on the design specification, the nameplate may contain the CE mark. If motors for the Korean market are affected by energy efficiency regulation, they have a KEL label (Korean Energy Efficiency Label).



18474013451

Line	Information
[1]	• Type designation gearmotor
[2]	• Serial number • Suitability for inverter operation • Number of phases and underlying rating and performance standards (IEC 60034X and/or equivalent national standard)
[3]	• Rated frequency • Nominal speed motor/gear unit output • Nominal voltage with connection type
[4]	• Nominal power in kW and duty type • Rated current • Efficiency information with nominal efficiency and IE class
[5]	• Power factor • Degree of protection
[6]	• Thermal class • Nominal voltage of brake
[7]	• Gear unit ratio • Output torque • Mounting position • Braking torque
[8]	• Oil type and oil fill volume • Brake control
[9]	• Weight

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The following figure shows an example of a Korean Energy Efficiency label:



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3.3.3 Serial number

The following figure shows an exemplary serial number:

Example: 01. 12212343 01. 0001. 16. 89	
01.	Sales organization
12212343	Order number (8 digits)
01.	Order item (2 digits)
0001.	Quantity (4 digits)
16.	End digits of the year of manufacture (2 digits)
89	Additional country-specific information

3.4 Designs and options for the EDRN.. motor series

The type designations of the motor series EDRN.. and the designs and options are listed in the following tables.

3.4.1 Designation of EDRN.. motors

The following table shows the possible designs of AC motors:

Designation	
EDRN..	Motor for hazardous locations, 60 Hz, Premium Efficiency IE3
71 – 315	Sizes 71, 80, 90, 100, 112, 132, 160, 180, 200, 225, 250, 280, 315
S, M, ME, LM, L, H	Lengths: S = Short; M = Medium; L = Long; H = Extra-long design ME = longer variant of length M LM = Length L with shorter package
4	Number of poles

3.4.2 Explosion protection designs

The following table shows the option variants for hazardous locations:

Available class and division	Description
/CID2	Motors suitable for use in class I, division 2 Gas atmosphere
/CIID2	Motors suitable for use in class II, division 2 Dust atmosphere
/CICIID2	Motors suitable for use in class I or II, division 2 Gas or dust atmospheres

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3.4.3 Output variants

The following table shows possible output variants:

Designation	Available class and division	Description
/FI	/CID2,	IEC foot-mounted motor
/F.A, /F.B	/CIID2,	Universal foot-mounted motor
/FG	/CICIID2	7series integral motor, as stand-alone motor
/FF		IEC flange-mounted motor with bore
/FT		IEC flange-mounted motor with threads
/FL		General flange-mounted motor (other than IEC)
/FM		7-series integral motor with IEC feet
/FE		IEC flange-mounted motor with bore and IEC feet
/FY		IEC flange-mounted motor with threads and IEC feet
/FK		General flange-mounted motor (deviating from IEC) with feet
/FC		C-face flange-mounted motor, dimensions in inch

3.4.4 Mechanical attachments

The following table shows possible mechanical attachments:

Designation	Available class and division	Description
/BE..	/CID2,	Spring-loaded brake with specification of size
/HF	/CIID2,	Manual brake release, lockable
/HR	/CICIID2	Manual brake release of the brake, automatic re-engaging function
/RS		Backstop

3.4.5 Encoder

The following table shows possible encoder variants:

Designation	Available class and division	Description
/XV.A	/CID2,	Mounting adapter for third-party speed sensors (SI units)
/XC.A	/CIID2,	Mounting adapter for third-party speed sensors (Imperial units)
/XH.A	/CICIID2	Mounting adapter for non-SEW hollow-shaft encoders
/XVCC /XV1C		Mounting adapter with encoder mounted at factory

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3.4.6 Temperature sensor/temperature detection

The following table shows the thermal protection options:

Designation	Available class and division	Description
/TF	/CID2, /CIID2, /CICIID2	Temperature sensor (PTC thermistor or PTC resistor)
/PT		1 or 3 PT100 sensor(s)
/PK		1 or 3 PT1000 sensor(s)

3.4.7 Connection alternatives

Designation	Available class and division	Description
/KCC	/CID2, /CIID2, /CICIID2	6 or 10-pin terminal strip with cage clamp contacts

3.4.8 Ventilation

The following table shows possible ventilation variants:

Designation	Available class and division	Description
/AL	/CID2, /CIID2, /CICIID2	Metal fan
/C		Canopy for the fan guard
/LN		Low-noise fan guard

3.4.9 Bearing

Designation	Available class and division	Description
/NS	/CID2, /CIID2, /CICIID2	Relubrication device
/ERF		Reinforced bearings on A-side with rolling bearing
/NIB		Insulated bearing B-side

3.4.10 Other additional features

The following table shows an additional feature:

Designation	Available class and division	Description
/2W	/CID2, /CIID2, /CICIID2	2nd shaft end on the motor/brakemotor
/RI		Reinforced winding insulation

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3.4.11 Example for a type designation of a EDRN.. gearmotor

The type designation of the gearmotor starts from the component on the output end.

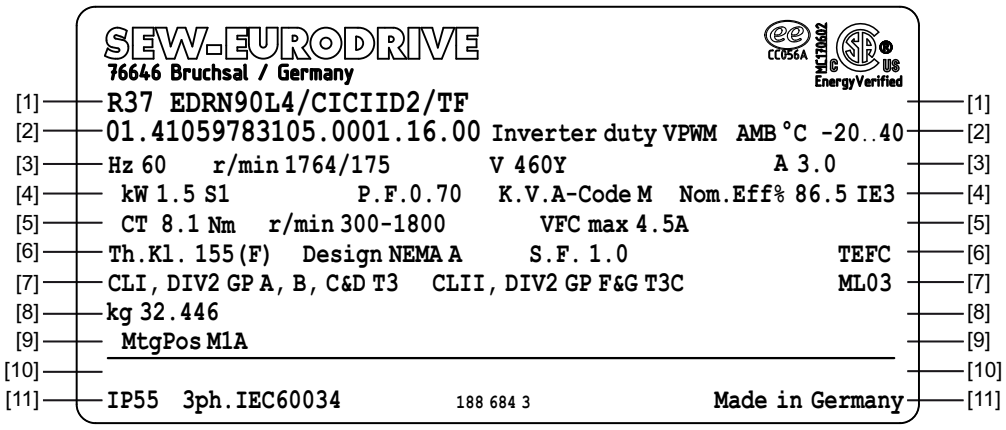
The following table shows a type designation example:

R37 EDRN90L4/CICIID2/TF		
Gear unit type	R	Gear unit
Gear unit size	37	
Explosion-proof design	E	Motor
Series	DR..	
Type designation	N	
Size	90L	
Number of poles	4	
Information on explosion protection	/CICIID2	Options
Thermal motor protection	/TF	

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3.5 EDRN.. gearmotor nameplate

The following figure shows a nameplate for an explosion-proof gearmotor for frequency inverter operation:



18247699979

Line	Information
[1]	• Type designation
[2]	• Serial number • Permitted ambient temperature range
[3]	• Rated frequency • Nominal speed motor/gear unit output • Nominal voltage with connection type[1)] • Rated current
[4]	• Nominal power in kW/hp and duty type • Power factor • KVA code according to NEMA MG1 • Efficiency information with nominal efficiency and IE class
[5]	• Continuous torque M_{CT} in specified speed range[2)] • Speed range with constant torque (300 = continuous minimum speed n_{min}, 1800 = continuous maximum speed n_{max})[2)] • Maximum dynamic current in VFC mode I_{max} VFC[2)]
[6]	• Thermal class • Design letter according to NEMA MG1 • Service factor according to NEMA • Degree of protection and cooling
[7]	• Information on explosion protection • ML = Mounting Location

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Line	Information
[8]	• Weight in kg/lb • Switching frequency of the brake • Braking torque • Installation location of brake control • Brake control type
[9]	• Mounting position • Maximum braking work to adjustment • Rated current for the brake control • Nominal voltage of brake (connection to brake control)
[10]	• Customer-specific details
[11]	• Degree of protection according to IEC • Number of phases and underlying rating and performance standards (IEC 60034X and/or equivalent national standard)

1) Motors for frequency inverter operation are only available with one voltage.
2) Additional information for motors for inverter operation

Some specifications on the nameplate can be given either in SI units or imperial units.

	SI unit	Imperial unit
Power rating	kW	hp
Braking torque	Nm	lb-in
Weight	kg	lb
Gear unit torque	Nm	lb-in

3.5.1 Serial number

The following figure shows an exemplary serial number:

Example: 01. 12212343 01. 0001. 16. 89	
01.	Sales organization
12212343	Order number (8 digits)
01.	Order item (2 digits)
0001.	Quantity (4 digits)
16.	End digits of the year of manufacture (2 digits)
89	Additional country-specific information

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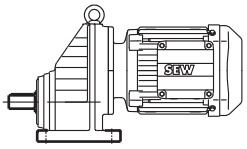
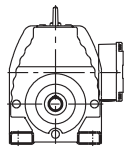
3.6 Gearmotor types

INFORMATION

The types described in this chapter refer to DR.. gearmotors from SEW-EURODRIVE. They also apply to gear units without motors.

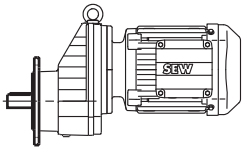
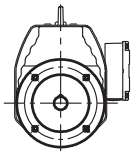
3.6.1 Helical gearmotors

The following designs of helical gearmotors are available:

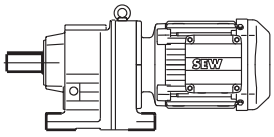
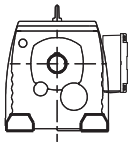
RX..DR..

Single-stage, helical gearmotor in foot-mounted design

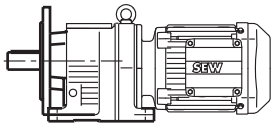
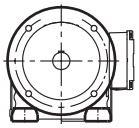
RXF..DR..

Single-stage helical gearmotor in B5 flange-mounted design

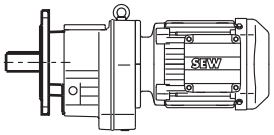
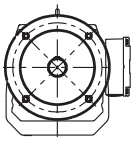
R..DR..

Helical gearmotor in foot-mounted design

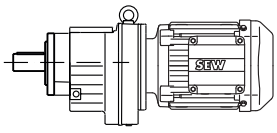
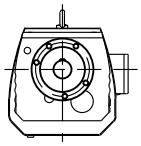
R..F DR..

Helical gearmotor in foot-mounted and B5 flange-mounted design

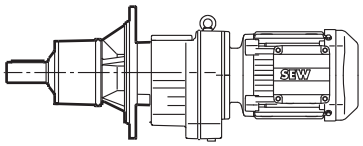
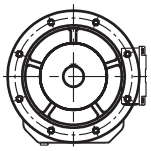
RF..DR..

Helical gearmotor in B5 flange-mounted design

RZ..DR..

Helical gearmotor in B14 flange-mounted design

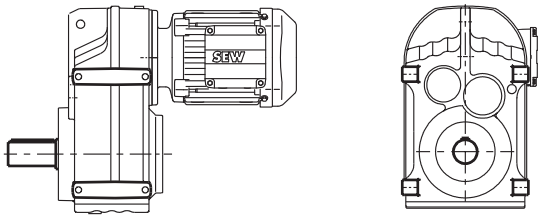
RM..DR..

Helical gearmotor in B5 flange-mounted design with extended bearing hub

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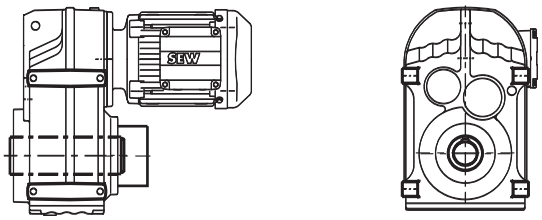
3.6.2 Parallel-shaft helical gearmotors

The following types of parallel-shaft helical gearmotors are available:



F..DR..

Parallel-shaft helical gearmotor in foot-mounted design

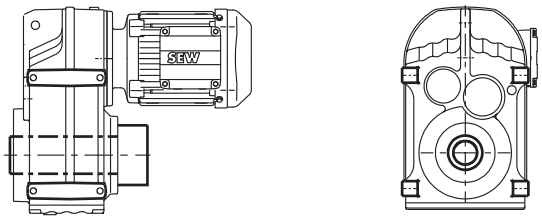


FA..B DR..

Parallel-shaft helical gearmotor in foot-mounted design with hollow shaft

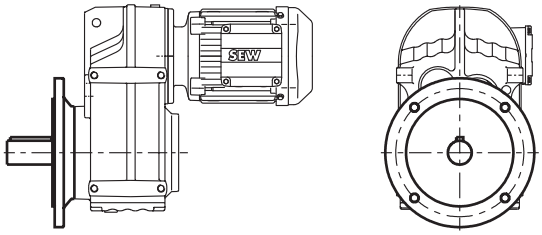
FV..B DR..

Parallel-shaft helical gearmotor in foot-mounted design with splined hollow shaft to DIN 5480



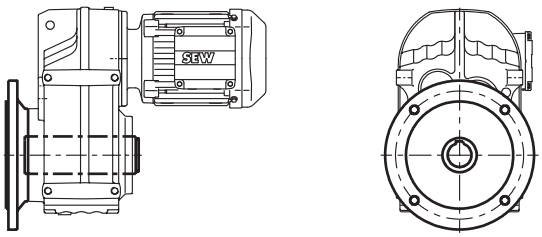
FH..B DR..

Parallel-shaft helical gearmotor in foot-mounted design with hollow shaft and shrink disk



FF..DR..

Parallel-shaft helical gearmotor in B5 flange-mounted design

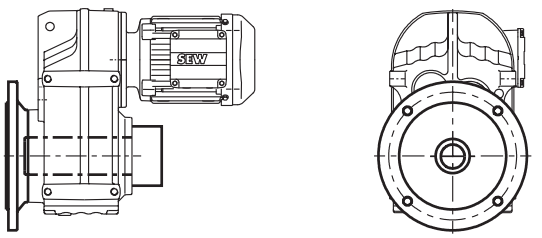


FAF..DR..

Parallel-shaft helical gearmotor in B5 flange-mounted design with hollow shaft

FVF..DR..

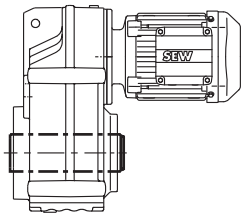
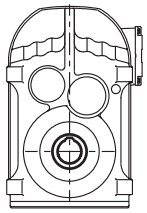
Parallel-shaft helical gearmotor in B5 flange-mounted design with splined hollow shaft to DIN 5480



FHF..DR..

Parallel-shaft helical gearmotor in B5 flange-mounted design with hollow shaft and shrink disk

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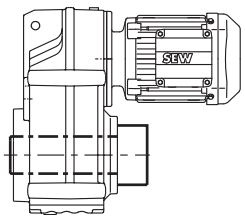
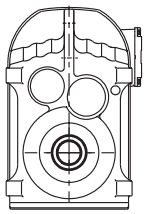



FA..DR..

Parallel-shaft helical gearmotor with hollow shaft

FV..DR..

Parallel-shaft helical gearmotor with splined hollow shaft to DIN 5480

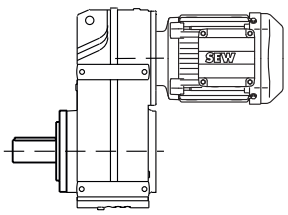
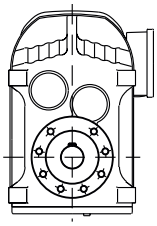



FH..DR..

Parallel-shaft helical gearmotor with hollow shaft and shrink disk

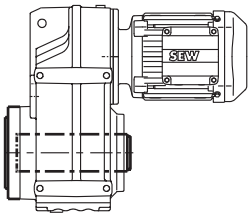
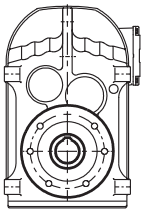
FT..DR..

Parallel-shaft helical gearmotor with hollow shaft and TorqLOC® hollow shaft mounting system

FZ..DR..

Parallel-shaft helical gearmotor in B14 flange-mounted design

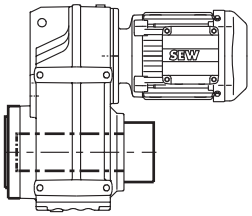
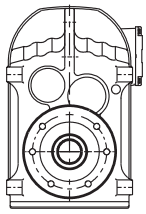



FAZ..DR..

Parallel-shaft helical gearmotor in B14 flange-mounted design with hollow shaft

FVZ..DR..

Parallel-shaft helical gearmotor in B14 flange-mounted design with splined hollow shaft to DIN 5480

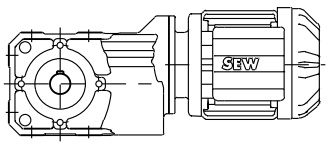
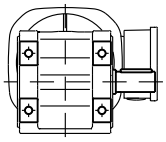



FHZ..DR..

Parallel-shaft helical gearmotor in B14 flange-mounted design with hollow shaft and shrink disk

3.6.3 Helical-bevel gearmotors, gear unit sizes K..19 and K..29

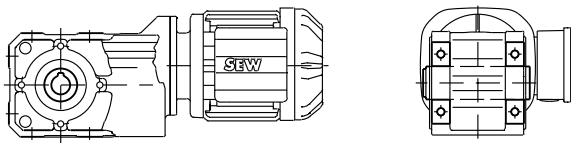
The following designs of helical-bevel gearmotors with gear units of size K..19 and K..29 are available:

K19 DR.., K29 DR..

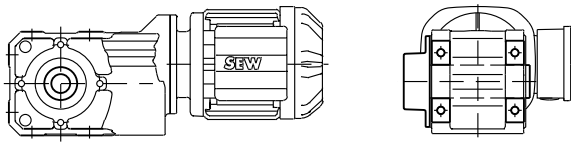
Helical-bevel gearmotor in foot-mounted design

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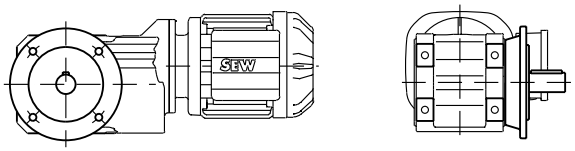
KA19B DR.., KA29B DR..

Helical-bevel gearmotor in foot-mounted design with hollow shaft in foot-mounted design



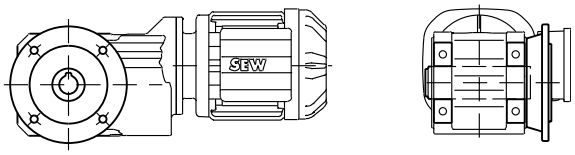
KH19B DR.., KH29B DR..

Helical-bevel gearmotor in foot-mounted design with hollow shaft and shrink disk



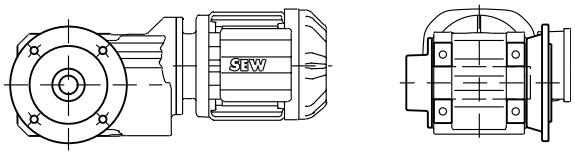
KF19B DR.., KF29B DR..

Helical-bevel gearmotor in B5 flange-mounted design in foot-mounted design



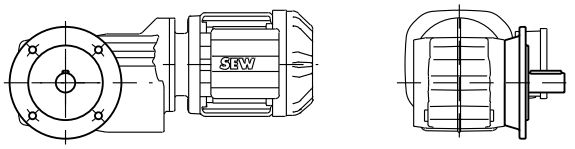
KAF19B DR.., KAF29B DR..

Helical-bevel gearmotor in B5 flange-mounted design with hollow shaft in foot-mounted design



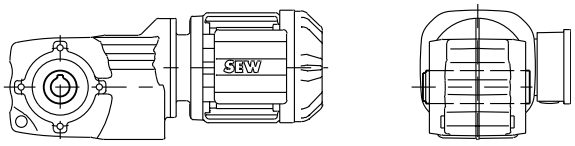
KHF19B DR.., KHF29B DR..

Helical-bevel gearmotor with B5 flange-mounted design with hollow shaft and shrink disk in foot-mounted design



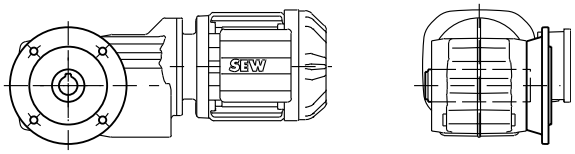
KF19 DR.., KF29 DR..

Helical-bevel gearmotor in B5 flange-mounted design



KA19 DR.., KA29 DR..

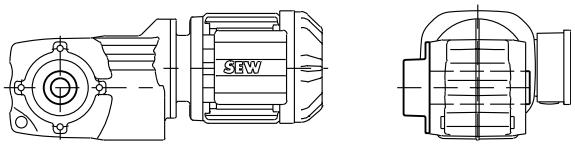
Helical-bevel gearmotor with hollow shaft



KAF19 DR.., KAF29 DR..

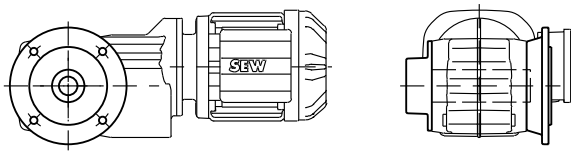
Helical-bevel gearmotor in B5 flange-mounted design with hollow shaft

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KH19 DR.., KH29 DR..

Helical-bevel gearmotor with hollow shaft and shrink disk

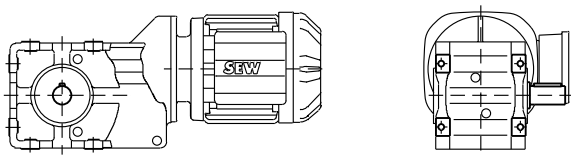


KHF19 DR.., KHF29 DR..

Helical-bevel gearmotor in B5 flange-mounted design with hollow shaft and shrink disk

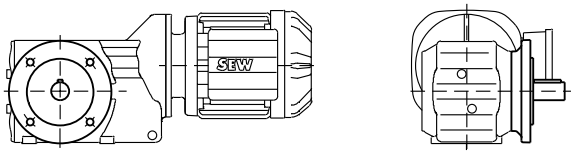
3.6.4 Helical-bevel gearmotors, gear unit sizes K..39 and K..49

The following types of helical-bevel gearmotors with gear units of size K..39 and K..49 are available:



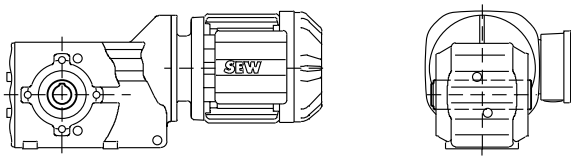
K39 DR.., K49 DR..

Helical-bevel gearmotor in foot-mounted design



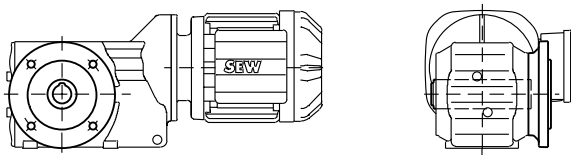
KF39 DR.., KF49 DR..

Helical-bevel gearmotor in B5 flange-mounted design



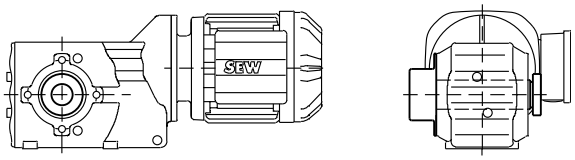
KA39 DR.., KA49 DR..

Helical-bevel gearmotor with hollow shaft



KAF39 DR.., KAF49 DR..

Helical-bevel gearmotor in B5 flange-mounted design with hollow shaft



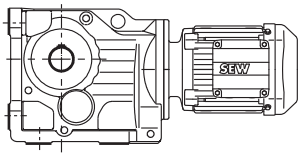
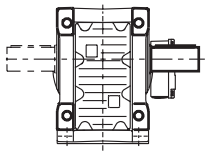
KT39 DR.., KT49 DR..

Helical-bevel gearmotor with hollow shaft and TorqLOC® hollow shaft mounting system

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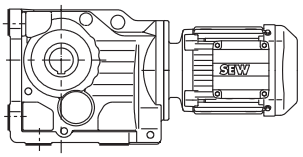
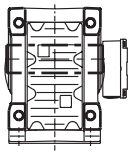
3.6.5 Helical-bevel gearmotors, gear unit sizes K..7

The following types of helical-bevel gearmotors with gear units of size K..7 are available:

K..7 DR..

Helical-bevel gearmotor in foot-mounted design

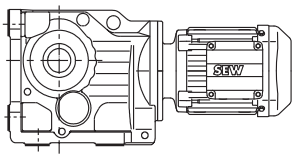
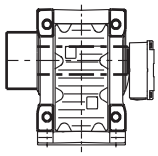



KA..7B DR..

Helical-bevel gearmotor in foot-mounted design with hollow shaft

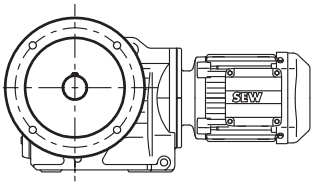
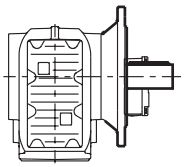
KV..7B DR..

Helical-bevel gearmotor in foot-mounted design with splined hollow shaft to DIN 5480

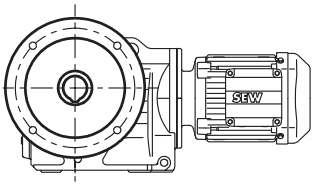
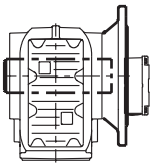
KH..7B DR..

Helical-bevel gearmotor in foot-mounted design with hollow shaft and shrink disk

KF..7 DR..

Helical-bevel gearmotor in B5 flange-mounted design

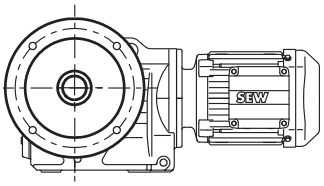
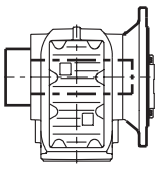



KAF..7 DR..

Helical-bevel gearmotor in B5 flange-mounted design with hollow shaft

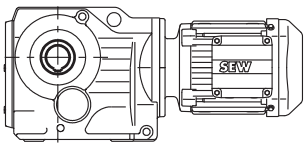
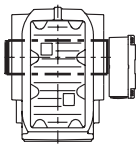
KVF..7 DR..

Helical-bevel gearmotor in B5 flange-mounted design with splined hollow shaft to DIN 5480

KHF..7 DR..

Helical-bevel gearmotor in B5 flange-mounted design with hollow shaft and shrink disk

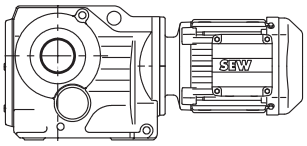
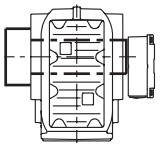
KA..7 DR..

Helical-bevel gearmotor with hollow shaft

KV..7 DR..

Helical-bevel gearmotor with splined hollow shaft to DIN 5480

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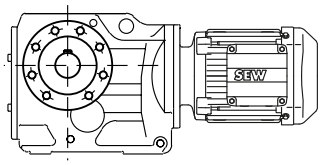
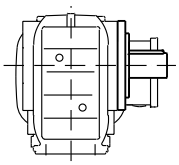



KH..7 DR..

Helical-bevel gearmotor with hollow shaft and shrink disk

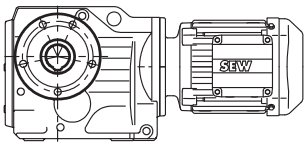
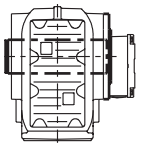
KT..7 DR..

Helical-bevel gearmotor with hollow shaft and TorqLOC® hollow shaft mounting system

KZ..7 DR..

Helical-bevel gearmotor in B14 flange-mounted design

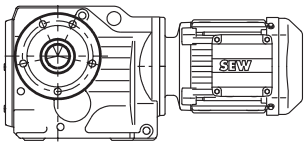
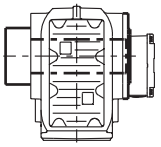



KAZ..7 DR..

Helical-bevel gearmotor in B14 flange-mounted design with hollow shaft

KVZ..7 DR..

Helical-bevel gearmotor in B14 flange-mounted design with splined hollow shaft to DIN 5480

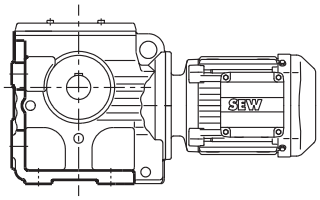
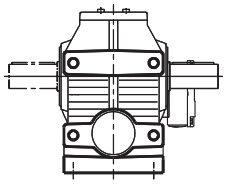



KHZ..7 DR..

Helical-bevel gearmotor in B14 flange-mounted design with hollow shaft and shrink disk

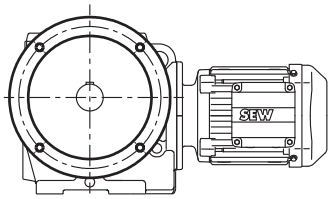
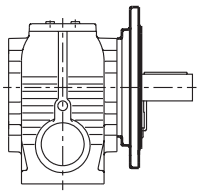
3.6.6 Helical-worm gearmotors

The following types of helical-worm gearmotors can be supplied:

S..DR..

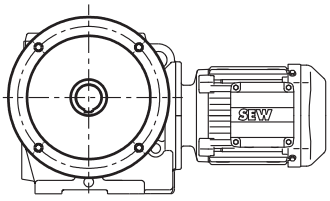
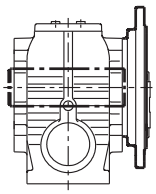
Helical-worm gearmotor in foot-mounted design

SF..DR..

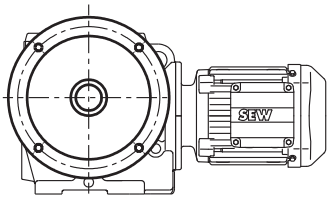
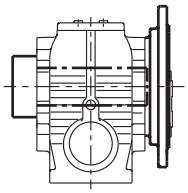
Helical-worm gearmotor in B5 flange-mounted design

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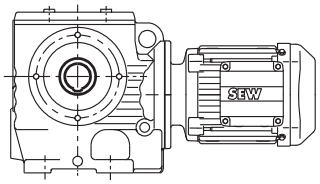
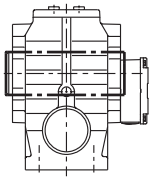
SAF..DR..

Helical-worm gearmotor in B5 flange-mounted design with hollow shaft

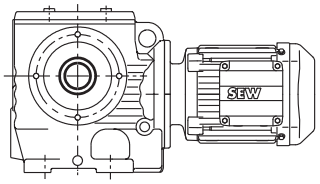
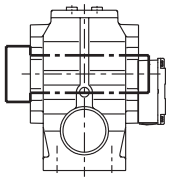
SHF..DR..

Helical-worm gearmotor in B5 flange-mounted design with hollow shaft and shrink disk

SA..DR..

Helical-worm gearmotor with hollow shaft

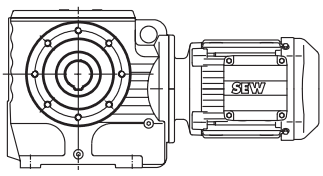
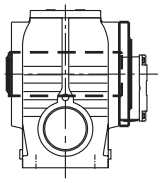



SH..DR..

Helical-worm gearmotor with hollow shaft and shrink disk

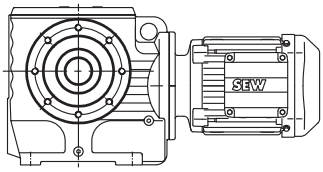
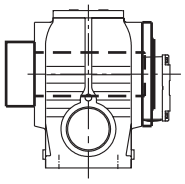
ST..DR..

Helical-worm gearmotor with hollow shaft and TorqLOC® hollow shaft mounting system

SAZ..DR..

B14 flange-mounted helical-worm gearmotor with hollow shaft

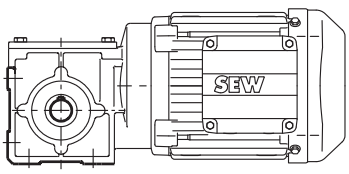
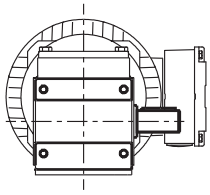



SHZ..DR..

Helical-worm gearmotor in B14 flange-mounted h design with hollow shaft and shrink disk

3.6.7 SPIROPLAN® gearmotors, gear unit sizes W..10, W..20, W..30

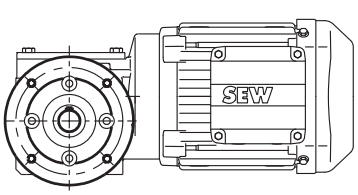
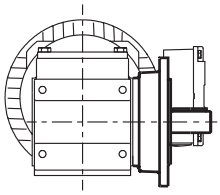
The following designs of SPIROPLAN® gearmotors with gear units in sizes W..10, W..20, and W..30 are available:

W10 DR.., W20 DR.., W30 DR..,

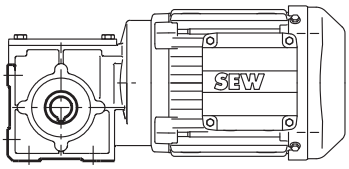
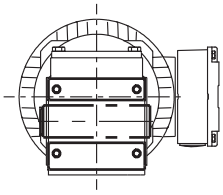
SPIROPLAN® gearmotor in foot-mounted design

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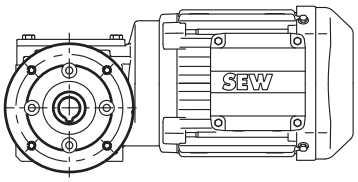
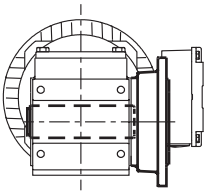
WF10 DR.., WF20 DR.., WF30 DR..

SPIROPLAN® gearmotor in B5 flange-mounted design

WA10 DR.., WA20 DR.., WA30 DR..

SPIROPLAN® gearmotor with hollow shaft

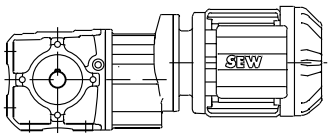
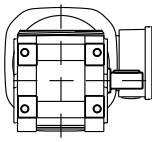



WAF10 DR.., WAF20 DR.., WAF30 DR..

SPIROPLAN® gearmotor in B5 flange-mounted design with hollow shaft

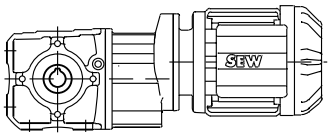
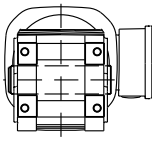
3.6.8 SPIROPLAN® gearmotors, gear unit sizes W..37 and W..47

The following designs of SPIROPLAN® gearmotors with gear units in sizes W..37 and W..47 are available:

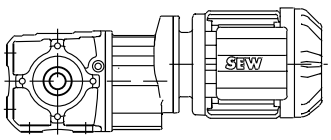
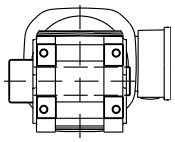
W37 DR.., W47 DR..

SPIROPLAN® gearmotor in foot-mounted design

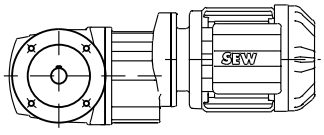
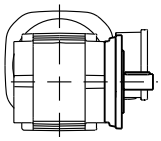
WA37B DR.., WA47B DR..

SPIROPLAN® gearmotor in foot-mounted design with hollow shaft

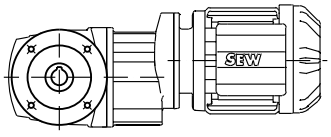
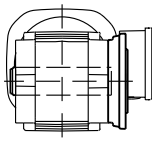
WH37B DR.., WH47B DR..

SPIROPLAN® gearmotor in foot-mounted design with hollow shaft and shrink disk

WF37 DR.., WF47 DR..

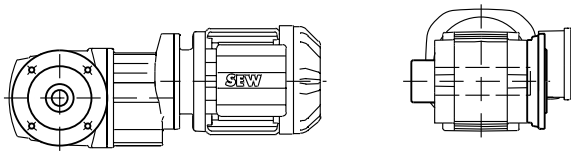
SPIROPLAN® gearmotor in B5 flange-mounted design

WAF37 DR.., WAF47 DR..

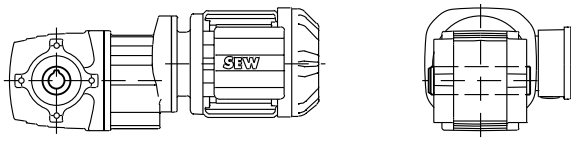
SPIROPLAN® gearmotor in B5 flange-mounted design with hollow shaft

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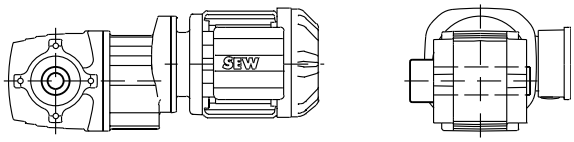
WHF37 DR.., WHF47 DR..

SPIROPLAN® gearmotor in B5 flange-mounted design with hollow shaft and shrink disk



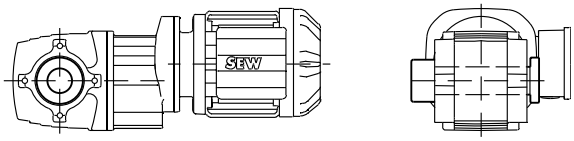
WA37 DR.., WA47 DR..

SPIROPLAN® gearmotor with hollow shaft



WH37 DR.., WH47 DR..

SPIROPLAN® gearmotor with hollow shaft and shrink disk



WT37 DR.., WT47 DR..

SPIROPLAN® gearmotor with hollow shaft and TorqLOC® hollow shaft mounting system

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4 Project planning for drives

4.1 Additional publications

For more detailed information about the project planning for drives, refer to the website of SEW-EURODRIVE where you can download the following publications of the "Drive Engineering – Practical Implementation" series. The series can also be ordered as hard copy.

- Project planning for drives
- EMC in Drive Engineering – Basic Theoretical Principles and EMC-Compliant Installation in Practice
- Efficient Plant Automation with Mechatronic Drive Solutions
- SEW Encoder Systems
- Servo technology

4.2 Drive and gear unit selection data

Determining the application data

First, you require the data (mass, speed, setting range, etc.) of the machine to be driven to select the correct drive (see following table). These data help determine the required power, torque and speed. Refer to the "Drive Engineering – Practical Implementation, Project Planning" publication or the SEW Workbench project planning software for assistance.

Selecting the correct drive

After calculating the performance, speed, torque and overhung load of the drive, while considering all mechanical requirements, a suitable drive can be determined.

Application data required for project planning:

Designation	Meaning	Unit
n_{a_min}	Minimum output speed	min^{-1}
n_{a_max}	Maximum output speed	min^{-1}
P_a at n_{a_min}	Output power at minimum output speed	kW
P_a at n_{a_max}	Output power at maximum output speed	kW
M_a at n_{a_min}	Output torque at minimum output speed	Nm
M_a at n_{a_max}	Output torque at maximum output speed	Nm
F_A	Axial load (tension and compression) on the output shaft	N
F_R	Overhung loads acting on the output shaft	N
J_{load}	Mass moment of inertia to be driven	10^{-4} kgm^2
R, F, K, S, W M1 - M6	Mounting position and required gear unit type, see chapter "Gear unit mounting positions" (→ 🗎 72) and "Project planning notes R, F, K, S, W gear units" (→ 🗎 56)	-
IP..	Required degree of protection	-
$\vartheta_{ambient}$	Ambient temperature	°C
H	Installation altitude	m above sea level sea level
S.., ..% cdf	Duty type and cyclic duration factor cdf – the exact load cycle can be entered instead	-
Z	Starting frequency – or exact load cycle can be specified	1/h
f_{line}	Line frequency	Hz
V_{Mot} V_{brake}	Operating voltage of motor and brake	V
M_B	Required braking torque	Nm
For inverter operation: required control mode and setting range		

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4.3 Project planning procedure for DR.. gearmotors

4.3.1 Drive selection – non-controlled operation

The following flow diagram illustrates the project planning procedure for a non-controlled drive. The drive consists of a gearmotor operated on the grid.

Necessary information regarding the machine to be driven

- Technical data and ambient conditions
- Stopping accuracy
- Output speed
- Starting acceleration and deceleration
- Cyclic duration factor and starting frequency

↓

Calculation of the relevant application data

- Static and dynamic power
- Speeds
- Torques, power ratings
- Travel diagram, if required
- Determine the necessary service factor f_B

↓

Motor selection

- Torque/power/speed (number of poles)
- Acceleration torque/starting torque
- Switching frequency
- Determine energy efficiency class IE
- Mechanical brake (braking work, braking torque, brake service life)
- Motor equipment (brake, plug connector, thermal motor protection, etc.)

↓

Gear unit selection

- Definition of gear unit type, gear unit size, gear unit ratio, and gear unit design
- Check the positioning accuracy
- Check the service factor f_B

↓

Make sure that all requirements have been met.

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4.3.2 Drive selection – controlled operation

The following flow diagram illustrates the project planning procedure for a positioning drive. The drive consists of a gearmotor that is powered by an inverter.

Necessary information regarding the machine to be driven

- Technical data and ambient conditions
- Positioning accuracy
- Speed setting range
- Travel cycle calculation

↓

Calculation of the relevant application data

- Travel diagram
- Speeds
- Static, dynamic torques
- Regenerative power

↓

Gear unit selection

- Definition of gear unit type, gear unit size, gear unit ratio, and gear unit design
- Check the positioning accuracy
- Checking the gear unit utilization ($M_{a\,max} \geq M_a$)
- Check the input speed (churning losses)

↓

Motor selection

- Maximum torque
- With dynamic drives: effective torque at medium speed
- Maximum speed
- Determine energy efficiency class IE
- Observe dynamic and thermal torque curves
- Selection of the correct encoder
- Motor equipment (brake, plug connector, TF selection, etc.)

↓

Inverter selection

- Motor/inverter assignment
- Continuous current and peak current for current-controlled inverters/axes

↓

Braking resistor selection

- Based on the calculated regenerative power, cdf and peak braking power

↓

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Options

- EMC measures
- Operation/communication
- Additional functions

↓

Make sure that all requirements have been met.

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4.4 Project planning information – R, F, K, S, and W gear units

4.4.1 Efficiency of gear units

General information

The efficiency of gear units is mainly determined by the gearing and bearing friction. Keep in mind that the starting efficiency of a gear unit is always less than its efficiency at operating speed. This applies in particular to helical-worm and SPIROPLAN® right-angle gear units.

R, F, K gear units

Depending on the number of gear stages, the gearing efficiency of helical, parallel-shaft and helical-bevel gear units is up to 96% (3-stage), 97% (2-stage) and 98% (1-stage).

S and W gear units

The gearing in helical-worm and SPIROPLAN® gear units produces a high proportion of sliding friction. This is the reason why these gear units have higher gearing losses and lower efficiency than R, F or K gear units.

Other factors influencing the efficiency:

- Gear ratio of the helical-worm or SPIROPLAN® stage
- Input speed
- Ambient temperature

Helical-worm gear units from SEW-EURODRIVE are helical gear/worm combinations that have a significantly higher efficiency than plain worm gear units, see chapter "Technical data S. SF. SA. SAF 37" (→ 🗎 710) and following.

The efficiency may reach $\eta < 0.5$ if the helical-worm gear stage has a very high gear ratio.

Self-locking

Retrodriving torque in helical-worm or SPIROPLAN® gear units produces an efficiency of $\eta' = 2 - 1/\eta$, which is significantly less favorable than the forward efficiency. The helical-worm or SPIROPLAN® gear unit is statically self-locking if the forward efficiency is ≤ 0.5. The SPIROPLAN® gear units W..10 – W..30 are to some extent (with high ratios) dynamically self-locking. Contact SEW-EURODRIVE if you want to make technical use of the braking effect of self-locking characteristics.

INFORMATION

Note that the self-locking effect of helical-worm and SPIROPLAN® gear units is not permitted as the sole safety function for hoists.

Run-in phase

The tooth flanks of new helical-worm and SPIROPLAN® gear units are not yet completely smooth. That fact makes for a greater friction angle and less efficiency than during later operation. This effect intensifies with increasing gear ratio.

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During the run-in phase, the nominal efficiency of the gear unit is reduced by the relevant value from the following tables.

	Worm	
	i range	η reduction
1-start	approx. 50 – 280	approx. 12%
2-start	approx. 20 – 75	approx. 6%
3-start	approx. 20 – 90	approx. 3%
5-start	approx. 6 – 25	approx. 3%
6 start	approx. 7 – 25	approx. 2 %

SPIROPLAN® W10 to W30	
i range	η reduction
approx. 35 – 75	approx. 15%
approx. 20 – 35	approx. 10%
approx. 10 – 20	approx. 8%
approx. 8	approx. 5%
approx. 6	approx. 3%

SPIROPLAN® W37 and W47	
i range	η reduction
-	-
-	-
approx. 30 – 70	approx. 8%
approx. 10 – 30	approx. 5%
approx. 3 – 10	approx. 3%

The run-in phase usually lasts 48 hours. The following conditions must be met for helical-worm and SPIROPLAN® gear units to achieve their nominal efficiency ratings:

- The gear unit has been completely run-in.
- The gear unit has reached nominal operating temperature.
- The recommended lubricant has been filled.
- The gear unit is operating in the nominal load range.

4.4.2 Churning losses and thermal rating

* (→ 🗎 X)

Churning losses may occur with the following conditions. They must be considered during thermal check:

- A high mean input speed and thus high circumferential velocity of the gears of the input gear stage.
- A mounting position where the first stage is fully immersed in the lubricant. The respective mounting position of the gear units are indicated with a * in chapter "Mounting position sheets" (→ 🗎 82).

If one or both conditions are present, contact SEW-EURODRIVE to calculate the thermal rating based on the actual conditions. The thermal rating of the gear unit can be increased by appropriate measure e.g. by using a synthetic lubricant with higher thermal endurance properties.

INFORMATION

To reduce churning losses to a minimum, use gear units preferably in M1 mounting position.

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4.4.3 Service factor

Determining the service factor

The effect of the driven machine on the gear unit is taken into account to a sufficient level of accuracy using the service factor f_B. The service factor is determined according to the daily operating time and the starting frequency Z. Three load classifications are taken into account depending on the mass acceleration factor. You can read the service factor applicable to your application from the following diagram. The determined service factor must be smaller than or equal to the service factor according to the selection tables (see chapter "Structure of the selection tables" (→ 🗎 175)).

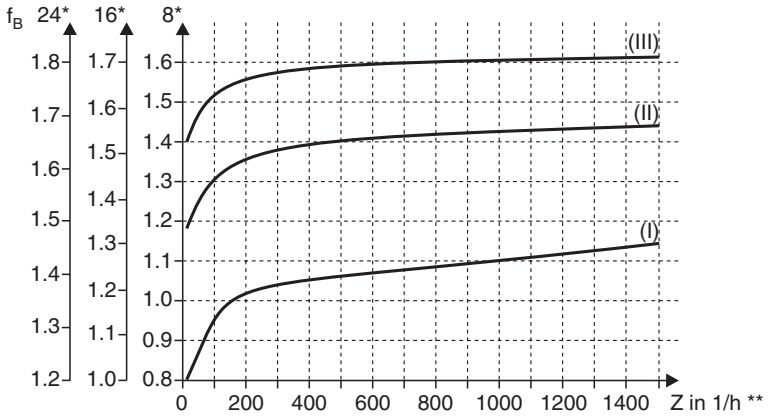
Conditions for the service factor

$$M_a \times f_B \leq M_{amax}$$

M_a Output torque in Nm

f_B SEW service factor

M_{amax} Maximum output torque in Nm



* Service factor in relation to the daily operating time in hours/day

** Starting frequency Z: The cycles include all starting and braking procedures as well as changeovers from low to high speed and vice versa.

I, II, III Load classification

Load classification

Three load classifications are distinguished:

(I) Uniform, permitted mass acceleration factor ≤ 0.2

(II) Non-uniform, permitted mass acceleration factor ≤ 3

(III) Non-uniform, permitted mass acceleration factor ≤ 10

Mass acceleration factor

The mass acceleration factor is calculated as follows:

$$\text{Mass acceleration factor} = \frac{\text{All external mass moments of inertia}}{\text{Mass moment of inertia at motor end}}$$

"All external mass moments of inertia" are the mass moments of inertia of the driven machine and the gear unit, scaled down to the motor speed. The calculation for scaling down to motor speed is performed using the following formula:

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Scaling down the mass moment of inertia on the motor shaft

$$J_X = J \times \left(\frac{n}{n_M} \right)^2$$

J_X Reduced mass moment of inertia on the motor shaft
J Mass moment of inertia with reference to the output speed of the gear unit
n Output speed of the gear unit
n_M Motor speed

"Mass moment of inertia at the motor end" is the mass moment of inertia of the motor and, if installed, the brake and the flywheel fan (Z fan).

Service factors f_B > 1.8 may occur with large mass acceleration factors (> 10), high levels of backlash in the transmission elements or large overhung loads. Contact SEW-EURODRIVE in such a case.

Service factor SEW f_B

The method for determining the maximum permitted continuous torque M_{amax} and using this value to derive the service factor $f_B = M_{amax}/M_a$ is not defined in a standard and varies greatly from manufacturer to manufacturer. Even at a SEW service factor f_B = 1, the gear units afford an extremely high level of safety and reliability in the fatigue strength range (exception: wearing of the worm gear in helical-worm gear units). The service factor may differ from specifications of other gear unit manufacturers. If in doubt, contact SEW-EURODRIVE.

Example

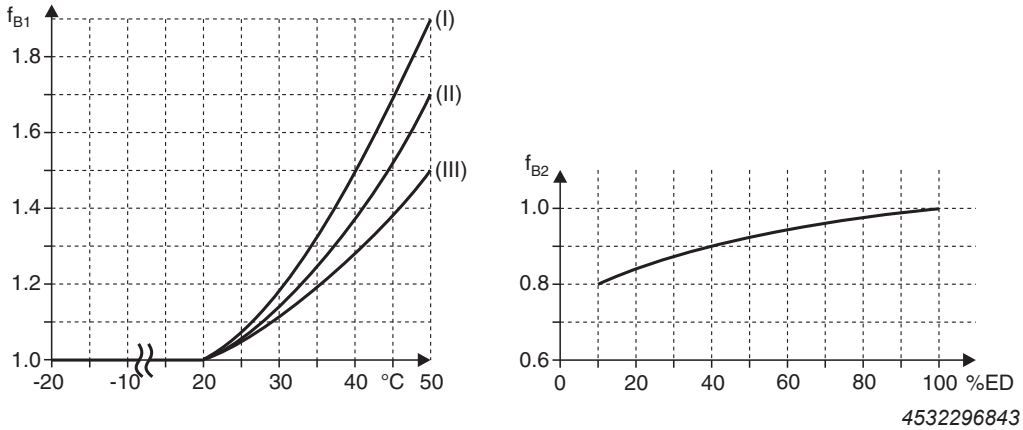
Mass acceleration factor 2.5 (load classification II), operating time 14 hours/day (read off at 16 h/d) and 300 cycles/hour produce a service factor f_B = 1.5, as shown in the figure on the previous page. According to the selection tables, the selected gearmotor must have an SEW-f_B value of 1.5 or greater.

Helical-worm gear unit

Two further service factors have to be taken into account with helical-worm gear units in addition to the service factor f_B shown the above diagram. These are:

- f_{B1} = Service factor from ambient temperature
- f_{B2} = Service factor from cyclic duration factor

The additional service factors f_{B1} and f_{B2} can be determined by referring to the diagram below. For f_{B1}, the load classification is taken into account in the same way as for f_B. The following diagram shows the additional service factors f_{B1} and f_{B2}:



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Cyclic duration factor

$$CDF = \frac{Time\ under\ load\ in\ min\ /\ h}{60} \times 100$$

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cdf Cyclic duration factor in %

For temperatures below -20 °C (→ diagram f_{B1}) contact SEW-EURODRIVE.

The total service factor for helical-worm gear units is calculated as follows:

Total service factor

$$f_{Btot} = f_B \times f_{B1} \times f_{B2}$$

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f_{Btot} Total service factor

f_B SEW service factor

f_{B1} Service factor from ambient temperature

f_{B2} Service factor from cyclic duration factor

Example

The gearmotor with the service factor f_B = 1.51 in the previous example is to be a helical-worm gearmotor.

Ambient temperature ϑ = 40°C → f_{B1} = 1.38 (read off at load classification II)

Time under load = 40 min/h → CDF = 66.67% → f_{B2} = 0.95

The total service factor is f_{Btot} = 1.51 × 1.38 × 0.95 = 1.98

According to the selection tables, the selected helical-worm gearmotor must have an SEW f_B service factor of 1.98 or greater.

Service factor for combinations with HazLoc-NA® motors

The service factor for gear units and compound gear units in combination with HazLoc-NA® motors must be 1.0 or higher.

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4.4.4 Overhand and axial loads of R, F, K, S, and W gear units

Determining the overhung load

When determining the resulting overhung load, the type of transmission element mounted on the shaft end must be considered. The following transmission element factors f_Z have to be considered for various transmission elements.

Transmission element	Transmission element factor f_Z	Comments
Gears	1.15	< 17 teeth
Sprockets	1.40	< 13 teeth
Sprockets	1.25	< 20 teeth
Narrow V-belt pulleys	1.75	Influence of the pre-tensioning force
Flat belt pulleys	2.50	Influence of the pre-tensioning force
Toothed belt pulleys	1.50	Influence of the pre-tensioning force
Gear rack pinion, pre-tensioned	2.00	Influence of the pre-tensioning force

The overhung force load exerted on the motor or gear unit shaft is then calculated as follows:

$$F_R = \frac{M_d \times 2000}{d_0} \times f_Z$$

F_R Overhung load in N

M_d Torque in Nm

d_0 Mean diameter of the installed transmission element in mm

f_Z Transmission element factor

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Permitted overhung load

The basis for determining the permitted overhung loads is the rolling bearing calculation of the rated bearing service life L_{10h} (according to ISO 281).

For special operating conditions, the permitted overhung loads can be determined on the basis of the modified service life L_{na} on request.

The permitted overhung loads F_{R_a} for the output shafts of foot-mounted gear units with a solid shaft are listed in the selection tables for gearmotors. For other designs, please contact SEW-EURODRIVE.

INFORMATION

The values refer to force applied to the center of the shaft end (in right-angle gear units as viewed onto the A-side output). The values for the force application angle α and direction of rotation are based on the most unfavorable conditions.

- Only 50% of the F_{R_a} value specified in the selection tables is permitted in mounting position M1 with wall attachment on the front face for K and S gear units.
- Helical-bevel gearmotors K167 and K187 in mounting positions M1 to M4: A maximum of 50% of the overhung load F_{R_a} specified in the selection tables is permitted in the case of gear unit mounting other than as shown in the mounting position sheets.
- In case of helical-bevel gear units K167 and K187 in mounting position M5 and M6 only the mounting surface at the defined output end without restriction of F_{R_a} is possible. For other mounting designs, please contact SEW-EURODRIVE.
- Helical gearmotors in foot-mounted and flange-mounted design (R..F): A maximum of 50% of the overhung load F_{R_a} specified in the selection tables is permitted in the case of torque transmission via the flange mounting.

Higher permitted overhung loads

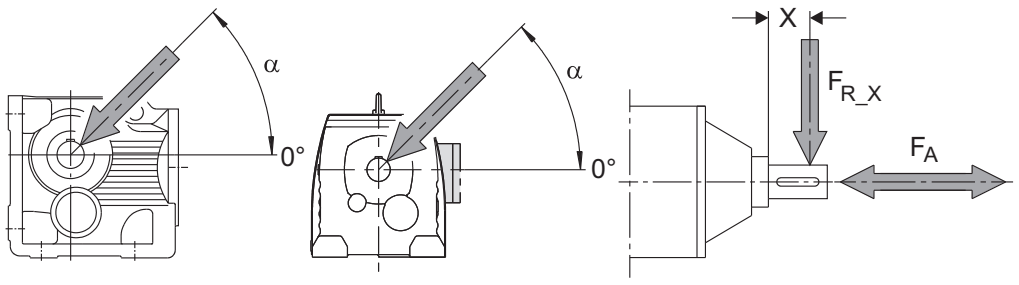
Exactly considering the force application angle α and the direction of rotation makes it possible to achieve a higher overhung load than listed in the selection tables.

Furthermore, higher output shaft loads are permitted if heavy duty bearings are installed, especially with R, F and K gear units.

Contact SEW-EURODRIVE in such cases.

Definition of the force application

Force application is defined according to the following figure:



F_{R_X} Permitted overhung load at point x in N

F_A Permitted axial load in N

α Force application angle

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Permitted axial forces

If there is no overhung load, then an axial load F_A (tension or compression) amounting to 50 % of the overhung load given in the selection tables is permitted. This condition applies to the following gearmotors:

- Helical gearmotors except for R..137... to R..167...
- Parallel shaft and helical-bevel gearmotors with solid shaft except for F97...
- Helical-worm gearmotors with solid shaft

INFORMATION

Contact SEW-EURODRIVE for all other types of gear units and in the event of significantly greater axial forces or combinations of overhung load and axial force.

Input end: Overhung load conversion for off-center force application

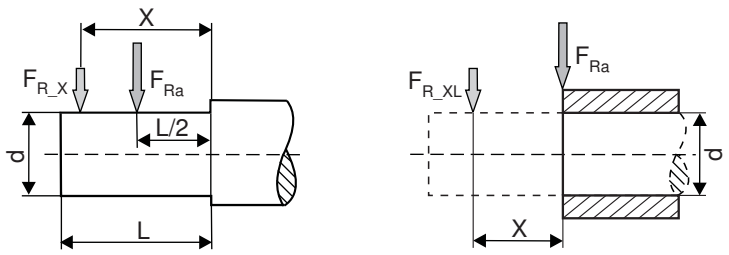
INFORMATION

Contact SEW-EURODRIVE with regard to the project planning of gear units with input shaft assemblies and off-center force application.

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On the output side: Overhung load conversion for off-center force application

The permitted overhung loads must be calculated according the selection tables using the following formula in the event that force is not applied at the center of the shaft end. The smaller of the two values F_{R_XL} (according to bearing service life) and F_{R_RW} (according to shaft strength) is the permitted value for the overhung load at point X. Note that the calculations apply to M_{a_max}.



Overhung load F_{R_x} for off-center force application

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F_{R_XL} based on bearing service life

$$F_{R_XL} = F_{Ra} \times \frac{a}{b + X}$$

F_{R_XW} based on shaft strength

$$F_{R_XW} = \frac{c}{f + X}$$

F_{Ra}	Permitted overhung load (X = L/2) based on M_{a_max} in N for foot-mounted gear units according to selection tables
X	Distance from the shaft shoulder to the force application point in mm
a, b, f	Gear unit constants for overhung load conversion in mm
c	Gear unit constant for overhung load conversion in Nmm

Gear unit constants for overhung load conversion

Gear unit type	a mm	b mm	c Nmm	f mm	d mm	l mm
RX57	43.5	23.5	1.51×10^5	34.2	20	40
RX67	52.5	27.5	2.42×10^5	39.7	25	50
RX77	60.5	30.5	1.95×10^5	0	30	60
RX87	73.5	33.5	7.69×10^5	48.9	40	80
RX97	86.5	36.5	1.43×10^6	53.9	50	100
RX107	102.5	42.5	2.47×10^6	62.3	60	120
R07	72.0	52.0	4.67×10^4	11	20	40
R17	88.5	68.5	6.53×10^4	17	20	40
R27	106.5	81.5	1.56×10^5	11.8	25	50
R37	118	93	1.24×10^5	0	25	50
R47	137	107	2.44×10^5	15	30	60
R57	147.5	112.5	3.77×10^5	18	35	70
R67	168.5	133.5	2.65×10^5	0	35	70
R77	173.7	133.7	3.97×10^5	0	40	80
R87	216.7	166.7	8.47×10^5	0	50	100
R97	255.5	195.5	1.06×10^6	0	60	120
R107	285.5	215.5	2.06×10^6	0	70	140
R137	343.5	258.5	4.58×10^6	0	90	170
R147	402	297	8.65×10^6	33	110	210
R167	450	345	1.26×10^7	0	120	210
F27	109.5	84.5	1.13×10^5	0	25	50

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Gear unit type	a mm	b mm	c Nmm	f mm	d mm	l mm
F37	123.5	98.5	1.07×10^5	0	25	50
F47	153.5	123.5	1.40×10^5	0	30	60
F57	170.7	135.7	2.70×10^5	0	35	70
F67	181.3	141.3	4.12×10^5	0	40	80
F77	215.8	165.8	7.87×10^5	0	50	100
F87	263	203	1.06×10^6	0	60	120
F97	350	280	2.09×10^6	0	70	140
F107	373.5	288.5	4.23×10^6	0	90	170
F127	442.5	337.5	9.45×10^6	0	110	210
F157	512	407	1.05×10^7	0	120	210
K19	103.7	83.7	8.66×10^4	0	20	40
K29	124.5	99.5	1.26×10^5	0	25	50
K37	123.5	98.5	1.30×10^5	0	25	50
K39	155.5	125.5	2.25×10^5	0	30	60
K47	153.5	123.5	1.40×10^5	0	30	60
K49	183.5	148.5	2.63×10^5	0	35	70
K57	169.7	134.7	2.70×10^5	0	35	70
K67	181.3	141.3	4.12×10^5	0	40	80
K77	215.8	165.8	7.69×10^5	0	50	100
K87	252	192	1.64×10^6	0	60	120
K97	319	249	2.80×10^6	0	70	140
K107	373.5	288.5	5.53×10^6	0	90	170
K127	443.5	338.5	8.31×10^6	0	110	210
K157	509	404	1.18×10^7	0	120	210
K167	621.5	496.5	1.88×10^7	0	160	250
K187	720.5	560.5	3.04×10^7	0	190	320
S37	118.5	98.5	6.0×10^4	0	20	40
S47	130	105	1.33×10^5	0	25	50
S57	150	120	2.14×10^5	0	30	60
S67	184	149	3.04×10^5	0	35	70
S77	224	179	5.26×10^5	0	45	90
S87	281.5	221.5	1.68×10^6	0	60	120
S97	326.3	256.3	2.54×10^6	0	70	140
W10	84.8	64.8	3.6×10^4	0	16	40
W20	98.5	78.5	4.4×10^4	0	20	40
W30	109.5	89.5	6.0×10^4	0	20	40
W37	121.1	101.1	6.95×10^4	0	20	40
W47	145.5	115.5	4.26×10^5	35.6	30	60

Values for types not listed are available on request.

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4.4.5 Multi-stage gearmotors

General information

You can achieve particularly low output speeds by using compound gear units or compound gearmotors. This means an additional second gear unit, usually a helical gear unit, is installed in front of the gear unit or between gear unit and motor.

The resulting total reduction ratio might make protecting the gear unit from high output torques necessary.

Limiting the motor power

Reduce the maximum output motor power according to the maximum permitted output torque on the gear unit (M_{amax}). For this purpose you first have to determine the maximum permitted motor torque (M_{Mot_max}).

You can calculate the maximum permitted motor torque as follows:

Maximum permitted motor torque

$$M_{Mot_max} = \frac{M_{amax}}{i_{tot} \times \eta_{tot}}$$

M_{Mot_max}	Maximum permitted motor torque in Nm
M_{amax}	Permitted maximum output torque in Nm
i_{tot}	Total gear unit ratio
η_{tot}	Overall efficiency

Use this maximum permitted motor torque M_{Mot_max} and the load diagram of the motor to determine the associated value for the motor current.

Take appropriate measures to prevent the continuous current consumption of the motor from exceeding the pre-determined value for the motor torque $_{Mot_max}$. An appropriate measure would be to set the tripping current of the motor protection switch to this maximum current value. A motor circuit breaker offers the option to compensate for a brief overload, for example during the startup phase of the motor. A suitable measure for inverter drives is to limit the output current of the inverter according to the determined motor current.

Checking brake torques

If you use a multi-stage brakemotor, you have to limit the braking torque (M_B) according to the maximum permitted motor torque M_{Mot_max}. The maximum permitted braking torque is 200% M_{Mot_max}.

Maximum braking torque

$$M_{B_max} \leq 200\%\ M_{Mot_max}$$

M_{B_max}	Maximum braking torque in Nm
M_{Mot_max}	Maximum permitted motor torque in Nm

If you have questions regarding the starting frequency of multi-stage brakemotors, please contact SEW-EURODRIVE.

Preventing blocking

Blockage on the output side of the double gear unit or multi-stage gearmotor is not permitted. The reason is that indeterminable torques and uncontrolled overhung and axial loads may occur. The gear units may suffer irreparable damage as a result.

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INFORMATION

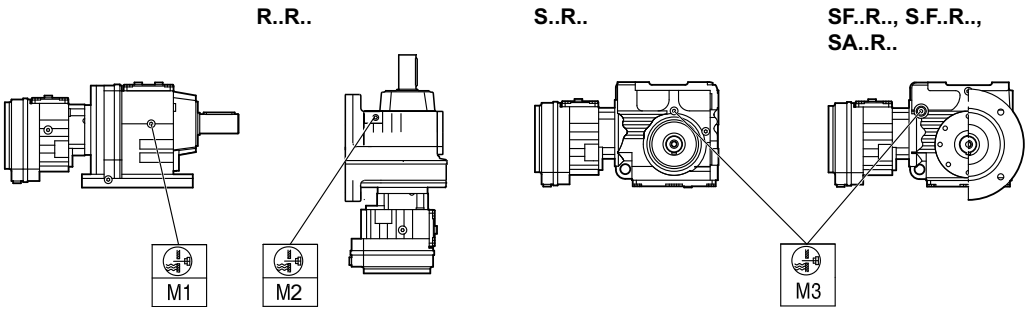
Contact SEW-EURODRIVE if blockages of the double gear unit or multi-stage gearmotor cannot be avoided due to the application.

Position of the oil level plug of compound gear units

To ensure sufficient lubrication of the first gear unit (larger gear unit) in case of compound gear units, the following gear units have a higher oil level in the specified mounting positions:

- Helical gear unit type R..R in mounting position M1 and M2
- Helical-worm gear unit type S..R in mounting position M3

The oil level plugs are located at the following positions, deviating from the specifications on the mounting position sheets:



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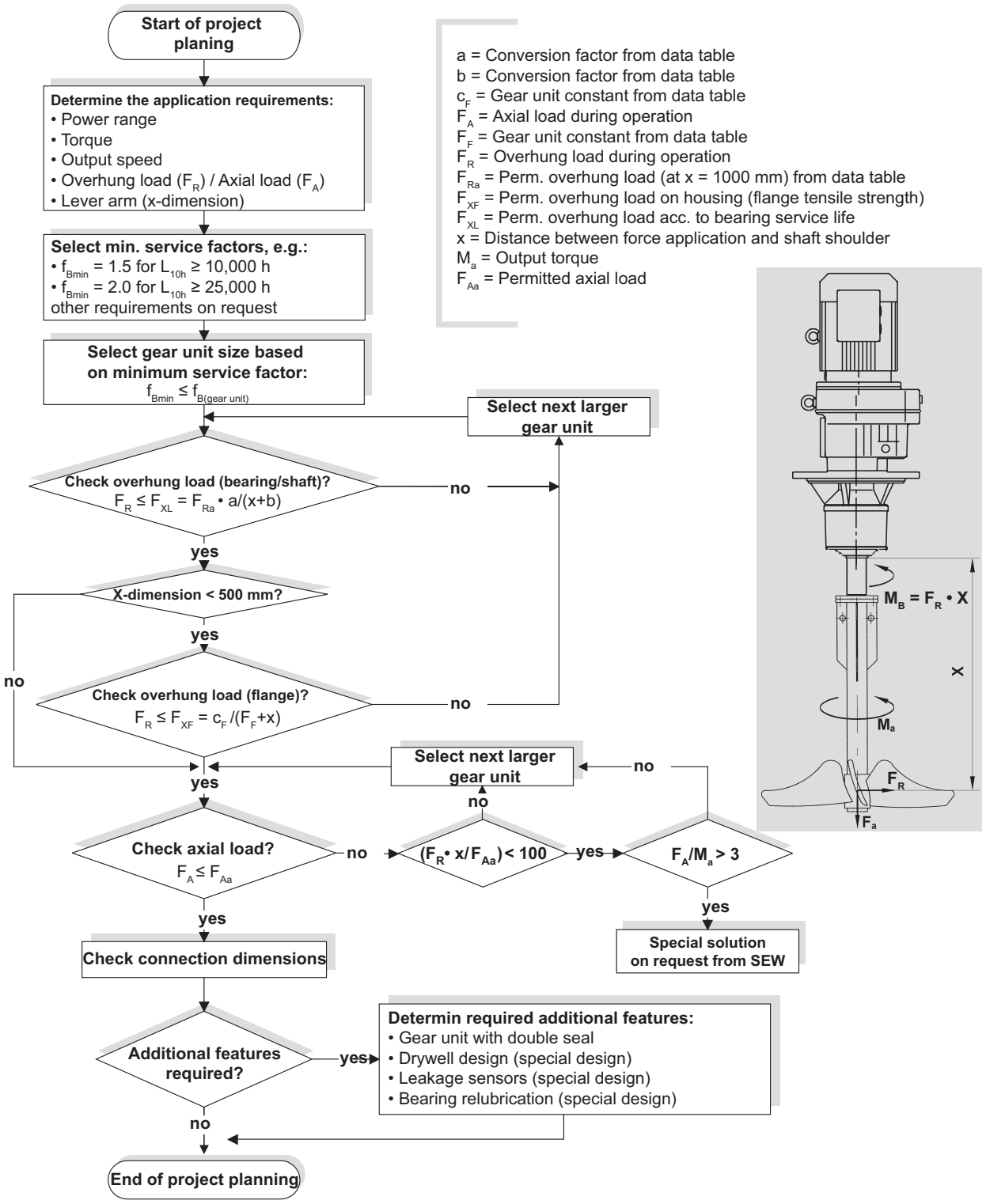
Icon	Meaning
	Oil level plug

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4.4.6 Project planning for RM gear units

Project planning procedure

You must take account of the higher overhung and axial loads when planning projects with RM helical gearmotors with an extended bearing hub. Observe the following project planning procedure:



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Permitted overhung loads and axial forces

The following table shows the permitted overhung loads F_{Ra} and axial loads F_{Aa} for various service factors f_B and nominal bearing service life L_{10h}.

f_{Bmin} = 1.5; L_{10h} = 10 000 h

		n_a in 1/min							
		< 16	16-25	26-40	41-60	61-100	101-160	161-250	251-400
RM57	F_{Ra} in N	400	400	400	400	400	405	410	415
	F_{Aa} in N	18800	15000	11500	9700	7100	5650	4450	3800
RM67	F_{Ra} in N	575	575	575	580	575	585	590	600
	F_{Aa} in N	19000	18900	15300	11900	9210	7470	5870	5050
RM77	F_{Ra} in N	1200	1200	1200	1200	1200	1210	1210	1220
	F_{Aa} in N	22000	22000	19400	15100	11400	9220	7200	6710
RM87	F_{Ra} in N	1970	1970	1970	1970	1980	1990	2000	2010
	F_{Aa} in N	30000	30000	23600	18000	14300	11000	8940	8030
RM97	F_{Ra} in N	2980	2980	2980	2990	3010	3050	3060	3080
	F_{Aa} in N	40000	36100	27300	20300	15900	12600	9640	7810
RM107	F_{Ra} in N	4230	4230	4230	4230	4230	4230	3580	3830
	F_{Aa} in N	48000	41000	30300	23000	18000	13100	9550	9030
RM137	F_{Ra} in N	8710	8710	8710	8710	7220	5060	3980	6750
	F_{Aa} in N	70000	70000	70000	57600	46900	44000	35600	32400
RM147	F_{Ra} in N	11100	11100	11100	11100	11100	10600	8640	10800
	F_{Aa} in N	70000	70000	69700	58400	45600	38000	32800	30800
RM167	F_{Ra} in N	14600	14600	14600	14600	14600	14700	–	–
	F_{Aa} in N	70000	70000	70000	60300	45300	36900	–	–

f_{Bmin} = 2.0; L_{10h} = 25 000 h

		n_a in 1/min							
		< 16	16-25	26-40	41-60	61-100	101-160	161-250	251-400
RM57	F_{Ra} in N	410	410	410	410	410	415	415	420
	F_{Aa} in N	12100	9600	7350	6050	4300	3350	2600	2200
RM67	F_{Ra} in N	590	590	590	595	590	595	600	605
	F_{Aa} in N	15800	12000	9580	7330	5580	4460	3460	2930
RM77	F_{Ra} in N	1210	1210	1210	1210	1210	1220	1220	1220
	F_{Aa} in N	20000	15400	11900	9070	6670	5280	4010	3700
RM87	F_{Ra} in N	2000	2000	2000	2000	2000	1720	1690	1710
	F_{Aa} in N	24600	19200	14300	10600	8190	6100	5490	4860
RM97	F_{Ra} in N	3040	3040	3040	3050	3070	3080	2540	2430
	F_{Aa} in N	28400	22000	16200	11600	8850	6840	5830	4760
RM107	F_{Ra} in N	4330	4330	4330	4330	4330	3350	2810	2990
	F_{Aa} in N	32300	24800	17800	13000	9780	8170	5950	5620
RM137	F_{Ra} in N	8850	8850	8850	8830	5660	4020	3200	5240
	F_{Aa} in N	70000	59900	48000	37900	33800	31700	25600	23300
RM147	F_{Ra} in N	11400	11400	11400	11400	11400	8320	6850	8440
	F_{Aa} in N	70000	60600	45900	39900	33500	27900	24100	22600
RM167	F_{Ra} in N	15100	15100	15100	15100	15100	13100	–	–
	F_{Aa} in N	70000	63500	51600	37800	26800	23600	–	–

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Conversion factors and gear unit constants

The following conversion factors and gear unit constants apply to calculating the permitted overhung load F_{xL} at point x ≠ 1000 mm for RM gearmotors:

Gear unit type	a	b	c_F (f_B = 1.5)	c_F (f_B = 2.0)	F_F
RM57	1047	47	1220600	1260400	277
RM67	1047	47	2047600	2100000	297.5
RM77	1050	50	2512800	2574700	340.5
RM87	1056.5	56.5	4917800	5029000	414
RM97	1061	61	10911600	11124100	481
RM107	1069	69	15367000	15652000	554.5
RM137	1088	88	25291700	25993600	650
RM147	1091	91	30038700	31173900	756
RM167	1089.5	89.5	42096100	43654300	869

Additional weight of RM gear units

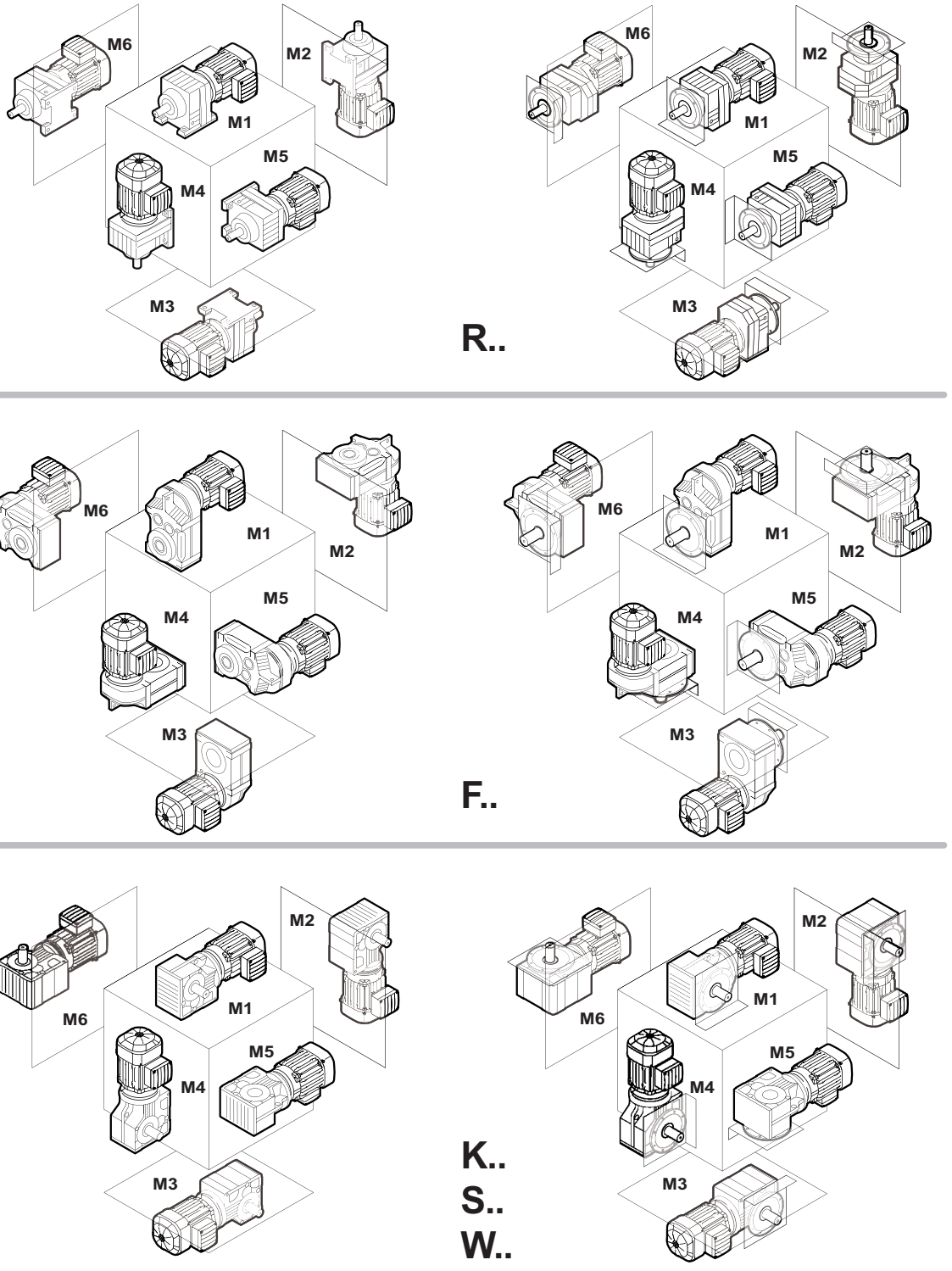
Type	Additional weight compared to RF with reference to the smallest RF flange Δm in kg
RM57	12.0
RM67	15.8
RM77	25.0
RM87	29.7
RM97	51.3
RM107	88.0
RM137	111.1
RM147	167.4
RM167	195.4

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5 Gear unit mounting positions and order information

5.1 General mounting position information – R, F, K, S, W gear units

The following illustration shows the SEW-EURODRIVE mounting positions M1 – M6:



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5.1.1 Change of mounting position

Make sure to read the following information when you operate the gearmotor in a mounting position other than the one indicated in the order:

- Adjust the lubricant fill quantity to the changed mounting position.
- Adjust the position of the breather valve.
- When changing the mounting position to M4: Contact SEW-EURODRIVE. Depending on the drives operating mode, an oil expansion tank might be necessary (see chapter "Oil expansion tank" (→ 🗎 23)).
- For helical-bevel gearmotors: Contact SEW-EURODRIVE if you want to change to mounting position M5 or M6, independent of the initial mounting position.
- For helical-worm gearmotors: Contact the SEW-EURODRIVE when changing to mounting position M2 or M3.
- If you change the mounting position to a mounting position that requires more oil, SEW-EURODRIVE recommends to perform a thermal check/project planning again.

5.1.2 Universal mounting position M0

SPIROPLAN® W10 – W30 gear units can be ordered with M0 universal mounting position. These small SPIROPLAN® gear units are entirely enclosed due to their small size and have no breather valve. You can use them in any mounting position M1 – M6 without having to adjust the gear unit.

All W10 - W30 gear units have the same oil fill quantity.

5.1.3 Mounting position MX

Mounting position MX is available for all gear units of the sizes R..7, F..7, K..7, K..9, S..7, and SPIROPLAN® W..7.

In contrast to the M0 mounting position for small SPIROPLAN® gear units, gear units in MX mounting position must be adjusted according to the mounting position prior to startup.

For mounting position MX, the gear units are delivered with the maximally possible amount of oil and sealed with oil screw plugs. A breather valve is included with each drive. The oil fill volume must be adapted according to the mounting position of the gear unit (see chapter "Lubricant fill quantities" (→ 🗎 128)). Customers will also have to install the enclosed breather valve at the proper location depending on the mounting position, see chapter "Mounting position sheets" (→ 🗎 82).

Prior to startup check for the correct oil level, as described in chapter Checking the oil level and changing the oil.

Compound gear units in MX mounting position

In MX mounting position, both gear units (primary and subsequent gear unit) are in the same mounting position. The standard mounting position is M1.

5.1.4 Position of breather valve/oil drain plug in motor flange

As shown in the mounting position sheets in chapter "Mounting position sheets" (→ 🗎 82), the position of the breather valve and oil drain plug depend on the gearmotor mounting position.

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The following table shows the position of the breather valve and the oil drain plug depending on the mounting position:

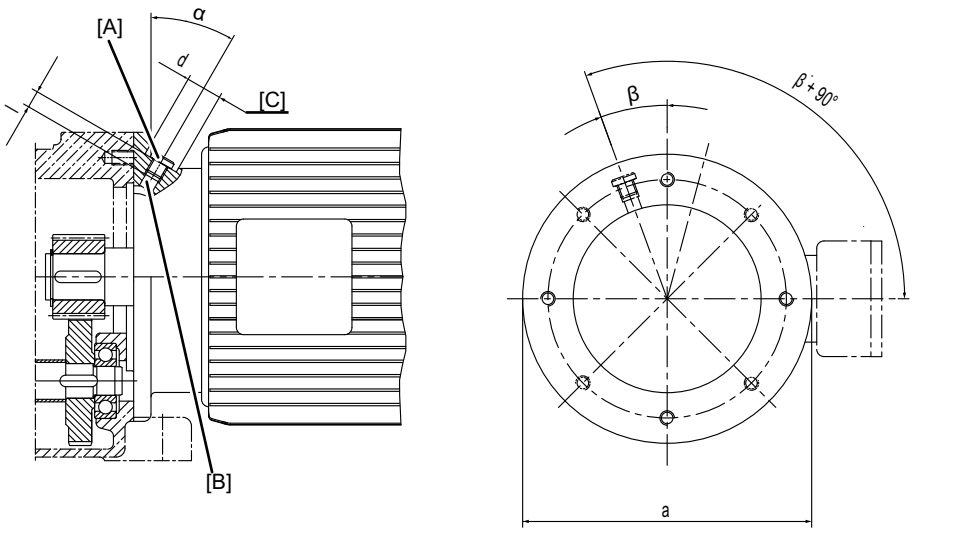
Mounting position	Breather valve position	Oil drain plug position
M1, M3, M5, M6	In the gear unit housing	In the gear unit housing
M4	**In the motor flange**	In the gear unit housing
M2	In the gear unit housing	**In the motor flange**

If the breather valve (M4 mounting position) or the oil drain plug (M2 mounting position) is positioned in the motor flange, the position depends on the terminal box position.

INFORMATION

The positions of the breather valve/oil drain plug in the mounting position sheets in chapter "Mounting position sheets" (→ 🗎 82) and the following chapters always refers to the standard terminal box position 0°. Note that the position of the breather valve / oil drain plug is changed depending on the possible terminal box positions (90°, 180°, 270°).

The following illustration shows the exact position of the breather valve/oil drain plug in the motor flange.



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[A] Position of breather valve / oil drain plug
[B] Continuous core drilling
[C] Counterbored bore
[α] Drill angle
[d] Diameter of the countersinking
[l] Thread length
[a] Flange diameter
[β] Position angle

Dimension tables

The following tables contain the dimensions regarding the position of the breather and the oil drain plug depending on the motor size.

Motor	a in mm	α in °	β in °	Thread designation	Ø d in mm	l in mm
DR63	120	30	45	M10x1	15	10
	160		22.5			
	200			M12x1.5	18	12

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Motor	a in mm	α in °	β in °	Thread designation	Ø d in mm	l in mm
(E)DR..71	120	0	45	M10x1	15	10
	160	30	22.5			
	200			M12x1.5	18	12
	250					
	300	90		M22x1.5	28	14

Motor	a in mm	α in °	β in °	Thread designation	Ø d in mm	l in mm
(E)DRN80	120	30	22.5	M10x1	15	10
	160					
	200			M12x1.5	18	12
	250					
	300	90		M22x1.5	28	14
(E)DRN90	120	30	22.5	M10x1	15	12
	160					
	200			M12x1.5	15	16
	250				18	12
	300			M22x1.5	28	
(E)DRN100	120	30	22.5	M10x1	15	10
	160					12
	200			M12x1.5	18	
	250					
	300			M22x1.5	28	14
	350					
(E)DRN112M (E)DRN132S	160	30	22.5	M10x1	15	10
	200			M12x1.5	18	12
	250					
	300			M22x1.5	28	14
	350					
	400	45				10
	450			M33x2	40	16
(E)DRN132M/L	160	30	22.5	M10x1	15	10
	200	15		M12x1.5	18	14
	250	30				
	300			M22x1.5	28	12
	350					14
	400					13
	450	75		M33x2	40	16
	550	90		M42x2	50	18

Motor	a in mm	α in °	β in °	Thread designation	Ø d in mm	l in mm
(E)DRN160	200	30	22.5	M10x1	15	17
	250			M12x1.5	18	15
	300			M22x1.5	28	12
	350					
	400					16
	450			M33x2	40	
	550	90		M42x2	50	
(E)DRN180	250	30	22.5	M12x1.5	18	15
	300			M22x1.5	28	
	350					
	400					16
	450			M33x2	40	
	550	90		M42x2	50	17

Motor	a in mm	α in °	β in °	Thread designation	Ø d in mm	l in mm
(E)DRN200	250	30	22.5	M12x1.5	18	15
	300			M22x1.5	28	
	350					14
	400					16
	450			M33x2	40	
	550			M42x2	50	19
(E)DRN225	300	30	22.5	M22x1.5	28	15
	350					14
	400					16
	450			M33x2	40	17
	550			M42x2	50	29
(E)DRN250 (E)DRN280	350	15	22.5	M22x1.5	28	14
	400		21			
	450		22.5	M33x2	40	16
	550			M42x2	50	
(E)DRN315	450	30	22.5	M33x2	40	30
	550		11.25	M42x2	50	20

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5.2 Order information

INFORMATION

The following order information is required for R, F, K, S, and W gear units or gearmotors in addition to the mounting position to exactly determine the drive design.

This information is also required for gearmotors that do not depend on a particular mounting position.

5.2.1 Order information for all gear units and gearmotors

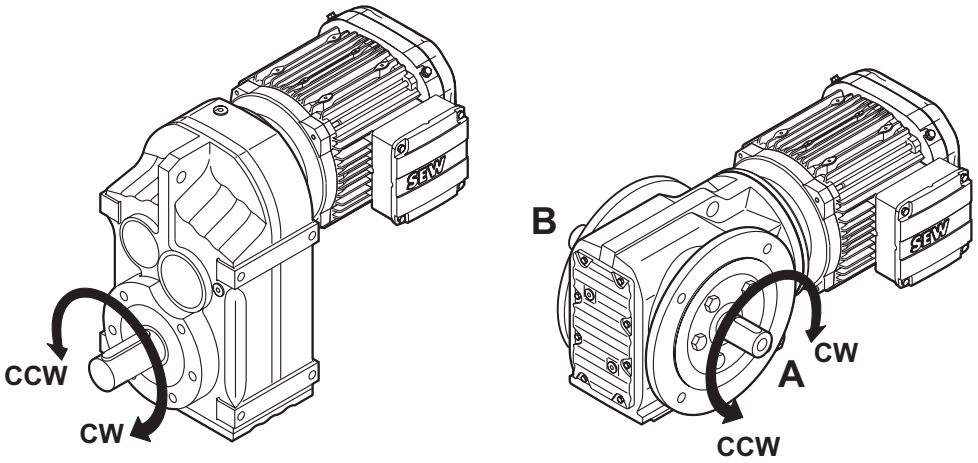
Observe the following notes for all gear units and gearmotors from SEW-EURODRIVE.

Output direction of rotation with backstop

The purpose of a backstop is to prevent unwanted directions of rotation. During operation, the backstop permits rotation only in the specified direction. If the drive has an RS backstop, you have to indicate the direction of rotation of the output for the drive.

The direction of rotation is specified as viewed onto the output shaft (LSS):

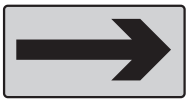
- CW rotation
- CCW rotation



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In right-angle gear units, you also have to indicate whether the direction of rotation is given looking onto the A or B-side.

The permitted direction of rotation is indicated by a direction arrow on the housing:



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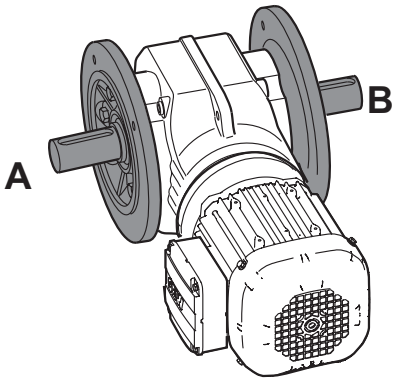
A replacement label is enclosed for the customer.

Position of the output shaft and the output flange

In right-angle gear units, you also have to indicate the position of the output shaft and the output flange:

- A or B or AB

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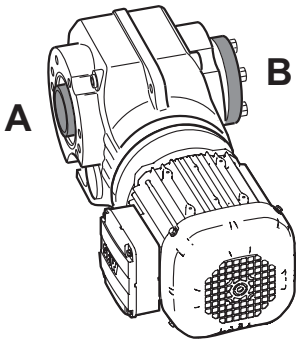


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Position of the output end in right-angle gear units

In shaft mounted right-angle gear units with a shrink disk, you also have to indicate whether the A or B-side is the output end. In the figure below, the A-side is the output end. The shrink disk is located opposite the output end.

In shaft mounted right-angle gear units, the designation "output end" is equivalent to the designation "shaft position" used for right-angle gear units with solid shaft.



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INFORMATION

For the permitted mounting surfaces (= hatched area), refer to the mounting position sheets (see chapter "Mounting position sheets" (→ 🗎 82)).

5.2.2 Position of motor terminal box and cable entry

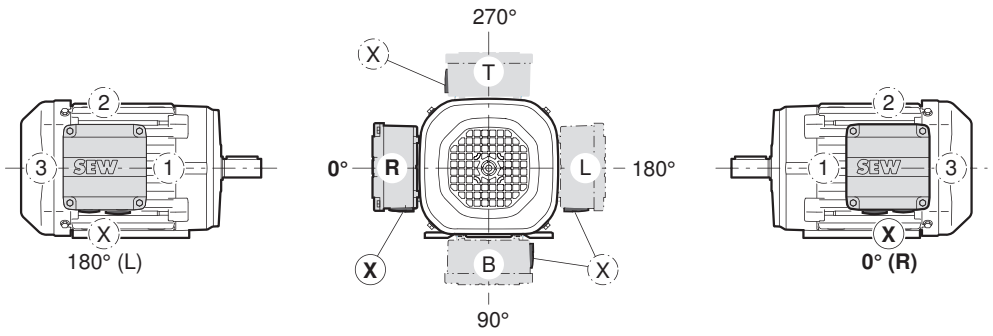
The position of the motor terminal box was previously specified as 0°, 90°, 180° or 270° as viewed onto the fan guard (= B-end); see the following figure. A change in the product standard EN 60034 stipulates that the following designations have to be used for the terminal box positions of foot-mounted motors in the future:

- As viewed onto the output shaft = A-end
- Designation as R (right), B (bottom), L (left) and T (top)

This new designation applies to foot-mounted motors without a gear unit in mounting position B3 (= M1). The previous designation is retained for gearmotors. The following figure shows both designations. Where the mounting position of the motor changes, R, B, L and T are rotated accordingly. In motor mounting position B8 (= M3), T is at the bottom.

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The position of the cable entry can be selected as well. "X" (= normal position), "1", "2" or "3" are possible, as shown in the following figure.



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Unless indicated otherwise, you will receive the terminal box type 0° with "X" cable entry. For mounting position M3, we recommend that you select cable entry "2".

INFORMATION

Only cable entries "X" and "2" are possible with the DR63 motor. Exception: This limitation does not apply with IS plug connectors.

INFORMATION

When the **terminal box is in the 90° (B) position**, check whether the gearmotor has to be supported.

Software support

Not all cable entry positions X, 1, 2, 3 and terminal box positions 0°(R), 90°(B), 180°(L), 270°(T) are possible in all cases. Some additional features for the motor require a connection inside the terminal box, which means this terminal box is larger than the standard terminal box due to the normative air gaps and creepage distances. The dimension sheets only depict the standard terminal box.

Dimensions not listed in the dimension sheets can be determined via the relevant CAD data on the SEW-EURODRIVE website.

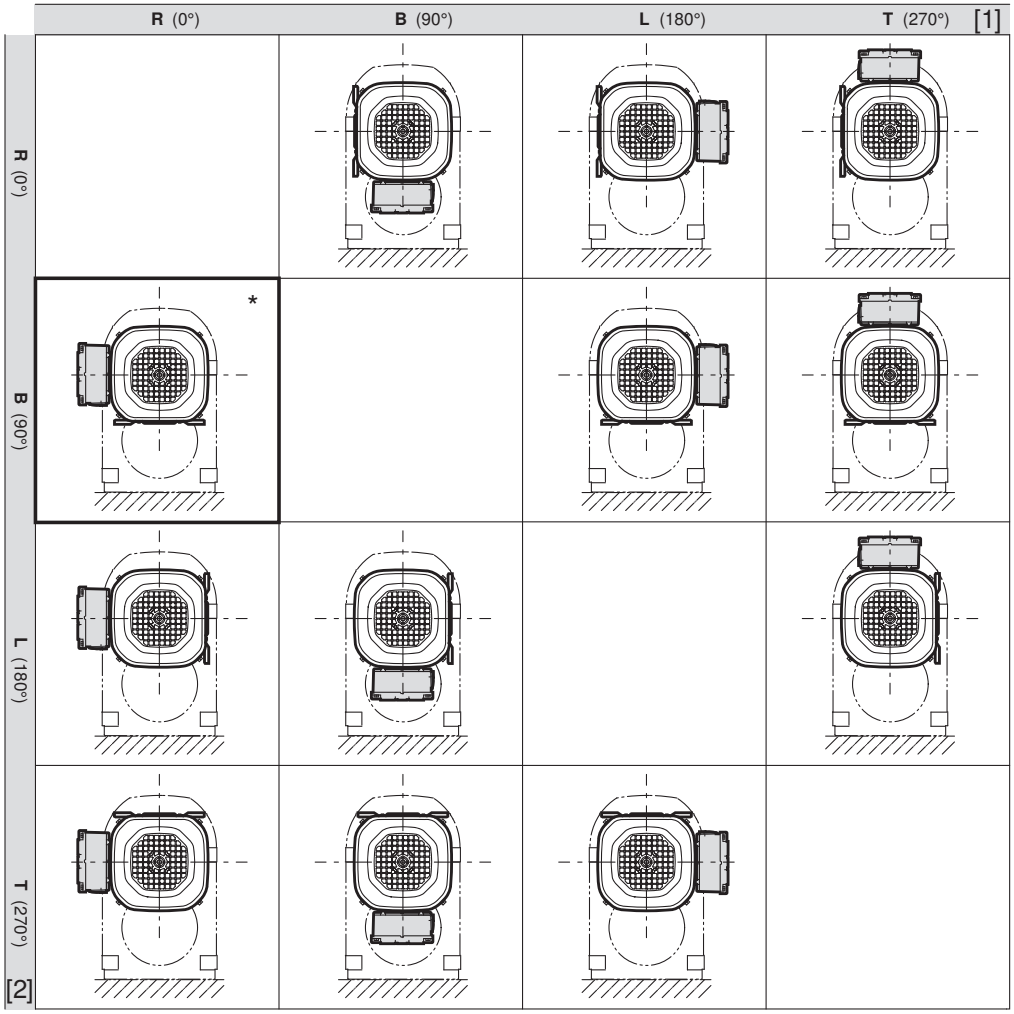
5.2.3 Sample orders

Type (examples)	Mounting position	Shaft position	Flange position	Terminal box position	Cable entry position	Output direction of rotation
K47DRK71M4/RS	M2	A	-	0°	"X"	Clockwise
SF77DRS90L4	M6	AB	AB	90 °	"3"	-
KA97DRE132M4	M4	B	-	270 °	"2"	-
KH107DRN160M4	M1	A	-	180 °	"3"	-
KAF67AM90	M3	A	B	-	-	-
K47DRE90MJ4	M2	A	-	0°	"X"	Clockwise

5.2.4 Position motor terminal box and foot for gearmotors with motor option /FM

With gearmotors, the motor is designed as flange-mounted motor for mounting to gear units. It is also possible to provide the motor with feet that can be used for customer components. The load values of the feet are available from SEW-EURODRIVE on request. The position of the foot must be specified in the order.

The following figure shows the possible positions of the terminal box and the feet for gearmotors with motor option /FM.



13588943243

[1] Terminal box positions [2] Foot positions

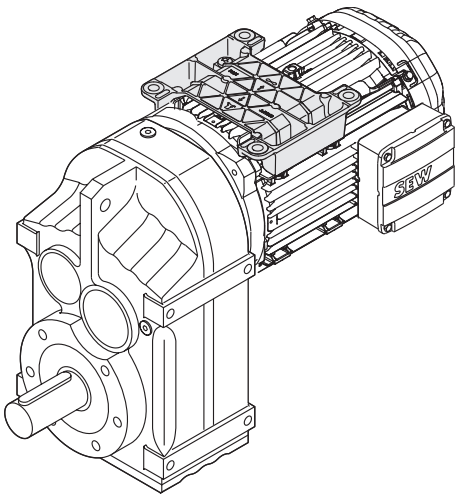
*) If not specified otherwise in the order, the gearmotor is delivered with foot position B (90°) and terminal box position R (0°).

INFORMATION

The foot on the motor is not suited to attach a complete gearmotor.

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Example: Gearmotor with motor option /FM:



13678896779

Order information on mounting position of the complete drive, foot positions, terminal box and cable entry:

Mounting position complete drive:	M1
Terminal box position:	R (0°)
Cable entry:	X
Foot position:	T (270°)

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5.3 Mounting position sheets

5.3.1 Key to the mounting position sheets

INFORMATION

The positions of the breather valve, oil level plug, and oil drain plug specified in the mounting position sheets are binding and comply with the assembly specifications.

The motors are only depicted symbolically on the mounting position sheets.

INFORMATION

For gear units with solid shaft: The displayed shaft is always on the A-side.

For shaft-mounted gear units: The shaft with dashed lines represents the customer shaft. The output end (= shaft position) is always shown on the A-side.

INFORMATION

SPRIOPLAN® gearmotors are not dependent on the mounting position, except for W..37 and W..47 gearmotors in mounting position M4. However, mounting positions M1 to M6 are also shown for SPIROPLAN® gearmotors to assist you in working with this documentation.

INFORMATION

SPIROPLAN® gearmotors W..10 to W..30 cannot be equipped with breather valves, oil level plugs or oil drain plugs.

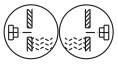
SPIROPLAN® gear units W..37 and W..47 are equipped with breather valves in mounting position M4 and with oil drain plugs in mounting position M2.

INFORMATION

Some gear units can be supplied in mounting position M0. In this case, the gear unit is delivered in a universal mounting position and can be adjusted to various mounting positions by the customer. It may be necessary to contact SEW-EURODRIVE.

Symbols used

The following table shows the icons used in the mounting position sheets.

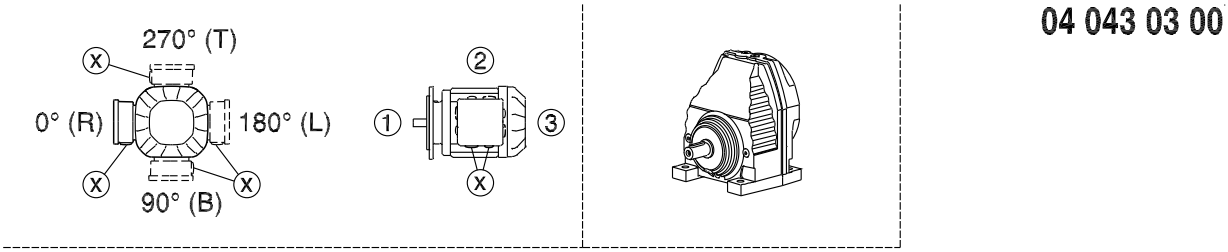
Icon	Meaning
	Breather valve
	Oil level plug [1]
	Oil drain plug

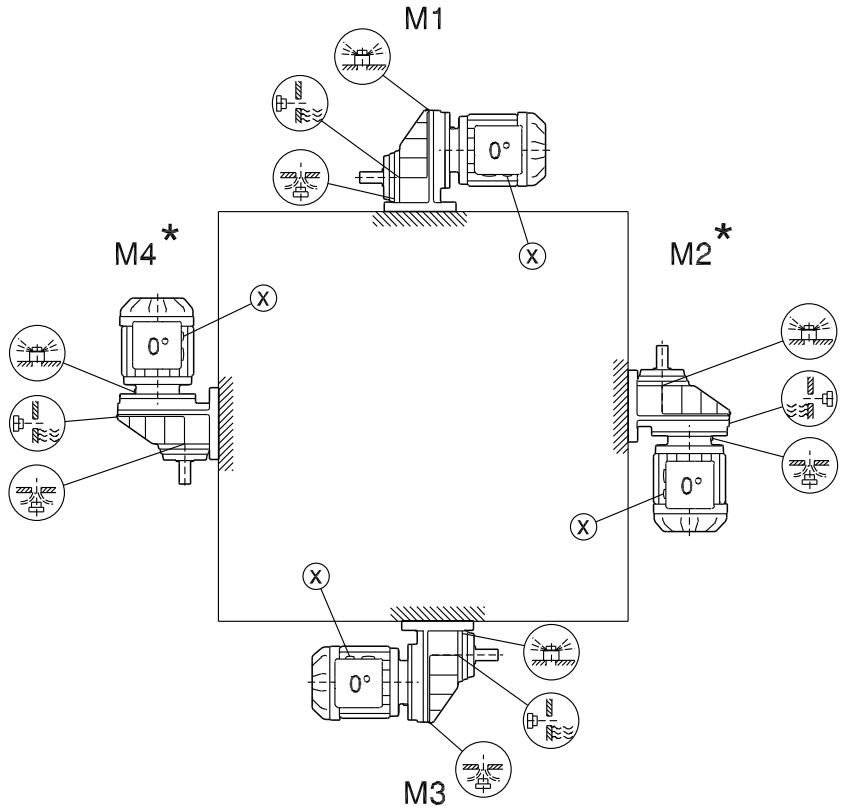
1) Does not apply to the 1st gear unit (large gear unit) of compound gear units. See chapter "Position of the oil level plug of compound gear units".

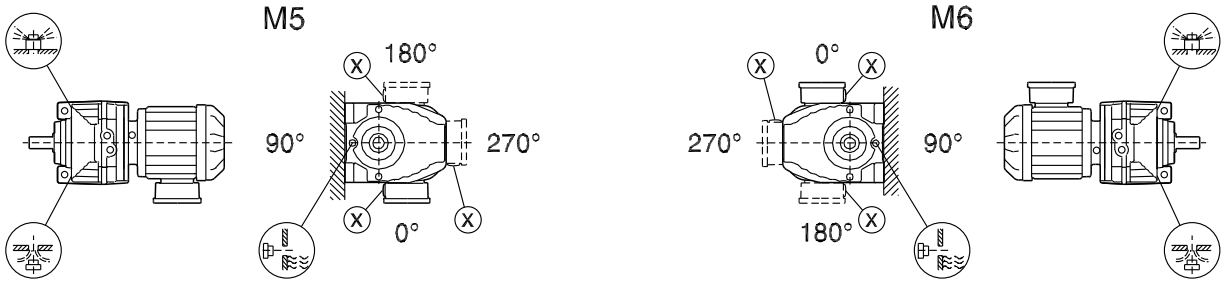
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5.3.2 Mounting positions of helical gearmotors

RX57-RX107



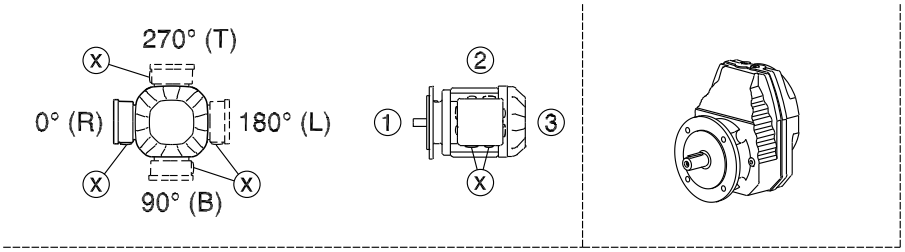


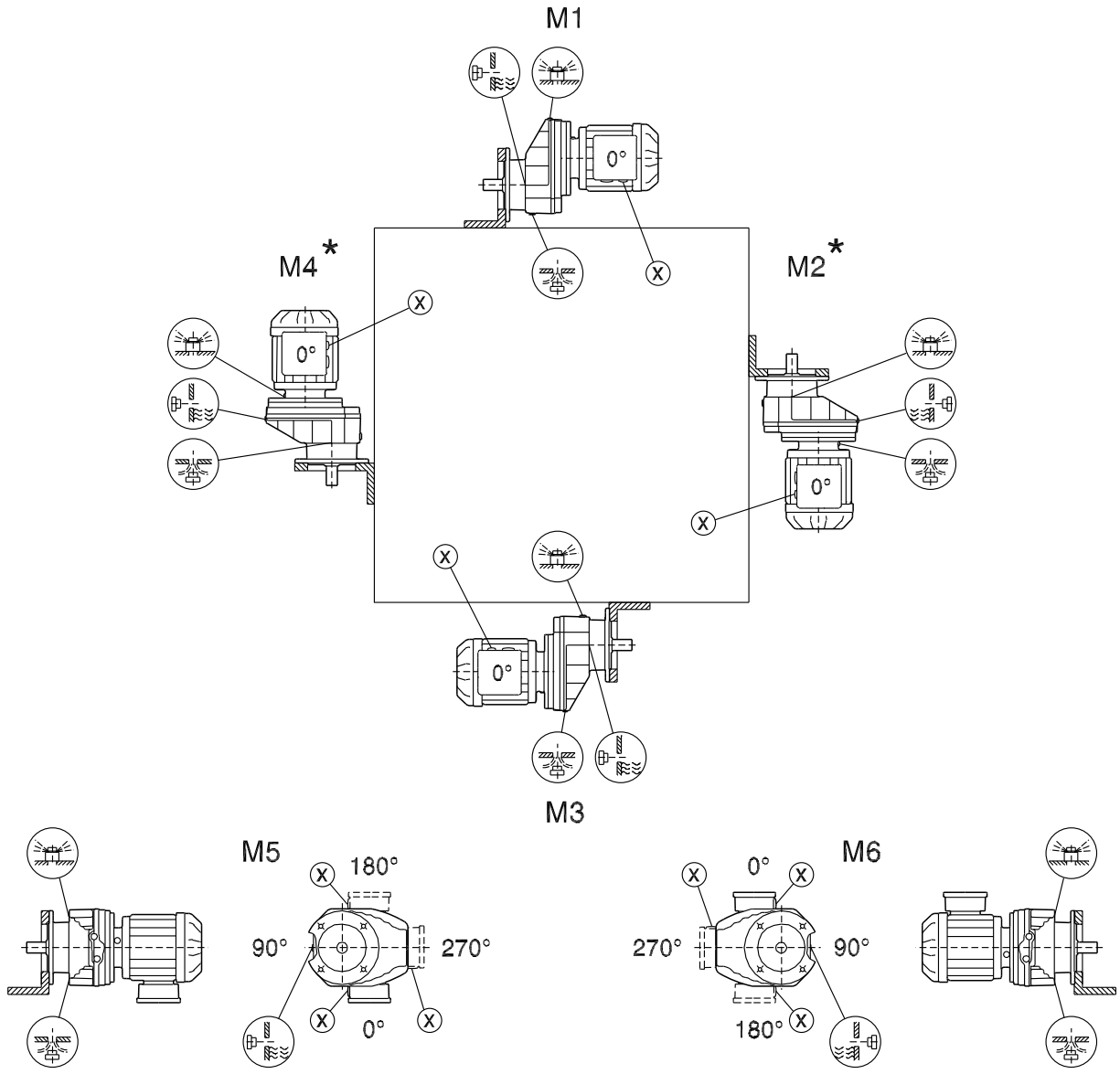


* (→ 🗎 58)

RXF57-RXF107

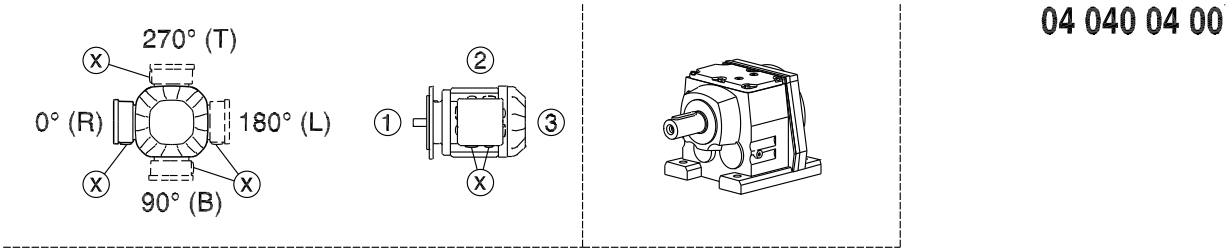
04 044 03 00

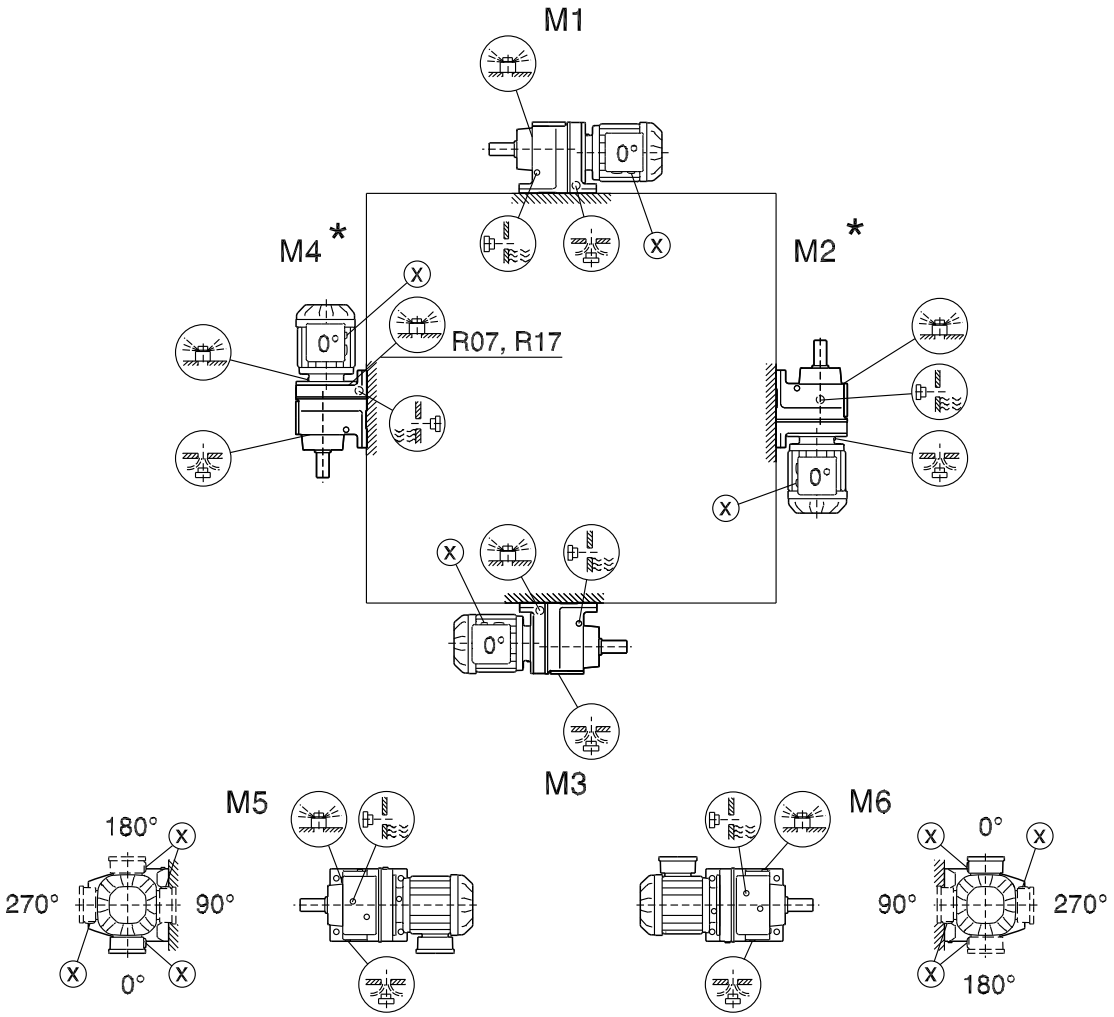




* (→ 58)

R07-R167



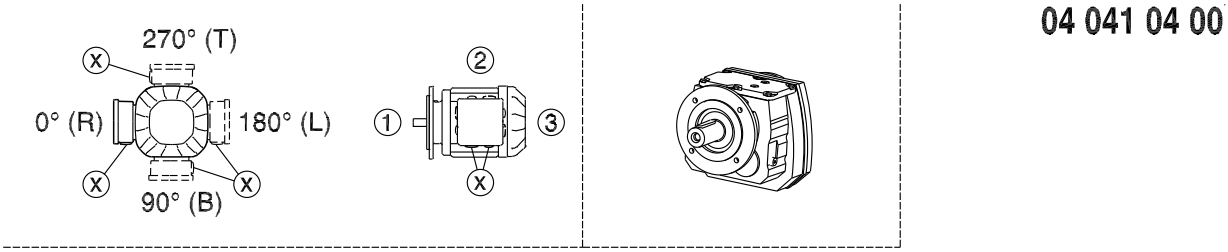


R07	M1, M2, M3, M5, M6
R17, R27	M1, M3, M5, M6
R07, R17, R27	
R47, R57	M5

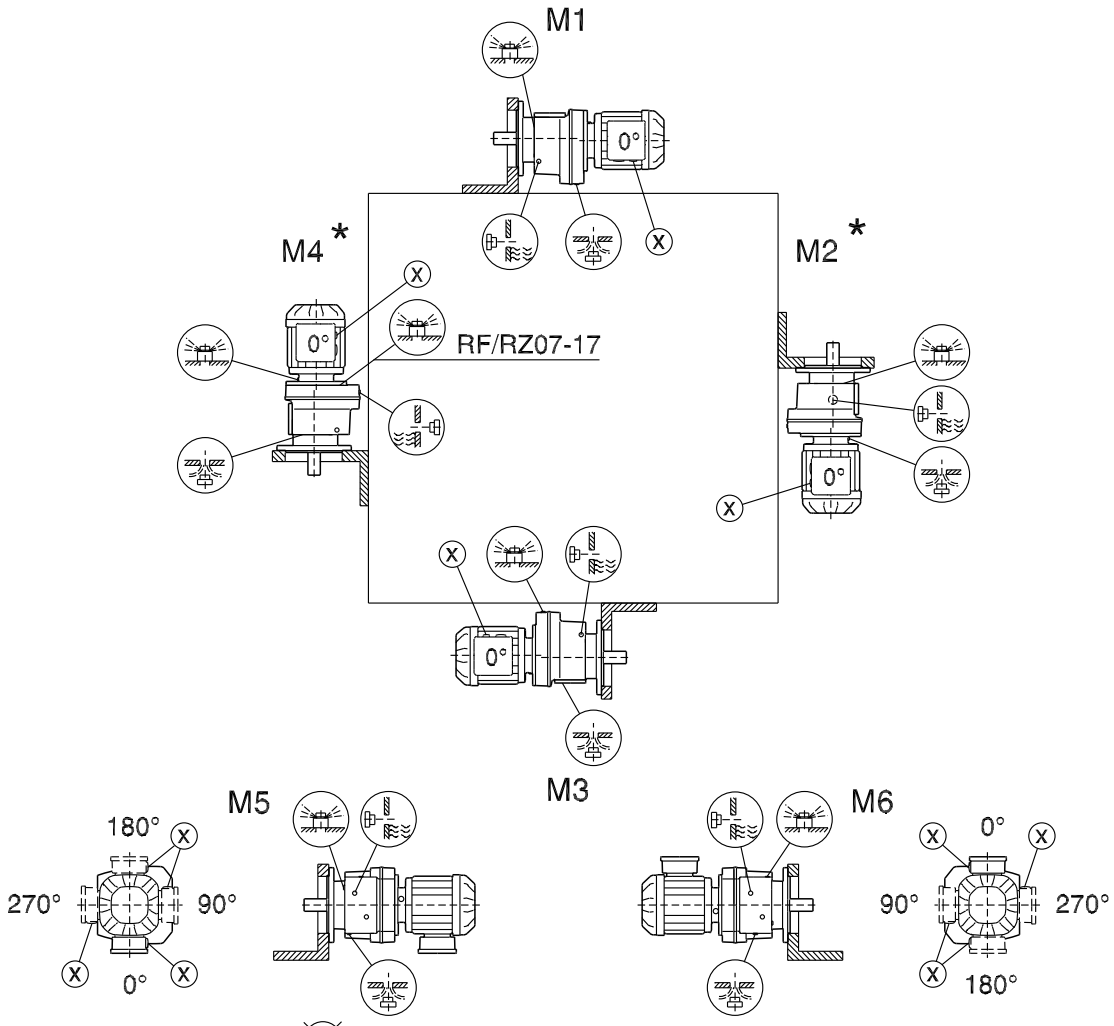
* (→ 🗎 58)

Observe the notes in chapter "Overhand and axial loads of R, F, K, S, and W gear units" (→ 🗎 62).

RF07-RF167, RZ07-RZ87



04 041 04 00

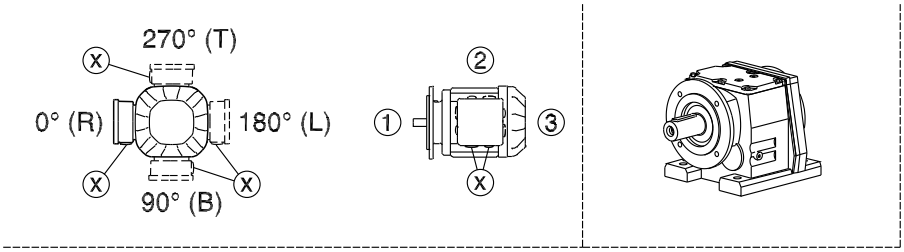


RF/RZ07	⊗	M1, M2, M3, M5, M6
RF/RZ17, 27	⊗	M1, M3, M5, M6
RF/RZ07, 17, 27	⊗ ⊗	
RF/RZ47, 57	⊗	M5

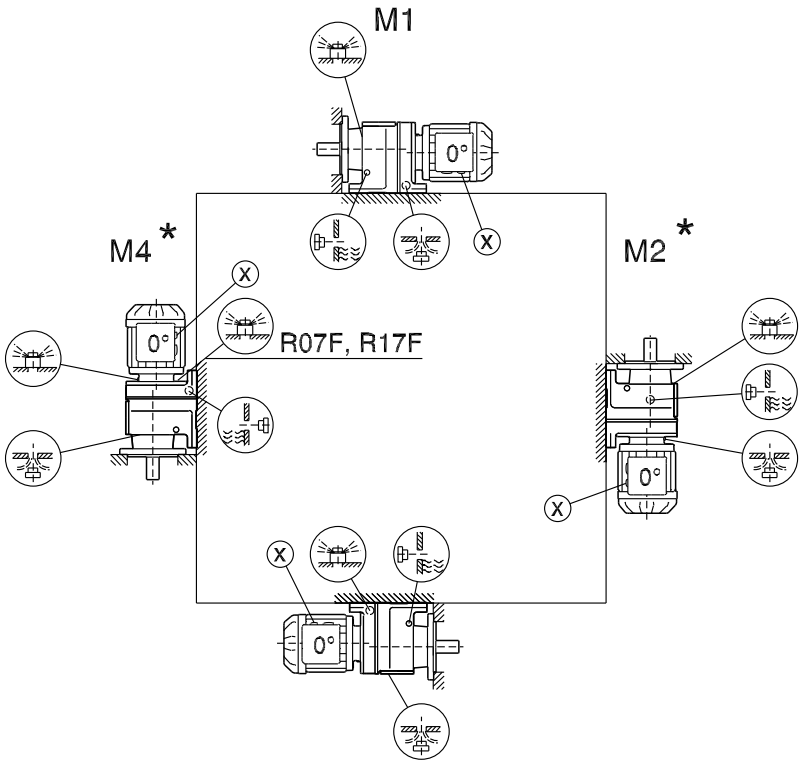
* (→ 🗎 58)

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R07F-R87F



04 042 04 00



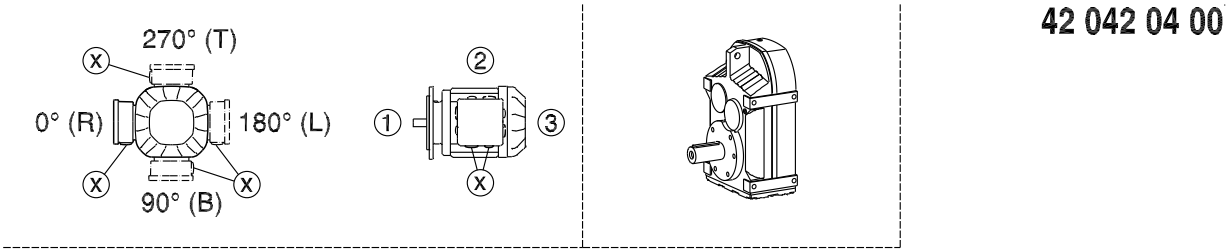
R07F	M1, M2, M3, M5, M6
R17F, R27F	M1, M3, M5, M6
R07F, R17F, R27F	
R47F, R57F	M5

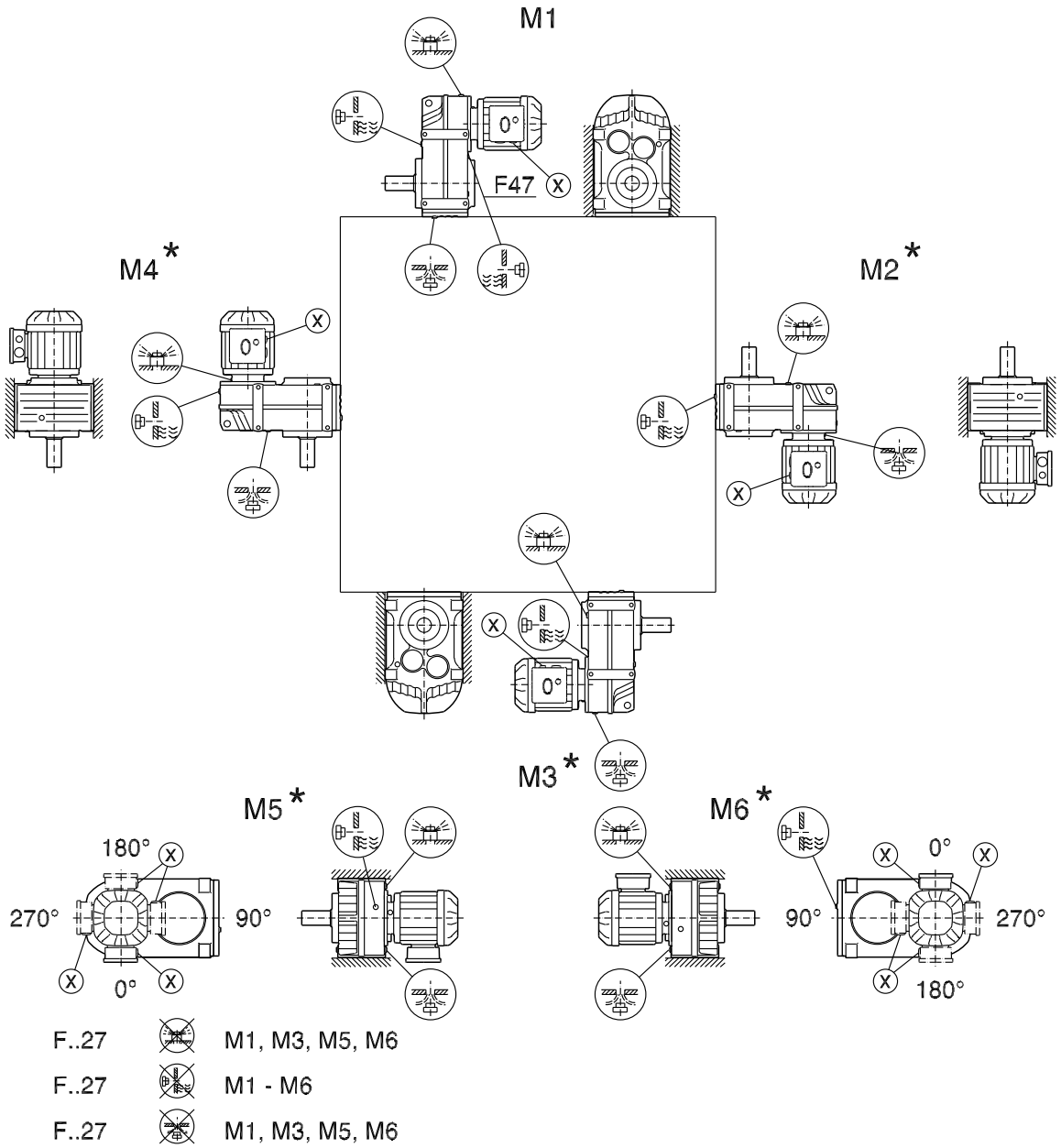
* (→ 🗎 58)

Observe the notes in chapter "Overhand and axial loads of R, F, K, S, and W gear units" (→ 🗎 62).

5.3.3 Mounting positions of parallel-shaft helical gearmotors

F/FA..B/FH27B-157B, FV27B-107B





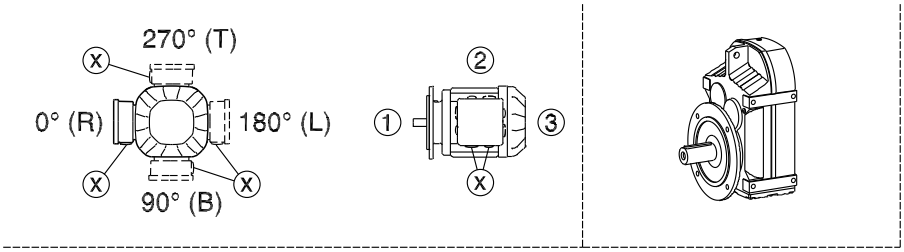
F..27		M1, M3, M5, M6
F..27		M1 - M6
F..27		M1, M3, M5, M6

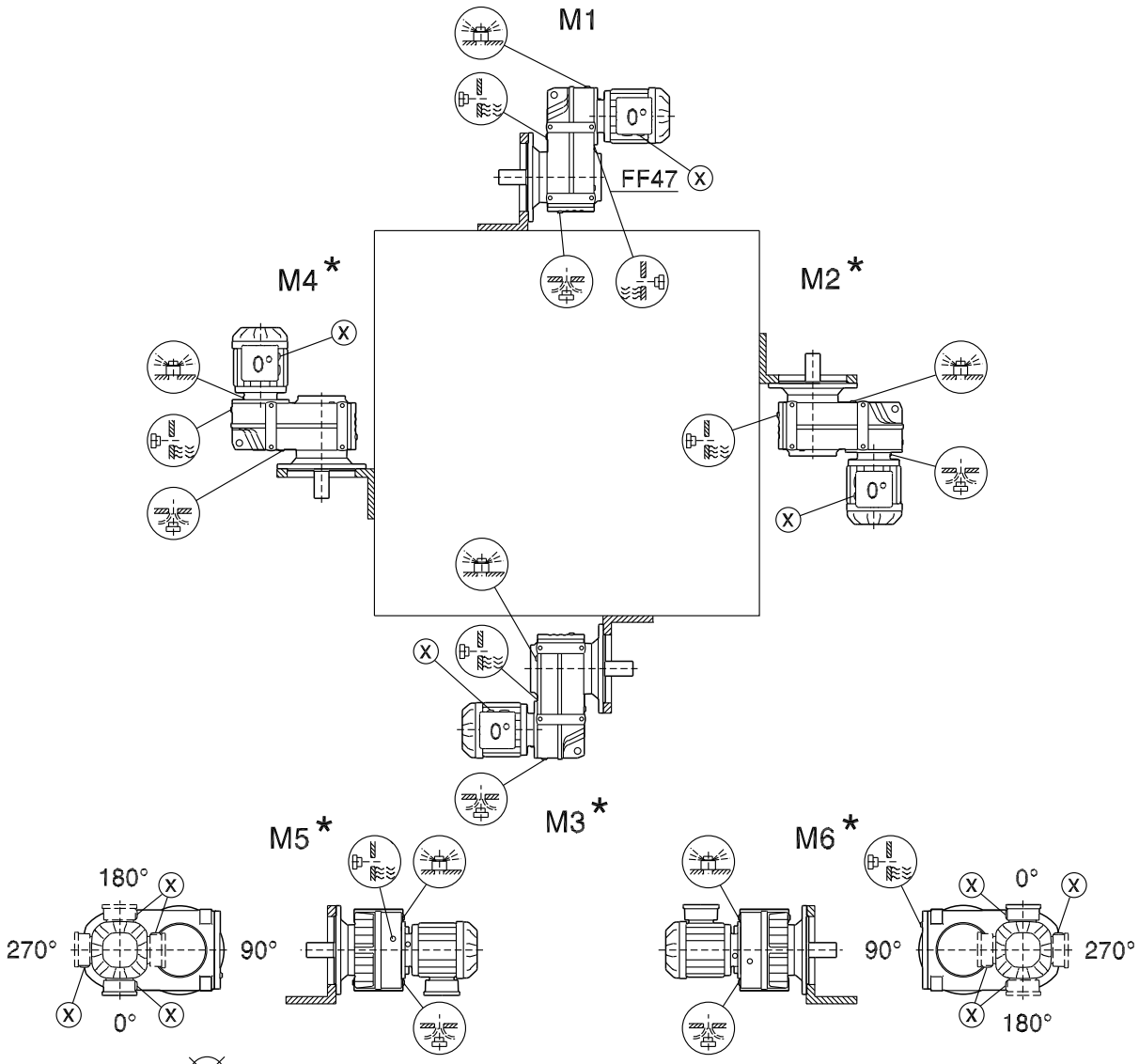
* (→ 58)

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FF/FAF/FHF/FZ/FAZ/FHZ27-157, FVF/FVZ27-107

42 043 04 00



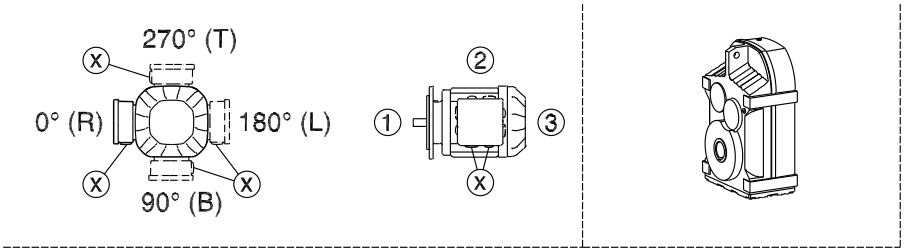


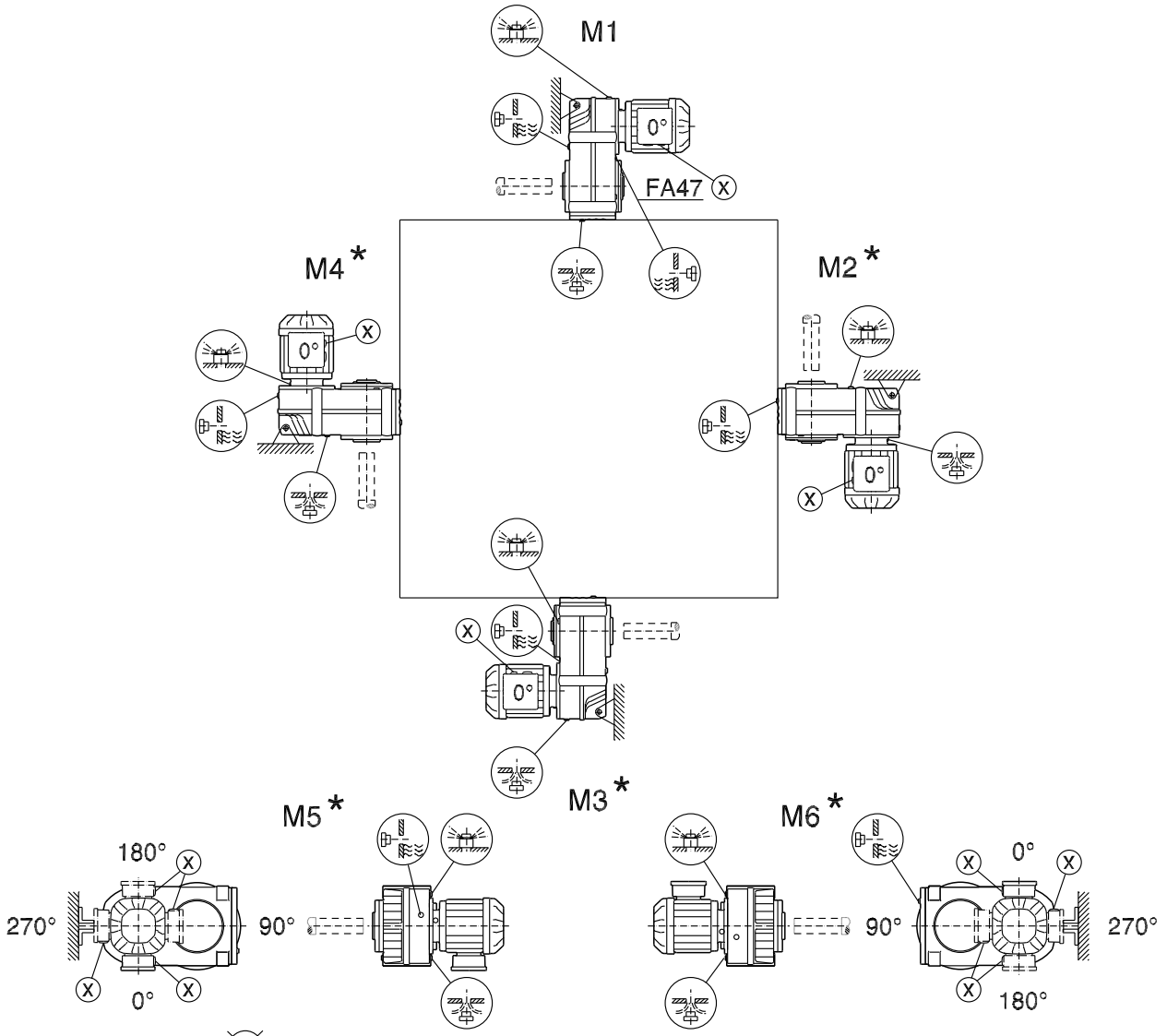
F..27		M1, M3, M5, M6
F..27		M1 - M6
F..27		M1, M3, M5, M6

* (→ 🗎 58)

FA/FH27-157, FV27-107, FT37-97

42 044 04 00





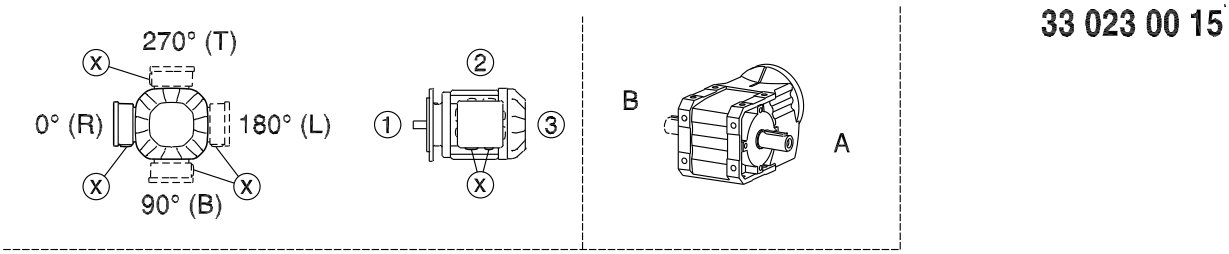
F..27		M1, M3, M5, M6
F..27		M1 - M6
F..27		M1, M3, M5, M6

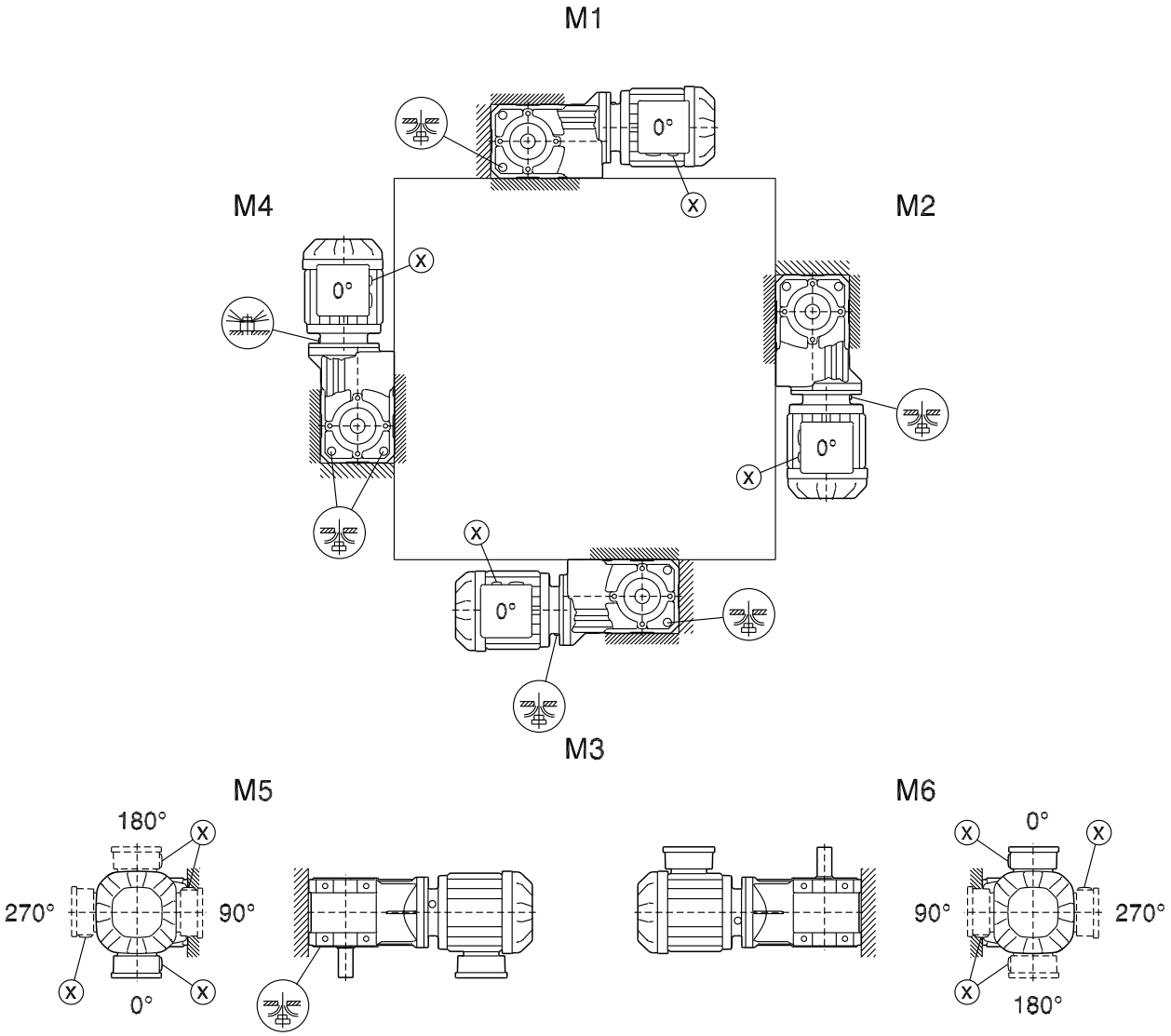
* (→ 🗎 58)

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5.3.4 Mounting positions of helical-bevel gearmotors

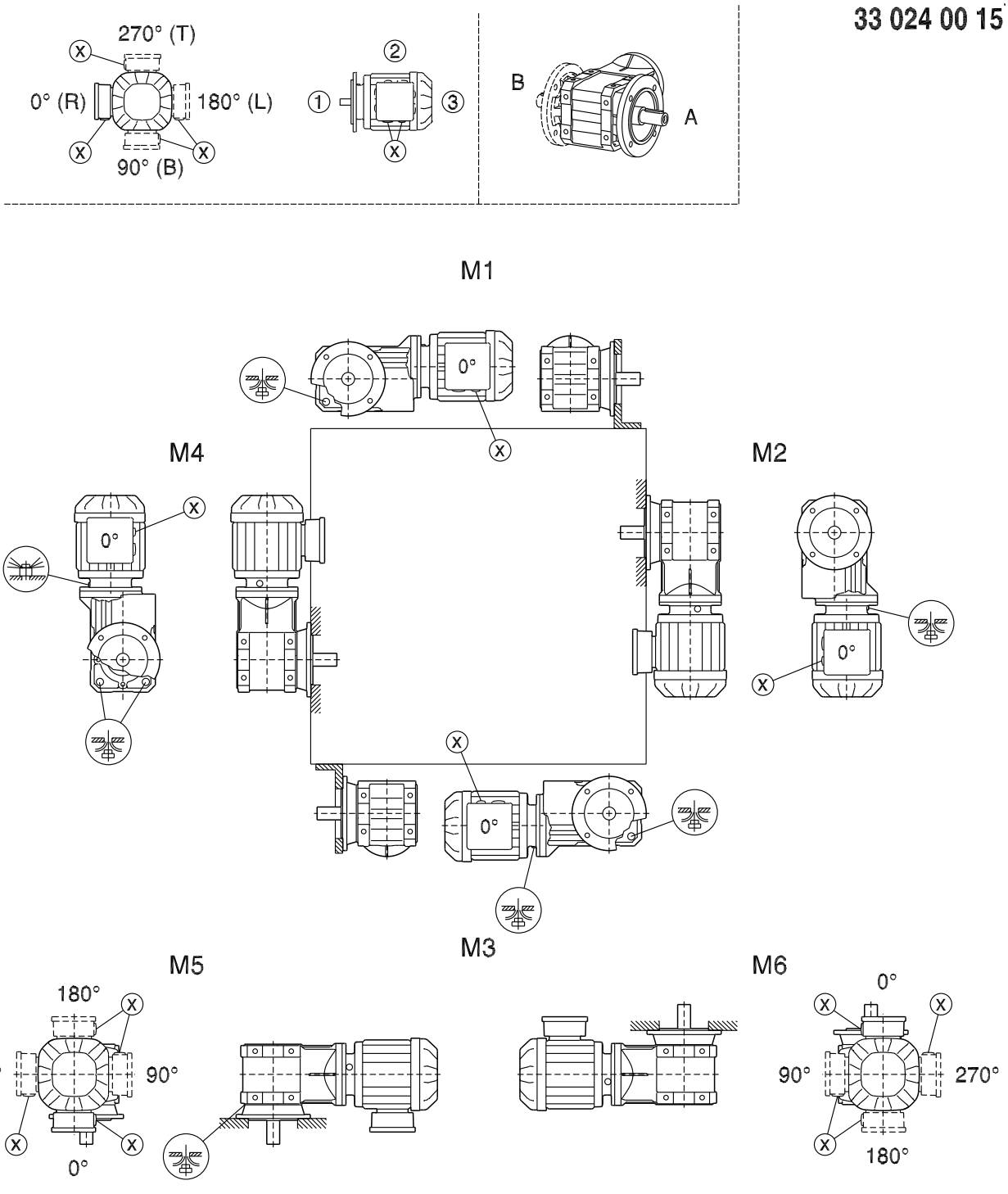
K/KA..B/KH19B-29B





Observe the notes in chapter "Overhand and axial loads of R, F, K, S, and W gear units" (→ 🖹 62).

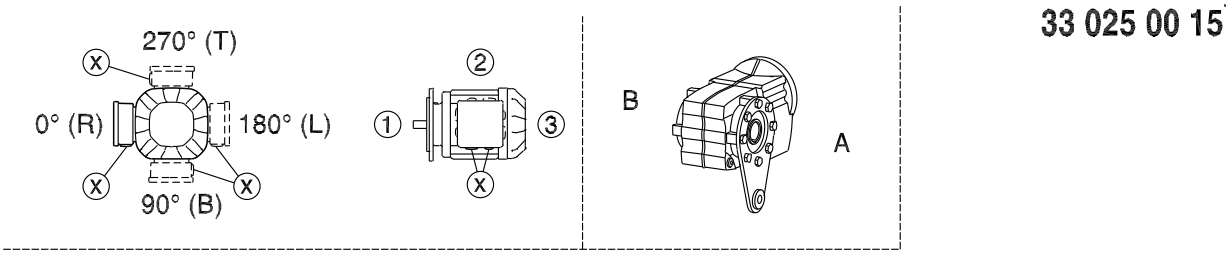
KF..B/KAF..B/KHF19B-29B

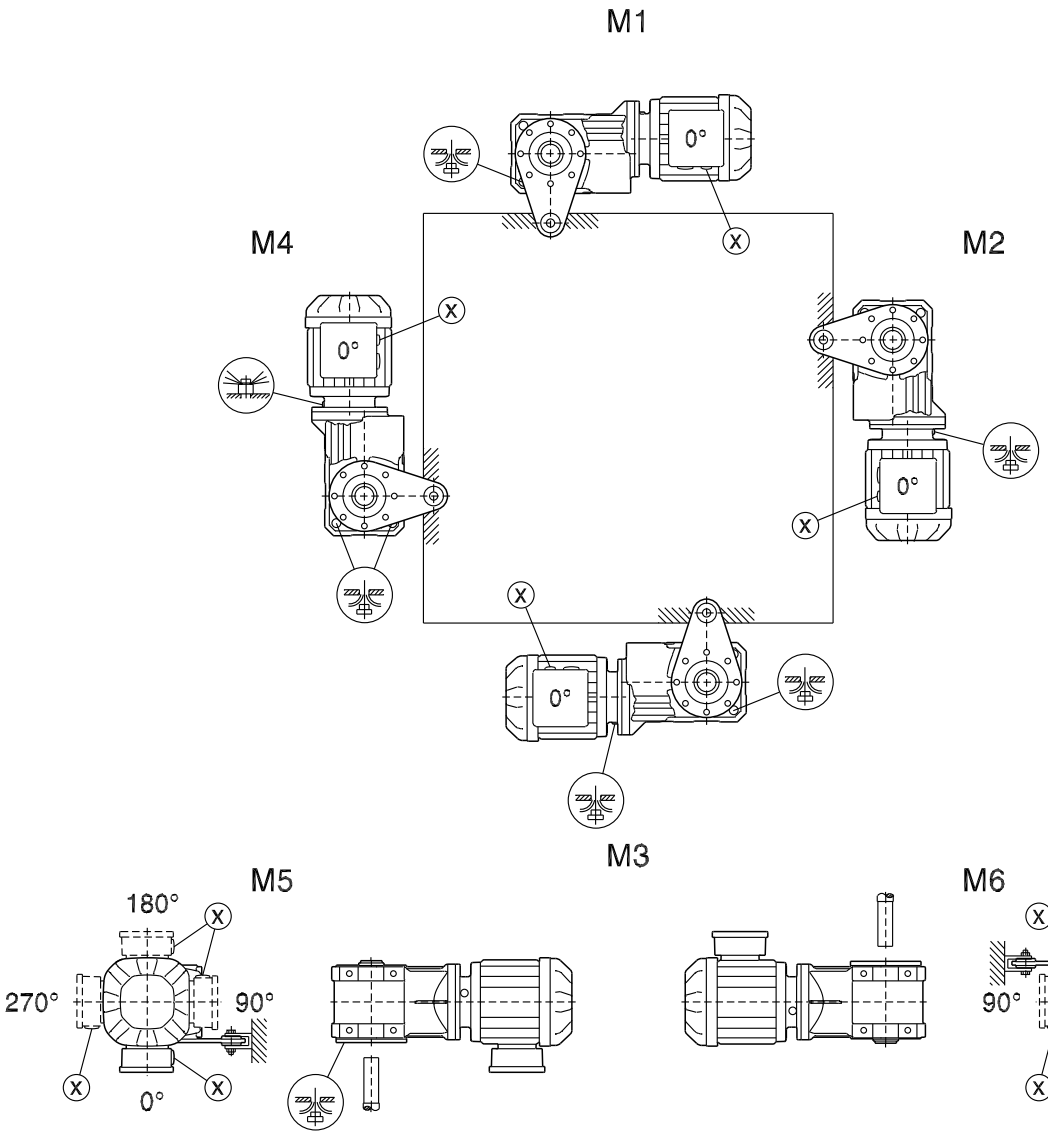


Observe the notes in chapter "Overhand and axial loads of R, F, K, S, and W gear units" (→ 🗎 62).

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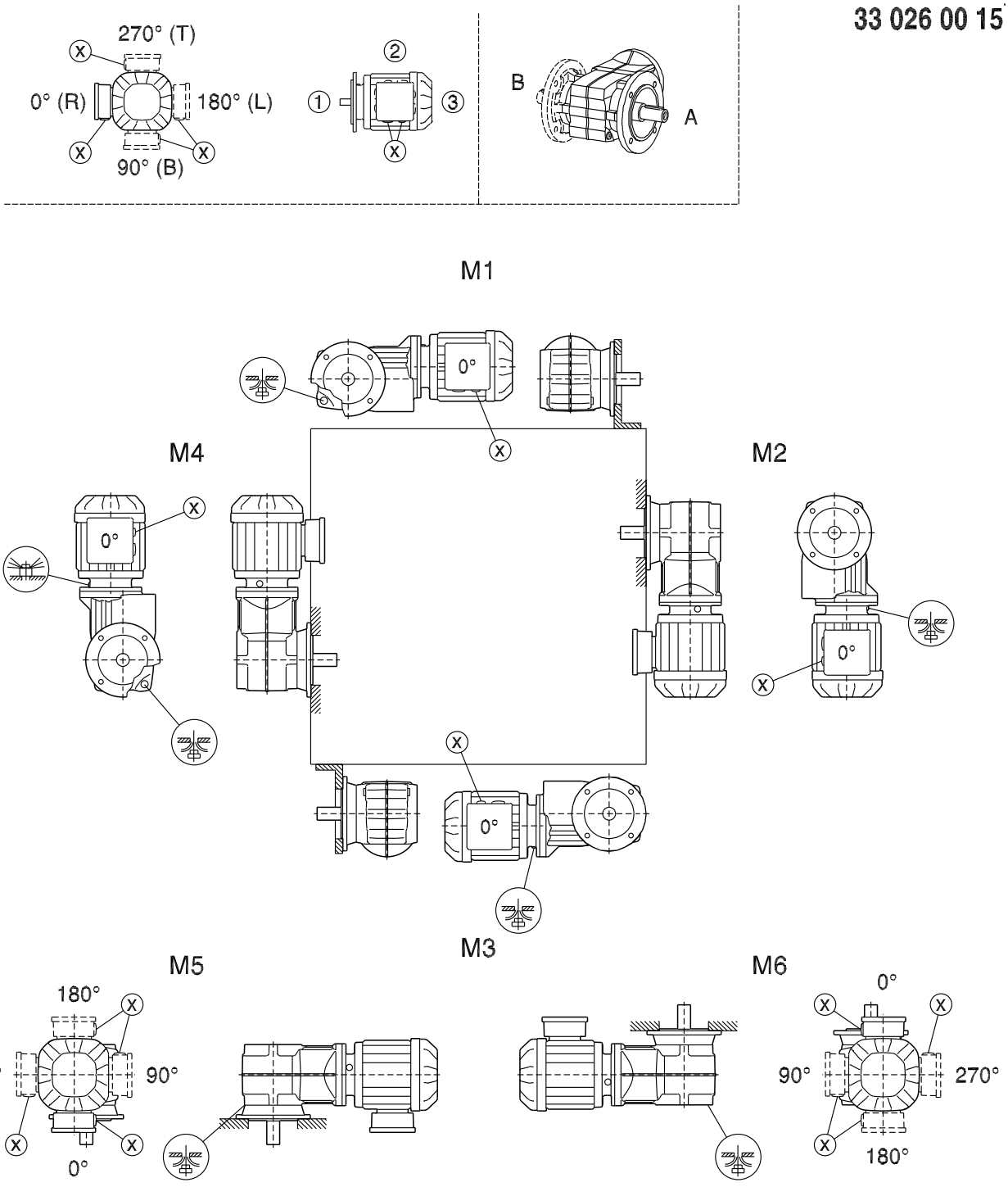
KA..B/KH19B-29B





Observe the notes in chapter "Overhand and axial loads of R, F, K, S, and W gear units" (→ 🗎 62).

KF/KAF/KHF19-29

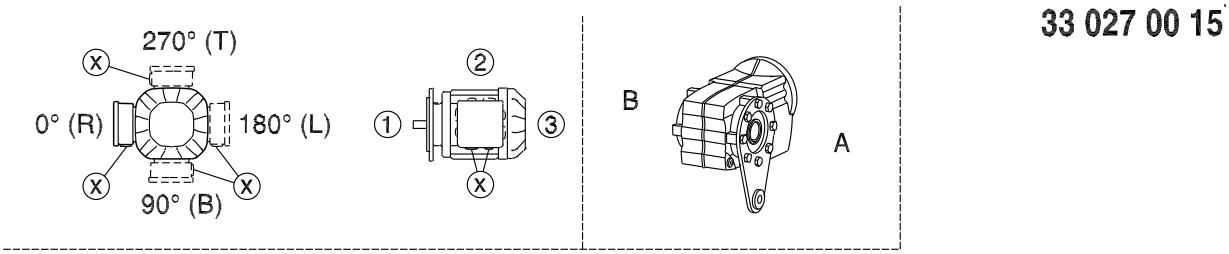


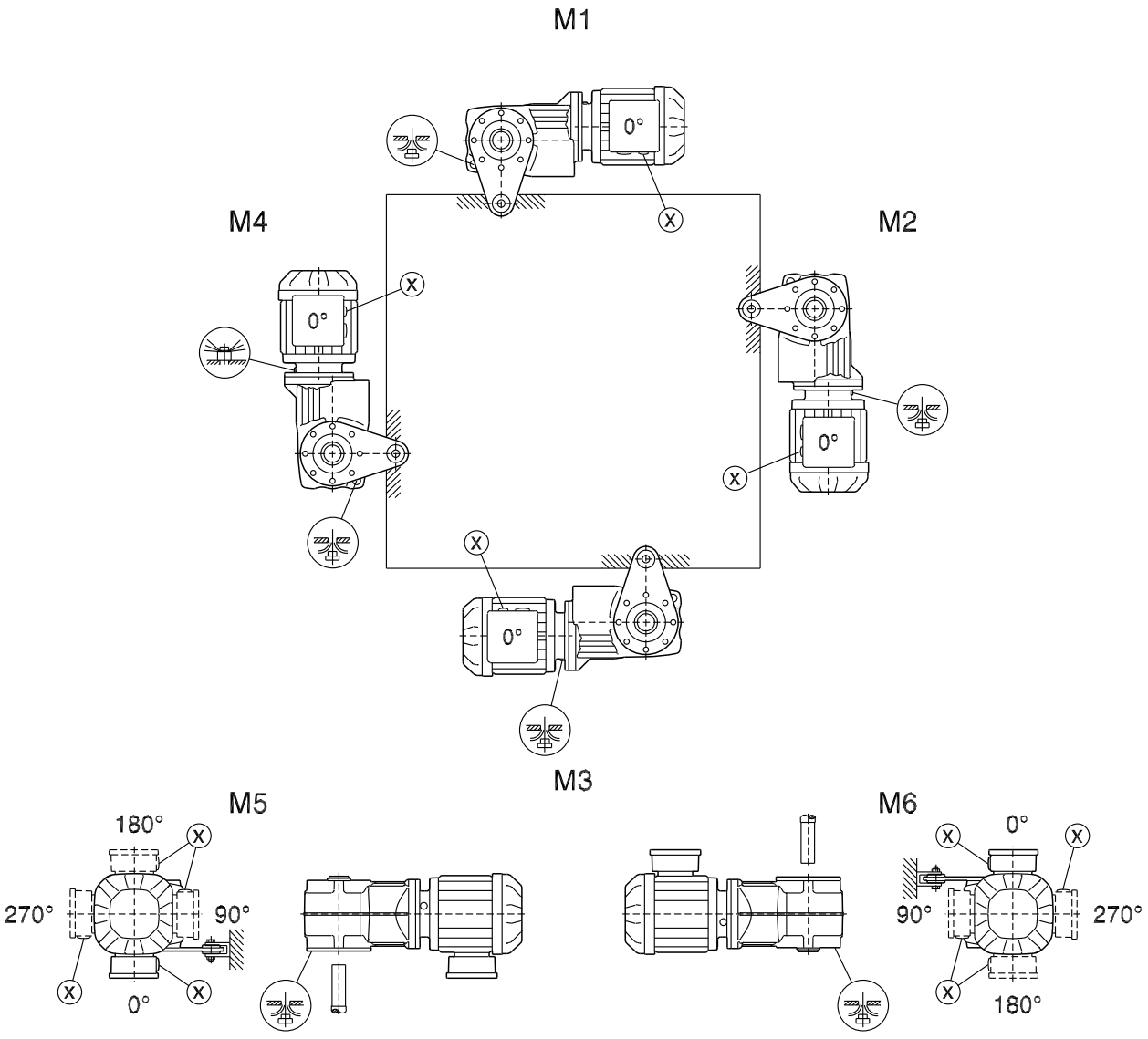
Observe the notes in chapter "Overhand and axial loads of R, F, K, S, and W gear units" (→ 🗎 62).

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KA/KH19-29

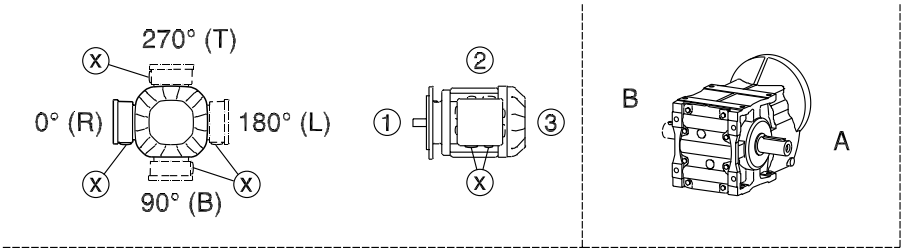
33 027 00 15

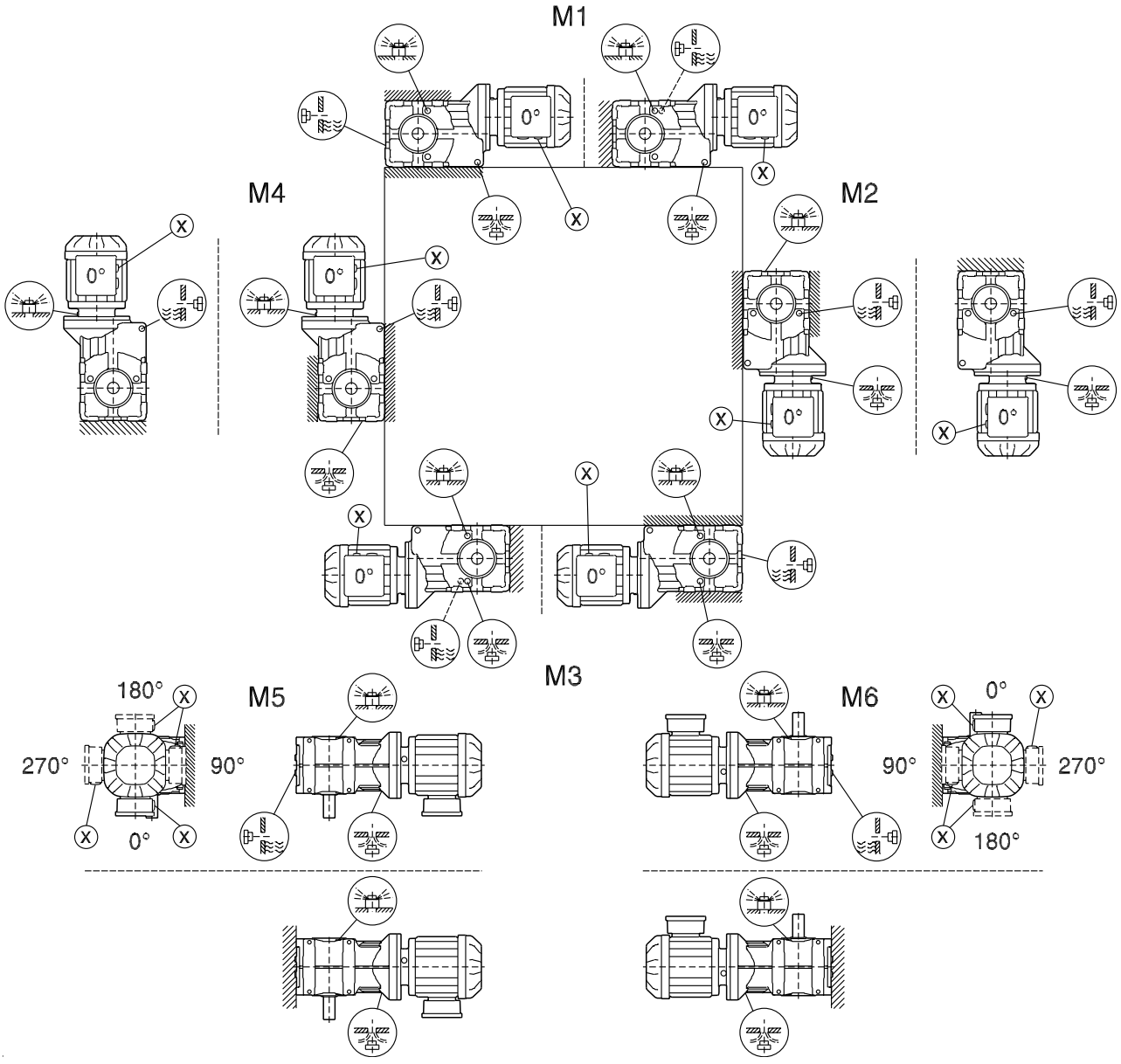




K39-49

33 092 02 14

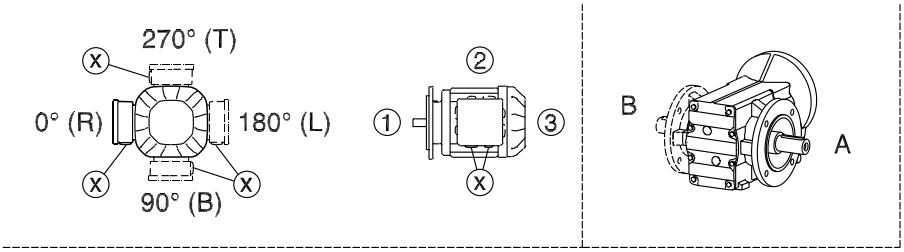


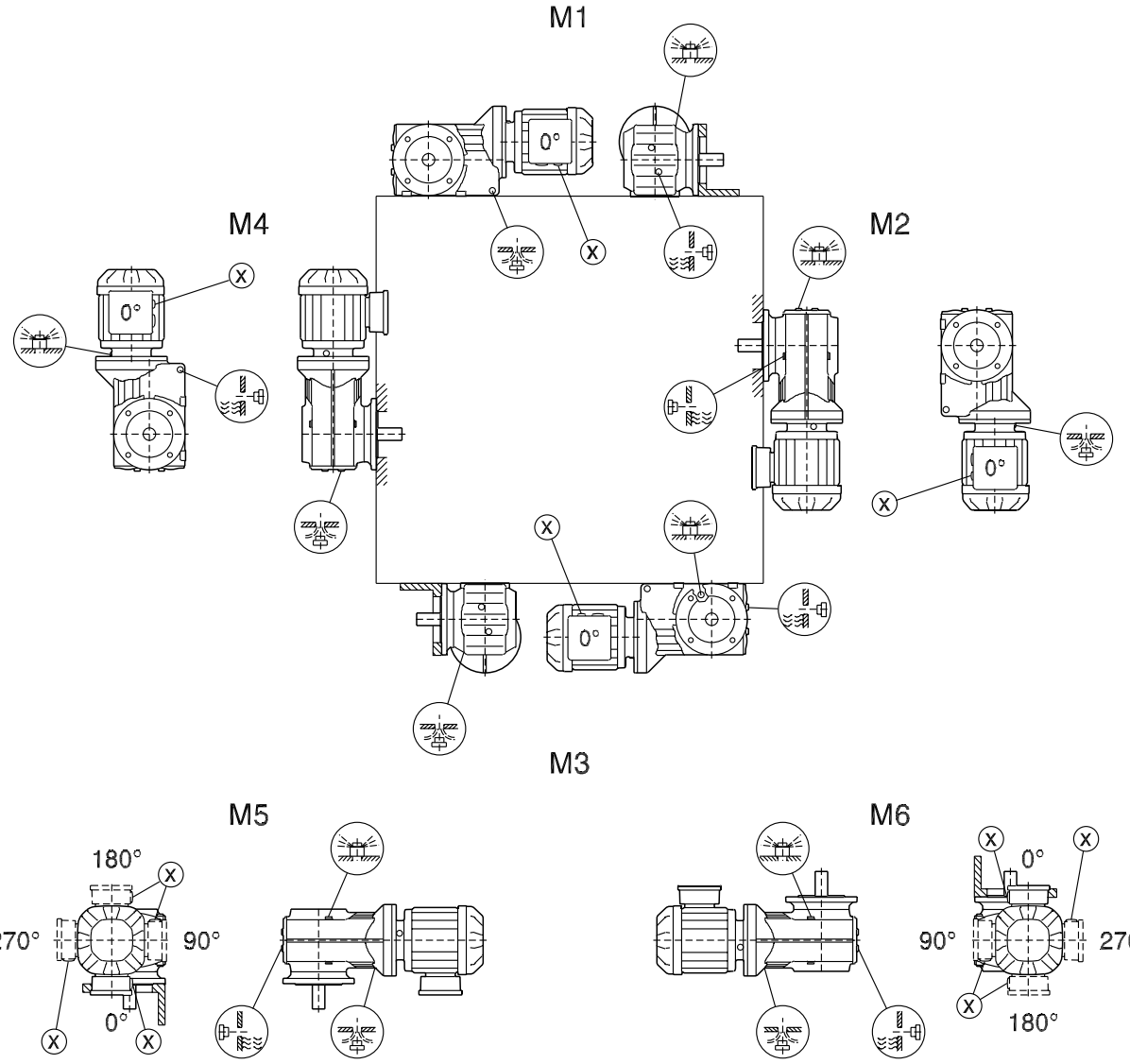


22742654/EN – 08/2016

KF/KAF39-49

33 093 01 14

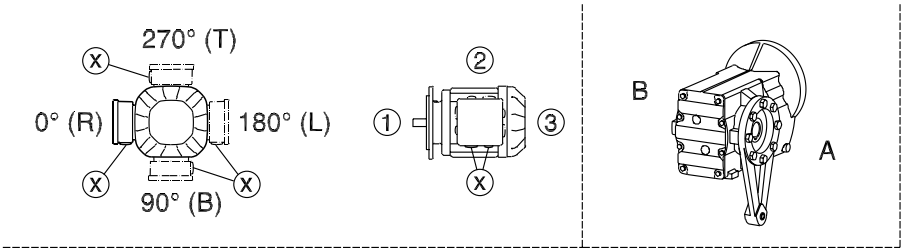


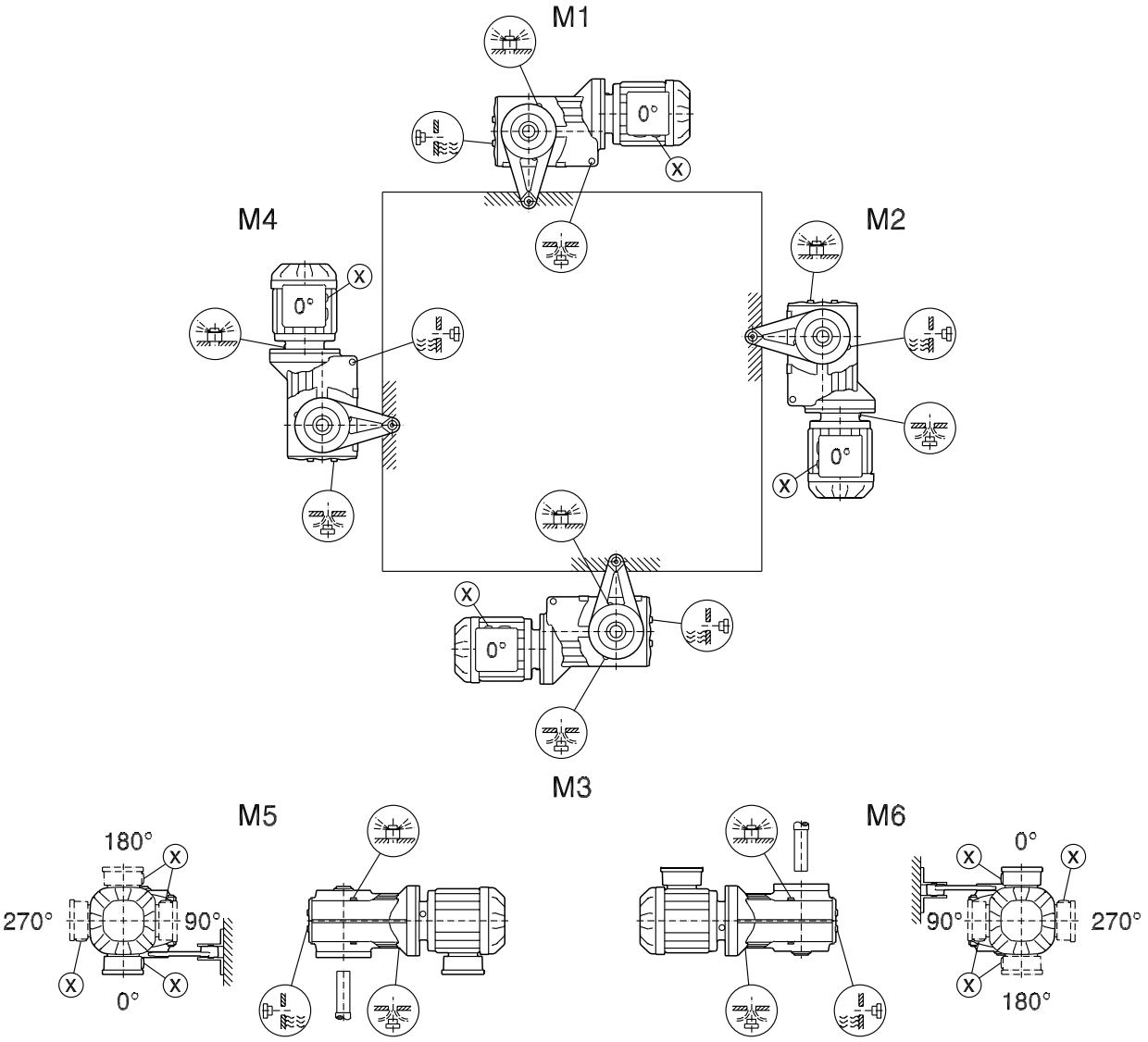


22742654/EN – 08/2016

KA/KT39-49

33 094 01 14

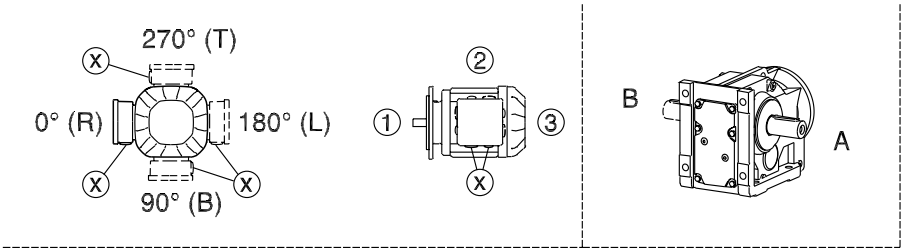


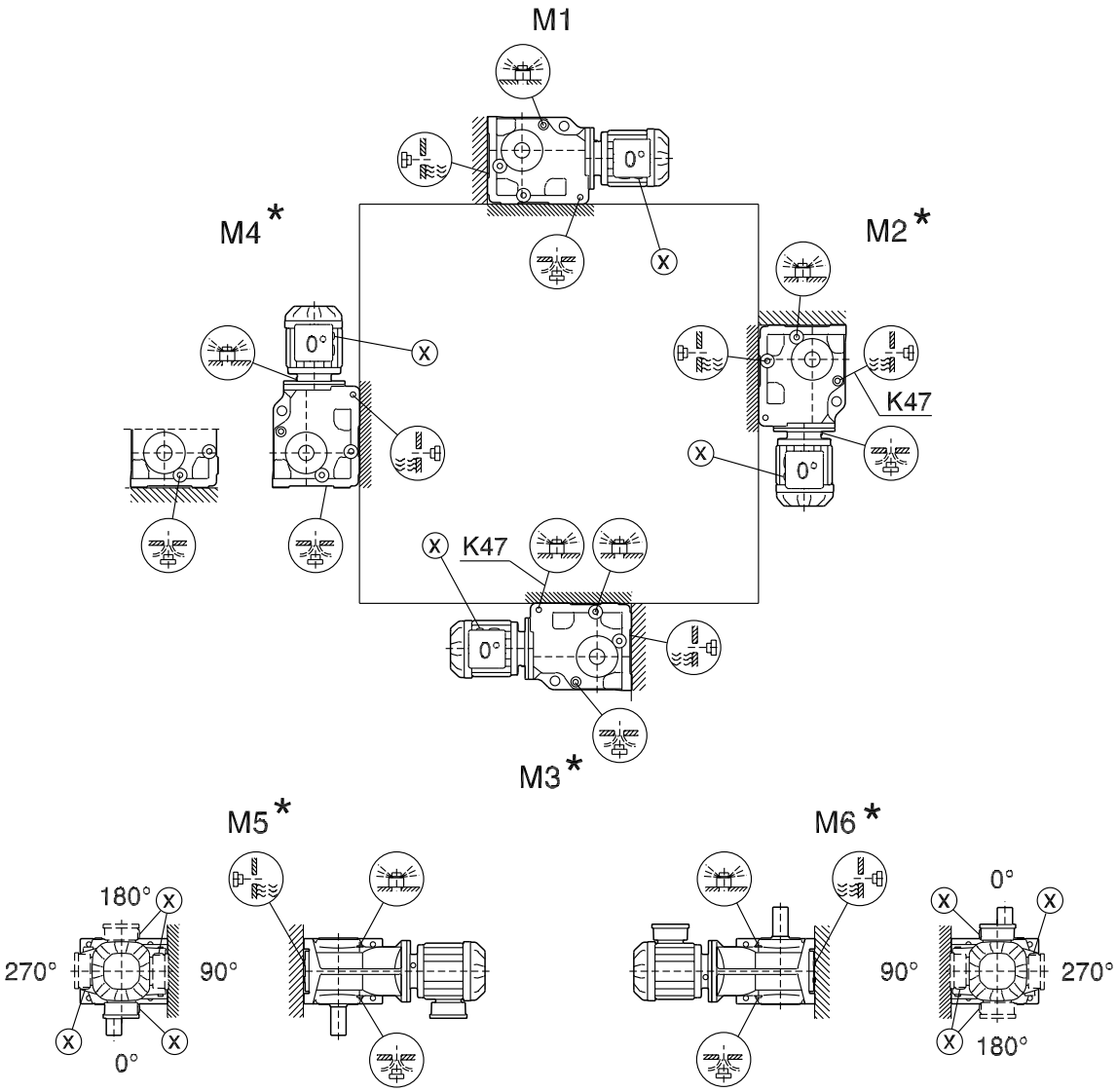


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K/KA..B/KH47B-157B, KV47B-107B

34 025 05 00





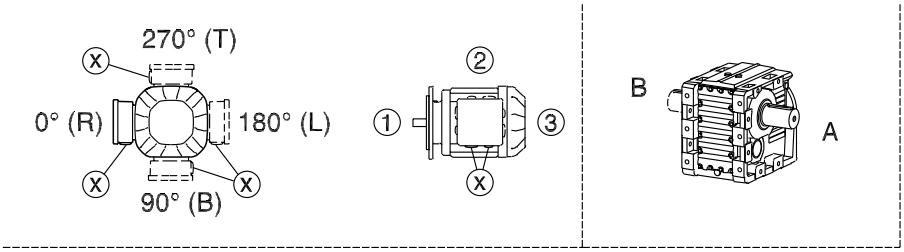
* (→ 🗎 58)

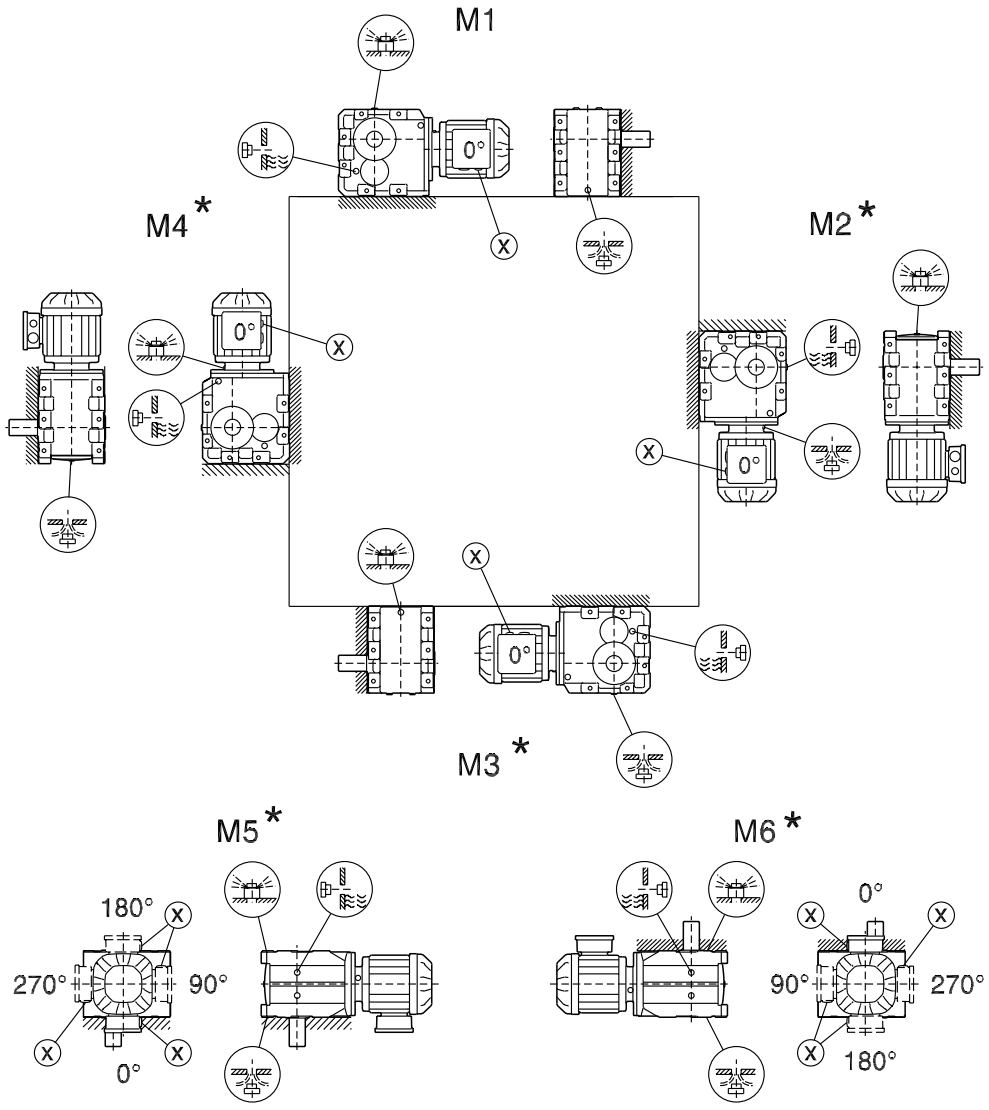
Observe the notes in chapter "Overhand and axial loads of R, F, K, S, and W gear units" (→ 🗎 62).

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K167-187, KH167B-187B

34 026 05 00





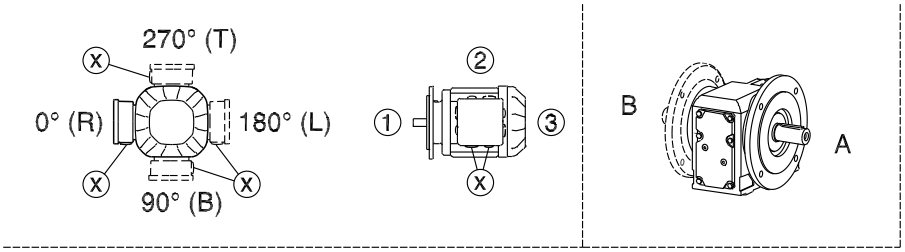
* (→ 🗎 58)

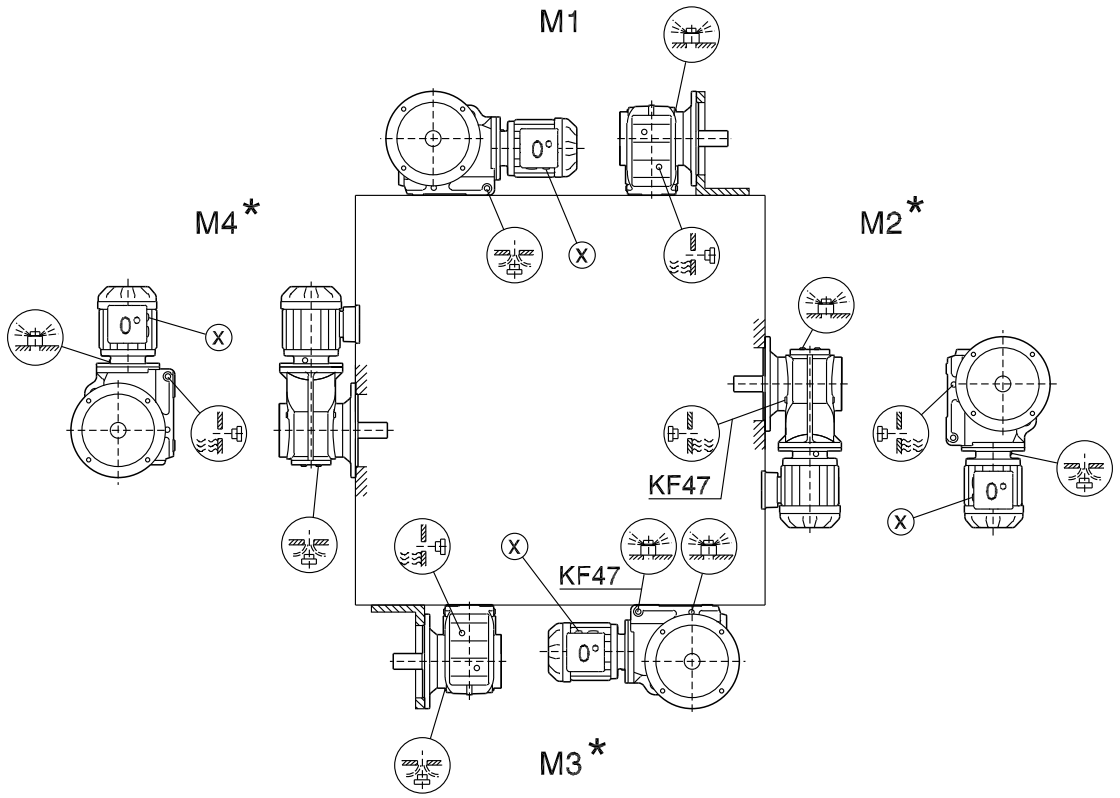
Observe the notes in chapter "Overhand and axial loads of R, F, K, S, and W gear units" (→ 🗎 62).

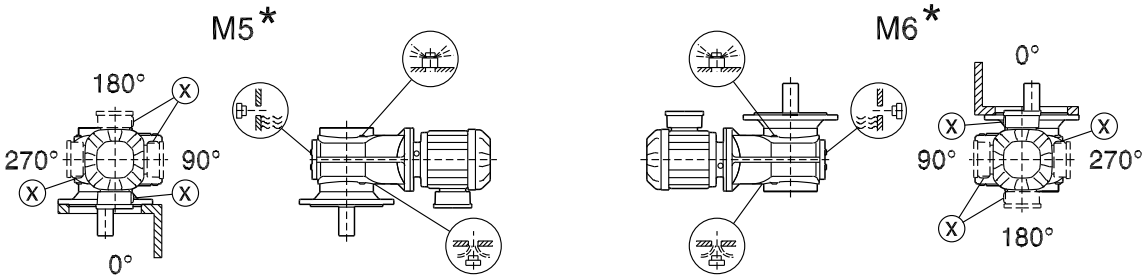
22742654/EN – 08/2016

KF/KAF/KHF/KZ/KAZ/KHZ37-157, KVF/KVZ37-107

34 027 04 00



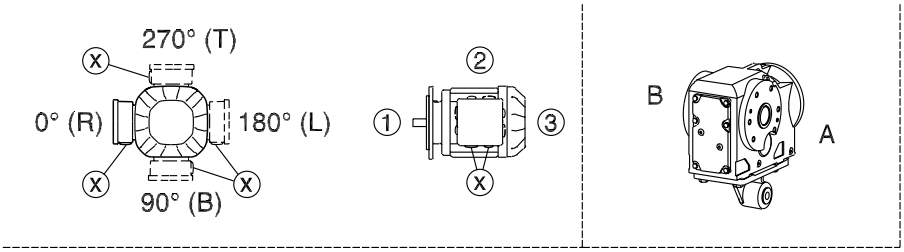


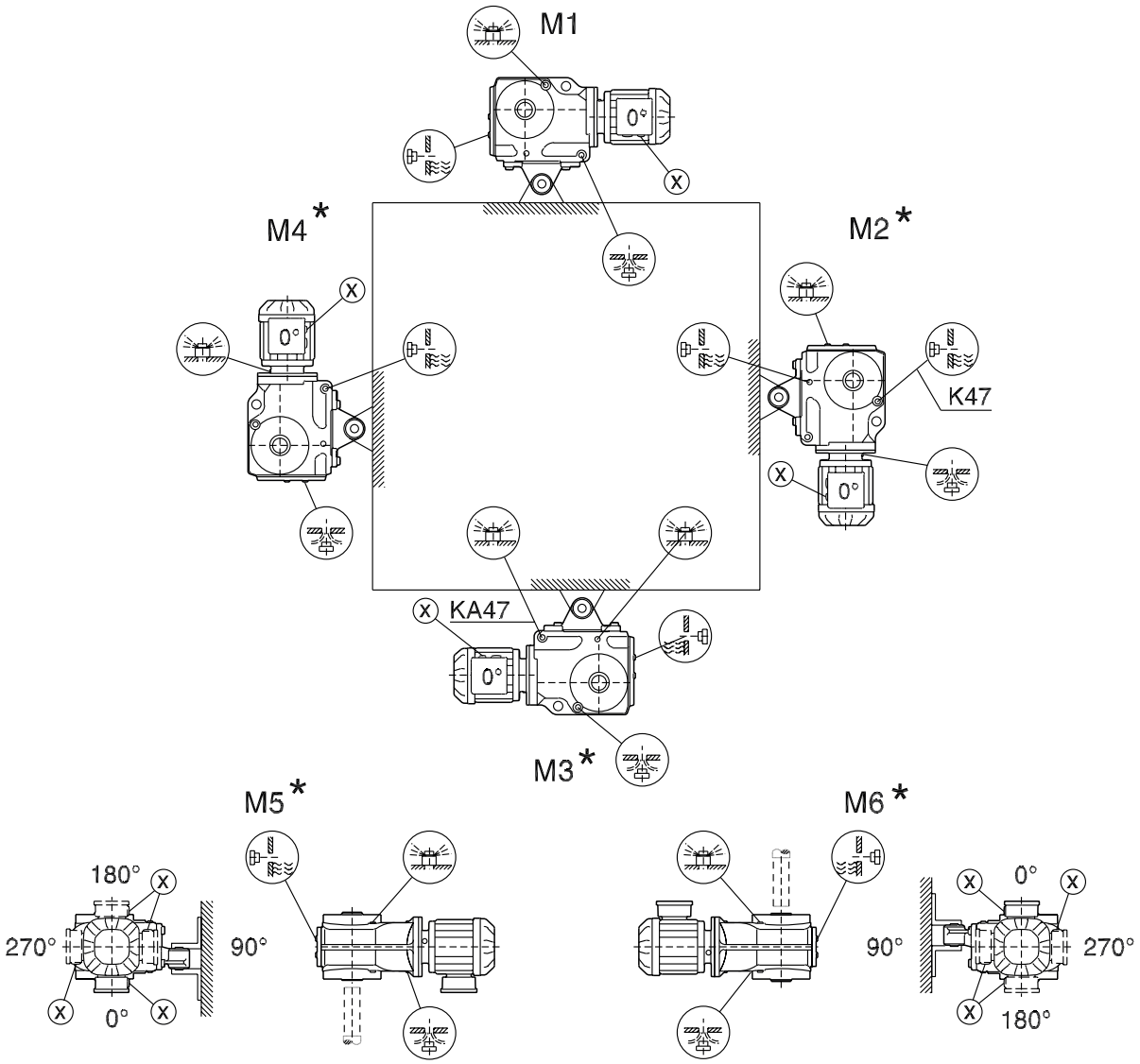


* (→ 58)

KA/KH37-157, KV37-107, KT37-97

39 025 05 00



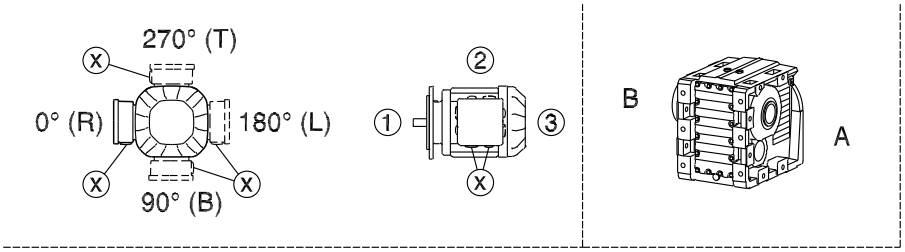


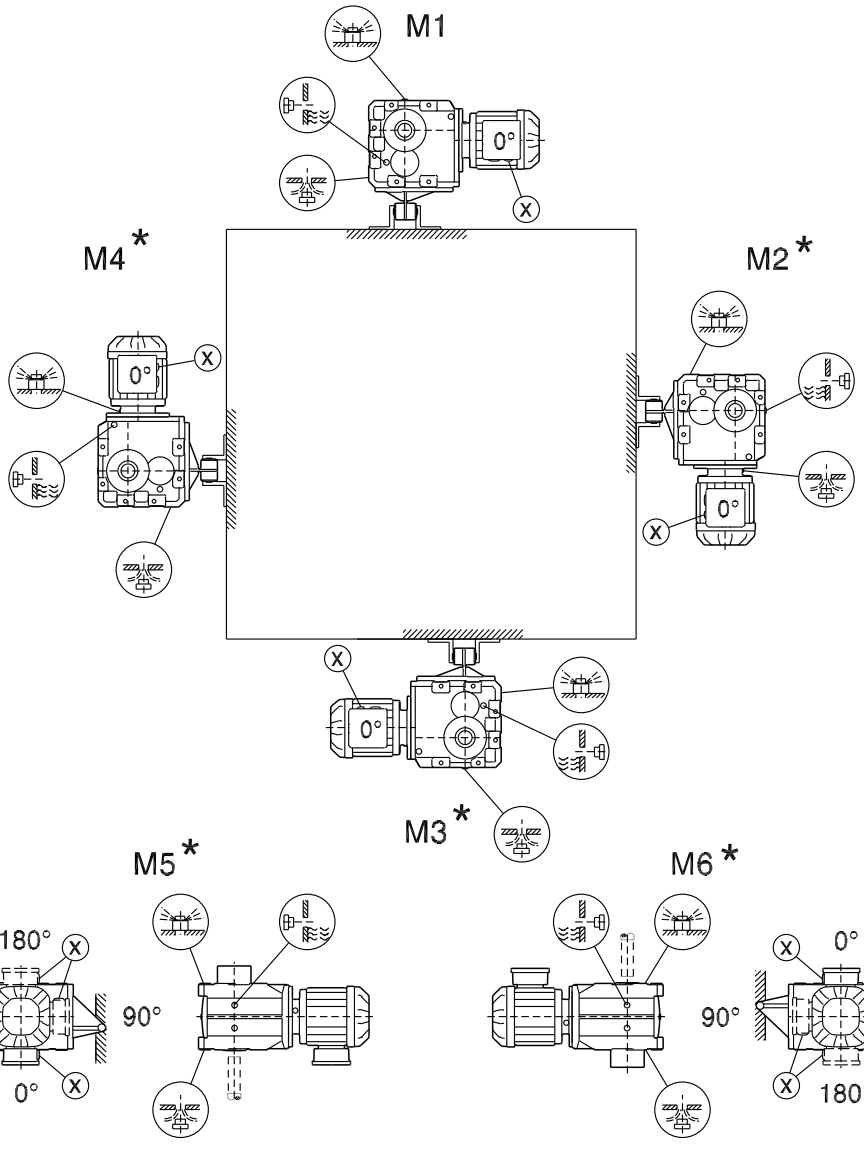
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KH167-187

39 026 05 00

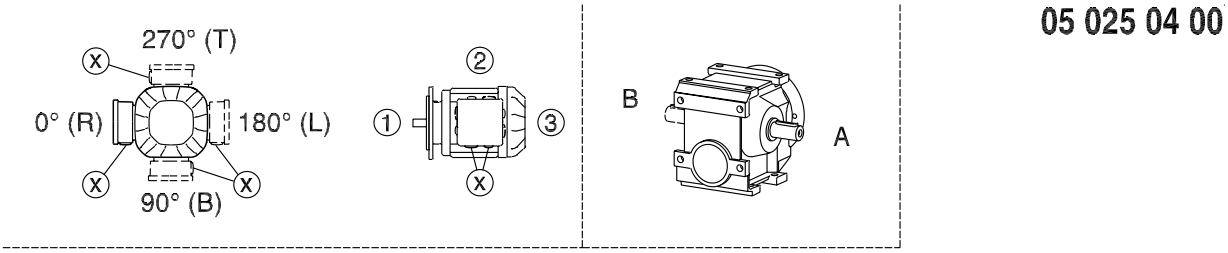


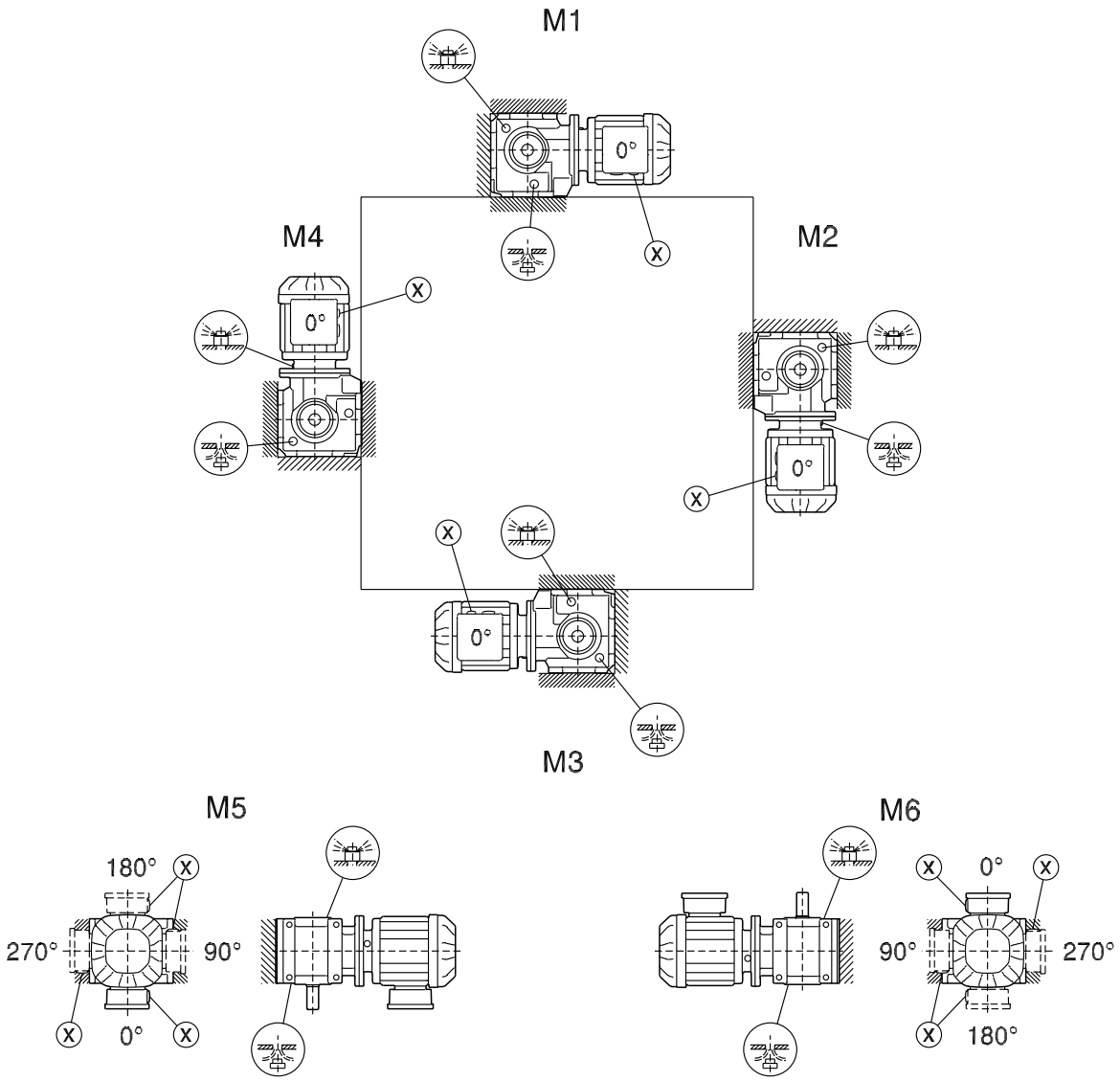


* (→ 58)

5.3.5 Mounting positions of helical-worm gearmotors

S37

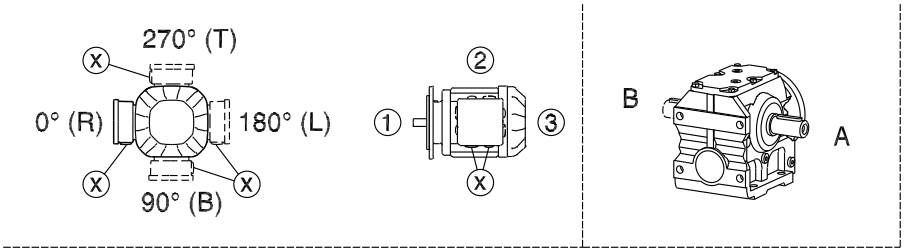




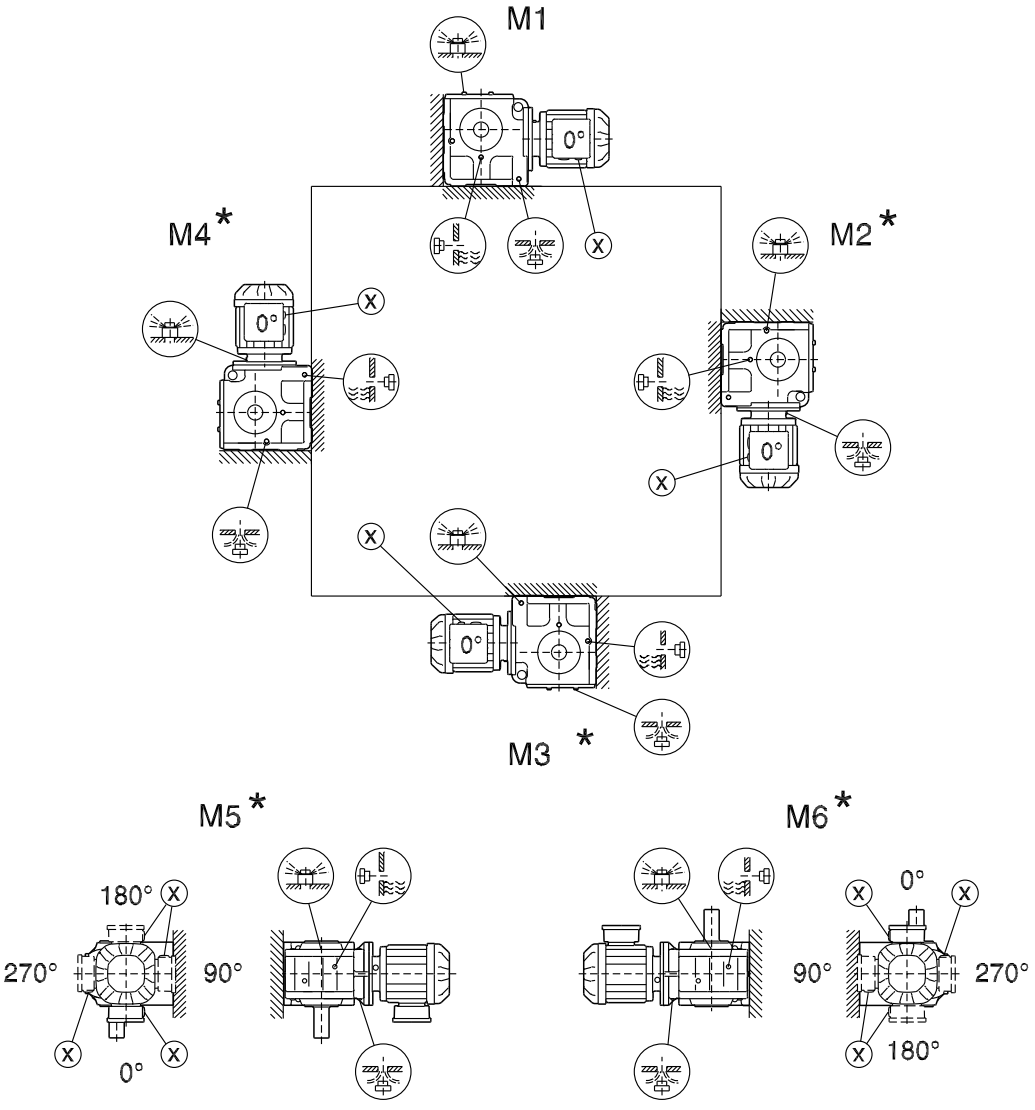
Observe the notes in chapter "Overhand and axial loads of R, F, K, S, and W gear units" (→ 🖹 62).

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S47-S97



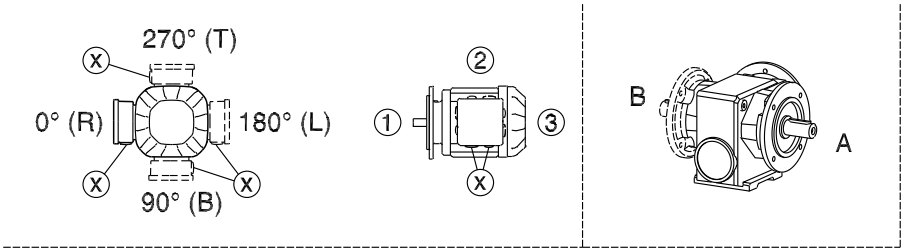
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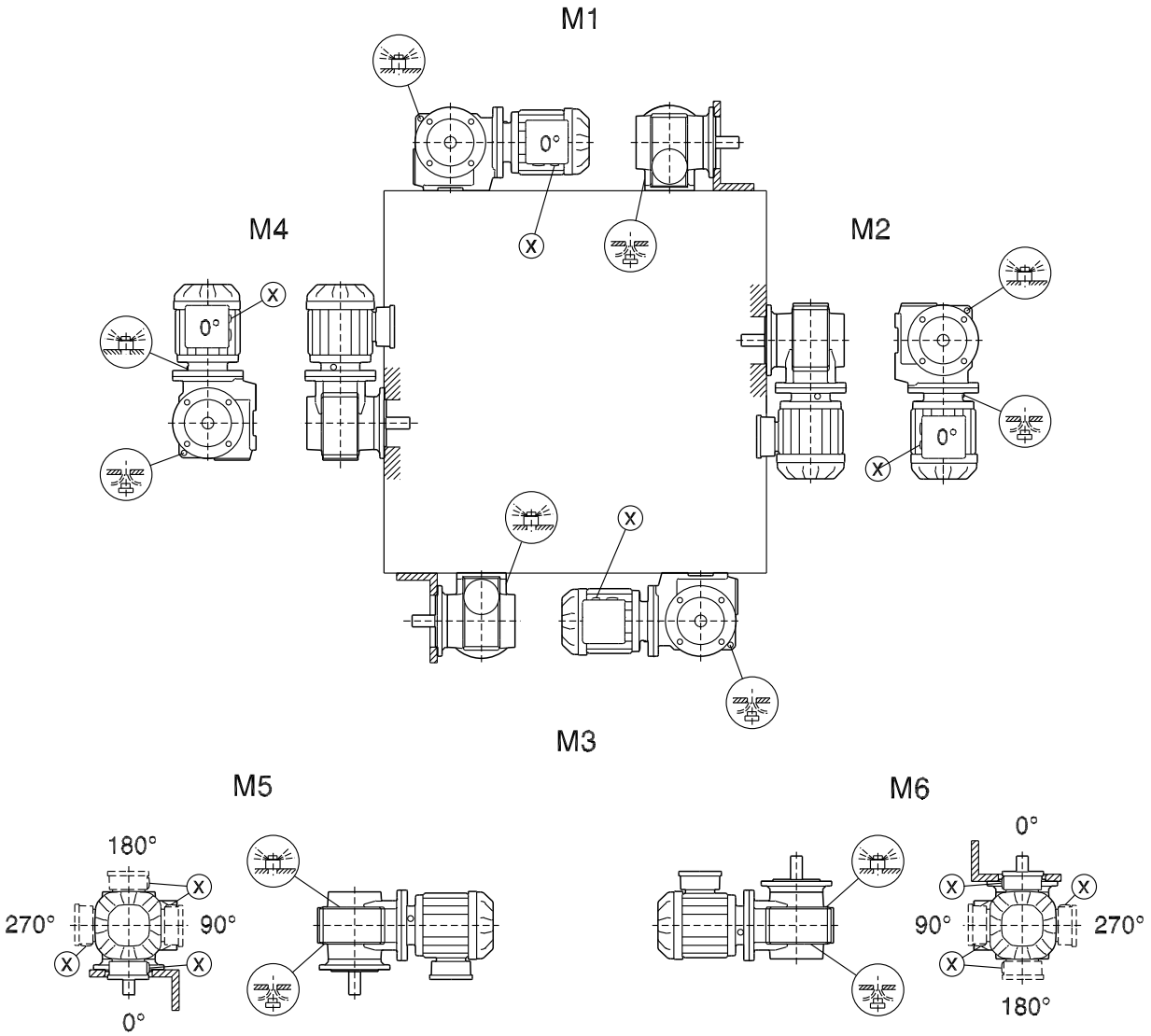


* (→ 🗎 58)

Observe the notes in chapter "Overhand and axial loads of R, F, K, S, and W gear units" (→ 🗎 62).

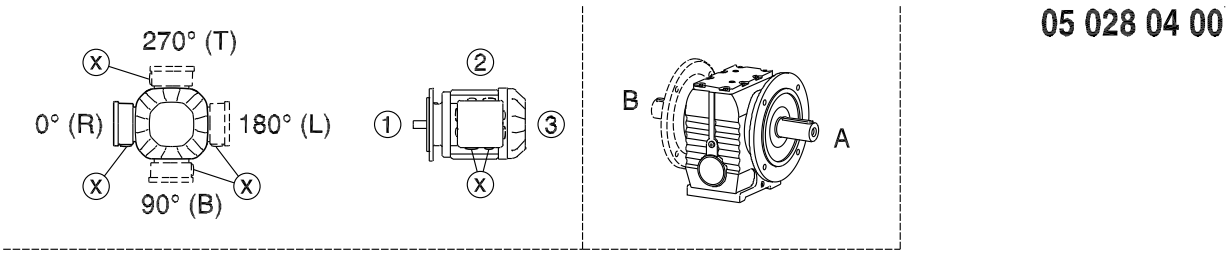
SF/SAF/SHF37

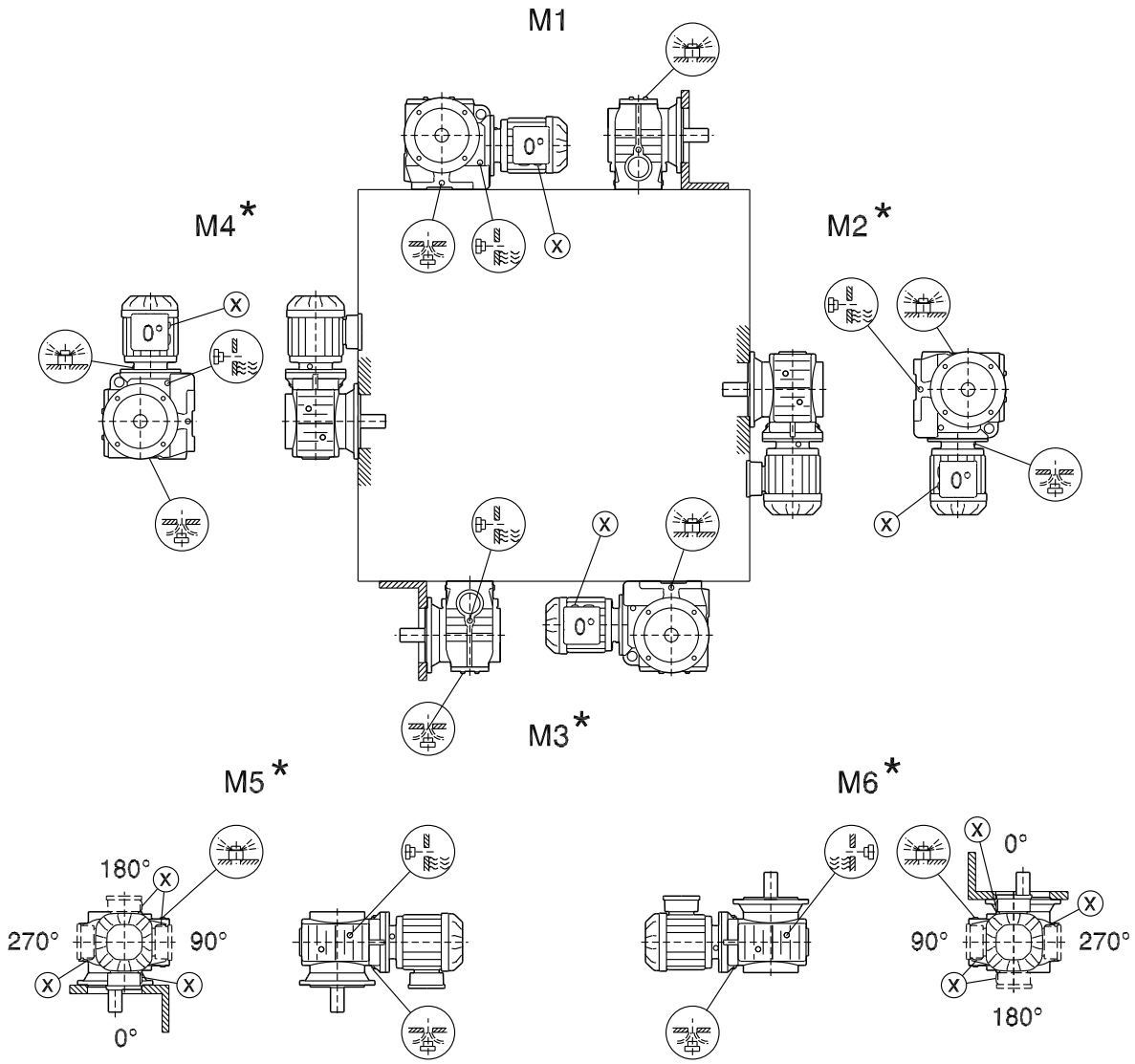




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SF/SAF/SHF/SAZ/SHZ47-97

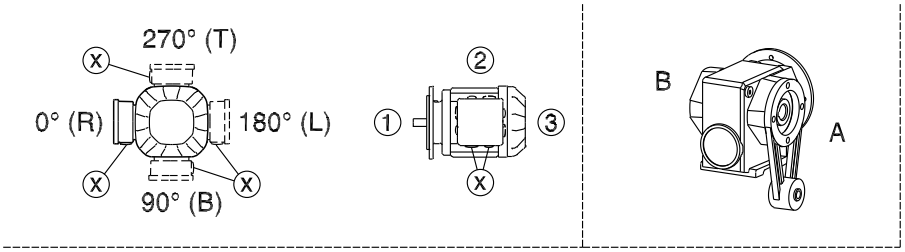


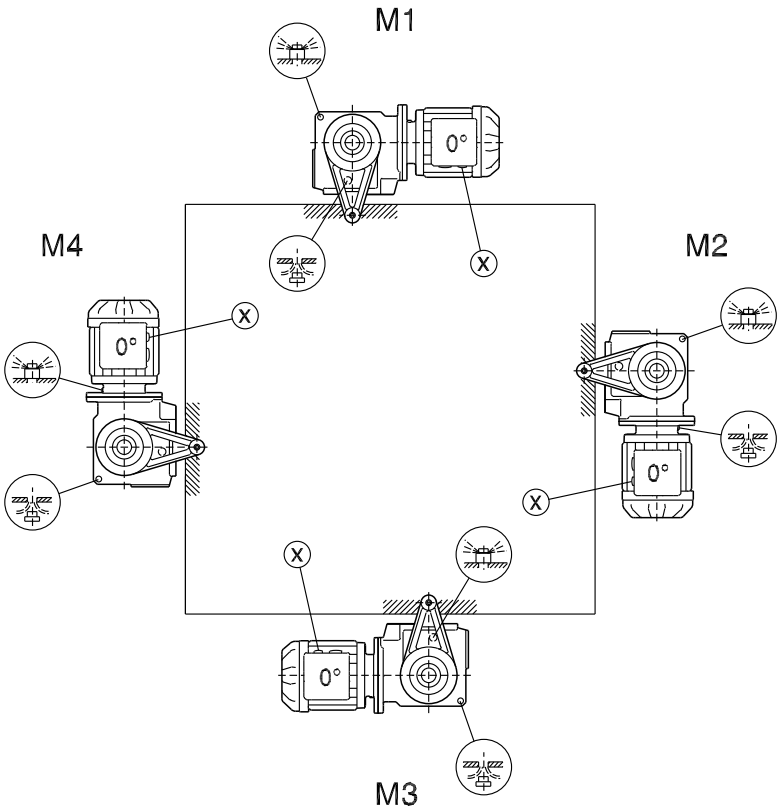


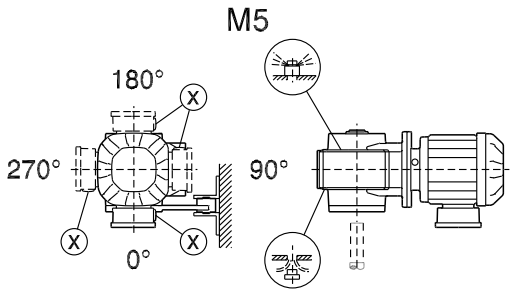
* (→ 58)

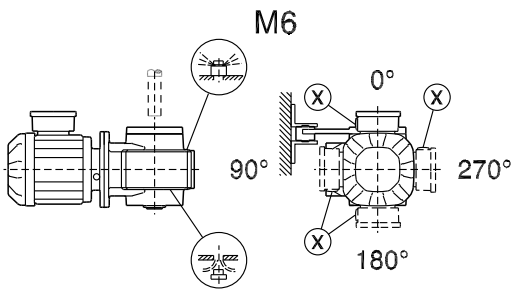
SA/SH/ST37

28 020 05 00





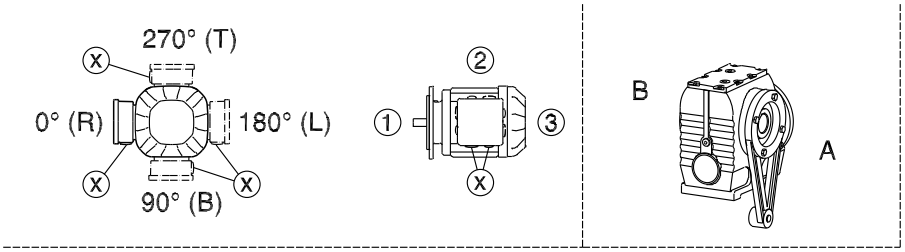


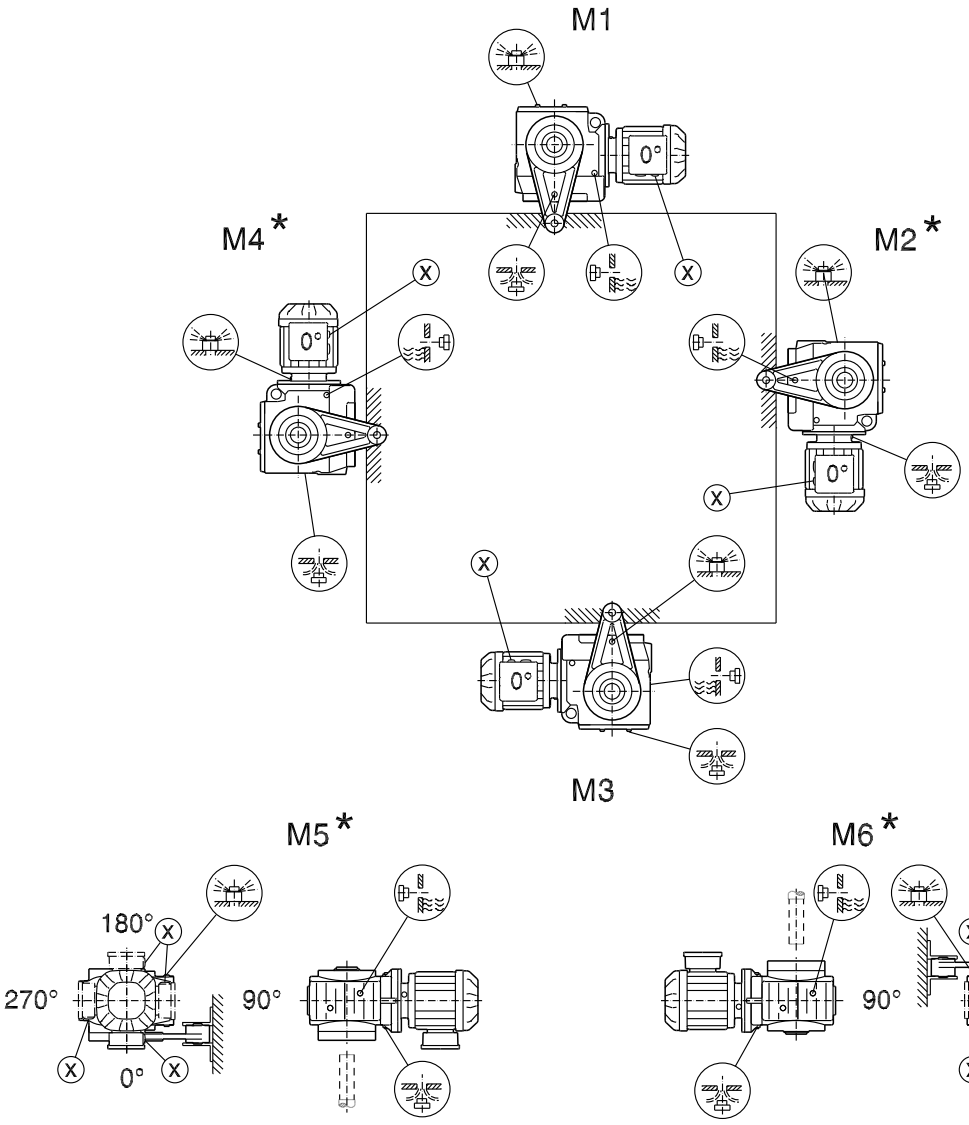


22742654/EN – 08/2016

SA/SH/ST47-97

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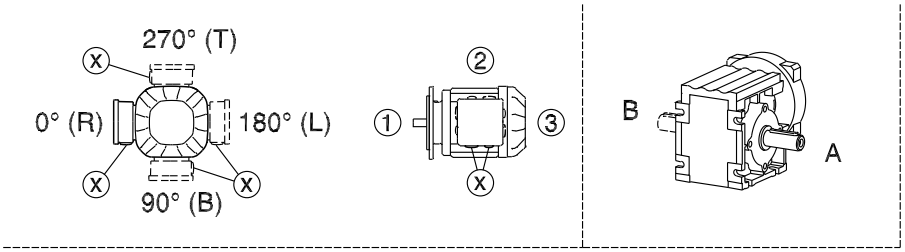


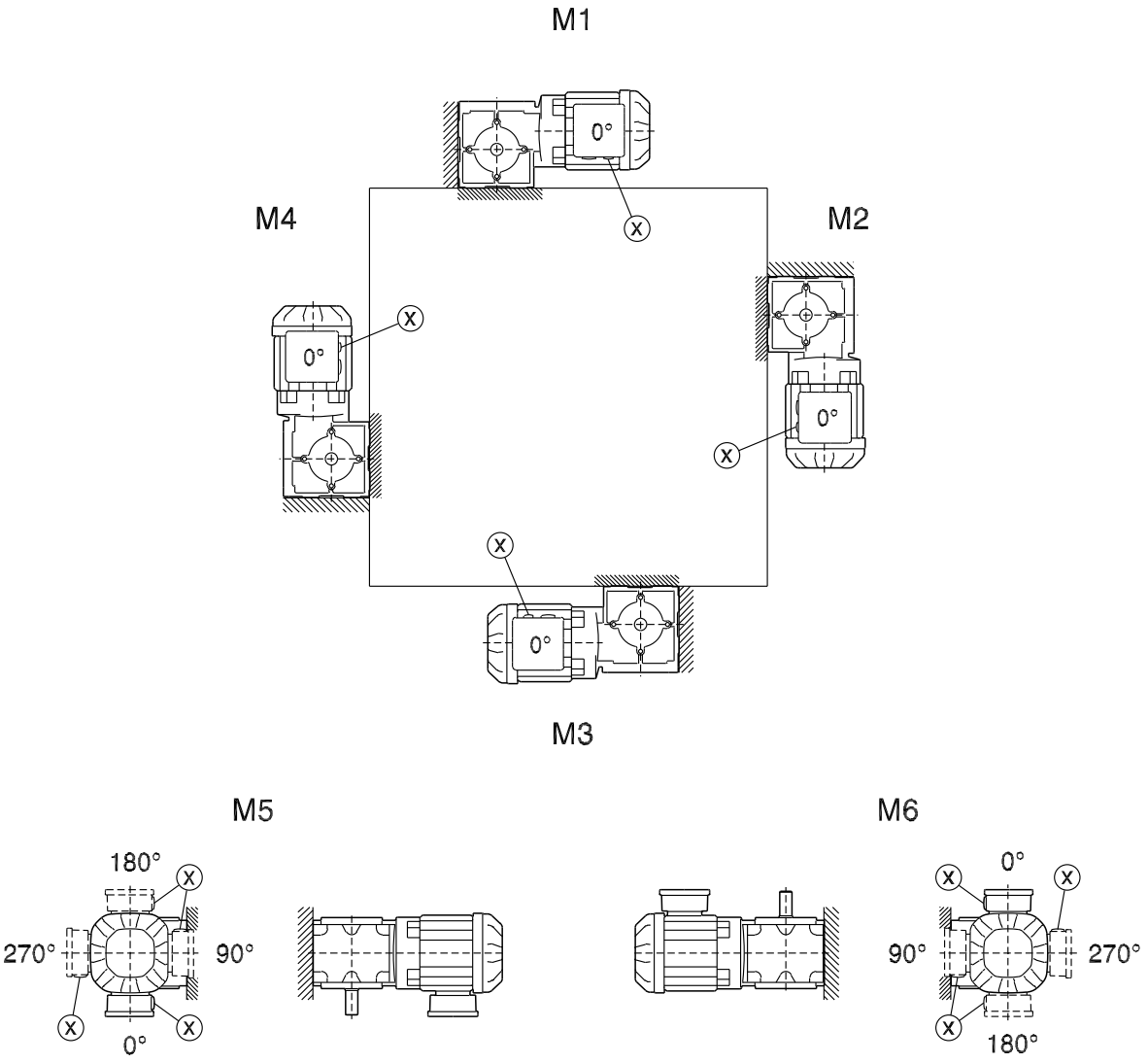


* (→ 58)

5.3.6 Mounting positions of SPIROPLAN® gearmotors

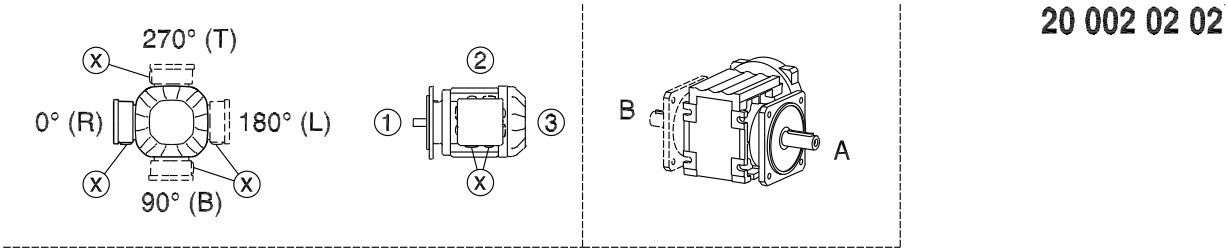
W10-30



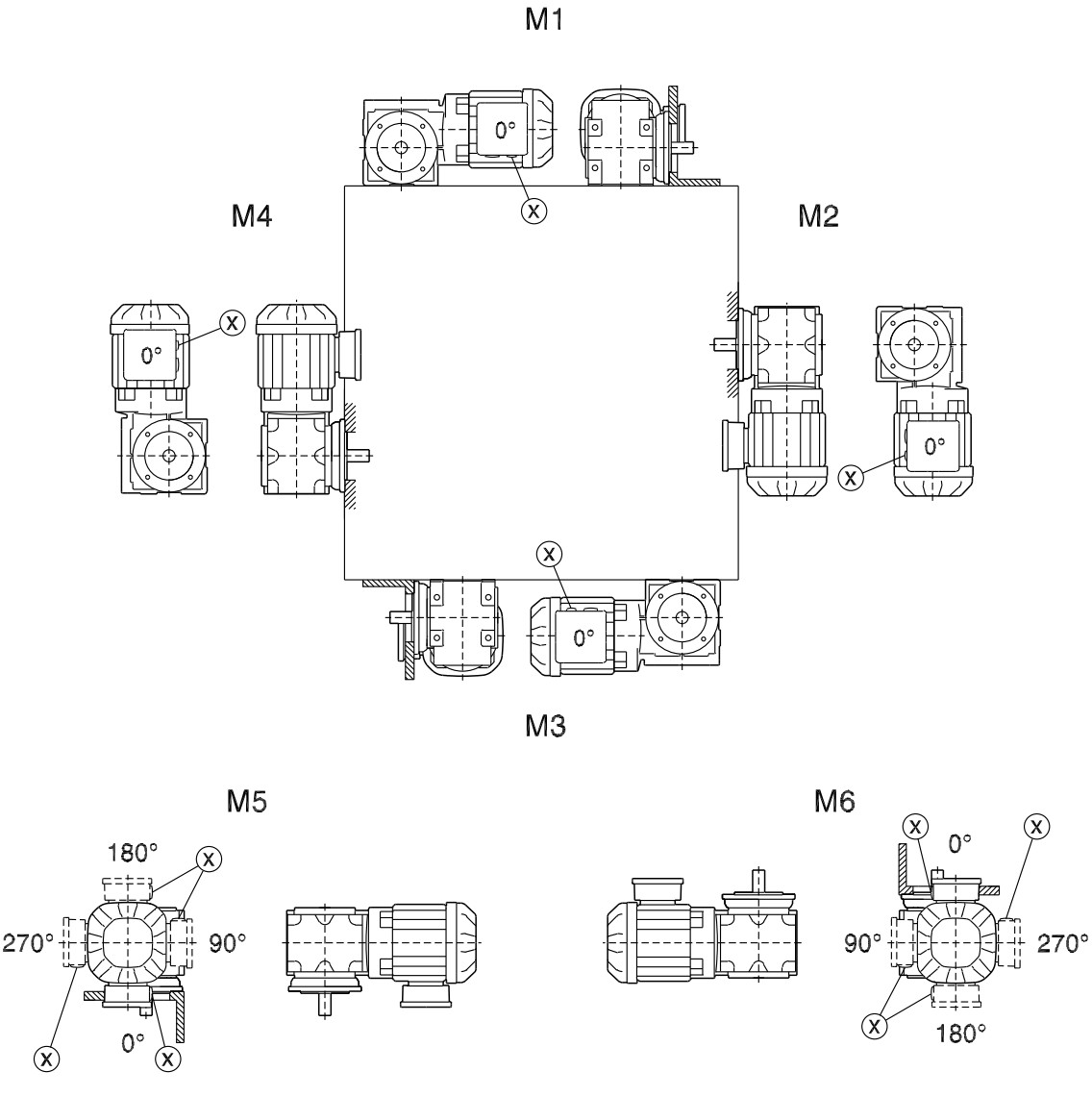


22742654/EN – 08/2016

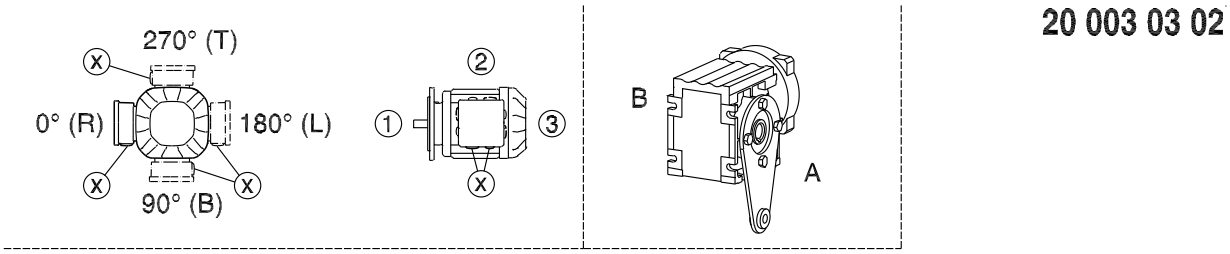
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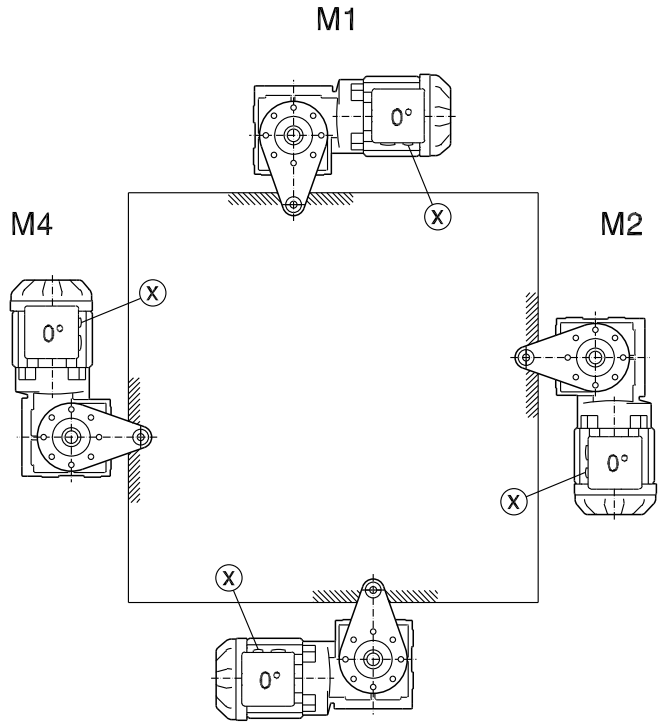
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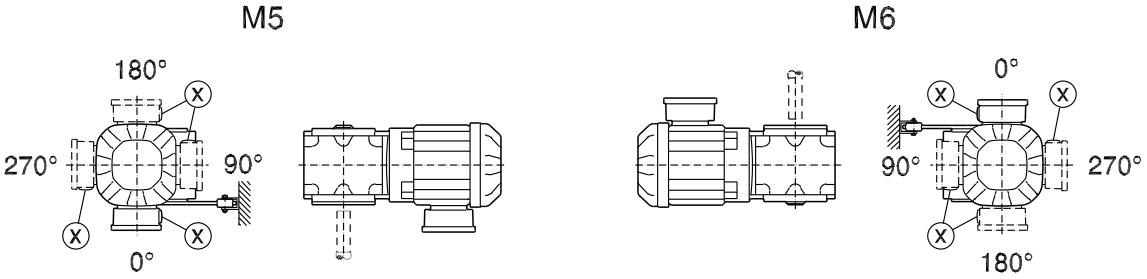


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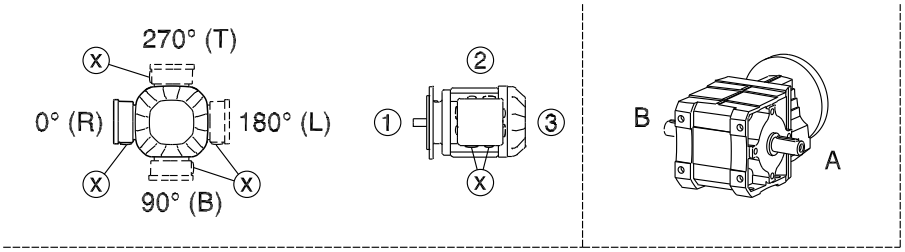


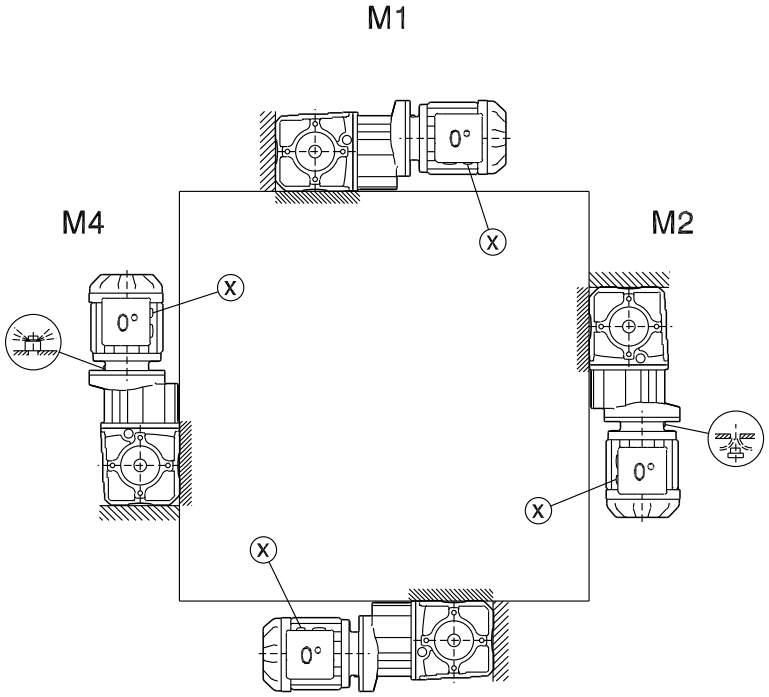


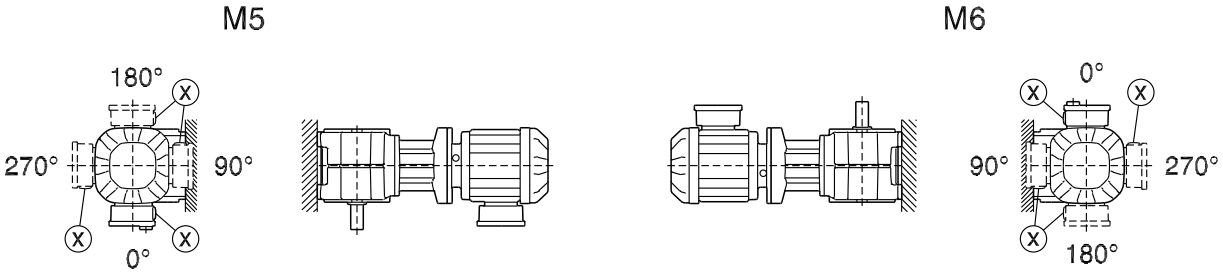
22742654/EN – 08/2016

W/WA..B/WH37B-47B

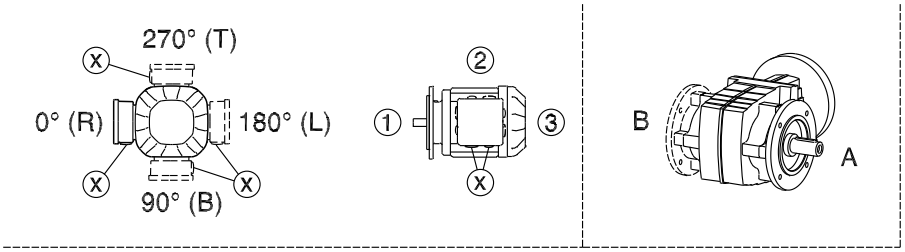
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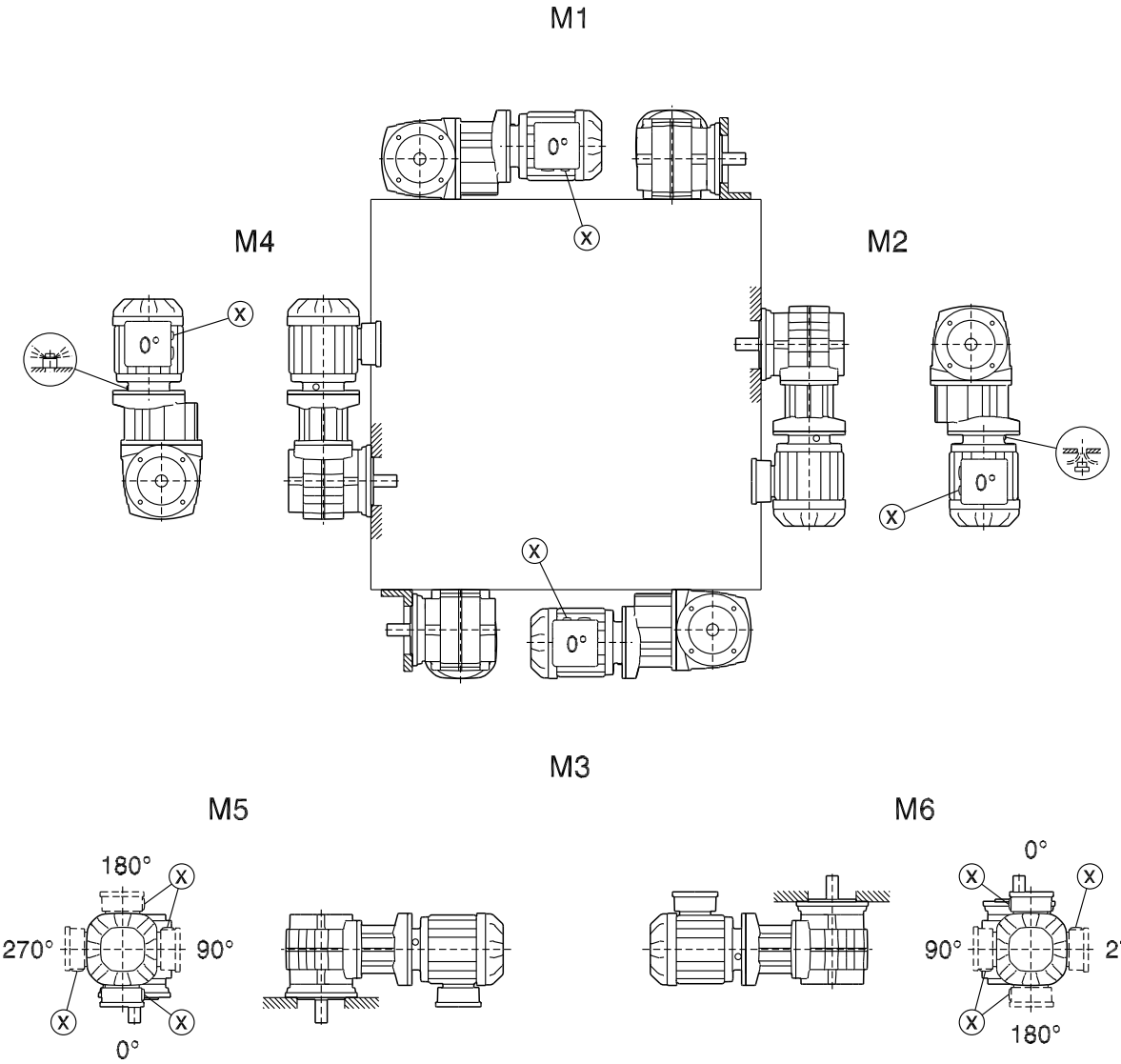






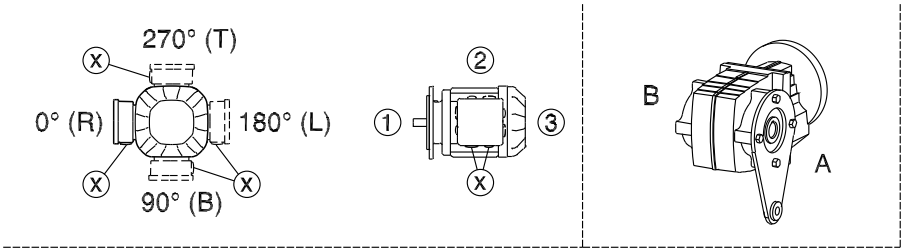
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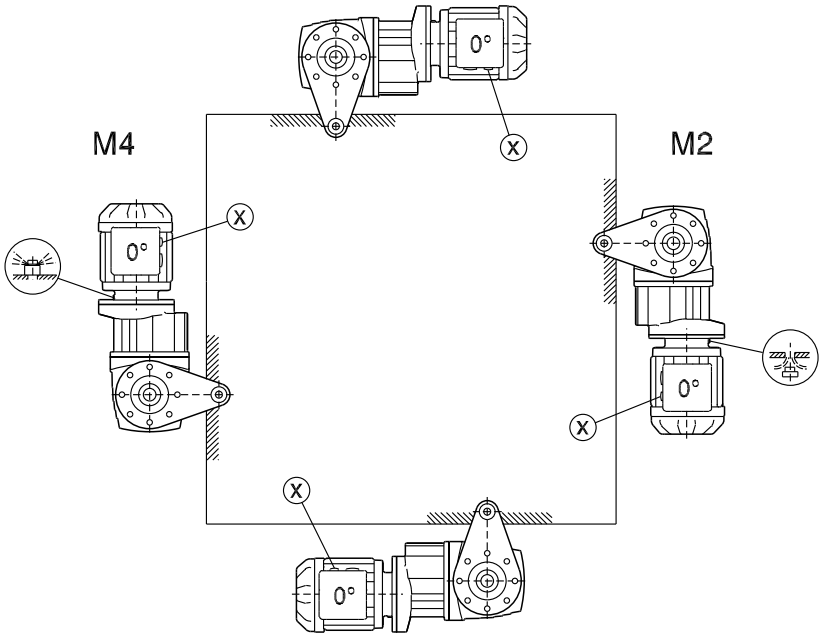
22742654/EN – 08/2016

WA/WH/WT37-47



20 014 02 07

M1

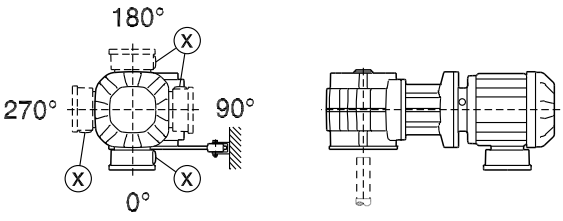


M4

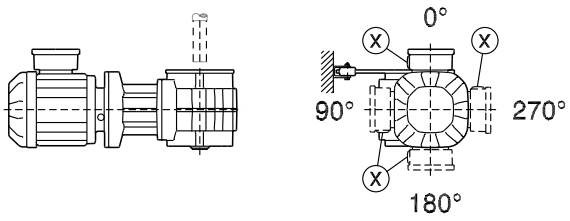
M2

M3

M5

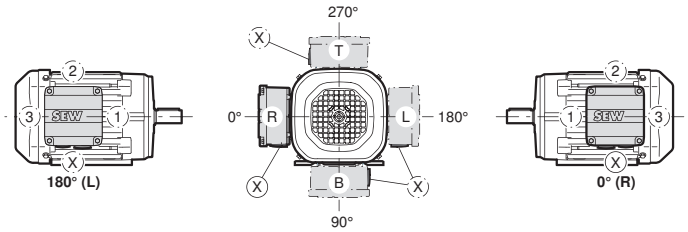


M6



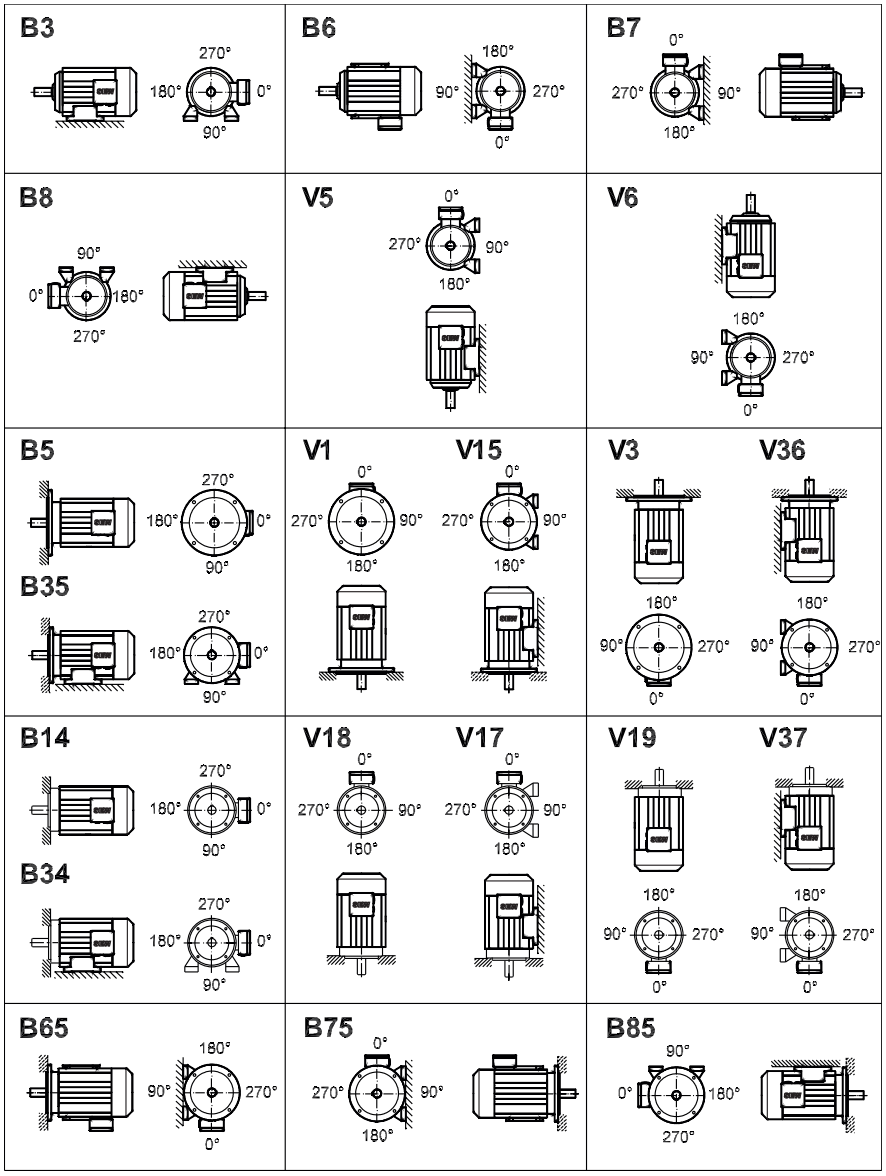
5.4 Mounting positions of AC motors

5.4.1 Motor terminal box position and cable entry



8670476811

5.4.2 Mounting positions



18014402484795531

6 Design and operating notes

6.1 Lubricants

6.1.1 Bearing greases

The gear unit rolling bearings are given a factory-fill with the greases listed below. SEW-EURODRIVE recommends re-greasing the rolling bearings with a grease filling at the same time as changing the oil.

	Ambient temperature	Manufac-turer	Type
Gear unit rolling bearings	-40 °C to +80 °C	Fuchs	Renolit CX-TOM 15[1)]
	-40 °C to +80 °C	Klüber	Petamo GHY 133 N
	-40 °C to +40 °C	Bremer & Leguil	Cassida Grease GTS 2
	-20 °C to +40 °C	Fuchs	Plantogel 2S

1) Bearing grease based on semi-synthetic base oil

INFORMATION



The following grease quantities are required:

- **For fast-running bearings (gear unit input side):** Fill the cavities between the rolling elements one-third full with grease.
- **For slow-running bearings (gear unit output end):** Fill the cavities between the rolling elements two-thirds full with grease.

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6.1.2 Lubricant table

NOTICE

Selecting improper lubricants may damage the gear unit.

Possible damage to property.

- Observe the following notes.

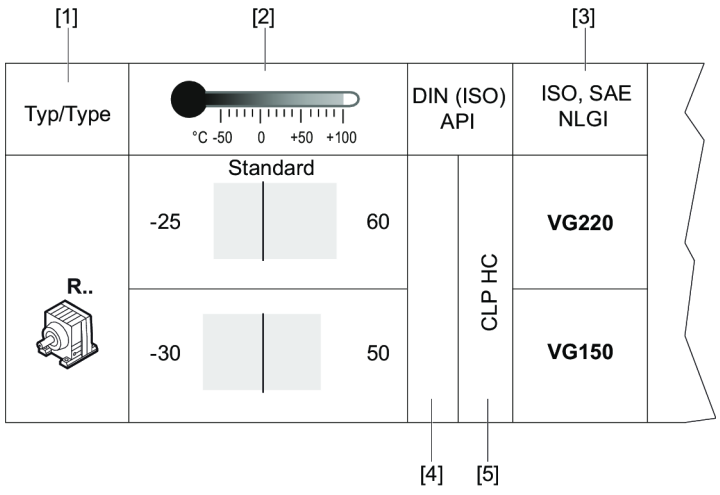
- The oil viscosity and type (mineral/synthetic) that are to be used are determined by SEW-EURODRIVE specifically for each order. This information is noted in the order confirmation and on the gear unit's nameplate.

  If other lubricants are used in the gear units and/or in other temperature ranges as those recommended, the right to claim under warranty will become invalid. Exceptions are application-specific approvals that have to be confirmed by SEW-EURODRIVE in written form.

  The lubricant recommendation in the lubricant table in no way represents a guarantee regarding the quality of the lubricant delivered by each respective supplier. Each lubricant manufacturer is responsible for the quality of their product.
- Do not mix synthetic lubricants.
- Do not mix synthetic and mineral lubricants.
- Oils of the same viscosity class from different manufacturers do not have the same characteristics. In particular, the minimum permitted oil bath temperatures are manufacturer-specific. These temperatures are specified in the lubricant tables.
- The values specified in the lubricant tables apply as of the time of printing of this document. The data of the lubricants are subject to dynamic change on the part of the lubricant manufacturers. For up-to-date information about the lubricants, visit:

  www.sew-eurodrive.de/lubricants

Information on table structure

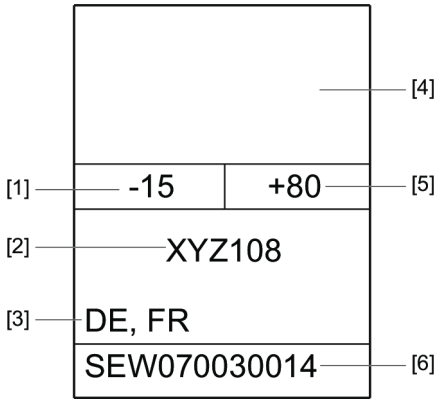


17903504651

[1] Gear unit type
[2] Ambient temperature
[3] Viscosity class
[4] Note on special approvals
[5] Lubricant type

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Information on the various lubricants



18017517707

[1] Lowest oil sump temperature, **Temperatures below this value are not permitted**
[2] Trade name
[3] Factory filling for these countries
[4] Manufacturer
[5] Highest oil sump temperature, **Temperatures above this value are not permitted**
[6] Approvals regarding compatibility of the lubricant with approved oil seals

Lubricant compatibility with oil seal

Approval	Explanation
SEW07004_ _13:	A lubricant especially recommended with regard to compatibility with the approved oil seals. The lubricant exceeds the state-of-the-art requirements.

Limitations of use of oil seals with the specific lubricant are described in the following table:

Material class			Manufacturer		Material		Approved oil sump temperature
S	1	NBR	1	Freudenberg		72 NBR 902	-40 °C to +80 °C
			2	Trelleborg		4NV11	
	2	FKM	1	Freudenberg	1	75 FKM 585	-25 °C to +115 °C
					2	75 FKM 170055	
			2	Trelleborg	1	VCBVR	

Examples:

S11: Only the elastomer Freudenberg 72NBR902 meets the requirements of the approval in conjunction with the specific lubricant.

S2: Only the elastomer FKM meets the requirements of the approval in conjunction with the specific lubricant.

Key

The following table shows the abbreviations and icons used in the lubricant table and explains what they mean:

Abbreviation/ icon	Meaning
	Synthetic lubricant (marked gray)
	Mineral lubricant
CLP	Mineral oil
CLP PG	Polyglycol
CLP HC	Synthetic hydrocarbons – polyalphaolefin (PAO)
E	Ester-based oil
HLP	Hydraulic oil
	Lubricant for the food processing industry – NSF-H1-compliant
	Easily biodegradable oil for environmentally sensitive areas (agriculture, forestry, water management)
	Lubricant for explosion-proof gear units
1)	Helical-worm gear units with CLP-PG: Contact SEW-EURODRIVE.
2)	Special lubricant only for SPIROPLAN® gear units
3)	SEW-fB ≥ 1.2 required
4)	Observe the critical starting behavior at low temperatures
5)	Low-viscosity grease
6)	The specified ambient temperature are guide values for preselection of a suitable lubricant. The exact upper and lower temperature limits for project planning are specified in the table with the respective trade name.
Oil seal	Oil seal

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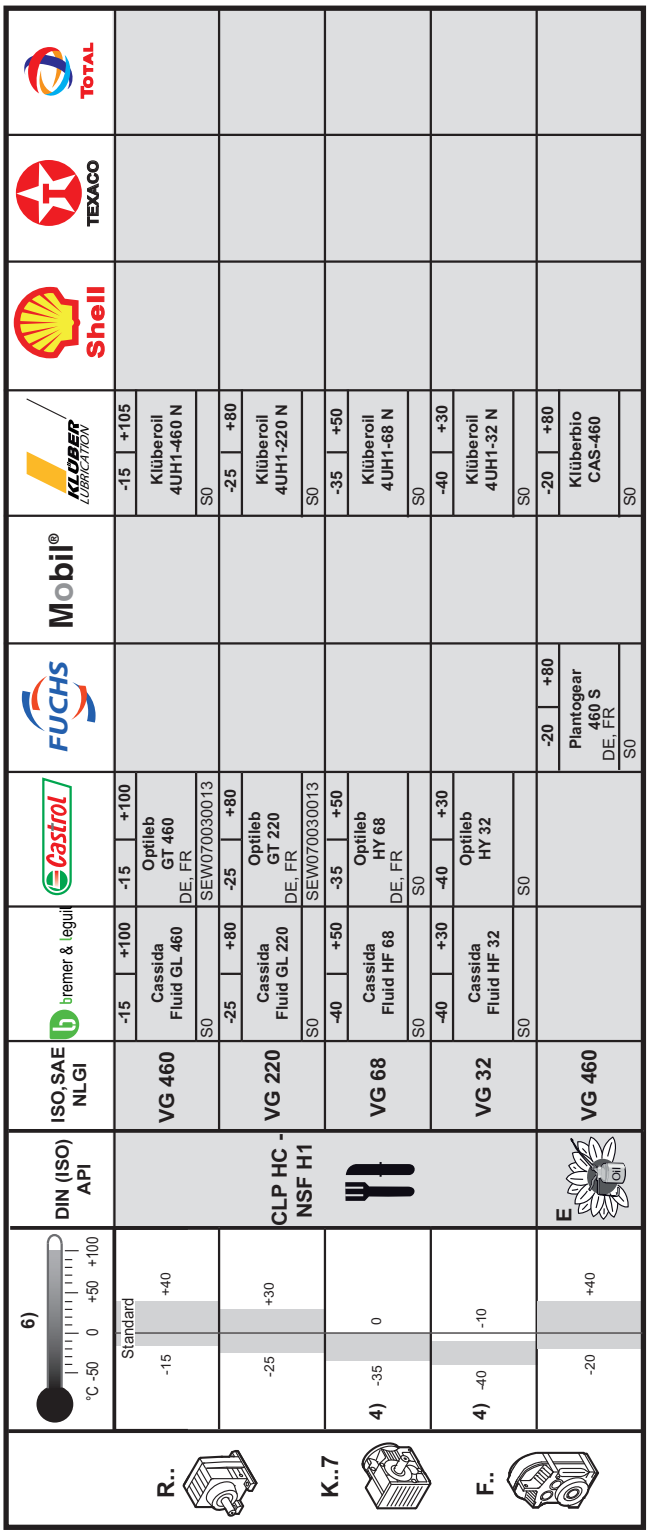
Lubricant table for R.., F.., and K.7 gear units

The lubricant table is valid at the day this document is published. Refer to **www.sew-eurodrive.de/lubricants** for the latest tables.

	6) °C	DIN (ISO) API	ISO, SAE NLGI	bremer & leguil	Castrol	FUCHS	Mobil®	KLÜBER LUBRICATION	Shell	TEXACO	TOTAL
R.., K..7, F..	-15 … +40	CLP	VG 220		-15 … +80 Optigear 1100/220	-15 … +80 Renolin CLP 220	-15 … +80 Mobilgear 600 XP 220 DE, FR	-15 … +80 Klüberoil GEM 1-220 N	-15 … +80 Shell Omala S2 G 220 CN, US	-15 … +80 Meropa 220	-15 … +80 Carter EP 220
							SEW070030013				
	-20 … +30		VG 150		-20 … +70 Optigear BM 150	-20 … +70 Renolin CLP 150	-20 … +70 Mobilgear 600 XP 150	-20 … +70 Klüberoil GEM 1-150 N	-20 … +70 Shell Omala S2 G 150	-20 … +70 Meropa 150	-20 … +70 Carter EP 150
	4) -20						SEW070030013				
R.. RES	-25 … +80	CLP PG	VG 220		-25 … +115 Optigear Synthetic 800/220	-25 … +115 Renolin PG 220	-25 … +115 Mobil Glygoyle 220 DE, FR	-25 … +115 Klübersynth GH 6-220	-25 … +115 Shell Omala S4 WE 220 CN, US	-25 … +115 Synlube CLP 220	-25 … +115 Carter SY 220
K..7 KES	-25 … +60	CLP HC	VG 220		-30 … +115 Optigear Synthetic PD 220	-25 … +110 Renolin Unisyn CLP 220	-25 … +115 Mobil SHC 630 DE, FR	-25 … +110 Klübersynth GEM 4-220N BR	-25 … +115 Shell Omala S4 GX 220 CN, US	-25 … +110 Pinnacle EP 220	-25 … +110 Carter SH 220
F..	-25 … +50		VG 150		-30 … +100 Optigear Synthetic PD 150	-30 … +95 Renolin Unisyn CLP 150	-30 … +100 Mobil SHC 629 DE	-30 … +100 Klübersynth GEM 4-150N	-30 … +100 Shell Omala S4 GX 150	-25 … +95 Pinnacle EP 150	-30 … +95 Carter SH 150
	4) -30										
	-35 … +20		VG 68			-35 … +75 Renolin Unisyn CLP 68	-40 … +75 Mobil SHC 626 DE		-40 … +75 Shell Omala S4 GX 68		
	4) -35										
	-40 … 0		VG 32			-40 … +50 Renolin Unisyn CLP 32	-40 … +50 Mobil SHC 624 DE				-40 … +50 Dacnis SH 32
	4) -40										

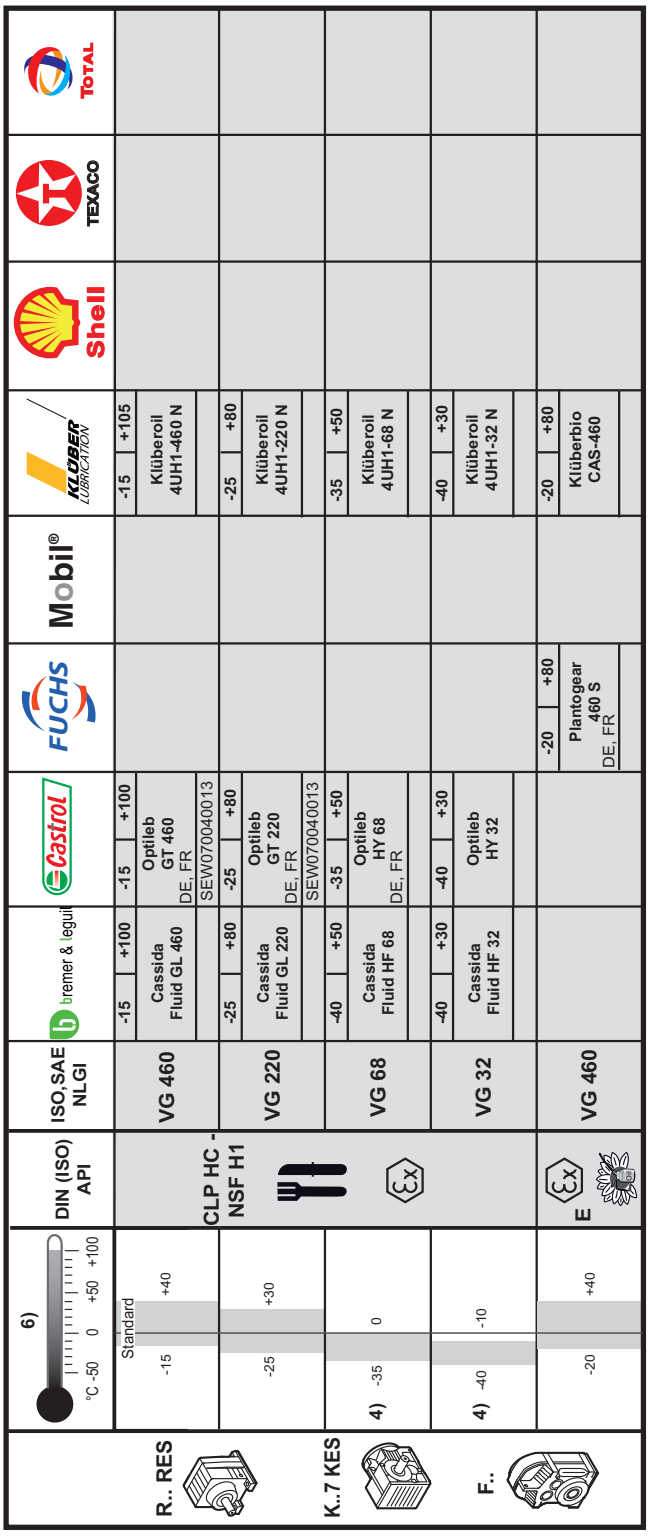
18375840651

Observe the thermal limit of the oil seal materials, see chapter "Lubricant compatibility with oil seal" (→ 🖹 119).



18375843339

Observe the thermal limit of the oil seal materials, see chapter "Lubricant compatibility with oil seal" (→ 🗎 119).



18375846027

Observe the thermal limit of the oil seal materials, see chapter "Lubricant compatibility with oil seal" (→ 🗎 119).

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Lubricant table for K.9 gear units

The lubricant table is valid at the day this document is published. Refer to **www.sew-eurodrive.de/lubricants** for the latest tables.

K.9	6)	DIN (ISO) API	ISO,SAE NLGI	bremer & leguil	Castrol	FUCHS	Mobil®	KLÜBER LUBRICATION	Shell	TEXACO	TOTAL
	°C -50 0 +50 +100										
	Standard +60 / -20	CLP PG	VG 460					-20 | +95 Klübersynth GH 6-460 DE			
	+80 / -15	CLP PG	VG 680					-15 | +115 Klübersynth GH 6-680 DE			
	+40 / -25	CLP PG	VG 220					-25 | +70 Klübersynth GH 6-220 DE			
	+30 / 4) -30	CLP PG	VG 150					-30 | +60 Klübersynth GH 6-150 DE			
	Standard +60 / -20	CLP HC - NSF H1	VG 460					-20 | +95 Klübersynth UH1 6-460 DE			
	+80 / -15	CLP HC - NSF H1	VG 680					-15 | +115 Klübersynth UH1 6-680 DE			
	+40 / -25	CLP HC - NSF H1	VG 220					-25 | +70 Klübersynth UH1 6-220 DE			
	+30 / 4) -30	CLP HC - NSF H1	VG 150					-30 | +60 Klübersynth UH1 6-150 DE			

18375963915

Observe the thermal limit of the oil seal materials, see chapter "Lubricant compatibility with oil seal" (→ 🗎 119).

Lubricant table for S.. gear units

The lubricant table is valid at the day this document is published. Refer to **www.sew-eurodrive.de/lubricants** for the latest tables.

S.. (HS...)	6)	DIN (ISO) API	ISO,SAE NLGI	bremer & leguil	Castrol	FUCHS	Mobil®	KLÜBER LUBRICATION	Shell	TEXACO	TOTAL
					0 | +80	0 | +80	0 | +80	0 | +80	0 | +80	0 | +80
	Standard 0 +40	CLP	VG 680		Optigear BM 680	Renolin SEW 680 DE, FR	Mobilgear 600 XP 680	Klüberoil GEM 1-680 N	Shell Omala S2 G 680 US	Meropa 680	Carter EP 680
					S0		SEW070030013				
	4) -20 +25		VG 150		-20 | +65 Optigear BM 150	-20 | +65 Renolin CLP 150	-20 | +65 Mobilgear 600 XP 150 DE, FR	-20 | +65 Klüberoil GEM 1-150 N	-20 | +65 Shell Omala S2 G 150	-20 | +65 Meropa 150	-20 | +65 Carter EP 150
					SEW070030013						
	1) -15 +80	CLP PG	VG 680		-15 | +115 Optigear Synthetic 800/600	-15 | +115 Renolin PG 680	-15 | +115 Mobil Glygoyle 680	-15 | +115 Klübersynth GH 6-680	-15 | +115 Shell Omala S4 WE 680	-20 | +115 Synlube CLP 680	
	1) -25 +40		VG 220		-25 | +90 Optigear Synthetic 800/220	-25 | +95 Renolin PG 220	-25 | +100 Mobil Glygoyle 220 DE, FR	-25 | +100 Klübersynth GH 6-220	-25 | +90 Shell Omala S4 WE 220	-25 | +90 Synlube CLP 220	-25 | +90 Carter SY 220
	-15 +60	CLP HC	VG 460		-20 | +110 Optigear Synthetic PD 460	-15 | +100 Renolin Unisyn CLP 460	-20 | +105 Mobil SHC 634	-15 | +105 Klübersynth GEM 4-460 N	-15 | +105 Shell Omala S4 GX 460	-15 | +105 Pinnacle EP 460	-15 | +105 Carter SH 460
	4) -30 +30		VG 150		-30 | +75 Optigear Synthetic PD 150	-30 | +70 Renolin Unisyn CLP 150	-30 | +75 Mobil SHC 629	-30 | +70 Klübersynth GEM 4-150 N	-30 | +75 Shell Omala S4 GX 150	-30 | +70 Pinnacle EP 150	-30 | +70 Carter SH 150
	4) -35 +20		VG 68		-35 | +50	-35 | +50 Renolin Unisyn CLP 68	-35 | +55 Mobil SHC 626 DE		-40 | +50 Shell Omala S4 GX 68		
	4) -40 0		VG 32		-40 | +30 Alphasyn T 32	-40 | +30 Renolin Unisyn OL 32	-40 | +30 Mobil SHC 624 DE				-40 | +30 Dacnis SH 32

18375966603

Observe the thermal limit of the oil seal materials, see chapter "Lubricant compatibility with oil seal" (→ 🖹 119).

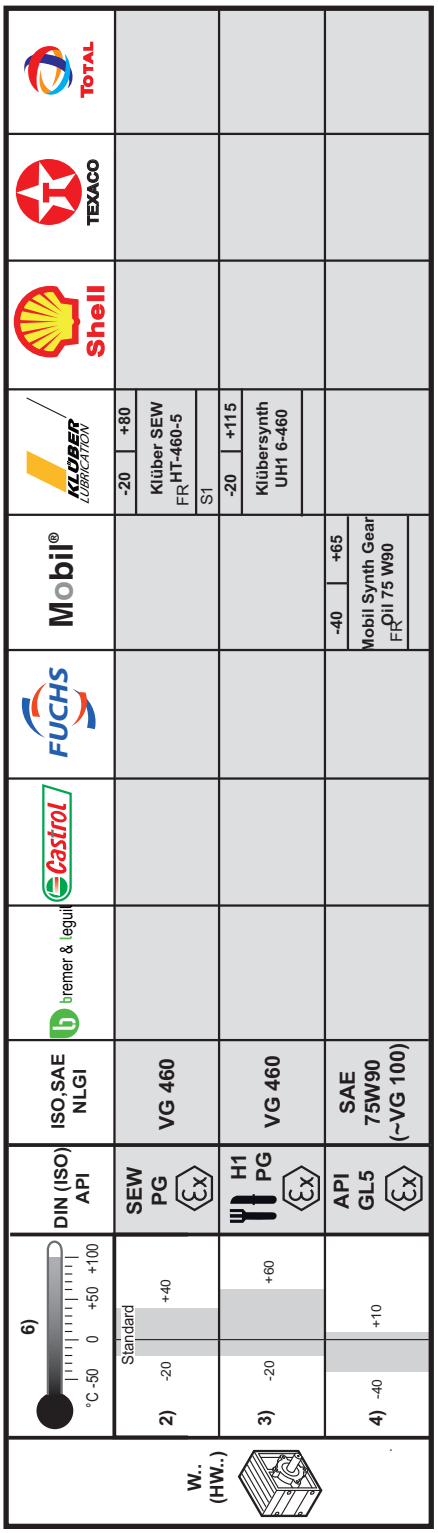


18375969291

Observe the thermal limit of the oil seal materials, see chapter "Lubricant compatibility with oil seal" (→ 🗎 119).

Lubricant table for W.. gear units

The lubricant table is valid at the day this document is published. Refer to **www.sew-eurodrive.de/lubricants** for the latest tables.



18375971979

Observe the thermal limit of the oil seal materials, see chapter "Lubricant compatibility with oil seal" (→ 🖹 119).

6.1.3 Lubricant fill quantities

INFORMATION

The specified fill quantities are **approximate values**. The precise values vary depending on the number of stages and gear ratio. Check the **oil level plug for the exact oil quantity**.

INFORMATION

Unless a special arrangement is made, SEW-EURODRIVE supplies the drives with a lubricant fill adapted for the specific mounting position. The mounting position (see chapter "Gear unit mounting positions and order information" (→ 🗎 72)) must be specified with the order.

When the mounting position is changed, the lubricant fill quantity must be adapted accordingly (see chapter "Lubricant fill quantities" (→ 🗎 128)). Consequently, a **mounting position** may only be **changed** after consultation with SEW-EURODRIVE, otherwise your **rights to claim under warranty no longer apply**.

The following tables show guide values for lubricant fill quantities in relation to the mounting position M1 – M6.

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Helical (R) gear units

R.., R..F

Gear unit	Fill quantity in liters					
	M1[1)]	M2	M3	M4	M5	M6
R07	0.12	0.20				
R17	0.25	0.55	0.35	0.55	0.35	0.40
R27	0.25/0.40	0.70	0.50	0.70	0.50	
R37	0.30/0.95	0.85	0.95	1.05	0.75	0.95
R47	0.70/1.50	1.60	1.50	1.65	1.50	
R57	0.80/1.70	1.90	1.70	2.10	1.70	
R67	1.10/2.30	2.40	2.80	2.90	1.80	2.00
R77	1.20/3.00	3.30	3.60	3.80	2.50	3.40
R87	2.30/6.0	6.4	7.2		6.3	6.5
R97	4.60/9.8	11.7		13.4	11.3	11.7
R107	6.0/13.7	16.3	16.9	19.2	13.2	15.9
R137	10.0/25.0	28.0	29.5	31.5	25.0	
R147	15.4/40.0	46.5	48.0	52.0	39.5	41.0
R167	27.0/70.0	82.0	78.0	88.0	66.0	69.0

1) The larger gear unit of multi-stage gear units must be filled with the larger oil quantity.

RF.., RZ..

Gear unit	Fill quantity in liters					
	M1[1)]	M2	M3	M4	M5	M6
RF07	0.12	0.20				
RF17	0.25	0.55	0.35	0.55	0.35	0.40
RF27	0.25/0.40	0.70	0.50	0.70	0.50	
RF37	0.35/0.95	0.90	0.95	1.05	0.75	0.95
RF47	0.65/1.50	1.60	1.50	1.65	1.50	
RF57	0.80/1.70	1.80	1.70	2.00	1.70	
RF67	1.20/2.50	2.50	2.70	2.80	1.90	2.10
RF77	1.20/2.60	3.10	3.30	3.60	2.40	3.00
RF87	2.40/6.0	6.4	7.1	7.2	6.3	6.4
RF97	5.1/10.2	11.9	11.2	14.0	11.2	11.8
RF107	6.3/14.9	15.9	17.0	19.2	13.1	15.9
RF137	9.5/25.0	27.0	29.0	32.5	25.0	
RF147	16.4/42.0	47.0	48.0	52.0	42.0	42.0
RF167	26.0/70.0	82.0	78.0	88.0	65.0	71.0

1) The larger gear unit of multi-stage gear units must be filled with the larger oil quantity.

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RX..

Gear unit	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
RX57	0.60	0.80	1.30		0.90	
RX67	0.80		1.70	1.90	1.10	
RX77	1.10	1.50	2.60	2.70	1.60	
RX87	1.70	2.50	4.80		2.90	
RX97	2.10	3.40	7.4	7.0	4.80	
RX107	3.90	5.6	11.6	11.9	7.7	

RXF..

Gear unit	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
RXF57	0.50	0.80	1.10		0.70	
RXF67	0.70	0.80	1.50	1.40	1.00	
RXF77	0.90	1.30	2.40	2.00	1.60	
RXF87	1.60	1.95	4.90	3.95	2.90	
RXF97	2.10	3.70	7.1	6.3	4.80	
RXF107	3.10	5.7	11.2	9.3	7.2	

Parallel shaft helical (F) gear units

F.., FA..B, FH..B, FV..B

Gear units	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
F..27	0.60	0.80	0.65	0.70	0.60	
F..37	0.95	1.25	0.70	1.25	1.00	1.10
F..47	1.50	1.80	1.10	1.90	1.50	1.70
F..57	2.60	3.50	2.10	3.50	2.80	2.90
F..67	2.70	3.80	1.90	3.80	2.90	3.20
F..77	5.9	7.3	4.30	8.0	6.0	6.3
F..87	10.8	13.0	7.7	13.8	10.8	11.0
F..97	18.5	22.5	12.6	25.2	18.5	20.0
F..107	24.5	32.0	19.5	37.5	27.0	
F..127	40.5	54.5	34.0	61.0	46.3	47.0
F..157	69.0	104.0	63.0	105.0	86.0	78.0

FF..

Gear units	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
FF27	0.60	0.80	0.65	0.70	0.60	
FF37	1.00	1.25	0.70	1.30	1.00	
FF47	1.60	1.85	1.10	1.90	1.50	1.70
FF57	2.80	3.50	2.10	3.70	2.90	3.00
FF67	2.70	3.80	1.90	3.80	2.90	3.20
FF77	5.9	7.3	4.30	8.1	6.0	6.3
FF87	10.8	13.2	7.8	14.1	11.0	11.2
FF97	19.0	22.5	12.6	25.6	18.9	20.5
FF107	25.5	32.0	19.5	38.5	27.5	28.0
FF127	41.5	55.5	34.0	63.0	46.3	49.0
FF157	72.0	105.0	64.0	106.0	87.0	79.0

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FA.., FH.., FV.., FAF.., FAZ.., FHF.., FZ.., FHZ.., FVF.., FVZ.., FT..

Gear units	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
F..27	0.60	0.80	0.65	0.70	0.60	
F..37	0.95	1.25	0.70	1.25	1.00	1.10
F..47	1.50	1.80	1.10	1.90	1.50	1.70
F..57	2.70	3.50	2.10	3.40	2.90	3.00
F..67	2.70	3.80	1.90	3.80	2.90	3.20
F..77	5.9	7.3	4.30	8.0	6.0	6.3
F..87	10.8	13.0	7.7	13.8	10.8	11.0
F..97	18.5	22.5	12.6	25.2	18.5	20.0
F..107	24.5	32.0	19.5	37.5	27.0	
F..127	39.0	54.5	34.0	61.0	45.0	46.5
F..157	68.0	103.0	62.0	104.0	85.0	79.5

Helical-bevel (K) gear units

INFORMATION

All K..19 and K..29 gear units have a universal mounting position, which means that K..19 and K..29 gear units of the same design are filled with the same oil quantity independent of the mounting position. An exception to this is the M4 mounting position.

K.., KA..B, KH..B, KV..B

Gear unit	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
K..19	0.40			0.45	0.40	
K..29	0.70			0.85	0.70	
K..39	0.90	1.70	1.55	1.9	1.55	1.30
K..49	1.70	3.40	2.80	4.20	3.15	2.80
K..37	0.50	1.00		1.25	0.95	
K..47	0.80	1.30	1.50	2.00	1.60	
K..57	1.10	2.20		2.80	2.30	2.10
K..67	1.10	2.40	2.60	3.45	2.60	
K..77	2.20	4.10	4.40	5.80	4.20	4.40
K..87	3.70	8.0	8.70	10.90	8.0	
K..97	7.0	14.0	15.70	20.0	15.70	15.50
K..107	10.0	21.0	25.50	33.50	24.0	
K..127	21.0	41.50	44.0	54.0	40.0	41.0
K..157	31.0	65.0	68.0	90.0	62.0	63.0
K..167	33.0	97.0	109.0	127.0	89.0	86.0
K..187	53.0	156.0	174.0	207.0	150.0	147.0

KF..

Gear unit	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
KF19	0.40			0.45	0.40	
KF29	0.70			0.85	0.70	
KF39	0.90	1.70	1.55	1.9	1.55	1.30
KF49	1.70	3.40	2.80	4.20	3.15	2.80
KF37	0.50	1.10		1.50	1.00	
KF47	0.80	1.30	1.70	2.20	1.60	
KF57	1.20	2.20	2.40	3.15	2.50	2.30
KF67	1.10	2.40	2.80	3.70	2.70	
KF77	2.10	4.10	4.40	5.90	4.50	

Gear unit	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
KF87	3.70	8.20	9.0	11.90	8.40	
KF97	7.0	14.70	17.30	21.50	15.70	16.50
KF107	10.0	21.80	25.80	35.10	25.20	
KF127	21.0	41.50	46.0	55.0	41.0	
KF157	31.0	66.0	69.0	92.0	62.0	63.0

KA.., KH.., KV.., KAF.., KHF.., KVF.., KZ.., KAZ.., KHZ.., KVZ.., KT..

Gear unit	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
K..19	0.40			0.45	0.40	
K..29	0.70			0.85	0.70	
K..39	0.90	1.70	1.55	1.9	1.55	1.30
K..49	1.70	3.40	2.80	4.20	3.15	2.80
K..37	0.50	1.00		1.40	1.00	
K..47	0.80	1.30	1.60	2.15	1.60	
K..57	1.20	2.20	2.40	3.15	2.70	2.40
K..67	1.10	2.40	2.70	3.70	2.60	
K..77	2.10	4.10	4.60	5.90	4.40	
K..87	3.70	8.20	8.80	11.10	8.0	
K..97	7.0	14.70	15.70	20.0	15.70	
K..107	10.0	20.50	24.0	32.40	24.0	
K..127	21.0	41.50	43.0	52.0	40.0	
K..157	31.0	65.0	68.0	90.0	62.0	63.0
K..167	33.0	97.0	109.0	127.0	89.0	86.0
K..187	53.0	156.0	174.0	207.0	150.0	147.0

Helical-worm (S) gear units

S..

Gear unit	Fill quantity in liters					
	M1	M2	M3[1)]	M4	M5	M6
S37	0.25	0.40	0.50	0.55	0.40	
S47	0.35	0.80	0.70/0.90	1.00	0.80	
S57	0.50	1.20	1.00/1.20	1.45	1.30	
S67	1.00	2.00	2.20/3.10	3.10	2.60	2.60
S77	1.90	4.20	3.70/5.4	5.9	4.40	
S87	3.30	8.1	6.9/10.4	11.3	8.4	
S97	6.8	15.0	13.4/18.0	21.8	17.0	

1) The larger gear unit of multi-stage gear units must be filled with the larger oil quantity.

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SF..

Gear unit	Fill quantity in liters					
	M1	M2	M3[1)]	M4	M5	M6
SF37	0.25	0.40	0.50	0.55	0.40	
SF47	0.40	0.90	0.90/1.05	1.05	1.00	
SF57	0.50	1.20	1.00/1.50	1.55	1.40	
SF67	1.00	2.20	2.30/3.00	3.20	2.70	
SF77	1.90	4.10	3.90/5.8	6.5	4.90	
SF87	3.80	8.0	7.1/10.1	12.0	9.1	
SF97	7.4	15.0	13.8/18.8	22.6	18.0	

1) The larger gear unit of multi-stage gear units must be filled with the larger oil quantity.

SA.., SH.., SAF.., SHZ.., SAZ.., SHF.., ST..

Gear unit	Fill quantity in liters					
	M1	M2	M3[1)]	M4	M5	M6
S..37	0.25	0.40	0.50		0.40	
S..47	0.40	0.80	0.70/0.90	1.00	0.80	
S..57	0.50	1.10	1.00/1.50	1.50	1.20	
S..67	1.00	2.00	1.80/2.60	2.90	2.50	
S..77	1.80	3.90	3.60/5.0	5.8	4.50	
S..87	3.80	7.4	6.0/8.7	10.8	8.0	
S..97	7.0	14.0	11.4/16.0	20.5	15.7	

1) The larger gear unit of multi-stage gear units must be filled with the larger oil quantity.

SPIROPLAN® (W) gear units

INFORMATION

SPIROPLAN® gear units W..10 to W..30 have a universal mounting position, which means that gear units of the same design are filled with the same oil quantity independent of the mounting position.

The oil fill quantity of SPIROPLAN® gear units W..37 and W..47 in mounting position M4 is different from that of the other mounting positions.

W.., WA..B, WH..B

Gear unit	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
W..10	0.16					
W..20	0.24					
W..30	0.40					
W..37	0.50			0.70	0.50	
W..47	0.90			1.40	0.90	

WF..

Gear unit	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
WF10	0.16					
WF20	0.24					
WF30	0.40					
WF37	0.50			0.70	0.50	
WF47	0.90			1.55	0.90	

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WA.., WAF..,WH.., WT.., WHF..

Gear unit	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
W..10	0.16					
W..20	0.24					
W..30	0.40					
W..37	0.50			0.70	0.50	
W..47	0.80			1.40	0.80	

6.2 Gear unit venting

INFORMATION

The function of breather valves can be impaired by dirt and dust in the environment.

If necessary, contact SEW-EURODRIVE to discuss alternative venting systems.

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6.3 Reduced backlash gear unit design /R

Helical, parallel-shaft helical and helical-bevel gear units with reduced backlash are available as of gear unit size 37. The rotational clearance of these gear units is considerably less than that of the standard designs so that positioning tasks can be solved with great precision. The rotational clearance is specified in angular minutes in the chapter "Geometrically possible combinations". The rotational clearance for the output shaft is specified without load (max. 1 % of the rated output torque); the gear unit input end is blocked. For information on the combination tables, refer to chapter Structure of the combination tables.

The reduced backlash design is available for the following gear units:

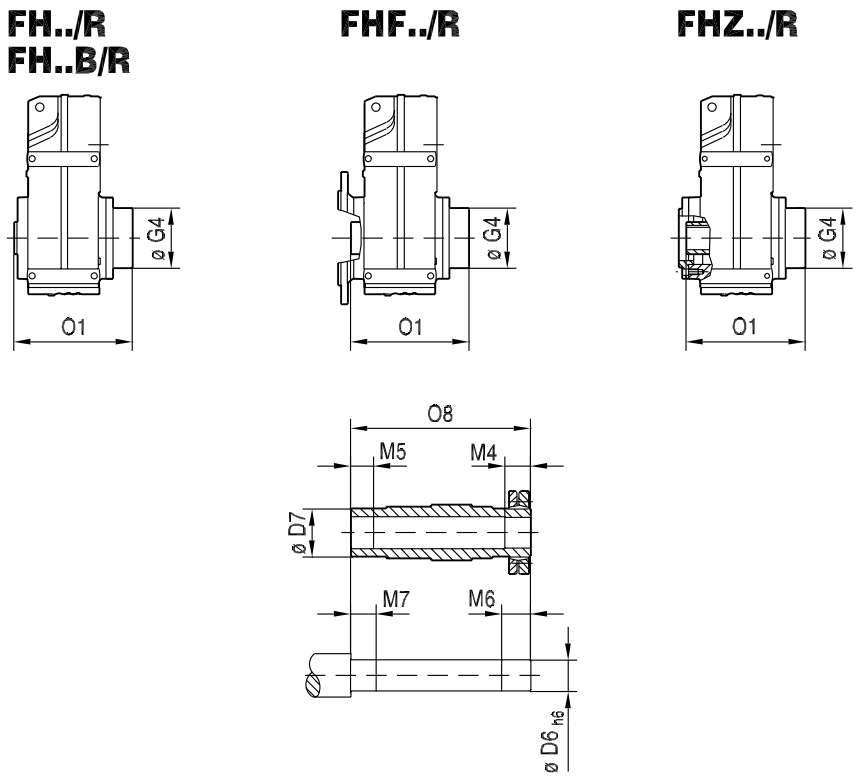
- Helical gear units (R), sizes 37 to 167
- Parallel-shaft helical gear units (F), sizes 37 to 157
- Helical-bevel gear units (K), sizes 37 to 187

Multi-stage gear units are not available with reduced backlash.

The dimensions of the reduced backlash designs correspond to the dimensions of the standard designs, except for parallel-shaft helical gear units FH.87 and FH.97 with reduced backlash.

The following figure shows the dimensions of FH.87 and FH.97 gear units with reduced backlash:

42 020 00 09



6644506891

Type	Dimensions in mm								
	D6	D7	G4	M4	M5	M6	M7	O1	O8
FH.87/R	Ø 65 $_{h6}$	Ø 85	Ø 163	41	40	46	45	312.5	299.5
FH.97/R	Ø 75 $_{h6}$	Ø 95	Ø 184	55	50	60	55	382.5	367

6.4 Assembly/disassembly of gear units with hollow shaft and key

INFORMATION

Use the supplied NOCO® fluid for assembly. The fluid facilitates removal as it prevents contact corrosion.

The key dimension X is specified by the customers, but X > DK must apply (DK = Diameter of customer shaft).

See figure "Customer shaft with and without contact shoulder".

SEW-EURODRIVE recommends 2 ways of installing gear units with hollow shaft and key onto the input shaft of the driven machine (= customer shaft):

- Assembly using supplied fastening parts
- Assembly/disassembly with SEW-EURODRIVE assembly and disassembly kit

The following sections describe the two options.

6.4.1 Assembly using supplied fastening parts

The following fastening parts are provided as standard:

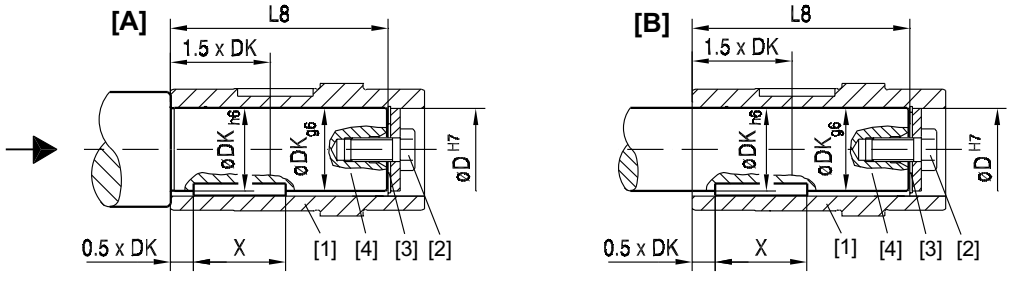
- Retaining screw with washer [2]
- Retaining ring [3]

Note the following information concerning the customer shaft:

- The installation length of the customer shaft with contact shoulder [A] must be "L8" - 1 mm.
- The installation length of the customer shaft without contact shoulder [B] must equal "L8".

The following figure shows the customer shaft with contact shoulder [A] and without contact shoulder [B].

00 001 00 02



18014402818447115

DK	Diameter of customer shaft	[2]	Retaining screw with washer
X	Key dimension	[3]	Retaining ring
[1]	Hollow shaft	[4]	Customer shaft

Dimensions and tightening torques MS for retaining screw [2] for the standard gear units:

Gear unit type	D^{H7} mm	DK mm	L8 mm	MS Nm
WA..10	16		69	8
WA..20	18		84	8
WA..20	20		84	8
KA..19	20		92	8
FA..27	25		89	20

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Gear unit type	D^{H7} mm	DK mm	L8 mm	MS Nm
KA..29	25		107	20
KA..29	30		107	20
WA..30, WA..37	20		105	8
SA..37	20		104	8
FA..37, KA..37, SA..47	30		105	20
KA..39	30		137	20
KA..39	35		137	20
KA..49	35		160	20
KA..49	40		154	20
SA..47, WA..37	25		105	20
FA..47, KA..47, SA..57	35		132	20
WA..47	30		122	20
SA..57	30		132	20
FA..57, KA..57	40		142	40
FA..67, KA..67	40		156	40
SA..67	40		144	40
SA..67	45		144	40
FA..77, KA..77, SA..77	50		183	40
SA..77	60		180	80
FA..87, KA..87	60		210	80
SA..87	60		220	80
SA..87	70		220	80
FA..97, KA..97	70		270	80
SA..97	70		260	80
FA..107, KA..107	80		313	80
SA..97	90		255	200
FA..107, KA..107	90		313	200
FA..127, KA..127	100		373	200
FA..157, KA..157	120		460	200

6.4.2 Assembly/disassembly with SEW-EURODRIVE assembly and disassembly kit

Assembly

You can use the optional assembly/disassembly kit for installation. This can be ordered for the specific gear unit types by quoting the part numbers in the following table. The delivery includes:

- Spacer tube for installation without contact shoulder [5]
- Retaining screw for assembly [2]
- Forcing washer for disassembly [7]
- Locked nut for disassembly [8]

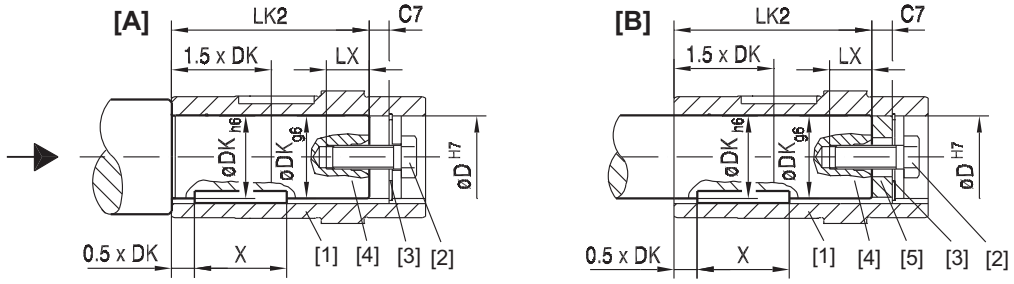
The short retaining screw delivered as standard is not required.

Note the following information concerning the customer shaft:

- The installation length of the customer shaft must be LK2. **Do not use the spacer tube** if the customer shaft **has a contact shoulder [A]**.
- The installation length of the customer shaft must be LK2. Use the spacer tube if the customer shaft **has no contact shoulder [B]**.

The following figure shows the customer shaft with contact shoulder [A] and without contact shoulder [B].

00 002 00 02



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DK	Diameter of customer shaft	[3]	Retaining ring
X	Key dimension	[4]	Customer shaft
[1]	Hollow shaft	[5]	Spacer tube
[2]	Retaining screw with washer		

Dimensions, tightening torque MS and part numbers for retaining screw [2]:

Type	D^{H7} mm	DK mm	LK2 mm	LX^{+2} mm	C7 mm	MS Nm	Part number of the assembly/ disassembly kit
WA..10	16		58	12.5	11	8	6437125
WA..20	18		72	16	12	8	643682X
WA..20	20		72	16	12	8	6436838
WA..30, WA..37	20		93	16	12	8	6436838
SA..37	20		92	16	12	8	6436838
KA..19	20		80	16	12	8	6436838
KA..29	25		91	22	16	20	6436846
FA..27	25		73	22	16	20	6436846
SA..47, WA..37	25		89	22	16	20	6436846
WA..47	30		106	22	16	20	6436854
FA..37, KA..37	30		89	22	16	20	6436854
SA..47	30		89	22	16	20	6436854
SA..57	30		116	22	16	20	6436854
KA..29	30		91	22	16	20	6436854
KA..39	30		121	22	16	20	6436854
KA..39	35		119	28	18	20	6436862
FA..47, KA..47, SA..57	35		114	28	18	20	6436862
KA..49	35		142	28	18	20	6436862
KA..49	40		136	36	18	40	6436870
FA..57, KA..57	40		124	36	18	40	6436870
FA..67	40		138	36	18	40	6436870
KA..67	40		138	36	18	40	6436870
SA..67	40		126	36	18	40	6436870
SA..67	45		126	36	18	40	6436889
FA..77, KA..77, SA..77	50		165	36	18	40	6436897
FA..87, KA..87	60		188	42	22	80	6436900
SA..77	60		158	42	22	80	6436900
SA..87	60		198	42	22	80	6436900
FA..97, KA..97	70		248	42	22	80	6436919
SA..87	70		198	42	22	80	6436919
SA..97	70		238	42	22	80	6436919
FA..107, KA..107	80		287	42	26	80	10682112
FA..107, KA..107	90		287	50	26	200	6436927

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Type	D^{H7} mm	DK mm	LK2 mm	LX^{+2} mm	C7 mm	MS Nm	Part number of the assembly/ disassembly kit
SA..97	90		229	50	26	200	6436927
FA..127, KA..127	100		347	50	26	200	6436935
FA..157, KA..157	120		434	50	26	200	6436943

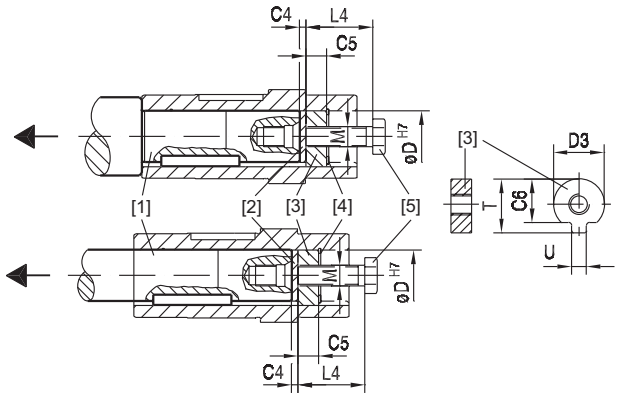
Disassembly

INFORMATION

The depicted assembly kit for attaching the customer shaft is a recommendation by SEW-EURODRIVE.

- You must always check whether this design can compensate the present axial loads.
- In particular applications (e.g. mounting agitator shafts), a different design may have to be used to secure the shaft axially. You can use your own devices to secure the shaft axially, if you ensure that these designs do not cause potential sources of combustion according to DIN EN 13463 (e.g. impact sparks).

The following figure shows the SEW-EURODRIVE assembly/disassembly kit.



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[1] Customer shaft
[2] Forcing washer
[3] Locked nut for disassembly
[4] Retaining ring
[5] Retaining screw

Dimensions and part numbers of the assembly/disassembly kit:

Type	D^{H7} mm	M[1)]	C4 mm	C5 mm	C6 mm	$U^{-0.5}$ mm	$T^{-0.5}$ mm	$D3^{-0.5}$ mm	L4 mm	Part number of the assembly/disassembly kit
WA..10	16	M5	5	5	12	4.5	18	15.7	50	6437125
WA..20	18	M6	5	6	13.5	5.5	20.5	17.7	25	643682X
WA..20, WA..30, SA..37, WA..37, KA..19	20	M6	5	6	15.5	5.5	22.5	19.7	25	6436838
FA..27, SA..47, WA..47, KA..29	25	M10	5	10	20	7.5	28	24.7	35	6436846
FA..37, KA..29, KA..37, KA..39, SA..47, SA..57, WA..47,	30	M10	5	10	25	7.5	33	29.7	35	6436854
FA..47, KA..39, KA..47, KA..49, SA..57	35	M12	5	12	29	9.5	38	34.7	45	6436862
FA..57, KA..57, FA..67, KA..49, KA..67, SA..67	40	M16	5	12	34	11.5	41.9	39.7	50	6436870
SA..67	45	M16	5	12	38.5	13.5	48.5	44.7	50	6436889
FA..77, KA..77, SA..77	50	M16	5	12	43.5	13.5	53.5	49.7	50	6436897

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Type	D^{H7} mm	M[1)]	C4 mm	C5 mm	C6 mm	$U^{-0.5}$ mm	$T^{-0.5}$ mm	$D3^{-0.5}$ mm	L4 mm	Part number of the assembly/disassembly kit
FA..87, KA..87, SA..77, SA..87	60	M20	5	16	56	17.5	64	59.7	60	6436900
FA..97, KA..97, SA..87, SA..97	70	M20	5	16	65.5	19.5	74.5	69.7	60	6436919
FA..107, KA..107	80	M20	5	20	75.5	21.5	85	79.7	70	10682112
FA..107, KA..107, SA..97	90	M24	5	20	80	24.5	95	89.7	70	6436927
FA..127, KA..127	100	M24	5	20	89	27.5	106	99.7	70	6436935
FA..157, KA..157	120	M24	5	20	107	31	127	119.7	70	6436943

1) Retaining screw

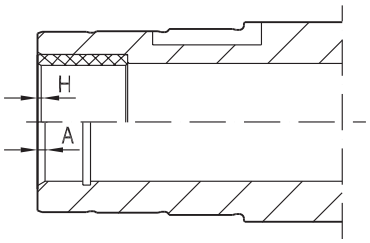
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6.5 Gear units with hollow shaft

6.5.1 Chamfers on hollow shafts

The following illustration shows the chamfers of parallel-shaft helical, helical-bevel, helical-worm and SPIROPLAN® gear units with hollow shaft:

00 004 002



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Dimension tables for the chamfers of the F, K, S, and W gear units:

Gear unit	Design	
	with hollow shaft (A)	with hollow shaft and shrink disk (H)
W..10	1.5 × 30°	-
W..20	2 × 30°	-
W..30	2 × 30°	-
F..27	2 × 30°	0.5 × 45 °
K..19	2 × 30°	0.5 × 45 °
K..29	2 × 30°	0.5 × 45 °
F../K../S../W..37	2 × 30°	0.5 × 45 °
K..39	2 × 30°	-
F../K../S../ W..47	2 × 30°	0.5 × 45 °
K..49	2 × 30°	-
S..57	2 × 30°	0.5 × 45 °
F../K..57	2 × 30°	0.5 × 45 °
F../K../S..67	2 × 30°	0.5 × 45 °
F../K../S..77	2 × 30°	0.5 × 45 °
F../K../S..87	3 × 30°	0.5 × 45 °
F../K../S..97	3 × 30°	0.5 × 45 °
F../K..107	3 × 30°	0.5 × 45 °
F../K..127	5 × 30°	0.5 × 45 °
F../K..157	5 × 30°	0.5 × 45 °
KH167	-	0.5 × 45 °
KH187	-	0.5 × 45 °

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6.5.2 Special motor/gear unit combinations

Please note for parallel-shaft helical gearmotors with hollow shaft (FA..B, FV..B, FH..B, FAF, FVF, FHF, FA, FV, FH, FT, FAZ, FVZ, FHZ):

- If you are using a customer shaft pushed through on the motor end, there may be a collision when a "small gear unit" is used in combination with a "large motor."
- Check the motor dimension AC to decide whether there will be a collision with a pushed-through customer shaft.

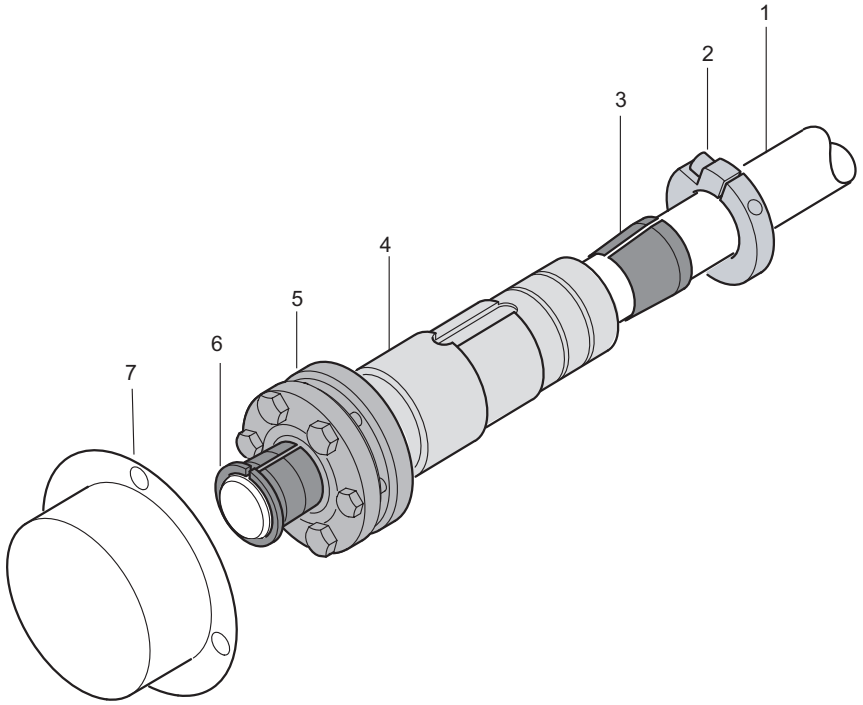
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6.6 TorqLOC® mounting system for gear units with hollow shaft

6.6.1 Description of TorqLOC®

The TorqLOC® hollow shaft mounting system is used for achieving a non-positive connection between the customer's shaft and the hollow shaft in the gear unit. The TorqLOC® hollow shaft mounting system is an alternative to the hollow shaft with shrink disk, the hollow shaft with key and the splined hollow shaft that have been used so far.

The TorqLOC® hollow shaft mounting system consists of the following components:



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[1]	Customer shaft	[5]	Shrink disk
2]	Clamping ring	[6]	Conical steel bushing
[3]	Conical bronze bushing	[7]	Fixed hood cover
[4]	Hollow shaft in gear unit		

6.6.2 Benefits of TorqLOC®

The TorqLOC® hollow shaft mounting system provides the following advantages:

- Cost saving because the customer shaft can be made from drawn material up to quality h11.
- Cost saving because different customer shaft diameters can be covered by one hollow shaft diameter and different bushings.
- Simple installation since there is no need to accommodate any shaft connections.
- Simple removal even after many hours of operation because the formation of contact corrosion has been reduced and the conical connections can easily be released.

6.6.3 Technical data of TorqLOC®

The TorqLOC® hollow shaft mounting system is approved for input torques of 92 Nm to 18 000 Nm.

The following gear units are available with TorqLOC® hollow shaft mounting system:

- Parallel-shaft helical gear units in gear unit sizes 37 to 157 (FT37 – FT157)
- Helical-bevel gear units in gear unit sizes 37 to 157 (KT37 – KT157), 39 and 49 (KT39, KT49)
- Helical-worm gear units in gear unit sizes 37 to 97 (ST37 – ST97)
- SPIROPLAN® gear unit sizes 37 and 47 (WT.7)

Available options

The following options are available for gear units with a TorqLOC® hollow shaft mounting system:

- For helical-bevel, helical-worm and SPIROPLAN® gear units (KT.., ST.., WT.7..): "torque arm" option (../T)
- For parallel-shaft helical gear units (FT..): "rubber buffer" option (../G)

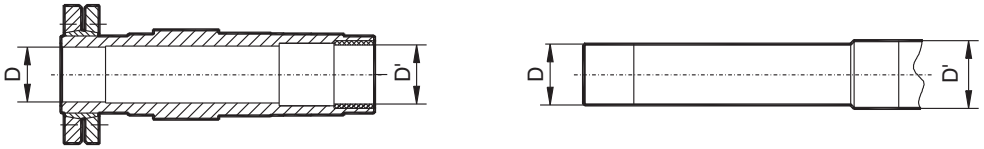
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6.7 Shouldered hollow shaft option with shrink disk

The following gear units with a hollow shaft and shrink disk also have the option of the larger bore diameter D':

- Parallel-shaft helical gear units FH/FHF/FHZ37 – 157
- Helical-bevel gear units KH/KHF/KHZ37 – 157
- Helical-worm gear units SH/SHF47 – 97

D’ = D as standard.



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Gear unit	Bore diameter D/ optionally D' mm
FH/FHF/FHZ37, KH/KHF/KHZ37, SH/SHF/SHZ47	30/32
FH/FHF/FHZ47, KH/KHF/KHZ47, SH/SHF/SHZ57	35/36
FH/FHF/FHZ57, KH/KHF/KHZ57	40/42
FH/FHF/FHZ67, KH/KHF/KHZ67, SH/SHF/SHZ67	40/42
FH/FHF/FHZ77, KH/KHF/KHZ77, SH/SHF/SHZ77	50/52
FH/FHF/FHZ87, KH/KHF/KHZ87, SH/SHF/SHZ87	65/66
FH/FHF/FHZ97, KH/KHF/KHZ97, SH/SHF/SHZ97	75/76
FH/FHF/FHZ107, KH/KHF/KHZ107	95/96
FH/FHF/FHZ127, KH/KHF/KHZ127	105/106
FH/FHF/FHZ157, KH/KHF/KHZ157	125/126

Diameter D/D' must be specified when ordering gear units with a shouldered hollow shaft (optional bore diameter D').

6.7.1 Sample order

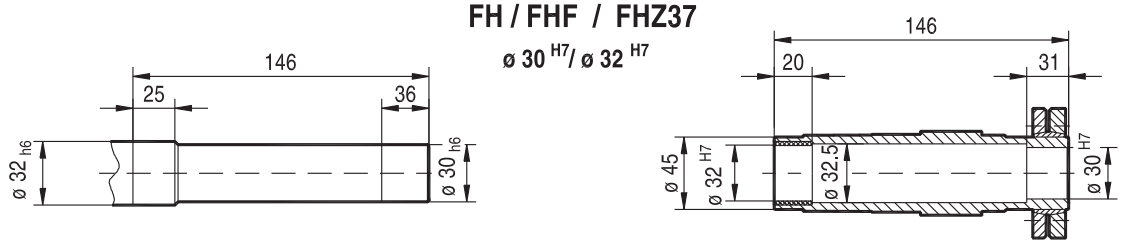
FH37 EDRN80M4 with hollow shaft 30/32 mm

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6.7.2 Parallel-shaft helical gear units with shouldered hollow shaft (dimensions in mm):

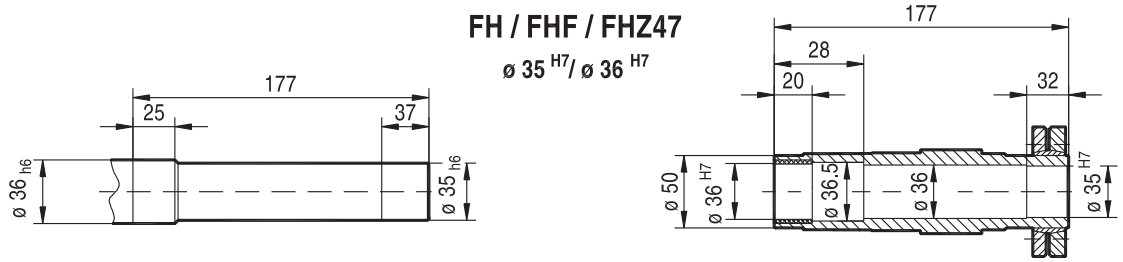
FH / FHF / FHZ37

ø 30 H7/ ø 32 H7



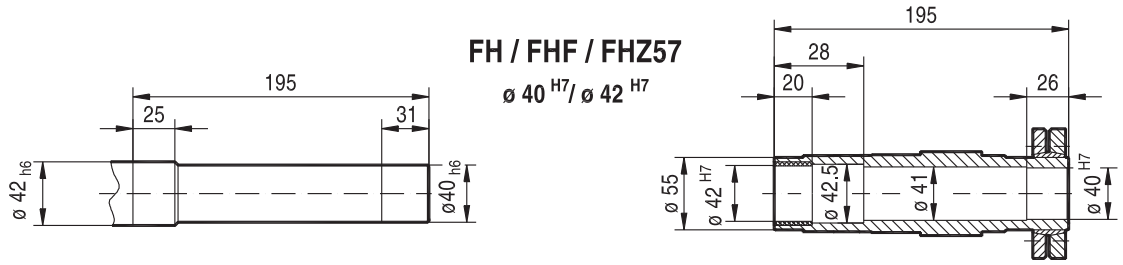
FH / FHF / FHZ47

ø 35 H7/ ø 36 H7



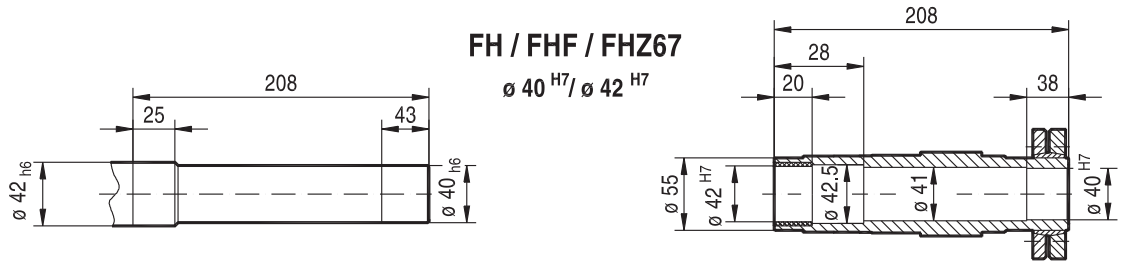
FH / FHF / FHZ57

ø 40 H7/ ø 42 H7



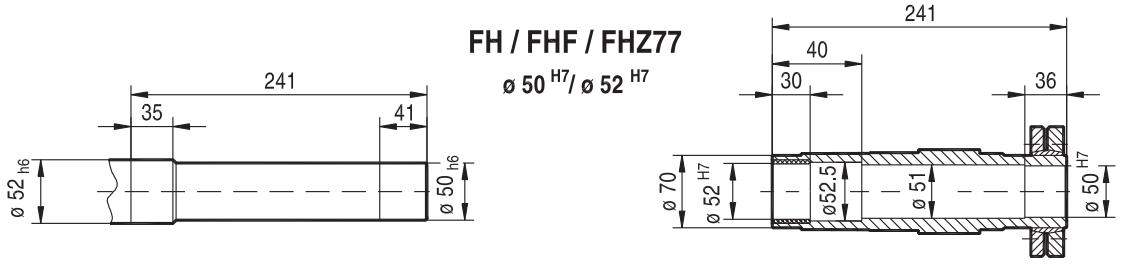
FH / FHF / FHZ67

ø 40 H7/ ø 42 H7



FH / FHF / FHZ77

ø 50 H7/ ø 52 H7

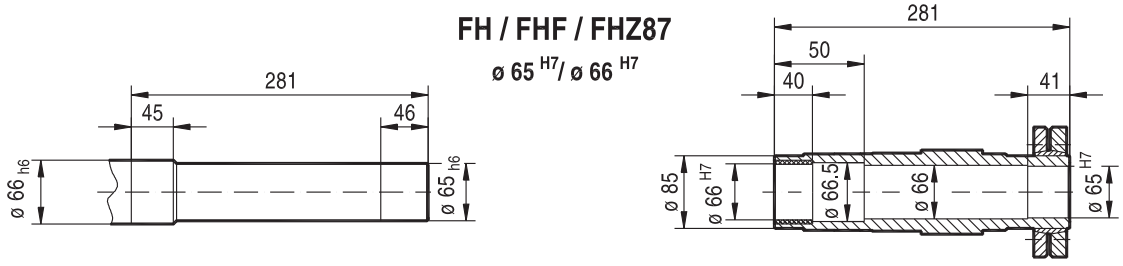


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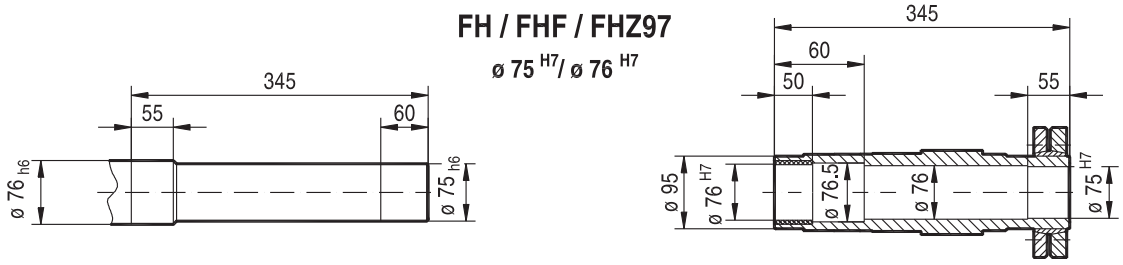
FH / FHF / FHZ87

ø 65 H7/ ø 66 H7



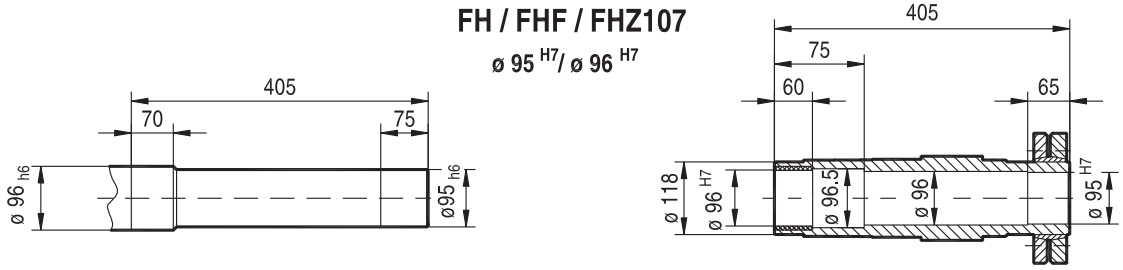
FH / FHF / FHZ97

ø 75 H7/ ø 76 H7



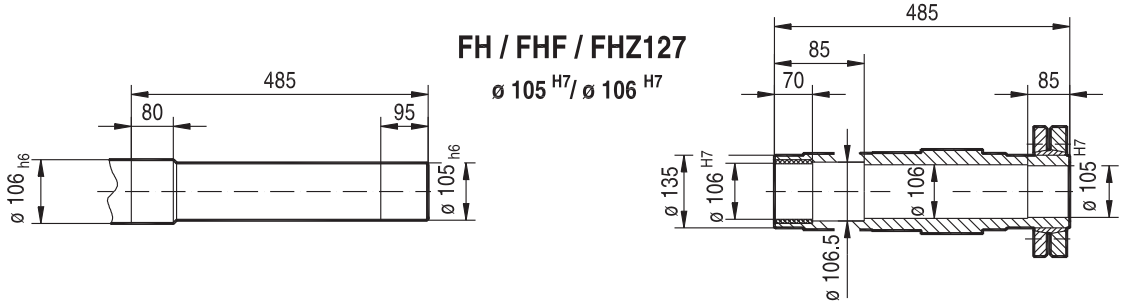
FH / FHF / FHZ107

ø 95 H7/ ø 96 H7



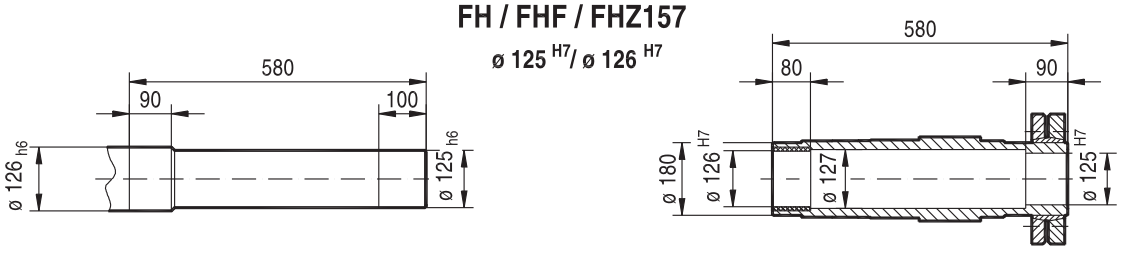
FH / FHF / FHZ127

ø 105 H7/ ø 106 H7



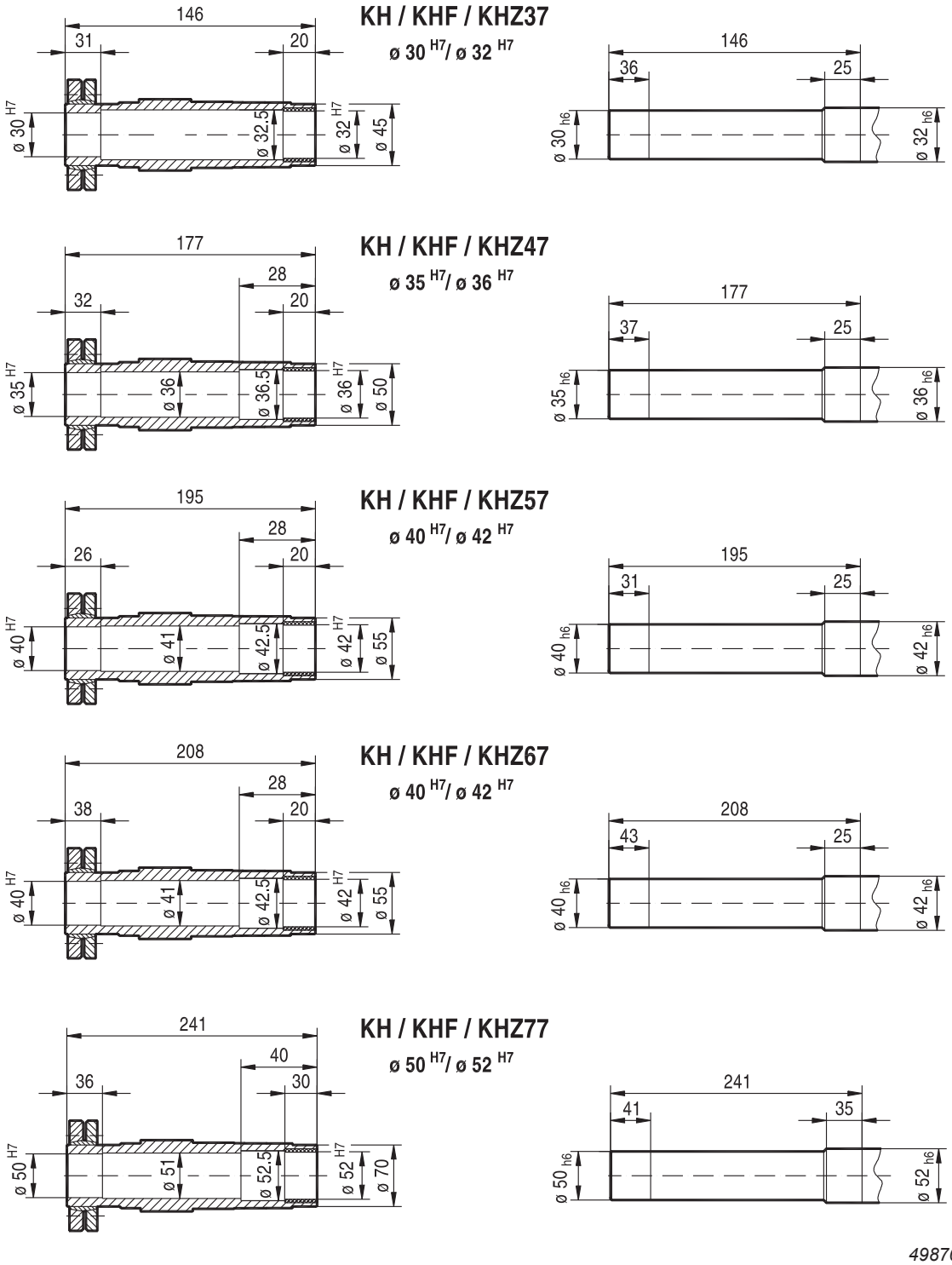
FH / FHF / FHZ157

ø 125 H7/ ø 126 H7



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6.7.3 Helical-bevel gear units with shouldered hollow shaft (dimensions in mm):

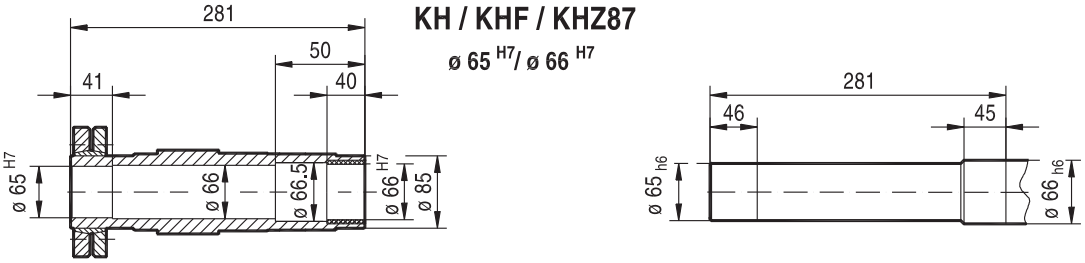


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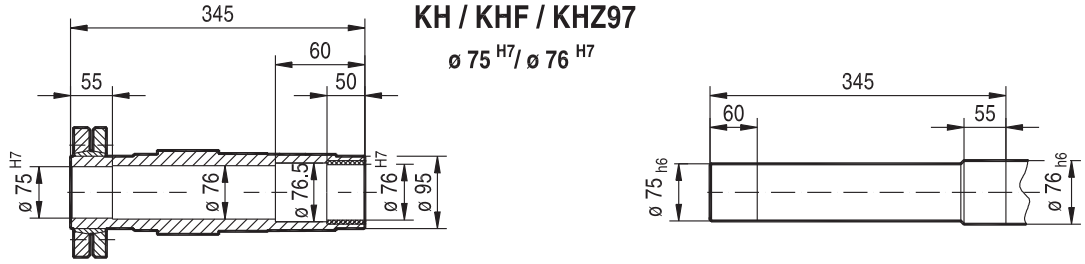
KH / KHF / KHZ87

ø 65 H7/ ø 66 H7



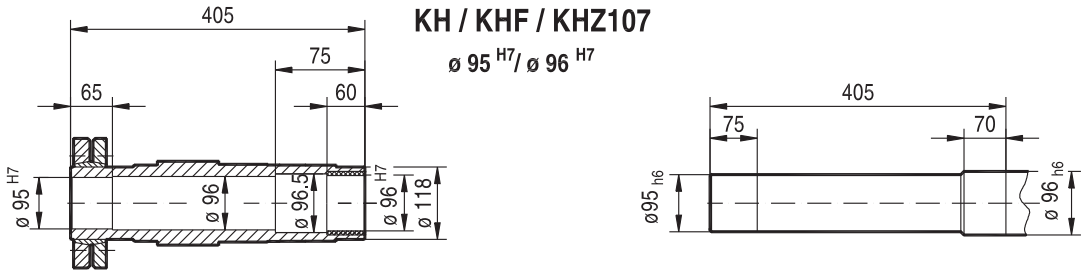
KH / KHF / KHZ97

ø 75 H7/ ø 76 H7



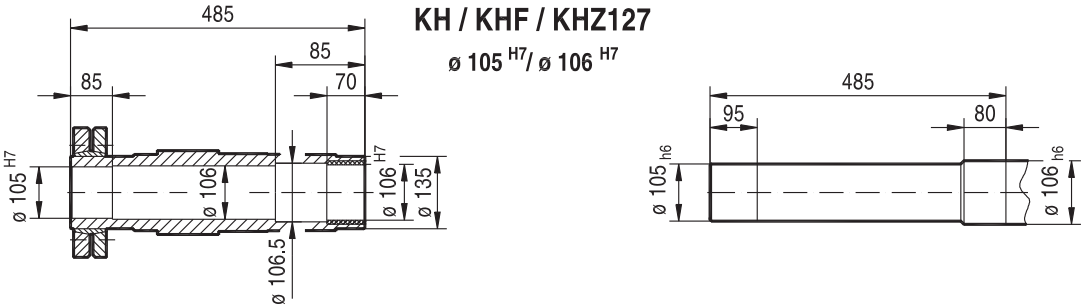
KH / KHF / KHZ107

ø 95 H7/ ø 96 H7



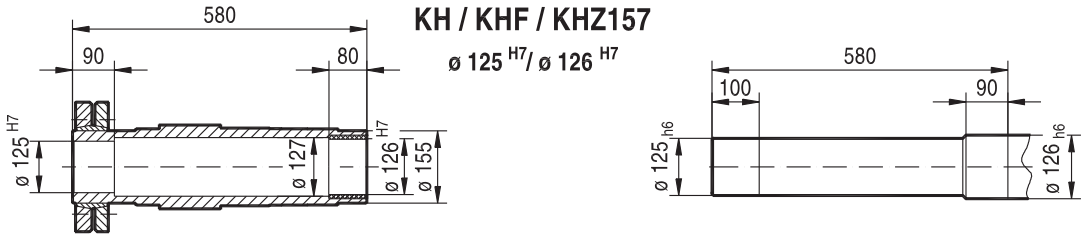
KH / KHF / KHZ127

ø 105 H7/ ø 106 H7



KH / KHF / KHZ157

ø 125 H7/ ø 126 H7



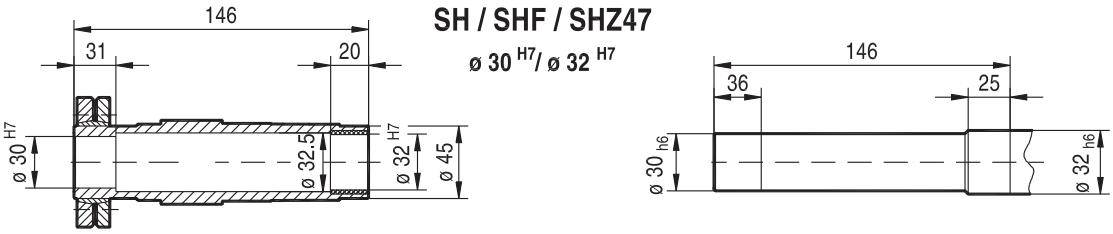
4987065099

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6.7.4 Helical-worm gear units with shouldered hollow shaft (dimensions in mm):

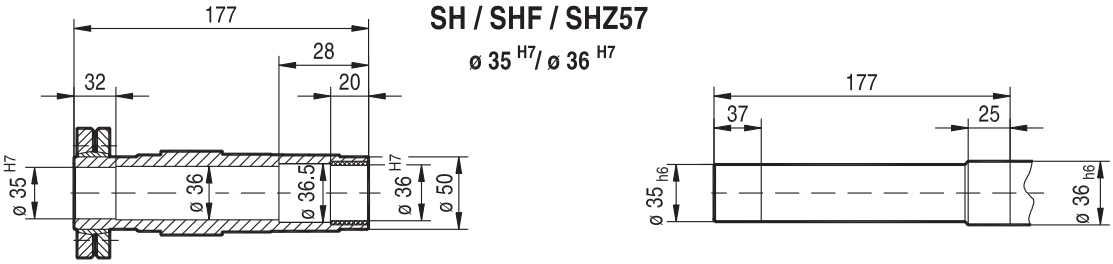
SH / SHF / SHZ47

ø 30 H7/ ø 32 H7



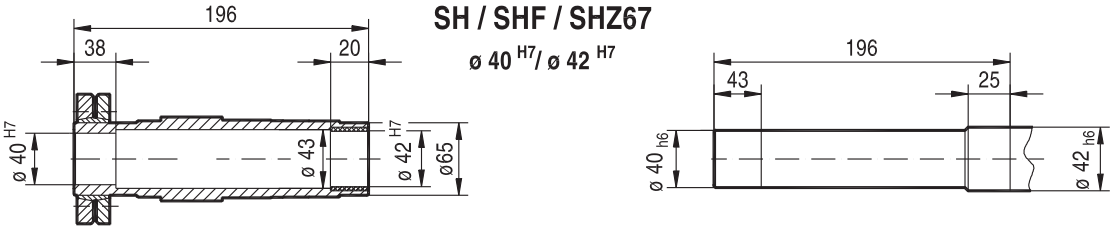
SH / SHF / SHZ57

ø 35 H7/ ø 36 H7



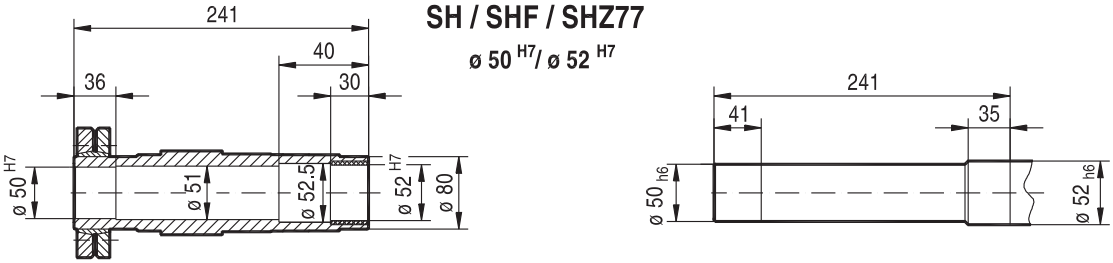
SH / SHF / SHZ67

ø 40 H7/ ø 42 H7



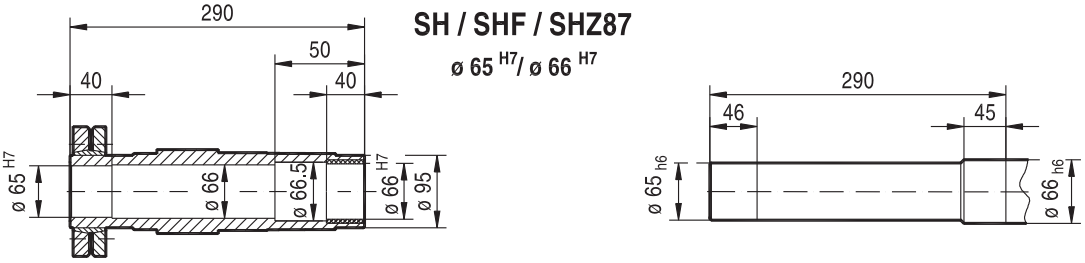
SH / SHF / SHZ77

ø 50 H7/ ø 52 H7



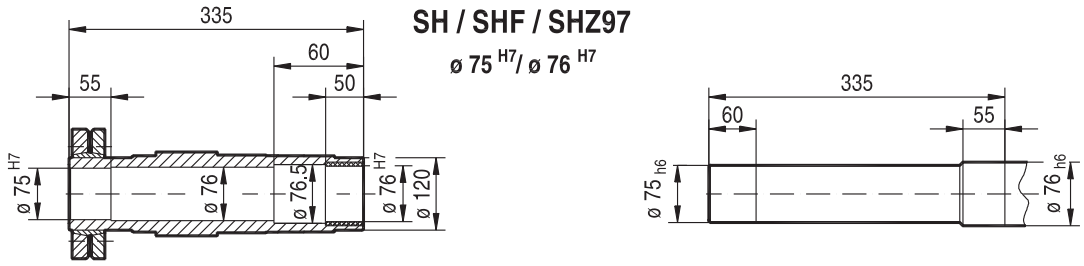
4987067787

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SH / SHF / SHZ87

ø 65 H7/ ø 66 H7



SH / SHF / SHZ97

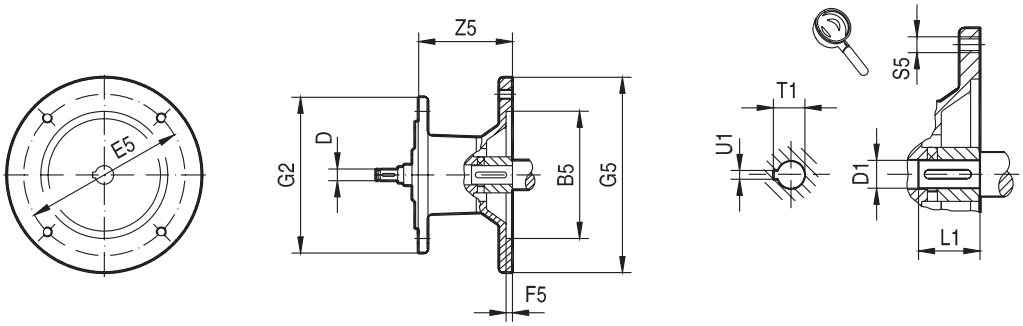
ø 75 H7/ ø 76 H7

4987069451

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6.8 Adapters for mounting IEC motors

23 002 100



9007204242190859

Gear unit type	Adapter type	Dimensions in mm											
		B5	D	E5	F5	G2	G5	S5	Z5	D1	L1	T1	U1
R..27, R..37 F..27, F..37, F..47 K..19, K..29, K..37 S..37, S..47, S..57 W..37	AM63	95	10	115	3.5	120	140	M8	72	11	23	12.8	4
	AM71[1]	110		130	4		160			14	30	16.3	5
	AM80[1]	130	12	165	4.5		200	M10	106	19	40	21.8	6
	AM90[1]		14							24	50	27.3	8
R..47[2], R..57, R..67 F..57, F..67 K..39, K..47[2], K..57, K..67 S..67 W..47[3]	AM63	95	10	115	3.5	160	140	M8	66	11	23	12.8	4
	AM71	110		130	4		160			14	30	16.3	5
	AM80	130	12	165	4.5		200	M10	99	19	40	21.8	6
	AM90		14							24	50	27.3	8
	AM100[1]	180	16	215	5		250	M12	134	28	60	31.3	8
	AM112[1]		18										
	AM132S/M[1]	230	22	265			300		191	38	80	41.3	10
R..77 F..77 K..49, K..77 S..77	AM63	95	10	115	3.5	200	140	M8	60	11	23	12.8	4
	AM71	110		130	4		160			14	30	16.3	5
	AM80	130	12	165	4.5		200	M10	92	19	40	21.8	6
	AM90		14							24	50	27.3	8
	AM100[1]	180	16	215	5		250	M12	126	28	60	31.3	8
	AM112[1]		18										
	AM132S/M[1]	230	22	265			300		179	38	80	41.3	10
	AM132ML[1]		28										
R..87 F..87 K..87 S..87[4]	AM80	130	12	165	4.5	250	200	M10	87	19	40	21.8	6
	AM90		14							24	50	27.3	8
	AM100	180	16	215	5		250	M12	121	28	60	31.3	8
	AM112		18										
	AM132S/M	230	22	265			300		174	38	80	41.3	10
	AM132ML		28										
	AM160[1]	250	28	300	6		350	M16	232	42	110	45.3	12
	AM180[1]		32							48		51.8	14

1) Check dimension 1/2 G5 because component may protrude past foot-mounting surface if installed on R, K, S or W foot-mounted gear unit.
2) Maximum AM100
3) Maximum AM90
4) Not with AM180

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23 003 100

Fig.1

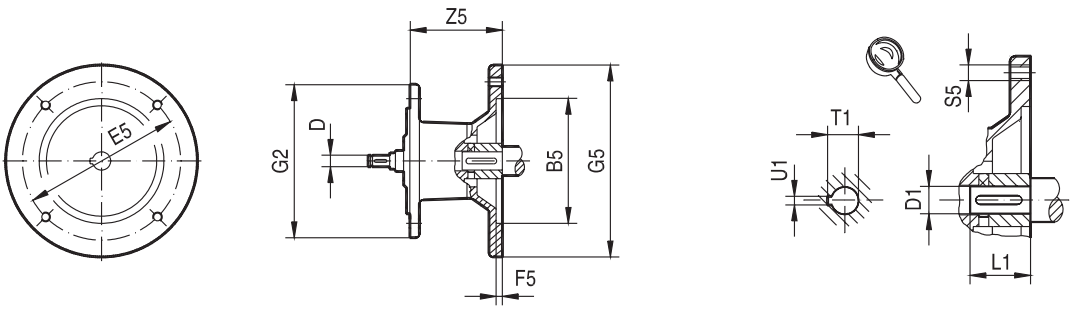
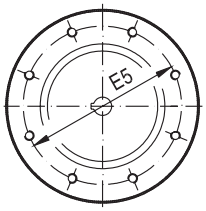


Fig.2



9007204242194571

Gear unit type	Adapter type	Fig.	Dimensions in mm											
			B5	D	E5	F5	G2	G5	S5	Z5	D1	L1	T1	U1
R..97 F..97 K..97 S..97[1]	AM100	1	180	16	215	5	300	250	M12	116	28	60	31.3	8
	AM112			18										
	AM132S/M		230	22	265			300		169	38	80	41.3	10
	AM132ML			28										
	AM160		250		300	6		350	M16	227	42	110	45.3	12
	AM180			32							48		51.8	14
	AM200		300	38	350	7		400		268	55		59.3	16
R..107 F..107 K..107	AM100		180	16	215	5	350	250	M12	110	28	60	31.3	8
	AM112			18										
	AM132S/M		230	22	265			300		163	38	80	41.3	10
	AM132ML			28										
	AM160		250		300	6		350	M16	221	42	110	45.3	12
	AM180			32							48		51.8	14
	AM200		300	38	350	7		400		262	55		59.3	16
	AM225	2	350		400			450		277	60	140	64.4	18
R..137	AM132S/M	1	230	22	265	5	400	300	M12	156	38	80	41.3	10
	AM132ML			28										
	AM160		250		300	6		350	M16	214	42	110	45.3	12
	AM180			32							48		51.8	14
	AM200		300	38	350	7		400		255	55		59.3	16
	AM225	2	350		400			450		270	60	140	64.4	18

1) Not with AM200

23 004 100

Fig.1

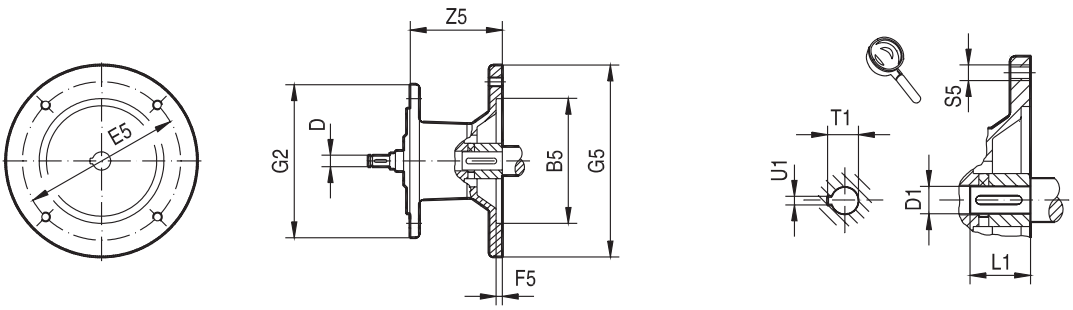
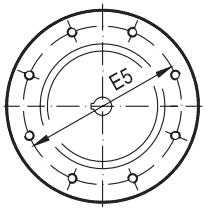


Fig.2

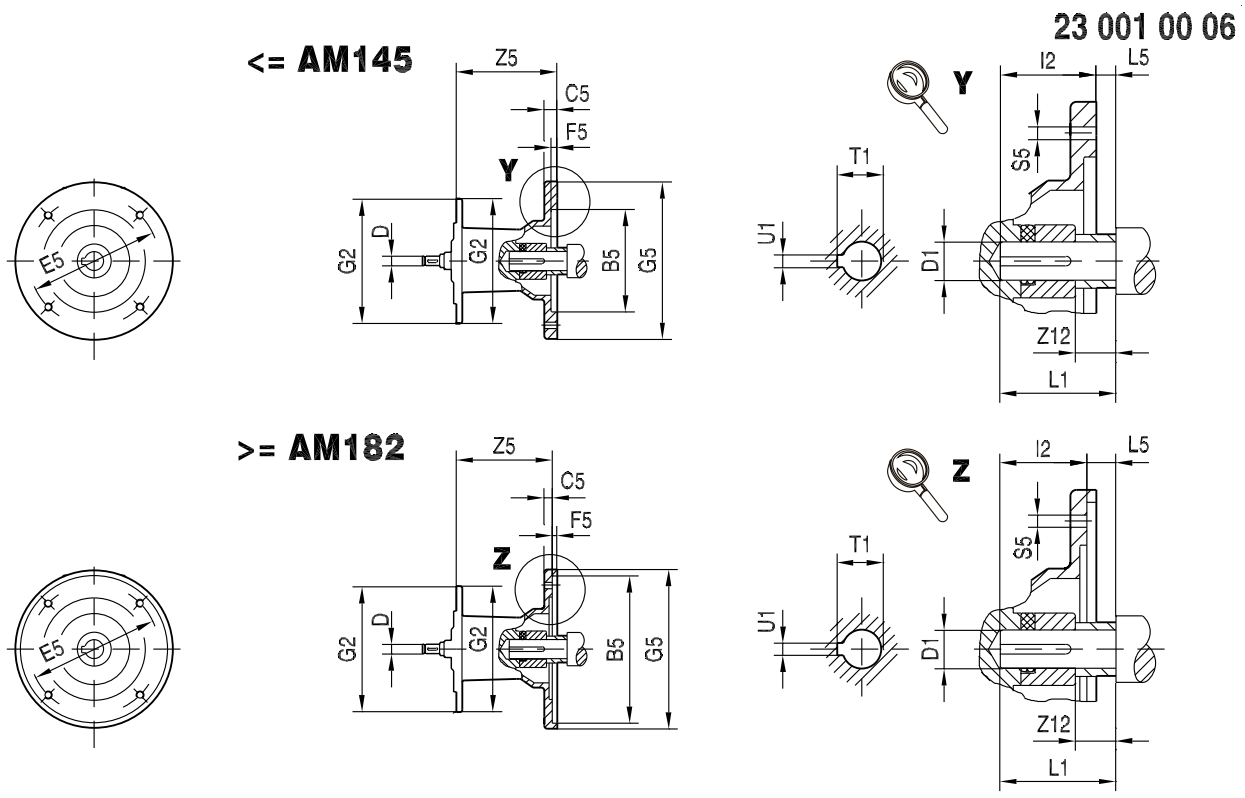


4987456011

Gear unit type	Adapter type	Fig.	Dimensions in mm											
			B5	D	E5	F5	G2	G5	S5	Z5	D1	L1	T1	U1
R..147 F..127 K..127	AM132S/M	1	230	22	265	5	450	300	M12	148	38	80	41.3	10
	AM132ML			28										
	AM160		250	28	300	6		350	M16	206	42	110	45.3	12
	AM180			32							48		51.8	14
	AM200		300	38	350	7		400		247	55		59.3	16
	AM225	2	350		400			450		262	60	140	64.4	18
	AM250		450	48	500			550		336	65		69.4	
	AM280										75		79.9	20
R..167 F..157 K..157 K..167 K..187	AM160	1	250	28	300	6	550	350		198	42	110	45.3	12
	AM180			32							48		51.8	14
	AM200		300	38	350	7		400		239	55		59.3	16
	AM225	2	350		400			450		254	60	140	64.4	18
	AM250		450	48	500			550		328	65		69.4	
	AM280										75		79.9	20

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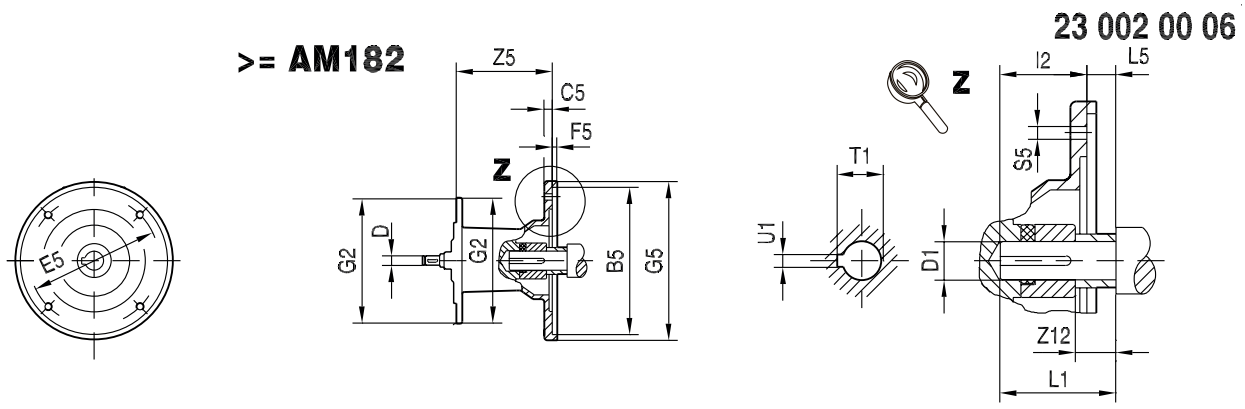
6.9 Adapters for mounting NEMA motors



9007204242131979

Gear unit type	Adapter type	Dimensions in mm															
		B5	C5	D	E5	F5	G2	G5	I2	L5	S5	Z5	Z12	D1	L1	T1	U1
R..27, R..37 F..27, F..37, F..47 K..19, K..29, K..37 S..37, S..47, S..57 W..37	AM56	114.3	11	10	149.2	4.5	120	170	52.55	-4.8	10.5	93.5	16.5	15,875	47	18.1	4.76
	AM143		12	12					54.1	3		117	14.5	22,225	57	24.7	
	AM145			14													
R..47, R..57, R..67 F..57, F..67 K..39, K..47, K..57, K..67 S..67 W..47[1]	AM56		11	10			160		52.55	-4.8		87	16.5	15,875	47	18.1	
	AM143		12	12					54.1	3		110.5	14.5	22,225	57	24.7	
	AM145			14													
	AM182	215.9	10	16	184	5		228	66.85	3	15	147.5	16.5	28,575	69	31.7	6.35
	AM184			18													
	AM213/215		11	22					79.55	6.3		200.5	15.8	34,925	85	38.7	7.94
R..77 F..77 K..49, K..77 S..77	AM56	114.3	11	10	149.2	4.5	200	170	52.55	-4.8	10.5	81	16.5	15,875	47	18.1	4.76
	AM143		12	12					54.1	3		103.5	14.5	22,225	57	24.7	
	AM145			14													
	AM182	215.9	10	16	184	5		228	66.85	3	15	139.5	16.5	28,575	69	31.7	6.35
	AM184			18													
	AM213/215		11	22					79.55	6.3		188.5	15.8	34,925	85	38.7	7.94
R..87 F..87 K..87 S..87	AM143	114.3	12	12	149.2	4.5	250	170	54.1	3	10.5	98.5	14.5	22,225	57	24.7	4.76
	AM145			14													
	AM182	215.9	10	16	184	5		228	66.85	3	15	134.5	16.5	28,575	69	31.7	6.35
	AM184			18													
	AM213/215		11	22					79.55	6.3		183.5	15.8	34,925	85	38.7	7.94
	AM254/256		12	28					95.3	6.3		234	8.8	41,275	101	45.8	9.53
	AM284/286	266.7	15	32	228.6			286	111.05	6.3	15	241	15.8	47,625	117	53.4	12.7

1) Maximum AM143/AM145

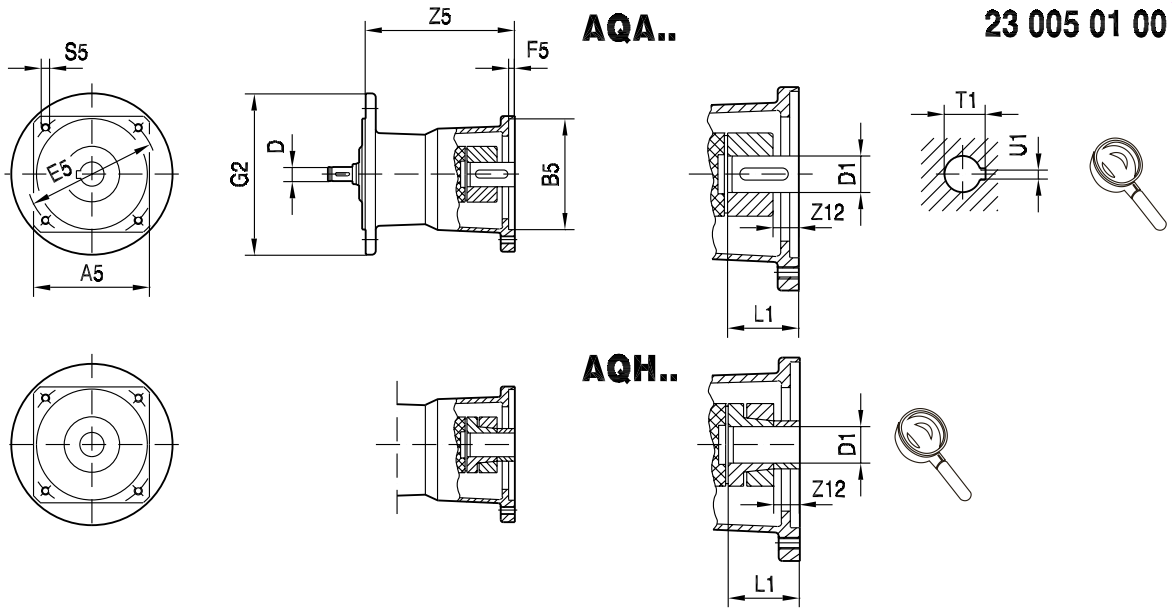


9007204242133899

Gear unit type	Adapter type	Dimensions in mm															
		B5	C5	D	E5	F5	G2	G5	I2	L5	S5	Z5	Z12	D1	L1	T1	U1
R..97 F..97 K..97 S..97	AM182	215.9	10	16	184	5	300	228	66.85	3	15	129.5	16.5	28,575	69	31.7	6.35
	AM184			18													
	AM213/215		11	22					79.55	6.3		178.5	15.8	34,925	85	38.7	7.94
	AM254/256		12	28					95.3			229	8.8	41,275	101	45.8	9.53
	AM284/286	266.7	20	32	228.6			286	111.05			236	15.8	47,625	117	53.4	12.7
	AM324/326	317.5	17	38	279.4			356	127.05		17.5	296	34.8	53,975	133	60	12.7
	AM364/365								143.05					60,325	149	67.6	15,875
R..107 F..107 K..107	AM182	215.9	10	16	184		350	228	66.85	3	15	123.5	16.5	28,575	69.85	31.7	6.35
	AM184			18						6.3							
	AM213/215		11	22					79.55			172.5	15.8	34,925	85.85	38.7	7.94
	AM254/256		12	28					95.3			223	8.8	41,275	101.6	45.8	9.53
	AM284/286	266.7	15	32	228.6			286	111.05			230	15.8	47,625	117.35	53.4	12.7
	AM324/326	317.5	17	38	279.4			356	127.05		17.5	290	34.8	53,975	133.35	60	12.7
	AM364/365								143.05					60,325	149.35	67.6	15,875
R..137	AM213/215	215.9	11	22	184		400	228	79.55		15	165.5	15.8	34,925	85.85	38.7	7.94
	AM254/256		12	28					95.3			216	8.8	41,275	101.6	45.8	9.53
	AM284/286	266.7	15	32	228.6			286	111.05			223	15.8	47,625	117.35	53.4	12.7
	AM324/326	317.5	17	38	279.4			356	127.05		17.5	283	34.8	53,975	133.35	60	12.7
	AM364/365								143.05					60,325	149.35	67.6	15,875
R..147 F..127 K..127	AM213/215	215.9	11	22	184		450	228	79.55		15	157.5	15.8	34,925	85.85	38.7	7.94
	AM254/256		12	28					95.3			208	8.8	41,275	101.6	45.8	9.53
	AM284/286	266.7	15	32	228.6			286	111.05			215	15.8	47,625	117.35	53.4	12.7
	AM324/326	317.5	17	38	279.4			356	127.05		17.5	275	34.8	53,975	133.35	60	12.7
	AM364/365								143.05					60,325	149.35	67.6	15,875
R..167 F..157 K..157 K..167 K..187	AM254/256	215.9	12	28	184		550	228	95.3		15	200	8.8	41,275	101.6	45.8	9.53
	AM284/286	266.7	15	32	228.6			286	111.05			207	15.8	47,625	117.35	53.4	12.7
	AM324/326	317.5	17	38	279.4			356	127.05		17.5	267	34.8	53,975	133.35	60	12.7
	AM364/365								143.05					60,325	149.35	67.6	15,875

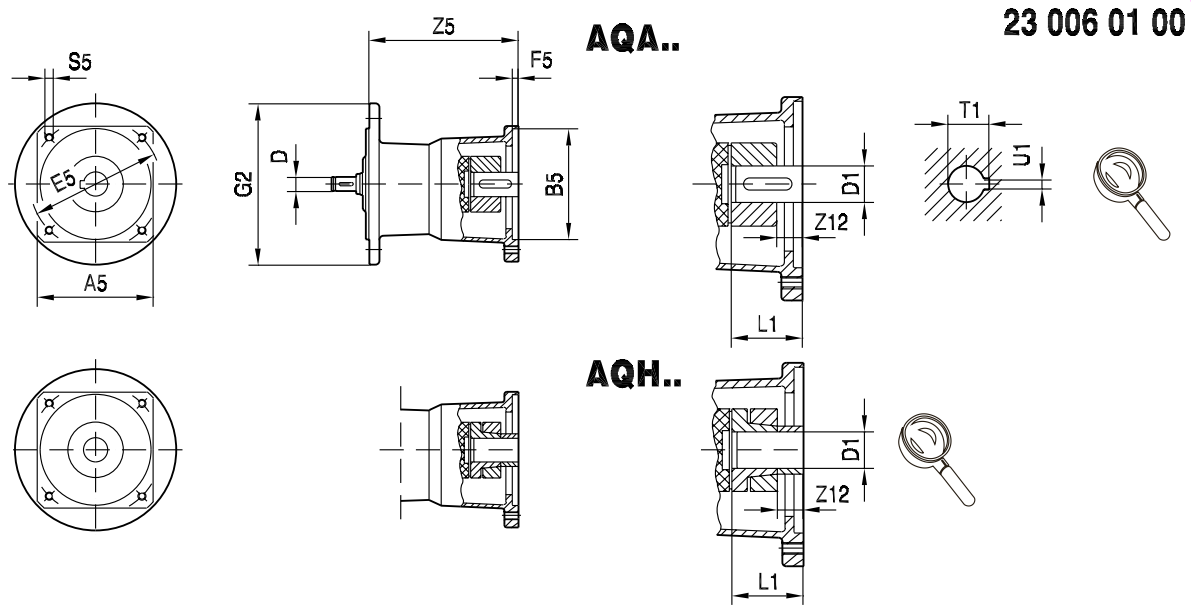
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6.10 Adapters for mounting servomotors



Gear unit type	Adapter type	Dimensions in mm													
		A5	B5	D	E5	F5	G2	S5	Z5	Z12[1]	Z12[2]	D1	L1	T1[1]	U1[1]
R..27, R..37 F..27, F..37, F..47 K..19, K..29, K..37 S..37, S..47, S..57 W..37	AQ..80/1	82	60	10 12	75	3	120	M5	104.5	5.5	5.5	11	23	12.8	4
	AQ..80/2											14	30	16.3	5
	AQ..80/3		50		95			M6							
	AQ..100/1	100	80	10 12 14 16	100	4			129.5	-	-				5
	AQ..100/2		95		115			M8							
	AQ..100/3		80		100			M6	143.5	2	14	19	40	21.8	6
	AQ..100/4		95		115			M8							
	AQ..115/1	115			130				152.5	11	23				
	AQ..115/2		110												
	AQ..115/3									16	16	24	50	27.3	8
R..47, R..57, R..67 F..57, F..67 K..39, K..47[3], K..57, K..67 S..67 W..47	AQ..80/1	82	60	10 12	75	3	160	M5	98	5.5	5.5	11	23	12.8	4
	AQ..80/2											14	30	16.3	5
	AQ..80/3		50		95			M6							
	AQ..100/1	100	80	10 12 14 16	100	4			122.5	-	-				
	AQ..100/2		95		115			M8							
	AQ..100/3		80		100			M6	136.5	2	14	19	40	21.8	6
	AQ..100/4		95		115			M8							
	AQ..115/1	115			130				145.5	11	23				
	AQ..115/2		110												
	AQ..115/3									16	16	24	50	27.3	8
	AQ..140/1	140	130	16 18 22	165	5		M10	175						
	AQ..140/2														
	AQ..140/3								188	22	22	32	60	35.5	10
	AQ..140/4											28		31.3	8
	AQ..160/1	162	155		190							32		35.3	10
	AQ..190/1	190	130	22 28	215			M12	237.5	24	24				
	AQ..190/2		180												
	AQ..190/3								261.5	34	34	38	80	41.3	

1) For designs with keyway (AQA..)
2) For designs with clamping ring hub (AQH..)
3) Not with AQ190



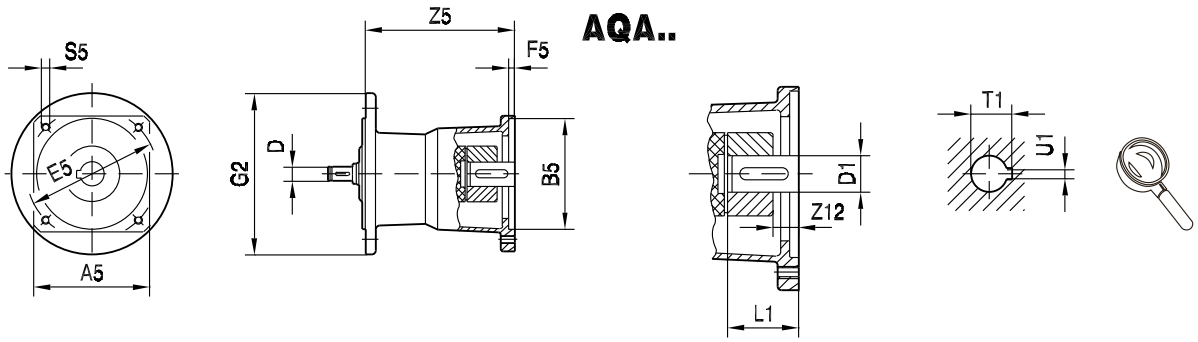
Gear unit type	Adapter type	Dimensions in mm													
		A5	B5	D	E5	F5	G2	S5	Z5	Z12[1]	Z12[2]	D1	L1	T1[1]	U1[1]
R..77 F..77 K..49, K..77 S..77	AQ..80/1	82	60	10 12	75	3	200	M5	92	5.5	5.5	11	23	12.8	4
	AQ..80/2											14	30	16.3	5
	AQ..80/3		50		95			M6							
	AQ..100/1	100	80	10 12 14 16	100	4			115.5	-	-				
	AQ..100/2		95		115			M8							
	AQ..100/3		80		100			M6	129.5	2	14	19	40	21.8	6
	AQ..100/4		95		115			M8							
	AQ..115/1	115			130				138.5	11	23				
	AQ..115/2		110							16	16	24	50	27.3	8
	AQ..115/3														
	AQ..140/1	140	130	16 18 22	165	5		M10	167						
	AQ..140/2											32	60	35.3	10
	AQ..140/3								180	22	22	28		31.3	8
	AQ..140/4											32		35.3	10
	AQ..160/1	162	155		190										
	AQ..190/1	190	130	22 28	215			M12	225.5	24	24			35.3	
	AQ..190/2		180												
	AQ..190/3								249.5	34	34	38	80	41.3	
R..87 F..87 K..87 S..87	AQ..100/1	100	80	12 14 16	100	4	250	M6	110.5	-	-	14	30	16.3	5
	AQ..100/2		95		115			M8							
	AQ..100/3		80		100			M6	124.5	2	14	19	40	21.8	6
	AQ..100/4		95		115			M8							
	AQ..115/1	115			130				133.5	11	23				
	AQ..115/2		110							16	16	24	50	27.3	8
	AQ..115/3														
	AQ..140/1	140	130	16 18 22	165	5		M10	162						
	AQ..140/2											32	60	35.3	10
	AQ..140/3								175	22	22	28		31.3	8
	AQ..140/4											32		35.3	10
	AQ..160/1	162	155		190										
	AQ..190/1	190	130	22 28	215			M12	220.5	24	24				
	AQ..190/2		180												
	AQ..190/3								244.5	34	34	38	80	41.3	

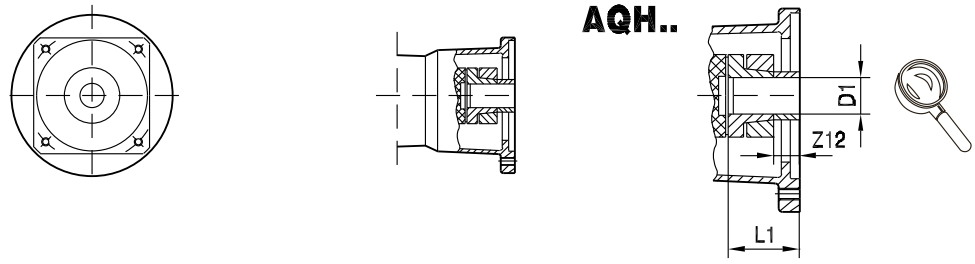
1) For designs with keyway (AQA..)

2) For designs with clamping ring hub (AQH..)

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Gear unit type	Adapter type	Dimensions in mm													
		A5	B5	D	E5	F5	G2	S5	Z5	Z12[1)]	Z12[2)]	D1	L1	T1[1)]	U1[1)]
R..97 F..97 K..97 S..97	AQ..140/1	140	110	16 18 22	165	5	300	M10	157	16	16	24	50	27.3	8
	AQ..140/2		130						170	22	22	32	60	35.3	10
	AQ..140/3											28		31.3	8
	AQ..140/4											32		35.3	10
	AQ..160/1	162	155		190										
	AQ..190/1	190	130	22 28	215			M12	215.5	24	24				
	AQ..190/2		180						239.5	34	34	38	80	41.3	
	AQ..190/3														
R..107 F..107 K..107	AQ..140/1	140	110	16 18 22	165		350	M10	151	16	16	24	50	27.3	8
	AQ..140/2		130						164	22	22	32	60	35.3	10
	AQ..140/3											28		31.3	8
	AQ..140/4											32		35.3	10
	AQ..160/1	162	155		190										
	AQ..190/1	190	130	22 28	215			M12	209.5	24	24				
	AQ..190/2		180						233.5	34	34	38	80	41.3	
	AQ..190/3														
R..137	AQ..190/1		130				400		202.5	24	24	32	60	35.3	
	AQ..190/2		180						226.5	34	34	38	80	41.3	
	AQ..190/3														
R..147 F..127 K..127	AQ..190/1		130				450		194.5	24	24	32	60	35.3	
	AQ..190/2		180						218.5	34	34	38	80	41.3	
	AQ..190/3														

1) For designs with keyway (AQA..)
2) For designs with clamping ring hub (AQH..)

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6.11 Gear unit mounting

Strength class of the screws

Always mount gearmotors using screws of strength class 8.8.

The gearmotors in flange-mounted design and in foot-/flange-mounted design listed in the following table are an exception. Always use screws of strength class 10.9 for these gearmotors. Use suitable washers.

Gear unit	Flange Ø in mm	Strength class of the screws
RF37/R37F	120	10.9
RF47/R47F	140	
RF57/R57F	160	
FF/FAF77/KF/KAF77	250	
RF147	450	
RF167	550	
RZ37 – RZ87	60ZR – 130ZR	

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6.12 Torque arms

6.12.1 Available torque arms



NOTICE

Danger due to static overdetermination if gear units with foot (e.g. KA19/29B, KA127/157B or FA127/157B) are mounted both via the torque arm and via the foot plate.

Risk of injuries and damage to property.

- Especially with the KA.9B/T design, it is not permitted to use the foot plates and the torque arm at the same time.
- Attach the KA.9B/T design only via the torque arm.
- Attach the K.9 or KA.9B design only via the foot plate.
- If you want to use foot plates and torque arms for mounting, contact SEW-EURODRIVE.

The following table lists the part numbers of available torque arms.

Gear unit	Size			
	19	29	39	49
KA, KH, KT	10684115	10684107	10682163	06442439

Gear unit	Size					
	27	37	47	57	67	77
KA, KH, KV, KT	-	6434258	6434282	6434312	6434312	6434347
SA, SH, ST	-	1269941	6442374	6442404	6442439	6442463
FA, FH, FV, FT Rubber buffer (2 pieces)	0133485	0133485	0133485	0133485	0133485	0133493

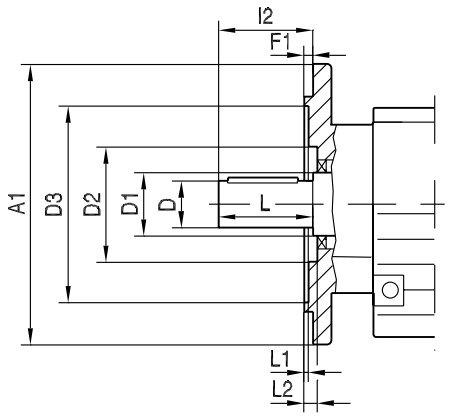
Gear unit	Size				
	87	97	107	127	157
KA, KH, KV, KT	6434371	6434401	6434436	6432948	-
SA, SH, ST	6442498	6442528	-	-	-
FA, FH, FV, FT Rubber buffer (2 pieces)	0133493	0133507	0133507	0133515	0133477

Gear unit	Size				
	10	20	30	37	47
WA, WH, WT	10610219	1680730	1680110	10611290	10611851

6.12.2 Torque arms for KH167.., KH187..

As standard, torque arms are not available for gear unit sizes KH167.. and KH187... Consult SEW-EURODRIVE if you need torque arms for these gear units.

6.13 Flange contours of RF.. and R..F gear units



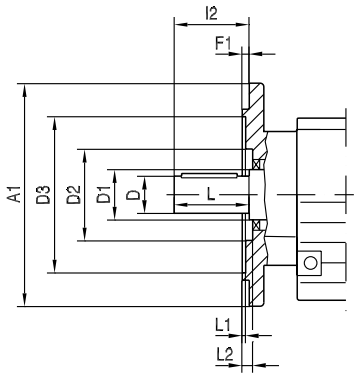
Check dimensions L1 and L2 for selection and installation of output elements.

Type	Dimensions in mm										
	A1	D	D1	D2		D3	F1	I2	L	L1		L2
				RF	R..F					RF	R..F	
RF07, R07F	120	20	22	38	38	72	3	40	40	2	2	6
	140[1)]				-	85					-	
	160[1)]					100	3.5			2.5	-	6.5
RF17, R17F	120		25	46	46	65	3			1	1	5
	140				-	78					-	
	160[1)]					95	3.5					6
RF27, R27F	120	25	30	54	54	66	3	50	50	1	1	6
	140				-	79				3	-	7
	160					92	3.5					
RF37, R37F	120		35	60	63	70	3			5	4	
	160				-	96	3.5			1	-	7.5
	200[1)]					119						
RF47, R47F	140	30		72	64	82	3	60	60	4	1	6
	160				-	96	3.5			0.5	-	6.5
	200					116						
RF57, R57F	160	35	40	76	75	96		70	70	4	2.5	5
	200				-	116				0	-	
	250[1)]					160	4			0.5		5.5
RF67, R67F	200		50	90	90	118	3.5			2	4	7
	250				-	160	4			1	-	7.5
RF77, R77F	250	40	52	112	100	160		80	80	0.5	2.5	7
	300[1)]				-	210					-	
RF87, R87F	300	50	62	123	122	210		100	100	0	1.5	8
	350				-	226	5			1	-	9
RF97		60	72	136		236		120	120	0		9
	450					320						
RF107	350	70	82	157		232		140	140			11
	450			186		316						
RF137		90	108	180		316		170	170			10
	550					416						
RF147	450	110	125	210		316		210	210			
RF167	550	120	145	290		416				1		
	660					517	6			2		11

1) The flange contour protrudes from under the base surface.

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6.14 Flange contours of FF.., KF.., SF.. and WF.. gear units



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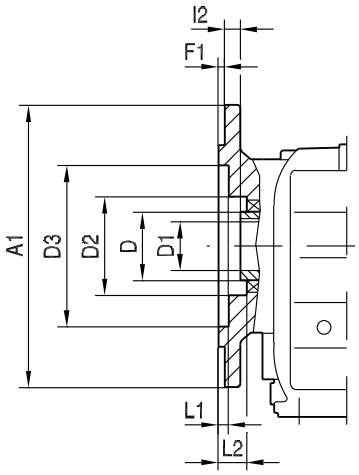
Check dimensions L1 and L2 for selection and installation of output elements.

Type	Dimensions in mm									
	A1	D	D1	D2	D3	F1	I2	L	L1	L2
FF27	160	25	40	66	96	3.5	50	50	3	18.5
FF37			30	70	94				2	6
FF47	200	30	40	72	115		60	60	3.5	7.5
FF57	250	35		84	155	4	70	70	4	9
FF67	250	40	50				80	80		
FF77	300	50	55	82	205		100	100	5	
FF87	350	60	65	115	220	5	120	120		
FF97	450	70	75	112	320		140	140	8	10
FF107		90	100	159	318		170	170	16	9
FF127	550	110	118	-	420		210	210	10	-
FF157	660	120	135	190	520	6			8	14
KF19	120	20	25	-	70	2.5	40	40	-	11.5
	160				100					
KF29		25	30		109	3.5	50	50		6.5
	200				115					
KF37	160			70	94				2	6
KF39		30	39	68	96		60	60	13.5	23.5
KF47	200		40	72	115				3.5	7.5
KF49		35	49	76	115		70	70	24.5	28
KF57	250	35	40	84	155	4	70	70	4	9
KF67		40	50				80	80		
KF77	300	50	55	82	205		100	100	5	
KF87	350	60	65	115	220	5	120	120		
KF97	450	70	75	112	320		140	140	8	10
KF107		90	100	159	318		170	170	16	9
KF127	550	110	118	-	420		210	210	10	-
KF157	660	120	135	190	520	6			8	14
SF37	120	20	25	-	68	3	40	40	6	-
	160	20		-	96	3.5			5.5	
SF47		25	30	70	94		50	50	2	6
SF57	200	30	40	72	115		60	60	3.5	7.5
SF67		35	45	-			70	70	8.5	-
SF77	250	45	55	108	160	4	90	90	8	9
SF87	350	60	65	130	220	5	120	120	6	10
SF97	450	70	75	150	320		140	140	8.5	
WF10	80	16	25	-	39	2.5	40	40	30	-
	120		25	39	74	3			5	30

Type	Dimensions in mm									
	A1	D	D1	D2	D3	F1	I2	L	L1	L2
WF20	110	20	30	44	53	-4	40	40	27	35
	120			-	45	2.5			37.5	-
WF30				48	63				18	27
	160								33	42
WF37	120			-	70				-	10.5
	160									25.5
WF47		30	35		92	3.5	10	60	6	-

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6.15 Flange contours of FAF.., KAF.., SAF.. and WAF.. gear units



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Check dimensions L1 and L2 for selection and installation of output elements.

Type	Dimensions in mm								
	A1	D	D1	D2	D3	F1	I2	L1	L2
FAF27	160	40	25	66	96	3.5	20	3	18.5
FAF37		45	30	62	94		24	2	30
FAF47	200	50	35	70	115		25	3.5	31.5
FAF57	250	55	40	76	155	4	23.5	4	31
FAF67							23		
FAF77	300	70	50	95	205		37	5	45
FAF87	350	85	60	120	220	5	30		39
FAF97	450	95	70	135	320		41.5	5.5	51
FAF107		118	90	224			41	16	52
FAF127	550	135	100	185	420		51	6	63
FAF157	660	155	120	200	520	6	60	10	74
KAF19	120	30	20	60	70	2.5	25	9	25.5
	160				100				
KAF29	160	40	25 / 30	-	105	3.5	33.5	-	6.5
	200			-	118				
KAF39	160	50	30 / 35	68	96		24.5	10	27
KAF37	160	45	30	62	94		24	2	30
KAF47	200	50	35	70	115		25	3.5	8.5
KAF49	200	55	35 / 40	76	115		32.5	16	34.5
KAF57	250	55	40	76	155	4	23.5	4	31
KAF67							23		
KAF77	300	70	50	95	205		37	5	45
KAF87	350	85	60	120	220	5	30		39
KAF97	450	95	70	135	320		41.5	5.5	51
KAF107		118	90	224			41	16	52
KAF127	550	135	100	185	420		51	6	63
KAF157	660	155	120	200	520	6	60	10	74
SAF37	120	35	20	-	68	3	15	6	-
	160				96	3.5		5.5	
SAF47		45	30 / 25	62	94		24	2	30
SAF57	200	50	35 / 30	70	115		25	3.5	31.5
SAF67		65	45 / 40	91			42.5	4	48.5
SAF77	250	80	60 / 50	112	164	4	45.5	5	53.5
SAF87	350	95	70 / 60	131	220	5	52.5	6	62.5

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Type	Dimensions in mm								
	A1	D	D1	D2	D3	F1	I2	L1	L2
SAF97	450	120	90 / 70	160	320	5	60	6.5	69
WAF10	80	25	16	-	39	2.5	23	30	-
	120			39	74	3		5	30
WAF20	110	30	18 / 20	44	53	-4	30	27	35
	120			-	45	2.5		37.5	-
WAF30			20	48	63		19.5	18	27
	160				63		34.5	33	42
WAF37	120	35	20 / 25	54	70		19.5	10.5	27
	160						34.5	25.5	42
WAF47		45	25 / 30	72	92	3.5	10	6	45

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6.16 Covers

6.16.1 Rotating cover

The following gear unit types with hollow shaft and shrink disk are equipped with a rotating cover as standard:

Gear unit type	Sizes
KH..	19 – 29 and 37 – 97
FH.., SH.., WH..	37 – 97

6.16.2 Fixed plastic cover

The following gear unit types with hollow shaft and shrink disk are equipped with a rotating plastic cover as standard:

Gear unit type	Sizes
FH..	27 and 107 – 157
KH..	107 – 157

Should you require a fixed plastic cover for other gear unit types or sizes, the part number required to order the cover can be found in the following chapter.

6.16.3 Fixed sheet metal cover

The following gear unit types with hollow shaft and shrink disk are equipped with a fixed sheet metal cover as standard:

Gear unit type	Sizes
KH..	167 and 187
FT.., KT.., ST.., WT.. (with TorqLOC® hollow shaft mounting system)	All available sizes
Explosion-proof gear units FH.., KH.., SH.., WH.. gear units	All available sizes

Should you require a fixed sheet metal cover for other gear unit types or sizes, the part number required to order the cover can be found in the following chapter.

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6.16.4 Maximum motor mounting sizes with fixed cover

In case of parallel-shaft helical gear units the size of the attached motor may be limited by the use of a fixed cover.

Fixed plastic cover

The following table shows the maximum possible motor mounting surface, depending in the gear unit size, for a fixed plastic cover:

Gear unit size	F..37	F..47	F..57	F..67	F..77	F..87	.F.97
Maximum possible motor mounting sizes	71M	80M	90L	112M	132L	160L	180L

Fixed sheet metal cover

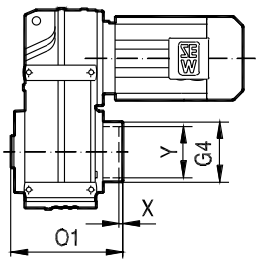
The following table shows the maximum possible motor mounting surface, depending in the gear unit size, for a fixed sheet metal cover:

Gear unit size	F..37	F..47	F..57	F..67	F..77	F..87	F..97
Maximum possible motor mounting sizes	71M	80M	80M	100L	132L	160L	180L

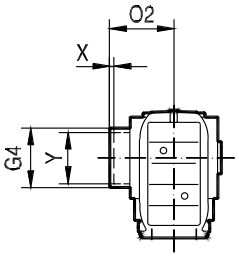
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6.16.5 Part numbers and dimensions for fixed plastic covers

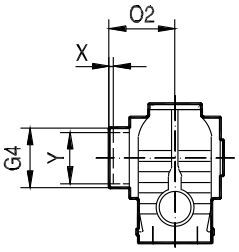
FH../FA..



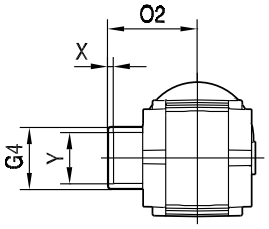
KH../KA..



SH../SA..



WH../WA..



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Parallel-shaft helical gearmotors	FH/FA ..37	FH/FA ..47	FH/FA ..57	FH/FA ..67	FH/FA ..77	FH/FA ..87	FH/FA ..97
Part number	6435130	6435149	6435157	6435157	6435165	6435173	6435181
G4 in mm	78	88	100	100	121	164	185
O1 in mm	157	188.5	207.5	221.5	255	295	363.5
X in mm	2	4.5	7.5	6	6	4	6.5
Y in mm	75	83	83	93	114	159	174

Helical-bevel gearmotors	KH/KA ..19	KH/KA ..29
Part number	1068415 8	1068416 6
G4 in mm	62	68
O2 in mm	83	90
X in mm	2	4
Y in mm	50	60

Helical-bevel gearmotors[1)]	KH/KA ..37	KH/KA ..47	KH/KA ..57	KH/KA ..67	KH/KA ..77	KH/KA ..87	KH/KA ..97
Part number	6435130	6435149	6435157	6435157	6435165	6435173	6435181
G4 in mm	78	88	100	100	121	164	185
O2 in mm	95	111.5	122.5	129	147	172	210.5
X in mm	0	1.5	5.5	3	1	2	4.5
Y in mm	75	83	83	93	114	159	174

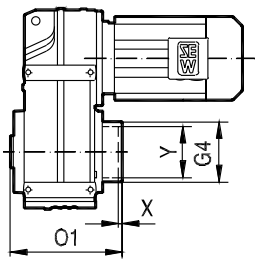
1) Not possible in foot-mounted helical-bevel gear units with hollow shafts (KH..B and KA..B).

Helical-worm gearmotors	SH/SA ..37	SH/SA ..47	SH/SA ..57	SH/SA ..67	SH/SA ..77	SH/SA .. 87	SH/SA ..97
Part number	6435122	6435130	6435149	6435157	6435165	6435173	6435181
G4 in mm	59	78	88	100	121	164	185
O2 in mm	88	95	111.5	123	147	176	204.5
X in mm	1	0	1.5	3	1	0	0.5
Y in mm	53	75	83	93	114	159	174

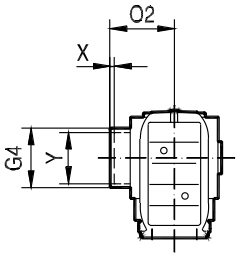
SPIROPLAN® gearmotors	WH/WA ..37	WH/WA ..47
Part number	1061136 3	10611940
G4 in mm	68	80.5
O2 in mm	95.5	109.5
X in mm	11	12.5
Y in mm	50	72

6.16.6 Part numbers and dimensions for fixed sheet metal covers

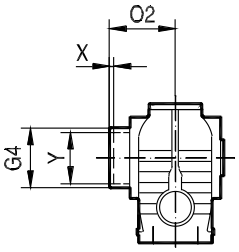
FT../FH../FA..



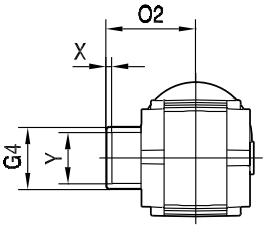
KT../KH../KA..



ST../SH../SA..



WT../WH../WA..



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Parallel-shaft helical gearmotors	FT/FH/FA ..37	FT/FH/FA ..47	FT/FH/FA ..57	FT/FH/FA ..67	FT/FH/FA ..77	FT/FH/FA ..87	FT/FH/FA ..97	FT/FH/FA ..107	FT/FH/FA ..127	FT/FH/FA 157
Part number	0643584X	06435858	06435866	06435866	06435874	06435882	06435890	06421814	06421822	06421830
G4 in mm	81	90	101	101	124	165	200	196	229	275
O1 in mm	166	199	222	236	285	322	382	421	502	605
X in mm	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Y in mm	78	87	98	98	121	162	197	193	226	272

Helical-bevel gear-motors	KH/KA ..19	KH/KA ..29	KT/KA ..39	KT/KA ..49
Part number	06442595	10631259	10682651	10682964
G4 in mm	62	68	86	97
O2 in mm	83	90	117.5	138
X in mm	1.5	1.5	1	1
Y in mm	80	87	84	95

Helical-bevel gear-motors[1)]	KT/KH/KA ..37	KT/KH/KA ..47	KT/KH/KA ..57	KT/KH/KA ..67	KT/KH/KA ..77	KT/KH/KA ..87	KT/KH/KA ..97	KT/KH/KA ..107	KT/KH/KA ..127	KT/KH/KA ..157
Part number	0643584X	06435858	06435866	06435866	06435874	06435882	06435890	06421814	06421822	06421879
G4 in mm	81	90	101	101	124	165	200	196	229	275
O2 in mm	104	122	137	143	177	229	382	246	297	375
X in mm	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Y in mm	78	87	98	98	121	162	197	193	226	272

1) Not possible in foot-mounted helical-bevel gear units with hollow shafts (KH..B and KA..B)

Helical-worm gear-motors	ST/SH/SA ..37	ST/SH/SA ..47	ST/SH/SA ..57	ST/SH/SA ..67	ST/SH/SA ..77	ST/SH/SA ..87	ST/SH/SA ..97
Part number	06444768	0643584X	06435858	06435866	06435874	06435882	06435882
G4 in mm	64	81	90	101	124	165	165
O2 in mm	98	104	122	137	177	203	223
X in mm	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Y in mm	61	78	87	98	121	162	162

SPIROPLAN® gear-motors	WT/WH/WA ..37	WT/WH/WA ..47
Part number	10611479	10611959
G4 in mm	67	78
O2 in mm	95.5	109
X in mm	1	1
Y in mm	64	76

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6.17 Condition monitoring: Oil aging sensor

6.17.1 Technical data of oil aging sensor

DUO10A diagnostic unit

DUO10A	Technical data		
Preset oil grades	OIL1	CLP mineral oil.	T_{max} = 100 °C
		Bio oil	T_{max} = 100 °C
	OIL2	CLP HC synthetic oil:	T_{max} = 130 °C
		CLP PAO oil	T_{max} = 130 °C
	OIL3	Polyglycol CLP PG	T_{max} = 130 °C
	OIL4	Food grade oil	T_{max} = 100 °C
Switch outputs	1: Early warning (time to next oil change can be set to between 2 and 100 days) 2: Main alarm (time to oil change 0 days) 3: Maximum temperature exceeded T_{max} 4: DUO10A is ready for operation		
Permitted oil temperature	-40 °C – +130 °C		
Permitted temperature sensor	PT1000		
EMC	IEC1000-4-2/3/4/6		
Ambient temperature	-25 °C – +70 °C		
Operating voltage	DC 18 – 28 V		
Current consumption for DC 24 V	< 90 mA		
Protection class	III		
Degree of protection	IP67 (optionally IP69K)		
Housing materials	Evaluation unit: V2A, EPDM/X, PBT, FPM Temperature sensor: V4A		
Electrical connection	Evaluation unit: M12 plug connector PT1000 temperature sensor: M12 plug connector		

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Designations and part numbers

Designation	Description	Part number
 DUO10A	Evaluation unit (basic unit)	13438751
DUO10A-PUR-M12-5m	5 m PUR cable with 1 connector	13438778
DUO10A-PVC-M12-5m	5 m PVC cable with 1 connector	13438786
DUO10A	Angle bracket	13438808
DUO10A D = 34	Mounting clamp	13438794
W4843 PT1000 	PT1000 temperature sensor	13438816
W4843_4x0,34-2m-PUR	2 m PUR cable for PT1000[1)]	13438824
W4843_4x0,34-2m-PVC	2 m PVC cable for PT1000[2)]	13438832
 DUO10A	Protection cap (for aseptic design, IP69K)	13439022

1) PUR cables are particularly suited for use in oil-contaminated environments.
2) PVC cables are particularly suited for use in moist environments.

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Mounting to standard gear units (R, F, K,S)

Adapter for mounting the PT1000 temperature sensor in screw plug holes:

Complete adapter for PT1000 sensor	Part number
M10 × 1	13439030
M12 × 1.5	13439049
M22 × 1.5	13439057
M33 × 2	13439065
M42 × 2	13439073

Mounting base for installing the diagnostic unit at the gear unit with an angle bracket:

Mounting base with sealing ring	Part number
M10 × 1	13434411
M12 × 1.5	13438271
M22 × 1.5	13438298
M33 × 2	13438301
M42 × 2	13438328

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7 Important information on selection tables and dimension drawings

7.1 Possible geometrical combinations

7.1.1 Structure of the combination tables

INFORMATION

DRN.. and EDRN.. motors have the same possible geometrical combinations. For a simplified display, only "DRN.." is used in the combination tables.

These tables show geometrically possible combinations of single-speed gear units and AC (brake) motors. Contact SEW-EURODRIVE for information on pole-changing AC (brake) motors.

For each combination, the input speed n_e = 1700 min^{-1} and the output speed n_a, the maximum output torque M_{amax}, the permitted overhung load F_{RA} at maximum output torque (valid for foot-mounted gear units with solid shaft), the torsion angle φ (/R) and the gear unit ratio are specified.

If no value is specified for the torsion angle $\varphi_{(/R)}$, the gear unit with this gear unit ratio is not available with "reduced backlash (/R)" option. If a numerical value is given, this gear unit is also available with "reduced backlash (/R)" option. The numerical value specifies the rotational clearance of the reduced backlash version in angular minutes '.

R77, n_e=1700 min^{-1}											820Nm
n_a min^{-1}	M_{amax} Nm	F_{Ra} [1] N	$\varphi_{(/R)}$ ´	i	DR63S DR63M ...	DRN80M DRN90S	DRN90L	DRN100LS DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M ...
				3							
8.7	820	9920	6.4	195.24*							
10	820	9920	6.5	166.59							

Gear unit ratio; a value marked with * represents a finite gear unit ratio.

Not specified (-): For this i, the option reduced backlash (/R) is not possible.
Numerical value given: The option reduced backlash is possible. The numerical value defines the rotational clearance of the version with reduced backlash in angular minutes.

Permitted overhung load at maximum output torque M_{amax}

Maximum output torque of the gear unit

Output speed

[1] The value is based on foot-mounted gear units with solid shaft.

Combination with the motor listed in the header **is possible**.

Combination with the motor listed in the header **is not possible**.

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2 Number of stages of the gear ratios (1, 2 or 3 stages). Helical gear units (R) – with the exception of the single-stage RX gear units – and parallel-shaft helical gear units (F) have 2 or 3 stages, depending on the gear unit ratio.

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RX helical, helical-bevel, helical-worm and SPIROPLAN® gear units (RX, K, S, and W) have a defined number of stages:

- RX helical gear units: RX.. always single-stage
- Helical-bevel gear unit: K..7 always 3-stage, K..9 always 2-stage
- Helical-worm gear units: always 2-stage
- SPIROPLAN® gear units: W..10 to W..30 always single-stage, W..37 and W..47 always 2-stage



Stages of the compound gear unit ratios (2-2, 3-3, 2-3 or 3-2 stages). The number of stages of the primary gear unit (= small gear unit) is given on the right; the number of stages of the output gear unit (= large gear unit) is given on the left. The primary gear unit of the compound gear unit is always a helical gear unit.

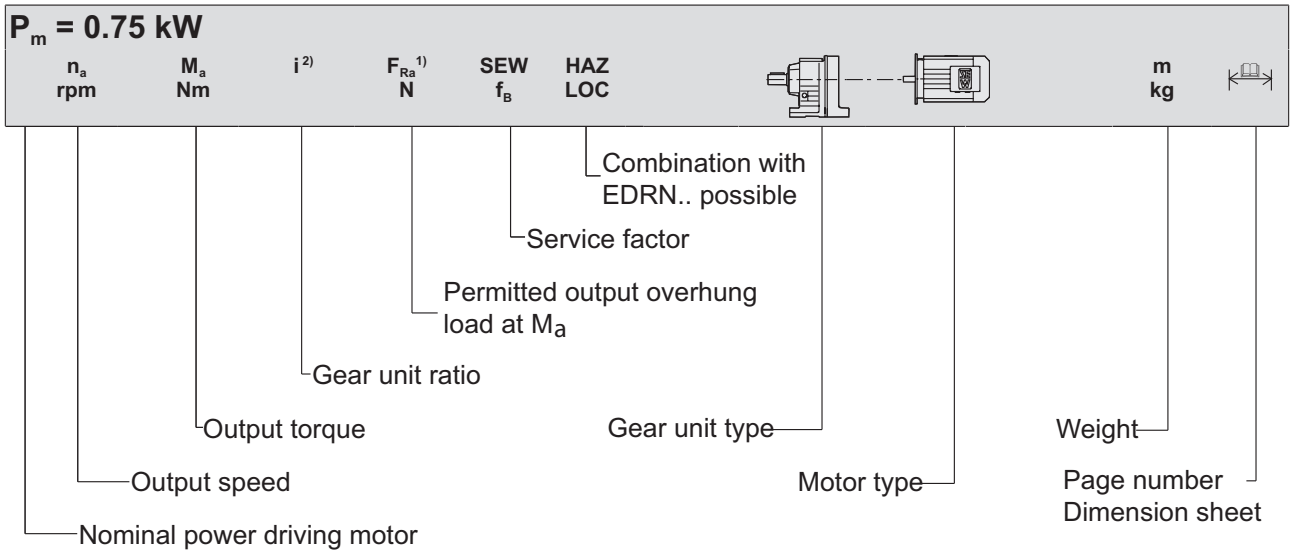
7.2 Selection tables for gearmotors

7.2.1 Structure of the selection tables

The following figure shows the structure of the selection tables that are sorted by the rated power P_m of the driving motor.

INFORMATION

The motor power is specified in Kilowatts. Refer to the chapter "Technical data of the motors" (→ 🗎 776) for the power ratings in horsepower (hp).



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[1] Overhung load for foot-mounted gear units with solid shaft; overhung loads for other design types upon request.

[2] A value marked with * indicates finite gear unit ratio.

INFORMATION

Only applies to SPIROPLAN® (W) gearmotors:

If a lubricant is used for the food industry (food grade), a service factor SEW $f_B \geq 1.2$ required.

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INFORMATION

In drives for particularly low output speeds (compound gearmotors), the motor power must be limited to the maximum permitted output torque of the gear unit.

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7.3 Dimension sheet information

7.3.1 Motor designations

INFORMATION

DRN.. and EDRN.. motors of the same size have the same dimensions. For a simplified display, only "DRN.." is used in the dimension tables.

7.3.2 Inch output shafts

The dimensions for the output shafts in the dimension sheets are metric. Contact your SEW-EURODRIVE sales representative if you require output shaft dimensions in inch.

7.3.3 Symbols for scope of delivery

Standard parts supplied by SEW-EURODRIVE.

Standard parts not supplied by SEW-EURODRIVE.

7.3.4 Tolerances

Shaft heights

The following tolerances apply to the indicated dimensions:

h	≤ 250 mm	→ -0.5 mm
h	> 250 mm	→ -1 mm

Foot-mounted gear units: Check the mounted motor because it may project below the mounting surface.

Shaft ends

Diameter tolerance:

Ø	≤ 50 mm	→ ISO k6
Ø	> 50 mm	→ ISO m6

Centering bores according to DIN 332, shape DR:

Ø	= 7 – 10 mm	→ M3	Ø	> 30 – 38 mm	→ M12
Ø	> 10 – 13 mm	→ M4	Ø	> 38 – 50 mm	→ M16
Ø	> 13 – 16 mm	→ M5	Ø	> 50 – 85 mm	→ M20
Ø	> 16 – 21 mm	→ M6	Ø	> 85 – 130 mm	→ M24
Ø	> 21 – 24 mm	→ M8	Ø	> 130 mm	→ M30
Ø	> 24 – 30 mm	→ M10			

Keys: according to DIN 6885 (domed type)

Keyway width to ISO N9

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Hollow shafts

Diameter tolerance:

Ø → ISO H7 measured with plug gauge

Keys: according to DIN 6885 (domed type)

Exception: Key for WA.37 with shaft Ø 25 mm and for KA.29 with shaft Ø 30 mm according to DIN 6885-3 (low form)

Keyway width to ISO JS9

Multiple-spline shafts

D_m Measuring roller diameter

M_e Check size

Flanges

Centering shoulder tolerance:

Ø ≤ 230 mm (flange sizes A120 – A300) → ISO j6

Ø > 230 mm (flange sizes A350 – A660) → ISO h6

Up to 3 different flange dimensions are available for each size of helical gear unit, SPIROPLAN® gear unit, AC (brake) motor and explosion-proof AC (brake) motor. The mountable flange for each size can be found in the respective dimension sheets.

7.3.5 Eyebolts, lifting eyes

R07...R27 helical gear units, motors up to DR100 and SPIROPLAN® gearmotors W..10 to W..30 are delivered without special transportation fixtures. All other gear units and motors are equipped with cast-on lifting eyes, screw-on lifting eyes, or screw-on eyebolts.

Gear unit/motor type	Screw-on		Cast-on
	Eyebolts	Lifting eyes	Lifting eyes
R..37 – R..57	—	X	—
R..67 – R..167	X	—	—
RX57 – RX67	—	X	—
RX77 – RX107	X	—	—
F..27 – F..157	—	—	X
K..19 – K..49	—	X	—
K..37 – K..157	—	—	X
K..167 – K..187	X	—	—
S..37 – S..47	—	X	—
S..57 – S..97	—	—	X
W..37 – W..47	—	X	—
≥ DRN100L	X	—	—

Key: —not available, X available

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7.3.6 Breather valves

The gear unit dimension drawings always show the screw plugs. The corresponding screw plug is replaced by an activated breather valve at the factory depending on the ordered mounting position M1 to M6. The result may be slightly altered contour dimensions.

7.3.7 Shrink disk connection

In order to non-positively transfer the torques stated in the catalog in case of gear units with hollow shaft and shrink disk connection, observe the following peripheral conditions in addition to the information on the respective dimension sheet when dimensioning the customer shaft:

- Surface roughness Rz ≤ 16 µm
- Elastic limit of the customer shaft material R_e and/or $Rp_{0.2}$ ≥ 305 N/mm²
- Design of the customer shaft as solid shaft

For customer shaft designs as hollow shaft, contact SEW-EURODRIVE.

7.3.8 Splined hollow shaft

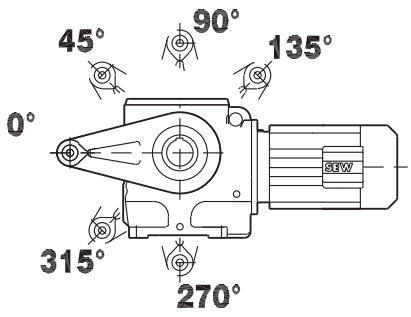
FV.. hollow shaft gear unit sizes 27 to 107, and KV.. sizes 37 to 107 are supplied with splining according to standard 5480.

7.3.9 Rubber buffer for FA/FH/FV/FT

The depictions on the dimension sheets show the rubber buffers for FA/FH/FV/FT gear units in loose state. Preload rubber buffer by the indicated value ΔL. The characteristic curve of spring for the rubber buffer is available upon request from SEW-EURODRIVE.

7.3.10 Position of the torque arm

The following illustration shows the possible torque arm positions for helical-worm gear units, the 2-stage K..9 helical-bevel gear units, and SPIROPLAN® gear units (135° position not possible with SPIROPLAN® gear units) as well as the respective angles:



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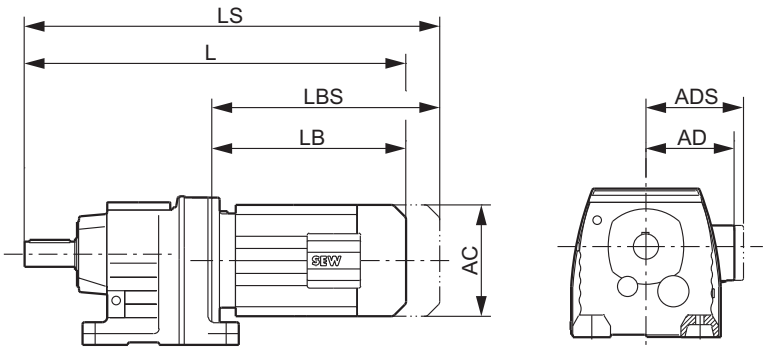
For more information about torque arms, refer to the respective dimension sheets of the gearmotors:

Gearmotor	Dimension sheets on page
Helical-bevel gearmotors	(→ 🗎 550)

Gearmotor	Dimension sheets on page
Helical-worm gearmotors	(→ 🗎 675)
SPIROPLAN® gearmotors	(→ 🗎 755)

7.3.11 Gearmotor dimension drawings

The dimension drawings of the gearmotors are described below:



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L	Total length of gearmotor
LS	Total length of gearmotor including brake
LB	Length of motor
LBS	Length of brakemotor
AC	Diameter of motor
AD	Center of motor shaft to top part of terminal box
ADS	Center of brakemotor shaft to top part of terminal box

7.3.12 Motor options

The motor dimensions may change when installing motor options. Refer to the dimension drawings of the motor options in the "AC Motors" catalog.

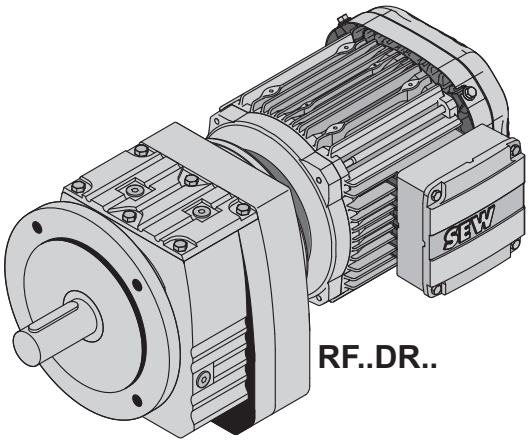
7.3.13 Special designs

The terminal box dimensions in special designs might vary from the standard.

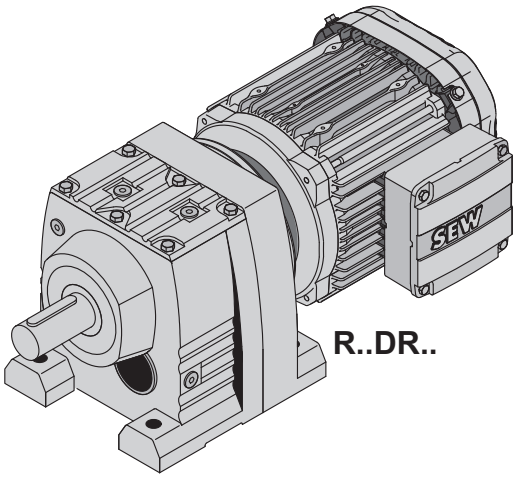
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8 Helical gearmotors

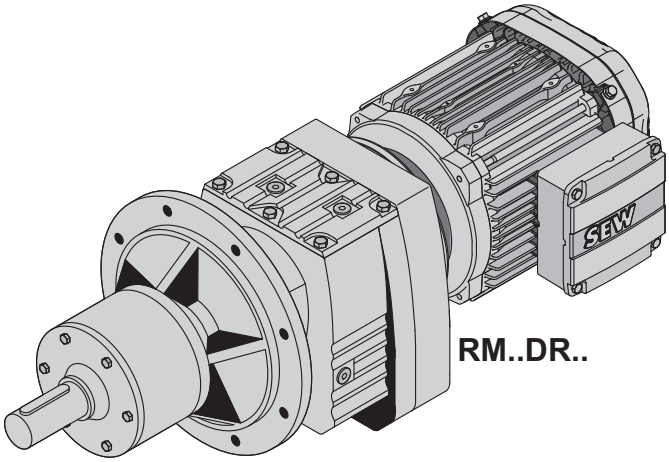
8.1 R..DRN.. designs



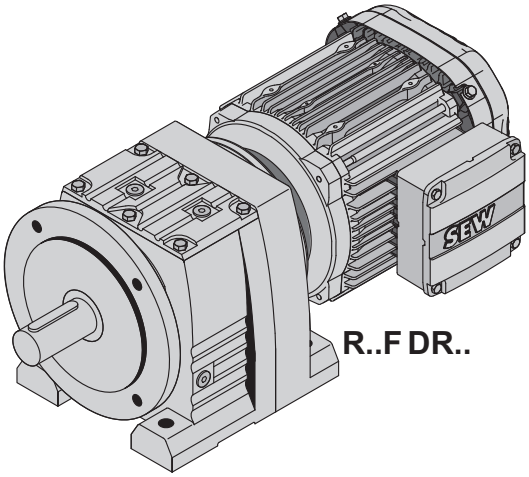
RF..DR..



R..DR..



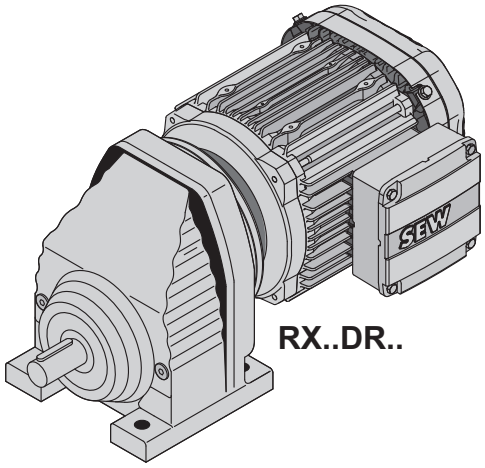
RM..DR..



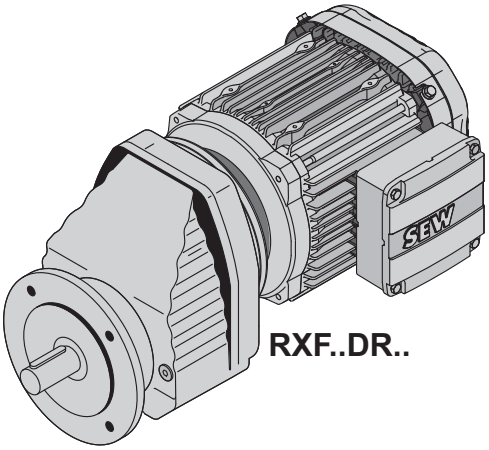
R..F DR..

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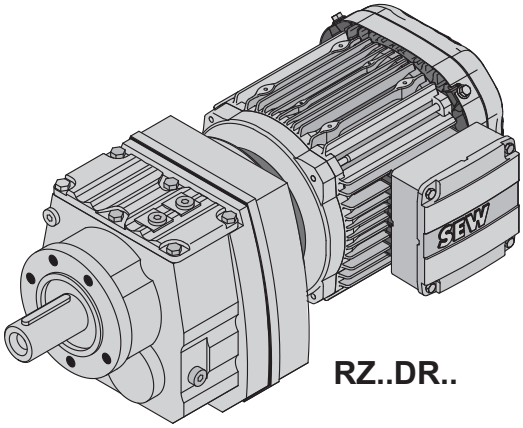
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RX..DR..



RXF..DR..



RZ..DR..

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8.2 Possible geometrical combinations of R..DRN..

RX57, n_e=1700 min^{-1} — **69 Nm**

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
						1				
309	39	2890	-	5.50*						
335	36	2820	-	5.07						
391	68	2440	-	4.35						
449	69	2300	-	3.79						
479	69	2230	-	3.55*						
541	65	2140	-	3.14						
584	67	1800	-	2.91						
644	69	1450	-	2.64*						
717	69	1150	-	2.37						
833	69	740	-	2.04						
885	69	560	-	1.92*						
1030	69	121	-	1.65						
1150	68	-	-	1.48						
1310	63	-	-	1.30						

RX67, n_e=1700 min^{-1} — **134 Nm**

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
						1				
280	43	3740	-	6.07						
328	75	3320	-	5.18						
375	82	3110	-	4.53						
395	80	3060	-	4.30*						
451	87	2860	-	3.77						
531	100	2580	-	3.20*						
588	106	2430	-	2.89						
669	118	1520	-	2.54						
708	123	1060	-	2.40*						
833	134	-	-	2.04						
914	126	-	-	1.86						
1055	114	-	-	1.61						
1215	104	-	-	1.40*						

RX77, n_e=1700 min^{-1} — **215 Nm**

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
						1					
212	57	5920	-	8.00*							
228	53	5800	-	7.47							
265	103	5220	-	6.41							
302	110	4930	-	5.63							

RX77, n_e=1700 min^{-1} — 215 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
318	103	4870	-	5.35*							
359	123	4540	-	4.73							
421	143	4150	-	4.04*							
459	153	3950	-	3.70							
523	182	2530	-	3.25*							
552	193	1890	-	3.08*							
630	215	460	-	2.70							
700	215	-	-	2.43							
798	200	-	-	2.13							
904	187	-	-	1.88*							
1020	173	-	-	1.67							
1195	155	-	-	1.42							

RX87, n_e=1700 min^{-1} — 405 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L
								1					
197	139	7360	-	8.65									
223	149	6980	-	7.63									
236	140	6880	-	7.20*									
264	192	6380	-	6.45									
306	225	5870	-	5.56*									
335	250	5540	-	5.07									
378	290	5090	-	4.50*									
450	305	4640	-	3.78									
489	405	1960	-	3.48									
550	405	1210	-	3.09									
616	405	405	-	2.76*									
685	405	-	-	2.48									
791	385	-	-	2.15									
881	355	-	-	1.93									
1060	315	-	-	1.60*									
1225	290	-	-	1.39									

RX97, n_e=1700 min^{-1} — 595 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S
								1					
207	225	8920	-	8.23									
237	260	8340	-	7.16*									
259	300	7910	-	6.56									
294	420	7070	-	5.79									
346	395	6690	-	4.91									
376	595	5180	-	4.52									
421	595	4330	-	4.04									
467	595	3530	-	3.64*									
515	595	2760	-	3.30									

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RX97, n_e=1700 min^{-1} — 595 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S
582	595	1880	-	2.92									
644	595	1050	-	2.64									
759	595	-	-	2.24*									
867	570	-	-	1.96									
1035	505	-	-	1.64									
1195	455	-	-	1.42									

RX107, n_e=1700 min^{-1} — 830 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M
 1										
256	460	8940	-	6.63*						
303	455	8360	-	5.61						
328	695	7120	-	5.19						
366	695	6740	-	4.65						
405	830	4850	-	4.20*						
446	830	4010	-	3.81						
503	830	2990	-	3.38						
554	830	2130	-	3.07						
644	830	745	-	2.64*						
739	830	-	-	2.30						
872	765	-	-	1.95						
994	705	-	-	1.71						
1180	645	-	-	1.44						

R07, n_e=1700 min^{-1} — 50 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DT56M DT56L DR63S DR63M DR63L DRS71S DRS71M
 3					
22	50	1510	-	78.24	
24	50	1510	-	71.47	
28	50	1500	-	60.32	
33	50	1400	-	51.52	
36	50	1360	-	47.78	
38	50	1310	-	44.16	
41	50	1270	-	41.31	
42	50	1260	-	40.34	
44	50	1230	-	38.51	
50	50	1170	-	34.05	
58	50	1090	-	29.08	
63	50	1050	-	26.97	
73	50	990	-	23.32	
78	50	960	-	21.73	
 2					
93	50	880	-	18.31	

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R07, n_e=1700 min^{-1}					50 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DT56M DT56L DR63S DR63M DR63L DRS71S DRS71M
102	50	840	-	16.73	
120	50	775	-	14.12	
141	50	720	-	12.06	
152	50	690	-	11.18	
176	50	640	-	9.67	
189	50	615	-	9.01	
217	49	580	-	7.85	
227	43	470	-	7.48	
249	43	415	-	6.83	
295	40	415	-	5.76	
346	37	425	-	4.92	
372	36	415	-	4.57	
430	34	405	-	3.95	
462	33	405	-	3.68	
530	31	400	-	3.21	

R17, n_e=1700 min^{-1}						85 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
				 3		
21	85	1770	-	81.64		
24	85	1770	-	70.39		
26	85	1770	-	65.61		
30	85	1770	-	57.35		
32	85	1770	-	53.76		
36	85	1770	-	47.44		
38	85	1770	-	44.18		
44	85	1770	-	38.61		
47	85	1770	-	36.20		
53	85	1720	-	31.94		
60	85	1620	-	28.32		
71	85	1510	-	24.07		
				 2		
67	85	1540	-	25.23		
73	85	1480	-	23.15		
86	85	1370	-	19.71		
100	85	1270	-	16.99		
107	85	1230	-	15.84		
123	85	1150	-	13.84		
131	85	1110	-	12.98		
148	81	1070	-	11.45		
167	77	1030	-	10.15		
197	72	990	-	8.63		
225	56	940	-	7.55		
241	55	920	-	7.04		

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R17, n_e=1700 min^{-1}						85 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
276	54	860	-	6.15		
295	53	840	-	5.76		
334	51	810	-	5.09		
377	48	785	-	4.51		
444	45	750	-	3.83		

R27, n_e=1700 min^{-1}								130 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
					3			
13	130	4230	-	135.09				
14	130	4230	-	123.91				
16	130	4230	-	105.49				
19	130	4230	-	90.96				
20	130	4190	-	84.78				
23	130	3980	-	74.11				
24	130	3880	-	69.47				
28	130	3700	-	61.30				
30	130	3560	-	55.87				
35	130	3360	-	48.17				
38	130	3270	-	44.90				
43	130	3100	-	39.25				
46	130	3020	-	36.79				
52	130	2870	-	32.47				
59	130	2730	-	28.78				
69	130	2550	-	24.47				
					2			
60	130	2710	-	28.37				
65	130	2620	-	26.09				
76	130	2460	-	22.32				
88	130	2310	-	19.35				
94	130	2250	-	18.08				
109	130	2110	-	15.63				
128	130	1820	-	13.28*				
143	129	1650	-	11.86				
168	122	1570	-	10.13				
181	122	590	-	9.41				
208	116	575	-	8.16				
223	112	610	-	7.63*				
258	106	605	-	6.59				
304	99	620	-	5.60*				
340	95	605	-	5.00*				
398	87	680	-	4.27				
425	85	670	-	4.00*				
504	79	675	-	3.37				

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R27R17, n_e=1700 min^{-1}						130 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
					3 3	
0.20	130	4230	-	8612		
0.23	130	3320	-	7425		
0.25	130	4230	-	6921		
0.28	130	4230	-	6050		
0.33	130	3320	-	5217		
0.36	130	4230	-	4661		
0.42	130	3320	-	4073		
0.48	130	4230	-	3516		
0.54	130	4230	-	3160		
0.62	130	4230	-	2763		
0.70	130	4230	-	2414		
0.81	130	4230	-	2110		
0.91	130	4230	-	1862		
1.0	130	3320	-	1625		
1.2	130	4230	-	1434		
1.4	130	4230	-	1254		
					2 3	
0.93	130	4230	-	1822		
1.1	130	4230	-	1580		
1.2	130	4230	-	1464		
1.3	130	4230	-	1270		
1.5	130	4230	-	1100		
1.7	130	4230	-	972		
2.0	130	4230	-	840		
2.3	130	4230	-	741		
2.6	130	4230	-	654		
3.0	130	4230	-	566		
3.4	130	4230	-	499		
					3 2	
1.5	130	4230	-	1101		
1.8	130	4230	-	962		
2.0	130	3320	-	848		
2.3	130	3320	-	743		
2.6	130	4230	-	649		
3.0	130	4230	-	567		
3.3	130	4230	-	509		
3.9	130	4230	-	432		
4.4	130	4230	-	387		
5.0	130	3320	-	339		
5.7	130	3320	-	296		
6.6	130	4230	-	259		
7.4	130	4230	-	229		
8.5	130	4230	-	200		
9.6	130	3320	-	177		
10	130	4230	-	166		
11	130	4230	-	150		
12	130	4230	-	141		
14	130	3320	-	124		

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R27R17, n_e=1700 min^{-1}						130 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
15	130	4230	-	110		
18	130	4230	-	94		
					2 2	
3.9	130	4230	-	440		
4.5	130	4230	-	381		
5.2	130	4230	-	329		
5.9	130	4230	-	290		
6.6	130	4230	-	256		
7.5	130	4230	-	227		
8.4	130	4230	-	203		
9.5	130	4230	-	179		
11	130	4230	-	156		
13	130	4230	-	135		
14	130	4230	-	118		
16	130	4230	-	104		
19	130	4230	-	90		

R37, n_e=1700 min^{-1}								200 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
						3		
13	200	4940	7.9	134.82				
14	200	4940	8	123.66				
16	200	4940	8	105.28				
19	200	4940	8	90.77				
20	200	4940	8	84.61				
23	200	4940	8	73.96				
25	200	4940	8	69.33				
28	200	4940	8.1	61.18				
30	200	4940	8.7	55.76				
35	200	4800	8.7	48.08				
38	200	4550	8.8	44.81				
43	200	4100	8.8	39.17				
46	200	3900	8.9	36.72				
52	200	3510	8.9	32.40				
59	200	3150	9	28.73				
70	200	2680	9	24.42				
						2		
60	200	3100	7.3	28.32				
65	185	3290	7.4	26.03				
76	200	2430	7.4	22.27				
88	200	2060	7.5	19.31				
94	200	1880	7.5	18.05				
109	200	1530	7.7	15.60				
128	190	1430	7.9	13.25				
144	183	1380	8	11.83				

R37, n_e=1700 min^{-1}								200 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
168	170	1410	8.1	10.11				
180	167	1360	8.2	9.47				
213	156	1330	8.4	7.97				
255	144	640	12.1	6.67				
300	142	420	12.4	5.67				
336	135	460	12.7	5.06				
394	126	505	13	4.32				
420	122	540	13.2	4.05				
499	112	615	13.7	3.41				

R37R17, n_e=1700 min^{-1}						200 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
				3 3		
0.20	200	4940	-	8595		
0.23	200	4940	-	7411		
0.25	200	4940	-	6907		
0.28	200	4940	-	6038		
0.33	200	4940	-	5206		
0.37	200	4940	-	4651		
0.42	200	4940	-	4065		
0.46	200	4940	-	3658		
0.54	200	4940	-	3154		
0.62	200	4940	-	2757		
0.71	200	4940	-	2409		
0.81	200	4940	-	2106		
0.92	200	4940	-	1856		
1.0	200	4940	-	1622		
1.2	200	4940	-	1431		
1.4	200	4940	-	1251		
				2 3		
0.94	200	4940	-	1818		
1.1	200	4940	-	1576		
1.3	200	4940	-	1359		
1.3	200	4940	-	1267		
1.5	200	4940	-	1098		
1.8	200	4940	-	970		
2.0	200	4940	-	839		
2.3	200	4940	-	740		
2.6	200	4940	-	653		
2.9	200	4940	-	577		
3.4	200	4940	-	498		
				3 2		
1.5	200	4940	-	1099		
1.8	200	4940	-	960		
2.0	200	4940	-	847		

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R37R17, n_e=1700 min^{-1}						200 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
2.3	200	4940	-	741		
2.6	200	4940	-	647		
3.0	200	4940	-	566		
3.3	200	4940	-	508		
3.9	200	4940	-	431		
4.4	200	4940	-	387		
5.0	200	4940	-	338		
5.7	200	4940	-	296		
6.6	200	4940	-	259		
7.5	200	4940	-	228		
8.5	200	4940	-	199		
9.9	200	4940	-	172		
11	200	4940	-	150		
13	200	4940	-	130		
14	200	4940	-	124		
15	200	4940	-	110		
18	200	4940	-	94		
					2 2	
3.9	200	4940	-	439		
4.5	200	4940	-	378		
5.2	200	4940	-	328		
5.9	200	4940	-	289		
6.4	200	4940	-	265		
7.5	200	4940	-	226		
8.4	200	4940	-	202		
9.5	200	4940	-	179		
11	200	4940	-	156		
13	200	4940	-	135		
13	200	4940	-	127		
16	200	4940	-	104		
19	200	4940	-	90		

R47, n_e=1700 min^{-1}										300 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S
						3				
9.6	300	5420	6.9	176.88						
10	300	5420	6.9	162.94						
12	300	5420	6.9	139.99						
14	300	5420	6.9	121.87						
15	300	5420	6.9	114.17						
17	300	5420	7	100.86						
18	300	5420	7	93.68						
20	300	5420	7	84.90						
22	300	5420	7	76.23						
25	300	5420	7.6	68.54						
26	300	5360	7.6	64.21						

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R47, n_e=1700 min^{-1}										300 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S
30	300	5100	7.6	56.73						
32	300	4950	7.6	52.69						
36	300	4760	7.7	47.75						
40	300	4550	7.7	42.87						
46	300	4270	7.7	36.93						
49	300	4170	7.7	34.73						
57	300	3910	7.8	29.88						
64	300	3720	7.9	26.70						
72	300	3440	8	23.59						
 2										
50	240	4340	6.5	33.79						
55	220	4270	6.5	31.12						
64	300	3730	6.6	26.74						
73	300	3390	6.6	23.28						
78	300	3160	6.7	21.81						
88	295	2860	6.8	19.27						
95	290	2730	6.8	17.89						
105	275	2780	6.9	16.22						
117	265	2690	7	14.56						
136	250	2620	7.1	12.54						
144	245	2560	7.1	11.79						
167	230	2510	7.3	10.15						
187	220	2450	7.7	9.07						
212	205	2480	7.8	8.01						
219	163	2500	9.5	7.76*						
244	159	2410	9.7	6.96						
283	156	2270	9.9	6.00						
301	155	2220	10	5.64*						
351	150	2100	10.3	4.85						
392	146	2010	11.1	4.34						
444	144	1920	11.4	3.83						

R47R37, n_e=1700 min^{-1}								300 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
 3  3								
0.13	300	5420	-	13598				
0.14	300	5420	-	12472				
0.16	300	5420	-	10619				
0.19	300	5420	-	9155				
0.20	300	5420	-	8534				
0.23	300	5420	-	7460				
0.24	300	5420	-	6993				
0.28	300	5420	-	6171				
0.30	300	5420	-	5624				
0.35	300	5420	-	4849				
0.38	300	5420	-	4520				

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R47R37, n_e=1700 min^{-1}								300 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
0.43	300	5420	-	3951				
0.46	300	5420	-	3704				
0.52	300	5420	-	3268				
0.59	300	5420	-	2898				
0.69	300	5420	-	2463				
								
0.65	300	5420	-	2598				
0.71	300	5420	-	2383				
0.84	300	5420	-	2029				
0.97	300	5420	-	1749				
1.0	300	5420	-	1630				
1.2	300	5420	-	1425				
1.3	300	5420	-	1336*				
1.4	300	5420	-	1179				
1.6	300	5420	-	1074				
1.8	300	5420	-	927				
2.0	300	5420	-	863				
2.3	300	5420	-	755				
2.4	300	5420	-	708				
2.7	300	5420	-	624				
3.1	300	5420	-	554				
3.6	300	5420	-	471				
								
0.60	300	5420	-	2856				
0.65	300	5420	-	2625				
0.76	300	5420	-	2246				
0.87	300	5420	-	1948				
0.93	300	5420	-	1821				
1.1	300	5420	-	1573				
1.4	300	5420	-	1193				
1.7	300	5420	-	1020				
1.8	300	5420	-	955				
2.1	300	5420	-	804				
2.5	300	5420	-	673				
3.0	300	5420	-	572				
3.3	300	5420	-	510				
3.9	300	5420	-	436				
4.2	300	5420	-	408				
4.9	300	5420	-	344				
								
3.1	300	5420	-	546				
3.4	300	5420	-	502				
4.0	300	5420	-	429				
4.6	300	5420	-	372				
4.9	300	5420	-	348				
5.6	300	5420	-	301				
6.7	300	5420	-	255				
7.5	300	5420	-	228				
8.7	300	5420	-	195				

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R47R37, n_e=1700 min^{-1}								300 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
9.3	300	5420	-	182				
11	300	5420	-	154				
13	300	5420	-	129				
16	300	5420	-	109				
17	300	5420	-	98				

R57, n_e=1700 min^{-1}										450 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
						3				
9.1	450	7100	6.9	186.89						
9.9	450	7100	6.9	172.17						
11	450	7100	6.9	147.92						
13	450	7100	6.9	128.77						
14	450	7100	6.9	120.63						
16	450	7100	7	106.58						
17	450	7100	7	98.99						
19	450	7100	7	89.71						
21	450	7040	7	80.55						
25	450	6620	7.5	69.23						
26	450	6440	7.5	64.85						
30	450	6120	7.6	57.29						
32	450	5930	7.6	53.22						
35	450	5680	7.6	48.23						
39	450	5430	7.6	43.30						
46	450	5080	7.6	37.30*						
48	450	4950	7.7	35.07						
56	450	4630	7.7	30.18						
63	450	4400	7.8	26.97						
						2				
65	450	4350	6.4	26.31						
68	450	4250	6.5	24.99*						
78	450	4000	6.6	21.93						
91	450	3700	6.7	18.60*						
101	450	3310	6.7	16.79						
115	435	3100	6.8	14.77*						
122	430	2980	6.8	13.95*						
143	405	2870	6.9	11.88						
158	390	2820	7.2	10.79						
182	370	2730	7.4	9.35						
188	375	1370	8.7	9.06						
213	355	1400	8.8	7.97						
226	350	1340	8.8	7.53						
265	335	1200	9	6.41						
292	320	1260	9.6	5.82						
337	305	1200	9.9	5.05						
387	280	1400	10.1	4.39						

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R57R37, n_e=1700 min^{-1}								450 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
					3 3			
0.12	450	7100	-	14369				
0.14	450	7100	-	12095				
0.16	450	7100	-	10860				
0.18	450	7100	-	9445				
0.20	450	7100	-	8480				
0.23	450	7100	-	7312				
0.26	450	7100	-	6521				
0.30	450	7100	-	5585				
0.34	450	7100	-	4928				
0.39	450	7100	-	4378				
0.44	450	7100	-	3873				
0.51	450	7100	-	3344				
0.58	450	7100	-	2907				
0.66	450	7100	-	2567				
0.76	450	7100	-	2244				
0.86	450	7100	-	1967				
					2 3			
0.57	450	7100	-	2957				
0.68	450	7100	-	2508				
0.74	450	7100	-	2309				
0.85	450	7100	-	1991				
0.96	450	7100	-	1768				
1.1	450	7100	-	1520				
1.3	450	7100	-	1342*				
1.5	450	7100	-	1164				
1.7	450	7100	-	1027				
1.9	450	7100	-	894				
2.1	450	7100	-	805				
2.5	450	7100	-	683				
2.8	450	7100	-	603				
3.2	450	7100	-	534				
3.7	450	7100	-	454				
4.1	450	7100	-	410				
					3 2			
0.98	450	7100	-	1732				
1.1	450	7100	-	1555				
1.2	450	7100	-	1399				
1.4	450	7100	-	1189				
1.6	450	7100	-	1034				
2.2	450	7100	-	782				
2.5	450	7100	-	678				
2.8	450	7100	-	604				
3.2	450	7100	-	537				
3.6	450	7100	-	471				
4.8	450	7100	-	357				
5.3	450	7100	-	319				
6.2	450	7100	-	273				
7.1	450	7100	-	241				

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R57R37, n_e=1700 min^{-1}								450 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
7.9	450	7100	-	215				
9.1	450	7100	-	187				
10	450	7100	-	164				
12	450	7100	-	142				
					2	2		
4.7	450	7100	-	359				
5.2	450	7100	-	324				
5.9	450	7100	-	290				
6.5	450	7100	-	262				
6.9	450	7100	-	246*				
7.7	450	7100	-	220*				
9.0	450	7100	-	188				
11	450	7100	-	159				
12	450	7100	-	146				
13	450	7100	-	134				

R67, n_e=1700 min^{-1}										600 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
						3				
8.5	600	7560	6.4	199.81						
9.2	600	7560	6.4	184.07						
11	600	7560	6.4	158.14						
12	600	7560	6.4	137.67						
13	600	7560	6.4	128.97						
15	600	7560	6.5	113.94						
16	600	7560	6.5	105.83						
18	600	7560	6.5	95.91						
20	600	7560	6.5	86.11						
23	600	7560	6.5	74.17						
24	600	7560	6.5	69.75						
28	600	7560	7	61.26						
30	600	7560	7	56.89						
33	600	7560	7.1	51.56						
37	600	7560	7.1	46.29						
43	580	7790	7.1	39.88*						
45	570	7900	7.1	37.50						
53	540	8210	7.2	32.27						
59	520	8400	7.3	28.83						
						2				
60	540	8210	6	28.13						
64	540	8210	6	26.72						
73	560	7820	6.1	23.44						
85	600	6560	6.2	19.89						
95	590	6140	6.2	17.95						
108	560	5990	6.3	15.79						

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R67, n_e=1700 min^{-1}										600 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
114	550	5870	6.3	14.91						
134	520	5590	6.4	12.70						
147	500	5480	6.7	11.54						
170	470	5360	6.8	10.00						
195	440	5290	7	8.70*						
218	380	4930	8.3	7.79						
231	370	4900	8.3	7.36*						
271	330	5110	8.5	6.27						
298	310	5040	9.1	5.70						
345	290	4830	9.4	4.93						
396	270	4630	9.7	4.29						

R67R37, n_e=1700 min^{-1}								600 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
					3 3			
0.11	600	7560	-	15361				
0.13	600	7560	-	12931				
0.14	600	7560	-	11996				
0.17	600	7560	-	10097				
0.19	600	7560	-	9066				
0.22	600	7560	-	7816				
0.25	600	7560	-	6732				
0.28	600	7560	-	5970				
0.32	600	7560	-	5268				
0.36	600	7560	-	4680				
0.41	600	7560	-	4136				
0.48	600	7560	-	3566				
0.54	600	7560	-	3125				
0.62	600	7560	-	2745				
0.71	600	7560	-	2403				
					2 3			
0.63	600	7560	-	2682				
0.69	600	7560	-	2460				
0.81	600	7560	-	2094				
0.94	600	7560	-	1805				
1.0	600	7560	-	1629				
1.2	600	7560	-	1471				
1.2	600	7560	-	1379				
1.5	600	7560	-	1109				
1.8	600	7560	-	956				
1.9	600	7560	-	891				
2.3	600	7560	-	730				
2.6	600	7560	-	644				
3.0	600	7560	-	571				
3.5	600	7560	-	486				

R67R37, n_e=1700 min^{-1}								600 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
					3 2			
0.80	600	7560	-	2136				
0.92	600	7560	-	1852				
1.0	600	7560	-	1652				
1.2	600	7560	-	1432				
1.4	600	7560	-	1259				
1.5	600	7560	-	1106				
2.0	600	7560	-	836				
2.3	600	7560	-	750				
2.6	600	7560	-	646				
3.0	600	7560	-	574				
3.4	600	7560	-	495				
3.9	600	7560	-	438				
4.4	600	7560	-	388				
4.9	600	7560	-	344				
5.8	600	7560	-	294				
6.5	600	7560	-	261				
7.3	600	7560	-	234				
8.5	600	7560	-	200				
9.7	600	7560	-	176				
11	600	7560	-	158				
					2 2			
3.8	600	7560	-	443				
4.4	600	7560	-	384				
4.7	600	7560	-	359				
5.5	600	7560	-	310				
6.4	600	7560	-	264*				
7.2	600	7560	-	235				
8.5	600	7560	-	201				
9.4	600	7560	-	181				
11	600	7560	-	159				

R77, n_e=1700 min^{-1}											820 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
					3						
8.7	820	9920	6.4	195.24*							
10	820	9920	6.5	166.59							
12	820	9920	6.4	145.67							
12	820	9920	6.4	138.39							
14	820	9920	6.5	121.42							
17	820	9920	6.5	102.99							
18	820	9920	6.5	92.97							
21	820	9920	6.5	81.80							
22	820	9920	6.5	77.24							
26	820	9920	6.5	65.77							

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R77, n_e=1700 min^{-1}											820 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
29	820	9920	7.1	57.68							
33	820	9920	7.1	52.07							
37	820	9920	7.1	45.81							
39	820	9920	7.1	43.26							
46	820	9920	7.1	36.83							
51	820	9920	7.2	33.47							
59	820	9030	7.3	29.00							
67	780	8660	7.3	25.23							
2											
73	820	7510	6.1	23.37							
79	820	6930	6.1	21.43							
90	780	6720	6.1	18.80							
95	780	6380	6.2	17.82*							
109	740	6200	6.2	15.60							
121	720	5900	6.5	14.05							
138	690	5640	6.4	12.33							
156	660	5440	6.5	10.88							
176	630	5290	6.7	9.64							
198	630	3140	7.5	8.59							
220	610	3000	7.9	7.74							
250	580	2950	7.8	6.79							
284	540	3120	8	5.99*							
320	510	3160	8.4	5.31*							

R77R37, n_e=1700 min^{-1}								820 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
3 3								
0.10	820	9920	-	16370				
0.11	820	9920	-	15015				
0.12	820	9920	-	13885				
0.13	820	9920	-	12783				
0.15	820	9920	-	11021				
0.17	820	9920	-	9788				
0.20	820	9920	-	8714				
0.22	820	9920	-	7617				
0.25	820	9920	-	6770				
0.29	820	9920	-	5838				
0.33	820	9920	-	5184				
0.38	820	9920	-	4470				
0.43	820	9920	-	3999				
0.49	820	9920	-	3488				
0.56	820	9920	-	3053				
0.64	820	9920	-	2671				
2 3								
0.54	820	9920	-	3151				

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R77R37, n_e=1700 min^{-1}								820 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
0.59	820	9920	-	2890				
0.69	820	9920	-	2460				
0.80	820	9920	-	2121				
0.86	820	9920	-	1977				
0.98	820	9920	-	1728				
1.0	820	9920	-	1620				
1.2	820	9920	-	1430				
1.3	820	9920	-	1303				
1.5	820	9920	-	1124				
1.6	820	9920	-	1047				
1.9	820	9920	-	915				
2.0	820	9920	-	858				
2.2	820	9920	-	757				
2.5	820	9920	-	671				
3.0	820	9920	-	571				
3 2								
0.72	820	9920	-	2345				
0.82	820	9920	-	2070				
0.93	820	9920	-	1822				
1.1	820	9920	-	1580				
1.2	820	9920	-	1394				
1.4	820	9920	-	1218				
1.6	820	9920	-	1084*				
1.8	820	9920	-	940				
2.1	820	9920	-	821				
2.3	820	9920	-	731				
2.6	820	9920	-	646				
3.0	820	9920	-	560				
3.5	820	9920	-	488				
3.9	820	9920	-	436				
4.6	820	9920	-	373				
5.2	820	9920	-	327				
5.9	820	9920	-	289				
6.5	820	9920	-	260				
7.6	820	9920	-	224				
8.6	820	9920	-	197				
10	820	9920	-	169				
11	820	9920	-	149				
2 2								
3.3	820	9920	-	520				
3.8	820	9920	-	451				
4.0	820	9920	-	422				
4.7	820	9920	-	365				
5.5	820	9920	-	310*				
6.2	820	9920	-	276				
7.2	820	9920	-	236				
7.7	820	9920	-	221				
9.1	820	9920	-	186				

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R87, n_e=1700 min^{-1} — 1550 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L
							3						
6.9	1550	16900	6	246.54									
7.9	1550	16900	6	216.54									
8.3	1550	16900	6	205.71									
9.4	1550	16900	6	181.77									
11	1550	16900	6	155.34									
12	1550	16900	6	142.41									
14	1550	16900	6	124.97									
14	1550	16900	6	118.43*									
16	1550	16900	6	103.65									
18	1550	16900	6	93.38									
21	1550	16600	6	81.92									
23	1550	15000	6.4	72.57									
27	1550	13500	6.4	63.68*									
28	1550	12800	6.4	60.35*									
32	1550	11300	6.5	52.82									
36	1550	10100	6.5	47.58									
41	1550	8750	6.5	41.74									
46	1550	7480	6.5	36.84*									
52	1550	6300	6.6	32.66*									
61	1500	5550	6.6	27.88									
							2						
49	1500	7530	5.5	34.40*									
54	1550	5930	5.5	31.40									
61	1550	4820	5.5	27.84*									
73	1550	3290	5.5	23.40									
79	1500	3300	5.7	21.51									
89	1440	3200	5.7	19.10									
100	1390	3040	5.8	17.08*									
111	1340	2960	5.9	15.35									
128	1280	2790	6	13.33									
142	1230	2750	6	11.93									
172	1180	2230	6.1	9.90*									
186	1210	-	6.3	9.14*									
207	1160	-	6.6	8.22									
238	1070	-	6.7	7.13									
266	1020	-	6.8	6.39									
321	910	665	7	5.30*									

R87R57, n_e=1700 min^{-1} — 1550 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
						3 3				
0.10	1550	16900	-	17452						
0.11	1550	16900	-	15310						
0.12	1550	16900	-	13813						
0.14	1550	16900	-	12025						
0.16	1550	16900	-	10549						

R87R57, n_e=1700 min^{-1}										1550 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
0.18	1550	16900	-	9244						
0.21	1550	16900	-	8109						
0.24	1550	16900	-	7038						
0.28	1550	16900	-	6174						
0.31	1550	16900	-	5449						
0.35	1550	16900	-	4831						
0.40	1550	16900	-	4206						
0.45	1550	16900	-	3744						
0.53	1550	16900	-	3233						
0.59	1550	16900	-	2873						
0.68	1550	16900	-	2518						
0.77	1550	16900	-	2209						
0.87	1550	16900	-	1961						
1.7	1550	16900	-	994						
1.9	1550	16900	-	881						
										
0.42	1550	16900	-	4020						
0.46	1550	16900	-	3703						
0.53	1550	16900	-	3182						
0.61	1550	16900	-	2770						
0.66	1550	16900	-	2595						
0.80	1550	16900	-	2129						
0.88	1550	16900	-	1930						
0.98	1550	16900	-	1733						
1.1	1550	16900	-	1489						
1.2	1550	16900	-	1395						
1.4	1550	16900	-	1232						
1.5	1550	16900	-	1145						
1.6	1550	16900	-	1037						
1.8	1550	16900	-	931						
2.1	1550	16900	-	802*						
2.3	1550	16900	-	754						
2.6	1550	16900	-	649						
2.9	1550	16900	-	580						
										
0.98	1550	16900	-	1737						
1.1	1550	16900	-	1524						
1.3	1550	16900	-	1303						
1.5	1550	16900	-	1143						
1.7	1550	16900	-	1008						
1.9	1550	16900	-	885						
2.2	1550	16900	-	776						
2.5	1550	16900	-	685*						
2.8	1550	16900	-	599						
3.2	1550	16900	-	525						
3.7	1550	16900	-	456*						
4.3	1550	16900	-	398						
4.8	1550	16900	-	352						
5.6	1550	16900	-	305						

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R87R57, n_e=1700 min^{-1} — 1550 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
6.3	1550	16900	-	268						
7.2	1550	16900	-	236*						
8.1	1550	16900	-	209*						
2 2										
3.2	1550	16900	-	538						
3.6	1550	16900	-	472						
4.2	1550	16900	-	400						
4.7	1550	16900	-	361						
5.7	1550	16900	-	300						
6.6	1550	16900	-	256						
7.3	1550	16900	-	232						
8.7	1550	16900	-	195						

R97, n_e=1700 min^{-1} — 3000 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S
3													
5.9	3000	19800	5.7	289.74									
6.6	3000	19800	5.7	255.71									
7.0	3000	19800	5.7	241.25									
7.9	3000	19800	5.7	216.28									
9.1	3000	19800	5.7	186.30									
10.0	3000	19800	5.7	170.02									
11	3000	19800	5.7	150.78									
13	3000	19800	5.7	126.75									
15	3000	19800	5.7	116.48									
16	3000	19800	5.7	103.44									
18	3000	19000	5.7	92.48									
20	3000	17100	5.8	83.15									
24	3000	14700	5.8	72.17									
26	3000	13000	6.1	65.21									
28	3000	11700	6.2	59.92									
32	3000	9840	6.2	53.21									
36	3000	8180	6.2	47.58									
40	3000	6660	6.2	42.78									
46	3000	4720	6.3	37.13									
51	2890	4570	6.3	33.25									
62	2670	4830	6.3	27.58									
2													
53	2560	8000	5.3	32.05									
63	2560	5960	5.3	27.19									
68	2830	1780	5.4	25.03									
76	2720	1790	5.5	22.37									
84	2610	1920	5.5	20.14									
93	2500	2160	5.6	18.24									
105	2400	2090	5.6	16.17									
116	2300	2270	5.6	14.62									
137	2190	1990	5.7	12.39									

R97, n_e=1700 min^{-1}													3000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S
157	2090	1940	5.8	10.83									
183	2030	-	5.6	9.29									
203	2030	-	5.7	8.39									
239	2000	-	5.8	7.12									
274	1890	-	5.9	6.21									
327	1780	-	6.1	5.20									
378	1630	-	6.2	4.50*									

R97R57, n_e=1700 min^{-1}										3000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
					3 3					
0.08	3000	19800	-	21769						
0.09	3000	19800	-	19332						
0.10	3000	19800	-	17230						
0.11	3000	19800	-	14999						
0.13	3000	19800	-	13320						
0.15	3000	19800	-	11156						
0.17	3000	19800	-	10030						
0.20	3000	19800	-	8706						
0.22	3000	19800	-	7692						
0.25	3000	19800	-	6708						
0.29	3000	19800	-	5931						
0.33	3000	19800	-	5161						
0.37	3000	19800	-	4559						
0.42	3000	19800	-	4004						
0.49	3000	19800	-	3481						
					2 3					
0.36	3000	19800	-	4678						
0.39	3000	19800	-	4309						
0.46	3000	19800	-	3702						
0.56	3000	19800	-	3019						
0.64	3000	19800	-	2668						
0.76	3000	19800	-	2245						
0.84	3000	19800	-	2016						
0.98	3000	19800	-	1733						
1.0	3000	19800	-	1623						
1.2	3000	19800	-	1434						
1.4	3000	19800	-	1207						
1.6	3000	19800	-	1084						
1.8	3000	19800	-	934						
1.9	3000	19800	-	878						
2.3	3000	19800	-	755						
					3 2					
0.55	3000	19800	-	3065						
0.62	3000	19800	-	2722						
0.74	3000	19800	-	2311						
0.82	3000	19800	-	2078						

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R97R57, n_e=1700 min^{-1}										3000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
0.93	3000	19800	-	1823						
1.1	3000	19800	-	1583						
1.2	3000	19800	-	1396						
1.4	3000	19800	-	1228						
1.6	3000	19800	-	1069						
1.8	3000	19800	-	938						
2.1	3000	19800	-	824						
2.3	3000	19800	-	737						
2.7	3000	19800	-	632						
3.0	3000	19800	-	560						
3.5	3000	19800	-	484						
3.9	3000	19800	-	431						
4.5	3000	19800	-	379						
5.1	3000	19800	-	336						
5.7	3000	19800	-	296						
6.8	3000	19800	-	249						
7.3	3000	19800	-	234						
8.1	3000	19800	-	209						
										
2.7	3000	19800	-	625						
3.1	3000	19800	-	549						
3.6	3000	19800	-	466						
4.0	3000	19800	-	420						
4.6	3000	19800	-	370						
4.9	3000	19800	-	349						
5.7	3000	19800	-	297						
6.3	3000	19800	-	270						
7.5	3000	19800	-	227						

R107, n_e=1700 min^{-1}										4300 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M
										
6.8	4300	29500	7	251.15						
7.4	4300	29500	7	229.95						
8.4	4300	29500	7	203.16						
9.9	4300	29500	7	172.34						
11	4300	29500	7	158.68						
12	4300	29500	7	141.83						
13	4300	29500	7	127.68						
15	4300	29500	7	115.63						
17	4300	29500	7	102.53						
18	4300	29500	7	92.70						
22	4300	29000	7.1	78.57						
23	4300	28100	7.3	72.88						
26	4300	26900	7.3	65.60*						
29	4300	25800	7.4	59.41						
32	4300	24500	7.4	52.68						

R107, n_e=1700 min^{-1}										4300 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M
36	4300	23500	7.4	47.63						
42	4300	21800	7.4	40.37*						
48	4300	20600	7.4	35.26						
58	4300	19000	7.5	29.49						
						2				
55	4300	19300	6.7	30.77						
62	4300	18400	6.8	27.58						
68	4300	17500	6.8	24.90*						
75	4300	16700	6.9	22.62						
85	4300	15800	6.9	20.07						
93	4300	15100	6.8	18.21						
109	4300	14000	6.9	15.65						
124	4300	13100	6.9	13.66						
147	4300	12000	7	11.59						
168	4300	11100	7.1	10.13						
199	4300	10100	7.2	8.56						
216	2970	12600	8.8	7.86						
255	2970	11700	8.9	6.66						
292	2970	11000	9	5.82						
346	2900	10300	9.3	4.92						

R107R77, n_e=1700 min^{-1}												4300 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
						3	3					
0.08	4300	29500	-	20018								
0.10	4300	29500	-	17080								
0.11	4300	29500	-	14936								
0.13	4300	29500	-	12829								
0.15	4300	29500	-	11256								
0.18	4300	29500	-	9547								
0.20	4300	29500	-	8618								
0.22	4300	29500	-	7583								
0.25	4300	29500	-	6743								
0.29	4300	29500	-	5914								
0.33	4300	29500	-	5168								
0.38	4300	29500	-	4435								
0.44	4300	29500	-	3896								
0.50	4300	29500	-	3432								
0.56	4300	29500	-	3039								
0.63	4300	29500	-	2688								
0.73	4300	29500	-	2339								
						2	3					
0.43	4300	29500	-	3918								
0.51	4300	29500	-	3343								
0.56	4300	29500	-	3034								
0.64	4300	29500	-	2653								
0.75	4300	29500	-	2280								

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R107R77, n_e=1700 min^{-1}											4300 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
0.82	4300	29500	-	2067							
1.0	4300	29500	-	1693							
1.1	4300	29500	-	1550							
1.2	4300	29500	-	1407							
1.4	4300	29500	-	1209							
1.6	4300	29500	-	1055							
1.8	4300	29500	-	919							
2.1	4300	29500	-	815							
2.4	4300	29500	-	717							
2.7	4300	29500	-	626							
3.2	4300	29500	-	528							
						3	2				
0.86	4300	29500	-	1987							
0.93	4300	29500	-	1827							
1.1	4300	29500	-	1599							
1.2	4300	29500	-	1400*							
1.4	4300	29500	-	1226							
1.5	4300	29500	-	1104							
1.8	4300	29500	-	939							
2.1	4300	29500	-	822							
2.8	4300	29500	-	614							
3.1	4300	29500	-	544							
3.5	4300	29500	-	492							
4.1	4300	29500	-	417							
4.6	4300	29500	-	369							
5.3	4300	29500	-	323							
6.0	4300	29500	-	285							
6.7	4300	29500	-	253							
7.9	4300	29500	-	214*							
9.1	4300	29500	-	187							
						2	2				
3.6	4300	29500	-	469							
4.0	4300	29500	-	426							
4.5	4300	29500	-	377							
5.2	4300	29500	-	325							
6.0	4300	29500	-	284							
6.6	4300	29500	-	256							
7.7	4300	29500	-	220							
8.8	4300	29500	-	193							
9.9	4300	29500	-	172							

R137, n_e=1700 min^{-1}									8000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME DRN280S DRN280M
						3			
7.6	8000	53400	6	222.60*					
9.0	8000	53400	6	188.45					
9.7	8000	53400	6.1	174.40*					

R137, n_e=1700 min^{-1}									8000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME DRN280S DRN280M
11	8000	53400	6.1	156.31					
12	8000	53400	6.1	141.12*					
13	8000	53400	6.1	128.18					
15	8000	53400	6.1	113.72					
16	8000	53400	6.1	103.20*					
19	8000	53400	6.1	88.70*					
21	8000	53400	6.4	80.91*					
23	8000	53400	6.4	73.49					
26	8000	53400	6.4	65.20					
29	8000	53400	6.4	59.17*					
33	8000	53400	6.4	50.86*					
38	8000	53400	6.4	44.39					
45	8000	53400	6.4	37.65					
52	8000	52400	6.5	32.91					
61	7680	49500	6.5	27.83					
						2			
57	7780	50600	5.7	29.57*					
70	8000	44600	5.8	24.12					
77	8000	42400	5.8	22.00*					
89	8000	39000	5.9	19.04*					
101	8000	36300	5.9	16.80*					
117	8000	33200	5.9	14.51					
133	8000	30700	6	12.83					
158	8000	27300	6.1	10.79					
195	7840	24100	6.1	8.71					
224	5110	35600	8	7.59					
266	5110	32700	8.2	6.38					
330	4600	31500	8.2	5.15					

R137R77, n_e=1700 min^{-1}											8000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
						3	3				
0.08	8000	53400	-	22203*							
0.09	8000	53400	-	18945							
0.10	8000	53400	-	16566							
0.12	8000	53400	-	14777							
0.13	8000	53400	-	12921							
0.15	8000	53400	-	11712							
0.16	8000	53400	-	10573*							
0.19	8000	53400	-	8784							
0.23	8000	53400	-	7479							
0.26	8000	53400	-	6559							
0.29	8000	53400	-	5834							
0.33	8000	53400	-	5116							
0.38	8000	53400	-	4464							
0.43	8000	53400	-	3928*							
0.49	8000	53400	-	3454							

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R137R77, n_e=1700 min^{-1}											8000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
0.57	8000	53400	-	2993							
						2 3					
0.36	8000	53400	-	4709*							
0.42	8000	53400	-	4018							
0.48	8000	53400	-	3514							
0.51	8000	53400	-	3338							
0.58	8000	53400	-	2929							
0.68	8000	53400	-	2484							
0.76	8000	53400	-	2242*							
0.91	8000	53400	-	1863							
1.1	8000	53400	-	1586							
1.2	8000	53400	-	1391							
1.4	8000	53400	-	1256							
1.5	8000	53400	-	1105							
1.6	8000	53400	-	1043							
1.9	8000	53400	-	888							
2.4	8000	53400	-	699							
2.8	8000	53400	-	609							
						3 2					
0.64	8000	53400	-	2658							
0.70	8000	53400	-	2412							
0.82	8000	53400	-	2073*							
0.92	8000	53400	-	1839*							
1.1	8000	53400	-	1598							
1.2	8000	53400	-	1397							
1.4	8000	53400	-	1226*							
1.6	8000	53400	-	1090*							
1.8	8000	53400	-	951							
2.0	8000	53400	-	831							
2.3	8000	53400	-	730							
2.7	8000	53400	-	629							
3.0	8000	53400	-	560							
3.5	8000	53400	-	490*							
4.0	8000	53400	-	428							
4.5	8000	53400	-	381							
5.3	8000	53400	-	323							
5.8	8000	53400	-	291							
6.7	8000	53400	-	255*							
7.6	8000	53400	-	223							
8.6	8000	53400	-	197*							
9.7	8000	53400	-	175							
						2 2					
3.0	8000	53400	-	564							
3.3	8000	53400	-	517							
3.8	8000	53400	-	453*							
4.5	8000	53400	-	376							
5.0	8000	53400	-	339							
5.7	8000	53400	-	297							

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R147, n_e=1700 min^{-1}								13000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME DRN280S DRN280M
						3		
10	13000	62700	5.5	163.31				
12	13000	62700	5.5	146.91				
14	13000	62700	5.5	119.86				
16	13000	62700	5.5	109.31				
18	13000	62700	5.5	94.60*				
20	13000	62700	5.5	83.47				
24	13000	62700	5.5	72.09				
25	13000	62700	5.8	66.99				
28	13000	62700	5.8	61.09				
32	13000	62700	5.8	52.87				
36	13000	62700	5.8	46.65				
42	13000	62700	5.8	40.29				
48	13000	62700	5.9	35.64				
57	13000	62700	5.9	29.95				
70	11900	64700	5.9	24.19				
						2		
83	12000	64600	5.2	20.44				
94	10500	67000	5.3	18.04				
109	13000	62500	5.3	15.64				
122	12600	60200	5.3	13.91				
142	13000	54800	5.4	11.99				
175	13000	49100	5.5	9.74				
206	13000	44900	5.6	8.26				
234	8670	53500	7.5	7.25				
289	8670	48700	7.6	5.89				
340	8670	45000	7.8	5.00				

R147R77, n_e=1700 min^{-1}											13000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
						3	3				
0.07	13000	62700	-	23401							
0.08	13000	62700	-	21342							
0.09	13000	62700	-	18210							
0.11	13000	62700	-	15923							
0.12	13000	62700	-	14075							
0.14	13000	62700	-	12344							
0.15	13000	62700	-	11143							
0.17	13000	62700	-	9743							
0.20	13000	62700	-	8443							
0.23	13000	62700	-	7307							
0.26	13000	62700	-	6447							
0.31	13000	62700	-	5568							
0.35	13000	62700	-	4926							
0.39	13000	62700	-	4325							
0.45	13000	62700	-	3754							
0.51	13000	62700	-	3302							

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R147R77, n_e=1700 min^{-1} — 13000 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
0.59	13000	62700	-	2898							
						3	2				
0.67	13000	62700	-	2555							
0.77	13000	62700	-	2211							
0.87	13000	62700	-	1951							
1.00	13000	62700	-	1705							
1.1	13000	62700	-	1536							
1.3	13000	62700	-	1329							
1.5	13000	62700	-	1166							
1.7	13000	62700	-	1029							
1.9	13000	62700	-	889							
2.2	13000	62700	-	784							
2.4	13000	62700	-	695							
2.7	13000	62700	-	619							
3.0	13000	62700	-	558							
3.5	13000	62700	-	489							
4.1	13000	62700	-	415							

R147R87, n_e=1700 min^{-1} — 13000 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L
							3	2				
3.2	13000	62700	-	533								
3.7	13000	62700	-	462								
4.0	13000	62700	-	426								
4.6	13000	62700	-	368								
5.2	13000	62700	-	326								
6.1	13000	62700	-	280								
6.9	13000	62700	-	247								
7.9	13000	62700	-	214								
9.0	13000	62700	-	189								
11	13000	62700	-	159								

R167, n_e=1700 min^{-1} — 18000 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME DRN280S DRN280M	DRN315S DRN315ME	DRN315L DRN315H
						3				
7.4	18000	120000	5.2	229.71						
9.1	18000	120000	5.2	186.93*						
11	18000	120000	5.2	153.07						
12	18000	120000	5.2	139.98						
14	18000	120000	5.2	121.81*						
16	18000	120000	5.2	107.49						
18	18000	120000	5.2	93.19						
21	18000	120000	5.2	82.91*						
23	18000	120000	5.6	73.70*						
25	18000	120000	5.6	67.40						

R167, n_e=1700 min^{-1} — 18000 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME DRN280S DRN280M	DRN315S DRN315ME	DRN315L DRN315H
29	18000	120000	5.6	58.65						
33	18000	120000	5.6	51.76						
38	18000	120000	5.6	44.87						
43	18000	120000	5.6	39.92						
49	18000	120000	5.6	34.41						
61	18000	115100	5.7	27.96						
72	18000	107200	5.7	23.71						
						2				
37	7000	120000	5	46.00						
45	9000	120000	5	37.74						
55	10000	120000	5	30.71						
69	14000	119600	5.1	24.57						
78	13000	116900	5.1	21.85						
89	16000	102600	5.1	19.03						
100	15000	100400	5.1	16.98						
117	18000	85800	5.2	14.48						
142	17000	81100	5.3	11.99						
166	17000	75200	5.3	10.24						

R167R97, n_e=1700 min^{-1} — 18000 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S
							3	3					
0.06	18000	120000	-	27001									
0.08	18000	120000	-	22482									
0.08	18000	120000	-	20002*									
0.10	18000	120000	-	17361									
0.11	18000	120000	-	15446									
0.12	18000	120000	-	14051									
0.14	18000	120000	-	11812									
0.16	18000	120000	-	10509									
0.18	18000	120000	-	9631									
0.22	18000	120000	-	7749									
0.25	18000	120000	-	6894									
0.28	18000	120000	-	6077									
0.31	18000	120000	-	5407									
0.37	18000	120000	-	4650									
0.41	18000	120000	-	4129									
0.46	18000	120000	-	3692									
0.55	18000	120000	-	3099									
							3	2					
0.64	18000	120000	-	2657*									
0.73	18000	120000	-	2333									
0.82	18000	120000	-	2085									
0.91	18000	120000	-	1877									
1.0	18000	120000	-	1670*									
1.2	18000	120000	-	1438									
1.3	18000	120000	-	1279									
1.5	18000	120000	-	1123									

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R167R97, n_e=1700 min^{-1}													18000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S
1.7	18000	120000	-	999									
2.0	18000	120000	-	861									
2.2	18000	120000	-	760									
2.6	18000	120000	-	656									
2.9	18000	120000	-	579									
3.4	18000	120000	-	503									
3.9	18000	120000	-	432									
4.5	18000	120000	-	376									
5.1	18000	120000	-	335									
5.6	18000	120000	-	303									
6.1	18000	120000	-	279									

R167R107, n_e=1700 min^{-1}											18000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME
						2 3					
0.47	18000	120000	-	3637							
0.51	18000	120000	-	3330							
0.62	18000	120000	-	2757							
0.70	18000	120000	-	2436							
0.74	18000	120000	-	2298							
0.82	18000	120000	-	2066							
0.92	18000	120000	-	1849							
1.0	18000	120000	-	1674							
1.1	18000	120000	-	1485							
1.3	18000	120000	-	1342							
1.4	18000	120000	-	1229							
1.5	18000	120000	-	1111							
1.8	18000	120000	-	950							
2.0	18000	120000	-	860							
2.2	18000	120000	-	763							
2.5	18000	120000	-	690							
2.9	18000	120000	-	585							
3.3	18000	120000	-	511							
						3 2					
4.9	18000	120000	-	349							
5.8	18000	120000	-	295							
6.3	18000	120000	-	270							
7.4	18000	120000	-	229							
8.5	18000	120000	-	200							
10	18000	120000	-	169							
						2 2					
3.8	18000	120000	-	446							
4.3	18000	120000	-	399							
4.7	18000	120000	-	361							
5.2	18000	120000	-	328							
5.8	18000	120000	-	291							
6.4	18000	120000	-	264							
7.5	18000	120000	-	227							

R167R107, n_e=1700 min^{-1}											18000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME
8.6	18000	120000	-	198							
10	18000	120000	-	168							

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8.3 Selection tables R..DRN. in kW

P_m = 0.10 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
21	46	78.24	1280	1.10							
23	42	71.47	1310	1.20							
27	35	60.32	1360	1.40							
32	30	51.52	1400	1.65							
34	28	47.78	1420	1.80							
37	26	44.16	1430	1.95							
40	24	41.31	1440	2.1		**R**	**07**	**DT**	**56M4**	5.8	296
41	23	40.34	1450	2.1		**RF**	**07**	**DT**	**56M4**	5.8	297
43	22	38.51	1460	2.2							
48	20	34.05	1420	2.5							
56	17	29.08	1360	3.0							
61	16	26.97	1330	3.2							
70	14	23.32	1280	3.7							
75	13	21.73	1250	4.0							
90	11	18.31	1190	4.7							
98	9.7	16.73	1160	5.1							
116	8.2	14.12	1100	6.1							
136	7.0	12.06	1050	7.1							
147	6.5	11.18	1030	7.7							
170	5.6	9.67	990	8.9							
182	5.2	9.01	960	9.5							
209	4.6	7.85	920	11		**R**	**07**	**DT**	**56M4**	5.7	296
219	4.3	7.48	910	9.9		**RF**	**07**	**DT**	**56M4**	5.7	297
240	4.0	6.83	890	11							
284	3.4	5.76	840	12							
333	2.9	4.92	800	13							
359	2.7	4.57	780	14							
415	2.3	3.95	745	15							
446	2.1	3.68	730	15							
511	1.9	3.21	700	17							

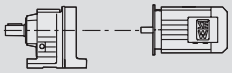
P_m = 0.12 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.08	10300	21342	67200	1.25							
0.09	8840	18210	69300	1.45		**R**	**147R77**	**DR**	**63S4**	420	333
0.11	7730	15923	70600	1.70		**RF**	**147R77**	**DR**	**63S4**	430	333
0.12	6830	14075	71500	1.90		**RM**	**147R77**	**DR**	**63S4**	600	333
0.14	5860	12344	72300	2.2							
0.15	5120	11143	72900	2.5							
0.17	4630	9743	73200	2.8		**R**	**147R77**	**DR**	**63S4**	420	333
0.20	3600	8443	73700	3.6		**RF**	**147R77**	**DR**	**63S4**	430	333
0.23	3110	7307	73900	4.2		**RM**	**147R77**	**DR**	**63S4**	600	333
0.26	2750	6447	74100	4.7							
0.30	2370	5568	74200	5.5							
0.13	6270	12921	56600	1.25							
0.14	5560	11712	57700	1.45							
0.16	4860	10573	58600	1.65							
0.19	3740	8784	59700	2.1		**R**	**137R77**	**DR**	**63S4**	290	333
0.22	2990	7479	60300	2.7		**RF**	**137R77**	**DR**	**63S4**	310	333
0.26	3110	6559	60300	2.6		**RM**	**137R77**	**DR**	**63S4**	425	333
0.29	2330	5834	60800	3.4							
0.33	2430	5116	60700	3.3							
0.22	3310	7583	33900	1.30							
0.25	2700	6743	35800	1.60							
0.28	2810	5914	35500	1.55		**R**	**107R77**	**DR**	**63S4**	200	333
0.33	2060	5168	36700	2.1		**RF**	**107R77**	**DR**	**63S4**	210	333
0.38	1890	4435	36900	2.3		**RM**	**107R77**	**DR**	**63S4**	295	333
0.43	1700	3896	37100	2.5							
0.55	1440	3039	37300	3.0							

P_m = 0.12 kW

n_a min^{-1}	M_a Nm	i	F_{Ra}[1] N	SEW f_B	HAZ LOC					m kg	
0.43	1920	3918	36800	2.2							
0.50	1640	3343	37100	2.6							
0.55	1490	3034	37200	2.9		**R**	**107R77**	**DR**	**63S4**	195	333
0.63	1300	2653	37400	3.3		**RF**	**107R77**	**DR**	**63S4**	200	333
0.74	1120	2280	37500	3.8		**RM**	**107R77**	**DR**	**63S4**	290	333
0.81	990	2067	37600	4.3							
0.37	2400	4559	24600	1.25		**R**	**97R57**	**DR**	**63S4**	130	333
0.42	1990	4004	25000	1.50		**RF**	**97R57**	**DR**	**63S4**	145	333
0.48	1770	3481	27200	1.70		**RM**	**97R57**	**DR**	**63S4**	195	333
0.36	2580	4678	23600	1.15							
0.39	2380	4309	24700	1.25							
0.45	2040	3702	26200	1.45							
0.56	1640	3019	27400	1.80		**R**	**97R57**	**DR**	**63S4**	125	333
0.63	1420	2668	27700	2.1		**RF**	**97R57**	**DR**	**63S4**	145	333
0.75	1150	2245	28100	2.6		**RM**	**97R57**	**DR**	**63S4**	195	333
0.83	1010	2016	28200	3.0							
0.97	950	1733	28300	3.1							
0.55	1680	3065	27400	1.80							
0.62	1500	2722	27600	2.0							
0.73	1260	2311	28000	2.4							
0.81	1130	2078	28100	2.6		**R**	**97R57**	**DR**	**63S4**	130	333
0.92	970	1823	28200	3.1		**RF**	**97R57**	**DR**	**63S4**	145	333
1.1	840	1583	28400	3.5		**RM**	**97R57**	**DR**	**63S4**	195	333
1.2	700	1396	28500	4.3							
1.4	595	1228	28500	5.0							
0.58	1350	2873	15400	1.15		**R**	**87R57**	**DR**	**63S4**	86	333
0.86	1020	1961	19700	1.50		**RF**	**87R57**	**DR**	**63S4**	93	333
						RM	**87R57**	**DR**	**63S4**	125	333
0.65	1410	2595	17800	1.10							
0.79	1120	2129	19300	1.40		**R**	**87R57**	**DR**	**63S4**	85	333
0.87	990	1930	19800	1.55		**RF**	**87R57**	**DR**	**63S4**	92	333
0.97	870	1733	20000	1.80		**RM**	**87R57**	**DR**	**63S4**	120	333
0.97	890	1737	20000	1.75							
1.1	785	1524	20000	1.95							
1.3	620	1303	20000	2.5							
1.5	545	1143	20000	2.8		**R**	**87R57**	**DR**	**63S4**	85	333
1.9	455	885	20000	3.4		**RF**	**87R57**	**DR**	**63S4**	93	333
2.2	400	776	20000	3.9		**RM**	**87R57**	**DR**	**63S4**	120	333
2.5	350	685	20000	4.4							
2.8	270	599	20000	5.7							
1.3	750	1303	10500	1.10							
1.5	635	1124	11300	1.30		**R**	**77R37**	**DR**	**63S4**	45	333
1.6	590	1047	11600	1.40		**RF**	**77R37**	**DR**	**63S4**	51	333
1.8	505	915	12000	1.60		**RM**	**77R37**	**DR**	**63S4**	76	333
1.4	645	1218	11300	1.25							
1.6	585	1084	11600	1.40							
1.8	525	940	11900	1.55		**R**	**77R37**	**DR**	**63S4**	46	333
2.0	400	821	12500	2.0		**RF**	**77R37**	**DR**	**63S4**	52	333
2.3	370	731	12600	2.2		**RM**	**77R37**	**DR**	**63S4**	77	333
2.6	365	646	12600	2.2							
3.2	300	520	12800	2.7							
3.7	255	451	12900	3.2		**R**	**77R37**	**DR**	**63S4**	45	333
4.0	240	422	12900	3.4		**RF**	**77R37**	**DR**	**63S4**	51	333
4.6	200	365	13000	4.0		**RM**	**77R37**	**DR**	**63S4**	76	333
1.9	500	891	8560	1.20							
2.3	400	730	9330	1.50		**R**	**67R37**	**DR**	**63S4**	40	333
2.6	345	644	9640	1.70		**RF**	**67R37**	**DR**	**63S4**	43	333
2.9	300	571	9870	2.0		**RM**	**67R37**	**DR**	**63S4**	59	333
3.5	250	486	10100	2.4							
2.0	470	836	8820	1.25							
2.2	385	750	9420	1.55							
2.6	345	646	9640	1.70		**R**	**67R37**	**DR**	**63S4**	41	333
2.9	315	574	9800	1.90		**RF**	**67R37**	**DR**	**63S4**	44	333
3.4	270	495	9990	2.2		**RM**	**67R37**	**DR**	**63S4**	60	333
3.8	220	438	10200	2.7							

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P_m = 0.12 kW												
n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg		
2.1	440	782	7140	1.00								
2.5	355	678	7450	1.25								
2.8	325	604	7560	1.40		**R**	**57R37**	**DR**	**63S4**	34	333
3.1	295	537	7640	1.50		**RF**	**57R37**	**DR**	**63S4**	38	333
3.6	260	471	7730	1.70		**RM**	**57R37**	**DR**	**63S4**	50	333
4.7	193	357	7860	2.3								
5.3	169	319	7900	2.7								
4.7	205	359	7840	2.2								
5.2	187	324	7870	2.4								
5.8	163	290	7910	2.8		**R**	**57R37**	**DR**	**63S4**	33	333
6.4	147	262	7930	3.1		**RF**	**57R37**	**DR**	**63S4**	37	333
6.8	135	246	7950	3.3		**RM**	**57R37**	**DR**	**63S4**	49	333
7.6	118	220	7960	3.8								
3.3	270	510	5570	1.10								
3.9	220	436	5760	1.35		**R**	**47R37**	**DR**	**63S4**	28	333
4.1	205	408	5830	1.45		**RF**	**47R37**	**DR**	**63S4**	28	333
4.9	169	344	5950	1.75								
3.4	290	502	5120	1.00								
3.9	250	429	5660	1.20								
4.5	210	372	5800	1.40								
4.8	198	348	5860	1.50		**R**	**47R37**	**DR**	**63S4**	28	333
5.6	169	301	5950	1.80		**RF**	**47R37**	**DR**	**63S4**	28	333
6.6	140	255	6020	2.1								
7.4	122	228	6060	2.5								
8.6	102	195	6090	3.0								
5.0	178	338	4870	1.10								
5.7	170	296	5090	1.20								
6.5	147	259	5490	1.35		**R**	**37R17**	**DR**	**63S4**	17	333
7.4	130	228	5630	1.55		**RF**	**37R17**	**DR**	**63S4**	19	333
8.4	112	199	5750	1.80								
9.8	98	172	5830	2.0								
5.1	191	328	4500	1.05								
5.8	163	289	5280	1.25								
6.3	154	265	5430	1.30		**R**	**37R17**	**DR**	**63S4**	17	333
7.4	124	226	5670	1.60		**RF**	**37R17**	**DR**	**63S4**	18	333
8.3	114	202	5730	1.75								
9.4	99	179	5820	2.0								
7.3	125	229	3660	1.05								
8.4	110	200	4000	1.20		**R**	**27R17**	**DR**	**63S4**	11	333
9.5	96	177	4070	1.35		**RF**	**27R17**	**DR**	**63S4**	11	333
10	93	166	4090	1.40								
7.4	124	227	3700	1.05								
8.3	114	203	3940	1.15		**R**	**27R17**	**DR**	**63S4**	11	333
9.4	99	179	4050	1.30		**RF**	**27R17**	**DR**	**63S4**	11	333
11	83	156	4130	1.55								
5.6	200	195.24*	13000	4.0		**R**	**77**	**DR**	**63M6**	37	317
6.6	174	166.59	13000	4.7		**RF**	**77**	**DR**	**63M6**	43	318
7.5	152	145.67	13000	5.4		**RM**	**77**	**DR**	**63M6**	68	318
5.5	205	199.81	10200	2.9								
6.0	192	184.07	10300	3.1								
7.0	165	158.14	10300	3.6		**R**	**67**	**DR**	**63M6**	30	314
8.0	143	137.67	10400	4.2		**RF**	**67**	**DR**	**63M6**	33	315
8.5	134	128.97	10400	4.5		**RM**	**67**	**DR**	**63M6**	49	315
9.7	119	113.94	10400	5.0								
8.4	136	199.81	10400	4.4		**R**	**67**	**DR**	**63S4**	30	314
9.1	126	184.07	10400	4.8		**RF**	**67**	**DR**	**63S4**	33	315
						RM	**67**	**DR**	**63S4**	49	315
5.9	195	186.89	7860	2.3								
6.4	179	172.17	7880	2.5								
7.4	154	147.92	7920	2.9		**R**	**57**	**DR**	**63M6**	23	311
8.5	134	128.77	7950	3.4		**RF**	**57**	**DR**	**63M6**	27	312
9.1	126	120.63	7960	3.6		**RM**	**57**	**DR**	**63M6**	39	312
10	111	106.58	7970	4.0								
11	103	98.99	7980	4.4								

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P_m = 0.12 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
9.0	127	186.89	7960	3.5							
9.8	117	172.17	7960	3.8		**R**	**57**	**DR**	**63S4**	23	311
11	101	147.92	7980	4.5		**RF**	**57**	**DR**	**63S4**	27	312
13	88	128.77	7990	5.1		**RM**	**57**	**DR**	**63S4**	39	312
6.2	184	176.88	5900	1.65							
6.8	170	162.94	5940	1.75		**R**	**47**	**DR**	**63M6**	18	308
7.9	146	139.99	6010	2.1		**RF**	**47**	**DR**	**63M6**	18	309
9.0	127	121.87	6050	2.4							
9.5	121	176.88	6060	2.5							
10	111	162.94	6080	2.7							
12	95	139.99	6100	3.1							
14	83	121.87	6120	3.6		**R**	**47**	**DR**	**63S4**	18	308
15	78	114.17	6130	3.9		**RF**	**47**	**DR**	**63S4**	18	309
17	69	100.86	6140	4.4							
18	64	93.68	6140	4.7							
8.2	140	134.82	5550	1.40							
8.9	129	123.66	5640	1.55							
10	110	105.28	5760	1.80		**R**	**37**	**DR**	**63M6**	14	305
12	95	90.77	5840	2.1		**RF**	**37**	**DR**	**63M6**	16	306
13	88	84.61	5880	2.3							
15	77	73.96	5920	2.6							
12	92	134.82	5860	2.2							
14	84	123.66	5890	2.4							
16	72	105.28	5950	2.8		**R**	**37**	**DR**	**63S4**	14	305
19	62	90.77	5980	3.2		**RF**	**37**	**DR**	**63S4**	16	306
20	58	84.61	5990	3.5							
23	50	73.96	6010	4.0							
8.9	129	123.91	3560	1.00							
10	110	105.49	4000	1.20							
12	95	90.96	4080	1.35		**R**	**27**	**DR**	**63M6**	8.3	302
13	88	84.78	4110	1.45		**RF**	**27**	**DR**	**63M6**	8.2	303
15	77	74.11	4160	1.70							
12	92	135.09	4090	1.40							
14	85	123.91	4130	1.55							
16	72	105.49	4190	1.80							
18	62	90.96	4240	2.1							
20	58	84.78	4260	2.2							
23	51	74.11	4290	2.6		**R**	**27**	**DR**	**63S4**	8.3	302
24	47	69.47	4300	2.7		**RF**	**27**	**DR**	**63S4**	8.2	303
27	42	61.30	4140	3.1							
30	38	55.87	4030	3.4							
35	33	48.17	3850	4.0							
37	31	44.90	3770	4.2							
13	85	81.64	1760	1.00							
16	73	70.39	2380	1.15							
17	68	65.61	2420	1.25		**R**	**17**	**DR**	**63M6**	7.6	299
19	60	57.35	2480	1.40		**RF**	**17**	**DR**	**63M6**	7.5	300
20	56	53.76	2500	1.50							
23	49	47.44	2500	1.70							
21	56	81.64	2500	1.55							
24	48	70.39	2500	1.75							
26	45	65.61	2500	1.90							
29	39	57.35	2500	2.2							
31	37	53.76	2500	2.3							
35	32	47.44	2440	2.6		**R**	**17**	**DR**	**63S4**	7.6	299
38	30	44.18	2390	2.8		**RF**	**17**	**DR**	**63S4**	7.5	300
44	26	38.61	2300	3.2							
46	25	36.20	2260	3.4							
53	22	31.94	2180	3.9							
59	19	28.32	2110	4.4							
70	16	24.07	2010	5.2							

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P_m = 0.12 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
28	41	60.32	1320	1.20							
33	35	51.52	1360	1.40							
35	33	47.78	1380	1.55							
38	30	44.16	1400	1.65							
41	28	41.31	1410	1.75							
42	28	40.34	1420	1.80		**R**	**07**	**DR**	**63S4**	6.5	296
44	26	38.51	1420	1.90		**RF**	**07**	**DR**	**63S4**	6.5	297
49	23	34.05	1380	2.1							
58	20	29.08	1320	2.5							
62	18	26.97	1300	2.7							
72	16	23.32	1250	3.1							
77	15	21.73	1220	3.4							
27	43	60.32	1300	1.15							
31	37	51.52	1350	1.35							
33	34	47.78	1370	1.45							
36	32	44.16	1390	1.60							
39	30	41.31	1400	1.70							
40	29	40.34	1410	1.75		**R**	**07**	**DT**	**56L4**	5.8	296
42	28	38.51	1420	1.80		**RF**	**07**	**DT**	**56L4**	5.8	297
47	24	34.05	1390	2.0							
55	21	29.08	1340	2.4							
59	19	26.97	1310	2.6							
69	17	23.32	1260	3.0							
74	16	21.73	1240	3.2							
92	12	18.31	1170	4.0							
100	11	16.73	1140	4.4							
119	9.6	14.12	1080	5.2							
139	8.2	12.06	1040	6.1							
150	7.6	11.18	1010	6.6							
174	6.6	9.67	970	7.6							
186	6.2	9.01	950	8.1							
214	5.4	7.85	910	9.2		**R**	**07**	**DR**	**63S4**	6.3	296
225	5.1	7.48	900	8.4		**RF**	**07**	**DR**	**63S4**	6.3	297
246	4.7	6.83	880	9.2							
291	3.9	5.76	830	10							
341	3.4	4.92	790	11							
368	3.1	4.57	770	12							
425	2.7	3.95	735	13							
457	2.5	3.68	720	13							
524	2.2	3.21	690	14							
87	13	18.31	1180	3.8							
96	12	16.73	1160	4.2							
113	10	14.12	1100	5.0							
133	8.6	12.06	1050	5.8							
143	8.0	11.18	1030	6.2							
165	6.9	9.67	980	7.2							
178	6.5	9.01	960	7.8							
204	5.6	7.85	920	8.7		**R**	**07**	**DT**	**56L4**	5.7	296
214	5.4	7.48	910	8.0		**RF**	**07**	**DT**	**56L4**	5.7	297
234	4.9	6.83	890	8.8							
278	4.1	5.76	840	9.7							
325	3.5	4.92	800	10							
350	3.3	4.57	785	11							
405	2.8	3.95	750	12							
435	2.6	3.68	730	13							
499	2.3	3.21	700	14							
277	4.1	6.07	4000	10							
325	3.5	5.18	3790	21		**RX**	**67**	**DR**	**63S4**	16	286
371	3.1	4.53	3630	27		**RXF**	**67**	**DR**	**63S4**	20	287
391	2.9	4.30*	3570	27							

P_m = 0.12 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
305	3.8	5.50*	3150	10							
332	3.5	5.07	3070	10							
386	3.0	4.35	2920	23							
443	2.6	3.79	2790	27							
473	2.4	3.55*	2730	28							
536	2.1	3.14	2620	30		**RX**	**57**	**DR**	**63S4**	14	284
577	2.0	2.91	2560	34		**RXF**	**57**	**DR**	**63S4**	16	285
636	1.8	2.64*	2480	38							
709	1.6	2.37	2390	43							
823	1.4	2.04	2280	50							
875	1.3	1.92*	2230	53							
1015	1.1	1.65	2120	61							

P_m = 0.18 kW

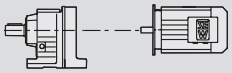
n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.12	11700	14075	64900	1.10		**R**	**147R77**	**DR**	**63M4**	420	333
0.13	10200	12344	67400	1.25		**RF**	**147R77**	**DR**	**63M4**	430	333
0.15	9060	11143	69000	1.45		**RM**	**147R77**	**DR**	**63M4**	600	333
0.17	8070	9743	70200	1.60							
0.19	6590	8443	71700	1.95							
0.22	5700	7307	72400	2.3							
0.25	5030	6447	72900	2.6							
0.29	4340	5568	73300	3.0		**R**	**147R77**	**DR**	**63M4**	420	333
0.33	4000	4926	73500	3.2		**RF**	**147R77**	**DR**	**63M4**	430	333
0.37	3410	4325	73800	3.8		**RM**	**147R77**	**DR**	**63M4**	600	333
0.43	3050	3754	74000	4.3							
0.49	2610	3302	74100	5.0							
0.18	6850	8784	55600	1.15							
0.22	5640	7479	57500	1.40							
0.25	5430	6559	57800	1.45		**R**	**137R77**	**DR**	**63M4**	290	333
0.28	4400	5834	59100	1.80		**RF**	**137R77**	**DR**	**63M4**	310	333
0.32	4240	5116	59300	1.90		**RM**	**137R77**	**DR**	**63M4**	425	333
0.36	3480	4464	60000	2.3							
0.41	3060	3928	60300	2.6							
0.34	3990	4709	59500	2.0							
0.40	3400	4018	60000	2.4		**R**	**137R77**	**DR**	**63M4**	280	333
0.46	2980	3514	60400	2.7		**RF**	**137R77**	**DR**	**63M4**	300	333
0.49	2830	3338	60500	2.8		**RM**	**137R77**	**DR**	**63M4**	415	333
0.55	2480	2929	60700	3.2							
0.37	3460	4435	33300	1.25		**R**	**107R77**	**DR**	**63M4**	200	333
0.42	3080	3896	34700	1.40		**RF**	**107R77**	**DR**	**63M4**	210	333
0.53	2510	3039	36100	1.70		**RM**	**107R77**	**DR**	**63M4**	295	333
0.41	3320	3918	33800	1.30							
0.48	2830	3343	35400	1.50							
0.53	2570	3034	36100	1.65		**R**	**107R77**	**DR**	**63M4**	195	333
0.61	2250	2653	36500	1.90		**RF**	**107R77**	**DR**	**63M4**	200	333
0.71	1930	2280	36800	2.2		**RM**	**107R77**	**DR**	**63M4**	290	333
0.78	1730	2067	37000	2.5							
0.82	1630	1987	37100	2.6							
0.89	1440	1827	37300	3.0		**R**	**107R77**	**DR**	**63M4**	200	333
1.0	1220	1599	37400	3.5		**RF**	**107R77**	**DR**	**63M4**	205	333
1.2	1100	1400	37500	3.9		**RM**	**107R77**	**DR**	**63M4**	295	333
1.3	930	1226	37600	4.6							

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P_m = 0.18 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.61	2370	2668	24700	1.25							
0.72	1960	2245	26500	1.55							
0.80	1730	2016	27300	1.75							
0.93	1570	1733	27500	1.90							
1.0	1460	1623	27700	2.0		**R**	**97R57**	**DR**	**63M4**	125	333
1.1	1270	1434	27900	2.4		**RF**	**97R57**	**DR**	**63M4**	145	333
1.3	1050	1207	28200	2.8		**RM**	**97R57**	**DR**	**63M4**	195	333
1.5	930	1084	28300	3.2							
1.7	785	934	28400	3.8							
1.9	730	878	28400	4.1							
2.1	615	755	28500	4.9							
0.60	2470	2722	19300	1.20		**R**	**97R57**	**DR**	**63M4**	130	333
0.70	2080	2311	23800	1.45		**RF**	**97R57**	**DR**	**63M4**	145	333
0.78	1870	2078	26300	1.60		**RM**	**97R57**	**DR**	**63M4**	195	333
1.1	1350	1489	18200	1.15							
1.2	1250	1395	18700	1.25							
1.3	1090	1232	19400	1.40		**R**	**87R57**	**DR**	**63M4**	85	333
1.4	1010	1145	19800	1.55		**RF**	**87R57**	**DR**	**63M4**	92	333
1.6	900	1037	20000	1.70		**RM**	**87R57**	**DR**	**63M4**	120	333
1.7	800	931	20000	1.95							
2.0	675	802	20000	2.3							
1.1	1330	1524	15700	1.15							
1.2	1080	1303	19200	1.40		**R**	**87R57**	**DR**	**63M4**	85	333
1.4	950	1143	20000	1.60		**RF**	**87R57**	**DR**	**63M4**	93	333
1.8	770	885	20000	2.0		**RM**	**87R57**	**DR**	**63M4**	120	333
2.1	675	776	20000	2.3							
1.9	775	858	10300	1.05							
2.1	675	757	11000	1.20		**R**	**77R37**	**DR**	**63M4**	45	333
2.4	595	671	11600	1.40		**RF**	**77R37**	**DR**	**63M4**	51	333
2.8	495	571	12100	1.65		**RM**	**77R37**	**DR**	**63M4**	76	333
2.0	695	821	10900	1.20							
2.2	630	731	11400	1.30							
2.5	595	646	11600	1.35							
2.9	515	560	12000	1.60		**R**	**77R37**	**DR**	**63M4**	46	333
3.3	435	488	12300	1.85		**RF**	**77R37**	**DR**	**63M4**	52	333
3.7	385	436	12500	2.1		**RM**	**77R37**	**DR**	**63M4**	77	333
4.3	330	373	12700	2.5							
5.0	290	327	12800	2.8							
5.6	260	289	12900	3.1							
2.8	505	571	8520	1.20		**R**	**67R37**	**DR**	**63M4**	40	333
3.3	420	486	9180	1.40		**RF**	**67R37**	**DR**	**63M4**	43	333
						RM	**67R37**	**DR**	**63M4**	59	333
2.8	520	574	8370	1.15							
3.3	450	495	8980	1.35							
3.7	375	438	9460	1.60		**R**	**67R37**	**DR**	**63M4**	41	333
4.2	335	388	9710	1.80		**RF**	**67R37**	**DR**	**63M4**	44	333
4.7	310	344	9820	1.90		**RM**	**67R37**	**DR**	**63M4**	60	333
5.5	245	294	10100	2.4							
6.2	230	261	10200	2.6							
3.6	395	454	7320	1.15		**R**	**57R37**	**DR**	**63M4**	33	333
4.0	355	410	7460	1.25		**RF**	**57R37**	**DR**	**63M4**	37	333
						RM	**57R37**	**DR**	**63M4**	49	333
3.4	425	471	7190	1.05							
4.5	320	357	7570	1.40							
5.1	280	319	7670	1.60		**R**	**57R37**	**DR**	**63M4**	34	333
5.9	235	273	7780	1.90		**RF**	**57R37**	**DR**	**63M4**	38	333
6.7	200	241	7840	2.2		**RM**	**57R37**	**DR**	**63M4**	50	333
7.5	183	215	7880	2.5							

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P_m = 0.18 kW												
n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
4.5	335	359	7520	1.35							
5.0	300	324	7620	1.50							
5.6	265	290	7710	1.70							
6.2	240	262	7770	1.85		**R**	**57R37**	**DR**	**63M4**	33	333
6.6	220	246	7810	2.0		**RF**	**57R37**	**DR**	**63M4**	37	333
7.4	198	220	7860	2.3		**RM**	**57R37**	**DR**	**63M4**	49	333
8.6	166	188	7900	2.7							
10	139	159	7940	3.2							
5.4	275	301	5540	1.10							
6.3	230	255	5740	1.30		**R**	**47R37**	**DR**	**63M4**	28	333
7.1	200	228	5840	1.45		**RF**	**47R37**	**DR**	**63M4**	28	333
8.3	172	195	5940	1.75							
8.1	183	199	4710	1.10							
9.4	159	172	5390	1.25		**R**	**37R17**	**DR**	**63M4**	17	333
11	138	150	5570	1.45		**RF**	**37R17**	**DR**	**63M4**	19	333
8.0	187	202	4590	1.05							
9.1	164	179	5260	1.20		**R**	**37R17**	**DR**	**63M4**	17	333
10	139	156	5560	1.45		**RF**	**37R17**	**DR**	**63M4**	18	333
11	125	141	3680	1.05							
13	110	124	4000	1.20		**R**	**27R17**	**DR**	**63M4**	11	333
15	99	110	4060	1.30		**RF**	**27R17**	**DR**	**63M4**	11	333
17	83	94	4130	1.55							
12	121	135	3780	1.10							
14	111	118	3990	1.15		**R**	**27R17**	**DR**	**63M4**	11	333
16	97	104	4070	1.35		**RF**	**27R17**	**DR**	**63M4**	11	333
18	83	90	4130	1.55							
5.5	310	195.24*	12800	2.6		**R**	**77**	**DR**	**63L6**	38	317
6.4	265	166.59	12900	3.1		**RF**	**77**	**DR**	**63L6**	43	318
						RM	**77**	**DR**	**63L6**	68	318
7.3	230	145.67	13000	3.5		**R**	**77**	**DR**	**63L6**	38	317
7.7	220	138.39	13000	3.7		**RF**	**77**	**DR**	**63L6**	43	318
8.8	195	121.42	13000	4.2		**RM**	**77**	**DR**	**63L6**	68	318
8.3	205	195.24*	13000	4.0							
9.7	177	166.59	13000	4.6		**R**	**77**	**DR**	**63M4**	37	317
11	155	145.67	13000	5.3		**RF**	**77**	**DR**	**63M4**	43	318
12	147	138.39	13000	5.6		**RM**	**77**	**DR**	**63M4**	68	318
5.4	320	199.81	9780	1.85							
5.8	295	184.07	9900	2.0							
6.8	250	158.14	10100	2.4							
7.8	220	137.67	10200	2.7							
8.3	205	128.97	10200	2.9		**R**	**67**	**DR**	**63L6**	30	314
9.4	183	113.94	10300	3.3		**RF**	**67**	**DR**	**63L6**	34	315
10	170	105.83	10300	3.5		**RM**	**67**	**DR**	**63L6**	49	315
11	154	95.91	10400	3.9							
12	138	86.11	10400	4.3							
14	119	74.17	10400	5.0							
15	112	69.75	10500	5.3							
8.1	210	199.81	10200	2.8							
8.8	195	184.07	10300	3.1							
10	168	158.14	10300	3.6		**R**	**67**	**DR**	**63M4**	30	314
12	146	137.67	10400	4.1		**RF**	**67**	**DR**	**63M4**	33	315
13	137	128.97	10400	4.4		**RM**	**67**	**DR**	**63M4**	49	315
14	121	113.94	10400	5.0							
15	112	105.83	10500	5.3							
5.7	300	186.89	7630	1.50							
6.2	275	172.17	7690	1.65		**R**	**57**	**DR**	**63L6**	24	311
7.2	235	147.92	7780	1.90		**RF**	**57**	**DR**	**63L6**	27	312
8.3	205	128.77	7840	2.2		**RM**	**57**	**DR**	**63L6**	39	312
8.9	194	120.63	7860	2.3							

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P_m = 0.18 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
8.7	198	186.89	7850	2.3							
9.4	183	172.17	7880	2.5							
11	157	147.92	7920	2.9							
13	137	128.77	7940	3.3		**R**	**57**	**DR**	**63M4**	23	311
13	128	120.63	7950	3.5		**RF**	**57**	**DR**	**63M4**	27	312
15	113	106.58	7970	4.0		**RM**	**57**	**DR**	**63M4**	39	312
16	105	98.99	7980	4.3							
18	95	89.71	7990	4.7							
9.2	188	176.88	5890	1.60							
9.9	173	162.94	5940	1.75							
12	149	139.99	6000	2.0							
13	129	121.87	6040	2.3							
14	121	114.17	6060	2.5		**R**	**47**	**DR**	**63M4**	18	308
16	107	100.86	6080	2.8		**RF**	**47**	**DR**	**63M4**	18	309
17	99	93.68	6100	3.0							
19	90	84.90	6110	3.3							
21	81	76.23	6120	3.7							
8.7	199	123.66	4280	1.00							
10	169	105.28	5110	1.20		**R**	**37**	**DR**	**63L6**	15	305
12	146	90.77	5500	1.35		**RF**	**37**	**DR**	**63L6**	16	306
13	136	84.61	5580	1.45							
12	143	134.82	5530	1.40							
13	131	123.66	5620	1.50							
15	112	105.28	5750	1.80							
18	96	90.77	5840	2.1							
19	90	84.61	5870	2.2		**R**	**37**	**DR**	**63M4**	14	305
22	78	73.96	5920	2.5		**RF**	**37**	**DR**	**63M4**	16	306
23	74	69.33	5940	2.7							
26	65	61.18	5970	3.1							
29	59	55.76	5860	3.4							
34	51	48.08	5600	3.9							
13	131	123.91	3500	1.00							
15	112	105.49	3990	1.15							
18	97	90.96	4070	1.35							
19	90	84.78	4100	1.45							
22	79	74.11	4160	1.65							
23	74	69.47	4180	1.75							
26	65	61.30	4080	2.0							
29	59	55.87	3980	2.2		**R**	**27**	**DR**	**63M4**	8.3	302
34	51	48.17	3810	2.5		**RF**	**27**	**DR**	**63M4**	8.2	303
36	48	44.90	3740	2.7							
41	42	39.25	3590	3.1							
44	39	36.79	3520	3.3							
50	34	32.47	3390	3.8							
56	31	28.78	3270	4.3							
66	26	24.47	3110	5.0							
57	30	28.37	3260	4.3							
62	28	26.09	3180	4.7							
73	24	22.32	3030	5.5							
84	21	19.35	2900	6.3		**R**	**27**	**DR**	**63M4**	8.0	302
90	19	18.08	2840	6.8		**RF**	**27**	**DR**	**63M4**	8.0	303
104	17	15.63	2710	7.8							
122	14	13.28*	2580	9.2							
20	87	81.64	1660	1.00							
23	75	70.39	2350	1.15							
25	70	65.61	2410	1.20							
28	61	57.35	2440	1.40							
30	57	53.76	2400	1.50							
34	50	47.44	2340	1.70		**R**	**17**	**DR**	**63M4**	7.6	299
37	47	44.18	2300	1.80		**RF**	**17**	**DR**	**63M4**	7.5	300
42	41	38.61	2230	2.1							
45	38	36.20	2190	2.2							
51	34	31.94	2120	2.5							
57	30	28.32	2060	2.8							
67	26	24.07	1970	3.3							

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P_m = 0.18 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC						m kg	
64	27	25.23	2000	3.2								
70	25	23.15	1950	3.5		**R**	**17**	**DR**	**63M4**		7.3	299
82	21	19.71	1860	4.1		**RF**	**17**	**DR**	**63M4**		7.2	300
95	18	16.99	1790	4.7								
34	51	47.78	1240	1.00								
37	47	44.16	1270	1.05								
39	44	41.31	1300	1.15								
40	43	40.34	1300	1.15								
42	41	38.51	1320	1.20		**R**	**07**	**DR**	**63M4**		6.5	296
48	36	34.05	1300	1.40		**RF**	**07**	**DR**	**63M4**		6.5	297
56	31	29.08	1260	1.60								
60	29	26.97	1240	1.75								
69	25	23.32	1200	2.0								
75	23	21.73	1180	2.2								
88	19	18.31	1130	2.6								
97	18	16.73	1110	2.8								
115	15	14.12	1060	3.3								
134	13	12.06	1020	3.9								
145	12	11.18	1000	4.2								
168	10	9.67	960	4.9								
180	9.6	9.01	940	5.2								
206	8.3	7.85	900	5.9		**R**	**07**	**DR**	**63M4**		6.3	296
217	7.9	7.48	890	5.4		**RF**	**07**	**DR**	**63M4**		6.3	297
237	7.2	6.83	870	5.9								
281	6.1	5.76	820	6.5								
329	5.2	4.92	785	7.1								
355	4.8	4.57	770	7.4								
410	4.2	3.95	735	8.1								
440	3.9	3.68	720	8.4								
505	3.4	3.21	690	9.1								
297	5.8	11.18	810	8.6								
343	5.0	9.67	775	10.0								
368	4.7	9.01	760	11								
423	4.1	7.85	730	12								
444	3.9	7.48	720	11								
486	3.5	6.83	700	12		**R**	**07**	**DR**	**63S2**		6.3	296
576	3.0	5.76	660	13		**RF**	**07**	**DR**	**63S2**		6.3	297
674	2.5	4.92	630	15								
727	2.4	4.57	615	15								
841	2.0	3.95	590	17								
902	1.9	3.68	575	17								
1035	1.7	3.21	550	19								
176	9.8	6.07	4620	4.4								
207	8.3	5.18	4380	9.0		**RX**	**67**	**DR**	**63L6**		17	286
236	7.3	4.53	4200	11		**RXF**	**67**	**DR**	**63L6**		21	287
249	6.9	4.30*	4120	12								
267	6.4	6.07	4030	6.7								
313	5.5	5.18	3830	14								
358	4.8	4.53	3660	17								
377	4.6	4.30*	3600	18								
429	4.0	3.77	3450	22		**RX**	**67**	**DR**	**63M4**		16	286
506	3.4	3.20*	3270	29		**RXF**	**67**	**DR**	**63M4**		20	287
561	3.1	2.89	3160	35								
637	2.7	2.54	3030	44								
675	2.5	2.40*	2970	48								
793	2.2	2.04	2820	62								
195	8.8	5.50*	3630	4.4								
211	8.1	5.07	3540	4.4		**RX**	**57**	**DR**	**63L6**		14	284
246	7.0	4.35	3370	9.7		**RXF**	**57**	**DR**	**63L6**		16	285
282	6.1	3.79	3220	11								

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P_m = 0.18 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} 1) N	SEW f_B	HAZ LOC					m kg	
295	5.8	5.50*	3180	6.7							
320	5.4	5.07	3090	6.7							
372	4.6	4.35	2940	15							
428	4.0	3.79	2810	17							
456	3.8	3.55*	2750	18							
517	3.3	3.14	2640	20		**RX**	**57**	**DR**	**63M4**	14	284
556	3.1	2.91	2580	22		**RXF**	**57**	**DR**	**63M4**	16	285
614	2.8	2.64*	2500	25							
683	2.5	2.37	2410	27							
793	2.2	2.04	2300	32							
844	2.0	1.92*	2250	34							
981	1.8	1.65	2140	39							

P_m = 0.25 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} 1) N	SEW f_B	HAZ LOC					m kg	
0.16	11900	9743	64600	1.10							
0.19	9980	8443	67800	1.30							
0.22	8630	7307	69600	1.50							
0.25	7620	6447	70700	1.70							
0.29	6580	5568	71700	2.0		**R**	**147R77**	**DR**	**63L4**	420	333
0.32	5980	4926	72200	2.2		**RF**	**147R77**	**DR**	**63L4**	430	333
0.37	5150	4325	72800	2.5		**RM**	**147R77**	**DR**	**63L4**	600	333
0.43	4560	3754	73200	2.9							
0.48	3930	3302	73600	3.3							
0.55	3420	2898	73800	3.8							
0.27	6740	5834	55800	1.20							
0.31	6290	5116	56600	1.25		**R**	**137R77**	**DR**	**63L4**	290	333
0.36	5270	4464	58000	1.50		**RF**	**137R77**	**DR**	**63L4**	310	333
0.41	4640	3928	58800	1.70		**RM**	**137R77**	**DR**	**63L4**	425	333
0.34	5900	4709	57200	1.35							
0.40	5030	4018	58400	1.60		**R**	**137R77**	**DR**	**63L4**	280	333
0.46	4400	3514	59100	1.80		**RF**	**137R77**	**DR**	**63L4**	300	333
0.48	4180	3338	59300	1.90		**RM**	**137R77**	**DR**	**63L4**	415	333
0.55	3670	2929	59800	2.2							
0.60	3310	2658	60100	2.4							
0.66	3000	2412	60300	2.7							
0.77	2580	2073	60600	3.1		**R**	**137R77**	**DR**	**63L4**	290	333
0.87	2200	1839	60800	3.6		**RF**	**137R77**	**DR**	**63L4**	310	333
1.1	1710	1397	61100	4.7		**RM**	**137R77**	**DR**	**63L4**	420	333
1.3	1470	1226	61100	5.4							
						R	**107R77**	**DR**	**63L4**	205	333
0.53	3730	3039	32200	1.15		**RF**	**107R77**	**DR**	**63L4**	210	333
						RM	**107R77**	**DR**	**63L4**	295	333
						R	**107R77**	**DR**	**63L4**	195	333
0.53	3800	3034	31900	1.15		**RF**	**107R77**	**DR**	**63L4**	200	333
						RM	**107R77**	**DR**	**63L4**	290	333
0.81	2440	1987	36200	1.75							
0.88	2180	1827	36600	1.95							
1.0	1870	1599	36900	2.3		**R**	**107R77**	**DR**	**63L4**	200	333
1.1	1670	1400	37100	2.6		**RF**	**107R77**	**DR**	**63L4**	205	333
1.3	1430	1226	37300	3.0		**RM**	**107R77**	**DR**	**63L4**	295	333
1.7	1120	939	37500	3.8							
1.9	960	822	37600	4.5							
0.92	2270	1733	25200	1.30		**R**	**97R57**	**DR**	**63L4**	125	333
0.99	2120	1623	25900	1.40		**RF**	**97R57**	**DR**	**63L4**	145	333
						RM	**97R57**	**DR**	**63L4**	195	333

P_m = 0.25 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.88	2360	1823	20600	1.25							
1.0	2050	1583	24200	1.45							
1.1	1760	1396	27200	1.70							
1.3	1530	1228	27600	1.95		**R**	**97R57**	**DR**	**63L4**	130	333
1.5	1390	1069	27800	2.1		**RF**	**97R57**	**DR**	**63L4**	145	333
1.7	1210	938	28000	2.5		**RM**	**97R57**	**DR**	**63L4**	195	333
1.9	1020	824	28200	2.9							
2.2	920	737	28300	3.3							
2.5	785	632	28400	3.8							
1.4	1470	1145	17400	1.05							
1.5	1320	1037	18300	1.15		**R**	**87R57**	**DR**	**63L4**	86	333
1.7	1180	931	19100	1.30		**RF**	**87R57**	**DR**	**63L4**	93	333
2.0	1000	802	19800	1.55		**RM**	**87R57**	**DR**	**63L4**	120	333
1.4	1410	1143	14400	1.10							
1.8	1130	885	19300	1.35							
2.1	990	776	19900	1.55							
2.3	870	685	20000	1.75		**R**	**87R57**	**DR**	**63L4**	86	333
2.7	730	599	20000	2.1		**RF**	**87R57**	**DR**	**63L4**	93	333
3.0	640	525	20000	2.4		**RM**	**87R57**	**DR**	**63L4**	125	333
3.5	565	456	20000	2.7							
6.0	325	268	20000	4.8							
						R	**77R37**	**DR**	**63L4**	46	333
2.8	725	571	10700	1.10		**RF**	**77R37**	**DR**	**63L4**	52	333
						RM	**77R37**	**DR**	**63L4**	77	333
2.9	745	560	10600	1.10							
3.3	635	488	11300	1.30							
3.7	560	436	11800	1.45							
4.3	485	373	12100	1.70		**R**	**77R37**	**DR**	**63L4**	47	333
4.9	425	327	12400	1.90		**RF**	**77R37**	**DR**	**63L4**	53	333
5.5	380	289	12600	2.2		**RM**	**77R37**	**DR**	**63L4**	78	333
6.2	335	260	12700	2.4							
7.1	280	224	12800	2.9							
4.1	490	388	8640	1.20							
4.7	450	344	8960	1.30							
5.5	365	294	9530	1.65							
6.1	335	261	9700	1.80		**R**	**67R37**	**DR**	**63L4**	41	333
6.8	300	234	9870	2.0		**RF**	**67R37**	**DR**	**63L4**	45	333
8.0	255	200	10100	2.4		**RM**	**67R37**	**DR**	**63L4**	60	333
9.1	220	176	10200	2.7							
10	198	158	10300	3.0							
4.2	515	384	8420	1.15							
4.5	480	359	8730	1.25							
5.2	410	310	9240	1.45		**R**	**67R37**	**DR**	**63L4**	41	333
6.1	345	264	9640	1.75		**RF**	**67R37**	**DR**	**63L4**	44	333
6.8	305	235	9840	1.95		**RM**	**67R37**	**DR**	**63L4**	59	333
8.0	260	201	10100	2.3							
8.8	230	181	10100	2.5							
5.0	410	319	7260	1.10							
5.9	345	273	7490	1.30							
6.7	300	241	7620	1.50		**R**	**57R37**	**DR**	**63L4**	35	333
7.4	270	215	7710	1.65		**RF**	**57R37**	**DR**	**63L4**	38	333
8.6	235	187	7780	1.90		**RM**	**57R37**	**DR**	**63L4**	50	333
9.7	205	164	7840	2.2							
11	181	142	7880	2.5							
4.9	435	324	7160	1.05							
5.5	385	290	7360	1.15		**R**	**57R37**	**DR**	**63L4**	34	333
6.1	345	262	7480	1.30		**RF**	**57R37**	**DR**	**63L4**	37	333
6.5	325	246	7560	1.40		**RM**	**57R37**	**DR**	**63L4**	49	333
7.3	285	220	7660	1.55							
7.0	295	228	5030	1.00							
8.2	250	195	5650	1.20		**R**	**47R37**	**DR**	**63L4**	29	333
8.8	230	182	5720	1.30		**RF**	**47R37**	**DR**	**63L4**	29	333
10	195	154	5870	1.55							

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P_m = 0.25 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
11	199	150	4270	1.00							
12	169	130	5120	1.20							
13	160	124	5360	1.25		**R**	**37R17**	**DR**	**63L4**	18	333
15	142	110	5540	1.40		**RF**	**37R17**	**DR**	**63L4**	19	333
17	121	94	5690	1.65							
12	176	135	4930	1.15							
13	171	127	5050	1.15		**R**	**37R17**	**DR**	**63L4**	18	333
15	139	104	5560	1.45		**RF**	**37R17**	**DR**	**63L4**	19	333
18	120	90	5700	1.65							
5.6	420	195.24*	12400	1.95		**R**	**77**	**DRS**	**71S6**	39	317
6.6	360	166.59	12600	2.3		**RF**	**77**	**DRS**	**71S6**	45	318
7.5	315	145.67	12800	2.6		**RM**	**77**	**DRS**	**71S6**	70	318
8.2	290	195.24*	12800	2.8							
9.6	245	166.59	12900	3.3		**R**	**77**	**DR**	**63L4**	38	317
11	215	145.67	13000	3.8		**RF**	**77**	**DR**	**63L4**	43	318
12	205	138.39	13000	4.0		**RM**	**77**	**DR**	**63L4**	68	318
13	181	121.42	13000	4.5							
5.5	430	199.81	9110	1.40							
6.0	395	184.07	9340	1.50							
7.0	340	158.14	9670	1.75		**R**	**67**	**DRS**	**71S6**	32	314
8.0	295	137.67	9890	2.0		**RF**	**67**	**DRS**	**71S6**	35	315
8.5	275	128.97	9970	2.1		**RM**	**67**	**DRS**	**71S6**	51	315
9.7	245	113.94	10100	2.4							
10	225	105.83	10200	2.6							
8.0	295	199.81	9890	2.0							
8.7	270	184.07	9990	2.2							
10	235	158.14	10100	2.5							
12	205	137.67	10200	2.9		**R**	**67**	**DR**	**63L4**	30	314
12	192	128.97	10300	3.1		**RF**	**67**	**DR**	**63L4**	34	315
14	170	113.94	10300	3.5		**RM**	**67**	**DR**	**63L4**	49	315
15	158	105.83	10400	3.8							
17	143	95.91	10400	4.2							
19	128	86.11	10400	4.7							
5.9	405	186.89	7290	1.10							
6.4	370	172.17	7400	1.20							
7.4	320	147.92	7570	1.40		**R**	**57**	**DRS**	**71S6**	26	311
8.5	275	128.77	7680	1.60		**RF**	**57**	**DRS**	**71S6**	29	312
9.1	260	120.63	7720	1.70		**RM**	**57**	**DRS**	**71S6**	41	312
10	230	106.58	7790	1.95							
11	210	98.99	7820	2.1							
8.6	275	186.89	7680	1.60							
9.3	255	172.17	7740	1.75							
11	220	147.92	7810	2.0							
12	192	128.77	7860	2.3							
13	180	120.63	7880	2.5		**R**	**57**	**DR**	**63L4**	24	311
15	159	106.58	7920	2.8		**RF**	**57**	**DR**	**63L4**	27	312
16	148	98.99	7930	3.0		**RM**	**57**	**DR**	**63L4**	39	312
18	134	89.71	7950	3.4							
20	120	80.55	7960	3.7							
23	103	69.23	7980	4.4							
9.1	260	176.88	5600	1.15							
9.8	240	162.94	5690	1.25							
11	205	139.99	5820	1.45							
13	182	121.87	5910	1.65							
14	170	114.17	5940	1.75							
16	150	100.86	6000	2.0							
17	140	93.68	6020	2.1		**R**	**47**	**DR**	**63L4**	19	308
19	127	84.90	6050	2.4		**RF**	**47**	**DR**	**63L4**	19	309
21	114	76.23	6070	2.6							
23	102	68.54	6090	2.9							
25	96	64.21	6100	3.1							
28	85	56.73	6010	3.5							
30	79	52.69	5880	3.8							
34	71	47.75	5710	4.2							

P_m = 0.25 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
12	200	134.82	4210	1.00							
13	185	123.66	4680	1.10							
15	157	105.28	5410	1.25							
18	135	90.77	5590	1.50							
19	126	84.61	5660	1.60							
22	110	73.96	5760	1.80							
23	103	69.33	5800	1.95		**R**	**37**	**DR**	**63L4**	15	305
26	91	61.18	5860	2.2		**RF**	**37**	**DR**	**63L4**	16	306
29	83	55.76	5770	2.4							
33	72	48.08	5530	2.8							
36	67	44.81	5420	3.0							
41	58	39.17	5210	3.4							
44	55	36.72	5110	3.6							
49	48	32.40	4920	4.1							
19	126	84.78	3630	1.05							
22	111	74.11	4000	1.20							
23	104	69.47	4030	1.25							
26	91	61.30	3970	1.40							
29	83	55.87	3880	1.55							
33	72	48.17	3730	1.80		**R**	**27**	**DR**	**63L4**	9.0	302
36	67	44.90	3660	1.95		**RF**	**27**	**DR**	**63L4**	8.9	303
41	59	39.25	3520	2.2							
43	55	36.79	3460	2.4							
49	48	32.47	3340	2.7							
56	43	28.78	3230	3.0							
65	37	24.47	3080	3.6							
56	42	28.37	3210	3.1							
61	39	26.09	3130	3.3							
72	33	22.32	2990	3.9							
83	29	19.35	2870	4.5							
88	27	18.08	2810	4.8							
102	23	15.63	2690	5.6							
120	20	13.28*	2560	6.6							
135	18	11.86	2470	7.3							
158	15	10.13	2350	8.1		**R**	**27**	**DR**	**63L4**	8.7	302
170	14	9.41	2290	8.7		**RF**	**27**	**DR**	**63L4**	8.7	303
196	12	8.16	2190	9.5							
210	11	7.63*	2140	9.8							
243	9.8	6.59	2050	11							
286	8.4	5.60*	1940	12							
320	7.5	5.00*	1880	13							
375	6.4	4.27	1780	14							
400	6.0	4.00*	1750	14							
475	5.0	3.37	1650	16							
28	86	57.35	1730	1.00							
30	80	53.76	2050	1.05							
34	71	47.44	2200	1.20							
36	66	44.18	2170	1.30							
41	58	38.61	2120	1.50		**R**	**17**	**DR**	**63L4**	8.3	299
44	54	36.20	2090	1.55		**RF**	**17**	**DR**	**63L4**	8.2	300
50	48	31.94	2030	1.80							
56	42	28.32	1980	2.0							
66	36	24.07	1900	2.4							
63	38	25.23	1930	2.3							
69	35	23.15	1890	2.5							
81	29	19.71	1810	2.9							
94	25	16.99	1740	3.4		**R**	**17**	**DR**	**63L4**	8.0	299
101	24	15.84	1710	3.6		**RF**	**17**	**DR**	**63L4**	7.9	300
116	21	13.84	1650	4.1							
123	19	12.98	1620	4.4							
140	17	11.45	1570	4.7							
47	51	34.05	1200	1.00							
55	43	29.08	1170	1.15							
59	40	26.97	1160	1.25		**R**	**07**	**DR**	**63L4**	7.2	296
69	35	23.32	1130	1.45		**RF**	**07**	**DR**	**63L4**	7.2	297
74	32	21.73	1110	1.55							

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P_m = 0.25 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
87	27	18.31	1080	1.85							
96	25	16.73	1060	2.0							
113	21	14.12	1020	2.4							
133	18	12.06	980	2.8							
143	17	11.18	960	3.0							
165	14	9.67	930	3.5							
178	13	9.01	910	3.7							
204	12	7.85	880	4.2		**R**	**07**	**DR**	**63L4**	7.0	296
214	11	7.48	870	3.9		**RF**	**07**	**DR**	**63L4**	7.0	297
234	10	6.83	850	4.2							
278	8.6	5.76	810	4.7							
325	7.3	4.92	775	5.0							
350	6.8	4.57	760	5.3							
405	5.9	3.95	725	5.8							
435	5.5	3.68	710	6.0							
499	4.8	3.21	685	6.5							
292	8.2	11.18	795	6.1							
337	7.1	9.67	765	7.1							
362	6.6	9.01	750	7.6							
415	5.8	7.85	720	8.5							
436	5.5	7.48	710	7.8							
477	5.0	6.83	690	8.6		**R**	**07**	**DR**	**63M2**	6.3	296
566	4.2	5.76	660	9.5		**RF**	**07**	**DR**	**63M2**	6.3	297
662	3.6	4.92	625	10							
714	3.3	4.57	615	11							
826	2.9	3.95	585	12							
886	2.7	3.68	575	12							
1015	2.4	3.21	550	13							
181	13	6.07	4550	3.3							
212	11	5.18	4320	6.7		**RX**	**67**	**DRS**	**71S6**	19	286
243	9.8	4.53	4140	8.3		**RXF**	**67**	**DRS**	**71S6**	23	287
256	9.3	4.30*	4070	8.6							
264	9.1	6.07	4030	4.8							
309	7.7	5.18	3830	9.7							
353	6.8	4.53	3670	12							
372	6.4	4.30*	3600	12							
424	5.6	3.77	3450	15		**RX**	**67**	**DR**	**63L4**	17	286
500	4.8	3.20*	3270	21		**RXF**	**67**	**DR**	**63L4**	21	287
554	4.3	2.89	3160	25							
630	3.8	2.54	3040	31							
667	3.6	2.40*	2980	34							
783	3.0	2.04	2820	44							
200	12	5.50*	3580	3.3							
217	11	5.07	3480	3.3		**RX**	**57**	**DRS**	**71S6**	16	284
253	9.4	4.35	3320	7.2		**RXF**	**57**	**DRS**	**71S6**	18	285
290	8.2	3.79	3180	8.4							
291	8.2	5.50*	3170	4.8							
316	7.6	5.07	3090	4.8							
368	6.5	4.35	2940	10							
422	5.7	3.79	2810	12							
451	5.3	3.55*	2760	13							
510	4.7	3.14	2650	14		**RX**	**57**	**DR**	**63L4**	14	284
549	4.3	2.91	2580	15		**RXF**	**57**	**DR**	**63L4**	16	285
606	3.9	2.64*	2500	18							
675	3.5	2.37	2420	20							
784	3.0	2.04	2300	23							
833	2.9	1.92*	2250	24							
968	2.5	1.65	2140	28							

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P_m = 0.37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.23	12600	7307	63400	1.05	X						
0.26	11100	6447	66100	1.15	X						
0.31	9600	5568	68300	1.35	X						
0.35	8660	4926	69500	1.50	X	**R**	**147R77**	**(E)DRS**	**71S4**	425	333
0.39	7500	4325	70800	1.75	X	**RF**	**147R77**	**(E)DRS**	**71S4**	430	333
0.45	6600	3754	71700	1.95	X	**RM**	**147R77**	**(E)DRS**	**71S4**	600	333
0.51	5720	3302	72400	2.3	X						
0.59	4990	2898	72900	2.6	X						
0.38	7700	4464	54000	1.05	X	**R**	**137R77**	**(E)DRS**	**71S4**	290	333
0.43	6770	3928	55800	1.20	X	**RF**	**137R77**	**(E)DRS**	**71S4**	315	333
						RM	**137R77**	**(E)DRS**	**71S4**	425	333
0.42	7250	4018	54900	1.10	X						
0.48	6340	3514	56500	1.25	X						
0.51	6020	3338	57000	1.35	X	**R**	**137R77**	**(E)DRS**	**71S4**	280	333
0.58	5280	2929	58000	1.50	X	**RF**	**137R77**	**(E)DRS**	**71S4**	305	333
0.68	4460	2484	59000	1.80	X	**RM**	**137R77**	**(E)DRS**	**71S4**	415	333
0.76	3990	2242	59500	2.0	X						
0.64	4770	2658	58700	1.70	X						
0.70	4330	2412	59200	1.85	X						
0.82	3720	2073	59800	2.1	X						
0.92	3210	1839	60200	2.5	X	**R**	**137R77**	**(E)DRS**	**71S4**	290	333
1.2	2480	1397	60700	3.2	X	**RF**	**137R77**	**(E)DRS**	**71S4**	315	333
1.4	2150	1226	60900	3.7	X	**RM**	**137R77**	**(E)DRS**	**71S4**	425	333
1.6	1930	1090	61000	4.1	X						
1.8	1690	951	61100	4.7	X						
0.82	3710	2067	32300	1.15	X						
1.0	3010	1693	34900	1.45	X						
1.1	2700	1550	35800	1.60	X	**R**	**107R77**	**(E)DRS**	**71S4**	200	333
1.2	2450	1407	36200	1.75	X	**RF**	**107R77**	**(E)DRS**	**71S4**	205	333
1.4	2110	1209	36600	2.0	X	**RM**	**107R77**	**(E)DRS**	**71S4**	290	333
1.6	1840	1055	36900	2.3	X						
0.86	3530	1987	33000	1.20	X						
0.93	3180	1827	34300	1.35	X						
1.1	2740	1599	35700	1.55	X	**R**	**107R77**	**(E)DRS**	**71S4**	205	333
1.2	2440	1400	36200	1.75	X	**RF**	**107R77**	**(E)DRS**	**71S4**	210	333
1.4	2100	1226	36700	2.0	X	**RM**	**107R77**	**(E)DRS**	**71S4**	295	333
1.8	1630	939	37100	2.6	X						
2.1	1410	822	37300	3.0	X						
1.4	2200	1207	25500	1.35	X	**R**	**97R57**	**(E)DRS**	**71S4**	130	333
1.6	1970	1084	26500	1.50	X	**RF**	**97R57**	**(E)DRS**	**71S4**	145	333
						RM	**97R57**	**(E)DRS**	**71S4**	195	333
1.2	2530	1396	18500	1.20	X						
1.4	2200	1228	22400	1.35	X						
1.6	1980	1069	26400	1.50	X						
1.8	1730	938	27300	1.75	X						
2.1	1480	824	27700	2.0	X	**R**	**97R57**	**(E)DRS**	**71S4**	130	333
2.3	1320	737	27900	2.3	X	**RF**	**97R57**	**(E)DRS**	**71S4**	145	333
2.7	1130	632	28100	2.6	X	**RM**	**97R57**	**(E)DRS**	**71S4**	200	333
3.9	780	431	28400	3.8	X						
4.5	680	379	28500	4.4	X						
5.0	610	336	28500	4.9	X						
2.1	1440	802	17600	1.05	X	**R**	**87R57**	**(E)DRS**	**71S4**	87	333
2.2	1350	754	18200	1.15	X	**RF**	**87R57**	**(E)DRS**	**71S4**	94	333
2.6	1140	649	19200	1.35	X	**RM**	**87R57**	**(E)DRS**	**71S4**	125	333
2.2	1420	776	17800	1.10	X						
2.5	1250	685	18700	1.25	X						
2.8	1050	599	19600	1.45	X	**R**	**87R57**	**(E)DRS**	**71S4**	88	333
3.2	920	525	20000	1.65	X	**RF**	**87R57**	**(E)DRS**	**71S4**	95	333
3.7	810	456	20000	1.90	X	**RM**	**87R57**	**(E)DRS**	**71S4**	125	333
6.3	470	268	20000	3.3	X						
7.2	415	236	20000	3.7	X						
3.2	1010	538	19800	1.55	X	**R**	**87R57**	**(E)DRS**	**71S4**	86	333
3.6	880	472	20000	1.75	X	**RF**	**87R57**	**(E)DRS**	**71S4**	93	333
4.2	740	400	20000	2.1	X	**RM**	**87R57**	**(E)DRS**	**71S4**	125	333
4.7	660	361	20000	2.3	X						

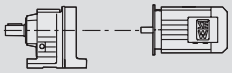
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P_m = 0.37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
4.6	690	373	11000	1.20	X						
5.2	605	327	11500	1.35	X						
5.9	535	289	11900	1.50	X						
6.5	480	260	12200	1.70	X	**R**	**77R37**	**(E)DRS**	**71S4**	49	333
7.6	400	224	12500	2.0	X	**RF**	**77R37**	**(E)DRS**	**71S4**	55	333
8.7	355	197	12600	2.3	X	**RM**	**77R37**	**(E)DRS**	**71S4**	80	333
10	310	169	12800	2.6	X						
11	270	149	12900	3.0	X						
5.8	530	294	8300	1.15	X						
6.5	480	261	8740	1.25	X	**R**	**67R37**	**(E)DRS**	**71S4**	43	333
7.3	430	234	9120	1.40	X	**RF**	**67R37**	**(E)DRS**	**71S4**	47	333
8.5	365	200	9540	1.65	X	**RM**	**67R37**	**(E)DRS**	**71S4**	62	333
3.8	930	289.74	28300	3.2							
4.3	820	255.71	28400	3.6		**R**	**97**	**DRS**	**71M6**	110	323
4.6	770	241.25	28400	3.9		**RF**	**97**	**DRS**	**71M6**	125	324
5.1	690	216.28	28500	4.3		**RM**	**97**	**DRS**	**71M6**	175	324
4.5	790	246.54	20000	1.95							
5.1	695	216.54	20000	2.2							
5.3	660	205.71	20000	2.4		**R**	**87**	**DRS**	**71M6**	67	320
6.0	580	181.77	20000	2.6		**RF**	**87**	**DRS**	**71M6**	74	321
7.1	495	155.34	20000	3.1		**RM**	**87**	**DRS**	**71M6**	105	321
7.7	455	142.41	20000	3.4							
6.6	535	166.59	11900	1.55		**R**	**77**	**DRS**	**71M6**	41	317
7.5	465	145.67	12200	1.75		**RF**	**77**	**DRS**	**71M6**	46	318
8.0	440	138.39	12300	1.85		**RM**	**77**	**DRS**	**71M6**	71	318
8.7	405	195.24*	12500	2.0	X						
10	345	166.59	12700	2.4	X						
12	300	145.67	12800	2.7	X	**R**	**77**	**(E)DRS**	**71S4**	39	317
12	285	138.39	12800	2.9	X	**RF**	**77**	**(E)DRS**	**71S4**	45	318
14	250	121.42	12900	3.2	X	**RM**	**77**	**(E)DRS**	**71S4**	70	318
17	210	102.99	13000	3.8	X						
18	193	92.97	13000	4.2	X						
7.0	505	158.14	8510	1.20							
8.0	440	137.67	9050	1.35		**R**	**67**	**DRS**	**71M6**	34	314
8.5	410	128.97	9240	1.45		**RF**	**67**	**DRS**	**71M6**	37	315
9.7	365	113.94	9540	1.65		**RM**	**67**	**DRS**	**71M6**	52	315
8.5	415	199.81	9240	1.45	X						
9.2	380	184.07	9440	1.55	X						
11	325	158.14	9740	1.85	X						
12	285	137.67	9940	2.1	X						
13	265	128.97	10000	2.2	X						
15	235	113.94	10100	2.5	X	**R**	**67**	**(E)DRS**	**71S4**	32	314
16	215	105.83	10200	2.7	X	**RF**	**67**	**(E)DRS**	**71S4**	35	315
18	199	95.91	10300	3.0	X	**RM**	**67**	**(E)DRS**	**71S4**	51	315
20	179	86.11	10300	3.4	X						
23	154	74.17	10400	3.9	X						
24	145	69.75	10400	4.1	X						
28	127	61.26	10400	4.7	X						
30	118	56.89	10400	5.1	X						
8.5	410	128.77	7260	1.10							
9.1	385	120.63	7350	1.15		**R**	**57**	**DRS**	**71M6**	27	311
10	340	106.58	7510	1.30		**RF**	**57**	**DRS**	**71M6**	30	312
11	315	98.99	7580	1.40		**RM**	**57**	**DRS**	**71M6**	42	312

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P_m = 0.37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
9.1	385	186.89	7350	1.15	X						
9.9	355	172.17	7460	1.25	X						
11	305	147.92	7610	1.45	X						
13	265	128.77	7710	1.70	X						
14	250	120.63	7750	1.80	X						
16	220	106.58	7810	2.0	X						
17	205	98.99	7840	2.2	X	**R**	**57**	**(E)DRS**	**71S4**	26	311
19	186	89.71	7870	2.4	X	**RF**	**57**	**(E)DRS**	**71S4**	29	312
21	167	80.55	7900	2.7	X	**RM**	**57**	**(E)DRS**	**71S4**	41	312
25	144	69.23	7720	3.1	X						
26	135	64.85	7570	3.3	X						
30	119	57.29	7300	3.8	X						
32	111	53.22	7140	4.1	X						
35	100	48.23	6940	4.5	X						
12	290	139.99	5210	1.05	X						
14	250	121.87	5650	1.20	X						
15	235	114.17	5710	1.25	X						
17	205	100.86	5820	1.45	X						
18	195	93.68	5870	1.55	X						
20	176	84.90	5920	1.70	X						
22	158	76.23	5980	1.90	X						
25	142	68.54	6010	2.1	X	**R**	**47**	**(E)DRS**	**71S4**	20	308
26	133	64.21	5970	2.2	X	**RF**	**47**	**(E)DRS**	**71S4**	20	309
30	118	56.73	5760	2.5	X						
32	110	52.69	5640	2.7	X						
36	99	47.75	5490	3.0	X						
40	89	42.87	5320	3.4	X						
46	77	36.93	5090	3.9	X						
49	72	34.73	5000	4.2	X						
50	70	33.79	4960	3.4	X						
55	65	31.12	4840	3.4	X						
64	56	26.74	4620	5.4	X	**R**	**47**	**(E)DRS**	**71S4**	20	308
73	48	23.28	4430	6.2	X	**RF**	**47**	**(E)DRS**	**71S4**	20	309
78	45	21.81	4340	6.6	X						
19	189	90.77	4560	1.05	X						
20	176	84.61	4920	1.15	X	**R**	**37**	**(E)DRS**	**71S4**	17	305
23	154	73.96	5440	1.30	X	**RF**	**37**	**(E)DRS**	**71S4**	18	306
25	144	69.33	5520	1.40	X						
28	127	61.18	5630	1.55	X						
30	116	55.76	5500	1.75	X						
35	100	48.08	5280	2.0	X						
38	93	44.81	5180	2.1	X	**R**	**37**	**(E)DRS**	**71S4**	17	305
43	81	39.17	4990	2.5	X	**RF**	**37**	**(E)DRS**	**71S4**	18	306
46	76	36.72	4900	2.6	X						
52	67	32.40	4720	3.0	X						
59	60	28.73	4560	3.4	X						
70	51	24.42	4350	3.9	X						
60	59	28.32	4540	3.4	X						
65	54	26.03	4430	3.4	X						
76	46	22.27	4230	4.3	X	**R**	**37**	**(E)DRS**	**71S4**	17	305
88	40	19.31	4050	5.0	X	**RF**	**37**	**(E)DRS**	**71S4**	18	306
94	38	18.05	3970	5.3	X						
109	32	15.60	3800	6.2	X						
128	28	13.25	3610	6.9	X	**R**	**37**	**(E)DRS**	**71S4**	17	305
144	25	11.83	3490	7.4	X	**RF**	**37**	**(E)DRS**	**71S4**	18	306
28	127	61.30	3600	1.00	X						
30	116	55.87	3630	1.10	X						
35	100	48.17	3510	1.30	X						
38	93	44.90	3450	1.40	X						
43	82	39.25	3330	1.60	X	**R**	**27**	**(E)DRS**	**71S4**	11	302
46	76	36.79	3280	1.70	X	**RF**	**27**	**(E)DRS**	**71S4**	11	303
52	67	32.47	3170	1.95	X						
59	60	28.78	3070	2.2	X						
69	51	24.47	2940	2.6	X						

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P_m = 0.37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
60	59	28.37	3060	2.2	X						
65	54	26.09	2990	2.4	X						
76	46	22.32	2870	2.8	X						
88	40	19.35	2750	3.2	X	**R**	**27**	**(E)DRS**	**71S4**	11	302
94	38	18.08	2700	3.5	X	**RF**	**27**	**(E)DRS**	**71S4**	11	303
109	32	15.63	2590	4.0	X						
128	28	13.28*	2470	4.7	X						
44	80	38.61	1900	1.05	X						
47	75	36.20	1890	1.15	X						
53	66	31.94	1850	1.30	X	**R**	**17**	**(E)DRS**	**71S4**	10	299
60	59	28.32	1810	1.45	X	**RF**	**17**	**(E)DRS**	**71S4**	10.0	300
71	50	24.07	1760	1.70	X						
67	52	25.23	1780	1.60	X						
73	48	23.15	1750	1.75	X						
86	41	19.71	1690	2.1	X						
100	35	16.99	1630	2.4	X						
107	33	15.84	1610	2.6	X						
123	29	13.84	1560	3.0	X						
131	27	12.98	1530	3.1	X						
148	24	11.45	1480	3.4	X						
167	21	10.15	1440	3.6	X	**R**	**17**	**(E)DRS**	**71S4**	9.8	299
197	18	8.63	1380	4.0	X	**RF**	**17**	**(E)DRS**	**71S4**	9.7	300
225	16	7.55	1300	3.6	X						
242	15	7.04	1280	3.8	X						
276	13	6.15	1230	4.2	X						
295	12	5.76	1210	4.4	X						
334	11	5.09	1170	4.8	X						
377	9.4	4.51	1130	5.1	X						
443	8.0	3.83	1080	5.7	X						
93	38	18.31	970	1.30	X						
102	35	16.73	960	1.45	X						
120	29	14.12	930	1.70	X						
141	25	12.06	900	2.0	X						
152	23	11.18	890	2.1	X						
176	20	9.67	860	2.5	X						
189	19	9.01	850	2.7	X						
216	16	7.85	820	3.0	X	**R**	**07**	**(E)DRS**	**71S4**	8.8	296
227	16	7.48	820	2.8	X	**RF**	**07**	**(E)DRS**	**71S4**	8.8	297
249	14	6.83	800	3.0	X						
295	12	5.76	770	3.3	X						
345	10	4.92	735	3.6	X						
372	9.5	4.57	720	3.8	X						
431	8.2	3.95	695	4.1	X						
462	7.7	3.68	680	4.3	X						
530	6.7	3.21	655	4.7	X						
336	11	9.67	740	4.8							
361	9.8	9.01	725	5.1							
414	8.5	7.85	700	5.7							
435	8.1	7.48	690	5.3							
476	7.4	6.83	675	5.8							
564	6.3	5.76	645	6.4		**R**	**07**	**DR**	**63L2**	7.0	296
660	5.3	4.92	615	6.9		**RF**	**07**	**DR**	**63L2**	7.0	297
712	5.0	4.57	600	7.2							
823	4.3	3.95	575	7.9							
883	4.0	3.68	565	8.2							
1015	3.5	3.21	540	8.9							
212	17	5.18	4290	4.5							
243	15	4.53	4110	5.6		**RX**	**67**	**DRS**	**71M6**	20	286
256	14	4.30*	4040	5.8		**RXF**	**67**	**DRS**	**71M6**	24	287
292	12	3.77	3880	7.2							

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P_m = 0.37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
280	13	6.07	3930	3.4	X						
328	11	5.18	3730	7.0	X						
376	9.4	4.53	3570	8.7	X						
395	8.9	4.30*	3520	8.9	X						
451	7.8	3.77	3370	11	X	**RX**	**67**	**(E)DRS**	**71S4**	19	286
531	6.7	3.20*	3190	15	X	**RXF**	**67**	**(E)DRS**	**71S4**	23	287
588	6.0	2.89	3090	18	X						
669	5.3	2.54	2960	22	X						
708	5.0	2.40*	2910	25	X						
832	4.2	2.04	2760	32	X						
253	14	4.35	3290	4.9							
290	12	3.79	3150	5.7		**RX**	**57**	**DRS**	**71M6**	17	284
310	11	3.55*	3080	6.0		**RXF**	**57**	**DRS**	**71M6**	19	285
309	11	5.50*	3090	3.4	X						
336	11	5.07	3010	3.4	X						
391	9.1	4.35	2860	7.5	X						
449	7.9	3.79	2740	8.8	X						
479	7.4	3.55*	2680	9.3	X						
542	6.5	3.14	2580	10.0	X	**RX**	**57**	**(E)DRS**	**71S4**	16	284
584	6.0	2.91	2520	11	X	**RXF**	**57**	**(E)DRS**	**71S4**	18	285
644	5.5	2.64*	2440	13	X						
717	4.9	2.37	2360	14	X						
833	4.2	2.04	2240	16	X						
885	4.0	1.92*	2200	17	X						
1030	3.4	1.65	2090	20	X						

P_m = 0.55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.28	15300	6077	120000	1.20	X						
0.31	13600	5407	120000	1.30	X	**R**	**167R97**	**(E)DRS**	**71M4**	760	334
0.36	11500	4650	120000	1.55	X	**RF**	**167R97**	**(E)DRS**	**71M4**	760	334
0.41	9980	4129	120000	1.80	X	**RM**	**167R97**	**(E)DRS**	**71M4**	960	334
0.34	13300	4926	61900	0.95							
0.39	11600	4325	65200	1.10	X	**R**	**147R77**	**(E)DRS**	**71M4**	425	333
0.45	10100	3754	67500	1.30	X	**RF**	**147R77**	**(E)DRS**	**71M4**	430	333
0.51	8890	3302	69300	1.45	X	**RM**	**147R77**	**(E)DRS**	**71M4**	600	333
0.58	7770	2898	70500	1.65	X						
0.66	7060	2555	71300	1.85	X						
0.76	6110	2211	72100	2.1	X						
0.87	5390	1951	72700	2.4	X	**R**	**147R77**	**(E)DRS**	**71M4**	425	333
0.99	4580	1705	73200	2.8	X	**RF**	**147R77**	**(E)DRS**	**71M4**	430	333
1.1	4100	1536	73500	3.2	X	**RM**	**147R77**	**(E)DRS**	**71M4**	600	333
1.3	3540	1329	73800	3.7	X						
1.4	3070	1166	74000	4.2	X						
						R	**137R77**	**(E)DRS**	**71M4**	280	333
0.68	6860	2484	55600	1.15	X	**RF**	**137R77**	**(E)DRS**	**71M4**	305	333
						RM	**137R77**	**(E)DRS**	**71M4**	415	333
0.64	7340	2658	54700	1.10	X						
0.70	6660	2412	55900	1.20	X						
0.82	5730	2073	57400	1.40	X						
0.92	4990	1839	58400	1.60	X						
1.1	4260	1598	59200	1.90	X	**R**	**137R77**	**(E)DRS**	**71M4**	290	333
1.2	3840	1397	59600	2.1	X	**RF**	**137R77**	**(E)DRS**	**71M4**	315	333
1.4	3340	1226	60100	2.4	X	**RM**	**137R77**	**(E)DRS**	**71M4**	425	333
1.6	2990	1090	60300	2.7	X						
1.8	2610	951	60600	3.1	X						
2.0	2210	831	60800	3.6	X						

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P_m = 0.55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
1.2	3810	1407	31800	1.15	X						
1.4	3280	1209	34000	1.30	X						
1.6	2860	1055	35400	1.50	X	**R**	**107R77**	**(E)DRS**	**71M4**	200	333
1.8	2500	919	36200	1.70	X	**RF**	**107R77**	**(E)DRS**	**71M4**	205	333
2.1	2240	815	36500	1.90	X	**RM**	**107R77**	**(E)DRS**	**71M4**	295	333
2.4	1950	717	36800	2.2	X						
2.7	1700	626	37100	2.5	X						
1.2	3800	1400	31900	1.15	X						
1.4	3290	1226	33900	1.30	X	**R**	**107R77**	**(E)DRS**	**71M4**	205	333
1.5	2940	1104	35100	1.45	X	**RF**	**107R77**	**(E)DRS**	**71M4**	210	333
1.8	2540	939	36100	1.70	X	**RM**	**107R77**	**(E)DRS**	**71M4**	300	333
2.1	2200	822	36500	1.95	X						
2.0	2280	824	21500	1.30	X						
2.3	2040	737	24400	1.45	X						
2.7	1740	632	27300	1.70	X						
3.0	1510	560	27600	2.0	X						
3.5	1310	484	27900	2.3	X	**R**	**97R57**	**(E)DRS**	**71M4**	130	333
3.9	1200	431	28000	2.5	X	**RF**	**97R57**	**(E)DRS**	**71M4**	150	333
4.5	1040	379	28200	2.9	X	**RM**	**97R57**	**(E)DRS**	**71M4**	200	333
5.0	930	336	28300	3.2	X						
5.7	810	296	28400	3.7	X						
6.8	675	249	28500	4.4	X						
3.2	1430	525	14200	1.10	X						
3.7	1250	456	18700	1.25	X	**R**	**87R57**	**(E)DRS**	**71M4**	89	333
4.2	1080	398	19500	1.45	X	**RF**	**87R57**	**(E)DRS**	**71M4**	96	333
4.8	960	352	20000	1.60	X	**RM**	**87R57**	**(E)DRS**	**71M4**	125	333
5.5	820	305	20000	1.90	X						
3.6	1340	472	18200	1.15	X	**R**	**87R57**	**(E)DRS**	**71M4**	88	333
4.2	1130	400	19300	1.35	X	**RF**	**87R57**	**(E)DRS**	**71M4**	95	333
4.7	1010	361	19800	1.50	X	**RM**	**87R57**	**(E)DRS**	**71M4**	125	333
6.1	785	276	10200	1.05	X						
7.2	665	236	11100	1.25	X	**R**	**77R37**	**(E)DRS**	**71M4**	49	333
7.6	625	221	11400	1.30	X	**RF**	**77R37**	**(E)DRS**	**71M4**	55	333
9.1	520	186	12000	1.55	X	**RM**	**77R37**	**(E)DRS**	**71M4**	80	333
3.9	1350	289.74	27800	2.2							
4.4	1190	255.71	28000	2.5		**R**	**97**	**DRS**	**80S6**	110	323
4.6	1130	241.25	28100	2.6		**RF**	**97**	**DRS**	**80S6**	130	324
5.2	1010	216.28	28200	3.0		**RM**	**97**	**DRS**	**80S6**	180	324
5.8	900	289.74	28300	3.3	X						
6.6	790	255.71	28400	3.8	X	**R**	**97**	**(E)DRS**	**71M4**	110	323
7.0	745	241.25	28400	4.0	X	**RF**	**97**	**(E)DRS**	**71M4**	125	324
7.8	670	216.28	28500	4.5	X	**RM**	**97**	**(E)DRS**	**71M4**	175	324
4.5	1150	246.54	18200	1.35							
5.2	1010	216.54	19800	1.55		**R**	**87**	**DRS**	**80S6**	69	320
5.4	960	205.71	20000	1.60		**RF**	**87**	**DRS**	**80S6**	76	321
6.2	850	181.77	20000	1.80		**RM**	**87**	**DRS**	**80S6**	105	321
7.2	725	155.34	20000	2.1							
6.8	765	246.54	20000	2.0	X						
7.8	670	216.54	20000	2.3	X						
8.2	635	205.71	20000	2.4	X						
9.3	560	181.77	20000	2.7	X	**R**	**87**	**(E)DRS**	**71M4**	67	320
11	480	155.34	20000	3.2	X	**RF**	**87**	**(E)DRS**	**71M4**	74	321
12	440	142.41	20000	3.5	X	**RM**	**87**	**(E)DRS**	**71M4**	105	321
14	385	124.97	20000	4.0	X						
14	365	118.43*	20000	4.2	X						
16	320	103.65	20000	4.8	X						
10	515	166.59	12000	1.60	X						
12	450	145.67	12300	1.80	X						
12	430	138.39	12400	1.90	X						
14	375	121.42	12600	2.2	X	**R**	**77**	**(E)DRS**	**71M4**	41	317
16	320	102.99	12700	2.6	X	**RF**	**77**	**(E)DRS**	**71M4**	46	318
18	285	92.97	12800	2.8	X	**RM**	**77**	**(E)DRS**	**71M4**	71	318
21	250	81.80	12900	3.2	X						
22	240	77.24	12900	3.4	X						
26	200	65.77	13000	4.0	X						

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P_m = 0.55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
11	490	158.14	8660	1.20	X						
12	425	137.67	9150	1.40	X						
13	400	128.97	9330	1.50	X						
15	350	113.94	9610	1.70	X						
16	325	105.83	9740	1.80	X	**R**	**67**	**(E)DRS**	**71M4**	34	314
18	295	95.91	9890	2.0	X	**RF**	**67**	**(E)DRS**	**71M4**	37	315
20	265	86.11	10000	2.2	X	**RM**	**67**	**(E)DRS**	**71M4**	52	315
23	230	74.17	10200	2.6	X						
24	215	69.75	10200	2.8	X						
28	190	61.26	10300	3.1	X						
30	177	56.89	10300	3.4	X						
14	370	120.63	7400	1.20	X						
16	330	106.58	7540	1.35	X						
17	305	98.99	7610	1.45	X						
19	275	89.71	7680	1.60	X						
21	250	80.55	7750	1.80	X						
24	215	69.23	7480	2.1	X	**R**	**57**	**(E)DRS**	**71M4**	27	311
26	200	64.85	7350	2.2	X	**RF**	**57**	**(E)DRS**	**71M4**	30	312
30	178	57.29	7100	2.5	X	**RM**	**57**	**(E)DRS**	**71M4**	42	312
32	165	53.22	6960	2.7	X						
35	150	48.23	6770	3.0	X						
39	135	43.30	6570	3.3	X						
45	116	37.30*	6300	3.9	X						
48	109	35.07	6180	4.1	X						
64	82	26.31	5680	5.5	X						
68	78	24.99*	5590	5.8	X	**R**	**57**	**(E)DRS**	**71M4**	26	311
77	68	21.93	5380	6.6	X	**RF**	**57**	**(E)DRS**	**71M4**	29	312
91	58	18.60*	5110	7.8	X	**RM**	**57**	**(E)DRS**	**71M4**	41	312
18	290	93.68	5210	1.05	X						
20	260	84.90	5600	1.15	X						
22	235	76.23	5720	1.25	X						
25	210	68.54	5810	1.40	X						
26	200	64.21	5740	1.50	X						
30	176	56.73	5560	1.70	X	**R**	**47**	**(E)DRS**	**71M4**	22	308
32	164	52.69	5460	1.85	X	**RF**	**47**	**(E)DRS**	**71M4**	22	309
35	148	47.75	5320	2.0	X						
39	133	42.87	5170	2.2	X						
46	115	36.93	4960	2.6	X						
49	108	34.73	4880	2.8	X						
57	93	29.88	4670	3.2	X						
63	83	26.74	4530	3.6	X						
73	72	23.28	4350	4.2	X	**R**	**47**	**(E)DRS**	**71M4**	21	308
78	68	21.81	4270	4.4	X	**RF**	**47**	**(E)DRS**	**71M4**	21	309
28	190	61.18	4520	1.05	X						
30	173	55.76	4990	1.15	X						
35	149	48.08	5060	1.35	X						
38	139	44.81	4970	1.45	X						
43	122	39.17	4810	1.65	X	**R**	**37**	**(E)DRS**	**71M4**	18	305
46	114	36.72	4730	1.75	X	**RF**	**37**	**(E)DRS**	**71M4**	19	306
52	101	32.40	4580	2.0	X						
59	89	28.73	4430	2.2	X						
69	76	24.42	4240	2.6	X						
76	69	22.27	4130	2.9	X						
88	60	19.31	3970	3.3	X						
94	56	18.05	3890	3.6	X	**R**	**37**	**(E)DRS**	**71M4**	18	305
108	48	15.60	3730	4.1	X	**RF**	**37**	**(E)DRS**	**71M4**	19	306
128	41	13.25	3560	4.6	X						
143	37	11.83	3440	5.0	X						
43	122	39.25	3140	1.05	X						
46	114	36.79	3100	1.15	X						
52	101	32.47	3020	1.30	X	**R**	**27**	**(E)DRS**	**71M4**	12	302
59	89	28.78	2940	1.45	X	**RF**	**27**	**(E)DRS**	**71M4**	12	303
69	76	24.47	2820	1.70	X						

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P_m = 0.55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
76	69	22.32	2760	1.85	X						
87	60	19.35	2660	2.2	X						
93	56	18.08	2610	2.3	X						
108	49	15.63	2510	2.7	X						
127	41	13.28*	2400	3.1	X						
143	37	11.86	2330	3.5	X						
167	31	10.13	2230	3.9	X						
180	29	9.41	2160	4.2	X	**R**	**27**	**(E)DRS**	**71M4**	12	302
207	25	8.16	2070	4.6	X	**RF**	**27**	**(E)DRS**	**71M4**	12	303
222	24	7.63*	2030	4.7	X						
256	20	6.59	1950	5.2	X						
302	17	5.60*	1860	5.7	X						
338	16	5.00*	1790	6.1	X						
396	13	4.27	1710	6.5	X						
422	12	4.00*	1680	6.8	X						
502	10	3.37	1590	7.5	X						
64	83	53.76	1600	1.05							
72	73	47.44	1580	1.15		**R**	**17**	**DRS**	**71M2**	11	299
77	68	44.18	1570	1.25		**RF**	**17**	**DRS**	**71M2**	11	300
89	59	38.61	1540	1.45							
86	61	19.71	1540	1.40	X						
99	53	16.99	1510	1.60	X						
107	49	15.84	1490	1.75	X						
122	43	13.84	1460	2.0	X						
130	40	12.98	1440	2.1	X						
148	36	11.45	1400	2.3	X						
166	32	10.15	1370	2.4	X						
196	27	8.63	1320	2.7	X	**R**	**17**	**(E)DRS**	**71M4**	11	299
224	23	7.55	1230	2.4	X	**RF**	**17**	**(E)DRS**	**71M4**	11	300
240	22	7.04	1220	2.5	X						
275	19	6.15	1180	2.8	X						
293	18	5.76	1160	3.0	X						
332	16	5.09	1120	3.2	X						
375	14	4.51	1090	3.4	X						
441	12	3.83	1040	3.8	X						
396	13	8.63	1100	5.4							
453	12	7.55	1040	4.8		**R**	**17**	**DRS**	**71M2**	11	299
486	11	7.04	1020	5.1		**RF**	**17**	**DRS**	**71M2**	11	300
556	9.4	6.15	980	5.7							
187	28	18.31	785	1.80							
204	26	16.73	775	1.95							
242	22	14.12	750	2.3							
284	19	12.06	725	2.7							
306	17	11.18	715	2.9							
354	15	9.67	695	3.4							
380	14	9.01	680	3.6							
435	12	7.85	660	4.1		**R**	**07**	**DRS**	**71M2**	10	296
457	11	7.48	655	3.7		**RF**	**07**	**DRS**	**71M2**	10	297
501	10	6.83	640	4.1							
593	8.8	5.76	615	4.5							
695	7.6	4.92	585	4.9							
749	7.0	4.57	575	5.1							
866	6.1	3.95	555	5.6							
929	5.7	3.68	540	5.8							
1065	4.9	3.21	520	6.3							
216	24	5.18	4210	3.1							
247	21	4.53	4040	3.9		**RX**	**67**	**DRS**	**80S6**	22	286
260	20	4.30*	3980	4.0		**RXF**	**67**	**DRS**	**80S6**	26	287
297	18	3.77	3820	4.9							

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P_m = 0.55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
326	16	5.18	3710	4.7	X						
373	14	4.53	3550	5.8	X						
393	13	4.30*	3490	6.0	X						
448	12	3.77	3350	7.4	X						
528	9.9	3.20*	3180	10	X	**RX**	**67**	**(E)DRS**	**71M4**	20	286
585	9.0	2.89	3080	12	X	**RXF**	**67**	**(E)DRS**	**71M4**	24	287
665	7.9	2.54	2950	15	X						
704	7.5	2.40*	2900	16	X						
827	6.3	2.04	2750	21	X						
910	5.8	1.86	2670	22	X						
1050	5.0	1.61	2540	23	X						
257	20	4.35	3220	3.3							
296	18	3.79	3090	3.9							
315	17	3.55*	3020	4.1		**RX**	**57**	**DRS**	**80S6**	20	284
357	15	3.14	2910	4.4		**RXF**	**57**	**DRS**	**80S6**	22	285
384	14	2.91	2840	4.9							
388	14	4.35	2840	5.0	X						
446	12	3.79	2720	5.9	X						
476	11	3.55*	2660	6.2	X						
539	9.8	3.14	2560	6.7	X						
580	9.1	2.91	2500	7.4	X						
640	8.2	2.64*	2420	8.4	X	**RX**	**57**	**(E)DRS**	**71M4**	17	284
713	7.4	2.37	2340	9.4	X	**RXF**	**57**	**(E)DRS**	**71M4**	19	285
828	6.3	2.04	2230	11	X						
880	6.0	1.92*	2190	12	X						
1025	5.1	1.65	2080	13	X						
1145	4.6	1.48	2010	15	X						
1295	4.0	1.30	1930	16	X						

P_m = 0.75 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.38	15700	4650	120000	1.15	X	**R**	**167R97**	**(E)DRN**	**80M4**	760	334
0.42	13700	4129	120000	1.30	X	**RF**	**167R97**	**(E)DRN**	**80M4**	770	334
						RM	**167R97**	**(E)DRN**	**80M4**	960	334
0.66	9350	2657	120000	1.90	X						
0.75	7990	2333	120000	2.2	X	**R**	**167R97**	**(E)DRN**	**80M4**	760	334
0.84	7010	2085	120000	2.6	X	**RF**	**167R97**	**(E)DRN**	**80M4**	760	334
1.2	5060	1438	120000	3.6	X	**RM**	**167R97**	**(E)DRN**	**80M4**	960	334
0.53	11900	3302	64700	1.10	X	**R**	**147R77**	**(E)DRN**	**80M4**	430	333
0.60	10400	2898	67200	1.25	X	**RF**	**147R77**	**(E)DRN**	**80M4**	435	333
						RM	**147R77**	**(E)DRN**	**80M4**	600	333
0.69	9420	2555	68600	1.40	X						
0.79	8150	2211	70100	1.60	X						
0.90	7190	1951	71100	1.80	X	**R**	**147R77**	**(E)DRN**	**80M4**	430	333
1.0	6150	1705	72100	2.1	X	**RF**	**147R77**	**(E)DRN**	**80M4**	435	333
1.1	5510	1536	72600	2.4	X	**RM**	**147R77**	**(E)DRN**	**80M4**	600	333
1.3	4770	1329	73100	2.7	X						
1.5	4150	1166	73500	3.1	X						
0.94	6770	1863	55800	1.20	X						
1.1	5730	1586	57400	1.40	X	**R**	**137R77**	**(E)DRN**	**80M4**	285	333
1.3	5130	1391	58200	1.55	X	**RF**	**137R77**	**(E)DRN**	**80M4**	310	333
1.4	4610	1256	58900	1.75	X	**RM**	**137R77**	**(E)DRN**	**80M4**	420	333
0.84	7640	2073	54100	1.05	X						
0.95	6690	1839	55900	1.20	X						
1.1	5740	1598	57400	1.40	X						
1.2	5130	1397	58200	1.55	X	**R**	**137R77**	**(E)DRN**	**80M4**	295	333
1.4	4470	1226	59000	1.80	X	**RF**	**137R77**	**(E)DRN**	**80M4**	320	333
1.6	4000	1090	59500	2.0	X	**RM**	**137R77**	**(E)DRN**	**80M4**	430	333
1.8	3490	951	60000	2.3	X						
2.1	2980	831	60400	2.7	X						
2.4	2590	730	60600	3.1	X						

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P_m = 0.75 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
1.7	3830	1055	31700	1.10	X	**R**	**107R77**	**(E)DRN**	**80M4**	205	333
1.9	3350	919	33700	1.30	X	**RF**	**107R77**	**(E)DRN**	**80M4**	210	333
2.1	2990	815	35000	1.45	X	**RM**	**107R77**	**(E)DRN**	**80M4**	300	333
1.9	3410	939	33500	1.25	X						
2.1	2960	822	35000	1.45	X	**R**	**107R77**	**(E)DRN**	**80M4**	210	333
4.8	1320	369	37400	3.2	X	**RF**	**107R77**	**(E)DRN**	**80M4**	215	333
5.4	1150	323	37500	3.7	X	**RM**	**107R77**	**(E)DRN**	**80M4**	305	333
2.8	2330	632	24900	1.30	X						
3.1	2030	560	26300	1.50	X						
3.6	1760	484	27200	1.70	X						
4.1	1590	431	27500	1.90	X	**R**	**97R57**	**(E)DRN**	**80M4**	135	333
4.6	1400	379	27800	2.1	X	**RF**	**97R57**	**(E)DRN**	**80M4**	155	333
5.2	1240	336	28000	2.4	X	**RM**	**97R57**	**(E)DRN**	**80M4**	205	333
5.9	1090	296	28100	2.8	X						
7.0	900	249	28300	3.3	X						
4.4	1450	398	17600	1.05	X						
5.0	1280	352	18500	1.20	X	**R**	**87R57**	**(E)DRN**	**80M4**	94	333
5.7	1100	305	19400	1.40	X	**RF**	**87R57**	**(E)DRN**	**80M4**	100	333
6.5	980	268	19900	1.60	X	**RM**	**87R57**	**(E)DRN**	**80M4**	130	333
7.4	860	236	20000	1.80	X						
4.8	1350	361	18100	1.15	X	**R**	**87R57**	**(E)DRN**	**80M4**	92	333
5.8	1110	300	19300	1.40	X	**RF**	**87R57**	**(E)DRN**	**80M4**	100	333
6.8	940	256	20000	1.65	X	**RM**	**87R57**	**(E)DRN**	**80M4**	130	333
4.6	1570	255.71	27500	1.90		**R**	**97**	**DRN**	**90S6**	120	323
4.8	1480	241.25	27700	2.0		**RF**	**97**	**DRN**	**90S6**	135	324
5.4	1320	216.28	27900	2.3		**RM**	**97**	**DRN**	**90S6**	185	324
6.0	1180	289.74	28000	2.5	X						
6.8	1040	255.71	28200	2.9	X						
7.3	980	241.25	28200	3.0	X	**R**	**97**	**(E)DRN**	**80M4**	115	323
8.1	880	216.28	28300	3.4	X	**RF**	**97**	**(E)DRN**	**80M4**	130	324
9.4	760	186.30	28400	3.9	X	**RM**	**97**	**(E)DRN**	**80M4**	180	324
10	695	170.02	28500	4.3	X						
5.4	1330	216.54	15700	1.15		**R**	**87**	**DRN**	**90S6**	77	320
5.7	1260	205.71	16700	1.25		**RF**	**87**	**DRN**	**90S6**	84	321
6.4	1110	181.77	18800	1.40		**RM**	**87**	**DRN**	**90S6**	115	321
						R	**87**	**DRN**	**90S6**	77	320
7.5	950	155.34	20000	1.60		**RF**	**87**	**DRN**	**90S6**	84	321
8.2	870	142.41	20000	1.75		**RM**	**87**	**DRN**	**90S6**	115	321
7.1	1000	246.54	19800	1.55	X						
8.1	880	216.54	20000	1.75	X						
8.5	840	205.71	20000	1.85	X						
9.6	740	181.77	20000	2.1	X						
11	635	155.34	20000	2.4	X	**R**	**87**	**(E)DRN**	**80M4**	72	320
12	580	142.41	20000	2.7	X	**RF**	**87**	**(E)DRN**	**80M4**	79	321
14	510	124.97	20000	3.0	X	**RM**	**87**	**(E)DRN**	**80M4**	110	321
15	480	118.43*	20000	3.2	X						
17	420	103.65	20000	3.7	X						
19	380	93.38	20000	4.1	X						
11	680	166.59	11000	1.20	X	**R**	**77**	**(E)DRN**	**80M4**	46	317
12	595	145.67	11600	1.40	X	**RF**	**77**	**(E)DRN**	**80M4**	51	318
13	565	138.39	11700	1.45	X	**RM**	**77**	**(E)DRN**	**80M4**	76	318
14	495	121.42	12100	1.65	X						
17	420	102.99	12400	1.95	X						
19	380	92.97	12600	2.2	X						
21	330	81.80	12700	2.5	X						
23	315	77.24	12800	2.6	X	**R**	**77**	**(E)DRN**	**80M4**	46	317
27	265	65.77	12900	3.0	X	**RF**	**77**	**(E)DRN**	**80M4**	51	318
30	235	57.68	13000	3.5	X	**RM**	**77**	**(E)DRN**	**80M4**	76	318
34	210	52.07	13000	3.9	X						
38	187	45.81	13000	4.4	X						
40	177	43.26	13000	4.6	X						

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P_m = 0.75 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
14	525	128.97	8330	1.15	X						
15	465	113.94	8860	1.30	X						
17	430	105.83	9110	1.40	X						
18	390	95.91	9390	1.55	X						
20	350	86.11	9620	1.70	X	**R**	**67**	**(E)DRN**	**80M4**	38	314
24	300	74.17	9870	2.0	X	**RF**	**67**	**(E)DRN**	**80M4**	41	315
25	285	69.75	9950	2.1	X	**RM**	**67**	**(E)DRN**	**80M4**	57	315
29	250	61.26	10100	2.4	X						
31	230	56.89	10200	2.6	X						
34	210	51.56	10200	2.9	X						
38	189	46.29	10300	3.2	X						
16	435	106.58	7160	1.05	X						
18	400	98.99	7290	1.10	X						
20	365	89.71	7430	1.25	X	**R**	**57**	**(E)DRN**	**80M4**	32	311
22	325	80.55	7390	1.35	X	**RF**	**57**	**(E)DRN**	**80M4**	35	312
25	280	69.23	7140	1.60	X	**RM**	**57**	**(E)DRN**	**80M4**	47	312
27	265	64.85	7020	1.70	X						
31	230	57.29	6810	1.90	X						
33	215	53.22	6690	2.1	X						
36	197	48.23	6520	2.3	X						
40	177	43.30	6340	2.5	X	**R**	**57**	**(E)DRN**	**80M4**	32	311
47	153	37.30*	6080	3.0	X	**RF**	**57**	**(E)DRN**	**80M4**	35	312
50	143	35.07	5980	3.1	X	**RM**	**57**	**(E)DRN**	**80M4**	47	312
58	123	30.18	5740	3.6	X						
65	110	26.97	5560	4.1	X						
67	108	26.31	5520	4.2	X						
70	102	24.99*	5440	4.4	X	**R**	**57**	**(E)DRN**	**80M4**	31	311
80	90	21.93	5230	5.0	X	**RF**	**57**	**(E)DRN**	**80M4**	34	312
94	76	18.60*	4990	5.9	X	**RM**	**57**	**(E)DRN**	**80M4**	46	312
26	280	68.54	5510	1.05	X						
27	260	64.21	5430	1.15	X	**R**	**47**	**(E)DRN**	**80M4**	26	308
31	230	56.73	5290	1.30	X	**RF**	**47**	**(E)DRN**	**80M4**	27	309
33	215	52.69	5200	1.40	X						
37	195	47.75	5080	1.55	X						
41	175	42.87	4950	1.70	X						
47	151	36.93	4760	2.0	X	**R**	**47**	**(E)DRN**	**80M4**	26	308
50	142	34.73	4690	2.1	X	**RF**	**47**	**(E)DRN**	**80M4**	27	309
59	122	29.88	4510	2.5	X						
66	109	26.70	4370	2.8	X						
74	96	23.59	4230	3.1	X						
65	109	26.74	4380	2.7	X						
75	95	23.28	4210	3.1	X						
80	89	21.81	4130	3.4	X	**R**	**47**	**(E)DRN**	**80M4**	26	308
91	79	19.27	3990	3.7	X	**RF**	**47**	**(E)DRN**	**80M4**	26	309
98	73	17.89	3910	4.0	X						
108	66	16.22	3800	4.2	X						
36	197	48.08	4770	1.00	X						
39	183	44.81	4700	1.10	X	**R**	**37**	**(E)DRN**	**80M4**	23	305
45	160	39.17	4560	1.25	X	**RF**	**37**	**(E)DRN**	**80M4**	24	306
48	150	36.72	4500	1.35	X						
54	133	32.40	4370	1.50	X	**R**	**37**	**(E)DRN**	**80M4**	23	305
61	117	28.73	4240	1.70	X	**RF**	**37**	**(E)DRN**	**80M4**	24	306
72	100	24.42	4070	2.0	X						
79	91	22.27	3980	2.2	X						
91	79	19.31	3830	2.5	X						
97	74	18.05	3760	2.7	X						
112	64	15.60	3610	3.1	X	**R**	**37**	**(E)DRN**	**80M4**	22	305
132	54	13.25	3450	3.5	X	**RF**	**37**	**(E)DRN**	**80M4**	24	306
148	48	11.83	3340	3.8	X						
173	41	10.11	3190	4.1	X						
185	39	9.47	3130	4.3	X						
61	118	28.78	2760	1.10	X	**R**	**27**	**(E)DRN**	**80M4**	17	302
72	100	24.47	2670	1.30	X	**RF**	**27**	**(E)DRN**	**80M4**	17	303

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P_m = 0.75 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
78	91	22.32	2620	1.40	X						
91	79	19.35	2530	1.65	X						
97	74	18.08	2490	1.75	X						
112	64	15.63	2410	2.0	X						
132	54	13.28*	2310	2.4	X						
148	48	11.86	2240	2.7	X						
173	41	10.13	2150	3.0	X	**R**	**27**	**(E)DRN**	**80M4**	16	302
186	38	9.41	2080	3.2	X	**RF**	**27**	**(E)DRN**	**80M4**	16	303
215	33	8.16	2000	3.5	X						
230	31	7.63*	1960	3.6	X						
266	27	6.59	1890	3.9	X						
313	23	5.60*	1800	4.3	X						
350	20	5.00*	1740	4.7	X						
89	81	19.71	1380	1.05	X						
103	69	16.99	1370	1.20	X						
111	65	15.84	1360	1.30	X						
126	57	13.84	1340	1.50	X						
135	53	12.98	1330	1.60	X						
153	47	11.45	1300	1.75	X						
172	42	10.15	1280	1.85	X						
203	35	8.63	1240	2.0	X	**R**	**17**	**(E)DRN**	**80M4**	16	299
232	31	7.55	1150	1.80	X	**RF**	**17**	**(E)DRN**	**80M4**	15	300
249	29	7.04	1140	1.90	X						
285	25	6.15	1110	2.1	X						
304	24	5.76	1090	2.2	X						
344	21	5.09	1060	2.5	X						
388	18	4.51	1040	2.6	X						
457	16	3.83	1000	2.9	X						
304	24	11.45	1130	3.4							
342	21	10.15	1100	3.7							
403	18	8.63	1060	4.0							
461	16	7.55	1000	3.6							
494	14	7.04	980	3.8		**R**	**17**	**DRN**	**80MS2**	16	299
565	13	6.15	950	4.3		**RF**	**17**	**DRN**	**80MS2**	15	300
603	12	5.76	930	4.5							
683	10	5.09	900	4.9							
771	9.3	4.51	870	5.2							
907	7.9	3.83	840	5.7							
257	28	4.53	3940	3.0							
271	26	4.30*	3880	3.0		**RX**	**67**	**DRN**	**90S6**	31	286
309	23	3.77	3730	3.8		**RXF**	**67**	**DRN**	**90S6**	35	287
364	20	3.20*	3540	5.1							
338	21	5.18	3630	3.5	X						
387	19	4.53	3480	4.4	X						
407	18	4.30*	3420	4.5	X						
464	15	3.77	3290	5.6	X						
547	13	3.20*	3120	7.6	X						
606	12	2.89	3020	9.0	X	**RX**	**67**	**(E)DRN**	**80M4**	25	286
689	10	2.54	2900	11	X	**RXF**	**67**	**(E)DRN**	**80M4**	29	287
730	9.8	2.40*	2850	13	X						
857	8.4	2.04	2700	16	X						
943	7.6	1.86	2620	17	X						
1090	6.6	1.61	2500	17	X						
307	23	3.79	3000	3.0							
328	22	3.55*	2940	3.2							
371	19	3.14	2840	3.4		**RX**	**57**	**DRN**	**90S6**	29	284
400	18	2.91	2770	3.7		**RXF**	**57**	**DRN**	**90S6**	30	285
441	16	2.64*	2690	4.2							

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P_m = 0.75 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
402	18	4.35	2770	3.8	X						
462	16	3.79	2660	4.5	X						
493	15	3.55*	2600	4.8	X						
558	13	3.14	2510	5.1	X						
601	12	2.91	2450	5.6	X						
663	11	2.64*	2380	6.4	X	**RX**	**57**	**(E)DRN**	**80M4**	22	284
739	9.7	2.37	2300	7.1	X	**RXF**	**57**	**(E)DRN**	**80M4**	24	285
858	8.3	2.04	2190	8.3	X						
912	7.8	1.92*	2150	8.8	X						
1060	6.8	1.65	2050	10	X						
1185	6.0	1.48	1970	11	X						
1340	5.3	1.30	1900	12	X						

P_m = 1.1 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.66	14000	2657	120000	1.30	X						
0.76	12100	2333	120000	1.50	X						
0.85	10600	2085	120000	1.70	X						
0.94	9480	1877	120000	1.90	X	**R**	**167R97**	**(E)DRN**	**90S4**	760	334
1.1	8430	1670	120000	2.1	X	**RF**	**167R97**	**(E)DRN**	**90S4**	770	334
1.2	7590	1438	120000	2.4	X	**RM**	**167R97**	**(E)DRN**	**90S4**	960	334
1.4	6750	1279	120000	2.7	X						
1.6	5820	1123	120000	3.1	X						
0.80	12000	2211	64500	1.10	X						
0.90	10600	1951	66800	1.20	X						
1.0	9160	1705	68900	1.40	X						
1.1	8220	1536	70100	1.60	X						
1.3	7110	1329	71200	1.85	X	**R**	**147R77**	**(E)DRN**	**90S4**	435	333
1.5	6200	1166	72000	2.1	X	**RF**	**147R77**	**(E)DRN**	**90S4**	440	333
1.7	5440	1029	72600	2.4	X	**RM**	**147R77**	**(E)DRN**	**90S4**	610	333
2.0	4730	889	73100	2.8	X						
2.2	4150	784	73500	3.1	X						
2.5	3650	695	73700	3.5	X						
1.3	7580	1391	54300	1.05	X						
1.4	6820	1256	55700	1.15	X	**R**	**137R77**	**(E)DRN**	**90S4**	290	333
1.6	5970	1105	57100	1.35	X	**RF**	**137R77**	**(E)DRN**	**90S4**	315	333
1.7	5630	1043	57600	1.40	X	**RM**	**137R77**	**(E)DRN**	**90S4**	425	333
2.0	4770	888	58700	1.70	X						
1.3	7590	1397	54200	1.05	X						
1.4	6630	1226	56000	1.20	X						
1.6	5920	1090	57200	1.35	X						
1.9	5160	951	58200	1.55	X	**R**	**137R77**	**(E)DRN**	**90S4**	300	333
2.1	4450	831	59000	1.80	X	**RF**	**137R77**	**(E)DRN**	**90S4**	325	333
2.4	3880	730	59600	2.1	X	**RM**	**137R77**	**(E)DRN**	**90S4**	435	333
2.8	3300	629	60100	2.4	X						
3.1	3010	560	60300	2.7	X						
3.6	2580	490	60600	3.1	X						
						R	**107R77**	**(E)DRN**	**90S4**	210	333
2.5	3870	717	31600	1.10	X	**RF**	**107R77**	**(E)DRN**	**90S4**	215	333
						RM	**107R77**	**(E)DRN**	**90S4**	305	333
2.9	3250	614	34100	1.30	X						
3.2	2860	544	35400	1.50	X						
3.6	2590	492	36000	1.65	X						
4.2	2190	417	36600	1.95	X	**R**	**107R77**	**(E)DRN**	**90S4**	215	333
4.8	1970	369	36800	2.2	X	**RF**	**107R77**	**(E)DRN**	**90S4**	220	333
5.5	1720	323	37000	2.5	X	**RM**	**107R77**	**(E)DRN**	**90S4**	310	333
6.2	1510	285	37200	2.9	X						
7.0	1330	253	37400	3.2	X						

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P_m = 1.1 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
4.1	2350	431	24800	1.25	X						
4.7	2060	379	26100	1.45	X						
5.2	1840	336	27000	1.65	X	**R**	**97R57**	**(E)DRN**	**90S4**	140	333
6.0	1610	296	27500	1.85	X	**RF**	**97R57**	**(E)DRN**	**90S4**	160	333
7.1	1340	249	27800	2.2	X	**RM**	**97R57**	**(E)DRN**	**90S4**	210	333
7.5	1250	234	28000	2.4	X						
8.4	1120	209	28100	2.7	X						
6.6	1450	268	17600	1.05	X	**R**	**87R57**	**(E)DRN**	**90S4**	100	333
7.5	1280	236	18600	1.20	X	**RF**	**87R57**	**(E)DRN**	**90S4**	105	333
8.4	1120	209	19300	1.40	X	**RM**	**87R57**	**(E)DRN**	**90S4**	135	333
6.9	1400	256	17900	1.10	X	**R**	**87R57**	**(E)DRN**	**90S4**	99	333
7.6	1270	232	18600	1.20	X	**RF**	**87R57**	**(E)DRN**	**90S4**	105	333
9.0	1070	195	19500	1.45	X	**RM**	**87R57**	**(E)DRN**	**90S4**	135	333
						R	**97**	**DRN**	**112M6**	140	323
6.3	1650	186.30	27400	1.80		**RF**	**97**	**DRN**	**112M6**	160	324
						RM	**97**	**DRN**	**112M6**	210	324
6.9	1520	255.71	27600	1.95	X						
7.3	1430	241.25	27700	2.1	X						
8.2	1280	216.28	27900	2.3	X						
9.5	1110	186.30	28100	2.7	X	**R**	**97**	**(E)DRN**	**90S4**	120	323
10	1010	170.02	28200	3.0	X	**RF**	**97**	**(E)DRN**	**90S4**	135	324
12	890	150.78	28300	3.3	X	**RM**	**97**	**(E)DRN**	**90S4**	185	324
14	755	126.75	28400	4.0	X						
15	690	116.48	28500	4.3	X						
8.1	1290	216.54	18500	1.20	X	**R**	**87**	**(E)DRN**	**90S4**	77	320
8.6	1220	205.71	18800	1.25	X	**RF**	**87**	**(E)DRN**	**90S4**	84	321
9.7	1080	181.77	19500	1.45	X	**RM**	**87**	**(E)DRN**	**90S4**	115	321
11	920	155.34	20000	1.65	X						
12	840	142.41	20000	1.85	X						
14	740	124.97	20000	2.1	X						
15	705	118.43*	20000	2.2	X						
17	615	103.65	20000	2.5	X	**R**	**87**	**(E)DRN**	**90S4**	77	320
19	555	93.38	20000	2.8	X	**RF**	**87**	**(E)DRN**	**90S4**	84	321
22	485	81.92	20000	3.2	X	**RM**	**87**	**(E)DRN**	**90S4**	115	321
24	430	72.57	20000	3.6	X						
28	375	63.68*	20000	4.1	X						
29	355	60.35*	20000	4.3	X						
33	310	52.82	20000	4.9	X						
15	720	121.42	10700	1.15	X	**R**	**77**	**(E)DRN**	**90S4**	50	317
17	610	102.99	11500	1.35	X	**RF**	**77**	**(E)DRN**	**90S4**	56	318
19	550	92.97	11800	1.50	X	**RM**	**77**	**(E)DRN**	**90S4**	81	318
22	485	81.80	12100	1.70	X						
23	460	77.24	12300	1.80	X						
27	390	65.77	12500	2.1	X						
31	340	57.68	12700	2.4	X	**R**	**77**	**(E)DRN**	**90S4**	50	317
34	310	52.07	12800	2.6	X	**RF**	**77**	**(E)DRN**	**90S4**	56	318
38	270	45.81	12900	3.0	X	**RM**	**77**	**(E)DRN**	**90S4**	81	318
41	255	43.26	12900	3.2	X						
48	215	36.83	12800	3.7	X						
53	200	33.47	12500	4.1	X						
20	510	86.11	8460	1.15	X						
24	440	74.17	9050	1.35	X						
25	415	69.75	9230	1.45	X						
29	365	61.26	9550	1.65	X						
31	335	56.89	9690	1.75	X	**R**	**67**	**(E)DRN**	**90S4**	45	314
34	305	51.56	9850	1.95	X	**RF**	**67**	**(E)DRN**	**90S4**	48	315
38	275	46.29	9990	2.2	X	**RM**	**67**	**(E)DRN**	**90S4**	64	315
44	235	39.88*	10100	2.4	X						
47	220	37.50	10200	2.5	X						
55	192	32.27	9990	2.8	X						
61	172	28.83	9660	3.0	X						
63	168	28.13	9590	3.2	X	**R**	**67**	**(E)DRN**	**90S4**	44	314
66	159	26.72	9450	3.4	X	**RF**	**67**	**(E)DRN**	**90S4**	47	315
75	140	23.44	9090	4.0	X	**RM**	**67**	**(E)DRN**	**90S4**	63	315
89	119	19.89	8650	5.1	X						

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P_m = 1.1 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
25	410	69.23	6650	1.10	X	**R**	**57**	**(E)DRN**	**90S4**	38	311
27	385	64.85	6570	1.15	X	**RF**	**57**	**(E)DRN**	**90S4**	41	312
31	340	57.29	6410	1.30	X	**RM**	**57**	**(E)DRN**	**90S4**	53	312
33	315	53.22	6310	1.40	X						
37	285	48.23	6180	1.55	X						
41	255	43.30	6030	1.75	X	**R**	**57**	**(E)DRN**	**90S4**	38	311
47	220	37.30*	5820	2.0	X	**RF**	**57**	**(E)DRN**	**90S4**	41	312
50	205	35.07	5730	2.1	X	**RM**	**57**	**(E)DRN**	**90S4**	53	312
58	180	30.18	5520	2.5	X						
65	161	26.97	5360	2.8	X						
67	157	26.31	5330	2.9	X						
70	149	24.99*	5260	3.0	X	**R**	**57**	**(E)DRN**	**90S4**	37	311
80	131	21.93	5080	3.4	X	**RF**	**57**	**(E)DRN**	**90S4**	40	312
95	111	18.60*	4850	4.1	X	**RM**	**57**	**(E)DRN**	**90S4**	52	312
105	100	16.79	4710	4.5	X						
37	280	47.75	4740	1.05	X						
41	255	42.87	4640	1.15	X						
48	220	36.93	4500	1.35	X						
51	205	34.73	4440	1.45	X	**R**	**47**	**(E)DRN**	**90S4**	33	308
59	178	29.88	4290	1.70	X	**RF**	**47**	**(E)DRN**	**90S4**	33	309
66	159	26.70	4180	1.90	X						
75	141	23.59	4060	2.1	X						
76	139	23.28	4040	2.2	X						
81	130	21.81	3980	2.3	X						
91	115	19.27	3850	2.6	X						
98	107	17.89	3780	2.7	X						
109	97	16.22	3680	2.8	X	**R**	**47**	**(E)DRN**	**90S4**	32	308
121	87	14.56	3570	3.0	X	**RF**	**47**	**(E)DRN**	**90S4**	32	309
140	75	12.54	3430	3.3	X						
149	70	11.79	3370	3.5	X						
174	60	10.15	3230	3.8	X						
194	54	9.07	3120	4.1	X						
54	193	32.40	3590	1.05	X						
61	171	28.73	3860	1.15	X	**R**	**37**	**(E)DRN**	**90S4**	28	305
72	146	24.42	3850	1.35	X	**RF**	**37**	**(E)DRN**	**90S4**	30	306
91	115	19.31	3650	1.75	X						
98	108	18.05	3590	1.85	X	**R**	**37**	**(E)DRN**	**90S4**	28	305
113	93	15.60	3470	2.1	X	**RF**	**37**	**(E)DRN**	**90S4**	30	306
133	79	13.25	3330	2.4	X						
149	71	11.83	3230	2.6	X						
174	60	10.11	3100	2.8	X						
186	56	9.47	3040	3.0	X	**R**	**37**	**(E)DRN**	**90S4**	28	305
221	48	7.97	2900	3.3	X	**RF**	**37**	**(E)DRN**	**90S4**	30	306
264	40	6.67	2740	3.6	X						
311	34	5.67	2610	4.2	X						
348	30	5.06	2530	4.5	X						
91	115	19.35	2350	1.15	X						
97	108	18.08	2320	1.20	X						
113	93	15.63	2260	1.40	X						
133	79	13.28*	2180	1.65	X						
149	71	11.86	2130	1.80	X						
174	60	10.13	2050	2.0	X						
187	56	9.41	1970	2.2	X						
216	49	8.16	1910	2.4	X	**R**	**27**	**(E)DRN**	**90S4**	22	302
231	45	7.63*	1880	2.5	X	**RF**	**27**	**(E)DRN**	**90S4**	22	303
267	39	6.59	1810	2.7	X						
315	33	5.60*	1740	3.0	X						
352	30	5.00*	1690	3.2	X						
413	25	4.27	1620	3.4	X						
440	24	4.00*	1590	3.6	X						
523	20	3.37	1510	3.9	X						

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P_m = 1.1 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
262	40	13.28*	1850	3.2							
294	36	11.86	1800	3.6							
344	31	10.13	1720	4.0							
370	28	9.41	1660	4.3							
427	25	8.16	1600	4.7							
457	23	7.63*	1570	4.9		**R**	**27**	**DRN**	**80M2**	16	302
529	20	6.59	1510	5.3		**RF**	**27**	**DRN**	**80M2**	16	303
622	17	5.60*	1440	5.9							
697	15	5.00*	1390	6.3							
816	13	4.27	1330	6.8							
871	12	4.00*	1300	7.0							
1035	10	3.37	1240	7.8							
177	59	19.71	1130	1.45							
205	51	16.99	1120	1.65							
220	48	15.84	1110	1.80							
252	42	13.84	1090	2.0							
269	39	12.98	1080	2.2							
304	35	11.45	1050	2.4							
343	31	10.15	1030	2.5							
404	26	8.63	1000	2.8		**R**	**17**	**DRN**	**80M2**	16	299
462	23	7.55	930	2.5		**RF**	**17**	**DRN**	**80M2**	15	300
495	21	7.04	920	2.6							
567	19	6.15	890	2.9							
605	17	5.76	880	3.0							
685	15	5.09	860	3.3							
773	14	4.51	830	3.5							
909	12	3.83	800	3.9							
313	34	5.63	5290	3.3	X						
329	32	5.35*	5200	3.2	X	**RX**	**77**	**(E)DRN**	**90S4**	41	288
373	28	4.73	5010	4.4	X	**RXF**	**77**	**(E)DRN**	**90S4**	43	289
389	27	4.53	3420	3.0	X						
410	26	4.30*	3370	3.1	X						
467	22	3.77	3240	3.9	X						
551	19	3.20*	3080	5.2	X						
610	17	2.89	2980	6.2	X						
693	15	2.54	2860	7.8	X	**RX**	**67**	**(E)DRN**	**90S4**	31	286
734	14	2.40*	2810	8.6	X	**RXF**	**67**	**(E)DRN**	**90S4**	35	287
862	12	2.04	2670	11	X						
949	11	1.86	2590	11	X						
1095	9.6	1.61	2480	12	X						
1260	8.3	1.40*	2370	12	X						
448	23	2.64*	2620	2.9		**RX**	**57**	**DRN**	**112M6**	52	284
						RXF	**57**	**DRN**	**112M6**	54	285
465	23	3.79	2600	3.0	X						
496	21	3.55*	2550	3.3	X						
562	19	3.14	2460	3.5	X						
605	17	2.91	2400	3.9	X						
667	16	2.64*	2330	4.4	X						
743	14	2.37	2260	4.9	X	**RX**	**57**	**(E)DRN**	**90S4**	29	284
863	12	2.04	2160	5.7	X	**RXF**	**57**	**(E)DRN**	**90S4**	30	285
918	11	1.92*	2110	6.0	X						
1065	9.8	1.65	2020	7.0	X						
1195	8.8	1.48	1950	7.7	X						
1350	7.8	1.30	1870	8.1	X						

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P_m = 1.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.76	16800	2333	120000	1.05	X						
0.85	14800	2085	120000	1.20	X						
0.94	13200	1877	120000	1.35	X						
1.1	11800	1670	120000	1.50	X	**R**	**167R97**	**(E)DRN**	**90L4**	760	334
1.2	10400	1438	120000	1.70	X	**RF**	**167R97**	**(E)DRN**	**90L4**	770	334
1.4	9340	1279	120000	1.95	X	**RM**	**167R97**	**(E)DRN**	**90L4**	970	334
1.6	8090	1123	120000	2.2	X						
1.8	7200	999	120000	2.5	X						
4.1	3070	426	74000	4.2	X	**R**	**147R87**	**(E)DRN**	**90L4**	455	333
4.8	2650	368	74100	4.9	X	**RF**	**147R87**	**(E)DRN**	**90L4**	465	333
						RM	**147R87**	**(E)DRN**	**90L4**	630	333
1.0	12600	1705	63400	1.05	X						
1.1	11300	1536	65700	1.15	X						
1.3	9800	1329	68100	1.35	X						
1.5	8560	1166	69700	1.50	X						
1.7	7520	1029	70800	1.75	X	**R**	**147R77**	**(E)DRN**	**90L4**	435	333
2.0	6520	889	71800	2.0	X	**RF**	**147R77**	**(E)DRN**	**90L4**	445	333
2.2	5730	784	72400	2.3	X	**RM**	**147R77**	**(E)DRN**	**90L4**	610	333
2.5	5060	695	72900	2.6	X						
2.9	4570	619	73200	2.8	X						
3.2	4110	558	73500	3.2	X						
1.7	7740	1043	53900	1.05	X						
2.0	6560	888	56100	1.20	X	**R**	**137R77**	**(E)DRN**	**90L4**	295	333
2.5	5130	699	58200	1.55	X	**RF**	**137R77**	**(E)DRN**	**90L4**	320	333
2.9	4450	609	59000	1.80	X	**RM**	**137R77**	**(E)DRN**	**90L4**	430	333
1.6	8120	1090	53100	1.00							
1.9	7080	951	55200	1.15	X						
2.1	6130	831	56800	1.30	X						
2.4	5350	730	58000	1.50	X						
2.8	4570	629	58900	1.75	X	**R**	**137R77**	**(E)DRN**	**90L4**	305	333
3.1	4140	560	59400	1.95	X	**RF**	**137R77**	**(E)DRN**	**90L4**	325	333
3.6	3570	490	59900	2.2	X	**RM**	**137R77**	**(E)DRN**	**90L4**	440	333
4.1	3110	428	60300	2.6	X						
4.6	2810	381	60500	2.8	X						
5.5	2390	323	60700	3.4	X						
						R	**107R77**	**(E)DRN**	**90L4**	210	333
3.4	3870	528	31600	1.10	X	**RF**	**107R77**	**(E)DRN**	**90L4**	220	333
						RM	**107R77**	**(E)DRN**	**90L4**	305	333
3.2	3960	544	31200	1.10	X						
3.6	3580	492	32800	1.20	X	**R**	**107R77**	**(E)DRN**	**90L4**	220	333
4.2	3030	417	34800	1.40	X	**RF**	**107R77**	**(E)DRN**	**90L4**	225	333
4.8	2710	369	35800	1.60	X	**RM**	**107R77**	**(E)DRN**	**90L4**	310	333
5.5	2370	323	36300	1.80	X						
						R	**107R77**	**(E)DRN**	**90L4**	210	333
3.8	3540	469	33000	1.20	X	**RF**	**107R77**	**(E)DRN**	**90L4**	215	333
						RM	**107R77**	**(E)DRN**	**90L4**	305	333
5.2	2520	336	24000	1.20	X						
6.0	2210	296	25500	1.35	X	**R**	**97R57**	**(E)DRN**	**90L4**	145	333
7.1	1850	249	26900	1.60	X	**RF**	**97R57**	**(E)DRN**	**90L4**	165	333
7.6	1720	234	27300	1.75	X	**RM**	**97R57**	**(E)DRN**	**90L4**	215	333
8.5	1540	209	27600	1.95	X						
4.7	3040	251.15	34800	1.40							
5.1	2780	229.95	35600	1.55							
5.8	2460	203.16	36200	1.75		**R**	**107**	**DRN**	**112M6**	200	325
6.8	2090	172.34	36700	2.1		**RF**	**107**	**DRN**	**112M6**	205	326
7.4	1920	158.68	36800	2.2		**RM**	**107**	**DRN**	**112M6**	295	326
8.3	1720	141.83	37000	2.5							

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P_m = 1.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
6.9	2070	255.71	26100	1.45	X						
7.3	1950	241.25	26600	1.55	X						
8.2	1750	216.28	27300	1.70	X						
9.5	1510	186.30	27600	2.0	X						
10	1370	170.02	27800	2.2	X	**R**	**97**	**(E)DRN**	**90L4**	120	323
12	1220	150.78	28000	2.5	X	**RF**	**97**	**(E)DRN**	**90L4**	140	324
14	1020	126.75	28200	2.9	X	**RM**	**97**	**(E)DRN**	**90L4**	190	324
15	940	116.48	28300	3.2	X						
17	830	103.44	28400	3.6	X						
19	745	92.48	28400	4.0	X						
9.7	1470	181.77	17400	1.05	X						
11	1250	155.34	18700	1.25	X						
12	1150	142.41	19200	1.35	X	**R**	**87**	**(E)DRN**	**90L4**	80	320
14	1010	124.97	19800	1.55	X	**RF**	**87**	**(E)DRN**	**90L4**	87	321
15	960	118.43*	20000	1.60	X	**RM**	**87**	**(E)DRN**	**90L4**	115	321
17	840	103.65	20000	1.85	X						
19	755	93.38	20000	2.0	X						
22	660	81.92	20000	2.3	X						
24	585	72.57	20000	2.6	X						
28	515	63.68*	20000	3.0	X	**R**	**87**	**(E)DRN**	**90L4**	80	320
29	485	60.35*	20000	3.2	X	**RF**	**87**	**(E)DRN**	**90L4**	87	321
33	425	52.82	20000	3.6	X	**RM**	**87**	**(E)DRN**	**90L4**	115	321
37	385	47.58	19800	4.0	X						
42	335	41.74	19000	4.6	X						
48	295	36.84*	18300	5.2	X						
19	750	92.97	10500	1.10	X						
22	660	81.80	11200	1.25	X	**R**	**77**	**(E)DRN**	**90L4**	54	317
23	625	77.24	11400	1.30	X	**RF**	**77**	**(E)DRN**	**90L4**	59	318
27	530	65.77	11900	1.55	X	**RM**	**77**	**(E)DRN**	**90L4**	84	318
31	465	57.68	12200	1.75	X						
34	420	52.07	12400	1.95	X						
39	370	45.81	12600	2.2	X						
41	350	43.26	12700	2.3	X	**R**	**77**	**(E)DRN**	**90L4**	54	317
48	295	36.83	12600	2.8	X	**RF**	**77**	**(E)DRN**	**90L4**	59	318
53	270	33.47	12200	3.0	X	**RM**	**77**	**(E)DRN**	**90L4**	84	318
61	235	29.00	11700	3.5	X						
70	200	25.23	11300	3.8	X						
76	189	23.37	11000	4.3	X	**R**	**77**	**(E)DRN**	**90L4**	52	317
82	174	21.43	10700	4.7	X	**RF**	**77**	**(E)DRN**	**90L4**	58	318
94	152	18.80	10300	5.1	X	**RM**	**77**	**(E)DRN**	**90L4**	83	318
29	495	61.26	8610	1.20	X						
31	460	56.89	8900	1.30	X						
34	415	51.56	9220	1.45	X						
38	375	46.29	9490	1.60	X	**R**	**67**	**(E)DRN**	**90L4**	48	314
44	320	39.88*	9770	1.80	X	**RF**	**67**	**(E)DRN**	**90L4**	51	315
47	300	37.50	9860	1.90	X	**RM**	**67**	**(E)DRN**	**90L4**	67	315
55	260	32.27	9750	2.1	X						
61	230	28.83	9450	2.2	X						
63	225	28.13	9390	2.4	X						
66	215	26.72	9250	2.5	X	**R**	**67**	**(E)DRN**	**90L4**	47	314
75	190	23.44	8910	3.0	X	**RF**	**67**	**(E)DRN**	**90L4**	50	315
89	161	19.89	8500	3.7	X	**RM**	**67**	**(E)DRN**	**90L4**	66	315
98	146	17.95	8250	4.0	X						
33	430	53.22	5900	1.05	X	**R**	**57**	**(E)DRN**	**90L4**	41	311
37	390	48.23	5800	1.15	X	**RF**	**57**	**(E)DRN**	**90L4**	45	312
41	350	43.30	5690	1.30	X	**RM**	**57**	**(E)DRN**	**90L4**	57	312
47	300	37.30*	5530	1.50	X						
50	280	35.07	5460	1.60	X	**R**	**57**	**(E)DRN**	**90L4**	41	311
59	240	30.18	5280	1.85	X	**RF**	**57**	**(E)DRN**	**90L4**	45	312
66	215	26.97	5150	2.1	X	**RM**	**57**	**(E)DRN**	**90L4**	57	312

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P_m = 1.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
67	210	26.31	5120	2.1	X						
71	200	24.99*	5060	2.2	X						
81	178	21.93	4900	2.5	X						
95	151	18.60*	4700	3.0	X	**R**	**57**	**(E)DRN**	**90L4**	40	311
105	136	16.79	4580	3.3	X	**RF**	**57**	**(E)DRN**	**90L4**	44	312
120	120	14.77*	4430	3.6	X	**RM**	**57**	**(E)DRN**	**90L4**	56	312
127	113	13.95*	4360	3.8	X						
149	96	11.88	4170	4.2	X						
48	295	36.93	4210	1.00	X						
51	280	34.73	4170	1.05	X						
59	240	29.88	4060	1.25	X	**R**	**47**	**(E)DRN**	**90L4**	36	308
66	215	26.70	3970	1.40	X	**RF**	**47**	**(E)DRN**	**90L4**	36	309
75	191	23.59	3870	1.55	X						
76	189	23.28	3860	1.60	X						
81	177	21.81	3800	1.70	X						
92	156	19.27	3700	1.90	X						
99	145	17.89	3630	2.0	X						
109	131	16.22	3550	2.1	X						
121	118	14.56	3460	2.2	X						
141	102	12.54	3330	2.5	X						
150	96	11.79	3270	2.6	X						
174	82	10.15	3150	2.8	X	**R**	**47**	**(E)DRN**	**90L4**	35	308
195	74	9.07	3050	3.0	X	**RF**	**47**	**(E)DRN**	**90L4**	35	309
221	65	8.01	2950	3.2	X						
228	63	7.76*	2880	2.6	X						
254	56	6.96	2800	2.8	X						
295	49	6.00	2690	3.2	X						
313	46	5.64*	2640	3.4	X						
364	39	4.85	2530	3.8	X						
407	35	4.34	2450	4.2	X						
461	31	3.83	2360	4.6	X						
92	157	19.31	3190	1.30	X						
98	146	18.05	3300	1.35	X	**R**	**37**	**(E)DRN**	**90L4**	31	305
113	126	15.60	3300	1.60	X	**RF**	**37**	**(E)DRN**	**90L4**	33	306
133	107	13.25	3190	1.75	X						
149	96	11.83	3100	1.90	X						
175	82	10.11	2990	2.1	X						
187	77	9.47	2940	2.2	X						
222	65	7.97	2810	2.4	X						
265	54	6.67	2660	2.7	X	**R**	**37**	**(E)DRN**	**90L4**	31	305
312	46	5.67	2550	3.1	X	**RF**	**37**	**(E)DRN**	**90L4**	33	306
349	41	5.06	2470	3.3	X						
409	35	4.32	2360	3.6	X						
437	33	4.05	2320	3.7	X						
518	28	3.41	2210	4.0	X						
264	54	13.25	2680	3.5							
296	48	11.83	2600	3.8							
347	41	10.11	2490	4.1		**R**	**37**	**DRN**	**90S2**	28	305
370	39	9.47	2450	4.3		**RF**	**37**	**DRN**	**90S2**	30	306
440	33	7.97	2330	4.8							
113	127	15.63	2090	1.05	X						
133	108	13.28*	2040	1.20	X						
149	96	11.86	2000	1.35	X						
174	82	10.13	1940	1.50	X						
217	66	8.16	1810	1.75	X						
232	62	7.63*	1780	1.80	X	**R**	**27**	**(E)DRN**	**90L4**	25	302
268	53	6.59	1730	2.0	X	**RF**	**27**	**(E)DRN**	**90L4**	25	303
316	45	5.60*	1670	2.2	X						
353	41	5.00*	1620	2.3	X						
414	35	4.27	1560	2.5	X						
442	32	4.00*	1540	2.6	X						
524	27	3.37	1470	2.9	X						

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P_m = 1.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
296	48	11.86	1730	2.7							
346	41	10.13	1660	3.0							
430	33	8.16	1550	3.5							
460	31	7.63*	1520	3.6							
532	27	6.59	1460	3.9		**R**	**27**	**DRN**	**90S2**	22	302
626	23	5.60*	1400	4.3		**RF**	**27**	**DRN**	**90S2**	22	303
701	20	5.00*	1360	4.7							
821	17	4.27	1300	5.0							
876	16	4.00*	1280	5.2							
1040	14	3.37	1220	5.7							
314	46	5.63	5220	2.4	X						
330	43	5.35*	5140	2.4	X						
374	38	4.73	4950	3.2	X						
437	33	4.04*	4710	4.4	X						
477	30	3.70	4590	5.1	X	**RX**	**77**	**(E)DRN**	**90L4**	44	288
544	26	3.25*	4400	6.9	X	**RXF**	**77**	**(E)DRN**	**90L4**	46	289
574	25	3.08*	4330	7.7	X						
656	22	2.70	4150	9.8	X						
728	20	2.43	4020	11	X						
390	37	4.53	3350	2.2	X						
411	35	4.30*	3300	2.3	X						
468	31	3.77	3180	2.8	X						
552	26	3.20*	3030	3.9	X						
612	23	2.89	2930	4.5	X						
695	21	2.54	2820	5.7	X	**RX**	**67**	**(E)DRN**	**90L4**	34	286
736	19	2.40*	2770	6.3	X	**RXF**	**67**	**(E)DRN**	**90L4**	38	287
865	17	2.04	2640	8.1	X						
951	15	1.86	2560	8.4	X						
1100	13	1.61	2450	8.7	X						
1260	11	1.40*	2340	9.2	X						
466	31	3.79	2540	2.2	X						
498	29	3.55*	2490	2.4	X						
563	25	3.14	2400	2.6	X						
607	24	2.91	2350	2.8	X						
669	21	2.64*	2290	3.2	X						
745	19	2.37	2220	3.6	X	**RX**	**57**	**(E)DRN**	**90L4**	32	284
865	17	2.04	2120	4.2	X	**RXF**	**57**	**(E)DRN**	**90L4**	34	285
920	16	1.92*	2080	4.4	X						
1070	13	1.65	1990	5.2	X						
1195	12	1.48	1920	5.7	X						
1355	11	1.30	1850	6.0	X						

P_m = 2.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
1.1	17700	1670	120000	1.00	X						
1.2	15600	1438	120000	1.15	X						
1.4	13900	1279	120000	1.30	X						
1.6	12100	1123	120000	1.50	X	**R**	**167R97**	**(E)DRN**	**100L4**	780	334
1.8	10700	999	120000	1.65	X	**RF**	**167R97**	**(E)DRN**	**100L4**	780	334
2.0	9280	861	120000	1.95	X	**RM**	**167R97**	**(E)DRN**	**100L4**	980	334
2.3	8220	760	120000	2.2	X						
2.7	6810	656	120000	2.6	X						
3.3	5660	533	72500	2.3	X						
3.8	4860	462	73000	2.7	X	**R**	**147R87**	**(E)DRN**	**100L4**	470	333
4.1	4600	426	73200	2.8	X	**RF**	**147R87**	**(E)DRN**	**100L4**	475	333
4.8	3970	368	73600	3.3	X	**RM**	**147R87**	**(E)DRN**	**100L4**	640	333
5.4	3510	326	73800	3.7	X						

P_m = 2.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
1.5	12700	1166	63200	1.00	X						
1.7	11200	1029	65900	1.15	X						
2.0	9700	889	68200	1.35	X						
2.2	8530	784	69700	1.50	X	**R**	**147R77**	**(E)DRN**	**100L4**	445	333
2.5	7540	695	70800	1.70	X	**RF**	**147R77**	**(E)DRN**	**100L4**	455	333
2.9	6790	619	71500	1.90	X	**RM**	**147R77**	**(E)DRN**	**100L4**	620	333
3.2	6100	558	72100	2.1	X						
3.6	5340	489	72700	2.4	X						
2.5	7630	699	54100	1.05	X	**R**	**137R77**	**(E)DRN**	**100L4**	305	333
2.9	6620	609	56000	1.20	X	**RF**	**137R77**	**(E)DRN**	**100L4**	330	333
						RM	**137R77**	**(E)DRN**	**100L4**	440	333
2.4	7960	730	53500	1.00	X						
2.8	6820	629	55700	1.15	X						
3.1	6140	560	56800	1.30	X						
3.6	5320	490	58000	1.50	X						
4.1	4640	428	58800	1.70	X	**R**	**137R77**	**(E)DRN**	**100L4**	315	333
4.6	4180	381	59300	1.90	X	**RF**	**137R77**	**(E)DRN**	**100L4**	340	333
5.5	3540	323	59900	2.2	X	**RM**	**137R77**	**(E)DRN**	**100L4**	450	333
6.1	3190	291	60200	2.5	X						
6.9	2780	255	60500	2.9	X						
7.9	2430	223	60700	3.3	X						
5.5	3530	323	33000	1.20	X						
6.2	3100	285	34600	1.40	X	**R**	**107R77**	**(E)DRN**	**100L4**	230	333
7.0	2740	253	35700	1.55	X	**RF**	**107R77**	**(E)DRN**	**100L4**	235	333
8.2	2320	214	36400	1.85	X	**RM**	**107R77**	**(E)DRN**	**100L4**	325	333
						R	**107R77**	**(E)DRN**	**100L4**	225	333
5.4	3610	325	32700	1.20	X	**RF**	**107R77**	**(E)DRN**	**100L4**	230	333
						RM	**107R77**	**(E)DRN**	**100L4**	315	333
						R	**97R57**	**(E)DRN**	**100L4**	155	333
8.4	2280	209	25100	1.30	X	**RF**	**97R57**	**(E)DRN**	**100L4**	175	333
						RM	**97R57**	**(E)DRN**	**100L4**	225	333
5.8	3620	203.16	32700	1.20							
6.8	3070	172.34	34700	1.40		**R**	**107**	**DRN**	**132S6**	210	325
7.4	2820	158.68	35500	1.50		**RF**	**107**	**DRN**	**132S6**	215	326
8.3	2520	141.83	36100	1.70		**RM**	**107**	**DRN**	**132S6**	305	326
7.0	2980	251.15	35000	1.45	X	**R**	**107**	**(E)DRN**	**100L4**	190	325
7.7	2730	229.95	35700	1.55	X	**RF**	**107**	**(E)DRN**	**100L4**	195	326
8.7	2410	203.16	36300	1.80	X	**RM**	**107**	**(E)DRN**	**100L4**	285	326
10	2050	172.34	36700	2.1	X						
11	1880	158.68	36900	2.3	X						
12	1680	141.83	37100	2.5	X	**R**	**107**	**(E)DRN**	**100L4**	190	325
14	1510	127.68	37200	2.8	X	**RF**	**107**	**(E)DRN**	**100L4**	195	326
15	1370	115.63	37300	3.1	X	**RM**	**107**	**(E)DRN**	**100L4**	285	326
17	1220	102.53	37000	3.5	X						
19	1100	92.70	35900	3.9	X						
8.2	2570	216.28	23700	1.15	X	**R**	**97**	**(E)DRN**	**100L4**	135	323
9.5	2210	186.30	25500	1.35	X	**RF**	**97**	**(E)DRN**	**100L4**	150	324
10	2020	170.02	26300	1.50	X	**RM**	**97**	**(E)DRN**	**100L4**	200	324
12	1790	150.78	27100	1.65	X						
14	1500	126.75	27600	2.0	X						
15	1380	116.48	27800	2.2	X						
17	1230	103.44	28000	2.4	X						
19	1100	92.48	28100	2.7	X	**R**	**97**	**(E)DRN**	**100L4**	135	323
21	980	83.15	27800	3.0	X	**RF**	**97**	**(E)DRN**	**100L4**	150	324
24	850	72.17	26700	3.5	X	**RM**	**97**	**(E)DRN**	**100L4**	200	324
27	775	65.21	25900	3.9	X						
29	710	59.92	25300	4.2	X						
33	630	53.21	24400	4.7	X						
37	565	47.58	23600	5.3	X						
14	1480	124.97	17400	1.05	X						
15	1400	118.43*	17800	1.10	X	**R**	**87**	**(E)DRN**	**100L4**	92	320
17	1230	103.65	18800	1.25	X	**RF**	**87**	**(E)DRN**	**100L4**	99	321
19	1110	93.38	19400	1.40	X	**RM**	**87**	**(E)DRN**	**100L4**	130	321
22	970	81.92	19900	1.60	X						

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P_m = 2.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
24	860	72.57	20000	1.80	X						
28	755	63.68*	20000	2.0	X						
29	715	60.35*	20000	2.2	X						
33	625	52.82	19900	2.5	X	**R**	**87**	**(E)DRN**	**100L4**	92	320
37	565	47.58	19400	2.7	X	**RF**	**87**	**(E)DRN**	**100L4**	99	321
42	495	41.74	18600	3.1	X	**RM**	**87**	**(E)DRN**	**100L4**	130	321
48	435	36.84*	18000	3.5	X						
54	385	32.66*	17300	4.0	X						
51	405	34.40*	17600	3.7	X						
56	370	31.40	17100	4.2	X	**R**	**87**	**(E)DRN**	**100L4**	90	320
63	330	27.84*	16500	4.7	X	**RF**	**87**	**(E)DRN**	**100L4**	97	321
75	275	23.40	15700	5.6	X	**RM**	**87**	**(E)DRN**	**100L4**	125	321
82	255	21.51	15300	5.9	X						
27	780	65.77	10300	1.05	X						
31	685	57.68	11000	1.20	X	**R**	**77**	**(E)DRN**	**100L4**	65	317
34	615	52.07	11400	1.30	X	**RF**	**77**	**(E)DRN**	**100L4**	71	318
39	545	45.81	11900	1.50	X	**RM**	**77**	**(E)DRN**	**100L4**	96	318
41	510	43.26	12000	1.60	X						
48	435	36.83	12200	1.85	X	**R**	**77**	**(E)DRN**	**100L4**	65	317
53	395	33.47	11900	2.1	X	**RF**	**77**	**(E)DRN**	**100L4**	71	318
61	345	29.00	11400	2.4	X	**RM**	**77**	**(E)DRN**	**100L4**	96	318
70	300	25.23	11000	2.6	X						
76	275	23.37	10800	3.0	X						
82	255	21.43	10500	3.2	X						
94	220	18.80	10100	3.5	X	**R**	**77**	**(E)DRN**	**100L4**	64	317
99	210	17.82*	9940	3.7	X	**RF**	**77**	**(E)DRN**	**100L4**	70	318
113	186	15.60	9560	4.0	X	**RM**	**77**	**(E)DRN**	**100L4**	94	318
126	167	14.05	9270	4.3	X						
44	470	39.88*	8800	1.20	X						
47	445	37.50	9020	1.30	X	**R**	**67**	**(E)DRN**	**100L4**	59	314
55	380	32.27	9350	1.40	X	**RF**	**67**	**(E)DRN**	**100L4**	62	315
61	340	28.83	9100	1.50	X	**RM**	**67**	**(E)DRN**	**100L4**	78	315
75	275	23.44	8630	2.0	X						
89	235	19.89	8260	2.5	X						
98	210	17.95	8030	2.8	X						
112	188	15.79	7750	3.0	X						
118	178	14.91	7620	3.1	X	**R**	**67**	**(E)DRN**	**100L4**	58	314
139	151	12.70	7280	3.4	X	**RF**	**67**	**(E)DRN**	**100L4**	61	315
153	137	11.54	7080	3.6	X	**RM**	**67**	**(E)DRN**	**100L4**	77	315
177	119	10.00	6790	4.0	X						
203	104	8.70*	6520	4.2	X						
226	93	7.79	6320	4.1	X						
47	440	37.30*	5020	1.00	X						
50	415	35.07	4980	1.10	X	**R**	**57**	**(E)DRN**	**100L4**	52	311
58	355	30.18	4880	1.25	X	**RF**	**57**	**(E)DRN**	**100L4**	56	312
65	320	26.97	4790	1.40	X	**RM**	**57**	**(E)DRN**	**100L4**	68	312
80	260	21.93	4600	1.70	X						
95	220	18.60*	4450	2.0	X						
105	200	16.79	4350	2.2	X						
119	176	14.77*	4230	2.5	X						
127	166	13.95*	4170	2.6	X	**R**	**57**	**(E)DRN**	**100L4**	51	311
149	141	11.88	4010	2.9	X	**RF**	**57**	**(E)DRN**	**100L4**	55	312
164	128	10.79	3920	3.0	X	**RM**	**57**	**(E)DRN**	**100L4**	67	312
189	111	9.35	3770	3.3	X						
195	108	9.06	3750	3.5	X						
221	95	7.97	3620	3.7	X						
161	131	21.93	3930	3.4							
190	111	18.60*	3770	4.1		**R**	**57**	**DRN**	**90L2**	40	311
210	100	16.79	3670	4.5		**RF**	**57**	**DRN**	**90L2**	44	312
239	88	14.77*	3540	4.9		**RM**	**57**	**DRN**	**90L2**	56	312
253	83	13.95*	3490	5.2							

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P_m = 2.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
92	225	19.27	3430	1.30	X						
109	193	16.22	3330	1.40	X						
121	173	14.56	3260	1.55	X						
141	149	12.54	3160	1.65	X						
150	140	11.79	3110	1.75	X						
174	121	10.15	3010	1.90	X						
195	108	9.07	2930	2.0	X						
220	95	8.01	2840	2.1	X	**R**	**47**	**(E)DRN**	**100L4**	46	308
228	92	7.76*	2760	1.75	X	**RF**	**47**	**(E)DRN**	**100L4**	46	309
253	83	6.96	2690	1.90	X						
294	71	6.00	2590	2.2	X						
313	67	5.64*	2550	2.3	X						
364	58	4.85	2450	2.6	X						
407	52	4.34	2380	2.8	X						
461	46	3.83	2300	3.2	X						
183	115	19.27	2970	2.6							
217	97	16.22	2850	2.9							
242	87	14.56	2770	3.0							
281	75	12.54	2660	3.3		**R**	**47**	**DRN**	**90L2**	35	308
299	70	11.79	2620	3.5		**RF**	**47**	**DRN**	**90L2**	35	309
347	60	10.15	2520	3.8							
389	54	9.07	2440	4.1							
440	48	8.01	2360	4.3							
113	186	15.60	1840	1.10	X						
133	158	13.25	2260	1.20	X	**R**	**37**	**(E)DRN**	**100L4**	42	305
149	141	11.83	2480	1.30	X	**RF**	**37**	**(E)DRN**	**100L4**	44	306
175	120	10.11	2740	1.40	X						
186	113	9.47	2770	1.50	X						
221	95	7.97	2670	1.65	X						
265	79	6.67	2530	1.80	X						
312	67	5.67	2440	2.1	X	**R**	**37**	**(E)DRN**	**100L4**	42	305
349	60	5.06	2370	2.2	X	**RF**	**37**	**(E)DRN**	**100L4**	44	306
408	51	4.32	2280	2.5	X						
436	48	4.05	2240	2.5	X						
518	41	3.41	2140	2.8	X						
226	93	15.60	2660	2.1							
266	79	13.25	2560	2.4		**R**	**37**	**DRN**	**90L2**	31	305
298	71	11.83	2490	2.6		**RF**	**37**	**DRN**	**90L2**	33	306
349	60	10.11	2400	2.8							
372	56	9.47	2360	3.0							
442	48	7.97	2250	3.3							
529	40	6.67	2130	3.6							
622	34	5.67	2040	4.2		**R**	**37**	**DRN**	**90L2**	31	305
697	30	5.06	1980	4.5		**RF**	**37**	**DRN**	**90L2**	33	306
816	26	4.32	1890	4.9							
871	24	4.05	1850	5.1							
1035	20	3.41	1760	5.5							
174	121	10.13	1550	1.00	X						
268	78	6.59	1480	1.35	X						
315	67	5.60*	1550	1.50	X						
353	60	5.00*	1520	1.60	X	**R**	**27**	**(E)DRN**	**100L4**	37	302
413	51	4.27	1470	1.70	X	**RF**	**27**	**(E)DRN**	**100L4**	37	303
441	48	4.00*	1450	1.80	X						
524	40	3.37	1400	1.95	X						
265	79	13.28*	1650	1.65							
297	71	11.86	1620	1.85							
348	60	10.13	1570	2.0							
535	39	6.59	1390	2.7							
629	33	5.60*	1340	3.0		**R**	**27**	**DRN**	**90L2**	25	302
705	30	5.00*	1300	3.2		**RF**	**27**	**DRN**	**90L2**	25	303
825	25	4.27	1250	3.4							
881	24	4.00*	1230	3.6							
1045	20	3.37	1180	3.9							

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P_m = 2.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
373	56	4.73	4850	2.2	X						
437	48	4.04*	4630	3.0	X						
477	44	3.70	4510	3.5	X						
543	39	3.25*	4340	4.7	X						
573	37	3.08*	4270	5.3	X						
655	32	2.70	4100	6.7	X	**RX**	**77**	**(E)DRN**	**100L4**	55	288
727	29	2.43	3970	7.4	X	**RXF**	**77**	**(E)DRN**	**100L4**	57	289
828	25	2.13	3810	7.9	X						
939	22	1.88*	3660	8.4	X						
1060	20	1.67	3520	8.7	X						
1240	17	1.42	3350	9.2	X						
468	45	3.77	3090	1.95	X						
552	38	3.20*	2950	2.6	X						
611	34	2.89	2860	3.1	X						
694	30	2.54	2760	3.9	X						
735	29	2.40*	2710	4.3	X	**RX**	**67**	**(E)DRN**	**100L4**	45	286
864	24	2.04	2580	5.5	X	**RXF**	**67**	**(E)DRN**	**100L4**	49	287
950	22	1.86	2510	5.7	X						
1095	19	1.61	2400	6.0	X						
1260	17	1.40*	2300	6.2	X						
563	37	3.14	2320	1.75	X						
669	31	2.64*	2210	2.2	X						
745	28	2.37	2150	2.5	X						
864	24	2.04	2060	2.8	X	**RX**	**57**	**(E)DRN**	**100L4**	43	284
919	23	1.92*	2020	3.0	X	**RXF**	**57**	**(E)DRN**	**100L4**	45	285
1070	20	1.65	1940	3.5	X						
1195	18	1.48	1870	3.9	X						
1355	16	1.30	1810	4.1	X						

P_m = 3.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
1.6	16700	1123	120000	1.10	X						
1.8	14800	999	120000	1.20	X						
2.0	12800	861	120000	1.40	X	**R**	**167R97**	**(E)DRN**	**100L4**	780	334
2.3	11300	760	120000	1.60	X	**RF**	**167R97**	**(E)DRN**	**100L4**	780	334
2.7	9490	656	120000	1.90	X	**RM**	**167R97**	**(E)DRN**	**100L4**	980	334
3.5	7280	503	120000	2.5	X						
3.3	7840	533	70500	1.65	X						
3.8	6750	462	71600	1.90	X						
4.1	6340	426	71900	2.0	X	**R**	**147R87**	**(E)DRN**	**100L4**	470	333
4.8	5480	368	72600	2.4	X	**RF**	**147R87**	**(E)DRN**	**100L4**	475	333
5.4	4850	326	73000	2.7	X	**RM**	**147R87**	**(E)DRN**	**100L4**	640	333
6.3	4090	280	73500	3.2	X						
2.0	13300	889	62000	0.95							
2.2	11700	784	65000	1.10	X	**R**	**147R77**	**(E)DRN**	**100L4**	445	333
2.5	10300	695	67200	1.25	X	**RF**	**147R77**	**(E)DRN**	**100L4**	455	333
2.9	9320	619	68700	1.40	X	**RM**	**147R77**	**(E)DRN**	**100L4**	620	333
3.2	8390	558	69900	1.55	X						
3.6	7330	490	54800	1.10	X						
4.1	6390	428	56400	1.25	X						
4.6	5740	381	57400	1.40	X	**R**	**137R77**	**(E)DRN**	**100L4**	315	333
5.5	4870	323	58600	1.65	X	**RF**	**137R77**	**(E)DRN**	**100L4**	340	333
6.0	4380	291	59100	1.80	X	**RM**	**137R77**	**(E)DRN**	**100L4**	450	333
6.9	3830	255	59700	2.1	X						
7.9	3350	223	60100	2.4	X						
3.4	7910	517	53600	1.00	X	**R**	**137R77**	**(E)DRN**	**100L4**	305	333
3.9	6930	453	55500	1.15	X	**RF**	**137R77**	**(E)DRN**	**100L4**	330	333
						RM	**137R77**	**(E)DRN**	**100L4**	440	333
7.0	3780	253	32000	1.15	X	**R**	**107R77**	**(E)DRN**	**100L4**	230	333
8.2	3200	214	34300	1.35	X	**RF**	**107R77**	**(E)DRN**	**100L4**	235	333
9.4	2800	187	35600	1.55	X	**RM**	**107R77**	**(E)DRN**	**100L4**	325	333

P_m = 3.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
						R	**107R77**	**(E)DRN**	**100L4**	225	333
6.9	3890	256	31500	1.10	X	**RF**	**107R77**	**(E)DRN**	**100L4**	230	333
						RM	**107R77**	**(E)DRN**	**100L4**	315	333
7.4	3850	158.68	31700	1.10		**R**	**107**	**DRN**	**132S6**	210	325
8.3	3440	141.83	33400	1.25		**RF**	**107**	**DRN**	**132S6**	215	326
9.2	3100	127.68	34600	1.40		**RM**	**107**	**DRN**	**132S6**	305	326
7.7	3730	229.95	32200	1.15	X						
8.7	3300	203.16	33900	1.30	X						
10	2800	172.34	35600	1.55	X						
11	2570	158.68	36100	1.65	X						
12	2300	141.83	36400	1.85	X	**R**	**107**	**(E)DRN**	**100L4**	190	325
14	2070	127.68	36700	2.1	X	**RF**	**107**	**(E)DRN**	**100L4**	195	326
15	1870	115.63	36900	2.3	X	**RM**	**107**	**(E)DRN**	**100L4**	285	326
17	1660	102.53	36300	2.6	X						
19	1500	92.70	35300	2.9	X						
22	1270	78.57	33600	3.4	X						
24	1180	72.88	32900	3.6	X						
12	2450	150.78	24300	1.20	X						
14	2050	126.75	26100	1.45	X						
15	1890	116.48	26800	1.60	X						
17	1680	103.44	27400	1.80	X						
19	1500	92.48	27600	2.0	X						
21	1350	83.15	27100	2.2	X						
24	1170	72.17	26100	2.6	X	**R**	**97**	**(E)DRN**	**100L4**	135	323
27	1050	65.21	25400	2.8	X	**RF**	**97**	**(E)DRN**	**100L4**	150	324
29	970	59.92	24800	3.1	X	**RM**	**97**	**(E)DRN**	**100L4**	200	324
33	860	53.21	24000	3.5	X						
37	770	47.58	23200	3.9	X						
41	695	42.78	22500	4.3	X						
47	600	37.13	21600	5.0	X						
53	540	33.25	20900	5.3	X						
19	1510	93.38	17200	1.00	X						
22	1330	81.92	18300	1.15	X	**R**	**87**	**(E)DRN**	**100L4**	92	320
24	1170	72.57	19100	1.30	X	**RF**	**87**	**(E)DRN**	**100L4**	99	321
28	1030	63.68*	19700	1.50	X	**RM**	**87**	**(E)DRN**	**100L4**	130	321
29	980	60.35*	19900	1.60	X						
33	850	52.82	19400	1.80	X						
37	770	47.58	18900	2.0	X	**R**	**87**	**(E)DRN**	**100L4**	92	320
42	675	41.74	18200	2.3	X	**RF**	**87**	**(E)DRN**	**100L4**	99	321
48	595	36.84*	17600	2.6	X	**RM**	**87**	**(E)DRN**	**100L4**	130	321
54	530	32.66*	17000	2.9	X						
63	450	27.88	16300	3.3	X						
51	555	34.40*	17300	2.7	X						
56	510	31.40	16800	3.0	X						
63	450	27.84*	16300	3.4	X						
75	380	23.40	15400	4.1	X	**R**	**87**	**(E)DRN**	**100L4**	90	320
82	345	21.51	15100	4.3	X	**RF**	**87**	**(E)DRN**	**100L4**	97	321
92	310	19.10	14500	4.6	X	**RM**	**87**	**(E)DRN**	**100L4**	125	321
103	275	17.08*	14100	5.0	X						
115	245	15.35	13600	5.4	X						
38	740	45.81	10600	1.10	X						
41	700	43.26	10900	1.15	X	**R**	**77**	**(E)DRN**	**100L4**	65	317
48	595	36.83	11600	1.35	X	**RF**	**77**	**(E)DRN**	**100L4**	71	318
53	540	33.47	11400	1.50	X	**RM**	**77**	**(E)DRN**	**100L4**	96	318
						R	**77**	**(E)DRN**	**100L4**	65	317
61	470	29.00	11000	1.75	X	**RF**	**77**	**(E)DRN**	**100L4**	71	318
70	410	25.23	10700	1.90	X	**RM**	**77**	**(E)DRN**	**100L4**	96	318

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P_m = 3.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
75	375	23.37	10500	2.2	X						
82	345	21.43	10200	2.4	X						
94	305	18.80	9860	2.5	X						
99	285	17.82*	9720	2.7	X						
113	250	15.60	9370	2.9	X						
125	225	14.05	9100	3.1	X	**R**	**77**	**(E)DRN**	**100L4**	64	317
143	200	12.33	8760	3.4	X	**RF**	**77**	**(E)DRN**	**100L4**	70	318
162	177	10.88	8450	3.7	X	**RM**	**77**	**(E)DRN**	**100L4**	94	318
183	157	9.64	8160	4.0	X						
205	140	8.59	7930	4.5	X						
228	126	7.74	7680	4.8	X						
260	110	6.79	7380	5.3	X						
75	380	23.44	8300	1.45	X						
89	320	19.89	7980	1.85	X						
98	290	17.95	7780	2.0	X						
112	255	15.79	7520	2.2	X	**R**	**67**	**(E)DRN**	**100L4**	58	314
118	240	14.91	7410	2.3	X	**RF**	**67**	**(E)DRN**	**100L4**	61	315
139	205	12.70	7100	2.5	X	**RM**	**67**	**(E)DRN**	**100L4**	77	315
153	188	11.54	6920	2.7	X						
176	162	10.00	6650	2.9	X						
						R	**57**	**(E)DRN**	**100L4**	52	311
65	435	26.97	4370	1.05	X	**RF**	**57**	**(E)DRN**	**100L4**	56	312
						RM	**57**	**(E)DRN**	**100L4**	68	312
80	355	21.93	4270	1.25	X	**R**	**57**	**(E)DRN**	**100L4**	51	311
95	300	18.60*	4160	1.50	X	**RF**	**57**	**(E)DRN**	**100L4**	55	312
105	270	16.79	4090	1.65	X	**RM**	**57**	**(E)DRN**	**100L4**	67	312
119	240	14.77*	4000	1.80	X						
126	225	13.95*	3960	1.90	X						
148	193	11.88	3830	2.1	X						
163	175	10.79	3750	2.2	X						
189	152	9.35	3630	2.4	X						
195	147	9.06	3620	2.5	X	**R**	**57**	**(E)DRN**	**100L4**	51	311
221	130	7.97	3500	2.7	X	**RF**	**57**	**(E)DRN**	**100L4**	55	312
234	122	7.53	3460	2.9	X	**RM**	**57**	**(E)DRN**	**100L4**	67	312
275	104	6.41	3320	3.2	X						
303	95	5.82	3230	3.4	X						
349	82	5.05	3110	3.7	X						
402	71	4.39	2990	3.9	X						
160	179	21.93	3760	2.5		**R**	**57**	**DRN**	**100LM2**	51	311
189	152	18.60*	3620	3.0		**RF**	**57**	**DRN**	**100LM2**	55	312
209	137	16.79	3540	3.3		**RM**	**57**	**DRN**	**100LM2**	67	312
238	120	14.77*	3430	3.6							
252	114	13.95*	3380	3.8		**R**	**57**	**DRN**	**100LM2**	51	311
296	97	11.88	3240	4.2		**RF**	**57**	**DRN**	**100LM2**	55	312
326	88	10.79	3160	4.4		**RM**	**57**	**DRN**	**100LM2**	67	312
109	260	16.22	2950	1.05	X						
121	235	14.56	3030	1.10	X	**R**	**47**	**(E)DRN**	**100L4**	46	308
141	200	12.54	2960	1.25	X	**RF**	**47**	**(E)DRN**	**100L4**	46	309
149	192	11.79	2930	1.30	X						
174	165	10.15	2850	1.40	X						
194	147	9.07	2780	1.50	X						
220	130	8.01	2710	1.55	X						
227	126	7.76*	2620	1.30	X						
253	113	6.96	2560	1.40	X	**R**	**47**	**(E)DRN**	**100L4**	46	308
294	97	6.00	2480	1.60	X	**RF**	**47**	**(E)DRN**	**100L4**	46	309
313	92	5.64*	2450	1.70	X						
363	79	4.85	2360	1.90	X						
407	70	4.34	2300	2.1	X						
460	62	3.83	2230	2.3	X						

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P_m = 3.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
298	96	11.79	2530	2.5							
347	83	10.15	2440	2.8							
388	74	9.07	2370	3.0							
439	65	8.01	2290	3.1							
454	63	7.76*	2240	2.6							
505	57	6.96	2180	2.8		**R**	**47**	**DRN**	**100LM2**	46	308
586	49	6.00	2090	3.2		**RF**	**47**	**DRN**	**100LM2**	46	309
624	46	5.64*	2060	3.4							
725	40	4.85	1980	3.8							
811	35	4.34	1910	4.1							
918	31	3.83	1850	4.6							
174	164	10.11	1500	1.05	X						
186	154	9.47	1660	1.10	X	**R**	**37**	**(E)DRN**	**100L4**	42	305
221	130	7.97	2010	1.20	X	**RF**	**37**	**(E)DRN**	**100L4**	44	306
264	108	6.67	1760	1.35	X						
311	92	5.67	2010	1.55	X						
348	82	5.06	2150	1.65	X	**R**	**37**	**(E)DRN**	**100L4**	42	305
408	70	4.32	2180	1.80	X	**RF**	**37**	**(E)DRN**	**100L4**	44	306
436	66	4.05	2150	1.85	X						
517	55	3.41	2070	2.0	X						
348	82	10.11	2300	2.1							
372	77	9.47	2260	2.2		**R**	**37**	**DRN**	**100LM2**	42	305
441	65	7.97	2170	2.4		**RF**	**37**	**DRN**	**100LM2**	44	306
527	54	6.67	2060	2.6							
621	46	5.67	1980	3.1							
695	41	5.06	1920	3.3		**R**	**37**	**DRN**	**100LM2**	42	305
814	35	4.32	1840	3.6		**RF**	**37**	**DRN**	**100LM2**	44	306
869	33	4.05	1810	3.7							
1030	28	3.41	1730	4.0							
315	91	5.60*	840	1.10	X						
353	81	5.00*	1020	1.15	X						
413	69	4.27	1230	1.25	X	**R**	**27**	**(E)DRN**	**100L4**	37	302
441	65	4.00*	1300	1.30	X	**RF**	**27**	**(E)DRN**	**100L4**	37	303
523	55	3.37	1320	1.45	X						
534	54	6.59	1310	1.95							
628	46	5.60*	1270	2.2							
703	41	5.00*	1240	2.3		**R**	**27**	**DRN**	**100LM2**	37	302
823	35	4.27	1200	2.5		**RF**	**27**	**DRN**	**100LM2**	37	303
879	33	4.00*	1180	2.6							
1045	27	3.37	1140	2.9							
273	105	6.45	6680	1.85	X						
317	90	5.56*	6390	2.5	X						
347	82	5.07	6220	3.0	X	**RX**	**87**	**(E)DRN**	**100L4**	72	290
392	73	4.50*	6010	4.0	X	**RXF**	**87**	**(E)DRN**	**100L4**	77	291
466	61	3.78	5700	5.0	X						
373	77	4.73	4740	1.60	X						
436	66	4.04*	4540	2.2	X						
476	60	3.70	4430	2.5	X	**RX**	**77**	**(E)DRN**	**100L4**	55	288
542	53	3.25*	4260	3.5	X	**RXF**	**77**	**(E)DRN**	**100L4**	57	289
572	50	3.08*	4190	3.9	X						
467	61	3.77	2980	1.40	X						
551	52	3.20*	2860	1.90	X						
610	47	2.89	2780	2.3	X						
694	41	2.54	2690	2.9	X						
735	39	2.40*	2640	3.1	X	**RX**	**67**	**(E)DRN**	**100L4**	45	286
863	33	2.04	2520	4.0	X	**RXF**	**67**	**(E)DRN**	**100L4**	49	287
949	30	1.86	2460	4.2	X						
1095	26	1.61	2360	4.4	X						
1260	23	1.40*	2260	4.6	X						

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P_m = 3.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
562	51	3.14	2220	1.30	X						
668	43	2.64*	2130	1.60	X						
744	39	2.37	2070	1.80	X						
864	33	2.04	1990	2.1	X	**RX**	**57**	**(E)DRN**	**100L4**	43	284
918	31	1.92*	1960	2.2	X	**RXF**	**57**	**(E)DRN**	**100L4**	45	285
1065	27	1.65	1880	2.6	X						
1195	24	1.48	1820	2.8	X						
1350	21	1.30	1760	3.0	X						

P_m = 3.7 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
2.0	15900	861	120000	1.15	X						
2.3	14000	760	120000	1.30	X						
2.7	11800	656	120000	1.50	X	**R**	**167R97**	**(E)DRN**	**100L4**	780	334
3.5	9100	503	120000	2.0	X	**RF**	**167R97**	**(E)DRN**	**100L4**	780	334
4.7	6810	376	120000	2.6	X	**RM**	**167R97**	**(E)DRN**	**100L4**	980	334
5.2	6060	335	120000	3.0	X						
3.3	9780	533	68100	1.35	X						
3.8	8420	462	69800	1.55	X						
4.1	7890	426	70400	1.65	X						
4.8	6810	368	71500	1.90	X						
5.4	6030	326	72200	2.2	X	**R**	**147R87**	**(E)DRN**	**100L4**	470	333
6.3	5110	280	72900	2.5	X	**RF**	**147R87**	**(E)DRN**	**100L4**	475	333
7.1	4510	247	73300	2.9	X	**RM**	**147R87**	**(E)DRN**	**100L4**	640	333
8.2	3890	214	73600	3.3	X						
9.3	3440	189	73800	3.8	X						
11	2890	159	74000	4.5	X						
2.8	11500	619	65300	1.10	X						
3.1	10400	558	67200	1.25	X	**R**	**147R77**	**(E)DRN**	**100L4**	445	333
3.6	9120	489	69000	1.45	X	**RF**	**147R77**	**(E)DRN**	**100L4**	455	333
4.2	7730	415	70600	1.70	X	**RM**	**147R77**	**(E)DRN**	**100L4**	620	333
4.6	7120	381	55100	1.10	X						
5.4	6040	323	57000	1.30	X	**R**	**137R77**	**(E)DRN**	**100L4**	315	333
6.0	5430	291	57800	1.45	X	**RF**	**137R77**	**(E)DRN**	**100L4**	340	333
6.9	4750	255	58700	1.70	X	**RM**	**137R77**	**(E)DRN**	**100L4**	450	333
7.9	4160	223	59300	1.90	X						
4.7	7110	376	55200	1.10	X	**R**	**137R77**	**(E)DRN**	**100L4**	305	333
5.2	6400	339	56400	1.25	X	**RF**	**137R77**	**(E)DRN**	**100L4**	330	333
5.9	5600	297	57600	1.45	X	**RM**	**137R77**	**(E)DRN**	**100L4**	440	333
						R	**107R77**	**(E)DRN**	**100L4**	230	333
9.4	3470	187	33300	1.25	X	**RF**	**107R77**	**(E)DRN**	**100L4**	235	333
						RM	**107R77**	**(E)DRN**	**100L4**	325	333
						R	**107R77**	**(E)DRN**	**100L4**	225	333
9.1	3630	193	32600	1.20	X	**RF**	**107R77**	**(E)DRN**	**100L4**	230	333
10	3260	172	34100	1.30	X	**RM**	**107R77**	**(E)DRN**	**100L4**	315	333
5.3	6650	222.60*	56000	1.20							
6.3	5630	188.45	57600	1.40							
6.8	5210	174.40*	58100	1.55							
7.6	4670	156.31	58800	1.70		**R**	**137**	**DRN**	**132M6**	315	327
8.4	4210	141.12*	59300	1.90		**RF**	**137**	**DRN**	**132M6**	335	328
9.2	3830	128.18	59700	2.1		**RM**	**137**	**DRN**	**132M6**	445	328
10	3390	113.72	60000	2.4							
11	3080	103.20*	60300	2.6							
13	2650	88.70*	60600	3.0							

P_m = 3.7 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
10	3460	172.34	33300	1.25	X						
11	3180	158.68	34300	1.35	X						
12	2850	141.83	35400	1.50	X						
14	2560	127.68	36100	1.70	X						
15	2320	115.63	36400	1.85	X						
17	2060	102.53	35700	2.1	X	**R**	**107**	**(E)DRN**	**100L4**	190	325
19	1860	92.70	34700	2.3	X	**RF**	**107**	**(E)DRN**	**100L4**	195	326
22	1570	78.57	33200	2.7	X	**RM**	**107**	**(E)DRN**	**100L4**	285	326
24	1460	72.88	32500	2.9	X						
27	1310	65.60*	31500	3.3	X						
30	1190	59.41	30600	3.6	X						
33	1050	52.68	29600	4.1	X						
15	2340	116.48	24900	1.30	X						
17	2070	103.44	26100	1.45	X						
19	1850	92.48	26900	1.60	X						
21	1670	83.15	26500	1.80	X						
24	1450	72.17	25600	2.1	X						
27	1310	65.21	24900	2.3	X	**R**	**97**	**(E)DRN**	**100L4**	135	323
29	1200	59.92	24300	2.5	X	**RF**	**97**	**(E)DRN**	**100L4**	150	324
33	1060	53.21	23600	2.8	X	**RM**	**97**	**(E)DRN**	**100L4**	200	324
37	950	47.58	22900	3.1	X						
41	850	42.78	22200	3.5	X						
47	745	37.13	21300	4.0	X						
53	665	33.25	20700	4.3	X						
55	640	32.05	20400	4.0	X						
65	545	27.19	19500	4.7	X	**R**	**97**	**(E)DRN**	**100L4**	130	323
70	500	25.03	19000	5.6	X	**RF**	**97**	**(E)DRN**	**100L4**	145	324
79	445	22.37	18400	6.0	X	**RM**	**97**	**(E)DRN**	**100L4**	200	324
87	400	20.14	17800	6.5	X						
						R	**87**	**(E)DRN**	**100L4**	92	320
28	1270	63.68*	17000	1.20	X	**RF**	**87**	**(E)DRN**	**100L4**	99	321
						RM	**87**	**(E)DRN**	**100L4**	130	321
29	1210	60.35*	17300	1.30	X						
33	1060	52.82	18000	1.45	X						
37	950	47.58	18400	1.60	X	**R**	**87**	**(E)DRN**	**100L4**	92	320
42	830	41.74	17800	1.85	X	**RF**	**87**	**(E)DRN**	**100L4**	99	321
48	740	36.84*	17300	2.1	X	**RM**	**87**	**(E)DRN**	**100L4**	130	321
54	655	32.66*	16700	2.4	X						
63	560	27.88	16000	2.7	X						
51	690	34.40*	17000	2.2	X						
56	630	31.40	16500	2.5	X						
63	555	27.84*	16000	2.8	X						
75	470	23.40	15200	3.3	X						
82	430	21.51	14900	3.5	X	**R**	**87**	**(E)DRN**	**100L4**	90	320
92	380	19.10	14400	3.8	X	**RF**	**87**	**(E)DRN**	**100L4**	97	321
103	340	17.08*	13900	4.0	X	**RM**	**87**	**(E)DRN**	**100L4**	125	321
114	305	15.35	13500	4.3	X						
132	265	13.33	12900	4.8	X						
147	235	11.93	12500	5.1	X						
						R	**77**	**(E)DRN**	**100L4**	65	317
48	740	36.83	10600	1.10	X	**RF**	**77**	**(E)DRN**	**100L4**	71	318
53	670	33.47	11100	1.20	X	**RM**	**77**	**(E)DRN**	**100L4**	96	318
						R	**77**	**(E)DRN**	**100L4**	65	317
61	580	29.00	10700	1.40	X	**RF**	**77**	**(E)DRN**	**100L4**	71	318
70	505	25.23	10400	1.55	X	**RM**	**77**	**(E)DRN**	**100L4**	96	318

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P_m = 3.7 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
75	465	23.37	10200	1.75	X						
82	430	21.43	9980	1.90	X						
93	375	18.80	9660	2.1	X						
99	355	17.82*	9530	2.2	X						
113	310	15.60	9200	2.4	X						
125	280	14.05	8940	2.5	X						
143	245	12.33	8630	2.8	X	**R**	**77**	**(E)DRN**	**100L4**	64	317
162	215	10.88	8330	3.0	X	**RF**	**77**	**(E)DRN**	**100L4**	70	318
182	194	9.64	8050	3.2	X	**RM**	**77**	**(E)DRN**	**100L4**	94	318
205	173	8.59	7860	3.6	X						
227	156	7.74	7620	3.9	X						
259	136	6.79	7320	4.2	X						
293	120	5.99*	7050	4.5	X						
331	107	5.31*	6800	4.8	X						
88	395	19.89	7730	1.50	X						
98	360	17.95	7560	1.65	X						
111	315	15.79	7330	1.75	X						
118	295	14.91	7230	1.85	X						
138	255	12.70	6950	2.0	X						
152	230	11.54	6780	2.2	X						
176	200	10.00	6530	2.3	X	**R**	**67**	**(E)DRN**	**100L4**	58	314
202	175	8.70*	6290	2.5	X	**RF**	**67**	**(E)DRN**	**100L4**	61	315
226	157	7.79	6120	2.4	X	**RM**	**67**	**(E)DRN**	**100L4**	77	315
239	148	7.36*	6020	2.5	X						
281	126	6.27	5760	2.6	X						
309	114	5.70	5600	2.7	X						
356	99	4.93	5370	2.9	X						
409	86	4.29	5150	3.1	X						
95	370	18.60*	3910	1.20	X	**R**	**57**	**(E)DRN**	**100L4**	51	311
105	335	16.79	3870	1.35	X	**RF**	**57**	**(E)DRN**	**100L4**	55	312
						RM	**57**	**(E)DRN**	**100L4**	67	312
119	295	14.77*	3800	1.45	X						
126	280	13.95*	3770	1.55	X						
148	235	11.88	3670	1.70	X						
163	215	10.79	3600	1.80	X						
188	188	9.35	3500	1.95	X						
194	182	9.06	3500	2.1	X	**R**	**57**	**(E)DRN**	**100L4**	51	311
221	160	7.97	3400	2.2	X	**RF**	**57**	**(E)DRN**	**100L4**	55	312
234	151	7.53	3360	2.3	X	**RM**	**57**	**(E)DRN**	**100L4**	67	312
274	129	6.41	3230	2.6	X						
302	117	5.82	3160	2.7	X						
348	101	5.05	3050	3.0	X						
400	88	4.39	2940	3.2	X						
173	200	10.15	2710	1.15	X						
194	182	9.07	2660	1.20	X						
219	161	8.01	2600	1.25	X						
252	140	6.96	2460	1.15	X						
293	121	6.00	2390	1.30	X	**R**	**47**	**(E)DRN**	**100L4**	46	308
312	113	5.64*	2360	1.35	X	**RF**	**47**	**(E)DRN**	**100L4**	46	309
362	98	4.85	2290	1.55	X						
405	87	4.34	2230	1.70	X						
459	77	3.83	2170	1.85	X						
216	163	16.22	2610	1.70							
241	147	14.56	2560	1.80		**R**	**47**	**DRN**	**100L2**	46	308
280	126	12.54	2480	2.0		**RF**	**47**	**DRN**	**100L2**	46	309
297	119	11.79	2450	2.1							
346	102	10.15	2370	2.2							
387	91	9.07	2310	2.4							
438	81	8.01	2240	2.5							
452	78	7.76*	2180	2.1							
504	70	6.96	2120	2.3		**R**	**47**	**DRN**	**100L2**	46	308
585	60	6.00	2050	2.6		**RF**	**47**	**DRN**	**100L2**	46	309
622	57	5.64*	2020	2.7							
723	49	4.85	1940	3.1							
809	44	4.34	1880	3.3							
916	39	3.83	1820	3.7							

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P_m = 3.7 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
316	112	5.56*	6300	2.0	X						
346	102	5.07	6140	2.5	X	**RX**	**87**	**(E)DRN**	**100L4**	72	290
391	90	4.50*	5930	3.2	X	**RXF**	**87**	**(E)DRN**	**100L4**	77	291
465	76	3.78	5640	4.0	X						
435	81	4.04*	4460	1.75	X						
475	74	3.70	4350	2.1	X						
541	65	3.25*	4200	2.8	X						
571	62	3.08*	4130	3.1	X						
652	54	2.70	3980	4.0	X	**RX**	**77**	**(E)DRN**	**100L4**	55	288
724	49	2.43	3860	4.4	X	**RXF**	**77**	**(E)DRN**	**100L4**	57	289
825	43	2.13	3710	4.7	X						
935	38	1.88*	3570	5.0	X						
1055	34	1.67	3450	5.2	X						
1235	29	1.42	3280	5.4	X						
549	64	3.20*	2780	1.55	X						
609	58	2.89	2710	1.85	X						
692	51	2.54	2620	2.3	X						
732	48	2.40*	2580	2.5	X	**RX**	**67**	**(E)DRN**	**100L4**	45	286
860	41	2.04	2470	3.3	X	**RXF**	**67**	**(E)DRN**	**100L4**	49	287
947	37	1.86	2410	3.4	X						
1095	32	1.61	2310	3.5	X						
1255	28	1.40*	2220	3.7	X						
666	53	2.64*	2050	1.30	X						
742	48	2.37	2000	1.45	X						
861	41	2.04	1930	1.70	X	**RX**	**57**	**(E)DRN**	**100L4**	43	284
916	39	1.92*	1900	1.80	X	**RXF**	**57**	**(E)DRN**	**100L4**	45	285
1065	33	1.65	1830	2.1	X						
1190	30	1.48	1780	2.3	X						
1350	26	1.30	1720	2.4	X						

P_m = 4.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
2.0	17100	861	120000	1.05	X						
2.3	15100	760	120000	1.20	X						
2.7	12700	656	120000	1.40	X	**R**	**167R97**	**(E)DRN**	**112M4**	780	334
3.5	9810	503	120000	1.85	X	**RF**	**167R97**	**(E)DRN**	**112M4**	790	334
4.7	7340	376	120000	2.5	X	**RM**	**167R97**	**(E)DRN**	**112M4**	990	334
5.3	6530	335	120000	2.8	X						
3.3	10500	533	67000	1.25	X						
3.8	9070	462	69000	1.45	X						
4.2	8490	426	69700	1.55	X						
4.8	7330	368	71000	1.75	X						
5.4	6480	326	71800	2.0	X	**R**	**147R87**	**(E)DRN**	**112M4**	475	333
6.3	5500	280	72600	2.4	X	**RF**	**147R87**	**(E)DRN**	**112M4**	485	333
7.2	4860	247	73000	2.7	X	**RM**	**147R87**	**(E)DRN**	**112M4**	650	333
8.3	4190	214	73400	3.1	X						
9.4	3710	189	73700	3.5	X						
11	3120	159	74000	4.2	X						
2.9	12400	619	63700	1.05	X						
3.2	11100	558	65900	1.15	X	**R**	**147R77**	**(E)DRN**	**112M4**	455	333
3.6	9810	489	68100	1.35	X	**RF**	**147R77**	**(E)DRN**	**112M4**	465	333
4.3	8310	415	70000	1.55	X	**RM**	**147R77**	**(E)DRN**	**112M4**	630	333
4.6	7660	381	54100	1.05	X						
5.5	6490	323	56200	1.25	X	**R**	**137R77**	**(E)DRN**	**112M4**	325	333
6.1	5840	291	57300	1.35	X	**RF**	**137R77**	**(E)DRN**	**112M4**	350	333
6.9	5110	255	58300	1.55	X	**RM**	**137R77**	**(E)DRN**	**112M4**	460	333
7.9	4470	223	59000	1.80	X						
4.7	7640	376	54100	1.05	X	**R**	**137R77**	**(E)DRN**	**112M4**	315	333
5.2	6880	339	55600	1.15	X	**RF**	**137R77**	**(E)DRN**	**112M4**	340	333
6.0	6030	297	57000	1.35	X	**RM**	**137R77**	**(E)DRN**	**112M4**	450	333

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P_m = 4.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
9.4	3740	187	32200	1.15	X	R	107R77	(E)DRN	112M4	240	333
						RF	107R77	(E)DRN	112M4	245	333
						RM	107R77	(E)DRN	112M4	330	333
9.1	3910	193	31400	1.10	X	R	107R77	(E)DRN	112M4	230	333
10	3500	172	33100	1.25	X	RF	107R77	(E)DRN	112M4	240	333
						RM	107R77	(E)DRN	112M4	325	333
5.3	7190	222.60*	55000	1.10							
6.3	6090	188.45	56900	1.30		R	137	DRN	132M6	315	327
6.8	5640	174.40*	57600	1.40		RF	137	DRN	132M6	335	328
7.6	5050	156.31	58300	1.60		RM	137	DRN	132M6	445	328
8.4	4560	141.12*	58900	1.75							
9.2	4140	128.18	59400	1.95							
10	3670	113.72	59800	2.2		R	137	DRN	132M6	315	327
11	3330	103.20*	60100	2.4		RF	137	DRN	132M6	335	328
13	2860	88.70*	60400	2.8		RM	137	DRN	132M6	445	328
10	3720	172.34	32300	1.15	X						
11	3420	158.68	33500	1.25	X						
12	3060	141.83	34700	1.40	X						
14	2750	127.68	35700	1.55	X						
15	2490	115.63	36200	1.70	X						
17	2210	102.53	35300	1.95	X	R	107	(E)DRN	112M4	200	325
19	2000	92.70	34400	2.1	X	RF	107	(E)DRN	112M4	205	326
23	1690	78.57	32900	2.5	X	RM	107	(E)DRN	112M4	295	326
24	1570	72.88	32200	2.7	X						
27	1410	65.60*	31300	3.0	X						
30	1280	59.41	30400	3.4	X						
34	1130	52.68	29400	3.8	X						
15	2510	116.48	24000	1.20	X						
17	2230	103.44	25400	1.35	X						
19	1990	92.48	26400	1.50	X						
21	1790	83.15	26200	1.65	X						
25	1550	72.17	25300	1.95	X						
27	1400	65.21	24600	2.1	X	R	97	(E)DRN	112M4	140	323
30	1290	59.92	24100	2.3	X	RF	97	(E)DRN	112M4	160	324
33	1140	53.21	23400	2.6	X	RM	97	(E)DRN	112M4	210	324
37	1020	47.58	22700	2.9	X						
41	920	42.78	22000	3.2	X						
48	800	37.13	21200	3.7	X						
53	715	33.25	20500	4.0	X						
55	690	32.05	20300	3.7	X						
65	585	27.19	19300	4.4	X	R	97	(E)DRN	112M4	140	323
71	540	25.03	18900	5.2	X	RF	97	(E)DRN	112M4	155	324
79	480	22.37	18300	5.6	X	RM	97	(E)DRN	112M4	205	324
88	430	20.14	17700	6.0	X						
28	1370	63.68*	15500	1.15	X	R	87	(E)DRN	112M4	100	320
29	1300	60.35*	15900	1.20	X	RF	87	(E)DRN	112M4	110	321
33	1140	52.82	16800	1.35	X	RM	87	(E)DRN	112M4	140	321
37	1020	47.58	17300	1.50	X						
42	900	41.74	17700	1.70	X	R	87	(E)DRN	112M4	100	320
48	795	36.84*	17100	1.95	X	RF	87	(E)DRN	112M4	110	321
54	705	32.66*	16600	2.2	X	RM	87	(E)DRN	112M4	140	321
63	600	27.88	15900	2.5	X						
51	740	34.40*	16800	2.0	X						
56	675	31.40	16400	2.3	X						
64	600	27.84*	15900	2.6	X						
76	505	23.40	15100	3.1	X						
82	460	21.51	14800	3.2	X	R	87	(E)DRN	112M4	99	320
93	410	19.10	14300	3.5	X	RF	87	(E)DRN	112M4	105	321
104	365	17.08*	13800	3.8	X	RM	87	(E)DRN	112M4	135	321
115	330	15.35	13400	4.0	X						
133	285	13.33	12900	4.5	X						
148	255	11.93	12400	4.8	X						

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P_m = 4.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
48	795	36.83	10100	1.05	X						
53	720	33.47	10700	1.15	X	**R**	**77**	**(E)DRN**	**112M4**	74	317
61	625	29.00	10600	1.30	X	**RF**	**77**	**(E)DRN**	**112M4**	80	318
70	540	25.23	10200	1.45	X	**RM**	**77**	**(E)DRN**	**112M4**	105	318
76	500	23.37	10100	1.60	X						
83	460	21.43	9860	1.75	X						
94	405	18.80	9550	1.90	X						
99	380	17.82*	9420	2.0	X						
113	335	15.60	9110	2.2	X						
126	300	14.05	8860	2.4	X						
144	265	12.33	8560	2.6	X	**R**	**77**	**(E)DRN**	**112M4**	73	317
163	230	10.88	8270	2.8	X	**RF**	**77**	**(E)DRN**	**112M4**	79	318
183	205	9.64	7990	3.0	X	**RM**	**77**	**(E)DRN**	**112M4**	105	318
206	186	8.59	7800	3.4	X						
229	167	7.74	7570	3.6	X						
260	147	6.79	7280	4.0	X						
295	129	5.99*	7010	4.2	X						
333	115	5.31*	6760	4.5	X						
89	425	19.89	7620	1.40	X						
99	385	17.95	7450	1.50	X						
112	340	15.79	7240	1.65	X						
119	320	14.91	7140	1.70	X						
139	270	12.70	6870	1.90	X						
153	245	11.54	6710	2.0	X						
177	215	10.00	6470	2.2	X	**R**	**67**	**(E)DRN**	**112M4**	67	314
203	188	8.70*	6240	2.3	X	**RF**	**67**	**(E)DRN**	**112M4**	70	315
227	168	7.79	6070	2.3	X	**RM**	**67**	**(E)DRN**	**112M4**	86	315
240	159	7.36*	5980	2.3	X						
282	135	6.27	5710	2.4	X						
311	123	5.70	5560	2.5	X						
359	107	4.93	5330	2.7	X						
412	93	4.29	5120	2.9	X						
95	400	18.60*	3800	1.10	X	**R**	**57**	**(E)DRN**	**112M4**	61	311
105	360	16.79	3770	1.25	X	**RF**	**57**	**(E)DRN**	**112M4**	64	312
120	315	14.77*	3710	1.35	X	**RM**	**57**	**(E)DRN**	**112M4**	76	312
127	300	13.95*	3680	1.45	X						
149	255	11.88	3590	1.60	X						
164	230	10.79	3540	1.65	X						
189	200	9.35	3440	1.85	X						
195	196	9.06	3440	1.90	X	**R**	**57**	**(E)DRN**	**112M4**	61	311
222	172	7.97	3350	2.1	X	**RF**	**57**	**(E)DRN**	**112M4**	64	312
235	163	7.53	3310	2.1	X	**RM**	**57**	**(E)DRN**	**112M4**	76	312
276	138	6.41	3190	2.4	X						
304	126	5.82	3120	2.5	X						
351	109	5.05	3010	2.8	X						
403	95	4.39	2910	3.0	X						
174	215	10.15	2640	1.05	X						
195	196	9.07	2600	1.10	X						
221	173	8.01	2550	1.20	X						
254	150	6.96	2400	1.05	X						
295	130	6.00	2340	1.20	X	**R**	**47**	**(E)DRN**	**112M4**	56	308
314	122	5.64*	2320	1.25	X	**RF**	**47**	**(E)DRN**	**112M4**	56	309
364	105	4.85	2250	1.45	X						
408	94	4.34	2200	1.55	X						
462	83	3.83	2140	1.75	X						

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P_m = 4.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
219	174	16.22	2560	1.60							
244	157	14.56	2510	1.70							
283	135	12.54	2440	1.85							
301	127	11.79	2410	1.95							
350	109	10.15	2330	2.1							
392	98	9.07	2270	2.3							
443	86	8.01	2210	2.4		**R**	**47**	**DRN**	**112M2**	56	308
458	83	7.76*	2140	1.95		**RF**	**47**	**DRN**	**112M2**	56	309
510	75	6.96	2090	2.1							
592	64	6.00	2020	2.4							
630	61	5.64*	1990	2.6							
732	52	4.85	1920	2.9							
819	47	4.34	1860	3.1							
927	41	3.83	1800	3.5							
318	120	5.56*	6250	1.85	X						
349	110	5.07	6090	2.3	X	**RX**	**87**	**(E)DRN**	**112M4**	81	290
393	97	4.50*	5890	3.0	X	**RXF**	**87**	**(E)DRN**	**112M4**	86	291
468	82	3.78	5600	3.7	X						
438	87	4.04*	4410	1.65	X						
478	80	3.70	4310	1.90	X						
544	70	3.25*	4160	2.6	X						
574	66	3.08*	4100	2.9	X						
656	58	2.70	3940	3.7	X	**RX**	**77**	**(E)DRN**	**112M4**	64	288
728	52	2.43	3830	4.1	X	**RXF**	**77**	**(E)DRN**	**112M4**	67	289
830	46	2.13	3680	4.3	X						
941	41	1.88*	3550	4.6	X						
1060	36	1.67	3420	4.8	X						
1245	31	1.42	3260	5.0	X						
553	69	3.20*	2740	1.45	X						
612	62	2.89	2680	1.70	X						
696	55	2.54	2590	2.1	X						
737	52	2.40*	2550	2.4	X	**RX**	**67**	**(E)DRN**	**112M4**	55	286
866	44	2.04	2450	3.0	X	**RXF**	**67**	**(E)DRN**	**112M4**	59	287
953	40	1.86	2380	3.1	X						
1100	35	1.61	2290	3.3	X						
1265	30	1.40*	2200	3.4	X						
670	57	2.64*	2020	1.20	X						
746	51	2.37	1970	1.35	X						
866	44	2.04	1900	1.55	X						
921	41	1.92*	1880	1.65	X	**RX**	**57**	**(E)DRN**	**112M4**	52	284
1070	36	1.65	1810	1.95	X	**RXF**	**57**	**(E)DRN**	**112M4**	54	285
1200	32	1.48	1760	2.1	X						
1355	28	1.30	1700	2.2	X						

P_m = 5.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
2.7	17800	656	120000	1.00	X						
3.0	15500	579	120000	1.15	X						
3.5	13600	503	120000	1.30	X						
4.1	11500	432	120000	1.55	X	**R**	**167R97**	**(E)DRN**	**132S4**	800	334
4.7	10200	376	120000	1.75	X	**RF**	**167R97**	**(E)DRN**	**132S4**	800	334
5.3	9090	335	120000	2.0	X	**RM**	**167R97**	**(E)DRN**	**132S4**	1000	334
5.8	8110	303	120000	2.2	X						
6.3	7470	279	120000	2.4	X						
3.8	12600	462	63400	1.05	X						
4.2	11700	426	65000	1.10	X						
4.8	10100	368	67600	1.30	X						
5.4	8970	326	69200	1.45	X	**R**	**147R87**	**(E)DRN**	**132S4**	490	333
6.3	7640	280	70700	1.70	X	**RF**	**147R87**	**(E)DRN**	**132S4**	495	333
7.2	6740	247	71600	1.95	X	**RM**	**147R87**	**(E)DRN**	**132S4**	660	333
8.3	5820	214	72300	2.2	X						
9.4	5150	189	72800	2.5	X						

P_m = 5.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
7.3	7230	163.31	71100	1.80		**R**	**147**	**DRN**	**160M6**	480	329
8.1	6510	146.91	71800	2.0		**RF**	**147**	**DRN**	**160M6**	490	330
9.9	5310	119.86	72700	2.5		**RM**	**147**	**DRN**	**160M6**	660	330
11	4840	109.31	73000	2.7		**R**	**147**	**DRN**	**160M6**	480	329
13	4190	94.60*	73400	3.1		**RF**	**147**	**DRN**	**160M6**	490	330
14	3690	83.47	73700	3.5		**RM**	**147**	**DRN**	**160M6**	660	330
6.8	7720	174.40*	54000	1.05							
7.6	6920	156.31	55500	1.15		**R**	**137**	**DRN**	**160M6**	355	327
8.4	6250	141.12*	56600	1.30		**RF**	**137**	**DRN**	**160M6**	375	328
9.2	5680	128.18	57500	1.40		**RM**	**137**	**DRN**	**160M6**	485	328
10	5040	113.72	58400	1.60							
						R	**137**	**DRN**	**160M6**	355	327
11	4570	103.20*	58900	1.75		**RF**	**137**	**DRN**	**160M6**	375	328
						RM	**137**	**DRN**	**160M6**	485	328
7.9	6610	222.60*	56100	1.20	X						
9.4	5590	188.45	57600	1.45	X	**R**	**137**	**(E)DRN**	**132S4**	295	327
10	5180	174.40*	58200	1.55	X	**RF**	**137**	**(E)DRN**	**132S4**	320	328
11	4640	156.31	58800	1.70	X	**RM**	**137**	**(E)DRN**	**132S4**	430	328
13	4190	141.12*	59300	1.90	X						
14	3800	128.18	59700	2.1	X						
16	3370	113.72	60100	2.4	X						
17	3060	103.20*	60300	2.6	X						
20	2630	88.70*	60600	3.0	X	**R**	**137**	**(E)DRN**	**132S4**	295	327
22	2400	80.91*	60700	3.3	X	**RF**	**137**	**(E)DRN**	**132S4**	320	328
24	2180	73.49	60800	3.7	X	**RM**	**137**	**(E)DRN**	**132S4**	430	328
27	1930	65.20	61000	4.1	X						
30	1750	59.17*	61000	4.5	X						
35	1510	50.86*	61100	5.3	X						
14	3790	127.68	32000	1.15	X						
15	3430	115.63	33400	1.25	X						
17	3040	102.53	34000	1.40	X						
19	2750	92.70	33200	1.55	X						
22	2330	78.57	31800	1.85	X	**R**	**107**	**(E)DRN**	**132S4**	210	325
24	2160	72.88	31200	2.0	X	**RF**	**107**	**(E)DRN**	**132S4**	215	326
27	1940	65.60*	30400	2.2	X	**RM**	**107**	**(E)DRN**	**132S4**	305	326
30	1760	59.41	29600	2.4	X						
34	1560	52.68	28700	2.8	X						
37	1410	47.63	27900	3.0	X						
44	1190	40.37*	26600	3.6	X						
21	2470	83.15	22700	1.20	X						
24	2140	72.17	24100	1.40	X						
27	1930	65.21	23600	1.55	X						
30	1780	59.92	23100	1.70	X						
33	1580	53.21	22500	1.90	X	**R**	**97**	**(E)DRN**	**132S4**	155	323
37	1410	47.58	21900	2.1	X	**RF**	**97**	**(E)DRN**	**132S4**	170	324
41	1270	42.78	21300	2.4	X	**RM**	**97**	**(E)DRN**	**132S4**	220	324
48	1100	37.13	20600	2.7	X						
53	980	33.25	20000	2.9	X						
64	810	27.58	19000	3.3	X						
55	950	32.05	19800	2.7	X						
65	800	27.19	18900	3.2	X						
71	740	25.03	18500	3.8	X	**R**	**97**	**(E)DRN**	**132S4**	150	323
79	660	22.37	17900	4.1	X	**RF**	**97**	**(E)DRN**	**132S4**	165	324
88	595	20.14	17400	4.4	X	**RM**	**97**	**(E)DRN**	**132S4**	220	324
97	540	18.24	16900	4.6	X						
109	480	16.17	16300	5.0	X						
37	1410	47.58	17300	1.10	X						
42	1240	41.74	16800	1.25	X	**R**	**87**	**(E)DRN**	**132S4**	110	320
48	1090	36.84*	16400	1.40	X	**RF**	**87**	**(E)DRN**	**132S4**	120	321
54	970	32.66*	15900	1.60	X	**RM**	**87**	**(E)DRN**	**132S4**	150	321
63	820	27.88	15300	1.80	X						

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P_m = 5.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
64	820	27.84*	15300	1.85	X						
76	695	23.40	14700	2.2	X						
82	635	21.51	14400	2.4	X						
93	565	19.10	13900	2.5	X						
104	505	17.08*	13500	2.7	X						
115	455	15.35	13100	2.9	X	**R**	**87**	**(E)DRN**	**132S4**	110	320
133	395	13.33	12600	3.2	X	**RF**	**87**	**(E)DRN**	**132S4**	120	321
148	350	11.93	12200	3.5	X	**RM**	**87**	**(E)DRN**	**132S4**	150	321
179	290	9.90*	11600	4.0	X						
193	270	9.14*	11400	4.5	X						
215	240	8.22	11100	4.8	X						
248	210	7.13	10600	5.0	X						
94	555	18.80	9100	1.40	X	**R**	**77**	**(E)DRN**	**132S4**	84	317
99	525	17.82*	9000	1.45	X	**RF**	**77**	**(E)DRN**	**132S4**	90	318
113	460	15.60	8740	1.60	X	**RM**	**77**	**(E)DRN**	**132S4**	115	318
126	415	14.05	8530	1.70	X						
143	365	12.33	8260	1.90	X						
163	320	10.88	8010	2.0	X						
183	285	9.64	7760	2.2	X	**R**	**77**	**(E)DRN**	**132S4**	84	317
206	255	8.59	7630	2.5	X	**RF**	**77**	**(E)DRN**	**132S4**	90	318
228	225	7.74	7410	2.6	X	**RM**	**77**	**(E)DRN**	**132S4**	115	318
260	200	6.79	7140	2.9	X						
295	178	5.99*	6890	3.0	X						
333	158	5.31*	6650	3.2	X						
112	465	15.79	6820	1.20	X						
119	440	14.91	6750	1.25	X						
139	375	12.70	6540	1.40	X						
153	340	11.54	6400	1.45	X						
177	295	10.00	6200	1.60	X						
203	255	8.70*	6000	1.70	X	**R**	**67**	**(E)DRN**	**132S4**	79	314
227	230	7.79	5870	1.65	X	**RF**	**67**	**(E)DRN**	**132S4**	82	315
240	215	7.36*	5790	1.70	X	**RM**	**67**	**(E)DRN**	**132S4**	98	315
282	186	6.27	5550	1.75	X						
310	169	5.70	5410	1.85	X						
358	147	4.93	5210	2.0	X						
412	128	4.29	5010	2.1	X						
407	129	8.70*	5010	3.4							
455	116	7.79	4870	3.3							
482	109	7.36*	4790	3.4		**R**	**67**	**DRN**	**132S2**	79	314
566	93	6.27	4580	3.5		**RF**	**67**	**DRN**	**132S2**	82	315
622	84	5.70	4450	3.7		**RM**	**67**	**DRN**	**132S2**	98	315
718	73	4.93	4270	4.0							
825	64	4.29	4090	4.2							
120	435	14.77*	2880	1.00							
127	410	13.95*	3130	1.05	X	**R**	**57**	**(E)DRN**	**132S4**	72	311
149	350	11.88	3250	1.15	X	**RF**	**57**	**(E)DRN**	**132S4**	76	312
164	320	10.79	3220	1.20	X	**RM**	**57**	**(E)DRN**	**132S4**	88	312
189	275	9.35	3170	1.35	X						
222	235	7.97	3130	1.50	X						
235	220	7.53	3100	1.55	X	**R**	**57**	**(E)DRN**	**132S4**	72	311
276	190	6.41	3010	1.75	X	**RF**	**57**	**(E)DRN**	**132S4**	76	312
304	173	5.82	2960	1.85	X	**RM**	**57**	**(E)DRN**	**132S4**	88	312
350	150	5.05	2870	2.0	X						
403	130	4.39	2780	2.1	X						
379	139	9.35	2810	2.7							
445	118	7.97	2720	3.0							
471	112	7.53	2690	3.1		**R**	**57**	**DRN**	**132S2**	72	311
553	95	6.41	2580	3.5		**RF**	**57**	**DRN**	**132S2**	76	312
608	86	5.82	2520	3.7		**RM**	**57**	**DRN**	**132S2**	88	312
702	75	5.05	2430	4.1							
807	65	4.39	2340	4.3							
364	144	4.85	2090	1.05	X						
408	129	4.34	2050	1.15	X	**R**	**47**	**(E)DRN**	**132S4**	67	308
461	114	3.83	2010	1.25	X	**RF**	**47**	**(E)DRN**	**132S4**	67	309

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P_m = 5.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
283	186	12.54	2250	1.35							
300	175	11.79	2240	1.40							
349	150	10.15	2180	1.55							
391	134	9.07	2140	1.65							
442	119	8.01	2090	1.75		**R**	**47**	**DRN**	**132S2**	67	308
591	89	6.00	1920	1.75		**RF**	**47**	**DRN**	**132S2**	67	309
628	84	5.64*	1890	1.85							
730	72	4.85	1830	2.1							
817	64	4.34	1790	2.3							
925	57	3.83	1740	2.5							
267	197	6.63*	9860	2.3	X						
315	167	5.61	9400	2.7	X	**RX**	**107**	**(E)DRN**	**132S4**	150	294
341	154	5.19	9190	4.5	X	**RXF**	**107**	**(E)DRN**	**132S4**	165	295
380	138	4.65	8900	5.0	X						
305	172	5.79	7910	2.4	X						
360	146	4.91	7550	2.7	X						
391	134	4.52	7370	4.4	X						
437	120	4.04	7130	5.0	X						
486	108	3.64*	6920	5.5	X						
536	98	3.30	6720	6.1	X	**RX**	**97**	**(E)DRN**	**132S4**	115	292
605	87	2.92	6480	6.8	X	**RXF**	**97**	**(E)DRN**	**132S4**	125	293
669	79	2.64	6280	7.6	X						
789	67	2.24*	5970	8.9	X						
904	58	1.96	5730	9.8	X						
1080	49	1.64	5420	10	X						
1250	42	1.42	5180	11	X						
393	134	4.50*	5720	2.2	X						
467	112	3.78	5460	2.7	X						
509	103	3.48	5330	3.9	X						
573	92	3.09	5150	4.4	X	**RX**	**87**	**(E)DRN**	**132S4**	92	290
641	82	2.76*	4990	4.9	X	**RXF**	**87**	**(E)DRN**	**132S4**	97	291
712	74	2.48	4840	5.5	X						
821	64	2.15	4640	6.0	X						
544	97	3.25*	4010	1.90	X						
574	92	3.08*	3960	2.1	X						
656	80	2.70	3820	2.7	X						
728	72	2.43	3710	3.0	X	**RX**	**77**	**(E)DRN**	**132S4**	76	288
830	63	2.13	3580	3.2	X	**RXF**	**77**	**(E)DRN**	**132S4**	78	289
940	56	1.88*	3460	3.4	X						
1060	50	1.67	3340	3.5	X						
1240	42	1.42	3190	3.7	X						
696	76	2.54	2460	1.55	X						
737	71	2.40*	2420	1.75	X						
865	61	2.04	2330	2.2	X	**RX**	**67**	**(E)DRN**	**132S4**	66	286
952	55	1.86	2280	2.3	X	**RXF**	**67**	**(E)DRN**	**132S4**	70	287
1100	48	1.61	2200	2.4	X						
1265	42	1.40*	2120	2.5	X						
866	61	2.04	1190	1.15	X						
921	57	1.92*	1240	1.20	X						
1070	49	1.65	1360	1.40	X	**RX**	**57**	**(E)DRN**	**132S4**	64	284
1200	44	1.48	1400	1.55	X	**RXF**	**57**	**(E)DRN**	**132S4**	65	285
1355	39	1.30	1500	1.65	X						

P_m = 7.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
3.5	18700	503	120000	0.95							
4.1	15900	432	120000	1.15	X						
4.7	14000	376	120000	1.30	X	**R**	**167R97**	**(E)DRN**	**132M4**	810	334
5.3	12400	335	120000	1.45	X	**RF**	**167R97**	**(E)DRN**	**132M4**	820	334
5.9	11100	303	120000	1.60	X	**RM**	**167R97**	**(E)DRN**	**132M4**	1020	334
6.4	10200	279	120000	1.75	X						

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P_m = 7.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
5.4	12200	326	64100	1.05	X						
6.3	10400	280	67100	1.25	X						
7.2	9230	247	68800	1.40	X	**R**	**147R87**	**(E)DRN**	**132M4**	510	333
8.3	7970	214	70300	1.65	X	**RF**	**147R87**	**(E)DRN**	**132M4**	510	333
9.4	7050	189	71300	1.85	X	**RM**	**147R87**	**(E)DRN**	**132M4**	680	333
11	5920	159	72300	2.2	X						
5.2	13900	229.71	120000	1.30		**R**	**167**	**DRN**	**160M6**	730	331
6.3	11300	186.93*	120000	1.60		**RF**	**167**	**DRN**	**160M6**	730	332
						RM	**167**	**DRN**	**160M6**	930	332
7.7	9270	153.07	120000	1.95							
8.4	8480	139.98	120000	2.1							
9.7	7380	121.81*	120000	2.4							
11	6510	107.49	120000	2.8		**R**	**167**	**DRN**	**160M6**	730	331
13	5640	93.19	120000	3.2		**RF**	**167**	**DRN**	**160M6**	730	332
14	5020	82.91*	120000	3.6		**RM**	**167**	**DRN**	**160M6**	930	332
16	4460	73.70*	120000	4.0							
18	4080	67.40	120000	4.4							
7.2	9890	163.31	67900	1.30		**R**	**147**	**DRN**	**160M6**	480	329
8.1	8900	146.91	69200	1.45		**RF**	**147**	**DRN**	**160M6**	490	330
9.9	7260	119.86	71100	1.80		**RM**	**147**	**DRN**	**160M6**	660	330
11	6620	109.31	71700	1.95		**R**	**147**	**DRN**	**160M6**	480	329
12	5730	94.60*	72400	2.3		**RF**	**147**	**DRN**	**160M6**	490	330
14	5050	83.47	72900	2.6		**RM**	**147**	**DRN**	**160M6**	660	330
9.4	7600	188.45	54200	1.05	X						
10	7040	174.40*	55300	1.15	X	**R**	**137**	**(E)DRN**	**132M4**	315	327
11	6310	156.31	56600	1.25	X	**RF**	**137**	**(E)DRN**	**132M4**	335	328
13	5690	141.12*	57500	1.40	X	**RM**	**137**	**(E)DRN**	**132M4**	445	328
14	5170	128.18	58200	1.55	X						
16	4590	113.72	58900	1.75	X						
17	4160	103.20*	59300	1.90	X						
20	3580	88.70*	59900	2.2	X	**R**	**137**	**(E)DRN**	**132M4**	315	327
22	3260	80.91*	60100	2.5	X	**RF**	**137**	**(E)DRN**	**132M4**	335	328
24	2960	73.49	60400	2.7	X	**RM**	**137**	**(E)DRN**	**132M4**	445	328
27	2630	65.20	60600	3.0	X						
30	2380	59.17*	60700	3.4	X						
35	2050	50.86*	60900	3.9	X						
19	3740	92.70	31500	1.15	X						
23	3170	78.57	30400	1.35	X						
24	2940	72.88	29900	1.45	X						
27	2640	65.60*	29200	1.60	X						
30	2390	59.41	28500	1.80	X	**R**	**107**	**(E)DRN**	**132M4**	230	325
34	2120	52.68	27700	2.0	X	**RF**	**107**	**(E)DRN**	**132M4**	235	326
37	1920	47.63	27000	2.2	X	**RM**	**107**	**(E)DRN**	**132M4**	320	326
44	1620	40.37*	25900	2.6	X						
50	1420	35.26	24900	3.0	X						
60	1190	29.49	23800	3.6	X						
58	1240	30.77	24000	3.5	X						
64	1110	27.58	23300	3.9	X	**R**	**107**	**(E)DRN**	**132M4**	220	325
71	1000	24.90*	22600	4.3	X	**RF**	**107**	**(E)DRN**	**132M4**	230	326
78	910	22.62	22000	4.7	X	**RM**	**107**	**(E)DRN**	**132M4**	315	326
30	2410	59.92	21800	1.25	X						
33	2140	53.21	21300	1.40	X	**R**	**97**	**(E)DRN**	**132M4**	170	323
37	1920	47.58	20800	1.55	X	**RF**	**97**	**(E)DRN**	**132M4**	190	324
41	1720	42.78	20400	1.75	X	**RM**	**97**	**(E)DRN**	**132M4**	240	324
48	1490	37.13	19700	2.0	X						
53	1340	33.25	19200	2.1	X	**R**	**97**	**(E)DRN**	**132M4**	170	323
64	1110	27.58	18400	2.4	X	**RF**	**97**	**(E)DRN**	**132M4**	190	324
						RM	**97**	**(E)DRN**	**132M4**	240	324
55	1290	32.05	19100	2.0	X						
65	1090	27.19	18300	2.3	X						
71	1010	25.03	17900	2.8	X	**R**	**97**	**(E)DRN**	**132M4**	170	323
79	900	22.37	17400	3.0	X	**RF**	**97**	**(E)DRN**	**132M4**	185	324
88	810	20.14	16900	3.2	X	**RM**	**97**	**(E)DRN**	**132M4**	235	324
97	735	18.24	16500	3.4	X						

P_m = 7.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
48	1480	36.84*	15400	1.05	X	**R**	**87**	**(E)DRN**	**132M4**	130	320
54	1310	32.66*	15100	1.20	X	**RF**	**87**	**(E)DRN**	**132M4**	135	321
64	1120	27.88	14600	1.35	X	**RM**	**87**	**(E)DRN**	**132M4**	165	321
64	1120	27.84*	14600	1.40	X						
76	940	23.40	14100	1.65	X						
82	860	21.51	13800	1.75	X						
93	770	19.10	13400	1.85	X						
104	685	17.08*	13000	2.0	X						
116	615	15.35	12700	2.2	X						
133	535	13.33	12200	2.4	X	**R**	**87**	**(E)DRN**	**132M4**	130	320
149	480	11.93	11900	2.5	X	**RF**	**87**	**(E)DRN**	**132M4**	135	321
179	395	9.90*	11300	3.0	X	**RM**	**87**	**(E)DRN**	**132M4**	165	321
194	365	9.14*	11200	3.3	X						
216	330	8.22	10900	3.5	X						
249	285	7.13	10400	3.7	X						
278	255	6.39	10100	4.0	X						
335	210	5.30*	9530	4.2	X						
94	755	18.80	6780	1.05	X						
100	715	17.82*	7060	1.10	X						
114	625	15.60	7670	1.20	X						
126	565	14.05	8050	1.25	X						
144	495	12.33	7860	1.40	X						
163	435	10.88	7650	1.50	X	**R**	**77**	**(E)DRN**	**132M4**	100	317
184	385	9.64	7450	1.60	X	**RF**	**77**	**(E)DRN**	**132M4**	110	318
206	345	8.59	7380	1.80	X	**RM**	**77**	**(E)DRN**	**132M4**	135	318
229	310	7.74	7190	1.95	X						
261	270	6.79	6940	2.1	X						
296	240	5.99*	6720	2.2	X						
334	210	5.31*	6500	2.4	X						
140	510	12.70	5510	1.00	X						
154	465	11.54	5940	1.05	X						
177	400	10.00	5850	1.15	X						
204	350	8.70*	5690	1.25	X						
228	310	7.79	5600	1.20	X	**R**	**67**	**(E)DRN**	**132M4**	97	314
241	295	7.36*	5530	1.25	X	**RF**	**67**	**(E)DRN**	**132M4**	100	315
283	250	6.27	5330	1.30	X	**RM**	**67**	**(E)DRN**	**132M4**	115	315
311	225	5.70	5210	1.35	X						
360	199	4.93	5030	1.45	X						
413	173	4.29	4860	1.55	X						
223	320	7.97	2010	1.10	X						
236	300	7.53	2230	1.15	X						
277	255	6.41	2760	1.30	X	**R**	**57**	**(E)DRN**	**132M4**	91	311
305	235	5.82	2740	1.35	X	**RF**	**57**	**(E)DRN**	**132M4**	94	312
352	200	5.05	2680	1.50	X	**RM**	**57**	**(E)DRN**	**132M4**	105	312
404	177	4.39	2620	1.60	X						
240	295	14.77*	2780	1.45							
254	280	13.95*	2770	1.55							
298	235	11.88	2720	1.70							
328	215	10.79	2690	1.80							
379	189	9.35	2630	1.95		**R**	**57**	**DRN**	**132S2**	72	311
445	161	7.97	2570	2.2		**RF**	**57**	**DRN**	**132S2**	76	312
471	152	7.53	2540	2.3		**RM**	**57**	**DRN**	**132S2**	88	312
553	129	6.41	2460	2.6							
609	118	5.82	2410	2.7							
703	102	5.05	2340	3.0							
807	89	4.39	2260	3.2							
268	265	6.63*	9570	1.70	X						
316	225	5.61	9150	2.0	X						
342	205	5.19	8960	3.3	X	**RX**	**107**	**(E)DRN**	**132M4**	165	294
381	188	4.65	8690	3.7	X	**RXF**	**107**	**(E)DRN**	**132M4**	185	295
422	170	4.20*	8440	4.9	X						

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P_m = 7.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
306	230	5.79	7660	1.80	X						
361	198	4.91	7330	2.0	X						
392	183	4.52	7170	3.3	X						
439	163	4.04	6950	3.6	X	**RX**	**97**	**(E)DRN**	**132M4**	135	292
487	147	3.64*	6750	4.0	X	**RXF**	**97**	**(E)DRN**	**132M4**	140	293
538	133	3.30	6560	4.5	X						
607	118	2.92	6340	5.0	X						
394	182	4.50*	5490	1.60	X						
469	153	3.78	5260	2.0	X						
510	140	3.48	5140	2.9	X						
575	125	3.09	4990	3.2	X						
643	111	2.76*	4840	3.6	X	**RX**	**87**	**(E)DRN**	**132M4**	110	290
715	100	2.48	4700	4.0	X	**RXF**	**87**	**(E)DRN**	**132M4**	115	291
824	87	2.15	4520	4.4	X						
920	78	1.93	4380	4.6	X						
1110	65	1.60*	4150	4.9	X						
1275	56	1.39	3980	5.2	X						
546	131	3.25*	3810	1.40	X						
576	124	3.08*	3770	1.55	X						
658	109	2.70	3650	2.0	X						
730	98	2.43	3560	2.2	X	**RX**	**77**	**(E)DRN**	**132M4**	94	288
833	86	2.13	3440	2.3	X	**RXF**	**77**	**(E)DRN**	**132M4**	96	289
944	76	1.88*	3330	2.5	X						
1065	67	1.67	3230	2.6	X						
1245	57	1.42	3090	2.7	X						
698	103	2.54	2160	1.15	X						
739	97	2.40*	2230	1.25	X						
868	82	2.04	2180	1.60	X	**RX**	**67**	**(E)DRN**	**132M4**	85	286
955	75	1.86	2140	1.70	X	**RXF**	**67**	**(E)DRN**	**132M4**	89	287
1105	65	1.61	2070	1.75	X						
1265	57	1.40*	2000	1.85	X						

P_m = 9.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
4.7	17200	376	120000	1.05	X						
5.3	15300	335	120000	1.15	X	**R**	**167R97**	**(E)DRN**	**132L4**	820	334
5.9	13700	303	120000	1.30	X	**RF**	**167R97**	**(E)DRN**	**132L4**	830	334
6.4	12600	279	120000	1.40	X	**RM**	**167R97**	**(E)DRN**	**132L4**	1020	334
6.3	12800	280	62900	1.00	X						
7.2	11300	247	65700	1.15	X	**R**	**147R87**	**(E)DRN**	**132L4**	510	333
8.3	9800	214	68100	1.35	X	**RF**	**147R87**	**(E)DRN**	**132L4**	520	333
9.4	8670	189	69500	1.50	X	**RM**	**147R87**	**(E)DRN**	**132L4**	690	333
11	7280	159	71100	1.80	X						
11	8080	163.31	70200	1.60	X	**R**	**147**	**(E)DRN**	**132L4**	450	329
12	7270	146.91	71100	1.80	X	**RF**	**147**	**(E)DRN**	**132L4**	455	330
15	5930	119.86	72300	2.2	X	**RM**	**147**	**(E)DRN**	**132L4**	620	330
16	5410	109.31	72700	2.4	X						
19	4680	94.60*	73200	2.8	X	**R**	**147**	**(E)DRN**	**132L4**	450	329
21	4130	83.47	73500	3.1	X	**RF**	**147**	**(E)DRN**	**132L4**	455	330
25	3560	72.09	73800	3.6	X	**RM**	**147**	**(E)DRN**	**132L4**	620	330
26	3310	66.99	73900	3.9	X						
11	7730	156.31	53900	1.05	X						
13	6980	141.12*	55400	1.15	X	**R**	**137**	**(E)DRN**	**132L4**	320	327
14	6340	128.18	56500	1.25	X	**RF**	**137**	**(E)DRN**	**132L4**	345	328
16	5620	113.72	57600	1.40	X	**RM**	**137**	**(E)DRN**	**132L4**	455	328

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P_m = 9.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
17	5100	103.20*	58300	1.55	X						
20	4390	88.70*	59100	1.80	X						
22	4000	80.91*	59500	2.0	X						
24	3630	73.49	59800	2.2	X	**R**	**137**	**(E)DRN**	**132L4**	320	327
27	3220	65.20	60200	2.5	X	**RF**	**137**	**(E)DRN**	**132L4**	345	328
30	2920	59.17*	60400	2.7	X	**RM**	**137**	**(E)DRN**	**132L4**	455	328
35	2510	50.86*	60700	3.2	X						
40	2190	44.39	60800	3.6	X						
23	3880	78.57	29200	1.10	X						
24	3600	72.88	28800	1.20	X						
27	3240	65.60*	28200	1.30	X						
30	2940	59.41	27600	1.45	X	**R**	**107**	**(E)DRN**	**132L4**	235	325
34	2600	52.68	26900	1.65	X	**RF**	**107**	**(E)DRN**	**132L4**	245	326
37	2350	47.63	26300	1.80	X	**RM**	**107**	**(E)DRN**	**132L4**	330	326
44	1990	40.37*	25200	2.1	X						
50	1740	35.26	24400	2.5	X						
60	1450	29.49	23300	3.0	X						
58	1520	30.77	23600	2.8	X						
64	1360	27.58	22900	3.1	X	**R**	**107**	**(E)DRN**	**132L4**	230	325
71	1230	24.90*	22300	3.5	X	**RF**	**107**	**(E)DRN**	**132L4**	235	326
78	1110	22.62	21700	3.8	X	**RM**	**107**	**(E)DRN**	**132L4**	325	326
88	990	20.07	21000	4.3	X						
33	2630	53.21	20300	1.15	X	**R**	**97**	**(E)DRN**	**132L4**	180	323
37	2350	47.58	20000	1.25	X	**RF**	**97**	**(E)DRN**	**132L4**	195	324
41	2110	42.78	19600	1.40	X	**RM**	**97**	**(E)DRN**	**132L4**	250	324
48	1830	37.13	19000	1.65	X	**R**	**97**	**(E)DRN**	**132L4**	180	323
53	1640	33.25	18600	1.75	X	**RF**	**97**	**(E)DRN**	**132L4**	195	324
64	1360	27.58	17900	1.95	X	**RM**	**97**	**(E)DRN**	**132L4**	250	324
71	1230	25.03	17500	2.3	X						
79	1100	22.37	17000	2.5	X						
88	990	20.14	16500	2.6	X	**R**	**97**	**(E)DRN**	**132L4**	175	323
97	900	18.24	16100	2.8	X	**RF**	**97**	**(E)DRN**	**132L4**	195	324
110	800	16.17	15600	3.0	X	**RM**	**97**	**(E)DRN**	**132L4**	245	324
121	720	14.62	15200	3.2	X						
143	610	12.39	14500	3.6	X						
83	1060	21.51	13300	1.40	X						
93	940	19.10	13000	1.50	X						
104	840	17.08*	12700	1.65	X						
116	755	15.35	12400	1.75	X						
133	655	13.33	11900	1.95	X	**R**	**87**	**(E)DRN**	**132L4**	135	320
149	590	11.93	11600	2.1	X	**RF**	**87**	**(E)DRN**	**132L4**	145	321
179	490	9.90*	11100	2.4	X	**RM**	**87**	**(E)DRN**	**132L4**	175	321
194	450	9.14*	11000	2.7	X						
216	405	8.22	10700	2.9	X						
249	350	7.13	10300	3.0	X						
278	315	6.39	9970	3.2	X						
126	695	14.05	6040	1.05	X						
144	610	12.33	6650	1.15	X	**R**	**77**	**(E)DRN**	**132L4**	110	317
163	535	10.88	7110	1.25	X	**RF**	**77**	**(E)DRN**	**132L4**	115	318
184	475	9.64	7190	1.30	X	**RM**	**77**	**(E)DRN**	**132L4**	140	318
229	380	7.74	6920	1.60	X						
261	335	6.79	6780	1.75	X	**R**	**77**	**(E)DRN**	**132L4**	110	317
296	295	5.99*	6570	1.80	X	**RF**	**77**	**(E)DRN**	**132L4**	115	318
334	260	5.31*	6370	1.95	X	**RM**	**77**	**(E)DRN**	**132L4**	140	318
342	255	5.19	8770	2.7	X						
382	230	4.65	8520	3.0	X						
423	205	4.20*	8290	4.0	X	**RX**	**107**	**(E)DRN**	**132L4**	175	294
465	189	3.81	8070	4.4	X	**RXF**	**107**	**(E)DRN**	**132L4**	190	295
524	168	3.38	7810	5.0	X						

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P_m = 9.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
392	220	4.52	7000	2.7	X						
439	200	4.04	6800	3.0	X						
488	180	3.64*	6620	3.3	X						
538	163	3.30	6440	3.6	X						
607	145	2.92	6230	4.1	X	**RX**	**97**	**(E)DRN**	**132L4**	140	292
672	131	2.64	6060	4.5	X	**RXF**	**97**	**(E)DRN**	**132L4**	150	293
792	111	2.24*	5780	5.4	X						
907	97	1.96	5550	5.9	X						
1085	81	1.64	5270	6.2	X						
1255	70	1.42	5040	6.5	X						
511	172	3.48	4990	2.4	X						
575	153	3.09	4850	2.6	X						
643	137	2.76*	4720	3.0	X						
715	123	2.48	4590	3.3	X	**RX**	**87**	**(E)DRN**	**132L4**	120	290
824	107	2.15	4420	3.6	X	**RXF**	**87**	**(E)DRN**	**132L4**	125	291
920	95	1.93	4290	3.7	X						
1110	79	1.60*	4070	4.0	X						
1275	69	1.39	3910	4.2	X						
731	120	2.43	3430	1.80	X						
833	105	2.13	3330	1.90	X						
944	93	1.88*	3230	2.0	X	**RX**	**77**	**(E)DRN**	**132L4**	100	288
1065	82	1.67	3140	2.1	X	**RXF**	**77**	**(E)DRN**	**132L4**	105	289
1245	70	1.42	3010	2.2	X						

P_m = 11.0 kW

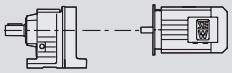
n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
6.0	15600	295	120000	1.15	X						
6.6	14600	270	120000	1.25	X	**R**	**167R107**	**(E)DRN**	**160M4**	900	334
7.8	12300	229	120000	1.45	X	**RF**	**167R107**	**(E)DRN**	**160M4**	910	334
8.9	10700	200	120000	1.65	X	**RM**	**167R107**	**(E)DRN**	**160M4**	1100	334
10	9010	169	120000	2.0	X						
						R	**167R107**	**(E)DRN**	**160M4**	900	334
6.1	16100	291	120000	1.10	X	**RF**	**167R107**	**(E)DRN**	**160M4**	900	334
						RM	**167R107**	**(E)DRN**	**160M4**	1100	334
5.3	18300	335	120000	1.00		**R**	**167R97**	**(E)DRN**	**160M4**	860	334
5.9	16500	303	120000	1.10	X	**RF**	**167R97**	**(E)DRN**	**160M4**	860	334
6.4	15200	279	120000	1.20	X	**RM**	**167R97**	**(E)DRN**	**160M4**	1060	334
7.2	13600	247	61400	0.95							
8.3	11700	214	65000	1.10	X	**R**	**147R87**	**(E)DRN**	**160M4**	550	333
9.4	10300	189	67200	1.25	X	**RF**	**147R87**	**(E)DRN**	**160M4**	560	333
11	8730	159	69500	1.50	X	**RM**	**147R87**	**(E)DRN**	**160M4**	720	333
						R	**167**	**(E)DRN**	**160M4**	730	331
7.7	13500	229.71	120000	1.30	X	**RF**	**167**	**(E)DRN**	**160M4**	730	332
9.5	11000	186.93*	120000	1.65	X	**RM**	**167**	**(E)DRN**	**160M4**	930	332
12	9050	153.07	120000	2.0	X						
13	8270	139.98	120000	2.2	X						
15	7200	121.81*	120000	2.5	X	**R**	**167**	**(E)DRN**	**160M4**	730	331
17	6350	107.49	120000	2.8	X	**RF**	**167**	**(E)DRN**	**160M4**	730	332
19	5510	93.19	120000	3.3	X	**RM**	**167**	**(E)DRN**	**160M4**	930	332
21	4900	82.91*	120000	3.7	X						
11	9650	163.31	68300	1.35	X	**R**	**147**	**(E)DRN**	**160M4**	480	329
12	8680	146.91	69500	1.50	X	**RF**	**147**	**(E)DRN**	**160M4**	490	330
15	7080	119.86	71200	1.85	X	**RM**	**147**	**(E)DRN**	**160M4**	660	330
16	6460	109.31	71800	2.0	X						
19	5590	94.60*	72500	2.3	X						
21	4930	83.47	73000	2.6	X	**R**	**147**	**(E)DRN**	**160M4**	480	329
25	4260	72.09	73400	3.0	X	**RF**	**147**	**(E)DRN**	**160M4**	490	330
27	3960	66.99	73600	3.3	X	**RM**	**147**	**(E)DRN**	**160M4**	660	330
29	3610	61.09	73700	3.6	X						
34	3120	52.87	73900	4.2	X						

P_m = 11.0 kW

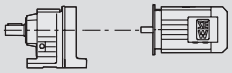
n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
13	8340	141.12*	52500	0.95							
14	7580	128.18	54300	1.05	X						
16	6720	113.72	55900	1.20	X						
17	6100	103.20*	56900	1.30	X						
20	5240	88.70*	58100	1.50	X						
22	4780	80.91*	58700	1.65	X	**R**	**137**	**(E)DRN**	**160M4**	355	327
24	4340	73.49	59200	1.85	X	**RF**	**137**	**(E)DRN**	**160M4**	375	328
27	3850	65.20	59600	2.1	X	**RM**	**137**	**(E)DRN**	**160M4**	485	328
30	3490	59.17*	60000	2.3	X						
35	3000	50.86*	60300	2.7	X						
40	2620	44.39	60600	3.0	X						
47	2220	37.65	60800	3.6	X						
54	1940	32.91	61000	4.1	X						
27	3880	65.60*	27100	1.10	X						
30	3510	59.41	26600	1.20	X						
34	3110	52.68	26000	1.40	X	**R**	**107**	**(E)DRN**	**160M4**	270	325
37	2810	47.63	25500	1.55	X	**RF**	**107**	**(E)DRN**	**160M4**	275	326
44	2380	40.37*	24600	1.80	X	**RM**	**107**	**(E)DRN**	**160M4**	365	326
50	2080	35.26	23800	2.1	X						
60	1740	29.49	22800	2.5	X						
58	1820	30.77	23100	2.4	X						
64	1630	27.58	22400	2.6	X						
71	1470	24.90*	21900	2.9	X	**R**	**107**	**(E)DRN**	**160M4**	265	325
79	1330	22.62	21300	3.2	X	**RF**	**107**	**(E)DRN**	**160M4**	270	326
89	1180	20.07	20600	3.6	X	**RM**	**107**	**(E)DRN**	**160M4**	355	326
98	1070	18.21	20100	4.0	X						
42	2530	42.78	18700	1.20	X						
48	2190	37.13	18300	1.35	X	**R**	**97**	**(E)DRN**	**160M4**	210	323
53	1960	33.25	18000	1.45	X	**RF**	**97**	**(E)DRN**	**160M4**	230	324
64	1630	27.58	17300	1.65	X	**RM**	**97**	**(E)DRN**	**160M4**	280	324
71	1480	25.03	17000	1.90	X	**R**	**97**	**(E)DRN**	**160M4**	210	323
79	1320	22.37	16500	2.1	X	**RF**	**97**	**(E)DRN**	**160M4**	225	324
88	1190	20.14	16200	2.2	X	**RM**	**97**	**(E)DRN**	**160M4**	275	324
97	1070	18.24	15800	2.3	X						
110	950	16.17	15300	2.5	X						
121	860	14.62	14900	2.7	X						
143	730	12.39	14300	3.0	X	**R**	**97**	**(E)DRN**	**160M4**	210	323
164	640	10.83	13800	3.3	X	**RF**	**97**	**(E)DRN**	**160M4**	225	324
191	545	9.29	13400	3.7	X	**RM**	**97**	**(E)DRN**	**160M4**	275	324
212	495	8.39	13000	4.1	X						
250	420	7.12	12400	4.8	X						
286	365	6.21	11900	5.1	X						
83	1270	21.51	12800	1.20	X	**R**	**87**	**(E)DRN**	**160M4**	170	320
93	1120	19.10	12500	1.25	X	**RF**	**87**	**(E)DRN**	**160M4**	175	321
104	1010	17.08*	12300	1.40	X	**RM**	**87**	**(E)DRN**	**160M4**	205	321
116	900	15.35	12000	1.50	X						
133	785	13.33	11600	1.60	X						
149	705	11.93	11300	1.75	X						
179	585	9.90*	10800	2.0	X	**R**	**87**	**(E)DRN**	**160M4**	170	320
194	540	9.14*	10900	2.2	X	**RF**	**87**	**(E)DRN**	**160M4**	175	321
216	485	8.22	10600	2.4	X	**RM**	**87**	**(E)DRN**	**160M4**	205	321
249	420	7.13	10200	2.5	X						
278	375	6.39	9850	2.7	X						
335	310	5.30*	9330	2.9	X						
163	640	10.88	5470	1.05	X	**R**	**77**	**(E)DRN**	**160M4**	140	317
184	570	9.64	6000	1.10	X	**RF**	**77**	**(E)DRN**	**160M4**	150	318
						RM	**77**	**(E)DRN**	**160M4**	175	318
229	455	7.74	5560	1.35	X						
262	400	6.79	5990	1.45	X	**R**	**77**	**(E)DRN**	**160M4**	140	317
296	350	5.99*	6300	1.50	X	**RF**	**77**	**(E)DRN**	**160M4**	150	318
334	310	5.31*	6240	1.60	X	**RM**	**77**	**(E)DRN**	**160M4**	175	318

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P_m = 11.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
342	305	5.19	8570	2.3	X						
382	275	4.65	8340	2.5	X						
423	245	4.20*	8130	3.3	X						
466	225	3.81	7920	3.7	X	**RX**	**107**	**(E)DRN**	**160M4**	210	294
525	200	3.38	7670	4.2	X	**RXF**	**107**	**(E)DRN**	**160M4**	225	295
578	182	3.07	7470	4.6	X						
673	156	2.64*	7160	5.3	X						
393	265	4.52	6830	2.2	X						
439	235	4.04	6640	2.5	X						
488	215	3.64*	6470	2.8	X						
539	195	3.30	6310	3.0	X						
608	173	2.92	6110	3.4	X	**RX**	**97**	**(E)DRN**	**160M4**	175	292
672	156	2.64	5950	3.8	X	**RXF**	**97**	**(E)DRN**	**160M4**	185	293
793	132	2.24*	5680	4.5	X						
908	116	1.96	5470	4.9	X						
1085	97	1.64	5200	5.2	X						
1255	84	1.42	4980	5.4	X						
511	205	3.48	4830	1.95	X						
575	183	3.09	4710	2.2	X						
643	163	2.76*	4590	2.5	X						
716	147	2.48	4470	2.8	X	**RX**	**87**	**(E)DRN**	**160M4**	150	290
825	127	2.15	4320	3.0	X	**RXF**	**87**	**(E)DRN**	**160M4**	155	291
921	114	1.93	4190	3.1	X						
1110	95	1.60*	3990	3.3	X						
1275	82	1.39	3840	3.5	X						
731	144	2.43	2600	1.50	X						
834	126	2.13	2760	1.60	X						
945	111	1.88*	2870	1.70	X	**RX**	**77**	**(E)DRN**	**160M4**	135	288
1065	99	1.67	2940	1.75	X	**RXF**	**77**	**(E)DRN**	**160M4**	135	289
1250	84	1.42	2920	1.85	X						

P_m = 15.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
7.8	16900	229	120000	1.05	X	**R**	**167R107**	**(E)DRN**	**160L4**	920	334
8.9	14800	200	120000	1.20	X	**RF**	**167R107**	**(E)DRN**	**160L4**	920	334
10	12400	169	120000	1.45	X	**RM**	**167R107**	**(E)DRN**	**160L4**	1120	334
						R	**167R107**	**(E)DRN**	**160L4**	910	334
7.8	17100	227	120000	1.05	X	**RF**	**167R107**	**(E)DRN**	**160L4**	920	334
9.0	14800	198	120000	1.20	X	**RM**	**167R107**	**(E)DRN**	**160L4**	1110	334
						R	**167**	**(E)DRN**	**160L4**	740	331
7.7	18500	229.71	120000	0.95		**RF**	**167**	**(E)DRN**	**160L4**	750	332
9.5	15000	186.93*	120000	1.20	X	**RM**	**167**	**(E)DRN**	**160L4**	940	332
12	12300	153.07	120000	1.45	X						
13	11200	139.98	120000	1.60	X						
15	9810	121.81*	120000	1.85	X						
17	8660	107.49	120000	2.1	X	**R**	**167**	**(E)DRN**	**160L4**	740	331
19	7510	93.19	120000	2.4	X	**RF**	**167**	**(E)DRN**	**160L4**	750	332
21	6680	82.91*	120000	2.7	X	**RM**	**167**	**(E)DRN**	**160L4**	940	332
24	5940	73.70*	120000	3.0	X						
26	5430	67.40	120000	3.3	X						
11	13100	163.31	62300	1.00							
12	11800	146.91	64800	1.10	X	**R**	**147**	**(E)DRN**	**160L4**	495	329
15	9660	119.86	68300	1.35	X	**RF**	**147**	**(E)DRN**	**160L4**	500	330
16	8810	109.31	69400	1.50	X	**RM**	**147**	**(E)DRN**	**160L4**	670	330
19	7620	94.60*	70700	1.70	X						
21	6720	83.47	71600	1.95	X						
25	5810	72.09	72400	2.2	X	**R**	**147**	**(E)DRN**	**160L4**	495	329
27	5390	66.99	72700	2.4	X	**RF**	**147**	**(E)DRN**	**160L4**	500	330
29	4920	61.09	73000	2.6	X	**RM**	**147**	**(E)DRN**	**160L4**	670	330
34	4260	52.87	73400	3.0	X						
38	3760	46.65	73700	3.5	X						

P_m = 15.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
17	8310	103.20*	52600	0.95							
20	7150	88.70*	55100	1.10	X	**R**	**137**	**(E)DRN**	**160L4**	370	327
22	6520	80.91*	56200	1.25	X	**RF**	**137**	**(E)DRN**	**160L4**	390	328
24	5920	73.49	57100	1.35	X	**RM**	**137**	**(E)DRN**	**160L4**	500	328
27	5250	65.20	58100	1.50	X						
30	4760	59.17*	58700	1.70	X						
35	4090	50.86*	59400	1.95	X	**R**	**137**	**(E)DRN**	**160L4**	370	327
40	3570	44.39	59900	2.2	X	**RF**	**137**	**(E)DRN**	**160L4**	390	328
47	3030	37.65	60300	2.6	X	**RM**	**137**	**(E)DRN**	**160L4**	500	328
54	2650	32.91	60600	3.0	X						
64	2240	27.83	60800	3.4	X						
37	3830	47.63	23800	1.10	X						
44	3250	40.37*	23100	1.30	X	**R**	**107**	**(E)DRN**	**160L4**	285	325
50	2840	35.26	22600	1.50	X	**RF**	**107**	**(E)DRN**	**160L4**	290	326
60	2370	29.49	21800	1.80	X	**RM**	**107**	**(E)DRN**	**160L4**	380	326
58	2480	30.77	22000	1.75	X						
64	2220	27.58	21500	1.95	X						
71	2000	24.90*	21000	2.1	X						
79	1820	22.62	20500	2.4	X	**R**	**107**	**(E)DRN**	**160L4**	280	325
89	1610	20.07	19900	2.7	X	**RF**	**107**	**(E)DRN**	**160L4**	285	326
98	1460	18.21	19500	2.9	X	**RM**	**107**	**(E)DRN**	**160L4**	375	326
114	1260	15.65	18700	3.4	X						
130	1100	13.66	18100	3.9	X						
						R	**97**	**(E)DRN**	**160L4**	230	323
64	2220	27.58	16100	1.20	X	**RF**	**97**	**(E)DRN**	**160L4**	245	324
						RM	**97**	**(E)DRN**	**160L4**	295	324
71	2010	25.03	15900	1.40	X						
79	1800	22.37	15600	1.50	X						
88	1620	20.14	15300	1.60	X						
97	1470	18.24	15000	1.70	X						
110	1300	16.17	14600	1.85	X						
122	1170	14.62	14300	1.95	X	**R**	**97**	**(E)DRN**	**160L4**	225	323
143	990	12.39	13800	2.2	X	**RF**	**97**	**(E)DRN**	**160L4**	240	324
164	870	10.83	13300	2.4	X	**RM**	**97**	**(E)DRN**	**160L4**	295	324
191	745	9.29	13100	2.7	X						
212	675	8.39	12700	3.0	X						
250	570	7.12	12200	3.5	X						
286	500	6.21	11700	3.8	X						
104	1370	17.08*	11400	1.00	X						
116	1230	15.35	11200	1.10	X	**R**	**87**	**(E)DRN**	**160L4**	185	320
133	1070	13.33	10900	1.20	X	**RF**	**87**	**(E)DRN**	**160L4**	190	321
149	960	11.93	10700	1.30	X	**RM**	**87**	**(E)DRN**	**160L4**	220	321
179	795	9.90*	10300	1.50	X						
194	735	9.14*	10500	1.65	X						
216	660	8.22	10200	1.75	X	**R**	**87**	**(E)DRN**	**160L4**	185	320
249	575	7.13	9850	1.85	X	**RF**	**87**	**(E)DRN**	**160L4**	190	321
278	510	6.39	9570	2.0	X	**RM**	**87**	**(E)DRN**	**160L4**	220	321
335	425	5.30*	9110	2.1	X						
342	415	5.19	8130	1.65	X						
382	375	4.65	7940	1.85	X						
423	335	4.20*	7770	2.5	X						
466	305	3.81	7590	2.7	X						
525	270	3.38	7380	3.0	X						
579	245	3.07	7200	3.4	X	**RX**	**107**	**(E)DRN**	**160L4**	225	294
673	210	2.64*	6920	3.9	X	**RXF**	**107**	**(E)DRN**	**160L4**	240	295
771	186	2.30	6670	4.5	X						
909	158	1.95	6380	4.9	X						
1040	138	1.71	6140	5.1	X						
1230	116	1.44	5850	5.5	X						

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P_m = 15.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
393	360	4.52	6440	1.65	X						
439	325	4.04	6300	1.85	X						
488	290	3.64*	6160	2.0	X						
539	265	3.30	6020	2.2	X						
608	235	2.92	5860	2.5	X	**RX**	**97**	**(E)DRN**	**160L4**	190	292
672	210	2.64	5710	2.8	X	**RXF**	**97**	**(E)DRN**	**160L4**	200	293
793	181	2.24*	5480	3.3	X						
908	158	1.96	5290	3.6	X						
1085	132	1.64	5040	3.8	X						
1255	114	1.42	4840	4.0	X						
511	280	3.48	4480	1.45	X						
576	245	3.09	4390	1.65	X						
644	220	2.76*	4300	1.80	X						
716	200	2.48	4210	2.0	X	**RX**	**87**	**(E)DRN**	**160L4**	165	290
825	174	2.15	4080	2.2	X	**RXF**	**87**	**(E)DRN**	**160L4**	170	291
921	155	1.93	3980	2.3	X						
1110	129	1.60*	3810	2.4	X						
1275	112	1.39	3680	2.6	X						

P_m = 18.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
9.5	18500	186.93*	120000	0.95							
12	15100	153.07	120000	1.20	X	**R**	**167**	**(E)DRN**	**180M4**	770	331
13	13800	139.98	120000	1.30	X	**RF**	**167**	**(E)DRN**	**180M4**	770	332
15	12000	121.81*	120000	1.50	X	**RM**	**167**	**(E)DRN**	**180M4**	970	332
17	10600	107.49	120000	1.70	X						
19	9240	93.19	120000	1.95	X						
21	8220	82.91*	120000	2.2	X	**R**	**167**	**(E)DRN**	**180M4**	770	331
24	7310	73.70*	120000	2.5	X	**RF**	**167**	**(E)DRN**	**180M4**	770	332
26	6680	67.40	120000	2.7	X	**RM**	**167**	**(E)DRN**	**180M4**	970	332
30	5810	58.65	120000	3.1	X						
15	11800	119.86	64800	1.10	X	**R**	**147**	**(E)DRN**	**180M4**	520	329
16	10800	109.31	66500	1.20	X	**RF**	**147**	**(E)DRN**	**180M4**	530	330
19	9380	94.60*	68600	1.40	X	**RM**	**147**	**(E)DRN**	**180M4**	690	330
21	8270	83.47	70000	1.55	X						
25	7150	72.09	71200	1.80	X						
27	6640	66.99	71700	1.95	X	**R**	**147**	**(E)DRN**	**180M4**	520	329
29	6060	61.09	72200	2.1	X	**RF**	**147**	**(E)DRN**	**180M4**	530	330
34	5240	52.87	72800	2.5	X	**RM**	**147**	**(E)DRN**	**180M4**	690	330
38	4620	46.65	73200	2.8	X						
44	3990	40.29	73500	3.2	X						
22	8020	80.91*	53300	1.00	X						
24	7280	73.49	54800	1.10	X	**R**	**137**	**(E)DRN**	**180M4**	390	327
27	6460	65.20	56300	1.25	X	**RF**	**137**	**(E)DRN**	**180M4**	415	328
30	5860	59.17*	57200	1.35	X	**RM**	**137**	**(E)DRN**	**180M4**	530	328
35	5040	50.86*	58400	1.60	X						
40	4400	44.39	59100	1.80	X	**R**	**137**	**(E)DRN**	**180M4**	390	327
47	3730	37.65	59800	2.1	X	**RF**	**137**	**(E)DRN**	**180M4**	415	328
54	3260	32.91	60100	2.5	X	**RM**	**137**	**(E)DRN**	**180M4**	530	328
64	2760	27.83	60500	2.8	X						
60	2930	29.57*	60400	2.6	X						
74	2390	24.12	60700	3.3	X	**R**	**137**	**(E)DRN**	**180M4**	380	327
81	2180	22.00*	60800	3.7	X	**RF**	**137**	**(E)DRN**	**180M4**	405	328
94	1880	19.04*	61000	4.2	X	**RM**	**137**	**(E)DRN**	**180M4**	520	328
106	1660	16.80*	61100	4.8	X						
44	4000	40.37*	21900	1.05	X	**R**	**107**	**(E)DRN**	**180M4**	305	325
51	3490	35.26	21500	1.25	X	**RF**	**107**	**(E)DRN**	**180M4**	310	326
60	2920	29.49	20800	1.45	X	**RM**	**107**	**(E)DRN**	**180M4**	400	326

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P_m = 18.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
72	2460	24.90*	20200	1.75	X						
79	2240	22.62	19800	1.90	X						
89	1990	20.07	19300	2.2	X						
98	1800	18.21	18900	2.4	X						
114	1550	15.65	18200	2.8	X	**R**	**107**	**(E)DRN**	**180M4**	300	325
130	1350	13.66	17600	3.2	X	**RF**	**107**	**(E)DRN**	**180M4**	305	326
154	1140	11.59	16900	3.7	X	**RM**	**107**	**(E)DRN**	**180M4**	395	326
176	1000	10.13	16300	4.3	X						
227	775	7.86	15400	3.8	X						
267	660	6.66	14700	4.5	X						
88	1990	20.14	14500	1.30	X						
98	1800	18.24	14300	1.40	X						
110	1600	16.17	14000	1.50	X						
122	1450	14.62	13700	1.60	X						
144	1220	12.39	13300	1.80	X						
165	1070	10.83	12900	1.95	X	**R**	**97**	**(E)DRN**	**180M4**	245	323
192	920	9.29	12800	2.2	X	**RF**	**97**	**(E)DRN**	**180M4**	265	324
212	830	8.39	12500	2.4	X	**RM**	**97**	**(E)DRN**	**180M4**	315	324
250	705	7.12	11900	2.8	X						
287	615	6.21	11500	3.1	X						
343	515	5.20	10900	3.5	X						
396	445	4.50*	10500	3.6	X						
134	1320	13.33	10300	0.95							
149	1180	11.93	10200	1.05	X						
180	980	9.90*	9880	1.20	X						
195	900	9.14*	10100	1.35	X	**R**	**87**	**(E)DRN**	**180M4**	205	320
217	810	8.22	9900	1.40	X	**RF**	**87**	**(E)DRN**	**180M4**	215	321
250	705	7.13	9580	1.50	X	**RM**	**87**	**(E)DRN**	**180M4**	245	321
279	630	6.39	9330	1.60	X						
336	525	5.30*	8910	1.75	X						
424	415	4.20*	7460	2.0	X						
467	375	3.81	7310	2.2	X						
526	335	3.38	7120	2.5	X						
580	300	3.07	6960	2.7	X						
675	260	2.64*	6720	3.2	X	**RX**	**107**	**(E)DRN**	**180M4**	245	294
773	225	2.30	6490	3.6	X	**RXF**	**107**	**(E)DRN**	**180M4**	260	295
911	194	1.95	6220	4.0	X						
1045	169	1.71	6000	4.2	X						
1235	143	1.44	5730	4.5	X						
489	360	3.64*	5880	1.65	X						
540	325	3.30	5760	1.80	X						
609	285	2.92	5630	2.0	X						
674	260	2.64	5500	2.3	X	**RX**	**97**	**(E)DRN**	**180M4**	215	292
795	220	2.24*	5300	2.7	X	**RXF**	**97**	**(E)DRN**	**180M4**	220	293
910	194	1.96	5130	2.9	X						
1090	162	1.64	4900	3.1	X						
1255	141	1.42	4720	3.2	X						
645	270	2.76*	3920	1.50	X						
718	245	2.48	3980	1.65	X						
827	210	2.15	3880	1.80	X	**RX**	**87**	**(E)DRN**	**180M4**	190	290
923	191	1.93	3800	1.85	X	**RXF**	**87**	**(E)DRN**	**180M4**	195	291
1115	159	1.60*	3650	2.0	X						
1280	138	1.39	3540	2.1	X						

P_m = 22 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
12	18000	153.07	120000	1.00	X	**R**	**167**	**(E)DRN**	**180L4**	780	331
13	16500	139.98	120000	1.10	X	**RF**	**167**	**(E)DRN**	**180L4**	790	332
15	14300	121.81*	120000	1.25	X	**RM**	**167**	**(E)DRN**	**180L4**	980	332

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P_m = 22 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
17	12600	107.49	120000	1.40	X						
19	10900	93.19	120000	1.65	X						
21	9780	82.91*	120000	1.85	X						
24	8690	73.70*	120000	2.1	X	**R**	**167**	**(E)DRN**	**180L4**	780	331
26	7950	67.40	120000	2.3	X	**RF**	**167**	**(E)DRN**	**180L4**	790	332
30	6910	58.65	120000	2.6	X	**RM**	**167**	**(E)DRN**	**180L4**	980	332
34	6100	51.76	120000	3.0	X						
40	5290	44.87	120000	3.4	X						
16	12800	109.31	62900	1.00	X						
19	11100	94.60*	66000	1.15	X	**R**	**147**	**(E)DRN**	**180L4**	530	329
21	9840	83.47	68000	1.30	X	**RF**	**147**	**(E)DRN**	**180L4**	540	330
25	8500	72.09	69700	1.55	X	**RM**	**147**	**(E)DRN**	**180L4**	710	330
27	7900	66.99	70400	1.65	X						
29	7200	61.09	71100	1.80	X						
34	6230	52.87	72000	2.1	X	**R**	**147**	**(E)DRN**	**180L4**	530	329
38	5500	46.65	72600	2.4	X	**RF**	**147**	**(E)DRN**	**180L4**	540	330
44	4750	40.29	73100	2.7	X	**RM**	**147**	**(E)DRN**	**180L4**	710	330
50	4200	35.64	73400	3.1	X						
59	3530	29.95	73800	3.7	X						
27	7690	65.20	54000	1.05	X						
30	6970	59.17*	55400	1.15	X	**R**	**137**	**(E)DRN**	**180L4**	410	327
35	5990	50.86*	57000	1.35	X	**RF**	**137**	**(E)DRN**	**180L4**	430	328
40	5230	44.39	58100	1.55	X	**RM**	**137**	**(E)DRN**	**180L4**	540	328
47	4440	37.65	59100	1.80	X	**R**	**137**	**(E)DRN**	**180L4**	410	327
54	3880	32.91	59600	2.1	X	**RF**	**137**	**(E)DRN**	**180L4**	430	328
64	3280	27.83	60100	2.3	X	**RM**	**137**	**(E)DRN**	**180L4**	540	328
60	3480	29.57*	60000	2.2	X						
74	2840	24.12	60500	2.8	X	**R**	**137**	**(E)DRN**	**180L4**	400	327
81	2590	22.00*	60600	3.1	X	**RF**	**137**	**(E)DRN**	**180L4**	420	328
94	2240	19.04*	60800	3.6	X	**RM**	**137**	**(E)DRN**	**180L4**	530	328
106	1980	16.80*	60900	4.0	X	**R**	**137**	**(E)DRN**	**180L4**	400	327
123	1710	14.51	60500	4.7	X	**RF**	**137**	**(E)DRN**	**180L4**	420	328
139	1510	12.83	58900	5.3	X	**RM**	**137**	**(E)DRN**	**180L4**	530	328
51	4150	35.26	20400	1.05	X	**R**	**107**	**(E)DRN**	**180L4**	320	325
60	3470	29.49	19900	1.25	X	**RF**	**107**	**(E)DRN**	**180L4**	330	326
						RM	**107**	**(E)DRN**	**180L4**	415	326
72	2930	24.90*	19400	1.45	X	**R**	**107**	**(E)DRN**	**180L4**	315	325
79	2660	22.62	19100	1.60	X	**RF**	**107**	**(E)DRN**	**180L4**	320	326
89	2360	20.07	18700	1.80	X	**RM**	**107**	**(E)DRN**	**180L4**	410	326
98	2140	18.21	18300	2.0	X						
114	1840	15.65	17700	2.3	X						
130	1610	13.66	17200	2.7	X						
154	1360	11.59	16500	3.1	X	**R**	**107**	**(E)DRN**	**180L4**	315	325
176	1190	10.13	16000	3.6	X	**RF**	**107**	**(E)DRN**	**180L4**	320	326
208	1010	8.56	15300	4.3	X	**RM**	**107**	**(E)DRN**	**180L4**	410	326
227	920	7.86	15200	3.2	X						
267	785	6.66	14600	3.8	X						
306	685	5.82	14000	4.3	X						
88	2370	20.14	13700	1.10	X						
98	2150	18.24	13600	1.15	X	**R**	**97**	**(E)DRN**	**180L4**	260	323
110	1900	16.17	13400	1.25	X	**RF**	**97**	**(E)DRN**	**180L4**	280	324
122	1720	14.62	13200	1.35	X	**RM**	**97**	**(E)DRN**	**180L4**	330	324
144	1460	12.39	12800	1.50	X						
165	1270	10.83	12500	1.65	X						
192	1090	9.29	12500	1.85	X						
212	990	8.39	12200	2.0	X	**R**	**97**	**(E)DRN**	**180L4**	260	323
250	830	7.12	11700	2.4	X	**RF**	**97**	**(E)DRN**	**180L4**	280	324
287	730	6.21	11300	2.6	X	**RM**	**97**	**(E)DRN**	**180L4**	330	324
343	610	5.20	10800	2.9	X						
396	530	4.50*	10400	3.1	X						

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P_m = 22 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
180	1160	9.90*	9430	1.00	X						
195	1070	9.14*	9800	1.10	X						
217	960	8.22	9600	1.20	X	**R**	**87**	**(E)DRN**	**180L4**	220	320
250	840	7.13	9320	1.25	X	**RF**	**87**	**(E)DRN**	**180L4**	230	321
279	750	6.39	9100	1.35	X	**RM**	**87**	**(E)DRN**	**180L4**	260	321
336	625	5.30*	8710	1.45	X						
424	495	4.20*	7140	1.70	X						
467	445	3.81	7020	1.85	X						
526	395	3.38	6860	2.1	X						
580	360	3.07	6730	2.3	X						
675	310	2.64*	6510	2.7	X	**RX**	**107**	**(E)DRN**	**180L4**	260	294
773	270	2.30	6310	3.0	X	**RXF**	**107**	**(E)DRN**	**180L4**	280	295
911	230	1.95	6060	3.3	X						
1045	200	1.71	5850	3.5	X						
1235	170	1.44	5610	3.8	X						
489	425	3.64*	5600	1.40	X						
540	385	3.30	5510	1.55	X						
609	340	2.92	5400	1.75	X						
674	310	2.64	5300	1.90	X	**RX**	**97**	**(E)DRN**	**180L4**	230	292
795	260	2.24*	5120	2.2	X	**RXF**	**97**	**(E)DRN**	**180L4**	235	293
910	230	1.96	4970	2.5	X						
1090	193	1.64	4760	2.6	X						
1255	167	1.42	4600	2.7	X						
645	325	2.76*	2460	1.25	X						
718	290	2.48	2780	1.40	X						
827	250	2.15	3080	1.50	X	**RX**	**87**	**(E)DRN**	**180L4**	205	290
923	225	1.93	3280	1.55	X	**RXF**	**87**	**(E)DRN**	**180L4**	210	291
1115	189	1.60*	3450	1.65	X						
1280	164	1.39	3400	1.75	X						

P_m = 30 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
17	17200	107.49	120000	1.05	X	**R**	**167**	**(E)DRN**	**200L4**	890	331
19	14900	93.19	120000	1.20	X	**RF**	**167**	**(E)DRN**	**200L4**	900	332
22	13300	82.91*	120000	1.35	X	**RM**	**167**	**(E)DRN**	**200L4**	1090	332
24	11800	73.70*	120000	1.50	X						
26	10800	67.40	120000	1.65	X						
30	9420	58.65	120000	1.90	X						
34	8310	51.76	120000	2.2	X	**R**	**167**	**(E)DRN**	**200L4**	890	331
40	7200	44.87	120000	2.5	X	**RF**	**167**	**(E)DRN**	**200L4**	900	332
45	6410	39.92	120000	2.8	X	**RM**	**167**	**(E)DRN**	**200L4**	1090	332
52	5520	34.41	120000	3.3	X						
64	4490	27.96	120000	4.0	X						
75	3800	23.71	120000	4.7	X						
21	13400	83.47	61800	0.95							
25	11500	72.09	65300	1.10	X	**R**	**147**	**(E)DRN**	**200L4**	640	329
27	10700	66.99	66600	1.20	X	**RF**	**147**	**(E)DRN**	**200L4**	650	330
29	9810	61.09	68000	1.30	X	**RM**	**147**	**(E)DRN**	**200L4**	820	330
34	8490	52.87	69700	1.55	X						
38	7490	46.65	70800	1.75	X						
44	6470	40.29	71800	2.0	X	**R**	**147**	**(E)DRN**	**200L4**	640	329
50	5720	35.64	72400	2.3	X	**RF**	**147**	**(E)DRN**	**200L4**	650	330
60	4810	29.95	73100	2.7	X	**RM**	**147**	**(E)DRN**	**200L4**	820	330
74	3880	24.19	73600	3.1	X						
87	3280	20.44	73900	3.6	X	**R**	**147**	**(E)DRN**	**200L4**	630	329
99	2890	18.04	74000	3.6	X	**RF**	**147**	**(E)DRN**	**200L4**	640	330
114	2510	15.64	74200	5.2	X	**RM**	**147**	**(E)DRN**	**200L4**	810	330
35	8170	50.86*	53000	1.00							
40	7130	44.39	55100	1.10	X	**R**	**137**	**(E)DRN**	**200L4**	510	327
47	6040	37.65	57000	1.30	X	**RF**	**137**	**(E)DRN**	**200L4**	540	328
54	5280	32.91	58000	1.50	X	**RM**	**137**	**(E)DRN**	**200L4**	650	328
64	4470	27.83	59000	1.70	X						

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P_m = 30 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
74	3870	24.12	59600	2.1	X						
81	3530	22.00*	59900	2.3	X	**R**	**137**	**(E)DRN**	**200L4**	500	327
94	3050	19.04*	60200	2.6	X	**RF**	**137**	**(E)DRN**	**200L4**	530	328
106	2690	16.80*	59100	3.0	X	**RM**	**137**	**(E)DRN**	**200L4**	640	328
123	2330	14.51	57700	3.4	X						
139	2060	12.83	56400	3.9	X	**R**	**137**	**(E)DRN**	**200L4**	500	327
165	1730	10.79	54600	4.6	X	**RF**	**137**	**(E)DRN**	**200L4**	530	328
235	1210	7.59	51100	4.2	X	**RM**	**137**	**(E)DRN**	**200L4**	640	328
279	1020	6.38	49000	5.0	X						
89	3220	20.07	17200	1.35	X						
98	2920	18.21	17000	1.45	X						
114	2510	15.65	16600	1.70	X						
131	2190	13.66	16200	1.95	X						
154	1860	11.59	15700	2.3	X	**R**	**107**	**(E)DRN**	**200L4**	425	325
176	1620	10.13	15300	2.6	X	**RF**	**107**	**(E)DRN**	**200L4**	430	326
208	1370	8.56	14700	3.1	X	**RM**	**107**	**(E)DRN**	**200L4**	520	326
227	1260	7.86	14800	2.4	X						
268	1070	6.66	14100	2.8	X						
306	930	5.82	13600	3.2	X						
362	790	4.92	13000	3.7	X						
122	2340	14.62	11900	1.00							
144	1990	12.39	11700	1.10	X	**R**	**97**	**(E)DRN**	**200L4**	370	323
165	1730	10.83	11600	1.20	X	**RF**	**97**	**(E)DRN**	**200L4**	390	324
192	1490	9.29	11900	1.35	X	**RM**	**97**	**(E)DRN**	**200L4**	440	324
212	1340	8.39	11600	1.50	X						
251	1140	7.12	11200	1.75	X						
287	990	6.21	10900	1.90	X	**R**	**97**	**(E)DRN**	**200L4**	370	323
343	830	5.20	10400	2.1	X	**RF**	**97**	**(E)DRN**	**200L4**	390	324
396	720	4.50*	10000	2.2	X	**RM**	**97**	**(E)DRN**	**200L4**	440	324
527	540	3.38	6280	1.55	X						
581	490	3.07	6190	1.70	X						
675	420	2.64*	6040	1.95	X						
774	370	2.30	5890	2.2	X	**RX**	**107**	**(E)DRN**	**200L4**	370	294
912	310	1.95	5690	2.4	X	**RXF**	**107**	**(E)DRN**	**200L4**	385	295
1045	270	1.71	5530	2.6	X						
1235	230	1.44	5320	2.8	X						
610	465	2.92	4360	1.25	X						
675	420	2.64	4670	1.40	X						
796	355	2.24*	4710	1.65	X	**RX**	**97**	**(E)DRN**	**200L4**	335	292
911	310	1.96	4610	1.80	X	**RXF**	**97**	**(E)DRN**	**200L4**	345	293
1090	260	1.64	4450	1.90	X						
1260	225	1.42	4320	2.0	X						

P_m = 37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
19	18400	93.19	120000	1.00							
22	16400	82.91*	120000	1.10	X						
24	14500	73.70*	120000	1.25	X						
26	13300	67.40	120000	1.35	X						
30	11600	58.65	120000	1.55	X	**R**	**167**	**(E)DRN**	**225S4**	920	331
34	10200	51.76	120000	1.75	X	**RF**	**167**	**(E)DRN**	**225S4**	930	332
40	8880	44.87	120000	2.0	X	**RM**	**167**	**(E)DRN**	**225S4**	1120	332
45	7900	39.92	120000	2.3	X						
52	6810	34.41	120000	2.6	X						
64	5530	27.96	120000	3.2	X						
58	6070	30.71	120000	1.65	X						
73	4860	24.57	120000	2.9	X	**R**	**167**	**(E)DRN**	**225S4**	910	331
82	4320	21.85	120000	3.0	X	**RF**	**167**	**(E)DRN**	**225S4**	920	332
94	3760	19.03	120000	4.2	X	**RM**	**167**	**(E)DRN**	**225S4**	1120	332
105	3360	16.98	120000	4.5	X						

P_m = 37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
27	13200	66.99	62100	1.00		**R**	**147**	**(E)DRN**	**225S4**	670	329
29	12000	61.09	64400	1.10	X	**RF**	**147**	**(E)DRN**	**225S4**	680	330
34	10400	52.87	67100	1.25	X	**RM**	**147**	**(E)DRN**	**225S4**	850	330
38	9230	46.65	68800	1.40	X						
44	7970	40.29	70300	1.65	X	**R**	**147**	**(E)DRN**	**225S4**	670	329
50	7050	35.64	71300	1.85	X	**RF**	**147**	**(E)DRN**	**225S4**	680	330
60	5920	29.95	72300	2.2	X	**RM**	**147**	**(E)DRN**	**225S4**	850	330
74	4780	24.19	73100	2.5	X						
87	4040	20.44	73500	3.0	X	**R**	**147**	**(E)DRN**	**225S4**	660	329
99	3570	18.04	73800	2.9	X	**RF**	**147**	**(E)DRN**	**225S4**	670	330
114	3090	15.64	74000	4.2	X	**RM**	**147**	**(E)DRN**	**225S4**	840	330
						R	**147**	**(E)DRN**	**225S4**	660	329
128	2750	13.91	74100	4.6	X	**RF**	**147**	**(E)DRN**	**225S4**	670	330
						RM	**147**	**(E)DRN**	**225S4**	840	330
47	7450	37.65	54500	1.05	X	**R**	**137**	**(E)DRN**	**225S4**	550	327
54	6510	32.91	56200	1.25	X	**RF**	**137**	**(E)DRN**	**225S4**	570	328
64	5500	27.83	57700	1.40	X	**RM**	**137**	**(E)DRN**	**225S4**	680	328
74	4770	24.12	57900	1.70	X						
81	4350	22.00*	57600	1.85	X	**R**	**137**	**(E)DRN**	**225S4**	540	327
94	3760	19.04*	57000	2.1	X	**RF**	**137**	**(E)DRN**	**225S4**	560	328
106	3320	16.80*	56300	2.4	X	**RM**	**137**	**(E)DRN**	**225S4**	670	328
123	2870	14.51	55200	2.8	X						
139	2540	12.83	54300	3.1	X						
166	2130	10.79	52800	3.8	X	**R**	**137**	**(E)DRN**	**225S4**	540	327
205	1720	8.71	50700	4.5	X	**RF**	**137**	**(E)DRN**	**225S4**	560	328
235	1500	7.59	49800	3.4	X	**RM**	**137**	**(E)DRN**	**225S4**	670	328
280	1260	6.38	48000	4.0	X						
346	1010	5.15	45700	4.5	X						
89	3970	20.07	16000	1.10	X						
98	3600	18.21	15900	1.20	X						
114	3090	15.65	15600	1.40	X						
131	2700	13.66	15400	1.60	X						
154	2290	11.59	15000	1.85	X	**R**	**107**	**(E)DRN**	**225S4**	455	325
176	2000	10.13	14700	2.1	X	**RF**	**107**	**(E)DRN**	**225S4**	460	326
208	1690	8.56	14200	2.5	X	**RM**	**107**	**(E)DRN**	**225S4**	550	326
227	1550	7.86	14300	1.90	X						
268	1310	6.66	13800	2.2	X						
306	1150	5.82	13300	2.6	X						
362	970	4.92	12800	3.0	X						
527	665	3.38	5760	1.25	X						
581	605	3.07	5720	1.35	X						
676	520	2.64*	5630	1.60	X						
775	455	2.30	5520	1.80	X	**RX**	**107**	**(E)DRN**	**225S4**	400	294
913	385	1.95	5380	2.0	X	**RXF**	**107**	**(E)DRN**	**225S4**	420	295
1045	335	1.71	5240	2.1	X						
1235	285	1.44	5080	2.3	X						

P_m = 45 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
24	17700	73.70*	120000	1.00	X						
26	16200	67.40	120000	1.10	X	**R**	**167**	**(E)DRN**	**225M4**	920	331
30	14100	58.65	120000	1.25	X	**RF**	**167**	**(E)DRN**	**225M4**	930	332
34	12400	51.76	120000	1.45	X	**RM**	**167**	**(E)DRN**	**225M4**	1120	332
40	10800	44.87	120000	1.65	X						
45	9610	39.92	120000	1.85	X	**R**	**167**	**(E)DRN**	**225M4**	920	331
52	8280	34.41	120000	2.2	X	**RF**	**167**	**(E)DRN**	**225M4**	930	332
64	6730	27.96	120000	2.7	X	**RM**	**167**	**(E)DRN**	**225M4**	1120	332
75	5700	23.71	120000	3.1	X						

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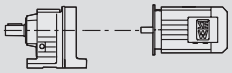
P_m = 45 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
58	7390	30.71	120000	1.35	X						
73	5910	24.57	120000	2.4	X	**R**	**167**	**(E)DRN**	**225M4**	910	331
82	5250	21.85	120000	2.5	X	**RF**	**167**	**(E)DRN**	**225M4**	920	332
94	4580	19.03	120000	3.5	X	**RM**	**167**	**(E)DRN**	**225M4**	1120	332
105	4080	16.98	120000	3.7	X						
34	12700	52.87	63200	1.00	X						
38	11200	46.65	65900	1.15	X						
44	9690	40.29	68200	1.35	X	**R**	**147**	**(E)DRN**	**225M4**	670	329
50	8570	35.64	69600	1.50	X	**RF**	**147**	**(E)DRN**	**225M4**	680	330
60	7210	29.95	71100	1.80	X	**RM**	**147**	**(E)DRN**	**225M4**	850	330
74	5820	24.19	72400	2.0	X						
87	4920	20.44	73000	2.4	X						
99	4340	18.04	73400	2.4	X						
114	3760	15.64	73700	3.5	X	**R**	**147**	**(E)DRN**	**225M4**	660	329
128	3340	13.91	73900	3.8	X	**RF**	**147**	**(E)DRN**	**225M4**	670	330
149	2880	11.99	74000	4.5	X	**RM**	**147**	**(E)DRN**	**225M4**	840	330
246	1740	7.25	74000	5.0	X						
54	7920	32.91	51500	1.00	X	**R**	**137**	**(E)DRN**	**225M4**	550	327
64	6690	27.83	52700	1.15	X	**RF**	**137**	**(E)DRN**	**225M4**	570	328
						RM	**137**	**(E)DRN**	**225M4**	680	328
74	5800	24.12	53300	1.40	X						
81	5290	22.00*	53400	1.50	X	**R**	**137**	**(E)DRN**	**225M4**	540	327
94	4580	19.04*	53300	1.75	X	**RF**	**137**	**(E)DRN**	**225M4**	560	328
106	4040	16.80*	53000	2.0	X	**RM**	**137**	**(E)DRN**	**225M4**	670	328
123	3490	14.51	52400	2.3	X						
139	3080	12.83	51800	2.6	X						
166	2590	10.79	50700	3.1	X	**R**	**137**	**(E)DRN**	**225M4**	540	327
205	2090	8.71	49100	3.7	X	**RF**	**137**	**(E)DRN**	**225M4**	560	328
235	1820	7.59	48500	2.8	X	**RM**	**137**	**(E)DRN**	**225M4**	670	328
280	1530	6.38	46900	3.3	X						
346	1240	5.15	44800	3.7	X						
114	3760	15.65	14500	1.15	X						
131	3280	13.66	14400	1.30	X						
154	2780	11.59	14200	1.55	X						
176	2430	10.13	13900	1.75	X	**R**	**107**	**(E)DRN**	**225M4**	455	325
208	2060	8.56	13600	2.1	X	**RF**	**107**	**(E)DRN**	**225M4**	460	326
227	1890	7.86	13900	1.55	X	**RM**	**107**	**(E)DRN**	**225M4**	550	326
268	1600	6.66	13400	1.85	X						
306	1400	5.82	13000	2.1	X						
362	1180	4.92	12500	2.5	X						
527	810	3.38	3270	1.00	X						
581	735	3.07	3790	1.10	X						
676	635	2.64*	4420	1.30	X						
775	550	2.30	4880	1.50	X	**RX**	**107**	**(E)DRN**	**225M4**	400	294
913	470	1.95	5010	1.65	X	**RXF**	**107**	**(E)DRN**	**225M4**	420	295
1045	410	1.71	4920	1.70	X						
1235	345	1.44	4790	1.85	X						

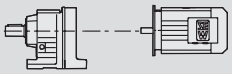
P_m = 55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
30	17200	58.65	120000	1.05	X						
34	15200	51.76	120000	1.20	X						
40	13200	44.87	120000	1.35	X	**R**	**167**	**(E)DRN**	**250ME4**	1120	331
45	11700	39.92	120000	1.55	X	**RF**	**167**	**(E)DRN**	**250ME4**	1130	332
52	10100	34.41	120000	1.80	X	**RM**	**167**	**(E)DRN**	**250ME4**	1320	332
64	8220	27.96	120000	2.2	X						
75	6970	23.71	120000	2.6	X						
73	7220	24.57	120000	1.95	X	**R**	**167**	**(E)DRN**	**250ME4**	1110	331
82	6420	21.85	120000	2.0	X	**RF**	**167**	**(E)DRN**	**250ME4**	1120	332
94	5600	19.03	120000	2.9	X	**RM**	**167**	**(E)DRN**	**250ME4**	1310	332

P_m = 55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
105	4990	16.98	120000	3.0	X	**R**	**167**	**(E)DRN**	**250ME4**	1110	331
123	4250	14.48	120000	4.2	X	**RF**	**167**	**(E)DRN**	**250ME4**	1120	332
149	3520	11.99	115500	4.8	X	**RM**	**167**	**(E)DRN**	**250ME4**	1310	332
38	13700	46.65	61100	0.95							
44	11800	40.29	64800	1.10	X	**R**	**147**	**(E)DRN**	**250ME4**	870	329
50	10400	35.64	67100	1.25	X	**RF**	**147**	**(E)DRN**	**250ME4**	880	330
60	8810	29.95	69400	1.50	X	**RM**	**147**	**(E)DRN**	**250ME4**	1050	330
74	7110	24.19	71200	1.65	X						
87	6010	20.44	72200	2.0	X						
99	5300	18.04	72700	2.0	X	**R**	**147**	**(E)DRN**	**250ME4**	860	329
114	4600	15.64	73200	2.8	X	**RF**	**147**	**(E)DRN**	**250ME4**	870	330
128	4090	13.91	73500	3.1	X	**RM**	**147**	**(E)DRN**	**250ME4**	1030	330
149	3520	11.99	73800	3.7	X						
183	2860	9.74	74100	4.5	X	**R**	**147**	**(E)DRN**	**250ME4**	860	329
246	2130	7.25	72800	4.1	X	**RF**	**147**	**(E)DRN**	**250ME4**	870	330
303	1730	5.89	69300	5.0	X	**RM**	**147**	**(E)DRN**	**250ME4**	1030	330
94	5600	19.04*	48700	1.45	X	**R**	**137**	**(E)DRN**	**250ME4**	730	327
106	4940	16.80*	49000	1.60	X	**RF**	**137**	**(E)DRN**	**250ME4**	760	328
123	4260	14.51	49000	1.85	X	**RM**	**137**	**(E)DRN**	**250ME4**	870	328
139	3770	12.83	48700	2.1	X						
166	3170	10.79	48100	2.5	X						
205	2560	8.71	47000	3.1	X	**R**	**137**	**(E)DRN**	**250ME4**	730	327
235	2230	7.59	46800	2.3	X	**RF**	**137**	**(E)DRN**	**250ME4**	760	328
280	1870	6.38	45400	2.7	X	**RM**	**137**	**(E)DRN**	**250ME4**	870	328
346	1510	5.15	43600	3.0	X						

P_m = 75 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
40	18000	44.87	120000	1.00	X						
45	16000	39.92	120000	1.10	X	**R**	**167**	**(E)DRN**	**280S4**	1120	331
52	13800	34.41	120000	1.30	X	**RF**	**167**	**(E)DRN**	**280S4**	1130	332
64	11200	27.96	120000	1.60	X	**RM**	**167**	**(E)DRN**	**280S4**	1320	332
75	9510	23.71	120000	1.90	X						
73	9850	24.57	120000	1.40	X	**R**	**167**	**(E)DRN**	**280S4**	1110	331
82	8760	21.85	120000	1.50	X	**RF**	**167**	**(E)DRN**	**280S4**	1120	332
94	7630	19.03	120000	2.1	X	**RM**	**167**	**(E)DRN**	**280S4**	1320	332
105	6810	16.98	120000	2.2	X						
123	5800	14.48	116600	3.1	X	**R**	**167**	**(E)DRN**	**280S4**	1110	331
149	4810	11.99	112000	3.5	X	**RF**	**167**	**(E)DRN**	**280S4**	1120	332
174	4100	10.24	108100	4.1	X	**RM**	**167**	**(E)DRN**	**280S4**	1320	332
60	12000	29.95	64500	1.10	X	**R**	**147**	**(E)DRN**	**280S4**	870	329
74	9700	24.19	68200	1.25	X	**RF**	**147**	**(E)DRN**	**280S4**	880	330
						RM	**147**	**(E)DRN**	**280S4**	1050	330
87	8200	20.44	70100	1.45	X						
99	7230	18.04	71100	1.45	X	**R**	**147**	**(E)DRN**	**280S4**	860	329
114	6270	15.64	72000	2.1	X	**RF**	**147**	**(E)DRN**	**280S4**	870	330
128	5580	13.91	72500	2.3	X	**RM**	**147**	**(E)DRN**	**280S4**	1040	330
149	4810	11.99	73100	2.7	X						
183	3900	9.74	73600	3.3	X						
216	3310	8.26	72700	3.9	X	**R**	**147**	**(E)DRN**	**280S4**	860	329
246	2900	7.25	70400	3.0	X	**RF**	**147**	**(E)DRN**	**280S4**	870	330
303	2360	5.89	67300	3.7	X	**RM**	**147**	**(E)DRN**	**280S4**	1040	330
357	2000	5.00	64800	4.3	X						

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P_m = 90 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
45	19200	39.92	120000	0.95							
52	16500	34.41	120000	1.10	X	**R**	**167**	**(E)DRN**	**280M4**	1240	331
64	13400	27.96	120000	1.35	X	**RF**	**167**	**(E)DRN**	**280M4**	1240	332
75	11400	23.71	120000	1.60	X	**RM**	**167**	**(E)DRN**	**280M4**	1440	332
94	9160	19.03	118900	1.75	X	**R**	**167**	**(E)DRN**	**280M4**	1230	331
						RF	**167**	**(E)DRN**	**280M4**	1240	332
						RM	**167**	**(E)DRN**	**280M4**	1430	332
105	8180	16.98	116800	1.85	X						
123	6970	14.48	113500	2.6	X	**R**	**167**	**(E)DRN**	**280M4**	1230	331
149	5770	11.99	109500	2.9	X	**RF**	**167**	**(E)DRN**	**280M4**	1240	332
174	4930	10.24	105900	3.5	X	**RM**	**167**	**(E)DRN**	**280M4**	1430	332
114	7530	15.64	70800	1.75	X	**R**	**147**	**(E)DRN**	**280M4**	970	329
128	6700	13.91	71600	1.90	X	**RF**	**147**	**(E)DRN**	**280M4**	980	330
						RM	**147**	**(E)DRN**	**280M4**	1150	330
149	5770	11.99	72400	2.2	X						
183	4690	9.74	72800	2.8	X						
216	3980	8.26	70700	3.3	X	**R**	**147**	**(E)DRN**	**280M4**	970	329
246	3490	7.25	68600	2.5	X	**RF**	**147**	**(E)DRN**	**280M4**	980	330
303	2830	5.89	65800	3.0	X	**RM**	**147**	**(E)DRN**	**280M4**	1150	330
357	2400	5.00	63600	3.6	X						

P_m = 110 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
64	16400	27.96	116900	1.10	X	**R**	**167**	**(E)DRN**	**315S4**	1480	331
75	13900	23.71	115800	1.30	X	**RF**	**167**	**(E)DRN**	**315S4**	1490	332
						RM	**167**	**(E)DRN**	**315S4**	1680	332
94	11100	19.03	113400	1.45	X	**R**	**167**	**(E)DRN**	**315S4/ERF/NS**	1470	331
						RF	**167**	**(E)DRN**	**315S4/ERF/NS**	1480	332
						RM	**167**	**(E)DRN**	**315S4/ERF/NS**	1680	332
105	9960	16.98	111800	1.50	X						
124	8490	14.48	109300	2.1	X	**R**	**167**	**(E)DRN**	**315S4**	1470	331
149	7030	11.99	106000	2.4	X	**RF**	**167**	**(E)DRN**	**315S4**	1480	332
175	6000	10.24	102900	2.8	X	**RM**	**167**	**(E)DRN**	**315S4**	1680	332

P_m = 132 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
76	16600	23.71	108300	1.10	X	**R**	**167**	**(E)DRN**	**315ME4**	1610	331
						RF	**167**	**(E)DRN**	**315ME4**	1610	332
						RM	**167**	**(E)DRN**	**315ME4**	1810	332
94	13300	19.03	107400	1.20	X	**R**	**167**	**(E)DRN**	**315ME4/ERF/NS**	1600	331
105	11900	16.98	106500	1.25	X	**RF**	**167**	**(E)DRN**	**315ME4/ERF/NS**	1610	332
						RM	**167**	**(E)DRN**	**315ME4/ERF/NS**	1800	332
124	10100	14.48	104700	1.75	X	**R**	**167**	**(E)DRN**	**315ME4**	1600	331
149	8440	11.99	102200	2.0	X	**RF**	**167**	**(E)DRN**	**315ME4**	1610	332
175	7200	10.24	99700	2.4	X	**RM**	**167**	**(E)DRN**	**315ME4**	1800	332

P_m = 160 kW

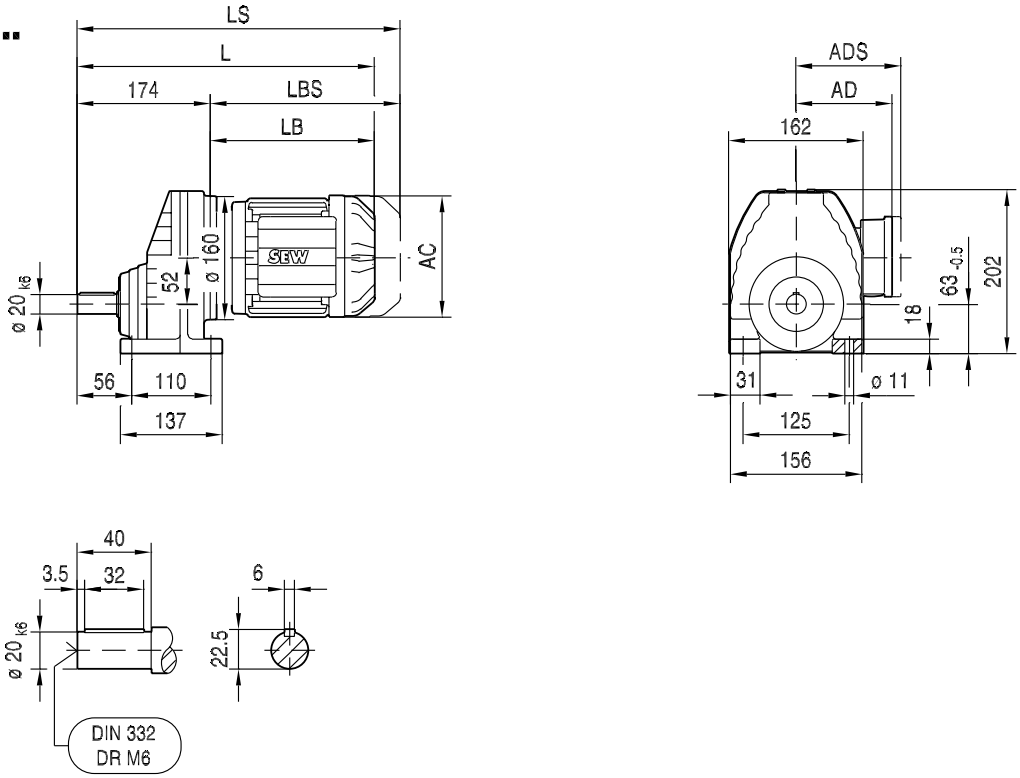
n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
124	12300	14.48	98900	1.45	X	**R**	**167**	**(E)DRN**	**315L4**	1630	331
149	10200	11.99	97400	1.65	X	**RF**	**167**	**(E)DRN**	**315L4**	1630	332
175	8740	10.24	95600	1.95	X	**RM**	**167**	**(E)DRN**	**315L4**	1830	332

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8.4 R..DRN.. dimension sheets in mm

01 004 00 14

RX57..

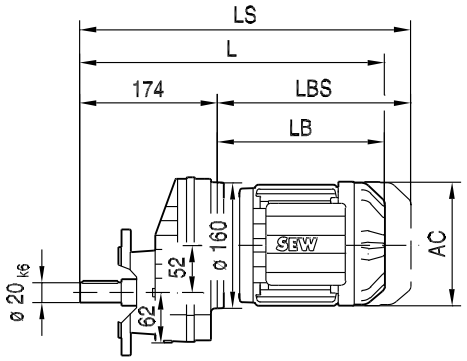


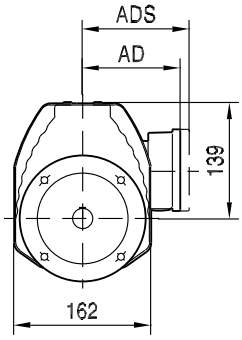
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	359	370	395	449	451	483	479	529	560	614
LS	414	438	463	530	544	576	573	623	672	726
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

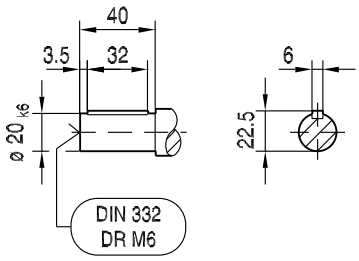
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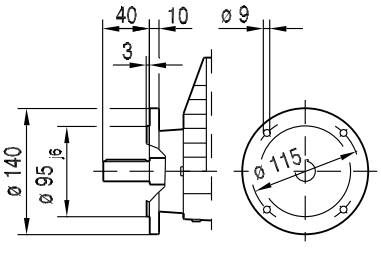
RXF57..



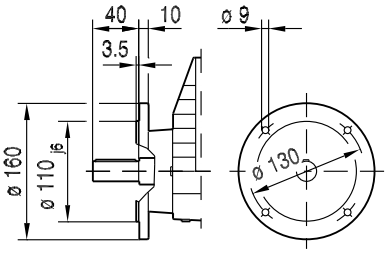




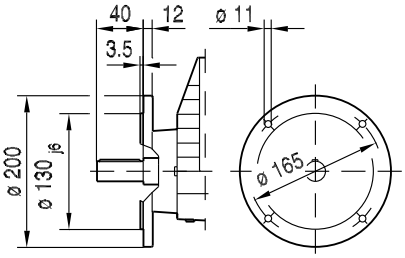
ø 140



ø 160



ø 200

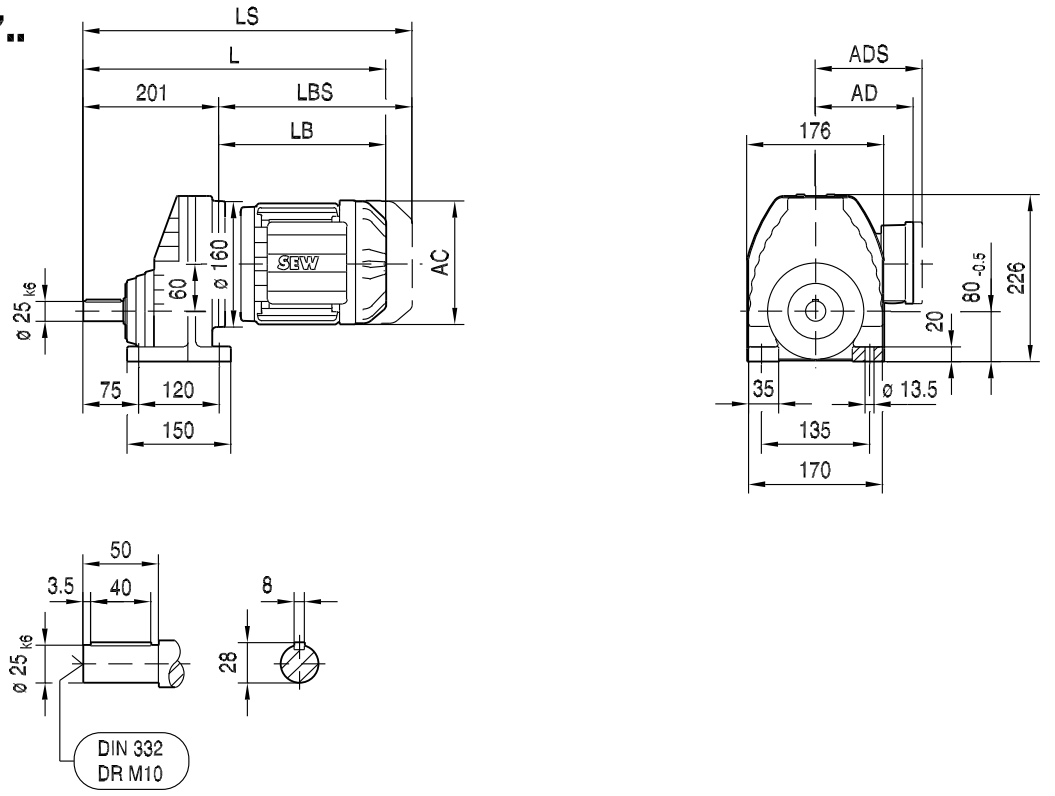


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	359	370	395	449	451	483	479	529	560	614
LS	414	438	463	530	544	576	573	623	672	726
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

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01 006 00 14

RX67..

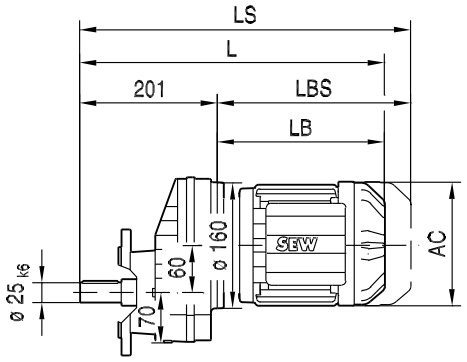


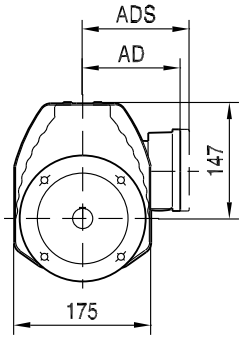
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M
AC	132	139	139	156	179	179	197	197	221	221	261
AD	105	119	119	128	140	140	157	157	170	170	228
ADS	105	129	129	139	150	150	158	158	172	172	228
L	386	397	422	476	478	510	506	556	587	641	659
LS	441	465	490	557	571	603	600	650	699	753	797
LB	185	196	221	275	277	309	305	355	386	440	458
LBS	240	264	289	356	370	402	399	449	498	552	596

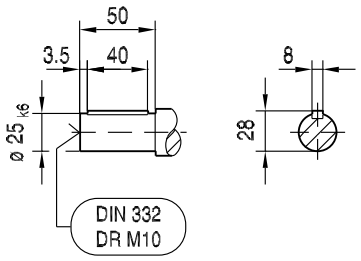
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01 007 00 14

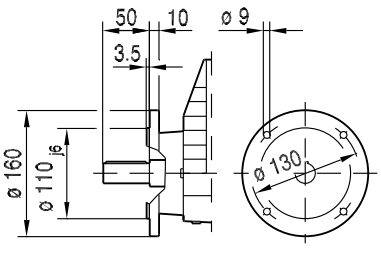
RXF67..



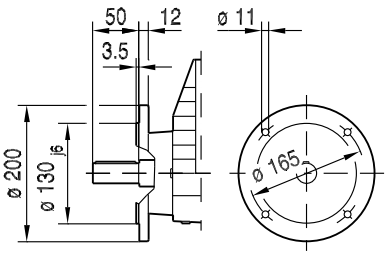




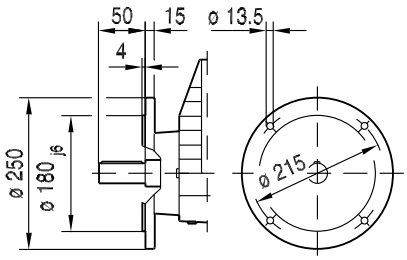
ø 160



ø 200



ø 250

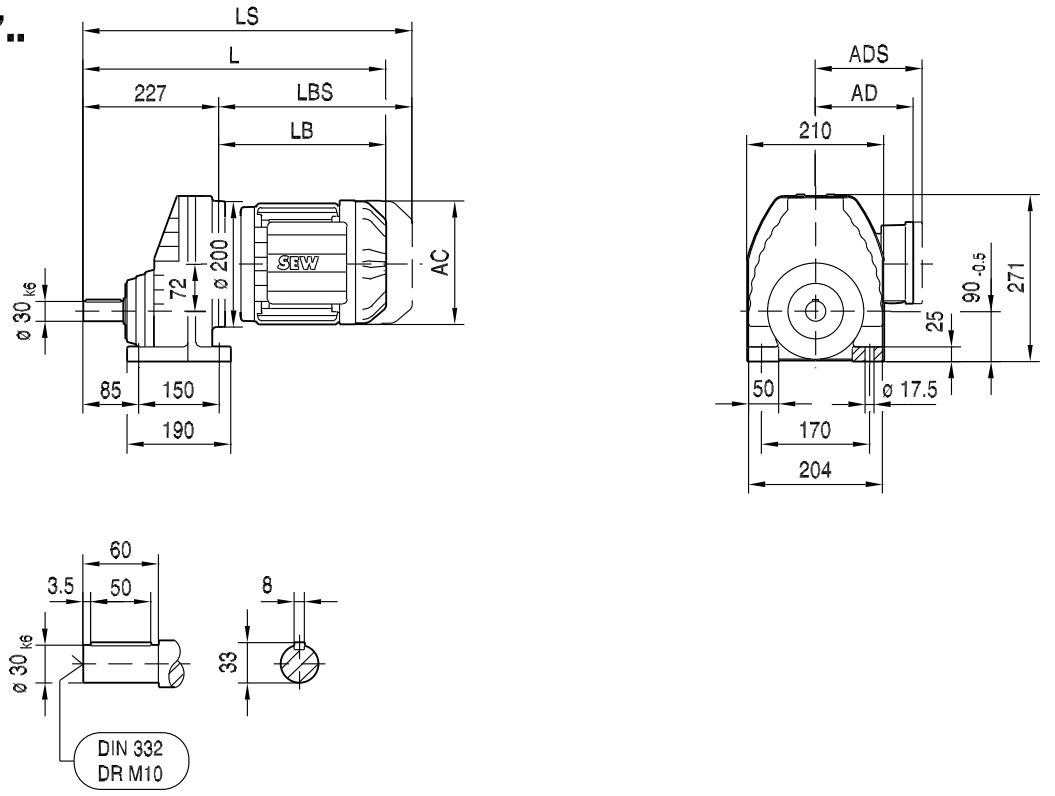


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M
AC	132	139	139	156	179	179	197	197	221	221	261
AD	105	119	119	128	140	140	157	157	170	170	228
ADS	105	129	129	139	150	150	158	158	172	172	228
L	386	397	422	476	478	510	506	556	587	641	659
LS	441	465	490	557	571	603	600	650	699	753	797
LB	185	196	221	275	277	309	305	355	386	440	458
LBS	240	264	289	356	370	402	399	449	498	552	596

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01 008 00 14

RX77..

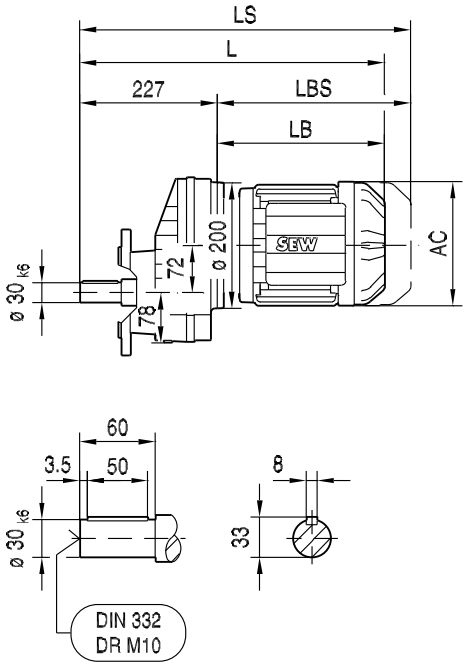


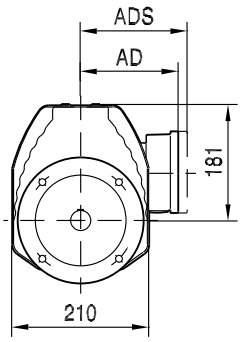
(→ 177)	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	497	529	525	575	606	656	674	700	766
LS	590	622	619	669	718	768	812	837	955
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

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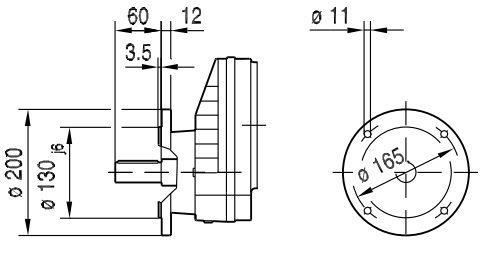
01 009 00 14

RXF77..

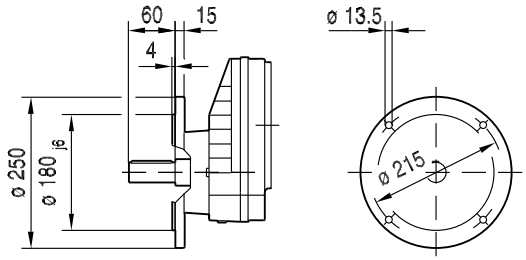




ø 200



ø 250

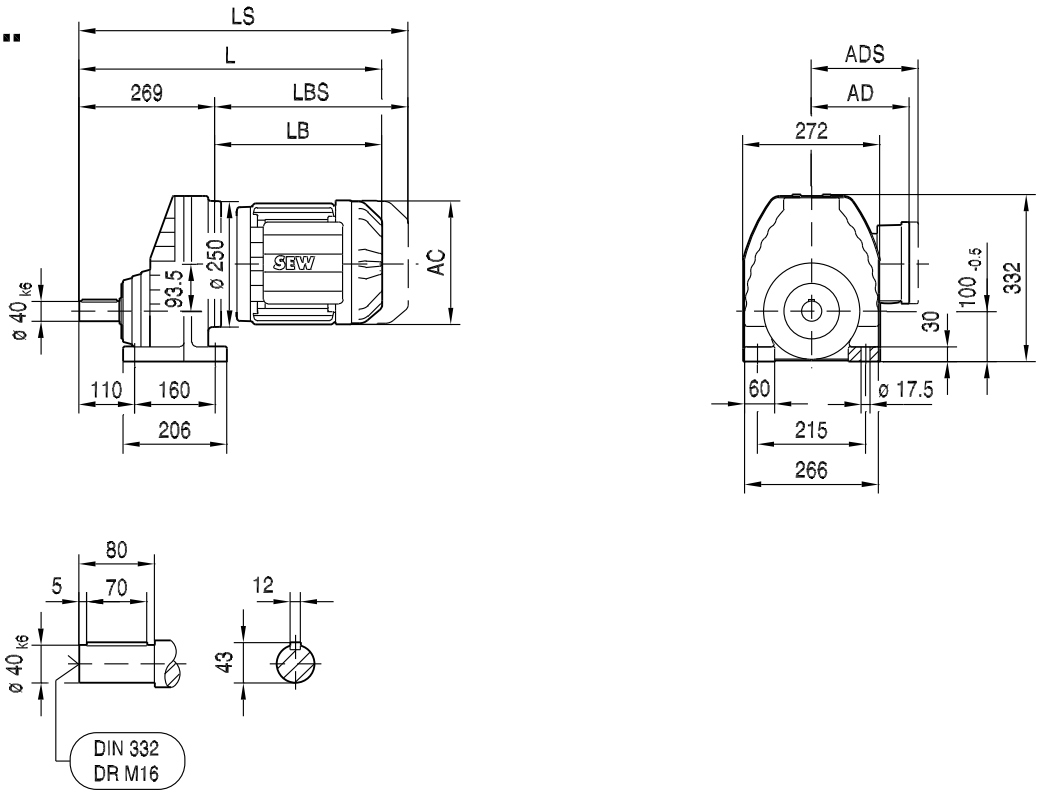


(→ 177)	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	497	529	525	575	606	656	674	700	766
LS	590	622	619	669	718	768	812	837	955
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

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01 010 00 14

RX87..

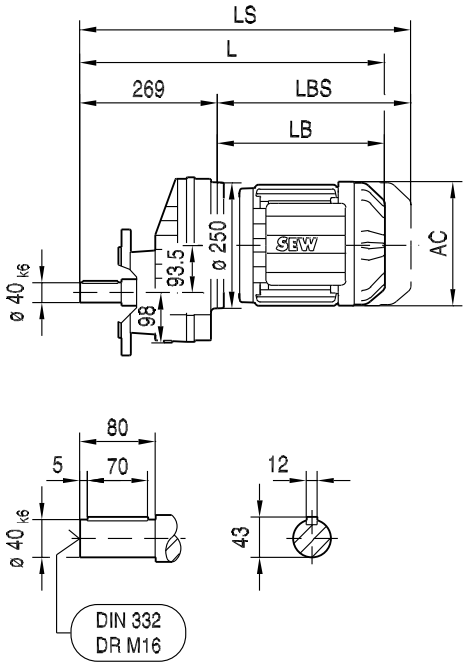


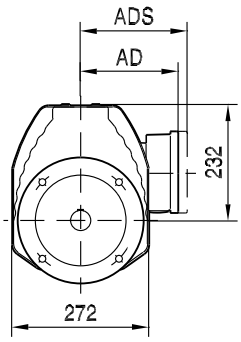
(→ 177)	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	197	221	221	261	261	314	314	357
AD	157	170	170	228	228	253	253	268
ADS	158	172	172	228	228	253	253	268
L	612	643	693	711	737	803	803	826
LS	706	755	805	849	874	992	992	1015
LB	343	374	424	442	468	534	534	557
LBS	437	486	536	580	605	723	723	746

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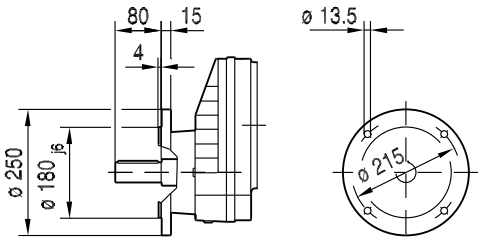
01 011 00 14

RXF87..

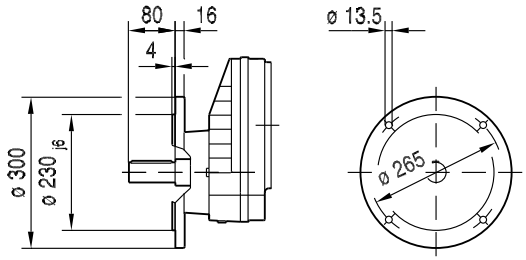




ø 250



ø 300

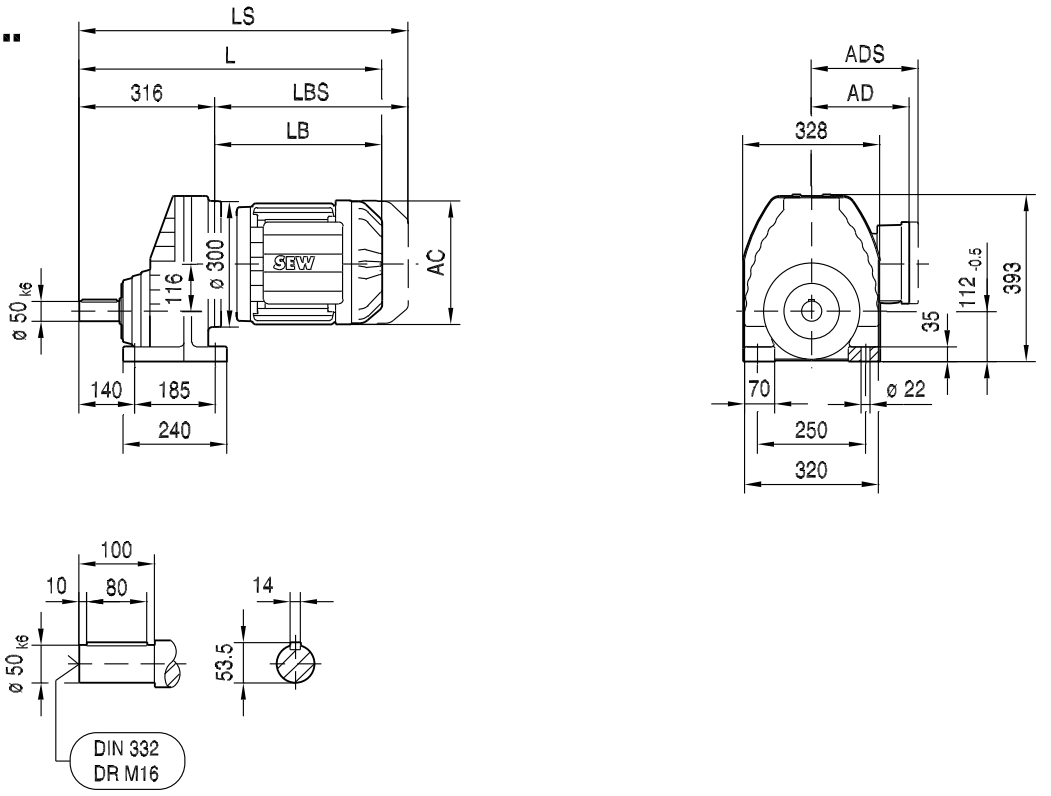


(→ 177)	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	197	221	221	261	261	314	314	357
AD	157	170	170	228	228	253	253	268
ADS	158	172	172	228	228	253	253	268
L	612	643	693	711	737	803	803	826
LS	706	755	805	849	874	992	992	1015
LB	343	374	424	442	468	534	534	557
LBS	437	486	536	580	605	723	723	746

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01 012 00 14

RX97..

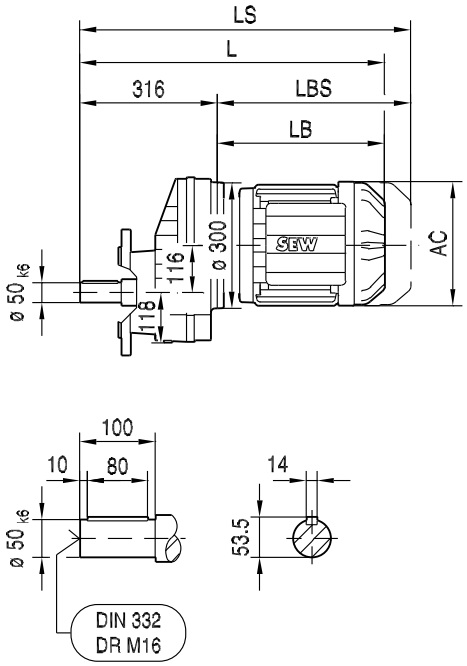


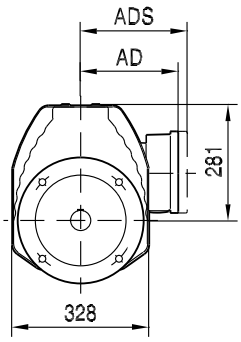
(→ 177)	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	
AC	221	261	261	314	314	357	394	
AD	170	228	228	253	253	268	283	
ADS	172	228	228	253	253	268	283	
L	735	753	779	845	845	868	978	
LS	847	891	916	1034	1034	1057	1183	
LB	419	437	463	529	529	552	662	
LBS	531	575	600	718	718	741	867	

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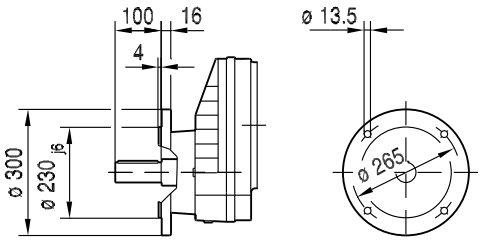
01 013 00 14

RXF97..

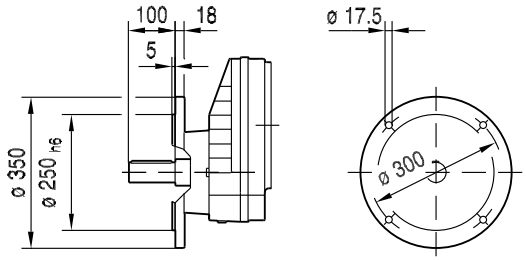




ø 300



ø 350

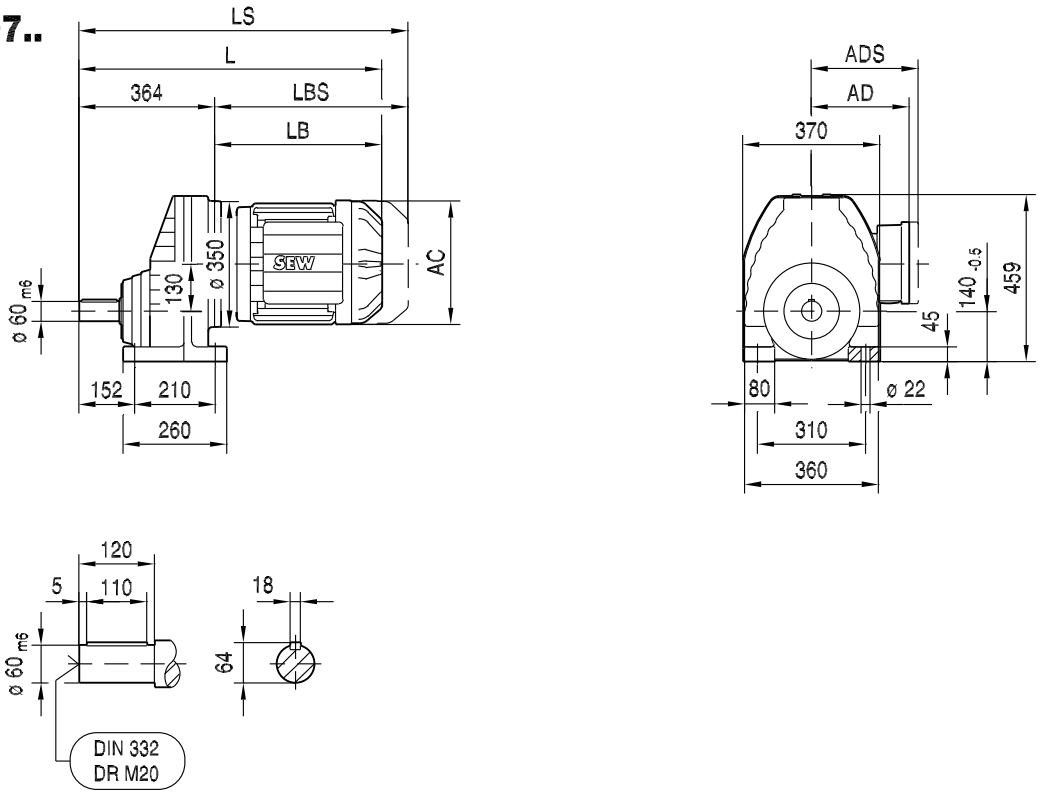


(→ 177)	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	
AC	221	261	261	314	314	357	394	
AD	170	228	228	253	253	268	283	
ADS	172	228	228	253	253	268	283	
L	735	753	779	845	845	868	978	
LS	847	891	916	1034	1034	1057	1183	
LB	419	437	463	529	529	552	662	
LBS	531	575	600	718	718	741	867	

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01 014 00 14

RX107..

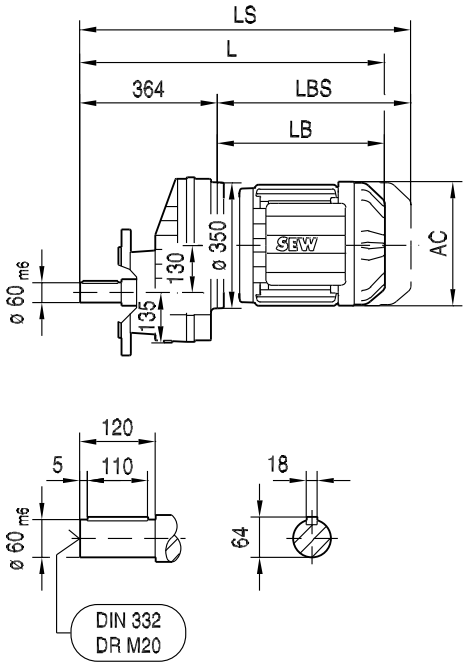


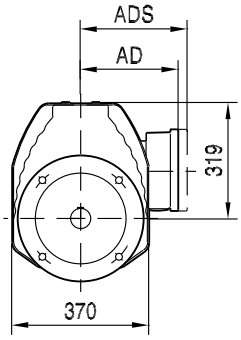
(→ 177)	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..
AC	221	261	261	314	314	357	394	434
AD	170	228	228	253	253	268	283	305
ADS	172	228	228	253	253	268	283	305
L	777	795	821	887	887	910	1020	994
LS	889	933	958	1076	1076	1099	1225	1199
LB	413	431	457	523	523	546	656	630
LBS	525	569	594	712	712	735	861	835

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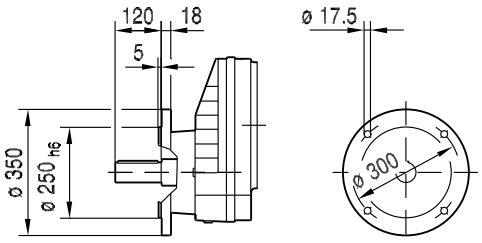
01 015 00 14

RXF107..

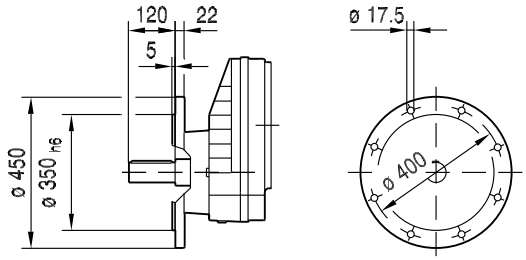




ø 350



ø 450



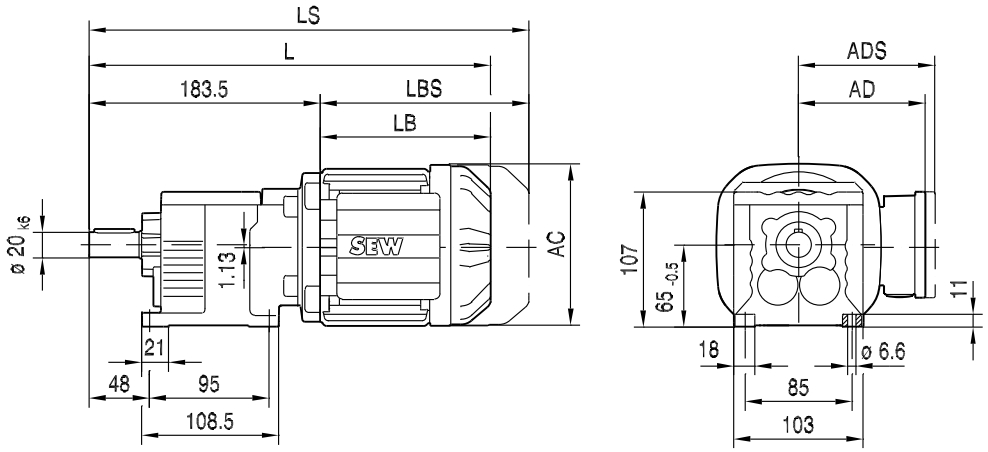
(→ 177)	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..
AC	221	261	261	314	314	357	394	434
AD	170	228	228	253	253	268	283	305
ADS	172	228	228	253	253	268	283	305
L	777	795	821	887	887	910	1020	994
LS	889	933	958	1076	1076	1099	1225	1199
LB	413	431	457	523	523	546	656	630
LBS	525	569	594	712	712	735	861	835

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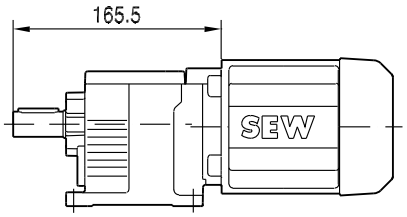
01 016 00 14

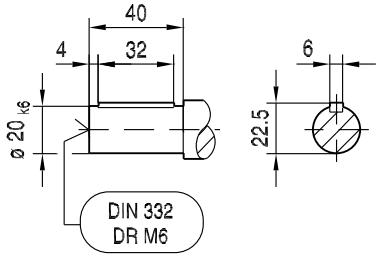
R07..

DR..

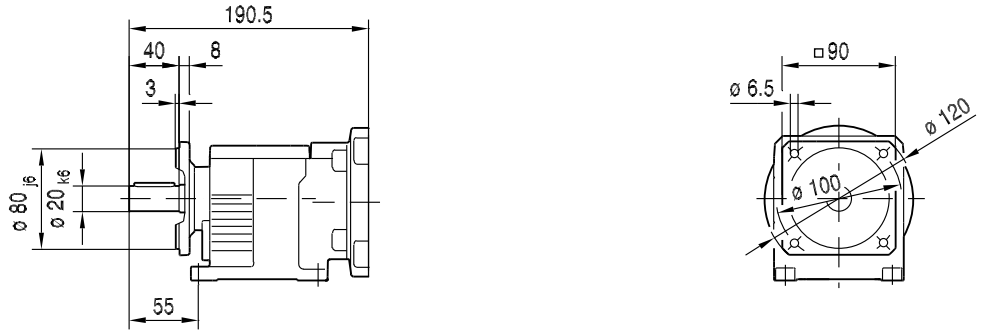


DT56..





R07F..



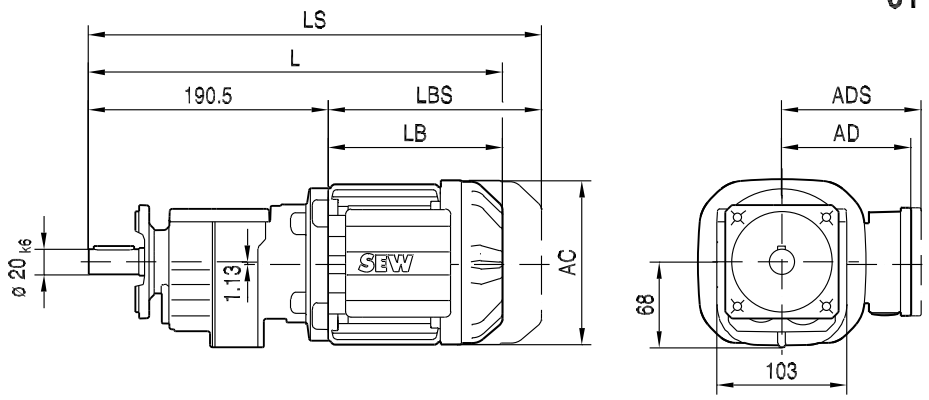
(→ 177)	DT56..	DR63..	DR71S	DR71M				
AC	109	132	139	139				
AD	87	105	119	119				
ADS	87	105	129	129				
L	302	333	344	369				
LS	338	388	412	437				
LB	136	149	160	185				
LBS	172	204	228	253				

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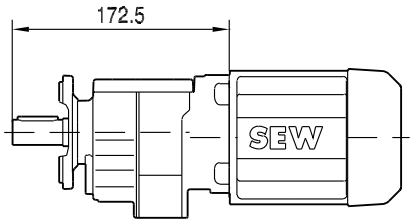
01 017 00 14

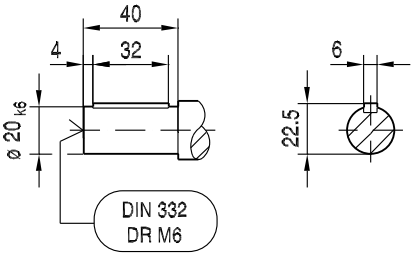
RF07..

DR..

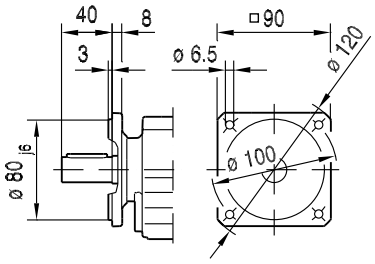


DT56..

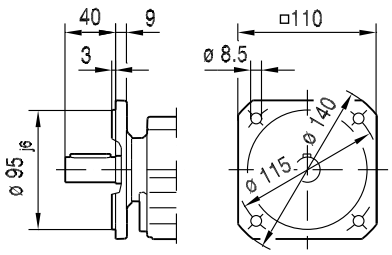




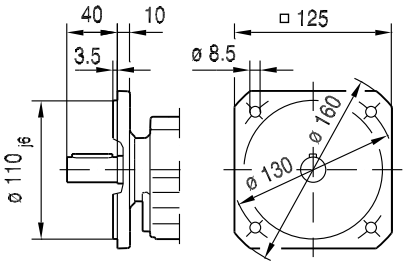
ø 120



ø 140



ø 160



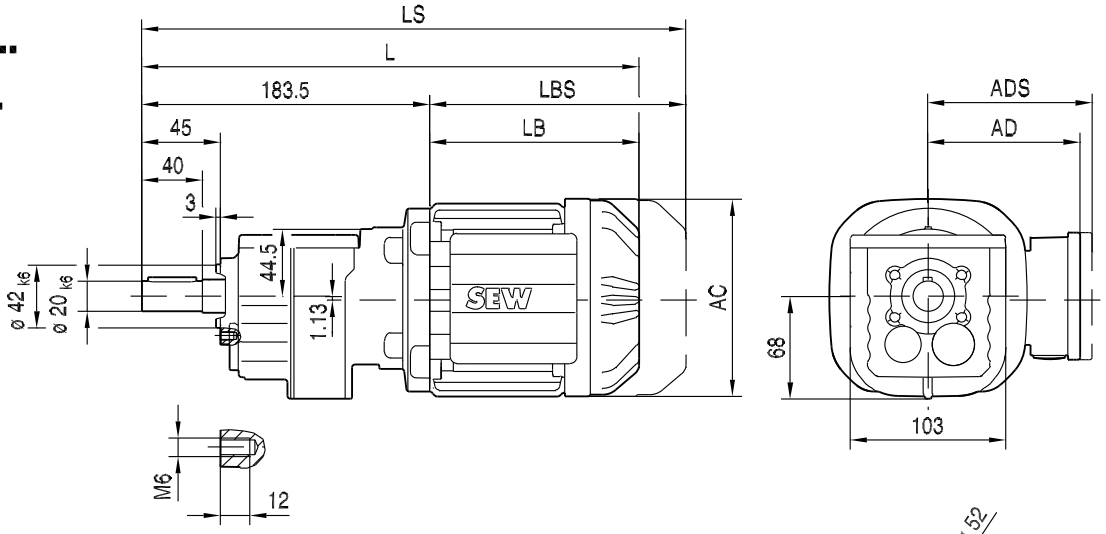
(→ 177)	DT56..	DR63..	DR71S	DR71M				
AC	109	132	139	139				
AD	87	105	119	119				
ADS	87	105	129	129				
L	309	340	351	376				
LS	345	395	419	444				
LB	136	149	160	185				
LBS	172	204	228	253				

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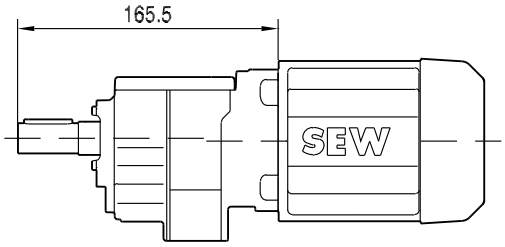
01 018 00 14

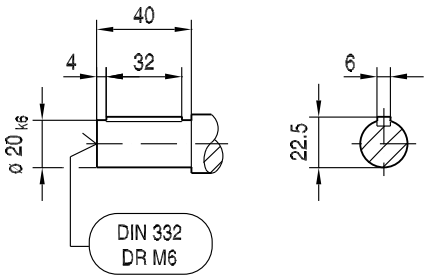
RZ07..

DR..



DT56..



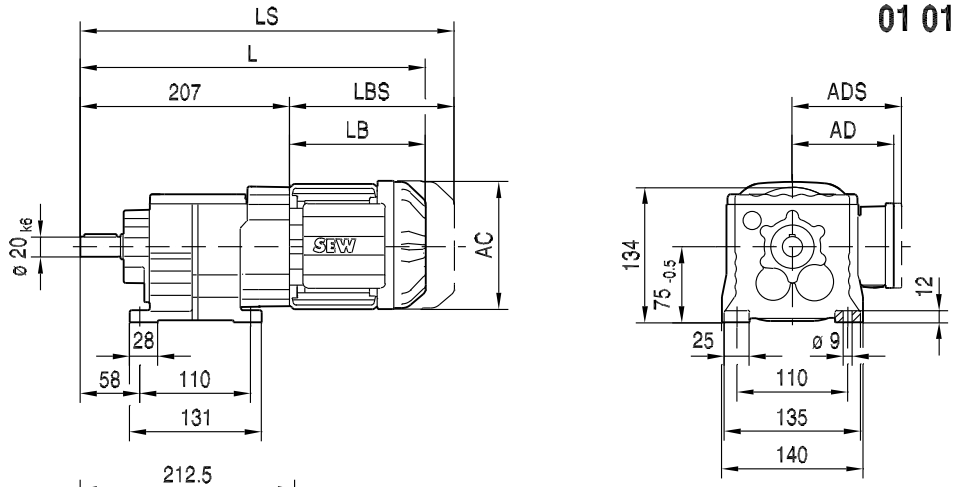


(→ 177)	DT56..	DR63..	DR71S	DR71M				
AC	109	132	139	139				
AD	87	105	119	119				
ADS	87	105	129	129				
L	302	333	344	369				
LS	338	388	412	437				
LB	136	149	160	185				
LBS	172	204	228	253				

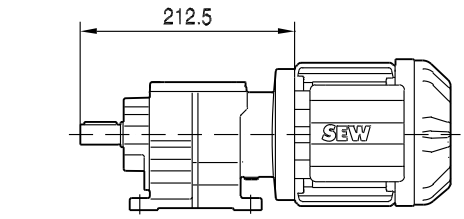
22742654/EN – 08/2016

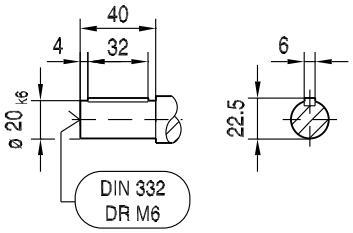
01 019 00 14

R17..

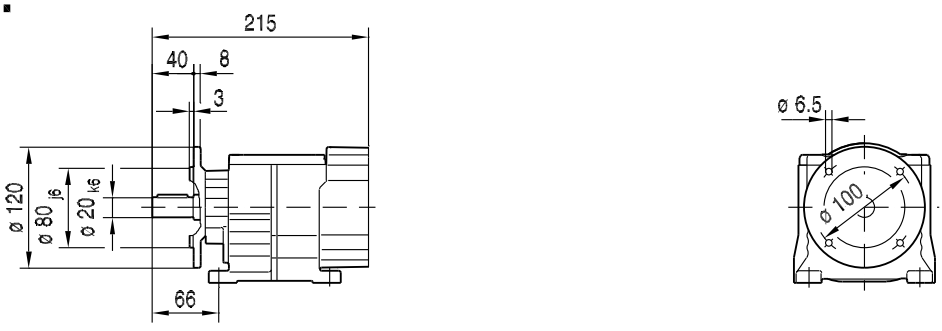


DR80..

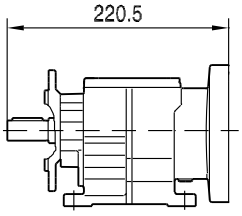




R17F..



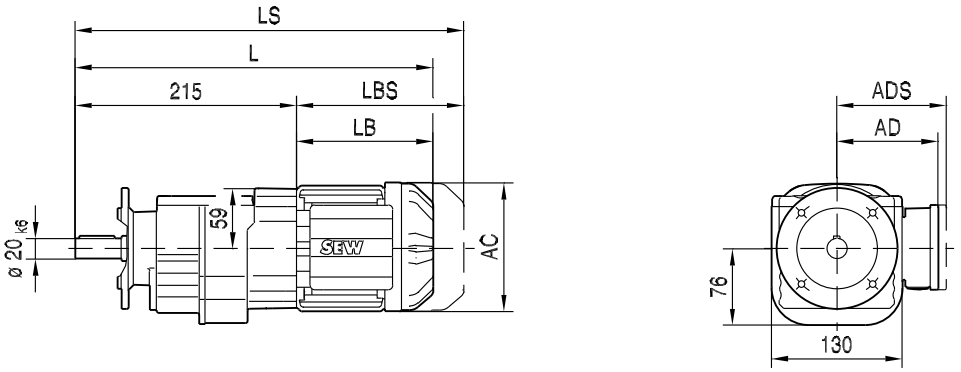
DR80..



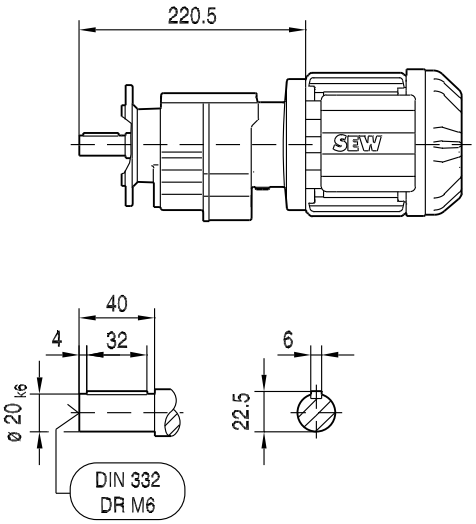
(→ 177)	DR63..	DR71S	DR71M	DRN80M				
AC	132	139	139	156				
AD	105	119	119	128				
ADS	105	129	129	139				
L	356	367	392	442				
LS	411	435	460	523				
LB	149	160	185	235				
LBS	204	228	253	316				

01 020 00 14

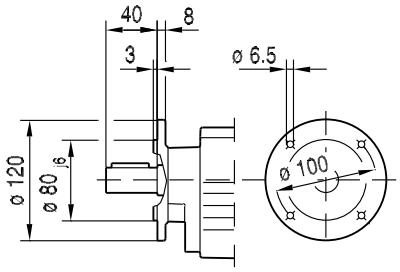
RF17..



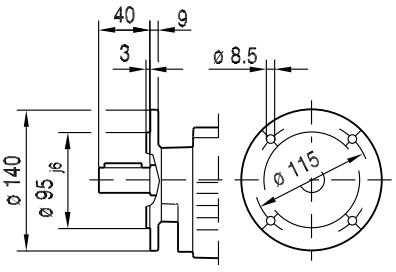
DR80..



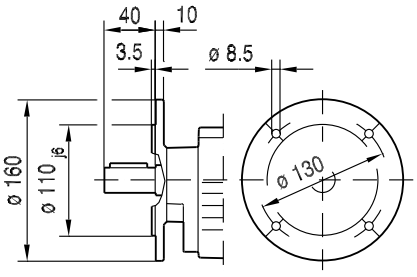
ø 120



ø 140



ø 160

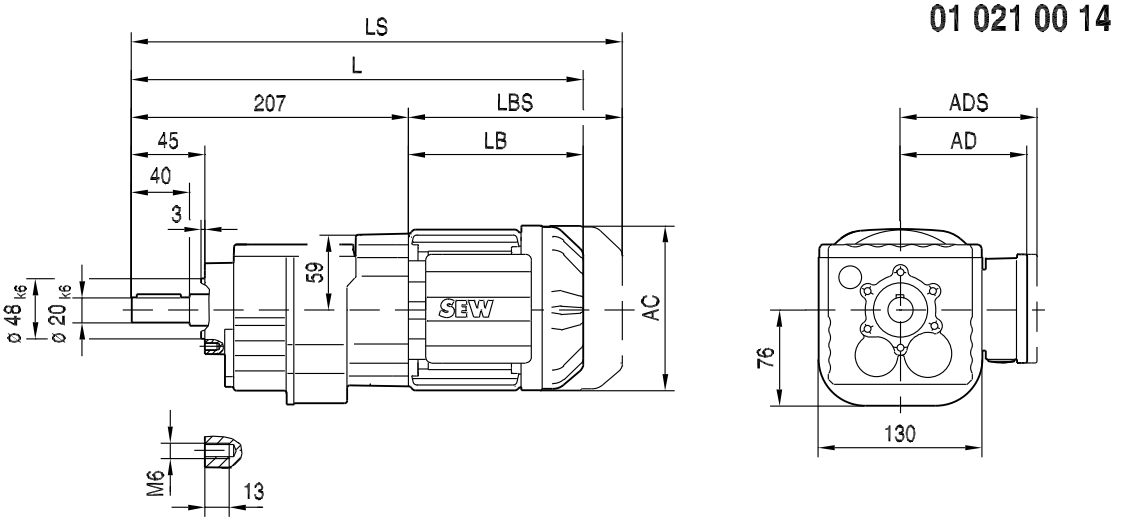


(→ 177)	DR63..	DR71S	DR71M	DRN80M				
AC	132	139	139	156				
AD	105	119	119	128				
ADS	105	129	129	139				
L	364	375	400	450				
LS	419	443	468	531				
LB	149	160	185	235				
LBS	204	228	253	316				

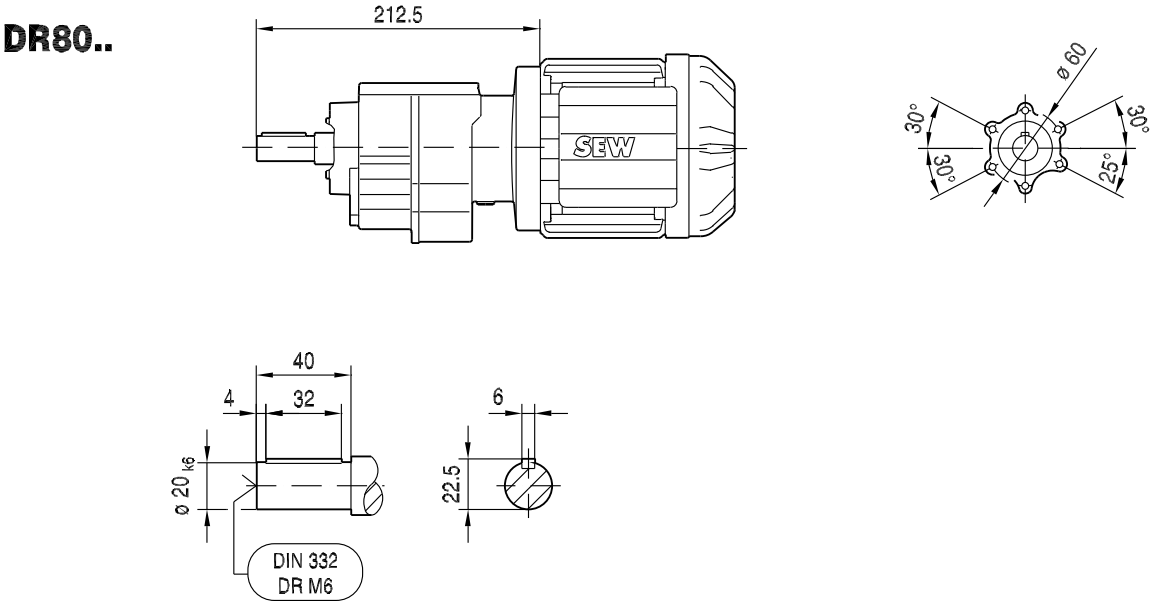
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01 021 00 14

RZ17..



DR80..

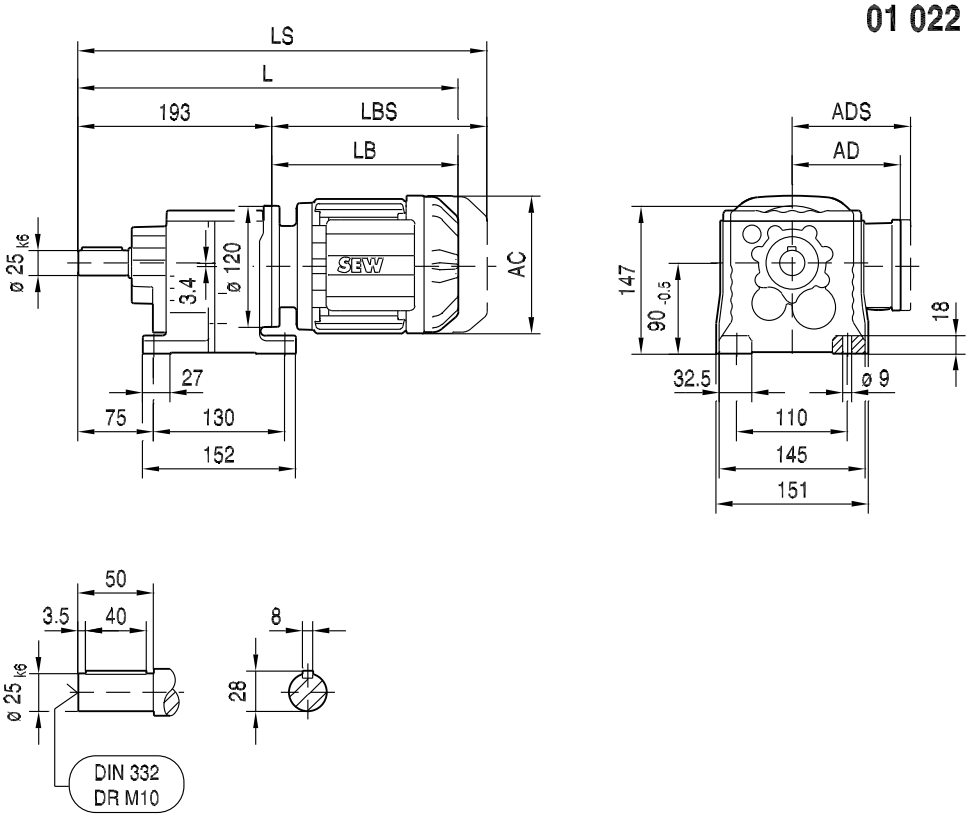


(→ 177)	DR63..	DR71S	DR71M	DRN80M				
AC	132	139	139	156				
AD	105	119	119	128				
ADS	105	129	129	139				
L	356	367	392	442				
LS	411	435	460	523				
LB	149	160	185	235				
LBS	204	228	253	316				

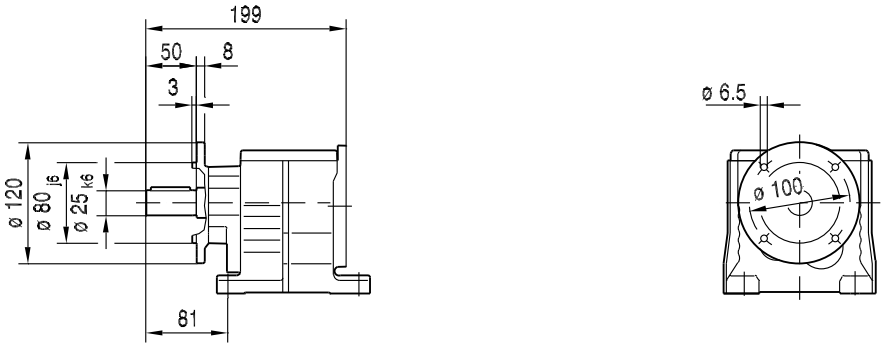
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01 022 00 14

R27..



R27F..

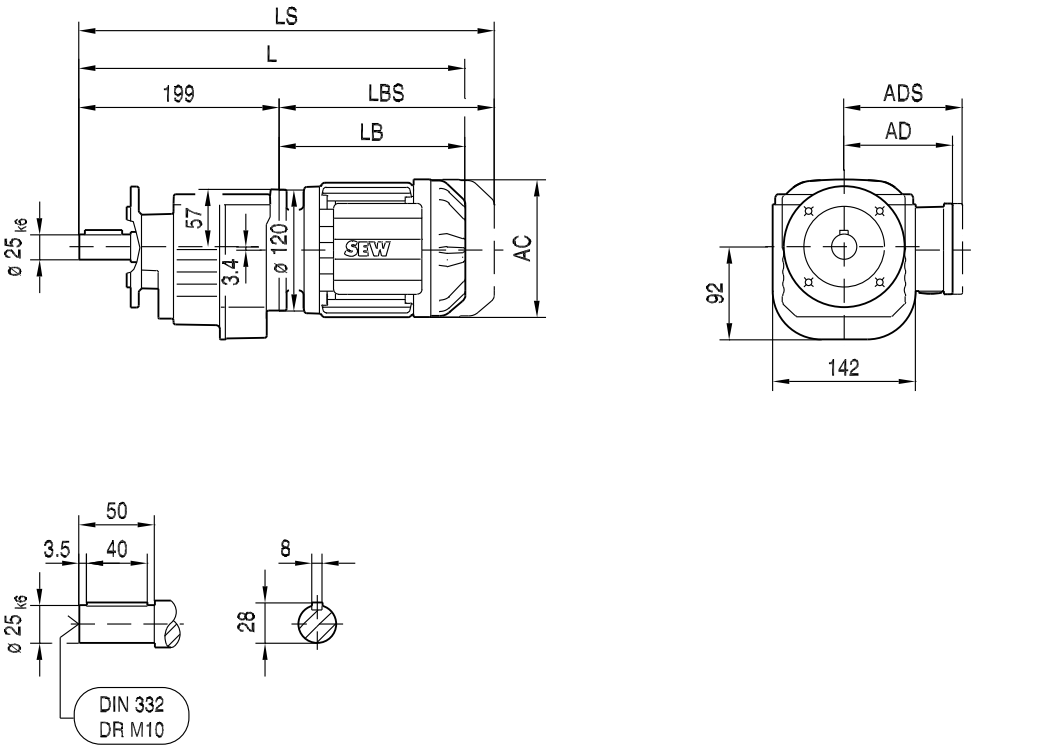


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	384	395	420	475	476	508	507	557
LS	439	463	488	556	570	602	601	651
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

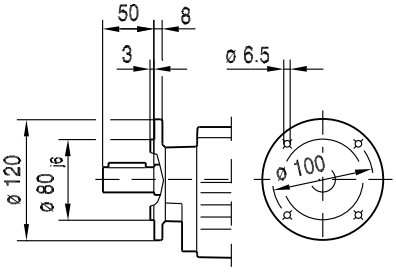
22742654/EN – 08/2016

01 023 00 14

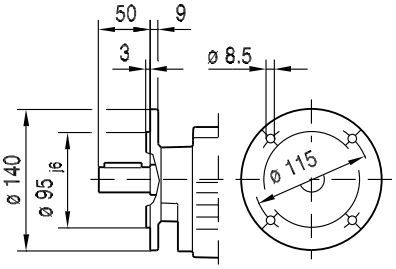
RF27..



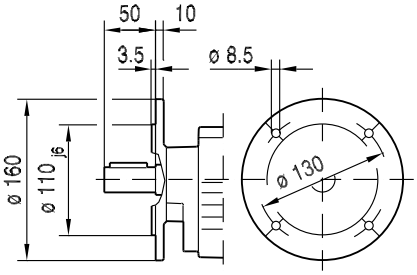
ø 120



ø 140

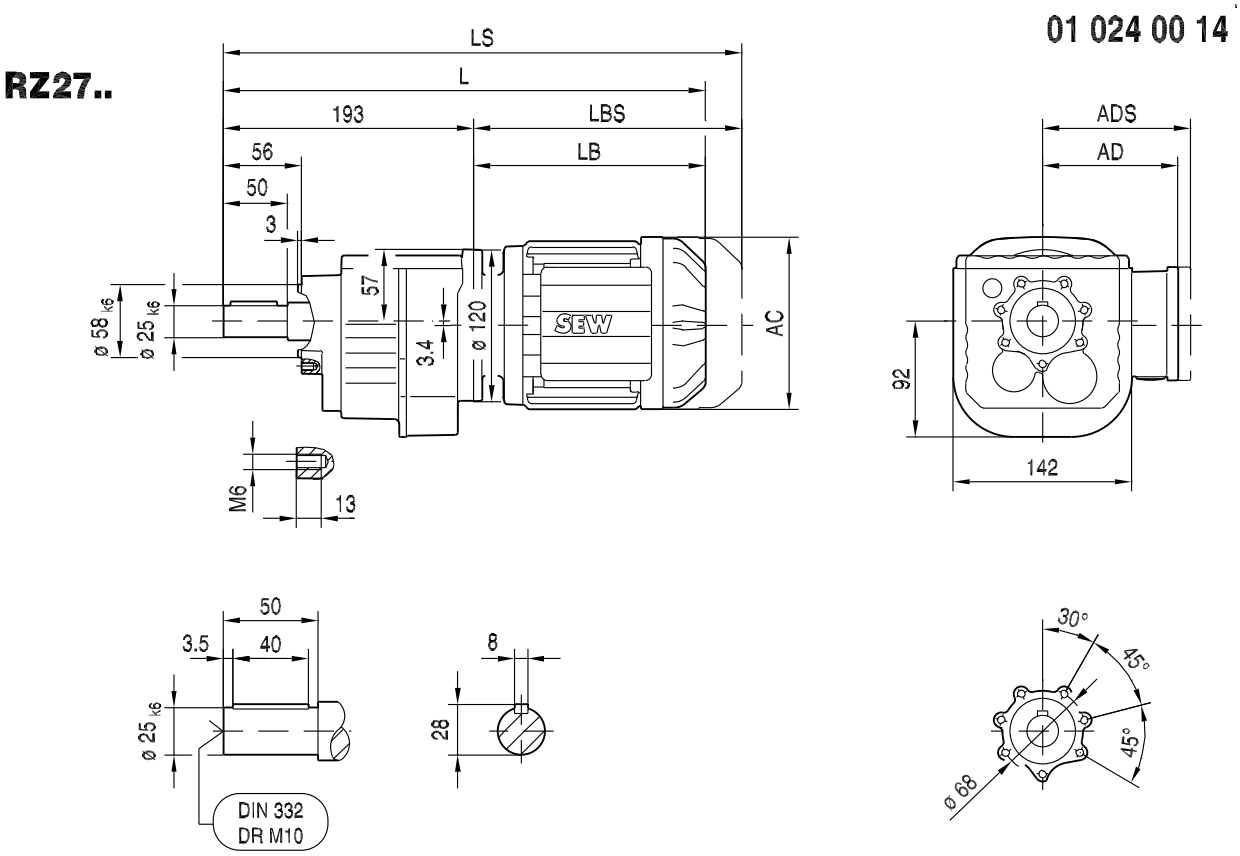


ø 160



(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	390	401	426	481	482	514	513	563
LS	445	469	494	562	576	608	607	657
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

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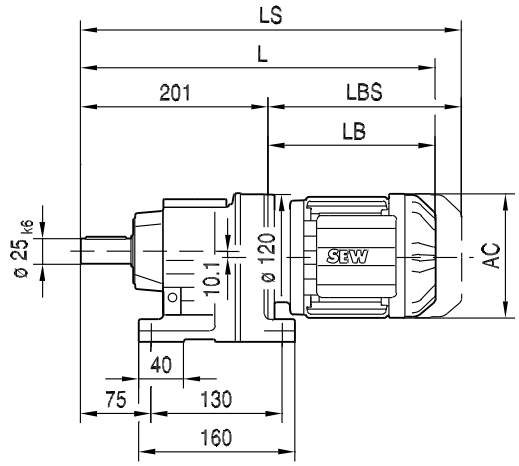


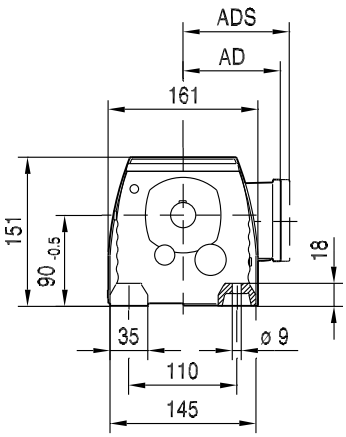
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	384	395	420	475	476	508	507	557
LS	439	463	488	556	570	602	601	651
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

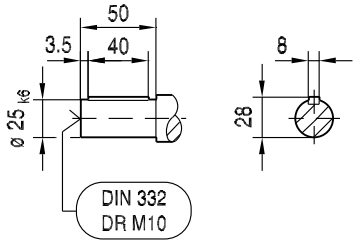
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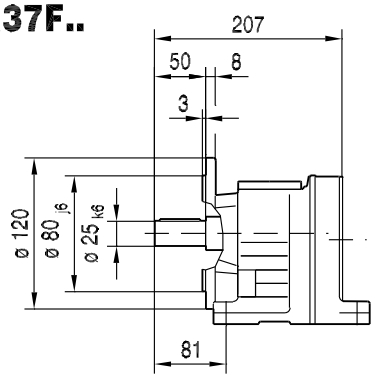
R37..

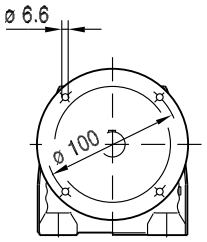






R37F..



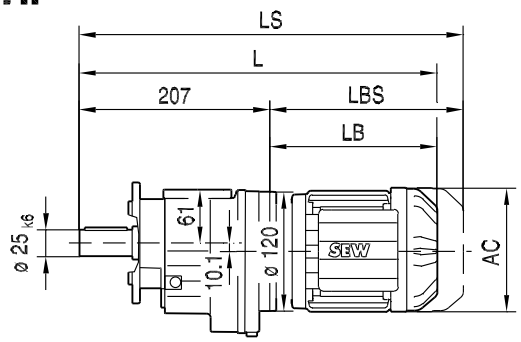


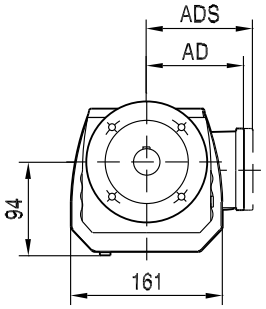
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	392	403	428	483	484	516	515	565
LS	447	471	496	564	578	610	609	659
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

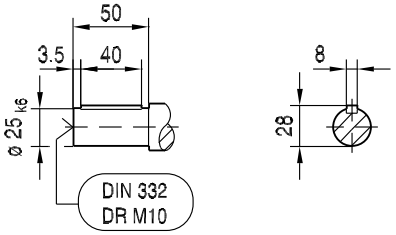
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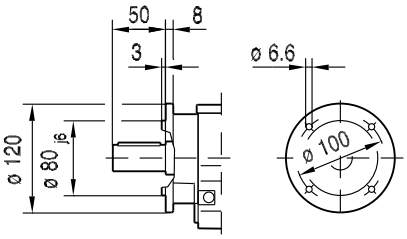
RF37..



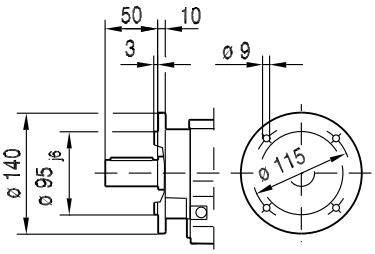




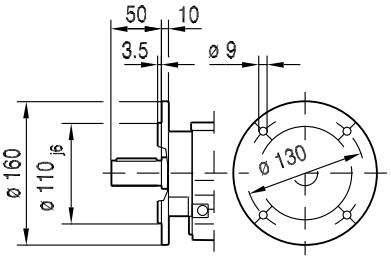
ø 120



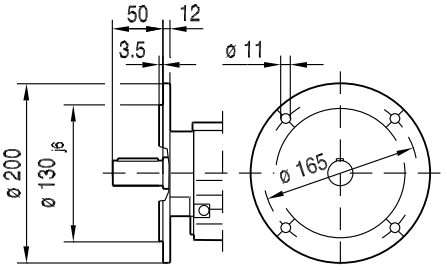
ø 140



ø 160



ø 200

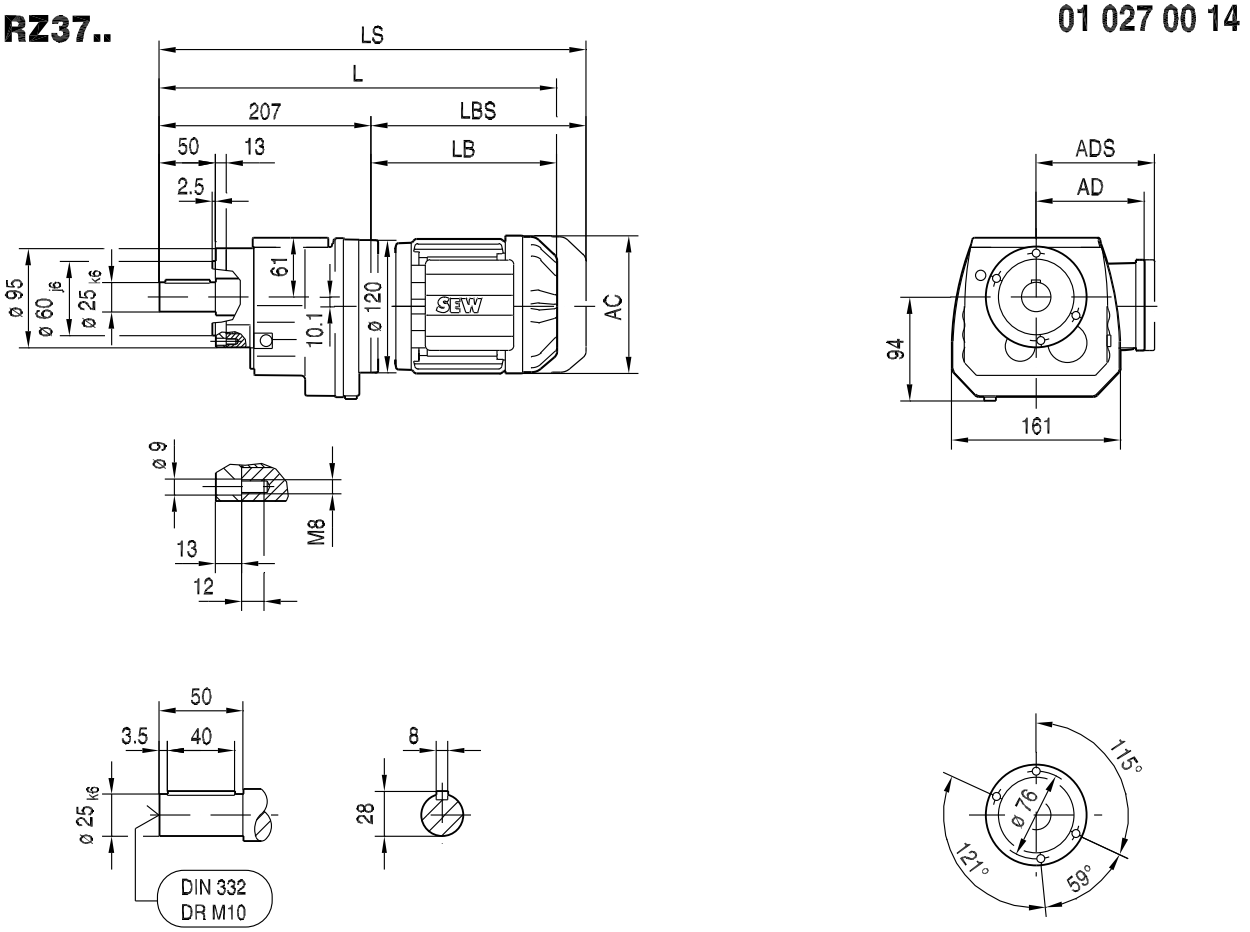


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	398	409	434	489	490	522	521	571
LS	453	477	502	570	584	616	615	665
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

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01 027 00 14

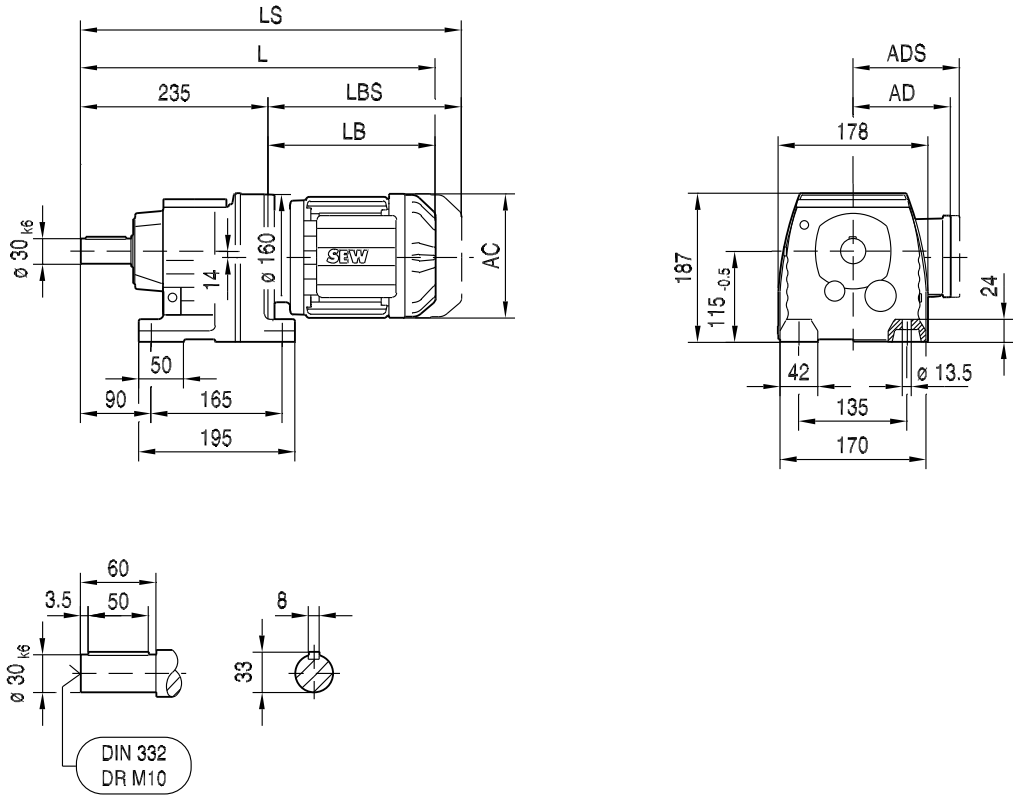


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	398	409	434	489	490	522	521	571
LS	453	477	502	570	584	616	615	665
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

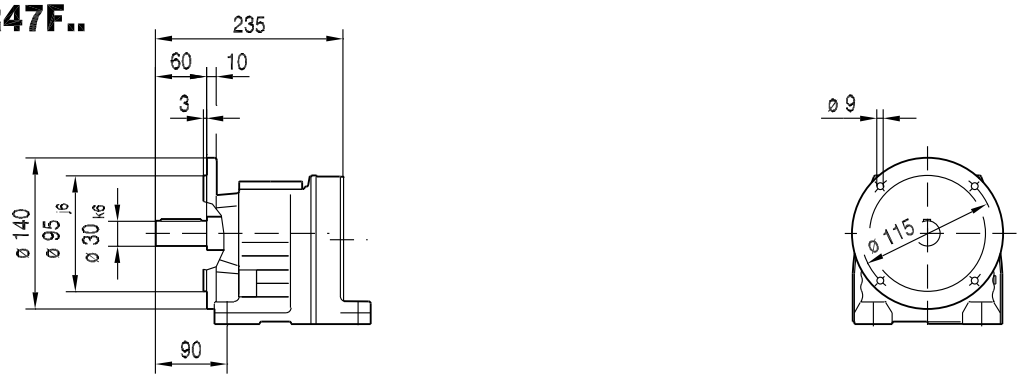
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R47..



R47F..

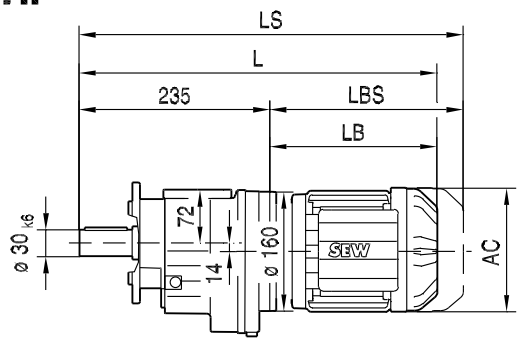


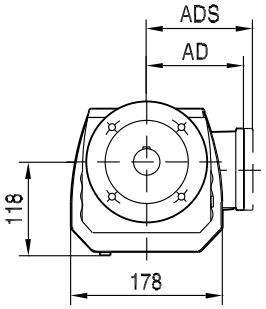
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	420	431	456	510	512	544	540	590	621	675
LS	475	499	524	591	605	637	634	684	733	787
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

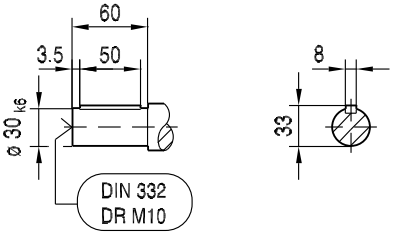
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01 029 00 14

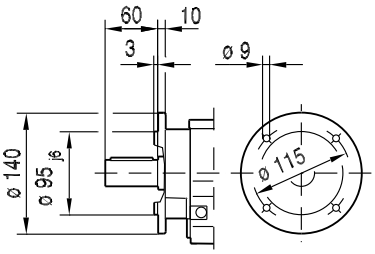
RF47..



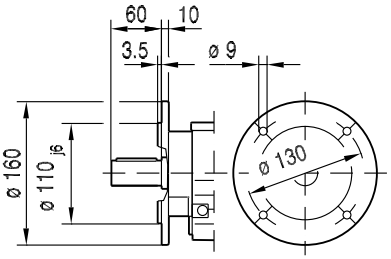




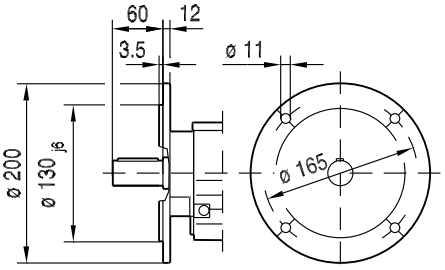
ø 140



ø 160



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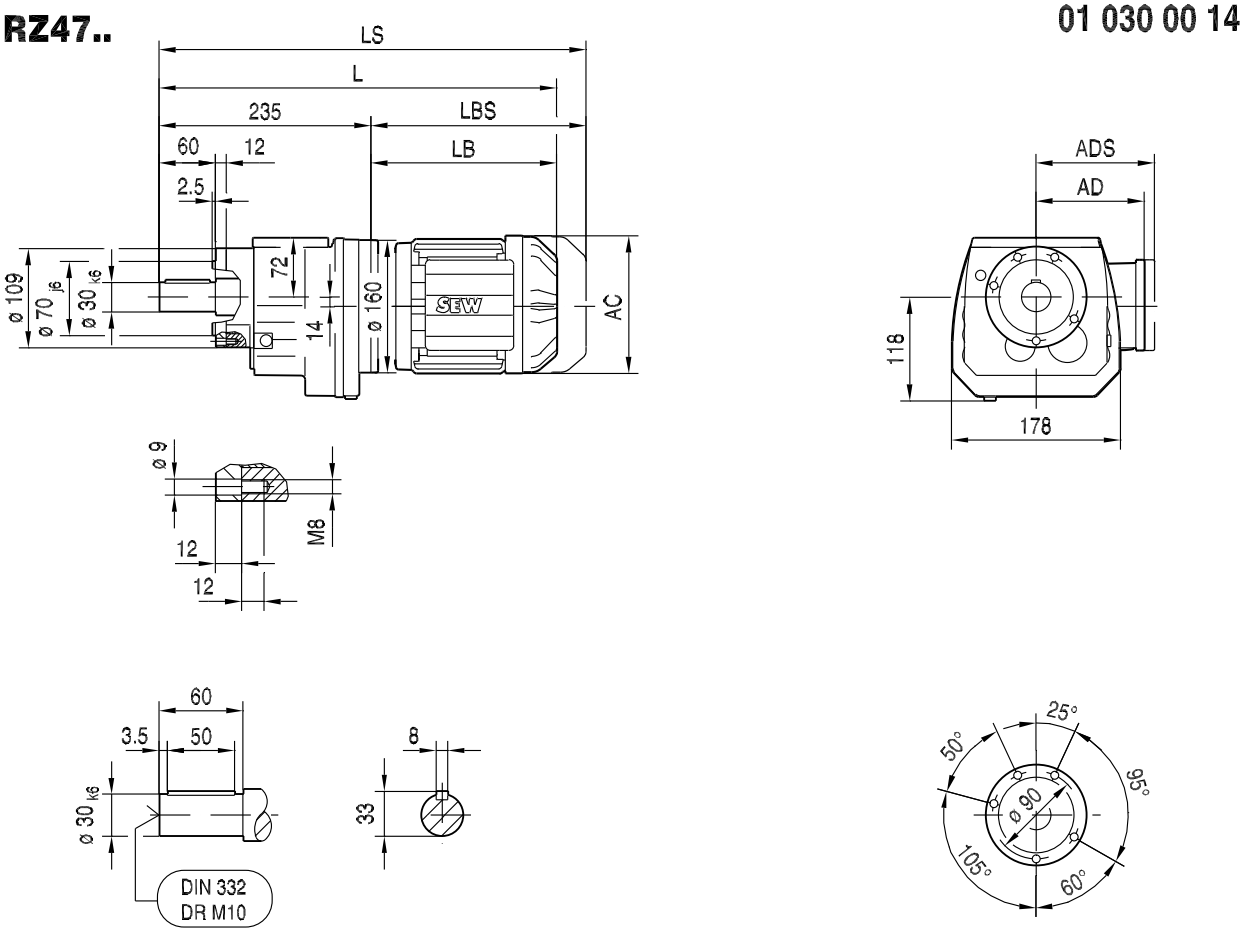


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	420	431	456	510	512	544	540	590	621	675
LS	475	499	524	591	605	637	634	684	733	787
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

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01 030 00 14

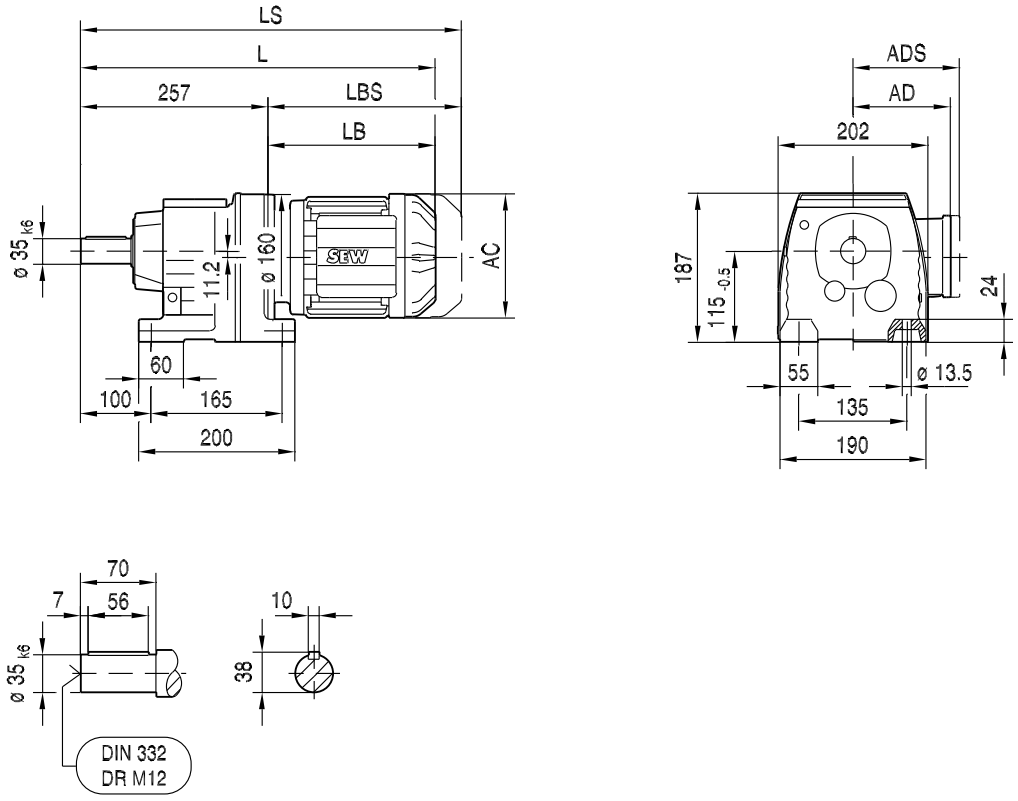


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	420	431	456	510	512	544	540	590	621	675
LS	475	499	524	591	605	637	634	684	733	787
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

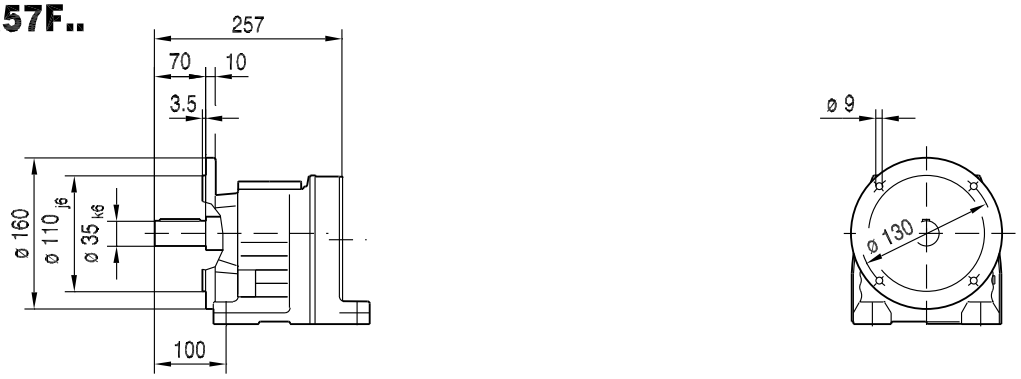
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01 031 00 14

R57..



R57F..

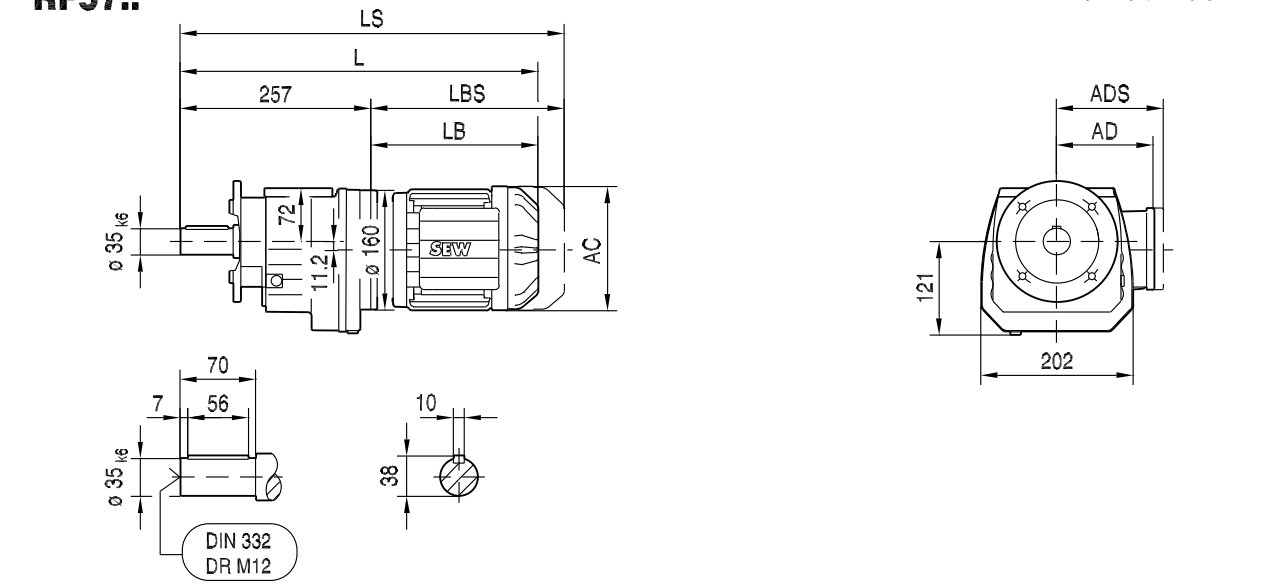


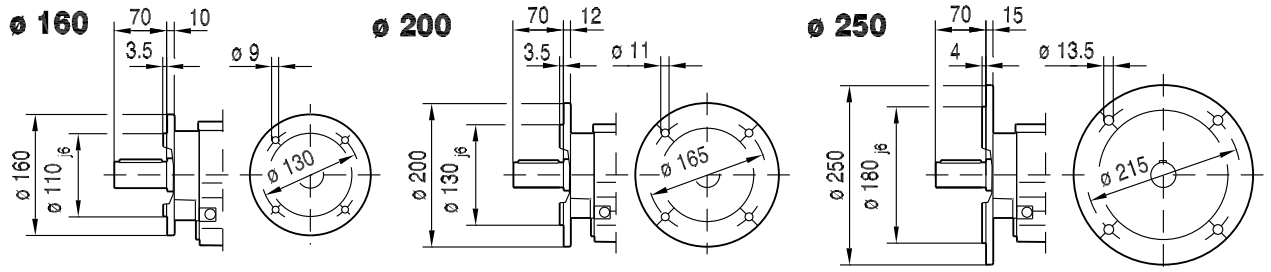
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M
AC	132	139	139	156	179	179	197	197	221	221	261
AD	105	119	119	128	140	140	157	157	170	170	228
ADS	105	129	129	139	150	150	158	158	172	172	228
L	442	453	478	532	534	566	562	612	643	697	715
LS	497	521	546	613	627	659	656	706	755	809	853
LB	185	196	221	275	277	309	305	355	386	440	458
LBS	240	264	289	356	370	402	399	449	498	552	596

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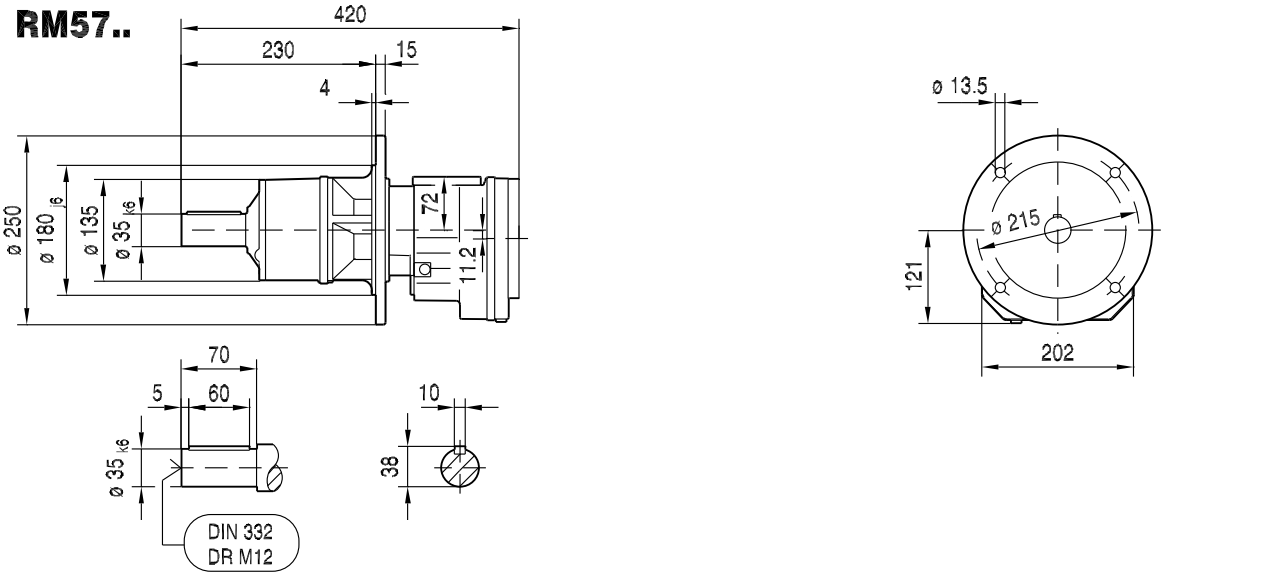
RF57..

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RM57..

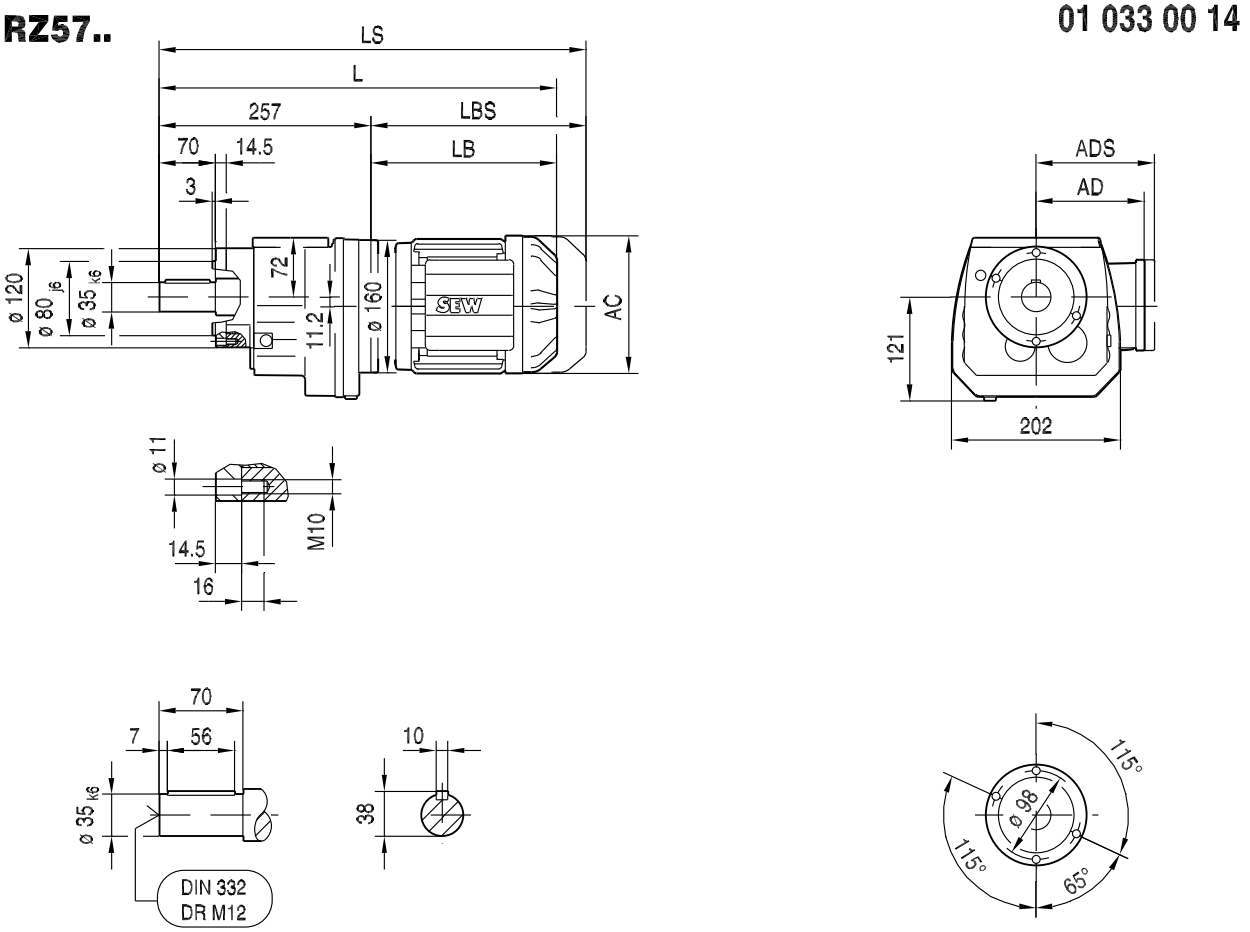


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M
AC	132	139	139	156	179	179	197	197	221	221	261
AD	105	119	119	128	140	140	157	157	170	170	228
ADS	105	129	129	139	150	150	158	158	172	172	228
L	442	453	478	532	534	566	562	612	643	697	715
LS	497	521	546	613	627	659	656	706	755	809	853
LB	185	196	221	275	277	309	305	355	386	440	458
LBS	240	264	289	356	370	402	399	449	498	552	596

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RZ57..

01 033 00 14

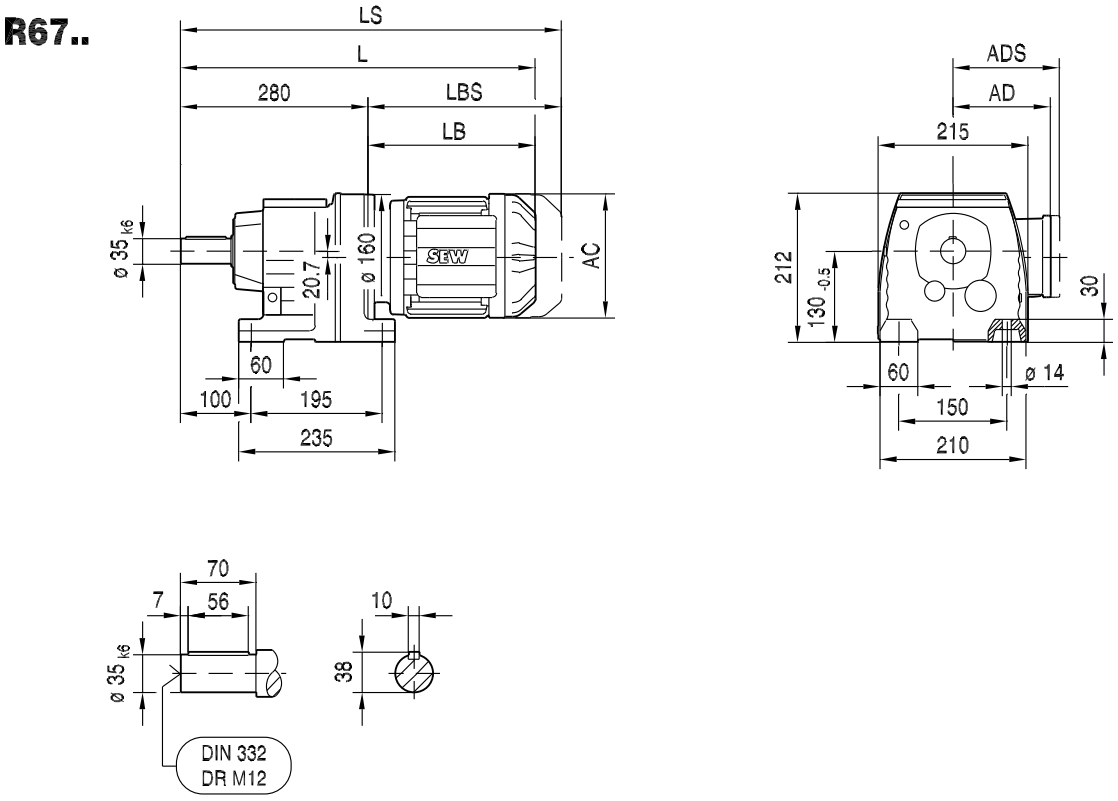


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M
AC	132	139	139	156	179	179	197	197	221	221	261
AD	105	119	119	128	140	140	157	157	170	170	228
ADS	105	129	129	139	150	150	158	158	172	172	228
L	442	453	478	532	534	566	562	612	643	697	715
LS	497	521	546	613	627	659	656	706	755	809	853
LB	185	196	221	275	277	309	305	355	386	440	458
LBS	240	264	289	356	370	402	399	449	498	552	596

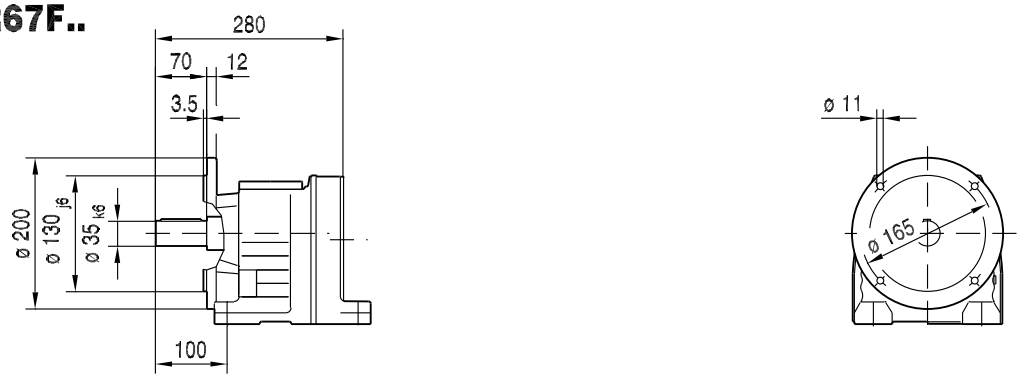
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01 034 00 14

R67..



R67F..

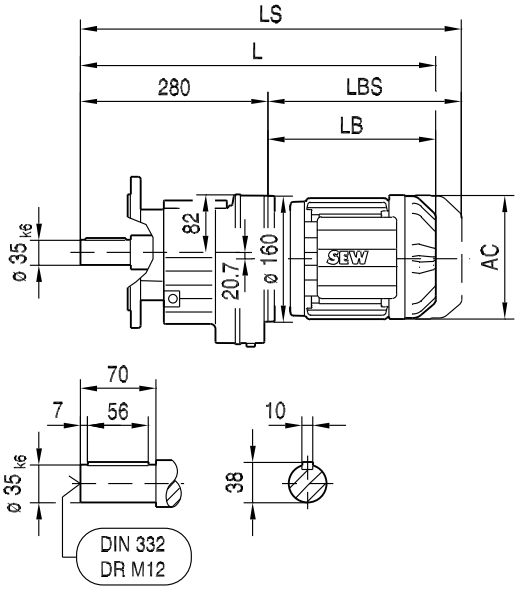


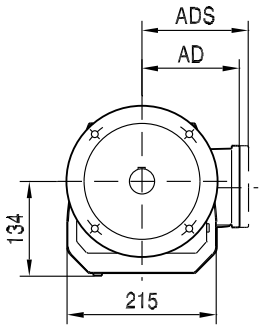
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M
AC	132	139	139	156	179	179	197	197	221	221	261
AD	105	119	119	128	140	140	157	157	170	170	228
ADS	105	129	129	139	150	150	158	158	172	172	228
L	465	476	501	555	557	589	585	635	666	720	738
LS	520	544	569	636	650	682	679	729	778	832	876
LB	185	196	221	275	277	309	305	355	386	440	458
LBS	240	264	289	356	370	402	399	449	498	552	596

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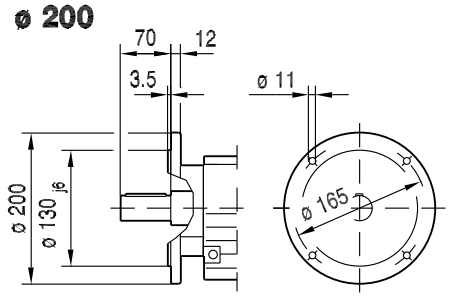
01 035 00 14

RF67..

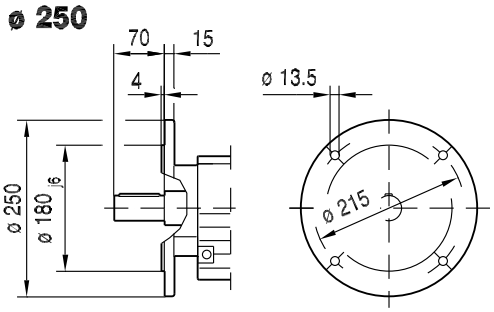




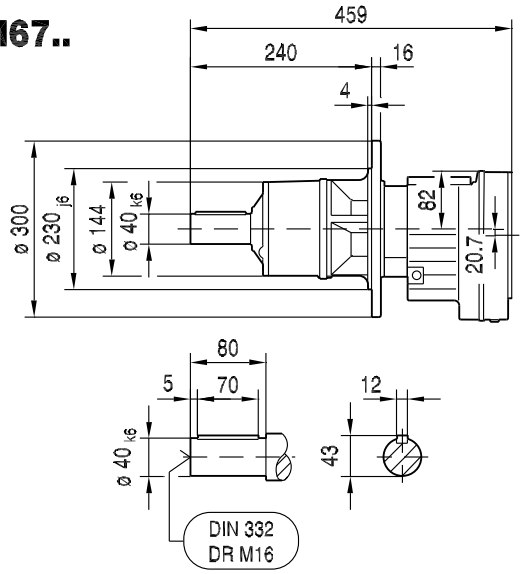
ø 200

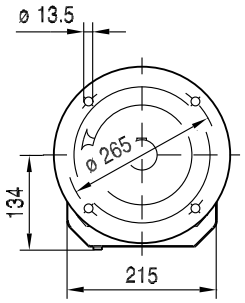


ø 250



RM67..

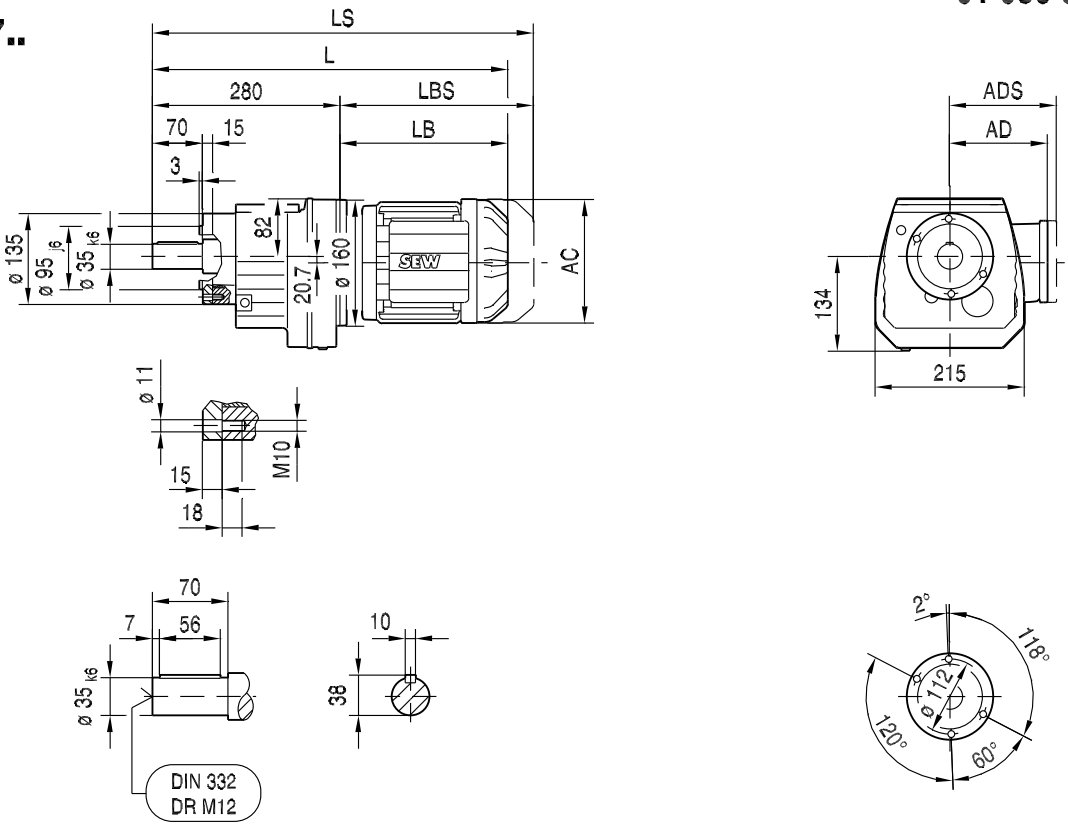




(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M
AC	132	139	139	156	179	179	197	197	221	221	261
AD	105	119	119	128	140	140	157	157	170	170	228
ADS	105	129	129	139	150	150	158	158	172	172	228
L	465	476	501	555	557	589	585	635	666	720	738
LS	520	544	569	636	650	682	679	729	778	832	876
LB	185	196	221	275	277	309	305	355	386	440	458
LBS	240	264	289	356	370	402	399	449	498	552	596

01 036 00 14

RZ67..

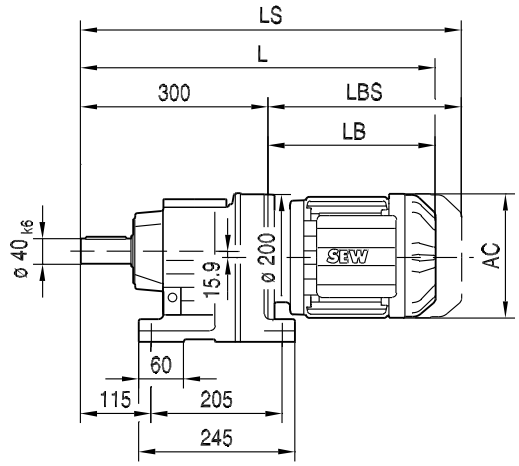


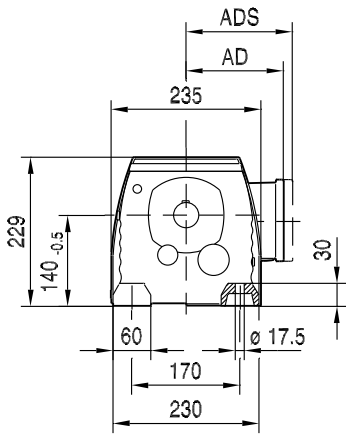
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M
AC	132	139	139	156	179	179	197	197	221	221	261
AD	105	119	119	128	140	140	157	157	170	170	228
ADS	105	129	129	139	150	150	158	158	172	172	228
L	465	476	501	555	557	589	585	635	666	720	738
LS	520	544	569	636	650	682	679	729	778	832	876
LB	185	196	221	275	277	309	305	355	386	440	458
LBS	240	264	289	356	370	402	399	449	498	552	596

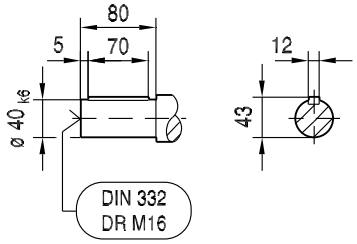
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01 037 00 14

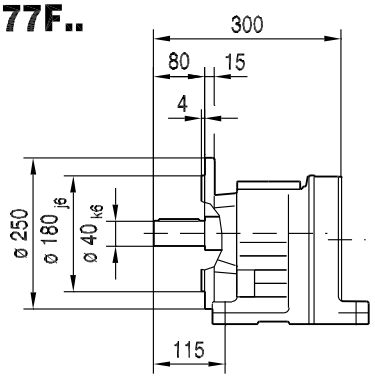
R77..

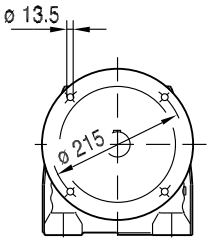






R77F..

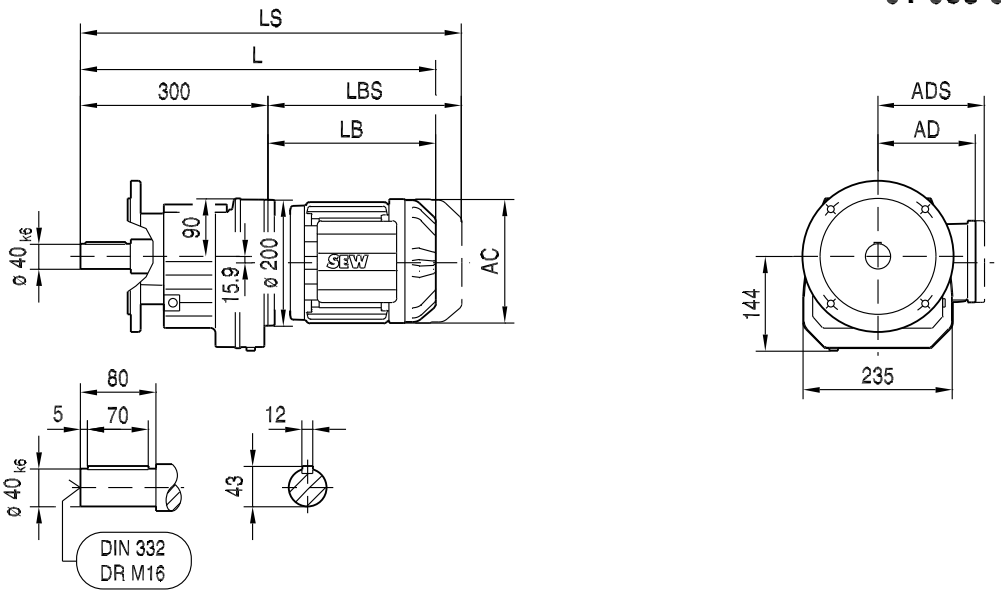




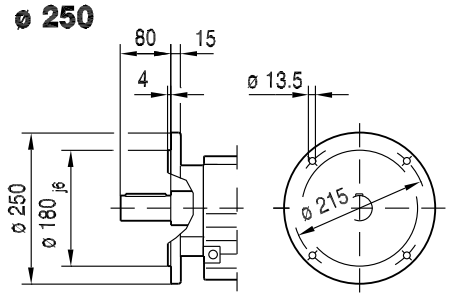
(→ 177)	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M
AC	156	179	179	197	197	221	221	261	261	314
AD	128	140	140	157	157	170	170	228	228	253
ADS	139	150	150	158	158	172	172	228	228	253
L	568	570	602	598	648	679	729	747	773	839
LS	649	663	695	692	742	791	841	885	910	1028
LB	268	270	302	298	348	379	429	447	473	539
LBS	349	363	395	392	442	491	541	585	610	728

01 038 00 14

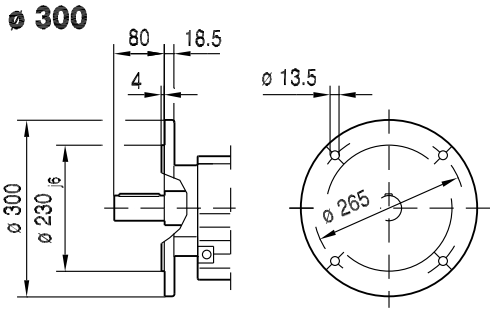
RF77..



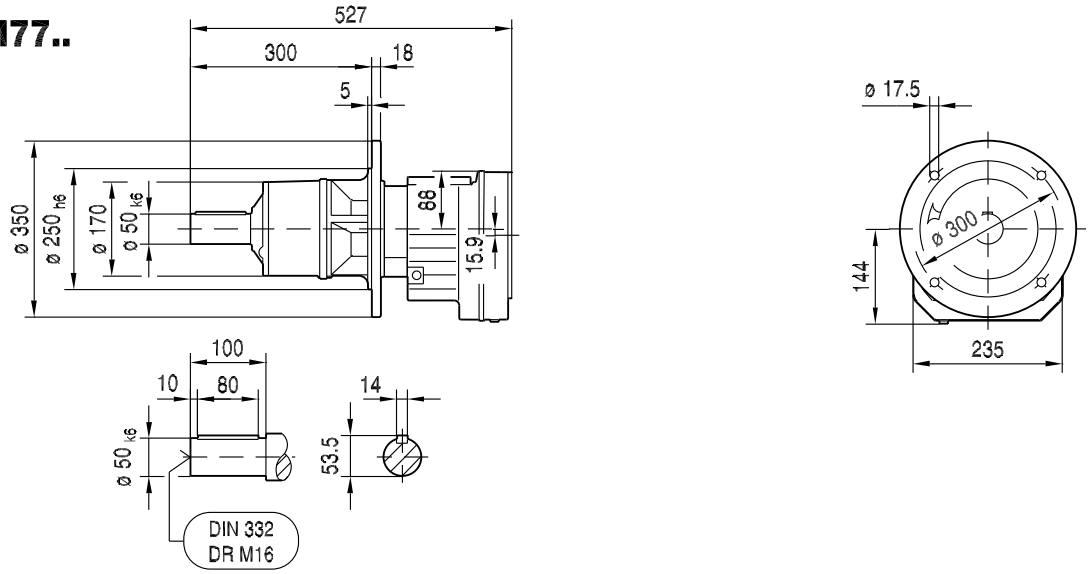
ø 250



ø 300



RM77..

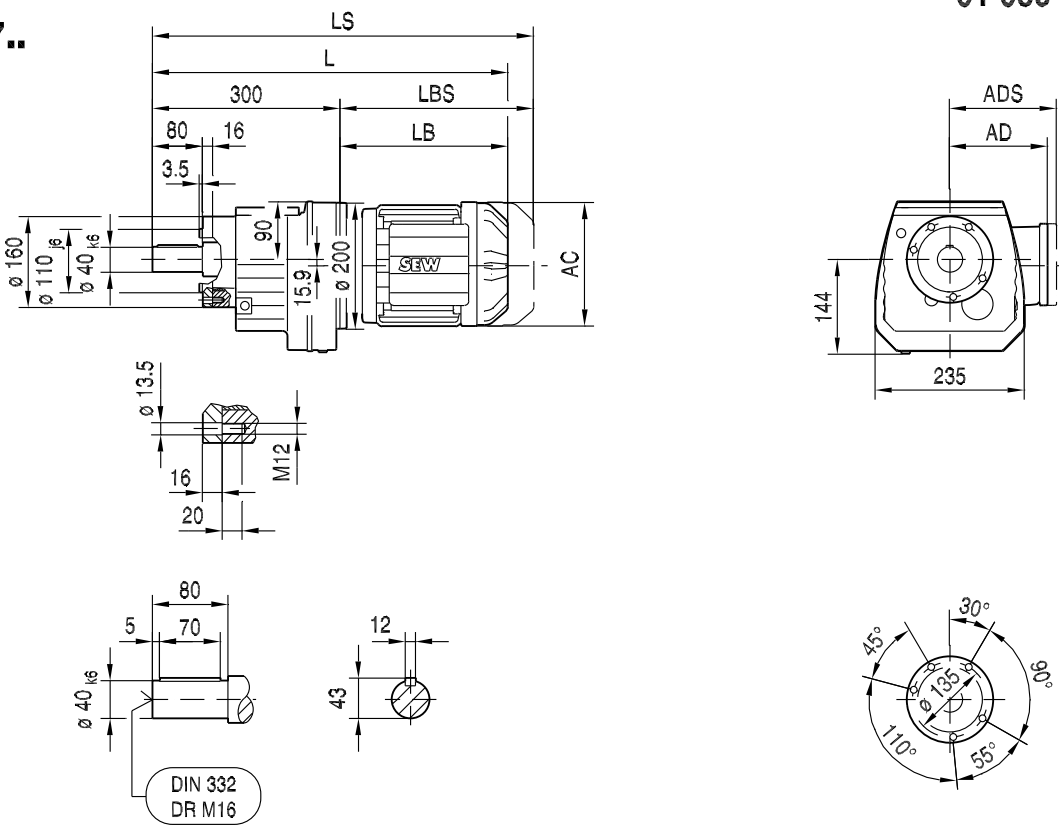


(→ 177)	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M
AC	156	179	179	197	197	221	221	261	261	314
AD	128	140	140	157	157	170	170	228	228	253
ADS	139	150	150	158	158	172	172	228	228	253
L	568	570	602	598	648	679	729	747	773	839
LS	649	663	695	692	742	791	841	885	910	1028
LB	268	270	302	298	348	379	429	447	473	539
LBS	349	363	395	392	442	491	541	585	610	728

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01 039 00 14

RZ77..

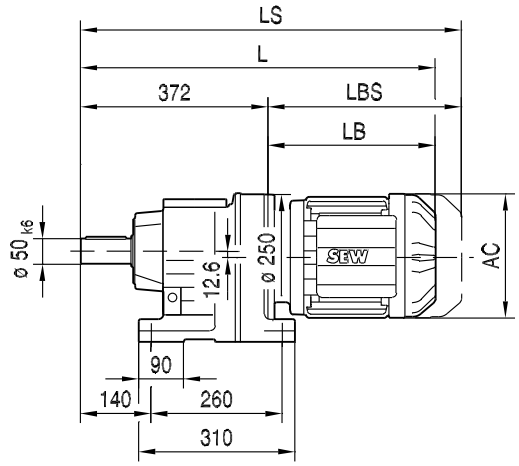


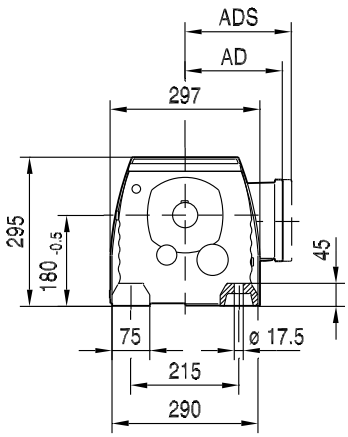
(→ 177)	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M
AC	156	179	179	197	197	221	221	261	261	314
AD	128	140	140	157	157	170	170	228	228	253
ADS	139	150	150	158	158	172	172	228	228	253
L	568	570	602	598	648	679	729	747	773	839
LS	649	663	695	692	742	791	841	885	910	1028
LB	268	270	302	298	348	379	429	447	473	539
LBS	349	363	395	392	442	491	541	585	610	728

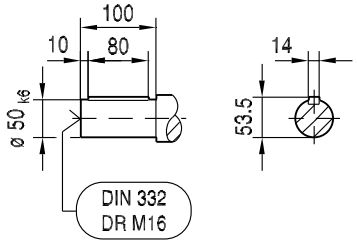
22742654/EN – 08/2016

01 040 00 14

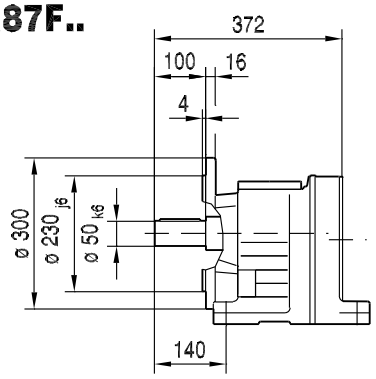
R87..

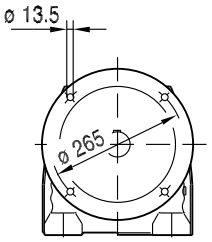






R87F..



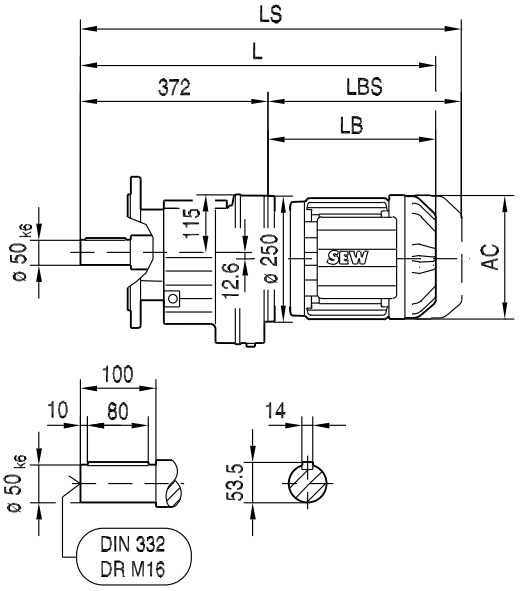


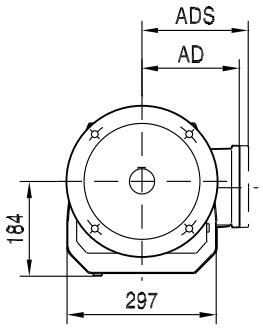
(→ 177)	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	179	197	197	221	221	261	261	314	314	357
AD	140	157	157	170	170	228	228	253	253	268
ADS	150	158	158	172	172	228	228	253	253	268
L	669	665	715	746	796	814	840	906	906	929
LS	762	759	809	858	908	952	977	1095	1095	1118
LB	297	293	343	374	424	442	468	534	534	557
LBS	390	387	437	486	536	580	605	723	723	746

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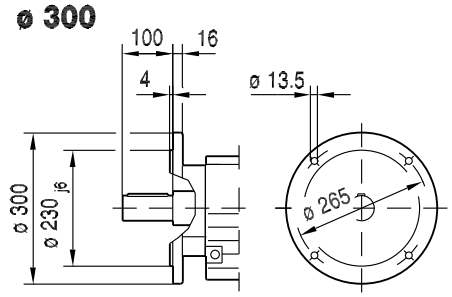
01 041 00 14

RF87..

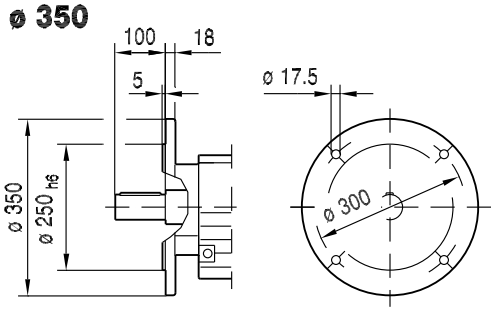




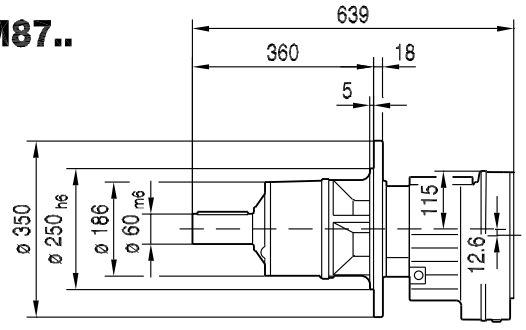
ø 300

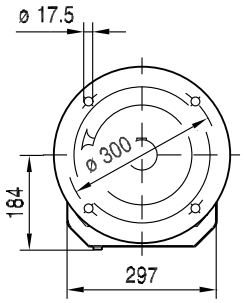


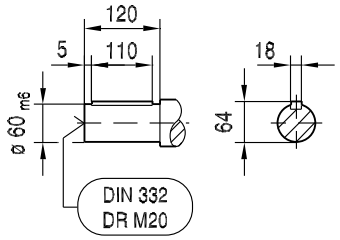
ø 350



RM87..





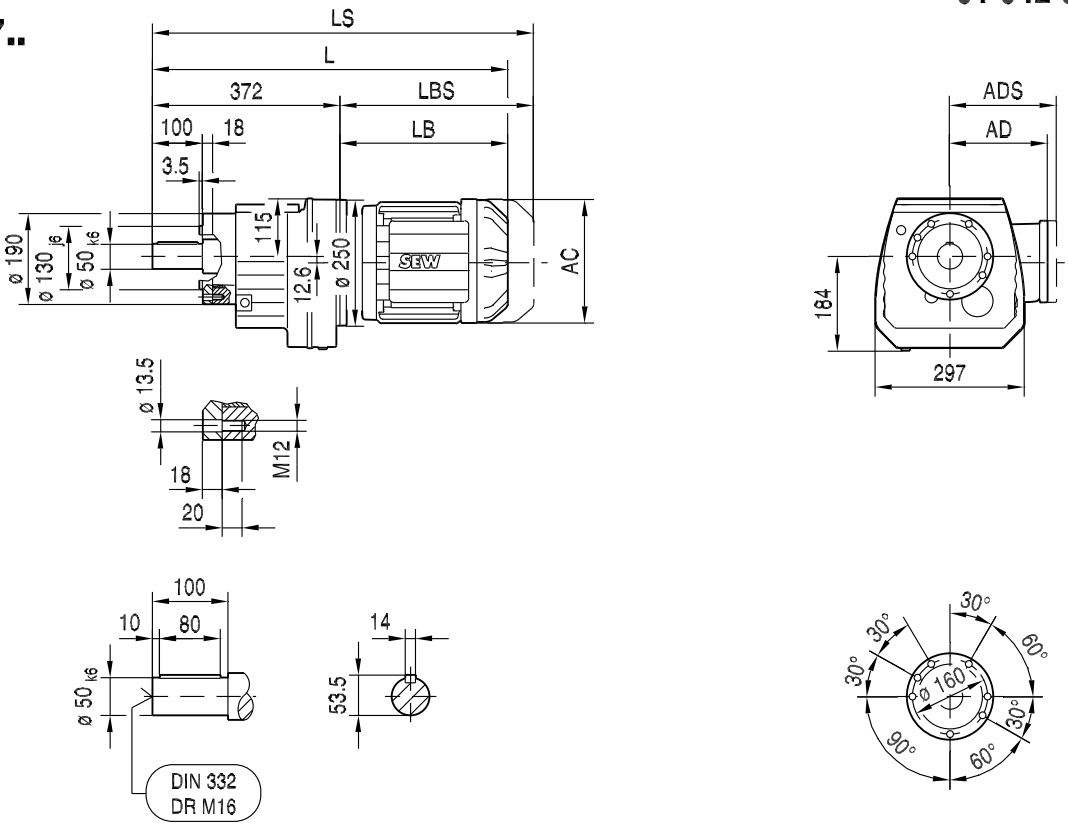


(→ 177)	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	179	197	197	221	221	261	261	314	314	357
AD	140	157	157	170	170	228	228	253	253	268
ADS	150	158	158	172	172	228	228	253	253	268
L	669	665	715	746	796	814	840	906	906	929
LS	762	759	809	858	908	952	977	1095	1095	1118
LB	297	293	343	374	424	442	468	534	534	557
LBS	390	387	437	486	536	580	605	723	723	746

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01 042 00 14

RZ87..

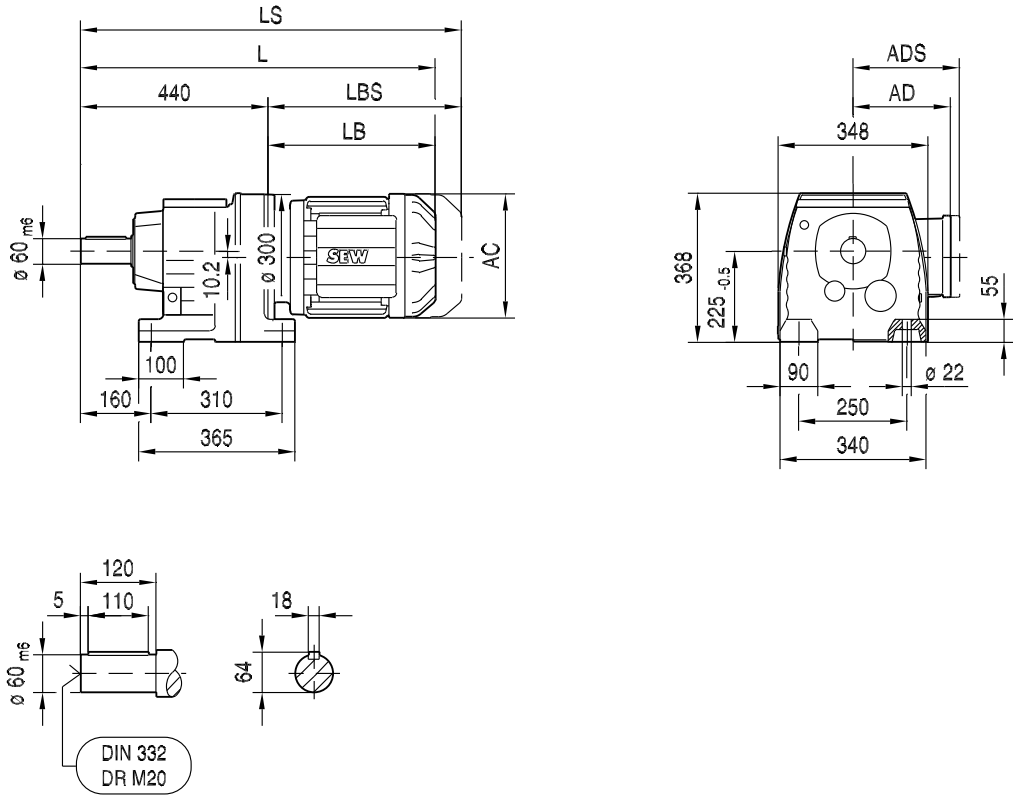


(→ 177)	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	179	197	197	221	221	261	261	314	314	357
AD	140	157	157	170	170	228	228	253	253	268
ADS	150	158	158	172	172	228	228	253	253	268
L	669	665	715	746	796	814	840	906	906	929
LS	762	759	809	858	908	952	977	1095	1095	1118
LB	297	293	343	374	424	442	468	534	534	557
LBS	390	387	437	486	536	580	605	723	723	746

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01 043 00 14

R97..

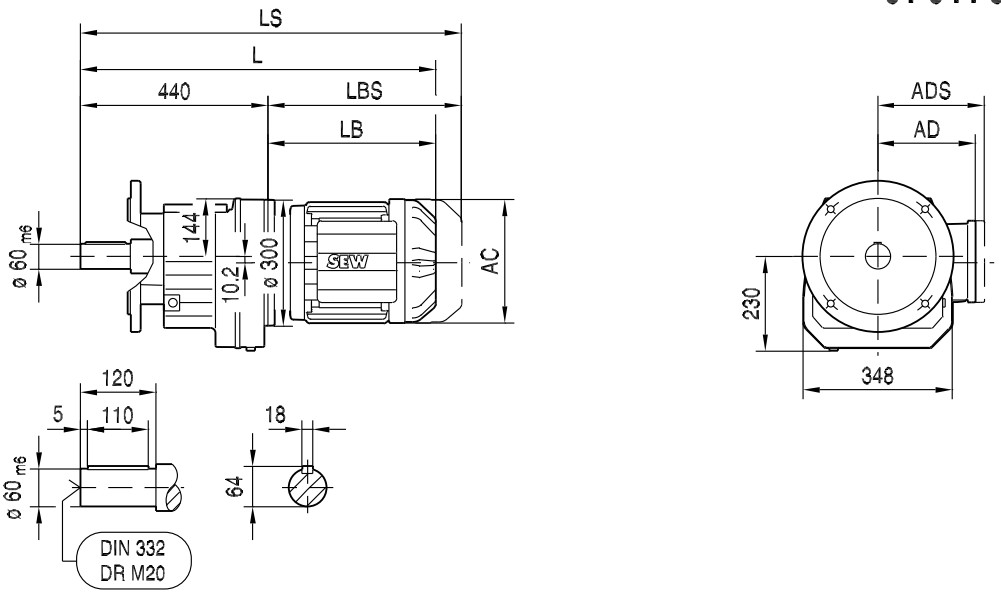


(→ 177)	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L
AC	197	197	221	221	261	261	314	314	357	394
AD	157	157	170	170	228	228	253	253	268	283
ADS	158	158	172	172	228	228	253	253	268	283
L	728	778	809	859	877	903	969	969	992	1102
LS	822	872	921	971	1015	1040	1158	1158	1181	1307
LB	288	338	369	419	437	463	529	529	552	662
LBS	382	432	481	531	575	600	718	718	741	867

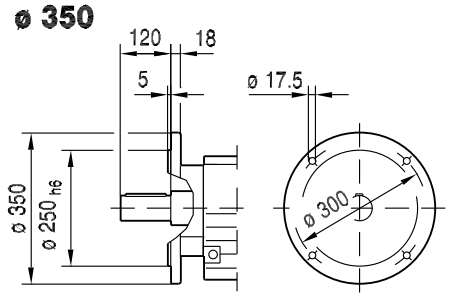
22742654/EN – 08/2016

01 044 00 14

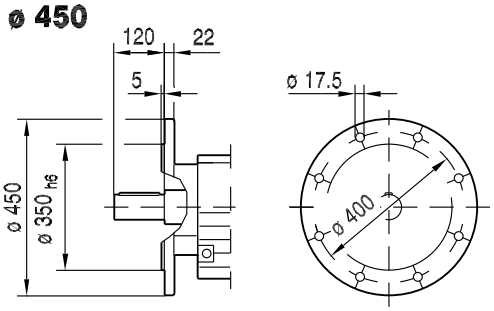
RF97..



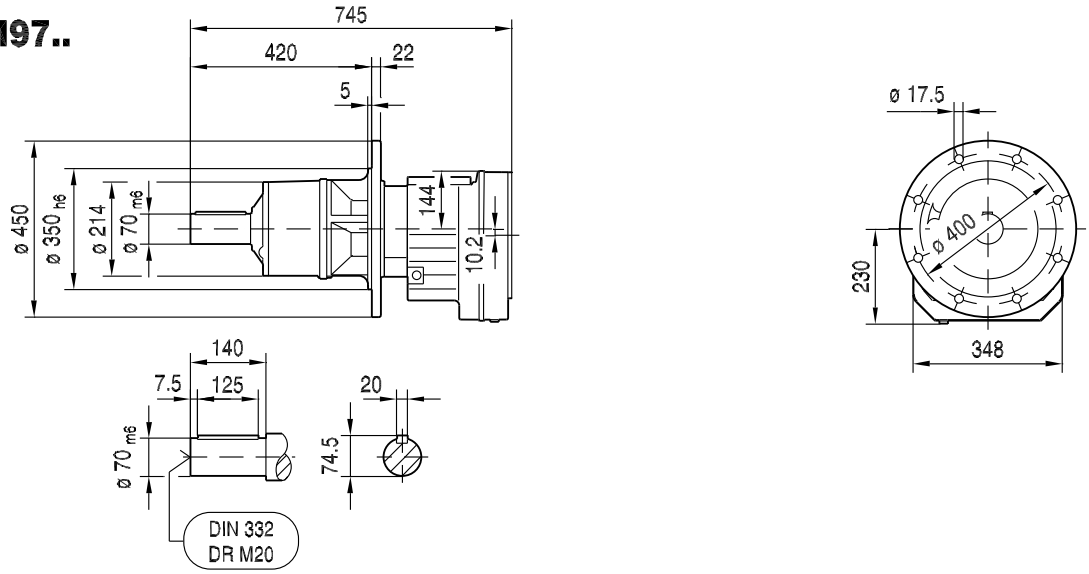
ø 350



ø 450



RM97..

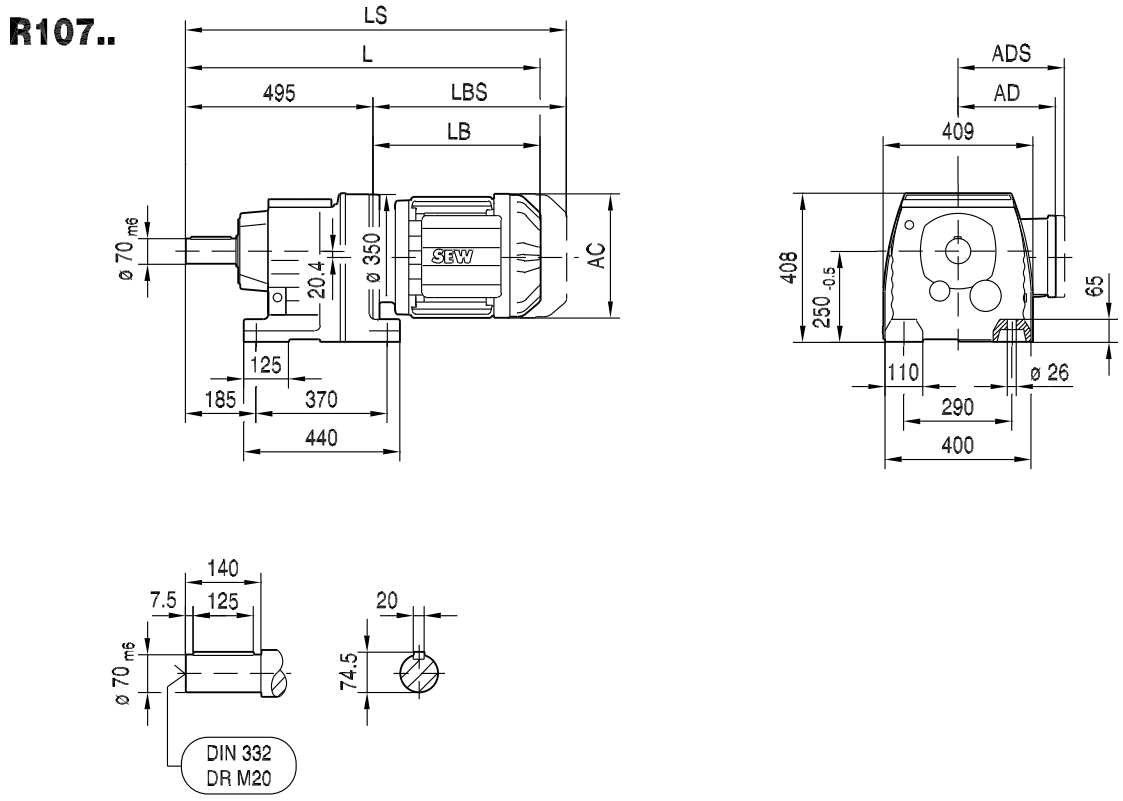


(→ 177)	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L
AC	197	197	221	221	261	261	314	314	357	394
AD	157	157	170	170	228	228	253	253	268	283
ADS	158	158	172	172	228	228	253	253	268	283
L	728	778	809	859	877	903	969	969	992	1102
LS	822	872	921	971	1015	1040	1158	1158	1181	1307
LB	288	338	369	419	437	463	529	529	552	662
LBS	382	432	481	531	575	600	718	718	741	867

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01 045 00 14

R107..

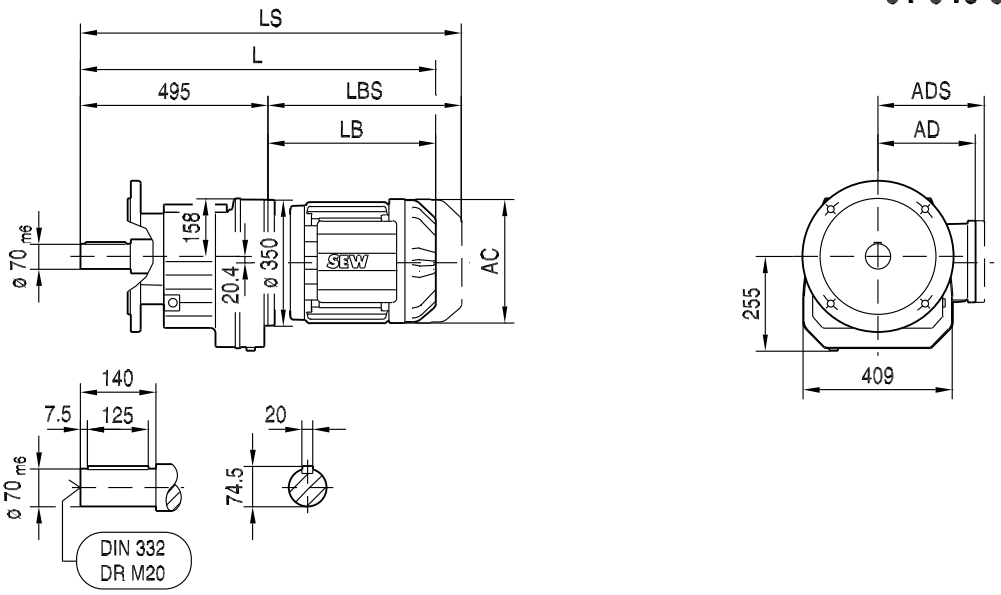


(→ 177)	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..
AC	197	221	221	261	261	314	314	357	394	434
AD	157	170	170	228	228	253	253	268	283	305
ADS	158	172	172	228	228	253	253	268	283	305
L	827	858	908	926	952	1018	1018	1041	1151	1125
LS	921	970	1020	1064	1089	1207	1207	1230	1356	1330
LB	332	363	413	431	457	523	523	546	656	630
LBS	426	475	525	569	594	712	712	735	861	835

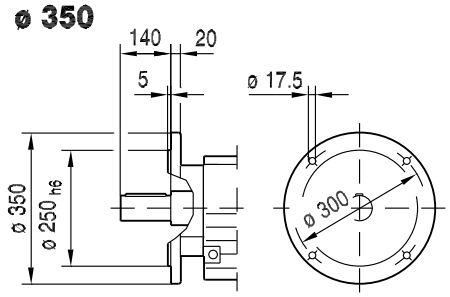
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01 046 00 14

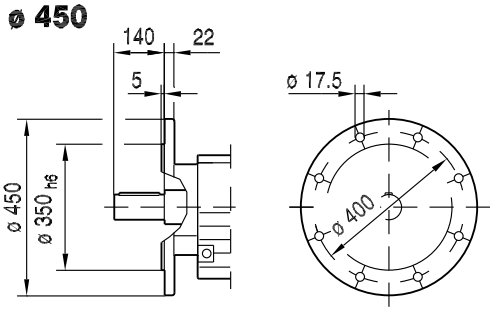
RF107..



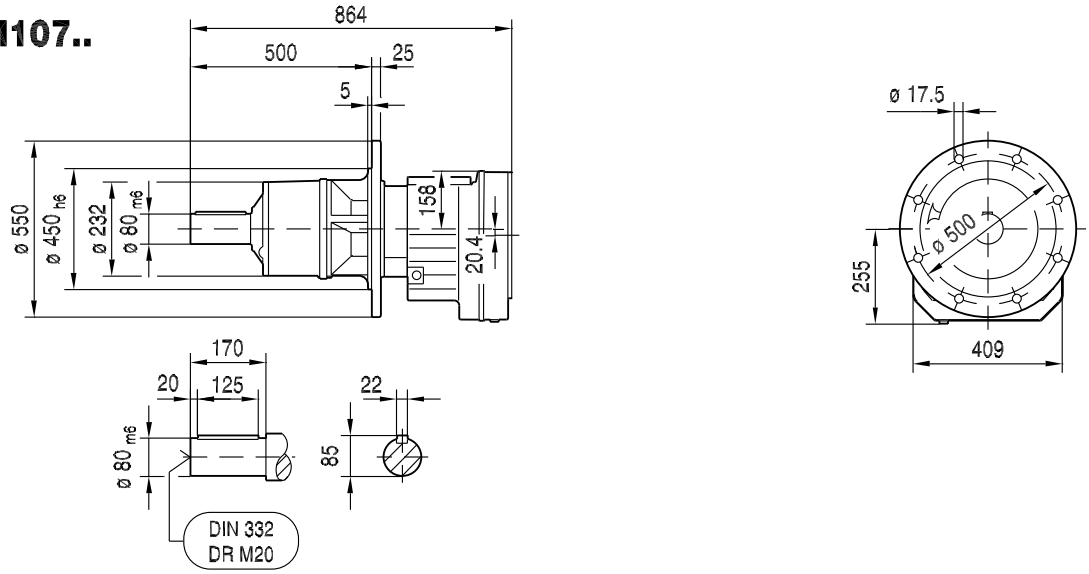
ø 350



ø 450



RM107..

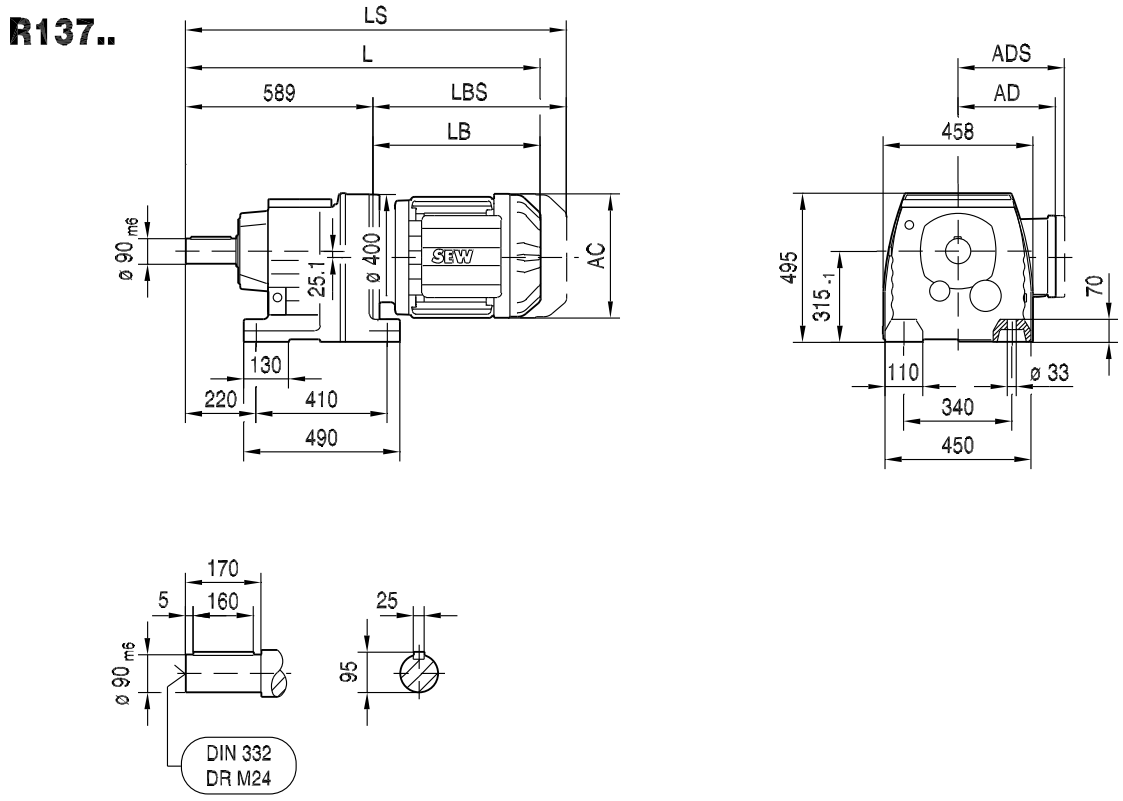


(→ 177)	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..
AC	197	221	221	261	261	314	314	357	394	434
AD	157	170	170	228	228	253	253	268	283	305
ADS	158	172	172	228	228	253	253	268	283	305
L	827	858	908	926	952	1018	1018	1041	1151	1125
LS	921	970	1020	1064	1089	1207	1207	1230	1356	1330
LB	332	363	413	431	457	523	523	546	656	630
LBS	426	475	525	569	594	712	712	735	861	835

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01 047 00 14

R137..

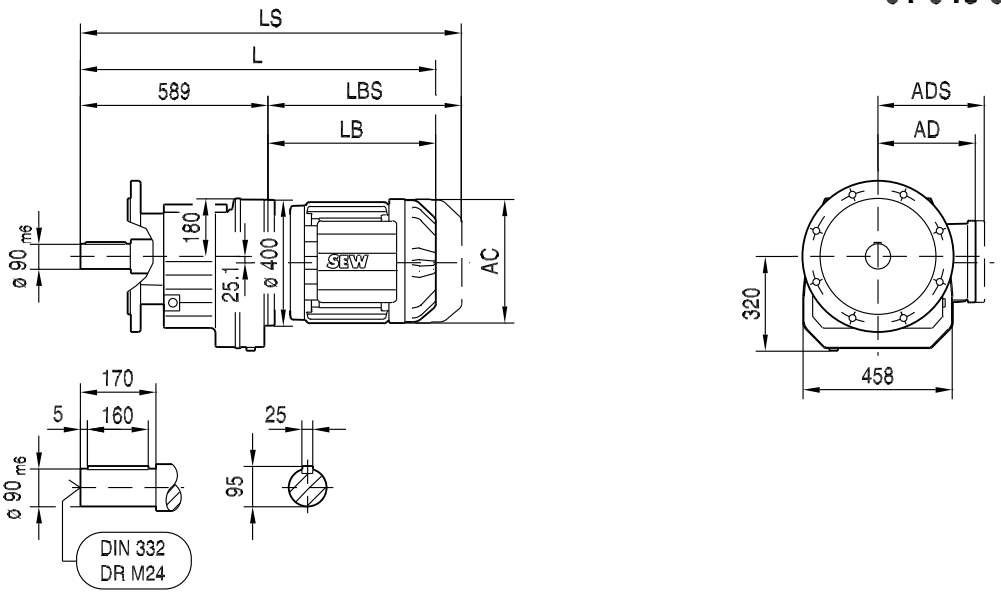


(→ 177)	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M
AC	221	261	261	314	314	357	394	434	495
AD	170	228	228	253	253	268	283	305	394
ADS	172	228	228	253	253	268	283	305	394
L	995	1013	1039	1105	1105	1128	1238	1212	1349
LS	1107	1151	1176	1294	1294	1317	1443	1417	1589
LB	406	424	450	516	516	539	649	623	760
LBS	518	562	587	705	705	728	854	828	1000

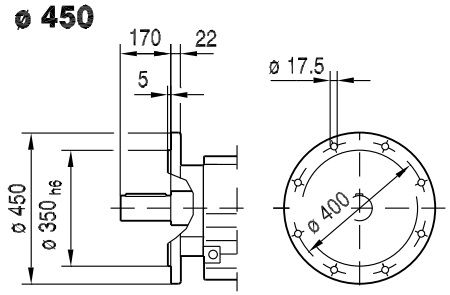
22742654/EN – 08/2016

01 048 00 14

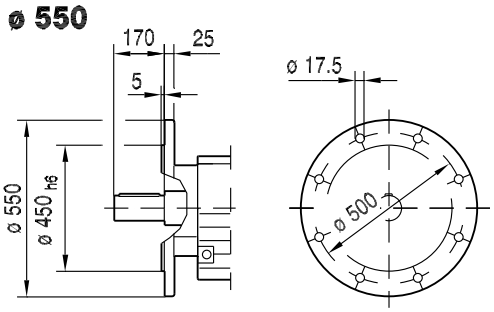
RF137..



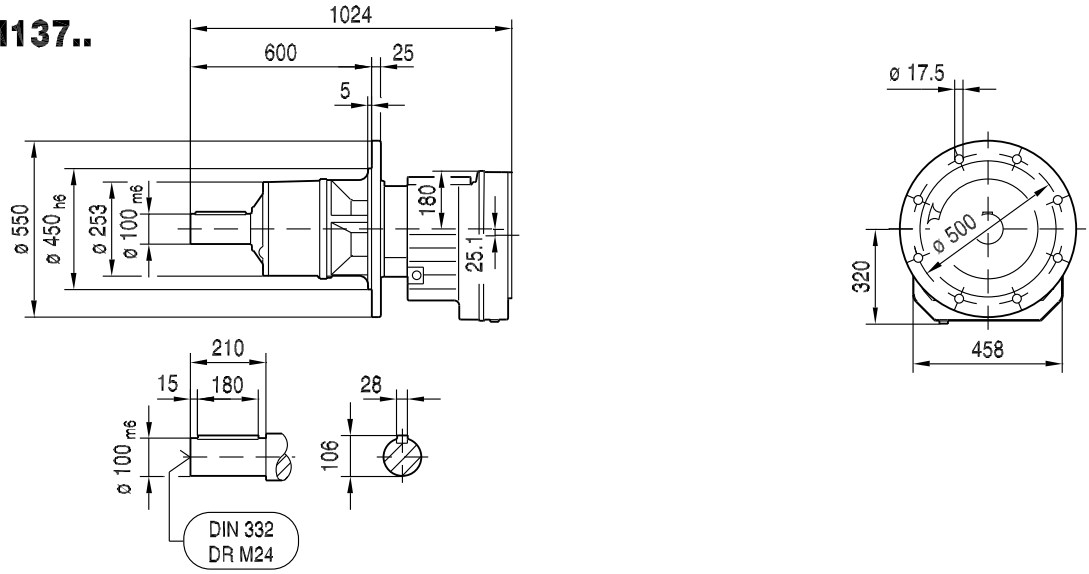
ø 450



ø 550



RM137..

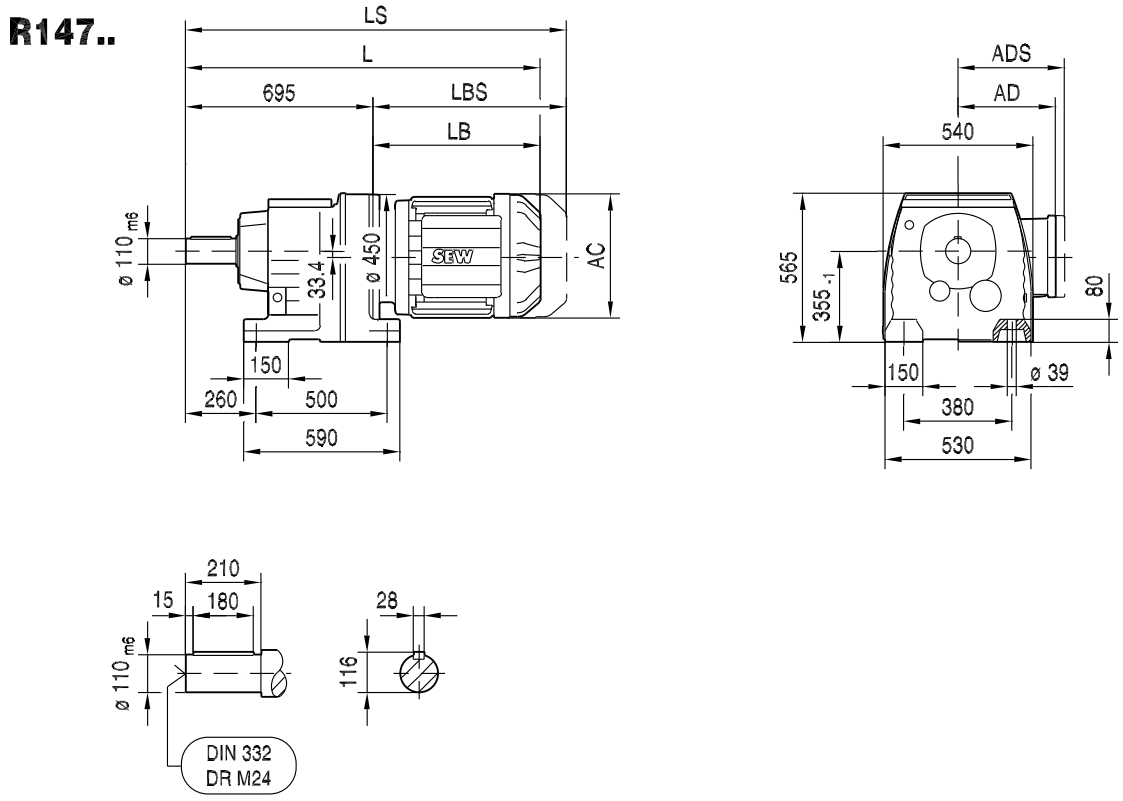


(→ 177)	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M
AC	221	261	261	314	314	357	394	434	495
AD	170	228	228	253	253	268	283	305	394
ADS	172	228	228	253	253	268	283	305	394
L	995	1013	1039	1105	1105	1128	1238	1212	1349
LS	1107	1151	1176	1294	1294	1317	1443	1417	1589
LB	406	424	450	516	516	539	649	623	760
LBS	518	562	587	705	705	728	854	828	1000

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01 049 00 14

R147..

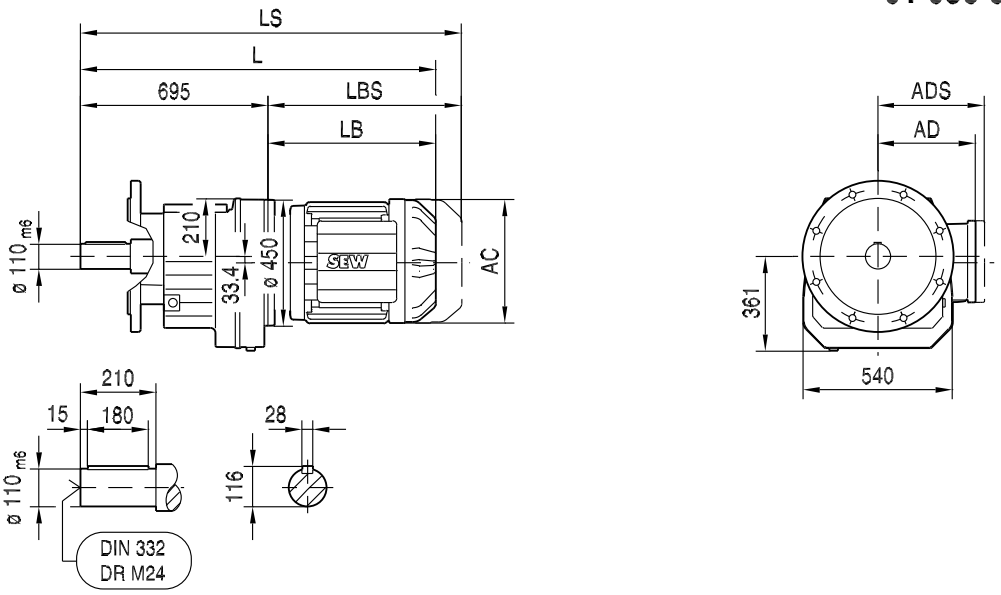


(→ 177)	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M
AC	261	314	314	357	394	434	495	495	495
AD	228	253	253	268	283	305	394	394	394
ADS	228	253	253	268	283	305	394	394	394
L	1137	1203	1203	1226	1336	1310	1447	1447	1542
LS	1274	1392	1392	1415	1541	1515	1687	1687	1782
LB	442	508	508	531	641	615	752	752	847
LBS	579	697	697	720	846	820	992	992	1087

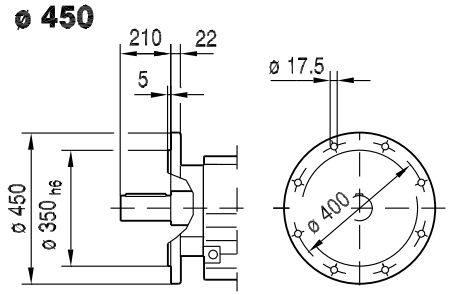
22742654/EN – 08/2016

01 050 00 14

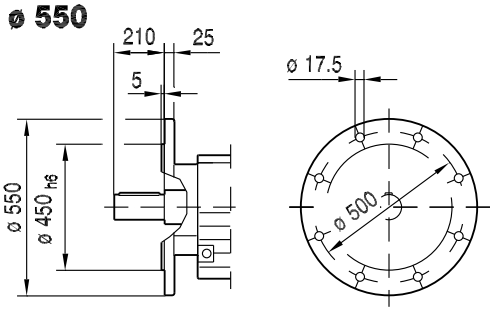
RF147..



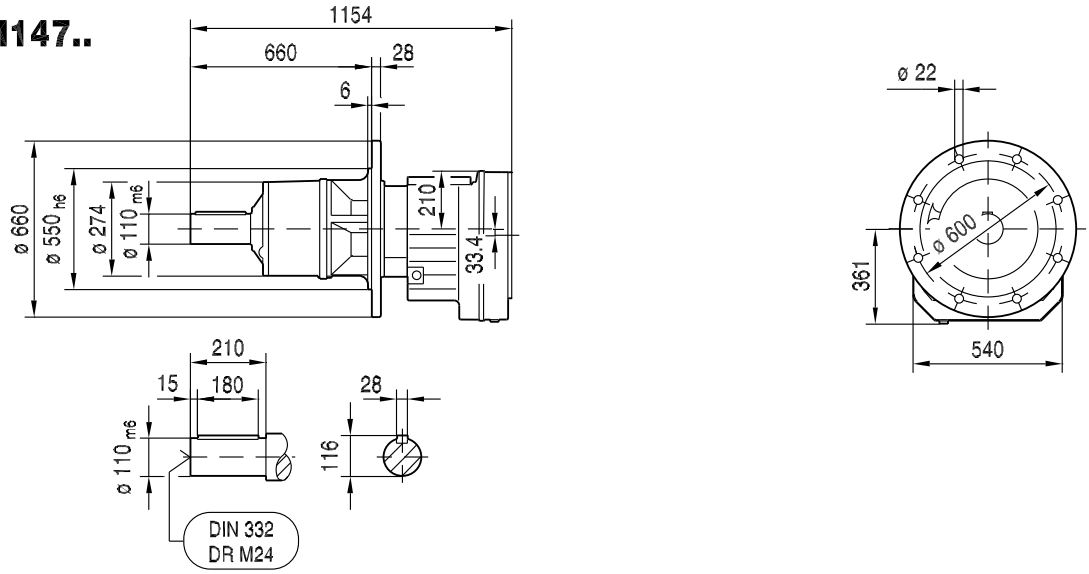
ø 450



ø 550



RM147..

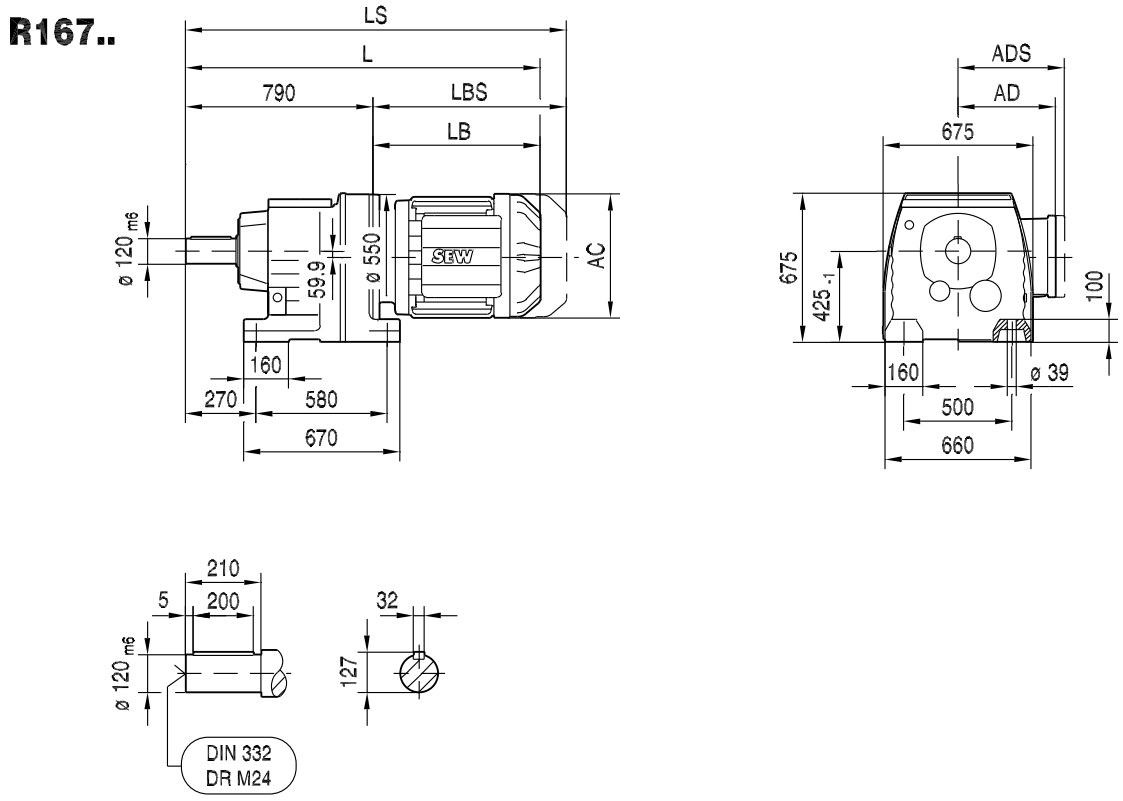


(→ 177)	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M
AC	261	314	314	357	394	434	495	495	495
AD	228	253	253	268	283	305	394	394	394
ADS	228	253	253	268	283	305	394	394	394
L	1137	1203	1203	1226	1336	1310	1447	1447	1542
LS	1274	1392	1392	1415	1541	1515	1687	1687	1782
LB	442	508	508	531	641	615	752	752	847
LBS	579	697	697	720	846	820	992	992	1087

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01 051 00 14

R167..

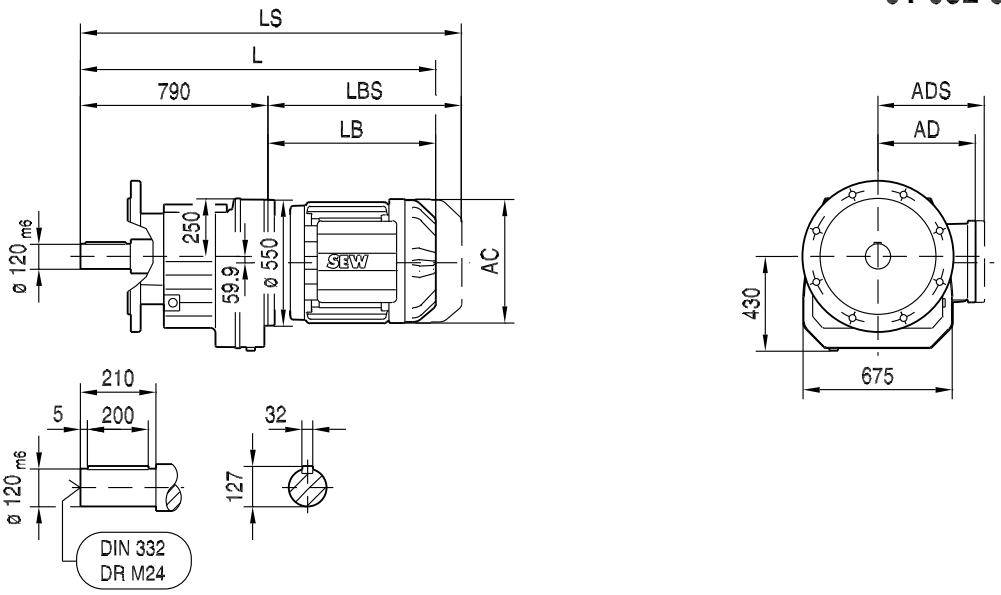


(→ 177)	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M	DRN315S-M	DRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1290	1313	1423	1397	1534	1534	1629	1731	1861
LS	1479	1502	1628	1602	1774	1774	1869	1982	2112
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

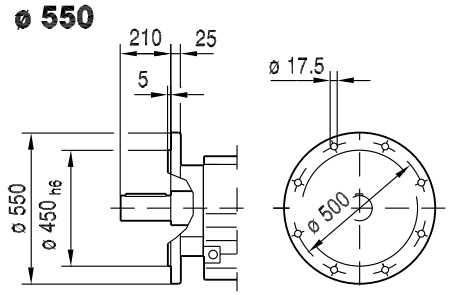
22742654/EN – 08/2016

01 052 00 14

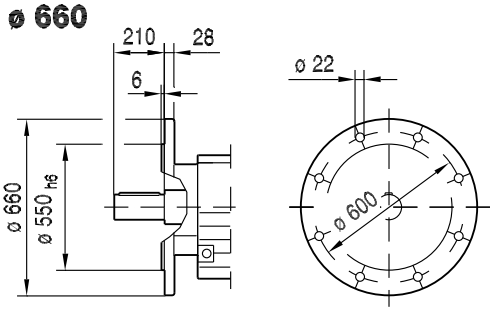
RF167..



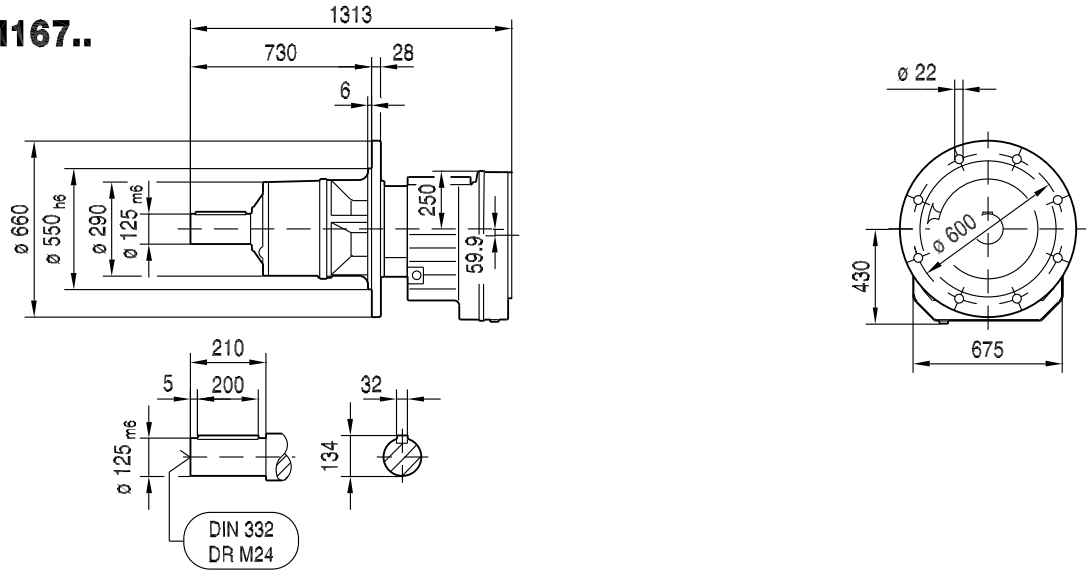
ø 550



ø 660



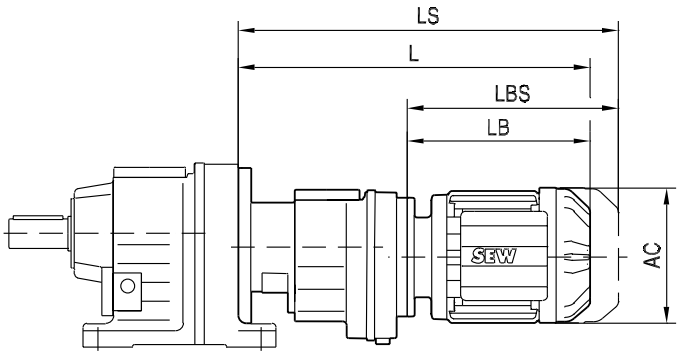
RM167..



(→ 177)	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M	DRN315S-M	DRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1290	1313	1423	1397	1534	1534	1629	1731	1861
LS	1479	1502	1628	1602	1774	1774	1869	1982	2112
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

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01 131 00 06



(→ 177)		AC	L	LS	LB	LBS
R..27R17	**DR63..**	132	324	379	149	204
R..37R17	**DR63..**	132	324	379	149	204
	DR71S	139	335	403	160	228
R..47R37	**DR63..**	132	356	411	191	246
	DR71S	139	367	434	202	269
	DR71M	139	392	459	227	294
R..57R37	**DR63..**	132	356	411	191	246
	DR71S	139	367	434	202	269
	DR71M	139	392	459	227	294
R..67R37	**DR63..**	132	356	411	191	246
	DR71S	139	367	434	202	269
	DR71M	139	392	459	227	294
	DRN80M	156	446	527	281	362
R..77R37	**DR63..**	132	348	403	191	246
	DR71S	139	359	426	202	269
	DR71M	139	384	451	227	294
	DRN80M	156	438	519	281	362
	DRN90S	179	440	533	283	376
R..87R57	**DR63..**	132	412	467	185	240
	DR71S	139	423	491	196	264
	DR71M	139	448	516	221	289
	DRN80M	156	502	583	275	356
	DRN90S	179	504	597	277	370
	DRN90L	179	536	629	309	402
R..97R57	**DR63..**	132	407	462	185	240
	DR71S	139	418	486	196	264
	DR71M	139	443	511	221	289
	DRN80M	156	497	578	275	356
	DRN90S	179	499	592	277	370
	DRN90L	179	531	624	309	402
	DRN100LS	197	528	621	305	398
	DRN100L	197	578	671	355	448
R..107R77	**DR63..**	132	425	480	178	233
	DR71S	139	436	504	189	257
	DR71M	139	461	529	214	282
	DRN80M	156	515	596	268	349
	DRN90S	179	517	610	270	363
	DRN90L	179	549	642	302	395
	DRN100LS	197	545	638	298	391
	DRN100L	197	595	688	348	441
	DRN112M	221	626	738	379	491
	DRN132S	221	676	788	429	541

(→ 177)		AC	L	LS	LB	LBS
R..137R77	**DR63..**	132	418	473	178	233
	DR71S	139	429	497	189	257
	DR71M	139	454	522	214	282
	DRN80M	156	508	589	268	349
	DRN90S	179	510	603	270	363
	DRN90L	179	542	635	302	395
	DRN100LS	197	538	631	298	391
	DRN100L	197	588	681	348	441
	DRN112M	221	619	731	379	491
	DRN132S	221	669	781	429	541
	DRN132M	261	685	824	445	584
	DRN132L	261	710	849	470	609
R..147R77	**DR63..**	132	410	465	178	233
	DR71S	139	421	489	189	257
	DR71M	139	446	514	214	282
	DRN80M	156	500	581	268	349
	DRN90S	179	502	595	270	363
	DRN90L	179	534	627	302	395
	DRN100LS	197	530	623	298	391
	DRN100L	197	580	673	348	441
	DRN112M	221	611	723	379	491
	DRN132S	221	661	773	429	541
R..147R87	**DRN90L**	179	577	670	297	390
	DRN100LS	197	573	666	293	386
	DRN100L	197	623	716	343	436
	DRN112M	221	654	766	374	486
	DRN132S	221	704	816	424	536
	DRN132M	261	720	859	440	579
	DRN132L	261	745	884	465	604
	DRN160M	314	814	1003	534	723
	DRN160L	314	814	1003	534	723
R..167R97	**DR71M**	139	529	597	204	272
	DRN80M	156	583	664	258	339
	DRN90S	179	585	678	260	353
	DRN90L	179	617	710	292	385
	DRN100LS	197	613	706	288	381
	DRN100L	197	663	756	338	431
	DRN112M	221	694	806	369	481
	DRN132S	221	744	856	419	531
	DRN132M	261	760	899	435	574
	DRN132L	261	785	924	460	599
	DRN160M	314	854	1043	529	718

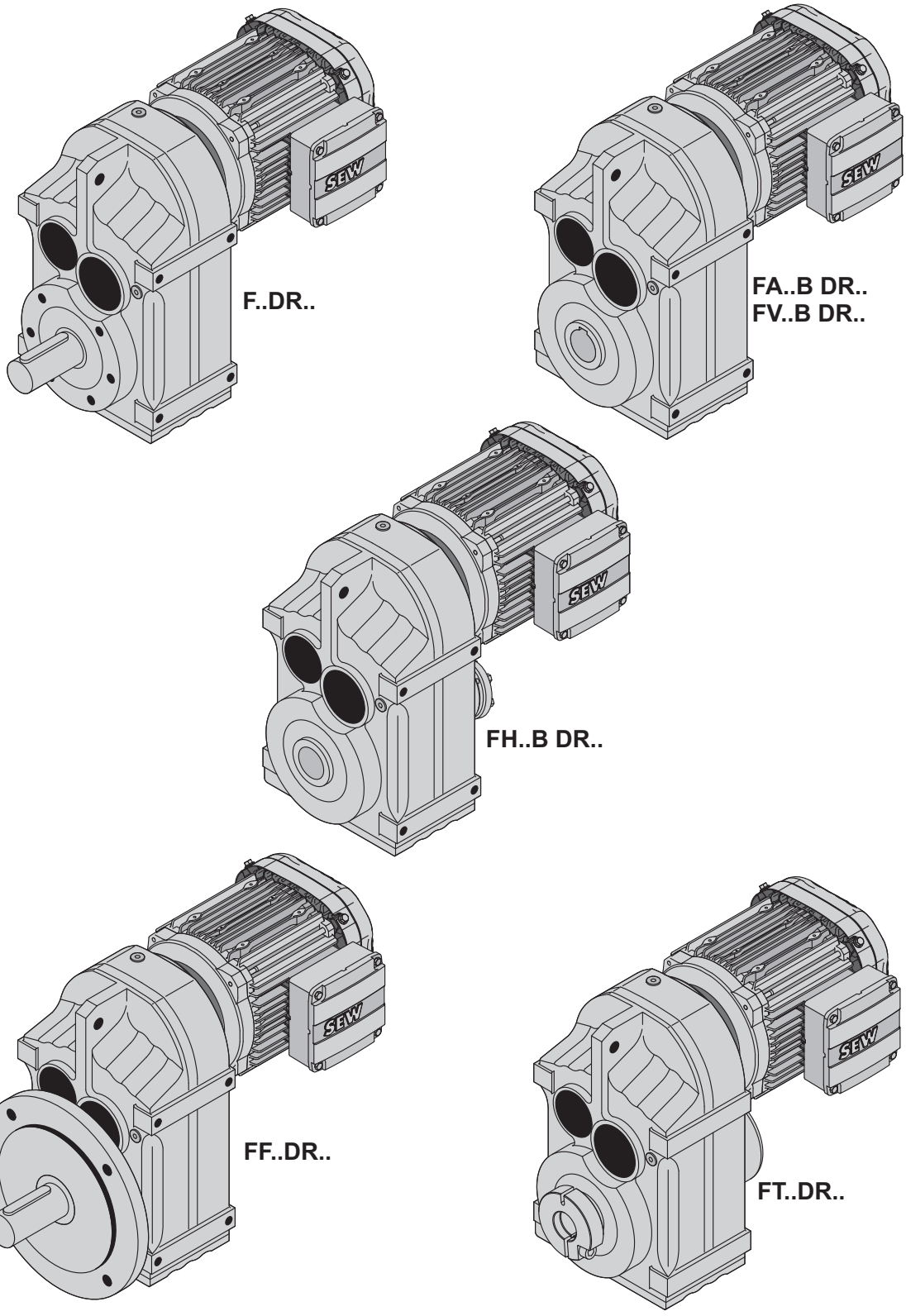
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(→ 177)		AC	L	LS	LB	LBS
R..167R107	**DRN100LS**	197	664	757	282	375
	DRN100L	197	714	807	332	425
	DRN112M	221	745	857	363	475
	DRN132S	221	795	907	413	525
	DRN132M	261	811	950	429	568
	DRN132L	261	836	975	454	593
	DRN160M	314	905	1094	523	712
	DRN160L	314	905	1094	523	712
	DRN180M	357	930	1119	548	737

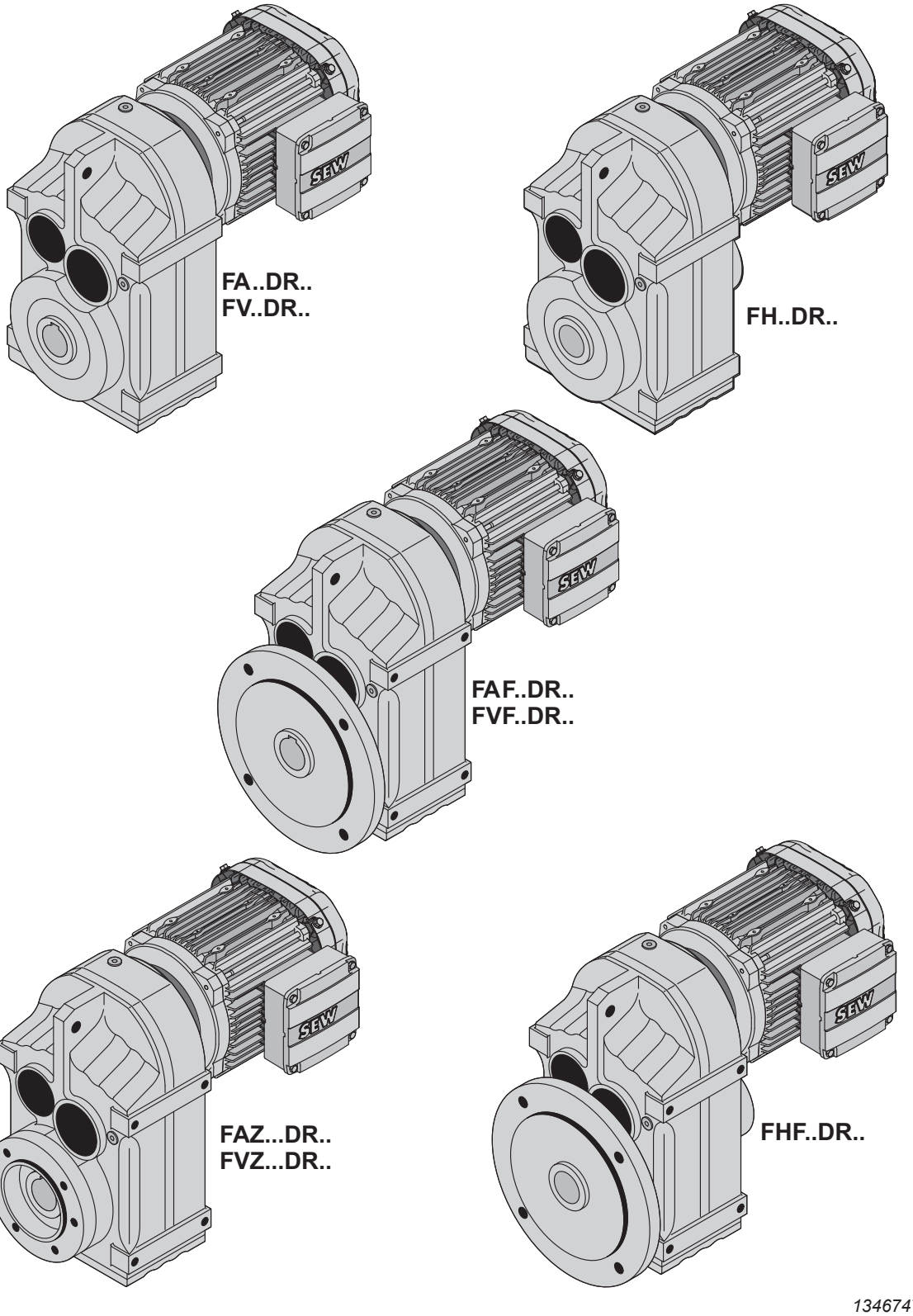
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9 Parallel-shaft helical gearmotors

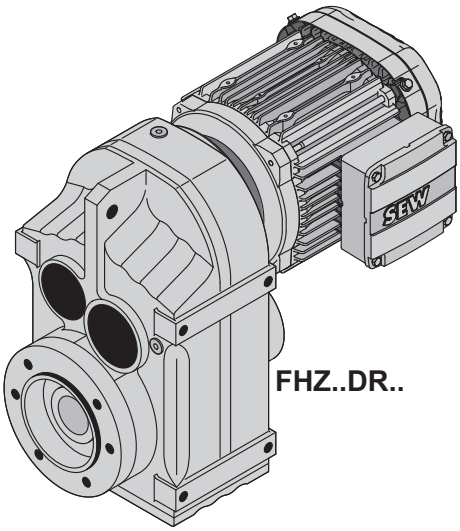
9.1 F..DRN.. designs



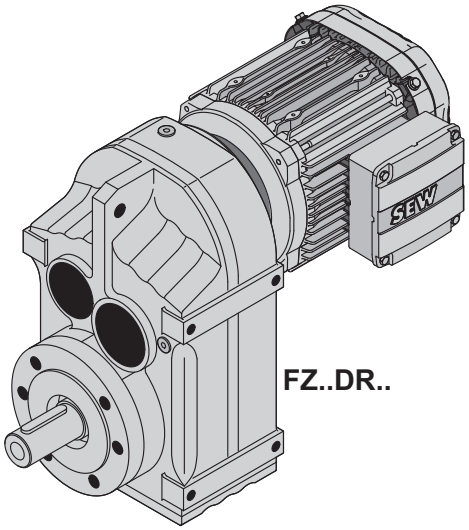
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FHZ..DR..



FZ..DR..

9007212722420875

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9.2 Possible geometrical combinations of F..DRN.

F27, n_e=1700 min^{-1}								130 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
						3		
12	130	4500	-	140.74				
13	130	4500	-	129.09				
15	130	4500	-	109.90				
18	130	4500	-	94.76				
19	130	4500	-	88.32				
22	130	4400	-	77.21				
23	130	4280	-	72.37				
27	130	4060	-	63.86				
30	130	3850	-	56.62				
34	130	3650	-	50.19				
36	130	3540	-	46.78				
42	130	3340	-	40.89				
44	130	3240	-	38.33				
50	130	3060	-	33.83				
						2		
58	130	2880	-	29.56				
63	130	2760	-	27.18				
73	130	2570	-	23.25				
84	130	2390	-	20.15				
90	130	2310	-	18.84				
104	130	2150	-	16.28				
123	130	1980	-	13.84				
138	130	1860	-	12.35				
161	130	1700	-	10.55				
172	130	1640	-	9.88				
181	130	1470	-	9.40				
209	123	1410	-	8.13				
246	114	1360	-	6.91				
276	109	1320	-	6.17				
323	100	1280	-	5.27				
345	96	1270	-	4.93				
409	87	1240	-	4.16				

F27R17, n_e=1700 min^{-1}						130 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
					3 3	
0.19	130	4500	-	8972		
0.22	130	4500	-	7736		
0.24	130	4500	-	7211		
0.27	130	4500	-	6303		
0.31	130	4500	-	5435		
0.35	130	4500	-	4855		

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F27R17, n_e=1700 min^{-1}						130 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
0.40	130	4500	-	4243		
0.46	130	4500	-	3715		
0.52	130	4500	-	3247		
0.59	130	4500	-	2878		
0.68	130	4500	-	2515		
0.77	130	4500	-	2217		
						
0.90	130	4500	-	1898		
1.0	130	4500	-	1645		
1.1	130	4500	-	1525		
1.3	130	4500	-	1322		
1.5	130	4500	-	1146		
1.7	130	4500	-	1013		
1.9	130	4500	-	890		
2.2	130	4500	-	778		
2.5	130	4500	-	682		
2.8	130	4500	-	602		
3.3	130	4500	-	520		
						
0.87	130	4500	-	1948		
0.93	130	4500	-	1826		
1.1	130	4500	-	1610		
1.2	130	4500	-	1399		
1.4	130	4500	-	1230		
1.8	130	4500	-	948		
2.1	130	4500	-	829		
2.3	130	4500	-	731		
2.7	130	4500	-	633		
3.1	130	4500	-	551*		
3.5	130	4500	-	489		
4.0	130	4500	-	427		
4.5	130	4500	-	379		
5.2	130	4500	-	326		
5.9	130	4500	-	288		
6.8	130	4500	-	251		
7.7	130	4500	-	221		
9.9	130	4500	-	172		
11	130	4500	-	153		
13	130	4500	-	130		
						
3.7	130	4500	-	458		
4.3	130	4500	-	397		
5.0	130	4500	-	342		
5.6	130	4500	-	302		
6.4	130	4500	-	266		
7.2	130	4500	-	236		
8.1	130	4500	-	211		
9.1	130	4500	-	186		
12	130	4500	-	142		

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F27R17, n_e=1700 min^{-1}						130 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
14	130	4500	-	124		
16	130	4500	-	109		
18	130	4500	-	96		

F37, n_e=1700 min^{-1}								200 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
						3		
13	200	4290	6.8	128.51				
14	200	4290	6.8	117.88				
17	200	4290	6.8	100.36				
20	200	4290	6.8	86.53				
21	200	4290	6.8	80.65				
24	200	4290	6.9	70.50				
26	200	4290	6.9	66.09				
29	200	4290	6.9	58.32				
31	200	4290	7.5	54.54				
33	200	4290	6.9	51.70				
36	200	4290	7.6	47.02				
39	200	4290	7.6	43.83				
44	200	4290	7.7	38.31				
47	200	4160	7.7	35.91				
54	200	3920	7.7	31.69				
61	200	3700	7.8	28.09				
71	200	3420	7.8	23.88				
						2		
72	200	3400	6.1	23.63				
83	200	3180	6.2	20.57				
88	200	3070	6.2	19.27				
100	200	2880	6.4	17.03				
108	200	2770	6.4	15.81				
119	200	2630	6.5	14.33				
132	200	2480	6.6	12.87				
153	190	2360	6.7	11.08				
163	185	2320	6.8	10.42				
190	175	2220	6.9	8.97				
212	170	2120	7.4	8.01				
228	145	2120	9.9	7.44				
252	140	2050	10	6.74				
281	135	1980	10.2	6.05				
326	125	1910	10.5	5.21				
347	120	1900	10.6	4.90				
403	110	1840	10.9	4.22				
451	105	1780	11.9	3.77				

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F37R17, n_e=1700 min^{-1}						200 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
					3 3	
0.21	200	4290	-	8193		
0.24	200	4290	-	7064		
0.26	200	4290	-	6585		
0.30	200	4290	-	5756		
0.34	200	4290	-	4963		
0.38	200	4290	-	4434		
0.44	200	4290	-	3875		
0.50	200	4290	-	3392		
0.57	200	4290	-	2965		
0.66	200	4290	-	2587		
0.74	200	4290	-	2284		
0.85	200	4290	-	1997		
0.98	200	4290	-	1742		
1.1	200	4290	-	1545		
					2 3	
0.88	200	4290	-	1929		
1.0	200	4290	-	1679		
1.1	200	4290	-	1550		
1.3	200	4290	-	1356		
1.4	200	4290	-	1180		
1.6	200	4290	-	1044		
1.9	200	4290	-	914		
2.1	200	4290	-	808		
2.4	200	4290	-	698		
2.8	200	4290	-	616		
3.1	200	4290	-	544		
3.6	200	4290	-	466		
4.1	200	4290	-	411		
4.7	200	4290	-	364		
					3 2	
1.2	200	4290	-	1370		
1.4	200	4290	-	1198		
1.6	200	4290	-	1047		
1.9	200	4290	-	915		
2.1	200	4290	-	807		
2.4	200	4290	-	707		
2.8	200	4290	-	617		
3.2	200	4290	-	538		
3.6	200	4290	-	477		
4.1	200	4290	-	412		
4.7	200	4290	-	365		
5.3	200	4290	-	322		
6.1	200	4290	-	278		
7.0	200	4290	-	242		
7.7	200	4290	-	221		
8.7	200	4290	-	195		
10	200	4290	-	168		
12	200	4290	-	147		

F37R17, n_e=1700 min^{-1}						200 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
13	200	4290	-	127		
14	200	4290	-	121		
16	200	4290	-	108		
19	200	4290	-	91		
					2 2	
5.2	200	4290	-	326		
6.0	200	4290	-	285		
6.8	200	4290	-	250		
7.8	200	4290	-	219		
9.1	200	4290	-	186		
10	200	4290	-	167		
12	200	4290	-	145		
13	200	4290	-	129		
14	200	4290	-	118		
17	200	4290	-	98		
20	200	4290	-	87		

F47, n_e=1700 min^{-1}								400 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
						3		
8.9	400	5920	6.1	190.76				
9.7	400	5920	6.2	175.38				
11	400	5920	6.2	150.06				
13	400	5920	6.2	130.07				
14	400	5920	6.2	121.57				
16	400	5920	6.2	105.09				
19	400	5920	6.2	89.29				
21	400	5920	6.2	79.72				
25	400	5920	6.3	68.09				
26	400	5920	6.7	65.36				
30	400	5920	6.8	56.49				
35	400	5920	6.8	48.00*				
40	400	5920	6.8	42.86				
46	400	5910	6.9	36.61				
50	400	5720	6.9	34.29				
59	400	5250	7	28.88				
						2		
55	400	5430	5.7	30.86				
58	400	5300	5.7	29.32				
66	400	4950	5.8	25.72				
78	400	4540	5.9	21.82				
86	400	4300	5.9	19.70				
98	400	4000	6	17.33				
104	400	3880	6	16.36				
122	400	3530	6.1	13.93				

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F47, n_e=1700 min^{-1}								400 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
134	400	3340	6.4	12.66				
155	400	3050	6.5	10.97				
190	330	2890	8	8.96				
216	380	2280	8.1	7.88				
228	380	2190	8.2	7.44*				
268	350	2150	8.4	6.34				
295	340	2080	9	5.76				
341	320	2010	9.2	4.99				

F47R17, n_e=1700 min^{-1}						400 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
					3 3	
0.14	400	5920	-	12251		
0.16	400	5920	-	10619		
0.17	400	5920	-	9846		
0.20	400	5920	-	8534		
0.23	400	5920	-	7460		
0.26	400	5920	-	6536		
0.30	400	5920	-	5746		
0.34	400	5920	-	5022		
0.39	400	5920	-	4401		
0.44	400	5920	-	3883		
0.49	400	5920	-	3443		
0.57	400	5920	-	2976		
0.65	400	5920	-	2629		
0.74	400	5920	-	2304		
0.84	400	5920	-	2033		
					2 3	
0.67	400	5920	-	2519		
0.71	400	5920	-	2394		
0.78	400	5920	-	2172		
0.84	400	5920	-	2025		
0.96	400	5920	-	1770		
1.1	400	5920	-	1576		
1.2	400	5920	-	1363		
1.4	400	5920	-	1192		
1.6	400	5920	-	1061		
1.8	400	5920	-	931		
2.1	400	5920	-	822		
2.4	400	5920	-	706		
2.7	400	5920	-	619		
					3 2	
0.95	400	5920	-	1785		
1.1	400	5920	-	1578		
1.2	400	5920	-	1364		

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F47R17, n_e=1700 min^{-1}						400 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
1.4	400	5920	-	1203		
1.6	400	5920	-	1049		
1.9	400	5920	-	918		
2.1	400	5920	-	809		
2.4	400	5920	-	700		
2.7	400	5920	-	622		
3.1	400	5920	-	543		
3.6	400	5920	-	475		
4.1	400	5920	-	419		
4.6	400	5920	-	370		
5.2	400	5920	-	324		
5.9	400	5920	-	288		
6.8	400	5920	-	249		
7.8	400	5920	-	218		
8.8	400	5920	-	193		
9.7	400	5920	-	175		
12	400	5920	-	147		
13	400	5920	-	130		
					2 2	
3.2	400	5920	-	524		
3.5	400	5920	-	489		
4.0	400	5920	-	427		
4.5	400	5920	-	381		
5.1	400	5920	-	334		
5.8	400	5920	-	295		
6.7	400	5920	-	253		
7.8	400	5920	-	217		
8.9	400	5920	-	190		
9.6	400	5920	-	178		
11	400	5920	-	149		
13	400	5920	-	131		

F57, n_e=1700 min^{-1}										600 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
						3				
8.5	600	9200	6	199.70						
9.3	600	9200	6.1	183.60						
11	600	9200	6.1	157.09						
12	600	9200	6.1	136.16						
13	600	9200	6.1	127.27						
15	600	9200	6.1	110.01						
18	600	9200	6.1	93.47						
20	600	9200	6.1	83.46						
23	600	9200	6.5	72.98						
25	600	9200	6.5	68.22						
29	600	9200	6.5	58.97						

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F57, n_e=1700 min^{-1}										600 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
34	600	8820	6.6	50.10						
38	600	8360	6.6	44.73						
44	600	7750	6.6	38.21						
47	600	7510	6.6	35.79						
56	590	6950	6.7	30.15						
						2				
42	290	9780	5.7	40.13						
50	500	7940	5.7	34.24						
57	545	7200	5.6	29.94						
60	535	7080	5.7	28.45						
68	575	6400	5.8	24.96						
80	600	5730	5.8	21.17						
89	600	5420	5.9	19.11						
101	600	5040	5.9	16.81						
107	600	4880	6	15.88						
126	600	4440	6.1	13.52						
138	600	4190	6.3	12.29						
160	600	3830	6.4	10.64						
183	420	4290	7.6	9.31						
208	420	4000	7.8	8.19						
220	420	3870	7.8	7.73						
258	420	3520	8	6.58						
284	420	3320	8.6	5.98						
328	415	3070	8.8	5.18						

F57R37, n_e=1700 min^{-1}								600 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
					3	3		
0.11	600	9200	-	14832				
0.12	600	9200	-	13604				
0.13	600	9200	-	12602				
0.15	600	9200	-	11252				
0.17	600	9200	-	9986				
0.19	600	9200	-	8787				
0.21	600	9200	-	7908				
0.25	600	9200	-	6913				
0.28	600	9200	-	6030				
0.32	600	9200	-	5289				
0.37	600	9200	-	4654				
0.42	600	9200	-	4060				
0.48	600	9200	-	3564				
0.54	600	9200	-	3161				
0.62	600	9200	-	2737				
0.71	600	9200	-	2409				
0.80	600	9200	-	2131				
0.92	600	9200	-	1840				

F57R37, n_e=1700 min^{-1}								600 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
1.0	600	9200	-	1623				
1.2	600	9200	-	1439				
1.4	600	9200	-	1238				
 2  3								
0.60	600	9200	-	2854				
0.66	600	9200	-	2576				
0.75	600	9200	-	2266				
0.84	600	9200	-	2012				
0.95	600	9200	-	1791				
1.1	600	9200	-	1617				
1.2	600	9200	-	1422				
1.4	600	9200	-	1243				
1.6	600	9200	-	1066				
1.8	600	9200	-	949				
2.0	600	9200	-	856				
2.3	600	9200	-	749				
2.6	600	9200	-	658				
3.1	600	9200	-	549				
3.5	600	9200	-	483				
 3  2								
1.5	600	9200	-	1106				
1.8	600	9200	-	967				
2.0	600	9200	-	851				
2.3	600	9200	-	738				
2.6	600	9200	-	646				
3.0	600	9200	-	558				
3.4	600	9200	-	506				
3.8	600	9200	-	452				
4.4	600	9200	-	386				
5.0	600	9200	-	338				
6.7	600	9200	-	255				
8.5	600	9200	-	201				
9.4	600	9200	-	181				
11	600	9200	-	155				
 2  2								
4.0	600	9200	-	426				
4.5	600	9200	-	382				
5.2	600	9200	-	330				
5.7	600	9200	-	298				
6.5	600	9200	-	262				
7.5	600	9200	-	226				
8.5	600	9200	-	200				
10	600	9200	-	170				
11	600	9200	-	152				
13	600	9200	-	134				

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F67, n_e=1700 min^{-1}										820 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
						3				
7.4	820	10300	5.7	228.99						
8.7	820	10300	5.8	195.39						
10.0	820	10300	5.7	170.85						
10	820	10300	5.7	162.31						
12	820	10300	5.8	142.40						
14	820	10300	5.8	120.79						
16	820	10300	5.8	109.04						
18	820	10300	5.8	95.94						
19	820	10300	5.8	90.59						
21	820	10300	6.3	79.76						
25	820	10300	6.3	67.65						
28	820	10300	6.3	61.07						
32	820	10300	6.3	53.73						
34	820	10300	6.3	50.74						
39	820	10300	6.3	43.20						
43	780	10700	6.4	39.26						
50	740	11000	6.5	34.01						
						2				
47	820	10300	5.3	36.30						
53	820	10300	5.4	32.08						
62	820	10300	5.4	27.41						
68	820	10300	5.4	25.13						
77	820	10300	5.5	22.05						
81	820	10300	5.5	20.90*						
93	820	10300	5.6	18.29						
103	820	10300	5.8	16.48						
118	820	10300	5.7	14.46						
133	820	10300	5.8	12.76						
150	820	10300	6	11.31						
176	820	9980	6.1	9.66						
187	530	10600	8	9.08						
198	570	10100	8.1	8.60						
226	610	9360	8.2	7.53						
251	620	8910	8.7	6.78						
286	610	8480	8.6	5.95						
324	590	8160	8.8	5.25						
365	560	7920	9.3	4.66						
428	500	7750	9.6	3.97						

F67R37, n_e=1700 min^{-1}								820 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
					3	3		
0.09	820	10300	-	19199				
0.10	820	10300	-	17610				

F67R37, n_e=1700 min^{-1}								820 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
0.11	820	10300	-	14992				
0.13	820	10300	-	12926				
0.15	820	10300	-	11480				
0.17	820	10300	-	10220				
0.19	820	10300	-	8933				
0.21	820	10300	-	7940				
0.24	820	10300	-	7096				
0.28	820	10300	-	6080				
0.32	820	10300	-	5341				
0.36	820	10300	-	4690				
0.42	820	10300	-	4091				
0.48	820	10300	-	3574				
0.54	820	10300	-	3133				
0.62	820	10300	-	2756				
0.70	820	10300	-	2439				
								
0.50	820	10300	-	3377				
0.58	820	10300	-	2912				
0.63	820	10300	-	2714				
0.72	820	10300	-	2372				
0.80	820	10300	-	2126				
0.91	820	10300	-	1859				
1.0	820	10300	-	1631				
1.2	820	10300	-	1437				
1.4	820	10300	-	1256				
1.5	820	10300	-	1126				
1.7	820	10300	-	984				
2.0	820	10300	-	864				
2.4	820	10300	-	722				
2.7	820	10300	-	634				
3.2	820	10300	-	539				
								
0.81	820	10300	-	2106				
0.90	820	10300	-	1884				
1.0	820	10300	-	1635				
1.2	820	10300	-	1429				
1.3	820	10300	-	1271				
1.5	820	10300	-	1102				
1.8	820	10300	-	970				
2.0	820	10300	-	858				
2.3	820	10300	-	755				
2.7	820	10300	-	641				
3.0	820	10300	-	572				
3.3	820	10300	-	509				
3.9	820	10300	-	437				
4.4	820	10300	-	384				
5.0	820	10300	-	338				
5.6	820	10300	-	305				
6.6	820	10300	-	257				

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F67R37, n_e=1700 min^{-1}								820 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
7.4	820	10300	-	231				
8.3	820	10300	-	205				
9.7	820	10300	-	175				
 2  2								
3.4	820	10300	-	500				
3.7	820	10300	-	454				
4.3	820	10300	-	392				
5.1	820	10300	-	333				
5.7	820	10300	-	297				
6.5	820	10300	-	261				
7.1	820	10300	-	238				
8.5	820	10300	-	200				
9.7	820	10300	-	176				

F77, n_e=1700 min^{-1}											1500 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
 3											
6.0	1500	15700	5.4	281.71							
6.5	1500	15700	5.4	262.93							
7.5	1500	15700	5.4	225.79							
8.6	1500	15700	5.4	198.31							
9.0	1500	15700	5.4	188.40							
10	1500	15700	5.5	166.47							
12	1500	15700	5.5	142.27							
13	1500	15700	5.5	130.42							
15	1500	15700	5.5	114.45							
16	1500	15700	5.5	108.46*							
18	1500	15700	5.5	94.93							
20	1500	15700	5.5	85.52							
23	1500	15700	5.5	75.02							
23	1500	15700	5.9	72.50							
26	1500	15700	5.9	66.46							
29	1500	15700	6	58.32							
31	1500	15700	6	55.27							
35	1500	15700	6	48.37							
39	1500	15700	6.1	43.58							
44	1500	15700	6	38.23							
50	1500	15700	6.1	33.74							
57	1500	15700	6.1	29.91							
67	1450	16100	6.2	25.54							
 2											
46	1110	17900	4.9	36.58							
54	1380	16500	4.9	31.51							
59	1430	16200	4.9	28.75							
67	1500	15700	4.9	25.50*							

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F77, n_e=1700 min^{-1}											1500 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
79	1500	15700	5	21.43							
86	1500	15700	5.1	19.70							
97	1500	15700	5.2	17.49							
109	1500	15200	5.2	15.64*							
121	1500	14600	5.4	14.06							
139	1500	13800	5.4	12.20							
156	1500	13100	5.5	10.93							
183	1080	12700	7.1	9.30							
206	1080	12100	7.1	8.26							
230	1080	11500	7.2	7.39							
256	1080	11000	7.5	6.64							
295	1080	10300	7.7	5.76							
329	1080	9830	7.8	5.16							
397	1010	9350	8.1	4.28							

F77R37, n_e=1700 min^{-1}								1500 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
					3 3			
0.09	1500	15700	-	19180				
0.10	1500	15700	-	17593				
0.11	1500	15700	-	16128				
0.11	1500	15700	-	14978				
0.12	1500	15700	-	13731				
0.14	1500	15700	-	12049				
0.15	1500	15700	-	11035				
0.18	1500	15700	-	9683				
0.20	1500	15700	-	8464				
0.23	1500	15700	-	7520				
0.26	1500	15700	-	6580				
0.29	1500	15700	-	5808				
0.34	1500	15700	-	5026				
0.38	1500	15700	-	4435				
0.44	1500	15700	-	3832				
0.50	1500	15700	-	3381				
0.57	1500	15700	-	2978				
0.65	1500	15700	-	2613				
0.74	1500	15700	-	2284				
0.84	1500	15700	-	2029				
					2 3			
0.34	1110	17900	-	4931				
0.38	1110	17900	-	4523				
0.44	1110	17900	-	3851				
0.51	1110	17900	-	3320				
0.55	1110	17900	-	3095				
0.63	1110	17900	-	2705				
0.67	1110	17900	-	2536				

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F77R37, n_e=1700 min^{-1}								1500 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
0.76	1110	17900	-	2238				
0.83	1110	17900	-	2039				
0.97	1110	17900	-	1759				
1.0	1110	17900	-	1639				
1.2	1110	17900	-	1433				
1.3	1110	17900	-	1343				
1.4	1110	17900	-	1185				
1.6	1110	17900	-	1051				
1.9	1110	17900	-	893				
3 2								
0.98	1500	15700	-	1728				
1.1	1500	15700	-	1544				
1.3	1500	15700	-	1354				
1.4	1500	15700	-	1200				
1.6	1500	15700	-	1053				
1.9	1500	15700	-	910				
2.1	1500	15700	-	810				
2.4	1500	15700	-	710				
2.8	1500	15700	-	615*				
3.2	1500	15700	-	538				
3.5	1500	15700	-	480				
4.1	1500	15700	-	413				
4.6	1500	15700	-	367				
5.3	1500	15700	-	323				
6.1	1500	15700	-	280				
6.9	1500	15700	-	247				
7.7	1500	15700	-	221				
8.5	1500	15700	-	199				
2 2								
2.1	1110	17900	-	815				
2.4	1110	17900	-	706				
2.6	1110	17900	-	660				
3.0	1110	17900	-	571				
3.5	1110	17900	-	485				
3.9	1110	17900	-	433				
4.6	1110	17900	-	370				
4.9	1110	17900	-	346				
5.8	1110	17900	-	292				

F87, n_e=1700 min^{-1}													3000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L
3													
6.3	3000	19800	7	270.68									
6.7	3000	19800	7	255.37									
7.4	3000	19800	7	228.93									
8.6	3000	19800	7	197.20									
9.4	3000	19800	7	179.97									

F87, n_e=1700 min^{-1}													3000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L
11	3000	19800	7	159.61									
13	3000	19800	7	134.16									
14	3000	19800	7	123.29									
16	3000	19800	7.1	109.49									
17	3000	19800	7.1	97.89									
19	3000	19800	7.1	88.01									
22	3000	18700	7.1	76.39									
25	3000	17600	7.1	68.40									
30	3000	15800	7.1	56.75									
34	2940	15000	7.5	50.36									
38	2820	14500	7.5	45.28									
43	2720	13800	7.5	39.30									
48	2610	13300	7.6	35.19									
58	2510	12300	7.6	29.20									
 2													
50	2610	13000	6.6	33.92									
59	2450	12400	6.6	28.78									
64	3000	9690	6.8	26.50									
72	3000	8910	6.8	23.68									
80	3000	8200	6.8	21.32*									
88	3000	7560	6.9	19.31									
99	3000	6810	6.9	17.12									
110	3000	6200	7	15.48									
130	3000	5240	7	13.12*									
148	3000	4500	7.1	11.46									
177	2880	4040	7.2	9.58									
205	1530	7920	6.7	8.29									
231	1530	7350	6.8	7.35									
256	1530	6900	6.8	6.65									
302	1530	6180	7	5.63									
346	1530	5620	7.1	4.92									
413	1460	5210	7.4	4.12									

F87R57, n_e=1700 min^{-1}										3000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
 3  3										
0.07	3000	19800	-	23042						
0.08	3000	19800	-	20462						
0.09	3000	19800	-	18238						
0.11	3000	19800	-	15877						
0.12	3000	19800	-	14099						
0.14	3000	19800	-	12205						
0.16	3000	19800	-	10433						
0.18	3000	19800	-	9381						
0.21	3000	19800	-	8142						
0.24	3000	19800	-	7100						
0.27	3000	19800	-	6273						

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F87R57, n_e=1700 min^{-1}										3000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
0.31	3000	19800	-	5510						
0.34	3000	19800	-	4954						
0.40	3000	19800	-	4245						
0.46	3000	19800	-	3721						
										
0.34	3000	19800	-	4952						
0.37	3000	19800	-	4562						
0.43	3000	19800	-	3919						
0.49	3000	19800	-	3503						
0.53	3000	19800	-	3196						
0.60	3000	19800	-	2857						
0.67	3000	19800	-	2524						
0.80	3000	19800	-	2134						
0.89	3000	19800	-	1913*						
0.99	3000	19800	-	1717						
1.2	3000	19800	-	1476						
1.3	3000	19800	-	1278						
1.5	3000	19800	-	1142						
1.7	3000	19800	-	988						
1.9	3000	19800	-	883						
2.3	3000	19800	-	748						
										
0.52	3000	19800	-	3244						
0.59	3000	19800	-	2881						
0.66	3000	19800	-	2576						
0.77	3000	19800	-	2199						
0.88	3000	19800	-	1930						
0.99	3000	19800	-	1709						
1.1	3000	19800	-	1493						
1.3	3000	19800	-	1300						
1.5	3000	19800	-	1148						
1.7	3000	19800	-	1010						
1.9	3000	19800	-	887						
2.2	3000	19800	-	780						
2.5	3000	19800	-	674						
2.8	3000	19800	-	609						
3.3	3000	19800	-	515						
3.8	3000	19800	-	452						
4.9	3000	19800	-	345						
5.7	3000	19800	-	300						
6.8	3000	19800	-	249						
										
2.6	3000	19800	-	662						
2.9	3000	19800	-	592						
3.3	3000	19800	-	519						
3.6	3000	19800	-	468						
4.3	3000	19800	-	398						
4.9	3000	19800	-	350						
5.4	3000	19800	-	315*						

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F87R57, n_e=1700 min^{-1}										3000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
6.0	3000	19800	-	281						
7.1	3000	19800	-	240						
8.1	3000	19800	-	211						
8.8	3000	19800	-	193						

F97, n_e=1700 min^{-1}												4300 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S
							3					
6.1	4300	29900	6	276.77								
6.7	4300	29900	6	253.41								
7.6	4300	29900	6	223.88								
9.0	4300	29900	6	189.92								
9.7	4300	29900	6	174.87								
11	4300	29900	6	156.30								
12	4300	29900	6	140.71								
13	4300	29900	6	127.42								
15	4300	29900	6	112.99								
17	4300	29900	6	102.16								
17	4300	29900	6.2	97.58								
19	4300	29900	6.3	89.85								
20	4300	29900	6	86.59								
21	4300	29100	6.3	80.31								
22	4300	28200	6	75.63								
24	4300	27600	6.3	72.29								
26	4300	26200	6.3	65.47								
29	4300	24600	6.3	58.06								
32	4300	23300	6.3	52.49								
38	4300	21200	6.4	44.49								
44	4300	19600	6.4	38.86								
52	4300	17600	6.4	32.50								
							2					
39	3070	25200	5.6	43.28								
46	3070	23300	5.6	36.64								
50	4300	18100	5.7	33.91								
56	4300	16900	5.8	30.39								
62	4300	15800	5.8	27.44*								
68	4300	14800	5.8	24.92								
77	4300	13700	5.9	22.11								
85	4300	12800	5.8	20.07								
99	4300	11400	5.9	17.25*								
113	4300	10200	5.9	15.06								
133	4300	8860	6	12.77								
152	4100	8510	6	11.16								
188	2360	11900	8.6	9.06								
207	2360	11200	8.5	8.22								
240	2360	10200	8.6	7.07								
276	2250	9800	8.7	6.17								

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F97, n_e=1700 min^{-1}												4300 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S
325	2150	9200	8.8	5.23								
372	2050	8820	9	4.57								
439	1800	8890	9	3.87								

F97R57, n_e=1700 min^{-1}										4300 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
						3 3				
0.06	4300	29900	-	29211						
0.06	4300	29900	-	26911						
0.07	4300	29900	-	23814						
0.08	4300	29900	-	20813						
0.09	4300	29900	-	18119*						
0.11	4300	29900	-	15472						
0.12	4300	29900	-	14022						
0.14	4300	29900	-	12324						
0.16	4300	29900	-	10838						
0.18	4300	29900	-	9576						
0.20	4300	29900	-	8318						
0.23	4300	29900	-	7328						
0.26	4300	29900	-	6469						
0.30	4300	29900	-	5615						
0.34	4300	29900	-	4961*						
0.39	4300	29900	-	4333*						
						2 3				
0.27	4300	29900	-	6338						
0.30	4300	29900	-	5680						
0.34	4300	29900	-	5016						
0.39	4300	29900	-	4367						
0.43	4300	29900	-	3914						
0.51	4300	29900	-	3357						
0.56	4300	29900	-	3009						
0.69	4300	29900	-	2448						
0.77	4300	29900	-	2199						
0.86	4300	29900	-	1971						
0.98	4300	29900	-	1741*						
1.2	4300	29900	-	1468						
1.3	4300	29900	-	1316						
1.4	4300	29900	-	1189*						
1.7	4300	29900	-	1023						
						3 2				
0.44	4300	29900	-	3906						
0.51	4300	29900	-	3352						
0.58	4300	29900	-	2907						
0.67	4300	29900	-	2553						
0.76	4300	29900	-	2245						
0.86	4300	29900	-	1970						
0.99	4300	29900	-	1722						

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F97R57, n_e=1700 min^{-1}										4300 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
1.1	4300	29900	-	1527						
1.3	4300	29900	-	1327						
1.5	4300	29900	-	1171*						
1.7	4300	29900	-	1022						
1.9	4300	29900	-	898						
2.2	4300	29900	-	784						
2.5	4300	29900	-	690						
2.8	4300	29900	-	605						
3.2	4300	29900	-	529						
3.6	4300	29900	-	467						
4.2	4300	29900	-	406						
4.7	4300	29900	-	363						
6.0	4300	29900	-	285						
6.9	4300	29900	-	245						
8.2	4300	29900	-	208						
8.7	4300	29900	-	195						
 2 2										
1.9	4300	29900	-	892						
2.2	4300	29900	-	760						
2.5	4300	29900	-	667						
3.0	4300	29900	-	569						
3.3	4300	29900	-	510						
3.6	4300	29900	-	473*						
4.2	4300	29900	-	403						
4.7	4300	29900	-	361						
5.4	4300	29900	-	317						
6.2	4300	29900	-	275						
7.0	4300	29900	-	242						

F107, n_e=1700 min^{-1}										7840 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME
 3											
6.7	7680	49800	5.4	254.40*							
7.9	7680	49800	5.4	215.37							
8.5	7680	49800	5.4	199.31							
9.5	7680	49800	5.4	178.64							
11	7680	49800	5.4	161.28*							
12	7680	49800	5.4	146.49							
13	7680	49800	5.4	129.97							
14	7680	49800	5.4	117.94							
17	7680	49800	5.4	101.38*							
18	7680	49800	5.6	92.47*							
19	7680	49800	5.4	88.49							
20	7680	49800	5.7	83.99							
23	7680	49000	5.7	74.52							
25	7680	47000	5.7	67.62							
29	7680	44000	5.7	58.12*							

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F107, n_e=1700 min^{-1}											7840 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME
34	7680	41400	5.7	50.73							
40	7680	38400	5.7	43.03							
45	7680	36100	5.7	37.61							
53	7680	32900	5.8	31.80							
							2				
50	7400	35100	5.1	33.79*							
62	7840	29600	5.2	27.57							
68	7840	27900	5.2	25.14							
78	7840	25200	5.2	21.76*							
89	7840	23000	5.2	19.20*							
103	7840	20500	5.3	16.58							
116	7680	19100	5.3	14.67							
138	7000	19500	5.4	12.33							
171	6500	18600	5.4	9.96							
175	4910	20800	6.7	9.69							
203	4800	19300	6.7	8.37							
230	4600	18800	6.8	7.40							
273	4600	16600	7	6.22							
338	4600	14000	7	5.03							

F107R77, n_e=1700 min^{-1}											7840 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
						3	3				
0.07	7680	49800	-	25375*							
0.08	7680	49800	-	21652							
0.09	7680	49800	-	18933							
0.10	7680	49800	-	16888							
0.12	7680	49800	-	14767							
0.15	7680	49800	-	11348*							
0.17	7680	49800	-	10039							
0.20	7680	49800	-	8548							
0.22	7680	49800	-	7674							
0.25	7680	49800	-	6767							
0.29	7680	49800	-	5954							
0.33	7680	49800	-	5223							
0.37	7680	49800	-	4567							
0.43	7680	49800	-	3948							
0.48	7680	49800	-	3521							
						2	3				
0.32	7840	49400	-	5383*							
0.37	7840	49400	-	4593							
0.42	7840	49400	-	4016							
0.45	7840	49400	-	3815							
0.51	7840	49400	-	3347							
0.60	7840	49400	-	2839							
0.66	7840	49400	-	2563*							
0.75	7840	49400	-	2255							

F107R77, n_e=1700 min^{-1}											7840 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
0.80	7840	49400	-	2129							
0.94	7840	49400	-	1813							
1.1	7840	49400	-	1590							
1.2	7840	49400	-	1436							
1.3	7840	49400	-	1263							
1.4	7840	49400	-	1193							
1.7	7840	49400	-	1015							
1.8	7840	49400	-	923							
2.1	7840	49400	-	800							
2.4	7840	49400	-	696							
3 2											
0.56	7680	49800	-	3037							
0.62	7680	49800	-	2756							
0.72	7680	49800	-	2369							
0.82	7680	49800	-	2068							
0.93	7680	49800	-	1826							
1.1	7680	49800	-	1597							
1.2	7680	49800	-	1401							
1.4	7680	49800	-	1243							
1.6	7680	49800	-	1087							
1.8	7680	49800	-	950							
2.0	7680	49800	-	834							
2.3	7680	49800	-	736							
2.7	7680	49800	-	640							
3.0	7680	49800	-	560							
3.5	7680	49800	-	489							
3.9	7680	49800	-	436							
4.6	7680	49800	-	370							
5.1	7680	49800	-	333							
5.8	7680	49800	-	291							
6.7	7680	49800	-	255							
7.6	7680	49800	-	225*							
8.9	7680	49800	-	190							
2 2											
2.6	7840	49400	-	644							
2.9	7840	49400	-	591							
3.3	7840	49400	-	518*							
3.5	7840	49400	-	491							
4.0	7840	49400	-	430							
4.4	7840	49400	-	387							
5.0	7840	49400	-	340							
5.7	7840	49400	-	300							
6.4	7840	49400	-	266							

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F127, n_e=1700 min^{-1}									12000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME DRN280S DRN280M
						3			
10.0	12000	90000	4.9	170.83					
11	12000	90000	4.9	153.67*					
14	12000	84500	4.9	125.37					
15	12000	81400	4.9	114.34					
17	12000	76800	4.9	98.95					
19	12000	72900	4.9	87.31*					
23	12000	68600	4.9	75.41*					
24	12000	66400	5.2	70.07					
27	12000	63600	5.2	63.91					
31	12000	59200	5.2	55.31					
35	12000	55400	5.2	48.80					
40	12000	51200	5.2	42.15					
46	12000	47700	5.2	37.28					
54	12000	43000	5.3	31.33					
67	12000	37400	5.3	25.30					
						2			
63	8500	51000	4.6	26.86					
69	8500	49100	4.6	24.57					
80	12000	33100	4.7	21.38					
90	11000	34200	4.7	18.87					
104	11000	30900	4.7	16.36					
117	11000	28200	4.7	14.55					
136	10000	29100	4.8	12.54					
167	9500	27000	4.9	10.19					
192	7000	33300	6.3	8.86					
216	6000	34100	6.4	7.88					
250	7000	29400	6.5	6.80					
308	6000	29100	6.7	5.52					
363	6000	27000	6.8	4.68					

F127R77, n_e=1700 min^{-1}											12000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
						3	3				
0.07	12000	90000	-	24478*							
0.08	12000	90000	-	22323							
0.09	12000	90000	-	19048							
0.10	12000	90000	-	16656							
0.12	12000	90000	-	14722*							
0.13	12000	90000	-	12912							
0.15	12000	90000	-	11656*							
0.17	12000	90000	-	10191							
0.19	12000	90000	-	8831							
0.22	12000	90000	-	7643							
0.25	12000	90000	-	6715							

F127R77, n_e=1700 min^{-1}											12000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
0.29	12000	90000	-	5925							
0.33	12000	90000	-	5153							
0.38	12000	90000	-	4533							
0.43	12000	90000	-	3926							
0.49	12000	90000	-	3454							
0.56	12000	90000	-	3031							
						3	2				
0.64	12000	90000	-	2672							
0.72	12000	90000	-	2357*							
0.83	12000	90000	-	2038							
0.95	12000	90000	-	1784							
1.1	12000	90000	-	1606							
1.2	12000	90000	-	1390							
1.4	12000	90000	-	1220							
1.6	12000	90000	-	1077							
1.8	12000	90000	-	930							
2.1	12000	90000	-	820							
2.3	12000	90000	-	727							
2.6	12000	90000	-	648							
3.1	12000	90000	-	549							
3.4	12000	90000	-	495							
4.0	12000	90000	-	428							
4.5	12000	90000	-	376							

F127R87, n_e=1700 min^{-1}												12000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L
							3	2				
3.5	12000	90000	-	483								
4.1	12000	90000	-	418								
4.5	12000	90000	-	374								
5.4	12000	90000	-	312								
5.8	12000	90000	-	293								
6.6	12000	90000	-	259								
7.6	12000	90000	-	223								
8.6	12000	90000	-	198								
10	12000	90000	-	166								

F157, n_e=1700 min^{-1}										18000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME DRN280S DRN280M	DRN315S DRN315ME	DRN315L DRN315H
						3				
6.4	18000	100300	4.5	267.43						
7.8	18000	100300	4.5	217.62*						
9.5	18000	100300	4.5	178.20*						
10	18000	100300	4.5	162.96						

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F157, n_e=1700 min^{-1} — 18000 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME DRN280S DRN280M	DRN315S DRN315ME	DRN315L DRN315H
12	18000	100300	4.5	141.80*						
14	18000	100300	4.5	125.14						
16	18000	97400	4.5	108.49						
18	18000	92800	4.5	96.53*						
20	18000	88300	4.8	85.80*						
22	18000	85000	4.8	78.46						
25	18000	80100	4.8	68.28*						
28	18000	75800	4.8	60.25						
33	18000	71100	4.8	52.24						
37	18000	67400	4.8	46.48*						
42	18000	62900	4.9	40.06						
52	18000	57000	4.9	32.55						
62	18000	52500	4.9	27.60						
 2										
32	8000	91900	4.3	53.55						
39	10000	81700	4.3	43.94*						
48	11000	73600	4.4	35.75*						
59	17000	55400	4.4	28.60*						
67	15000	56300	4.4	25.43						
77	18000	46800	4.4	22.16						
86	17000	46100	4.4	19.77						
101	18000	40300	4.5	16.85						
122	17000	38100	4.6	13.96						
143	16000	36800	4.6	11.92						

F157R97, n_e=1700 min^{-1} — 18000 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S
 3  3													
0.05	18000	100300	-	31434									
0.06	18000	100300	-	26173									
0.07	18000	100300	-	23464									
0.08	18000	100300	-	20212									
0.09	18000	100300	-	17984*									
0.10	18000	100300	-	16358									
0.12	18000	100300	-	13751									
0.14	18000	100300	-	12235									
0.17	18000	100300	-	10033									
0.19	18000	100300	-	9021									
0.21	18000	100300	-	8026									
0.24	18000	100300	-	7075									
0.27	18000	100300	-	6295									
0.31	18000	100300	-	5404									
0.35	18000	100300	-	4831									
0.41	18000	100300	-	4130*									
0.47	18000	100300	-	3607									
0.53	18000	100300	-	3210									
0.61	18000	100300	-	2780									
1.2	18000	100300	-	1441									

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F157R97, n_e=1700 min^{-1}													18000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S
							3	2					
0.70	18000	100300	-	2427									
0.78	18000	100300	-	2185									
0.87	18000	100300	-	1944*									
1.0	18000	100300	-	1674									
1.3	18000	100300	-	1308									
1.5	18000	100300	-	1169									
1.8	18000	100300	-	953									
2.0	18000	100300	-	845									
2.2	18000	100300	-	764									
2.5	18000	100300	-	680									
3.0	18000	100300	-	576									
3.4	18000	100300	-	503									
3.8	18000	100300	-	446									
4.8	18000	100300	-	353									
5.6	18000	100300	-	302									
6.2	18000	100300	-	273									
7.3	18000	100300	-	232									
8.4	18000	100300	-	202									
8.6	18000	100300	-	197									

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9.3 Selection tables F..DRN. in kW

P_m = 0.12 kW												
n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC						m kg	
0.08	10800	22323	90000	1.10								
0.09	9240	19048	90000	1.30								
0.10	8080	16656	90000	1.50		**FA**	**127R77**	**DR**	**63S4**		425	469
0.11	7140	14722	90000	1.70		**FAF**	**127R77**	**DR**	**63S4**		465	469
0.13	6130	12912	90000	1.95		**F**	**127R77**	**DR**	**63S4**		460	469
0.14	5360	11656	90000	2.2		**FF**	**127R77**	**DR**	**63S4**		510	469
0.16	4840	10191	90000	2.5								
0.11	7170	14767	51100	1.05								
0.15	5510	11348	55200	1.40								
0.17	4280	10039	57800	1.80								
0.20	3420	8548	59600	2.2		**FA**	**107R77**	**DR**	**63S4**		275	469
0.22	3640	7674	59100	2.1		**FAF**	**107R77**	**DR**	**63S4**		295	469
0.25	3110	6767	60200	2.5		**F**	**107R77**	**DR**	**63S4**		290	469
0.28	2590	5954	61100	3.0		**FF**	**107R77**	**DR**	**63S4**		320	469
0.32	2220	5223	61800	3.5								
0.37	2210	4567	61800	3.5								
0.48	1620	3521	62800	4.7								
0.26	3210	6469	32800	1.35		**FA**	**97R57**	**DR**	**63S4**		185	469
0.30	3020	5615	33200	1.40		**FAF**	**97R57**	**DR**	**63S4**		205	469
0.34	2610	4961	34200	1.65		**F**	**97R57**	**DR**	**63S4**		190	469
0.39	2280	4333	34800	1.90		**FF**	**97R57**	**DR**	**63S4**		225	469
0.43	2130	3906	35100	2.0		**FA**	**97R57**	**DR**	**63S4**		185	469
0.50	1840	3352	35700	2.3		**FAF**	**97R57**	**DR**	**63S4**		205	469
0.58	1490	2907	36300	2.9		**F**	**97R57**	**DR**	**63S4**		190	469
0.66	1390	2553	36400	3.1		**FF**	**97R57**	**DR**	**63S4**		225	469
						FA	**87R57**	**DR**	**63S4**		120	469
0.40	2160	4245	25900	1.40		**FAF**	**87R57**	**DR**	**63S4**		130	469
0.45	1670	3721	27400	1.80		**F**	**87R57**	**DR**	**63S4**		125	469
						FF	**87R57**	**DR**	**63S4**		140	469
0.52	1780	3244	27000	1.70								
0.58	1580	2881	27600	1.90								
0.65	1410	2576	28000	2.1								
0.76	1200	2199	28500	2.5		**FA**	**87R57**	**DR**	**63S4**		115	469
0.87	1030	1930	28900	2.9		**FAF**	**87R57**	**DR**	**63S4**		130	469
0.98	930	1709	29100	3.2		**F**	**87R57**	**DR**	**63S4**		125	469
1.1	820	1493	29300	3.6		**FF**	**87R57**	**DR**	**63S4**		140	469
1.3	630	1300	29700	4.8								
1.5	575	1148	29800	5.2								
						FA	**77R37**	**DR**	**63S4**		65	469
0.64	1450	2613	16000	1.05		**FAF**	**77R37**	**DR**	**63S4**		72	469
0.74	1250	2284	17200	1.20		**F**	**77R37**	**DR**	**63S4**		69	469
0.83	1100	2029	17900	1.35		**FF**	**77R37**	**DR**	**63S4**		80	469
0.97	930	1728	18600	1.60								
1.1	870	1544	18800	1.70								
1.2	760	1354	19100	1.95		**FA**	**77R37**	**DR**	**63S4**		65	469
1.4	675	1200	19300	2.2		**FAF**	**77R37**	**DR**	**63S4**		72	469
1.6	590	1053	19500	2.5		**F**	**77R37**	**DR**	**63S4**		69	469
1.9	500	910	19700	3.0		**FF**	**77R37**	**DR**	**63S4**		80	469
2.1	410	810	19800	3.6								
2.4	360	710	19900	4.2								
1.2	755	1429	10800	1.10								
1.3	685	1271	11400	1.20								
1.5	565	1102	12100	1.45								
1.7	495	970	12400	1.65		**FA**	**67R37**	**DR**	**63S4**		43	469
2.0	435	858	12700	1.90		**FAF**	**67R37**	**DR**	**63S4**		49	469
2.2	380	755	12900	2.1		**F**	**67R37**	**DR**	**63S4**		46	469
2.6	325	641	13000	2.5		**FF**	**67R37**	**DR**	**63S4**		52	469
2.9	305	572	13000	2.6								
3.3	255	509	13000	3.2								
3.9	220	437	13000	3.6								

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P_m = 0.12 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
2.0	490	851	9980	1.20							
2.3	415	738	10400	1.45		**FA**	**57R37**	**DR**	**63S4**	39	469
2.6	360	646	10800	1.65		**FAF**	**57R37**	**DR**	**63S4**	45	469
3.0	305	558	11100	1.95		**F**	**57R37**	**DR**	**63S4**	39	469
3.3	270	506	11300	2.2		**FF**	**57R37**	**DR**	**63S4**	46	469
3.7	230	452	11500	2.6							
4.0	245	426	11400	2.4							
4.4	215	382	11500	2.8		**FA**	**57R37**	**DR**	**63S4**	38	469
5.1	185	330	11500	3.2		**FAF**	**57R37**	**DR**	**63S4**	44	469
5.6	167	298	11500	3.6		**F**	**57R37**	**DR**	**63S4**	39	469
6.4	147	262	11500	4.1		**FF**	**57R37**	**DR**	**63S4**	45	469
						FA	**47R17**	**DR**	**63S4**	24	469
3.1	305	543	6970	1.30		**FAF**	**47R17**	**DR**	**63S4**	26	469
3.5	260	475	7350	1.50		**F**	**47R17**	**DR**	**63S4**	25	469
4.0	230	419	7590	1.75		**FF**	**47R17**	**DR**	**63S4**	28	469
3.2	305	524	7010	1.30							
3.4	280	489	7210	1.40							
3.9	240	427	7510	1.65		**FA**	**47R17**	**DR**	**63S4**	23	469
4.4	210	381	7690	1.85		**FAF**	**47R17**	**DR**	**63S4**	26	469
5.0	188	334	7830	2.1		**F**	**47R17**	**DR**	**63S4**	24	469
5.7	164	295	7950	2.4		**FF**	**47R17**	**DR**	**63S4**	27	469
6.6	135	253	8060	3.0							
5.2	174	322	4630	1.15		**FA**	**37R17**	**DR**	**63S4**	19	469
6.1	152	278	4860	1.30		**FAF**	**37R17**	**DR**	**63S4**	20	469
6.9	128	242	5070	1.55		**F**	**37R17**	**DR**	**63S4**	19	469
7.6	124	221	5100	1.60		**FF**	**37R17**	**DR**	**63S4**	21	469
5.2	188	326	4450	1.05							
5.9	162	285	4760	1.25		**FA**	**37R17**	**DR**	**63S4**	19	469
6.7	141	250	4960	1.40		**FAF**	**37R17**	**DR**	**63S4**	20	469
7.7	125	219	5090	1.60		**F**	**37R17**	**DR**	**63S4**	19	469
9.0	105	186	5220	1.90		**FF**	**37R17**	**DR**	**63S4**	21	469
10	94	167	5290	2.1							
7.6	123	221	4500	1.05		**FA**	**27R17**	**DR**	**63S4**	13	469
9.8	94	172	4500	1.40		**FAF**	**27R17**	**DR**	**63S4**	14	469
11	82	153	4500	1.60		**F**	**27R17**	**DR**	**63S4**	13	469
13	68	130	4500	1.90		**FF**	**27R17**	**DR**	**63S4**	14	469
8.0	119	211	4500	1.10							
9.0	104	186	4500	1.25		**FA**	**27R17**	**DR**	**63S4**	13	469
12	82	142	4500	1.60		**FAF**	**27R17**	**DR**	**63S4**	13	469
14	71	124	4500	1.85		**F**	**27R17**	**DR**	**63S4**	13	469
15	61	109	4500	2.1		**FF**	**27R17**	**DR**	**63S4**	14	469
18	53	96	4500	2.4							
4.8	235	228.99	13000	3.4		**FA**	**67**	**DR**	**63M6**	32	429
5.6	200	195.39	13000	4.0		**FAF**	**67**	**DR**	**63M6**	38	428
6.4	178	170.85	13000	4.6		**F**	**67**	**DR**	**63M6**	35	427
6.8	169	162.31	13000	4.8		**FF**	**67**	**DR**	**63M6**	41	428
7.7	148	142.40	13000	5.5							
5.5	205	199.70	11500	2.9							
6.0	191	183.60	11500	3.1		**FA**	**57**	**DR**	**63M6**	28	423
7.0	164	157.09	11500	3.7		**FAF**	**57**	**DR**	**63M6**	34	422
8.1	142	136.16	11500	4.2		**F**	**57**	**DR**	**63M6**	28	421
8.6	133	127.27	11500	4.5		**FF**	**57**	**DR**	**63M6**	35	422
8.4	136	199.70	11500	4.4		**FA**	**57**	**DR**	**63S4**	28	423
9.2	125	183.60	11500	4.8		**FAF**	**57**	**DR**	**63S4**	34	422
11	107	157.09	11500	5.6		**F**	**57**	**DR**	**63S4**	28	421
12	93	136.16	11500	6.5		**FF**	**57**	**DR**	**63S4**	35	422
5.8	199	190.76	7780	2.0							
6.3	183	175.38	7860	2.2							
7.3	156	150.06	7980	2.6		**FA**	**47**	**DR**	**63M6**	21	417
8.5	136	130.07	8060	3.0		**FAF**	**47**	**DR**	**63M6**	24	416
9.1	127	121.57	8090	3.2		**F**	**47**	**DR**	**63M6**	22	415
10	109	105.09	8140	3.6		**FF**	**47**	**DR**	**63M6**	25	416
12	93	89.29	8180	4.3							
14	83	79.72	8210	4.8							

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P_m = 0.12 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
8.8	130	190.76	8080	3.1		**FA**	**47**	**DR**	**63S4**	21	417
9.6	120	175.38	8110	3.3		**FAF**	**47**	**DR**	**63S4**	24	416
11	102	150.06	8160	3.9		**F**	**47**	**DR**	**63S4**	22	415
13	89	130.07	8200	4.5		**FF**	**47**	**DR**	**63S4**	25	416
8.6	134	128.51	5020	1.50							
9.3	123	117.88	5100	1.65		**FA**	**37**	**DR**	**63M6**	16	411
11	105	100.36	5230	1.90		**FAF**	**37**	**DR**	**63M6**	18	410
13	90	86.53	5310	2.2		**F**	**37**	**DR**	**63M6**	16	409
14	84	80.65	5340	2.4		**FF**	**37**	**DR**	**63M6**	18	410
13	88	128.51	5320	2.3							
14	80	117.88	5360	2.5		**FA**	**37**	**DR**	**63S4**	16	411
17	68	100.36	5410	2.9		**FAF**	**37**	**DR**	**63S4**	18	410
19	59	86.53	5440	3.4		**F**	**37**	**DR**	**63S4**	16	409
21	55	80.65	5450	3.6		**FF**	**37**	**DR**	**63S4**	18	410
10	114	109.90	4500	1.15		**FA**	**27**	**DR**	**63M6**	9.9	406
12	99	94.76	4500	1.30		**FAF**	**27**	**DR**	**63M6**	11	405
12	92	88.32	4500	1.40		**F**	**27**	**DR**	**63M6**	10	404
14	80	77.21	4500	1.60		**FF**	**27**	**DR**	**63M6**	11	405
12	96	140.74	4500	1.35							
13	88	129.09	4500	1.50							
15	75	109.90	4500	1.75							
18	65	94.76	4500	2.0							
19	60	88.32	4500	2.2							
22	53	77.21	4500	2.5		**FA**	**27**	**DR**	**63S4**	9.9	406
23	49	72.37	4500	2.6		**FAF**	**27**	**DR**	**63S4**	11	405
26	44	63.86	4500	3.0		**F**	**27**	**DR**	**63S4**	10	404
30	39	56.62	4500	3.4		**FF**	**27**	**DR**	**63S4**	11	405
33	34	50.19	4500	3.8							
36	32	46.78	4430	4.1							
41	28	40.89	4260	4.7							
44	26	38.33	4180	5.0							
50	23	33.83	4030	5.6							
57	20	29.56	3870	6.5							
62	19	27.18	3770	7.0							
72	16	23.25	3590	8.2							
83	14	20.15	3440	9.5							
89	13	18.84	3370	10							
103	11	16.28	3220	12							
121	9.4	13.84	3060	14							
136	8.4	12.35	2950	15		**FA**	**27**	**DR**	**63S4**	9.7	406
159	7.2	10.55	2810	18		**FAF**	**27**	**DR**	**63S4**	10	405
170	6.7	9.88	2750	19		**F**	**27**	**DR**	**63S4**	10	404
179	6.4	9.40	2700	20		**FF**	**27**	**DR**	**63S4**	11	405
207	5.5	8.13	2580	22							
243	4.7	6.91	2440	24							
272	4.2	6.17	2360	26							
319	3.6	5.27	2240	28							
341	3.4	4.93	2190	29							
404	2.8	4.16	2080	31							

P_m = 0.18 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.13	10700	12912	90000	1.10							
0.14	9480	11656	90000	1.25		**FA**	**127R77**	**DR**	**63M4**	425	469
0.16	8440	10191	90000	1.40		**FAF**	**127R77**	**DR**	**63M4**	465	469
0.18	6890	8831	90000	1.75		**F**	**127R77**	**DR**	**63M4**	460	469
0.21	5960	7643	90000	2.0		**FF**	**127R77**	**DR**	**63M4**	510	469
0.24	5620	6715	90000	2.1							

P_m = 0.18 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.19	6450	8548	52900	1.20							
0.21	6360	7674	53200	1.20							
0.24	5500	6767	55200	1.40		**FA**	**107R77**	**DR**	**63M4**	275	469
0.27	4700	5954	56900	1.65		**FAF**	**107R77**	**DR**	**63M4**	295	469
0.31	4070	5223	58300	1.90		**F**	**107R77**	**DR**	**63M4**	290	469
0.35	3820	4567	58800	2.0		**FF**	**107R77**	**DR**	**63M4**	320	469
0.46	2860	3521	60600	2.7							
0.53	2540	3037	61200	3.0		**FA**	**107R77**	**DR**	**63M4**	275	469
0.59	2310	2756	61600	3.3		**FAF**	**107R77**	**DR**	**63M4**	295	469
0.68	1980	2369	62200	3.9		**F**	**107R77**	**DR**	**63M4**	290	469
0.78	1730	2068	62600	4.4		**FF**	**107R77**	**DR**	**63M4**	315	469
						FA	**97R57**	**DR**	**63M4**	185	469
0.37	3810	4333	31300	1.15		**FAF**	**97R57**	**DR**	**63M4**	205	469
						F	**97R57**	**DR**	**63M4**	190	469
						FF	**97R57**	**DR**	**63M4**	225	469
0.41	3520	3906	32000	1.20							
0.48	3040	3352	33200	1.40							
0.56	2530	2907	34300	1.70							
0.63	2300	2553	34800	1.85		**FA**	**97R57**	**DR**	**63M4**	185	469
0.72	2020	2245	35300	2.1		**FAF**	**97R57**	**DR**	**63M4**	205	469
0.82	1750	1970	35800	2.5		**F**	**97R57**	**DR**	**63M4**	190	469
0.94	1560	1722	36200	2.8		**FF**	**97R57**	**DR**	**63M4**	225	469
1.1	1380	1527	36400	3.1							
1.2	1110	1327	36900	3.8							
1.4	1060	1171	36900	4.0							
0.63	2340	2576	25400	1.30							
0.74	1980	2199	26500	1.50							
0.84	1720	1930	27200	1.75							
0.95	1540	1709	27700	1.95		**FA**	**87R57**	**DR**	**63M4**	115	469
1.1	1350	1493	28200	2.2		**FAF**	**87R57**	**DR**	**63M4**	130	469
1.2	1090	1300	28800	2.7		**F**	**87R57**	**DR**	**63M4**	125	469
1.4	980	1148	29000	3.0		**FF**	**87R57**	**DR**	**63M4**	140	469
1.6	850	1010	29300	3.5							
1.8	760	887	29400	3.9							
2.1	655	780	29600	4.6							
1.1	1420	1544	16200	1.05							
1.2	1240	1354	17200	1.20							
1.4	1100	1200	17900	1.35		**FA**	**77R37**	**DR**	**63M4**	65	469
1.5	960	1053	18400	1.55		**FAF**	**77R37**	**DR**	**63M4**	72	469
1.8	820	910	18900	1.80		**F**	**77R37**	**DR**	**63M4**	69	469
2.0	700	810	19300	2.1		**FF**	**77R37**	**DR**	**63M4**	80	469
2.3	615	710	19500	2.4							
2.6	550	615	19600	2.7							
1.9	740	858	10900	1.10							
2.1	650	755	11600	1.25							
2.5	550	641	12100	1.50		**FA**	**67R37**	**DR**	**63M4**	43	469
2.8	510	572	12300	1.60		**FAF**	**67R37**	**DR**	**63M4**	49	469
3.2	440	509	12700	1.85		**F**	**67R37**	**DR**	**63M4**	46	469
3.7	380	437	12900	2.1		**FF**	**67R37**	**DR**	**63M4**	52	469
4.2	340	384	13000	2.4							
3.2	460	500	12600	1.80							
3.6	420	454	12700	1.95							
4.1	360	392	12900	2.3		**FA**	**67R37**	**DR**	**63M4**	42	469
4.9	300	333	13000	2.7		**FAF**	**67R37**	**DR**	**63M4**	48	469
5.5	265	297	13000	3.1		**F**	**67R37**	**DR**	**63M4**	45	469
6.2	230	261	13000	3.5		**FF**	**67R37**	**DR**	**63M4**	51	469
6.8	205	238	13000	3.9							
8.1	172	200	13000	4.8							
2.9	505	558	9860	1.20							
3.2	450	506	10200	1.30		**FA**	**57R37**	**DR**	**63M4**	39	469
3.6	390	452	10600	1.50		**FAF**	**57R37**	**DR**	**63M4**	45	469
4.2	335	386	10900	1.80		**F**	**57R37**	**DR**	**63M4**	39	469
4.8	290	338	11200	2.0		**FF**	**57R37**	**DR**	**63M4**	46	469

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P_m = 0.18 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
3.8	400	426	10500	1.50							
4.2	355	382	10800	1.70		**FA**	**57R37**	**DR**	**63M4**	38	469
4.9	300	330	11100	1.95		**FAF**	**57R37**	**DR**	**63M4**	44	469
5.4	275	298	11300	2.2		**F**	**57R37**	**DR**	**63M4**	39	469
6.2	240	262	11400	2.5		**FF**	**57R37**	**DR**	**63M4**	45	469
7.2	200	226	11500	3.0							
8.1	176	200	11500	3.4							
4.4	325	370	6800	1.20		**FA**	**47R17**	**DR**	**63M4**	24	469
5.0	300	324	7050	1.35		**FAF**	**47R17**	**DR**	**63M4**	26	469
5.6	260	288	7380	1.55		**F**	**47R17**	**DR**	**63M4**	25	469
6.5	220	249	7650	1.80		**FF**	**47R17**	**DR**	**63M4**	28	469
4.8	305	334	6980	1.30							
5.5	270	295	7310	1.50		**FA**	**47R17**	**DR**	**63M4**	23	469
6.4	225	253	7620	1.75		**FAF**	**47R17**	**DR**	**63M4**	26	469
7.5	200	217	7750	1.95		**F**	**47R17**	**DR**	**63M4**	24	469
8.5	177	190	7890	2.3		**FF**	**47R17**	**DR**	**63M4**	27	469
9.1	165	178	7940	2.4							
8.7	172	186	4650	1.15		**FA**	**37R17**	**DR**	**63M4**	19	469
9.7	155	167	4830	1.30		**FAF**	**37R17**	**DR**	**63M4**	20	469
11	137	145	4990	1.45		**F**	**37R17**	**DR**	**63M4**	19	469
13	121	129	5120	1.65		**FF**	**37R17**	**DR**	**63M4**	21	469
11	133	142	4500	1.00		**FA**	**27R17**	**DR**	**63M4**	13	469
13	115	124	4500	1.15		**FAF**	**27R17**	**DR**	**63M4**	13	469
15	101	109	4500	1.30		**F**	**27R17**	**DR**	**63M4**	13	469
17	88	96	4500	1.50		**FF**	**27R17**	**DR**	**63M4**	14	469
3.8	450	281.71	19800	3.3		**FA**	**77**	**DR**	**63L6**	57	435
4.1	420	262.93	19800	3.5		**FAF**	**77**	**DR**	**63L6**	63	434
4.7	360	225.79	19900	4.1		**F**	**77**	**DR**	**63L6**	60	433
						FF	**77**	**DR**	**63L6**	71	434
4.7	365	228.99	12900	2.2		**FA**	**67**	**DR**	**63L6**	33	429
5.5	310	195.39	13000	2.6		**FAF**	**67**	**DR**	**63L6**	39	428
6.3	270	170.85	13000	3.0		**F**	**67**	**DR**	**63L6**	36	427
						FF	**67**	**DR**	**63L6**	42	428
7.1	240	228.99	13000	3.4		**FA**	**67**	**DR**	**63M4**	32	429
8.3	205	195.39	13000	4.0		**FAF**	**67**	**DR**	**63M4**	38	428
9.5	181	170.85	13000	4.5		**F**	**67**	**DR**	**63M4**	35	427
						FF	**67**	**DR**	**63M4**	41	428
5.4	320	199.70	11000	1.85							
5.8	290	183.60	11200	2.0		**FA**	**57**	**DR**	**63L6**	29	423
6.8	250	157.09	11400	2.4		**FAF**	**57**	**DR**	**63L6**	34	422
7.9	215	136.16	11500	2.7		**F**	**57**	**DR**	**63L6**	29	421
8.4	200	127.27	11500	2.9		**FF**	**57**	**DR**	**63L6**	35	422
9.7	177	110.01	11500	3.4							
8.1	210	199.70	11500	2.8							
8.8	195	183.60	11500	3.1		**FA**	**57**	**DR**	**63M4**	28	423
10	167	157.09	11500	3.6		**FAF**	**57**	**DR**	**63M4**	34	422
12	144	136.16	11500	4.2		**F**	**57**	**DR**	**63M4**	28	421
13	135	127.27	11500	4.4		**FF**	**57**	**DR**	**63M4**	35	422
5.6	305	190.76	7000	1.30							
6.1	280	175.38	7220	1.40		**FA**	**47**	**DR**	**63L6**	22	417
7.1	240	150.06	7520	1.65		**FAF**	**47**	**DR**	**63L6**	24	416
8.2	205	130.07	7720	1.90		**F**	**47**	**DR**	**63L6**	22	415
8.8	195	121.57	7800	2.0		**FF**	**47**	**DR**	**63L6**	25	416
8.5	200	190.76	7760	2.0							
9.2	186	175.38	7840	2.1		**FA**	**47**	**DR**	**63M4**	21	417
11	159	150.06	7970	2.5		**FAF**	**47**	**DR**	**63M4**	24	416
12	138	130.07	8050	2.9		**F**	**47**	**DR**	**63M4**	22	415
13	129	121.57	8080	3.1		**FF**	**47**	**DR**	**63M4**	25	416
9.1	189	117.88	4440	1.05							
11	161	100.36	4770	1.25		**FA**	**37**	**DR**	**63L6**	17	411
12	139	86.53	4980	1.45		**FAF**	**37**	**DR**	**63L6**	18	410
13	130	80.65	5050	1.55		**F**	**37**	**DR**	**63L6**	17	409
15	113	70.50	5170	1.75		**FF**	**37**	**DR**	**63L6**	19	410

P_m = 0.18 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
13	136	128.51	5000	1.45							
14	125	117.88	5090	1.60							
16	106	100.36	5220	1.90		**FA**	**37**	**DR**	**63M4**	16	411
19	92	86.53	5300	2.2		**FAF**	**37**	**DR**	**63M4**	18	410
20	86	80.65	5330	2.3		**F**	**37**	**DR**	**63M4**	16	409
23	75	70.50	5380	2.7		**FF**	**37**	**DR**	**63M4**	18	410
25	70	66.09	5400	2.9							
28	62	58.32	5430	3.2							
15	117	109.90	4500	1.10							
17	101	94.76	4500	1.30							
18	94	88.32	4500	1.40							
21	82	77.21	4500	1.60							
22	77	72.37	4500	1.70		**FA**	**27**	**DR**	**63M4**	9.9	406
25	68	63.86	4500	1.90		**FAF**	**27**	**DR**	**63M4**	11	405
29	60	56.62	4500	2.2		**F**	**27**	**DR**	**63M4**	10	404
32	53	50.19	4410	2.4		**FF**	**27**	**DR**	**63M4**	11	405
35	50	46.78	4330	2.6							
40	43	40.89	4180	3.0							
42	41	38.33	4100	3.2							
48	36	33.83	3960	3.6							
55	31	29.56	3820	4.2							
60	29	27.18	3730	4.5							
70	25	23.25	3560	5.3							
80	21	20.15	3410	6.1							
86	20	18.84	3350	6.5							
99	17	16.28	3200	7.5							
117	15	13.84	3050	8.9							
131	13	12.35	2940	9.9		**FA**	**27**	**DR**	**63M4**	9.7	406
154	11	10.55	2800	12		**FAF**	**27**	**DR**	**63M4**	10	405
164	10	9.88	2750	12		**F**	**27**	**DR**	**63M4**	10	404
172	10.0	9.40	2700	13		**FF**	**27**	**DR**	**63M4**	11	405
199	8.6	8.13	2580	14							
235	7.3	6.91	2450	16							
263	6.5	6.17	2360	17							
308	5.6	5.27	2250	18							
328	5.2	4.93	2200	18							
390	4.4	4.16	2090	20							
408	4.2	8.13	2060	29							
481	3.6	6.91	1950	32		**FA**	**27**	**DR**	**63S2**	9.7	406
538	3.2	6.17	1880	34		**FAF**	**27**	**DR**	**63S2**	10	405
630	2.7	5.27	1790	37		**F**	**27**	**DR**	**63S2**	10	404
673	2.5	4.93	1750	38		**FF**	**27**	**DR**	**63S2**	11	405
799	2.1	4.16	1660	40							

P_m = 0.25 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.18	10400	8831	90000	1.15							
0.21	9030	7643	90000	1.35		**FA**	**127R77**	**DR**	**63L4**	425	469
0.24	8320	6715	90000	1.45		**FAF**	**127R77**	**DR**	**63L4**	465	469
0.27	7340	5925	90000	1.65		**F**	**127R77**	**DR**	**63L4**	465	469
0.31	6260	5153	90000	1.90		**FF**	**127R77**	**DR**	**63L4**	510	469
0.35	5400	4533	90000	2.2							
0.27	7090	5954	51300	1.10		**FA**	**107R77**	**DR**	**63L4**	275	469
0.31	6170	5223	53600	1.25		**FAF**	**107R77**	**DR**	**63L4**	295	469
0.35	5650	4567	54800	1.35		**F**	**107R77**	**DR**	**63L4**	290	469
0.45	4270	3521	57800	1.80		**FF**	**107R77**	**DR**	**63L4**	320	469
0.53	3780	3037	58900	2.0							
0.58	3430	2756	59600	2.2		**FA**	**107R77**	**DR**	**63L4**	275	469
0.68	2950	2369	60500	2.6		**FAF**	**107R77**	**DR**	**63L4**	295	469
0.77	2570	2068	61200	3.0		**F**	**107R77**	**DR**	**63L4**	290	469
1.0	1960	1597	62200	3.9		**FF**	**107R77**	**DR**	**63L4**	320	469
1.1	1690	1401	62700	4.5							

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P_m = 0.25 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.55	3720	2907	31500	1.15							
0.63	3340	2553	32500	1.30							
0.71	2930	2245	33400	1.45							
0.81	2550	1970	34300	1.70		**FA**	**97R57**	**DR**	**63L4**	185	469
0.93	2260	1722	34900	1.90		**FAF**	**97R57**	**DR**	**63L4**	205	469
1.1	2000	1527	35400	2.1		**F**	**97R57**	**DR**	**63L4**	190	469
1.2	1650	1327	36000	2.6		**FF**	**97R57**	**DR**	**63L4**	225	469
1.4	1530	1171	36200	2.8							
1.6	1340	1022	36500	3.2							
0.83	2500	1930	24800	1.20							
0.94	2230	1709	25700	1.35							
1.1	1960	1493	26500	1.55							
1.2	1620	1300	27500	1.85		**FA**	**87R57**	**DR**	**63L4**	120	469
1.4	1450	1148	27900	2.1		**FAF**	**87R57**	**DR**	**63L4**	130	469
1.6	1260	1010	28400	2.4		**F**	**87R57**	**DR**	**63L4**	125	469
1.8	1120	887	28700	2.7		**FF**	**87R57**	**DR**	**63L4**	140	469
2.0	970	780	29000	3.1							
2.4	820	674	29300	3.6							
1.5	1390	1053	16400	1.05							
1.8	1190	910	17400	1.25							
2.0	1030	810	18200	1.45		**FA**	**77R37**	**DR**	**63L4**	66	469
2.2	900	710	18700	1.65		**FAF**	**77R37**	**DR**	**63L4**	72	469
2.6	800	615	19000	1.85		**F**	**77R37**	**DR**	**63L4**	70	469
3.0	700	538	19300	2.1		**FF**	**77R37**	**DR**	**63L4**	80	469
3.3	620	480	19400	2.4							
3.9	520	413	19600	2.9							
2.8	745	572	10900	1.10		**FA**	**67R37**	**DR**	**63L4**	44	469
3.1	645	509	11600	1.25		**FAF**	**67R37**	**DR**	**63L4**	50	469
3.7	555	437	12100	1.45		**F**	**67R37**	**DR**	**63L4**	46	469
						FF	**67R37**	**DR**	**63L4**	53	469
3.2	665	500	11500	1.25							
3.5	605	454	11800	1.35							
4.1	520	392	12300	1.55		**FA**	**67R37**	**DR**	**63L4**	42	469
4.8	435	333	12700	1.85		**FAF**	**67R37**	**DR**	**63L4**	49	469
5.4	385	297	12800	2.1		**F**	**67R37**	**DR**	**63L4**	45	469
6.1	340	261	13000	2.4		**FF**	**67R37**	**DR**	**63L4**	51	469
6.7	305	238	13000	2.7							
4.1	490	386	9960	1.20		**FA**	**57R37**	**DR**	**63L4**	40	469
4.7	425	338	10400	1.40		**FAF**	**57R37**	**DR**	**63L4**	45	469
6.3	325	255	11000	1.85		**F**	**57R37**	**DR**	**63L4**	40	469
						FF	**57R37**	**DR**	**63L4**	46	469
4.2	510	382	9830	1.15							
4.8	440	330	10300	1.35							
5.4	395	298	10600	1.50		**FA**	**57R37**	**DR**	**63L4**	39	469
6.1	345	262	10900	1.70		**FAF**	**57R37**	**DR**	**63L4**	45	469
7.1	295	226	11200	2.0		**F**	**57R37**	**DR**	**63L4**	39	469
8.0	255	200	11400	2.3		**FF**	**57R37**	**DR**	**63L4**	46	469
9.4	215	170	11500	2.7							
6.4	320	249	6860	1.25		**FA**	**47R17**	**DR**	**63L4**	24	469
7.3	285	218	7180	1.40		**FAF**	**47R17**	**DR**	**63L4**	27	469
8.3	250	193	7450	1.60		**F**	**47R17**	**DR**	**63L4**	25	469
9.2	225	175	7600	1.75		**FF**	**47R17**	**DR**	**63L4**	28	469
6.3	330	253	6770	1.20							
7.4	290	217	7120	1.35		**FA**	**47R17**	**DR**	**63L4**	24	469
8.4	250	190	7430	1.55		**FAF**	**47R17**	**DR**	**63L4**	26	469
9.0	235	178	7540	1.70		**F**	**47R17**	**DR**	**63L4**	25	469
11	198	149	7780	2.0		**FF**	**47R17**	**DR**	**63L4**	28	469
12	174	131	7900	2.3							
11	197	145	4340	1.00		**FA**	**37R17**	**DR**	**63L4**	20	469
12	174	129	4630	1.15		**FAF**	**37R17**	**DR**	**63L4**	21	469
13	159	118	4790	1.25		**F**	**37R17**	**DR**	**63L4**	20	469
16	131	98	5040	1.50		**FF**	**37R17**	**DR**	**63L4**	22	469
18	115	87	5160	1.75							

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P_m = 0.25 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
3.9	610	281.71	19500	2.5		**FA**	**77**	**DRS**	**71S6**	58	435
4.2	570	262.93	19600	2.6		**FAF**	**77**	**DRS**	**71S6**	65	434
4.9	490	225.79	19700	3.1		**F**	**77**	**DRS**	**71S6**	62	433
5.5	430	198.31	19800	3.5		**FF**	**77**	**DRS**	**71S6**	73	434
5.8	405	188.40	19800	3.7							
4.8	495	228.99	12400	1.65							
5.6	420	195.39	12700	1.95		**FA**	**67**	**DRS**	**71S6**	34	429
6.4	370	170.85	12900	2.2		**FAF**	**67**	**DRS**	**71S6**	41	428
6.8	350	162.31	13000	2.3		**F**	**67**	**DRS**	**71S6**	37	427
7.7	305	142.40	13000	2.6		**FF**	**67**	**DRS**	**71S6**	43	428
7.0	340	228.99	13000	2.4							
8.2	290	195.39	13000	2.8		**FA**	**67**	**DR**	**63L4**	33	429
9.4	250	170.85	13000	3.2		**FAF**	**67**	**DR**	**63L4**	39	428
9.9	240	162.31	13000	3.4		**F**	**67**	**DR**	**63L4**	36	427
11	210	142.40	13000	3.9		**FF**	**67**	**DR**	**63L4**	42	428
5.5	430	199.70	10400	1.40							
6.0	395	183.60	10600	1.50		**FA**	**57**	**DRS**	**71S6**	31	423
7.0	340	157.09	10900	1.75		**FAF**	**57**	**DRS**	**71S6**	36	422
8.1	295	136.16	11200	2.0		**F**	**57**	**DRS**	**71S6**	31	421
8.6	275	127.27	11300	2.2		**FF**	**57**	**DRS**	**71S6**	37	422
10	235	110.01	11500	2.5							
8.0	295	199.70	11100	2.0							
8.7	270	183.60	11300	2.2		**FA**	**57**	**DR**	**63L4**	29	423
10	230	157.09	11500	2.6		**FAF**	**57**	**DR**	**63L4**	34	422
12	200	136.16	11500	3.0		**F**	**57**	**DR**	**63L4**	29	421
13	190	127.27	11500	3.2		**FF**	**57**	**DR**	**63L4**	35	422
15	164	110.01	11500	3.7							
7.3	325	150.06	6820	1.25		**FA**	**47**	**DRS**	**71S6**	24	417
8.5	280	130.07	7210	1.40		**FAF**	**47**	**DRS**	**71S6**	26	416
9.1	260	121.57	7360	1.50		**F**	**47**	**DRS**	**71S6**	24	415
10	225	105.09	7610	1.75		**FF**	**47**	**DRS**	**71S6**	27	416
8.4	280	190.76	7190	1.40							
9.1	260	175.38	7370	1.55							
11	220	150.06	7630	1.80		**FA**	**47**	**DR**	**63L4**	22	417
12	194	130.07	7800	2.1		**FAF**	**47**	**DR**	**63L4**	24	416
13	181	121.57	7870	2.2		**F**	**47**	**DR**	**63L4**	22	415
15	157	105.09	7980	2.5		**FF**	**47**	**DR**	**63L4**	25	416
18	133	89.29	8070	3.0							
12	192	128.51	4410	1.05							
14	176	117.88	4600	1.15							
16	150	100.36	4880	1.35							
18	129	86.53	5060	1.55							
20	120	80.65	5120	1.65							
23	105	70.50	5220	1.90							
24	99	66.09	5260	2.0		**FA**	**37**	**DR**	**63L4**	17	411
27	87	58.32	5320	2.3		**FAF**	**37**	**DR**	**63L4**	18	410
29	81	54.54	5350	2.5		**F**	**37**	**DR**	**63L4**	17	409
31	77	51.70	5370	2.6		**FF**	**37**	**DR**	**63L4**	19	410
34	70	47.02	5400	2.9							
37	65	43.83	5420	3.1							
42	57	38.31	5450	3.5							
45	54	35.91	5460	3.7							
50	47	31.69	5290	4.2							
21	115	77.21	4500	1.15							
22	108	72.37	4500	1.20							
25	95	63.86	4470	1.35							
28	84	56.62	4360	1.55		**FA**	**27**	**DR**	**63L4**	11	406
32	75	50.19	4240	1.75		**FAF**	**27**	**DR**	**63L4**	11	405
34	70	46.78	4170	1.85		**F**	**27**	**DR**	**63L4**	11	404
39	61	40.89	4040	2.1		**FF**	**27**	**DR**	**63L4**	12	405
42	57	38.33	3980	2.3							
47	50	33.83	3850	2.6							

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P_m = 0.25 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
54	44	29.56	3720	3.0							
59	41	27.18	3640	3.2							
69	35	23.25	3490	3.8							
79	30	20.15	3350	4.3							
85	28	18.84	3290	4.6							
98	24	16.28	3160	5.3							
116	21	13.84	3010	6.3							
130	18	12.35	2910	7.0		**FA**	**27**	**DR**	**63L4**	10	406
152	16	10.55	2780	8.3		**FAF**	**27**	**DR**	**63L4**	11	405
162	15	9.88	2720	8.8		**F**	**27**	**DR**	**63L4**	11	404
170	14	9.40	2670	9.3		**FF**	**27**	**DR**	**63L4**	12	405
197	12	8.13	2550	10							
232	10	6.91	2430	11							
259	9.2	6.17	2350	12							
304	7.9	5.27	2240	13							
324	7.4	4.93	2190	13							
385	6.2	4.16	2080	14							
401	6.0	8.13	2050	21							
472	5.1	6.91	1950	23		**FA**	**27**	**DR**	**63M2**	9.7	406
529	4.5	6.17	1880	24		**FAF**	**27**	**DR**	**63M2**	10	405
619	3.9	5.27	1790	26		**F**	**27**	**DR**	**63M2**	10	404
661	3.6	4.93	1750	27		**FF**	**27**	**DR**	**63M2**	11	405
784	3.0	4.16	1660	29							

P_m = 0.37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.25	11900	6715	90000	1.00	X						
0.29	10500	5925	90000	1.15	X						
0.33	9060	5153	90000	1.30	X	**FA**	**127R77**	**(E)DRS**	**71S4**	430	469
0.37	7860	4533	90000	1.55	X	**FAF**	**127R77**	**(E)DRS**	**71S4**	465	469
0.43	6900	3926	90000	1.75	X	**F**	**127R77**	**(E)DRS**	**71S4**	465	469
0.49	5990	3454	90000	2.0	X	**FF**	**127R77**	**(E)DRS**	**71S4**	510	469
0.56	5220	3031	90000	2.3	X						
0.56	5450	3037	55300	1.40	X						
0.62	4940	2756	56400	1.55	X	**FA**	**107R77**	**(E)DRS**	**71S4**	275	469
0.72	4250	2369	57900	1.80	X	**FAF**	**107R77**	**(E)DRS**	**71S4**	295	469
0.82	3710	2068	59000	2.1	X	**F**	**107R77**	**(E)DRS**	**71S4**	295	469
1.1	2840	1597	60700	2.7	X	**FF**	**107R77**	**(E)DRS**	**71S4**	320	469
0.86	3640	1970	31700	1.20	X						
0.99	3210	1722	32800	1.35	X						
1.1	2840	1527	33700	1.50	X	**FA**	**97R57**	**(E)DRS**	**71S4**	185	469
1.3	2380	1327	34600	1.80	X	**FAF**	**97R57**	**(E)DRS**	**71S4**	205	469
1.4	2180	1171	35000	1.95	X	**F**	**97R57**	**(E)DRS**	**71S4**	190	469
1.7	1900	1022	35600	2.2	X	**FF**	**97R57**	**(E)DRS**	**71S4**	225	469
1.9	1590	898	36100	2.7	X						
1.3	2330	1300	25400	1.30	X						
1.5	2080	1148	26200	1.45	X						
1.7	1810	1010	27000	1.65	X						
1.9	1610	887	27500	1.85	X	**FA**	**87R57**	**(E)DRS**	**71S4**	120	469
2.2	1400	780	28100	2.1	X	**FAF**	**87R57**	**(E)DRS**	**71S4**	130	469
2.5	1190	674	28600	2.5	X	**F**	**87R57**	**(E)DRS**	**71S4**	125	469
2.8	1090	609	28800	2.7	X	**FF**	**87R57**	**(E)DRS**	**71S4**	140	469
3.3	920	515	29100	3.2	X						
3.8	810	452	29300	3.7	X						
2.1	1470	810	15900	1.00	X						
2.4	1290	710	17000	1.15	X						
2.8	1130	615	17700	1.30	X	**FA**	**77R37**	**(E)DRS**	**71S4**	68	469
3.2	990	538	18300	1.50	X	**FAF**	**77R37**	**(E)DRS**	**71S4**	74	469
3.5	880	480	18700	1.70	X	**F**	**77R37**	**(E)DRS**	**71S4**	72	469
4.1	750	413	19100	2.0	X	**FF**	**77R37**	**(E)DRS**	**71S4**	82	469
4.6	675	367	19300	2.2	X						
5.3	600	323	19500	2.5	X						

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P_m = 0.37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
4.4	710	384	11200	1.15	X	**FA**	**67R37**	**(E)DRS**	**71S4**	46	469
5.0	630	338	11700	1.30	X	**FAF**	**67R37**	**(E)DRS**	**71S4**	52	469
5.6	560	305	12100	1.45	X	**F**	**67R37**	**(E)DRS**	**71S4**	48	469
6.6	470	257	12500	1.75	X	**FF**	**67R37**	**(E)DRS**	**71S4**	55	469
7.4	415	231	12800	1.95	X						
6.7	465	255	10200	1.30	X	**FA**	**57R37**	**(E)DRS**	**71S4**	42	469
8.5	360	201	10800	1.65	X	**FAF**	**57R37**	**(E)DRS**	**71S4**	47	469
9.4	325	181	11000	1.80	X	**F**	**57R37**	**(E)DRS**	**71S4**	42	469
						FF	**57R37**	**(E)DRS**	**71S4**	48	469
6.5	495	262	9950	1.20	X						
7.5	420	226	10400	1.40	X	**FA**	**57R37**	**(E)DRS**	**71S4**	41	469
8.5	365	200	10700	1.60	X	**FAF**	**57R37**	**(E)DRS**	**71S4**	47	469
10	310	170	11100	1.90	X	**F**	**57R37**	**(E)DRS**	**71S4**	41	469
11	275	152	11300	2.1	X	**FF**	**57R37**	**(E)DRS**	**71S4**	48	469
13	245	134	11400	2.5	X						
9.8	320	175	6820	1.25	X	**FA**	**47R17**	**(E)DRS**	**71S4**	26	469
12	270	147	7280	1.45	X	**FAF**	**47R17**	**(E)DRS**	**71S4**	29	469
13	240	130	7520	1.65	X	**F**	**47R17**	**(E)DRS**	**71S4**	27	469
						FF	**47R17**	**(E)DRS**	**71S4**	30	469
4.1	860	270.68	29200	3.5		**FA**	**87**	**DRS**	**71M6**	99	441
4.3	820	255.37	29300	3.7		**FAF**	**87**	**DRS**	**71M6**	110	440
4.8	735	228.93	29500	4.1		**F**	**87**	**DRS**	**71M6**	105	439
						FF	**87**	**DRS**	**71M6**	120	440
4.9	725	225.79	19200	2.1							
5.5	635	198.31	19400	2.4		**FA**	**77**	**DRS**	**71M6**	60	435
5.8	605	188.40	19500	2.5		**FAF**	**77**	**DRS**	**71M6**	66	434
6.6	530	166.47	19600	2.8		**F**	**77**	**DRS**	**71M6**	64	433
7.7	455	142.27	19800	3.3		**FF**	**77**	**DRS**	**71M6**	74	434
6.0	585	281.71	19500	2.6	X	**FA**	**77**	**(E)DRS**	**71S4**	58	435
6.5	545	262.93	19600	2.7	X	**FAF**	**77**	**(E)DRS**	**71S4**	65	434
7.5	465	225.79	19700	3.2	X	**F**	**77**	**(E)DRS**	**71S4**	62	433
8.6	410	198.31	19800	3.6	X	**FF**	**77**	**(E)DRS**	**71S4**	73	434
5.6	625	195.39	11700	1.30							
6.4	545	170.85	12200	1.50		**FA**	**67**	**DRS**	**71M6**	36	429
6.8	520	162.31	12300	1.55		**FAF**	**67**	**DRS**	**71M6**	42	428
7.7	455	142.40	12600	1.80		**F**	**67**	**DRS**	**71M6**	39	427
9.1	385	120.79	12900	2.1		**FF**	**67**	**DRS**	**71M6**	45	428
7.4	475	228.99	12500	1.70	X						
8.7	405	195.39	12800	2.0	X	**FA**	**67**	**(E)DRS**	**71S4**	34	429
9.9	355	170.85	13000	2.3	X	**FAF**	**67**	**(E)DRS**	**71S4**	41	428
10	335	162.31	13000	2.4	X	**F**	**67**	**(E)DRS**	**71S4**	37	427
12	295	142.40	13000	2.8	X	**FF**	**67**	**(E)DRS**	**71S4**	43	428
14	250	120.79	13000	3.3	X						
7.0	500	157.09	9890	1.20		**FA**	**57**	**DRS**	**71M6**	32	423
8.1	435	136.16	10300	1.35		**FAF**	**57**	**DRS**	**71M6**	37	422
8.6	405	127.27	10500	1.45		**F**	**57**	**DRS**	**71M6**	32	421
10	350	110.01	10800	1.70		**FF**	**57**	**DRS**	**71M6**	38	422
8.5	415	199.70	10500	1.45	X						
9.3	380	183.60	10700	1.55	X						
11	325	157.09	11000	1.85	X	**FA**	**57**	**(E)DRS**	**71S4**	31	423
12	280	136.16	11200	2.1	X	**FAF**	**57**	**(E)DRS**	**71S4**	36	422
13	260	127.27	11300	2.3	X	**F**	**57**	**(E)DRS**	**71S4**	31	421
15	225	110.01	11500	2.6	X	**FF**	**57**	**(E)DRS**	**71S4**	37	422
18	194	93.47	11500	3.1	X						
20	173	83.46	11500	3.5	X						
11	310	150.06	6950	1.30	X						
13	270	130.07	7310	1.50	X						
16	215	105.09	7660	1.85	X	**FA**	**47**	**(E)DRS**	**71S4**	24	417
19	186	89.29	7850	2.2	X	**FAF**	**47**	**(E)DRS**	**71S4**	26	416
21	166	79.72	7940	2.4	X	**F**	**47**	**(E)DRS**	**71S4**	24	415
25	142	68.09	8040	2.8	X	**FF**	**47**	**(E)DRS**	**71S4**	27	416
26	136	65.36	8060	2.9	X						

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P_m = 0.37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
20	180	86.53	4560	1.10	X						
21	168	80.65	4700	1.20	X						
24	147	70.50	4910	1.35	X						
26	137	66.09	4990	1.45	X						
29	121	58.32	5120	1.65	X						
31	113	54.54	5170	1.75	X	**FA**	**37**	**(E)DRS**	**71S4**	19	411
33	107	51.70	5210	1.85	X	**FAF**	**37**	**(E)DRS**	**71S4**	20	410
36	98	47.02	5270	2.0	X	**F**	**37**	**(E)DRS**	**71S4**	19	409
39	91	43.83	5300	2.2	X	**FF**	**37**	**(E)DRS**	**71S4**	21	410
44	80	38.31	5280	2.5	X						
47	75	35.91	5190	2.7	X						
54	66	31.69	5030	3.0	X						
61	58	28.09	4870	3.4	X						
71	50	23.88	4660	4.0	X						
30	118	56.62	3960	1.10	X						
34	104	50.19	3880	1.25	X	**FA**	**27**	**(E)DRS**	**71S4**	13	406
36	97	46.78	3830	1.35	X	**FAF**	**27**	**(E)DRS**	**71S4**	13	405
42	85	40.89	3740	1.55	X	**F**	**27**	**(E)DRS**	**71S4**	13	404
44	80	38.33	3690	1.65	X	**FF**	**27**	**(E)DRS**	**71S4**	14	405
50	70	33.83	3590	1.85	X						
58	61	29.56	3480	2.1	X						
63	56	27.18	3420	2.3	X						
73	48	23.25	3290	2.7	X						
84	42	20.15	3180	3.1	X						
90	39	18.84	3120	3.3	X						
104	34	16.28	3000	3.8	X						
123	29	13.84	2870	4.5	X						
138	26	12.35	2780	5.1	X	**FA**	**27**	**(E)DRS**	**71S4**	12	406
161	22	10.55	2660	5.9	X	**FAF**	**27**	**(E)DRS**	**71S4**	13	405
172	21	9.88	2610	6.3	X	**F**	**27**	**(E)DRS**	**71S4**	13	404
181	20	9.40	2560	6.7	X	**FF**	**27**	**(E)DRS**	**71S4**	14	405
209	17	8.13	2450	7.3	X						
246	14	6.91	2340	7.9	X						
276	13	6.17	2260	8.5	X						
323	11	5.27	2160	9.1	X						
345	10	4.93	2120	9.4	X						
409	8.6	4.16	2010	10	X						
400	8.8	8.13	2020	14							
471	7.5	6.91	1930	15		**FA**	**27**	**DR**	**63L2**	10	406
527	6.7	6.17	1860	16		**FAF**	**27**	**DR**	**63L2**	11	405
617	5.7	5.27	1770	17		**F**	**27**	**DR**	**63L2**	11	404
659	5.4	4.93	1740	18		**FF**	**27**	**DR**	**63L2**	12	405
782	4.5	4.16	1640	19							

P_m = 0.55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.27	15800	6295	106100	1.15	X	**FA**	**157R97**	**(E)DRS**	**71M4**	770	469
0.31	13000	5404	112200	1.40	X	**FAF**	**157R97**	**(E)DRS**	**71M4**	830	469
0.61	6720	2780	120000	2.7	X	**F**	**157R97**	**(E)DRS**	**71M4**	790	469
						FF	**157R97**	**(E)DRS**	**71M4**	900	469
0.70	5930	2427	120000	3.0	X	**FA**	**157R97**	**(E)DRS**	**71M4**	760	469
1.0	4340	1674	120000	4.1	X	**FAF**	**157R97**	**(E)DRS**	**71M4**	820	469
1.3	3280	1308	120000	5.5	X	**F**	**157R97**	**(E)DRS**	**71M4**	790	469
1.4	2850	1169	120000	6.3	X	**FF**	**157R97**	**(E)DRS**	**71M4**	890	469
0.43	10600	3926	90000	1.15	X	**FA**	**127R77**	**(E)DRS**	**71M4**	430	469
0.49	9300	3454	90000	1.30	X	**FAF**	**127R77**	**(E)DRS**	**71M4**	465	469
0.56	8130	3031	90000	1.50	X	**F**	**127R77**	**(E)DRS**	**71M4**	465	469
						FF	**127R77**	**(E)DRS**	**71M4**	510	469

P_m = 0.55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.71	6550	2369	52700	1.15	X						
0.82	5710	2068	54700	1.35	X						
0.93	4870	1826	56600	1.60	X						
1.1	4380	1597	57600	1.75	X	**FA**	**107R77**	**(E)DRS**	**71M4**	275	469
1.2	3810	1401	58800	2.0	X	**FAF**	**107R77**	**(E)DRS**	**71M4**	300	469
1.4	3310	1243	59800	2.3	X	**F**	**107R77**	**(E)DRS**	**71M4**	295	469
1.6	2980	1087	60400	2.6	X	**FF**	**107R77**	**(E)DRS**	**71M4**	320	469
1.8	2530	950	61200	3.0	X						
2.0	2200	834	61800	3.5	X						
2.6	1720	640	62700	4.5	X						
1.3	3670	1327	31600	1.15	X						
1.4	3310	1171	32600	1.30	X						
1.6	2890	1022	33500	1.50	X						
1.9	2460	898	34500	1.75	X						
2.1	2180	784	35000	1.95	X	**FA**	**97R57**	**(E)DRS**	**71M4**	185	469
2.5	1880	690	35600	2.3	X	**FAF**	**97R57**	**(E)DRS**	**71M4**	210	469
2.8	1660	605	36000	2.6	X	**F**	**97R57**	**(E)DRS**	**71M4**	195	469
3.2	1440	529	36400	3.0	X	**FF**	**97R57**	**(E)DRS**	**71M4**	225	469
3.6	1270	467	36600	3.4	X						
4.2	1090	406	36900	3.9	X						
4.7	980	363	37100	4.4	X						
1.9	2470	887	24900	1.20	X						
2.2	2160	780	25900	1.40	X						
2.5	1840	674	26900	1.60	X	**FA**	**87R57**	**(E)DRS**	**71M4**	120	469
2.8	1680	609	27300	1.80	X	**FAF**	**87R57**	**(E)DRS**	**71M4**	135	469
3.3	1420	515	28000	2.1	X	**F**	**87R57**	**(E)DRS**	**71M4**	125	469
3.7	1250	452	28400	2.4	X	**FF**	**87R57**	**(E)DRS**	**71M4**	140	469
4.9	930	345	29100	3.2	X						
3.5	1350	480	16600	1.10	X	**FA**	**77R37**	**(E)DRS**	**71M4**	69	469
4.1	1150	413	17700	1.30	X	**FAF**	**77R37**	**(E)DRS**	**71M4**	76	469
4.6	1030	367	18200	1.45	X	**F**	**77R37**	**(E)DRS**	**71M4**	73	469
5.2	910	323	18600	1.65	X	**FF**	**77R37**	**(E)DRS**	**71M4**	83	469
6.6	720	257	11100	1.15	X	**FA**	**67R37**	**(E)DRS**	**71M4**	47	469
7.3	640	231	11700	1.30	X	**FAF**	**67R37**	**(E)DRS**	**71M4**	53	469
8.2	570	205	12000	1.45	X	**F**	**67R37**	**(E)DRS**	**71M4**	50	469
9.7	485	175	12500	1.70	X	**FF**	**67R37**	**(E)DRS**	**71M4**	56	469
4.1	1260	270.68	28400	2.4							
4.4	1190	255.37	28500	2.5		**FA**	**87**	**DRS**	**80S6**	100	441
4.9	1070	228.93	28800	2.8		**FAF**	**87**	**DRS**	**80S6**	115	440
5.7	920	197.20	29100	3.2		**F**	**87**	**DRS**	**80S6**	105	439
6.2	840	179.97	29300	3.5		**FF**	**87**	**DRS**	**80S6**	120	440
5.0	1050	225.79	18100	1.40		**FA**	**77**	**DRS**	**80S6**	62	435
5.7	920	198.31	18600	1.60		**FAF**	**77**	**DRS**	**80S6**	69	434
5.9	880	188.40	18700	1.70		**F**	**77**	**DRS**	**80S6**	66	433
						FF	**77**	**DRS**	**80S6**	77	434
6.7	780	166.47	19000	1.90		**FA**	**77**	**DRS**	**80S6**	62	435
7.9	665	142.27	19300	2.2		**FAF**	**77**	**DRS**	**80S6**	69	434
8.6	610	130.42	19500	2.5		**F**	**77**	**DRS**	**80S6**	66	433
						FF	**77**	**DRS**	**80S6**	77	434
7.5	700	225.79	19300	2.1	X						
8.5	615	198.31	19500	2.4	X						
9.0	585	188.40	19500	2.6	X						
10	515	166.47	19700	2.9	X	**FA**	**77**	**(E)DRS**	**71M4**	60	435
12	440	142.27	19800	3.4	X	**FAF**	**77**	**(E)DRS**	**71M4**	66	434
13	405	130.42	19800	3.7	X	**F**	**77**	**(E)DRS**	**71M4**	64	433
15	355	114.45	19900	4.2	X	**FF**	**77**	**(E)DRS**	**71M4**	74	434
16	335	108.46*	19900	4.5	X						
18	295	94.93	20000	5.1	X						

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P_m = 0.55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
8.7	605	195.39	11900	1.35	X						
9.9	530	170.85	12300	1.55	X						
10	500	162.31	12400	1.65	X						
12	440	142.40	12700	1.85	X	**FA**	**67**	**(E)DRS**	**71M4**	36	429
14	375	120.79	12900	2.2	X	**FAF**	**67**	**(E)DRS**	**71M4**	42	428
16	335	109.04	13000	2.4	X	**F**	**67**	**(E)DRS**	**71M4**	39	427
18	295	95.94	13000	2.8	X	**FF**	**67**	**(E)DRS**	**71M4**	45	428
19	280	90.59	13000	2.9	X						
21	245	79.76	13000	3.3	X						
11	485	157.09	10000	1.25	X						
12	420	136.16	10400	1.40	X						
13	395	127.27	10600	1.50	X						
15	340	110.01	10900	1.75	X	**FA**	**57**	**(E)DRS**	**71M4**	32	423
18	290	93.47	11200	2.1	X	**FAF**	**57**	**(E)DRS**	**71M4**	37	422
20	255	83.46	11400	2.3	X	**F**	**57**	**(E)DRS**	**71M4**	32	421
23	225	72.98	11500	2.6	X	**FF**	**57**	**(E)DRS**	**71M4**	38	422
25	210	68.22	11500	2.8	X						
29	183	58.97	11500	3.3	X						
16	325	105.09	6810	1.20	X						
19	275	89.29	7250	1.45	X						
21	245	79.72	7480	1.60	X	**FA**	**47**	**(E)DRS**	**71M4**	25	417
25	210	68.09	7700	1.90	X	**FAF**	**47**	**(E)DRS**	**71M4**	27	416
26	200	65.36	7750	1.95	X	**F**	**47**	**(E)DRS**	**71M4**	25	415
30	176	56.49	7890	2.3	X	**FF**	**47**	**(E)DRS**	**71M4**	29	416
35	149	48.00*	8010	2.7	X						
39	133	42.86	8070	3.0	X						
29	181	58.32	4540	1.10	X						
31	169	54.54	4680	1.20	X						
33	161	51.70	4770	1.25	X						
36	146	47.02	4910	1.35	X	**FA**	**37**	**(E)DRS**	**71M4**	20	411
39	136	43.83	5000	1.45	X	**FAF**	**37**	**(E)DRS**	**71M4**	21	410
44	119	38.31	4960	1.70	X	**F**	**37**	**(E)DRS**	**71M4**	20	409
47	112	35.91	4900	1.80	X	**FF**	**37**	**(E)DRS**	**71M4**	22	410
53	98	31.69	4770	2.0	X						
60	87	28.09	4640	2.3	X						
71	74	23.88	4470	2.7	X						
72	73	23.63	4460	2.7	X						
82	64	20.57	4300	3.1	X	**FA**	**37**	**(E)DRS**	**71M4**	20	411
88	60	19.27	4240	3.3	X	**FAF**	**37**	**(E)DRS**	**71M4**	21	410
99	53	17.03	4100	3.8	X	**F**	**37**	**(E)DRS**	**71M4**	20	409
118	45	14.33	3920	4.5	X	**FF**	**37**	**(E)DRS**	**71M4**	22	410
44	119	77.21	3340	1.10							
47	111	72.37	3320	1.15		**FA**	**27**	**DRS**	**71M2**	14	406
54	98	63.86	3260	1.35		**FAF**	**27**	**DRS**	**71M2**	14	405
60	87	56.62	3190	1.50		**F**	**27**	**DRS**	**71M2**	14	404
68	77	50.19	3120	1.70		**FF**	**27**	**DRS**	**71M2**	15	405
73	72	23.25	3090	1.80	X						
84	63	20.15	3000	2.1	X						
90	59	18.84	2960	2.2	X						
104	51	16.28	2860	2.6	X						
122	43	13.84	2750	3.0	X						
137	38	12.35	2680	3.4	X	**FA**	**27**	**(E)DRS**	**71M4**	13	406
160	33	10.55	2570	4.0	X	**FAF**	**27**	**(E)DRS**	**71M4**	14	405
171	31	9.88	2530	4.2	X	**F**	**27**	**(E)DRS**	**71M4**	14	404
180	29	9.40	2470	4.5	X	**FF**	**27**	**(E)DRS**	**71M4**	15	405
208	25	8.13	2380	4.9	X						
245	21	6.91	2280	5.3	X						
274	19	6.17	2210	5.7	X						
321	16	5.27	2110	6.1	X						
343	15	4.93	2070	6.3	X						
407	13	4.16	1970	6.7	X						

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P_m = 0.55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
421	12	8.13	1950	9.8							
495	11	6.91	1860	11		**FA**	**27**	**DRS**	**71M2**	13	406
555	9.5	6.17	1800	12		**FAF**	**27**	**DRS**	**71M2**	14	405
649	8.1	5.27	1720	12		**F**	**27**	**DRS**	**71M2**	14	404
693	7.6	4.93	1680	13		**FF**	**27**	**DRS**	**71M2**	15	405
823	6.4	4.16	1600	14							

P_m = 0.75 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.63	9230	2780	118300	1.95	X	**FA**	**157R97**	**(E)DRN**	**80M4**	770	469
						FAF	**157R97**	**(E)DRN**	**80M4**	830	469
						F	**157R97**	**(E)DRN**	**80M4**	790	469
						FF	**157R97**	**(E)DRN**	**80M4**	900	469
0.72	8160	2427	119600	2.2	X	**FA**	**157R97**	**(E)DRN**	**80M4**	770	469
1.1	5890	1674	120000	3.0	X	**FAF**	**157R97**	**(E)DRN**	**80M4**	830	469
1.3	4480	1308	120000	4.0	X	**F**	**157R97**	**(E)DRN**	**80M4**	790	469
1.5	3920	1169	120000	4.6	X	**FF**	**157R97**	**(E)DRN**	**80M4**	900	469
0.58	10800	3031	90000	1.10	X	**FA**	**127R77**	**(E)DRN**	**80M4**	435	469
						FAF	**127R77**	**(E)DRN**	**80M4**	470	469
						F	**127R77**	**(E)DRN**	**80M4**	470	469
						FF	**127R77**	**(E)DRN**	**80M4**	520	469
0.66	9850	2672	90000	1.20	X						
0.74	8600	2357	90000	1.40	X	**FA**	**127R77**	**(E)DRN**	**80M4**	435	469
0.86	7410	2038	90000	1.60	X	**FAF**	**127R77**	**(E)DRN**	**80M4**	470	469
0.98	6440	1784	90000	1.85	X	**F**	**127R77**	**(E)DRN**	**80M4**	470	469
1.1	5770	1606	90000	2.1	X	**FF**	**127R77**	**(E)DRN**	**80M4**	510	469
0.96	6560	1826	52700	1.15	X						
1.1	5860	1597	54300	1.30	X						
1.2	5110	1401	56100	1.50	X						
1.4	4460	1243	57500	1.70	X	**FA**	**107R77**	**(E)DRN**	**80M4**	280	469
1.6	3990	1087	58400	1.90	X	**FAF**	**107R77**	**(E)DRN**	**80M4**	305	469
1.8	3410	950	59600	2.2	X	**F**	**107R77**	**(E)DRN**	**80M4**	300	469
2.1	2970	834	60400	2.6	X	**FF**	**107R77**	**(E)DRN**	**80M4**	325	469
2.7	2310	640	61600	3.3	X						
4.0	1570	436	62900	4.9	X						
1.7	3840	1022	31200	1.10	X						
1.9	3290	898	32600	1.30	X						
2.2	2910	784	33500	1.50	X						
2.5	2520	690	34400	1.70	X	**FA**	**97R57**	**(E)DRN**	**80M4**	190	469
2.9	2220	605	35000	1.95	X	**FAF**	**97R57**	**(E)DRN**	**80M4**	215	469
3.3	1930	529	35500	2.2	X	**F**	**97R57**	**(E)DRN**	**80M4**	200	469
3.7	1700	467	35900	2.5	X	**FF**	**97R57**	**(E)DRN**	**80M4**	230	469
4.3	1460	406	36300	2.9	X						
4.8	1310	363	36600	3.3	X						
2.6	2460	674	24900	1.20	X						
2.9	2240	609	25700	1.35	X	**FA**	**87R57**	**(E)DRN**	**80M4**	125	469
3.4	1890	515	26700	1.60	X	**FAF**	**87R57**	**(E)DRN**	**80M4**	140	469
3.9	1670	452	27400	1.80	X	**F**	**87R57**	**(E)DRN**	**80M4**	130	469
5.1	1250	345	28400	2.4	X	**FF**	**87R57**	**(E)DRN**	**80M4**	145	469
4.8	1370	367	16500	1.10	X	**FA**	**77R37**	**(E)DRN**	**80M4**	74	469
5.4	1210	323	17400	1.25	X	**FAF**	**77R37**	**(E)DRN**	**80M4**	80	469
6.3	1040	280	18100	1.45	X	**F**	**77R37**	**(E)DRN**	**80M4**	77	469
						FF	**77R37**	**(E)DRN**	**80M4**	88	469
4.2	1700	276.77	35900	2.5		**FA**	**97**	**DRN**	**90S6**	175	447
4.6	1550	253.41	36200	2.8		**FAF**	**97**	**DRN**	**90S6**	195	446
5.2	1370	223.88	36500	3.1		**F**	**97**	**DRN**	**90S6**	180	445
						FF	**97**	**DRN**	**90S6**	215	446
4.3	1660	270.68	27400	1.80		**FA**	**87**	**DRN**	**90S6**	110	441
4.6	1560	255.37	27600	1.90		**FAF**	**87**	**DRN**	**90S6**	120	440
5.1	1400	228.93	28000	2.1		**F**	**87**	**DRN**	**90S6**	115	439
5.9	1210	197.20	28500	2.5		**FF**	**87**	**DRN**	**90S6**	130	440

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P_m = 0.75 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
						FA	87	DRN	90S6	110	441
6.5	1100	179.97	28700	2.7		FAF	87	DRN	90S6	120	440
7.3	980	159.61	29000	3.1		F	87	DRN	90S6	115	439
						FF	87	DRN	90S6	130	440
						FA	87	(E)DRN	80M4	105	441
6.5	1100	270.68	28700	2.7	X	FAF	87	(E)DRN	80M4	115	440
6.9	1040	255.37	28900	2.9	X	F	87	(E)DRN	80M4	110	439
7.7	930	228.93	29100	3.2	X	FF	87	(E)DRN	80M4	125	440
5.9	1210	198.31	17300	1.25		FA	77	DRN	90S6	69	435
6.2	1150	188.40	17600	1.30		FAF	77	DRN	90S6	76	434
7.0	1020	166.47	18200	1.45		F	77	DRN	90S6	73	433
8.2	870	142.27	18800	1.70		FF	77	DRN	90S6	84	434
						FA	77	DRN	90S6	69	435
8.9	800	130.42	19000	1.85		FAF	77	DRN	90S6	76	434
						F	77	DRN	90S6	73	433
						FF	77	DRN	90S6	84	434
						FA	77	(E)DRN	80M4	65	435
7.8	920	225.79	18600	1.60	X	FAF	77	(E)DRN	80M4	71	434
8.8	810	198.31	19000	1.85	X	F	77	(E)DRN	80M4	68	433
9.3	770	188.40	19100	1.95	X	FF	77	(E)DRN	80M4	79	434
11	680	166.47	19300	2.2	X						
12	580	142.27	19500	2.6	X	FA	77	(E)DRN	80M4	65	435
13	530	130.42	19600	2.8	X	FAF	77	(E)DRN	80M4	71	434
15	465	114.45	19800	3.2	X	F	77	(E)DRN	80M4	68	433
16	440	108.46*	19800	3.4	X	FF	77	(E)DRN	80M4	79	434
10	695	170.85	11300	1.15	X	FA	67	(E)DRN	80M4	41	429
11	660	162.31	11500	1.25	X	FAF	67	(E)DRN	80M4	47	428
12	580	142.40	12000	1.40	X	F	67	(E)DRN	80M4	43	427
14	490	120.79	12400	1.65	X	FF	67	(E)DRN	80M4	49	428
16	445	109.04	12600	1.85	X						
18	390	95.94	12800	2.1	X	FA	67	(E)DRN	80M4	41	429
19	370	90.59	12900	2.2	X	FAF	67	(E)DRN	80M4	47	428
22	325	79.76	13000	2.5	X	F	67	(E)DRN	80M4	43	427
26	275	67.65	13000	3.0	X	FF	67	(E)DRN	80M4	49	428
29	245	61.07	13000	3.3	X						
14	520	127.27	9780	1.15	X						
16	445	110.01	10300	1.35	X						
19	380	93.47	10700	1.55	X						
21	340	83.46	10900	1.75	X	FA	57	(E)DRN	80M4	37	423
24	295	72.98	11100	2.0	X	FAF	57	(E)DRN	80M4	42	422
26	275	68.22	11200	2.1	X	F	57	(E)DRN	80M4	37	421
30	240	58.97	11400	2.5	X	FF	57	(E)DRN	80M4	43	422
35	200	50.10	11000	2.9	X						
39	183	44.73	10700	3.3	X						
						FA	47	(E)DRN	80M4	29	417
22	325	79.72	6810	1.25	X	FAF	47	(E)DRN	80M4	32	416
26	275	68.09	7240	1.45	X	F	47	(E)DRN	80M4	30	415
27	265	65.36	7330	1.50	X	FF	47	(E)DRN	80M4	33	416
31	230	56.49	7590	1.75	X						
36	196	48.00*	7790	2.0	X	FA	47	(E)DRN	80M4	29	417
41	175	42.86	7820	2.3	X	FAF	47	(E)DRN	80M4	32	416
48	150	36.61	7530	2.7	X	F	47	(E)DRN	80M4	30	415
51	140	34.29	7410	2.9	X	FF	47	(E)DRN	80M4	33	416
61	118	28.88	7100	3.4	X						
37	192	47.02	4400	1.05	X						
40	179	43.83	4570	1.10	X	FA	37	(E)DRN	80M4	24	411
46	157	38.31	4580	1.30	X	FAF	37	(E)DRN	80M4	26	410
49	147	35.91	4540	1.35	X	F	37	(E)DRN	80M4	25	409
55	130	31.69	4450	1.55	X	FF	37	(E)DRN	80M4	27	410
62	115	28.09	4350	1.75	X						

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P_m = 0.75 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
74	97	23.63	4200	2.1	X						
85	84	20.57	4080	2.4	X	**FA**	**37**	**(E)DRN**	**80M4**	24	411
91	79	19.27	4020	2.5	X	**FAF**	**37**	**(E)DRN**	**80M4**	26	410
103	70	17.03	3910	2.9	X	**F**	**37**	**(E)DRN**	**80M4**	25	409
122	59	14.33	3750	3.4	X	**FF**	**37**	**(E)DRN**	**80M4**	27	410
136	53	12.87	3650	3.8	X						
75	95	23.25	2840	1.35	X						
87	82	20.15	2780	1.60	X						
93	77	18.84	2750	1.70	X						
108	67	16.28	2680	1.95	X						
127	57	13.84	2600	2.3	X						
142	51	12.35	2540	2.6	X						
166	43	10.55	2450	3.0	X	**FA**	**27**	**(E)DRN**	**80M4**	18	406
177	40	9.88	2410	3.2	X	**FAF**	**27**	**(E)DRN**	**80M4**	19	405
186	38	9.40	2340	3.4	X	**F**	**27**	**(E)DRN**	**80M4**	19	404
215	33	8.13	2270	3.7	X	**FF**	**27**	**(E)DRN**	**80M4**	19	405
254	28	6.91	2180	4.0	X						
284	25	6.17	2120	4.3	X						
332	22	5.27	2030	4.6	X						
355	20	4.93	2000	4.8	X						
421	17	4.16	1910	5.1	X						
428	17	8.13	1900	7.3							
503	14	6.91	1820	8.0		**FA**	**27**	**DRN**	**80MS2**	18	406
564	13	6.17	1760	8.6		**FAF**	**27**	**DRN**	**80MS2**	19	405
660	11	5.27	1680	9.2		**F**	**27**	**DRN**	**80MS2**	19	404
705	10	4.93	1650	9.4		**FF**	**27**	**DRN**	**80MS2**	19	405
836	8.6	4.16	1570	10							

P_m = 1.1 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.63	14000	2780	110200	1.30	X	**FA**	**157R97**	**(E)DRN**	**90S4**	780	469
						FAF	**157R97**	**(E)DRN**	**90S4**	840	469
						F	**157R97**	**(E)DRN**	**90S4**	800	469
						FF	**157R97**	**(E)DRN**	**90S4**	900	469
0.73	12400	2427	113400	1.45	X						
0.81	11000	2185	115700	1.65	X						
0.91	9820	1944	117500	1.85	X						
1.1	8840	1674	118800	2.0	X	**FA**	**157R97**	**(E)DRN**	**90S4**	770	469
1.4	6780	1308	120000	2.6	X	**FAF**	**157R97**	**(E)DRN**	**90S4**	830	469
1.5	5980	1169	120000	3.0	X	**F**	**157R97**	**(E)DRN**	**90S4**	790	469
1.9	4740	953	120000	3.8	X	**FF**	**157R97**	**(E)DRN**	**90S4**	900	469
2.1	4120	845	120000	4.4	X						
4.0	2170	446	120000	8.3	X						
5.8	1470	302	120000	12	X						
0.86	11000	2038	90000	1.10	X						
0.99	9580	1784	90000	1.25	X	**FA**	**127R77**	**(E)DRN**	**90S4**	440	469
1.1	8600	1606	90000	1.40	X	**FAF**	**127R77**	**(E)DRN**	**90S4**	475	469
1.3	7440	1390	90000	1.60	X	**F**	**127R77**	**(E)DRN**	**90S4**	475	469
1.4	6490	1220	90000	1.85	X	**FF**	**127R77**	**(E)DRN**	**90S4**	520	469
1.6	5780	1077	90000	2.1	X						
1.4	6650	1243	52400	1.15	X						
1.6	5900	1087	54200	1.30	X	**FA**	**107R77**	**(E)DRN**	**90S4**	285	469
1.9	5080	950	56100	1.50	X	**FAF**	**107R77**	**(E)DRN**	**90S4**	310	469
2.1	4430	834	57500	1.75	X	**F**	**107R77**	**(E)DRN**	**90S4**	305	469
2.4	3890	736	58600	1.95	X	**FF**	**107R77**	**(E)DRN**	**90S4**	330	469
2.8	3440	640	59500	2.2	X						
2.6	3740	690	31500	1.15	X						
2.9	3290	605	32600	1.30	X	**FA**	**97R57**	**(E)DRN**	**90S4**	195	469
3.3	2860	529	33600	1.50	X	**FAF**	**97R57**	**(E)DRN**	**90S4**	220	469
3.8	2530	467	34300	1.70	X	**F**	**97R57**	**(E)DRN**	**90S4**	205	469
4.3	2180	406	35000	1.95	X	**FF**	**97R57**	**(E)DRN**	**90S4**	240	469
4.8	1950	363	35500	2.2	X						

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P_m = 1.1 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
3.9	2460	452	24900	1.20	X	**FA**	**87R57**	**(E)DRN**	**90S4**	130	469
5.1	1850	345	26900	1.60	X	**FAF**	**87R57**	**(E)DRN**	**90S4**	145	469
5.9	1610	300	27500	1.85	X	**F**	**87R57**	**(E)DRN**	**90S4**	140	469
7.1	1330	249	28200	2.2	X	**FF**	**87R57**	**(E)DRN**	**90S4**	155	469
4.3	2450	276.77	34500	1.75							
4.7	2250	253.41	34900	1.90		**FA**	**97**	**DRN**	**112M6**	195	447
5.3	1980	223.88	35400	2.2		**FAF**	**97**	**DRN**	**112M6**	220	446
6.2	1680	189.92	36000	2.5		**F**	**97**	**DRN**	**112M6**	205	445
6.8	1550	174.87	36200	2.8		**FF**	**97**	**DRN**	**112M6**	235	446
						FA	**97**	**(E)DRN**	**90S4**	175	447
6.4	1650	276.77	36000	2.6	X	**FAF**	**97**	**(E)DRN**	**90S4**	195	446
7.0	1510	253.41	36300	2.9	X	**F**	**97**	**(E)DRN**	**90S4**	180	445
7.9	1330	223.88	36500	3.2	X	**FF**	**97**	**(E)DRN**	**90S4**	215	446
						FA	**87**	**DRN**	**112M6**	135	441
6.0	1750	197.20	27200	1.70		**FAF**	**87**	**DRN**	**112M6**	145	440
6.6	1590	179.97	27600	1.90		**F**	**87**	**DRN**	**112M6**	140	439
7.4	1410	159.61	28000	2.1		**FF**	**87**	**DRN**	**112M6**	155	440
6.5	1610	270.68	27500	1.85	X	**FA**	**87**	**(E)DRN**	**90S4**	110	441
6.9	1520	255.37	27800	1.95	X	**FAF**	**87**	**(E)DRN**	**90S4**	120	440
7.7	1360	228.93	28200	2.2	X	**F**	**87**	**(E)DRN**	**90S4**	115	439
8.9	1170	197.20	28600	2.5	X	**FF**	**87**	**(E)DRN**	**90S4**	130	440
9.8	1070	179.97	28800	2.8	X	**FA**	**87**	**(E)DRN**	**90S4**	110	441
11	950	159.61	29100	3.1	X	**FAF**	**87**	**(E)DRN**	**90S4**	120	440
13	795	134.16	29400	3.8	X	**F**	**87**	**(E)DRN**	**90S4**	115	439
14	735	123.29	29500	4.1	X	**FF**	**87**	**(E)DRN**	**90S4**	130	440
8.9	1180	198.31	17500	1.25	X	**FA**	**77**	**(E)DRN**	**90S4**	69	435
9.3	1120	188.40	17800	1.35	X	**FAF**	**77**	**(E)DRN**	**90S4**	76	434
11	990	166.47	18300	1.50	X	**F**	**77**	**(E)DRN**	**90S4**	73	433
12	840	142.27	18800	1.75	X	**FF**	**77**	**(E)DRN**	**90S4**	84	434
14	775	130.42	19100	1.95	X						
15	680	114.45	19300	2.2	X	**FA**	**77**	**(E)DRN**	**90S4**	69	435
16	645	108.46*	19400	2.3	X	**FAF**	**77**	**(E)DRN**	**90S4**	76	434
19	565	94.93	19600	2.6	X	**F**	**77**	**(E)DRN**	**90S4**	73	433
21	505	85.52	19700	2.9	X	**FF**	**77**	**(E)DRN**	**90S4**	84	434
23	445	75.02	19800	3.4	X						
						FA	**67**	**(E)DRN**	**90S4**	47	429
15	720	120.79	11100	1.15	X	**FAF**	**67**	**(E)DRN**	**90S4**	53	428
						F	**67**	**(E)DRN**	**90S4**	50	427
						FF	**67**	**(E)DRN**	**90S4**	56	428
16	650	109.04	11600	1.25	X						
18	570	95.94	12100	1.45	X						
19	540	90.59	12200	1.50	X						
22	475	79.76	12500	1.70	X						
26	400	67.65	12800	2.0	X	**FA**	**67**	**(E)DRN**	**90S4**	47	429
29	360	61.07	12900	2.2	X	**FAF**	**67**	**(E)DRN**	**90S4**	53	428
33	320	53.73	13000	2.6	X	**F**	**67**	**(E)DRN**	**90S4**	50	427
35	300	50.74	13000	2.7	X	**FF**	**67**	**(E)DRN**	**90S4**	56	428
41	255	43.20	13000	3.2	X						
45	230	39.26	13000	3.3	X						
52	200	34.01	13000	3.6	X						
21	495	83.46	9940	1.20	X						
24	435	72.98	10400	1.40	X						
26	405	68.22	10500	1.50	X						
30	350	58.97	10800	1.70	X	**FA**	**57**	**(E)DRN**	**90S4**	43	423
35	295	50.10	10500	2.0	X	**FAF**	**57**	**(E)DRN**	**90S4**	48	422
39	265	44.73	10200	2.2	X	**F**	**57**	**(E)DRN**	**90S4**	43	421
46	225	38.21	9830	2.6	X	**FF**	**57**	**(E)DRN**	**90S4**	50	422
49	210	35.79	9670	2.8	X						
58	180	30.15	9260	3.3	X						
						FA	**47**	**(E)DRN**	**90S4**	35	417
31	335	56.49	6700	1.20	X	**FAF**	**47**	**(E)DRN**	**90S4**	38	416
37	285	48.00*	7180	1.40	X	**F**	**47**	**(E)DRN**	**90S4**	36	415
						FF	**47**	**(E)DRN**	**90S4**	39	416

P_m = 1.1 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
41	255	42.86	7260	1.55	X	**FA**	**47**	**(E)DRN**	**90S4**	35	417
48	215	36.61	7050	1.85	X	**FAF**	**47**	**(E)DRN**	**90S4**	38	416
51	200	34.29	6960	1.95	X	**F**	**47**	**(E)DRN**	**90S4**	36	415
61	172	28.88	6710	2.3	X	**FF**	**47**	**(E)DRN**	**90S4**	39	416
57	184	30.86	6810	2.2	X						
60	175	29.32	6740	2.3	X	**FA**	**47**	**(E)DRN**	**90S4**	34	417
68	153	25.72	6540	2.6	X	**FAF**	**47**	**(E)DRN**	**90S4**	37	416
81	130	21.82	6300	3.1	X	**F**	**47**	**(E)DRN**	**90S4**	35	415
89	117	19.70	6140	3.4	X	**FF**	**47**	**(E)DRN**	**90S4**	38	416
56	189	31.69	3950	1.05	X	**FA**	**37**	**(E)DRN**	**90S4**	30	411
63	167	28.09	3910	1.20	X	**FAF**	**37**	**(E)DRN**	**90S4**	32	410
74	142	23.88	3840	1.40	X	**F**	**37**	**(E)DRN**	**90S4**	31	409
						FF	**37**	**(E)DRN**	**90S4**	33	410
86	123	20.57	3760	1.65	X						
91	115	19.27	3720	1.75	X						
103	102	17.03	3640	1.95	X	**FA**	**37**	**(E)DRN**	**90S4**	30	411
123	85	14.33	3520	2.3	X	**FAF**	**37**	**(E)DRN**	**90S4**	32	410
137	77	12.87	3440	2.6	X	**F**	**37**	**(E)DRN**	**90S4**	31	409
159	66	11.08	3330	2.9	X	**FF**	**37**	**(E)DRN**	**90S4**	32	410
169	62	10.42	3290	3.0	X						
196	53	8.97	3170	3.3	X						
87	120	20.15	2440	1.10	X						
94	112	18.84	2430	1.15	X						
108	97	16.28	2400	1.35	X						
127	82	13.84	2360	1.60	X						
143	74	12.35	2320	1.75	X						
167	63	10.55	2270	2.1	X	**FA**	**27**	**(E)DRN**	**90S4**	24	406
178	59	9.88	2240	2.2	X	**FAF**	**27**	**(E)DRN**	**90S4**	25	405
187	56	9.40	2170	2.3	X	**F**	**27**	**(E)DRN**	**90S4**	24	404
217	48	8.13	2110	2.5	X	**FF**	**27**	**(E)DRN**	**90S4**	25	405
255	41	6.91	2050	2.8	X						
286	37	6.17	2000	3.0	X						
335	31	5.27	1930	3.2	X						
357	29	4.93	1900	3.3	X						
424	25	4.16	1830	3.5	X						
429	24	8.13	1820	5.0							
505	21	6.91	1750	5.5		**FA**	**27**	**DRN**	**80M2**	18	406
565	19	6.17	1700	5.9		**FAF**	**27**	**DRN**	**80M2**	19	405
662	16	5.27	1630	6.3		**F**	**27**	**DRN**	**80M2**	19	404
706	15	4.93	1600	6.5		**FF**	**27**	**DRN**	**80M2**	19	405
839	13	4.16	1530	7.0							

P_m = 1.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.73	17300	2427	102200	1.05	X						
0.81	15400	2185	107000	1.15	X						
0.91	13700	1944	110800	1.30	X						
1.1	12200	1674	113700	1.45	X	**FA**	**157R97**	**(E)DRN**	**90L4**	780	469
1.4	9420	1308	118000	1.90	X	**FAF**	**157R97**	**(E)DRN**	**90L4**	840	469
1.5	8340	1169	119400	2.2	X	**F**	**157R97**	**(E)DRN**	**90L4**	800	469
1.9	6660	953	120000	2.7	X	**FF**	**157R97**	**(E)DRN**	**90L4**	900	469
2.1	5820	845	120000	3.1	X						
4.0	3070	446	120000	5.8	X						
5.8	2080	302	120000	8.6	X						
1.1	11800	1606	90000	1.00	X						
1.3	10200	1390	90000	1.15	X						
1.4	8950	1220	90000	1.35	X	**FA**	**127R77**	**(E)DRN**	**90L4**	440	469
1.6	7960	1077	90000	1.50	X	**FAF**	**127R77**	**(E)DRN**	**90L4**	480	469
1.9	6820	930	90000	1.75	X	**F**	**127R77**	**(E)DRN**	**90L4**	480	469
2.1	5990	820	90000	2.0	X	**FF**	**127R77**	**(E)DRN**	**90L4**	520	469
2.4	5290	727	90000	2.3	X						
2.7	4780	648	90000	2.5	X						

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P_m = 1.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
1.9	7000	950	51600	1.10	X						
2.1	6120	834	53700	1.25	X						
2.4	5370	736	55500	1.45	X	**FA**	**107R77**	**(E)DRN**	**90L4**	290	469
2.8	4730	640	56900	1.60	X	**FAF**	**107R77**	**(E)DRN**	**90L4**	310	469
3.1	4080	560	58300	1.90	X	**F**	**107R77**	**(E)DRN**	**90L4**	305	469
3.6	3560	489	59300	2.2	X	**FF**	**107R77**	**(E)DRN**	**90L4**	335	469
4.0	3220	436	60000	2.4	X						
4.8	2730	370	60900	2.8	X						
3.3	3930	529	31000	1.10	X	**FA**	**97R57**	**(E)DRN**	**90L4**	200	469
3.8	3470	467	32200	1.25	X	**FAF**	**97R57**	**(E)DRN**	**90L4**	220	469
4.4	3000	406	33300	1.45	X	**F**	**97R57**	**(E)DRN**	**90L4**	210	469
4.9	2690	363	34000	1.60	X	**FF**	**97R57**	**(E)DRN**	**90L4**	240	469
						FA	**87R57**	**(E)DRN**	**90L4**	135	469
5.9	2210	300	25800	1.35	X	**FAF**	**87R57**	**(E)DRN**	**90L4**	150	469
7.1	1830	249	26900	1.65	X	**F**	**87R57**	**(E)DRN**	**90L4**	140	469
						FF	**87R57**	**(E)DRN**	**90L4**	155	469
4.6	3080	254.40*	60200	2.5		**FA**	**107**	**DRN**	**112M6**	270	453
5.5	2610	215.37	61100	2.9		**FAF**	**107**	**DRN**	**112M6**	290	452
5.9	2410	199.31	61500	3.2		**F**	**107**	**DRN**	**112M6**	290	451
6.6	2160	178.64	61900	3.5		**FF**	**107**	**DRN**	**112M6**	315	452
4.3	3350	276.77	32500	1.30							
4.7	3070	253.41	33100	1.40		**FA**	**97**	**DRN**	**112M6**	195	447
5.3	2710	223.88	33900	1.60		**FAF**	**97**	**DRN**	**112M6**	220	446
6.2	2300	189.92	34800	1.85		**F**	**97**	**DRN**	**112M6**	205	445
6.8	2120	174.87	35200	2.0		**FF**	**97**	**DRN**	**112M6**	235	446
6.4	2240	276.77	34900	1.90	X						
7.0	2050	253.41	35300	2.1	X	**FA**	**97**	**(E)DRN**	**90L4**	175	447
7.9	1810	223.88	35700	2.4	X	**FAF**	**97**	**(E)DRN**	**90L4**	200	446
9.3	1530	189.92	36200	2.8	X	**F**	**97**	**(E)DRN**	**90L4**	185	445
10	1410	174.87	36400	3.0	X	**FF**	**97**	**(E)DRN**	**90L4**	215	446
6.5	2190	270.68	25800	1.35	X	**FA**	**87**	**(E)DRN**	**90L4**	110	441
6.9	2070	255.37	26200	1.45	X	**FAF**	**87**	**(E)DRN**	**90L4**	125	440
7.7	1850	228.93	26900	1.60	X	**F**	**87**	**(E)DRN**	**90L4**	120	439
9.0	1590	197.20	27600	1.90	X	**FF**	**87**	**(E)DRN**	**90L4**	135	440
9.8	1450	179.97	27900	2.1	X						
11	1290	159.61	28300	2.3	X	**FA**	**87**	**(E)DRN**	**90L4**	110	441
13	1080	134.16	28800	2.8	X	**FAF**	**87**	**(E)DRN**	**90L4**	125	440
16	880	109.49	29200	3.4	X	**F**	**87**	**(E)DRN**	**90L4**	120	439
18	790	97.89	29400	3.8	X	**FF**	**87**	**(E)DRN**	**90L4**	135	440
11	1340	166.47	16700	1.10	X	**FA**	**77**	**(E)DRN**	**90L4**	73	435
12	1150	142.27	17700	1.30	X	**FAF**	**77**	**(E)DRN**	**90L4**	79	434
14	1050	130.42	18100	1.40	X	**F**	**77**	**(E)DRN**	**90L4**	76	433
15	920	114.45	18600	1.60	X	**FF**	**77**	**(E)DRN**	**90L4**	87	434
16	870	108.46*	18700	1.70	X						
19	765	94.93	19100	1.95	X						
21	690	85.52	19300	2.2	X						
24	605	75.02	19500	2.5	X						
24	585	72.50	19500	2.5	X	**FA**	**77**	**(E)DRN**	**90L4**	73	435
27	535	66.46	19600	2.8	X	**FAF**	**77**	**(E)DRN**	**90L4**	79	434
30	470	58.32	19700	3.2	X	**F**	**77**	**(E)DRN**	**90L4**	76	433
32	445	55.27	19800	3.4	X	**FF**	**77**	**(E)DRN**	**90L4**	87	434
37	390	48.37	19900	3.8	X						
41	350	43.58	19900	4.2	X						
46	305	38.23	20000	4.8	X						
						FA	**77**	**(E)DRN**	**90L4**	71	435
48	295	36.58	20000	3.7	X	**FAF**	**77**	**(E)DRN**	**90L4**	78	434
56	255	31.51	20000	5.4	X	**F**	**77**	**(E)DRN**	**90L4**	75	433
						FF	**77**	**(E)DRN**	**90L4**	86	434

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P_m = 1.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra}[1] N	SEW f_B	HAZ LOC					m kg	
20	730	90.59	11000	1.10	X						
22	645	79.76	11600	1.25	X						
26	545	67.65	12200	1.50	X	**FA**	**67**	**(E)DRN**	**90L4**	50	429
29	495	61.07	12400	1.65	X	**FAF**	**67**	**(E)DRN**	**90L4**	56	428
33	435	53.73	12700	1.90	X	**F**	**67**	**(E)DRN**	**90L4**	53	427
35	410	50.74	12800	2.0	X	**FF**	**67**	**(E)DRN**	**90L4**	59	428
41	350	43.20	13000	2.3	X						
45	315	39.26	13000	2.5	X						
49	290	36.30	13000	2.8	X	**FA**	**67**	**(E)DRN**	**90L4**	49	429
55	260	32.08	13000	3.1	X	**FAF**	**67**	**(E)DRN**	**90L4**	55	428
64	220	27.41	13000	3.7	X	**F**	**67**	**(E)DRN**	**90L4**	52	427
70	200	25.13	13000	4.0	X	**FF**	**67**	**(E)DRN**	**90L4**	58	428
30	475	58.97	10100	1.25	X						
35	405	50.10	9810	1.50	X	**FA**	**57**	**(E)DRN**	**90L4**	46	423
40	360	44.73	9620	1.65	X	**FAF**	**57**	**(E)DRN**	**90L4**	52	422
46	305	38.21	9330	1.95	X	**F**	**57**	**(E)DRN**	**90L4**	46	421
49	290	35.79	9200	2.1	X	**FF**	**57**	**(E)DRN**	**90L4**	53	422
59	240	30.15	8870	2.4	X						
48	295	36.61	6500	1.35	X	**FA**	**47**	**(E)DRN**	**90L4**	38	417
52	275	34.29	6450	1.45	X	**FAF**	**47**	**(E)DRN**	**90L4**	41	416
61	230	28.88	6280	1.70	X	**F**	**47**	**(E)DRN**	**90L4**	39	415
						FF	**47**	**(E)DRN**	**90L4**	42	416
57	250	30.86	6350	1.60	X						
60	235	29.32	6300	1.70	X						
69	205	25.72	6160	1.90	X	**FA**	**47**	**(E)DRN**	**90L4**	38	417
81	177	21.82	5970	2.3	X	**FAF**	**47**	**(E)DRN**	**90L4**	40	416
90	160	19.70	5850	2.5	X	**F**	**47**	**(E)DRN**	**90L4**	38	415
102	140	17.33	5690	2.9	X	**FF**	**47**	**(E)DRN**	**90L4**	42	416
108	133	16.36	5620	3.0	X						
127	113	13.93	5410	3.5	X						
86	167	20.57	3390	1.20	X						
92	156	19.27	3370	1.30	X						
104	138	17.03	3330	1.45	X						
123	116	14.33	3260	1.70	X	**FA**	**37**	**(E)DRN**	**90L4**	33	411
137	104	12.87	3210	1.90	X	**FAF**	**37**	**(E)DRN**	**90L4**	35	410
159	90	11.08	3130	2.1	X	**F**	**37**	**(E)DRN**	**90L4**	34	409
170	84	10.42	3100	2.2	X	**FF**	**37**	**(E)DRN**	**90L4**	36	410
197	73	8.97	3010	2.4	X						
220	65	8.01	2940	2.6	X						
128	112	13.84	2090	1.15	X						
143	100	12.35	2080	1.30	X						
167	86	10.55	2060	1.50	X						
179	80	9.88	2050	1.60	X						
188	76	9.40	1960	1.70	X	**FA**	**27**	**(E)DRN**	**90L4**	27	406
217	66	8.13	1940	1.85	X	**FAF**	**27**	**(E)DRN**	**90L4**	28	405
256	56	6.91	1900	2.0	X	**F**	**27**	**(E)DRN**	**90L4**	28	404
287	50	6.17	1870	2.2	X	**FF**	**27**	**(E)DRN**	**90L4**	28	405
335	43	5.27	1820	2.3	X						
358	40	4.93	1800	2.4	X						
425	34	4.16	1740	2.6	X						
431	33	8.13	1730	3.7							
507	28	6.91	1670	4.0		**FA**	**27**	**DRN**	**90S2**	24	406
568	25	6.17	1630	4.3		**FAF**	**27**	**DRN**	**90S2**	25	405
665	22	5.27	1570	4.7		**F**	**27**	**DRN**	**90S2**	24	404
710	20	4.93	1540	4.8		**FF**	**27**	**DRN**	**90S2**	25	405
843	17	4.16	1480	5.1							

P_m = 2.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra}[1] N	SEW f_B	HAZ LOC					m kg	
						FA	**157R97**	**(E)DRN**	**100L4**	790	469
						FAF	**157R97**	**(E)DRN**	**100L4**	850	469
1.2	14500	1441	109100	1.25	X	**F**	**157R97**	**(E)DRN**	**100L4**	810	469
						FF	**157R97**	**(E)DRN**	**100L4**	920	469

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P_m = 2.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
1.4	14000	1308	110100	1.30	X						
1.5	12500	1169	113200	1.45	X						
1.9	10000	953	117200	1.80	X						
2.1	8840	845	118800	2.0	X						
2.3	7930	764	119800	2.3	X	**FA**	**157R97**	**(E)DRN**	**100L4**	790	469
2.6	7050	680	120000	2.5	X	**FAF**	**157R97**	**(E)DRN**	**100L4**	850	469
3.1	5890	576	120000	3.1	X	**F**	**157R97**	**(E)DRN**	**100L4**	810	469
4.0	4670	446	120000	3.9	X	**FF**	**157R97**	**(E)DRN**	**100L4**	920	469
5.8	3160	302	120000	5.7	X						
6.5	2830	273	120000	6.3	X						
7.6	2360	232	120000	7.6	X						
9.0	2000	197	120000	9.0	X						
1.6	11800	1077	90000	1.00	X						
1.9	10100	930	90000	1.20	X						
2.1	8930	820	90000	1.35	X	**FA**	**127R77**	**(E)DRN**	**100L4**	455	469
2.4	7890	727	90000	1.50	X	**FAF**	**127R77**	**(E)DRN**	**100L4**	490	469
2.7	7100	648	90000	1.70	X	**F**	**127R77**	**(E)DRN**	**100L4**	490	469
3.2	6020	549	90000	2.0	X	**FF**	**127R77**	**(E)DRN**	**100L4**	530	469
3.6	5410	495	90000	2.2	X						
4.1	4680	428	90000	2.6	X						
2.8	7020	640	51500	1.10	X						
3.1	6080	560	53800	1.25	X	**FA**	**107R77**	**(E)DRN**	**100L4**	300	469
3.6	5310	489	55600	1.45	X	**FAF**	**107R77**	**(E)DRN**	**100L4**	325	469
4.0	4780	436	56800	1.60	X	**F**	**107R77**	**(E)DRN**	**100L4**	320	469
4.8	4050	370	58300	1.90	X	**FF**	**107R77**	**(E)DRN**	**100L4**	345	469
5.3	3640	333	59100	2.1	X						
						FA	**97R57**	**(E)DRN**	**100L4**	210	469
6.2	3140	285	33000	1.35	X	**FAF**	**97R57**	**(E)DRN**	**100L4**	235	469
7.2	2700	245	34000	1.60	X	**F**	**97R57**	**(E)DRN**	**100L4**	220	469
						FF	**97R57**	**(E)DRN**	**100L4**	250	469
4.6	4530	254.40*	57300	1.70		**FA**	**107**	**DRN**	**132S6**	285	453
5.5	3830	215.37	58800	2.0		**FAF**	**107**	**DRN**	**132S6**	305	452
5.9	3550	199.31	59300	2.2		**F**	**107**	**DRN**	**132S6**	300	451
6.6	3180	178.64	60000	2.4		**FF**	**107**	**DRN**	**132S6**	325	452
6.9	3020	254.40*	60300	2.5	X	**FA**	**107**	**(E)DRN**	**100L4**	265	453
8.2	2560	215.37	61200	3.0	X	**FAF**	**107**	**(E)DRN**	**100L4**	285	452
8.9	2370	199.31	61500	3.2	X	**F**	**107**	**(E)DRN**	**100L4**	280	451
9.9	2120	178.64	62000	3.6	X	**FF**	**107**	**(E)DRN**	**100L4**	305	452
5.3	3980	223.88	30800	1.10		**FA**	**97**	**DRN**	**132S6**	210	447
6.2	3380	189.92	32400	1.25		**FAF**	**97**	**DRN**	**132S6**	230	446
6.7	3110	174.87	33000	1.40		**F**	**97**	**DRN**	**132S6**	215	445
7.5	2780	156.30	33800	1.55		**FF**	**97**	**DRN**	**132S6**	250	446
6.4	3290	276.77	32600	1.30	X						
7.0	3010	253.41	33300	1.45	X						
7.9	2660	223.88	34100	1.60	X	**FA**	**97**	**(E)DRN**	**100L4**	190	447
9.3	2260	189.92	34900	1.90	X	**FAF**	**97**	**(E)DRN**	**100L4**	210	446
10	2080	174.87	35200	2.1	X	**F**	**97**	**(E)DRN**	**100L4**	195	445
11	1860	156.30	35600	2.3	X	**FF**	**97**	**(E)DRN**	**100L4**	230	446
13	1670	140.71	36000	2.6	X						
14	1510	127.42	36200	2.8	X						
8.9	2340	197.20	25300	1.30	X	**FA**	**87**	**(E)DRN**	**100L4**	125	441
9.8	2140	179.97	26000	1.40	X	**FAF**	**87**	**(E)DRN**	**100L4**	135	440
11	1890	159.61	26700	1.60	X	**F**	**87**	**(E)DRN**	**100L4**	130	439
13	1590	134.16	27600	1.90	X	**FF**	**87**	**(E)DRN**	**100L4**	145	440
14	1460	123.29	27900	2.0	X						
16	1300	109.49	28300	2.3	X						
18	1160	97.89	28000	2.6	X						
20	1040	88.01	27300	2.9	X	**FA**	**87**	**(E)DRN**	**100L4**	125	441
23	900	76.39	26400	3.3	X	**FAF**	**87**	**(E)DRN**	**100L4**	135	440
26	810	68.40	25700	3.7	X	**F**	**87**	**(E)DRN**	**100L4**	130	439
31	675	56.75	24500	4.4	X	**FF**	**87**	**(E)DRN**	**100L4**	145	440
35	595	50.36	23700	4.9	X						
39	535	45.28	23000	5.2	X						

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P_m = 2.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
15	1360	114.45	16600	1.10	X	**FA**	**77**	**(E)DRN**	**100L4**	84	435
16	1290	108.46*	17000	1.15	X	**FAF**	**77**	**(E)DRN**	**100L4**	91	434
19	1120	94.93	17800	1.35	X	**F**	**77**	**(E)DRN**	**100L4**	88	433
21	1010	85.52	18200	1.45	X	**FF**	**77**	**(E)DRN**	**100L4**	98	434
24	890	75.02	18700	1.70	X						
27	790	66.46	19000	1.90	X	**FA**	**77**	**(E)DRN**	**100L4**	84	435
30	690	58.32	19300	2.2	X	**FAF**	**77**	**(E)DRN**	**100L4**	91	434
32	655	55.27	19400	2.3	X	**F**	**77**	**(E)DRN**	**100L4**	88	433
36	575	48.37	19600	2.6	X	**FF**	**77**	**(E)DRN**	**100L4**	98	434
40	515	43.58	19700	2.9	X						
48	435	36.58	19800	2.5	X	**FA**	**77**	**(E)DRN**	**100L4**	83	435
56	375	31.51	19900	3.7	X	**FAF**	**77**	**(E)DRN**	**100L4**	89	434
61	340	28.75	19900	4.2	X	**F**	**77**	**(E)DRN**	**100L4**	86	433
69	300	25.50*	20000	4.9	X	**FF**	**77**	**(E)DRN**	**100L4**	97	434
29	725	61.07	11100	1.15	X						
33	635	53.73	11700	1.30	X	**FA**	**67**	**(E)DRN**	**100L4**	61	429
35	600	50.74	11900	1.35	X	**FAF**	**67**	**(E)DRN**	**100L4**	67	428
41	510	43.20	12300	1.60	X	**F**	**67**	**(E)DRN**	**100L4**	64	427
45	465	39.26	12600	1.65	X	**FF**	**67**	**(E)DRN**	**100L4**	70	428
52	400	34.01	12800	1.85	X						
55	380	32.08	12900	2.1	X						
64	325	27.41	13000	2.5	X	**FA**	**67**	**(E)DRN**	**100L4**	60	429
70	295	25.13	13000	2.7	X	**FAF**	**67**	**(E)DRN**	**100L4**	66	428
80	260	22.05	13000	3.1	X	**F**	**67**	**(E)DRN**	**100L4**	63	427
84	245	20.90*	13000	3.3	X	**FF**	**67**	**(E)DRN**	**100L4**	69	428
96	215	18.29	13000	3.8	X						
39	530	44.73	8620	1.15	X	**FA**	**57**	**(E)DRN**	**100L4**	57	423
46	450	38.21	8470	1.30	X	**FAF**	**57**	**(E)DRN**	**100L4**	63	422
49	425	35.79	8400	1.40	X	**F**	**57**	**(E)DRN**	**100L4**	57	421
59	355	30.15	8190	1.65	X	**FF**	**57**	**(E)DRN**	**100L4**	64	422
71	295	24.96	7930	1.95	X						
83	250	21.17	7680	2.4	X	**FA**	**57**	**(E)DRN**	**100L4**	56	423
92	225	19.11	7520	2.6	X	**FAF**	**57**	**(E)DRN**	**100L4**	62	422
105	200	16.81	7310	3.0	X	**F**	**57**	**(E)DRN**	**100L4**	57	421
111	189	15.88	7220	3.2	X	**FF**	**57**	**(E)DRN**	**100L4**	63	422
69	305	25.72	5500	1.30	X						
81	255	21.82	5410	1.55	X						
90	230	19.70	5340	1.70	X						
102	205	17.33	5240	1.95	X	**FA**	**47**	**(E)DRN**	**100L4**	49	417
108	195	16.36	5200	2.0	X	**FAF**	**47**	**(E)DRN**	**100L4**	51	416
127	166	13.93	5050	2.4	X	**F**	**47**	**(E)DRN**	**100L4**	50	415
139	151	12.66	4960	2.6	X	**FF**	**47**	**(E)DRN**	**100L4**	53	416
161	131	10.97	4820	3.1	X						
197	107	8.96	4520	3.1	X						
123	171	14.33	2820	1.15	X						
137	153	12.87	2810	1.30	X						
159	132	11.08	2790	1.45	X						
169	124	10.42	2780	1.50	X						
197	107	8.97	2730	1.65	X	**FA**	**37**	**(E)DRN**	**100L4**	44	411
220	95	8.01	2690	1.80	X	**FAF**	**37**	**(E)DRN**	**100L4**	46	410
262	80	6.74	2550	1.75	X	**F**	**37**	**(E)DRN**	**100L4**	45	409
292	72	6.05	2510	1.85	X	**FF**	**37**	**(E)DRN**	**100L4**	47	410
339	62	5.21	2450	2.0	X						
360	58	4.90	2420	2.1	X						
419	50	4.22	2350	2.2	X						
468	45	3.77	2300	2.3	X						

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P_m = 2.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
216	97	16.28	1730	1.35							
255	82	13.84	1720	1.60							
285	74	12.35	1710	1.75							
334	63	10.55	1680	2.1							
357	59	9.88	1670	2.2		**FA**	**27**	**DRN**	**90L2**	27	406
434	48	8.13	1580	2.5		**FAF**	**27**	**DRN**	**90L2**	28	405
510	41	6.91	1540	2.8		**F**	**27**	**DRN**	**90L2**	28	404
572	37	6.17	1510	3.0		**FF**	**27**	**DRN**	**90L2**	28	405
669	31	5.27	1470	3.2							
715	29	4.93	1450	3.3							
848	25	4.16	1400	3.5							

P_m = 3.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
1.5	17300	1169	102300	1.05	X						
1.9	13900	953	110400	1.30	X						
2.1	12300	845	113600	1.45	X						
2.3	11000	764	115700	1.65	X						
2.6	9830	680	117500	1.85	X	**FA**	**157R97**	**(E)DRN**	**100L4**	790	469
3.1	8240	576	119500	2.2	X	**FAF**	**157R97**	**(E)DRN**	**100L4**	850	469
4.0	6500	446	120000	2.8	X	**F**	**157R97**	**(E)DRN**	**100L4**	810	469
5.8	4400	302	120000	4.1	X	**FF**	**157R97**	**(E)DRN**	**100L4**	920	469
6.5	3950	273	120000	4.5	X						
7.6	3310	232	120000	5.4	X						
9.0	2810	197	120000	6.4	X						
2.4	10800	727	90000	1.10	X	**FA**	**127R77**	**(E)DRN**	**100L4**	455	469
2.7	9750	648	90000	1.25	X	**FAF**	**127R77**	**(E)DRN**	**100L4**	490	469
3.2	8260	549	90000	1.45	X	**F**	**127R77**	**(E)DRN**	**100L4**	490	469
3.6	7440	495	90000	1.60	X	**FF**	**127R77**	**(E)DRN**	**100L4**	530	469
4.0	6560	436	52700	1.15	X	**FA**	**107R77**	**(E)DRN**	**100L4**	300	469
4.8	5560	370	55000	1.40	X	**FAF**	**107R77**	**(E)DRN**	**100L4**	325	469
5.3	5000	333	56300	1.55	X	**F**	**107R77**	**(E)DRN**	**100L4**	320	469
6.1	4370	291	57600	1.75	X	**FF**	**107R77**	**(E)DRN**	**100L4**	345	469
4.6	6180	254.40*	53600	1.25		**FA**	**107**	**DRN**	**132S6**	285	453
5.5	5230	215.37	55800	1.45		**FAF**	**107**	**DRN**	**132S6**	305	452
5.9	4840	199.31	56600	1.60		**F**	**107**	**DRN**	**132S6**	300	451
6.6	4340	178.64	57700	1.75		**FF**	**107**	**DRN**	**132S6**	325	452
6.9	4130	254.40*	58200	1.85	X						
8.2	3490	215.37	59400	2.2	X	**FA**	**107**	**(E)DRN**	**100L4**	265	453
8.8	3230	199.31	59900	2.4	X	**FAF**	**107**	**(E)DRN**	**100L4**	285	452
9.9	2900	178.64	60600	2.6	X	**F**	**107**	**(E)DRN**	**100L4**	280	451
11	2620	161.28*	61100	2.9	X	**FF**	**107**	**(E)DRN**	**100L4**	305	452
7.9	3630	223.88	31700	1.20	X	**FA**	**97**	**(E)DRN**	**100L4**	190	447
9.3	3080	189.92	33100	1.40	X	**FAF**	**97**	**(E)DRN**	**100L4**	210	446
10	2840	174.87	33700	1.50	X	**F**	**97**	**(E)DRN**	**100L4**	195	445
						FF	**97**	**(E)DRN**	**100L4**	230	446
11	2530	156.30	34300	1.70	X						
13	2280	140.71	34800	1.90	X	**FA**	**97**	**(E)DRN**	**100L4**	190	447
14	2070	127.42	35300	2.1	X	**FAF**	**97**	**(E)DRN**	**100L4**	210	446
16	1830	112.99	35700	2.3	X	**F**	**97**	**(E)DRN**	**100L4**	195	445
17	1660	102.16	36000	2.6	X	**FF**	**97**	**(E)DRN**	**100L4**	230	446
20	1460	89.85	36300	3.0	X						
13	2180	134.16	25900	1.40	X	**FA**	**87**	**(E)DRN**	**100L4**	125	441
14	2000	123.29	26400	1.50	X	**FAF**	**87**	**(E)DRN**	**100L4**	135	440
16	1770	109.49	26900	1.70	X	**F**	**87**	**(E)DRN**	**100L4**	130	439
						FF	**87**	**(E)DRN**	**100L4**	145	440
18	1590	97.89	26400	1.90	X						
20	1430	88.01	25800	2.1	X	**FA**	**87**	**(E)DRN**	**100L4**	125	441
23	1240	76.39	25100	2.4	X	**FAF**	**87**	**(E)DRN**	**100L4**	135	440
26	1110	68.40	24500	2.7	X	**F**	**87**	**(E)DRN**	**100L4**	130	439
31	920	56.75	23500	3.2	X	**FF**	**87**	**(E)DRN**	**100L4**	145	440
35	810	50.36	22900	3.6	X						

P_m = 3.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
21	1380	85.52	16400	1.10	X	**FA**	**77**	**(E)DRN**	**100L4**	84	435
24	1210	75.02	17400	1.25	X	**FAF**	**77**	**(E)DRN**	**100L4**	91	434
27	1070	66.46	18000	1.40	X	**F**	**77**	**(E)DRN**	**100L4**	88	433
						FF	**77**	**(E)DRN**	**100L4**	98	434
30	940	58.32	18500	1.60	X						
32	890	55.27	18700	1.65	X	**FA**	**77**	**(E)DRN**	**100L4**	84	435
36	785	48.37	19000	1.90	X	**FAF**	**77**	**(E)DRN**	**100L4**	91	434
40	705	43.58	19200	2.1	X	**F**	**77**	**(E)DRN**	**100L4**	88	433
46	620	38.23	19500	2.4	X	**FF**	**77**	**(E)DRN**	**100L4**	98	434
48	590	36.58	19500	1.85	X						
56	510	31.51	19700	2.7	X	**FA**	**77**	**(E)DRN**	**100L4**	83	435
61	465	28.75	19800	3.1	X	**FAF**	**77**	**(E)DRN**	**100L4**	89	434
69	410	25.50*	19800	3.6	X	**F**	**77**	**(E)DRN**	**100L4**	86	433
82	345	21.43	19900	4.3	X	**FF**	**77**	**(E)DRN**	**100L4**	97	434
41	700	43.20	11300	1.15	X						
45	635	39.26	11700	1.20	X	**FA**	**67**	**(E)DRN**	**100L4**	61	429
52	550	34.01	12200	1.35	X	**FAF**	**67**	**(E)DRN**	**100L4**	67	428
						F	**67**	**(E)DRN**	**100L4**	64	427
55	520	32.08	12300	1.55	X	**FF**	**67**	**(E)DRN**	**100L4**	70	428
64	445	27.41	12600	1.85	X						
70	405	25.13	12800	2.0	X	**FA**	**67**	**(E)DRN**	**100L4**	60	429
80	355	22.05	13000	2.3	X	**FAF**	**67**	**(E)DRN**	**100L4**	66	428
84	335	20.90*	13000	2.4	X	**F**	**67**	**(E)DRN**	**100L4**	63	427
96	295	18.29	13000	2.8	X	**FF**	**67**	**(E)DRN**	**100L4**	69	428
107	265	16.48	13000	3.1	X						
122	230	14.46	13000	3.5	X						
71	405	24.96	7290	1.40	X						
83	340	21.17	7140	1.75	X						
92	310	19.11	7030	1.95	X	**FA**	**57**	**(E)DRN**	**100L4**	56	423
105	270	16.81	6880	2.2	X	**FAF**	**57**	**(E)DRN**	**100L4**	62	422
111	255	15.88	6810	2.3	X	**F**	**57**	**(E)DRN**	**100L4**	57	421
130	215	13.52	6600	2.7	X	**FF**	**57**	**(E)DRN**	**100L4**	63	422
144	200	12.29	6470	3.0	X						
166	173	10.64	6270	3.5	X						
90	320	19.70	4760	1.25	X						
102	280	17.33	4730	1.40	X						
108	265	16.36	4710	1.50	X	**FA**	**47**	**(E)DRN**	**100L4**	49	417
127	225	13.93	4640	1.75	X	**FAF**	**47**	**(E)DRN**	**100L4**	51	416
139	205	12.66	4590	1.95	X	**F**	**47**	**(E)DRN**	**100L4**	50	415
161	178	10.97	4500	2.2	X	**FF**	**47**	**(E)DRN**	**100L4**	53	416
197	146	8.96	4230	2.3	X						
159	180	11.08	2390	1.05	X						
169	169	10.42	2400	1.10	X						
197	146	8.97	2410	1.20	X						
220	130	8.01	2410	1.30	X	**FA**	**37**	**(E)DRN**	**100L4**	44	411
262	110	6.74	2290	1.30	X	**FAF**	**37**	**(E)DRN**	**100L4**	46	410
291	98	6.05	2270	1.35	X	**F**	**37**	**(E)DRN**	**100L4**	45	409
338	85	5.21	2240	1.50	X	**FF**	**37**	**(E)DRN**	**100L4**	47	410
360	80	4.90	2230	1.50	X						
418	69	4.22	2190	1.60	X						
468	61	3.77	2150	1.70	X						

P_m = 3.7 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
2.1	15300	845	107200	1.15	X						
2.3	13800	764	110700	1.30	X						
2.6	12300	680	113600	1.45	X						
3.0	10300	576	116800	1.75	X	**FA**	**157R97**	**(E)DRN**	**100L4**	790	469
3.9	8120	446	119600	2.2	X	**FAF**	**157R97**	**(E)DRN**	**100L4**	850	469
5.8	5490	302	120000	3.3	X	**F**	**157R97**	**(E)DRN**	**100L4**	810	469
6.4	4940	273	120000	3.6	X	**FF**	**157R97**	**(E)DRN**	**100L4**	920	469
7.6	4150	232	120000	4.3	X						
8.9	3520	197	120000	5.1	X						

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P_m = 3.7 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
3.2	10200	549	90000	1.15	X	**FA**	**127R77**	**(E)DRN**	**100L4**	455	469
3.5	9230	495	90000	1.30	X	**FAF**	**127R77**	**(E)DRN**	**100L4**	490	469
4.1	7990	428	90000	1.50	X	**F**	**127R77**	**(E)DRN**	**100L4**	490	469
4.7	6990	376	90000	1.70	X	**FF**	**127R77**	**(E)DRN**	**100L4**	530	469
5.3	6210	333	53500	1.25	X	**FA**	**107R77**	**(E)DRN**	**100L4**	300	469
6.0	5430	291	55300	1.40	X	**FAF**	**107R77**	**(E)DRN**	**100L4**	325	469
6.9	4750	255	56800	1.60	X	**F**	**107R77**	**(E)DRN**	**100L4**	320	469
						FF	**107R77**	**(E)DRN**	**100L4**	345	469
6.9	5110	254.40*	56100	1.50	X						
8.2	4320	215.37	57700	1.75	X						
8.8	4000	199.31	58400	1.90	X						
9.8	3590	178.64	59200	2.1	X	**FA**	**107**	**(E)DRN**	**100L4**	265	453
11	3240	161.28*	59900	2.4	X	**FAF**	**107**	**(E)DRN**	**100L4**	285	452
12	2940	146.49	60500	2.6	X	**F**	**107**	**(E)DRN**	**100L4**	280	451
14	2610	129.97	61100	2.9	X	**FF**	**107**	**(E)DRN**	**100L4**	305	452
15	2370	117.94	61500	3.2	X						
17	2030	101.38*	62100	3.8	X						
10	3510	174.87	32100	1.20	X	**FA**	**97**	**(E)DRN**	**100L4**	190	447
						FAF	**97**	**(E)DRN**	**100L4**	210	446
						F	**97**	**(E)DRN**	**100L4**	195	445
						FF	**97**	**(E)DRN**	**100L4**	230	446
11	3140	156.30	33000	1.35	X						
12	2820	140.71	33700	1.50	X						
14	2560	127.42	34300	1.70	X						
16	2270	112.99	34900	1.90	X	**FA**	**97**	**(E)DRN**	**100L4**	190	447
17	2050	102.16	35300	2.1	X	**FAF**	**97**	**(E)DRN**	**100L4**	210	446
18	1960	97.58	35500	2.2	X	**F**	**97**	**(E)DRN**	**100L4**	195	445
20	1800	89.85	35700	2.4	X	**FF**	**97**	**(E)DRN**	**100L4**	230	446
22	1610	80.31	36100	2.7	X						
24	1450	72.29	36300	3.0	X						
27	1310	65.47	36200	3.3	X						
16	2200	109.49	25300	1.35	X	**FA**	**87**	**(E)DRN**	**100L4**	125	441
						FAF	**87**	**(E)DRN**	**100L4**	135	440
						F	**87**	**(E)DRN**	**100L4**	130	439
						FF	**87**	**(E)DRN**	**100L4**	145	440
18	1960	97.89	24900	1.50	X						
20	1760	88.01	24600	1.70	X						
23	1530	76.39	24000	1.95	X	**FA**	**87**	**(E)DRN**	**100L4**	125	441
26	1370	68.40	23600	2.2	X	**FAF**	**87**	**(E)DRN**	**100L4**	135	440
31	1140	56.75	22700	2.6	X	**F**	**87**	**(E)DRN**	**100L4**	130	439
35	1010	50.36	22200	2.9	X	**FF**	**87**	**(E)DRN**	**100L4**	145	440
39	910	45.28	21600	3.1	X						
26	1330	66.46	16700	1.10	X	**FA**	**77**	**(E)DRN**	**100L4**	84	435
						FAF	**77**	**(E)DRN**	**100L4**	91	434
						F	**77**	**(E)DRN**	**100L4**	88	433
						FF	**77**	**(E)DRN**	**100L4**	98	434
30	1170	58.32	17600	1.30	X						
32	1110	55.27	17900	1.35	X						
36	970	48.37	18400	1.55	X	**FA**	**77**	**(E)DRN**	**100L4**	84	435
40	870	43.58	18800	1.70	X	**FAF**	**77**	**(E)DRN**	**100L4**	91	434
46	765	38.23	19100	1.95	X	**F**	**77**	**(E)DRN**	**100L4**	88	433
52	675	33.74	19300	2.2	X	**FF**	**77**	**(E)DRN**	**100L4**	98	434
59	600	29.91	19500	2.5	X						
69	510	25.54	19700	2.8	X						
56	630	31.51	19400	2.2	X						
61	575	28.75	19500	2.5	X	**FA**	**77**	**(E)DRN**	**100L4**	83	435
69	510	25.50*	19700	2.9	X	**FAF**	**77**	**(E)DRN**	**100L4**	89	434
82	430	21.43	19800	3.5	X	**F**	**77**	**(E)DRN**	**100L4**	86	433
89	395	19.70	19900	3.8	X	**FF**	**77**	**(E)DRN**	**100L4**	97	434

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P_m = 3.7 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
64	550	27.41	12200	1.50	X						
70	505	25.13	12400	1.60	X						
80	440	22.05	12700	1.85	X						
84	420	20.90*	12700	1.95	X						
96	365	18.29	12900	2.2	X						
107	330	16.48	13000	2.5	X						
122	290	14.46	13000	2.8	X						
138	255	12.76	13000	3.2	X	**FA**	**67**	**(E)DRN**	**100L4**	60	429
155	225	11.31	13000	3.6	X	**FAF**	**67**	**(E)DRN**	**100L4**	66	428
182	194	9.66	12800	4.2	X	**F**	**67**	**(E)DRN**	**100L4**	63	427
194	182	9.08	12400	2.9	X	**FF**	**67**	**(E)DRN**	**100L4**	69	428
204	173	8.60	12300	3.3	X						
233	151	7.53	11900	4.0	X						
259	136	6.78	11600	4.5	X						
295	120	5.95	11200	5.1	X						
335	106	5.25	10800	5.6	X						
378	94	4.66	10500	6.0	X						
442	80	3.97	10100	6.3	X						
83	425	21.17	6660	1.40	X						
92	380	19.11	6600	1.55	X						
105	335	16.81	6500	1.80	X						
111	315	15.88	6450	1.90	X						
130	270	13.52	6300	2.2	X						
143	245	12.29	6200	2.4	X	**FA**	**57**	**(E)DRN**	**100L4**	56	423
165	210	10.64	6040	2.8	X	**FAF**	**57**	**(E)DRN**	**100L4**	62	422
189	187	9.31	5750	2.2	X	**F**	**57**	**(E)DRN**	**100L4**	57	421
215	165	8.19	5610	2.5	X	**FF**	**57**	**(E)DRN**	**100L4**	63	422
227	155	7.73	5540	2.7	X						
267	132	6.58	5350	3.2	X						
294	120	5.98	5240	3.5	X						
339	104	5.18	5060	4.0	X						

P_m = 4.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
2.1	16500	845	104300	1.10	X						
2.3	14800	764	108300	1.20	X						
2.6	13200	680	111800	1.35	X						
3.1	11100	576	115500	1.60	X	**FA**	**157R97**	**(E)DRN**	**112M4**	800	469
4.0	8740	446	118900	2.1	X	**FAF**	**157R97**	**(E)DRN**	**112M4**	860	469
5.8	5920	302	120000	3.0	X	**F**	**157R97**	**(E)DRN**	**112M4**	820	469
6.5	5320	273	120000	3.4	X	**FF**	**157R97**	**(E)DRN**	**112M4**	920	469
7.6	4480	232	120000	4.0	X						
9.0	3790	197	120000	4.7	X						
3.2	11000	549	90000	1.10	X	**FA**	**127R77**	**(E)DRN**	**112M4**	460	469
3.6	9920	495	90000	1.20	X	**FAF**	**127R77**	**(E)DRN**	**112M4**	500	469
4.1	8590	428	90000	1.40	X	**F**	**127R77**	**(E)DRN**	**112M4**	500	469
4.7	7520	376	90000	1.60	X	**FF**	**127R77**	**(E)DRN**	**112M4**	540	469
5.3	6680	333	52400	1.15	X	**FA**	**107R77**	**(E)DRN**	**112M4**	310	469
6.1	5840	291	54400	1.30	X	**FAF**	**107R77**	**(E)DRN**	**112M4**	330	469
6.9	5110	255	56000	1.50	X	**F**	**107R77**	**(E)DRN**	**112M4**	325	469
						FF	**107R77**	**(E)DRN**	**112M4**	355	469
7.0	5490	254.40*	55200	1.40	X						
8.2	4650	215.37	57100	1.65	X						
8.9	4300	199.31	57800	1.80	X						
9.9	3850	178.64	58700	2.0	X	**FA**	**107**	**(E)DRN**	**112M4**	270	453
11	3480	161.28*	59500	2.2	X	**FAF**	**107**	**(E)DRN**	**112M4**	290	452
12	3160	146.49	60100	2.4	X	**F**	**107**	**(E)DRN**	**112M4**	290	451
14	2800	129.97	60700	2.7	X	**FF**	**107**	**(E)DRN**	**112M4**	315	452
15	2540	117.94	61200	3.0	X						
17	2180	101.38*	61900	3.5	X						
10	3770	174.87	31400	1.15	X	**FA**	**97**	**(E)DRN**	**112M4**	195	447
11	3370	156.30	32400	1.25	X	**FAF**	**97**	**(E)DRN**	**112M4**	220	446
13	3030	140.71	33200	1.40	X	**F**	**97**	**(E)DRN**	**112M4**	205	445
14	2750	127.42	33900	1.55	X	**FF**	**97**	**(E)DRN**	**112M4**	235	446

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P_m = 4.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
16	2430	112.99	34500	1.75	X						
17	2200	102.16	35000	1.95	X						
18	2100	97.58	35200	2.0	X	**FA**	**97**	**(E)DRN**	**112M4**	195	447
20	1940	89.85	35500	2.2	X	**FAF**	**97**	**(E)DRN**	**112M4**	220	446
22	1730	80.31	35900	2.5	X	**F**	**97**	**(E)DRN**	**112M4**	205	445
24	1560	72.29	36200	2.8	X	**FF**	**97**	**(E)DRN**	**112M4**	235	446
27	1410	65.47	35800	3.0	X						
16	2360	109.49	24600	1.25	X	**FA**	**87**	**(E)DRN**	**112M4**	135	441
18	2110	97.89	24300	1.40	X	**FAF**	**87**	**(E)DRN**	**112M4**	145	440
20	1900	88.01	24000	1.60	X	**F**	**87**	**(E)DRN**	**112M4**	140	439
						FF	**87**	**(E)DRN**	**112M4**	155	440
23	1640	76.39	23500	1.80	X						
26	1470	68.40	23100	2.0	X	**FA**	**87**	**(E)DRN**	**112M4**	135	441
31	1220	56.75	22300	2.5	X	**FAF**	**87**	**(E)DRN**	**112M4**	145	440
35	1080	50.36	21800	2.7	X	**F**	**87**	**(E)DRN**	**112M4**	140	439
39	970	45.28	21300	2.9	X	**FF**	**87**	**(E)DRN**	**112M4**	155	440
27	1430	66.46	16100	1.05	X	**FA**	**77**	**(E)DRN**	**112M4**	93	435
30	1250	58.32	17100	1.20	X	**FAF**	**77**	**(E)DRN**	**112M4**	100	434
32	1190	55.27	17500	1.25	X	**F**	**77**	**(E)DRN**	**112M4**	97	433
37	1040	48.37	18100	1.45	X	**FF**	**77**	**(E)DRN**	**112M4**	110	434
41	940	43.58	18500	1.60	X						
46	820	38.23	18900	1.80	X	**FA**	**77**	**(E)DRN**	**112M4**	93	435
52	725	33.74	19200	2.1	X	**FAF**	**77**	**(E)DRN**	**112M4**	100	434
59	645	29.91	19400	2.3	X	**F**	**77**	**(E)DRN**	**112M4**	97	433
69	550	25.54	19600	2.6	X	**FF**	**77**	**(E)DRN**	**112M4**	110	434
56	680	31.51	19300	2.0	X						
62	620	28.75	19500	2.3	X	**FA**	**77**	**(E)DRN**	**112M4**	92	435
69	550	25.50*	19600	2.7	X	**FAF**	**77**	**(E)DRN**	**112M4**	98	434
83	460	21.43	19800	3.2	X	**F**	**77**	**(E)DRN**	**112M4**	96	433
90	425	19.70	19800	3.5	X	**FF**	**77**	**(E)DRN**	**112M4**	105	434
65	590	27.41	11900	1.40	X						
70	540	25.13	12200	1.50	X						
80	475	22.05	12500	1.70	X						
85	450	20.90*	12600	1.80	X						
97	390	18.29	12800	2.1	X						
107	355	16.48	13000	2.3	X						
122	310	14.46	13000	2.6	X						
139	275	12.76	13000	3.0	X	**FA**	**67**	**(E)DRN**	**112M4**	69	429
156	240	11.31	13000	3.4	X	**FAF**	**67**	**(E)DRN**	**112M4**	76	428
183	205	9.66	12700	3.9	X	**F**	**67**	**(E)DRN**	**112M4**	72	427
195	196	9.08	12300	2.7	X	**FF**	**67**	**(E)DRN**	**112M4**	78	428
206	186	8.60	12200	3.1	X						
235	163	7.53	11800	3.8	X						
261	146	6.78	11500	4.2	X						
297	128	5.95	11100	4.8	X						
337	113	5.25	10800	5.2	X						
380	101	4.66	10400	5.6	X						
445	86	3.97	10000	5.8	X						
84	455	21.17	6460	1.30	X						
93	410	19.11	6410	1.45	X						
105	360	16.81	6340	1.65	X						
111	340	15.88	6300	1.75	X						
131	290	13.52	6160	2.1	X						
144	265	12.29	6070	2.3	X	**FA**	**57**	**(E)DRN**	**112M4**	66	423
166	225	10.64	5930	2.6	X	**FAF**	**57**	**(E)DRN**	**112M4**	71	422
190	200	9.31	5640	2.1	X	**F**	**57**	**(E)DRN**	**112M4**	66	421
216	177	8.19	5510	2.4	X	**FF**	**57**	**(E)DRN**	**112M4**	73	422
229	167	7.73	5450	2.5	X						
269	142	6.58	5270	3.0	X						
296	129	5.98	5160	3.2	X						
341	112	5.18	5000	3.7	X						

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P_m = 5.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
3.1	15500	576	106800	1.15	X						
3.5	13400	503	111300	1.35	X						
4.0	12100	446	113800	1.50	X						
5.0	9450	353	118000	1.90	X	**FA**	**157R97**	**(E)DRN**	**132S4**	810	469
5.8	8220	302	119500	2.2	X	**FAF**	**157R97**	**(E)DRN**	**132S4**	870	469
6.5	7410	273	120000	2.4	X	**F**	**157R97**	**(E)DRN**	**132S4**	830	469
7.6	6240	232	120000	2.9	X	**FF**	**157R97**	**(E)DRN**	**132S4**	940	469
8.7	5420	202	120000	3.3	X						
9.0	5300	197	120000	3.4	X						
4.2	11400	418	90000	1.05	X						
4.7	10200	374	90000	1.15	X	**FA**	**127R87**	**(E)DRN**	**132S4**	495	469
5.7	8530	312	90000	1.40	X	**FAF**	**127R87**	**(E)DRN**	**132S4**	530	469
6.0	8000	293	90000	1.50	X	**F**	**127R87**	**(E)DRN**	**132S4**	530	469
6.8	7050	259	90000	1.70	X	**FF**	**127R87**	**(E)DRN**	**132S4**	570	469
7.9	6090	223	90000	1.95	X						
						FA	**127R77**	**(E)DRN**	**132S4**	475	469
4.1	11800	428	90000	1.00	X	**FAF**	**127R77**	**(E)DRN**	**132S4**	510	469
4.7	10300	376	90000	1.15	X	**F**	**127R77**	**(E)DRN**	**132S4**	510	469
						FF	**127R77**	**(E)DRN**	**132S4**	550	469
8.2	6390	215.37	53100	1.20	X	**FA**	**107**	**(E)DRN**	**132S4**	285	453
8.9	5920	199.31	54200	1.30	X	**FAF**	**107**	**(E)DRN**	**132S4**	305	452
9.9	5300	178.64	55600	1.45	X	**F**	**107**	**(E)DRN**	**132S4**	300	451
11	4790	161.28*	56800	1.60	X	**FF**	**107**	**(E)DRN**	**132S4**	325	452
12	4350	146.49	57700	1.75	X						
14	3860	129.97	58700	2.0	X						
15	3500	117.94	59400	2.2	X	**FA**	**107**	**(E)DRN**	**132S4**	285	453
17	3010	101.38*	60400	2.5	X	**FAF**	**107**	**(E)DRN**	**132S4**	305	452
19	2740	92.47*	60900	2.8	X	**F**	**107**	**(E)DRN**	**132S4**	300	451
20	2620	88.49	61100	2.9	X	**FF**	**107**	**(E)DRN**	**132S4**	325	452
21	2490	83.99	61300	3.1	X						
						FA	**97**	**(E)DRN**	**132S4**	210	447
14	3780	127.42	31400	1.15	X	**FAF**	**97**	**(E)DRN**	**132S4**	230	446
16	3350	112.99	32500	1.30	X	**F**	**97**	**(E)DRN**	**132S4**	215	445
17	3030	102.16	33200	1.40	X	**FF**	**97**	**(E)DRN**	**132S4**	250	446
18	2890	97.58	33500	1.50	X						
20	2660	89.85	34100	1.60	X						
20	2570	86.59	34300	1.65	X						
22	2380	80.31	34600	1.80	X	**FA**	**97**	**(E)DRN**	**132S4**	210	447
23	2240	75.63	34900	1.90	X	**FAF**	**97**	**(E)DRN**	**132S4**	230	446
24	2140	72.29	34600	2.0	X	**F**	**97**	**(E)DRN**	**132S4**	215	445
27	1940	65.47	33900	2.2	X	**FF**	**97**	**(E)DRN**	**132S4**	250	446
30	1720	58.06	33100	2.5	X						
34	1550	52.49	32400	2.8	X						
20	2610	88.01	21200	1.15	X	**FA**	**87**	**(E)DRN**	**132S4**	145	441
23	2260	76.39	21100	1.30	X	**FAF**	**87**	**(E)DRN**	**132S4**	155	440
26	2030	68.40	21000	1.50	X	**F**	**87**	**(E)DRN**	**132S4**	150	439
31	1680	56.75	20600	1.80	X	**FF**	**87**	**(E)DRN**	**132S4**	165	440
35	1490	50.36	20200	1.95	X						
39	1340	45.28	19900	2.1	X	**FA**	**87**	**(E)DRN**	**132S4**	145	441
45	1160	39.30	19400	2.3	X	**FAF**	**87**	**(E)DRN**	**132S4**	155	440
50	1040	35.19	19000	2.5	X	**F**	**87**	**(E)DRN**	**132S4**	150	439
61	860	29.20	18300	2.9	X	**FF**	**87**	**(E)DRN**	**132S4**	165	440
52	1000	33.92	18900	2.6	X	**FA**	**87**	**(E)DRN**	**132S4**	140	441
61	850	28.78	18300	2.9	X	**FAF**	**87**	**(E)DRN**	**132S4**	155	440
67	785	26.50	18000	3.8	X	**F**	**87**	**(E)DRN**	**132S4**	145	439
75	700	23.68	17500	4.3	X	**FF**	**87**	**(E)DRN**	**132S4**	160	440
37	1430	48.37	16100	1.05	X						
41	1290	43.58	17000	1.15	X	**FA**	**77**	**(E)DRN**	**132S4**	105	435
46	1130	38.23	17700	1.30	X	**FAF**	**77**	**(E)DRN**	**132S4**	110	434
52	1000	33.74	18300	1.50	X	**F**	**77**	**(E)DRN**	**132S4**	110	433
59	880	29.91	18700	1.70	X	**FF**	**77**	**(E)DRN**	**132S4**	120	434
69	755	25.54	19100	1.90	X						

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P_m = 5.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
69	755	25.50*	19100	2.0	X						
82	635	21.43	19400	2.4	X						
90	585	19.70	19500	2.6	X	**FA**	**77**	**(E)DRN**	**132S4**	105	435
101	515	17.49	19300	2.9	X	**FAF**	**77**	**(E)DRN**	**132S4**	110	434
113	460	15.64*	18800	3.2	X	**F**	**77**	**(E)DRN**	**132S4**	105	433
126	415	14.06	18300	3.6	X	**FF**	**77**	**(E)DRN**	**132S4**	120	434
145	360	12.20	17700	4.1	X						
80	655	22.05	11600	1.25	X						
85	620	20.90*	11800	1.30	X						
97	540	18.29	12200	1.50	X						
107	485	16.48	12500	1.70	X						
122	425	14.46	12700	1.90	X						
139	375	12.76	12900	2.2	X						
156	335	11.31	12800	2.4	X	**FA**	**67**	**(E)DRN**	**132S4**	81	429
183	285	9.66	12300	2.9	X	**FAF**	**67**	**(E)DRN**	**132S4**	87	428
195	265	9.08	11900	1.95	X	**F**	**67**	**(E)DRN**	**132S4**	84	427
206	255	8.60	11800	2.2	X	**FF**	**67**	**(E)DRN**	**132S4**	90	428
235	220	7.53	11400	2.7	X						
261	200	6.78	11200	3.1	X						
297	177	5.95	10800	3.5	X						
337	156	5.25	10500	3.8	X						
380	138	4.66	10200	4.0	X						
445	118	3.97	9820	4.2	X						
105	495	16.81	5530	1.20	X						
111	470	15.88	5530	1.25	X						
131	400	13.52	5520	1.50	X						
144	360	12.29	5480	1.65	X	**FA**	**57**	**(E)DRN**	**132S4**	77	423
166	315	10.64	5420	1.90	X	**FAF**	**57**	**(E)DRN**	**132S4**	83	422
216	240	8.19	5080	1.75	X	**F**	**57**	**(E)DRN**	**132S4**	78	421
229	225	7.73	5040	1.85	X	**FF**	**57**	**(E)DRN**	**132S4**	84	422
269	196	6.58	4920	2.1	X						
295	178	5.98	4840	2.4	X						
341	154	5.18	4720	2.7	X						

P_m = 7.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
4.0	16600	446	104100	1.10	X						
5.0	12900	353	112300	1.40	X						
5.9	11200	302	115400	1.60	X	**FA**	**157R97**	**(E)DRN**	**132M4**	830	469
6.5	10100	273	117000	1.75	X	**FAF**	**157R97**	**(E)DRN**	**132M4**	890	469
7.7	8570	232	119100	2.1	X	**F**	**157R97**	**(E)DRN**	**132M4**	850	469
8.8	7450	202	120000	2.4	X	**FF**	**157R97**	**(E)DRN**	**132M4**	950	469
9.0	7270	197	120000	2.5	X						
5.7	11600	312	90000	1.05	X						
6.0	10900	293	90000	1.10	X	**FA**	**127R87**	**(E)DRN**	**132M4**	510	469
6.9	9650	259	90000	1.25	X	**FAF**	**127R87**	**(E)DRN**	**132M4**	550	469
7.9	8330	223	90000	1.45	X	**F**	**127R87**	**(E)DRN**	**132M4**	550	469
9.0	7370	198	90000	1.65	X	**FF**	**127R87**	**(E)DRN**	**132M4**	590	469
4.4	16200	267.43	105200	1.10							
5.4	13100	217.62*	111900	1.35							
6.6	10700	178.20*	116100	1.65							
7.2	9870	162.96	117400	1.80							
8.3	8590	141.80*	119100	2.1							
9.4	7580	125.14	120000	2.4		**FA**	**157**	**DRN**	**160M6**	740	465
11	6570	108.49	120000	2.7		**FAF**	**157**	**DRN**	**160M6**	800	464
12	5840	96.53*	120000	3.1		**F**	**157**	**DRN**	**160M6**	760	463
14	5190	85.80*	120000	3.5		**FF**	**157**	**DRN**	**160M6**	870	464
15	4750	78.46	120000	3.8							
17	4130	68.28*	120000	4.3							
20	3650	60.25	117300	4.9							
23	3160	52.24	113100	5.7							

P_m = 7.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
6.9	10300	170.83	90000	1.15		**FA**	**127**	**DRN**	**160M6**	485	459
7.7	9310	153.67*	90000	1.30		**FAF**	**127**	**DRN**	**160M6**	520	458
9.4	7590	125.37	90000	1.60		**F**	**127**	**DRN**	**160M6**	520	457
10	6920	114.34	90000	1.75		**FF**	**127**	**DRN**	**160M6**	570	458
10	6890	170.83	90000	1.75	X	**FA**	**127**	**(E)DRN**	**132M4**	445	459
12	6200	153.67*	90000	1.95	X	**FAF**	**127**	**(E)DRN**	**132M4**	485	458
14	5060	125.37	90000	2.4	X	**F**	**127**	**(E)DRN**	**132M4**	480	457
						FF	**127**	**(E)DRN**	**132M4**	530	458
9.9	7210	178.64	51000	1.05	X	**FA**	**107**	**(E)DRN**	**132M4**	300	453
11	6510	161.28*	52800	1.20	X	**FAF**	**107**	**(E)DRN**	**132M4**	320	452
12	5910	146.49	54200	1.30	X	**F**	**107**	**(E)DRN**	**132M4**	320	451
14	5240	129.97	55800	1.45	X	**FF**	**107**	**(E)DRN**	**132M4**	345	452
15	4760	117.94	56800	1.60	X						
18	4090	101.38*	58200	1.90	X						
19	3730	92.47*	59000	2.1	X	**FA**	**107**	**(E)DRN**	**132M4**	300	453
20	3570	88.49	59300	2.1	X	**FAF**	**107**	**(E)DRN**	**132M4**	320	452
21	3390	83.99	59600	2.3	X	**F**	**107**	**(E)DRN**	**132M4**	320	451
24	3000	74.52	60400	2.5	X	**FF**	**107**	**(E)DRN**	**132M4**	345	452
26	2720	67.62	59300	2.8	X						
18	3930	97.58	30900	1.10	X						
20	3620	89.85	31800	1.20	X	**FA**	**97**	**(E)DRN**	**132M4**	225	447
20	3490	86.59	32100	1.25	X	**FAF**	**97**	**(E)DRN**	**132M4**	245	446
22	3240	80.31	32200	1.35	X	**F**	**97**	**(E)DRN**	**132M4**	235	445
23	3050	75.63	32000	1.40	X	**FF**	**97**	**(E)DRN**	**132M4**	265	446
25	2910	72.29	31800	1.45	X						
27	2640	65.47	31400	1.65	X						
31	2340	58.06	30900	1.85	X	**FA**	**97**	**(E)DRN**	**132M4**	225	447
34	2110	52.49	30400	2.0	X	**FAF**	**97**	**(E)DRN**	**132M4**	245	446
40	1790	44.49	29500	2.4	X	**F**	**97**	**(E)DRN**	**132M4**	235	445
46	1560	38.86	28700	2.7	X	**FF**	**97**	**(E)DRN**	**132M4**	265	446
55	1310	32.50	27600	3.3	X						
41	1740	43.28	29300	1.75	X	**FA**	**97**	**(E)DRN**	**132M4**	220	447
48	1470	36.64	28400	2.1	X	**FAF**	**97**	**(E)DRN**	**132M4**	240	446
52	1360	33.91	27900	3.1	X	**F**	**97**	**(E)DRN**	**132M4**	225	445
58	1220	30.39	27200	3.5	X	**FF**	**97**	**(E)DRN**	**132M4**	260	446
31	2290	56.75	18200	1.30	X						
35	2030	50.36	18100	1.45	X	**FA**	**87**	**(E)DRN**	**132M4**	160	441
39	1820	45.28	18000	1.55	X	**FAF**	**87**	**(E)DRN**	**132M4**	175	440
45	1580	39.30	17800	1.70	X	**F**	**87**	**(E)DRN**	**132M4**	165	439
50	1420	35.19	17600	1.85	X	**FF**	**87**	**(E)DRN**	**132M4**	185	440
61	1170	29.20	17100	2.1	X						
62	1160	28.78	17100	2.1	X						
67	1060	26.50	16800	2.8	X						
75	950	23.68	16500	3.1	X	**FA**	**87**	**(E)DRN**	**132M4**	160	441
83	860	21.32*	16200	3.5	X	**FAF**	**87**	**(E)DRN**	**132M4**	170	440
92	775	19.31	15900	3.9	X	**F**	**87**	**(E)DRN**	**132M4**	165	439
104	690	17.12	15500	4.3	X	**FF**	**87**	**(E)DRN**	**132M4**	180	440
115	620	15.48	15100	4.8	X						
53	1360	33.74	16600	1.10	X	**FA**	**77**	**(E)DRN**	**132M4**	125	435
59	1200	29.91	17400	1.25	X	**FAF**	**77**	**(E)DRN**	**132M4**	130	434
69	1030	25.54	18200	1.40	X	**F**	**77**	**(E)DRN**	**132M4**	125	433
						FF	**77**	**(E)DRN**	**132M4**	135	434

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P_m = 7.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
70	1020	25.50*	18200	1.45	X						
83	860	21.43	18800	1.75	X						
90	795	19.70	19000	1.90	X						
101	705	17.49	18600	2.1	X						
113	630	15.64*	18200	2.4	X						
126	565	14.06	17800	2.6	X						
145	490	12.20	17200	3.0	X	**FA**	**77**	**(E)DRN**	**132M4**	120	435
162	440	10.93	16800	3.4	X	**FAF**	**77**	**(E)DRN**	**132M4**	130	434
191	375	9.30	15800	2.9	X	**F**	**77**	**(E)DRN**	**132M4**	125	433
215	330	8.26	15400	3.2	X	**FF**	**77**	**(E)DRN**	**132M4**	135	434
240	295	7.39	15000	3.6	X						
267	265	6.64	14600	4.0	X						
308	230	5.76	14100	4.6	X						
344	205	5.16	13700	5.2	X						
414	173	4.28	13100	5.8	X						

P_m = 9.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
5.0	16000	353	105700	1.10	X						
5.9	13800	302	110600	1.30	X	**FA**	**157R97**	**(E)DRN**	**132L4**	840	469
6.5	12500	273	113200	1.45	X	**FAF**	**157R97**	**(E)DRN**	**132L4**	890	469
7.7	10500	232	116400	1.70	X	**F**	**157R97**	**(E)DRN**	**132L4**	860	469
8.8	9190	202	118300	1.95	X	**FF**	**157R97**	**(E)DRN**	**132L4**	960	469
9.0	8950	197	118600	2.0	X						
6.9	11800	259	90000	1.00	X	**FA**	**127R87**	**(E)DRN**	**132L4**	520	469
8.0	10200	223	90000	1.15	X	**FAF**	**127R87**	**(E)DRN**	**132L4**	560	469
9.0	9070	198	90000	1.30	X	**F**	**127R87**	**(E)DRN**	**132L4**	560	469
						FF	**127R87**	**(E)DRN**	**132L4**	600	469
10	8450	170.83	90000	1.40	X						
12	7600	153.67*	90000	1.60	X	**FA**	**127**	**(E)DRN**	**132L4**	455	459
14	6200	125.37	90000	1.95	X	**FAF**	**127**	**(E)DRN**	**132L4**	490	458
16	5650	114.34	90000	2.1	X	**F**	**127**	**(E)DRN**	**132L4**	490	457
18	4890	98.95	90000	2.5	X	**FF**	**127**	**(E)DRN**	**132L4**	540	458
12	7250	146.49	50900	1.05	X	**FA**	**107**	**(E)DRN**	**132L4**	310	453
14	6430	129.97	53000	1.20	X	**FAF**	**107**	**(E)DRN**	**132L4**	330	452
15	5830	117.94	54400	1.30	X	**F**	**107**	**(E)DRN**	**132L4**	325	451
18	5010	101.38*	56300	1.55	X	**FF**	**107**	**(E)DRN**	**132L4**	355	452
19	4570	92.47*	57200	1.70	X						
21	4150	83.99	58100	1.85	X	**FA**	**107**	**(E)DRN**	**132L4**	310	453
24	3680	74.52	58700	2.1	X	**FAF**	**107**	**(E)DRN**	**132L4**	330	452
26	3340	67.62	57600	2.3	X	**F**	**107**	**(E)DRN**	**132L4**	325	451
31	2870	58.12*	55900	2.7	X	**FF**	**107**	**(E)DRN**	**132L4**	355	452
35	2510	50.73	54400	3.1	X						
22	3970	80.31	29600	1.10	X						
23	3740	75.63	29600	1.15	X	**FA**	**97**	**(E)DRN**	**132L4**	235	447
25	3570	72.29	29500	1.20	X	**FAF**	**97**	**(E)DRN**	**132L4**	255	446
27	3240	65.47	29300	1.35	X	**F**	**97**	**(E)DRN**	**132L4**	240	445
31	2870	58.06	29000	1.50	X	**FF**	**97**	**(E)DRN**	**132L4**	275	446
34	2590	52.49	28700	1.65	X	**FA**	**97**	**(E)DRN**	**132L4**	235	447
40	2200	44.49	28100	1.95	X	**FAF**	**97**	**(E)DRN**	**132L4**	255	446
46	1920	38.86	27500	2.2	X	**F**	**97**	**(E)DRN**	**132L4**	240	445
55	1600	32.50	26600	2.7	X	**FF**	**97**	**(E)DRN**	**132L4**	275	446
52	1670	33.91	26800	2.6	X	**FA**	**97**	**(E)DRN**	**132L4**	230	447
58	1500	30.39	26200	2.9	X	**FAF**	**97**	**(E)DRN**	**132L4**	250	446
65	1350	27.44*	25700	3.2	X	**F**	**97**	**(E)DRN**	**132L4**	235	445
71	1230	24.92	25200	3.5	X	**FF**	**97**	**(E)DRN**	**132L4**	270	446
35	2490	50.36	16400	1.20	X						
39	2240	45.28	16400	1.25	X	**FA**	**87**	**(E)DRN**	**132L4**	170	441
45	1940	39.30	16400	1.40	X	**FAF**	**87**	**(E)DRN**	**132L4**	185	440
50	1740	35.19	16300	1.50	X	**F**	**87**	**(E)DRN**	**132L4**	175	439
61	1440	29.20	16100	1.75	X	**FF**	**87**	**(E)DRN**	**132L4**	190	440

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P_m = 9.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
67	1310	26.50	15900	2.3	X						
75	1170	23.68	15700	2.6	X						
83	1050	21.32*	15400	2.8	X	**FA**	**87**	**(E)DRN**	**132L4**	165	441
92	950	19.31	15200	3.1	X	**FAF**	**87**	**(E)DRN**	**132L4**	180	440
104	840	17.12	14900	3.5	X	**F**	**87**	**(E)DRN**	**132L4**	175	439
115	765	15.48	14600	3.9	X	**FF**	**87**	**(E)DRN**	**132L4**	190	440
135	645	13.12*	14100	4.6	X						
90	970	19.70	18400	1.55	X						
101	860	17.49	18000	1.75	X						
113	770	15.64*	17600	1.95	X						
126	695	14.06	17300	2.2	X						
145	600	12.20	16800	2.5	X						
162	540	10.93	16400	2.8	X	**FA**	**77**	**(E)DRN**	**132L4**	130	435
191	460	9.30	15400	2.4	X	**FAF**	**77**	**(E)DRN**	**132L4**	135	434
215	405	8.26	15000	2.6	X	**F**	**77**	**(E)DRN**	**132L4**	135	433
240	365	7.39	14600	3.0	X	**FF**	**77**	**(E)DRN**	**132L4**	145	434
267	325	6.64	14300	3.3	X						
308	285	5.76	13800	3.8	X						
344	255	5.16	13500	4.2	X						
415	210	4.28	12900	4.8	X						

P_m = 11.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
5.9	16600	302	104200	1.10	X						
6.5	14900	273	108100	1.20	X	**FA**	**157R97**	**(E)DRN**	**160M4**	870	469
7.7	12600	232	112900	1.40	X	**FAF**	**157R97**	**(E)DRN**	**160M4**	930	469
8.8	11000	202	115700	1.65	X	**F**	**157R97**	**(E)DRN**	**160M4**	890	469
9.0	10700	197	116200	1.70	X	**FF**	**157R97**	**(E)DRN**	**160M4**	1000	469
8.0	12200	223	89900	1.00		**FA**	**127R87**	**(E)DRN**	**160M4**	550	469
9.0	10800	198	90000	1.10	X	**FAF**	**127R87**	**(E)DRN**	**160M4**	590	469
11	9130	166	90000	1.30	X	**F**	**127R87**	**(E)DRN**	**160M4**	590	469
						FF	**127R87**	**(E)DRN**	**160M4**	630	469
6.6	15800	267.43	106200	1.15	X						
8.2	12800	217.62*	112500	1.40	X						
10.0	10500	178.20*	116500	1.70	X						
11	9630	162.96	117800	1.85	X						
13	8380	141.80*	119300	2.1	X	**FA**	**157**	**(E)DRN**	**160M4**	740	465
14	7400	125.14	120000	2.4	X	**FAF**	**157**	**(E)DRN**	**160M4**	800	464
16	6410	108.49	118700	2.8	X	**F**	**157**	**(E)DRN**	**160M4**	760	463
18	5700	96.53*	115600	3.1	X	**FF**	**157**	**(E)DRN**	**160M4**	870	464
21	5070	85.80*	112500	3.5	X						
23	4640	78.46	110100	3.9	X						
26	4030	68.28*	106400	4.5	X						
10	10100	170.83	90000	1.20	X						
12	9080	153.67*	90000	1.30	X						
14	7410	125.37	90000	1.60	X	**FA**	**127**	**(E)DRN**	**160M4**	485	459
16	6760	114.34	90000	1.75	X	**FAF**	**127**	**(E)DRN**	**160M4**	520	458
18	5850	98.95	89700	2.0	X	**F**	**127**	**(E)DRN**	**160M4**	520	457
20	5160	87.31*	87500	2.3	X	**FF**	**127**	**(E)DRN**	**160M4**	570	458
24	4450	75.41*	84900	2.7	X						
15	6970	117.94	51600	1.10	X	**FA**	**107**	**(E)DRN**	**160M4**	340	453
18	5990	101.38*	54000	1.30	X	**FAF**	**107**	**(E)DRN**	**160M4**	365	452
19	5460	92.47*	55300	1.40	X	**F**	**107**	**(E)DRN**	**160M4**	360	451
						FF	**107**	**(E)DRN**	**160M4**	385	452
21	4960	83.99	56400	1.55	X						
24	4400	74.52	56800	1.75	X	**FA**	**107**	**(E)DRN**	**160M4**	340	453
26	3990	67.62	55900	1.90	X	**FAF**	**107**	**(E)DRN**	**160M4**	365	452
31	3430	58.12*	54400	2.2	X	**F**	**107**	**(E)DRN**	**160M4**	360	451
35	3000	50.73	53000	2.6	X	**FF**	**107**	**(E)DRN**	**160M4**	385	452
41	2540	43.03	51300	3.0	X						

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P_m = 11.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
53	1990	33.79*	48700	3.7	X	**FA**	**107**	**(E)DRN**	**160M4**	330	453
64	1630	27.57	46500	4.8	X	**FAF**	**107**	**(E)DRN**	**160M4**	355	452
71	1480	25.14	45500	5.3	X	**F**	**107**	**(E)DRN**	**160M4**	350	451
						FF	**107**	**(E)DRN**	**160M4**	375	452
27	3870	65.47	27100	1.10	X	**FA**	**97**	**(E)DRN**	**160M4**	265	447
31	3430	58.06	27000	1.25	X	**FAF**	**97**	**(E)DRN**	**160M4**	290	446
34	3100	52.49	26900	1.40	X	**F**	**97**	**(E)DRN**	**160M4**	275	445
						FF	**97**	**(E)DRN**	**160M4**	305	446
40	2630	44.49	26500	1.65	X	**FA**	**97**	**(E)DRN**	**160M4**	265	447
46	2290	38.86	26100	1.85	X	**FAF**	**97**	**(E)DRN**	**160M4**	290	446
55	1920	32.50	25500	2.2	X	**F**	**97**	**(E)DRN**	**160M4**	275	445
						FF	**97**	**(E)DRN**	**160M4**	305	446
52	2000	33.91	25600	2.1	X						
58	1790	30.39	25200	2.4	X	**FA**	**97**	**(E)DRN**	**160M4**	260	447
65	1620	27.44*	24800	2.6	X	**FAF**	**97**	**(E)DRN**	**160M4**	285	446
71	1470	24.92	24300	2.9	X	**F**	**97**	**(E)DRN**	**160M4**	270	445
80	1300	22.11	23700	3.3	X	**FF**	**97**	**(E)DRN**	**160M4**	300	446
45	2320	39.30	14900	1.15	X	**FA**	**87**	**(E)DRN**	**160M4**	200	441
50	2080	35.19	15000	1.25	X	**FAF**	**87**	**(E)DRN**	**160M4**	215	440
61	1720	29.20	15000	1.45	X	**F**	**87**	**(E)DRN**	**160M4**	210	439
						FF	**87**	**(E)DRN**	**160M4**	225	440
67	1560	26.50	14900	1.90	X						
75	1400	23.68	14800	2.1	X						
83	1260	21.32*	14600	2.4	X	**FA**	**87**	**(E)DRN**	**160M4**	200	441
92	1140	19.31	14500	2.6	X	**FAF**	**87**	**(E)DRN**	**160M4**	210	440
104	1010	17.12	14200	3.0	X	**F**	**87**	**(E)DRN**	**160M4**	205	439
115	910	15.48	14000	3.3	X	**FF**	**87**	**(E)DRN**	**160M4**	220	440
135	775	13.12*	13600	3.9	X						
90	1160	19.70	17600	1.30	X						
102	1030	17.49	17400	1.45	X						
114	920	15.64*	17100	1.60	X						
126	830	14.06	16800	1.80	X						
146	720	12.20	16400	2.1	X						
163	645	10.93	16000	2.3	X	**FA**	**77**	**(E)DRN**	**160M4**	160	435
191	550	9.30	14900	1.95	X	**FAF**	**77**	**(E)DRN**	**160M4**	170	434
215	485	8.26	14600	2.2	X	**F**	**77**	**(E)DRN**	**160M4**	165	433
240	435	7.39	14300	2.5	X	**FF**	**77**	**(E)DRN**	**160M4**	175	434
267	390	6.64	14000	2.8	X						
308	340	5.76	13600	3.2	X						
344	305	5.16	13300	3.5	X						
415	250	4.28	12700	4.0	X						

P_m = 15.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
7.7	17300	232	102100	1.05	X	**FA**	**157R97**	**(E)DRN**	**160L4**	880	469
8.8	15100	202	107800	1.20	X	**FAF**	**157R97**	**(E)DRN**	**160L4**	940	469
9.1	14700	197	108800	1.20	X	**F**	**157R97**	**(E)DRN**	**160L4**	900	469
						FF	**157R97**	**(E)DRN**	**160L4**	1010	469
8.2	17500	217.62*	101600	1.05	X						
10.0	14300	178.20*	109500	1.25	X						
11	13100	162.96	112000	1.35	X						
13	11400	141.80*	115100	1.55	X						
14	10000	125.14	117100	1.80	X	**FA**	**157**	**(E)DRN**	**160L4**	760	465
16	8740	108.49	114100	2.1	X	**FAF**	**157**	**(E)DRN**	**160L4**	810	464
18	7780	96.53*	111500	2.3	X	**F**	**157**	**(E)DRN**	**160L4**	780	463
21	6910	85.80*	108800	2.6	X	**FF**	**157**	**(E)DRN**	**160L4**	880	464
23	6320	78.46	106700	2.9	X						
26	5500	68.28*	103500	3.3	X						
29	4850	60.25	100600	3.7	X						

P_m = 15.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
14	10100	125.37	87400	1.20	X						
16	9210	114.34	86400	1.30	X	**FA**	**127**	**(E)DRN**	**160L4**	500	459
18	7970	98.95	84800	1.50	X	**FAF**	**127**	**(E)DRN**	**160L4**	540	458
20	7030	87.31*	83100	1.70	X	**F**	**127**	**(E)DRN**	**160L4**	540	457
24	6070	75.41*	81100	1.95	X	**FF**	**127**	**(E)DRN**	**160L4**	580	458
25	5640	70.07	80000	2.1	X						
19	7450	92.47*	50400	1.05	X						
20	7130	88.49	51200	1.10	X	**FA**	**107**	**(E)DRN**	**160L4**	360	453
21	6760	83.99	52200	1.15	X	**FAF**	**107**	**(E)DRN**	**160L4**	380	452
24	6000	74.52	52500	1.30	X	**F**	**107**	**(E)DRN**	**160L4**	375	451
26	5450	67.62	52000	1.40	X	**FF**	**107**	**(E)DRN**	**160L4**	400	452
31	4680	58.12*	51100	1.65	X						
35	4080	50.73	50100	1.90	X	**FA**	**107**	**(E)DRN**	**160L4**	360	453
41	3460	43.03	48800	2.2	X	**FAF**	**107**	**(E)DRN**	**160L4**	380	452
47	3030	37.61	47700	2.5	X	**F**	**107**	**(E)DRN**	**160L4**	375	451
56	2560	31.80	46200	3.0	X	**FF**	**107**	**(E)DRN**	**160L4**	400	452
53	2720	33.79*	46800	2.7	X	**FA**	**107**	**(E)DRN**	**160L4**	350	453
64	2220	27.57	44900	3.5	X	**FAF**	**107**	**(E)DRN**	**160L4**	370	452
71	2020	25.14	44000	3.9	X	**F**	**107**	**(E)DRN**	**160L4**	365	451
82	1750	21.76*	42700	4.5	X	**FF**	**107**	**(E)DRN**	**160L4**	390	452
40	3580	44.49	23200	1.20	X	**FA**	**97**	**(E)DRN**	**160L4**	285	447
46	3130	38.86	23200	1.35	X	**FAF**	**97**	**(E)DRN**	**160L4**	305	446
55	2610	32.50	23000	1.65	X	**F**	**97**	**(E)DRN**	**160L4**	290	445
						FF	**97**	**(E)DRN**	**160L4**	325	446
52	2730	33.91	23100	1.55	X						
58	2450	30.39	22900	1.75	X						
65	2210	27.44*	22700	1.95	X						
71	2000	24.92	22400	2.1	X	**FA**	**97**	**(E)DRN**	**160L4**	275	447
80	1780	22.11	22100	2.4	X	**FAF**	**97**	**(E)DRN**	**160L4**	300	446
89	1610	20.07	21800	2.7	X	**F**	**97**	**(E)DRN**	**160L4**	285	445
103	1390	17.25*	21200	3.1	X	**FF**	**97**	**(E)DRN**	**160L4**	315	446
118	1210	15.06	20700	3.5	X						
139	1020	12.77	20000	4.2	X						
159	890	11.16	19400	4.6	X						
67	2130	26.50	12700	1.40	X						
75	1900	23.68	12800	1.55	X						
83	1710	21.32*	12900	1.75	X						
92	1550	19.31	12900	1.95	X						
104	1380	17.12	12800	2.2	X						
115	1240	15.48	12700	2.4	X						
135	1050	13.12*	12500	2.8	X	**FA**	**87**	**(E)DRN**	**160L4**	215	441
155	920	11.46	12300	3.2	X	**FAF**	**87**	**(E)DRN**	**160L4**	230	440
185	770	9.58	12000	3.7	X	**F**	**87**	**(E)DRN**	**160L4**	220	439
214	665	8.29	11400	2.3	X	**FF**	**87**	**(E)DRN**	**160L4**	235	440
242	590	7.35	11100	2.6	X						
267	535	6.65	10900	2.9	X						
315	450	5.63	10600	3.4	X						
361	395	4.92	10300	3.9	X						
432	330	4.12	9860	4.4	X						

P_m = 18.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
						FA	**157R97**	**(E)DRN**	**180M4**	910	469
8.8	18600	202	98300	0.95		**FAF**	**157R97**	**(E)DRN**	**180M4**	960	469
9.1	18100	197	99800	1.00		**F**	**157R97**	**(E)DRN**	**180M4**	930	469
						FF	**157R97**	**(E)DRN**	**180M4**	1030	469

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P_m = 18.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
10.0	17600	178.20*	101200	1.00	X						
11	16100	162.96	105300	1.10	X						
13	14000	141.80*	110200	1.30	X						
14	12400	125.14	112400	1.45	X						
16	10700	108.49	110000	1.65	X	**FA**	**157**	**(E)DRN**	**180M4**	780	465
18	9570	96.53*	107800	1.90	X	**FAF**	**157**	**(E)DRN**	**180M4**	840	464
21	8510	85.80*	105500	2.1	X	**F**	**157**	**(E)DRN**	**180M4**	800	463
23	7780	78.46	103700	2.3	X	**FF**	**157**	**(E)DRN**	**180M4**	910	464
26	6770	68.28*	100900	2.7	X						
30	5970	60.25	98200	3.0	X						
34	5180	52.24	95200	3.5	X						
16	11300	114.34	81400	1.05	X						
18	9810	98.95	80400	1.20	X						
20	8660	87.31*	79300	1.40	X	**FA**	**127**	**(E)DRN**	**180M4**	520	459
24	7470	75.41*	77800	1.60	X	**FAF**	**127**	**(E)DRN**	**180M4**	560	458
25	6950	70.07	76900	1.75	X	**F**	**127**	**(E)DRN**	**180M4**	560	457
28	6330	63.91	75800	1.90	X	**FF**	**127**	**(E)DRN**	**180M4**	600	458
32	5480	55.31	74000	2.2	X						
36	4840	48.80	72300	2.5	X						
24	7390	74.52	48800	1.05	X	**FA**	**107**	**(E)DRN**	**180M4**	380	453
26	6700	67.62	48600	1.15	X	**FAF**	**107**	**(E)DRN**	**180M4**	400	452
31	5760	58.12*	48200	1.35	X	**F**	**107**	**(E)DRN**	**180M4**	395	451
35	5030	50.73	47600	1.55	X	**FF**	**107**	**(E)DRN**	**180M4**	425	452
						FA	**107**	**(E)DRN**	**180M4**	380	453
41	4260	43.03	46700	1.80	X	**FAF**	**107**	**(E)DRN**	**180M4**	400	452
47	3730	37.61	45800	2.1	X	**F**	**107**	**(E)DRN**	**180M4**	395	451
56	3150	31.80	44600	2.4	X	**FF**	**107**	**(E)DRN**	**180M4**	425	452
53	3350	33.79*	45100	2.2	X	**FA**	**107**	**(E)DRN**	**180M4**	370	453
65	2730	27.57	43500	2.9	X	**FAF**	**107**	**(E)DRN**	**180M4**	390	452
71	2490	25.14	42800	3.1	X	**F**	**107**	**(E)DRN**	**180M4**	385	451
82	2150	21.76*	41600	3.6	X	**FF**	**107**	**(E)DRN**	**180M4**	415	452
						FA	**97**	**(E)DRN**	**180M4**	305	447
46	3850	38.86	20600	1.10	X	**FAF**	**97**	**(E)DRN**	**180M4**	325	446
55	3220	32.50	20900	1.35	X	**F**	**97**	**(E)DRN**	**180M4**	310	445
						FF	**97**	**(E)DRN**	**180M4**	345	446
65	2720	27.44*	20900	1.60	X						
71	2470	24.92	20800	1.75	X						
81	2190	22.11	20600	1.95	X	**FA**	**97**	**(E)DRN**	**180M4**	300	447
89	1990	20.07	20400	2.2	X	**FAF**	**97**	**(E)DRN**	**180M4**	320	446
103	1710	17.25*	20100	2.5	X	**F**	**97**	**(E)DRN**	**180M4**	305	445
118	1490	15.06	19700	2.9	X	**FF**	**97**	**(E)DRN**	**180M4**	340	446
139	1260	12.77	19100	3.4	X						
160	1100	11.16	18700	3.7	X						
84	2110	21.32*	11300	1.40	X						
92	1910	19.31	11500	1.55	X						
104	1690	17.12	11600	1.75	X						
115	1530	15.48	11600	1.95	X						
136	1300	13.12*	11500	2.3	X						
155	1130	11.46	11500	2.6	X	**FA**	**87**	**(E)DRN**	**180M4**	235	441
186	950	9.58	11300	3.0	X	**FAF**	**87**	**(E)DRN**	**180M4**	250	440
215	820	8.29	10700	1.85	X	**F**	**87**	**(E)DRN**	**180M4**	245	439
242	725	7.35	10600	2.1	X	**FF**	**87**	**(E)DRN**	**180M4**	260	440
268	655	6.65	10400	2.3	X						
316	555	5.63	10100	2.7	X						
362	485	4.92	9870	3.1	X						
433	405	4.12	9520	3.6	X						

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P_m = 22 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
13	16700	141.80*	103800	1.10	X						
14	14700	125.14	107700	1.20	X						
16	12700	108.49	105900	1.40	X						
18	11300	96.53*	104200	1.60	X						
21	10100	85.80*	102300	1.80	X	**FA**	**157**	**(E)DRN**	**180L4**	790	465
23	9250	78.46	100800	1.95	X	**FAF**	**157**	**(E)DRN**	**180L4**	850	464
26	8050	68.28*	98300	2.2	X	**F**	**157**	**(E)DRN**	**180L4**	820	463
30	7100	60.25	96000	2.5	X	**FF**	**157**	**(E)DRN**	**180L4**	920	464
34	6160	52.24	93300	2.9	X						
38	5480	46.48*	91000	3.3	X						
44	4720	40.06	88000	3.8	X						
55	3830	32.55	83900	4.7	X						
18	11600	98.95	76100	1.05	X						
20	10200	87.31*	75500	1.15	X						
24	8890	75.41*	74500	1.35	X	**FA**	**127**	**(E)DRN**	**180L4**	540	459
25	8260	70.07	73900	1.45	X	**FAF**	**127**	**(E)DRN**	**180L4**	580	458
28	7530	63.91	73000	1.60	X	**F**	**127**	**(E)DRN**	**180L4**	580	457
32	6520	55.31	71500	1.85	X	**FF**	**127**	**(E)DRN**	**180L4**	620	458
36	5750	48.80	70100	2.1	X						
42	4970	42.15	68400	2.4	X						
						FA	**107**	**(E)DRN**	**180L4**	395	453
31	6850	58.12*	45300	1.10	X	**FAF**	**107**	**(E)DRN**	**180L4**	415	452
35	5980	50.73	45100	1.30	X	**F**	**107**	**(E)DRN**	**180L4**	410	451
41	5070	43.03	44500	1.50	X	**FF**	**107**	**(E)DRN**	**180L4**	440	452
						FA	**107**	**(E)DRN**	**180L4**	395	453
47	4430	37.61	43900	1.75	X	**FAF**	**107**	**(E)DRN**	**180L4**	415	452
56	3750	31.80	43000	2.0	X	**F**	**107**	**(E)DRN**	**180L4**	410	451
						FF	**107**	**(E)DRN**	**180L4**	440	452
53	3980	33.79*	43400	1.85	X						
65	3250	27.57	42100	2.4	X	**FA**	**107**	**(E)DRN**	**180L4**	385	453
71	2960	25.14	41500	2.6	X	**FAF**	**107**	**(E)DRN**	**180L4**	405	452
82	2560	21.76*	40500	3.0	X	**F**	**107**	**(E)DRN**	**180L4**	400	451
93	2260	19.20*	39500	3.5	X	**FF**	**107**	**(E)DRN**	**180L4**	430	452
65	3230	27.44*	19100	1.35	X						
71	2930	24.92	19200	1.45	X						
81	2600	22.11	19200	1.65	X	**FA**	**97**	**(E)DRN**	**180L4**	315	447
89	2360	20.07	19100	1.80	X	**FAF**	**97**	**(E)DRN**	**180L4**	335	446
103	2030	17.25*	18900	2.1	X	**F**	**97**	**(E)DRN**	**180L4**	320	445
118	1770	15.06	18700	2.4	X	**FF**	**97**	**(E)DRN**	**180L4**	355	446
139	1500	12.77	18300	2.9	X						
160	1310	11.16	17900	3.1	X						
84	2510	21.32*	9770	1.20	X						
92	2270	19.31	10100	1.30	X						
104	2010	17.12	10300	1.50	X						
115	1820	15.48	10500	1.65	X						
136	1540	13.12*	10600	1.95	X						
155	1350	11.46	10600	2.2	X	**FA**	**87**	**(E)DRN**	**180L4**	255	441
186	1130	9.58	10600	2.5	X	**FAF**	**87**	**(E)DRN**	**180L4**	265	440
215	970	8.29	10100	1.55	X	**F**	**87**	**(E)DRN**	**180L4**	260	439
242	860	7.35	9970	1.75	X	**FF**	**87**	**(E)DRN**	**180L4**	275	440
268	780	6.65	9870	1.95	X						
316	660	5.63	9670	2.3	X						
362	580	4.92	9480	2.6	X						
433	485	4.12	9190	3.0	X						

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P_m = 30 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
16	17400	108.49	96600	1.05	X						
18	15500	96.53*	95900	1.15	X						
21	13700	85.80*	95000	1.30	X						
23	12600	78.46	94100	1.45	X	**FA**	**157**	**(E)DRN**	**200L4**	900	465
26	10900	68.28*	92500	1.65	X	**FAF**	**157**	**(E)DRN**	**200L4**	960	464
30	9680	60.25	90800	1.85	X	**F**	**157**	**(E)DRN**	**200L4**	920	463
34	8390	52.24	88800	2.1	X	**FF**	**157**	**(E)DRN**	**200L4**	1030	464
38	7460	46.48*	87000	2.4	X						
45	6430	40.06	84600	2.8	X						
24	12100	75.41*	66900	1.00							
25	11200	70.07	66800	1.05	X						
28	10200	63.91	66600	1.15	X						
32	8880	55.31	66000	1.35	X	**FA**	**127**	**(E)DRN**	**200L4**	650	459
37	7840	48.80	65200	1.55	X	**FAF**	**127**	**(E)DRN**	**200L4**	690	458
42	6770	42.15	64100	1.75	X	**F**	**127**	**(E)DRN**	**200L4**	680	457
48	5980	37.28	63100	2.0	X	**FF**	**127**	**(E)DRN**	**200L4**	730	458
57	5030	31.33	61400	2.4	X						
70	4060	25.30	59100	3.0	X						
66	4310	26.86	59800	1.95	X	**FA**	**127**	**(E)DRN**	**200L4**	640	459
73	3940	24.57	58800	2.1	X	**FAF**	**127**	**(E)DRN**	**200L4**	670	458
83	3430	21.38	57200	3.5	X	**F**	**127**	**(E)DRN**	**200L4**	670	457
95	3030	18.87	55700	3.6	X	**FF**	**127**	**(E)DRN**	**200L4**	720	458
						FA	**107**	**(E)DRN**	**200L4**	500	453
41	6910	43.03	39600	1.10	X	**FAF**	**107**	**(E)DRN**	**200L4**	530	452
47	6040	37.61	39600	1.25	X	**F**	**107**	**(E)DRN**	**200L4**	520	451
56	5100	31.80	39400	1.50	X	**FF**	**107**	**(E)DRN**	**200L4**	550	452
65	4420	27.57	39000	1.75	X						
71	4030	25.14	38600	1.95	X						
82	3490	21.76*	38000	2.2	X	**FA**	**107**	**(E)DRN**	**200L4**	495	453
93	3080	19.20*	37300	2.5	X	**FAF**	**107**	**(E)DRN**	**200L4**	520	452
108	2660	16.58	36500	2.9	X	**F**	**107**	**(E)DRN**	**200L4**	510	451
122	2350	14.67	35700	3.3	X	**FF**	**107**	**(E)DRN**	**200L4**	540	452
145	1980	12.33	34600	3.5	X						
179	1590	9.96	33100	4.1	X						
81	3550	22.11	15800	1.20	X						
89	3220	20.07	16100	1.35	X						
103	2770	17.25*	16300	1.55	X						
118	2410	15.06	16400	1.80	X						
140	2050	12.77	16400	2.1	X	**FA**	**97**	**(E)DRN**	**200L4**	425	447
160	1790	11.16	16200	2.3	X	**FAF**	**97**	**(E)DRN**	**200L4**	445	446
197	1450	9.06	15200	1.60	X	**F**	**97**	**(E)DRN**	**200L4**	430	445
217	1320	8.22	15100	1.80	X	**FF**	**97**	**(E)DRN**	**200L4**	465	446
252	1130	7.07	14800	2.1	X						
289	990	6.17	14500	2.3	X						
341	840	5.23	14100	2.6	X						
390	730	4.57	13800	2.8	X						

P_m = 37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
21	16900	85.80*	88500	1.05	X						
23	15500	78.46	88200	1.15	X						
26	13500	68.28*	87300	1.35	X						
30	11900	60.25	86300	1.50	X	**FA**	**157**	**(E)DRN**	**225S4**	930	465
34	10300	52.24	84900	1.75	X	**FAF**	**157**	**(E)DRN**	**225S4**	990	464
38	9190	46.48*	83500	1.95	X	**F**	**157**	**(E)DRN**	**225S4**	950	463
45	7920	40.06	81600	2.3	X	**FF**	**157**	**(E)DRN**	**225S4**	1060	464
55	6440	32.55	78700	2.8	X						
65	5460	27.60	76200	3.3	X						

P_m = 37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
32	10900	55.31	61200	1.10	X						
37	9650	48.80	61000	1.25	X	**FA**	**127**	**(E)DRN**	**225S4**	680	459
42	8340	42.15	60400	1.45	X	**FAF**	**127**	**(E)DRN**	**225S4**	720	458
48	7370	37.28	59800	1.65	X	**F**	**127**	**(E)DRN**	**225S4**	720	457
57	6200	31.33	58600	1.95	X	**FF**	**127**	**(E)DRN**	**225S4**	760	458
71	5000	25.30	56900	2.4	X						
66	5310	26.86	57400	1.60	X						
73	4860	24.57	56600	1.75	X						
84	4230	21.38	55300	2.8	X						
95	3730	18.87	54100	3.0	X	**FA**	**127**	**(E)DRN**	**225S4**	670	459
109	3230	16.36	52600	3.4	X	**FAF**	**127**	**(E)DRN**	**225S4**	710	458
123	2880	14.55	51400	3.8	X	**F**	**127**	**(E)DRN**	**225S4**	700	457
142	2480	12.54	49800	4.0	X	**FF**	**127**	**(E)DRN**	**225S4**	750	458
175	2010	10.19	47500	4.7	X						
201	1750	8.86	45700	4.0	X						
226	1560	7.88	44400	3.9	X						
65	5450	27.57	36200	1.45	X						
71	4970	25.14	36100	1.60	X						
82	4300	21.76*	35800	1.80	X						
93	3800	19.20*	35400	2.1	X						
108	3280	16.58	34800	2.4	X	**FA**	**107**	**(E)DRN**	**225S4**	530	453
122	2900	14.67	34300	2.6	X	**FAF**	**107**	**(E)DRN**	**225S4**	550	452
145	2430	12.33	33400	2.9	X	**F**	**107**	**(E)DRN**	**225S4**	540	451
179	1970	9.96	32100	3.3	X	**FF**	**107**	**(E)DRN**	**225S4**	570	452
184	1910	9.69	31400	2.6	X						
213	1650	8.37	30600	2.9	X						
241	1460	7.40	29900	3.1	X						
287	1230	6.22	28800	3.7	X						

P_m = 45 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
26	16400	68.28*	81500	1.10	X						
30	14500	60.25	81200	1.25	X						
34	12500	52.24	80400	1.45	X	**FA**	**157**	**(E)DRN**	**225M4**	930	465
38	11100	46.48*	79500	1.60	X	**FAF**	**157**	**(E)DRN**	**225M4**	990	464
45	9640	40.06	78200	1.85	X	**F**	**157**	**(E)DRN**	**225M4**	950	463
55	7830	32.55	75900	2.3	X	**FF**	**157**	**(E)DRN**	**225M4**	1060	464
65	6640	27.60	73900	2.7	X						
37	11700	48.80	54900	1.00	X						
42	10100	42.15	56200	1.20	X	**FA**	**127**	**(E)DRN**	**225M4**	680	459
48	8970	37.28	56100	1.35	X	**FAF**	**127**	**(E)DRN**	**225M4**	720	458
57	7540	31.33	55500	1.60	X	**F**	**127**	**(E)DRN**	**225M4**	720	457
71	6090	25.30	54400	1.95	X	**FF**	**127**	**(E)DRN**	**225M4**	760	458
66	6460	26.86	54700	1.30	X						
73	5910	24.57	54200	1.45	X						
84	5140	21.38	53200	2.3	X						
95	4540	18.87	52200	2.4	X						
109	3930	16.36	51000	2.8	X	**FA**	**127**	**(E)DRN**	**225M4**	670	459
123	3500	14.55	49900	3.1	X	**FAF**	**127**	**(E)DRN**	**225M4**	710	458
142	3010	12.54	48500	3.3	X	**F**	**127**	**(E)DRN**	**225M4**	700	457
175	2450	10.19	46500	3.9	X	**FF**	**127**	**(E)DRN**	**225M4**	750	458
201	2130	8.86	44700	3.3	X						
226	1890	7.88	43600	3.2	X						
263	1630	6.80	42100	4.3	X						
323	1320	5.52	40100	4.5	X						

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P_m = 45 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
65	6630	27.57	33100	1.20	X						
71	6050	25.14	33300	1.30	X						
82	5230	21.76*	33300	1.50	X						
93	4620	19.20*	33200	1.70	X						
108	3990	16.58	33000	1.95	X	**FA**	**107**	**(E)DRN**	**225M4**	530	453
122	3530	14.67	32600	2.2	X	**FAF**	**107**	**(E)DRN**	**225M4**	550	452
145	2960	12.33	32000	2.4	X	**F**	**107**	**(E)DRN**	**225M4**	540	451
179	2390	9.96	31000	2.7	X	**FF**	**107**	**(E)DRN**	**225M4**	570	452
184	2330	9.69	30200	2.1	X						
213	2010	8.37	29600	2.4	X						
241	1780	7.40	29000	2.6	X						
287	1490	6.22	28100	3.1	X						

P_m = 55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
30	17700	60.25	74700	1.00	X						
34	15300	52.24	74800	1.15	X	**FA**	**157**	**(E)DRN**	**250ME4**	1130	465
38	13600	46.48*	74600	1.30	X	**FAF**	**157**	**(E)DRN**	**250ME4**	1190	464
45	11700	40.06	73900	1.55	X	**F**	**157**	**(E)DRN**	**250ME4**	1150	463
55	9570	32.55	72400	1.90	X	**FF**	**157**	**(E)DRN**	**250ME4**	1260	464
65	8120	27.60	70900	2.2	X						
62	8410	28.60*	71300	2.0	X						
70	7480	25.43	70100	2.0	X	**FA**	**157**	**(E)DRN**	**250ME4**	1130	465
81	6520	22.16	68500	2.8	X	**FAF**	**157**	**(E)DRN**	**250ME4**	1180	464
90	5810	19.77	67200	2.9	X	**F**	**157**	**(E)DRN**	**250ME4**	1150	463
106	4950	16.85	65200	3.6	X	**FF**	**157**	**(E)DRN**	**250ME4**	1250	464
48	10900	37.28	50200	1.10	X	**FA**	**127**	**(E)DRN**	**250ME4**	880	459
57	9210	31.33	51600	1.30	X	**FAF**	**127**	**(E)DRN**	**250ME4**	910	458
71	7440	25.30	51200	1.60	X	**F**	**127**	**(E)DRN**	**250ME4**	910	457
						FF	**127**	**(E)DRN**	**250ME4**	960	458
84	6290	21.38	50500	1.90	X						
95	5550	18.87	49800	2.0	X						
109	4810	16.36	48900	2.3	X						
123	4280	14.55	48100	2.6	X						
142	3690	12.54	46900	2.7	X	**FA**	**127**	**(E)DRN**	**250ME4**	860	459
175	2990	10.19	45200	3.2	X	**FAF**	**127**	**(E)DRN**	**250ME4**	900	458
201	2600	8.86	43500	2.7	X	**F**	**127**	**(E)DRN**	**250ME4**	900	457
226	2310	7.88	42500	2.6	X	**FF**	**127**	**(E)DRN**	**250ME4**	950	458
263	1990	6.80	41200	3.5	X						
323	1620	5.52	39400	3.7	X						
381	1370	4.68	37900	4.4	X						

P_m = 75 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
38	18600	46.48*	64600	0.95		**FA**	**157**	**(E)DRN**	**280S4**	1130	465
45	16000	40.06	65300	1.10	X	**FAF**	**157**	**(E)DRN**	**280S4**	1190	464
55	13000	32.55	65500	1.40	X	**F**	**157**	**(E)DRN**	**280S4**	1150	463
65	11000	27.60	65000	1.65	X	**FF**	**157**	**(E)DRN**	**280S4**	1260	464
62	11400	28.60*	65200	1.50	X						
70	10200	25.43	64600	1.45	X						
81	8890	22.16	63800	2.0	X	**FA**	**157**	**(E)DRN**	**280S4**	1130	465
90	7930	19.77	63000	2.1	X	**FAF**	**157**	**(E)DRN**	**280S4**	1190	464
106	6760	16.85	61600	2.7	X	**F**	**157**	**(E)DRN**	**280S4**	1150	463
128	5600	13.96	59800	3.0	X	**FF**	**157**	**(E)DRN**	**280S4**	1260	464
150	4780	11.92	58200	3.4	X						
						FA	**127**	**(E)DRN**	**280S4**	880	459
71	10100	25.30	43200	1.20	X	**FAF**	**127**	**(E)DRN**	**280S4**	920	458
						F	**127**	**(E)DRN**	**280S4**	910	457
						FF	**127**	**(E)DRN**	**280S4**	960	458

P_m = 75 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
84	8570	21.38	44900	1.40	X						
95	7560	18.87	45100	1.45	X						
109	6560	16.36	44800	1.70	X						
123	5830	14.55	44500	1.90	X						
142	5030	12.54	43800	2.0	X	**FA**	**127**	**(E)DRN**	**280S4**	870	459
175	4080	10.19	42700	2.3	X	**FAF**	**127**	**(E)DRN**	**280S4**	900	458
201	3550	8.86	41200	1.95	X	**F**	**127**	**(E)DRN**	**280S4**	900	457
226	3160	7.88	40400	1.90	X	**FF**	**127**	**(E)DRN**	**280S4**	950	458
263	2720	6.80	39400	2.6	X						
323	2210	5.52	37900	2.7	X						
381	1870	4.68	36600	3.2	X						

P_m = 90 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
						FA	**157**	**(E)DRN**	**280M4**	1250	465
55	15600	32.55	60300	1.15	X	**FAF**	**157**	**(E)DRN**	**280M4**	1310	464
65	13200	27.60	60600	1.35	X	**F**	**157**	**(E)DRN**	**280M4**	1270	463
						FF	**157**	**(E)DRN**	**280M4**	1380	464
81	10600	22.16	60300	1.70	X						
90	9520	19.77	59800	1.80	X	**FA**	**157**	**(E)DRN**	**280M4**	1240	465
106	8110	16.85	58900	2.2	X	**FAF**	**157**	**(E)DRN**	**280M4**	1300	464
128	6720	13.96	57600	2.5	X	**F**	**157**	**(E)DRN**	**280M4**	1260	463
150	5740	11.92	56300	2.8	X	**FF**	**157**	**(E)DRN**	**280M4**	1370	464
						FA	**127**	**(E)DRN**	**280M4**	990	459
70	12100	25.30	35400	1.00		**FAF**	**127**	**(E)DRN**	**280M4**	1030	458
						F	**127**	**(E)DRN**	**280M4**	1030	457
						FF	**127**	**(E)DRN**	**280M4**	1070	458
109	7870	16.36	41600	1.40	X						
123	7010	14.55	41700	1.55	X						
142	6040	12.54	41500	1.65	X						
175	4900	10.19	40800	1.95	X	**FA**	**127**	**(E)DRN**	**280M4**	980	459
201	4260	8.86	39400	1.65	X	**FAF**	**127**	**(E)DRN**	**280M4**	1020	458
226	3790	7.88	38900	1.60	X	**F**	**127**	**(E)DRN**	**280M4**	1020	457
263	3270	6.80	38100	2.1	X	**FF**	**127**	**(E)DRN**	**280M4**	1060	458
323	2650	5.52	36800	2.3	X						
381	2250	4.68	35700	2.7	X						

P_m = 110 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
						FA	**157**	**(E)DRN**	**315S4**	1490	465
65	16100	27.60	54700	1.10	X	**FAF**	**157**	**(E)DRN**	**315S4**	1550	464
						F	**157**	**(E)DRN**	**315S4**	1510	463
						FF	**157**	**(E)DRN**	**315S4**	1620	464
						FA	**157**	**(E)DRN**	**315S4/ERF/NS**	1490	465
81	13000	22.16	55500	1.40	X	**FAF**	**157**	**(E)DRN**	**315S4/ERF/NS**	1550	464
						F	**157**	**(E)DRN**	**315S4/ERF/NS**	1510	463
						FF	**157**	**(E)DRN**	**315S4/ERF/NS**	1610	464
91	11600	19.77	55600	1.45	X	**FA**	**157**	**(E)DRN**	**315S4**	1490	465
106	9880	16.85	55300	1.80	X	**FAF**	**157**	**(E)DRN**	**315S4**	1550	464
128	8190	13.96	54600	2.1	X	**F**	**157**	**(E)DRN**	**315S4**	1510	463
150	6990	11.92	53700	2.3	X	**FF**	**157**	**(E)DRN**	**315S4**	1610	464

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P_m = 132 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
						FA	**157**	**(E)DRN**	**315ME4/ERF/NS**	1610	465
81	15500	22.16	50400	1.15	X	**FAF**	**157**	**(E)DRN**	**315ME4/ERF/NS**	1670	464
91	13900	19.77	51000	1.20	X	**F**	**157**	**(E)DRN**	**315ME4/ERF/NS**	1630	463
						FF	**157**	**(E)DRN**	**315ME4/ERF/NS**	1740	464
						FA	**157**	**(E)DRN**	**315ME4**	1610	465
106	11800	16.85	51400	1.50	X	**FAF**	**157**	**(E)DRN**	**315ME4**	1670	464
128	9820	13.96	51300	1.75	X	**F**	**157**	**(E)DRN**	**315ME4**	1630	463
150	8380	11.92	50900	1.90	X	**FF**	**157**	**(E)DRN**	**315ME4**	1740	464

P_m = 160 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
						FA	**157**	**(E)DRN**	**315L4**	1640	465
106	14400	16.85	46400	1.25	X	**FAF**	**157**	**(E)DRN**	**315L4**	1700	464
128	11900	13.96	47200	1.40	X	**F**	**157**	**(E)DRN**	**315L4**	1660	463
150	10100	11.92	47400	1.55	X	**FF**	**157**	**(E)DRN**	**315L4**	1770	464

P_m = 200 kW

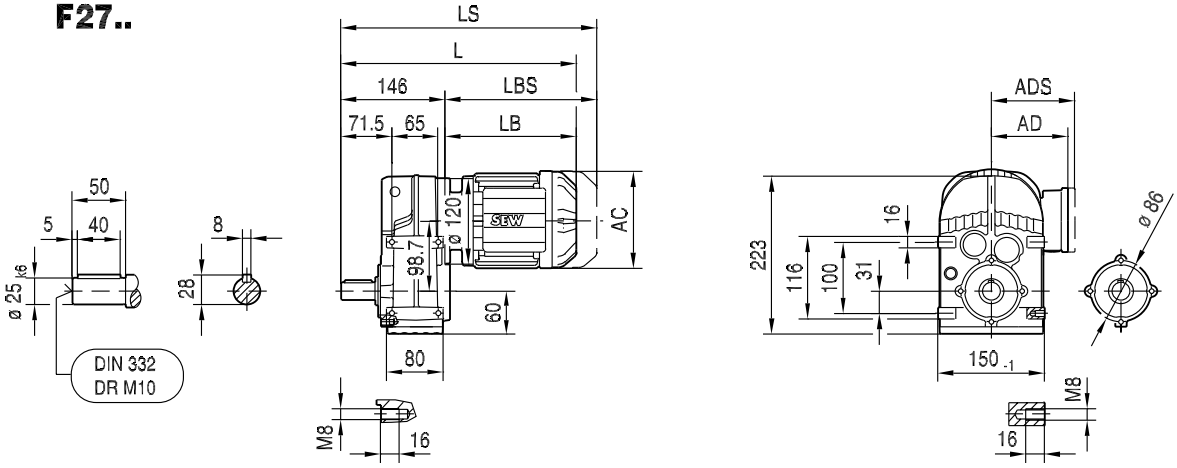
n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
						FA	**157**	**(E)DRN**	**315H4/ERF/NS**	1760	465
106	17900	16.85	39200	1.00	X	**FAF**	**157**	**(E)DRN**	**315H4/ERF/NS**	1820	464
						F	**157**	**(E)DRN**	**315H4/ERF/NS**	1780	463
						FF	**157**	**(E)DRN**	**315H4/ERF/NS**	1880	464
						FA	**157**	**(E)DRN**	**315H4**	1760	465
128	14800	13.96	41200	1.15	X	**FAF**	**157**	**(E)DRN**	**315H4**	1820	464
150	12700	11.92	42300	1.25	X	**F**	**157**	**(E)DRN**	**315H4**	1780	463
						FF	**157**	**(E)DRN**	**315H4**	1880	464

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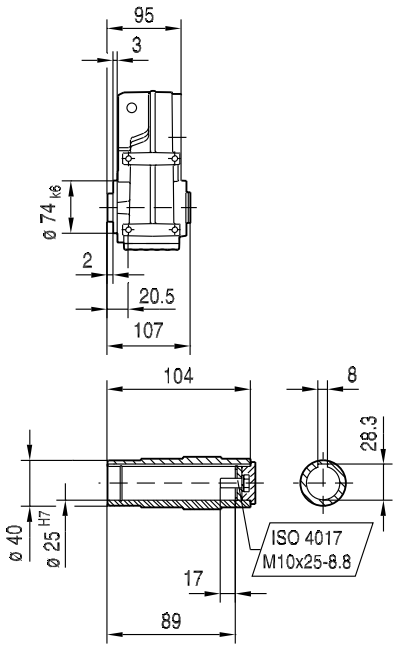
9.4 F..DRN.. dimension sheets in mm

42 020 00 14

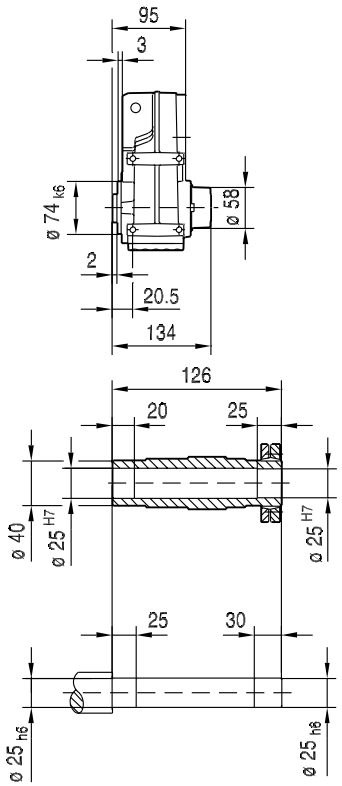
F27..



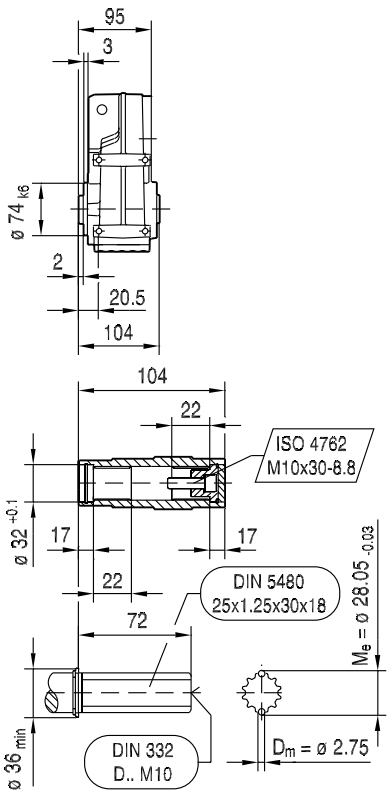
FA27B..



FH27B..
max. DR71..



FV27B..

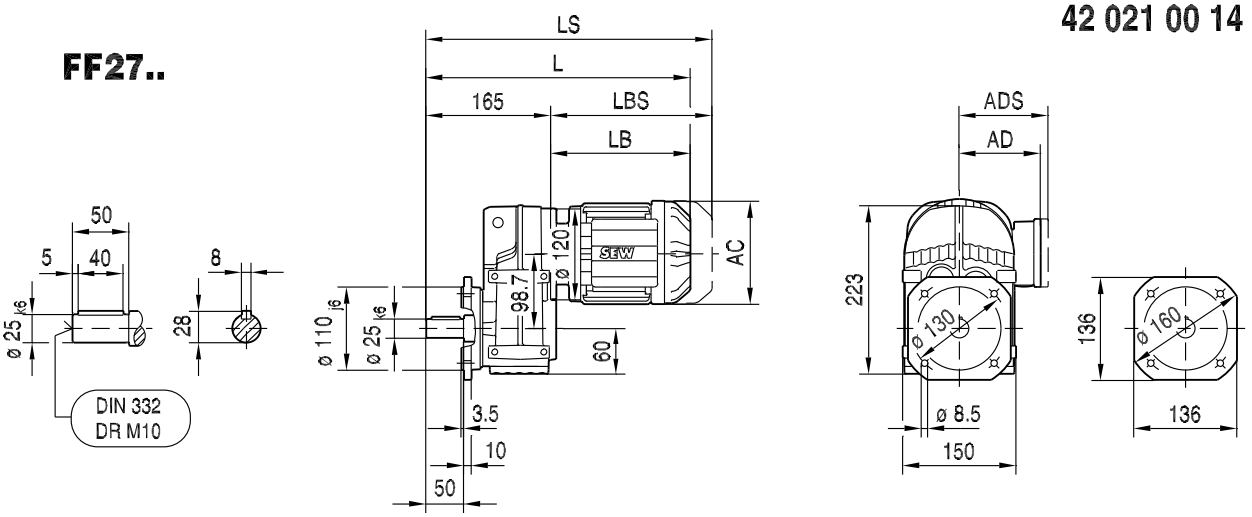


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	337	348	373	428	429	461		
LS	392	416	441	509	523	555		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

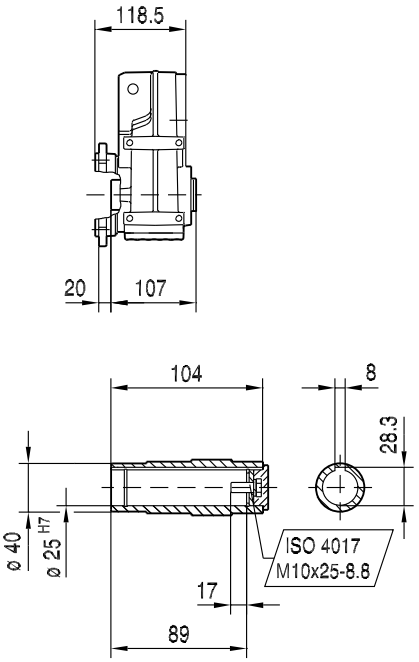
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42 021 00 14

FF27..

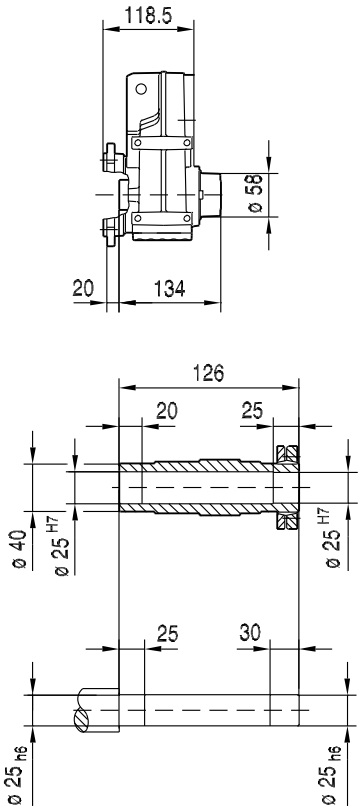


FAF27..

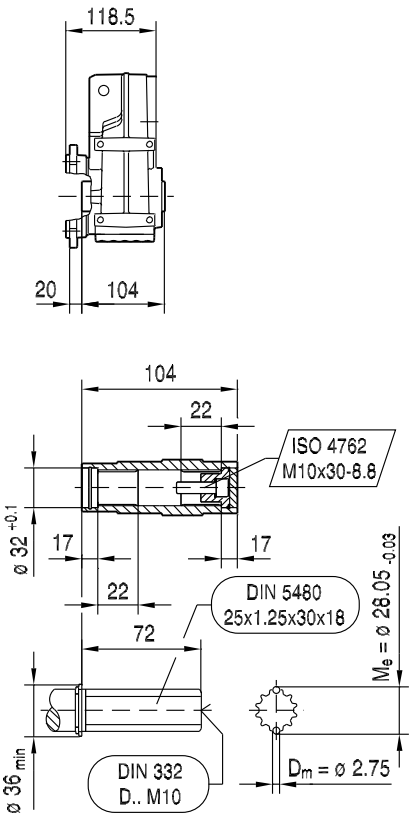


FHF27..

max. DR71..



FVF27..

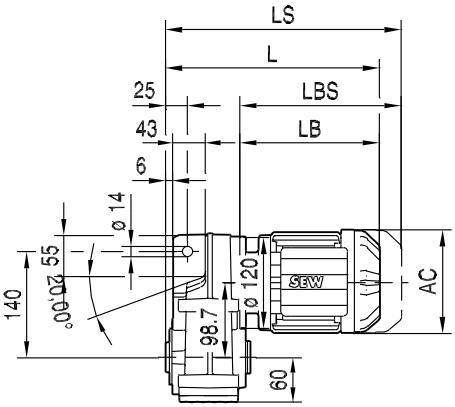


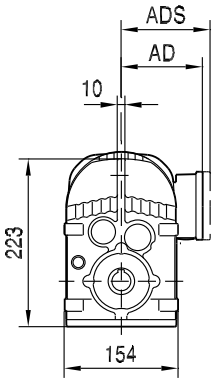
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	356	367	392	447	448	480		
LS	411	435	460	528	542	574		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

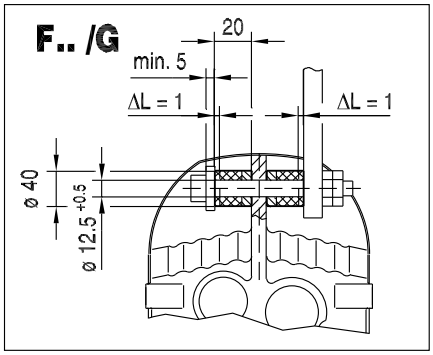
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FA27..

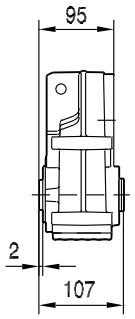
42 022 00 14

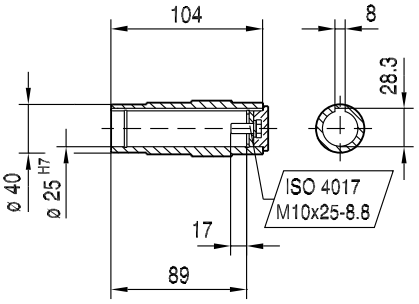






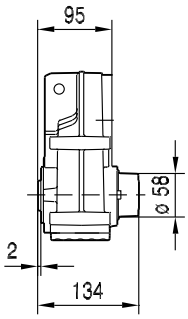
FA27..

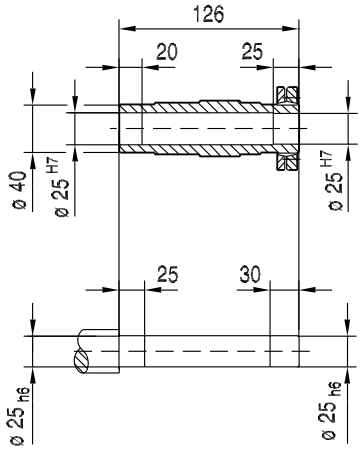




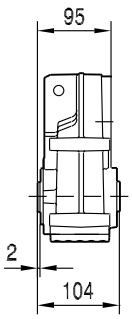
FH27..

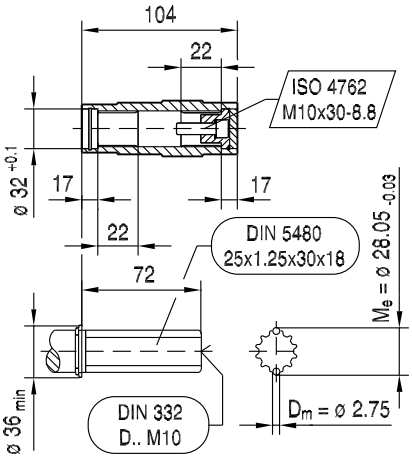
max. DR71..





FV27..



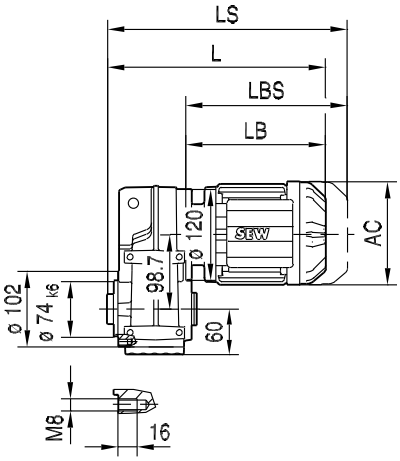


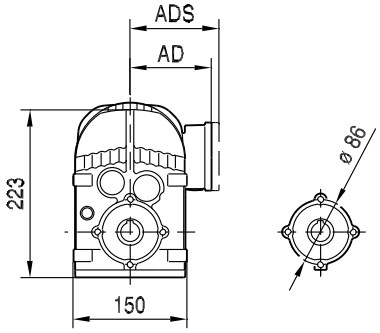
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	286	297	322	377	378	410		
LS	341	365	390	458	472	504		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

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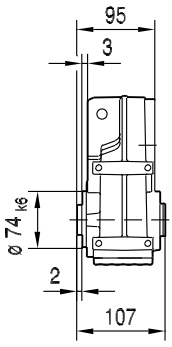
FAZ27..

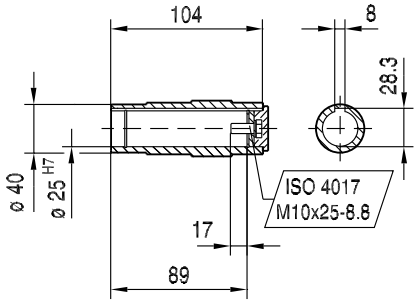
42 023 00 14



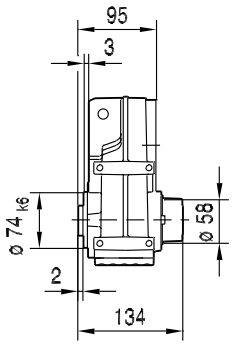


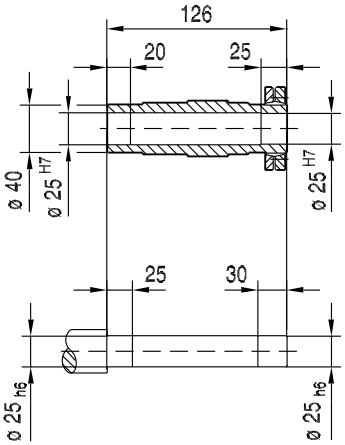
FAZ27..



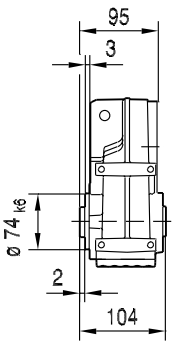


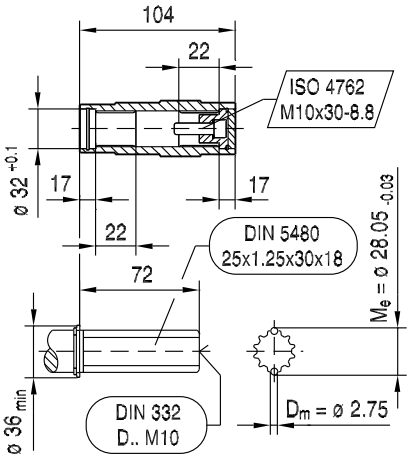
FHZ27..
max. DR71..





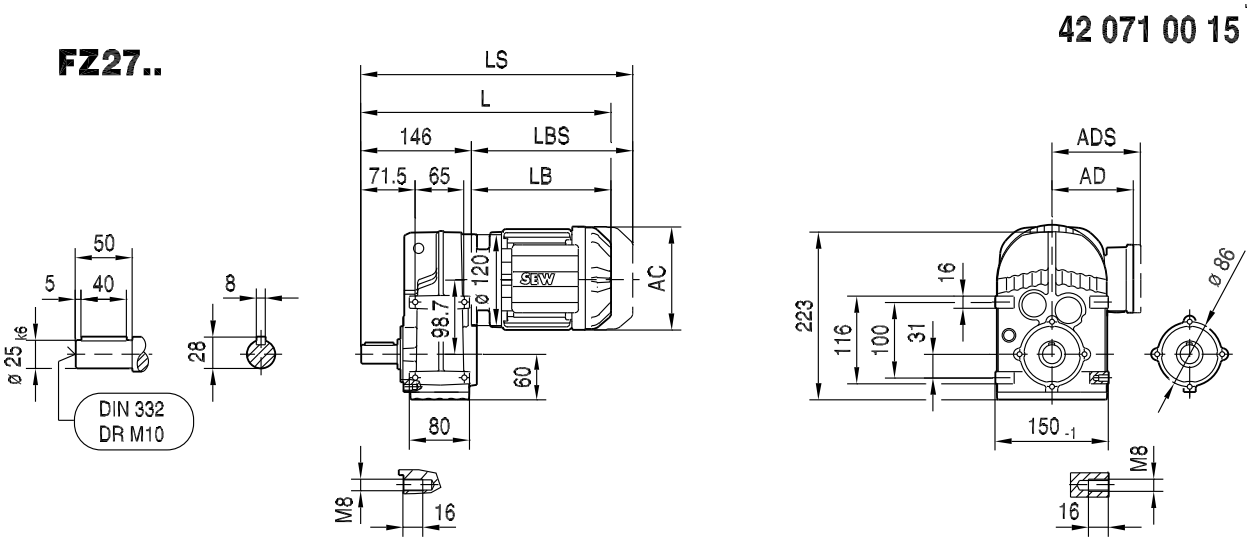
FVZ27..





(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	286	297	322	377	378	410		
LS	341	365	390	458	472	504		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

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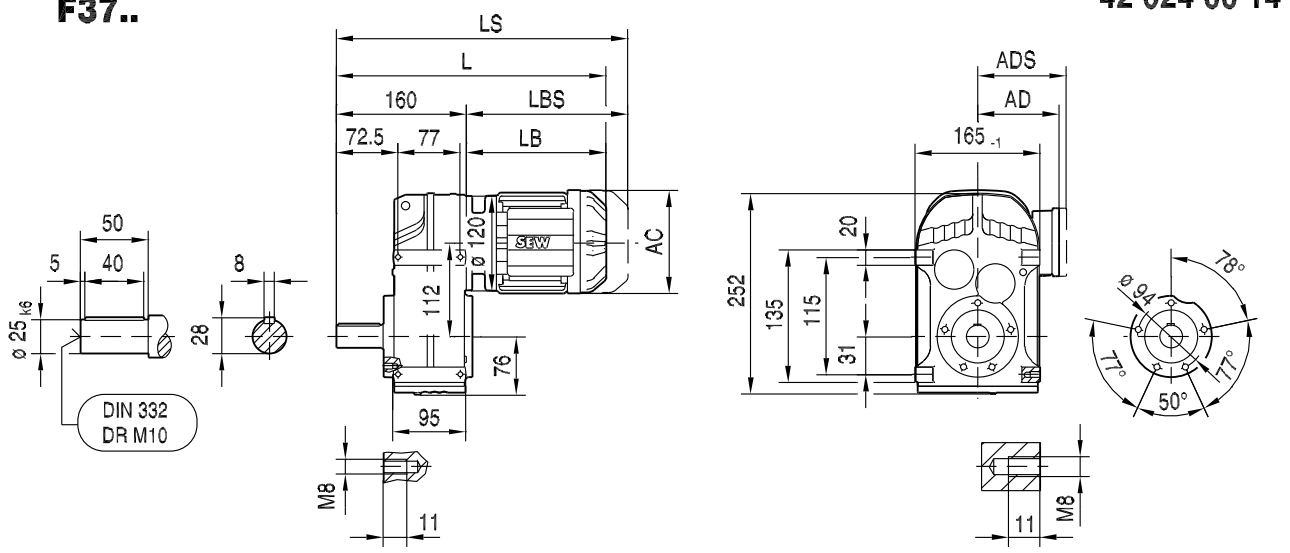


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	207	218	243	298	299	331		
LS	262	286	311	379	393	425		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

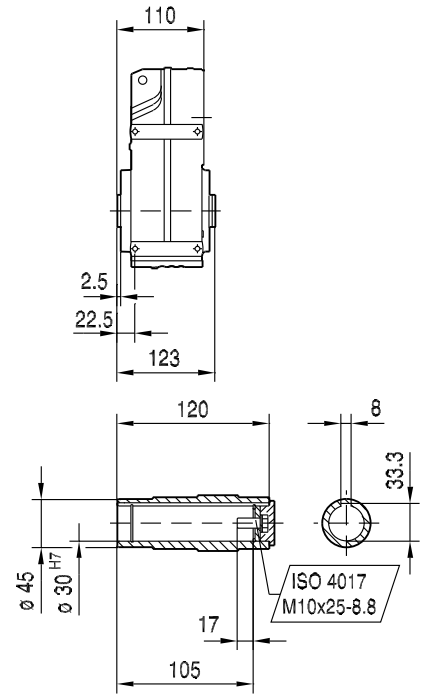
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F37..

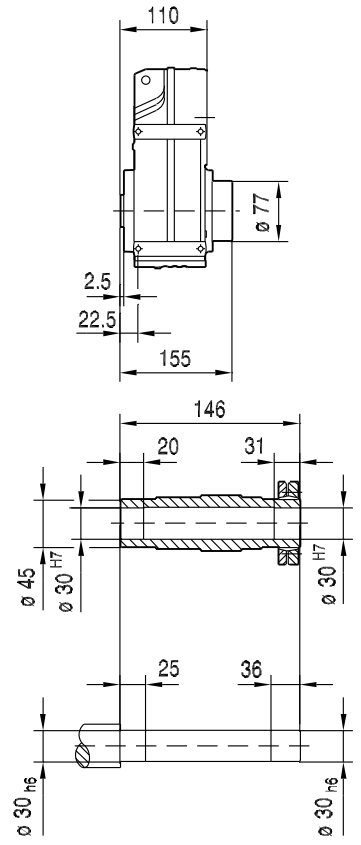
42 024 00 14



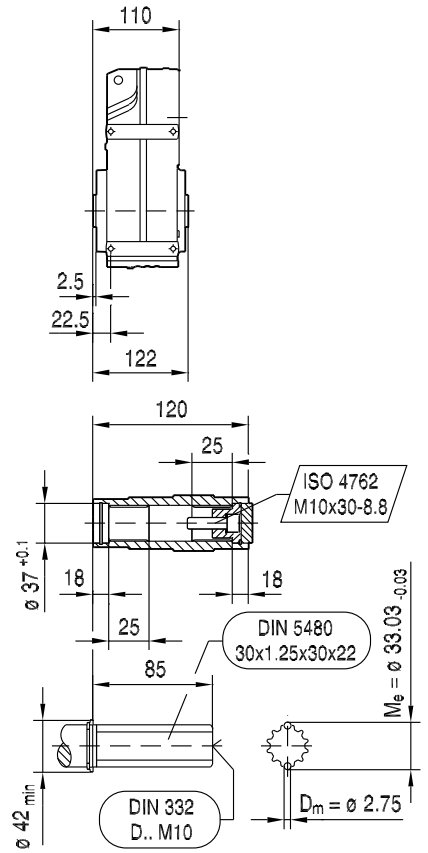
FA37B..



FH37B..



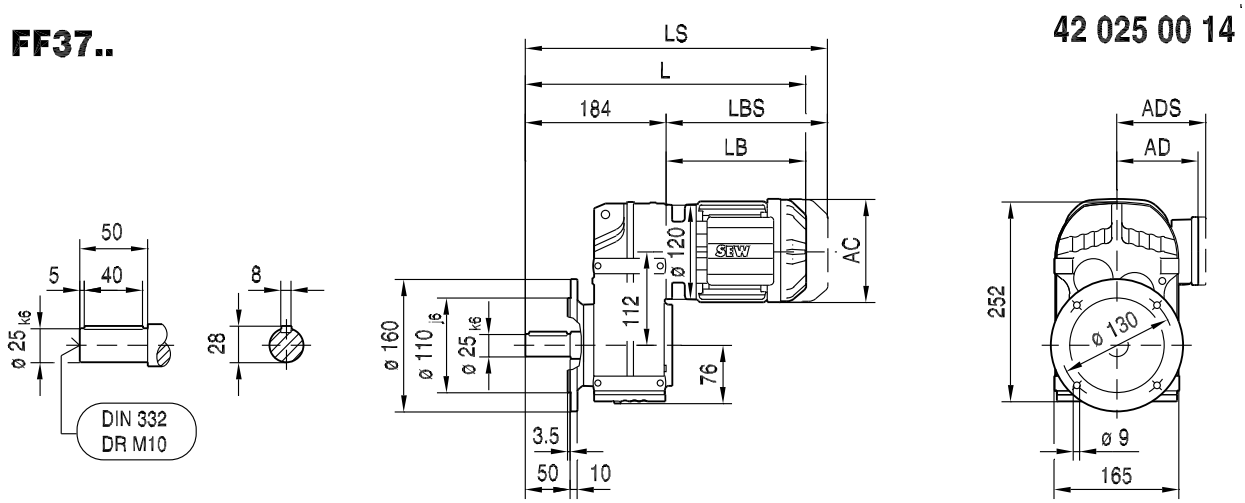
FV37B..



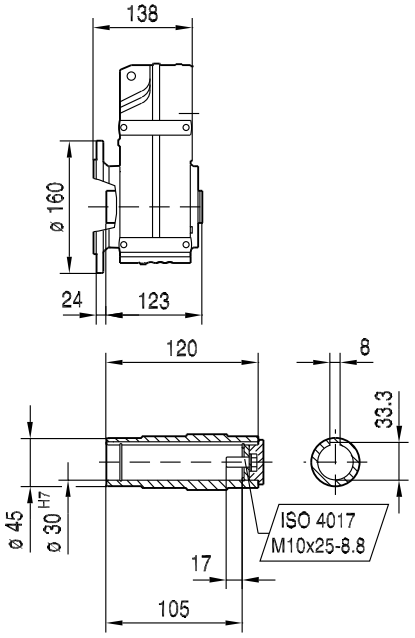
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	351	362	387	442	443	475	474	524
LS	406	430	455	523	537	569	568	618
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

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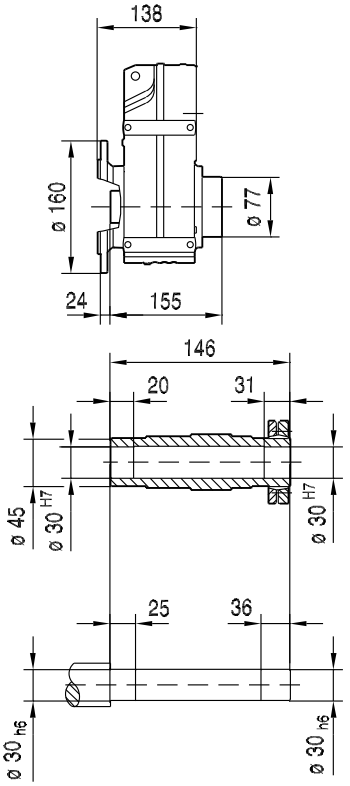
FF37..



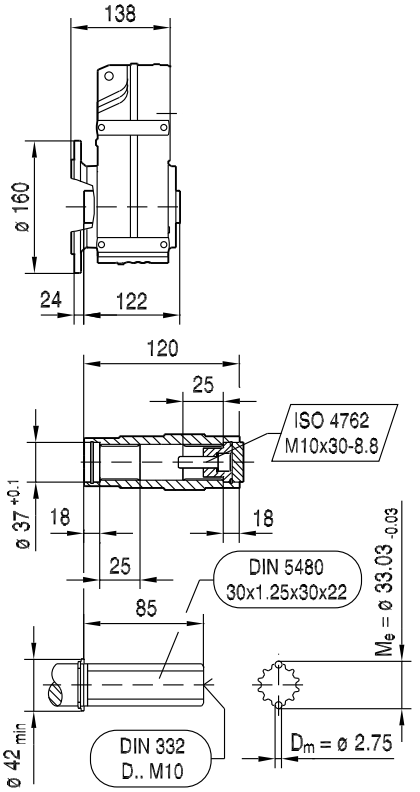
FAF37..



FHF37..



FVF37..

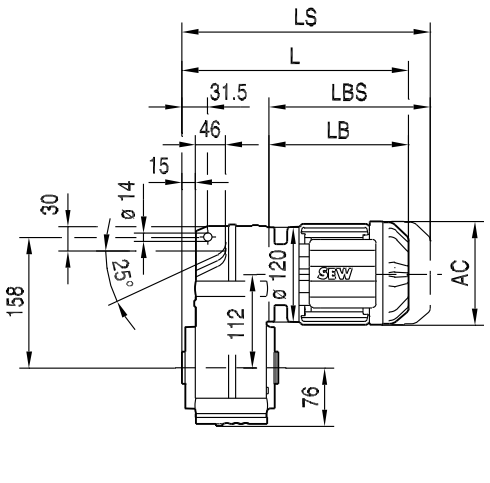


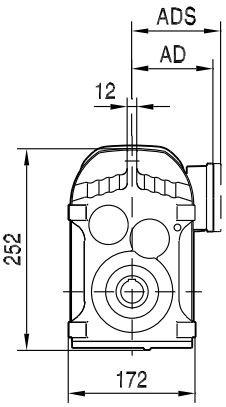
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	375	386	411	466	467	499	498	548
LS	430	454	479	547	561	593	592	642
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

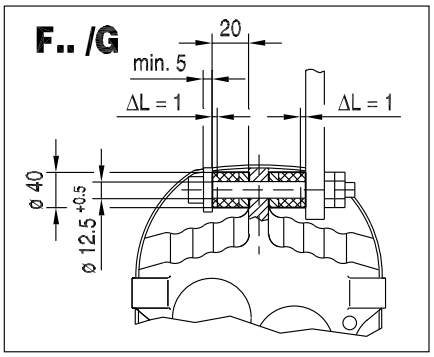
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FA37..

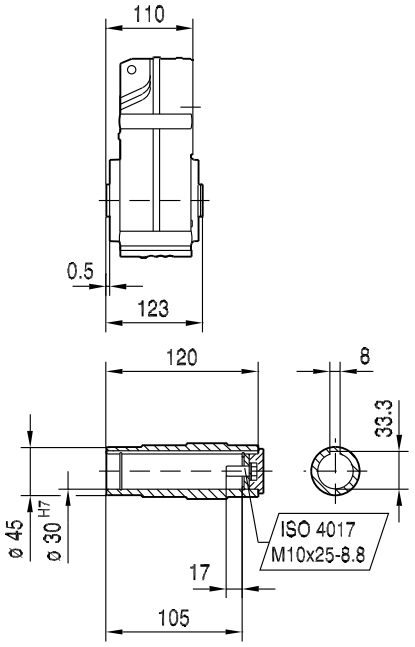
42 026 00 14



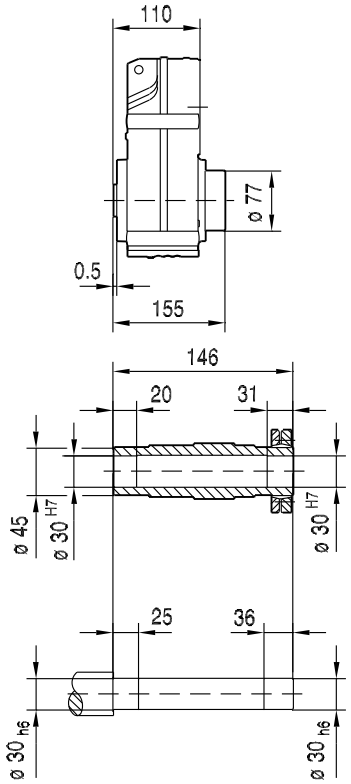




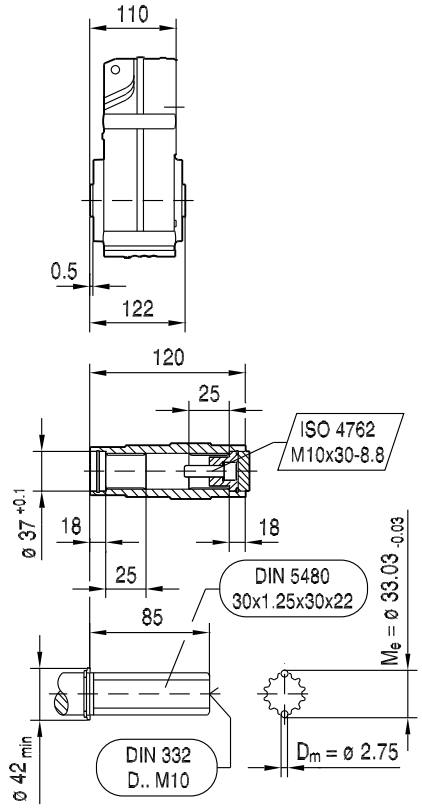
FA37..



FH37..



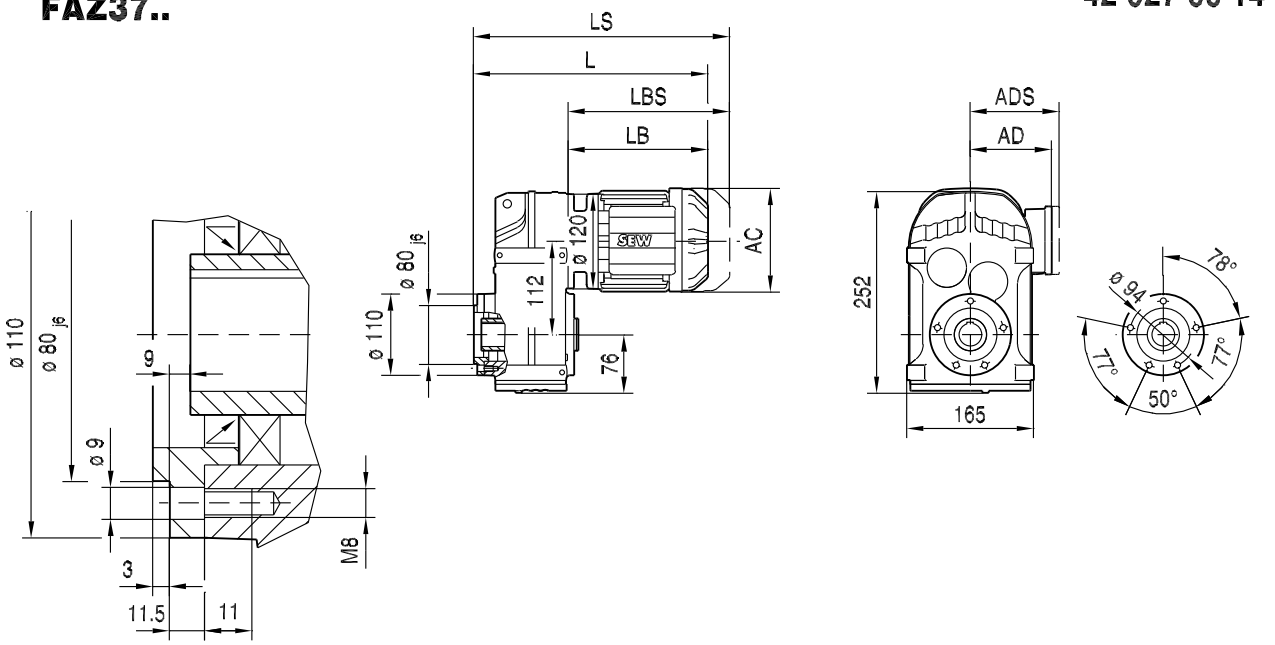
FV37..



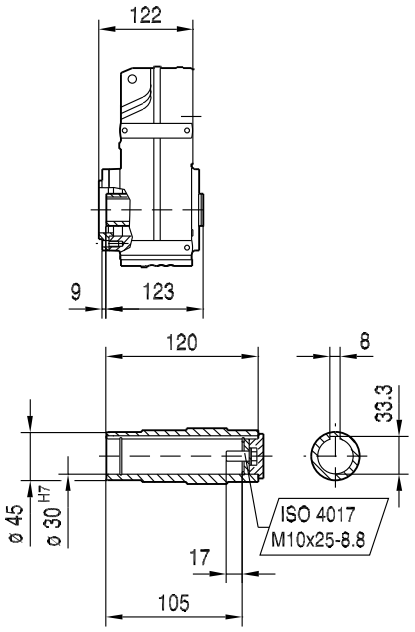
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	301	312	337	392	393	425	424	474
LS	356	380	405	473	487	519	518	568
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

42 027 00 14

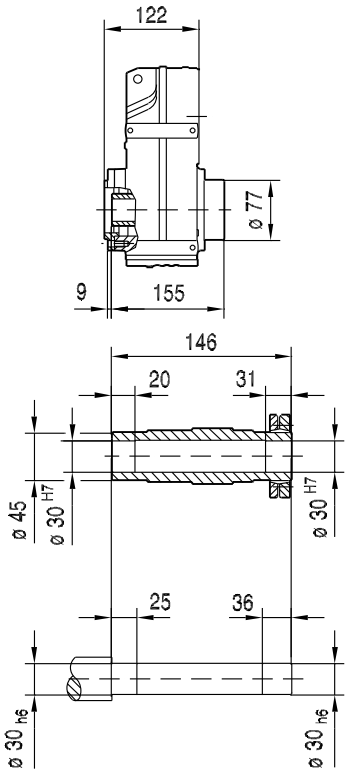
FAZ37..



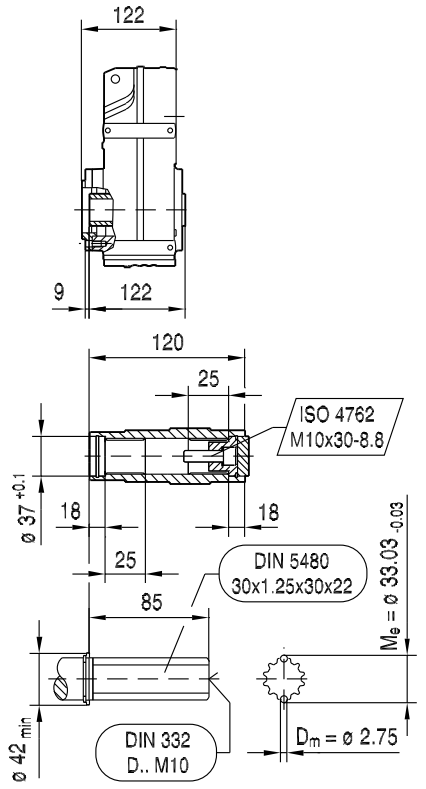
FAZ37..



FHZ37..

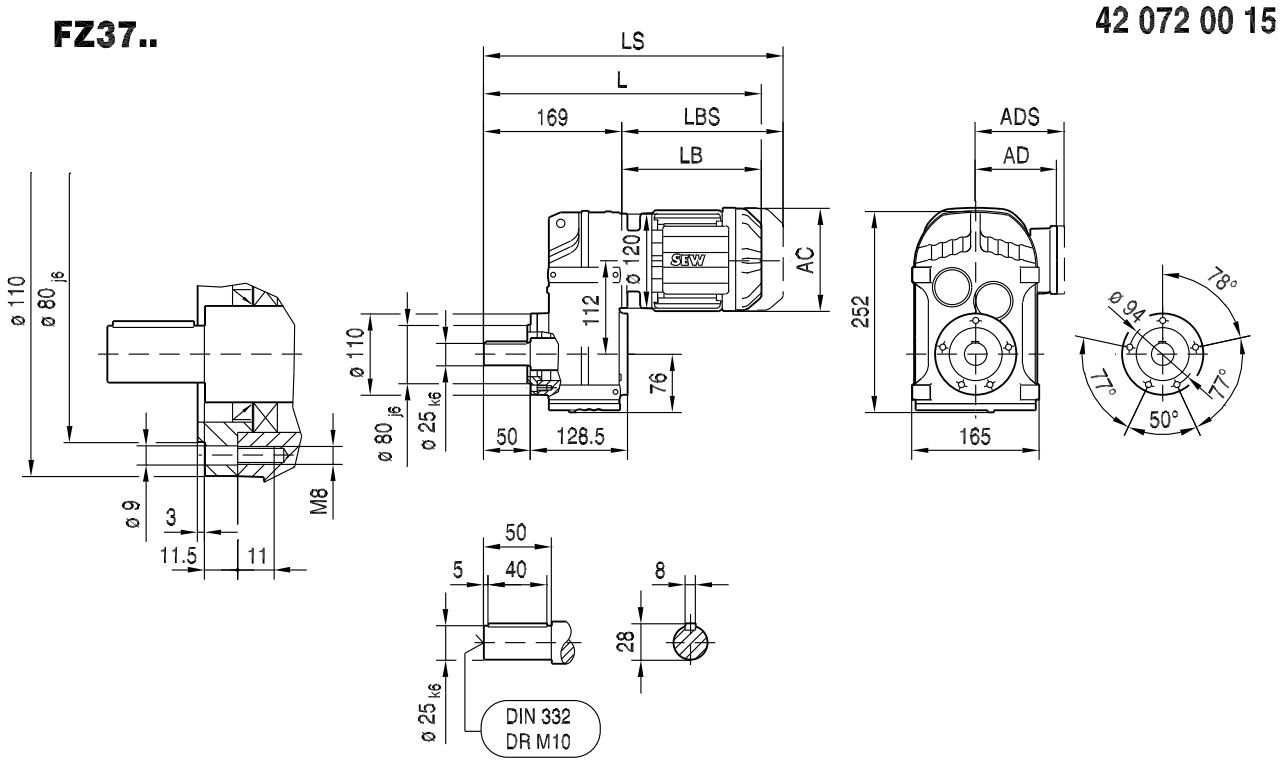


FVZ37..



(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	313	324	349	404	405	437	436	486
LS	368	392	417	485	499	531	530	580
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

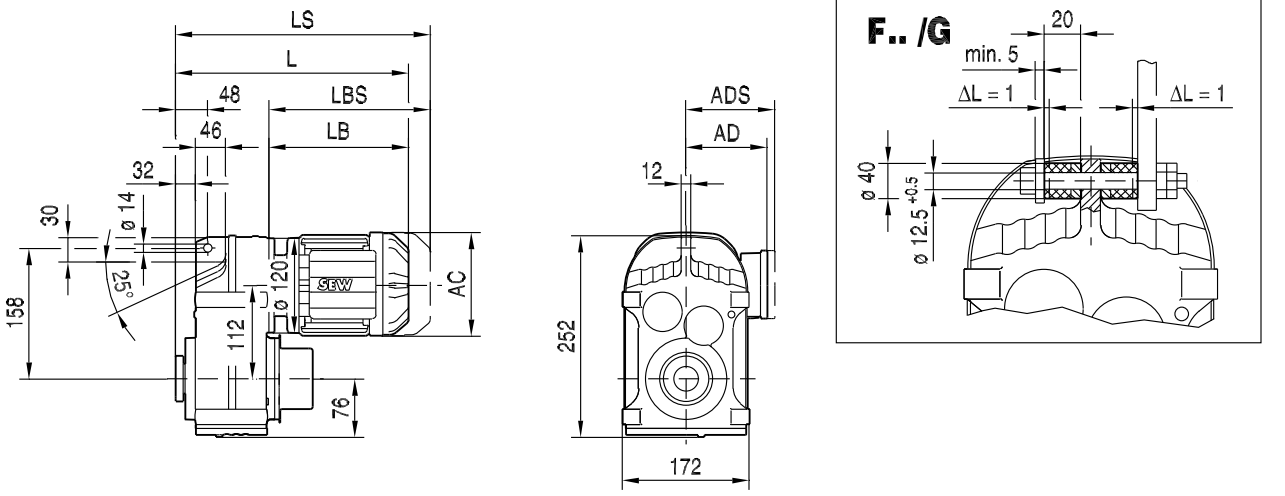
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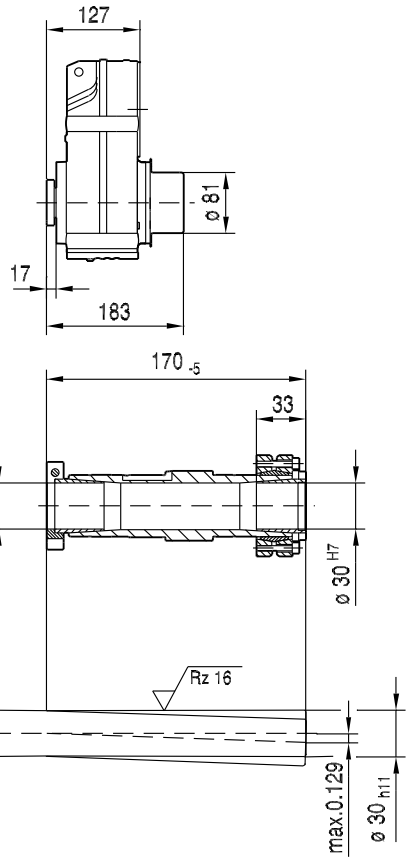


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	360	371	396	451	452	484	483	533
LS	415	439	464	532	546	578	577	627
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

FT37..

42 028 00 14



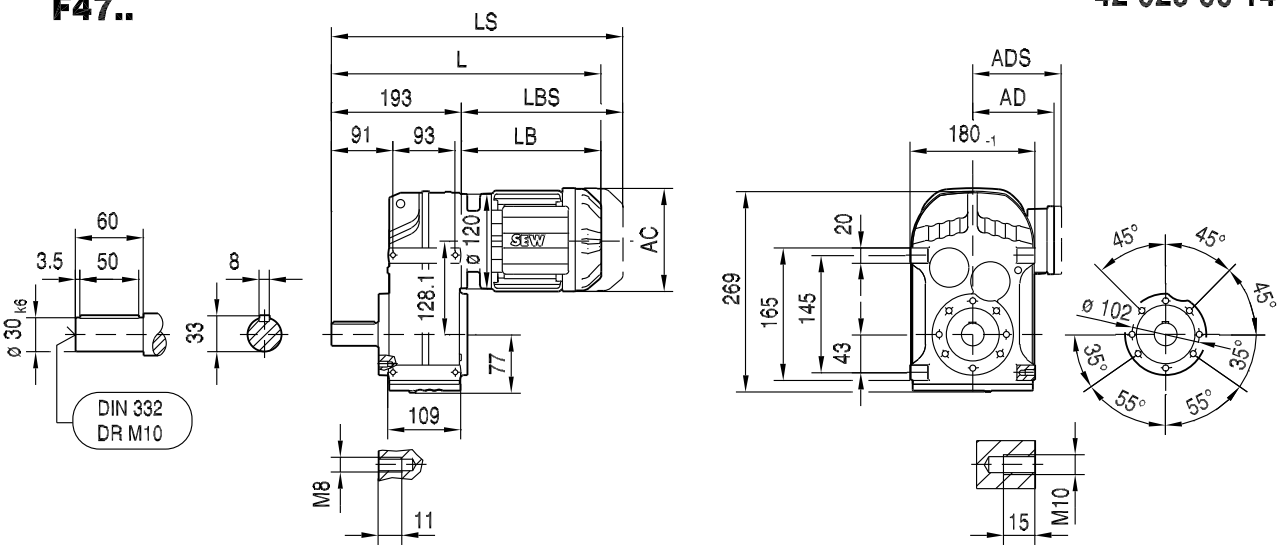


(→ 177)	DR63..	DR71S	DR71M					
AC	132	139	139					
AD	105	119	119					
ADS	105	129	129					
L	318	329	354					
LS	373	397	422					
LB	191	202	227					
LBS	246	270	295					

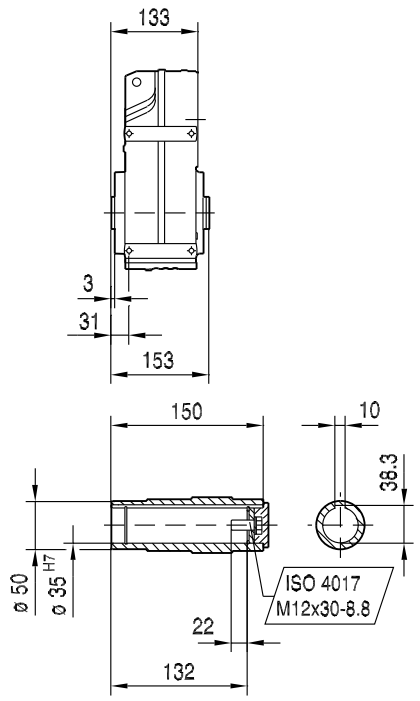
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F47..

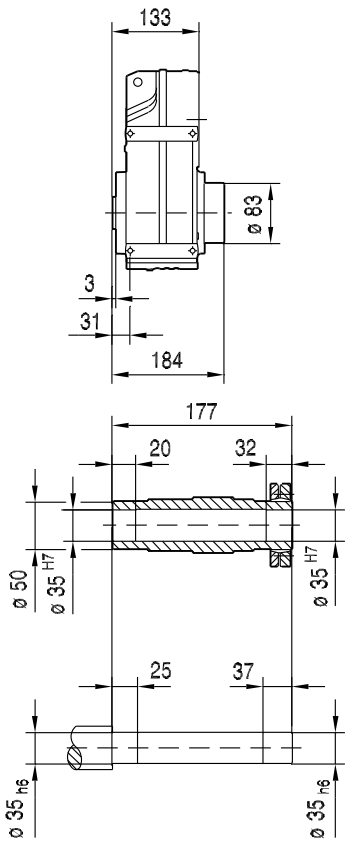
42 029 00 14



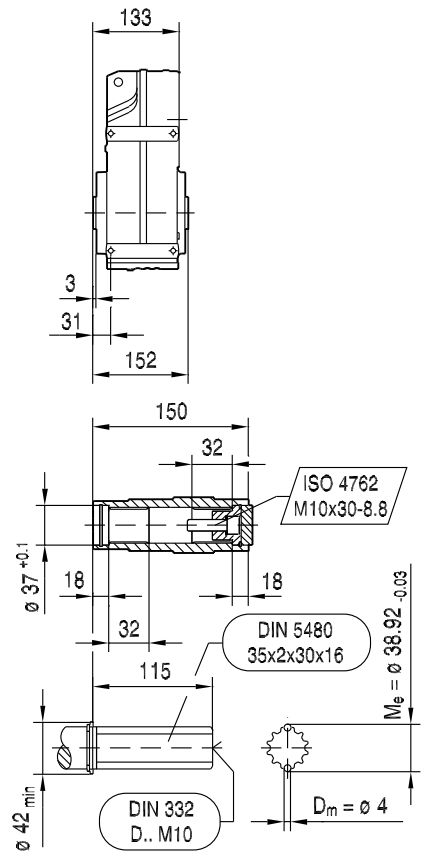
FA47B..



FH47B..



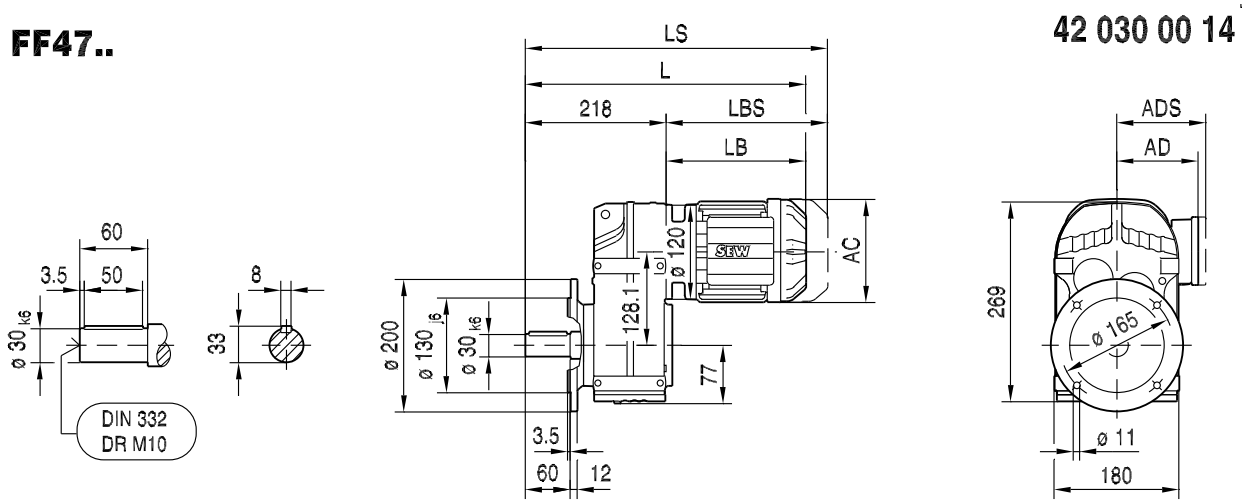
FV47B..



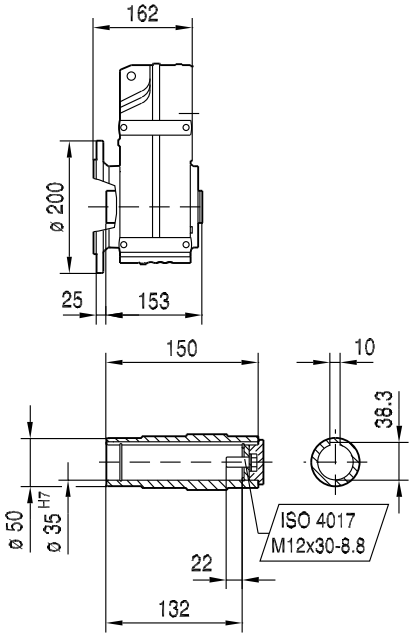
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	384	395	420	475	476	508	507	557
LS	439	463	488	556	570	602	601	651
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

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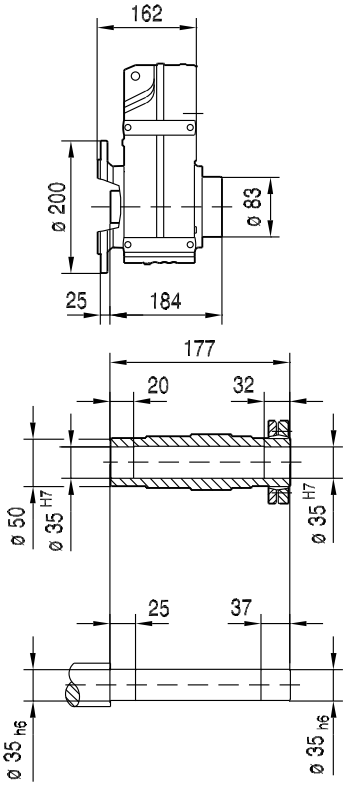
FF47..



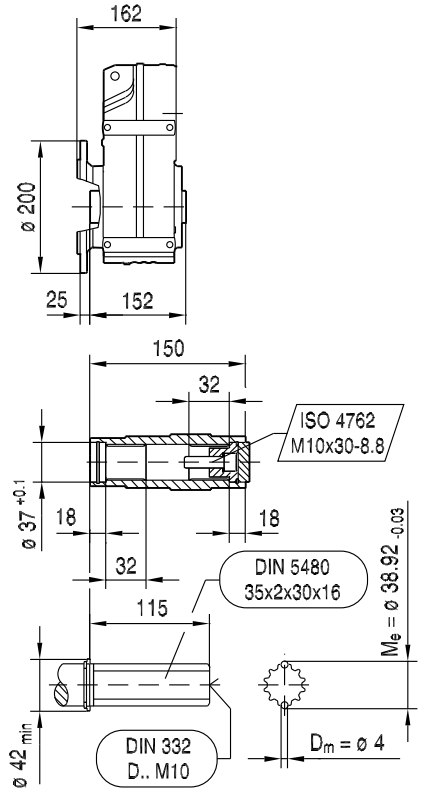
FAF47..



FHF47..



FVF47..

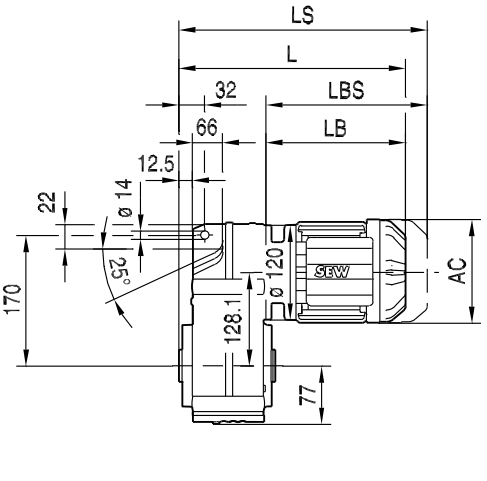


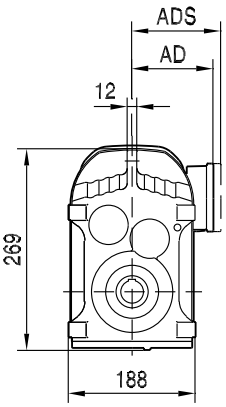
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	409	420	445	500	501	533	532	582
LS	464	488	513	581	595	627	626	676
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

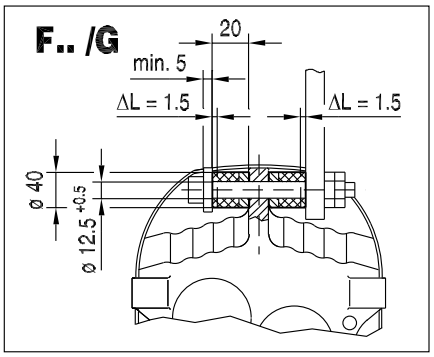
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FA47..

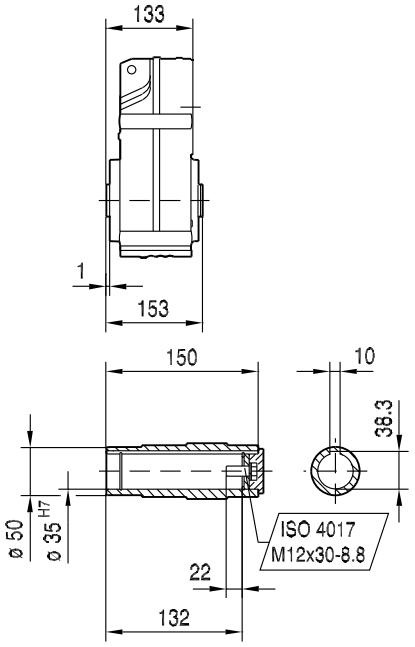
42 031 00 14



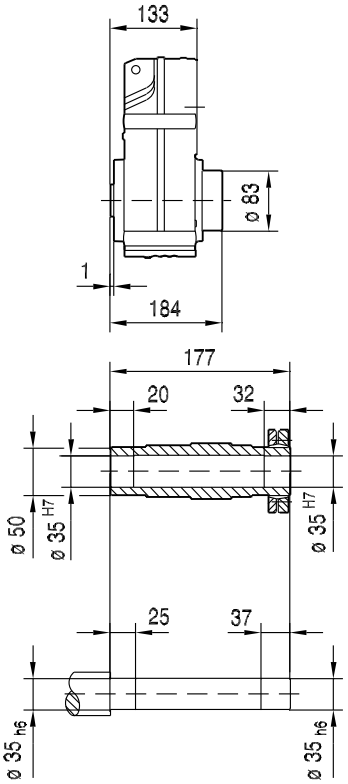




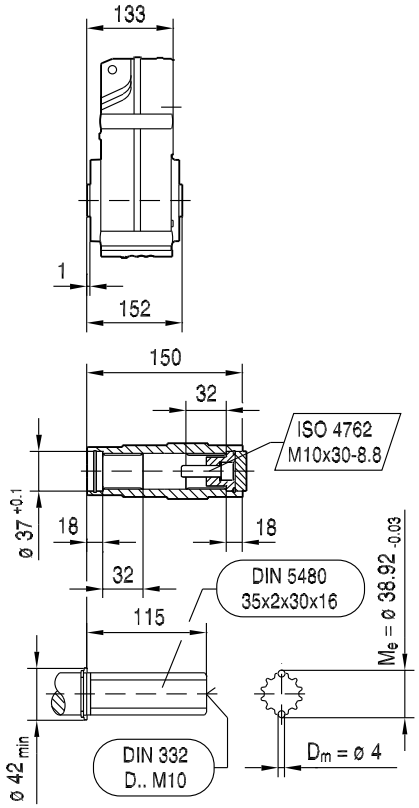
FA47..



FH47..



FV47..

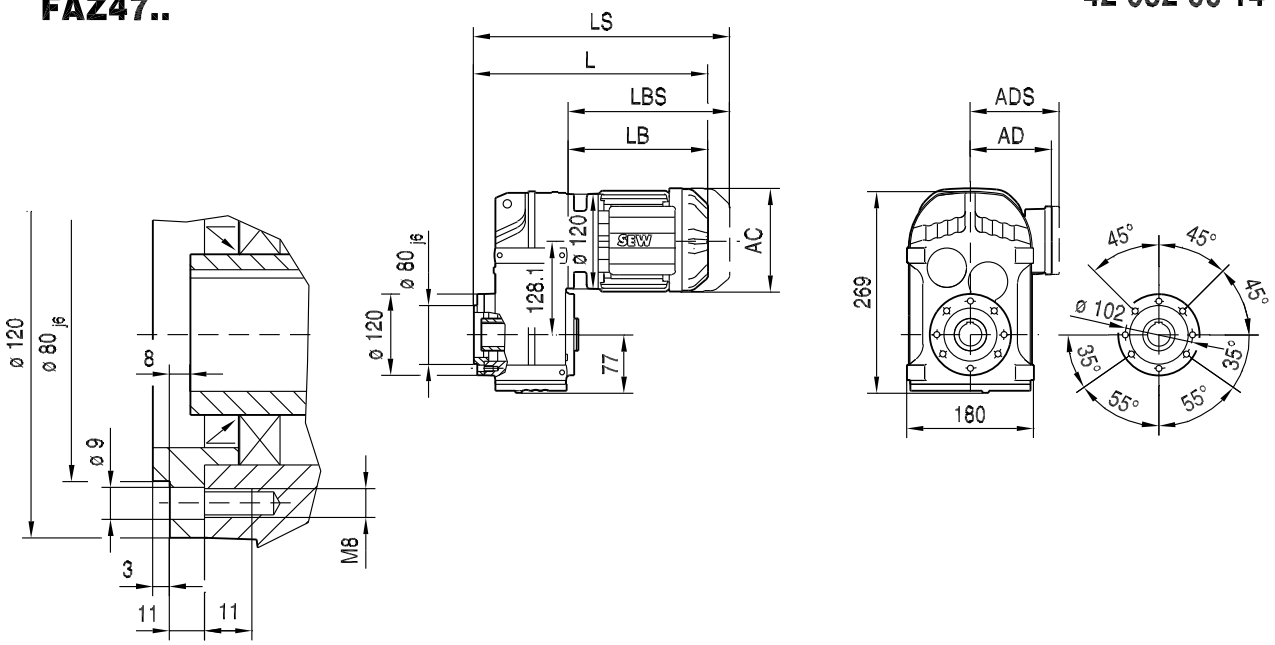


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	324	335	360	415	416	448	447	497
LS	379	403	428	496	510	542	541	591
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

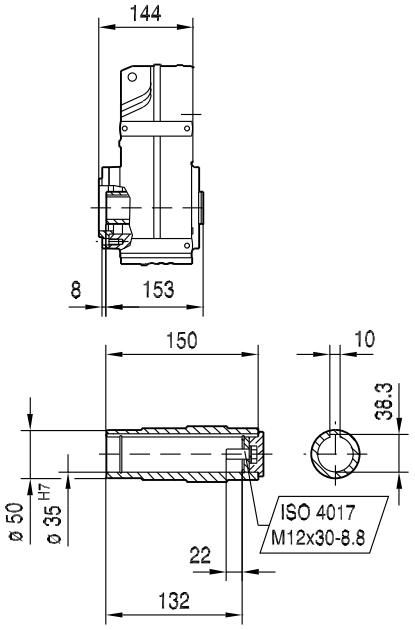
22742654/EN – 08/2016

42 032 00 14

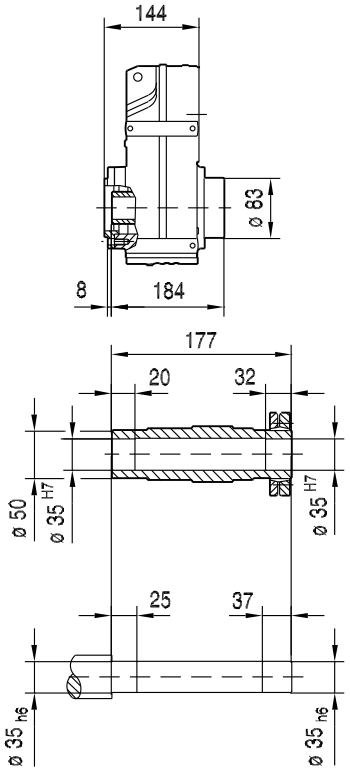
FAZ47..



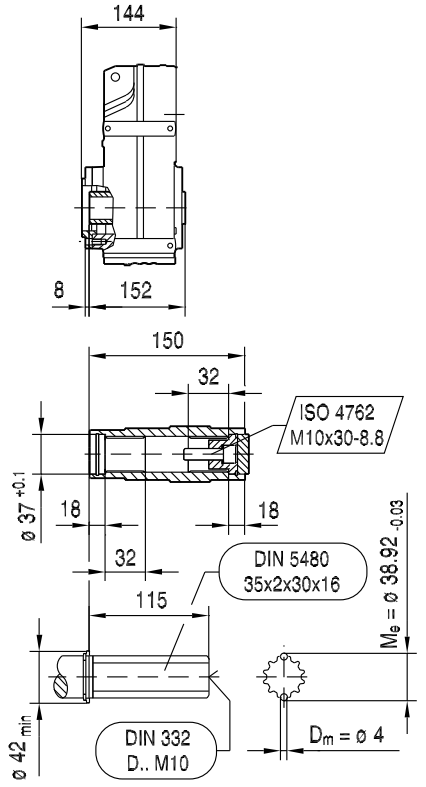
FAZ47..



FHZ47..



FVZ47..

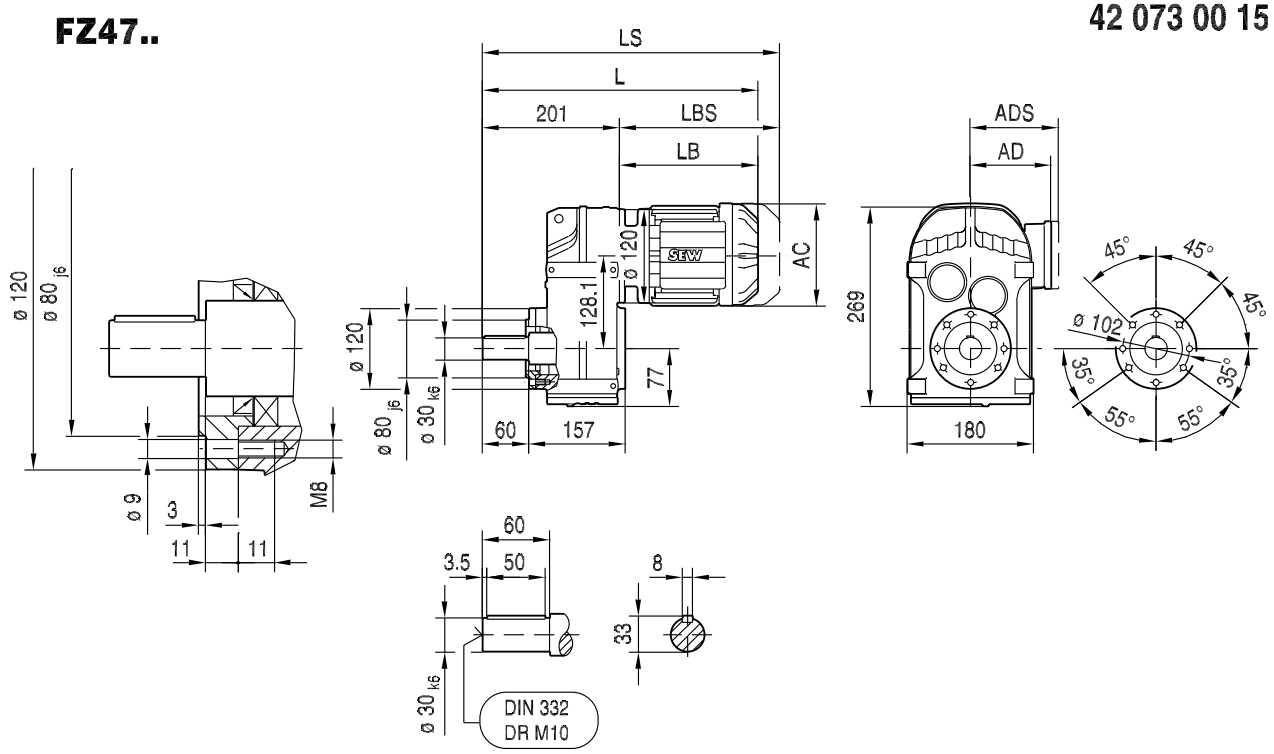


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	335	346	371	426	427	459	458	508
LS	390	414	439	507	521	553	552	602
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

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FZ47..

42 073 00 15

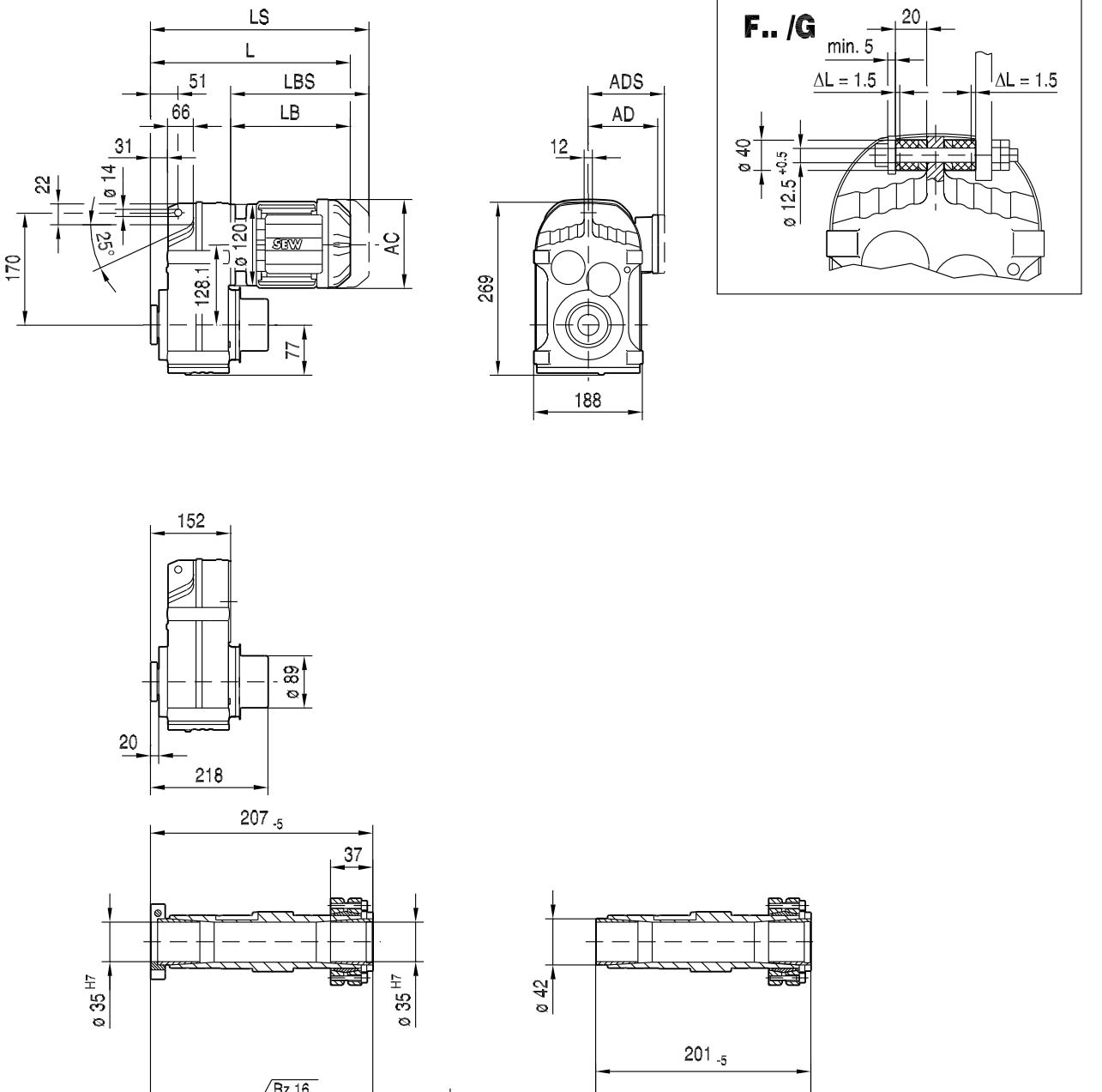


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	392	403	428	483	484	516	515	565
LS	447	471	496	564	578	610	609	659
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

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FT47..

42 033 00 14

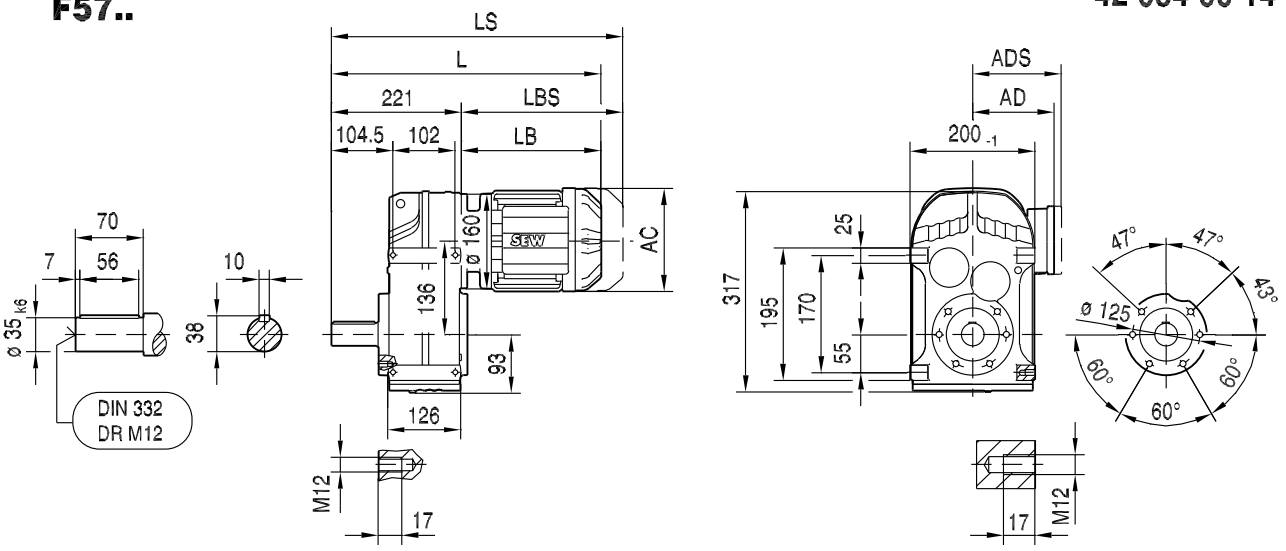


(→ 177)	DR63..	DR71S	DR71M					
AC	132	139	139					
AD	105	119	119					
ADS	105	129	129					
L	343	354	379					
LS	398	422	447					
LB	191	202	227					
LBS	246	270	295					

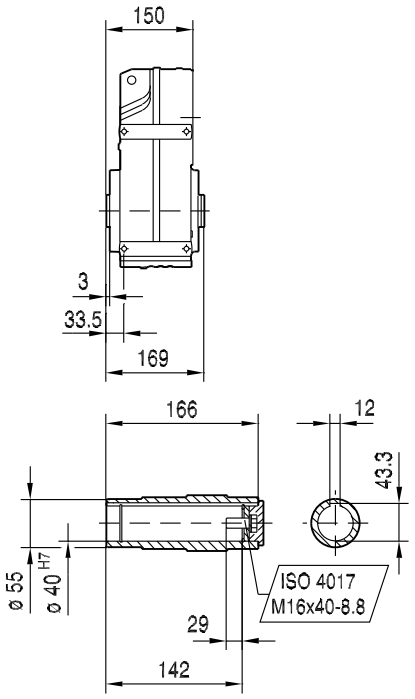
22742654/EN – 08/2016

42 034 00 14

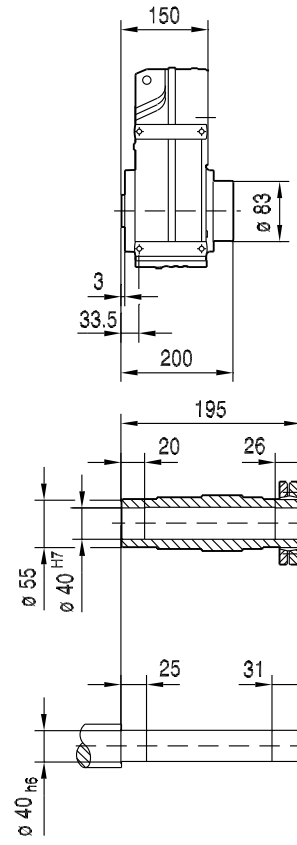
F57..



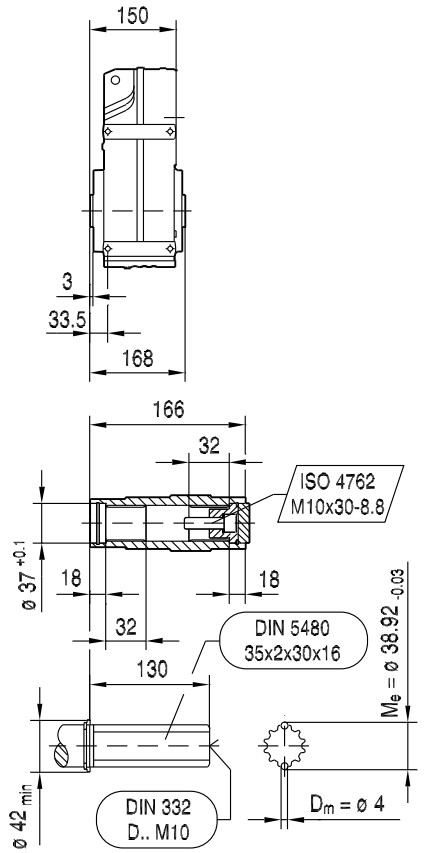
FA57B..



FH57B..
max. DRN100L

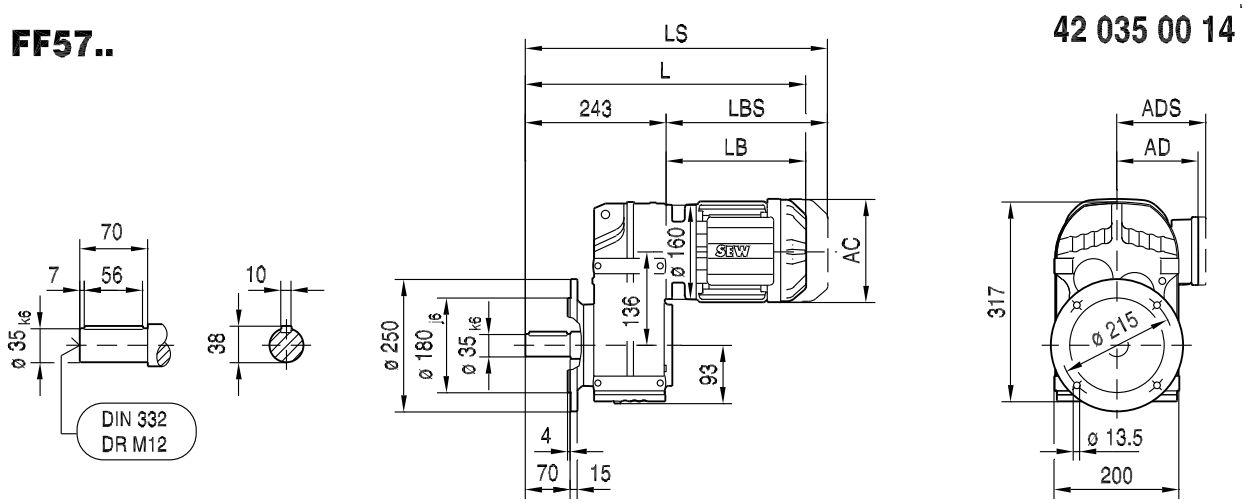


FV57B..

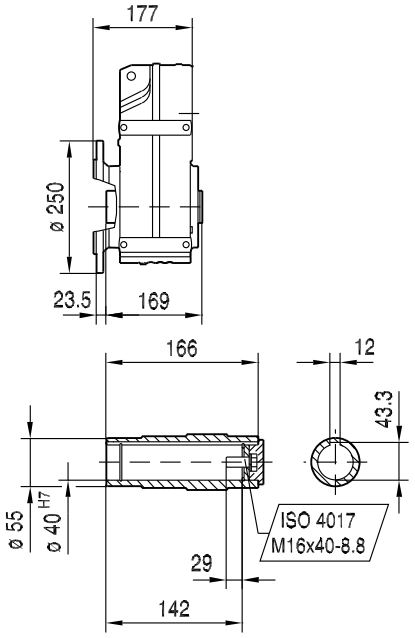


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	406	417	442	496	498	530	526	576	607	661
LS	461	485	510	577	591	623	620	670	719	773
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

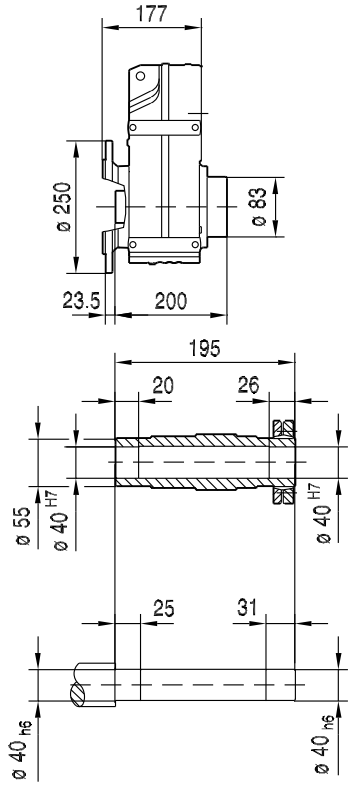
FF57..



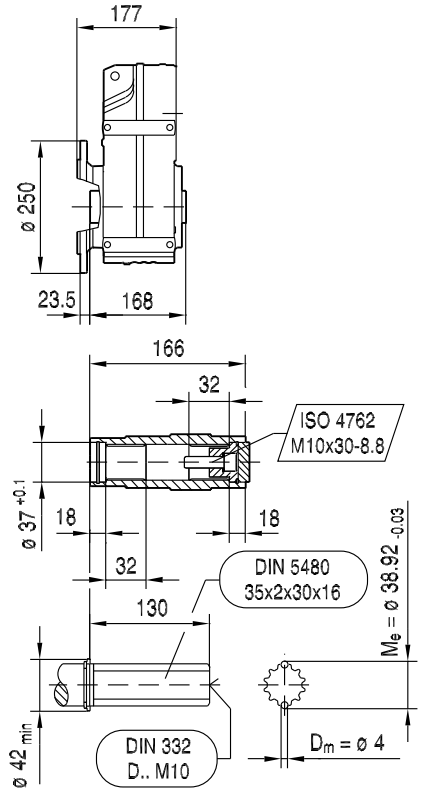
FAF57..



FHF57..
max. DRN100L



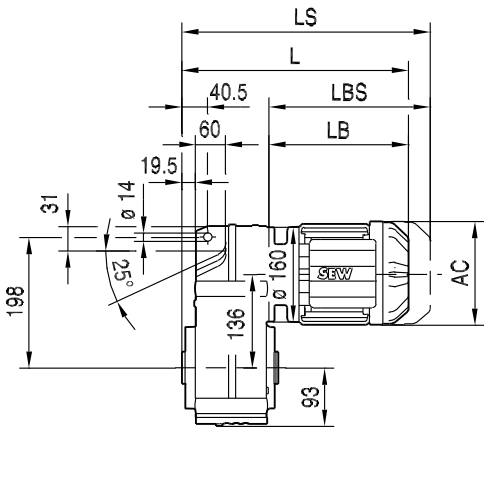
FVF57..

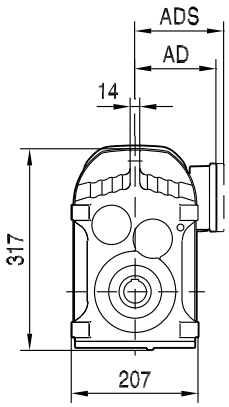


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	428	439	464	518	520	552	548	598	629	683
LS	483	507	532	599	613	645	642	692	741	795
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

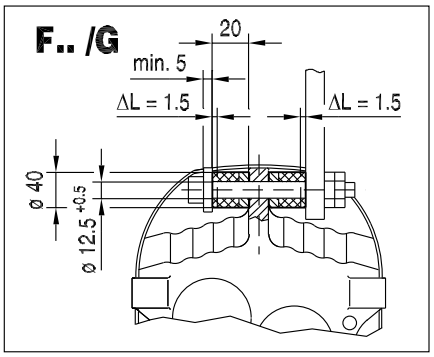
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FA57..

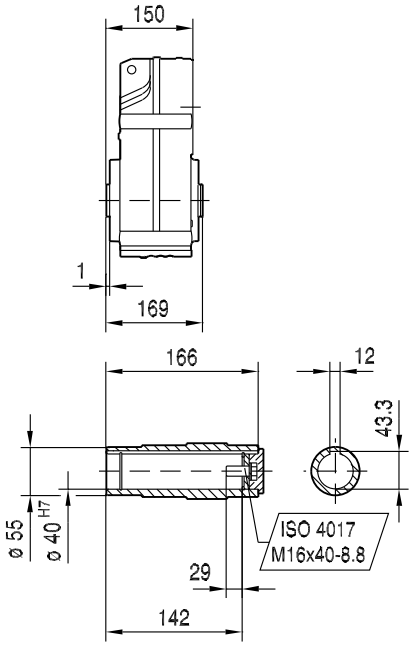




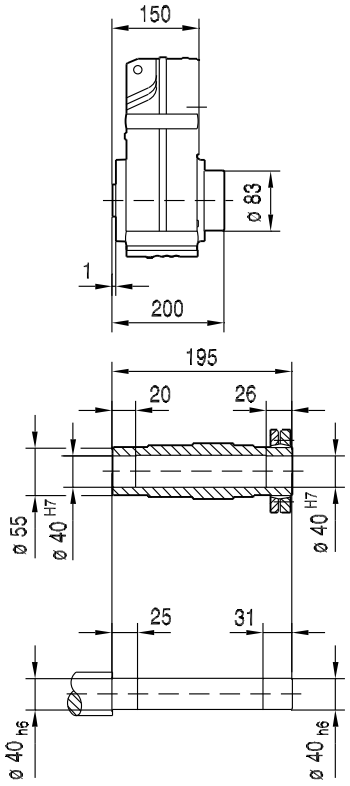
42 036 00 14



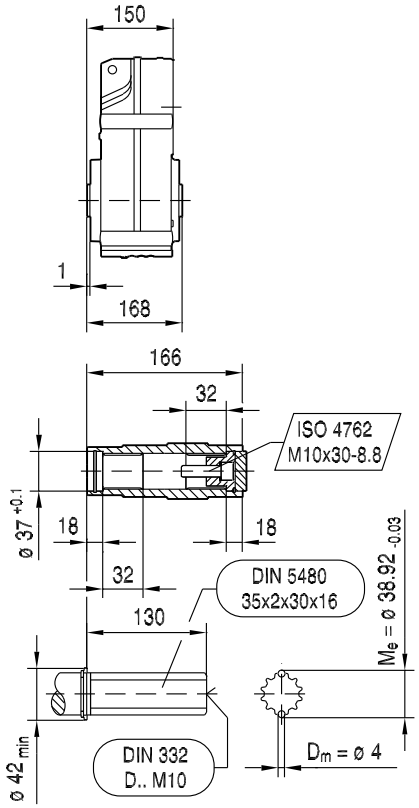
FA57..



FH57..
max. DRN100L



FV57..

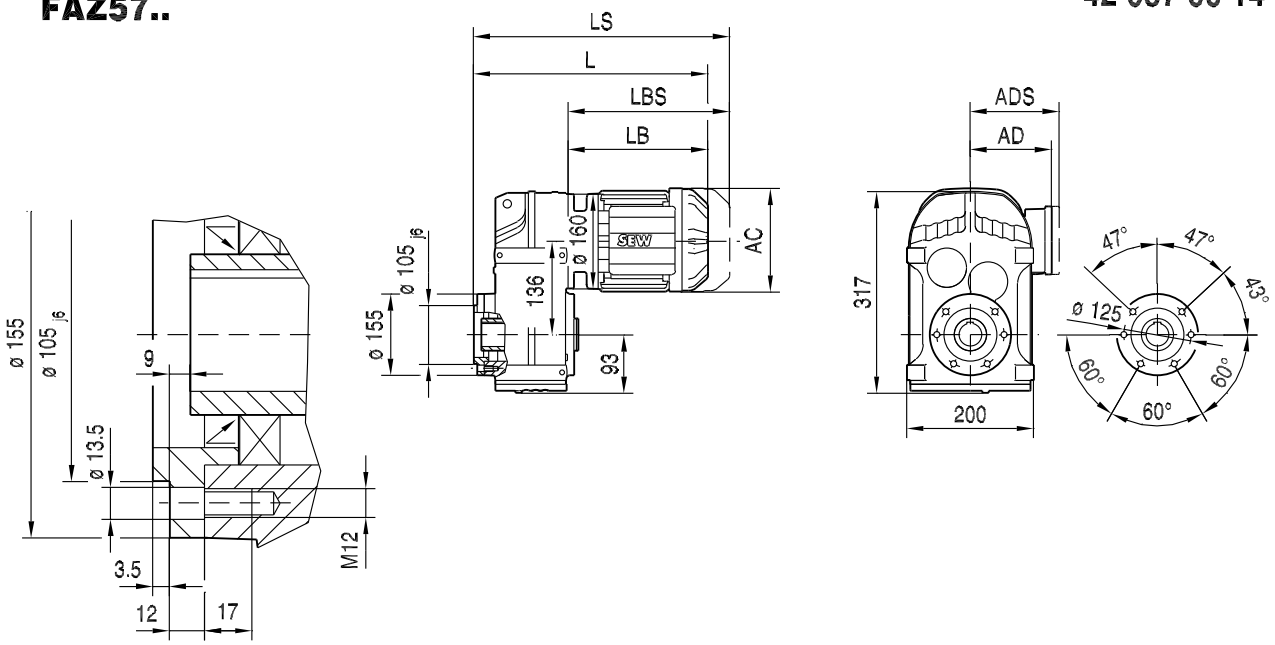


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	335	346	371	425	427	459	455	505	536	590
LS	390	414	439	506	520	552	549	599	648	702
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

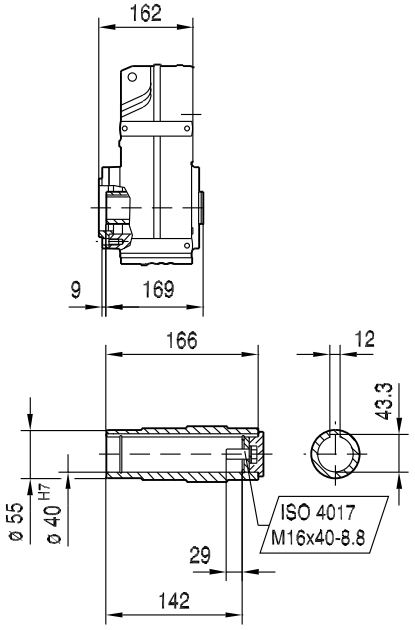
22742654/EN – 08/2016

42 037 00 14

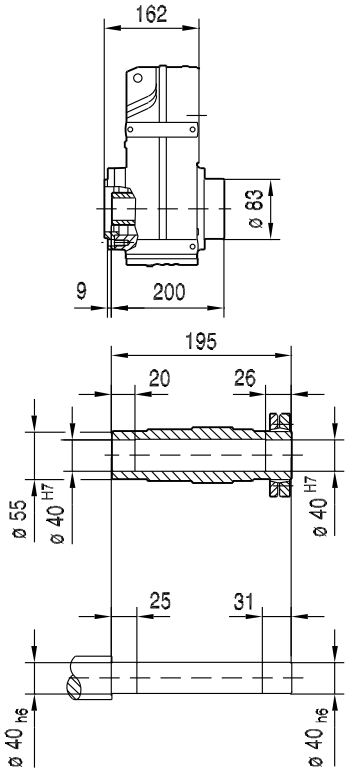
FAZ57..



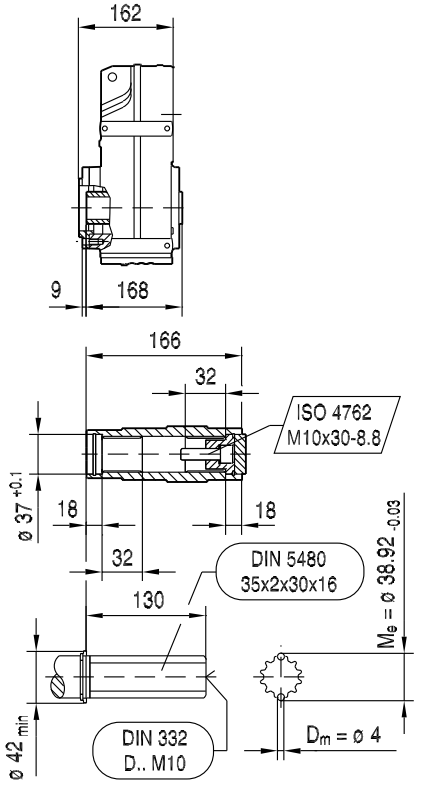
FAZ57..



FHZ57..
max. DRN100L



FVZ57..

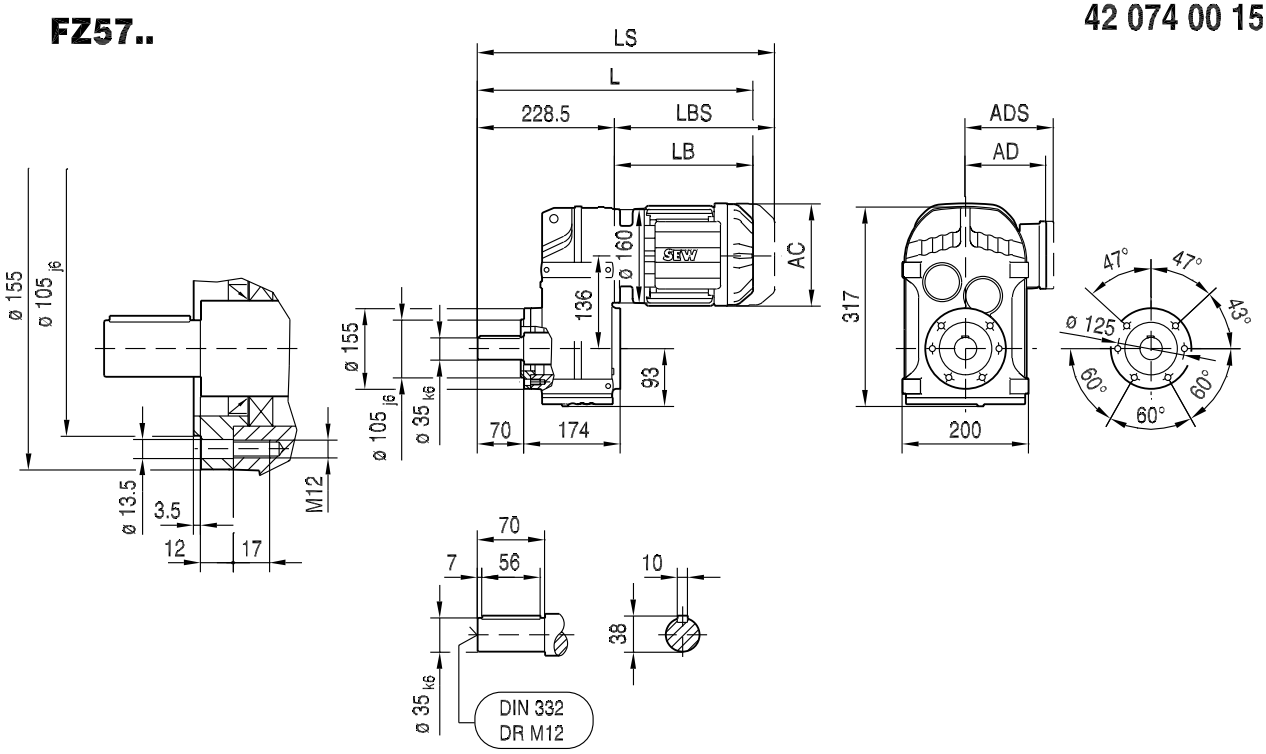


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	347	358	383	437	439	471	467	517	548	602
LS	402	426	451	518	532	564	561	611	660	714
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

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FZ57..

42 074 00 15

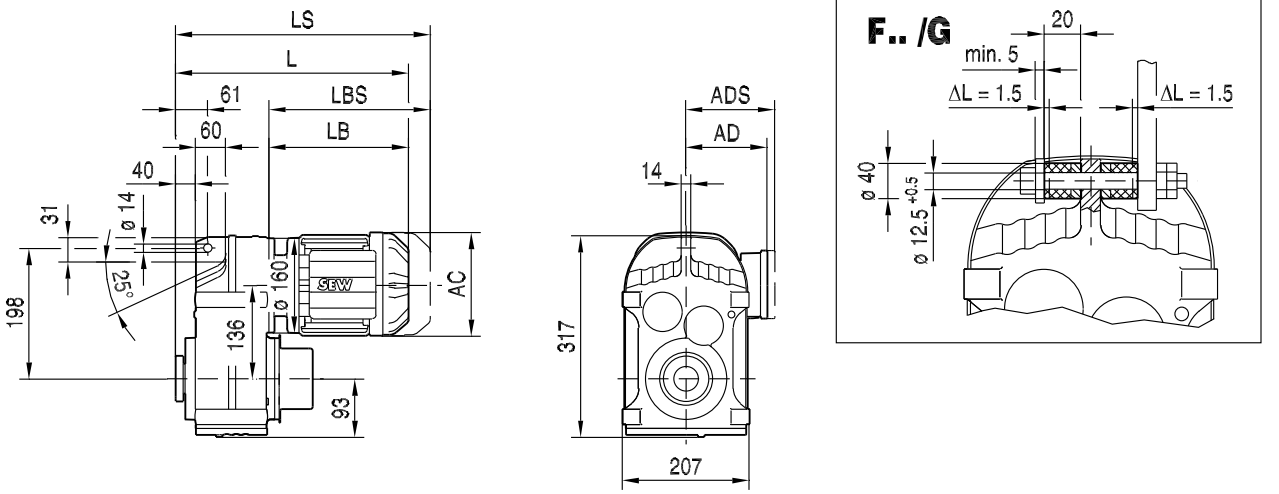


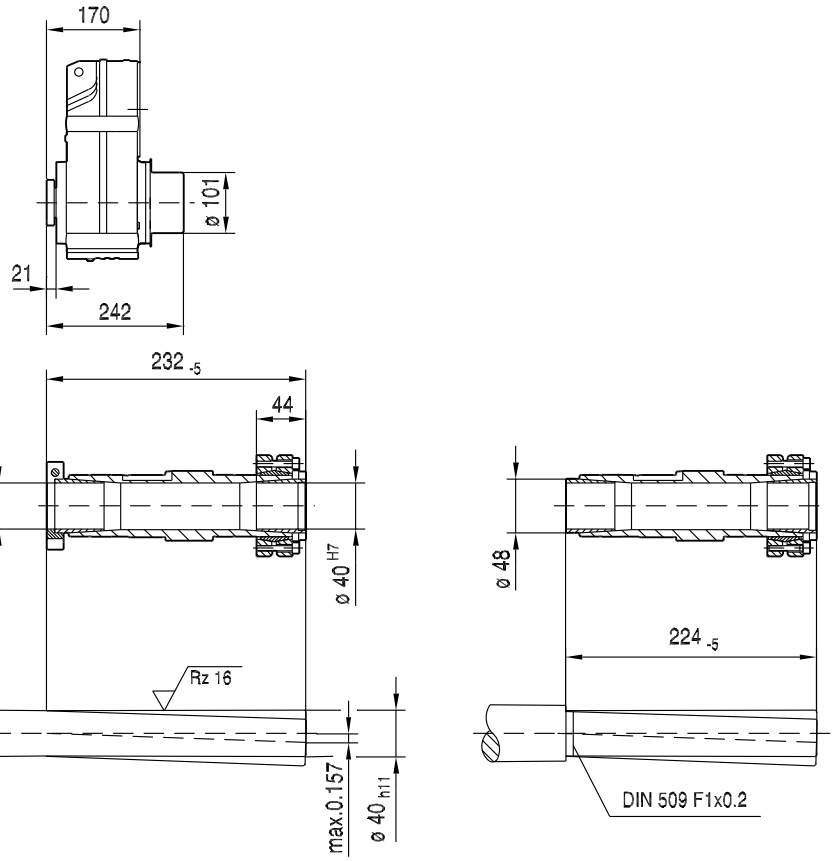
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	413	424	449	504	505	537	534	584	615	669
LS	468	492	517	585	599	631	627	677	727	781
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

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FT57..

42 038 00 14



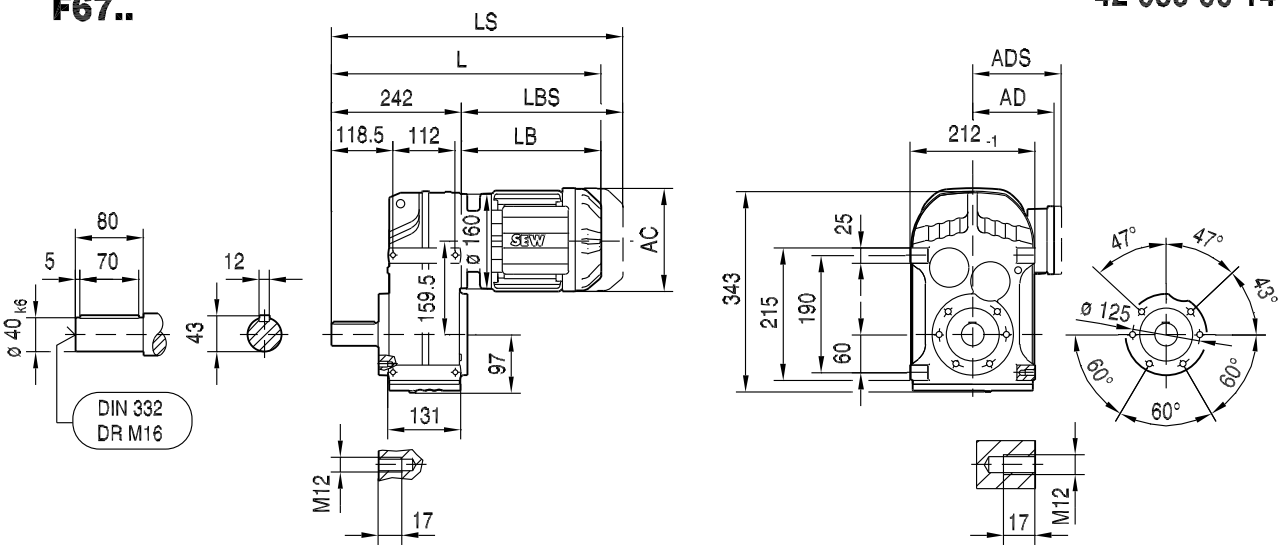


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S			
AC	132	139	139	156	179			
AD	105	119	119	128	140			
ADS	105	129	129	139	150			
L	355	366	391	445	447			
LS	410	434	459	526	540			
LB	185	196	221	275	277			
LBS	240	264	289	356	370			

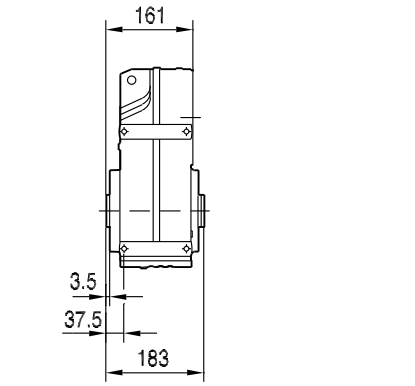
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F67..

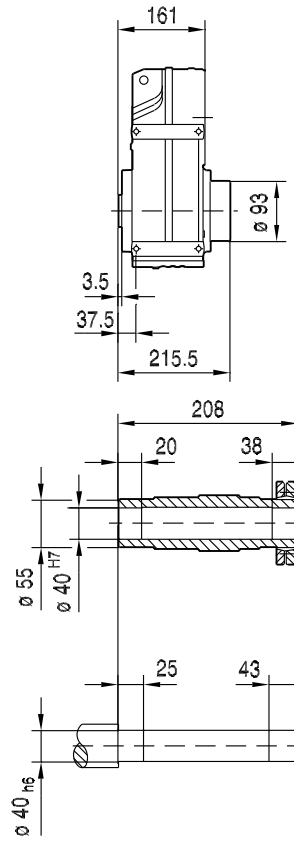
42 039 00 14



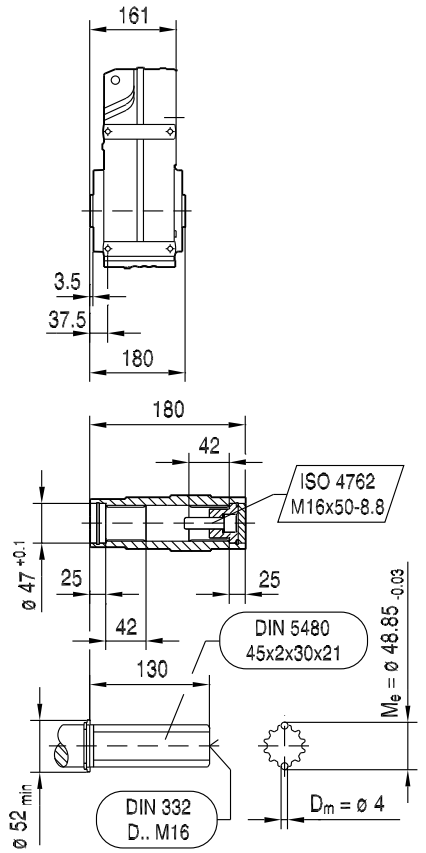
FA67B..



FH67B..
max. DR132S



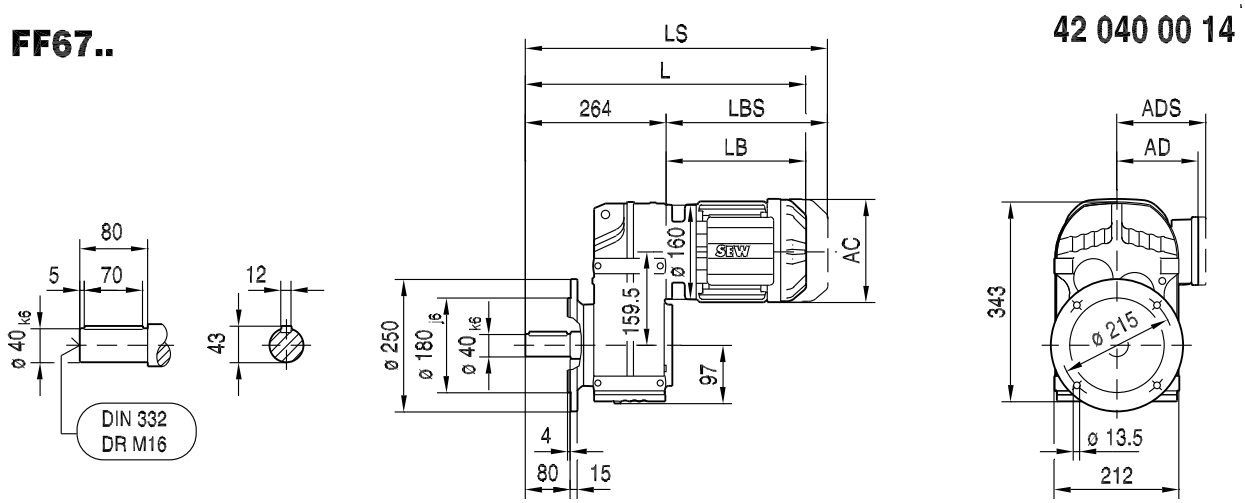
FV67B..



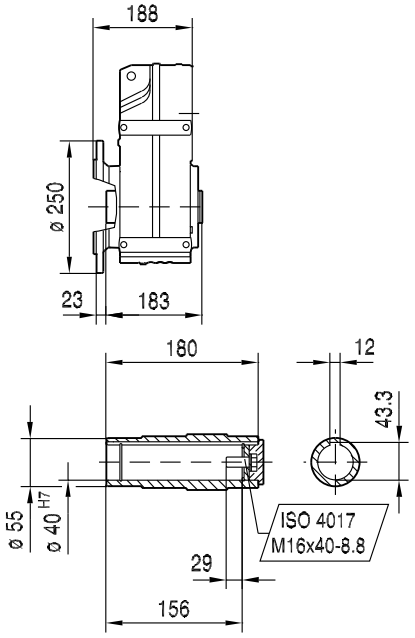
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	427	438	463	517	519	551	547	597	628	682
LS	482	506	531	598	612	644	641	691	740	794
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

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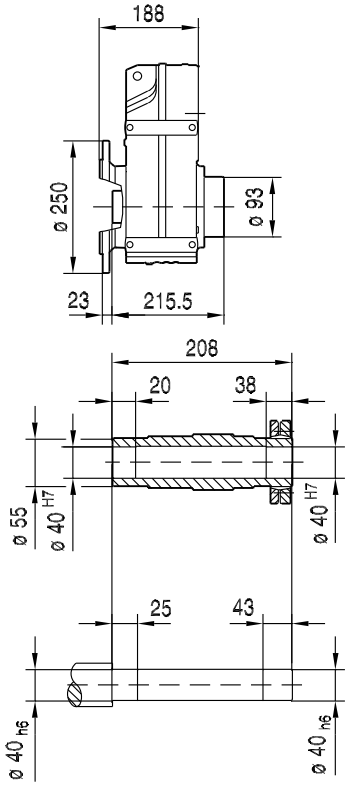
FF67..



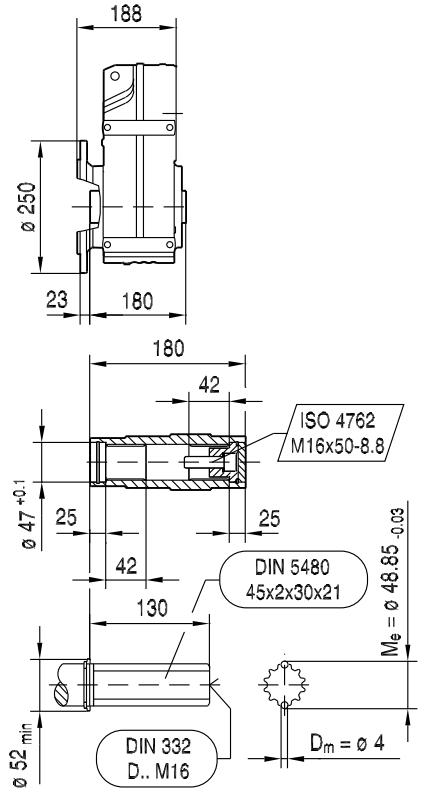
FAF67..



FHF67..
max. DR132S



FVF67..

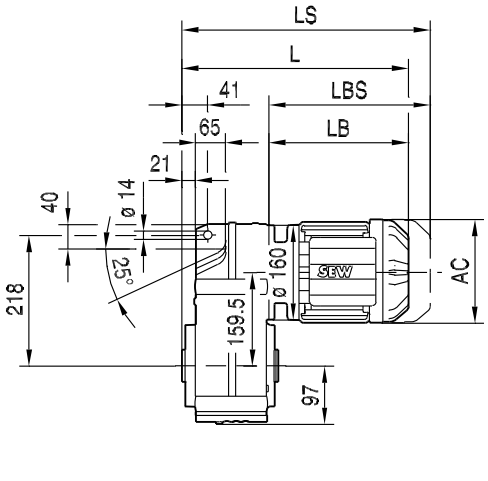


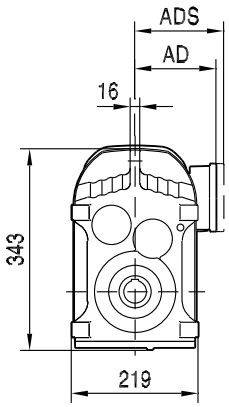
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	449	460	485	539	541	573	569	619	650	704
LS	504	528	553	620	634	666	663	713	762	816
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

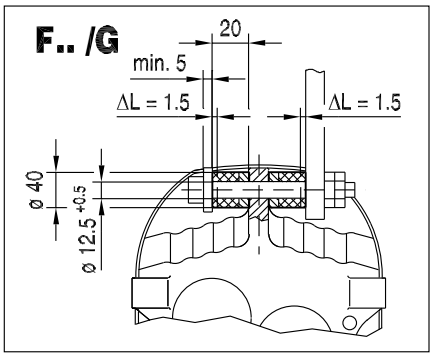
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FA67..

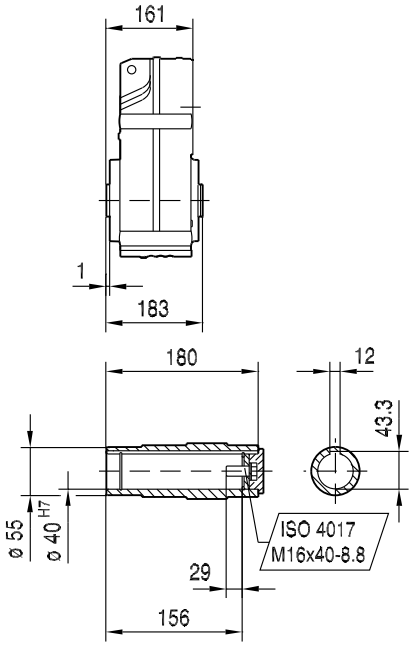
42 041 00 14



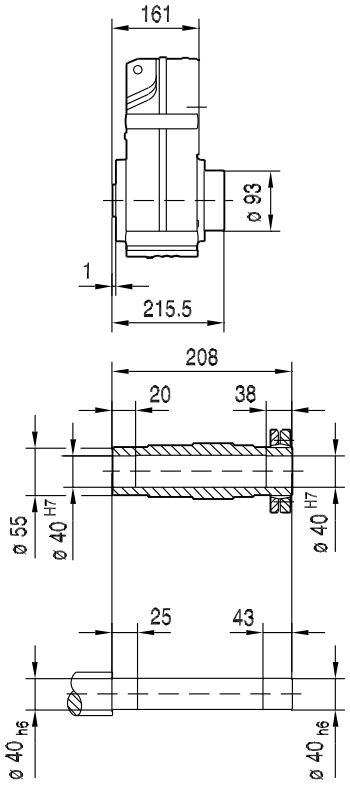




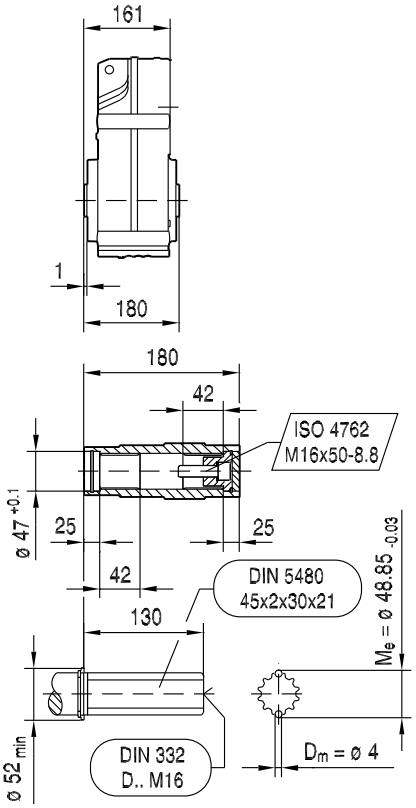
FA67..



FH67..
max. DR132S



FV67..

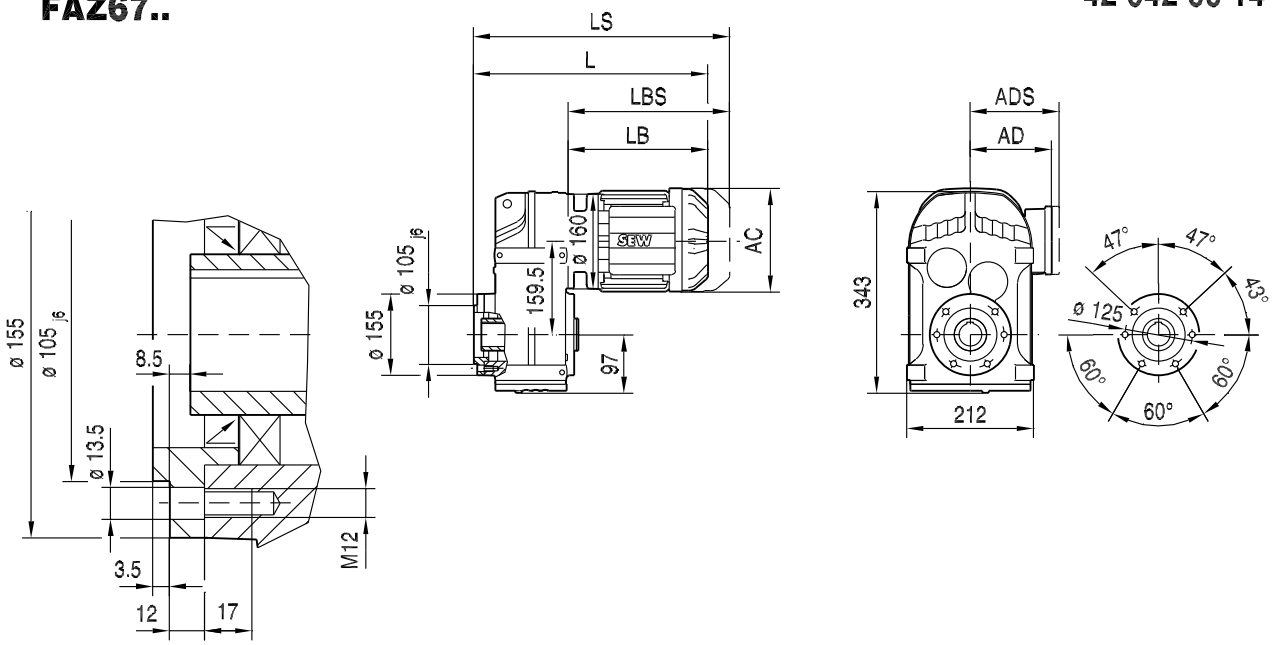


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	346	357	382	436	438	470	466	516	547	601
LS	401	425	450	517	531	563	560	610	659	713
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

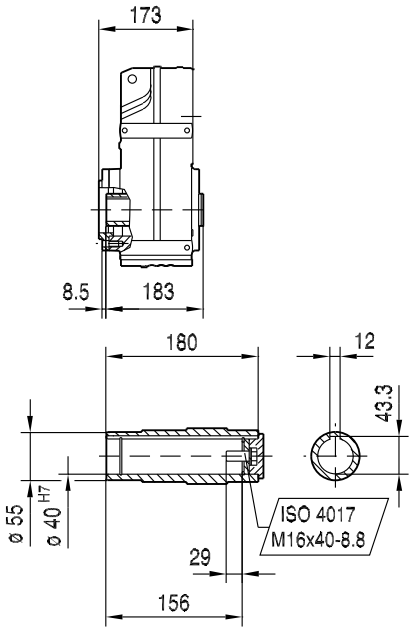
22742654/EN – 08/2016

42 042 00 14

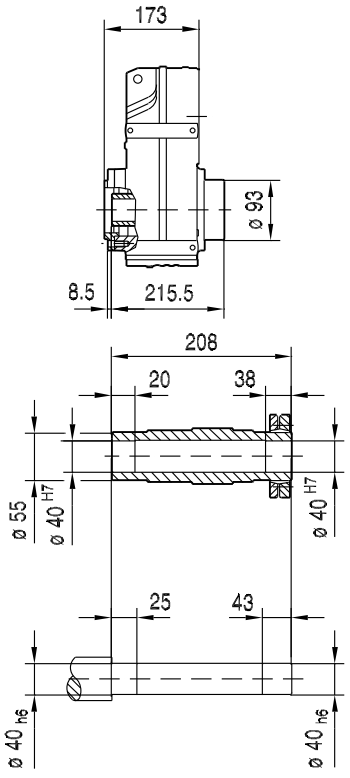
FAZ67..



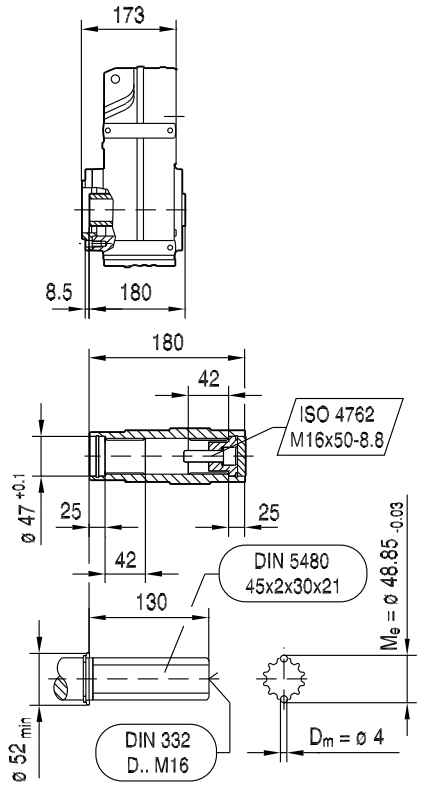
FAZ67..



FHZ67..
max. DR132S



FVZ67..

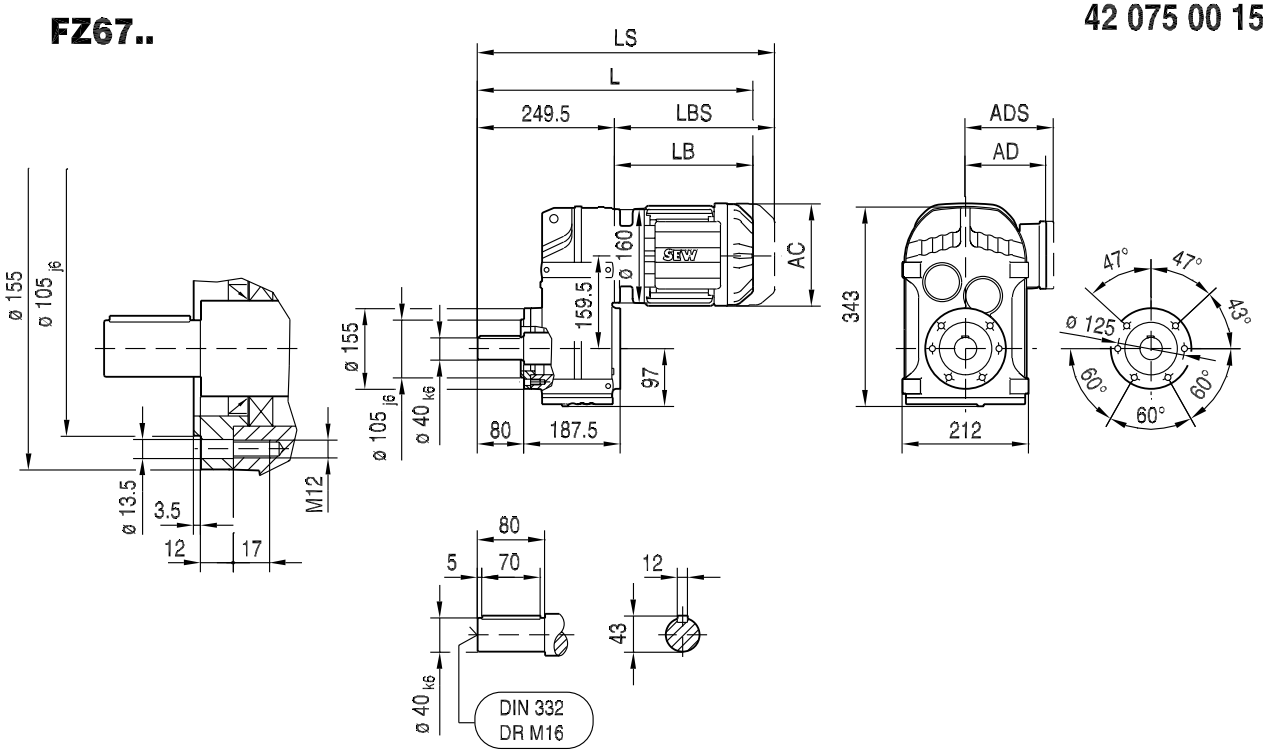


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	358	369	394	448	450	482	478	528	559	613
LS	413	437	462	529	543	575	572	622	671	725
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

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FZ67..

42 075 00 15

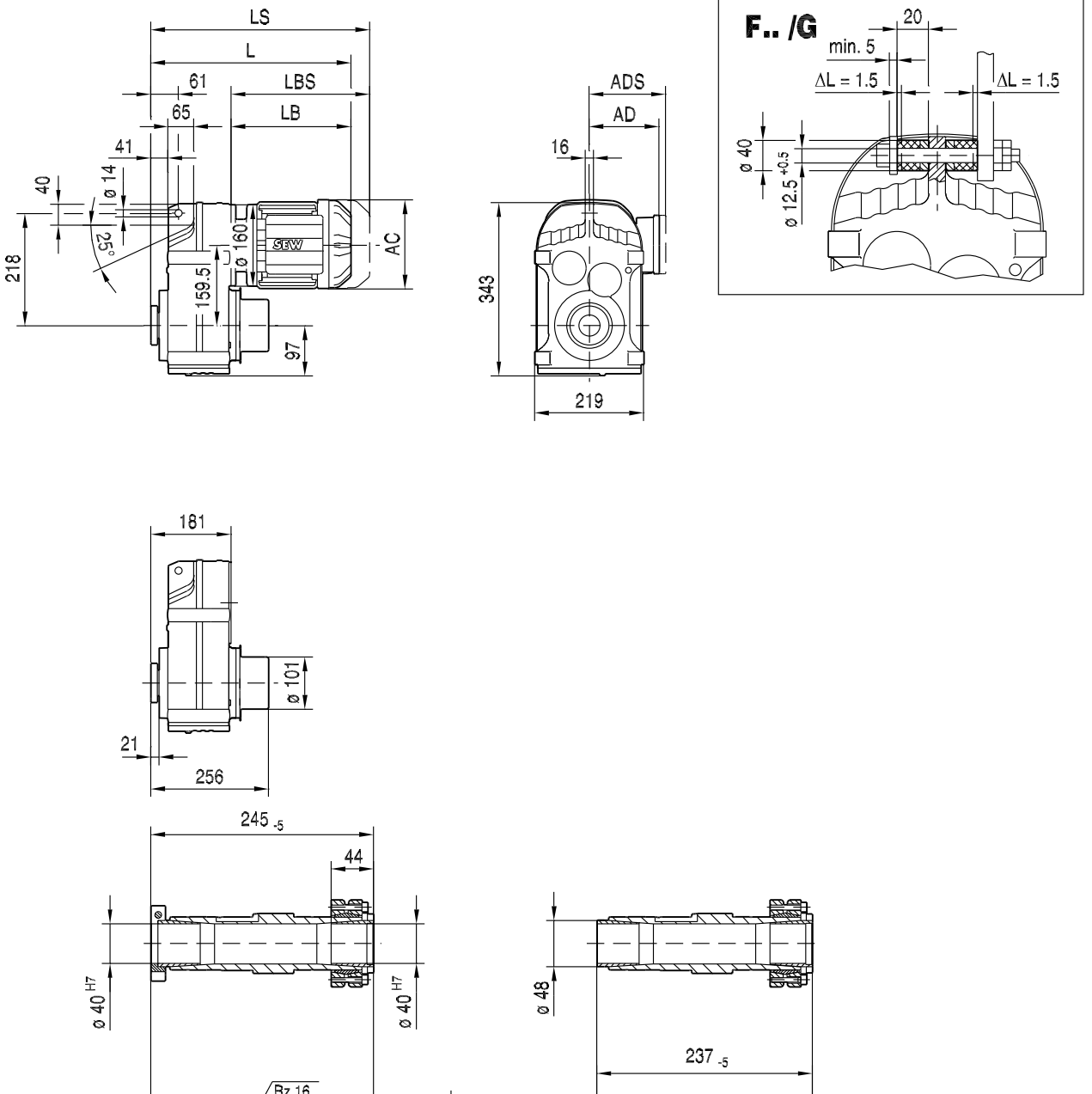


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	434	445	470	525	526	558	555	605	636	690
LS	489	513	538	606	620	652	648	698	748	802
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

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FT67..

42 043 00 14

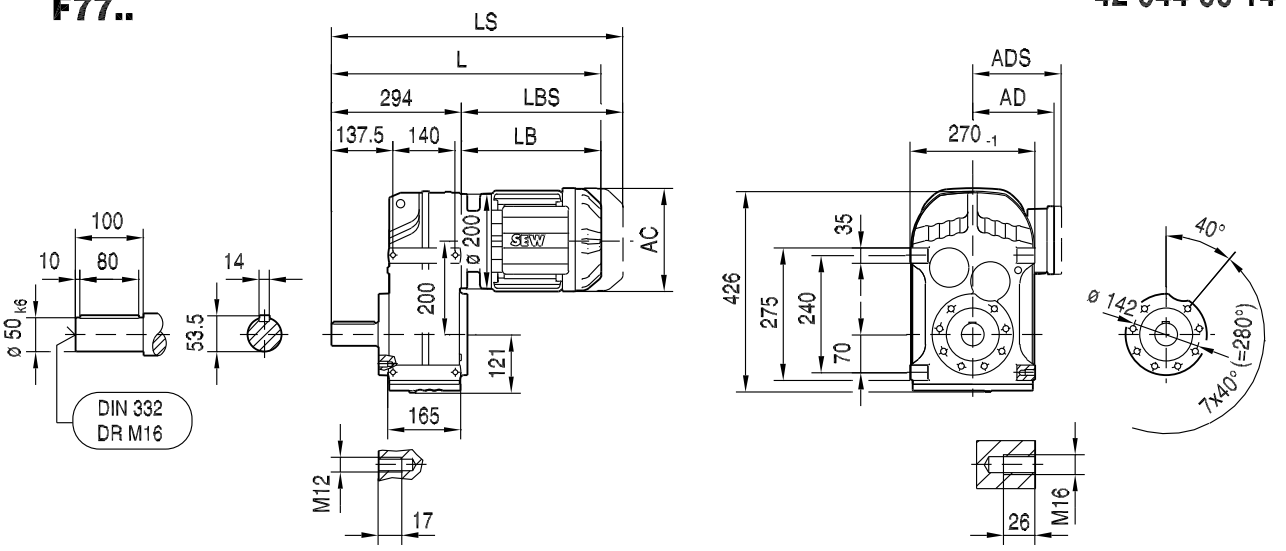


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	366	377	402	456	458	490	486	536
LS	421	445	470	537	551	583	580	630
LB	185	196	221	275	277	309	305	355
LBS	240	264	289	356	370	402	399	449

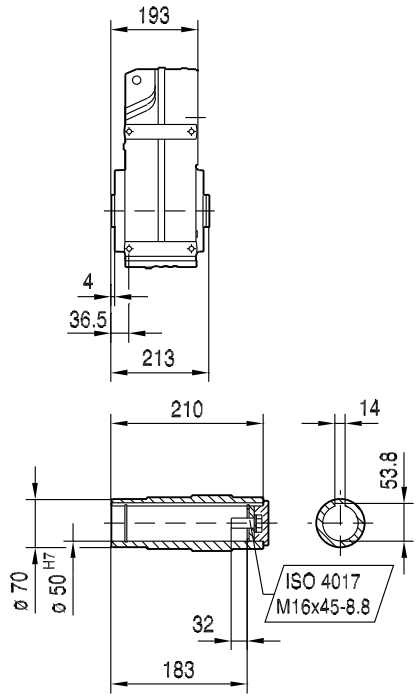
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F77..

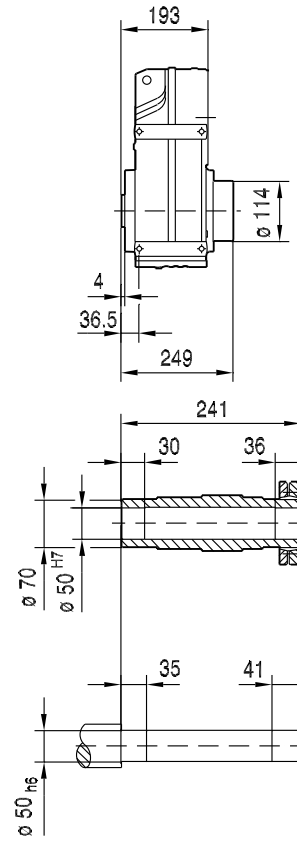
42 044 00 14



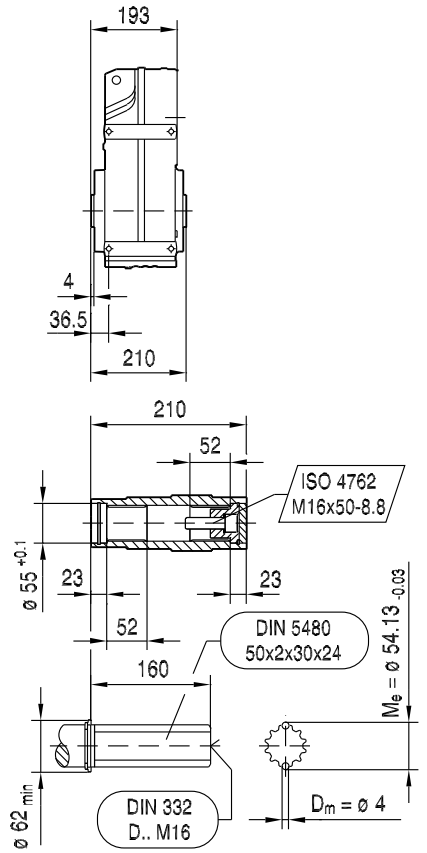
FA77B..



FH77B..
max. DRN132L



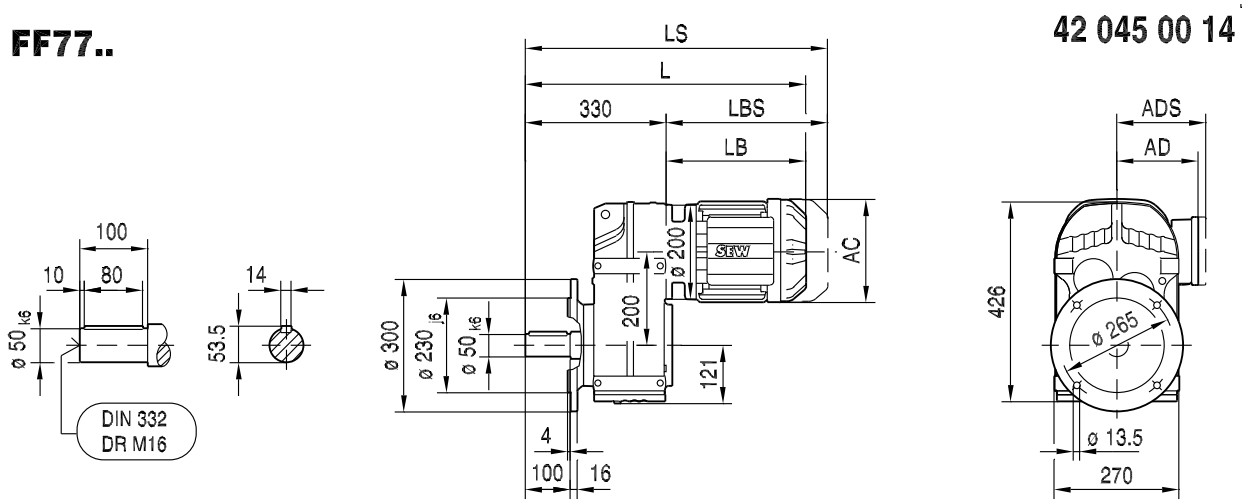
FV77B..



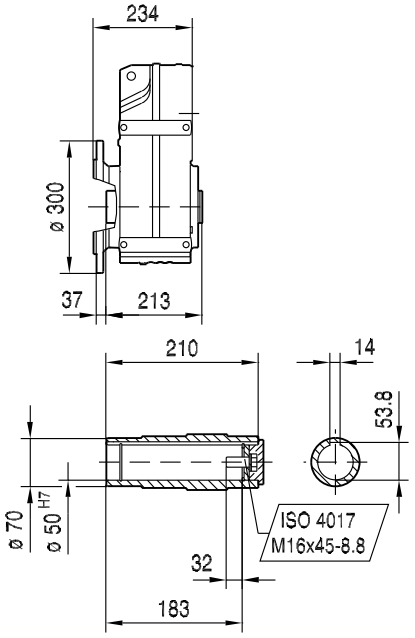
(→ 177)	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M
AC	156	179	179	197	197	221	221	261	261	314
AD	128	140	140	157	157	170	170	228	228	253
ADS	139	150	150	158	158	172	172	228	228	253
L	562	564	596	592	642	673	723	741	767	833
LS	643	657	689	686	736	785	835	879	904	1022
LB	268	270	302	298	348	379	429	447	473	539
LBS	349	363	395	392	442	491	541	585	610	728

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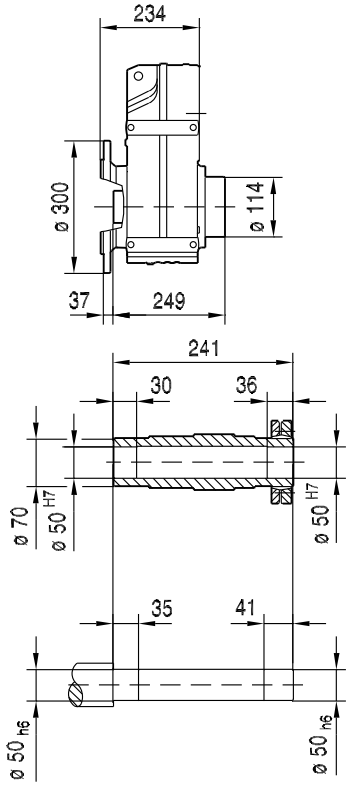
FF77..



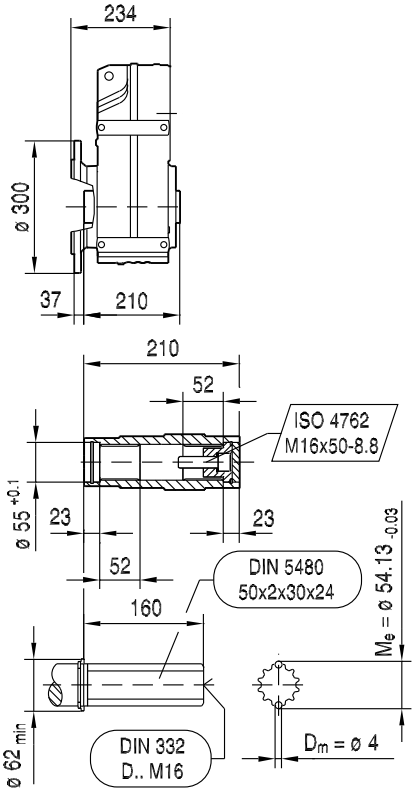
FAF77..



FHF77..
max. DRN132L



FVF77..

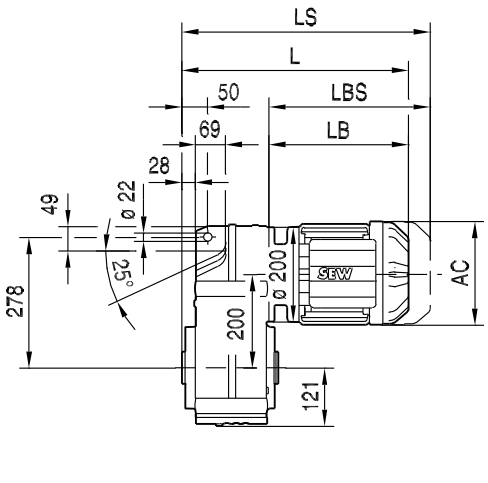


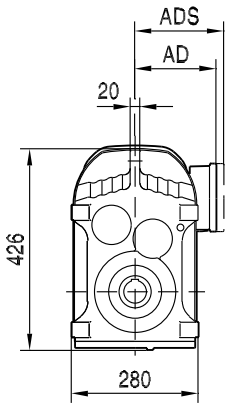
(→ 177)	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M
AC	156	179	179	197	197	221	221	261	261	314
AD	128	140	140	157	157	170	170	228	228	253
ADS	139	150	150	158	158	172	172	228	228	253
L	598	600	632	628	678	709	759	777	803	869
LS	679	693	725	722	772	821	871	915	940	1058
LB	268	270	302	298	348	379	429	447	473	539
LBS	349	363	395	392	442	491	541	585	610	728

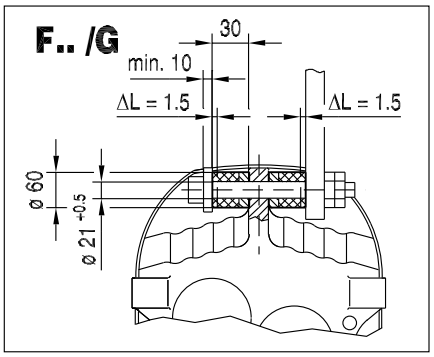
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FA77..

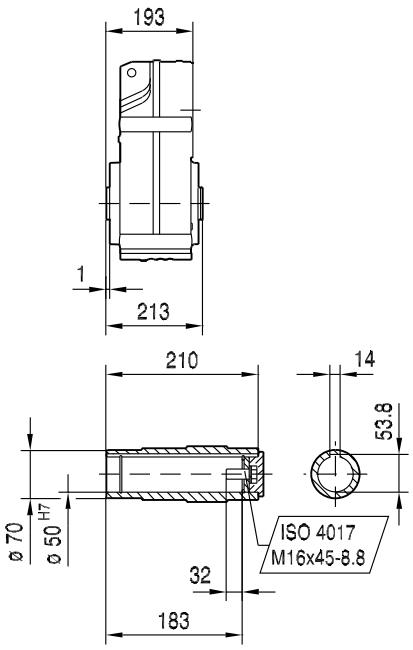
42 046 00 14



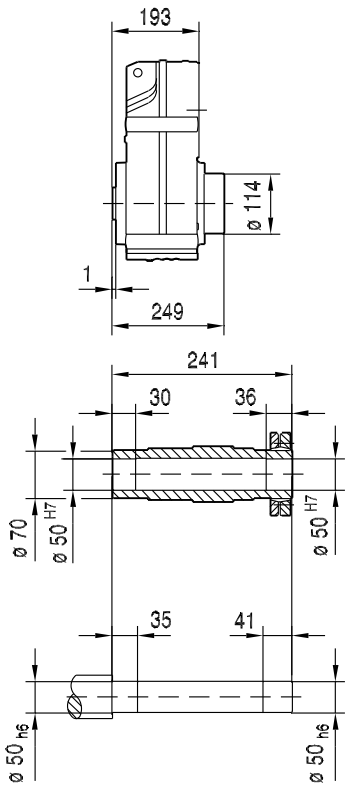




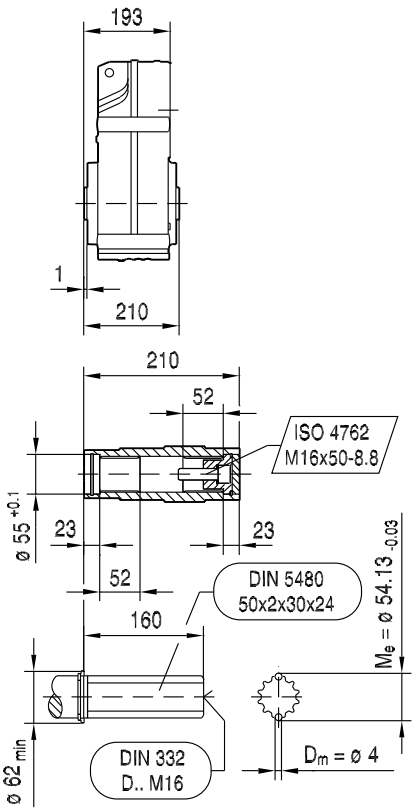
FA77..



FH77..
max. DRN132L



FV77..

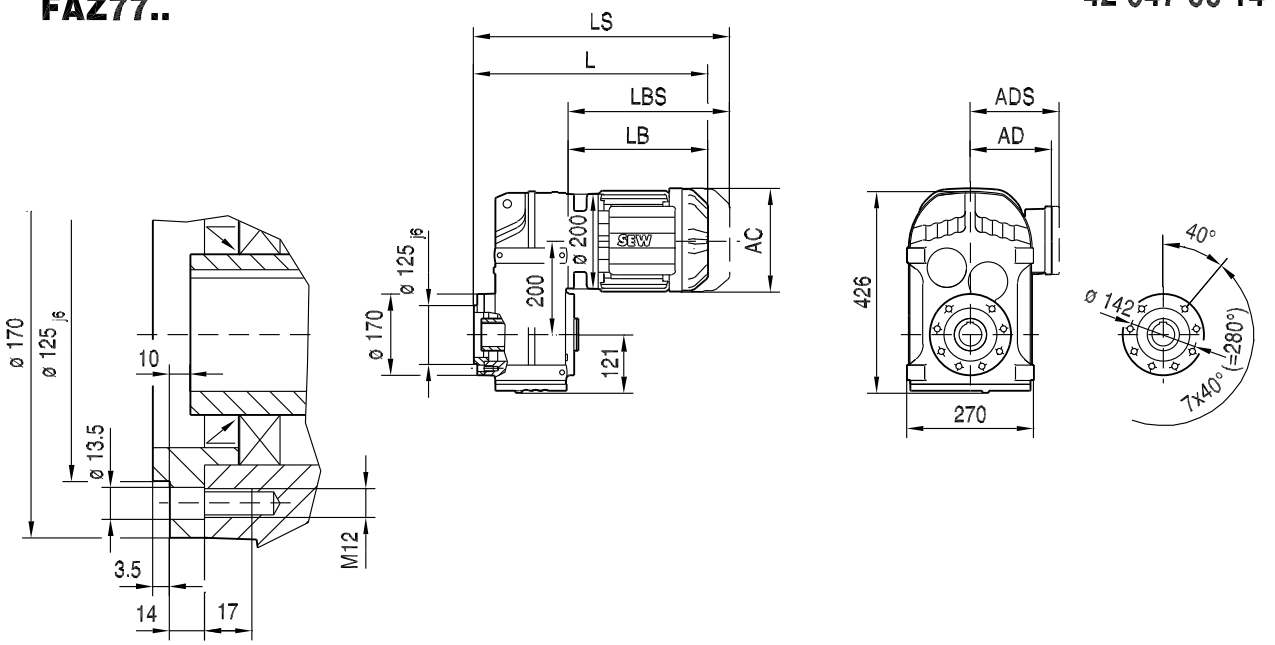


(→ 177)	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M
AC	156	179	179	197	197	221	221	261	261	314
AD	128	140	140	157	157	170	170	228	228	253
ADS	139	150	150	158	158	172	172	228	228	253
L	461	463	495	491	541	572	622	640	666	732
LS	542	556	588	585	635	684	734	778	803	921
LB	268	270	302	298	348	379	429	447	473	539
LBS	349	363	395	392	442	491	541	585	610	728

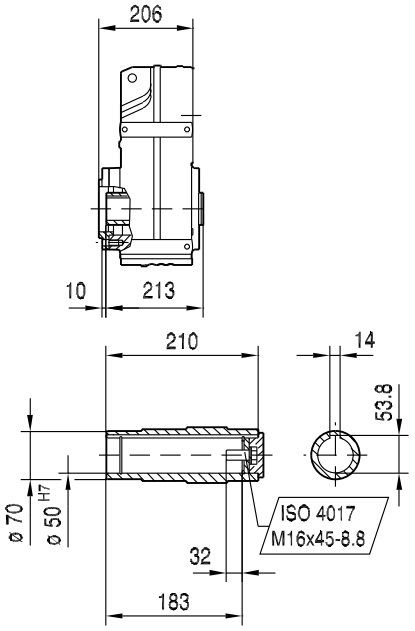
22742654/EN – 08/2016

42 047 00 14

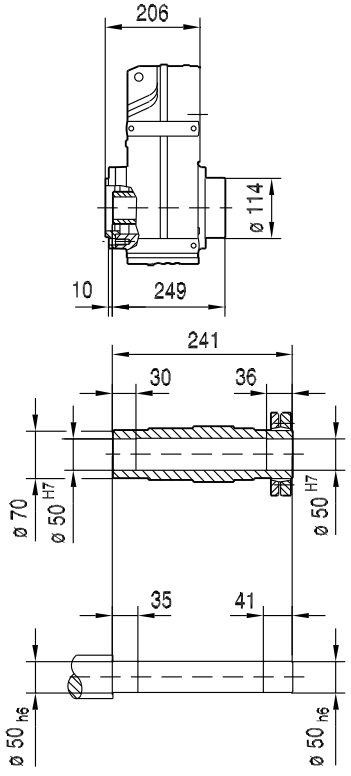
FAZ77..



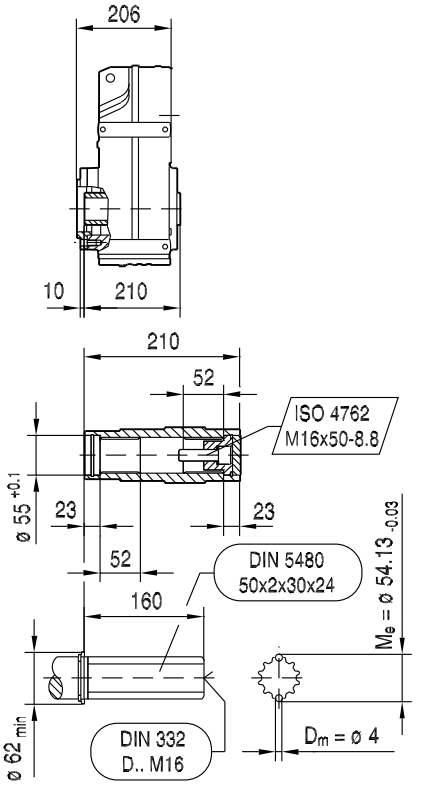
FAZ77..



FHZ77..
max. DRN132L



FVZ77..

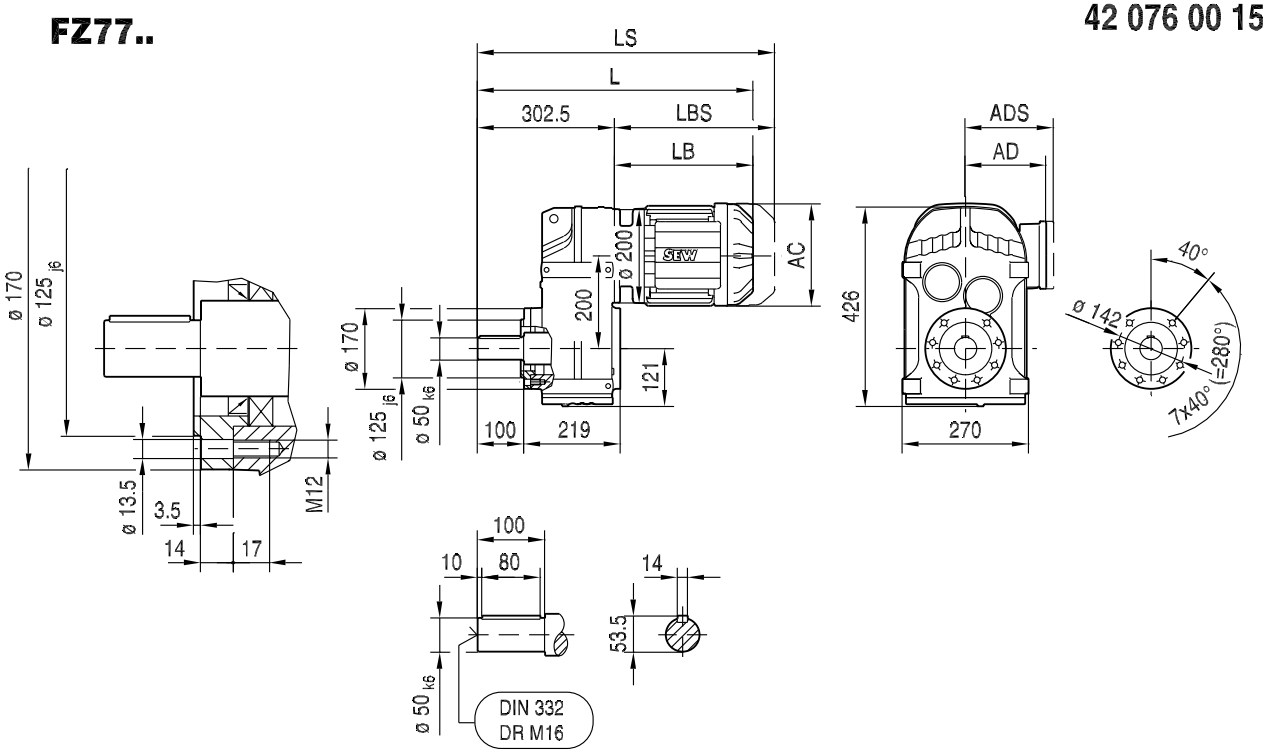


(→ 177)	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M
AC	156	179	179	197	197	221	221	261	261	314
AD	128	140	140	157	157	170	170	228	228	253
ADS	139	150	150	158	158	172	172	228	228	253
L	474	476	508	504	554	585	635	653	679	745
LS	555	569	601	598	648	697	747	791	816	934
LB	268	270	302	298	348	379	429	447	473	539
LBS	349	363	395	392	442	491	541	585	610	728

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FZ77..

42 076 00 15

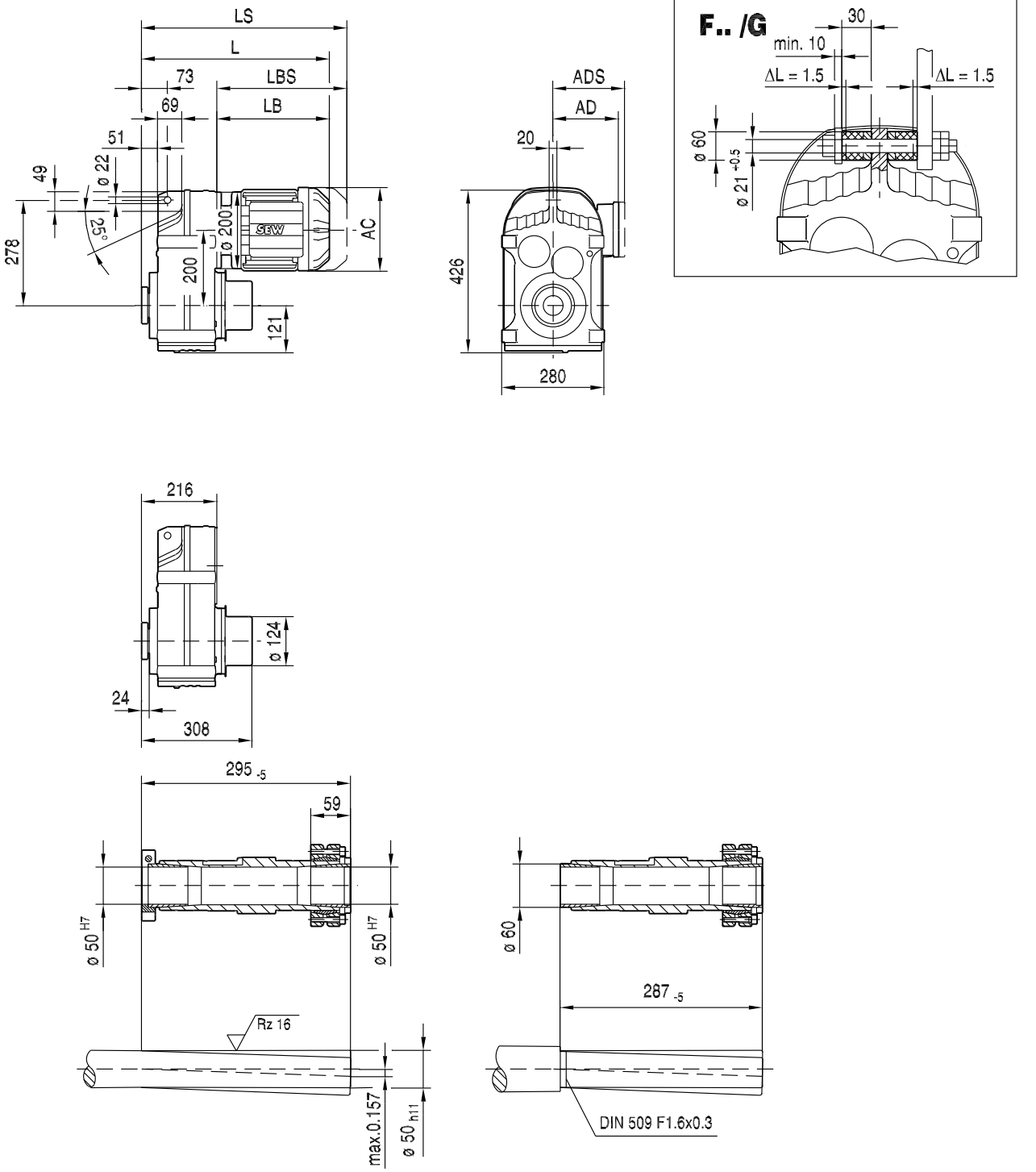


(→ 🗎 177)	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M
AC	156	179	179	197	197	221	221	261	261	314
AD	128	140	140	157	157	170	170	228	228	253
ADS	139	150	150	158	158	172	172	228	228	253
L	571	572	604	601	651	682	732	750	775	842
LS	652	666	698	694	744	794	844	887	912	1031
LB	268	270	302	298	348	379	429	447	473	539
LBS	349	363	395	392	442	491	541	585	610	728

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FT77..

42 048 00 14

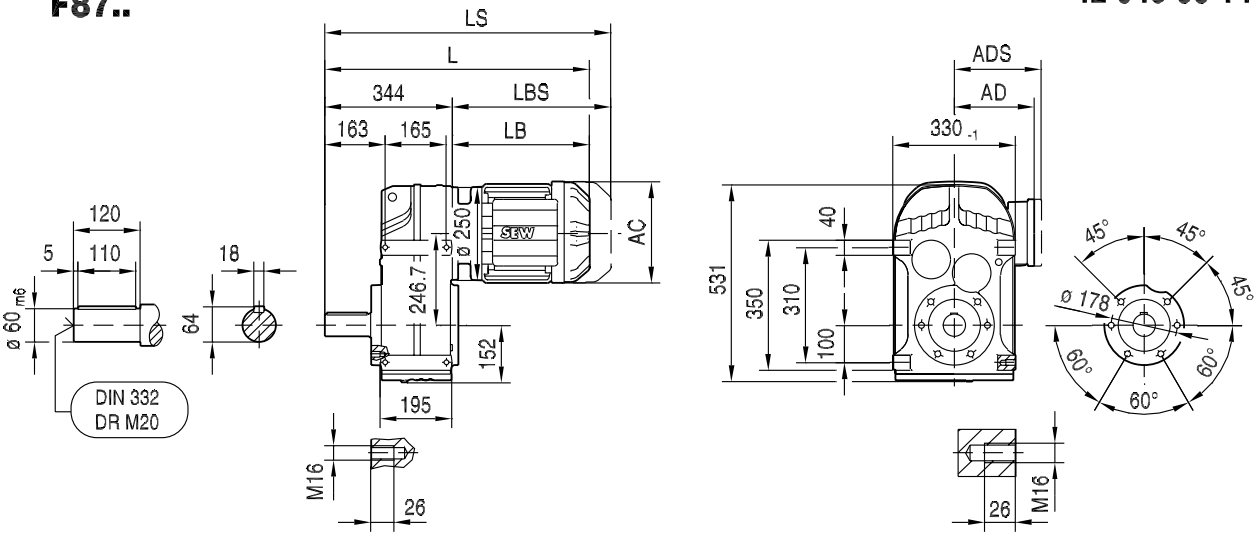


(→ 177)	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L
AC	139	139	156	179	179	197	197	221	221	261	261
AD	119	119	128	140	140	157	157	170	170	228	228
ADS	129	129	139	150	150	158	158	172	172	228	228
L	405	430	484	486	518	514	564	595	645	663	689
LS	473	498	565	579	611	608	658	707	757	801	826
LB	189	214	268	270	302	298	348	379	429	447	473
LBS	257	282	349	363	395	392	442	491	541	585	610

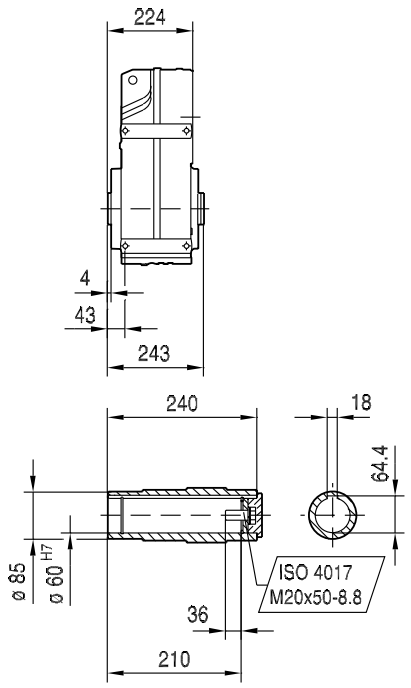
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F87..

42 049 00 14

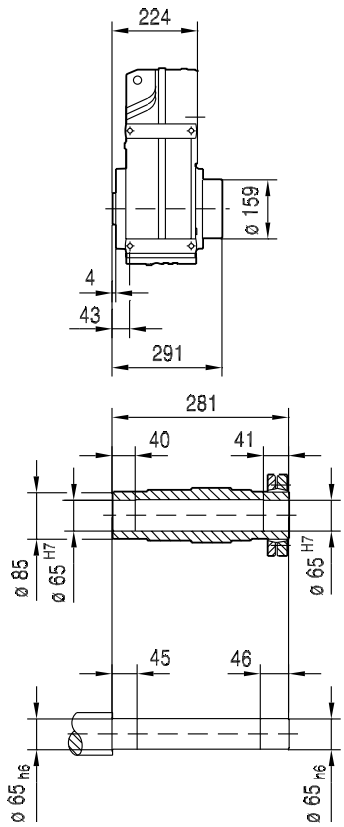


FA87B..

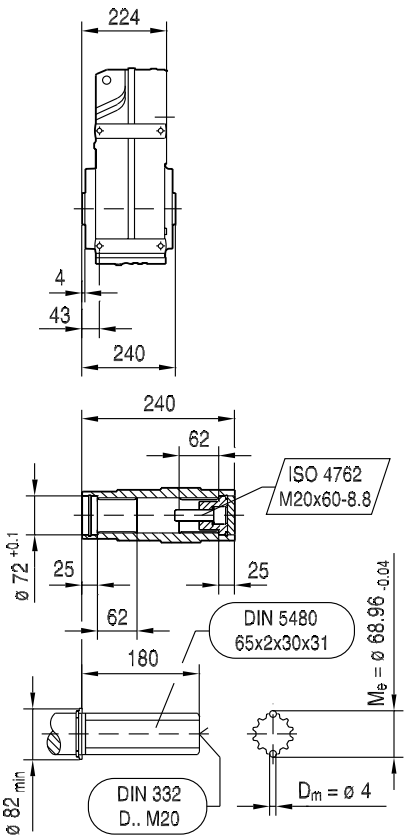


FH87B..

FH87B/R.. → 6.3



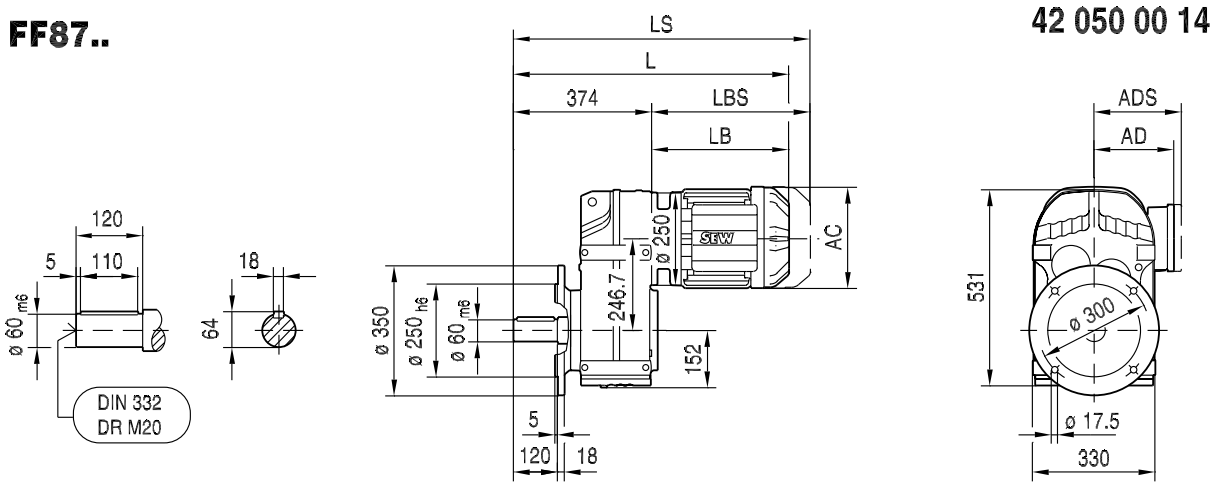
FV87B..



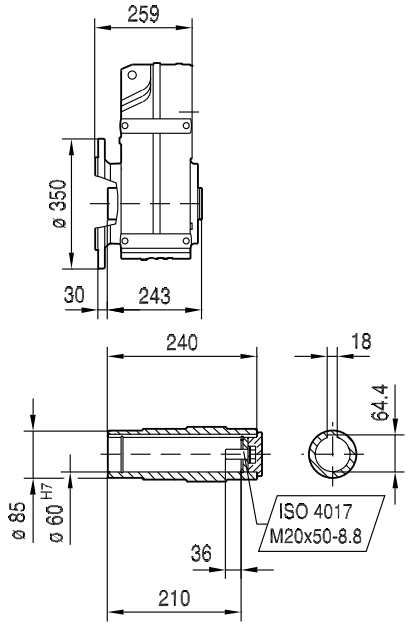
(→ 177)	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	179	197	197	221	221	261	261	314	314	357
AD	140	157	157	170	170	228	228	253	253	268
ADS	150	158	158	172	172	228	228	253	253	268
L	641	637	687	718	768	786	812	878	878	901
LS	734	731	781	830	880	924	949	1067	1067	1090
LB	297	293	343	374	424	442	468	534	534	557
LBS	390	387	437	486	536	580	605	723	723	746

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FF87..

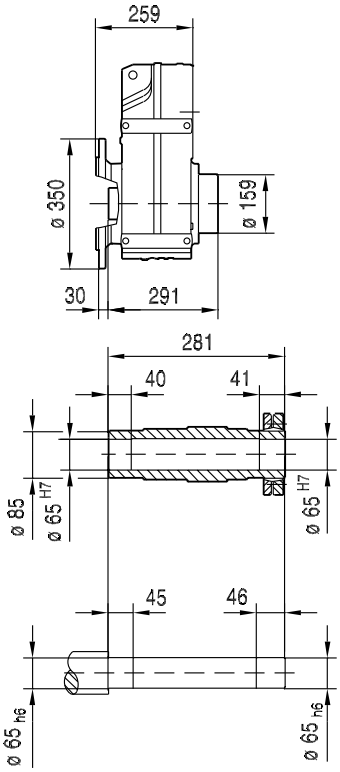


FAF87..

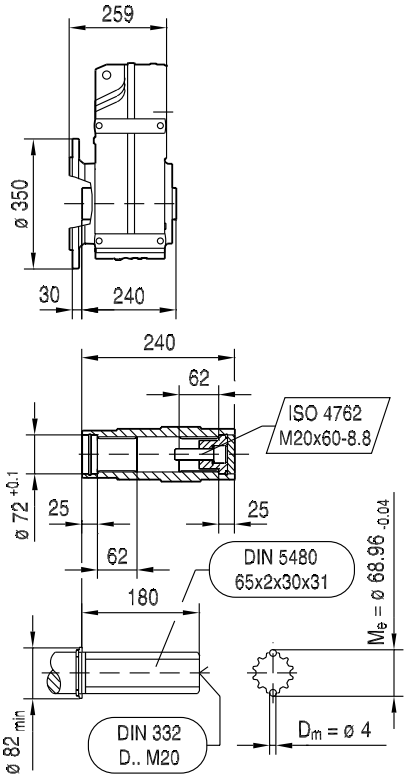


FHF87..

FHF87/R.. → 📖 6.3



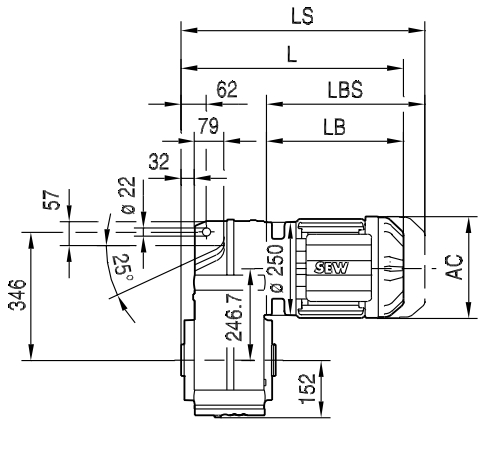
FVF87..

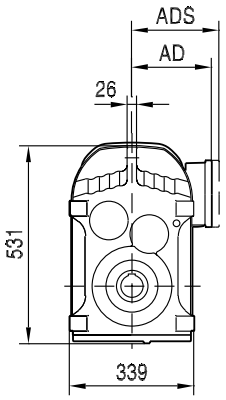


(→ 📄 177)	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	179	197	197	221	221	261	261	314	314	357
AD	140	157	157	170	170	228	228	253	253	268
ADS	150	158	158	172	172	228	228	253	253	268
L	671	667	717	748	798	816	842	908	908	931
LS	764	761	811	860	910	954	979	1097	1097	1120
LB	297	293	343	374	424	442	468	534	534	557
LBS	390	387	437	486	536	580	605	723	723	746

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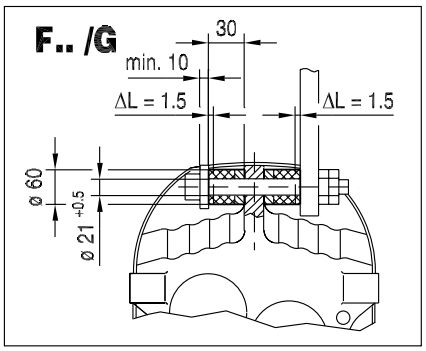
FA87..



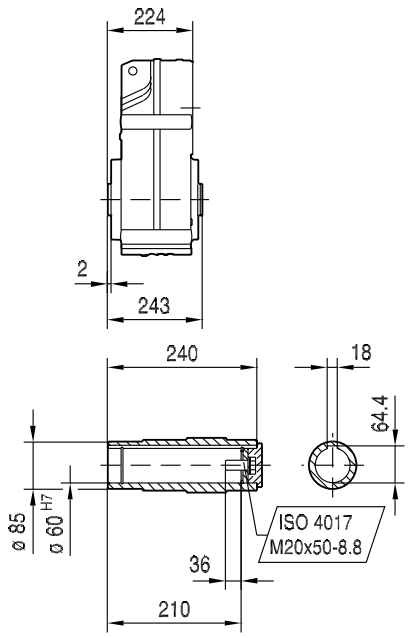


42 051 00 14

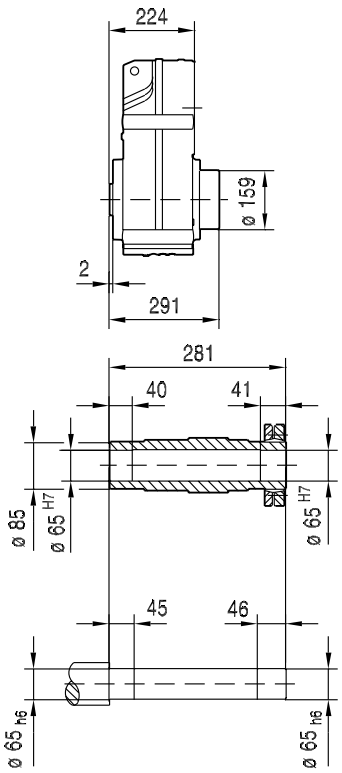
F.. /G



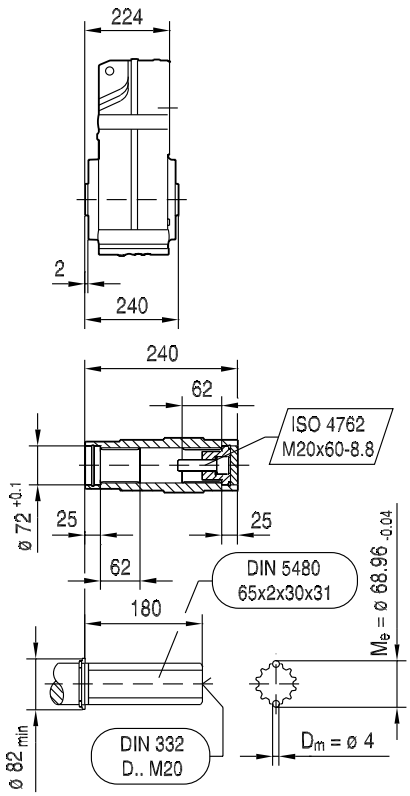
FA87..



FH87..
FH87/R.. → 6.3



FV87..

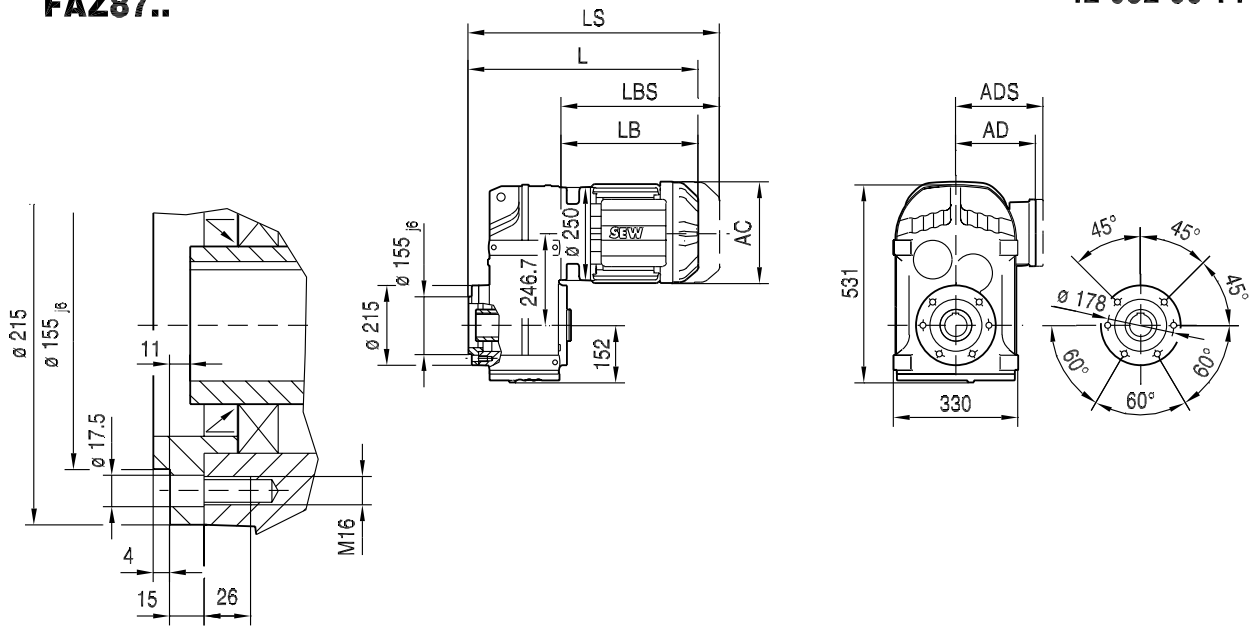


(→ 177)	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	179	197	197	221	221	261	261	314	314	357
AD	140	157	157	170	170	228	228	253	253	268
ADS	150	158	158	172	172	228	228	253	253	268
L	521	517	567	598	648	666	692	758	758	781
LS	614	611	661	710	760	804	829	947	947	970
LB	297	293	343	374	424	442	468	534	534	557
LBS	390	387	437	486	536	580	605	723	723	746

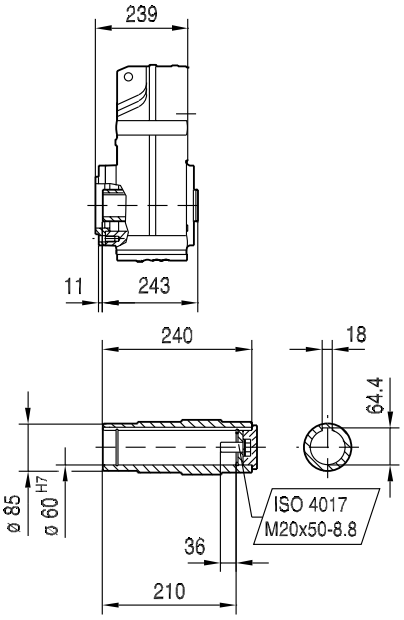
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42 052 00 14

FAZ87..

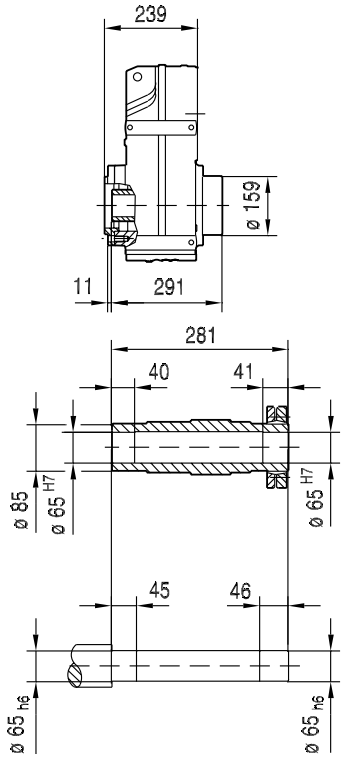


FAZ87..

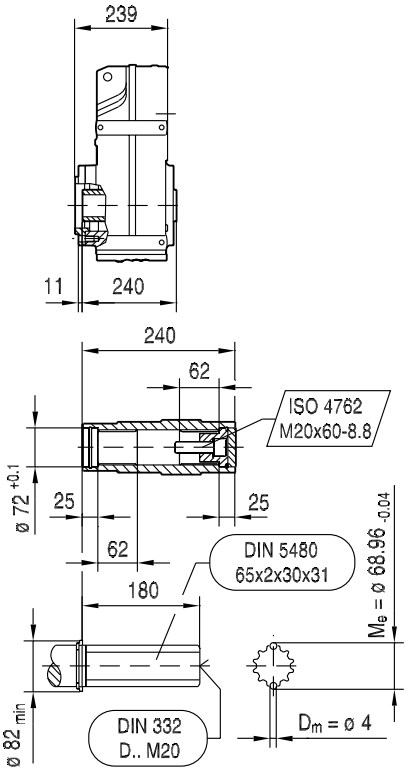


FHZ87..

FHZ87/R.. → 6.3

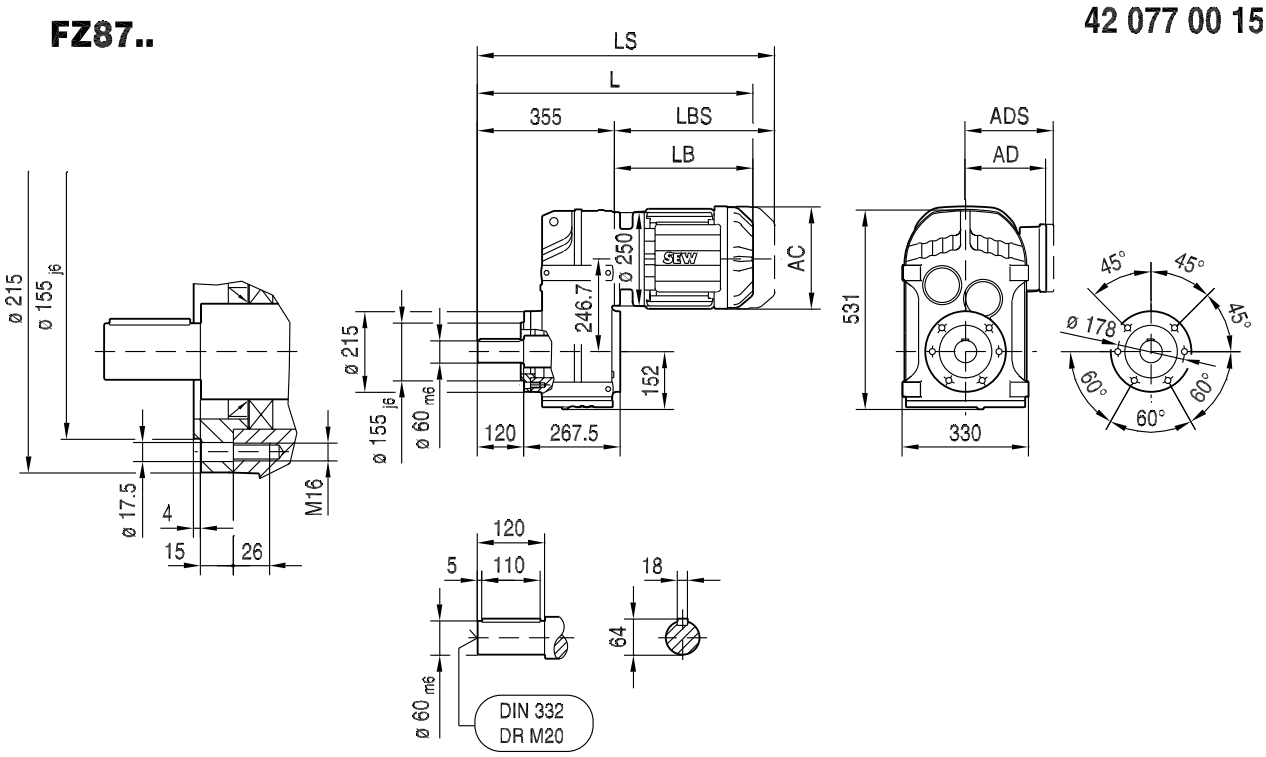


FVZ87..



(→ 177)	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	179	197	197	221	221	261	261	314	314	357
AD	140	157	157	170	170	228	228	253	253	268
ADS	150	158	158	172	172	228	228	253	253	268
L	536	532	582	613	663	681	707	773	773	796
LS	629	626	676	725	775	819	844	962	962	985
LB	297	293	343	374	424	442	468	534	534	557
LBS	390	387	437	486	536	580	605	723	723	746

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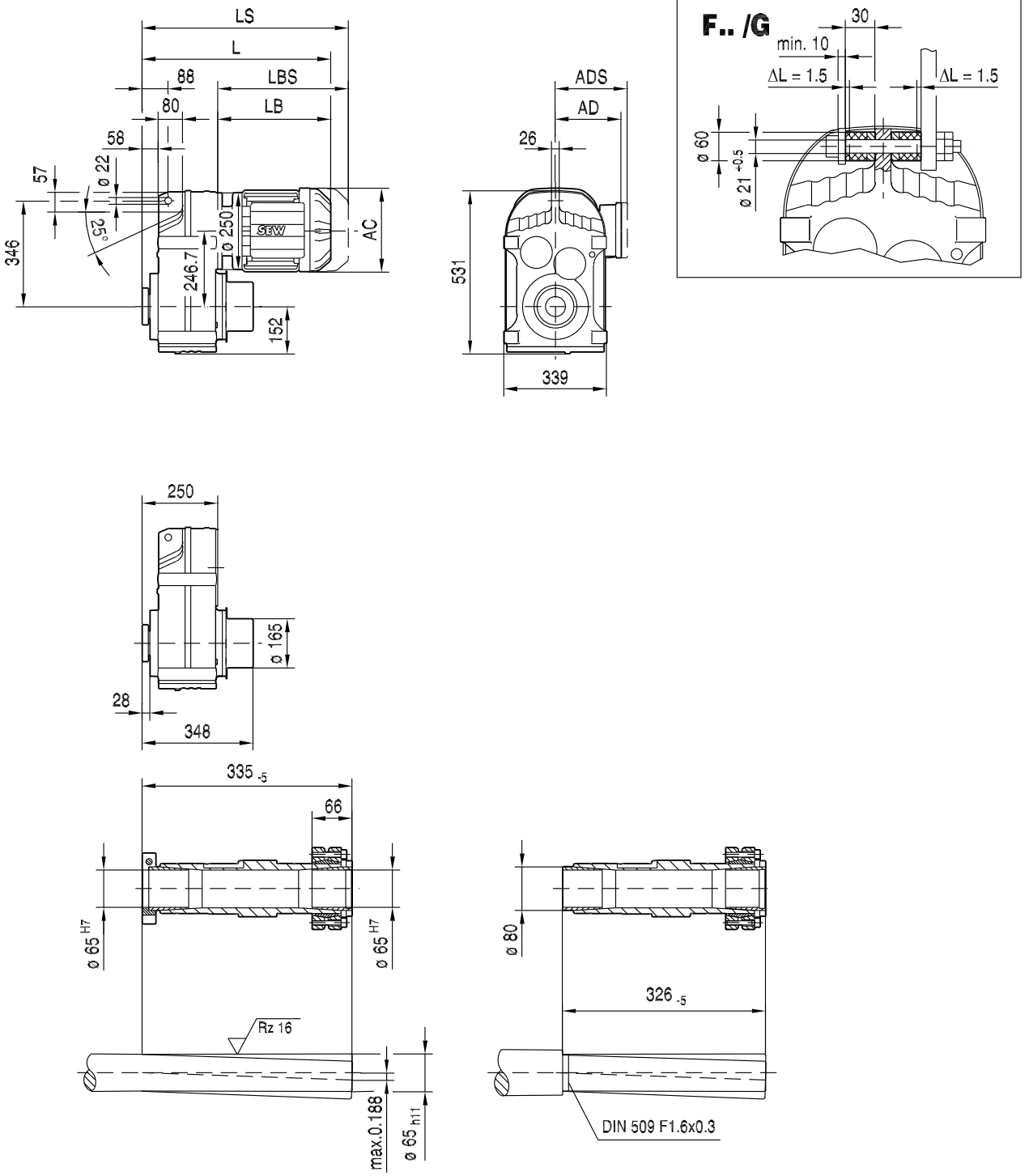


(→ 177)	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	179	197	197	221	221	261	261	314	314	357
AD	140	157	157	170	170	228	228	253	253	268
ADS	150	158	158	172	172	228	228	253	253	268
L	652	648	698	729	779	797	823	889	889	912
LS	745	742	792	841	891	935	960	1078	1078	1101
LB	297	293	343	374	424	442	468	534	534	557
LBS	390	387	437	486	536	580	605	723	723	746

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FT87..

42 053 00 14

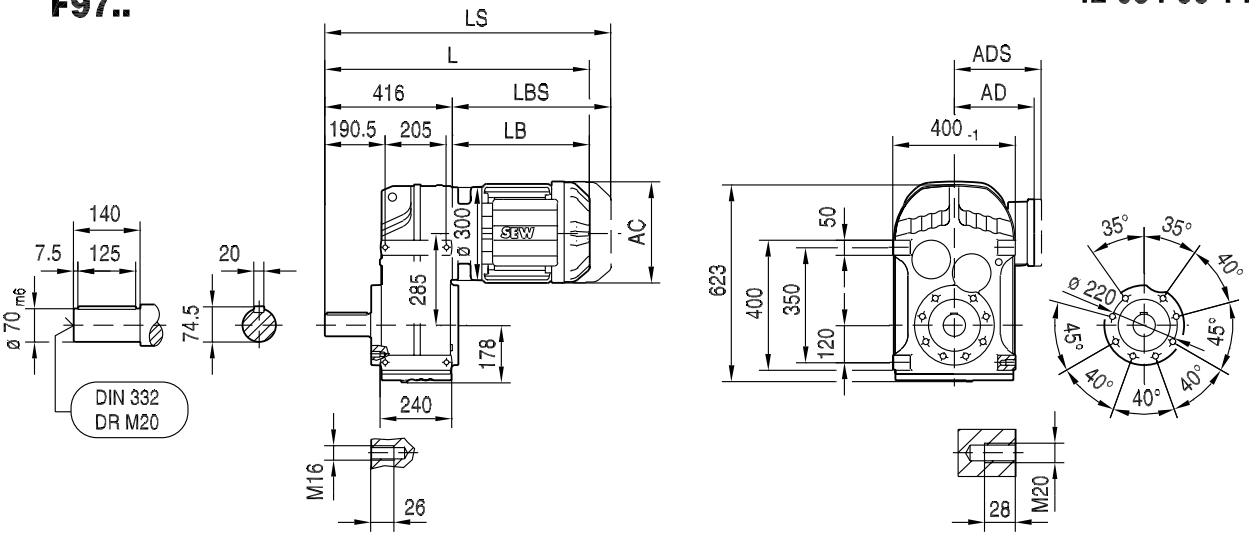


(→ 177)	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	179	197	197	221	221	261	261	314	314	357
AD	140	157	157	170	170	228	228	253	253	268
ADS	150	158	158	172	172	228	228	253	253	268
L	547	543	593	624	674	692	718	784	784	807
LS	640	637	687	736	786	830	855	973	973	996
LB	297	293	343	374	424	442	468	534	534	557
LBS	390	387	437	486	536	580	605	723	723	746

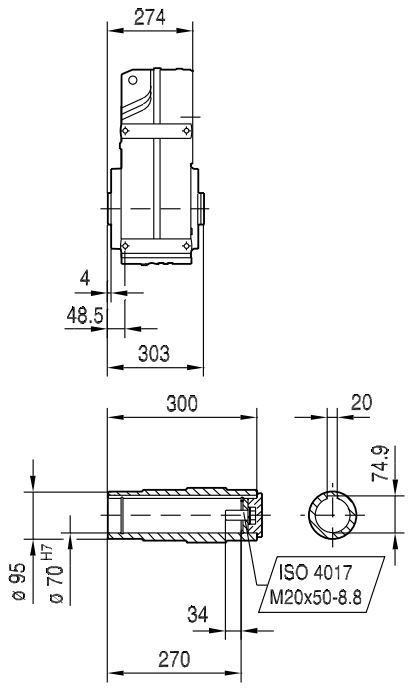
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F97..

42 054 00 14

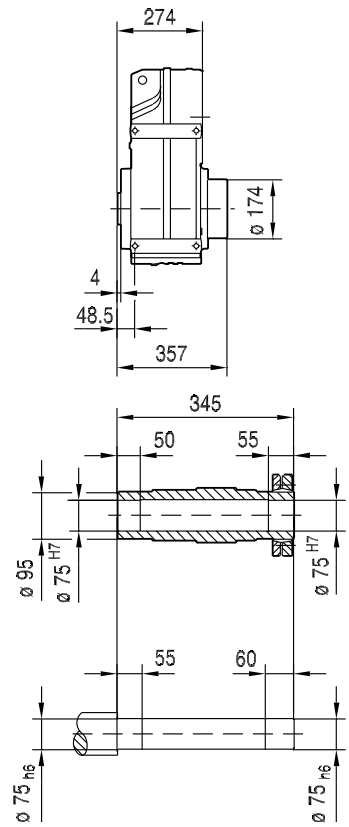


FA97B..

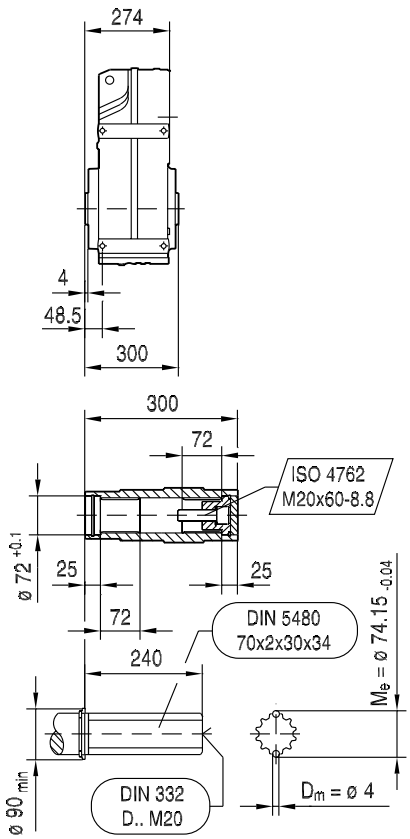


FH97B..

FH97B/R.. → 6.3



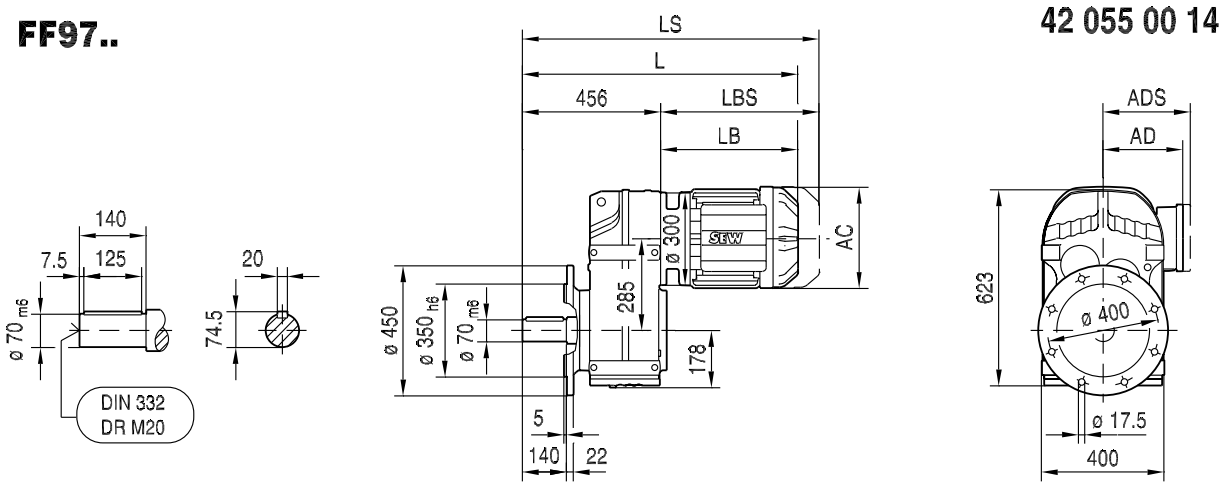
FV97B..



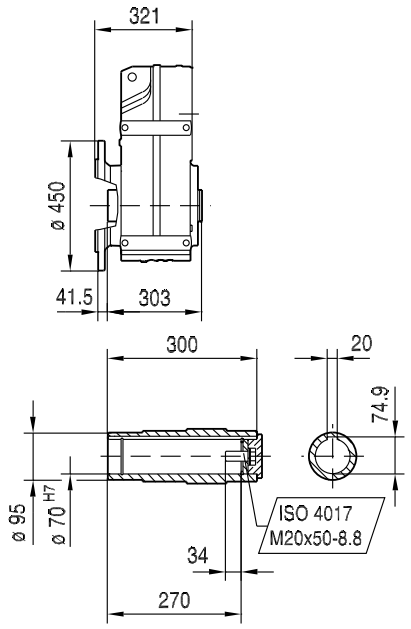
(→ 177)	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L
AC	197	197	221	221	261	261	314	314	357	394
AD	157	157	170	170	228	228	253	253	268	283
ADS	158	158	172	172	228	228	253	253	268	283
L	704	754	785	835	853	879	945	945	968	1078
LS	798	848	897	947	991	1016	1134	1134	1157	1283
LB	288	338	369	419	437	463	529	529	552	662
LBS	382	432	481	531	575	600	718	718	741	867

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FF97..

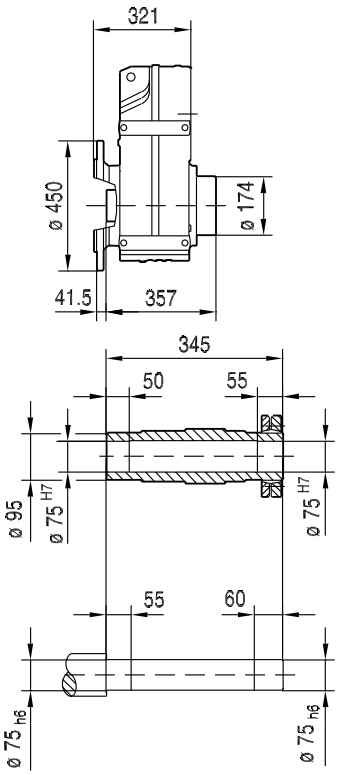


FAF97..

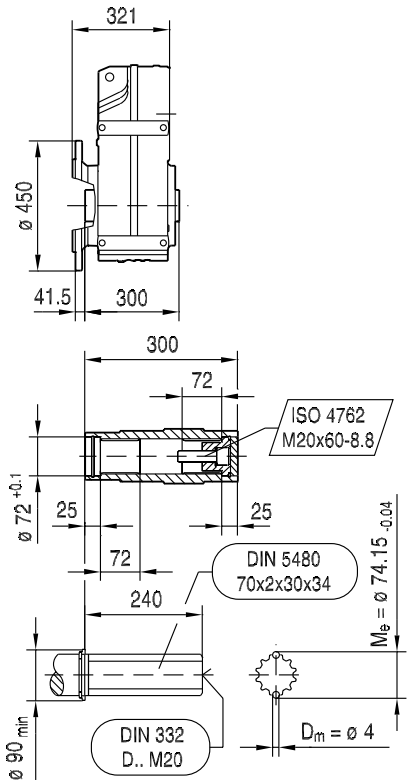


FHF97..

FHF97/R.. → 6.3



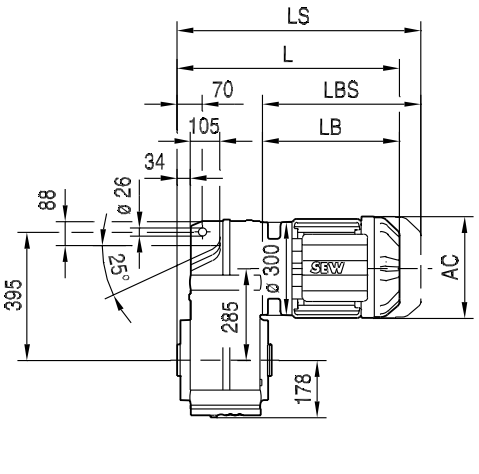
FVF97..

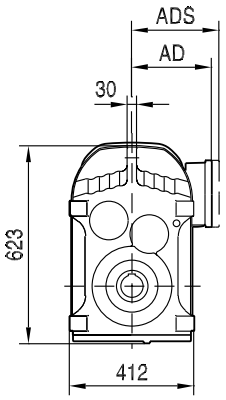


(→ 177)	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L
AC	197	197	221	221	261	261	314	314	357	394
AD	157	157	170	170	228	228	253	253	268	283
ADS	158	158	172	172	228	228	253	253	268	283
L	744	794	825	875	893	919	985	985	1008	1118
LS	838	888	937	987	1031	1056	1174	1174	1197	1323
LB	288	338	369	419	437	463	529	529	552	662
LBS	382	432	481	531	575	600	718	718	741	867

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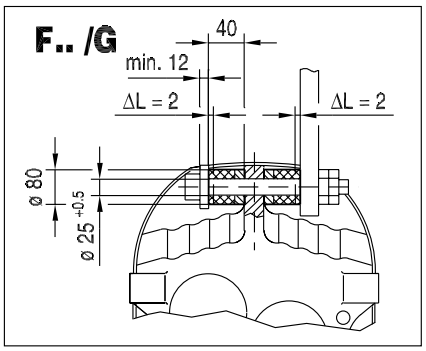
FA97..



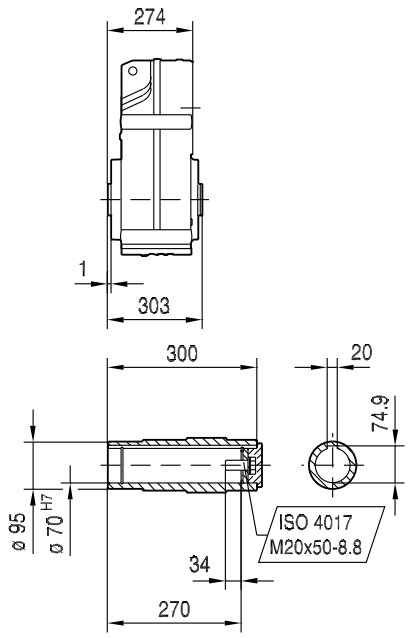


42 056 00 14

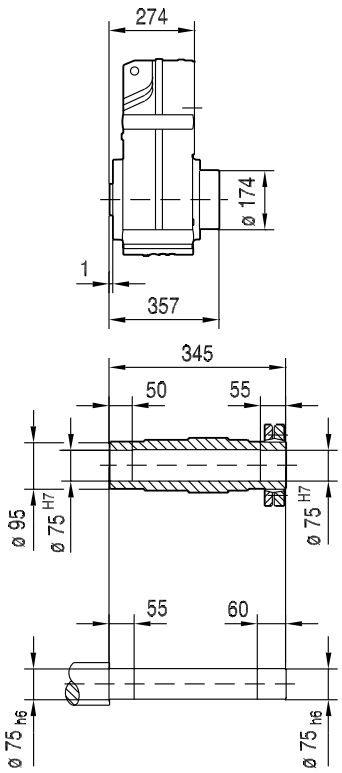
F.. /G



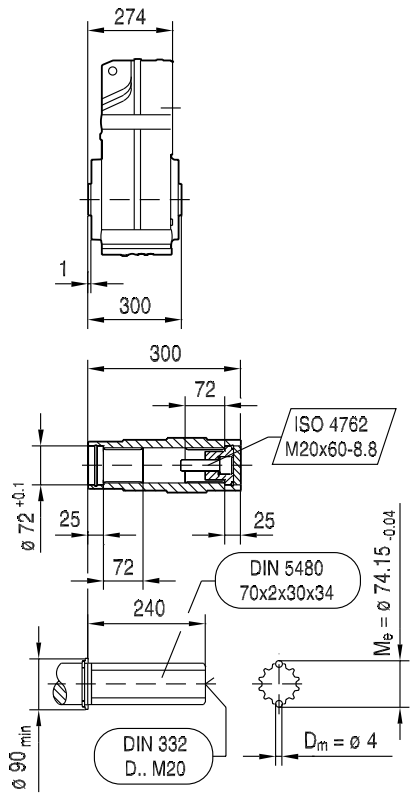
FA97..



FH97..
FH97/R.. → 6.3



FV97..

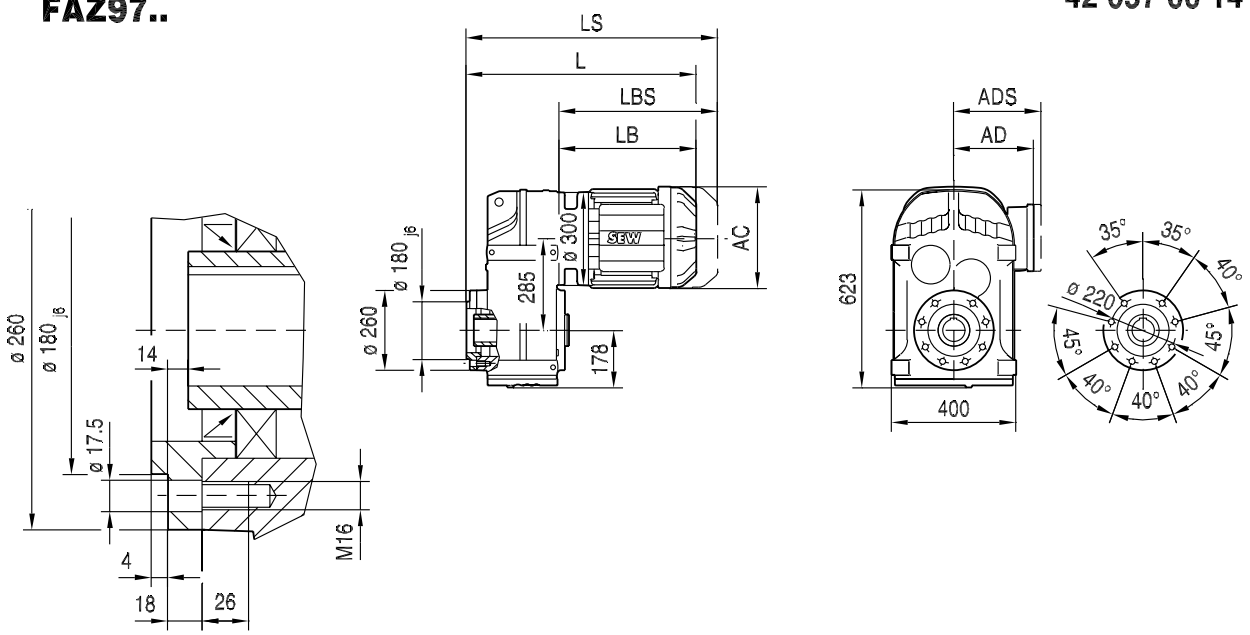


(→ 177)	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L
AC	197	197	221	221	261	261	314	314	357	394
AD	157	157	170	170	228	228	253	253	268	283
ADS	158	158	172	172	228	228	253	253	268	283
L	562	612	643	693	711	737	803	803	826	936
LS	656	706	755	805	849	874	992	992	1015	1141
LB	288	338	369	419	437	463	529	529	552	662
LBS	382	432	481	531	575	600	718	718	741	867

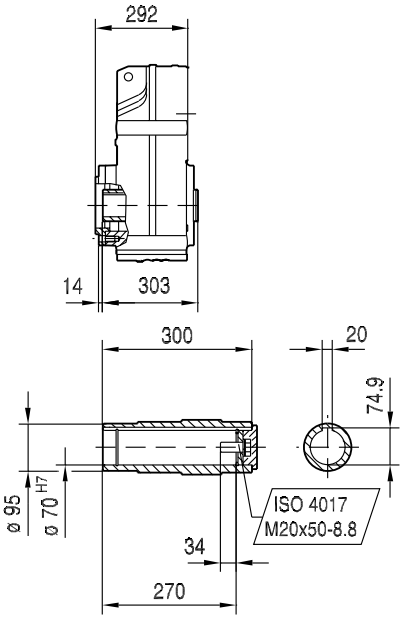
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FAZ97..

42 057 00 14

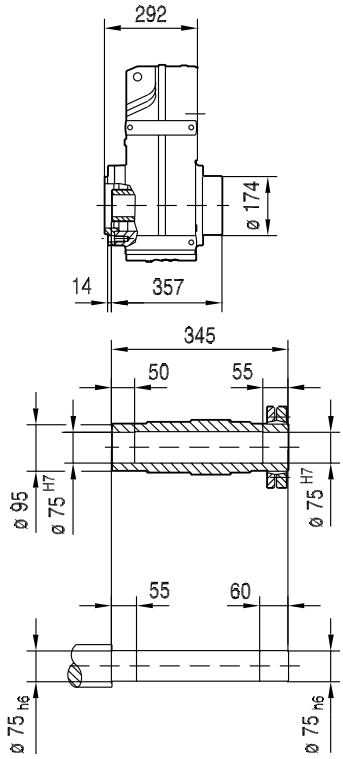


FAZ97..

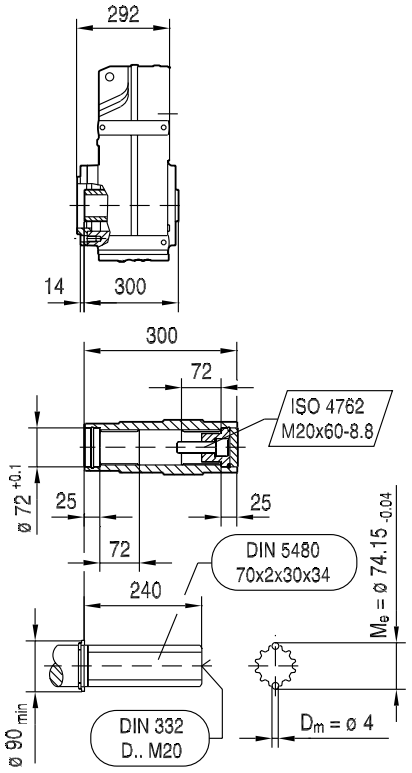


FHZ97..

FHZ97/R.. → 6.3



FVZ97..

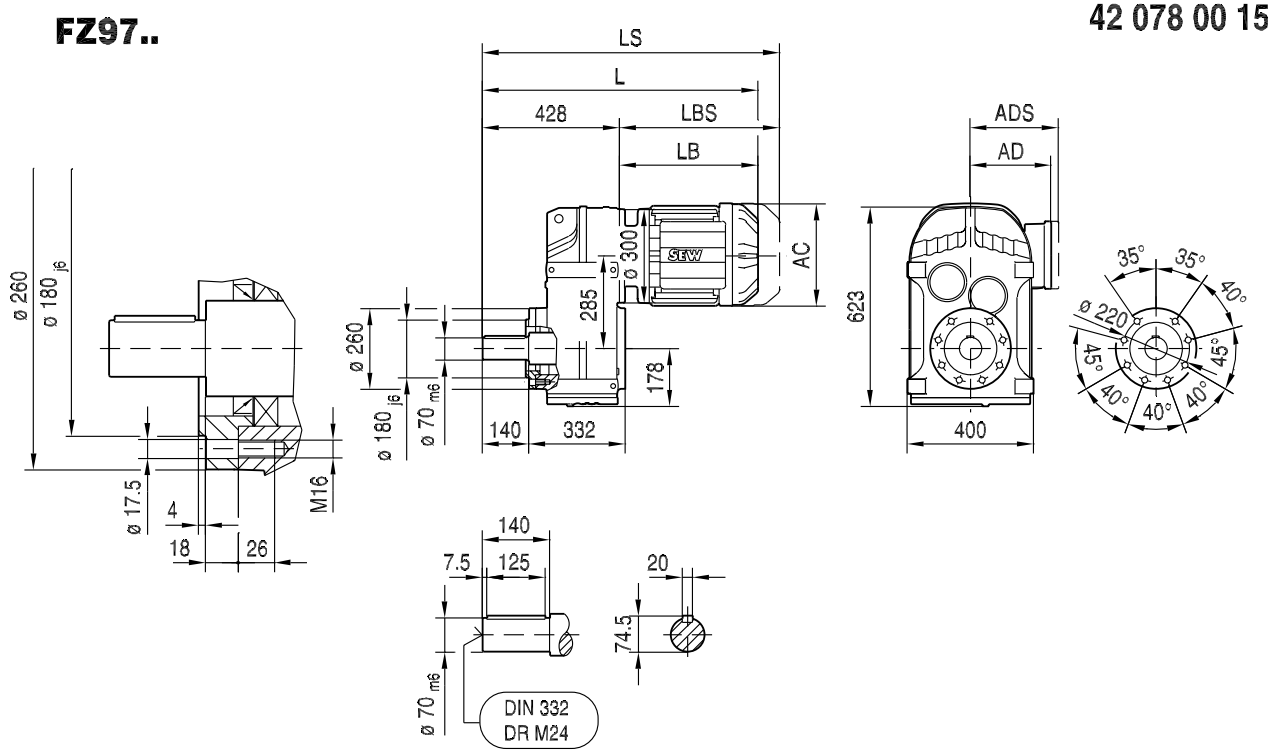


(→ 177)	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L
AC	197	197	221	221	261	261	314	314	357	394
AD	157	157	170	170	228	228	253	253	268	283
ADS	158	158	172	172	228	228	253	253	268	283
L	580	630	661	711	729	755	821	821	844	954
LS	674	724	773	823	867	892	1010	1010	1033	1159
LB	288	338	369	419	437	463	529	529	552	662
LBS	382	432	481	531	575	600	718	718	741	867

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FZ97..

42 078 00 15

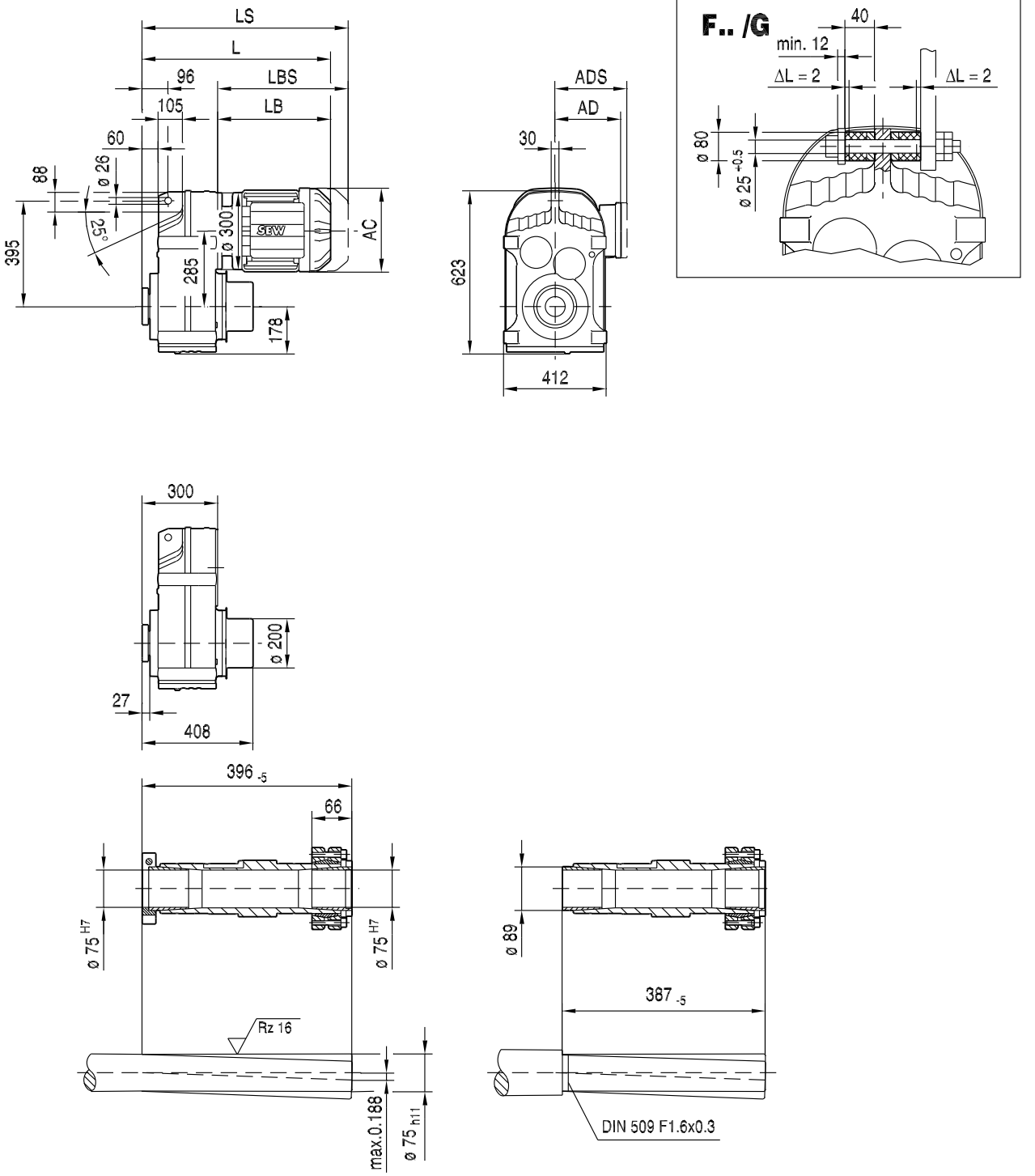


(→ 177)	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L
AC	197	197	221	221	261	261	314	314	357	394
AD	157	157	170	170	228	228	253	253	268	283
ADS	158	158	172	172	228	228	253	253	268	283
L	716	766	797	847	865	891	957	957	980	1090
LS	810	860	909	959	1003	1028	1146	1146	1169	1295
LB	288	338	369	419	437	463	529	529	552	662
LBS	382	432	481	531	575	600	718	718	741	867

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FT97..

42 058 00 14

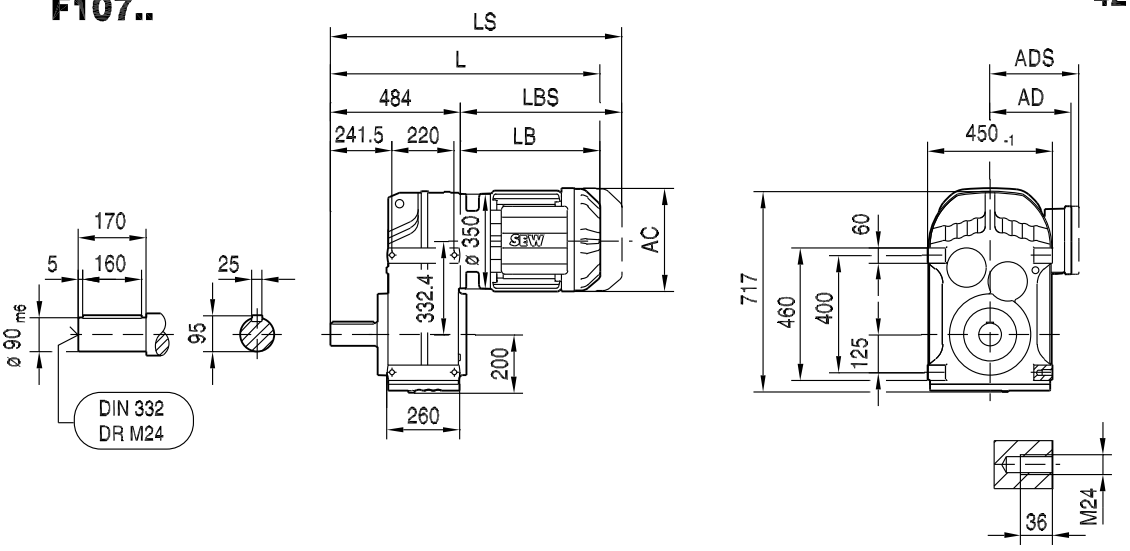


(→ 177)	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	179	197	197	221	221	261	261	314	314	357
AD	140	157	157	170	170	228	228	253	253	268
ADS	150	158	158	172	172	228	228	253	253	268
L	592	588	638	669	719	737	763	829	829	852
LS	685	682	732	781	831	875	900	1018	1018	1041
LB	292	288	338	369	419	437	463	529	529	552
LBS	385	382	432	481	531	575	600	718	718	741

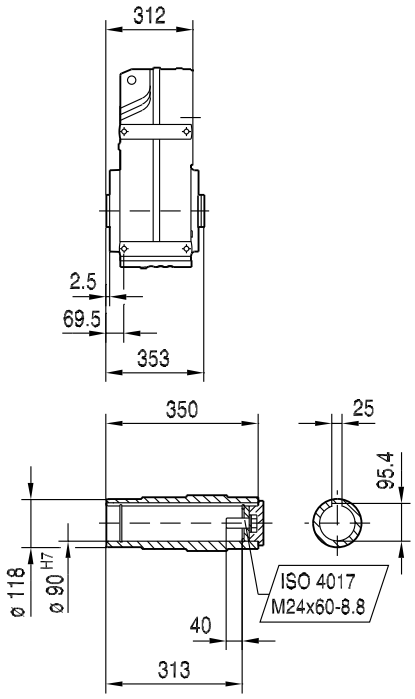
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F107..

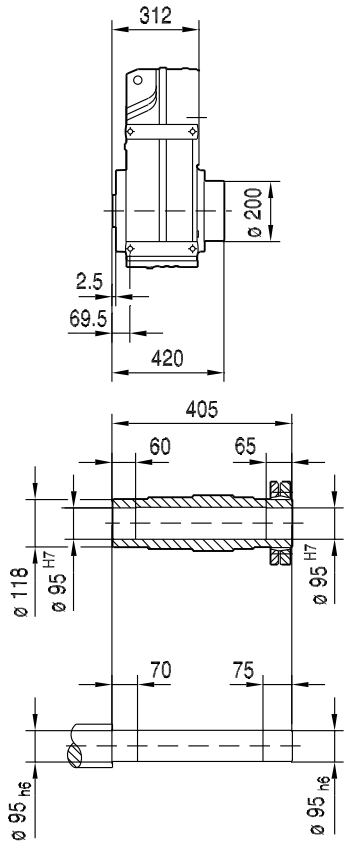
42 059 00 14



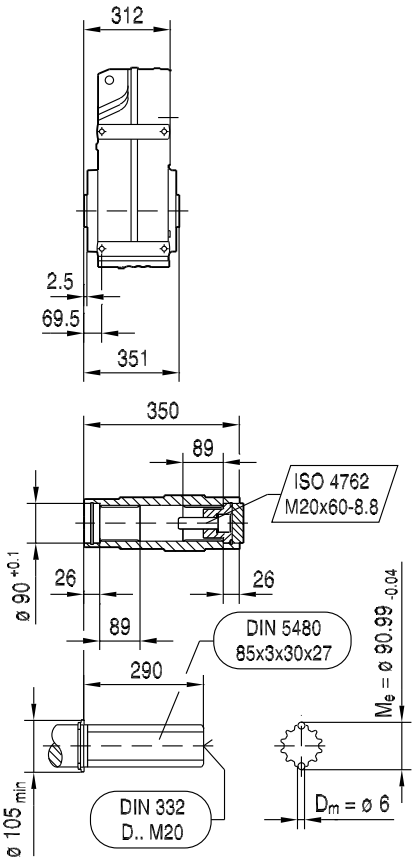
FA107B..



FH107B..



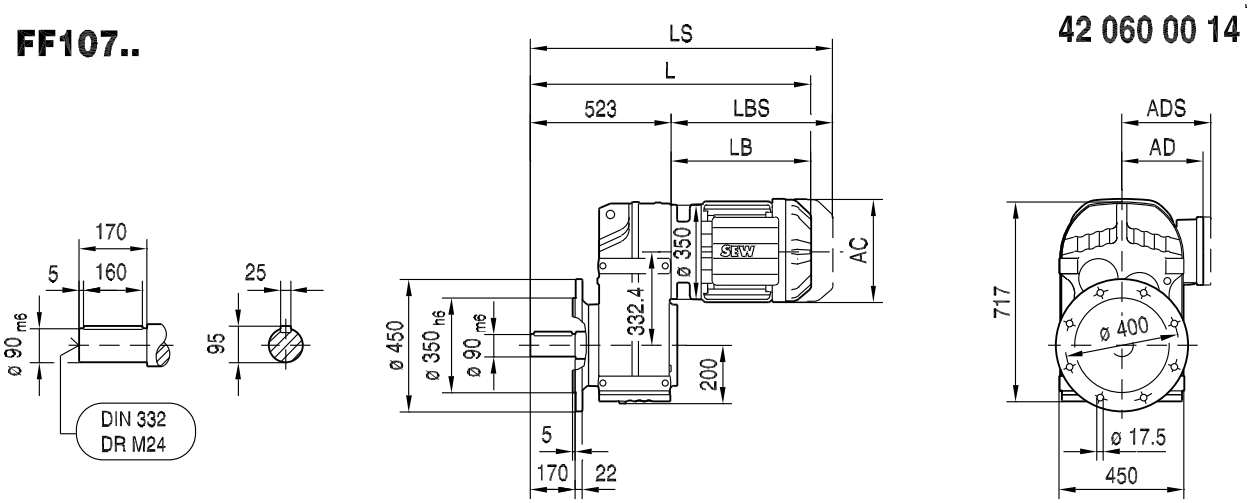
FV107B..



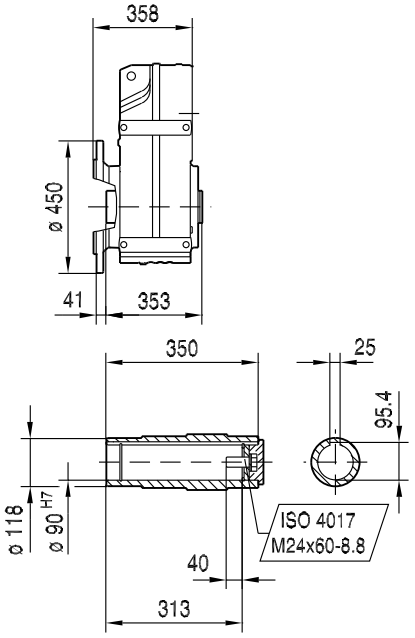
(→ 177)	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..
AC	197	221	221	261	261	314	314	357	394	434
AD	157	170	170	228	228	253	253	268	283	305
ADS	158	172	172	228	228	253	253	268	283	305
L	816	847	897	915	941	1007	1007	1030	1140	1114
LS	910	959	1009	1053	1078	1196	1196	1219	1345	1319
LB	332	363	413	431	457	523	523	546	656	630
LBS	426	475	525	569	594	712	712	735	861	835

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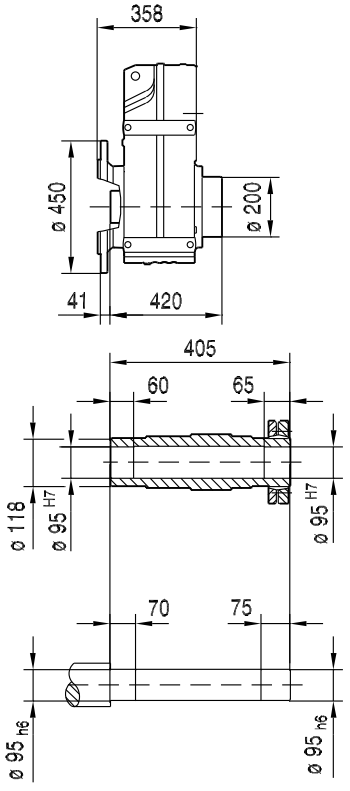
FF107..



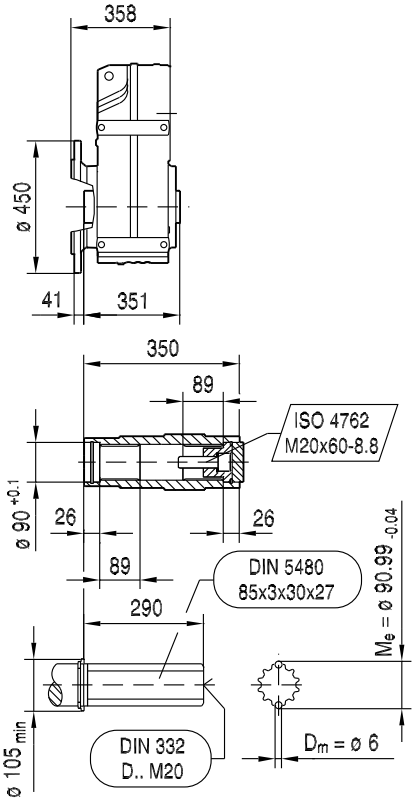
FAF107..



FHF107..



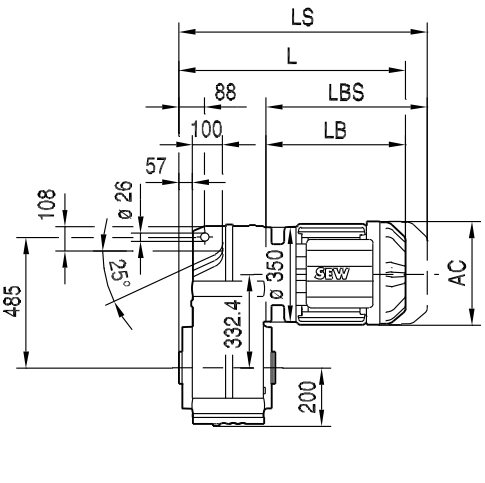
FVF107..

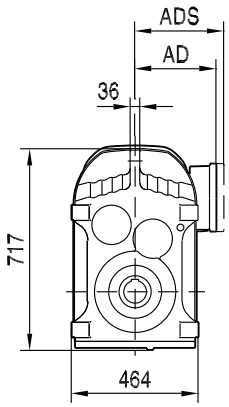


(→ 177)	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..
AC	197	221	221	261	261	314	314	357	394	434
AD	157	170	170	228	228	253	253	268	283	305
ADS	158	172	172	228	228	253	253	268	283	305
L	855	886	936	954	980	1046	1046	1069	1179	1153
LS	949	998	1048	1092	1117	1235	1235	1258	1384	1358
LB	332	363	413	431	457	523	523	546	656	630
LBS	426	475	525	569	594	712	712	735	861	835

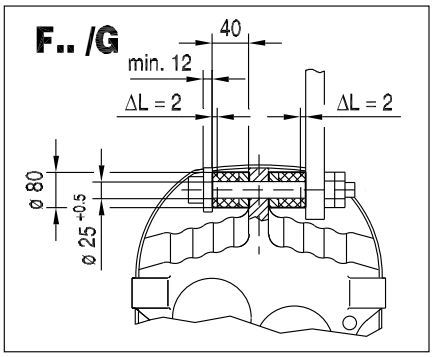
22742654/EN – 08/2016

FA107..

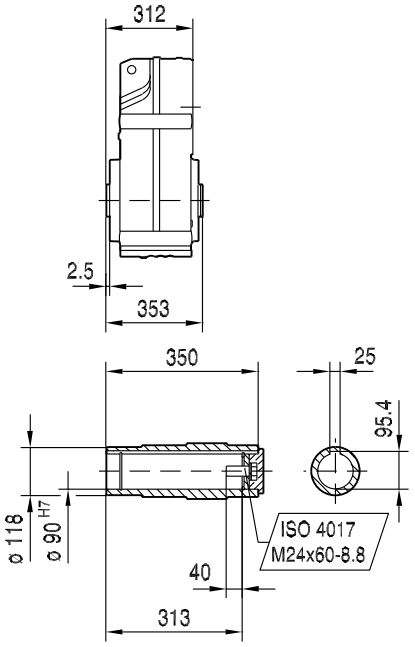




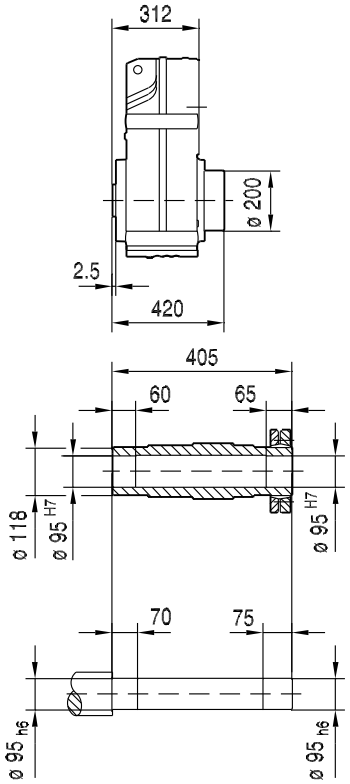
42 061 00 14



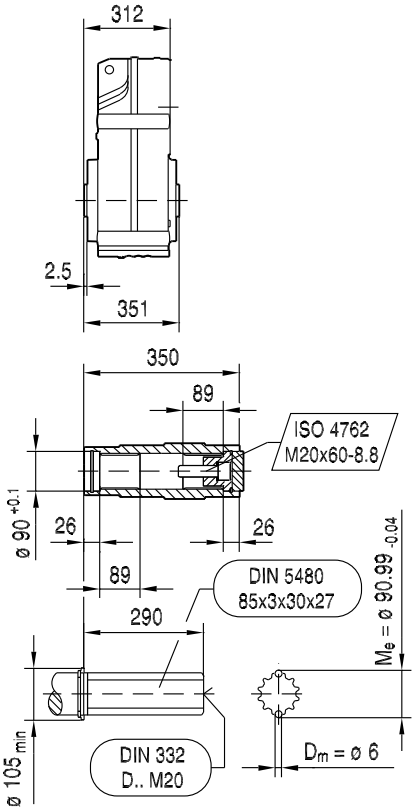
FA107..



FH107..



FV107..

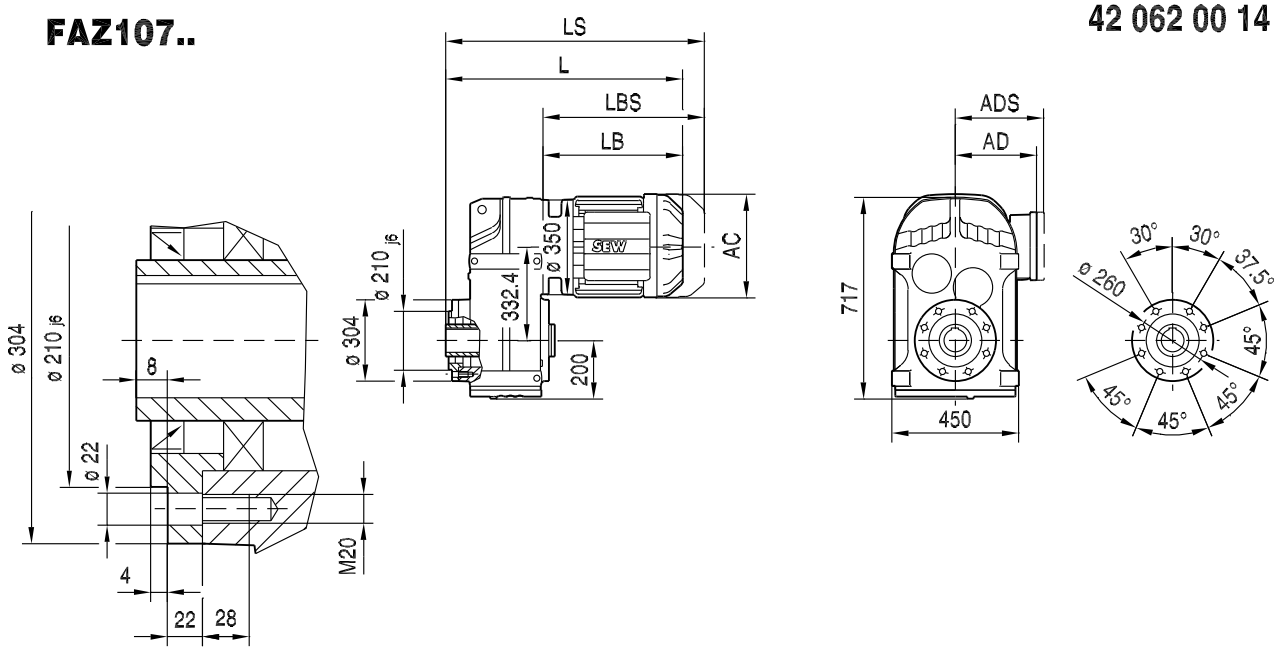


(→ 177)	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..
AC	197	221	221	261	261	314	314	357	394	434
AD	157	170	170	228	228	253	253	268	283	305
ADS	158	172	172	228	228	253	253	268	283	305
L	644	675	725	743	769	835	835	858	968	942
LS	738	787	837	881	906	1024	1024	1047	1173	1147
LB	332	363	413	431	457	523	523	546	656	630
LBS	426	475	525	569	594	712	712	735	861	835

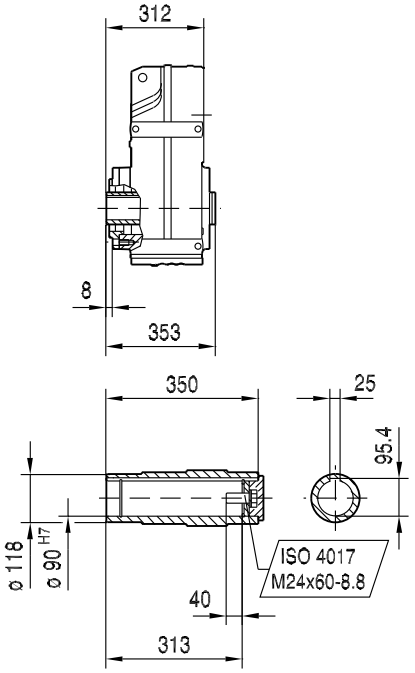
22742654/EN – 08/2016

FAZ107..

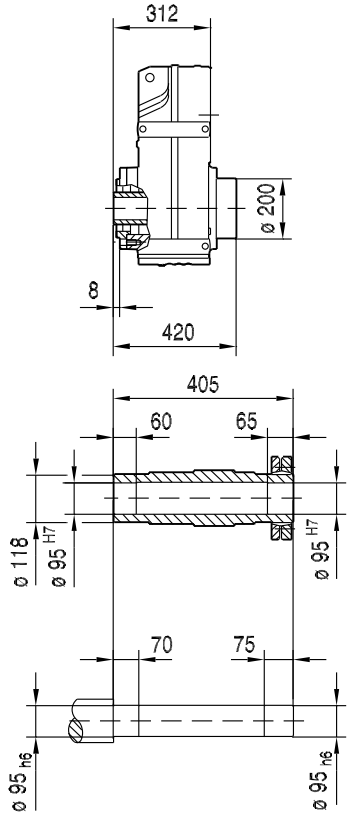
42 062 00 14



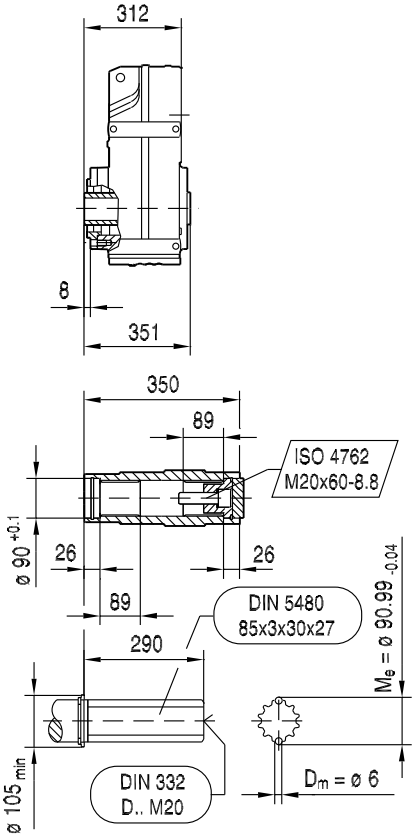
FAZ107..



FHZ107..

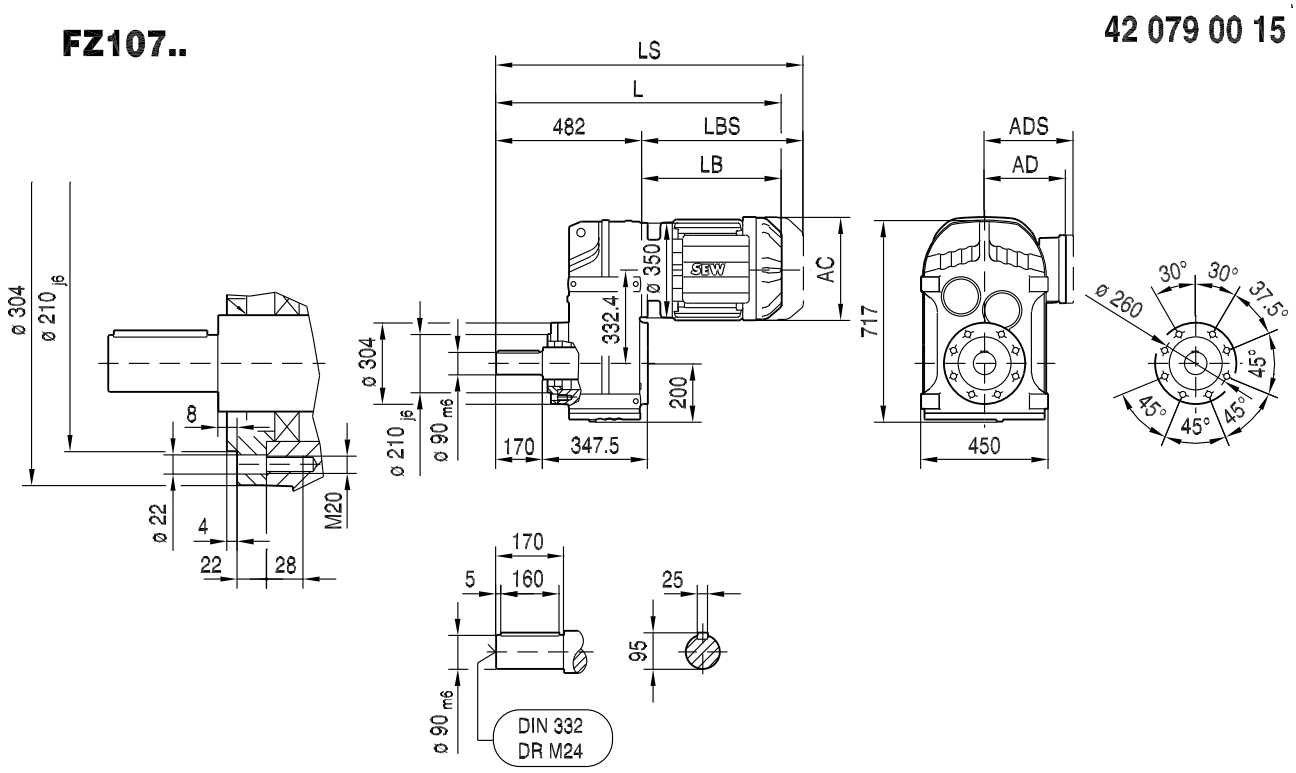


FVZ107..



(→ 177)	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..
AC	197	221	221	261	261	314	314	357	394	434
AD	157	170	170	228	228	253	253	268	283	305
ADS	158	172	172	228	228	253	253	268	283	305
L	644	675	725	743	769	835	835	858	968	942
LS	738	787	837	881	906	1024	1024	1047	1173	1147
LB	332	363	413	431	457	523	523	546	656	630
LBS	426	475	525	569	594	712	712	735	861	835

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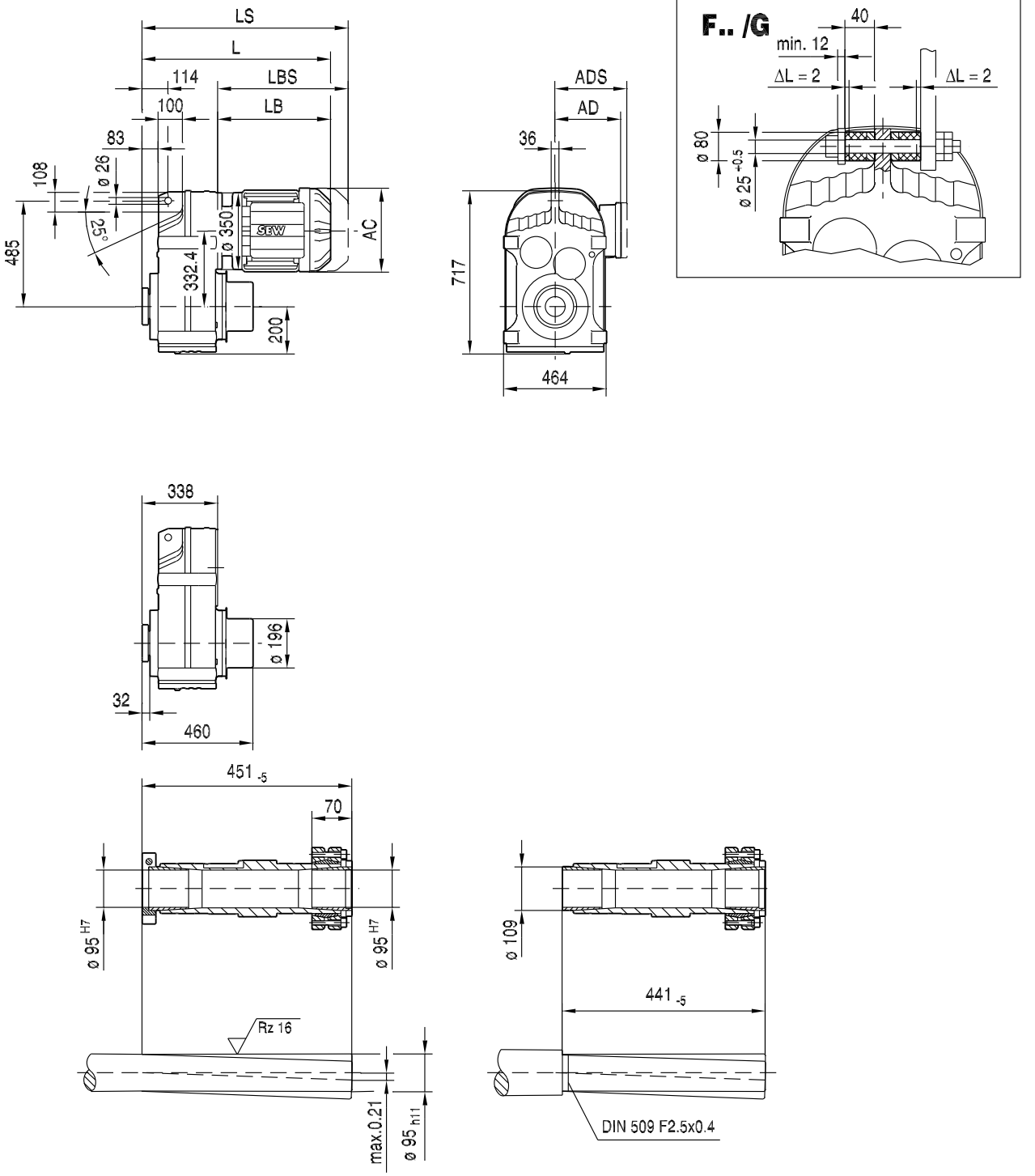


(→ 177)	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..
AC	197	221	221	261	261	314	314	357	394	434
AD	157	170	170	228	228	253	253	268	283	305
ADS	158	172	172	228	228	253	253	268	283	305
L	814	845	895	913	939	1005	1005	1028	1138	1112
LS	908	957	1007	1051	1076	1194	1194	1217	1343	1317
LB	332	363	413	431	457	523	523	546	656	630
LBS	426	475	525	569	594	712	712	735	861	835

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FT107..

42 063 00 14

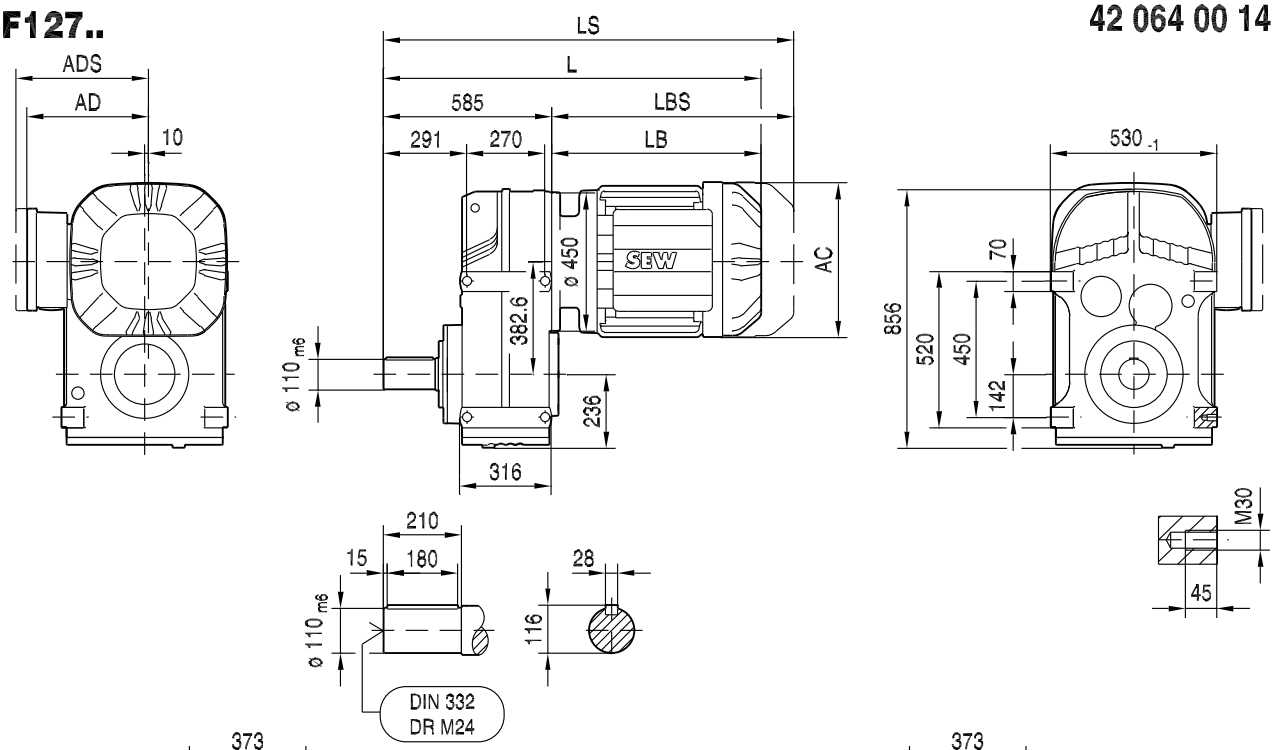


(→ 177)	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..
AC	197	221	221	261	261	314	314	357	394	434
AD	157	170	170	228	228	253	253	268	283	305
ADS	158	172	172	228	228	253	253	268	283	305
L	670	701	751	769	795	861	861	884	994	968
LS	764	813	863	907	932	1050	1050	1073	1199	1173
LB	332	363	413	431	457	523	523	546	656	630
LBS	426	475	525	569	594	712	712	735	861	835

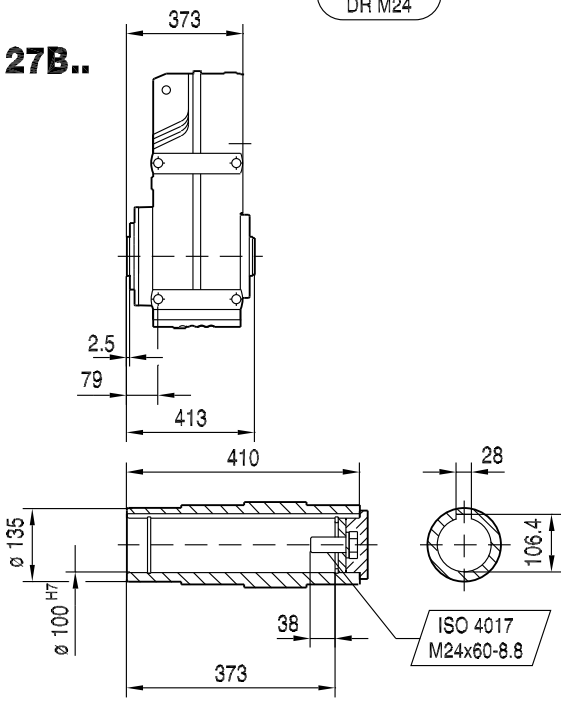
22742654/EN – 08/2016

F127..

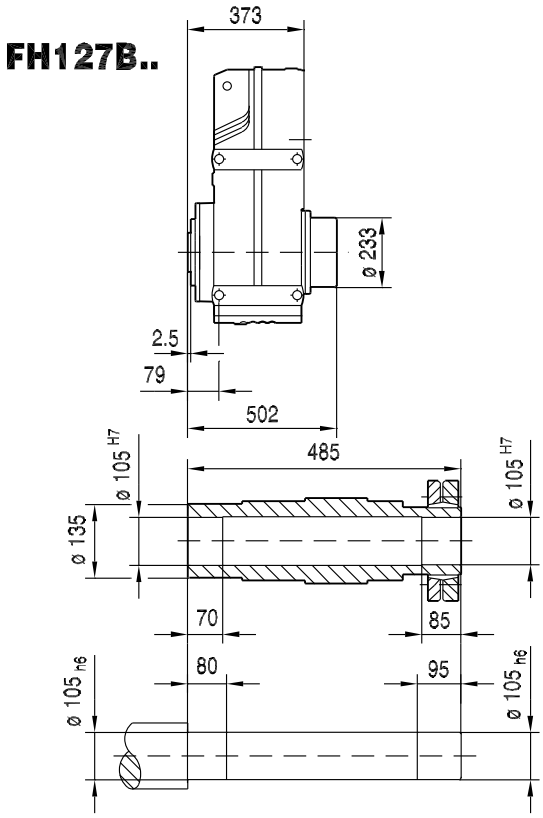
42 064 00 14



FA127B..

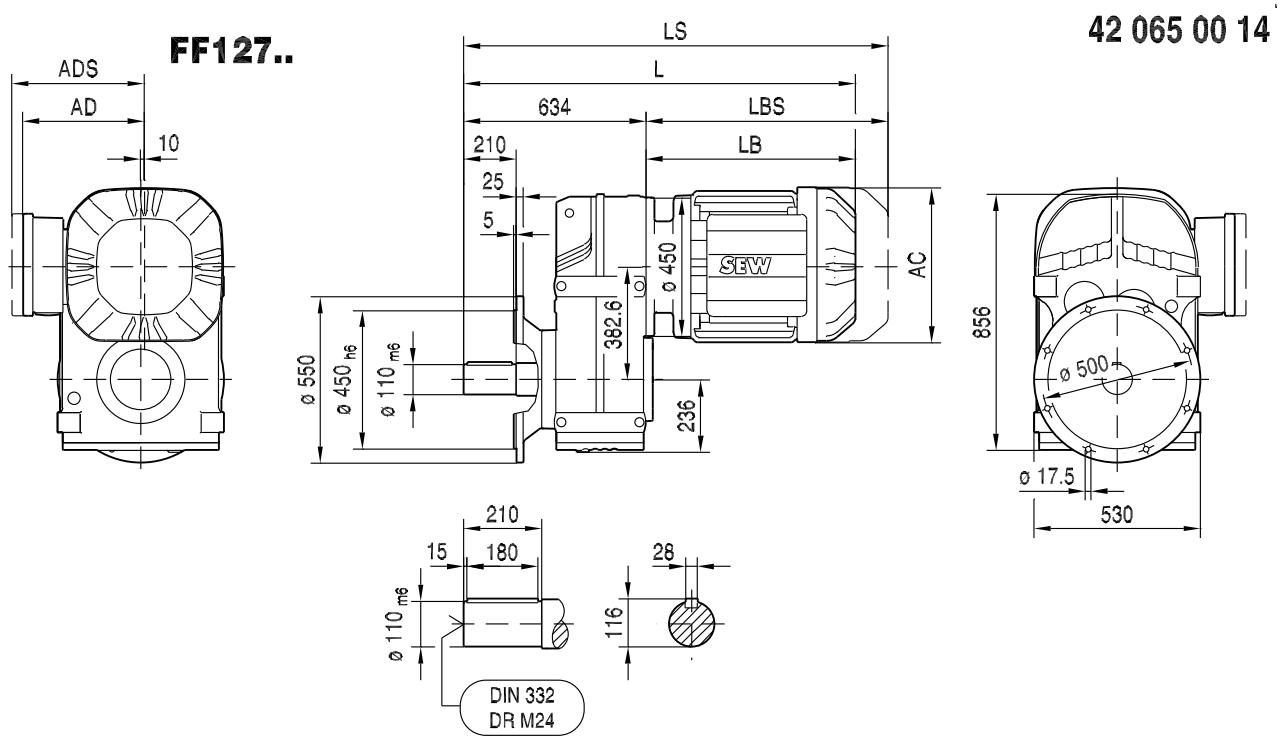


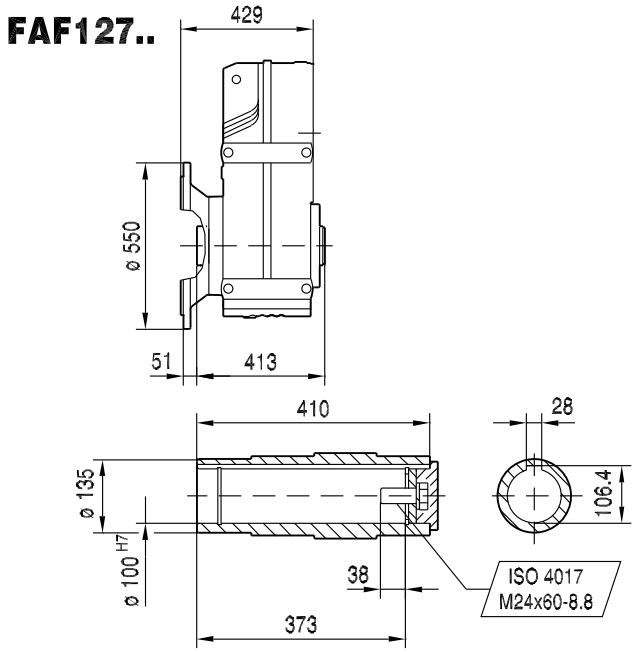
FH127B..

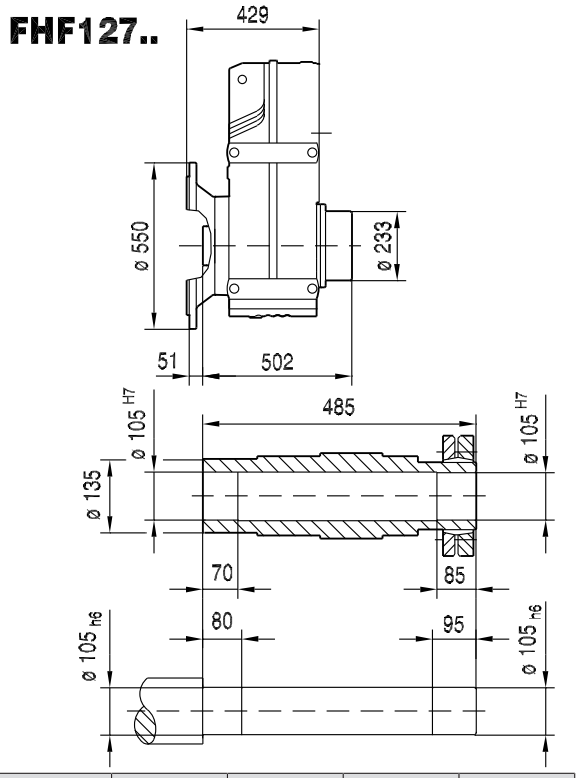


(→ 177)	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M
AC	261	261	314	314	357	394	434	495	495	495
AD	228	228	253	253	268	283	305	394	394	394
ADS	228	228	253	253	268	283	305	394	394	394
L	1001	1027	1093	1093	1116	1226	1200	1337	1337	1432
LS	1139	1164	1282	1282	1305	1431	1405	1577	1577	1672
LB	416	442	508	508	531	641	615	752	752	847
LBS	554	579	697	697	720	846	820	992	992	1087

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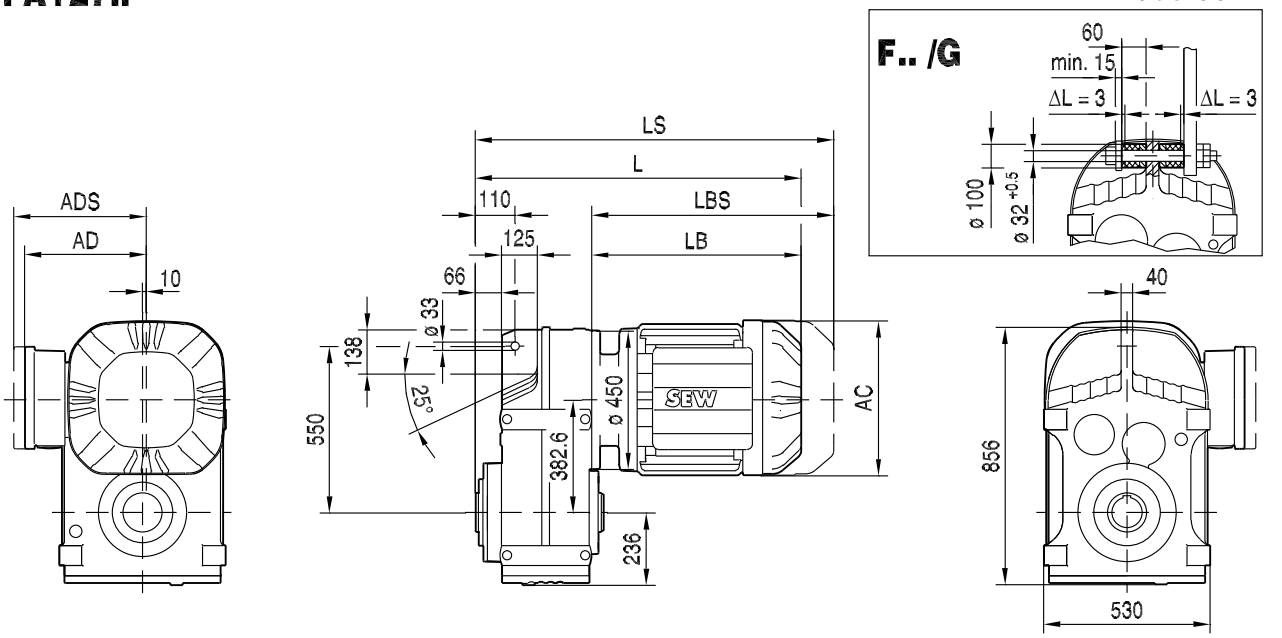


(→ 177)	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M
AC	261	261	314	314	357	394	434	495	495	495
AD	228	228	253	253	268	283	305	394	394	394
ADS	228	228	253	253	268	283	305	394	394	394
L	1050	1076	1142	1142	1165	1275	1249	1386	1386	1481
LS	1188	1213	1331	1331	1354	1480	1454	1626	1626	1721
LB	416	442	508	508	531	641	615	752	752	847
LBS	554	579	697	697	720	846	820	992	992	1087

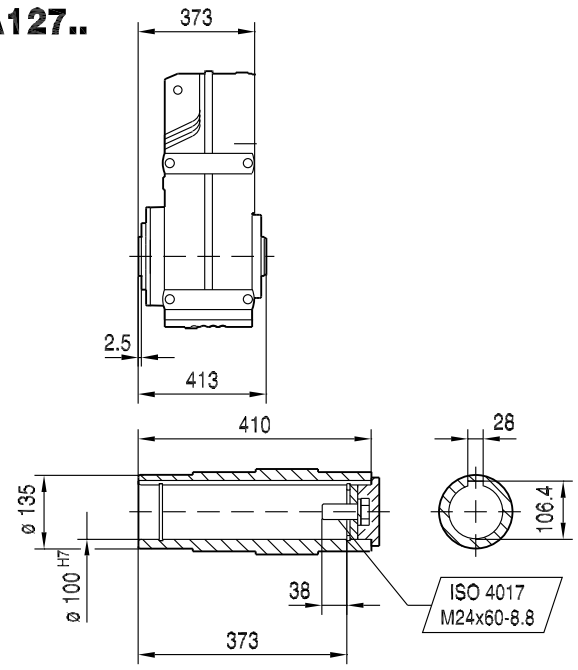
22742654/EN – 08/2016

FA127..

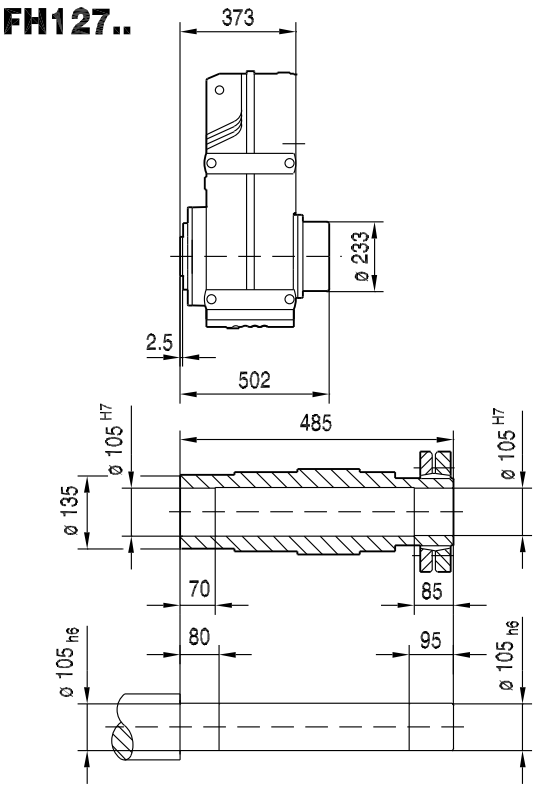
42 066 00 14



FA127..



FH127..

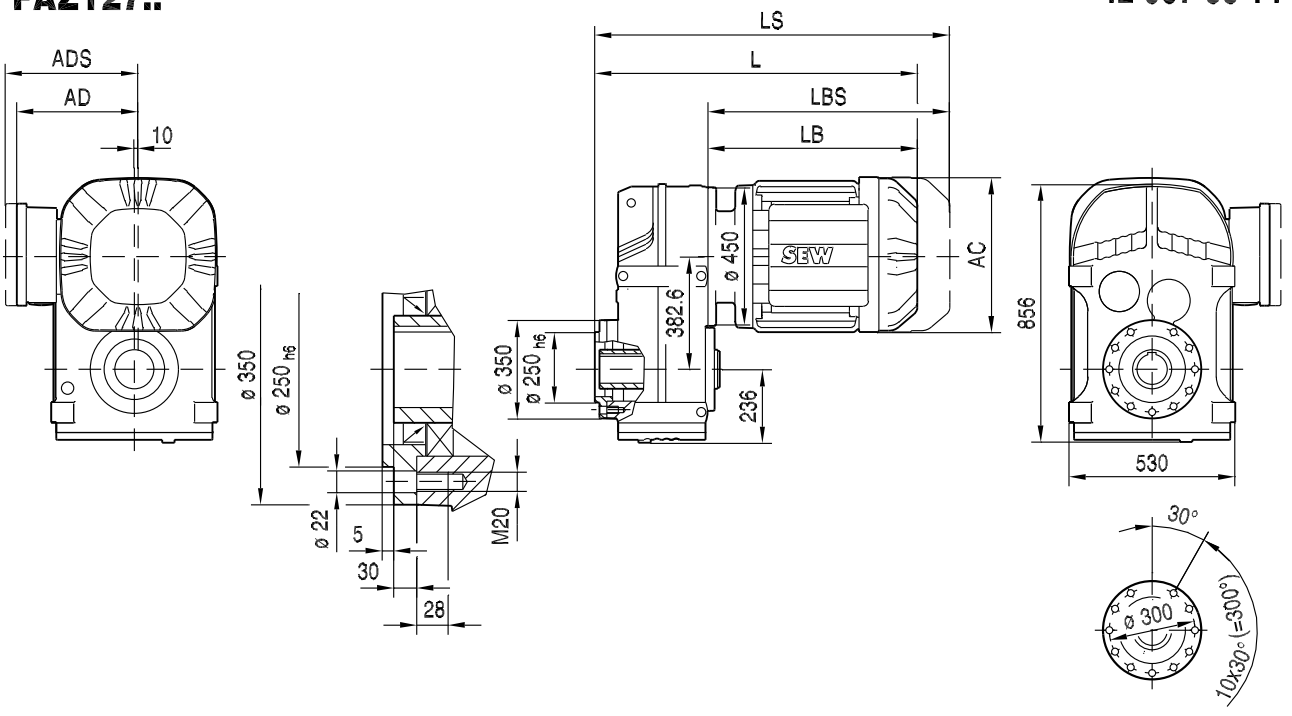


(→ 177)	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M
AC	261	261	314	314	357	394	434	495	495	495
AD	228	228	253	253	268	283	305	394	394	394
ADS	228	228	253	253	268	283	305	394	394	394
L	789	815	881	881	904	1014	988	1125	1125	1220
LS	927	952	1070	1070	1093	1219	1193	1365	1365	1460
LB	416	442	508	508	531	641	615	752	752	847
LBS	554	579	697	697	720	846	820	992	992	1087

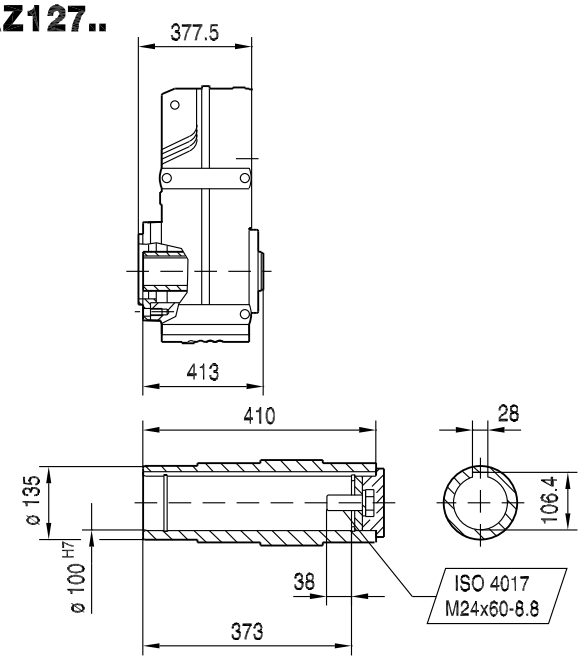
22742654/EN – 08/2016

FAZ127..

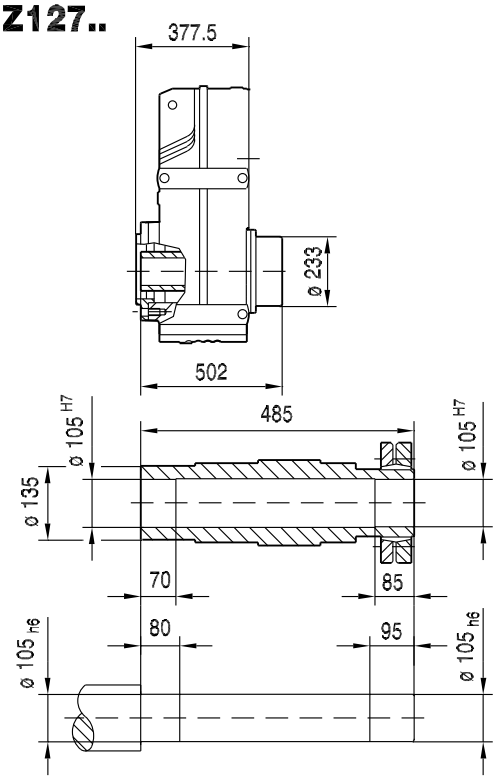
42 067 00 14



FAZ127..



FHZ127..

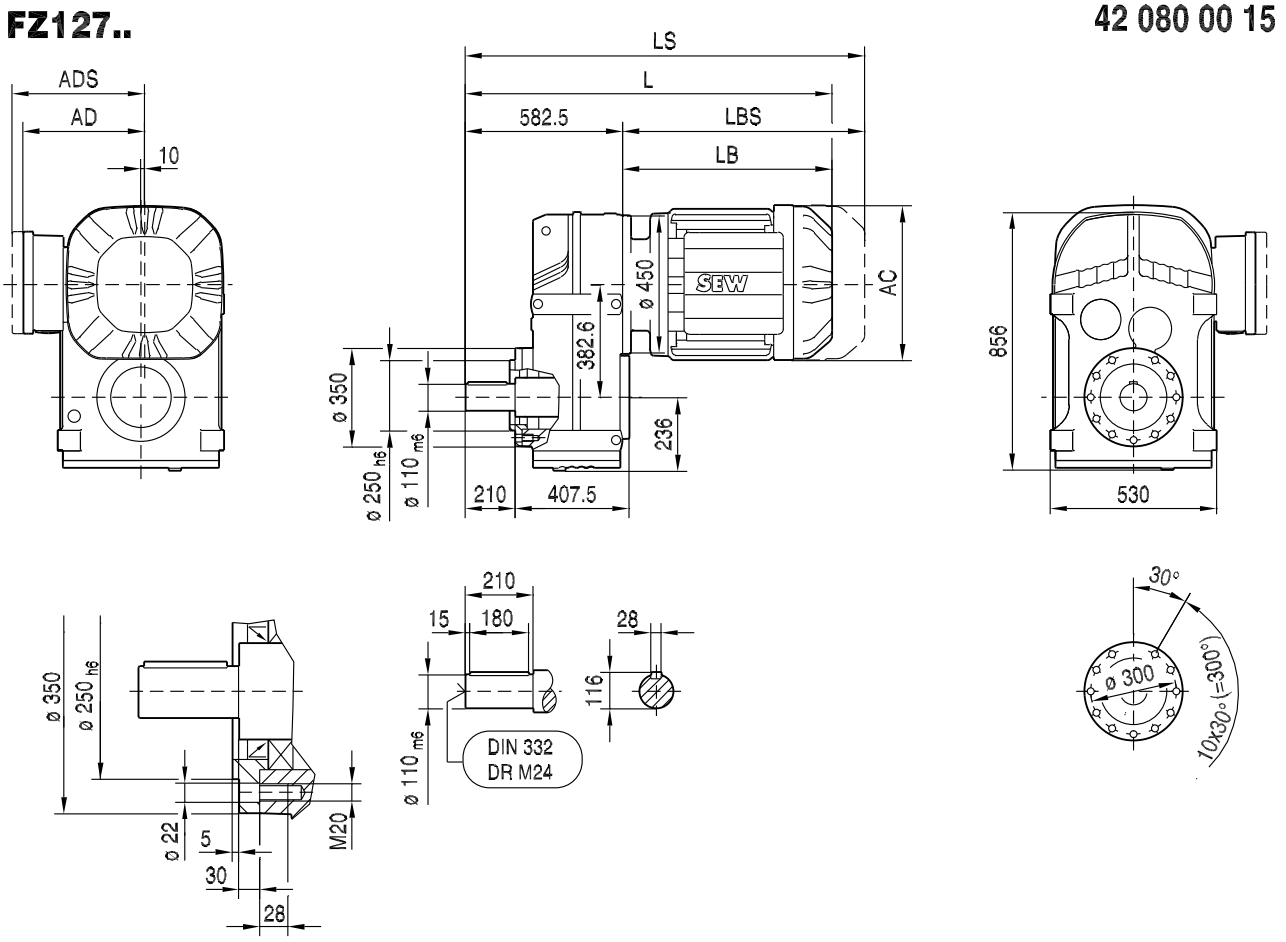


(→ 177)	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M
AC	261	261	314	314	357	394	434	495	495	495
AD	228	228	253	253	268	283	305	394	394	394
ADS	228	228	253	253	268	283	305	394	394	394
L	794	819	886	886	909	1018	993	1130	1130	1225
LS	931	956	1075	1075	1098	1223	1198	1370	1370	1465
LB	416	442	508	508	531	641	615	752	752	847
LBS	554	579	697	697	720	846	820	992	992	1087

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FZ127..

42 080 00 15

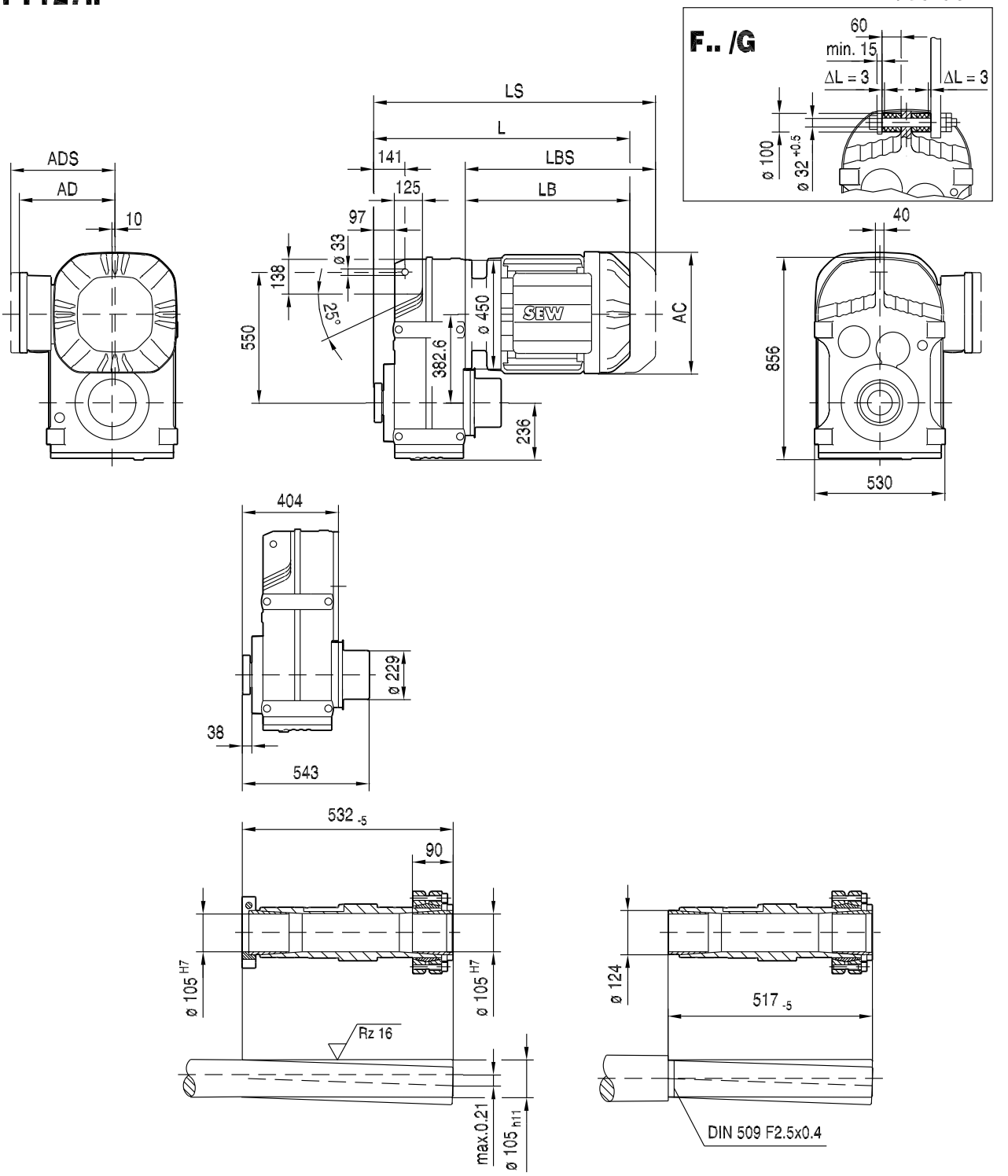


(→ 177)	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M
AC	261	261	314	314	357	394	434	495	495	495
AD	228	228	253	253	268	283	305	394	394	394
ADS	228	228	253	253	268	283	305	394	394	394
L	999	1024	1091	1091	1114	1223	1198	1335	1335	1430
LS	1136	1161	1280	1280	1303	1428	1403	1575	1575	1670
LB	416	442	508	508	531	641	615	752	752	847
LBS	554	579	697	697	720	846	820	992	992	1087

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FT127..

42 068 00 14

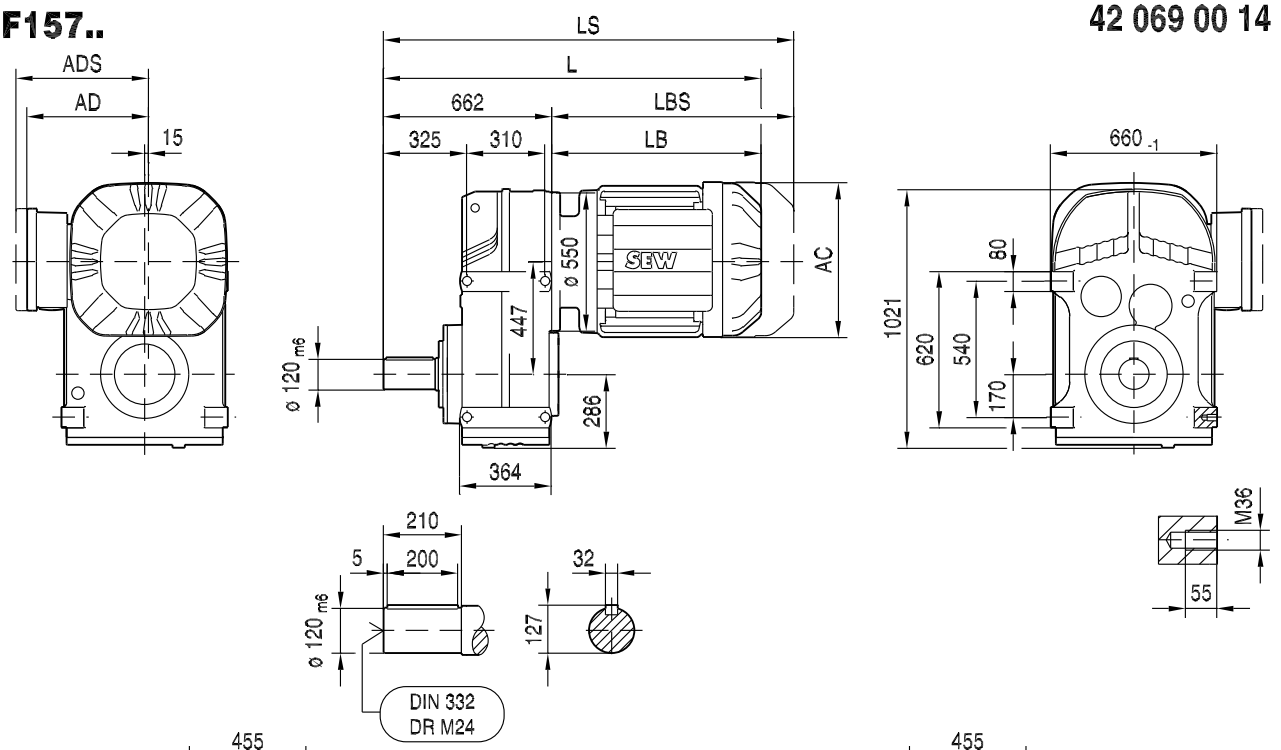


(→ 177)	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M
AC	261	261	314	314	357	394	434	495	495	495
AD	228	228	253	253	268	283	305	394	394	394
ADS	228	228	253	253	268	283	305	394	394	394
L	820	846	912	912	935	1045	1019	1156	1156	1251
LS	958	983	1101	1101	1124	1250	1224	1396	1396	1491
LB	416	442	508	508	531	641	615	752	752	847
LBS	554	579	697	697	720	846	820	992	992	1087

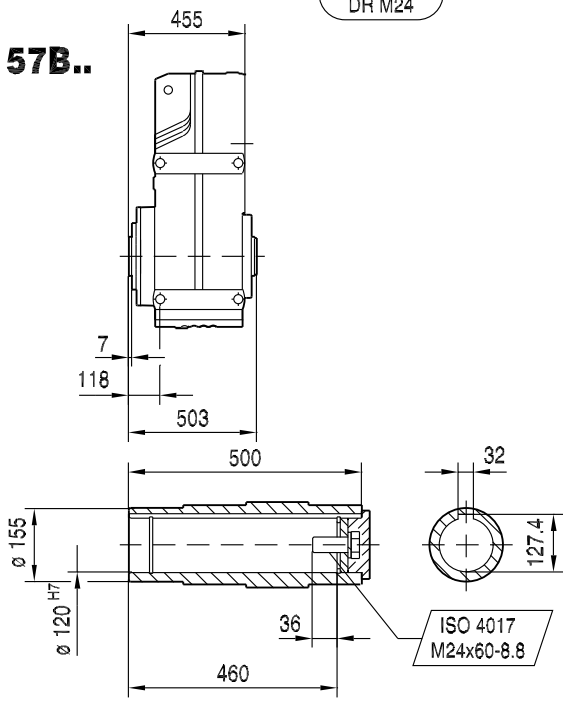
22742654/EN – 08/2016

F157..

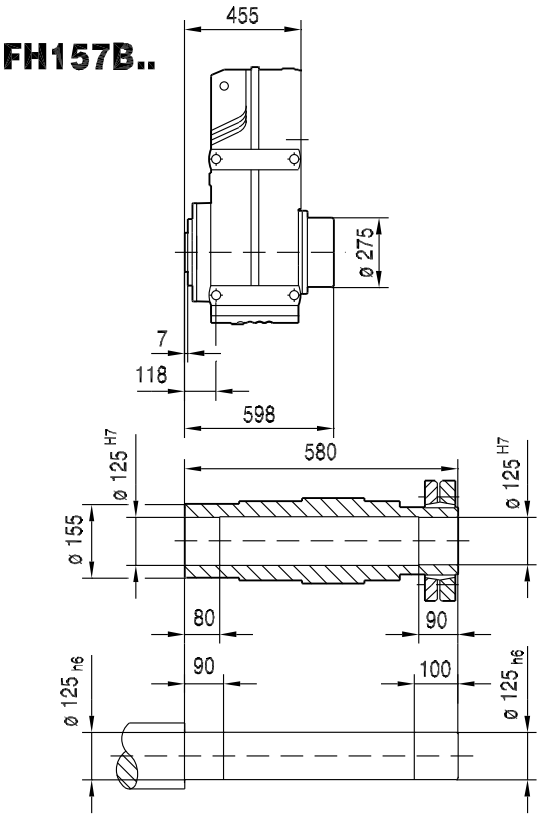
42 069 00 14



FA157B..



FH157B..

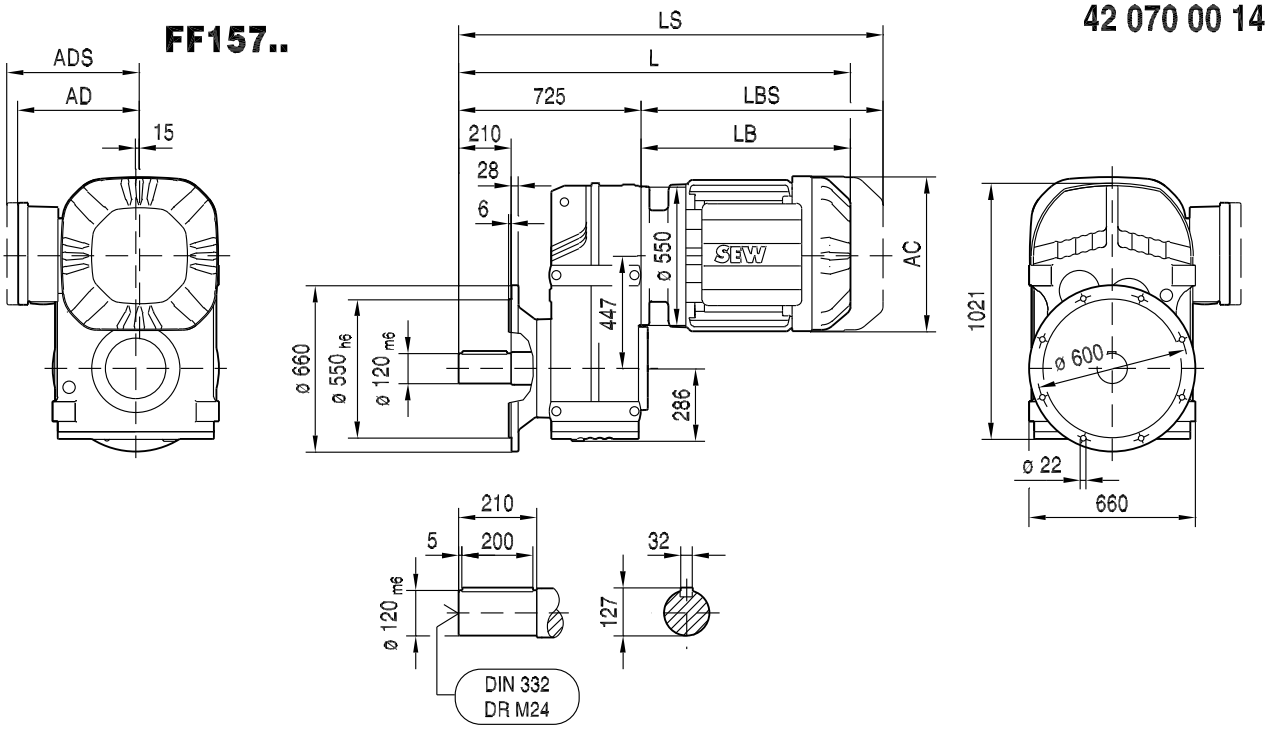


(→ 177)	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M	DRN315S-M	DRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1162	1185	1295	1269	1406	1406	1501	1603	1733
LS	1351	1374	1500	1474	1646	1646	1741	1854	1984
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

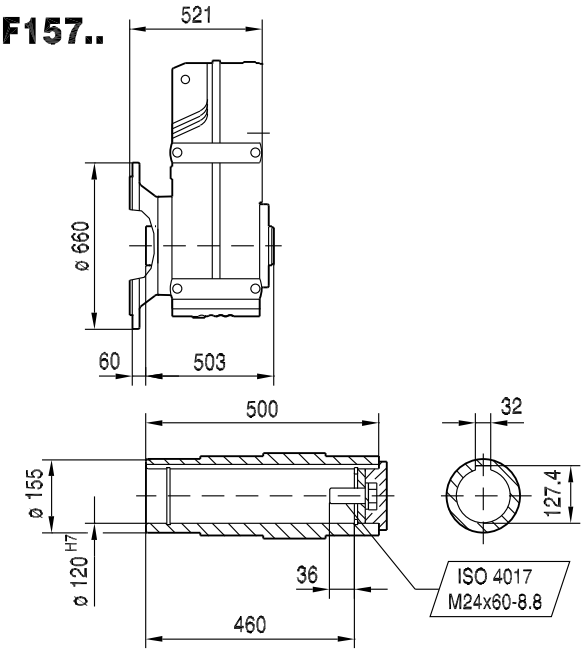
22742654/EN – 08/2016

42 070 00 14

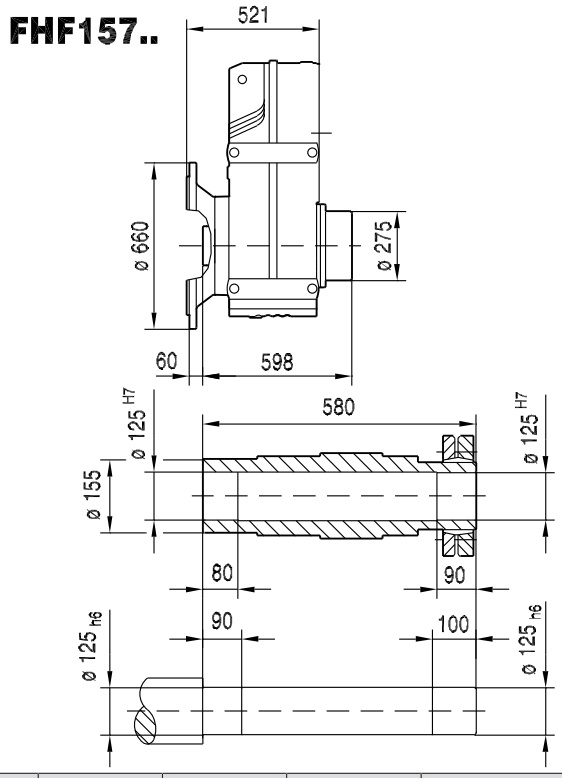
FF157..



FAF157..



FHF157..

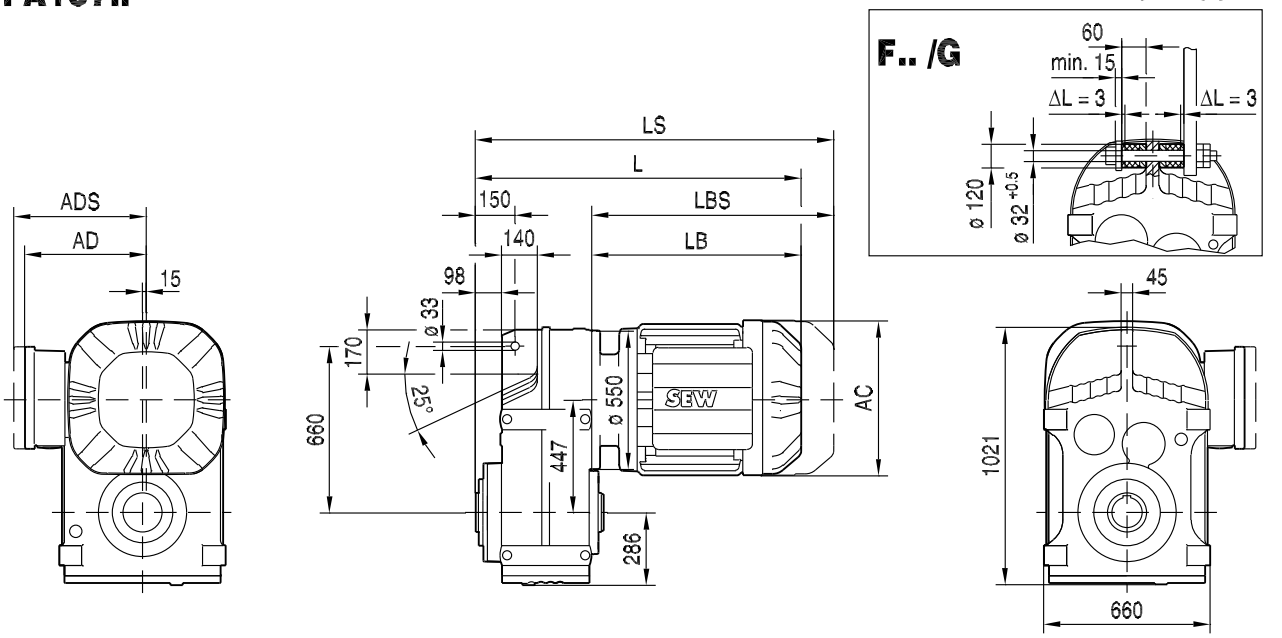


(→ 177)	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M	DRN315S-M	DRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1225	1248	1358	1332	1469	1469	1564	1666	1796
LS	1414	1437	1563	1537	1709	1709	1804	1917	2047
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

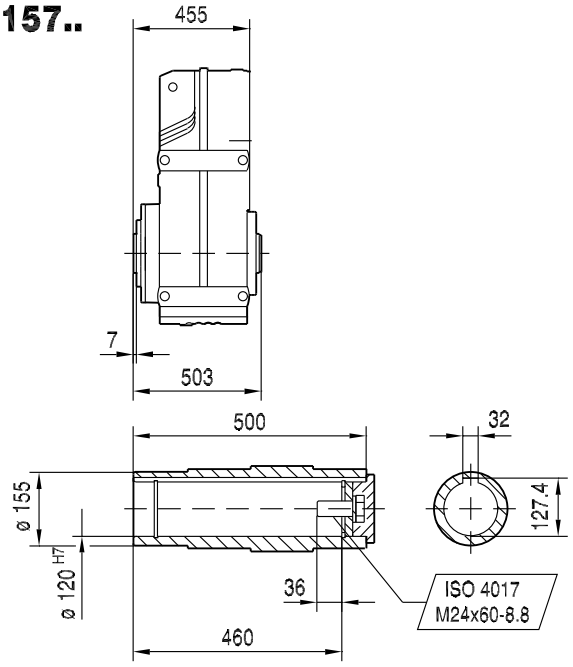
22742654/EN – 08/2016

FA157..

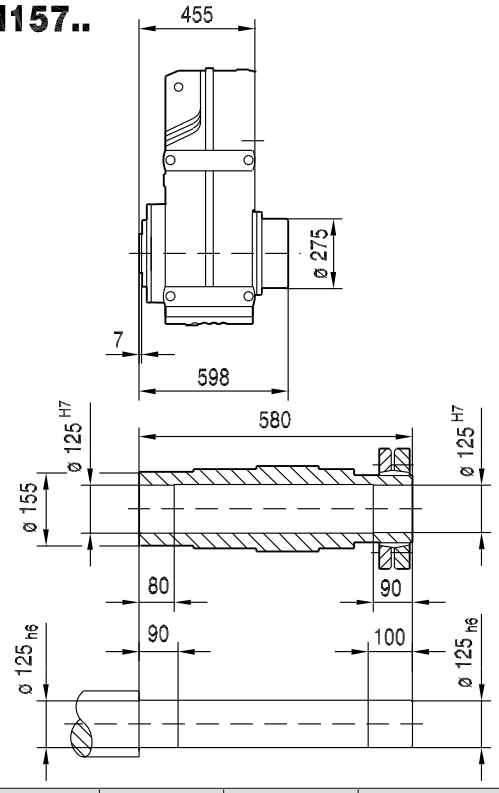
42 071 00 14



FA157..



FH157..

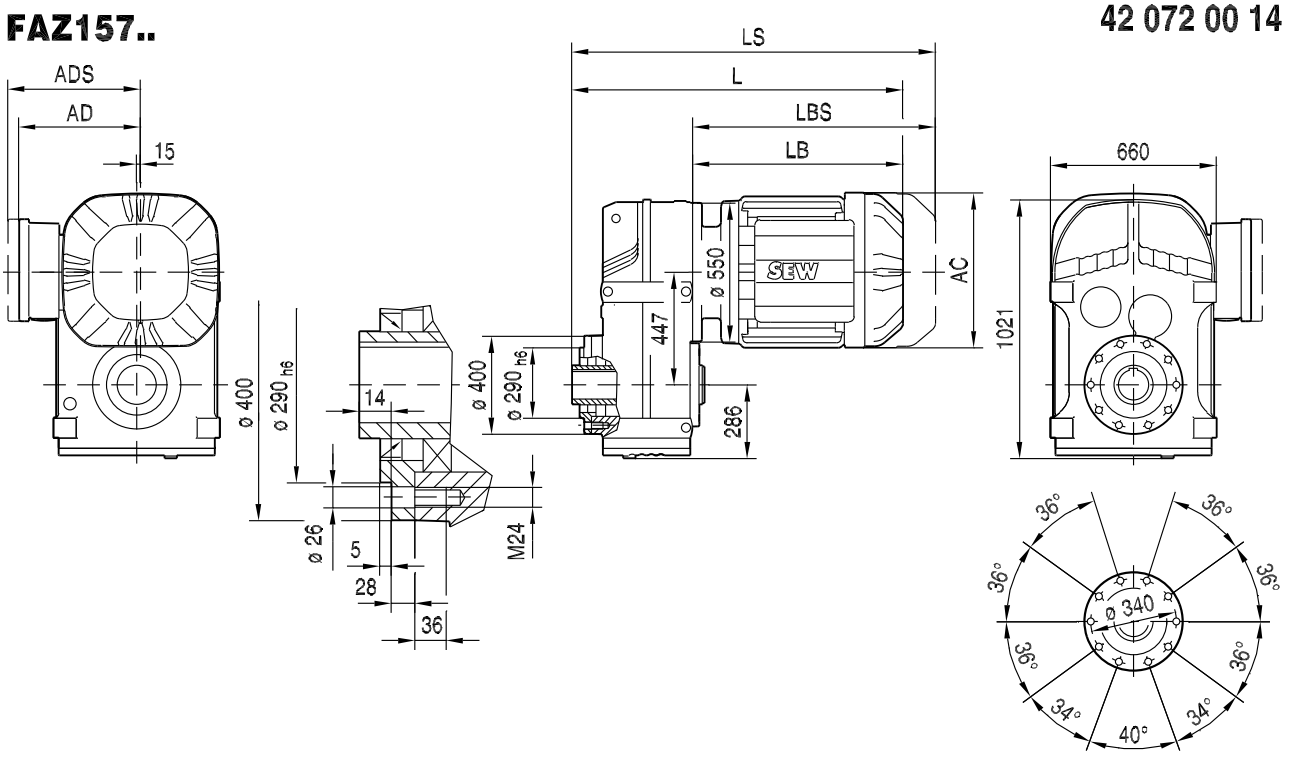


(→ 177)	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M	DRN315S-M	DRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	955	978	1088	1062	1199	1199	1294	1396	1526
LS	1144	1167	1293	1267	1439	1439	1534	1647	1777
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

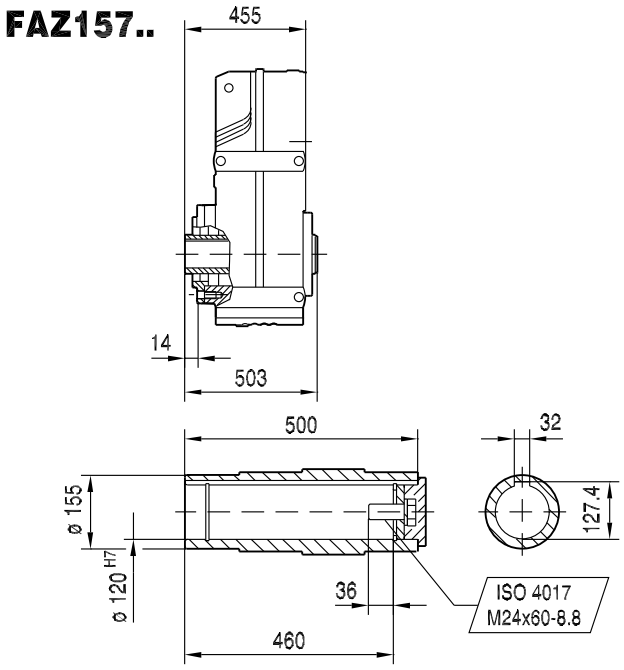
22742654/EN – 08/2016

FAZ157..

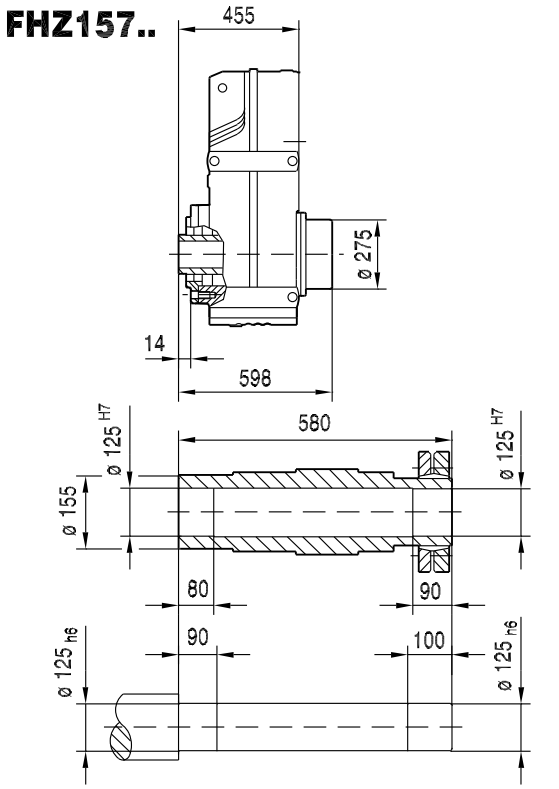
42 072 00 14



FAZ157..



FHZ157..

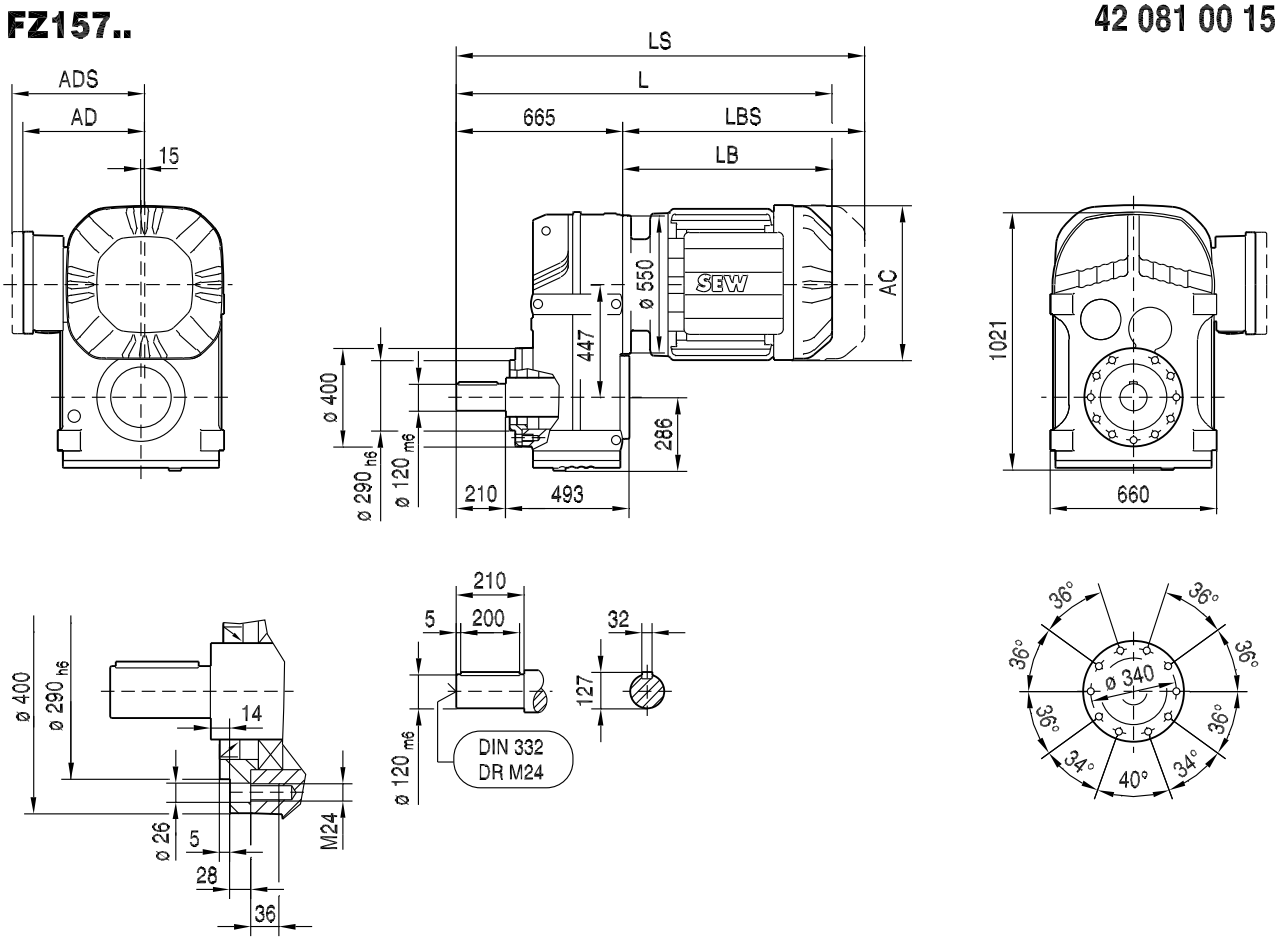


(→ 177)	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M	DRN315S-M	DRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	955	978	1088	1062	1199	1199	1294	1396	1526
LS	1144	1167	1293	1267	1439	1439	1534	1647	1777
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

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FZ157..

42 081 00 15

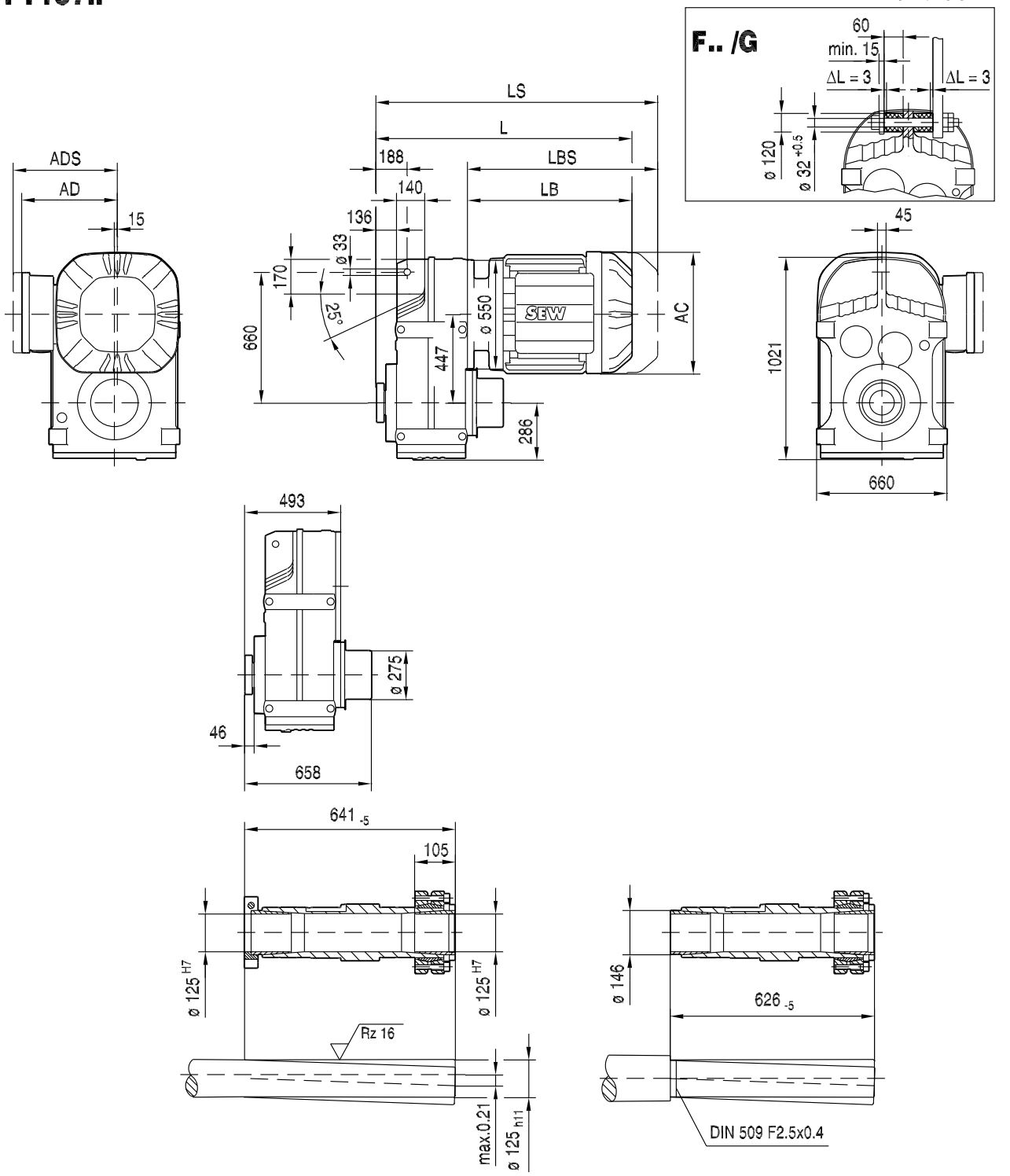


(→ 177)	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M	DRN315S-M	DRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1165	1188	1298	1272	1409	1409	1504	1606	1736
LS	1354	1377	1503	1477	1649	1649	1744	1857	1987
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

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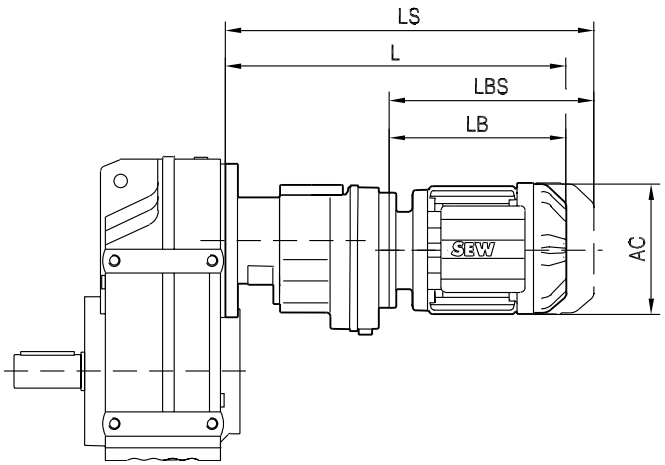
FT157..

42 073 00 14



(→ 177)	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M	DRN315S-M	DRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	993	1016	1126	1100	1237	1237	1332	1434	1564
LS	1182	1205	1331	1305	1477	1477	1572	1685	1815
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

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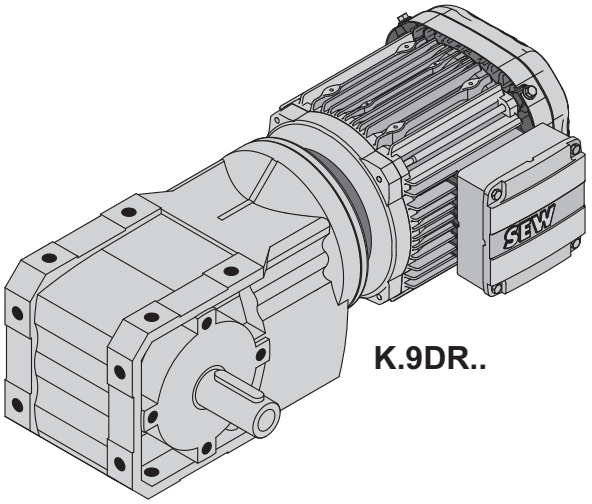
42 121 00 06

(→ 177)		AC	L	LS	LB	LBS
F..27R17	**DR63..**	132	324	379	149	204
F..37R17	**DR63..**	132	324	379	149	204
	DR71S	139	335	403	160	228
F..47R17	**DR63..**	132	324	379	149	204
	DR71S	139	335	403	160	228
	DR71M	139	360	428	185	253
F..57R37	**DR63..**	132	356	411	191	246
	DR71S	139	367	434	202	269
	DR71M	139	392	459	227	294
	DRN80M	156	446	527	281	362
F..67R37	**DR63..**	132	356	411	191	246
	DR71S	139	367	434	202	269
	DR71M	139	392	459	227	294
	DRN80M	156	446	527	281	362
	DRN90S	179	448	541	283	376
F..77R37	**DR63..**	132	348	403	191	246
	DR71S	139	359	426	202	269
	DR71M	139	384	451	227	294
	DRN80M	156	438	519	281	362
	DRN90S	179	440	533	283	376
	DRN90L	179	472	565	315	408
F..87R57	**DR63..**	132	412	467	185	240
	DR71S	139	423	491	196	264
	DR71M	139	448	516	221	289
	DRN80M	156	502	583	275	356
	DRN90S	179	504	597	277	370
	DRN90L	179	536	629	309	402
	DRN100LS	197	533	626	305	398
	DRN100L	197	583	676	355	448
F..97R57	**DR63..**	132	407	462	185	240
	DR71S	139	418	486	196	264
	DR71M	139	443	511	221	289
	DRN80M	156	497	578	275	356
	DRN90S	179	499	592	277	370
	DRN90L	179	531	624	309	402
	DRN100LS	197	528	621	305	398
	DRN100L	197	578	671	355	448
	DRN112M	221	608	720	386	498

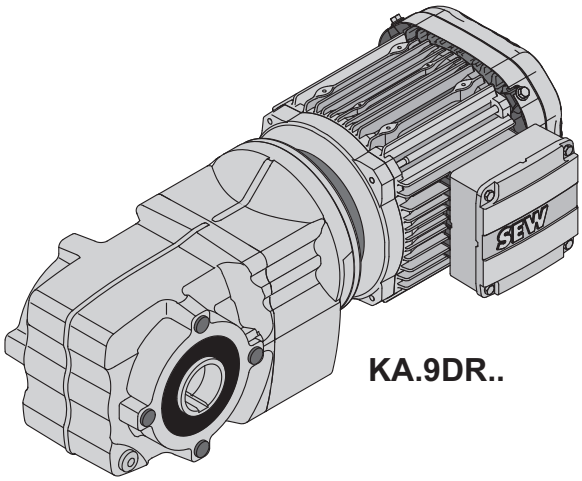
(→ 177)		AC	L	LS	LB	LBS
F..107R77	**DR63..**	132	425	480	178	233
	DR71S	139	436	504	189	257
	DR71M	139	461	529	214	282
	DRN80M	156	515	596	268	349
	DRN90S	179	517	610	270	363
	DRN90L	179	549	642	302	395
	DRN100LS	197	545	638	298	391
	DRN100L	197	595	688	348	441
	DRN112M	221	626	738	379	491
	DRN132S	221	676	788	429	541
	DRN132M	261	692	831	445	584
F..127R77	**DR63..**	132	410	465	178	233
	DR71S	139	421	489	189	257
	DR71M	139	446	514	214	282
	DRN80M	156	500	581	268	349
	DRN90S	179	502	595	270	363
	DRN90L	179	534	627	302	395
	DRN100LS	197	530	623	298	391
	DRN100L	197	580	673	348	441
	DRN112M	221	611	723	379	491
	DRN132S	221	661	773	429	541
F..127R87	**DRN132S**	221	704	816	424	536
	DRN132M	261	720	859	440	579
	DRN132L	261	745	884	465	604
	DRN160M	314	814	1003	534	723
	DRN160L	314	814	1003	534	723
F..157R97	**DR71M**	139	529	597	204	272
	DRN80M	156	583	664	258	339
	DRN90S	179	585	678	260	353
	DRN90L	179	617	710	292	385
	DRN100LS	197	613	706	288	381
	DRN100L	197	663	756	338	431
	DRN112M	221	694	806	369	481
	DRN132S	221	744	856	419	531
	DRN132M	261	760	899	435	574
	DRN132L	261	785	924	460	599
	DRN160M	314	854	1043	529	718
	DRN160L	314	854	1043	529	718
	DRN180M	357	879	1068	554	743

10 Helical-bevel gearmotors

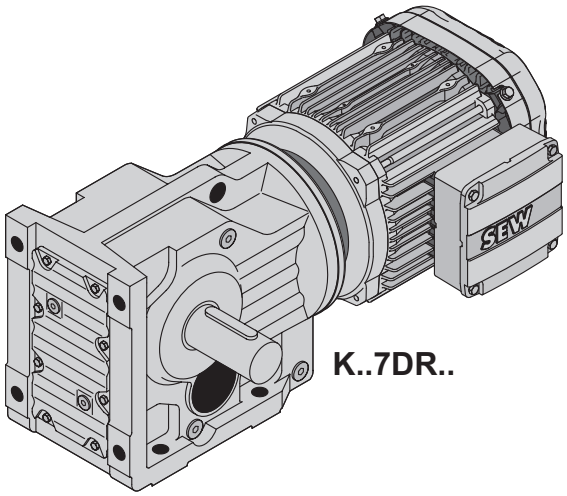
10.1 K..DRN.. variant



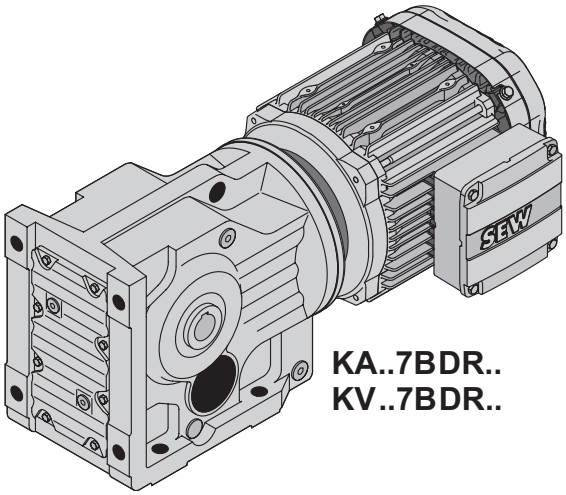
K.9DR..



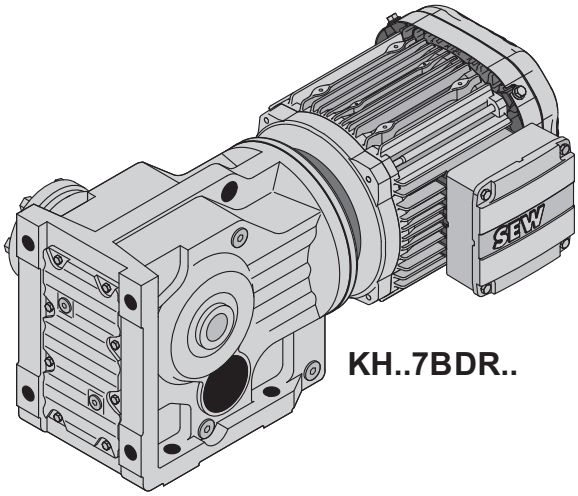
KA.9DR..



K..7DR..



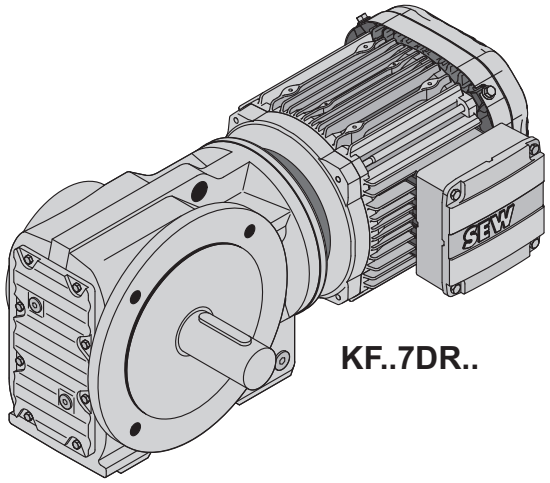
KA..7BDR..
KV..7BDR..



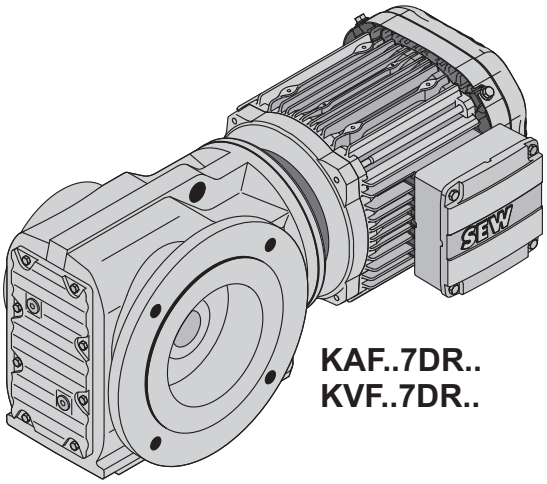
KH..7BDR..

18014407174236299

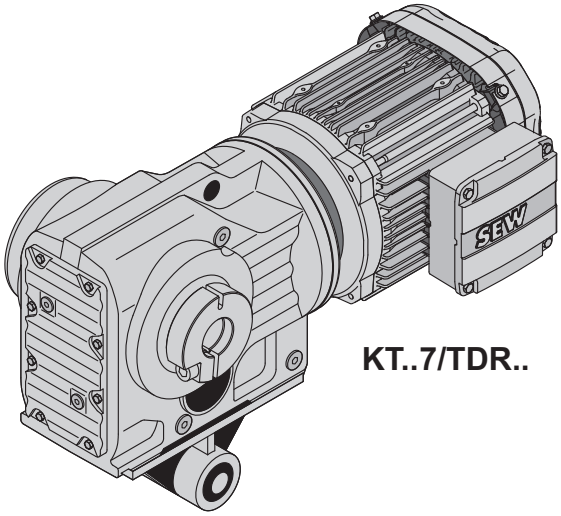
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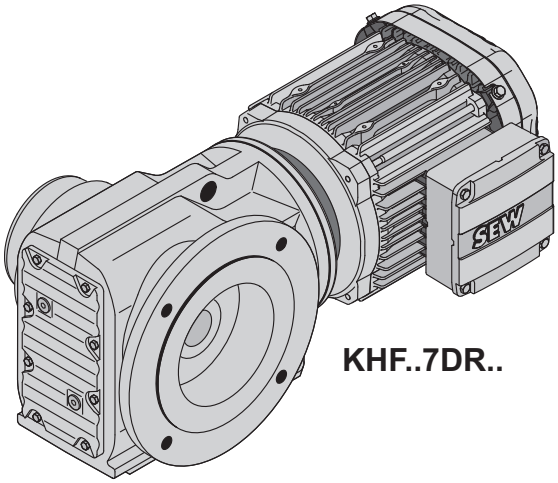
KF..7DR..



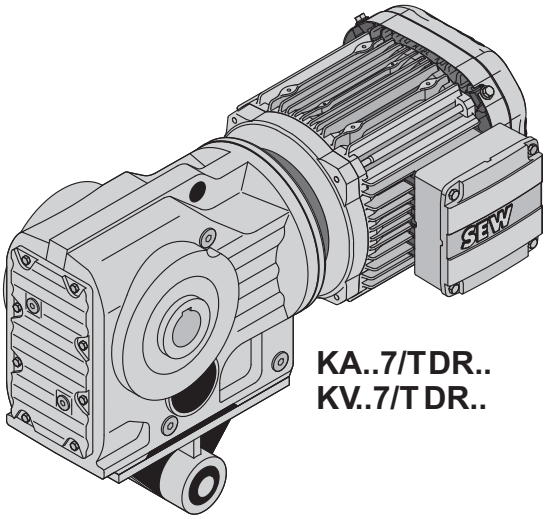
KAF..7DR..
KVF..7DR..



KT..7/TDR..



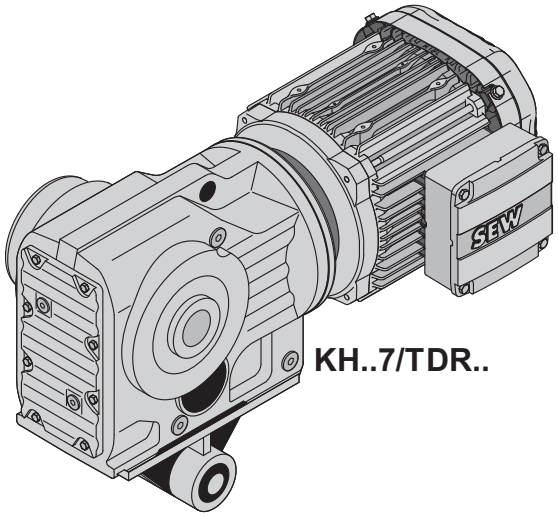
KHF..7DR..

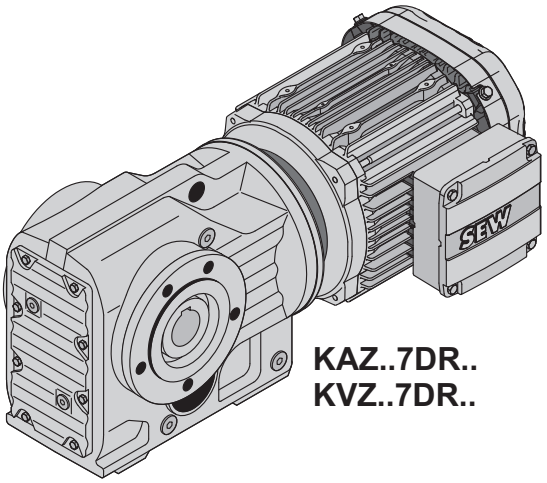


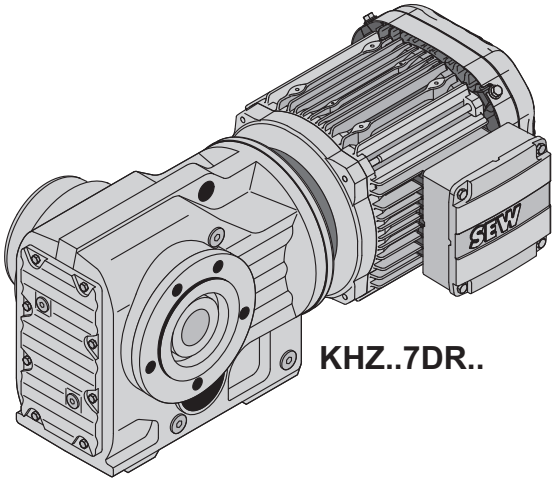
KA..7/TDR..
KV..7/TDR..

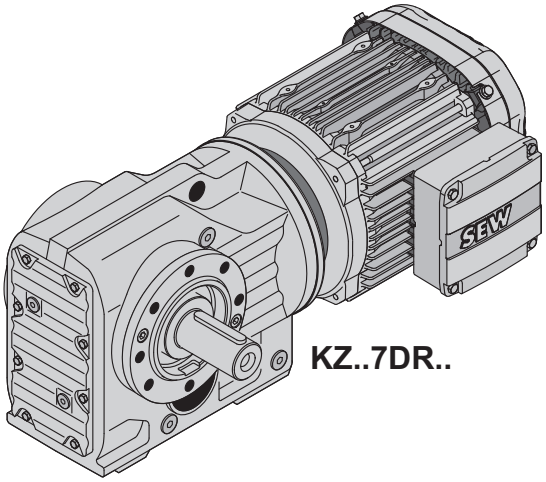
9007207919497227

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27021606882178955

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10.2 Possible geometrical combinations of K..DRN.

K19, n_e=1700 min^{-1}							80 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L	DRS71S DRS71M	DRN80M DRN90S
					2		
29	70	4330	-	58.68			
32	70	4330	-	53.88			
34	70	4330	-	49.69			
38	69	4340	-	44.48			
42	67	4350	-	40.63			
50	64	4100	-	34.29			
54	80	3950	-	31.74			
58	61	3890	-	29.29			
58	80	3810	-	29.14			
63	60	3790	-	27.16			
63	80	3690	-	26.88			
71	80	3520	-	24.06			
77	80	3400	-	21.98			
92	80	3160	-	18.55			
107	80	2960	-	15.84			
116	80	2870	-	14.69			
134	80	2690	-	12.70			
144	79	2620	-	11.84			
165	76	2500	-	10.32			
177	63	2700	-	9.58			
210	80	2380	-	8.09			
246	80	2230	-	6.91			
265	80	2160	-	6.41			
307	80	2030	-	5.54			
329	80	1960	-	5.16			
378	80	1850	-	4.50			

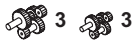
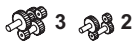
K29, n_e=1700 min^{-1}								130 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L	DRS71S DRS71M	DRN80M DRN90S	DRN90L
						2		
24	130	4980	-	71.93				
26	130	4980	-	66.25				
28	130	4980	-	61.28				
31	130	4880	-	54.89				
34	130	4710	-	50.35				
40	128	4410	-	42.87				
44	130	4350	-	38.90				
46	122	4200	-	36.96				
47	130	4200	-	35.83				
51	130	4060	-	33.15				
56	115	3910	-	30.11				
57	130	3880	-	29.69				
62	130	3730	-	27.23				
68	109	3660	-	24.91				
73	130	3480	-	23.19				

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K29, n_e=1700 min^{-1}								130 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L	DRS71S DRS71M	DRN80M DRN90S	DRN90L
77	105	3510	-	22.08				
85	130	3250	-	19.99				
104	130	2960	-	16.29				
126	130	2710	-	13.47				
142	130	2560	-	11.94				
172	110	2770	-	9.90				
185	130	2240	-	9.17				
199	122	2520	-	8.53				
227	123	2080	-	7.48				
245	112	2370	-	6.95				
296	112	2180	-	5.75				
333	110	2080	-	5.10				
434	126	1740	-	3.92				
533	110	1670	-	3.19				

K37, n_e=1700 min^{-1}								200 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
						 3		
16	200	5640	6.8	106.38				
17	200	5640	6.8	97.81				
20	200	5400	6.9	83.69				
23	200	5060	6.9	72.54				
25	200	4910	6.9	67.80				
29	200	4590	6.9	58.60				
34	200	4250	7	49.79				
38	200	4030	7	44.46				
45	200	3730	7	37.97				
48	200	3610	7.1	35.57				
57	200	3300	7.1	29.96				
59	200	3240	8.1	28.83				
68	200	3000	8.1	24.99				
73	195	2940	8.2	23.36				
84	185	2810	8.3	20.19				
99	180	2620	8.4	17.15				
111	175	2510	8.5	15.31				
130	165	2390	8.6	13.08				
140	160	2340	11.9	12.14				
162	160	2160	12.2	10.49				
191	160	1970	12.4	8.91				
214	155	1890	12.5	7.96				
250	150	1770	12.8	6.80				
267	145	1750	12.9	6.37				
317	140	1620	13.2	5.36				
427	125	1480	13	3.98				

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K37R17, n_e=1700 min^{-1}						200 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
					 3 3	
0.25	200	5640	-	6832		
0.29	200	5640	-	5922		
0.31	200	5640	-	5491		
0.36	200	5640	-	4759		
0.41	200	5640	-	4160		
0.47	200	5640	-	3645		
0.53	200	5640	-	3205		
0.61	200	5640	-	2801		
0.69	200	5640	-	2454		
0.78	200	5640	-	2166		
0.90	200	5640	-	1891		
1.0	200	5640	-	1660		
1.2	200	5640	-	1466		
1.3	200	5640	-	1288		
1.5	200	5640	-	1136		
					 3 2	
1.7	200	5640	-	996		
1.9	200	5640	-	876		
2.2	200	5640	-	761		
2.5	200	5640	-	671		
2.9	200	5640	-	585		
3.3	200	5640	-	512		
3.8	200	5640	-	451		
4.3	200	5640	-	396		
4.9	200	5640	-	346		
5.6	200	5640	-	304		
6.4	200	5640	-	267		
7.3	200	5640	-	234		
8.3	200	5640	-	205		
9.4	200	5640	-	181		
11	200	5640	-	160		
12	200	5640	-	136		
13	200	5640	-	127		
15	200	5640	-	110		
18	200	5640	-	96		

K39, n_e=1700 min^{-1}									300 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M
					 2				
29	300	7320	-	58.24					
34	300	6810	-	49.69					
39	300	6400	-	43.45					
41	300	6250	-	41.28					
47	300	5870	-	36.22					

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K39, n_e=1700 min^{-1}									300 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M
55	300	5420	-	30.72					
61	300	5150	-	27.73					
70	300	4830	-	24.40					
74	300	4690	-	23.04					
87	295	4350	-	19.62					
95	290	4180	-	17.83					
110	280	3960	-	15.44					
126	270	3750	-	13.44					
134	250	4530	-	12.73					
141	255	4400	-	12.09					
160	285	3980	-	10.61					
189	300	3590	-	9.00					
209	300	3420	-	8.12					
238	300	3200	-	7.15					
252	300	3110	-	6.75					
296	275	3000	-	5.75					
326	260	2940	-	5.22					
376	240	2850	-	4.52					
431	215	2800	-	3.94					
605	170	2630	-	2.81					

K39R17, n_e=1700 min^{-1}						300 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
					2 3	
0.42	300	7500	-	4057		
0.50	300	7500	-	3370		
0.58	300	7500	-	2906		
0.68	300	7500	-	2508		
0.72	300	7500	-	2367		
0.79	300	7500	-	2162		
0.90	300	7500	-	1881		
0.96	300	7500	-	1762		
1.0	300	7500	-	1622		
1.1	300	7500	-	1494		
1.3	300	7500	-	1321		
1.5	300	7500	-	1169		
1.6	300	7500	-	1093		
					2 2	
1.8	300	7500	-	956		
2.1	300	7500	-	814		
2.4	300	7500	-	711		
2.8	300	7500	-	605		
3.4	300	7500	-	504		
3.7	300	7500	-	454		
4.3	300	7500	-	399		
4.7	300	7500	-	365		

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K39R17, n_e=1700 min^{-1}						300 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
5.4	300	7500	-	312		
5.7	300	7500	-	299		
6.7	300	7500	-	254		
7.3	300	7500	-	234		
8.1	300	7500	-	210		
9.0	300	7500	-	189		
9.8	300	7500	-	174		
11	300	7500	-	156		
12	300	7500	-	142		
15	300	7500	-	117		
23	295	7500	-	75		

K47, n_e=1700 min^{-1}								400 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
						3		
13	400	5920	6.4	131.87*				
14	400	5920	6.4	121.48*				
16	400	5920	6.4	104.37				
19	400	5920	6.4	90.86				
20	400	5920	6.4	85.12*				
23	400	5920	6.5	75.20*				
24	400	5920	6.5	69.84				
27	400	5920	6.5	63.30*				
30	400	5920	6.5	56.83				
35	400	5920	6.6	48.95*				
37	400	5920	6.6	46.03*				
43	400	5820	6.6	39.61				
48	400	5500	6.7	35.39				
54	400	5160	7.5	31.30				
58	400	4980	7.5	29.32				
66	400	4650	7.6	25.91				
71	400	4470	7.7	24.06				
78	400	4220	7.7	21.81				
87	400	3970	7.7	19.58				
101	380	3780	7.8	16.86				
107	380	3640	7.9	15.86				
125	360	3480	8	13.65				
139	350	3320	8.3	12.19				
144	280	3660	10.5	11.77				
161	280	3450	10.6	10.56				
187	280	3170	10.7	9.10				
199	270	3140	10.8	8.56				
231	250	3050	11	7.36				
258	240	2940	11.5	6.58				
293	230	2820	11.8	5.81				
366	205	2680	12	4.64				

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K47R37, n_e=1700 min^{-1}								400 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
					3	3		
0.17	400	5920	-	10138				
0.20	400	5920	-	8534				
0.22	400	5920	-	7662				
0.25	400	5920	-	6826				
0.28	400	5920	-	5983				
0.33	400	5920	-	5159				
0.37	400	5920	-	4601*				
0.43	400	5920	-	3940				
0.49	400	5920	-	3477				
0.56	400	5920	-	3043				
0.62	400	5920	-	2733				
0.72	400	5920	-	2354				
0.82	400	5920	-	2063				
0.93	400	5920	-	1819				
1.1	400	5920	-	1586				
1.2	400	5920	-	1388				
					3	2		
1.4	400	5920	-	1222				
1.5	400	5920	-	1097				
1.8	400	5920	-	945				
2.0	400	5920	-	831*				
2.4	400	5920	-	718*				
2.7	400	5920	-	639				
3.1	400	5920	-	552				
3.4	400	5920	-	495				
4.0	400	5920	-	426				
4.5	400	5920	-	375				
5.2	400	5920	-	327				
5.9	400	5920	-	289				
6.6	400	5920	-	256				
7.6	400	5920	-	225				
8.6	400	5920	-	198				
9.9	400	5920	-	171				
11	400	5920	-	153				
13	400	5920	-	131				
15	400	5920	-	112				
17	400	5920	-	99				
18	400	5920	-	94				

K49, n_e=1700 min^{-1}										500 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
						2				
23	475	9000	-	75.20						
24	445	9000	-	70.19						

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K49, n_e=1700 min^{-1}										500 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
28	500	8330	-	60.27						
32	500	7820	-	52.94						
34	500	7630	-	50.29						
38	500	7180	-	44.44						
45	500	6630	-	37.98						
49	500	6340	-	34.81						
56	500	5910	-	30.55						
59	500	5740	-	28.95						
67	500	5340	-	25.34						
74	500	5030	-	22.83						
85	500	4660	-	20.03						
96	500	4320	-	17.67						
108	490	4080	-	15.67						
127	470	3840	-	13.38						
150	495	4540	-	11.37						
163	480	4420	-	10.42						
186	500	4040	-	9.14						
196	500	3930	-	8.66						
224	500	3650	-	7.58						
249	500	3450	-	6.83						
284	500	2580	-	5.99						
321	485	2030	-	5.29						
362	465	1860	-	4.69						
425	440	1650	-	4.00						

K49R37, n_e=1700 min^{-1}								500 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
					2	3		
0.24	500	9000	-	7137				
0.28	500	9000	-	5991				
0.33	500	9000	-	5120				
0.42	500	9000	-	4034				
0.47	500	9000	-	3580				
0.55	500	9000	-	3081				
0.61	500	9000	-	2773				
0.67	500	9000	-	2545				
0.72	500	9000	-	2372				
0.80	500	9000	-	2118				
0.88	500	9000	-	1941				
0.98	500	9000	-	1741				
1.0	500	9000	-	1632				
1.1	500	9000	-	1521				
1.4	500	9000	-	1228				
1.7	500	9000	-	1000				
					2	2		
1.2	500	9000	-	1424				

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K49R37, n_e=1700 min^{-1}								500 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
1.3	500	9000	-	1309				
1.5	500	9000	-	1120				
1.9	500	9000	-	908				
2.1	500	9000	-	802				
2.4	500	9000	-	701				
2.6	500	9000	-	645				
2.9	500	9000	-	595				
3.1	500	9000	-	543				
3.4	500	9000	-	501				
3.8	500	9000	-	449				
4.2	500	9000	-	401				
4.7	500	9000	-	360				
5.2	500	9000	-	330				
5.7	500	9000	-	300				
6.2	500	9000	-	274				
7.0	500	9000	-	243				
7.8	500	9000	-	217				
8.8	500	9000	-	193				
9.7	500	9000	-	176				
11	500	9000	-	152				
14	500	9000	-	125				
17	500	9000	-	99				

K57, n_e=1700 min^{-1}									600 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M
						3			
12	600	7630	5.9	145.14*					
14	600	7630	5.9	123.85					
16	600	7630	5.9	108.29					
17	600	7630	5.9	102.88*					
19	600	7630	5.9	90.26*					
22	600	7630	5.9	76.56*					
25	600	7630	6	69.12					
28	600	7630	6	60.81*					
30	600	7630	6	57.42*					
35	600	7630	6	48.89					
38	600	7630	6.1	44.43					
44	600	7480	6.1	38.49					
48	600	7200	6.8	35.70					
56	600	6600	6.9	30.28					
62	600	6250	6.9	27.34					
71	600	5820	6.9	24.05					
75	600	5640	6.9	22.71					
88	575	5300	7	19.34					
97	555	5150	7.2	17.57					
112	535	4870	7.3	15.22					

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K57, n_e=1700 min^{-1}									600 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M
128	510	4650	7.4	13.25					
143	415	4630	9.4	11.92					
151	415	4490	9.5	11.26					
177	405	4170	9.6	9.59					
195	390	4050	10	8.71					
225	365	3910	10.2	7.55					
259	345	3760	10.4	6.57					
362	300	3430	11	4.69					

K57R37, n_e=1700 min^{-1}								600 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
					3	3		
0.14	600	7630	-	12169				
0.15	600	7630	-	11162*				
0.18	600	7630	-	9503				
0.20	600	7630	-	8547				
0.23	600	7630	-	7277				
0.26	600	7630	-	6478*				
0.30	600	7630	-	5662*				
0.34	600	7630	-	5033				
0.39	600	7630	-	4340				
0.44	600	7630	-	3854				
0.50	600	7630	-	3390				
0.58	600	7630	-	2924				
0.66	600	7630	-	2593				
0.76	600	7630	-	2249				
0.86	600	7630	-	1986				
					3	2		
0.98	600	7630	-	1743				
1.1	600	7630	-	1539				
1.3	600	7630	-	1354				
1.4	600	7630	-	1174				
1.6	600	7630	-	1036*				
1.9	600	7630	-	906*				
2.1	600	7630	-	806				
2.4	600	7630	-	699				
2.8	600	7630	-	615				
3.1	600	7630	-	544*				
3.6	600	7630	-	473				
4.0	600	7630	-	421				
4.7	600	7630	-	362				
5.3	600	7630	-	319				
6.1	600	7630	-	280				
6.9	600	7630	-	246				
7.9	600	7630	-	215				
8.9	600	7630	-	192				

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K57R37, n_e=1700 min^{-1}								600 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
10	600	7630	-	166				
12	600	7630	-	145				
13	600	7630	-	129				
15	600	7630	-	111				
18	600	7630	-	97				

K67, n_e=1700 min^{-1}										820 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
						3				
12	820	10300	6.2	144.79*						
14	820	10300	6.2	123.54						
16	820	10300	6.1	108.03						
17	820	10300	6.1	102.62						
19	820	10300	6.2	90.04						
22	820	10300	6.2	76.37						
25	820	10300	6.2	68.95						
28	820	10300	6.2	60.66						
30	820	10300	6.2	57.28						
35	820	10300	6.3	48.77						
38	820	10300	6.3	44.32						
44	800	10500	6.4	38.39						
48	820	10300	7.1	35.62						
56	820	10300	7.1	30.22						
62	820	10300	7.1	27.28						
71	800	10500	7.2	24.00						
75	780	10700	7.2	22.66						
88	760	10800	7.3	19.30						
97	740	11000	7.5	17.54						
112	700	11300	7.5	15.19						
129	670	11400	7.6	13.22						
136	530	11400	8.6	12.48						
160	500	10900	8.8	10.63						
176	480	10700	9.1	9.66						
203	440	10300	9.3	8.37						
234	420	9930	9.4	7.28						
327	350	9180	10	5.20						

K67R37, n_e=1700 min^{-1}								820 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
					3	3		
0.14	820	10300	-	12139				
0.15	820	10300	-	11134				

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K67R37, n_e=1700 min^{-1} — 820 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
0.18	820	10300	-	9479				
0.21	820	10300	-	8173				
0.23	820	10300	-	7259				
0.26	820	10300	-	6462				
0.30	820	10300	-	5648				
0.35	820	10300	-	4846				
0.39	820	10300	-	4329				
0.45	820	10300	-	3750				
0.51	820	10300	-	3315				
0.58	820	10300	-	2917				
0.67	820	10300	-	2532				
0.76	820	10300	-	2244				
0.86	820	10300	-	1981				
					 3 2			
0.98	820	10300	-	1739				
1.1	820	10300	-	1535				
1.3	820	10300	-	1351				
1.5	820	10300	-	1171				
1.6	820	10300	-	1034				
1.9	820	10300	-	903				
2.1	820	10300	-	793				
2.4	820	10300	-	697				
2.8	820	10300	-	613				
3.1	820	10300	-	542				
3.6	820	10300	-	471				
4.0	820	10300	-	420				
4.7	820	10300	-	361				
5.3	820	10300	-	323				
6.1	820	10300	-	279				
6.9	820	10300	-	246				
7.8	820	10300	-	217				
8.9	820	10300	-	191				
10	820	10300	-	166				
12	820	10300	-	144				
14	820	10300	-	122				

K77, n_e=1700 min^{-1} — 1550 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
						 3					
8.8	1450	16100	5.4	192.18							
9.5	1450	16100	5.4	179.37							
11	1550	15400	5.4	154.02							
13	1550	15400	5.4	135.28							
13	1550	15400	5.4	128.52							
15	1550	15400	5.4	113.56							
18	1550	15400	5.4	97.05							

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K77, n_e=1700 min^{-1}											1550 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
19	1550	15400	5.4	88.97							
22	1550	15400	5.4	78.07							
23	1550	15400	5.4	73.99							
26	1550	15400	5.5	64.75							
29	1550	15400	5.5	58.34							
33	1550	15400	5.5	51.18							
38	1550	15400	5.5	45.16							
42	1550	15400	5.6	40.04							
44	1500	15700	6	38.39							
48	1550	15400	6	35.20							
55	1550	15400	6.1	30.89							
58	1550	15400	6.1	29.27							
66	1550	15400	6.1	25.62							
74	1550	15400	6.3	23.08							
84	1500	15400	6.3	20.25							
95	1450	14800	6.3	17.87							
107	1400	14300	6.4	15.84							
126	1340	13600	6.5	13.52							
138	1000	14000	7.9	12.36							
157	990	13300	7.8	10.84							
178	940	12900	7.9	9.56							
200	890	12500	8.2	8.48							
235	820	12100	8.3	7.24							

K77R37, n_e=1700 min^{-1}								1550 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
					3 3			
0.11	1550	15400	-	15310				
0.12	1550	15400	-	14043				
0.14	1550	15400	-	11955				
0.17	1550	15400	-	10217				
0.19	1550	15400	-	8809				
0.23	1550	15400	-	7528				
0.26	1550	15400	-	6606				
0.29	1550	15400	-	5774				
0.33	1550	15400	-	5089				
0.38	1550	15400	-	4489				
0.43	1550	15400	-	3961				
0.49	1550	15400	-	3485				
0.59	1550	15400	-	2901				
0.63	1550	15400	-	2717				
0.72	1550	15400	-	2370				
					3 2			
0.83	1550	15400	-	2050				
0.96	1550	15400	-	1772				
1.1	1550	15400	-	1514				

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K77R37, n_e=1700 min^{-1} — 1550 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
1.2	1550	15400	-	1388				
1.4	1550	15400	-	1218				
1.6	1550	15400	-	1053				
1.8	1550	15400	-	924				
2.1	1550	15400	-	815				
2.4	1550	15400	-	709				
2.7	1550	15400	-	622				
3.1	1550	15400	-	552				
3.5	1550	15400	-	485				
4.0	1550	15400	-	428				
4.6	1550	15400	-	367				
5.2	1550	15400	-	328				
5.9	1550	15400	-	290				
6.7	1550	15400	-	252				
7.7	1550	15400	-	221				
8.7	1550	15400	-	195				
9.7	1550	15400	-	175				
11	1550	15400	-	154				

K87, n_e=1700 min^{-1} — 2700 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L
							 3						
8.6	2700	27300	5.3	197.37									
9.8	2700	27300	5.3	174.19									
10	2700	27300	5.3	164.34*									
12	2700	27300	5.4	147.32*									
13	2700	27300	5.4	126.91*									
15	2700	27300	5.4	115.82									
17	2700	27300	5.4	102.71*									
20	2700	27300	5.4	86.34									
21	2700	26600	5.4	79.34									
24	2700	25200	5.4	70.46									
27	2700	24100	5.4	63.00*									
30	2700	23000	5.5	56.64									
35	2700	21600	5.5	49.16									
39	2600	20900	5.5	44.02									
47	2500	19600	5.5	36.52*									
54	2700	17500	6.1	31.39									
61	2600	16900	6.1	27.88									
68	2500	16400	6.1	24.92									
76	2300	16400	6.2	22.41									
87	2300	15300	6.3	19.45									
98	2200	14900	6.3	17.42									
106	1800	14600	6.5	16.00									
118	2100	14000	6.4	14.45									
135	2000	13500	6.5	12.56									
152	1500	13700	6.7	11.17									
170	1500	13000	6.8	10.00									

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K87, n_e=1700 min^{-1}													2700 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L
205	1400	12400	7	8.29									
236	1300	12100	7.1	7.21									

K87R57, n_e=1700 min^{-1}										2700 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
						3 3				
0.11	2700	27300	-	14829						
0.13	2700	27300	-	13168						
0.14	2700	27300	-	11737						
0.17	2700	27300	-	10217						
0.19	2700	27300	-	9073						
0.22	2700	27300	-	7854						
0.25	2700	27300	-	6832						
0.29	2700	27300	-	5930						
0.32	2700	27300	-	5240						
0.37	2700	27300	-	4562						
0.42	2700	27300	-	4037						
0.47	2700	27300	-	3609						
0.55	2700	27300	-	3107						
0.62	2700	27300	-	2728						
0.72	2700	27300	-	2371						
						3 2				
0.81	2700	27300	-	2088						
0.92	2700	27300	-	1854						
1.0	2700	27300	-	1657						
1.2	2700	27300	-	1415						
1.4	2700	27300	-	1229						
1.6	2700	27300	-	1078						
1.8	2700	27300	-	951						
2.0	2700	27300	-	837						
2.3	2700	27300	-	726						
2.7	2700	27300	-	638						
3.0	2700	27300	-	562*						
3.6	2700	27300	-	474*						
4.0	2700	27300	-	426						
4.6	2700	27300	-	373						
5.2	2700	27300	-	330						
5.8	2700	27300	-	294						
6.8	2700	27300	-	250						
7.2	2700	27300	-	236						
8.5	2700	27300	-	201						
9.3	2700	27300	-	183						
11	2700	27300	-	159						
12	2600	27400	-	141						

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K97, n_e=1700 min^{-1}												4300 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S
							3					
9.7	4300	40000	6.8	176.05*								
11	4300	40000	6.8	153.21*								
12	4300	40000	6.8	140.28								
14	4300	40000	6.8	123.93*								
16	4300	38800	6.8	105.13								
18	4300	37500	6.8	96.80								
20	4300	35700	6.8	86.52								
22	4300	34200	6.8	77.89*								
24	4300	32700	6.9	70.54								
27	4300	31000	6.9	62.55								
30	4300	29700	6.9	56.55								
35	4300	27500	6.9	47.93*								
41	4300	25800	6.9	41.87								
44	4300	24700	7.4	38.30								
50	4300	23400	7.5	34.23								
55	4300	22200	7.5	30.82								
61	4300	21100	7.5	27.91								
69	4300	19900	7.6	24.75								
76	4300	18800	7.6	22.37								
90	4300	17200	7.6	18.96								
103	4300	15900	7.7	16.56								
123	4300	14300	7.7	13.85								
142	3890	14500	7.8	11.99								
163	2870	14800	9.7	10.41								
195	2660	14300	9.8	8.71								
225	2400	14300	10	7.54								

K97R57, n_e=1700 min^{-1}										4300 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
						3 3				
0.09	4300	40000	-	18091						
0.10	4300	40000	-	16666						
0.11	4300	40000	-	14897						
0.13	4300	40000	-	13182						
0.15	4300	40000	-	11677						
0.16	4300	40000	-	10317						
0.19	4300	40000	-	9083						
0.21	4300	40000	-	8054						
0.24	4300	40000	-	6970						
0.28	4300	40000	-	6027						
0.32	4300	40000	-	5391						
0.36	4300	40000	-	4669						
0.42	4300	40000	-	4082						
0.47	4300	40000	-	3583						
0.55	4300	40000	-	3108*						
0.62	4300	40000	-	2757						

K97R57, n_e=1700 min^{-1}										4300 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
						3 2				
0.70	4300	40000	-	2419						
0.80	4300	40000	-	2123						
0.92	4300	40000	-	1856						
1.0	4300	40000	-	1625						
1.2	4300	40000	-	1430						
1.3	4300	40000	-	1261						
1.5	4300	40000	-	1102						
1.8	4300	40000	-	957						
2.0	4300	40000	-	855						
2.3	4300	40000	-	743						
2.6	4300	40000	-	652*						
3.0	4300	40000	-	573						
3.4	4300	40000	-	504						
3.9	4300	40000	-	437						
4.5	4300	40000	-	382*						
5.0	4300	40000	-	342*						
5.6	4300	40000	-	305						
6.6	4300	40000	-	258						
7.3	4300	40000	-	232						
8.5	4300	40000	-	199						

K107, n_e=1700 min^{-1}											8000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME
						3					
12	8000	60700	5.7	143.47*							
14	8000	56100	5.7	121.46							
15	8000	54000	5.8	112.41*							
17	8000	51100	5.8	100.75							
19	8000	48400	5.8	90.96*							
21	8000	46000	5.8	82.61							
23	8000	43100	5.8	73.30							
26	8000	40700	5.8	66.52*							
30	8000	37200	5.8	57.17*							
34	7840	34900	5.8	49.90							
40	7360	33700	5.8	42.33*							
46	7200	31700	5.8	37.00*							
52	7200	29200	6.4	32.69							
54	6800	30400	5.9	31.28*							
59	7200	26900	6.5	29.00							
65	7200	25000	6.4	26.32							
75	7200	22100	6.5	22.62							
86	7200	19600	6.5	19.74							
101	7050	17400	6.5	16.75							
116	6890	16000	6.6	14.64							
127	4300	26800	8.8	13.43							
145	4300	25100	8.8	11.73							

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K107, n_e=1700 min^{-1}											8000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME
171	4190	23600	8.9	9.94							
196	4070	22500	9	8.69							
231	3600	22300	9	7.35							

K107R77, n_e=1700 min^{-1}											8000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
						3	3				
0.12	8000	65000	-	14311*							
0.14	8000	65000	-	12211							
0.16	8000	65000	-	10677							
0.18	8000	65000	-	9524							
0.20	8000	65000	-	8328							
0.23	8000	65000	-	7270							
0.27	8000	65000	-	6184							
0.30	8000	65000	-	5662							
0.33	8000	65000	-	5138							
0.39	8000	65000	-	4359*							
0.45	8000	65000	-	3810*							
0.51	8000	65000	-	3358							
0.57	8000	65000	-	2977*							
0.65	8000	65000	-	2599							
0.74	8000	65000	-	2286							
0.88	8000	65000	-	1939							
						3	2				
0.99	8000	65000	-	1713							
1.1	8000	65000	-	1554							
1.3	8000	65000	-	1336*							
1.5	8000	65000	-	1166							
1.7	8000	65000	-	1030							
1.9	8000	65000	-	904							
2.1	8000	65000	-	793*							
2.4	8000	65000	-	696*							
2.8	8000	65000	-	615							
3.3	8000	65000	-	522							
3.7	8000	65000	-	461*							
4.2	8000	65000	-	408*							
4.7	8000	65000	-	364							
5.3	8000	65000	-	318							
5.9	8000	65000	-	286*							
6.8	8000	65000	-	251							
7.7	8000	65000	-	222*							
8.7	8000	65000	-	196*							
9.8	7200	65000	-	174							
11	7200	65000	-	154							
12	7200	62700	-	140							

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K127, n_e=1700 min^{-1}									13000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME DRN280S DRN280M
						3			
12	13000	79200	5.2	146.07					
12	13000	79200	5.2	136.14					
14	13000	78900	5.2	122.48					
15	13000	75400	5.2	110.18					
19	13000	69000	5.2	89.89					
21	13000	66200	5.3	81.98					
24	13000	62000	5.3	70.95*					
27	13000	58500	5.3	62.60					
31	13000	54600	5.3	54.07					
36	13000	51500	5.3	47.82					
42	13000	47200	5.3	40.19					
47	13000	44800	5.6	36.25					
54	13000	41500	5.6	31.37					
61	13000	38700	5.7	27.68					
71	13000	35300	5.7	23.91					
80	13000	32000	5.7	21.15					
96	13000	27400	5.8	17.77					
118	12100	26200	5.8	14.35					
133	8530	32000	8	12.79					
158	8000	30600	8.1	10.74					
196	7230	29500	8.1	8.68					

K127R77, n_e=1700 min^{-1}											13000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
						3	3				
0.10	13000	79200	-	17550							
0.11	13000	79200	-	16006							
0.11	13000	79200	-	14975							
0.14	13000	79200	-	12440							
0.16	13000	79200	-	10915							
0.17	13000	79200	-	9819							
0.20	13000	79200	-	8443							
0.23	13000	79200	-	7482							
0.26	13000	79200	-	6565							
0.29	13000	79200	-	5804							
0.34	13000	79200	-	5027							
0.38	13000	79200	-	4423							
0.44	13000	79200	-	3889							
0.51	13000	79200	-	3311							
0.56	13000	79200	-	3009							
0.65	13000	79200	-	2607							
0.75	13000	79200	-	2268							
						3	2				
0.88	13000	79200	-	1926							
0.97	13000	79200	-	1757							
1.1	13000	79200	-	1541							

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K127R77, n_e=1700 min^{-1} — 13000 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
1.3	13000	79200	-	1342							
1.4	13000	79200	-	1177							
1.7	13000	79200	-	1025							
1.9	13000	79200	-	899							
2.2	13000	79200	-	790							
2.4	13000	79200	-	704							
2.8	13000	79200	-	610							
3.1	13000	79200	-	549							
3.6	13000	79200	-	477							
4.1	13000	79200	-	418							

K127R87, n_e=1700 min^{-1} — 13000 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L
							3 2					
3.2	13000	79200	-	536								
3.6	13000	79200	-	473								
4.1	13000	79200	-	418								
4.6	13000	79200	-	367								
5.2	13000	79200	-	330								
5.9	13000	79200	-	287								
6.7	13000	79200	-	253								
8.0	13000	79200	-	213								
8.5	12000	79700	-	200								
10	12000	79700	-	166								
12	12000	79700	-	147								

K157, n_e=1700 min^{-1} — 18000 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME DRN280S DRN280M	DRN315S DRN315ME	DRN315L DRN315H
						3				
11	18000	107100	5.2	150.41						
14	18000	98300	5.2	122.39						
17	18000	90300	5.2	100.22						
19	18000	86800	5.2	91.65						
21	18000	81700	5.2	79.75						
24	18000	77200	5.2	70.38						
28	18000	72300	5.2	61.02						
31	18000	68500	5.2	54.29						
36	18000	63800	5.2	46.79						
45	18000	57500	5.3	38.02						
54	18000	52000	5.6	31.30						
62	18000	48700	5.6	27.62						
71	18000	45000	5.6	23.95						
80	18000	42100	5.6	21.31						
93	18000	38500	5.7	18.37						
114	18000	33800	5.8	14.92						

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K157, n_e=1700 min^{-1}											18000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME DRN280S DRN280M	DRN315S DRN315ME	DRN315L DRN315H
134	17000	32500	5.8	12.65						

K157R97, n_e=1700 min^{-1}													18000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S
							3	3					
0.10	18000	112200	-	17679									
0.11	18000	112200	-	15729									
0.12	18000	112200	-	14721									
0.13	18000	112200	-	13097									
0.15	18000	112200	-	11368									
0.17	18000	112200	-	10114									
0.19	18000	112200	-	8718									
0.22	18000	112200	-	7734									
0.25	18000	112200	-	6881									
0.29	18000	112200	-	5931									
0.34	18000	112200	-	5074									
0.38	18000	112200	-	4514									
0.43	18000	112200	-	3979									
0.48	18000	112200	-	3516									
0.56	18000	112200	-	3051									
0.65	18000	112200	-	2610									
0.73	18000	112200	-	2322									
0.84	18000	112200	-	2029									
0.94	18000	112200	-	1805									
							3	2					
1.0	18000	112200	-	1659									
1.2	18000	112200	-	1365									
1.4	18000	112200	-	1229*									
1.6	18000	112200	-	1093*									
1.8	18000	112200	-	942									
2.0	18000	112200	-	854									
2.2	18000	112200	-	756*									
2.6	18000	112200	-	661									
3.0	18000	112200	-	567									
3.4	18000	112200	-	504									
3.9	18000	112200	-	434*									
4.5	18000	112200	-	379									
5.1	18000	112200	-	333									
5.8	18000	112200	-	291									

K157R107, n_e=1700 min^{-1}											18000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME
						3	2				
4.4	18000	112200	-	385							
5.2	18000	112200	-	325							
5.7	18000	112200	-	299							

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K157R107, n_e=1700 min^{-1} — 18000 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME
6.7	18000	112200	-	253							
7.4	18000	112200	-	230							
8.0	18000	112200	-	213							
9.1	18000	112200	-	187							
11	18000	109000	-	157							
14	18000	98300	-	122							
16	18000	92800	-	107							

K167, n_e=1700 min^{-1} — 32000 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME DRN280S DRN280M	DRN315S DRN315ME	DRN315L DRN315H
						3				
10	32000	150000	4.5	164.50						
13	32000	150000	4.5	134.99						
15	32000	149000	4.5	109.83						
19	32000	135500	4.5	87.86						
22	32000	128800	4.5	78.14						
25	32000	121200	4.5	68.07						
28	32000	115200	4.5	60.74						
33	32000	107100	4.6	51.77						
40	32000	98000	4.6	42.89						
46	32000	90700	4.6	36.61						
53	32000	85100	4.8	32.25						
59	32000	80300	4.8	28.77						
69	32000	73800	4.9	24.52						
84	32000	66500	4.9	20.32						
98	32000	60700	5	17.34						

K167R97, n_e=1700 min^{-1} — 32000 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S
							3	3					
0.09	32000	150000	-	19723									
0.10	32000	150000	-	17406									
0.11	32000	150000	-	15000									
0.13	32000	150000	-	13238									
0.15	32000	150000	-	11573									
0.17	32000	150000	-	10264									
0.20	32000	150000	-	8628									
0.26	32000	150000	-	6562									
0.32	32000	150000	-	5355									
0.36	32000	150000	-	4788									
0.42	32000	150000	-	4079									
0.50	32000	150000	-	3376									
0.62	32000	150000	-	2755									
0.75	32000	150000	-	2263									
							3	2					
0.78	32000	150000	-	2182									

K167R97, n_e=1700 min^{-1} — 32000 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S
1.00	32000	150000	-	1704									
1.2	32000	150000	-	1408									
1.3	32000	150000	-	1296									
1.5	32000	150000	-	1101									
1.8	32000	150000	-	944									
2.0	32000	150000	-	843									
2.2	32000	150000	-	757									
2.7	32000	150000	-	632									
3.0	32000	150000	-	561									
3.5	32000	150000	-	481									
4.0	32000	150000	-	423									
4.6	32000	150000	-	369									

K167R107, n_e=1700 min^{-1} — 32000 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME
						3 2					
5.3	32000	150000	-	318							
6.1	32000	150000	-	278							
7.0	32000	150000	-	244							
8.0	32000	150000	-	213							
8.3	32000	150000	-	206							
9.4	32000	150000	-	180							
11	32000	150000	-	160							
13	32000	150000	-	135							
14	32000	150000	-	118							

K187, n_e=1700 min^{-1} — 50000 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME DRN280S DRN280M	DRN315S DRN315ME	DRN315L DRN315H
						3				
9.5	50000	190000	3.8	179.86						
10	50000	190000	3.8	165.21						
12	50000	181500	3.8	144.59						
13	50000	173200	3.8	129.69						
15	50000	162800	3.8	112.60						
17	50000	155900	3.8	102.16						
19	50000	145700	3.8	88.00						
23	50000	134300	3.8	73.96						
27	50000	125400	3.8	64.04						
32	50000	114600	3.9	53.36						
37	50000	105600	3.9	45.50*						
40	50000	101900	4.1	42.51						
44	50000	96800	4.1	38.57						
51	50000	89200	4.2	33.23						
61	50000	80700	4.2	27.92						
70	47600	77700	4.2	24.18						
84	43900	75400	4.3	20.15						
99	41400	72600	4.3	17.18						

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K187R97, n_e=1700 min^{-1}													50000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S
							3	3					
0.05	50000	190000	-	32625									
0.06	50000	190000	-	27165									
0.07	50000	190000	-	24353									
0.09	50000	190000	-	19144									
0.10	50000	190000	-	16978									
0.12	50000	190000	-	14272									
0.13	50000	190000	-	13116									
0.15	50000	190000	-	11647									
0.16	50000	190000	-	10413									
0.18	50000	190000	-	9363									
0.21	50000	190000	-	8126									
0.23	50000	190000	-	7343									
0.25	50000	190000	-	6747									
0.28	50000	190000	-	5991									
0.32	50000	190000	-	5358									
0.35	50000	190000	-	4817									
0.39	50000	190000	-	4370									
0.60	50000	190000	-	2818*									
							3	2					
0.47	50000	190000	-	3609									
0.56	50000	190000	-	3062									
0.67	50000	190000	-	2519									
0.75	50000	190000	-	2268									
0.83	50000	190000	-	2054									
0.93	50000	190000	-	1821									
1.1	50000	190000	-	1605									
1.2	50000	190000	-	1395									
1.4	50000	190000	-	1196									
1.6	50000	190000	-	1046									
1.8	50000	190000	-	945									
2.3	50000	190000	-	738									
2.7	50000	190000	-	621									
3.2	50000	190000	-	527									

K187R107, n_e=1700 min^{-1}											50000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S DRN225M	DRN250ME
							3	2			
2.0	50000	190000	-	835							
2.3	50000	190000	-	729							
2.7	50000	190000	-	622							
3.3	50000	190000	-	520							
3.7	50000	190000	-	454							
4.8	50000	190000	-	355							
6.5	50000	190000	-	261							
7.7	50000	190000	-	221							
8.8	50000	190000	-	193							
10	50000	190000	-	163							

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10.3 Selection tables K..DRN. in kW

P_m = 0.12 kW												
n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC						m kg	
0.10	8450	17550	81300	1.55								
0.10	7700	16006	81500	1.70								
0.11	7210	14975	81700	1.80		**K**	**127R77**	**DR**	**63S4**		470	635
0.14	5990	12440	82100	2.2		**KF**	**127R77**	**DR**	**63S4**		510	635
0.15	5250	10915	82200	2.5		**KA**	**127R77**	**DR**	**63S4**		440	635
0.17	4720	9819	82300	2.8		**KAF**	**127R77**	**DR**	**63S4**		480	635
0.20	3980	8443	82500	3.3								
0.22	3600	7482	82600	3.6								
0.12	6890	14311	65000	1.15								
0.14	5880	12211	65000	1.35								
0.16	5140	10677	65000	1.55								
0.18	4580	9524	65000	1.75		**K**	**107R77**	**DR**	**63S4**		310	635
0.20	4010	8328	65000	2.0		**KF**	**107R77**	**DR**	**63S4**		320	635
0.23	3500	7270	65000	2.3		**KA**	**107R77**	**DR**	**63S4**		280	635
0.27	2820	6184	65000	2.8		**KAF**	**107R77**	**DR**	**63S4**		305	635
0.30	2390	5662	65000	3.3								
0.33	2170	5138	65000	3.7								
0.39	2050	4359	65000	3.9								
0.21	4350	8054	40000	1.00								
0.24	3430	6970	40000	1.25								
0.28	3150	6027	40000	1.35								
0.31	2910	5391	40000	1.50		**K**	**97R57**	**DR**	**63S4**		180	635
0.36	2360	4669	40000	1.80		**KF**	**97R57**	**DR**	**63S4**		200	635
0.41	2150	4082	40000	2.0		**KA**	**97R57**	**DR**	**63S4**		160	635
0.47	1870	3583	40000	2.3		**KAF**	**97R57**	**DR**	**63S4**		185	635
0.54	1660	3108	40000	2.6								
0.61	1370	2757	40000	3.1								
0.69	1300	2419	40000	3.3								
0.79	1120	2123	40000	3.8								
0.91	1010	1856	40000	4.2		**K**	**97R57**	**DR**	**63S4**		180	635
1.0	810	1625	40000	5.3		**KF**	**97R57**	**DR**	**63S4**		200	635
1.2	685	1430	40000	6.2		**KA**	**97R57**	**DR**	**63S4**		160	635
1.3	685	1261	40000	6.2		**KAF**	**97R57**	**DR**	**63S4**		185	635
1.5	600	1102	40000	7.1								
0.32	2740	5240	27200	1.00								
0.37	2250	4562	27800	1.20								
0.42	2110	4037	27900	1.30		**K**	**87R57**	**DR**	**63S4**		120	635
0.47	1880	3609	28200	1.45		**KF**	**87R57**	**DR**	**63S4**		130	635
0.54	1620	3107	28400	1.65		**KA**	**87R57**	**DR**	**63S4**		105	635
0.62	1340	2728	28600	2.0		**KAF**	**87R57**	**DR**	**63S4**		120	635
0.71	1190	2371	28700	2.2								
0.80	1140	2088	28700	2.4								
0.91	1010	1854	28800	2.7								
1.0	900	1657	28800	3.0								
1.2	765	1415	28900	3.5		**K**	**87R57**	**DR**	**63S4**		120	635
1.4	660	1229	28900	4.1		**KF**	**87R57**	**DR**	**63S4**		125	635
1.6	570	1078	29000	4.7		**KA**	**87R57**	**DR**	**63S4**		105	635
1.8	475	951	29000	5.7		**KAF**	**87R57**	**DR**	**63S4**		120	635
2.0	400	837	29000	6.7								
2.3	345	726	29000	7.7								
						K	**77R37**	**DR**	**63S4**		69	635
0.62	1460	2717	16000	1.05		**KF**	**77R37**	**DR**	**63S4**		78	635
0.71	1190	2370	17500	1.30		**KA**	**77R37**	**DR**	**63S4**		62	635
						KAF	**77R37**	**DR**	**63S4**		70	635

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P_m = 0.12 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.82	1140	2050	17700	1.35							
0.95	970	1772	18400	1.60							
1.1	830	1514	18900	1.85							
1.2	760	1388	19100	2.0		**K**	**77R37**	**DR**	**63S4**	69	635
1.4	665	1218	19300	2.3		**KF**	**77R37**	**DR**	**63S4**	77	635
1.6	585	1053	19500	2.6		**KA**	**77R37**	**DR**	**63S4**	62	635
1.8	515	924	19700	3.0		**KAF**	**77R37**	**DR**	**63S4**	70	635
2.1	455	815	19800	3.4							
2.4	345	709	19900	4.5							
2.7	300	622	20000	5.1							
1.2	770	1351	10700	1.05							
1.4	660	1171	11500	1.25							
1.6	575	1034	12000	1.40							
1.9	475	903	12500	1.75							
2.1	455	793	12600	1.80							
2.4	355	697	13000	2.3							
2.7	310	613	13000	2.6		**K**	**67R37**	**DR**	**63S4**	45	635
3.1	270	542	13000	3.0		**KF**	**67R37**	**DR**	**63S4**	51	635
3.6	260	471	13000	3.1		**KA**	**67R37**	**DR**	**63S4**	42	635
4.0	210	420	13000	3.9		**KAF**	**67R37**	**DR**	**63S4**	48	635
4.7	196	361	13000	4.2							
5.2	171	323	13000	4.8							
6.0	141	279	13000	5.8							
6.8	124	246	13000	6.6							
7.7	107	217	13000	7.7							
1.9	475	906	8530	1.25							
2.1	430	806	8740	1.40							
2.4	355	699	9060	1.70							
2.7	310	615	9230	1.90							
3.1	270	544	9380	2.2							
3.5	255	473	9440	2.3		**K**	**57R37**	**DR**	**63S4**	39	635
4.0	210	421	9590	2.8		**KF**	**57R37**	**DR**	**63S4**	44	635
4.6	196	362	9640	3.1		**KA**	**57R37**	**DR**	**63S4**	37	635
5.3	172	319	9720	3.5		**KAF**	**57R37**	**DR**	**63S4**	43	635
6.0	141	280	9810	4.2							
6.8	124	246	9860	4.8							
7.8	110	215	9900	5.5							
8.8	98	192	9930	6.1							
1.9	490	908	9000	1.00							
2.1	435	802	9000	1.15							
2.4	360	701	9000	1.35							
2.6	355	645	9000	1.40							
2.8	300	595	9000	1.65							
3.1	285	543	9000	1.70							
3.4	245	501	9000	2.0		**K**	**49R37**	**DR**	**63S4**	43	635
3.7	220	449	9000	2.2		**KF**	**49R37**	**DR**	**63S4**	45	635
4.2	190	401	9000	2.6		**KA**	**49R37**	**DR**	**63S4**	40	635
4.7	176	360	9000	2.8		**KAF**	**49R37**	**DR**	**63S4**	45	635
5.1	161	330	9000	3.1							
5.6	156	300	9000	3.2							
6.1	134	274	9000	3.7							
6.9	115	243	9000	4.3							
7.7	108	217	9000	4.6							
8.7	103	193	9000	4.8							
3.0	300	552	7030	1.30							
3.4	250	495	7440	1.60		**K**	**47R37**	**DR**	**63S4**	33	635
3.9	225	426	7600	1.75		**KF**	**47R37**	**DR**	**63S4**	36	635
4.5	189	375	7830	2.1		**KA**	**47R37**	**DR**	**63S4**	32	635
5.2	180	327	7880	2.2		**KAF**	**47R37**	**DR**	**63S4**	35	635
5.8	156	289	7980	2.6							

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P_m = 0.12 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
3.3	260	504	7500	1.15							
3.7	255	454	7500	1.20							
4.2	210	399	7500	1.40							
4.6	200	365	7500	1.50							
5.4	162	312	7500	1.85							
5.6	161	299	7500	1.85		**K**	**39R17**	**DR**	**63S4**	24	635
6.6	137	254	7500	2.2		**KF**	**39R17**	**DR**	**63S4**	26	635
7.2	122	234	7500	2.5		**KA**	**39R17**	**DR**	**63S4**	23	635
8.0	111	210	7500	2.7		**KAF**	**39R17**	**DR**	**63S4**	24	635
8.9	102	189	7500	2.9							
9.7	96	174	7500	3.1							
11	83	156	7500	3.6							
12	77	142	7500	3.9							
14	62	117	7500	4.8							
4.9	195	346	5260	1.05							
5.5	163	304	5550	1.25							
6.3	151	267	5650	1.30		**K**	**37R17**	**DR**	**63S4**	19	635
7.2	130	234	5840	1.55		**KF**	**37R17**	**DR**	**63S4**	21	635
8.2	113	205	6000	1.75		**KA**	**37R17**	**DR**	**63S4**	19	635
9.3	98	181	6130	2.0		**KAF**	**37R17**	**DR**	**63S4**	20	635
10	86	160	6250	2.3							
12	71	136	6380	2.8							
7.6	151	144.79*	13000	5.4		**K**	**67**	**DR**	**63M6**	34	589
						KF	**67**	**DR**	**63M6**	40	590
						KA	**67**	**DR**	**63M6**	31	591
						KAF	**67**	**DR**	**63M6**	37	590
7.6	151	145.14*	9780	4.0							
8.9	129	123.85	9840	4.7		**K**	**57**	**DR**	**63M6**	28	583
10	113	108.29	9890	5.3		**KF**	**57**	**DR**	**63M6**	33	584
11	107	102.88*	9900	5.6		**KA**	**57**	**DR**	**63M6**	26	585
12	94	90.26*	9940	6.4		**KAF**	**57**	**DR**	**63M6**	32	584
14	80	76.56*	9970	7.5							
12	99	145.14*	9920	6.1							
14	84	123.85	9960	7.1		**K**	**57**	**DR**	**63S4**	28	583
16	74	108.29	9990	8.1		**KF**	**57**	**DR**	**63S4**	33	584
16	70	102.88*	10000	8.6		**KA**	**57**	**DR**	**63S4**	26	585
19	62	90.26*	10000	9.8		**KAF**	**57**	**DR**	**63S4**	32	584
8.3	137	131.87*	8050	2.9		**K**	**47**	**DR**	**63M6**	22	573
9.1	127	121.48*	8090	3.2		**KF**	**47**	**DR**	**63M6**	26	574
11	109	104.37	8140	3.7		**KA**	**47**	**DR**	**63M6**	22	575
						KAF	**47**	**DR**	**63M6**	24	574
						K	**47**	**DR**	**63S4**	22	573
13	90	131.87*	8190	4.5		**KF**	**47**	**DR**	**63S4**	26	574
14	83	121.48*	8210	4.8		**KA**	**47**	**DR**	**63S4**	22	575
						KAF	**47**	**DR**	**63S4**	24	574
10	111	106.38	6020	1.80		**K**	**37**	**DR**	**63M6**	16	563
11	102	97.81	6100	1.95		**KF**	**37**	**DR**	**63M6**	18	564
13	87	83.69	6240	2.3		**KA**	**37**	**DR**	**63M6**	16	565
15	76	72.54	6340	2.6		**KAF**	**37**	**DR**	**63M6**	17	564
16	73	106.38	6370	2.8							
17	67	97.81	6420	3.0		**K**	**37**	**DR**	**63S4**	16	563
20	57	83.69	6510	3.5		**KF**	**37**	**DR**	**63S4**	18	564
23	49	72.54	6460	4.0		**KA**	**37**	**DR**	**63S4**	16	565
25	46	67.80	6330	4.3		**KAF**	**37**	**DR**	**63S4**	17	564
23	49	71.93	5220	2.6							
25	45	66.25	5230	2.9		**K**	**29**	**DR**	**63S4**	10	556
27	42	61.28	5240	3.1		**KF**	**29**	**DR**	**63S4**	11	560
31	37	54.89	5250	3.5		**KA**	**29**	**DR**	**63S4**	9.8	562
33	34	50.35	5260	3.8		**KAF**	**29**	**DR**	**63S4**	11	560
39	29	42.87	5270	4.4							

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P_m = 0.12 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
29	40	58.68	4500	1.75							
31	37	53.88	4500	1.90							
34	34	49.69	4500	2.1							
38	30	44.48	4500	2.3							
41	28	40.63	4500	2.4							
49	23	34.29	4500	2.7							
53	22	31.74	4500	3.7							
57	20	29.29	4410	3.0							
58	20	29.14	4450	4.0		**K**	**19**	**DR**	**63S4**	8.5	550
62	19	27.16	4320	3.2		**KF**	**19**	**DR**	**63S4**	8.8	553
63	18	26.88	4340	4.4		**KA**	**19**	**DR**	**63S4**	8.0	555
70	16	24.06	4200	4.9		**KAF**	**19**	**DR**	**63S4**	8.4	553
76	15	21.98	4080	5.3							
91	13	18.55	3870	6.3							
106	11	15.84	3690	7.4							
114	10	14.69	3600	8.0							
132	8.7	12.70	3440	9.2							
142	8.1	11.84	3360	9.8							
163	7.0	10.32	3220	11							
175	6.5	9.58	3160	9.6							

P_m = 0.18 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.11	12400	14975	79500	1.05							
0.13	10300	12440	80500	1.25							
0.15	9070	10915	81100	1.45							
0.16	8160	9819	81400	1.60							
0.19	6940	8443	81800	1.85		**K**	**127R77**	**DR**	**63M4**	470	635
0.22	6210	7482	82000	2.1		**KF**	**127R77**	**DR**	**63M4**	510	635
0.25	5450	6565	82200	2.4		**KA**	**127R77**	**DR**	**63M4**	440	635
0.28	4550	5804	82400	2.9		**KAF**	**127R77**	**DR**	**63M4**	480	635
0.32	4050	5027	82500	3.2							
0.37	3460	4423	82600	3.8							
0.42	3010	3889	82600	4.3							
0.49	2470	3311	82700	5.2							
0.19	6920	8328	65000	1.15							
0.22	6040	7270	65000	1.30							
0.26	4990	6184	65000	1.60							
0.29	4380	5662	65000	1.80							
0.32	3970	5138	65000	2.0		**K**	**107R77**	**DR**	**63M4**	310	635
0.37	3580	4359	65000	2.2		**KF**	**107R77**	**DR**	**63M4**	320	635
0.43	3130	3810	65000	2.5		**KA**	**107R77**	**DR**	**63M4**	280	635
0.48	2630	3358	65000	3.0		**KAF**	**107R77**	**DR**	**63M4**	305	635
0.54	2400	2977	65000	3.3							
0.62	2090	2599	65000	3.8							
0.71	1790	2286	65000	4.5							
0.35	3990	4669	40000	1.10							
0.40	3600	4082	40000	1.20		**K**	**97R57**	**DR**	**63M4**	180	635
0.45	3130	3583	40000	1.35		**KF**	**97R57**	**DR**	**63M4**	200	635
0.52	2750	3108	40000	1.55		**KA**	**97R57**	**DR**	**63M4**	160	635
0.59	2350	2757	40000	1.85		**KAF**	**97R57**	**DR**	**63M4**	185	635
0.67	2160	2419	40000	2.0							
0.76	1870	2123	40000	2.3							
0.87	1670	1856	40000	2.6							
1.0	1380	1625	40000	3.1							
1.1	1190	1430	40000	3.6		**K**	**97R57**	**DR**	**63M4**	180	635
1.3	1130	1261	40000	3.8		**KF**	**97R57**	**DR**	**63M4**	200	635
1.5	990	1102	40000	4.3		**KA**	**97R57**	**DR**	**63M4**	160	635
1.7	860	957	40000	5.0		**KAF**	**97R57**	**DR**	**63M4**	185	635
1.9	770	855	40000	5.6							
2.2	600	743	40000	7.2							
2.5	535	652	40000	8.0							

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P_m = 0.18 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.52	2720	3107	27300	1.00		**K**	**87R57**	**DR**	**63M4**	120	635
0.59	2300	2728	27700	1.15		**KF**	**87R57**	**DR**	**63M4**	130	635
0.68	2020	2371	28000	1.35		**KA**	**87R57**	**DR**	**63M4**	105	635
						KAF	**87R57**	**DR**	**63M4**	120	635
0.78	1880	2088	28200	1.45							
0.87	1670	1854	28300	1.60							
0.98	1490	1657	28500	1.80							
1.1	1260	1415	28600	2.1		**K**	**87R57**	**DR**	**63M4**	120	635
1.3	1100	1229	28700	2.5		**KF**	**87R57**	**DR**	**63M4**	125	635
1.5	950	1078	28800	2.8		**KA**	**87R57**	**DR**	**63M4**	105	635
1.7	810	951	28900	3.3		**KAF**	**87R57**	**DR**	**63M4**	120	635
1.9	695	837	28900	3.9							
2.2	605	726	29000	4.5							
1.1	1360	1514	16500	1.15							
1.2	1250	1388	17200	1.25							
1.3	1100	1218	17900	1.40							
1.5	960	1053	18400	1.60							
1.8	840	924	18900	1.85		**K**	**77R37**	**DR**	**63M4**	69	635
2.0	740	815	19100	2.1		**KF**	**77R37**	**DR**	**63M4**	77	635
2.3	595	709	19500	2.6		**KA**	**77R37**	**DR**	**63M4**	62	635
2.6	520	622	19600	3.0		**KAF**	**77R37**	**DR**	**63M4**	70	635
2.9	470	552	19700	3.3							
3.3	415	485	19800	3.7							
3.8	365	428	19900	4.2							
4.4	325	367	19900	4.8							
2.0	740	793	10900	1.10							
2.3	600	697	11900	1.35							
2.6	530	613	12300	1.55							
3.0	465	542	12600	1.75		**K**	**67R37**	**DR**	**63M4**	45	635
3.4	430	471	12700	1.90		**KF**	**67R37**	**DR**	**63M4**	51	635
3.9	360	420	12900	2.3		**KA**	**67R37**	**DR**	**63M4**	42	635
4.5	325	361	13000	2.5		**KAF**	**67R37**	**DR**	**63M4**	48	635
5.0	285	323	13000	2.9							
5.8	235	279	13000	3.4							
3.0	465	544	8580	1.30							
3.4	425	473	8770	1.40							
3.9	360	421	9040	1.65							
4.5	325	362	9190	1.85		**K**	**57R37**	**DR**	**63M4**	39	635
5.1	285	319	9340	2.1		**KF**	**57R37**	**DR**	**63M4**	44	635
5.8	240	280	9500	2.5		**KA**	**57R37**	**DR**	**63M4**	37	635
6.6	210	246	9590	2.8		**KAF**	**57R37**	**DR**	**63M4**	43	635
7.5	187	215	9670	3.2							
8.4	166	192	9740	3.6							
9.7	144	166	9800	4.2							
3.0	475	543	9000	1.05							
3.2	415	501	9000	1.20							
3.6	375	449	9000	1.30							
4.0	325	401	9000	1.50							
4.5	295	360	9000	1.65							
4.9	270	330	9000	1.80		**K**	**49R37**	**DR**	**63M4**	43	635
5.4	255	300	9000	1.95		**KF**	**49R37**	**DR**	**63M4**	45	635
5.9	225	274	9000	2.2		**KA**	**49R37**	**DR**	**63M4**	40	635
6.7	199	243	9000	2.5		**KAF**	**49R37**	**DR**	**63M4**	45	635
7.5	183	217	9000	2.7							
8.4	170	193	9000	3.0							
9.2	151	176	9000	3.3							
11	124	152	9000	4.0							
13	105	125	9000	4.8							
4.3	320	375	6850	1.25							
5.0	295	327	7100	1.35							
5.6	255	289	7390	1.55							
6.3	220	256	7660	1.80		**K**	**47R37**	**DR**	**63M4**	33	635
7.2	200	225	7770	2.0		**KF**	**47R37**	**DR**	**63M4**	36	635
8.2	170	198	7920	2.4		**KA**	**47R37**	**DR**	**63M4**	32	635
9.5	148	171	8010	2.7		**KAF**	**47R37**	**DR**	**63M4**	35	635
11	132	153	8070	3.0							
12	117	131	8120	3.4							

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P_m = 0.18 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
5.2	265	312	7500	1.10							
5.4	260	299	7500	1.15							
6.4	220	254	7500	1.35							
6.9	200	234	7500	1.50							
7.7	183	210	7500	1.65		**K**	**39R17**	**DR**	**63M4**	24	635
8.6	167	189	7500	1.80		**KF**	**39R17**	**DR**	**63M4**	26	635
9.3	156	174	7500	1.90		**KA**	**39R17**	**DR**	**63M4**	23	635
10	136	156	7500	2.2		**KAF**	**39R17**	**DR**	**63M4**	24	635
11	125	142	7500	2.4							
14	102	117	7500	2.9							
22	64	75	7500	4.6							
7.9	186	205	5340	1.05							
8.9	163	181	5550	1.25		**K**	**37R17**	**DR**	**63M4**	19	635
10	143	160	5730	1.40		**KF**	**37R17**	**DR**	**63M4**	21	635
12	119	136	5940	1.65		**KA**	**37R17**	**DR**	**63M4**	19	635
13	115	127	5980	1.75		**KAF**	**37R17**	**DR**	**63M4**	20	635
7.4	230	144.79*	13000	3.5		**K**	**67**	**DR**	**63L6**	35	589
8.7	198	123.54	13000	4.1		**KF**	**67**	**DR**	**63L6**	40	590
9.9	174	108.03	13000	4.7		**KA**	**67**	**DR**	**63L6**	32	591
10	165	102.62	13000	5.0		**KAF**	**67**	**DR**	**63L6**	38	590
						K	**67**	**DR**	**63M4**	34	589
11	154	144.79*	13000	5.3		**KF**	**67**	**DR**	**63M4**	40	590
13	131	123.54	13000	6.3		**KA**	**67**	**DR**	**63M4**	31	591
15	115	108.03	13000	7.2		**KAF**	**67**	**DR**	**63M4**	37	590
7.4	230	145.14*	9520	2.6							
8.6	199	123.85	9640	3.0		**K**	**57**	**DR**	**63L6**	29	583
9.9	174	108.29	9710	3.5		**KF**	**57**	**DR**	**63L6**	34	584
10	165	102.88*	9740	3.6		**KA**	**57**	**DR**	**63L6**	27	585
12	145	90.26*	9800	4.1		**KAF**	**57**	**DR**	**63L6**	32	584
11	154	145.14*	9770	3.9							
13	131	123.85	9840	4.6		**K**	**57**	**DR**	**63M4**	28	583
15	115	108.29	9880	5.2		**KF**	**57**	**DR**	**63M4**	33	584
16	109	102.88*	9900	5.5		**KA**	**57**	**DR**	**63M4**	26	585
18	96	90.26*	9930	6.3		**KAF**	**57**	**DR**	**63M4**	32	584
21	81	76.56*	9970	7.4							
8.1	210	131.87*	7700	1.90							
8.8	195	121.48*	7800	2.0		**K**	**47**	**DR**	**63L6**	23	573
10	168	104.37	7930	2.4		**KF**	**47**	**DR**	**63L6**	26	574
12	146	90.86	8020	2.7		**KA**	**47**	**DR**	**63L6**	22	575
13	137	85.12*	8050	2.9		**KAF**	**47**	**DR**	**63L6**	25	574
12	140	131.87*	8040	2.9							
13	129	121.48*	8080	3.1		**K**	**47**	**DR**	**63M4**	22	573
16	111	104.37	8140	3.6		**KF**	**47**	**DR**	**63M4**	26	574
18	96	90.86	8180	4.2		**KA**	**47**	**DR**	**63M4**	22	575
19	90	85.12*	8190	4.4		**KAF**	**47**	**DR**	**63M4**	24	574
10	171	106.38	5470	1.15		**K**	**37**	**DR**	**63L6**	17	563
11	157	97.81	5600	1.25		**KF**	**37**	**DR**	**63L6**	19	564
13	134	83.69	5810	1.50		**KA**	**37**	**DR**	**63L6**	16	565
15	117	72.54	5970	1.70		**KAF**	**37**	**DR**	**63L6**	18	564
15	113	106.38	6000	1.75							
17	104	97.81	6080	1.95							
19	89	83.69	6220	2.2		**K**	**37**	**DR**	**63M4**	16	563
22	77	72.54	6290	2.6		**KF**	**37**	**DR**	**63M4**	18	564
24	72	67.80	6180	2.8		**KA**	**37**	**DR**	**63M4**	16	565
28	62	58.60	5950	3.2		**KAF**	**37**	**DR**	**63M4**	17	564
33	53	49.79	5690	3.8							
36	47	44.46	5510	4.2							
43	40	37.97	5270	5.0							

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P_m = 0.18 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
23	76	71.93	5140	1.70							
24	70	66.25	5160	1.85							
26	65	61.28	5170	2.0							
30	58	54.89	5190	2.2							
32	53	50.35	5210	2.4							
38	45	42.87	5230	2.8		**K**	**29**	**DR**	**63M4**	10	556
42	41	38.90	5230	3.1		**KF**	**29**	**DR**	**63M4**	11	560
44	39	36.96	5110	3.1		**KA**	**29**	**DR**	**63M4**	9.8	562
45	38	35.83	5110	3.4		**KAF**	**29**	**DR**	**63M4**	11	560
49	35	33.15	4990	3.7							
54	32	30.11	4820	3.6							
55	32	29.69	4840	4.1							
59	29	27.23	4710	4.5							
65	26	24.91	4560	4.1							
28	62	58.68	4380	1.10							
30	57	53.88	4410	1.20							
33	53	49.69	4440	1.35							
36	47	44.48	4470	1.45							
40	43	40.63	4490	1.55							
47	36	34.29	4500	1.75							
51	34	31.74	4500	2.4							
55	31	29.29	4330	1.95							
56	31	29.14	4390	2.6							
60	29	27.16	4240	2.1		**K**	**19**	**DR**	**63M4**	8.5	550
60	29	26.88	4290	2.8		**KF**	**19**	**DR**	**63M4**	8.8	553
67	26	24.06	4160	3.1		**KA**	**19**	**DR**	**63M4**	8.0	555
74	23	21.98	4050	3.4		**KAF**	**19**	**DR**	**63M4**	8.4	553
87	20	18.55	3850	4.1							
102	17	15.84	3670	4.8							
110	16	14.69	3590	5.1							
128	13	12.70	3430	5.9							
137	13	11.84	3360	6.3							
157	11	10.32	3220	6.9							
169	10	9.58	3170	6.2							
200	8.6	8.09	3000	9.3							
235	7.3	6.91	2860	11							

P_m = 0.25 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.16	12000	9819	79700	1.10							
0.19	10300	8443	80500	1.25							
0.21	9190	7482	81000	1.40							
0.24	8060	6565	81400	1.60		**K**	**127R77**	**DR**	**63L4**	470	635
0.28	6860	5804	81800	1.90		**KF**	**127R77**	**DR**	**63L4**	510	635
0.32	6050	5027	82000	2.1		**KA**	**127R77**	**DR**	**63L4**	440	635
0.36	5220	4423	82200	2.5		**KAF**	**127R77**	**DR**	**63L4**	480	635
0.41	4550	3889	82400	2.9							
0.48	3790	3311	82500	3.4							
0.26	7450	6184	65000	1.05							
0.28	6630	5662	65000	1.20							
0.31	6020	5138	65000	1.35							
0.37	5320	4359	65000	1.50		**K**	**107R77**	**DR**	**63L4**	310	635
0.42	4650	3810	65000	1.70		**KF**	**107R77**	**DR**	**63L4**	320	635
0.48	3970	3358	65000	2.0		**KA**	**107R77**	**DR**	**63L4**	285	635
0.54	3580	2977	65000	2.2		**KAF**	**107R77**	**DR**	**63L4**	305	635
0.62	3130	2599	65000	2.5							
0.70	2700	2286	65000	3.0							
0.83	2290	1939	65000	3.5							
0.93	2110	1713	65000	3.8		**K**	**107R77**	**DR**	**63L4**	310	635
1.0	1920	1554	65000	4.2		**KF**	**107R77**	**DR**	**63L4**	320	635
1.2	1650	1336	65000	4.8		**KA**	**107R77**	**DR**	**63L4**	280	635
						KAF	**107R77**	**DR**	**63L4**	305	635

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P_m = 0.25 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
						K	**97R57**	**DR**	**63L4**	180	635
0.51	3980	3108	40000	1.10		**KF**	**97R57**	**DR**	**63L4**	200	635
0.58	3450	2757	40000	1.25		**KA**	**97R57**	**DR**	**63L4**	160	635
						KAF	**97R57**	**DR**	**63L4**	185	635
0.66	3140	2419	40000	1.35							
0.75	2730	2123	40000	1.55							
0.86	2420	1856	40000	1.80							
0.98	2040	1625	40000	2.1		**K**	**97R57**	**DR**	**63L4**	180	635
1.1	1770	1430	40000	2.4		**KF**	**97R57**	**DR**	**63L4**	200	635
1.3	1640	1261	40000	2.6		**KA**	**97R57**	**DR**	**63L4**	160	635
1.4	1430	1102	40000	3.0		**KAF**	**97R57**	**DR**	**63L4**	185	635
1.7	1250	957	40000	3.4							
1.9	1120	855	40000	3.8							
0.77	2720	2088	27300	1.00							
0.86	2410	1854	27600	1.10							
0.97	2160	1657	27900	1.25							
1.1	1830	1415	28200	1.45		**K**	**87R57**	**DR**	**63L4**	120	635
1.3	1590	1229	28400	1.70		**KF**	**87R57**	**DR**	**63L4**	130	635
1.5	1380	1078	28500	1.95		**KA**	**87R57**	**DR**	**63L4**	105	635
1.7	1190	951	28700	2.3		**KAF**	**87R57**	**DR**	**63L4**	120	635
1.9	1030	837	28800	2.6							
2.2	890	726	28800	3.0							
2.5	800	638	28900	3.4							
1.5	1380	1053	16400	1.10							
1.7	1210	924	17400	1.25							
2.0	1070	815	18000	1.45							
2.3	880	709	18700	1.75							
2.6	775	622	19100	2.0							
2.9	695	552	19300	2.2							
3.3	610	485	19500	2.5		**K**	**77R37**	**DR**	**63L4**	70	635
3.7	535	428	19600	2.9		**KF**	**77R37**	**DR**	**63L4**	78	635
4.4	470	367	19700	3.3		**KA**	**77R37**	**DR**	**63L4**	62	635
4.9	420	328	19800	3.7		**KAF**	**77R37**	**DR**	**63L4**	70	635
5.5	370	290	19900	4.1							
6.3	315	252	20000	4.8							
7.2	280	221	20000	5.5							
8.2	245	195	20000	6.3							
9.2	215	175	20000	7.1							
2.6	775	613	10700	1.05							
3.0	680	542	11400	1.20							
3.4	620	471	11800	1.30							
3.8	525	420	12300	1.55		**K**	**67R37**	**DR**	**63L4**	46	635
4.4	470	361	12500	1.75		**KF**	**67R37**	**DR**	**63L4**	51	635
5.0	415	323	12700	1.95		**KA**	**67R37**	**DR**	**63L4**	43	635
5.7	350	279	13000	2.3		**KAF**	**67R37**	**DR**	**63L4**	49	635
6.5	305	246	13000	2.6							
7.4	270	217	13000	3.0							
3.8	530	421	8180	1.15							
4.4	470	362	8550	1.25							
5.0	415	319	8810	1.45							
5.7	350	280	9080	1.70							
6.5	310	246	9240	1.95		**K**	**57R37**	**DR**	**63L4**	40	635
7.4	270	215	9380	2.2		**KF**	**57R37**	**DR**	**63L4**	45	635
8.3	240	192	9490	2.5		**KA**	**57R37**	**DR**	**63L4**	38	635
9.6	210	166	9600	2.8		**KAF**	**57R37**	**DR**	**63L4**	43	635
11	184	145	9680	3.3							
12	168	129	9730	3.6							
14	141	111	9810	4.2							
16	124	97	9860	4.8							

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P_m = 0.25 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
4.0	480	401	9000	1.05							
4.5	440	360	9000	1.15							
4.8	400	330	9000	1.25							
5.3	375	300	9000	1.35							
5.8	335	274	9000	1.50		**K**	**49R37**	**DR**	**63L4**	44	635
6.6	290	243	9000	1.70		**KF**	**49R37**	**DR**	**63L4**	45	635
7.4	265	217	9000	1.85		**KA**	**49R37**	**DR**	**63L4**	41	635
8.3	245	193	9000	2.0		**KAF**	**49R37**	**DR**	**63L4**	46	635
9.1	215	176	9000	2.3							
11	183	152	9000	2.7							
13	154	125	9000	3.2							
16	119	99	9000	4.2							
6.8	290	234	7500	1.00							
7.6	265	210	7500	1.15							
8.5	240	189	7500	1.25		**K**	**39R17**	**DR**	**63L4**	25	635
9.2	220	174	7500	1.35		**KF**	**39R17**	**DR**	**63L4**	26	635
10	197	156	7500	1.50		**KA**	**39R17**	**DR**	**63L4**	24	635
11	181	142	7500	1.65		**KAF**	**39R17**	**DR**	**63L4**	25	635
14	148	117	7500	2.0							
21	93	75	7500	3.2							
5.7	415	192.18	19800	3.5		**K**	**77**	**DRS**	**71S6**	62	595
6.1	385	179.37	19900	3.7		**KF**	**77**	**DRS**	**71S6**	71	596
7.1	330	154.02	19900	4.6		**KA**	**77**	**DRS**	**71S6**	55	597
8.1	290	135.28	20000	5.3		**KAF**	**77**	**DRS**	**71S6**	63	596
7.6	310	144.79*	13000	2.6		**K**	**67**	**DRS**	**71S6**	36	589
8.9	265	123.54	13000	3.1		**KF**	**67**	**DRS**	**71S6**	42	590
10	230	108.03	13000	3.5		**KA**	**67**	**DRS**	**71S6**	34	591
11	220	102.62	13000	3.7		**KAF**	**67**	**DRS**	**71S6**	39	590
11	215	144.79*	13000	3.8		**K**	**67**	**DR**	**63L4**	35	589
13	184	123.54	13000	4.5		**KF**	**67**	**DR**	**63L4**	40	590
15	161	108.03	13000	5.1		**KA**	**67**	**DR**	**63L4**	32	591
16	153	102.62	13000	5.4		**KAF**	**67**	**DR**	**63L4**	38	590
7.6	315	145.14*	9230	1.90							
8.9	265	123.85	9400	2.2		**K**	**57**	**DRS**	**71S6**	31	583
10	235	108.29	9520	2.5		**KF**	**57**	**DRS**	**71S6**	35	584
11	220	102.88*	9560	2.7		**KA**	**57**	**DRS**	**71S6**	28	585
12	196	90.26*	9640	3.1		**KAF**	**57**	**DRS**	**71S6**	34	584
14	166	76.56*	9740	3.6							
11	215	145.14*	9580	2.8							
13	185	123.85	9680	3.2		**K**	**57**	**DR**	**63L4**	29	583
15	162	108.29	9750	3.7		**KF**	**57**	**DR**	**63L4**	34	584
16	154	102.88*	9770	3.9		**KA**	**57**	**DR**	**63L4**	27	585
18	135	90.26*	9830	4.5		**KAF**	**57**	**DR**	**63L4**	32	584
21	114	76.56*	9880	5.2							
						K	**49**	**DR**	**63L4**	35	579
21	112	75.20	9000	4.2		**KF**	**49**	**DR**	**63L4**	37	580
23	105	70.19	9000	4.2		**KA**	**49**	**DR**	**63L4**	32	581
						KAF	**49**	**DR**	**63L4**	37	580
8.3	285	131.87*	7180	1.40		**K**	**47**	**DRS**	**71S6**	25	573
9.1	260	121.48*	7360	1.50		**KF**	**47**	**DRS**	**71S6**	28	574
11	225	104.37	7620	1.75		**KA**	**47**	**DRS**	**71S6**	24	575
						KAF	**47**	**DRS**	**71S6**	27	574
						K	**47**	**DRS**	**71S6**	25	573
12	197	90.86	7790	2.0		**KF**	**47**	**DRS**	**71S6**	28	574
13	185	85.12*	7850	2.2		**KA**	**47**	**DRS**	**71S6**	24	575
						KAF	**47**	**DRS**	**71S6**	27	574
12	197	131.87*	7790	2.0							
13	181	121.48*	7870	2.2		**K**	**47**	**DR**	**63L4**	23	573
15	156	104.37	7980	2.6		**KF**	**47**	**DR**	**63L4**	26	574
18	136	90.86	8060	3.0		**KA**	**47**	**DR**	**63L4**	22	575
19	127	85.12*	8090	3.1		**KAF**	**47**	**DR**	**63L4**	25	574
						K	**39**	**DR**	**63L4**	22	569
27	87	58.24	7500	3.5		**KF**	**39**	**DR**	**63L4**	23	570
32	74	49.69	7500	4.0		**KA**	**39**	**DR**	**63L4**	21	571
						KAF	**39**	**DR**	**63L4**	22	570

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P_m = 0.25 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
13	182	83.69	5380	1.10							
15	157	72.54	5600	1.25		**K**	**37**	**DRS**	**71S6**	19	563
16	147	67.80	5690	1.35		**KF**	**37**	**DRS**	**71S6**	21	564
19	127	58.60	5870	1.55		**KA**	**37**	**DRS**	**71S6**	18	565
22	108	49.79	6040	1.85		**KAF**	**37**	**DRS**	**71S6**	20	564
15	159	106.38	5580	1.25							
16	146	97.81	5700	1.35							
19	125	83.69	5890	1.60							
22	108	72.54	6040	1.85							
24	101	67.80	5940	2.0		**K**	**37**	**DR**	**63L4**	17	563
27	87	58.60	5740	2.3		**KF**	**37**	**DR**	**63L4**	19	564
32	74	49.79	5520	2.7		**KA**	**37**	**DR**	**63L4**	16	565
36	66	44.46	5360	3.0		**KAF**	**37**	**DR**	**63L4**	18	564
42	57	37.97	5140	3.5							
45	53	35.57	5050	3.8							
53	45	29.96	4820	4.5							
56	43	28.83	4770	4.7							
22	107	71.93	5050	1.20							
24	99	66.25	5070	1.30							
26	91	61.28	5100	1.40							
29	82	54.89	5120	1.60							
32	75	50.35	5140	1.75							
37	64	42.87	5170	2.0							
41	58	38.90	5100	2.2							
43	55	36.96	4980	2.2		**K**	**29**	**DR**	**63L4**	11	556
45	53	35.83	4990	2.4		**KF**	**29**	**DR**	**63L4**	12	560
48	49	33.15	4890	2.6		**KA**	**29**	**DR**	**63L4**	10	562
53	45	30.11	4710	2.6		**KAF**	**29**	**DR**	**63L4**	11	560
54	44	29.69	4740	2.9							
59	41	27.23	4630	3.2							
64	37	24.91	4480	2.9							
69	35	23.19	4420	3.8							
72	33	22.08	4330	3.2							
80	30	19.99	4240	4.4							
36	66	44.48	4350	1.05							
39	61	40.63	4390	1.10							
47	51	34.29	4360	1.25							
50	47	31.74	4380	1.70							
55	44	29.29	4200	1.40							
55	43	29.14	4280	1.85							
59	41	27.16	4120	1.50							
60	40	26.88	4190	2.0							
66	36	24.06	4070	2.2							
73	33	21.98	3970	2.4		**K**	**19**	**DR**	**63L4**	9.2	550
86	28	18.55	3780	2.9		**KF**	**19**	**DR**	**63L4**	9.5	553
101	24	15.84	3620	3.4		**KA**	**19**	**DR**	**63L4**	8.7	555
109	22	14.69	3540	3.6		**KAF**	**19**	**DR**	**63L4**	9.1	553
126	19	12.70	3390	4.2							
135	18	11.84	3320	4.5							
155	15	10.32	3190	4.9							
167	14	9.58	3150	4.4							
198	12	8.09	2990	6.6							
232	10	6.91	2840	7.8							
250	9.6	6.41	2780	8.4							
289	8.3	5.54	2650	9.7							
310	7.7	5.16	2600	10							

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P_m = 0.37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.23	13200	7482	79000	1.00							
0.26	11600	6565	79900	1.10	X						
0.29	9980	5804	80700	1.30	X	**K**	**127R77**	**(E)DRS**	**71S4**	470	635
0.34	8760	5027	81200	1.50	X	**KF**	**127R77**	**(E)DRS**	**71S4**	510	635
0.38	7610	4423	81600	1.70	X	**KA**	**127R77**	**(E)DRS**	**71S4**	445	635
0.44	6650	3889	81900	1.95	X	**KAF**	**127R77**	**(E)DRS**	**71S4**	480	635
0.51	5570	3311	82200	2.3	X						
0.88	3400	1926	82600	3.8	X	**K**	**127R77**	**(E)DRS**	**71S4**	470	635
0.97	3100	1757	82600	4.2	X	**KF**	**127R77**	**(E)DRS**	**71S4**	510	635
1.1	2680	1541	82700	4.8	X	**KA**	**127R77**	**(E)DRS**	**71S4**	445	635
						KAF	**127R77**	**(E)DRS**	**71S4**	480	635
0.45	6700	3810	65000	1.20	X						
0.51	5770	3358	65000	1.40	X	**K**	**107R77**	**(E)DRS**	**71S4**	310	635
0.57	5190	2977	65000	1.55	X	**KF**	**107R77**	**(E)DRS**	**71S4**	325	635
0.65	4530	2599	65000	1.75	X	**KA**	**107R77**	**(E)DRS**	**71S4**	285	635
0.74	3930	2286	65000	2.0	X	**KAF**	**107R77**	**(E)DRS**	**71S4**	310	635
0.88	3330	1939	65000	2.4	X						
0.99	3050	1713	65000	2.6	X	**K**	**107R77**	**(E)DRS**	**71S4**	310	635
1.1	2760	1554	65000	2.9	X	**KF**	**107R77**	**(E)DRS**	**71S4**	325	635
1.3	2370	1336	65000	3.4	X	**KA**	**107R77**	**(E)DRS**	**71S4**	285	635
1.5	2070	1166	65000	3.9	X	**KAF**	**107R77**	**(E)DRS**	**71S4**	305	635
0.80	3890	2123	40000	1.10	X						
0.92	3430	1856	40000	1.25	X						
1.1	2930	1625	40000	1.45	X						
1.2	2550	1430	40000	1.70	X						
1.4	2330	1261	40000	1.85	X	**K**	**97R57**	**(E)DRS**	**71S4**	180	635
1.5	2030	1102	40000	2.1	X	**KF**	**97R57**	**(E)DRS**	**71S4**	200	635
1.8	1780	957	40000	2.4	X	**KA**	**97R57**	**(E)DRS**	**71S4**	165	635
2.0	1590	855	40000	2.7	X	**KAF**	**97R57**	**(E)DRS**	**71S4**	185	635
2.3	1300	743	40000	3.3	X						
2.6	1150	652	40000	3.7	X						
3.0	1050	573	40000	4.1	X						
1.2	2610	1415	27400	1.05	X						
1.4	2260	1229	27800	1.20	X						
1.6	1970	1078	28100	1.35	X						
1.8	1710	951	28300	1.55	X						
2.0	1490	837	28500	1.80	X	**K**	**87R57**	**(E)DRS**	**71S4**	120	635
2.3	1290	726	28600	2.1	X	**KF**	**87R57**	**(E)DRS**	**71S4**	130	635
2.7	1150	638	28700	2.4	X	**KA**	**87R57**	**(E)DRS**	**71S4**	110	635
3.0	1000	562	28800	2.7	X	**KAF**	**87R57**	**(E)DRS**	**71S4**	120	635
3.6	840	474	28900	3.2	X						
4.0	755	426	28900	3.6	X						
4.6	660	373	28900	4.1	X						
2.1	1510	815	15600	1.00	X						
2.4	1270	709	17100	1.20	X						
2.7	1110	622	17800	1.40	X						
3.1	990	552	18300	1.55	X						
3.5	870	485	18700	1.75	X						
4.0	770	428	19100	2.0	X	**K**	**77R37**	**(E)DRS**	**71S4**	72	635
4.6	670	367	19300	2.3	X	**KF**	**77R37**	**(E)DRS**	**71S4**	80	635
5.2	595	328	19500	2.6	X	**KA**	**77R37**	**(E)DRS**	**71S4**	64	635
5.9	530	290	19600	2.9	X	**KAF**	**77R37**	**(E)DRS**	**71S4**	72	635
6.7	455	252	19800	3.4	X						
7.7	400	221	19900	3.9	X						
8.7	350	195	19900	4.4	X						
9.7	310	175	20000	5.0	X						
11	275	154	20000	5.6	X						

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P_m = 0.37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
4.0	755	420	10800	1.10	X						
4.7	670	361	11500	1.20	X						
5.3	595	323	11900	1.35	X						
6.1	500	279	12400	1.65	X	**K**	**67R37**	**(E)DRS**	**71S4**	48	635
6.9	440	246	12600	1.85	X	**KF**	**67R37**	**(E)DRS**	**71S4**	53	635
7.8	390	217	12800	2.1	X	**KA**	**67R37**	**(E)DRS**	**71S4**	45	635
8.9	345	191	13000	2.4	X	**KAF**	**67R37**	**(E)DRS**	**71S4**	51	635
10	295	166	13000	2.8	X						
12	260	144	13000	3.1	X						
14	220	122	13000	3.7	X						
6.1	505	280	8370	1.20	X						
6.9	440	246	8680	1.35	X						
7.9	390	215	8910	1.55	X						
8.8	345	192	9100	1.70	X	**K**	**57R37**	**(E)DRS**	**71S4**	42	635
10	300	166	9280	2.0	X	**KF**	**57R37**	**(E)DRS**	**71S4**	47	635
12	260	145	9420	2.3	X	**KA**	**57R37**	**(E)DRS**	**71S4**	40	635
13	235	129	9500	2.5	X	**KAF**	**57R37**	**(E)DRS**	**71S4**	45	635
15	200	111	9620	3.0	X						
17	178	97	9700	3.4	X						
6.2	480	274	9000	1.05	X						
7.0	420	243	9000	1.20	X						
7.8	380	217	9000	1.30	X	**K**	**49R37**	**(E)DRS**	**71S4**	46	635
8.8	345	193	9000	1.45	X	**KF**	**49R37**	**(E)DRS**	**71S4**	47	635
9.7	310	176	9000	1.60	X	**KA**	**49R37**	**(E)DRS**	**71S4**	43	635
11	260	152	9000	1.90	X	**KAF**	**49R37**	**(E)DRS**	**71S4**	48	635
14	220	125	9000	2.3	X						
17	172	99	9000	2.9	X						
11	280	156	7500	1.05	X	**K**	**39R17**	**(E)DRS**	**71S4**	26	635
12	255	142	7500	1.15	X	**KF**	**39R17**	**(E)DRS**	**71S4**	28	635
14	210	117	7500	1.45	X	**KA**	**39R17**	**(E)DRS**	**71S4**	25	635
23	133	75	7500	2.2	X	**KAF**	**39R17**	**(E)DRS**	**71S4**	27	635
						K	**87**	**DRS**	**71M6**	99	601
5.6	630	197.37	28900	4.3		**KF**	**87**	**DRS**	**71M6**	110	602
6.3	555	174.19	29000	4.8		**KA**	**87**	**DRS**	**71M6**	87	603
						KAF	**87**	**DRS**	**71M6**	100	602
7.1	490	154.02	19700	3.1		**K**	**77**	**DRS**	**71M6**	64	595
8.1	430	135.28	19800	3.6		**KF**	**77**	**DRS**	**71M6**	72	596
8.6	410	128.52	19800	3.8		**KA**	**77**	**DRS**	**71M6**	56	597
9.7	360	113.56	19900	4.2		**KAF**	**77**	**DRS**	**71M6**	64	596
						K	**77**	**(E)DRS**	**71S4**	62	595
8.8	395	192.18	19900	3.6	X	**KF**	**77**	**(E)DRS**	**71S4**	71	596
9.5	370	179.37	19900	3.9	X	**KA**	**77**	**(E)DRS**	**71S4**	55	597
11	320	154.02	20000	4.8	X	**KAF**	**77**	**(E)DRS**	**71S4**	63	596
8.9	395	123.54	12800	2.1		**K**	**67**	**DRS**	**71M6**	38	589
10	345	108.03	13000	2.4		**KF**	**67**	**DRS**	**71M6**	43	590
11	325	102.62	13000	2.5		**KA**	**67**	**DRS**	**71M6**	35	591
12	285	90.04	13000	2.8		**KAF**	**67**	**DRS**	**71M6**	41	590
12	300	144.79*	13000	2.7	X						
14	255	123.54	13000	3.2	X	**K**	**67**	**(E)DRS**	**71S4**	36	589
16	220	108.03	13000	3.6	X	**KF**	**67**	**(E)DRS**	**71S4**	42	590
19	187	90.04	13000	4.4	X	**KA**	**67**	**(E)DRS**	**71S4**	34	591
22	159	76.37	13000	5.2	X	**KAF**	**67**	**(E)DRS**	**71S4**	39	590
8.9	395	123.85	8890	1.50							
10	345	108.29	9100	1.70		**K**	**57**	**DRS**	**71M6**	32	583
11	330	102.88*	9170	1.80		**KF**	**57**	**DRS**	**71M6**	37	584
12	285	90.26*	9320	2.1		**KA**	**57**	**DRS**	**71M6**	30	585
14	245	76.56*	9480	2.4		**KAF**	**57**	**DRS**	**71M6**	35	584
16	220	69.12	9560	2.7							
12	300	145.14*	9280	2.0	X						
14	255	123.85	9440	2.3	X						
16	225	108.29	9550	2.7	X	**K**	**57**	**(E)DRS**	**71S4**	31	583
17	210	102.88*	9590	2.8	X	**KF**	**57**	**(E)DRS**	**71S4**	35	584
19	188	90.26*	9670	3.2	X	**KA**	**57**	**(E)DRS**	**71S4**	28	585
22	159	76.56*	9760	3.8	X	**KAF**	**57**	**(E)DRS**	**71S4**	34	584
25	144	69.12	9800	4.2	X						

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P_m = 0.37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC						m kg	
23	156	75.20	9000	3.0	X	**K**	**49**	**(E)DRS**	**71S4**		37	579
24	146	70.19	9000	3.0	X	**KF**	**49**	**(E)DRS**	**71S4**		39	580
28	125	60.27	9000	4.0	X	**KA**	**49**	**(E)DRS**	**71S4**		34	581
						KAF	**49**	**(E)DRS**	**71S4**		39	580
11	335	104.37	6720	1.20		**K**	**47**	**DRS**	**71M6**		26	573
12	290	90.86	7130	1.35		**KF**	**47**	**DRS**	**71M6**		29	574
13	270	85.12*	7280	1.45		**KA**	**47**	**DRS**	**71M6**		25	575
15	240	75.20*	7520	1.65		**KAF**	**47**	**DRS**	**71M6**		28	574
13	270	131.87*	7280	1.45	X	**K**	**47**	**(E)DRS**	**71S4**		25	573
14	250	121.48*	7440	1.60	X	**KF**	**47**	**(E)DRS**	**71S4**		28	574
16	215	104.37	7670	1.85	X	**KA**	**47**	**(E)DRS**	**71S4**		24	575
						KAF	**47**	**(E)DRS**	**71S4**		27	574
19	189	90.86	7830	2.1	X							
20	177	85.12*	7890	2.3	X	**K**	**47**	**(E)DRS**	**71S4**		25	573
23	156	75.20*	7980	2.6	X	**KF**	**47**	**(E)DRS**	**71S4**		28	574
24	145	69.84	8020	2.8	X	**KA**	**47**	**(E)DRS**	**71S4**		24	575
27	132	63.30*	8070	3.0	X	**KAF**	**47**	**(E)DRS**	**71S4**		27	574
29	121	58.24	7500	2.5	X							
34	103	49.69	7500	2.9	X	**K**	**39**	**(E)DRS**	**71S4**		24	569
39	90	43.45	7500	3.3	X	**KF**	**39**	**(E)DRS**	**71S4**		25	570
41	86	41.28	7500	3.5	X	**KA**	**39**	**(E)DRS**	**71S4**		23	571
47	75	36.22	7500	4.0	X	**KAF**	**39**	**(E)DRS**	**71S4**		24	570
17	200	97.81	5180	1.00								
20	174	83.69	5450	1.15	X							
23	151	72.54	5510	1.35	X							
25	141	67.80	5450	1.40	X							
29	122	58.60	5300	1.65	X							
34	103	49.79	5130	1.95	X							
38	92	44.46	5000	2.2	X	**K**	**37**	**(E)DRS**	**71S4**		19	563
45	79	37.97	4830	2.5	X	**KF**	**37**	**(E)DRS**	**71S4**		21	564
48	74	35.57	4750	2.7	X	**KA**	**37**	**(E)DRS**	**71S4**		18	565
57	62	29.96	4560	3.2	X	**KAF**	**37**	**(E)DRS**	**71S4**		20	564
59	60	28.83	4510	3.3	X							
68	52	24.99	4350	3.9	X							
73	49	23.36	4280	4.0	X							
84	42	20.19	4110	4.4	X							
99	36	17.15	3930	5.0	X							
31	114	54.89	5030	1.15	X							
34	105	50.35	4960	1.25	X							
40	89	42.87	4800	1.45	X							
46	77	36.96	4650	1.60	X							
56	63	30.11	4430	1.85	X	**K**	**29**	**(E)DRS**	**71S4**		13	556
57	62	29.69	4480	2.1	X	**KF**	**29**	**(E)DRS**	**71S4**		14	560
62	57	27.23	4390	2.3	X	**KA**	**29**	**(E)DRS**	**71S4**		12	562
68	52	24.91	4230	2.1	X	**KAF**	**29**	**(E)DRS**	**71S4**		13	560
73	48	23.19	4210	2.7	X							
77	46	22.08	4100	2.3	X							
85	42	19.99	4040	3.1	X							
104	34	16.29	3820	3.8	X							
58	61	29.29	3890	1.00	X							
63	56	27.16	3830	1.05	X							
71	50	24.06	3830	1.60	X							
77	46	21.98	3750	1.75	X							
92	39	18.55	3590	2.1	X							
107	33	15.84	3440	2.4	X							
116	31	14.69	3380	2.6	X							
134	26	12.70	3240	3.0	X	**K**	**19**	**(E)DRS**	**71S4**		11	550
144	25	11.84	3180	3.2	X	**KF**	**19**	**(E)DRS**	**71S4**		11	553
165	21	10.32	3060	3.5	X	**KA**	**19**	**(E)DRS**	**71S4**		11	555
177	20	9.58	3040	3.2	X	**KAF**	**19**	**(E)DRS**	**71S4**		11	553
210	17	8.09	2890	4.8	X							
246	14	6.91	2750	5.6	X							
265	13	6.41	2690	6.0	X							
307	12	5.54	2570	7.0	X							
329	11	5.16	2520	7.5	X							
378	9.3	4.50	2410	8.6	X							

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P_m = 0.55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.10	43100	16978	190000	1.15	X						
0.12	35600	14272	190000	1.40	X						
0.13	32200	13116	190000	1.55	X	**K**	**187R97**	**(E)DRS**	**71M4**	1770	636
0.15	27900	11647	190000	1.80	X	**KH**	**187R97**	**(E)DRS**	**71M4**	1700	636
0.23	18300	7343	190000	2.7	X						
0.15	29400	11573	150000	1.10	X						
0.16	26100	10264	150000	1.25	X						
0.20	21500	8628	150000	1.50	X	**K**	**167R97**	**(E)DRS**	**71M4**	1190	636
0.26	16300	6562	150000	1.95	X	**KH**	**167R97**	**(E)DRS**	**71M4**	1150	636
0.32	12800	5355	150000	2.5	X						
0.41	10000	4079	150000	3.2	X						
0.25	17100	6881	112600	1.05	X	**K**	**157R97**	**(E)DRS**	**71M4**	790	636
0.28	14800	5931	113600	1.20	X	**KF**	**157R97**	**(E)DRS**	**71M4**	870	636
0.42	9940	3979	115300	1.80	X	**KA**	**157R97**	**(E)DRS**	**71M4**	750	636
0.55	7620	3051	115800	2.4	X	**KAF**	**157R97**	**(E)DRS**	**71M4**	810	636
0.38	11800	4423	79800	1.10	X						
0.43	10300	3889	80500	1.25	X	**K**	**127R77**	**(E)DRS**	**71M4**	475	635
0.51	8720	3311	81200	1.50	X	**KF**	**127R77**	**(E)DRS**	**71M4**	520	635
0.56	7870	3009	81500	1.65	X	**KA**	**127R77**	**(E)DRS**	**71M4**	445	635
0.65	6740	2607	81800	1.95	X	**KAF**	**127R77**	**(E)DRS**	**71M4**	485	635
0.88	5250	1926	82200	2.5	X						
0.96	4790	1757	82300	2.7	X	**K**	**127R77**	**(E)DRS**	**71M4**	475	635
1.1	4160	1541	82500	3.1	X	**KF**	**127R77**	**(E)DRS**	**71M4**	510	635
1.3	3650	1342	82500	3.5	X	**KA**	**127R77**	**(E)DRS**	**71M4**	445	635
1.4	3180	1177	82600	4.1	X	**KAF**	**127R77**	**(E)DRS**	**71M4**	480	635
1.6	2790	1025	82700	4.7	X						
0.57	8020	2977	65000	1.00	X	**K**	**107R77**	**(E)DRS**	**71M4**	315	635
0.65	7000	2599	65000	1.15	X	**KF**	**107R77**	**(E)DRS**	**71M4**	325	635
0.74	6100	2286	65000	1.30	X	**KA**	**107R77**	**(E)DRS**	**71M4**	285	635
0.87	5170	1939	65000	1.55	X	**KAF**	**107R77**	**(E)DRS**	**71M4**	310	635
0.99	4690	1713	65000	1.70	X						
1.1	4260	1554	65000	1.90	X						
1.3	3660	1336	65000	2.2	X						
1.4	3190	1166	65000	2.5	X	**K**	**107R77**	**(E)DRS**	**71M4**	310	635
1.6	2720	1030	65000	2.9	X	**KF**	**107R77**	**(E)DRS**	**71M4**	325	635
1.9	2360	904	65000	3.4	X	**KA**	**107R77**	**(E)DRS**	**71M4**	285	635
2.1	2160	793	65000	3.7	X	**KAF**	**107R77**	**(E)DRS**	**71M4**	310	635
2.4	1880	696	65000	4.2	X						
2.8	1610	615	65000	5.0	X						
1.2	3920	1430	40000	1.10	X						
1.3	3540	1261	40000	1.20	X						
1.5	3090	1102	40000	1.40	X						
1.8	2710	957	40000	1.60	X						
2.0	2420	855	40000	1.75	X	**K**	**97R57**	**(E)DRS**	**71M4**	180	635
2.3	2010	743	40000	2.1	X	**KF**	**97R57**	**(E)DRS**	**71M4**	200	635
2.6	1780	652	40000	2.4	X	**KA**	**97R57**	**(E)DRS**	**71M4**	165	635
3.0	1600	573	40000	2.7	X	**KAF**	**97R57**	**(E)DRS**	**71M4**	190	635
3.4	1360	504	40000	3.2	X						
3.9	1160	437	40000	3.7	X						
4.4	1040	382	40000	4.1	X						
5.5	840	305	40000	5.1	X						
1.8	2620	951	27400	1.05	X						
2.0	2290	837	27800	1.20	X						
2.3	1990	726	28100	1.35	X						
2.6	1760	638	28300	1.55	X						
3.0	1540	562	28400	1.75	X						
3.6	1290	474	28600	2.1	X	**K**	**87R57**	**(E)DRS**	**71M4**	120	635
4.0	1160	426	28700	2.3	X	**KF**	**87R57**	**(E)DRS**	**71M4**	130	635
4.5	1020	373	28800	2.6	X	**KA**	**87R57**	**(E)DRS**	**71M4**	110	635
5.1	890	330	28800	3.0	X	**KAF**	**87R57**	**(E)DRS**	**71M4**	120	635
5.8	790	294	28900	3.4	X						
6.8	690	250	28900	3.9	X						
7.2	650	236	28900	4.1	X						
8.4	550	201	29000	4.9	X						

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P_m = 0.55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
3.5	1340	485	16700	1.15	X						
4.0	1180	428	17500	1.30	X						
4.6	1020	367	18200	1.50	X						
5.2	910	328	18600	1.70	X	**K**	**77R37**	**(E)DRS**	**71M4**	73	635
5.8	810	290	18900	1.90	X	**KF**	**77R37**	**(E)DRS**	**71M4**	81	635
6.7	695	252	19300	2.2	X	**KA**	**77R37**	**(E)DRS**	**71M4**	65	635
7.6	610	221	19500	2.5	X	**KAF**	**77R37**	**(E)DRS**	**71M4**	73	635
8.7	540	195	19600	2.9	X						
9.7	480	175	19700	3.2	X						
11	420	154	19800	3.7	X						
6.1	770	279	10700	1.05	X						
6.9	675	246	11400	1.20	X						
7.8	600	217	11900	1.35	X	**K**	**67R37**	**(E)DRS**	**71M4**	49	635
8.8	530	191	12300	1.55	X	**KF**	**67R37**	**(E)DRS**	**71M4**	54	635
10	455	166	12600	1.80	X	**KA**	**67R37**	**(E)DRS**	**71M4**	46	635
12	400	144	12800	2.0	X	**KAF**	**67R37**	**(E)DRS**	**71M4**	52	635
14	340	122	13000	2.4	X						
8.8	530	192	8170	1.15	X						
10	460	166	8600	1.30	X	**K**	**57R37**	**(E)DRS**	**71M4**	43	635
12	400	145	8860	1.50	X	**KF**	**57R37**	**(E)DRS**	**71M4**	48	635
13	360	129	9030	1.65	X	**KA**	**57R37**	**(E)DRS**	**71M4**	41	635
15	305	111	9250	1.95	X	**KAF**	**57R37**	**(E)DRS**	**71M4**	47	635
17	270	97	9390	2.2	X						
9.6	475	176	9000	1.05	X	**K**	**49R37**	**(E)DRS**	**71M4**	47	635
11	400	152	9000	1.25	X	**KF**	**49R37**	**(E)DRS**	**71M4**	48	635
14	335	125	9000	1.50	X	**KA**	**49R37**	**(E)DRS**	**71M4**	44	635
17	260	99	9000	1.90	X	**KAF**	**49R37**	**(E)DRS**	**71M4**	49	635
22	200	75	7500	1.45	X	**K**	**39R17**	**(E)DRS**	**71M4**	28	635
						KF	**39R17**	**(E)DRS**	**71M4**	29	635
						KA	**39R17**	**(E)DRS**	**71M4**	27	635
						KAF	**39R17**	**(E)DRS**	**71M4**	28	635
5.7	920	197.37	28800	2.9		**K**	**87**	**DRS**	**80S6**	100	601
6.4	810	174.19	28900	3.3		**KF**	**87**	**DRS**	**80S6**	110	602
6.8	770	164.34*	28900	3.5		**KA**	**87**	**DRS**	**80S6**	90	603
7.6	690	147.32*	28900	3.9		**KAF**	**87**	**DRS**	**80S6**	105	602
7.3	720	154.02	19200	2.1		**K**	**77**	**DRS**	**80S6**	66	595
8.3	630	135.28	19400	2.4		**KF**	**77**	**DRS**	**80S6**	74	596
8.7	600	128.52	19500	2.6		**KA**	**77**	**DRS**	**80S6**	59	597
9.9	530	113.56	19600	2.9		**KAF**	**77**	**DRS**	**80S6**	66	596
11	475	154.02	19700	3.2	X						
12	420	135.28	19800	3.7	X	**K**	**77**	**(E)DRS**	**71M4**	64	595
13	395	128.52	19900	3.9	X	**KF**	**77**	**(E)DRS**	**71M4**	72	596
15	350	113.56	19900	4.4	X	**KA**	**77**	**(E)DRS**	**71M4**	56	597
17	300	97.05	20000	5.1	X	**KAF**	**77**	**(E)DRS**	**71M4**	64	596
9.1	575	123.54	12000	1.40		**K**	**67**	**DRS**	**80S6**	40	589
10	505	108.03	12400	1.60		**KF**	**67**	**DRS**	**80S6**	46	590
11	480	102.62	12500	1.70		**KA**	**67**	**DRS**	**80S6**	37	591
12	420	90.04	12700	1.95		**KAF**	**67**	**DRS**	**80S6**	43	590
15	355	76.37	13000	2.3		**K**	**67**	**DRS**	**80S6**	40	589
						KF	**67**	**DRS**	**80S6**	46	590
						KA	**67**	**DRS**	**80S6**	37	591
						KAF	**67**	**DRS**	**80S6**	43	590
14	380	123.54	12900	2.1	X	**K**	**67**	**(E)DRS**	**71M4**	38	589
16	335	108.03	13000	2.4	X	**KF**	**67**	**(E)DRS**	**71M4**	43	590
19	275	90.04	13000	2.9	X	**KA**	**67**	**(E)DRS**	**71M4**	35	591
22	235	76.37	13000	3.5	X	**KAF**	**67**	**(E)DRS**	**71M4**	41	590
10	505	108.29	8360	1.20							
11	480	102.88*	8500	1.25							
12	420	90.26*	8780	1.40		**K**	**57**	**DRS**	**80S6**	34	583
15	355	76.56*	9050	1.65		**KF**	**57**	**DRS**	**80S6**	39	584
16	320	69.12	9190	1.85		**KA**	**57**	**DRS**	**80S6**	32	585
18	285	60.81*	9340	2.1		**KAF**	**57**	**DRS**	**80S6**	38	584
20	265	57.42*	9400	2.2							

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P_m = 0.55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
14	380	123.85	8950	1.55	X						
16	335	108.29	9140	1.80	X						
16	315	102.88*	9210	1.90	X	**K**	**57**	**(E)DRS**	**71M4**	32	583
19	280	90.26*	9360	2.1	X	**KF**	**57**	**(E)DRS**	**71M4**	37	584
22	235	76.56*	9510	2.5	X	**KA**	**57**	**(E)DRS**	**71M4**	30	585
24	210	69.12	9580	2.8	X	**KAF**	**57**	**(E)DRS**	**71M4**	35	584
28	189	60.81*	9670	3.2	X						
29	178	57.42*	9700	3.4	X						
22	230	75.20	9000	2.0	X						
24	215	70.19	9000	2.0	X						
28	187	60.27	9000	2.7	X	**K**	**49**	**(E)DRS**	**71M4**	38	579
32	165	52.94	9000	3.0	X	**KF**	**49**	**(E)DRS**	**71M4**	40	580
34	156	50.29	9000	3.2	X	**KA**	**49**	**(E)DRS**	**71M4**	36	581
38	138	44.44	9000	3.6	X	**KAF**	**49**	**(E)DRS**	**71M4**	40	580
44	118	37.98	9000	4.2	X						
16	320	104.37	6830	1.25	X						
19	280	90.86	7210	1.40	X	**K**	**47**	**(E)DRS**	**71M4**	26	573
20	260	85.12*	7350	1.50	X	**KF**	**47**	**(E)DRS**	**71M4**	29	574
22	230	75.20*	7570	1.70	X	**KA**	**47**	**(E)DRS**	**71M4**	25	575
24	215	69.84	7670	1.85	X	**KAF**	**47**	**(E)DRS**	**71M4**	28	574
27	197	63.30*	7790	2.0	X	**K**	**47**	**(E)DRS**	**71M4**	26	573
30	177	56.83	7890	2.3	X	**KF**	**47**	**(E)DRS**	**71M4**	29	574
35	152	48.95*	8000	2.6	X	**KA**	**47**	**(E)DRS**	**71M4**	25	575
37	143	46.03*	8030	2.8	X	**KAF**	**47**	**(E)DRS**	**71M4**	28	574
29	181	58.24	7500	1.65	X						
34	154	49.69	7500	1.95	X						
39	135	43.45	7500	2.2	X						
41	128	41.28	7500	2.3	X	**K**	**39**	**(E)DRS**	**71M4**	25	569
47	113	36.22	7500	2.7	X	**KF**	**39**	**(E)DRS**	**71M4**	26	570
55	95	30.72	7200	3.1	X	**KA**	**39**	**(E)DRS**	**71M4**	24	571
61	86	27.73	7010	3.5	X	**KAF**	**39**	**(E)DRS**	**71M4**	25	570
69	76	24.40	6770	4.0	X						
73	72	23.04	6670	4.2	X						
29	182	58.60	4760	1.10	X						
34	155	49.79	4670	1.30	X						
38	138	44.46	4600	1.45	X						
44	118	37.97	4480	1.70	X						
48	111	35.57	4430	1.80	X						
56	93	29.96	4290	2.1	X						
59	90	28.83	4250	2.2	X	**K**	**37**	**(E)DRS**	**71M4**	20	563
68	78	24.99	4130	2.6	X	**KF**	**37**	**(E)DRS**	**71M4**	22	564
72	73	23.36	4060	2.7	X	**KA**	**37**	**(E)DRS**	**71M4**	20	565
84	63	20.19	3930	3.0	X	**KAF**	**37**	**(E)DRS**	**71M4**	21	564
99	53	17.15	3780	3.4	X						
110	48	15.31	3670	3.7	X						
129	41	13.08	3520	4.1	X						
139	38	12.14	3460	4.2	X						
161	33	10.49	3320	4.9	X						
46	115	36.96	4280	1.05	X						
56	94	30.11	4140	1.25	X						
57	92	29.69	4220	1.40	X						
62	85	27.23	4150	1.55	X						
68	77	24.91	3980	1.40	X						
73	72	23.19	4000	1.80	X	**K**	**29**	**(E)DRS**	**71M4**	14	556
77	69	22.08	3890	1.55	X	**KF**	**29**	**(E)DRS**	**71M4**	15	560
85	62	19.99	3870	2.1	X	**KA**	**29**	**(E)DRS**	**71M4**	14	562
104	51	16.29	3680	2.6	X	**KAF**	**29**	**(E)DRS**	**71M4**	14	560
125	42	13.47	3500	3.1	X						
141	37	11.94	3390	3.5	X						
171	31	9.90	3300	3.6	X						
198	27	8.53	3160	4.6	X						

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P_m = 0.55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
70	75	24.06	3590	1.05	X						
77	68	21.98	3520	1.15	X						
91	58	18.55	3400	1.40	X						
107	49	15.84	3280	1.60	X						
115	46	14.69	3230	1.75	X						
133	39	12.70	3120	2.0	X						
143	37	11.84	3060	2.1	X	**K**	**19**	**(E)DRS**	**71M4**	12	550
164	32	10.32	2960	2.4	X	**KF**	**19**	**(E)DRS**	**71M4**	13	553
176	30	9.58	2970	2.1	X	**KA**	**19**	**(E)DRS**	**71M4**	12	555
209	25	8.09	2830	3.2	X	**KAF**	**19**	**(E)DRS**	**71M4**	12	553
245	21	6.91	2700	3.7	X						
264	20	6.41	2640	4.0	X						
305	17	5.54	2530	4.7	X						
327	16	5.16	2480	5.0	X						
376	14	4.50	2380	5.7	X						

P_m = 0.75 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.13	44000	13116	190000	1.15	X						
0.15	38300	11647	190000	1.30	X						
0.24	24900	7343	190000	2.0	X	**K**	**187R97**	**(E)DRN**	**80M4**	1770	636
0.26	22600	6747	190000	2.2	X	**KH**	**187R97**	**(E)DRN**	**80M4**	1700	636
0.29	19700	5991	190000	2.5	X						
0.20	29300	8628	150000	1.10	X						
0.27	22200	6562	150000	1.45	X						
0.33	17600	5355	150000	1.80	X	**K**	**167R97**	**(E)DRN**	**80M4**	1190	636
0.43	13700	4079	150000	2.3	X	**KH**	**167R97**	**(E)DRN**	**80M4**	1150	636
0.52	11400	3376	150000	2.8	X						
						K	**157R97**	**(E)DRN**	**80M4**	800	636
0.44	13500	3979	114200	1.35	X	**KF**	**157R97**	**(E)DRN**	**80M4**	870	636
0.57	10300	3051	115200	1.75	X	**KA**	**157R97**	**(E)DRN**	**80M4**	760	636
						KAF	**157R97**	**(E)DRN**	**80M4**	820	636
						K	**157R97**	**(E)DRN**	**80M4**	790	636
1.1	5700	1659	116200	3.2	X	**KF**	**157R97**	**(E)DRN**	**80M4**	870	636
1.3	4550	1365	116400	4.0	X	**KA**	**157R97**	**(E)DRN**	**80M4**	760	636
						KAF	**157R97**	**(E)DRN**	**80M4**	810	636
						K	**127R77**	**(E)DRN**	**80M4**	480	635
0.53	11700	3311	79900	1.10	X	**KF**	**127R77**	**(E)DRN**	**80M4**	520	635
0.58	10500	3009	80400	1.25	X	**KA**	**127R77**	**(E)DRN**	**80M4**	450	635
0.67	9100	2607	81000	1.45	X	**KAF**	**127R77**	**(E)DRN**	**80M4**	490	635
0.91	7010	1926	81800	1.85	X						
1.0	6390	1757	82000	2.0	X						
1.1	5570	1541	82200	2.3	X	**K**	**127R77**	**(E)DRN**	**80M4**	475	635
1.3	4880	1342	82300	2.7	X	**KF**	**127R77**	**(E)DRN**	**80M4**	520	635
1.5	4260	1177	82400	3.0	X	**KA**	**127R77**	**(E)DRN**	**80M4**	450	635
1.7	3730	1025	82500	3.5	X	**KAF**	**127R77**	**(E)DRN**	**80M4**	485	635
1.9	3250	899	82600	4.0	X						
1.0	6260	1713	65000	1.30	X						
1.1	5680	1554	65000	1.40	X						
1.3	4880	1336	65000	1.65	X						
1.5	4260	1166	65000	1.85	X	**K**	**107R77**	**(E)DRN**	**80M4**	315	635
1.7	3670	1030	65000	2.2	X	**KF**	**107R77**	**(E)DRN**	**80M4**	330	635
1.9	3190	904	65000	2.5	X	**KA**	**107R77**	**(E)DRN**	**80M4**	290	635
2.2	2880	793	65000	2.8	X	**KAF**	**107R77**	**(E)DRN**	**80M4**	315	635
2.5	2510	696	65000	3.2	X						
2.9	2170	615	65000	3.7	X						

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P_m = 0.75 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
1.6	4100	1102	40000	1.05	X						
1.8	3590	957	40000	1.20	X						
2.0	3210	855	40000	1.35	X						
2.4	2690	743	40000	1.60	X						
2.7	2380	652	40000	1.80	X						
3.1	2130	573	40000	2.0	X	**K**	**97R57**	**(E)DRN**	**80M4**	185	635
3.5	1820	504	40000	2.4	X	**KF**	**97R57**	**(E)DRN**	**80M4**	205	635
4.0	1560	437	40000	2.7	X	**KA**	**97R57**	**(E)DRN**	**80M4**	170	635
4.6	1390	382	40000	3.1	X	**KAF**	**97R57**	**(E)DRN**	**80M4**	195	635
5.7	1120	305	40000	3.8	X						
6.8	950	258	40000	4.5	X						
7.5	850	232	40000	5.0	X						
8.8	725	199	40000	5.9	X						
2.4	2650	726	27300	1.00	X						
2.7	2340	638	27700	1.15	X						
3.1	2050	562	28000	1.30	X						
3.7	1730	474	28300	1.55	X						
4.1	1550	426	28400	1.75	X	**K**	**87R57**	**(E)DRN**	**80M4**	125	635
4.7	1360	373	28600	1.95	X	**KF**	**87R57**	**(E)DRN**	**80M4**	135	635
5.3	1190	330	28700	2.3	X	**KA**	**87R57**	**(E)DRN**	**80M4**	115	635
6.0	1060	294	28700	2.5	X	**KAF**	**87R57**	**(E)DRN**	**80M4**	125	635
7.0	920	250	28800	2.9	X						
7.4	870	236	28800	3.1	X						
8.7	735	201	28900	3.7	X						
4.8	1360	367	16600	1.15	X						
5.3	1210	328	17400	1.30	X	**K**	**77R37**	**(E)DRN**	**80M4**	78	635
6.0	1070	290	18000	1.45	X	**KF**	**77R37**	**(E)DRN**	**80M4**	86	635
7.0	930	252	18600	1.65	X	**KA**	**77R37**	**(E)DRN**	**80M4**	70	635
7.9	810	221	18900	1.90	X	**KAF**	**77R37**	**(E)DRN**	**80M4**	78	635
						K	**49R37**	**(E)DRN**	**80M4**	51	635
14	445	125	9000	1.10	X	**KF**	**49R37**	**(E)DRN**	**80M4**	53	635
18	350	99	9000	1.40	X	**KA**	**49R37**	**(E)DRN**	**80M4**	48	635
						KAF	**49R37**	**(E)DRN**	**80M4**	53	635
						K	**39R17**	**(E)DRN**	**80M4**	32	635
23	270	75	7500	1.10	X	**KF**	**39R17**	**(E)DRN**	**80M4**	34	635
						KA	**39R17**	**(E)DRN**	**80M4**	31	635
						KAF	**39R17**	**(E)DRN**	**80M4**	33	635
6.7	1070	174.19	28700	2.5		**K**	**87**	**DRN**	**90S6**	110	601
7.1	1010	164.34*	28800	2.7		**KF**	**87**	**DRN**	**90S6**	120	602
7.9	900	147.32*	28800	3.0		**KA**	**87**	**DRN**	**90S6**	97	603
9.2	780	126.91*	28900	3.5		**KAF**	**87**	**DRN**	**90S6**	110	602
8.9	800	197.37	28900	3.3	X	**K**	**87**	**(E)DRN**	**80M4**	105	601
10	710	174.19	28900	3.8	X	**KF**	**87**	**(E)DRN**	**80M4**	115	602
11	670	164.34*	28900	4.0	X	**KA**	**87**	**(E)DRN**	**80M4**	92	603
12	600	147.32*	29000	4.5	X	**KAF**	**87**	**(E)DRN**	**80M4**	105	602
8.6	830	135.28	18900	1.85		**K**	**77**	**DRN**	**90S6**	73	595
9.1	790	128.52	19000	1.95		**KF**	**77**	**DRN**	**90S6**	82	596
10	695	113.56	19300	2.2		**KA**	**77**	**DRN**	**90S6**	66	597
						KAF	**77**	**DRN**	**90S6**	74	596
						K	**77**	**DRN**	**90S6**	73	595
12	595	97.05	19500	2.6		**KF**	**77**	**DRN**	**90S6**	82	596
13	545	88.97	19600	2.8		**KA**	**77**	**DRN**	**90S6**	66	597
						KAF	**77**	**DRN**	**90S6**	74	596
11	625	154.02	19400	2.5	X						
13	550	135.28	19600	2.8	X	**K**	**77**	**(E)DRN**	**80M4**	68	595
14	525	128.52	19600	3.0	X	**KF**	**77**	**(E)DRN**	**80M4**	77	596
15	460	113.56	19800	3.3	X	**KA**	**77**	**(E)DRN**	**80M4**	61	597
18	395	97.05	19900	3.9	X	**KAF**	**77**	**(E)DRN**	**80M4**	69	596
14	505	123.54	12400	1.60	X	**K**	**67**	**(E)DRN**	**80M4**	43	589
16	440	108.03	12700	1.85	X	**KF**	**67**	**(E)DRN**	**80M4**	48	590
19	365	90.04	12900	2.2	X	**KA**	**67**	**(E)DRN**	**80M4**	40	591
						KAF	**67**	**(E)DRN**	**80M4**	46	590

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P_m = 0.75 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
23	310	76.37	13000	2.6	X	**K**	**67**	**(E)DRN**	**80M4**	43	589
25	280	68.95	13000	2.9	X	**KF**	**67**	**(E)DRN**	**80M4**	48	590
29	245	60.66	13000	3.3	X	**KA**	**67**	**(E)DRN**	**80M4**	40	591
31	230	57.28	13000	3.5	X	**KAF**	**67**	**(E)DRN**	**80M4**	46	590
14	505	123.85	8370	1.20	X						
16	440	108.29	8690	1.35	X						
17	420	102.88*	8790	1.45	X						
19	365	90.26*	9010	1.65	X	**K**	**57**	**(E)DRN**	**80M4**	37	583
23	310	76.56*	9240	1.90	X	**KF**	**57**	**(E)DRN**	**80M4**	41	584
25	280	69.12	9350	2.1	X	**KA**	**57**	**(E)DRN**	**80M4**	35	585
29	245	60.81*	9470	2.4	X	**KAF**	**57**	**(E)DRN**	**80M4**	40	584
30	230	57.42*	9520	2.5	X						
36	200	48.89	9630	3.0	X						
39	182	44.43	9690	3.3	X						
29	245	60.27	9000	2.0	X						
33	215	52.94	9000	2.3	X						
35	205	50.29	9000	2.4	X	**K**	**49**	**(E)DRN**	**80M4**	43	579
39	182	44.44	9000	2.8	X	**KF**	**49**	**(E)DRN**	**80M4**	45	580
46	155	37.98	9000	3.2	X	**KA**	**49**	**(E)DRN**	**80M4**	40	581
50	142	34.81	8810	3.5	X	**KAF**	**49**	**(E)DRN**	**80M4**	45	580
57	125	30.55	8520	4.0	X						
60	118	28.95	8400	4.2	X						
23	305	75.20*	6990	1.30	X	**K**	**47**	**(E)DRN**	**80M4**	31	573
25	285	69.84	7180	1.40	X	**KF**	**47**	**(E)DRN**	**80M4**	34	574
28	255	63.30*	7400	1.55	X	**KA**	**47**	**(E)DRN**	**80M4**	30	575
						KAF	**47**	**(E)DRN**	**80M4**	33	574
31	230	56.83	7580	1.70	X						
36	200	48.95*	7770	2.0	X	**K**	**47**	**(E)DRN**	**80M4**	31	573
38	188	46.03*	7800	2.1	X	**KF**	**47**	**(E)DRN**	**80M4**	34	574
44	162	39.61	7550	2.5	X	**KA**	**47**	**(E)DRN**	**80M4**	30	575
49	145	35.39	7360	2.8	X	**KAF**	**47**	**(E)DRN**	**80M4**	33	574
56	128	31.30	7140	3.1	X						
35	200	49.69	7500	1.50	X						
40	178	43.45	7370	1.70	X						
42	169	41.28	7290	1.80	X						
48	148	36.22	7100	2.0	X						
57	126	30.72	6840	2.4	X	**K**	**39**	**(E)DRN**	**80M4**	30	569
63	113	27.73	6680	2.6	X	**KF**	**39**	**(E)DRN**	**80M4**	31	570
72	100	24.40	6480	3.0	X	**KA**	**39**	**(E)DRN**	**80M4**	29	571
76	94	23.04	6390	3.2	X	**KAF**	**39**	**(E)DRN**	**80M4**	30	570
89	80	19.62	6130	3.7	X						
98	73	17.83	5980	4.0	X						
113	63	15.44	5760	4.4	X						
39	182	44.46	4130	1.10	X						
46	155	37.97	4080	1.30	X						
49	145	35.57	4050	1.35	X						
58	123	29.96	3960	1.65	X						
61	118	28.83	3940	1.70	X						
70	102	24.99	3850	1.95	X						
75	96	23.36	3800	2.0	X	**K**	**37**	**(E)DRN**	**80M4**	24	563
87	83	20.19	3700	2.2	X	**KF**	**37**	**(E)DRN**	**80M4**	27	564
102	70	17.15	3580	2.6	X	**KA**	**37**	**(E)DRN**	**80M4**	24	565
114	63	15.31	3490	2.8	X	**KAF**	**37**	**(E)DRN**	**80M4**	26	564
134	54	13.08	3360	3.1	X						
144	50	12.14	3300	3.2	X						
167	43	10.49	3190	3.7	X						
196	36	8.91	3060	4.4	X						
220	33	7.96	2970	4.8	X						

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P_m = 0.75 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
58	107	30.11	3940	1.05	X						
70	88	24.91	3830	1.25	X						
76	87	23.19	3820	1.50	X						
79	77	22.08	3750	1.35	X						
88	75	19.99	3700	1.75	X						
108	60	16.29	3540	2.2	X	**K**	**29**	**(E)DRN**	**80M4**	18	556
130	49	13.47	3390	2.6	X	**KF**	**29**	**(E)DRN**	**80M4**	20	560
147	43	11.94	3300	3.0	X	**KA**	**29**	**(E)DRN**	**80M4**	18	562
177	38	9.90	3210	2.9	X	**KAF**	**29**	**(E)DRN**	**80M4**	19	560
191	32	9.17	3080	4.0	X						
205	32	8.53	3080	3.8	X						
234	26	7.48	2920	4.8	X						
252	26	6.95	2900	4.3	X						
94	69	18.55	3240	1.15	X						
111	59	15.84	3140	1.35	X						
119	54	14.69	3090	1.45	X						
138	47	12.70	3000	1.70	X						
148	43	11.84	2950	1.80	X	**K**	**19**	**(E)DRN**	**80M4**	17	550
170	38	10.32	2860	2.0	X	**KF**	**19**	**(E)DRN**	**80M4**	17	553
216	31	8.09	2750	2.6	X	**KA**	**19**	**(E)DRN**	**80M4**	16	555
253	26	6.91	2630	3.0	X	**KAF**	**19**	**(E)DRN**	**80M4**	17	553
273	24	6.41	2580	3.3	X						
316	21	5.54	2470	3.8	X						
339	19	5.16	2420	4.1	X						
389	17	4.50	2330	4.8	X						

P_m = 1.1 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.19	45700	9363	190000	1.10	X						
0.22	38800	8126	190000	1.30	X						
0.24	37600	7343	190000	1.35	X						
0.26	34300	6747	190000	1.45	X	**K**	**187R97**	**(E)DRN**	**90S4**	1780	636
0.29	30000	5991	190000	1.65	X	**KH**	**187R97**	**(E)DRN**	**90S4**	1710	636
0.33	26500	5358	190000	1.90	X						
0.37	23500	4817	190000	2.1	X						
0.40	21300	4370	190000	2.3	X						
0.33	26800	5355	150000	1.20	X						
0.37	23700	4788	150000	1.35	X						
0.43	20700	4079	150000	1.55	X	**K**	**167R97**	**(E)DRN**	**90S4**	1190	636
0.52	17200	3376	150000	1.85	X	**KH**	**167R97**	**(E)DRN**	**90S4**	1160	636
0.64	13800	2755	150000	2.3	X						
0.81	11400	2182	150000	2.8	X						
1.0	8760	1704	150000	3.6	X	**K**	**167R97**	**(E)DRN**	**90S4**	1190	636
1.2	7290	1408	150000	4.4	X	**KH**	**167R97**	**(E)DRN**	**90S4**	1150	636
1.4	6660	1296	150000	4.8	X						
0.50	17400	3516	112500	1.05	X	**K**	**157R97**	**(E)DRN**	**90S4**	800	636
0.58	15600	3051	113300	1.15	X	**KF**	**157R97**	**(E)DRN**	**90S4**	880	636
0.68	12700	2610	114400	1.40	X	**KA**	**157R97**	**(E)DRN**	**90S4**	760	636
0.76	11300	2322	114900	1.60	X	**KAF**	**157R97**	**(E)DRN**	**90S4**	820	636
1.1	8600	1659	115600	2.1	X						
1.3	6930	1365	116000	2.6	X	**K**	**157R97**	**(E)DRN**	**90S4**	800	636
1.4	6160	1229	116100	2.9	X	**KF**	**157R97**	**(E)DRN**	**90S4**	880	636
1.6	5480	1093	116200	3.3	X	**KA**	**157R97**	**(E)DRN**	**90S4**	760	636
1.9	4720	942	116300	3.8	X	**KAF**	**157R97**	**(E)DRN**	**90S4**	820	636
2.1	4210	854	116400	4.3	X						

P_m = 1.1 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.91	10300	1926	80500	1.25	X						
1.0	9460	1757	80900	1.35	X						
1.1	8270	1541	81400	1.55	X						
1.3	7230	1342	81700	1.80	X						
1.5	6310	1177	82000	2.1	X	**K**	**127R77**	**(E)DRN**	**90S4**	480	635
1.7	5520	1025	82200	2.4	X	**KF**	**127R77**	**(E)DRN**	**90S4**	520	635
2.0	4820	899	82300	2.7	X	**KA**	**127R77**	**(E)DRN**	**90S4**	455	635
2.2	4120	790	82500	3.1	X	**KAF**	**127R77**	**(E)DRN**	**90S4**	490	635
2.5	3750	704	82500	3.5	X						
2.9	3220	610	82600	4.0	X						
3.2	2910	549	82700	4.5	X						
3.7	2490	477	82700	5.2	X						
1.5	6300	1166	65000	1.25	X						
1.7	5460	1030	65000	1.45	X						
1.9	4770	904	65000	1.70	X						
2.2	4270	793	65000	1.85	X						
2.5	3730	696	65000	2.1	X	**K**	**107R77**	**(E)DRN**	**90S4**	320	635
2.9	3240	615	65000	2.5	X	**KF**	**107R77**	**(E)DRN**	**90S4**	335	635
3.4	2750	522	65000	2.9	X	**KA**	**107R77**	**(E)DRN**	**90S4**	295	635
3.8	2410	461	65000	3.3	X	**KAF**	**107R77**	**(E)DRN**	**90S4**	320	635
4.3	2130	408	65000	3.8	X						
4.8	1930	364	65000	4.1	X						
5.5	1690	318	65000	4.7	X						
2.4	3990	743	40000	1.10	X						
2.7	3510	652	40000	1.20	X						
3.1	3140	573	40000	1.35	X	**K**	**97R57**	**(E)DRN**	**90S4**	195	635
3.5	2700	504	40000	1.60	X	**KF**	**97R57**	**(E)DRN**	**90S4**	215	635
4.0	2330	437	40000	1.85	X	**KA**	**97R57**	**(E)DRN**	**90S4**	175	635
4.6	2060	382	40000	2.1	X	**KAF**	**97R57**	**(E)DRN**	**90S4**	200	635
5.2	1810	342	40000	2.4	X						
3.7	2560	474	27500	1.05	X						
4.1	2300	426	27800	1.15	X						
4.7	2020	373	28000	1.35	X	**K**	**87R57**	**(E)DRN**	**90S4**	130	635
5.3	1770	330	28300	1.55	X	**KF**	**87R57**	**(E)DRN**	**90S4**	140	635
6.0	1580	294	28400	1.70	X	**KA**	**87R57**	**(E)DRN**	**90S4**	120	635
7.0	1360	250	28600	1.95	X	**KAF**	**87R57**	**(E)DRN**	**90S4**	135	635
7.5	1280	236	28600	2.1	X						
8.8	1090	201	28700	2.5	X						
7.7	1360	153.21*	40000	3.2		**K**	**97**	**DRN**	**112M6**	190	607
8.4	1240	140.28	40000	3.5		**KF**	**97**	**DRN**	**112M6**	210	608
9.6	1100	123.93*	40000	3.9		**KA**	**97**	**DRN**	**112M6**	175	609
						KAF	**97**	**DRN**	**112M6**	200	608
10	1040	176.05*	40000	4.1	X	**K**	**97**	**(E)DRN**	**90S4**	170	607
12	910	153.21*	40000	4.7	X	**KF**	**97**	**(E)DRN**	**90S4**	190	608
13	830	140.28	40000	5.1	X	**KA**	**97**	**(E)DRN**	**90S4**	150	609
						KAF	**97**	**(E)DRN**	**90S4**	175	608
9.3	1120	126.91*	28700	2.4		**K**	**87**	**DRN**	**112M6**	135	601
						KF	**87**	**DRN**	**112M6**	140	602
						KA	**87**	**DRN**	**112M6**	120	603
						KAF	**87**	**DRN**	**112M6**	135	602
10	1030	174.19	28800	2.6	X						
11	970	164.34*	28800	2.8	X	**K**	**87**	**(E)DRN**	**90S4**	110	601
12	870	147.32*	28800	3.1	X	**KF**	**87**	**(E)DRN**	**90S4**	120	602
14	755	126.91*	28900	3.6	X	**KA**	**87**	**(E)DRN**	**90S4**	97	603
15	690	115.82	28900	3.9	X	**KAF**	**87**	**(E)DRN**	**90S4**	110	602
12	860	97.05	18800	1.80		**K**	**77**	**DRN**	**112M6**	97	595
						KF	**77**	**DRN**	**112M6**	105	596
						KA	**77**	**DRN**	**112M6**	90	597
						KAF	**77**	**DRN**	**112M6**	98	596
13	800	135.28	19000	1.90	X	**K**	**77**	**(E)DRN**	**90S4**	73	595
14	765	128.52	19100	2.0	X	**KF**	**77**	**(E)DRN**	**90S4**	82	596
16	675	113.56	19300	2.3	X	**KA**	**77**	**(E)DRN**	**90S4**	66	597
						KAF	**77**	**(E)DRN**	**90S4**	74	596

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P_m = 1.1 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
18	575	97.05	19500	2.7	X	**K**	**77**	**(E)DRN**	**90S4**	73	595
20	530	88.97	19600	2.9	X	**KF**	**77**	**(E)DRN**	**90S4**	82	596
23	465	78.07	19800	3.3	X	**KA**	**77**	**(E)DRN**	**90S4**	66	597
24	440	73.99	19800	3.5	X	**KAF**	**77**	**(E)DRN**	**90S4**	74	596
16	640	108.03	11600	1.25	X						
17	610	102.62	11800	1.35	X	**K**	**67**	**(E)DRN**	**90S4**	49	589
20	535	90.04	12200	1.55	X	**KF**	**67**	**(E)DRN**	**90S4**	54	590
23	455	76.37	12600	1.80	X	**KA**	**67**	**(E)DRN**	**90S4**	46	591
26	410	68.95	12800	2.0	X	**KAF**	**67**	**(E)DRN**	**90S4**	52	590
29	360	60.66	12900	2.3	X						
31	340	57.28	13000	2.4	X	**K**	**67**	**(E)DRN**	**90S4**	49	589
36	290	48.77	13000	2.8	X	**KF**	**67**	**(E)DRN**	**90S4**	54	590
40	260	44.32	13000	3.1	X	**KA**	**67**	**(E)DRN**	**90S4**	46	591
46	225	38.39	13000	3.5	X	**KAF**	**67**	**(E)DRN**	**90S4**	52	590
20	535	90.26*	8130	1.10	X						
23	455	76.56*	8630	1.30	X						
25	410	69.12	8830	1.45	X	**K**	**57**	**(E)DRN**	**90S4**	43	583
29	360	60.81*	9040	1.65	X	**KF**	**57**	**(E)DRN**	**90S4**	48	584
31	340	57.42*	9120	1.75	X	**KA**	**57**	**(E)DRN**	**90S4**	41	585
36	290	48.89	9320	2.1	X	**KAF**	**57**	**(E)DRN**	**90S4**	47	584
40	260	44.43	9410	2.3	X						
46	225	38.49	9540	2.6	X						
49	210	35.70	9590	2.8	X						
58	181	30.28	9220	3.3	X						
64	163	27.34	8990	3.7	X						
73	143	24.05	8700	4.2	X						
78	135	22.71	8570	4.4	X						
91	115	19.34	8200	5.0	X						
100	105	17.57	7990	5.3	X	**K**	**57**	**(E)DRN**	**90S4**	43	583
116	91	15.22	7680	5.9	X	**KF**	**57**	**(E)DRN**	**90S4**	48	584
133	79	13.25	7380	6.5	X	**KA**	**57**	**(E)DRN**	**90S4**	41	585
148	71	11.92	7100	5.8	X	**KAF**	**57**	**(E)DRN**	**90S4**	47	584
157	67	11.26	6980	6.2	X						
184	57	9.59	6670	7.1	X						
202	52	8.71	6480	7.5	X						
234	45	7.55	6210	8.1	X						
268	39	6.57	5960	8.8	X						
376	28	4.69	5380	11	X						
29	355	60.27	9000	1.40	X						
33	315	52.94	9000	1.60	X						
35	295	50.29	8940	1.65	X						
40	260	44.44	8740	1.90	X						
46	225	37.98	8480	2.2	X	**K**	**49**	**(E)DRN**	**90S4**	48	579
51	205	34.81	8320	2.4	X	**KF**	**49**	**(E)DRN**	**90S4**	50	580
58	182	30.55	8090	2.8	X	**KA**	**49**	**(E)DRN**	**90S4**	45	581
61	173	28.95	7990	2.9	X	**KAF**	**49**	**(E)DRN**	**90S4**	50	580
70	151	25.34	7740	3.3	X						
77	136	22.83	7550	3.7	X						
88	119	20.03	7310	4.2	X						
31	335	56.83	6680	1.20	X	**K**	**47**	**(E)DRN**	**90S4**	37	573
36	290	48.95*	7130	1.35	X	**KF**	**47**	**(E)DRN**	**90S4**	40	574
38	270	46.03*	7120	1.45	X	**KA**	**47**	**(E)DRN**	**90S4**	36	575
						KAF	**47**	**(E)DRN**	**90S4**	39	574
44	235	39.61	6970	1.70	X						
50	210	35.39	6840	1.90	X						
56	187	31.30	6680	2.1	X	**K**	**47**	**(E)DRN**	**90S4**	37	573
60	175	29.32	6600	2.3	X	**KF**	**47**	**(E)DRN**	**90S4**	40	574
68	154	25.91	6430	2.6	X	**KA**	**47**	**(E)DRN**	**90S4**	36	575
81	130	21.81	6190	3.1	X	**KAF**	**47**	**(E)DRN**	**90S4**	39	574
90	117	19.58	6040	3.4	X						

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P_m = 1.1 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
35	295	49.69	6740	1.00	X						
41	255	43.45	6650	1.15	X						
43	245	41.28	6610	1.20	X						
49	215	36.22	6500	1.40	X						
57	183	30.72	6330	1.65	X						
64	165	27.73	6220	1.80	X						
72	145	24.40	6070	2.1	X	**K**	**39**	**(E)DRN**	**90S4**	36	569
76	137	23.04	6000	2.2	X	**KF**	**39**	**(E)DRN**	**90S4**	38	570
90	117	19.62	5800	2.5	X	**KA**	**39**	**(E)DRN**	**90S4**	35	571
99	106	17.83	5680	2.7	X	**KAF**	**39**	**(E)DRN**	**90S4**	37	570
114	92	15.44	5500	3.0	X						
131	80	13.44	5310	3.4	X						
138	76	12.73	5460	3.3	X						
146	72	12.09	5380	3.5	X						
166	63	10.61	5190	4.5	X						
59	179	29.96	3440	1.10	X						
71	149	24.99	3410	1.35	X						
75	139	23.36	3390	1.40	X						
87	120	20.19	3340	1.55	X						
103	102	17.15	3280	1.75	X						
115	91	15.31	3220	1.90	X						
135	78	13.08	3130	2.1	X	**K**	**37**	**(E)DRN**	**90S4**	30	563
145	72	12.14	3090	2.2	X	**KF**	**37**	**(E)DRN**	**90S4**	33	564
168	63	10.49	3000	2.6	X	**KA**	**37**	**(E)DRN**	**90S4**	30	565
198	53	8.91	2900	3.0	X	**KAF**	**37**	**(E)DRN**	**90S4**	32	564
221	47	7.96	2830	3.3	X						
259	41	6.80	2720	3.7	X						
277	38	6.37	2680	3.8	X						
329	32	5.36	2560	4.4	X						
443	24	3.98	2370	5.3	X						
76	128	23.19	3440	1.00	X						
88	110	19.99	3380	1.20	X						
108	89	16.29	3280	1.45	X						
131	73	13.47	3170	1.80	X						
148	64	11.94	3100	2.0	X	**K**	**29**	**(E)DRN**	**90S4**	24	556
178	56	9.90	3080	1.95	X	**KF**	**29**	**(E)DRN**	**90S4**	25	560
192	49	9.17	2930	2.7	X	**KA**	**29**	**(E)DRN**	**90S4**	24	562
206	48	8.53	2970	2.5	X	**KAF**	**29**	**(E)DRN**	**90S4**	25	560
236	39	7.48	2790	3.1	X						
253	39	6.95	2810	2.9	X						
306	32	5.75	2670	3.5	X						
346	28	5.10	2580	3.9	X						
139	69	12.70	2760	1.15	X						
149	64	11.84	2730	1.25	X						
171	56	10.32	2670	1.35	X						
218	45	8.09	2620	1.75	X	**K**	**19**	**(E)DRN**	**90S4**	23	550
255	39	6.91	2530	2.1	X	**KF**	**19**	**(E)DRN**	**90S4**	23	553
275	36	6.41	2480	2.2	X	**KA**	**19**	**(E)DRN**	**90S4**	22	555
318	31	5.54	2390	2.6	X	**KAF**	**19**	**(E)DRN**	**90S4**	23	553
341	29	5.16	2340	2.8	X						
392	25	4.50	2260	3.2	X						

P_m = 1.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.26	47600	6747	190000	1.05	X						
0.29	41900	5991	190000	1.20	X						
0.33	37100	5358	190000	1.35	X	**K**	**187R97**	**(E)DRN**	**90L4**	1780	636
0.37	33000	4817	190000	1.50	X	**KH**	**187R97**	**(E)DRN**	**90L4**	1710	636
0.40	29900	4370	190000	1.65	X						
0.49	26100	3609	190000	1.90	X						
0.58	22000	3062	190000	2.3	X	**K**	**187R97**	**(E)DRN**	**90L4**	1780	636
0.70	17800	2519	190000	2.8	X	**KH**	**187R97**	**(E)DRN**	**90L4**	1710	636
0.78	15900	2268	190000	3.1	X						

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P_m = 1.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.43	28800	4079	150000	1.10	X						
0.52	23900	3376	150000	1.35	X	**K**	**167R97**	**(E)DRN**	**90L4**	1200	636
0.64	19200	2755	150000	1.65	X	**KH**	**167R97**	**(E)DRN**	**90L4**	1160	636
0.81	15800	2182	150000	2.0	X						
1.0	12100	1704	150000	2.6	X	**K**	**167R97**	**(E)DRN**	**90L4**	1190	636
1.3	10100	1408	150000	3.2	X	**KH**	**167R97**	**(E)DRN**	**90L4**	1160	636
1.4	9260	1296	150000	3.5	X						
						K	**157R97**	**(E)DRN**	**90L4**	800	636
						KF	**157R97**	**(E)DRN**	**90L4**	880	636
0.76	15900	2322	113200	1.15	X	**KA**	**157R97**	**(E)DRN**	**90L4**	770	636
						KAF	**157R97**	**(E)DRN**	**90L4**	830	636
1.1	11900	1659	114700	1.50	X						
1.3	9660	1365	115400	1.85	X						
1.4	8620	1229	115600	2.1	X	**K**	**157R97**	**(E)DRN**	**90L4**	800	636
1.6	7660	1093	115900	2.4	X	**KF**	**157R97**	**(E)DRN**	**90L4**	880	636
1.9	6610	942	116100	2.7	X	**KA**	**157R97**	**(E)DRN**	**90L4**	760	636
2.1	5920	854	116200	3.0	X	**KAF**	**157R97**	**(E)DRN**	**90L4**	820	636
3.1	3870	567	116400	4.6	X						
3.5	3440	504	116500	5.2	X						
						K	**127R87**	**(E)DRN**	**90L4**	510	635
3.3	3770	536	82500	3.4	X	**KF**	**127R87**	**(E)DRN**	**90L4**	550	635
4.2	2970	418	82700	4.4	X	**KA**	**127R87**	**(E)DRN**	**90L4**	480	635
4.8	2630	367	82700	4.9	X	**KAF**	**127R87**	**(E)DRN**	**90L4**	520	635
1.0	12900	1757	79200	1.00	X						
1.1	11300	1541	80100	1.15	X						
1.3	9910	1342	80700	1.30	X						
1.5	8670	1177	81200	1.50	X						
1.7	7570	1025	81600	1.70	X	**K**	**127R77**	**(E)DRN**	**90L4**	485	635
2.0	6620	899	81900	1.95	X	**KF**	**127R77**	**(E)DRN**	**90L4**	530	635
2.2	5710	790	82100	2.3	X	**KA**	**127R77**	**(E)DRN**	**90L4**	455	635
2.5	5160	704	82300	2.5	X	**KAF**	**127R77**	**(E)DRN**	**90L4**	495	635
2.9	4440	610	82400	2.9	X						
3.2	4010	549	82500	3.2	X						
3.7	3440	477	82600	3.8	X						
4.2	3060	418	82600	4.2	X						
1.7	7530	1030	65000	1.05	X						
2.0	6580	904	65000	1.20	X						
2.2	5860	793	65000	1.35	X						
2.5	5120	696	65000	1.55	X	**K**	**107R77**	**(E)DRN**	**90L4**	325	635
2.9	4480	615	65000	1.80	X	**KF**	**107R77**	**(E)DRN**	**90L4**	335	635
3.4	3800	522	65000	2.1	X	**KA**	**107R77**	**(E)DRN**	**90L4**	300	635
3.8	3330	461	65000	2.4	X	**KAF**	**107R77**	**(E)DRN**	**90L4**	320	635
4.3	2940	408	65000	2.7	X						
4.9	2660	364	65000	3.0	X						
5.6	2330	318	65000	3.4	X						
3.1	4300	573	40000	1.00	X						
3.5	3710	504	40000	1.15	X						
4.0	3200	437	40000	1.35	X						
4.6	2830	382	40000	1.50	X	**K**	**97R57**	**(E)DRN**	**90L4**	195	635
5.2	2500	342	40000	1.70	X	**KF**	**97R57**	**(E)DRN**	**90L4**	215	635
5.8	2280	305	40000	1.90	X	**KA**	**97R57**	**(E)DRN**	**90L4**	180	635
6.9	1920	258	40000	2.2	X	**KAF**	**97R57**	**(E)DRN**	**90L4**	205	635
7.6	1730	232	40000	2.5	X						
8.9	1480	199	40000	2.9	X						
5.4	2430	330	27600	1.10	X						
6.0	2170	294	27900	1.25	X	**K**	**87R57**	**(E)DRN**	**90L4**	135	635
7.1	1870	250	28200	1.45	X	**KF**	**87R57**	**(E)DRN**	**90L4**	145	635
7.5	1760	236	28300	1.55	X	**KA**	**87R57**	**(E)DRN**	**90L4**	125	635
8.8	1500	201	28500	1.80	X	**KAF**	**87R57**	**(E)DRN**	**90L4**	135	635
9.7	1360	183	28600	2.0	X						
						K	**97**	**DRN**	**112M6**	190	607
7.7	1850	153.21*	40000	2.3		**KF**	**97**	**DRN**	**112M6**	210	608
8.4	1700	140.28	40000	2.5		**KA**	**97**	**DRN**	**112M6**	175	609
9.5	1500	123.93*	40000	2.9		**KAF**	**97**	**DRN**	**112M6**	200	608

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P_m = 1.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
10	1420	176.05*	40000	3.0	X	**K**	**97**	**(E)DRN**	**90L4**	170	607
12	1240	153.21*	40000	3.5	X	**KF**	**97**	**(E)DRN**	**90L4**	190	608
13	1130	140.28	40000	3.8	X	**KA**	**97**	**(E)DRN**	**90L4**	155	609
14	1000	123.93*	40000	4.3	X	**KAF**	**97**	**(E)DRN**	**90L4**	180	608
9.3	1530	126.91*	28400	1.75		**K**	**87**	**DRN**	**112M6**	135	601
10	1400	115.82	28500	1.90		**KF**	**87**	**DRN**	**112M6**	140	602
12	1240	102.71*	28600	2.2		**KA**	**87**	**DRN**	**112M6**	120	603
						KAF	**87**	**DRN**	**112M6**	135	602
10	1410	174.19	28500	1.90	X						
11	1330	164.34*	28600	2.0	X						
12	1190	147.32*	28700	2.3	X	**K**	**87**	**(E)DRN**	**90L4**	110	601
14	1020	126.91*	28800	2.6	X	**KF**	**87**	**(E)DRN**	**90L4**	120	602
15	930	115.82	28800	2.9	X	**KA**	**87**	**(E)DRN**	**90L4**	100	603
17	830	102.71*	28900	3.2	X	**KAF**	**87**	**(E)DRN**	**90L4**	115	602
20	695	86.34	28900	3.9	X						
12	1170	97.05	17600	1.30		**K**	**77**	**DRN**	**112M6**	97	595
13	1070	88.97	18000	1.45		**KF**	**77**	**DRN**	**112M6**	105	596
15	940	78.07	18500	1.65		**KA**	**77**	**DRN**	**112M6**	90	597
						KAF	**77**	**DRN**	**112M6**	98	596
13	1090	135.28	17900	1.40	X						
14	1040	128.52	18100	1.50	X	**K**	**77**	**(E)DRN**	**90L4**	77	595
16	920	113.56	18600	1.70	X	**KF**	**77**	**(E)DRN**	**90L4**	85	596
18	785	97.05	19000	1.95	X	**KA**	**77**	**(E)DRN**	**90L4**	69	597
20	720	88.97	19200	2.1	X	**KAF**	**77**	**(E)DRN**	**90L4**	77	596
23	630	78.07	19400	2.5	X						
24	595	73.99	19500	2.6	X						
27	520	64.75	19700	3.0	X	**K**	**77**	**(E)DRN**	**90L4**	77	595
30	470	58.34	19700	3.3	X	**KF**	**77**	**(E)DRN**	**90L4**	85	596
35	410	51.18	19800	3.7	X	**KA**	**77**	**(E)DRN**	**90L4**	69	597
39	365	45.16	19900	4.2	X	**KAF**	**77**	**(E)DRN**	**90L4**	77	596
44	320	40.04	20000	4.8	X						
20	725	90.04	11000	1.10	X						
23	615	76.37	11800	1.30	X	**K**	**67**	**(E)DRN**	**90L4**	52	589
26	555	68.95	12100	1.45	X	**KF**	**67**	**(E)DRN**	**90L4**	58	590
29	490	60.66	12400	1.65	X	**KA**	**67**	**(E)DRN**	**90L4**	49	591
31	460	57.28	12600	1.75	X	**KAF**	**67**	**(E)DRN**	**90L4**	55	590
36	395	48.77	12800	2.1	X						
40	355	44.32	12900	2.3	X						
46	310	38.39	13000	2.6	X	**K**	**67**	**(E)DRN**	**90L4**	52	589
50	285	35.62	13000	2.8	X	**KF**	**67**	**(E)DRN**	**90L4**	58	590
58	240	30.22	13000	3.4	X	**KA**	**67**	**(E)DRN**	**90L4**	49	591
65	220	27.28	13000	3.7	X	**KAF**	**67**	**(E)DRN**	**90L4**	55	590
74	194	24.00	13000	4.1	X						
29	490	60.81*	8450	1.20	X	**K**	**57**	**(E)DRN**	**90L4**	46	583
31	465	57.42*	8580	1.30	X	**KF**	**57**	**(E)DRN**	**90L4**	51	584
36	395	48.89	8900	1.50	X	**KA**	**57**	**(E)DRN**	**90L4**	44	585
40	360	44.43	9050	1.65	X	**KAF**	**57**	**(E)DRN**	**90L4**	50	584
46	310	38.49	9220	1.90	X						
49	285	35.70	9090	2.1	X						
58	245	30.28	8790	2.4	X	**K**	**57**	**(E)DRN**	**90L4**	46	583
65	220	27.34	8600	2.7	X	**KF**	**57**	**(E)DRN**	**90L4**	51	584
73	195	24.05	8350	3.1	X	**KA**	**57**	**(E)DRN**	**90L4**	44	585
78	184	22.71	8240	3.3	X	**KAF**	**57**	**(E)DRN**	**90L4**	50	584
91	157	19.34	7920	3.7	X						

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P_m = 1.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
33	425	52.94	8190	1.15	X						
35	405	50.29	8150	1.25	X						
40	360	44.44	8050	1.40	X						
47	305	37.98	7880	1.60	X						
51	280	34.81	7780	1.75	X						
58	245	30.55	7610	2.0	X	**K**	**49**	**(E)DRN**	**90L4**	51	579
61	230	28.95	7530	2.1	X	**KF**	**49**	**(E)DRN**	**90L4**	53	580
70	205	25.34	7340	2.4	X	**KA**	**49**	**(E)DRN**	**90L4**	48	581
77	185	22.83	7190	2.7	X	**KAF**	**49**	**(E)DRN**	**90L4**	53	580
88	162	20.03	6990	3.1	X						
100	143	17.67	6790	3.5	X						
113	127	15.67	6600	3.9	X						
132	108	13.38	6350	4.3	X						
45	320	39.61	6310	1.25	X	**K**	**47**	**(E)DRN**	**90L4**	40	573
50	285	35.39	6250	1.40	X	**KF**	**47**	**(E)DRN**	**90L4**	44	574
56	250	31.30	6160	1.60	X	**KA**	**47**	**(E)DRN**	**90L4**	39	575
						KAF	**47**	**(E)DRN**	**90L4**	42	574
60	235	29.32	6110	1.70	X						
68	210	25.91	6000	1.90	X						
81	177	21.81	5830	2.3	X						
90	159	19.58	5720	2.5	X	**K**	**47**	**(E)DRN**	**90L4**	40	573
105	137	16.86	5550	2.8	X	**KF**	**47**	**(E)DRN**	**90L4**	44	574
111	129	15.86	5480	3.0	X	**KA**	**47**	**(E)DRN**	**90L4**	39	575
129	111	13.65	5300	3.2	X	**KAF**	**47**	**(E)DRN**	**90L4**	42	574
145	99	12.19	5160	3.5	X						
150	95	11.77	5070	2.9	X						
49	290	36.22	5820	1.00	X						
58	245	30.72	5760	1.20	X						
64	220	27.73	5700	1.35	X						
72	198	24.40	5620	1.50	X						
77	187	23.04	5570	1.60	X						
90	159	19.62	5440	1.85	X	**K**	**39**	**(E)DRN**	**90L4**	39	569
99	145	17.83	5350	2.0	X	**KF**	**39**	**(E)DRN**	**90L4**	41	570
114	125	15.44	5200	2.2	X	**KA**	**39**	**(E)DRN**	**90L4**	38	571
131	109	13.44	5060	2.5	X	**KAF**	**39**	**(E)DRN**	**90L4**	40	570
139	103	12.73	5300	2.4	X						
146	98	12.09	5230	2.6	X						
167	86	10.61	5050	3.3	X						
196	73	9.00	4830	4.1	X						
217	66	8.12	4690	4.5	X						
76	189	23.36	2930	1.05	X						
88	164	20.19	2950	1.15	X						
103	139	17.15	2940	1.30	X						
115	124	15.31	2920	1.40	X						
135	106	13.08	2870	1.55	X						
146	98	12.14	2850	1.65	X	**K**	**37**	**(E)DRN**	**90L4**	33	563
168	85	10.49	2800	1.90	X	**KF**	**37**	**(E)DRN**	**90L4**	36	564
198	72	8.91	2720	2.2	X	**KA**	**37**	**(E)DRN**	**90L4**	33	565
222	65	7.96	2670	2.4	X	**KAF**	**37**	**(E)DRN**	**90L4**	35	564
260	55	6.80	2590	2.7	X						
278	52	6.37	2550	2.8	X						
329	43	5.36	2460	3.2	X						
444	32	3.98	2290	3.9	X						
108	122	16.29	2980	1.05	X						
131	100	13.47	2920	1.30	X						
148	89	11.94	2880	1.45	X						
193	67	9.17	2760	1.95	X						
207	66	8.53	2850	1.85	X	**K**	**29**	**(E)DRN**	**90L4**	27	556
236	54	7.48	2660	2.3	X	**KF**	**29**	**(E)DRN**	**90L4**	29	560
254	53	6.95	2710	2.1	X	**KA**	**29**	**(E)DRN**	**90L4**	27	562
307	44	5.75	2590	2.6	X	**KAF**	**29**	**(E)DRN**	**90L4**	28	560
347	39	5.10	2510	2.9	X						
451	29	3.92	2340	4.3	X						
554	24	3.19	2210	4.7	X						

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P_m = 2.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.40	45200	4370	190000	1.10	X	**K**	**187R97**	**(E)DRN**	**100L4**	1790	636
0.63	28200	2818	190000	1.75	X	**KH**	**187R97**	**(E)DRN**	**100L4**	1720	636
0.49	38900	3609	190000	1.30	X						
0.58	32800	3062	190000	1.50	X						
0.70	26700	2519	190000	1.85	X						
0.78	23900	2268	190000	2.1	X	**K**	**187R97**	**(E)DRN**	**100L4**	1790	636
0.86	21500	2054	190000	2.3	X	**KH**	**187R97**	**(E)DRN**	**100L4**	1720	636
0.97	18900	1821	190000	2.6	X						
1.1	16800	1605	190000	3.0	X						
0.64	28900	2755	150000	1.10	X	**K**	**167R97**	**(E)DRN**	**100L4**	1210	636
0.78	23000	2263	150000	1.40	X	**KH**	**167R97**	**(E)DRN**	**100L4**	1170	636
0.81	23500	2182	150000	1.35	X						
1.0	18200	1704	150000	1.75	X						
1.2	15100	1408	150000	2.1	X	**K**	**167R97**	**(E)DRN**	**100L4**	1210	636
1.4	13800	1296	150000	2.3	X	**KH**	**167R97**	**(E)DRN**	**100L4**	1170	636
1.6	11400	1101	150000	2.8	X						
1.9	9900	944	150000	3.2	X						
1.1	17800	1659	112300	1.00	X						
1.3	14500	1365	113800	1.25	X						
1.4	12900	1229	114400	1.40	X	**K**	**157R97**	**(E)DRN**	**100L4**	810	636
1.6	11500	1093	114800	1.55	X	**KF**	**157R97**	**(E)DRN**	**100L4**	890	636
1.9	9950	942	115300	1.80	X	**KA**	**157R97**	**(E)DRN**	**100L4**	780	636
2.1	8950	854	115600	2.0	X	**KAF**	**157R97**	**(E)DRN**	**100L4**	830	636
2.3	7670	756	115900	2.4	X						
3.3	5670	536	82100	2.3	X						
3.7	4940	473	82300	2.6	X	**K**	**127R87**	**(E)DRN**	**100L4**	520	635
4.2	4470	418	82400	2.9	X	**KF**	**127R87**	**(E)DRN**	**100L4**	560	635
4.8	3930	367	82500	3.3	X	**KA**	**127R87**	**(E)DRN**	**100L4**	490	635
5.3	3520	330	82600	3.7	X	**KAF**	**127R87**	**(E)DRN**	**100L4**	530	635
1.7	11200	1025	80100	1.15	X						
2.0	9810	899	80800	1.30	X						
2.2	8510	790	81300	1.55	X	**K**	**127R77**	**(E)DRN**	**100L4**	495	635
2.5	7660	704	81600	1.70	X	**KF**	**127R77**	**(E)DRN**	**100L4**	540	635
2.9	6610	610	81900	1.95	X	**KA**	**127R77**	**(E)DRN**	**100L4**	470	635
3.2	5960	549	82100	2.2	X	**KAF**	**127R77**	**(E)DRN**	**100L4**	510	635
3.7	5140	477	82300	2.5	X						
4.2	4540	418	82400	2.9	X						
2.9	6660	615	65000	1.20	X						
3.4	5650	522	65000	1.40	X						
3.8	4970	461	65000	1.60	X	**K**	**107R77**	**(E)DRN**	**100L4**	335	635
4.3	4390	408	65000	1.80	X	**KF**	**107R77**	**(E)DRN**	**100L4**	350	635
4.8	3950	364	65000	2.0	X	**KA**	**107R77**	**(E)DRN**	**100L4**	310	635
5.5	3450	318	65000	2.3	X	**KAF**	**107R77**	**(E)DRN**	**100L4**	335	635
6.2	3100	286	65000	2.6	X						
7.0	2720	251	65000	2.9	X						
4.6	4180	382	40000	1.05	X						
5.2	3710	342	40000	1.15	X	**K**	**97R57**	**(E)DRN**	**100L4**	205	635
5.8	3370	305	40000	1.25	X	**KF**	**97R57**	**(E)DRN**	**100L4**	225	635
6.8	2840	258	40000	1.50	X	**KA**	**97R57**	**(E)DRN**	**100L4**	190	635
7.6	2560	232	40000	1.70	X	**KAF**	**97R57**	**(E)DRN**	**100L4**	215	635
8.8	2190	199	40000	1.95	X						
9.5	2200	123.93*	40000	1.95		**K**	**97**	**DRN**	**132S6**	205	607
						KF	**97**	**DRN**	**132S6**	225	608
						KA	**97**	**DRN**	**132S6**	185	609
						KAF	**97**	**DRN**	**132S6**	210	608
11	1870	105.13	40000	2.3		**K**	**97**	**DRN**	**132S6**	205	607
						KF	**97**	**DRN**	**132S6**	225	608
						KA	**97**	**DRN**	**132S6**	185	609
						KAF	**97**	**DRN**	**132S6**	210	608
10	2090	176.05*	40000	2.0	X	**K**	**97**	**(E)DRN**	**100L4**	185	607
12	1820	153.21*	40000	2.4	X	**KF**	**97**	**(E)DRN**	**100L4**	205	608
13	1660	140.28	40000	2.6	X	**KA**	**97**	**(E)DRN**	**100L4**	165	609
14	1470	123.93*	40000	2.9	X	**KAF**	**97**	**(E)DRN**	**100L4**	190	608

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P_m = 2.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
						K	**97**	**(E)DRN**	**100L4**	185	607
17	1250	105.13	40000	3.4	X	**KF**	**97**	**(E)DRN**	**100L4**	205	608
18	1150	96.80	40000	3.7	X	**KA**	**97**	**(E)DRN**	**100L4**	165	609
						KAF	**97**	**(E)DRN**	**100L4**	190	608
12	1750	147.32*	28300	1.55	X	**K**	**87**	**(E)DRN**	**100L4**	125	601
14	1510	126.91*	28500	1.80	X	**KF**	**87**	**(E)DRN**	**100L4**	135	602
15	1370	115.82	28600	1.95	X	**KA**	**87**	**(E)DRN**	**100L4**	110	603
						KAF	**87**	**(E)DRN**	**100L4**	125	602
17	1220	102.71*	28700	2.2	X						
20	1020	86.34	28800	2.6	X	**K**	**87**	**(E)DRN**	**100L4**	125	601
22	940	79.34	28800	2.9	X	**KF**	**87**	**(E)DRN**	**100L4**	135	602
25	830	70.46	28900	3.2	X	**KA**	**87**	**(E)DRN**	**100L4**	110	603
28	745	63.00*	28900	3.6	X	**KAF**	**87**	**(E)DRN**	**100L4**	125	602
16	1350	113.56	16600	1.15	X						
18	1150	97.05	17700	1.35	X	**K**	**77**	**(E)DRN**	**100L4**	88	595
20	1050	88.97	18100	1.45	X	**KF**	**77**	**(E)DRN**	**100L4**	96	596
23	920	78.07	18600	1.65	X	**KA**	**77**	**(E)DRN**	**100L4**	80	597
24	880	73.99	18700	1.75	X	**KAF**	**77**	**(E)DRN**	**100L4**	88	596
27	770	64.75	19100	2.0	X						
30	690	58.34	19300	2.2	X						
34	605	51.18	19500	2.5	X						
39	535	45.16	19600	2.9	X	**K**	**77**	**(E)DRN**	**100L4**	88	595
44	475	40.04	19700	3.2	X	**KF**	**77**	**(E)DRN**	**100L4**	96	596
50	415	35.20	19800	3.7	X	**KA**	**77**	**(E)DRN**	**100L4**	80	597
57	365	30.89	19900	4.2	X	**KAF**	**77**	**(E)DRN**	**100L4**	88	596
60	345	29.27	19900	4.5	X						
69	300	25.62	20000	5.1	X						
29	720	60.66	11100	1.15	X						
31	680	57.28	11400	1.20	X						
36	580	48.77	12000	1.40	X	**K**	**67**	**(E)DRN**	**100L4**	63	589
40	525	44.32	12300	1.55	X	**KF**	**67**	**(E)DRN**	**100L4**	69	590
46	455	38.39	12600	1.75	X	**KA**	**67**	**(E)DRN**	**100L4**	60	591
50	420	35.62	12700	1.95	X	**KAF**	**67**	**(E)DRN**	**100L4**	66	590
58	355	30.22	12900	2.3	X						
65	320	27.28	13000	2.5	X						
74	285	24.00	13000	2.8	X						
78	265	22.66	13000	2.9	X						
92	225	19.30	13000	3.3	X						
101	205	17.54	13000	3.5	X						
116	181	15.19	13000	3.9	X	**K**	**67**	**(E)DRN**	**100L4**	63	589
134	157	13.22	13000	4.3	X	**KF**	**67**	**(E)DRN**	**100L4**	69	590
141	149	12.48	13000	3.6	X	**KA**	**67**	**(E)DRN**	**100L4**	60	591
166	126	10.63	13000	4.0	X	**KAF**	**67**	**(E)DRN**	**100L4**	66	590
183	115	9.66	12900	4.2	X						
211	100	8.37	12500	4.4	X						
242	87	7.28	12000	4.8	X						
339	62	5.20	11000	5.7	X						
40	525	44.43	8200	1.15	X	**K**	**57**	**(E)DRN**	**100L4**	57	583
46	455	38.49	8260	1.30	X	**KF**	**57**	**(E)DRN**	**100L4**	62	584
49	420	35.70	8200	1.40	X	**KA**	**57**	**(E)DRN**	**100L4**	55	585
58	360	30.28	8040	1.65	X	**KAF**	**57**	**(E)DRN**	**100L4**	61	584
65	325	27.34	7920	1.85	X						
73	285	24.05	7760	2.1	X						
78	270	22.71	7680	2.2	X						
91	230	19.34	7450	2.5	X	**K**	**57**	**(E)DRN**	**100L4**	57	583
100	205	17.57	7300	2.6	X	**KF**	**57**	**(E)DRN**	**100L4**	62	584
116	181	15.22	7080	3.0	X	**KA**	**57**	**(E)DRN**	**100L4**	55	585
133	158	13.25	6860	3.2	X	**KAF**	**57**	**(E)DRN**	**100L4**	61	584
148	142	11.92	6570	2.9	X						
157	134	11.26	6480	3.1	X						

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P_m = 2.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
46	450	37.98	6850	1.10	X						
51	410	34.81	6830	1.20	X						
58	360	30.55	6780	1.40	X						
61	340	28.95	6750	1.45	X						
70	300	25.34	6660	1.65	X						
77	270	22.83	6570	1.85	X	**K**	**49**	**(E)DRN**	**100L4**	63	579
88	235	20.03	6440	2.1	X	**KF**	**49**	**(E)DRN**	**100L4**	64	580
100	210	17.67	6310	2.4	X	**KA**	**49**	**(E)DRN**	**100L4**	60	581
113	186	15.67	6180	2.6	X	**KAF**	**49**	**(E)DRN**	**100L4**	65	580
132	159	13.38	5990	3.0	X						
155	135	11.37	6130	3.7	X						
169	124	10.42	5990	3.9	X						
193	109	9.14	5780	4.6	X						
68	305	25.91	5260	1.30	X	**K**	**47**	**(E)DRN**	**100L4**	51	573
81	255	21.81	5200	1.55	X	**KF**	**47**	**(E)DRN**	**100L4**	55	574
90	230	19.58	5150	1.70	X	**KA**	**47**	**(E)DRN**	**100L4**	50	575
						KAF	**47**	**(E)DRN**	**100L4**	53	574
105	200	16.86	5060	1.90	X						
111	189	15.86	5020	2.0	X						
129	162	13.65	4900	2.2	X	**K**	**47**	**(E)DRN**	**100L4**	51	573
145	145	12.19	4810	2.4	X	**KF**	**47**	**(E)DRN**	**100L4**	55	574
150	140	11.77	4720	2.0	X	**KA**	**47**	**(E)DRN**	**100L4**	50	575
167	126	10.56	4620	2.2	X	**KAF**	**47**	**(E)DRN**	**100L4**	53	574
194	108	9.10	4490	2.6	X						
72	290	24.40	4820	1.05	X						
77	270	23.04	4820	1.10	X						
90	230	19.62	4800	1.25	X						
99	210	17.83	4770	1.35	X						
114	184	15.44	4700	1.50	X						
131	160	13.44	4620	1.70	X						
166	126	10.61	4820	2.3	X	**K**	**39**	**(E)DRN**	**100L4**	50	569
196	107	9.00	4640	2.8	X	**KF**	**39**	**(E)DRN**	**100L4**	52	570
217	97	8.12	4520	3.1	X	**KA**	**39**	**(E)DRN**	**100L4**	49	571
247	85	7.15	4370	3.5	X	**KAF**	**39**	**(E)DRN**	**100L4**	51	570
261	80	6.75	4310	3.7	X						
307	68	5.75	4130	4.0	X						
338	62	5.22	4020	4.2	X						
390	54	4.52	3860	4.5	X						
448	47	3.94	3720	4.6	X						
135	156	13.08	2420	1.05	X						
168	125	10.49	2440	1.30	X						
198	106	8.91	2420	1.50	X	**K**	**37**	**(E)DRN**	**100L4**	45	563
222	95	7.96	2400	1.65	X	**KF**	**37**	**(E)DRN**	**100L4**	47	564
260	81	6.80	2350	1.85	X	**KA**	**37**	**(E)DRN**	**100L4**	44	565
277	76	6.37	2330	1.90	X	**KAF**	**37**	**(E)DRN**	**100L4**	46	564
329	64	5.36	2270	2.2	X						
444	47	3.98	2150	2.6	X						

P_m = 3.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.63	39500	2818	190000	1.25	X	**K**	**187R97**	**(E)DRN**	**100L4**	1790	636
						KH	**187R97**	**(E)DRN**	**100L4**	1720	636
0.58	45200	3062	190000	1.10	X						
0.70	37000	2519	190000	1.35	X						
0.78	33100	2268	190000	1.50	X						
0.86	29800	2054	190000	1.65	X	**K**	**187R97**	**(E)DRN**	**100L4**	1790	636
0.97	26300	1821	190000	1.90	X	**KH**	**187R97**	**(E)DRN**	**100L4**	1720	636
1.1	23300	1605	190000	2.1	X						
1.3	19800	1395	190000	2.5	X						
1.5	17200	1196	190000	2.9	X						

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P_m = 3.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
1.0	25100	1704	150000	1.25	X						
1.2	20800	1408	150000	1.55	X						
1.4	19100	1296	150000	1.65	X						
1.6	15900	1101	150000	2.0	X	**K**	**167R97**	**(E)DRN**	**100L4**	1210	636
1.9	13700	944	150000	2.3	X	**KH**	**167R97**	**(E)DRN**	**100L4**	1170	636
2.1	11900	843	150000	2.7	X						
2.3	10800	757	150000	2.9	X						
1.4	17900	1229	112200	1.00	X						
1.6	15900	1093	113100	1.15	X						
1.9	13700	942	114100	1.30	X	**K**	**157R97**	**(E)DRN**	**100L4**	810	636
2.1	12400	854	114500	1.45	X	**KF**	**157R97**	**(E)DRN**	**100L4**	890	636
2.3	10700	756	115100	1.70	X	**KA**	**157R97**	**(E)DRN**	**100L4**	780	636
3.1	8180	567	115700	2.2	X	**KAF**	**157R97**	**(E)DRN**	**100L4**	830	636
3.5	7280	504	115900	2.5	X						
3.3	7840	536	81500	1.65	X						
3.7	6860	473	81800	1.90	X	**K**	**127R87**	**(E)DRN**	**100L4**	520	635
4.2	6180	418	82000	2.1	X	**KF**	**127R87**	**(E)DRN**	**100L4**	560	635
4.8	5420	367	82200	2.4	X	**KA**	**127R87**	**(E)DRN**	**100L4**	490	635
5.3	4860	330	82300	2.7	X	**KAF**	**127R87**	**(E)DRN**	**100L4**	530	635
6.2	4150	287	82500	3.1	X						
2.2	11700	790	79900	1.10	X						
2.5	10500	704	80400	1.25	X	**K**	**127R77**	**(E)DRN**	**100L4**	495	635
2.9	9080	610	81100	1.45	X	**KF**	**127R77**	**(E)DRN**	**100L4**	540	635
3.2	8190	549	81400	1.60	X	**KA**	**127R77**	**(E)DRN**	**100L4**	470	635
3.7	7080	477	81800	1.85	X	**KAF**	**127R77**	**(E)DRN**	**100L4**	510	635
4.2	6240	418	82000	2.1	X						
3.8	6840	461	65000	1.15	X						
4.3	6050	408	65000	1.30	X						
4.8	5430	364	65000	1.45	X						
5.5	4740	318	65000	1.70	X						
6.2	4270	286	65000	1.85	X	**K**	**107R77**	**(E)DRN**	**100L4**	335	635
7.0	3740	251	65000	2.1	X	**KF**	**107R77**	**(E)DRN**	**100L4**	350	635
8.0	3290	222	65000	2.4	X	**KA**	**107R77**	**(E)DRN**	**100L4**	310	635
9.0	2910	196	65000	2.8	X	**KAF**	**107R77**	**(E)DRN**	**100L4**	335	635
10	2600	174	65000	2.8	X						
11	2300	154	65000	3.1	X						
13	2090	140	65000	3.4	X						
6.8	3900	258	40000	1.10	X	**K**	**97R57**	**(E)DRN**	**100L4**	205	635
7.6	3510	232	40000	1.20	X	**KF**	**97R57**	**(E)DRN**	**100L4**	225	635
8.8	3010	199	40000	1.45	X	**KA**	**97R57**	**(E)DRN**	**100L4**	190	635
						KAF	**97R57**	**(E)DRN**	**100L4**	215	635
8.2	3480	143.47*	65000	2.3		**K**	**107**	**DRN**	**132S6**	315	613
9.7	2950	121.46	65000	2.7		**KF**	**107**	**DRN**	**132S6**	330	614
10	2730	112.41*	65000	2.9		**KA**	**107**	**DRN**	**132S6**	290	615
12	2450	100.75	65000	3.3		**KAF**	**107**	**DRN**	**132S6**	315	614
						K	**107**	**(E)DRN**	**100L4**	300	613
12	2330	143.47*	65000	3.4	X	**KF**	**107**	**(E)DRN**	**100L4**	310	614
15	1970	121.46	65000	4.0	X	**KA**	**107**	**(E)DRN**	**100L4**	270	615
						KAF	**107**	**(E)DRN**	**100L4**	295	614
9.5	3010	123.93*	40000	1.45		**K**	**97**	**DRN**	**132S6**	205	607
						KF	**97**	**DRN**	**132S6**	225	608
						KA	**97**	**DRN**	**132S6**	185	609
						KAF	**97**	**DRN**	**132S6**	210	608
11	2550	105.13	40000	1.70		**K**	**97**	**DRN**	**132S6**	205	607
12	2350	96.80	40000	1.85		**KF**	**97**	**DRN**	**132S6**	225	608
14	2100	86.52	40000	2.0		**KA**	**97**	**DRN**	**132S6**	185	609
						KAF	**97**	**DRN**	**132S6**	210	608
10	2860	176.05*	40000	1.50	X	**K**	**97**	**(E)DRN**	**100L4**	185	607
12	2480	153.21*	40000	1.75	X	**KF**	**97**	**(E)DRN**	**100L4**	205	608
13	2270	140.28	40000	1.90	X	**KA**	**97**	**(E)DRN**	**100L4**	165	609
14	2010	123.93*	40000	2.1	X	**KAF**	**97**	**(E)DRN**	**100L4**	190	608

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P_m = 3.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
17	1700	105.13	40000	2.5	X						
18	1570	96.80	40000	2.7	X						
20	1400	86.52	40000	3.1	X	**K**	**97**	**(E)DRN**	**100L4**	185	607
23	1260	77.89*	40000	3.4	X	**KF**	**97**	**(E)DRN**	**100L4**	205	608
25	1140	70.54	40000	3.8	X	**KA**	**97**	**(E)DRN**	**100L4**	165	609
28	1010	62.55	40000	4.2	X	**KAF**	**97**	**(E)DRN**	**100L4**	190	608
31	910	56.55	40000	4.7	X						
12	2390	147.32*	27700	1.15	X	**K**	**87**	**(E)DRN**	**100L4**	125	601
14	2060	126.91*	28000	1.30	X	**KF**	**87**	**(E)DRN**	**100L4**	135	602
15	1880	115.82	28200	1.45	X	**KA**	**87**	**(E)DRN**	**100L4**	110	603
17	1660	102.71*	28300	1.60	X	**KAF**	**87**	**(E)DRN**	**100L4**	125	602
20	1400	86.34	28500	1.90	X						
22	1280	79.34	28600	2.1	X						
25	1140	70.46	28700	2.4	X	**K**	**87**	**(E)DRN**	**100L4**	125	601
28	1020	63.00*	28800	2.6	X	**KF**	**87**	**(E)DRN**	**100L4**	135	602
31	920	56.64	28800	2.9	X	**KA**	**87**	**(E)DRN**	**100L4**	110	603
36	795	49.16	28800	3.4	X	**KAF**	**87**	**(E)DRN**	**100L4**	125	602
40	715	44.02	28100	3.6	X						
48	590	36.52*	26900	4.2	X						
20	1440	88.97	16100	1.05	X						
23	1260	78.07	17100	1.20	X	**K**	**77**	**(E)DRN**	**100L4**	88	595
24	1200	73.99	17400	1.30	X	**KF**	**77**	**(E)DRN**	**100L4**	96	596
27	1050	64.75	18100	1.45	X	**KA**	**77**	**(E)DRN**	**100L4**	80	597
30	940	58.34	18500	1.65	X	**KAF**	**77**	**(E)DRN**	**100L4**	88	596
34	830	51.18	18900	1.85	X						
39	730	45.16	19200	2.1	X	**K**	**77**	**(E)DRN**	**100L4**	88	595
44	650	40.04	19400	2.4	X	**KF**	**77**	**(E)DRN**	**100L4**	96	596
50	570	35.20	19600	2.7	X	**KA**	**77**	**(E)DRN**	**100L4**	80	597
57	500	30.89	19700	3.1	X	**KAF**	**77**	**(E)DRN**	**100L4**	88	596
40	720	44.32	11100	1.15	X						
46	620	38.39	11800	1.30	X	**K**	**67**	**(E)DRN**	**100L4**	63	589
50	575	35.62	12000	1.40	X	**KF**	**67**	**(E)DRN**	**100L4**	69	590
58	490	30.22	12500	1.65	X	**KA**	**67**	**(E)DRN**	**100L4**	60	591
65	440	27.28	12700	1.85	X	**KAF**	**67**	**(E)DRN**	**100L4**	66	590
73	385	24.00	12800	2.0	X						
78	365	22.66	12900	2.1	X						
91	310	19.30	13000	2.4	X						
101	280	17.54	13000	2.6	X	**K**	**67**	**(E)DRN**	**100L4**	63	589
116	245	15.19	13000	2.8	X	**KF**	**67**	**(E)DRN**	**100L4**	69	590
133	210	13.22	13000	3.1	X	**KA**	**67**	**(E)DRN**	**100L4**	60	591
141	200	12.48	13000	2.6	X	**KAF**	**67**	**(E)DRN**	**100L4**	66	590
166	173	10.63	13000	2.9	X						
183	157	9.66	12700	3.1	X						
58	490	30.28	7180	1.20	X	**K**	**57**	**(E)DRN**	**100L4**	57	583
64	440	27.34	7140	1.35	X	**KF**	**57**	**(E)DRN**	**100L4**	62	584
73	390	24.05	7080	1.55	X	**KA**	**57**	**(E)DRN**	**100L4**	55	585
						KAF	**57**	**(E)DRN**	**100L4**	61	584
78	365	22.71	7040	1.65	X						
91	310	19.34	6900	1.85	X						
100	285	17.57	6810	1.95	X						
116	245	15.22	6650	2.2	X						
133	215	13.25	6490	2.4	X	**K**	**57**	**(E)DRN**	**100L4**	57	583
148	194	11.92	6180	2.1	X	**KF**	**57**	**(E)DRN**	**100L4**	62	584
157	183	11.26	6120	2.3	X	**KA**	**57**	**(E)DRN**	**100L4**	55	585
184	156	9.59	5930	2.6	X	**KAF**	**57**	**(E)DRN**	**100L4**	61	584
202	142	8.71	5820	2.8	X						
234	123	7.55	5640	3.0	X						
268	107	6.57	5460	3.2	X						
376	76	4.69	5020	3.9	X						

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P_m = 3.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
58	495	30.55	5820	1.00	X						
61	470	28.95	5840	1.05	X						
70	410	25.34	5860	1.20	X						
77	370	22.83	5860	1.35	X						
88	325	20.03	5820	1.55	X						
100	285	17.67	5760	1.75	X	**K**	**49**	**(E)DRN**	**100L4**	63	579
113	250	15.67	5690	1.90	X	**KF**	**49**	**(E)DRN**	**100L4**	64	580
132	215	13.38	5570	2.2	X	**KA**	**49**	**(E)DRN**	**100L4**	60	581
155	185	11.37	5900	2.7	X	**KAF**	**49**	**(E)DRN**	**100L4**	65	580
169	169	10.42	5780	2.8	X						
193	149	9.14	5600	3.4	X						
204	141	8.66	5520	3.5	X						
233	123	7.58	5330	4.1	X						
258	111	6.83	5190	4.5	X						
90	315	19.58	4510	1.25	X	**K**	**47**	**(E)DRN**	**100L4**	51	573
105	270	16.86	4510	1.40	X	**KF**	**47**	**(E)DRN**	**100L4**	55	574
111	255	15.86	4500	1.45	X	**KA**	**47**	**(E)DRN**	**100L4**	50	575
						KAF	**47**	**(E)DRN**	**100L4**	53	574
129	220	13.65	4460	1.60	X						
145	198	12.19	4410	1.75	X						
150	191	11.77	4300	1.45	X						
167	172	10.56	4260	1.65	X	**K**	**47**	**(E)DRN**	**100L4**	51	573
194	148	9.10	4180	1.90	X	**KF**	**47**	**(E)DRN**	**100L4**	55	574
206	139	8.56	4140	1.95	X	**KA**	**47**	**(E)DRN**	**100L4**	50	575
239	120	7.36	4040	2.1	X	**KAF**	**47**	**(E)DRN**	**100L4**	53	574
268	107	6.58	3960	2.2	X						
303	94	5.81	3860	2.4	X						
380	75	4.64	3680	2.7	X						
99	285	17.83	4100	1.00	X						
114	250	15.44	4130	1.10	X						
131	215	13.44	4120	1.25	X						
166	172	10.61	4560	1.65	X						
196	146	9.00	4410	2.0	X						
217	132	8.12	4320	2.3	X	**K**	**39**	**(E)DRN**	**100L4**	50	569
247	116	7.15	4200	2.6	X	**KF**	**39**	**(E)DRN**	**100L4**	52	570
261	110	6.75	4140	2.7	X	**KA**	**39**	**(E)DRN**	**100L4**	49	571
307	93	5.75	3990	2.9	X	**KAF**	**39**	**(E)DRN**	**100L4**	51	570
338	85	5.22	3890	3.1	X						
390	74	4.52	3750	3.3	X						
448	64	3.94	3620	3.4	X						
627	46	2.81	3300	3.7	X						
198	145	8.91	2070	1.10	X						
222	129	7.96	2080	1.20	X	**K**	**37**	**(E)DRN**	**100L4**	45	563
259	110	6.80	2090	1.35	X	**KF**	**37**	**(E)DRN**	**100L4**	47	564
277	103	6.37	2080	1.40	X	**KA**	**37**	**(E)DRN**	**100L4**	44	565
329	87	5.36	2060	1.60	X	**KAF**	**37**	**(E)DRN**	**100L4**	46	564
443	65	3.98	2000	1.95	X						

P_m = 3.7 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
2.1	14600	835	190000	3.4	X	**K**	**187R107**	**(E)DRN**	**100L4**	1840	636
3.4	9220	520	190000	5.4	X	**KH**	**187R107**	**(E)DRN**	**100L4**	1770	636
0.70	46000	2519	190000	1.10	X						
0.78	41300	2268	190000	1.20	X						
0.86	37200	2054	190000	1.35	X						
0.97	32800	1821	190000	1.50	X						
1.1	29100	1605	190000	1.70	X	**K**	**187R97**	**(E)DRN**	**100L4**	1790	636
1.3	24800	1395	190000	2.0	X	**KH**	**187R97**	**(E)DRN**	**100L4**	1720	636
1.5	21500	1196	190000	2.3	X						
1.7	18800	1046	190000	2.6	X						
1.9	16900	945	190000	3.0	X						

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P_m = 3.7 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
1.2	25800	1408	150000	1.25	X						
1.4	23700	1296	150000	1.35	X						
1.6	19800	1101	150000	1.60	X						
1.9	17100	944	150000	1.85	X	**K**	**167R97**	**(E)DRN**	**100L4**	1210	636
2.1	15000	843	150000	2.1	X	**KH**	**167R97**	**(E)DRN**	**100L4**	1170	636
2.3	13500	757	150000	2.4	X						
2.8	11400	632	150000	2.8	X						
2.1	15400	854	113400	1.15	X						
2.3	13400	756	114200	1.35	X	**K**	**157R97**	**(E)DRN**	**100L4**	810	636
3.1	10200	567	115200	1.75	X	**KF**	**157R97**	**(E)DRN**	**100L4**	890	636
3.5	9090	504	115500	2.0	X	**KA**	**157R97**	**(E)DRN**	**100L4**	780	636
4.0	7720	434	115800	2.3	X	**KAF**	**157R97**	**(E)DRN**	**100L4**	830	636
3.3	9770	536	80800	1.35	X						
3.7	8570	473	81300	1.50	X						
4.2	7700	418	81600	1.70	X	**K**	**127R87**	**(E)DRN**	**100L4**	520	635
4.8	6740	367	81900	1.95	X	**KF**	**127R87**	**(E)DRN**	**100L4**	560	635
5.3	6050	330	82000	2.1	X	**KA**	**127R87**	**(E)DRN**	**100L4**	490	635
6.1	5180	287	82300	2.5	X	**KAF**	**127R87**	**(E)DRN**	**100L4**	530	635
6.9	4580	253	82400	2.8	X						
2.9	11200	610	80100	1.15	X	**K**	**127R77**	**(E)DRN**	**100L4**	495	635
3.2	10100	549	80600	1.30	X	**KF**	**127R77**	**(E)DRN**	**100L4**	540	635
3.7	8790	477	81200	1.50	X	**KA**	**127R77**	**(E)DRN**	**100L4**	470	635
4.2	7740	418	81500	1.70	X	**KAF**	**127R77**	**(E)DRN**	**100L4**	510	635
4.8	6730	364	65000	1.20	X						
5.5	5890	318	65000	1.35	X						
6.1	5300	286	65000	1.50	X						
7.0	4640	251	65000	1.70	X	**K**	**107R77**	**(E)DRN**	**100L4**	335	635
7.9	4090	222	65000	1.95	X	**KF**	**107R77**	**(E)DRN**	**100L4**	350	635
8.9	3620	196	65000	2.2	X	**KA**	**107R77**	**(E)DRN**	**100L4**	310	635
10	3230	174	65000	2.2	X	**KAF**	**107R77**	**(E)DRN**	**100L4**	335	635
11	2860	154	65000	2.5	X						
13	2600	140	65000	2.8	X						
						K	**97R57**	**(E)DRN**	**100L4**	205	635
8.8	3730	199	40000	1.15	X	**KF**	**97R57**	**(E)DRN**	**100L4**	225	635
						KA	**97R57**	**(E)DRN**	**100L4**	190	635
						KAF	**97R57**	**(E)DRN**	**100L4**	215	635
8.1	4360	146.07	82400	3.0		**K**	**127**	**DRN**	**132M6**	490	619
8.7	4060	136.14	82500	3.2		**KF**	**127**	**DRN**	**132M6**	530	620
9.7	3660	122.48	82500	3.5		**KA**	**127**	**DRN**	**132M6**	460	621
11	3290	110.18	82600	4.0		**KAF**	**127**	**DRN**	**132M6**	500	620
8.2	4280	143.47*	65000	1.85							
9.7	3630	121.46	65000	2.2		**K**	**107**	**DRN**	**132M6**	335	613
11	3360	112.41*	65000	2.4		**KF**	**107**	**DRN**	**132M6**	350	614
12	3010	100.75	65000	2.7		**KA**	**107**	**DRN**	**132M6**	310	615
13	2710	90.96*	65000	2.9		**KAF**	**107**	**DRN**	**132M6**	330	614
12	2880	143.47*	65000	2.8	X						
14	2440	121.46	65000	3.3	X						
16	2250	112.41*	65000	3.5	X	**K**	**107**	**(E)DRN**	**100L4**	300	613
17	2020	100.75	65000	4.0	X	**KF**	**107**	**(E)DRN**	**100L4**	310	614
19	1820	90.96*	65000	4.4	X	**KA**	**107**	**(E)DRN**	**100L4**	270	615
21	1660	82.61	65000	4.8	X	**KAF**	**107**	**(E)DRN**	**100L4**	295	614
24	1470	73.30	64000	5.4	X						
						K	**97**	**(E)DRN**	**100L4**	185	607
11	3070	153.21*	40000	1.40	X	**KF**	**97**	**(E)DRN**	**100L4**	205	608
13	2810	140.28	40000	1.55	X	**KA**	**97**	**(E)DRN**	**100L4**	165	609
14	2490	123.93*	40000	1.75	X	**KAF**	**97**	**(E)DRN**	**100L4**	190	608
17	2110	105.13	40000	2.0	X						
18	1940	96.80	40000	2.2	X	**K**	**97**	**(E)DRN**	**100L4**	185	607
20	1730	86.52	40000	2.5	X	**KF**	**97**	**(E)DRN**	**100L4**	205	608
23	1560	77.89*	40000	2.8	X	**KA**	**97**	**(E)DRN**	**100L4**	165	609
25	1410	70.54	40000	3.0	X	**KAF**	**97**	**(E)DRN**	**100L4**	190	608
						K	**87**	**(E)DRN**	**100L4**	125	601
15	2320	115.82	27700	1.15	X	**KF**	**87**	**(E)DRN**	**100L4**	135	602
17	2060	102.71*	28000	1.30	X	**KA**	**87**	**(E)DRN**	**100L4**	110	603
						KAF	**87**	**(E)DRN**	**100L4**	125	602

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P_m = 3.7 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
20	1730	86.34	28300	1.55	X						
22	1590	79.34	28400	1.70	X						
25	1410	70.46	28500	1.90	X	**K**	**87**	**(E)DRN**	**100L4**	125	601
28	1260	63.00*	28600	2.1	X	**KF**	**87**	**(E)DRN**	**100L4**	135	602
31	1130	56.64	28700	2.4	X	**KA**	**87**	**(E)DRN**	**100L4**	110	603
36	980	49.16	28100	2.7	X	**KAF**	**87**	**(E)DRN**	**100L4**	125	602
40	880	44.02	27500	2.9	X						
48	730	36.52*	26400	3.4	X						
27	1300	64.75	16900	1.20	X	**K**	**77**	**(E)DRN**	**100L4**	88	595
30	1170	58.34	17600	1.30	X	**KF**	**77**	**(E)DRN**	**100L4**	96	596
34	1020	51.18	18200	1.50	X	**KA**	**77**	**(E)DRN**	**100L4**	80	597
						KAF	**77**	**(E)DRN**	**100L4**	88	596
39	900	45.16	18600	1.70	X						
44	800	40.04	19000	1.95	X						
46	770	38.39	19100	1.95	X						
50	705	35.20	19200	2.2	X	**K**	**77**	**(E)DRN**	**100L4**	88	595
57	620	30.89	19500	2.5	X	**KF**	**77**	**(E)DRN**	**100L4**	96	596
60	585	29.27	19500	2.6	X	**KA**	**77**	**(E)DRN**	**100L4**	80	597
69	510	25.62	19700	3.0	X	**KAF**	**77**	**(E)DRN**	**100L4**	88	596
76	460	23.08	19800	3.3	X						
87	405	20.25	19800	3.7	X						
58	605	30.22	11900	1.35	X	**K**	**67**	**(E)DRN**	**100L4**	63	589
64	545	27.28	12200	1.50	X	**KF**	**67**	**(E)DRN**	**100L4**	69	590
73	480	24.00	12500	1.65	X	**KA**	**67**	**(E)DRN**	**100L4**	60	591
						KAF	**67**	**(E)DRN**	**100L4**	66	590
78	455	22.66	12600	1.70	X						
91	385	19.30	12900	1.95	X						
100	350	17.54	13000	2.1	X						
116	305	15.19	13000	2.3	X						
133	265	13.22	13000	2.5	X	**K**	**67**	**(E)DRN**	**100L4**	63	589
141	250	12.48	13000	2.1	X	**KF**	**67**	**(E)DRN**	**100L4**	69	590
165	210	10.63	12700	2.3	X	**KA**	**67**	**(E)DRN**	**100L4**	60	591
182	194	9.66	12400	2.5	X	**KAF**	**67**	**(E)DRN**	**100L4**	66	590
210	168	8.37	12000	2.6	X						
241	146	7.28	11600	2.9	X						
338	105	5.20	10700	3.4	X						
73	480	24.05	6480	1.25	X	**K**	**57**	**(E)DRN**	**100L4**	57	583
						KF	**57**	**(E)DRN**	**100L4**	62	584
						KA	**57**	**(E)DRN**	**100L4**	55	585
						KAF	**57**	**(E)DRN**	**100L4**	61	584
77	455	22.71	6470	1.30	X						
91	385	19.34	6420	1.50	X						
100	350	17.57	6370	1.55	X						
115	305	15.22	6280	1.75	X						
133	265	13.25	6160	1.90	X	**K**	**57**	**(E)DRN**	**100L4**	57	583
147	235	11.92	5850	1.75	X	**KF**	**57**	**(E)DRN**	**100L4**	62	584
156	225	11.26	5800	1.85	X	**KA**	**57**	**(E)DRN**	**100L4**	55	585
183	193	9.59	5660	2.1	X	**KAF**	**57**	**(E)DRN**	**100L4**	61	584
202	175	8.71	5570	2.2	X						
233	152	7.55	5420	2.4	X						
268	132	6.57	5280	2.6	X						
375	94	4.69	4890	3.2	X						

P_m = 4.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
2.1	15800	835	190000	3.2	X	**K**	**187R107**	**(E)DRN**	**112M4**	1840	636
3.4	9950	520	190000	5.0	X	**KH**	**187R107**	**(E)DRN**	**112M4**	1780	636

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P_m = 4.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.70	49500	2519	190000	1.00	X						
0.78	44400	2268	190000	1.10	X						
0.86	40100	2054	190000	1.25	X						
0.97	35300	1821	190000	1.40	X						
1.1	31300	1605	190000	1.60	X	**K**	**187R97**	**(E)DRN**	**112M4**	1800	636
1.3	26700	1395	190000	1.85	X	**KH**	**187R97**	**(E)DRN**	**112M4**	1730	636
1.5	23200	1196	190000	2.1	X						
1.7	20300	1046	190000	2.5	X						
1.9	18200	945	190000	2.7	X						
1.3	27800	1408	150000	1.15	X						
1.4	25500	1296	150000	1.25	X						
1.6	21300	1101	150000	1.50	X						
1.9	18400	944	150000	1.75	X	**K**	**167R97**	**(E)DRN**	**112M4**	1210	636
2.1	16100	843	150000	2.0	X	**KH**	**167R97**	**(E)DRN**	**112M4**	1180	636
2.3	14600	757	150000	2.2	X						
2.8	12200	632	150000	2.6	X						
2.1	16600	854	112800	1.10	X						
2.3	14500	756	113800	1.25	X	**K**	**157R97**	**(E)DRN**	**112M4**	820	636
3.1	11000	567	115000	1.65	X	**KF**	**157R97**	**(E)DRN**	**112M4**	900	636
3.5	9790	504	115300	1.85	X	**KA**	**157R97**	**(E)DRN**	**112M4**	780	636
4.1	8330	434	115700	2.2	X	**KAF**	**157R97**	**(E)DRN**	**112M4**	840	636
3.3	10500	536	80400	1.25	X						
3.7	9230	473	81000	1.40	X						
4.2	8290	418	81400	1.55	X	**K**	**127R87**	**(E)DRN**	**112M4**	530	635
4.8	7250	367	81700	1.80	X	**KF**	**127R87**	**(E)DRN**	**112M4**	570	635
5.3	6510	330	81900	2.0	X	**KA**	**127R87**	**(E)DRN**	**112M4**	500	635
6.2	5580	287	82200	2.3	X	**KAF**	**127R87**	**(E)DRN**	**112M4**	540	635
7.0	4940	253	82300	2.6	X						
2.9	12100	610	79700	1.05	X	**K**	**127R77**	**(E)DRN**	**112M4**	510	635
3.2	10900	549	80300	1.20	X	**KF**	**127R77**	**(E)DRN**	**112M4**	550	635
3.7	9460	477	80900	1.35	X	**KA**	**127R77**	**(E)DRN**	**112M4**	480	635
4.2	8330	418	81300	1.55	X	**KAF**	**127R77**	**(E)DRN**	**112M4**	520	635
4.9	7240	364	65000	1.10	X						
5.6	6330	318	65000	1.25	X						
6.2	5700	286	65000	1.40	X						
7.0	4990	251	65000	1.60	X	**K**	**107R77**	**(E)DRN**	**112M4**	345	635
8.0	4400	222	65000	1.80	X	**KF**	**107R77**	**(E)DRN**	**112M4**	360	635
9.0	3890	196	65000	2.0	X	**KA**	**107R77**	**(E)DRN**	**112M4**	320	635
10	3480	174	65000	2.1	X	**KAF**	**107R77**	**(E)DRN**	**112M4**	340	635
11	3080	154	65000	2.3	X						
13	2790	140	65000	2.6	X						
						K	**97R57**	**(E)DRN**	**112M4**	215	635
						KF	**97R57**	**(E)DRN**	**112M4**	235	635
8.9	4010	199	40000	1.05	X	**KA**	**97R57**	**(E)DRN**	**112M4**	200	635
						KAF	**97R57**	**(E)DRN**	**112M4**	225	635
8.1	4720	146.07	82300	2.8		**K**	**127**	**DRN**	**132M6**	490	619
8.7	4400	136.14	82400	3.0		**KF**	**127**	**DRN**	**132M6**	530	620
9.6	3960	122.48	82500	3.3		**KA**	**127**	**DRN**	**132M6**	460	621
11	3560	110.18	82600	3.6		**KAF**	**127**	**DRN**	**132M6**	500	620
8.2	4640	143.47*	65000	1.70							
9.7	3920	121.46	65000	2.0		**K**	**107**	**DRN**	**132M6**	335	613
11	3630	112.41*	65000	2.2		**KF**	**107**	**DRN**	**132M6**	350	614
12	3250	100.75	65000	2.5		**KA**	**107**	**DRN**	**132M6**	310	615
13	2940	90.96*	65000	2.7		**KAF**	**107**	**DRN**	**132M6**	330	614
12	3090	143.47*	65000	2.6	X						
15	2620	121.46	65000	3.0	X						
16	2420	112.41*	65000	3.3	X	**K**	**107**	**(E)DRN**	**112M4**	305	613
18	2170	100.75	65000	3.7	X	**KF**	**107**	**(E)DRN**	**112M4**	320	614
19	1960	90.96*	65000	4.1	X	**KA**	**107**	**(E)DRN**	**112M4**	280	615
21	1780	82.61	65000	4.5	X	**KAF**	**107**	**(E)DRN**	**112M4**	305	614
24	1580	73.30	63600	5.0	X						
12	3300	153.21*	40000	1.30	X	**K**	**97**	**(E)DRN**	**112M4**	190	607
13	3020	140.28	40000	1.40	X	**KF**	**97**	**(E)DRN**	**112M4**	210	608
14	2670	123.93*	40000	1.60	X	**KA**	**97**	**(E)DRN**	**112M4**	175	609
						KAF	**97**	**(E)DRN**	**112M4**	200	608

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P_m = 4.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
17	2270	105.13	40000	1.90	X						
18	2090	96.80	40000	2.1	X	**K**	**97**	**(E)DRN**	**112M4**	190	607
20	1860	86.52	40000	2.3	X	**KF**	**97**	**(E)DRN**	**112M4**	210	608
23	1680	77.89*	40000	2.6	X	**KA**	**97**	**(E)DRN**	**112M4**	175	609
25	1520	70.54	40000	2.8	X	**KAF**	**97**	**(E)DRN**	**112M4**	200	608
15	2500	115.82	27500	1.10	X						
17	2210	102.71*	27800	1.20	X	**K**	**87**	**(E)DRN**	**112M4**	135	601
20	1860	86.34	28200	1.45	X	**KF**	**87**	**(E)DRN**	**112M4**	140	602
22	1710	79.34	28300	1.60	X	**KA**	**87**	**(E)DRN**	**112M4**	120	603
25	1520	70.46	28500	1.75	X	**KAF**	**87**	**(E)DRN**	**112M4**	135	602
28	1360	63.00*	28600	2.0	X						
31	1220	56.64	28500	2.2	X	**K**	**87**	**(E)DRN**	**112M4**	135	601
36	1060	49.16	27800	2.5	X	**KF**	**87**	**(E)DRN**	**112M4**	140	602
40	950	44.02	27200	2.7	X	**KA**	**87**	**(E)DRN**	**112M4**	120	603
48	785	36.52*	26100	3.2	X	**KAF**	**87**	**(E)DRN**	**112M4**	135	602
27	1390	64.75	16400	1.10	X						
30	1250	58.34	17100	1.25	X	**K**	**77**	**(E)DRN**	**112M4**	97	595
35	1100	51.18	17900	1.40	X	**KF**	**77**	**(E)DRN**	**112M4**	105	596
39	970	45.16	18400	1.60	X	**KA**	**77**	**(E)DRN**	**112M4**	90	597
44	860	40.04	18800	1.80	X	**KAF**	**77**	**(E)DRN**	**112M4**	98	596
46	820	38.39	18900	1.80	X						
50	755	35.20	19100	2.0	X						
57	665	30.89	19300	2.3	X	**K**	**77**	**(E)DRN**	**112M4**	97	595
60	630	29.27	19400	2.5	X	**KF**	**77**	**(E)DRN**	**112M4**	105	596
69	550	25.62	19600	2.8	X	**KA**	**77**	**(E)DRN**	**112M4**	90	597
77	495	23.08	19700	3.1	X	**KAF**	**77**	**(E)DRN**	**112M4**	98	596
87	435	20.25	19800	3.4	X						
59	650	30.22	11600	1.25	X	**K**	**67**	**(E)DRN**	**112M4**	72	589
65	585	27.28	12000	1.40	X	**KF**	**67**	**(E)DRN**	**112M4**	78	590
74	515	24.00	12300	1.55	X	**KA**	**67**	**(E)DRN**	**112M4**	70	591
78	485	22.66	12500	1.60	X	**KAF**	**67**	**(E)DRN**	**112M4**	76	590
92	415	19.30	12800	1.80	X						
101	375	17.54	12900	1.95	X						
116	325	15.19	13000	2.1	X						
134	285	13.22	13000	2.4	X	**K**	**67**	**(E)DRN**	**112M4**	72	589
142	265	12.48	13000	1.95	X	**KF**	**67**	**(E)DRN**	**112M4**	78	590
166	225	10.63	12600	2.2	X	**KA**	**67**	**(E)DRN**	**112M4**	70	591
183	205	9.66	12300	2.3	X	**KAF**	**67**	**(E)DRN**	**112M4**	76	590
211	181	8.37	11900	2.4	X						
243	157	7.28	11500	2.7	X						
340	112	5.20	10600	3.1	X						
74	515	24.05	6220	1.15	X						
78	490	22.71	6230	1.20	X						
91	415	19.34	6210	1.40	X						
101	375	17.57	6180	1.45	X						
116	325	15.22	6110	1.65	X						
134	285	13.25	6020	1.80	X	**K**	**57**	**(E)DRN**	**112M4**	67	583
148	255	11.92	5700	1.60	X	**KF**	**57**	**(E)DRN**	**112M4**	71	584
157	240	11.26	5660	1.70	X	**KA**	**57**	**(E)DRN**	**112M4**	65	585
185	205	9.59	5540	1.95	X	**KAF**	**57**	**(E)DRN**	**112M4**	70	584
203	188	8.71	5460	2.1	X						
234	163	7.55	5330	2.2	X						
269	142	6.57	5190	2.4	X						
377	101	4.69	4830	3.0	X						

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P_m = 4.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
77	490	22.83	4970	1.00	X						
88	430	20.03	5040	1.15	X						
100	380	17.67	5070	1.30	X						
113	335	15.67	5080	1.45	X						
132	285	13.38	5050	1.65	X						
156	245	11.37	5610	2.0	X	**K**	**49**	**(E)DRN**	**112M4**	72	579
170	220	10.42	5510	2.1	X	**KF**	**49**	**(E)DRN**	**112M4**	73	580
194	197	9.14	5360	2.5	X	**KA**	**49**	**(E)DRN**	**112M4**	69	581
204	187	8.66	5300	2.7	X	**KAF**	**49**	**(E)DRN**	**112M4**	74	580
233	164	7.58	5140	3.0	X						
259	147	6.83	5010	3.4	X						
295	129	5.99	4850	3.9	X						
335	114	5.29	4700	4.2	X						
377	101	4.69	4560	4.6	X						
197	194	9.00	4130	1.55	X						
218	175	8.12	4060	1.70	X						
247	154	7.15	3970	1.95	X						
262	146	6.75	3930	2.1	X	**K**	**39**	**(E)DRN**	**112M4**	60	569
308	124	5.75	3800	2.2	X	**KF**	**39**	**(E)DRN**	**112M4**	61	570
339	113	5.22	3730	2.3	X	**KA**	**39**	**(E)DRN**	**112M4**	59	571
391	98	4.52	3610	2.5	X	**KAF**	**39**	**(E)DRN**	**112M4**	60	570
449	85	3.94	3490	2.5	X						
629	61	2.81	3210	2.8	X						

P_m = 5.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.97	49100	1821	190000	1.00	X						
1.1	43500	1605	190000	1.15	X						
1.3	37300	1395	190000	1.35	X						
1.5	32300	1196	190000	1.55	X	**K**	**187R97**	**(E)DRN**	**132S4**	1810	636
1.7	28200	1046	190000	1.75	X	**KH**	**187R97**	**(E)DRN**	**132S4**	1740	636
1.9	25400	945	190000	1.95	X						
2.4	19800	738	190000	2.5	X						
2.9	16700	621	190000	3.0	X						
1.6	29700	1101	150000	1.10	X						
1.9	25600	944	150000	1.25	X						
2.1	22500	843	150000	1.40	X						
2.3	20300	757	150000	1.55	X	**K**	**167R97**	**(E)DRN**	**132S4**	1230	636
2.8	17000	632	150000	1.85	X	**KH**	**167R97**	**(E)DRN**	**132S4**	1190	636
3.1	14900	561	150000	2.1	X						
3.7	12900	481	150000	2.5	X						
4.2	11200	423	150000	2.8	X						
2.7	17500	661	112400	1.00	X						
3.1	15300	567	113400	1.20	X	**K**	**157R97**	**(E)DRN**	**132S4**	830	636
3.5	13600	504	114100	1.30	X	**KF**	**157R97**	**(E)DRN**	**132S4**	910	636
4.1	11600	434	114800	1.55	X	**KA**	**157R97**	**(E)DRN**	**132S4**	800	636
4.7	10000	379	115300	1.80	X	**KAF**	**157R97**	**(E)DRN**	**132S4**	850	636
5.3	8910	333	115600	2.0	X						
4.2	11400	418	80000	1.15	X						
4.8	10000	367	80700	1.30	X						
5.3	9010	330	81100	1.45	X						
6.2	7750	287	81500	1.70	X	**K**	**127R87**	**(E)DRN**	**132S4**	540	635
7.0	6860	253	81800	1.90	X	**KF**	**127R87**	**(E)DRN**	**132S4**	580	635
8.3	5760	213	82100	2.2	X	**KA**	**127R87**	**(E)DRN**	**132S4**	510	635
8.8	5490	200	82200	2.2	X	**KAF**	**127R87**	**(E)DRN**	**132S4**	550	635
11	4540	166	82400	2.6	X						
12	4010	147	82500	3.0	X						
8.0	6070	222	65000	1.30	X						
9.0	5380	196	65000	1.50	X	**K**	**107R77**	**(E)DRN**	**132S4**	355	635
10	4810	174	65000	1.50	X	**KF**	**107R77**	**(E)DRN**	**132S4**	370	635
11	4260	154	65000	1.70	X	**KA**	**107R77**	**(E)DRN**	**132S4**	330	635
13	3860	140	65000	1.85	X	**KAF**	**107R77**	**(E)DRN**	**132S4**	355	635

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P_m = 5.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
8.7	6030	136.14	82000	2.1		**K**	**127**	**DRN**	**160M6**	530	619
9.7	5420	122.48	82200	2.4		**KF**	**127**	**DRN**	**160M6**	570	620
11	4880	110.18	82300	2.7		**KA**	**127**	**DRN**	**160M6**	500	621
13	3980	89.89	82500	3.3		**KAF**	**127**	**DRN**	**160M6**	540	620
11	4980	112.41*	65000	1.60		**K**	**107**	**DRN**	**160M6**	375	613
12	4460	100.75	65000	1.80		**KF**	**107**	**DRN**	**160M6**	390	614
13	4030	90.96*	65000	2.0		**KA**	**107**	**DRN**	**160M6**	350	615
						KAF	**107**	**DRN**	**160M6**	375	614
14	3660	82.61	65000	2.2		**K**	**107**	**DRN**	**160M6**	375	613
						KF	**107**	**DRN**	**160M6**	390	614
						KA	**107**	**DRN**	**160M6**	350	615
						KAF	**107**	**DRN**	**160M6**	375	614
12	4260	143.47*	65000	1.90	X						
15	3600	121.46	65000	2.2	X	**K**	**107**	**(E)DRN**	**132S4**	315	613
16	3330	112.41*	65000	2.4	X	**KF**	**107**	**(E)DRN**	**132S4**	330	614
18	2990	100.75	65000	2.7	X	**KA**	**107**	**(E)DRN**	**132S4**	290	615
19	2700	90.96*	64900	3.0	X	**KAF**	**107**	**(E)DRN**	**132S4**	315	614
21	2450	82.61	63500	3.3	X						
14	3680	123.93*	40000	1.15	X	**K**	**97**	**(E)DRN**	**132S4**	205	607
17	3120	105.13	40000	1.40	X	**KF**	**97**	**(E)DRN**	**132S4**	225	608
18	2870	96.80	40000	1.50	X	**KA**	**97**	**(E)DRN**	**132S4**	185	609
20	2570	86.52	40000	1.65	X	**KAF**	**97**	**(E)DRN**	**132S4**	210	608
23	2310	77.89*	40000	1.85	X						
25	2090	70.54	39800	2.0	X	**K**	**97**	**(E)DRN**	**132S4**	205	607
28	1850	62.55	39000	2.3	X	**KF**	**97**	**(E)DRN**	**132S4**	225	608
31	1670	56.55	38200	2.6	X	**KA**	**97**	**(E)DRN**	**132S4**	185	609
37	1420	47.93*	37000	3.0	X	**KAF**	**97**	**(E)DRN**	**132S4**	210	608
20	2560	86.34	27500	1.05	X						
22	2350	79.34	27500	1.15	X	**K**	**87**	**(E)DRN**	**132S4**	145	601
25	2090	70.46	27300	1.30	X	**KF**	**87**	**(E)DRN**	**132S4**	155	602
28	1870	63.00*	27000	1.45	X	**KA**	**87**	**(E)DRN**	**132S4**	130	603
31	1680	56.64	26700	1.60	X	**KAF**	**87**	**(E)DRN**	**132S4**	145	602
36	1460	49.16	26200	1.85	X						
40	1300	44.02	25700	2.0	X	**K**	**87**	**(E)DRN**	**132S4**	145	601
48	1080	36.52*	24900	2.3	X	**KF**	**87**	**(E)DRN**	**132S4**	155	602
56	930	31.39	24200	2.9	X	**KA**	**87**	**(E)DRN**	**132S4**	130	603
63	820	27.88	23700	3.1	X	**KAF**	**87**	**(E)DRN**	**132S4**	145	602
39	1340	45.16	16700	1.15	X						
44	1180	40.04	17500	1.30	X	**K**	**77**	**(E)DRN**	**132S4**	110	595
57	910	30.89	18600	1.70	X	**KF**	**77**	**(E)DRN**	**132S4**	115	596
60	860	29.27	18800	1.80	X	**KA**	**77**	**(E)DRN**	**132S4**	100	597
69	760	25.62	19100	2.0	X	**KAF**	**77**	**(E)DRN**	**132S4**	110	596
77	685	23.08	19300	2.3	X						
87	600	20.25	19300	2.5	X	**K**	**77**	**(E)DRN**	**132S4**	110	595
99	530	17.87	18900	2.7	X	**KF**	**77**	**(E)DRN**	**132S4**	115	596
112	470	15.84	18400	3.0	X	**KA**	**77**	**(E)DRN**	**132S4**	100	597
131	400	13.52	17700	3.3	X	**KAF**	**77**	**(E)DRN**	**132S4**	110	596
143	365	12.36	17100	2.7	X						
163	320	10.84	16600	3.1	X						
74	710	24.00	11200	1.10	X						
78	670	22.66	11400	1.15	X	**K**	**67**	**(E)DRN**	**132S4**	84	589
92	570	19.30	12000	1.35	X	**KF**	**67**	**(E)DRN**	**132S4**	90	590
101	520	17.54	12300	1.40	X	**KA**	**67**	**(E)DRN**	**132S4**	81	591
116	450	15.19	12600	1.55	X	**KAF**	**67**	**(E)DRN**	**132S4**	87	590
134	390	13.22	12800	1.70	X						
142	370	12.48	12300	1.45	X						
166	315	10.63	12000	1.60	X	**K**	**67**	**(E)DRN**	**132S4**	84	589
183	285	9.66	11800	1.65	X	**KF**	**67**	**(E)DRN**	**132S4**	90	590
211	245	8.37	11500	1.75	X	**KA**	**67**	**(E)DRN**	**132S4**	81	591
243	215	7.28	11100	1.95	X	**KAF**	**67**	**(E)DRN**	**132S4**	87	590
340	154	5.20	10300	2.3	X						

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P_m = 5.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
113	465	15.67	4160	1.05	X						
132	395	13.38	4270	1.20	X						
193	270	9.14	5020	1.85	X						
204	255	8.66	4970	1.95	X	**K**	**49**	**(E)DRN**	**132S4**	83	579
233	225	7.58	4850	2.2	X	**KF**	**49**	**(E)DRN**	**132S4**	85	580
259	200	6.83	4760	2.5	X	**KA**	**49**	**(E)DRN**	**132S4**	80	581
295	178	5.99	4630	2.8	X	**KAF**	**49**	**(E)DRN**	**132S4**	85	580
334	157	5.29	4500	3.1	X						
377	139	4.69	4380	3.3	X						
442	119	4.00	4220	3.7	X						

P_m = 7.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
2.1	30400	835	190000	1.65	X						
2.4	26400	729	190000	1.90	X	**K**	**187R107**	**(E)DRN**	**132M4**	1870	636
2.9	22500	622	190000	2.2	X	**KH**	**187R107**	**(E)DRN**	**132M4**	1810	636
1.5	44200	1196	190000	1.15	X						
1.7	38600	1046	190000	1.30	X						
1.9	34800	945	190000	1.45	X	**K**	**187R97**	**(E)DRN**	**132M4**	1830	636
2.4	27200	738	190000	1.85	X	**KH**	**187R97**	**(E)DRN**	**132M4**	1760	636
2.9	22800	621	190000	2.2	X						
3.4	19300	527	190000	2.6	X						
2.1	30900	843	150000	1.05	X						
2.3	27900	757	150000	1.15	X						
2.8	23300	632	150000	1.35	X						
3.2	20400	561	150000	1.55	X	**K**	**167R97**	**(E)DRN**	**132M4**	1240	636
3.7	17700	481	150000	1.80	X	**KH**	**167R97**	**(E)DRN**	**132M4**	1210	636
4.2	15400	423	150000	2.1	X						
4.8	13500	369	150000	2.4	X						
4.1	15900	434	113200	1.15	X	**K**	**157R97**	**(E)DRN**	**132M4**	850	636
4.7	13800	379	114000	1.30	X	**KF**	**157R97**	**(E)DRN**	**132M4**	930	636
5.3	12200	333	114600	1.45	X	**KA**	**157R97**	**(E)DRN**	**132M4**	810	636
6.1	10600	291	115100	1.70	X	**KAF**	**157R97**	**(E)DRN**	**132M4**	870	636
5.4	12300	330	79600	1.05	X						
6.2	10600	287	80400	1.25	X						
7.0	9380	253	80900	1.40	X	**K**	**127R87**	**(E)DRN**	**132M4**	560	635
8.3	7880	213	81500	1.65	X	**KF**	**127R87**	**(E)DRN**	**132M4**	600	635
8.8	7510	200	81600	1.60	X	**KA**	**127R87**	**(E)DRN**	**132M4**	530	635
11	6210	166	82000	1.95	X	**KAF**	**127R87**	**(E)DRN**	**132M4**	560	635
12	5480	147	82200	2.2	X						
7.2	9960	164.50	150000	3.2		**K**	**167**	**DRN**	**160M6**	1160	631
8.8	8170	134.99	150000	3.9		**KH**	**167**	**DRN**	**160M6**	1120	632
7.9	9110	150.41	115500	2.0							
9.7	7410	122.39	115900	2.4		**K**	**157**	**DRN**	**160M6**	760	625
12	6070	100.22	116100	3.0		**KF**	**157**	**DRN**	**160M6**	840	626
13	5550	91.65	116200	3.2		**KA**	**157**	**DRN**	**160M6**	730	626
15	4830	79.75	116300	3.7		**KAF**	**157**	**DRN**	**160M6**	780	626
8.7	8240	136.14	81400	1.60		**K**	**127**	**DRN**	**160M6**	530	619
9.7	7420	122.48	81600	1.75		**KF**	**127**	**DRN**	**160M6**	570	620
11	6670	110.18	81900	1.95		**KA**	**127**	**DRN**	**160M6**	500	621
13	5440	89.89	82200	2.4		**KAF**	**127**	**DRN**	**160M6**	540	620
12	5890	146.07	82100	2.2	X						
13	5490	136.14	82200	2.4	X						
14	4940	122.48	82300	2.6	X	**K**	**127**	**(E)DRN**	**132M4**	490	619
16	4440	110.18	82400	2.9	X	**KF**	**127**	**(E)DRN**	**132M4**	530	620
20	3620	89.89	82600	3.6	X	**KA**	**127**	**(E)DRN**	**132M4**	460	621
22	3300	81.98	82600	3.9	X	**KAF**	**127**	**(E)DRN**	**132M4**	500	620
25	2860	70.95*	82700	4.5	X						
12	5790	143.47*	65000	1.40	X	**K**	**107**	**(E)DRN**	**132M4**	335	613
15	4900	121.46	64900	1.65	X	**KF**	**107**	**(E)DRN**	**132M4**	350	614
16	4530	112.41*	64200	1.75	X	**KA**	**107**	**(E)DRN**	**132M4**	310	615
						KAF	**107**	**(E)DRN**	**132M4**	330	614

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P_m = 7.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
18	4060	100.75	63100	1.95	X						
20	3670	90.96*	62000	2.2	X						
21	3330	82.61	60900	2.4	X						
24	2950	73.30	59500	2.7	X	**K**	**107**	**(E)DRN**	**132M4**	335	613
27	2680	66.52*	58300	3.0	X	**KF**	**107**	**(E)DRN**	**132M4**	350	614
31	2300	57.17*	56500	3.5	X	**KA**	**107**	**(E)DRN**	**132M4**	310	615
36	2010	49.90	54800	3.9	X	**KAF**	**107**	**(E)DRN**	**132M4**	330	614
42	1700	42.33*	52800	4.3	X						
48	1490	37.00*	51100	4.8	X						
18	3900	96.80	38200	1.10	X						
20	3490	86.52	37900	1.25	X	**K**	**97**	**(E)DRN**	**132M4**	220	607
23	3140	77.89*	37500	1.35	X	**KF**	**97**	**(E)DRN**	**132M4**	240	608
25	2840	70.54	37200	1.50	X	**KA**	**97**	**(E)DRN**	**132M4**	205	609
28	2520	62.55	36600	1.70	X	**KAF**	**97**	**(E)DRN**	**132M4**	230	608
31	2280	56.55	36100	1.90	X						
37	1930	47.93*	35200	2.2	X	**K**	**97**	**(E)DRN**	**132M4**	220	607
42	1690	41.87	34400	2.5	X	**KF**	**97**	**(E)DRN**	**132M4**	240	608
46	1540	38.30	33800	2.8	X	**KA**	**97**	**(E)DRN**	**132M4**	205	609
52	1380	34.23	33100	3.1	X	**KAF**	**97**	**(E)DRN**	**132M4**	230	608
28	2540	63.00*	24200	1.05	X						
31	2280	56.64	24200	1.20	X	**K**	**87**	**(E)DRN**	**132M4**	160	601
36	1980	49.16	24000	1.35	X	**KF**	**87**	**(E)DRN**	**132M4**	170	602
40	1770	44.02	23800	1.45	X	**KA**	**87**	**(E)DRN**	**132M4**	150	603
49	1470	36.52*	23300	1.70	X	**KAF**	**87**	**(E)DRN**	**132M4**	165	602
57	1260	31.39	22900	2.1	X						
64	1120	27.88	22500	2.3	X						
71	1000	24.92	22000	2.5	X	**K**	**87**	**(E)DRN**	**132M4**	160	601
79	900	22.41	21600	2.5	X	**KF**	**87**	**(E)DRN**	**132M4**	170	602
91	785	19.45	21100	2.9	X	**KA**	**87**	**(E)DRN**	**132M4**	150	603
102	700	17.42	20600	3.1	X	**KAF**	**87**	**(E)DRN**	**132M4**	165	602
111	645	16.00	19800	2.8	X						
123	580	14.45	19800	3.6	X						
57	1240	30.89	17200	1.25	X						
61	1180	29.27	17500	1.30	X	**K**	**77**	**(E)DRN**	**132M4**	125	595
69	1030	25.62	18200	1.50	X	**KF**	**77**	**(E)DRN**	**132M4**	135	596
77	930	23.08	18600	1.65	X	**KA**	**77**	**(E)DRN**	**132M4**	120	597
88	810	20.25	18300	1.85	X	**KAF**	**77**	**(E)DRN**	**132M4**	125	596
99	720	17.87	17900	2.0	X						
112	635	15.84	17600	2.2	X						
131	545	13.52	17100	2.5	X	**K**	**77**	**(E)DRN**	**132M4**	125	595
144	495	12.36	16400	2.0	X	**KF**	**77**	**(E)DRN**	**132M4**	135	596
164	435	10.84	16000	2.3	X	**KA**	**77**	**(E)DRN**	**132M4**	120	597
186	385	9.56	15600	2.4	X	**KAF**	**77**	**(E)DRN**	**132M4**	125	596
209	340	8.48	15200	2.6	X						
245	290	7.24	14700	2.8	X						
194	365	9.14	4560	1.35	X						
205	345	8.66	4540	1.45	X						
234	305	7.58	4470	1.65	X	**K**	**49**	**(E)DRN**	**132M4**	100	579
260	275	6.83	4410	1.80	X	**KF**	**49**	**(E)DRN**	**132M4**	105	580
296	240	5.99	4320	2.1	X	**KA**	**49**	**(E)DRN**	**132M4**	98	581
336	210	5.29	4240	2.3	X	**KAF**	**49**	**(E)DRN**	**132M4**	105	580
378	189	4.69	4140	2.5	X						
443	162	4.00	4010	2.7	X						

P_m = 9.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
2.1	37500	835	190000	1.35	X						
2.4	32600	729	190000	1.55	X						
2.9	27800	622	190000	1.80	X	**K**	**187R107**	**(E)DRN**	**132L4**	1880	636
3.4	23600	520	190000	2.1	X	**KH**	**187R107**	**(E)DRN**	**132L4**	1810	636
3.9	20500	454	190000	2.4	X						

P_m = 9.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
1.7	47500	1046	190000	1.05	X						
1.9	42900	945	190000	1.15	X						
2.4	33500	738	190000	1.50	X	**K**	**187R97**	**(E)DRN**	**132L4**	1830	636
2.9	28100	621	190000	1.75	X	**KH**	**187R97**	**(E)DRN**	**132L4**	1770	636
3.4	23800	527	190000	2.1	X						
5.6	14400	318	150000	2.2	X						
6.4	12500	278	150000	2.5	X						
7.3	10800	244	150000	3.0	X	**K**	**167R107**	**(E)DRN**	**132L4**	1300	636
8.3	9420	213	150000	3.4	X	**KH**	**167R107**	**(E)DRN**	**132L4**	1260	636
8.6	9180	206	150000	3.5	X						
2.8	28700	632	150000	1.10	X						
3.2	25200	561	150000	1.25	X						
3.7	21800	481	150000	1.45	X	**K**	**167R97**	**(E)DRN**	**132L4**	1250	636
4.2	19000	423	150000	1.70	X	**KH**	**167R97**	**(E)DRN**	**132L4**	1210	636
4.8	16600	369	150000	1.90	X						
4.6	17000	385	112700	1.05	X						
5.5	14200	325	113900	1.25	X	**K**	**157R107**	**(E)DRN**	**132L4**	910	636
5.9	13300	299	114200	1.35	X	**KF**	**157R107**	**(E)DRN**	**132L4**	980	636
7.0	11200	253	114900	1.60	X	**KA**	**157R107**	**(E)DRN**	**132L4**	870	636
7.7	10000	230	115300	1.80	X	**KAF**	**157R107**	**(E)DRN**	**132L4**	930	636
4.7	17000	379	112600	1.05	X	**K**	**157R97**	**(E)DRN**	**132L4**	860	636
5.3	15000	333	113500	1.20	X	**KF**	**157R97**	**(E)DRN**	**132L4**	940	636
6.1	13100	291	114300	1.35	X	**KA**	**157R97**	**(E)DRN**	**132L4**	820	636
						KAF	**157R97**	**(E)DRN**	**132L4**	880	636
7.0	11500	253	80000	1.15	X						
8.3	9700	213	80800	1.35	X	**K**	**127R87**	**(E)DRN**	**132L4**	560	635
8.9	9230	200	81000	1.30	X	**KF**	**127R87**	**(E)DRN**	**132L4**	610	635
11	7640	166	81600	1.55	X	**KA**	**127R87**	**(E)DRN**	**132L4**	540	635
12	6740	147	81900	1.80	X	**KAF**	**127R87**	**(E)DRN**	**132L4**	570	635
13	6730	136.14	81900	1.95	X						
14	6060	122.48	82000	2.1	X	**K**	**127**	**(E)DRN**	**132L4**	500	619
16	5450	110.18	82200	2.4	X	**KF**	**127**	**(E)DRN**	**132L4**	540	620
20	4440	89.89	82400	2.9	X	**KA**	**127**	**(E)DRN**	**132L4**	470	621
22	4050	81.98	82500	3.2	X	**KAF**	**127**	**(E)DRN**	**132L4**	510	620
16	5560	112.41*	61200	1.45	X	**K**	**107**	**(E)DRN**	**132L4**	345	613
18	4980	100.75	60300	1.60	X	**KF**	**107**	**(E)DRN**	**132L4**	355	614
20	4500	90.96*	59500	1.80	X	**KA**	**107**	**(E)DRN**	**132L4**	315	615
						KAF	**107**	**(E)DRN**	**132L4**	340	614
21	4080	82.61	58600	1.95	X						
24	3620	73.30	57500	2.2	X	**K**	**107**	**(E)DRN**	**132L4**	345	613
27	3290	66.52*	56500	2.4	X	**KF**	**107**	**(E)DRN**	**132L4**	355	614
31	2820	57.17*	55000	2.8	X	**KA**	**107**	**(E)DRN**	**132L4**	315	615
36	2460	49.90	53500	3.2	X	**KAF**	**107**	**(E)DRN**	**132L4**	340	614
42	2090	42.33*	51700	3.5	X						
23	3850	77.89*	35100	1.10	X	**K**	**97**	**(E)DRN**	**132L4**	230	607
25	3490	70.54	34900	1.25	X	**KF**	**97**	**(E)DRN**	**132L4**	250	608
28	3090	62.55	34600	1.40	X	**KA**	**97**	**(E)DRN**	**132L4**	210	609
31	2790	56.55	34300	1.55	X	**KAF**	**97**	**(E)DRN**	**132L4**	235	608
37	2370	47.93*	33600	1.80	X						
42	2070	41.87	33000	2.1	X						
46	1890	38.30	32600	2.3	X	**K**	**97**	**(E)DRN**	**132L4**	230	607
52	1690	34.23	32000	2.5	X	**KF**	**97**	**(E)DRN**	**132L4**	250	608
58	1520	30.82	31400	2.8	X	**KA**	**97**	**(E)DRN**	**132L4**	210	609
64	1380	27.91	30800	3.1	X	**KAF**	**97**	**(E)DRN**	**132L4**	235	608
72	1220	24.75	30100	3.5	X						
36	2430	49.16	22200	1.10	X	**K**	**87**	**(E)DRN**	**132L4**	170	601
40	2170	44.02	22200	1.20	X	**KF**	**87**	**(E)DRN**	**132L4**	180	602
49	1800	36.52*	22000	1.40	X	**KA**	**87**	**(E)DRN**	**132L4**	160	603
57	1550	31.39	21700	1.75	X	**KAF**	**87**	**(E)DRN**	**132L4**	170	602

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P_m = 9.2 kW

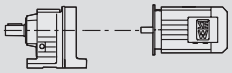
n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
64	1370	27.88	21400	1.90	X						
71	1230	24.92	21100	2.0	X						
79	1100	22.41	20800	2.1	X						
91	960	19.45	20400	2.4	X	**K**	**87**	**(E)DRN**	**132L4**	170	601
102	860	17.42	20000	2.5	X	**KF**	**87**	**(E)DRN**	**132L4**	180	602
111	790	16.00	19100	2.3	X	**KA**	**87**	**(E)DRN**	**132L4**	160	603
123	710	14.45	19300	2.9	X	**KAF**	**87**	**(E)DRN**	**132L4**	170	602
141	620	12.56	18700	3.2	X						
159	550	11.17	17900	2.7	X						
178	490	10.00	17500	3.0	X						
77	1140	23.08	17700	1.35	X	**K**	**77**	**(E)DRN**	**132L4**	135	595
88	1000	20.25	17400	1.50	X	**KF**	**77**	**(E)DRN**	**132L4**	145	596
99	880	17.87	17200	1.65	X	**KA**	**77**	**(E)DRN**	**132L4**	125	597
112	780	15.84	16900	1.80	X	**KAF**	**77**	**(E)DRN**	**132L4**	135	596
131	665	13.52	16500	2.0	X						
144	610	12.36	15800	1.65	X	**K**	**77**	**(E)DRN**	**132L4**	135	595
164	535	10.84	15500	1.85	X	**KF**	**77**	**(E)DRN**	**132L4**	145	596
186	470	9.56	15100	2.0	X	**KA**	**77**	**(E)DRN**	**132L4**	125	597
209	415	8.48	14800	2.1	X	**KAF**	**77**	**(E)DRN**	**132L4**	135	596
245	355	7.24	14300	2.3	X						

P_m = 11.0 kW

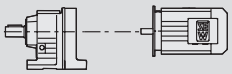
n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
2.1	45100	835	190000	1.10	X						
2.4	39200	729	190000	1.30	X						
2.9	33400	622	190000	1.50	X	**K**	**187R107**	**(E)DRN**	**160M4**	1910	636
3.4	28300	520	190000	1.75	X	**KH**	**187R107**	**(E)DRN**	**160M4**	1850	636
3.9	24600	454	190000	2.0	X						
5.0	19000	355	190000	2.6	X						
2.4	40100	738	190000	1.25	X						
2.9	33700	621	190000	1.50	X	**K**	**187R97**	**(E)DRN**	**160M4**	1870	636
3.4	28500	527	190000	1.75	X	**KH**	**187R97**	**(E)DRN**	**160M4**	1800	636
5.6	17300	318	150000	1.85	X						
6.4	15000	278	150000	2.1	X						
7.3	13000	244	150000	2.5	X	**K**	**167R107**	**(E)DRN**	**160M4**	1330	636
8.3	11300	213	150000	2.8	X	**KH**	**167R107**	**(E)DRN**	**160M4**	1290	636
8.6	11000	206	150000	2.9	X						
3.2	30300	561	150000	1.05	X						
3.7	26100	481	150000	1.20	X	**K**	**167R97**	**(E)DRN**	**160M4**	1280	636
4.2	22800	423	150000	1.40	X	**KH**	**167R97**	**(E)DRN**	**160M4**	1250	636
4.8	19900	369	150000	1.60	X						
						K	**157R97**	**(E)DRN**	**160M4**	890	636
5.3	18000	333	112200	1.00	X	**KF**	**157R97**	**(E)DRN**	**160M4**	970	636
6.1	15700	291	113300	1.15	X	**KA**	**157R97**	**(E)DRN**	**160M4**	850	636
						KAF	**157R97**	**(E)DRN**	**160M4**	910	636
8.3	11600	213	79900	1.10	X	**K**	**127R87**	**(E)DRN**	**160M4**	600	635
8.9	11000	200	80200	1.10	X	**KF**	**127R87**	**(E)DRN**	**160M4**	640	635
11	9160	166	81000	1.30	X	**KA**	**127R87**	**(E)DRN**	**160M4**	570	635
12	8080	147	81400	1.50	X	**KAF**	**127R87**	**(E)DRN**	**160M4**	610	635
11	9720	164.50	150000	3.3	X	**K**	**167**	**(E)DRN**	**160M4**	1160	631
13	7980	134.99	150000	4.0	X	**KH**	**167**	**(E)DRN**	**160M4**	1120	632
12	8890	150.41	115600	2.0	X	**K**	**157**	**(E)DRN**	**160M4**	760	625
15	7230	122.39	115900	2.5	X	**KF**	**157**	**(E)DRN**	**160M4**	840	626
18	5920	100.22	115000	3.0	X	**KA**	**157**	**(E)DRN**	**160M4**	730	626
19	5420	91.65	112700	3.3	X	**KAF**	**157**	**(E)DRN**	**160M4**	780	626
13	8050	136.14	81400	1.60	X						
14	7240	122.48	81700	1.80	X	**K**	**127**	**(E)DRN**	**160M4**	530	619
16	6510	110.18	81900	2.0	X	**KF**	**127**	**(E)DRN**	**160M4**	570	620
20	5310	89.89	82200	2.5	X	**KA**	**127**	**(E)DRN**	**160M4**	500	621
22	4840	81.98	82300	2.7	X	**KAF**	**127**	**(E)DRN**	**160M4**	540	620
25	4190	70.95*	82500	3.1	X						

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P_m = 11.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
16	6640	112.41*	58000	1.20	X	**K**	**107**	**(E)DRN**	**160M4**	375	613
18	5950	100.75	57500	1.35	X	**KF**	**107**	**(E)DRN**	**160M4**	390	614
20	5370	90.96*	56900	1.50	X	**KA**	**107**	**(E)DRN**	**160M4**	350	615
22	4880	82.61	56300	1.65	X	**KAF**	**107**	**(E)DRN**	**160M4**	375	614
24	4330	73.30	55400	1.85	X						
27	3930	66.52*	54600	2.0	X	**K**	**107**	**(E)DRN**	**160M4**	375	613
31	3380	57.17*	53300	2.4	X	**KF**	**107**	**(E)DRN**	**160M4**	390	614
36	2950	49.90	52100	2.7	X	**KA**	**107**	**(E)DRN**	**160M4**	350	615
42	2500	42.33*	50400	2.9	X	**KAF**	**107**	**(E)DRN**	**160M4**	375	614
48	2180	37.00*	49100	3.3	X						
25	4170	70.54	32500	1.05	X	**K**	**97**	**(E)DRN**	**160M4**	265	607
28	3690	62.55	32500	1.15	X	**KF**	**97**	**(E)DRN**	**160M4**	285	608
31	3340	56.55	32400	1.30	X	**KA**	**97**	**(E)DRN**	**160M4**	245	609
37	2830	47.93*	32000	1.50	X	**KAF**	**97**	**(E)DRN**	**160M4**	270	608
42	2470	41.87	31600	1.75	X						
46	2260	38.30	31300	1.90	X						
52	2020	34.23	30800	2.1	X	**K**	**97**	**(E)DRN**	**160M4**	265	607
58	1820	30.82	30300	2.4	X	**KF**	**97**	**(E)DRN**	**160M4**	285	608
64	1650	27.91	29900	2.6	X	**KA**	**97**	**(E)DRN**	**160M4**	245	609
72	1460	24.75	29300	2.9	X	**KAF**	**97**	**(E)DRN**	**160M4**	270	608
79	1320	22.37	28700	3.2	X						
40	2600	44.02	20500	1.00	X						
49	2150	36.52*	20600	1.15	X	**K**	**87**	**(E)DRN**	**160M4**	205	601
57	1850	31.39	20500	1.45	X	**KF**	**87**	**(E)DRN**	**160M4**	210	602
64	1640	27.88	20400	1.60	X	**KA**	**87**	**(E)DRN**	**160M4**	190	603
71	1470	24.92	20200	1.70	X	**KAF**	**87**	**(E)DRN**	**160M4**	205	602
79	1320	22.41	19900	1.75	X						
91	1150	19.45	19600	2.0	X						
102	1020	17.42	19300	2.1	X						
111	940	16.00	18400	1.90	X	**K**	**87**	**(E)DRN**	**160M4**	205	601
123	850	14.45	18700	2.5	X	**KF**	**87**	**(E)DRN**	**160M4**	210	602
141	740	12.56	18300	2.7	X	**KA**	**87**	**(E)DRN**	**160M4**	190	603
159	660	11.17	17400	2.3	X	**KAF**	**87**	**(E)DRN**	**160M4**	205	602
178	590	10.00	17000	2.5	X						
214	490	8.29	16400	2.9	X						
246	425	7.21	16000	3.0	X						
77	1360	23.08	16600	1.15	X						
88	1190	20.25	16500	1.25	X						
99	1050	17.87	16400	1.35	X						
112	930	15.84	16200	1.50	X	**K**	**77**	**(E)DRN**	**160M4**	165	595
131	795	13.52	15900	1.70	X	**KF**	**77**	**(E)DRN**	**160M4**	175	596
144	730	12.36	15200	1.35	X	**KA**	**77**	**(E)DRN**	**160M4**	160	597
164	640	10.84	14900	1.55	X	**KAF**	**77**	**(E)DRN**	**160M4**	165	596
186	565	9.56	14600	1.65	X						
209	500	8.48	14400	1.75	X						
245	425	7.24	14000	1.90	X						

P_m = 15.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
2.9	45800	622	190000	1.10	X						
3.4	38900	520	190000	1.30	X						
3.9	33800	454	190000	1.50	X	**K**	**187R107**	**(E)DRN**	**160L4**	1930	636
5.0	26100	355	190000	1.90	X	**KH**	**187R107**	**(E)DRN**	**160L4**	1860	636
6.8	19400	261	190000	2.6	X						
5.6	23700	318	150000	1.35	X						
6.4	20700	278	150000	1.55	X						
7.3	17900	244	150000	1.80	X						
8.3	15600	213	150000	2.0	X	**K**	**167R107**	**(E)DRN**	**160L4**	1350	636
8.6	15200	206	150000	2.1	X	**KH**	**167R107**	**(E)DRN**	**160L4**	1310	636
9.9	13100	180	150000	2.4	X						
11	11900	160	150000	2.7	X						

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P_m = 15.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
7.7	16700	230	112800	1.05	X						
8.3	15800	213	113200	1.15	X	**K**	**157R107**	**(E)DRN**	**160L4**	950	636
9.5	13600	187	114100	1.30	X	**KF**	**157R107**	**(E)DRN**	**160L4**	1030	636
11	11500	157	114800	1.55	X	**KA**	**157R107**	**(E)DRN**	**160L4**	920	636
15	9090	122	115500	2.0	X	**KAF**	**157R107**	**(E)DRN**	**160L4**	980	636
17	7910	107	113200	2.3	X						
11	13200	164.50	150000	2.4	X	**K**	**167**	**(E)DRN**	**160L4**	1170	631
13	10800	134.99	150000	2.9	X	**KH**	**167**	**(E)DRN**	**160L4**	1130	632
12	12100	150.41	114600	1.50	X						
15	9860	122.39	114300	1.80	X	**K**	**157**	**(E)DRN**	**160L4**	780	625
18	8070	100.22	110300	2.2	X	**KF**	**157**	**(E)DRN**	**160L4**	860	626
19	7380	91.65	108400	2.4	X	**KA**	**157**	**(E)DRN**	**160L4**	740	626
22	6420	79.75	105400	2.8	X	**KAF**	**157**	**(E)DRN**	**160L4**	800	626
13	10900	136.14	80200	1.20	X	**K**	**127**	**(E)DRN**	**160L4**	550	619
15	9870	122.48	80700	1.30	X	**KF**	**127**	**(E)DRN**	**160L4**	590	620
16	8880	110.18	81100	1.45	X	**KA**	**127**	**(E)DRN**	**160L4**	520	621
						KAF	**127**	**(E)DRN**	**160L4**	560	620
20	7240	89.89	81700	1.80	X						
22	6600	81.98	80900	1.95	X	**K**	**127**	**(E)DRN**	**160L4**	550	619
25	5710	70.95*	79000	2.3	X	**KF**	**127**	**(E)DRN**	**160L4**	590	620
28	5040	62.60	77300	2.6	X	**KA**	**127**	**(E)DRN**	**160L4**	520	621
33	4350	54.07	75100	3.0	X	**KAF**	**127**	**(E)DRN**	**160L4**	560	620
37	3850	47.82	73300	3.4	X						
20	7330	90.96*	50300	1.10	X	**K**	**107**	**(E)DRN**	**160L4**	395	613
22	6650	82.61	50900	1.20	X	**KF**	**107**	**(E)DRN**	**160L4**	405	614
24	5900	73.30	50800	1.35	X	**KA**	**107**	**(E)DRN**	**160L4**	365	615
27	5360	66.52*	50400	1.50	X	**KAF**	**107**	**(E)DRN**	**160L4**	390	614
31	4600	57.17*	49700	1.75	X						
36	4020	49.90	48900	1.95	X						
42	3410	42.33*	47800	2.2	X	**K**	**107**	**(E)DRN**	**160L4**	395	613
48	2980	37.00*	46700	2.4	X	**KF**	**107**	**(E)DRN**	**160L4**	405	614
54	2630	32.69	45700	2.7	X	**KA**	**107**	**(E)DRN**	**160L4**	365	615
57	2520	31.28*	45400	2.7	X	**KAF**	**107**	**(E)DRN**	**160L4**	390	614
61	2330	29.00	44700	3.1	X						
37	3860	47.93*	28500	1.10	X						
42	3370	41.87	28500	1.25	X	**K**	**97**	**(E)DRN**	**160L4**	280	607
46	3080	38.30	28400	1.40	X	**KF**	**97**	**(E)DRN**	**160L4**	300	608
52	2750	34.23	28300	1.55	X	**KA**	**97**	**(E)DRN**	**160L4**	260	609
58	2480	30.82	28000	1.75	X	**KAF**	**97**	**(E)DRN**	**160L4**	285	608
64	2240	27.91	27800	1.90	X						
72	1990	24.75	27400	2.2	X	**K**	**97**	**(E)DRN**	**160L4**	280	607
79	1800	22.37	27000	2.4	X	**KF**	**97**	**(E)DRN**	**160L4**	300	608
94	1520	18.96	26400	2.8	X	**KA**	**97**	**(E)DRN**	**160L4**	260	609
107	1330	16.56	25800	3.2	X	**KAF**	**97**	**(E)DRN**	**160L4**	285	608
57	2520	31.39	17800	1.05	X						
64	2240	27.88	17900	1.15	X	**K**	**87**	**(E)DRN**	**160L4**	220	601
71	2000	24.92	18000	1.25	X	**KF**	**87**	**(E)DRN**	**160L4**	230	602
79	1800	22.41	18000	1.25	X	**KA**	**87**	**(E)DRN**	**160L4**	205	603
91	1560	19.45	17900	1.45	X	**KAF**	**87**	**(E)DRN**	**160L4**	220	602
102	1400	17.42	17800	1.55	X						
111	1280	16.00	16700	1.40	X						
123	1160	14.45	17500	1.80	X						
141	1010	12.56	17200	2.0	X	**K**	**87**	**(E)DRN**	**160L4**	220	601
159	890	11.17	16200	1.65	X	**KF**	**87**	**(E)DRN**	**160L4**	230	602
178	800	10.00	16000	1.85	X	**KA**	**87**	**(E)DRN**	**160L4**	205	603
214	665	8.29	15600	2.1	X	**KAF**	**87**	**(E)DRN**	**160L4**	220	602
246	580	7.21	15200	2.2	X						

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P_m = 18.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
3.4	48000	520	190000	1.05	X						
3.9	41800	454	190000	1.20	X						
5.0	32300	355	190000	1.55	X	**K**	**187R107**	**(E)DRN**	**180M4**	1950	636
6.8	24000	261	190000	2.1	X	**KH**	**187R107**	**(E)DRN**	**180M4**	1880	636
8.0	20300	221	190000	2.5	X						
5.6	29300	318	150000	1.10	X						
6.4	25500	278	150000	1.25	X						
7.3	22100	244	150000	1.45	X						
8.3	19300	213	150000	1.65	X						
8.7	18800	206	150000	1.70	X	**K**	**167R107**	**(E)DRN**	**180M4**	1370	636
9.9	16200	180	150000	1.95	X	**KH**	**167R107**	**(E)DRN**	**180M4**	1330	636
11	14700	160	150000	2.2	X						
13	12400	135	150000	2.6	X						
15	10800	118	150000	3.0	X						
9.5	16800	187	112700	1.05	X	**K**	**157R107**	**(E)DRN**	**180M4**	980	636
11	14300	157	113800	1.25	X	**KF**	**157R107**	**(E)DRN**	**180M4**	1050	636
15	11200	122	111200	1.60	X	**KA**	**157R107**	**(E)DRN**	**180M4**	940	636
17	9790	107	109000	1.85	X	**KAF**	**157R107**	**(E)DRN**	**180M4**	1000	636
9.9	17800	179.86	190000	2.8	X						
11	16300	165.21	190000	3.0	X	**K**	**187**	**(E)DRN**	**180M4**	1780	633
12	14300	144.59	190000	3.5	X	**KH**	**187**	**(E)DRN**	**180M4**	1710	634
14	12800	129.69	190000	3.9	X						
13	13300	134.99	150000	2.4	X						
16	10800	109.83	150000	2.9	X	**K**	**167**	**(E)DRN**	**180M4**	1200	631
20	8710	87.86	150000	3.7	X	**KH**	**167**	**(E)DRN**	**180M4**	1160	632
15	12100	122.39	109200	1.50	X						
18	9940	100.22	106100	1.80	X						
19	9090	91.65	104600	2.0	X						
22	7910	79.75	102100	2.3	X	**K**	**157**	**(E)DRN**	**180M4**	800	625
25	6980	70.38	99700	2.6	X	**KF**	**157**	**(E)DRN**	**180M4**	880	626
29	6050	61.02	96900	3.0	X	**KA**	**157**	**(E)DRN**	**180M4**	770	626
33	5380	54.29	94600	3.3	X	**KAF**	**157**	**(E)DRN**	**180M4**	820	626
38	4640	46.79	91600	3.9	X						
47	3770	38.02	87400	4.8	X						
16	10900	110.18	79100	1.20	X	**K**	**127**	**(E)DRN**	**180M4**	570	619
20	8910	89.89	77800	1.45	X	**KF**	**127**	**(E)DRN**	**180M4**	610	620
22	8130	81.98	77000	1.60	X	**KA**	**127**	**(E)DRN**	**180M4**	540	621
						KAF	**127**	**(E)DRN**	**180M4**	580	620
25	7030	70.95*	75700	1.85	X						
28	6200	62.60	74300	2.1	X						
33	5360	54.07	72500	2.4	X	**K**	**127**	**(E)DRN**	**180M4**	570	619
37	4740	47.82	71000	2.7	X	**KF**	**127**	**(E)DRN**	**180M4**	610	620
44	3980	40.19	68700	3.3	X	**KA**	**127**	**(E)DRN**	**180M4**	540	621
49	3590	36.25	67300	3.6	X	**KAF**	**127**	**(E)DRN**	**180M4**	580	620
57	3110	31.37	65200	4.2	X						
64	2740	27.68	63500	4.7	X						
24	7270	73.30	45300	1.10	X	**K**	**107**	**(E)DRN**	**180M4**	415	613
27	6590	66.52*	46100	1.20	X	**KF**	**107**	**(E)DRN**	**180M4**	425	614
31	5670	57.17*	46600	1.40	X	**KA**	**107**	**(E)DRN**	**180M4**	385	615
36	4950	49.90	46100	1.60	X	**KAF**	**107**	**(E)DRN**	**180M4**	410	614
42	4190	42.33*	45400	1.75	X						
48	3660	37.00*	44700	1.95	X						
54	3240	32.69	43900	2.2	X						
57	3100	31.28*	43600	2.2	X	**K**	**107**	**(E)DRN**	**180M4**	415	613
61	2870	29.00	43100	2.5	X	**KF**	**107**	**(E)DRN**	**180M4**	425	614
68	2600	26.32	42400	2.8	X	**KA**	**107**	**(E)DRN**	**180M4**	385	615
79	2240	22.62	41300	3.2	X	**KAF**	**107**	**(E)DRN**	**180M4**	410	614
90	1950	19.74	40200	3.7	X						
106	1660	16.75	38800	4.2	X						
43	4150	41.87	25800	1.05	X	**K**	**97**	**(E)DRN**	**180M4**	300	607
58	3050	30.82	26000	1.40	X	**KF**	**97**	**(E)DRN**	**180M4**	320	608
64	2760	27.91	26000	1.55	X	**KA**	**97**	**(E)DRN**	**180M4**	280	609
72	2450	24.75	25800	1.75	X	**KAF**	**97**	**(E)DRN**	**180M4**	305	608

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P_m = 18.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
80	2210	22.37	25600	1.95	X						
94	1880	18.96	25100	2.3	X	**K**	**97**	**(E)DRN**	**180M4**	300	607
108	1640	16.56	24700	2.6	X	**KF**	**97**	**(E)DRN**	**180M4**	320	608
129	1370	13.85	24100	3.1	X	**KA**	**97**	**(E)DRN**	**180M4**	280	609
149	1180	11.99	23500	3.3	X	**KAF**	**97**	**(E)DRN**	**180M4**	305	608
71	2470	24.92	16100	1.00	X						
80	2220	22.41	16300	1.05	X						
92	1920	19.45	16400	1.20	X						
102	1720	17.42	16500	1.25	X	**K**	**87**	**(E)DRN**	**180M4**	240	601
123	1430	14.45	16400	1.45	X	**KF**	**87**	**(E)DRN**	**180M4**	250	602
142	1240	12.56	16200	1.60	X	**KA**	**87**	**(E)DRN**	**180M4**	230	603
160	1100	11.17	15300	1.35	X	**KAF**	**87**	**(E)DRN**	**180M4**	240	602
178	990	10.00	15100	1.50	X						
215	820	8.29	14900	1.70	X						
247	715	7.21	14600	1.80	X						

P_m = 22 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
3.9	49800	454	190000	1.00	X						
5.0	38500	355	190000	1.30	X						
6.8	28600	261	190000	1.75	X	**K**	**187R107**	**(E)DRN**	**180L4**	1970	636
8.0	24200	221	190000	2.1	X	**KH**	**187R107**	**(E)DRN**	**180L4**	1900	636
9.2	21100	193	190000	2.4	X						
11	17700	163	190000	2.8	X						
6.4	30400	278	150000	1.05	X						
7.3	26400	244	150000	1.20	X						
8.3	23000	213	150000	1.40	X						
8.7	22400	206	150000	1.40	X	**K**	**167R107**	**(E)DRN**	**180L4**	1380	636
9.9	19400	180	150000	1.65	X	**KH**	**167R107**	**(E)DRN**	**180L4**	1350	636
11	17500	160	150000	1.85	X						
13	14800	135	150000	2.2	X						
15	12900	118	150000	2.5	X						
11	17100	157	108900	1.05	X	**K**	**157R107**	**(E)DRN**	**180L4**	990	636
15	13400	122	106400	1.35	X	**KF**	**157R107**	**(E)DRN**	**180L4**	1070	636
17	11600	107	104800	1.55	X	**KA**	**157R107**	**(E)DRN**	**180L4**	950	636
						KAF	**157R107**	**(E)DRN**	**180L4**	1010	636
9.9	21200	179.86	190000	2.4	X						
11	19400	165.21	190000	2.6	X	**K**	**187**	**(E)DRN**	**180L4**	1790	633
12	17000	144.59	190000	2.9	X	**KH**	**187**	**(E)DRN**	**180L4**	1730	634
14	15200	129.69	190000	3.3	X						
13	15900	134.99	150000	2.0	X						
16	12900	109.83	150000	2.5	X	**K**	**167**	**(E)DRN**	**180L4**	1210	631
20	10300	87.86	150000	3.1	X	**KH**	**167**	**(E)DRN**	**180L4**	1170	632
23	9210	78.14	150000	3.5	X						
15	14400	122.39	104200	1.25	X						
18	11800	100.22	102000	1.50	X						
19	10800	91.65	100800	1.65	X						
22	9400	79.75	98800	1.90	X	**K**	**157**	**(E)DRN**	**180L4**	820	625
25	8300	70.38	96800	2.2	X	**KF**	**157**	**(E)DRN**	**180L4**	900	626
29	7190	61.02	94400	2.5	X	**KA**	**157**	**(E)DRN**	**180L4**	780	626
33	6400	54.29	92400	2.8	X	**KAF**	**157**	**(E)DRN**	**180L4**	840	626
38	5510	46.79	89700	3.3	X						
47	4480	38.02	85800	4.0	X						
20	10600	89.89	73600	1.25	X	**K**	**127**	**(E)DRN**	**180L4**	580	619
22	9670	81.98	73200	1.35	X	**KF**	**127**	**(E)DRN**	**180L4**	630	620
25	8360	70.95*	72300	1.55	X	**KA**	**127**	**(E)DRN**	**180L4**	560	621
28	7380	62.60	71300	1.75	X	**KAF**	**127**	**(E)DRN**	**180L4**	590	620

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P_m = 22 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
33	6370	54.07	70000	2.0	X						
37	5640	47.82	68700	2.3	X						
44	4740	40.19	66800	2.7	X	**K**	**127**	**(E)DRN**	**180L4**	580	619
49	4270	36.25	65500	3.0	X	**KF**	**127**	**(E)DRN**	**180L4**	630	620
57	3690	31.37	63800	3.5	X	**KA**	**127**	**(E)DRN**	**180L4**	560	621
64	3260	27.68	62200	4.0	X	**KAF**	**127**	**(E)DRN**	**180L4**	590	620
75	2810	23.91	60200	4.6	X						
84	2490	21.15	58600	5.2	X						
31	6740	57.17*	42100	1.20	X	**K**	**107**	**(E)DRN**	**180L4**	430	613
36	5880	49.90	43000	1.35	X	**KF**	**107**	**(E)DRN**	**180L4**	440	614
42	4990	42.33*	43100	1.45	X	**KA**	**107**	**(E)DRN**	**180L4**	400	615
						KAF	**107**	**(E)DRN**	**180L4**	425	614
48	4360	37.00*	42700	1.65	X						
54	3850	32.69	42100	1.85	X						
57	3680	31.28*	41900	1.85	X						
61	3410	29.00	41500	2.1	X						
68	3100	26.32	41000	2.3	X	**K**	**107**	**(E)DRN**	**180L4**	430	613
79	2660	22.62	40000	2.7	X	**KF**	**107**	**(E)DRN**	**180L4**	440	614
90	2320	19.74	39100	3.1	X	**KA**	**107**	**(E)DRN**	**180L4**	400	615
106	1970	16.75	37900	3.6	X	**KAF**	**107**	**(E)DRN**	**180L4**	425	614
122	1720	14.64	36900	4.0	X						
133	1580	13.43	35500	2.7	X						
152	1380	11.73	34500	3.1	X						
179	1170	9.94	33400	3.6	X						
58	3630	30.82	24000	1.20	X	**K**	**97**	**(E)DRN**	**180L4**	315	607
64	3290	27.91	24100	1.30	X	**KF**	**97**	**(E)DRN**	**180L4**	335	608
72	2910	24.75	24200	1.45	X	**KA**	**97**	**(E)DRN**	**180L4**	300	609
80	2630	22.37	24100	1.65	X	**KAF**	**97**	**(E)DRN**	**180L4**	325	608
94	2230	18.96	23900	1.90	X						
108	1950	16.56	23600	2.2	X	**K**	**97**	**(E)DRN**	**180L4**	315	607
129	1630	13.85	23200	2.6	X	**KF**	**97**	**(E)DRN**	**180L4**	335	608
149	1410	11.99	22700	2.8	X	**KA**	**97**	**(E)DRN**	**180L4**	300	609
171	1220	10.41	21300	2.3	X	**KAF**	**97**	**(E)DRN**	**180L4**	325	608
205	1020	8.71	20800	2.6	X						
92	2290	19.45	15000	1.00	X						
102	2050	17.42	15200	1.05	X						
123	1700	14.45	15300	1.25	X	**K**	**87**	**(E)DRN**	**180L4**	255	601
142	1480	12.56	15300	1.35	X	**KF**	**87**	**(E)DRN**	**180L4**	265	602
160	1310	11.17	14300	1.15	X	**KA**	**87**	**(E)DRN**	**180L4**	245	603
178	1170	10.00	14300	1.25	X	**KAF**	**87**	**(E)DRN**	**180L4**	255	602
215	970	8.29	14100	1.45	X						
247	850	7.21	14000	1.55	X						

P_m = 30 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
6.8	39100	261	190000	1.30	X						
8.1	33100	221	190000	1.50	X	**K**	**187R107**	**(E)DRN**	**200L4**	2080	636
9.2	28900	193	190000	1.75	X	**KH**	**187R107**	**(E)DRN**	**200L4**	2010	636
11	24300	163	190000	2.0	X						
8.4	31500	213	150000	1.00	X						
8.7	30700	206	150000	1.05	X						
9.9	26600	180	150000	1.20	X	**K**	**167R107**	**(E)DRN**	**200L4**	1490	636
11	23900	160	150000	1.35	X	**KH**	**167R107**	**(E)DRN**	**200L4**	1460	636
13	20200	135	150000	1.60	X						
15	17600	118	150000	1.80	X						
9.9	28800	179.86	190000	1.75	X						
11	26500	165.21	190000	1.90	X						
12	23200	144.59	190000	2.1	X						
14	20800	129.69	190000	2.4	X	**K**	**187**	**(E)DRN**	**200L4**	1900	633
16	18000	112.60	190000	2.8	X	**KH**	**187**	**(E)DRN**	**200L4**	1830	634
17	16400	102.16	190000	3.0	X						
20	14100	88.00	189300	3.5	X						

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P_m = 30 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
16	17600	109.83	150000	1.80	X						
20	14100	87.86	150000	2.3	X						
23	12500	78.14	150000	2.5	X	**K**	**167**	**(E)DRN**	**200L4**	1320	631
26	10900	68.07	150000	2.9	X	**KH**	**167**	**(E)DRN**	**200L4**	1280	632
29	9750	60.74	150000	3.3	X						
18	16100	100.22	92600	1.10	X						
19	14700	91.65	92200	1.20	X						
22	12800	79.75	91300	1.40	X						
25	11300	70.38	90200	1.60	X	**K**	**157**	**(E)DRN**	**200L4**	930	625
29	9800	61.02	88700	1.85	X	**KF**	**157**	**(E)DRN**	**200L4**	1000	626
33	8720	54.29	87300	2.1	X	**KA**	**157**	**(E)DRN**	**200L4**	890	626
38	7510	46.79	85300	2.4	X	**KAF**	**157**	**(E)DRN**	**200L4**	950	626
47	6100	38.02	82200	3.0	X						
57	5020	31.30	79200	3.6	X						
25	11300	70.95*	64700	1.15	X						
28	10000	62.60	64600	1.30	X						
33	8680	54.07	64200	1.50	X						
37	7680	47.82	63600	1.70	X	**K**	**127**	**(E)DRN**	**200L4**	690	619
44	6450	40.19	62500	2.0	X	**KF**	**127**	**(E)DRN**	**200L4**	730	620
49	5820	36.25	61600	2.2	X	**KA**	**127**	**(E)DRN**	**200L4**	660	621
57	5030	31.37	60400	2.6	X	**KAF**	**127**	**(E)DRN**	**200L4**	700	620
64	4440	27.68	59200	2.9	X						
75	3840	23.91	57700	3.4	X						
42	6800	42.33*	35500	1.10	X	**K**	**107**	**(E)DRN**	**200L4**	540	613
48	5940	37.00*	36800	1.20	X	**KF**	**107**	**(E)DRN**	**200L4**	550	614
57	5020	31.28*	37800	1.35	X	**KA**	**107**	**(E)DRN**	**200L4**	510	615
						KAF	**107**	**(E)DRN**	**200L4**	540	614
62	4650	29.00	37900	1.55	X						
68	4220	26.32	37600	1.70	X						
79	3630	22.62	37200	2.0	X						
90	3170	19.74	36600	2.3	X	**K**	**107**	**(E)DRN**	**200L4**	540	613
106	2690	16.75	35800	2.6	X	**KF**	**107**	**(E)DRN**	**200L4**	550	614
122	2350	14.64	35100	2.9	X	**KA**	**107**	**(E)DRN**	**200L4**	510	615
133	2150	13.43	33500	2.0	X	**KAF**	**107**	**(E)DRN**	**200L4**	540	614
152	1880	11.73	32800	2.3	X						
179	1590	9.94	31900	2.6	X						
205	1390	8.69	31100	2.9	X						
72	3970	24.75	20500	1.10	X						
80	3590	22.37	20800	1.20	X						
94	3040	18.96	21100	1.40	X	**K**	**97**	**(E)DRN**	**200L4**	425	607
108	2660	16.56	21200	1.60	X	**KF**	**97**	**(E)DRN**	**200L4**	445	608
129	2220	13.85	21100	1.95	X	**KA**	**97**	**(E)DRN**	**200L4**	405	609
149	1920	11.99	20900	2.0	X	**KAF**	**97**	**(E)DRN**	**200L4**	430	608
171	1670	10.41	19400	1.70	X						
205	1390	8.71	19200	1.90	X						

P_m = 37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
6.8	48300	261	190000	1.05	X						
8.1	40900	221	190000	1.20	X	**K**	**187R107**	**(E)DRN**	**225S4**	2110	636
9.2	35700	193	190000	1.40	X	**KH**	**187R107**	**(E)DRN**	**225S4**	2040	636
11	30100	163	190000	1.65	X						
9.9	32800	180	150000	0.95							
11	29500	160	150000	1.10	X	**K**	**167R107**	**(E)DRN**	**225S4**	1530	636
13	25000	135	150000	1.30	X	**KH**	**167R107**	**(E)DRN**	**225S4**	1490	636
15	21800	118	150000	1.45	X						
9.9	35600	179.86	190000	1.40	X						
11	32700	165.21	190000	1.55	X						
12	28600	144.59	190000	1.75	X						
14	25600	129.69	190000	1.95	X	**K**	**187**	**(E)DRN**	**225S4**	1930	633
16	22200	112.60	190000	2.2	X	**KH**	**187**	**(E)DRN**	**225S4**	1870	634
17	20200	102.16	189500	2.5	X						
20	17400	88.00	184100	2.9	X						

P_m = 37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
16	21700	109.83	150000	1.45	X						
20	17300	87.86	150000	1.85	X						
23	15400	78.14	150000	2.1	X	**K**	**167**	**(E)DRN**	**225S4**	1350	631
26	13400	68.07	150000	2.4	X	**KH**	**167**	**(E)DRN**	**225S4**	1310	632
29	12000	60.74	149300	2.7	X						
34	10200	51.77	144500	3.1	X						
						K	**157**	**(E)DRN**	**225S4**	960	625
19	18100	91.65	84700	1.00		**KF**	**157**	**(E)DRN**	**225S4**	1040	626
22	15700	79.75	84800	1.15	X	**KA**	**157**	**(E)DRN**	**225S4**	920	626
						KAF	**157**	**(E)DRN**	**225S4**	980	626
25	13900	70.38	84400	1.30	X						
29	12000	61.02	83700	1.50	X	**K**	**157**	**(E)DRN**	**225S4**	960	625
33	10700	54.29	82800	1.70	X	**KF**	**157**	**(E)DRN**	**225S4**	1040	626
38	9260	46.79	81400	1.95	X	**KA**	**157**	**(E)DRN**	**225S4**	920	626
47	7520	38.02	79100	2.4	X	**KAF**	**157**	**(E)DRN**	**225S4**	980	626
57	6190	31.30	76600	2.9	X						
29	12300	62.60	58700	1.05	X	**K**	**127**	**(E)DRN**	**225S4**	720	619
33	10700	54.07	59100	1.20	X	**KF**	**127**	**(E)DRN**	**225S4**	770	620
37	9460	47.82	59100	1.35	X	**KA**	**127**	**(E)DRN**	**225S4**	700	621
44	7950	40.19	58700	1.65	X	**KAF**	**127**	**(E)DRN**	**225S4**	730	620
49	7170	36.25	58200	1.80	X						
57	6200	31.37	57400	2.1	X						
64	5470	27.68	56600	2.4	X						
75	4730	23.91	55400	2.8	X	**K**	**127**	**(E)DRN**	**225S4**	720	619
84	4180	21.15	54300	3.1	X	**KF**	**127**	**(E)DRN**	**225S4**	770	620
100	3510	17.77	52700	3.7	X	**KA**	**127**	**(E)DRN**	**225S4**	700	621
124	2840	14.35	50600	4.3	X	**KAF**	**127**	**(E)DRN**	**225S4**	730	620
140	2530	12.79	48500	3.4	X						
166	2120	10.74	46800	3.8	X						
206	1710	8.68	44700	4.2	X						
48	7320	37.00*	30100	1.00							
57	6190	31.28*	32500	1.10	X						
62	5730	29.00	33200	1.25	X						
68	5200	26.32	33900	1.40	X						
79	4470	22.62	34600	1.60	X	**K**	**107**	**(E)DRN**	**225S4**	570	613
90	3900	19.74	34400	1.85	X	**KF**	**107**	**(E)DRN**	**225S4**	580	614
107	3310	16.75	34000	2.1	X	**KA**	**107**	**(E)DRN**	**225S4**	540	615
122	2890	14.64	33500	2.4	X	**KAF**	**107**	**(E)DRN**	**225S4**	570	614
133	2650	13.43	31800	1.60	X						
152	2320	11.73	31300	1.85	X						
180	1960	9.94	30600	2.1	X						
205	1720	8.69	30000	2.4	X						

P_m = 45 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
8.1	49800	221	190000	1.00	X						
9.2	43500	193	190000	1.15	X	**K**	**187R107**	**(E)DRN**	**225M4**	2110	636
11	36700	163	190000	1.35	X	**KH**	**187R107**	**(E)DRN**	**225M4**	2040	636
13	30500	135	150000	1.05	X	**K**	**167R107**	**(E)DRN**	**225M4**	1530	636
15	26600	118	150000	1.20	X	**KH**	**167R107**	**(E)DRN**	**225M4**	1490	636
9.9	43200	179.86	190000	1.15	X						
11	39700	165.21	190000	1.25	X						
12	34800	144.59	190000	1.45	X						
14	31200	129.69	188800	1.60	X	**K**	**187**	**(E)DRN**	**225M4**	1930	633
16	27100	112.60	185300	1.85	X	**KH**	**187**	**(E)DRN**	**225M4**	1870	634
17	24500	102.16	182700	2.0	X						
20	21100	88.00	178300	2.4	X						
24	17800	73.96	172800	2.8	X						

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P_m = 45 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
16	26400	109.83	150000	1.20	X						
20	21100	87.86	150000	1.50	X						
23	18800	78.14	150000	1.70	X						
26	16300	68.07	147200	1.95	X	**K**	**167**	**(E)DRN**	**225M4**	1350	631
29	14600	60.74	144500	2.2	X	**KH**	**167**	**(E)DRN**	**225M4**	1310	632
34	12400	51.77	140400	2.6	X						
42	10300	42.89	135400	3.1	X						
25	16900	70.38	77800	1.05	X						
29	14600	61.02	78000	1.25	X						
33	13000	54.29	77700	1.40	X						
38	11200	46.79	77000	1.60	X	**K**	**157**	**(E)DRN**	**225M4**	960	625
47	9150	38.02	75500	1.95	X	**KF**	**157**	**(E)DRN**	**225M4**	1040	626
57	7530	31.30	73600	2.4	X	**KA**	**157**	**(E)DRN**	**225M4**	920	626
65	6650	27.62	72300	2.7	X	**KAF**	**157**	**(E)DRN**	**225M4**	980	626
75	5760	23.95	70600	3.1	X						
84	5120	21.31	69100	3.5	X						
97	4420	18.37	67100	4.1	X						
37	11500	47.82	54000	1.15	X	**K**	**127**	**(E)DRN**	**225M4**	720	619
44	9670	40.19	54400	1.35	X	**KF**	**127**	**(E)DRN**	**225M4**	770	620
49	8720	36.25	54300	1.50	X	**KA**	**127**	**(E)DRN**	**225M4**	700	621
						KAF	**127**	**(E)DRN**	**225M4**	730	620
57	7550	31.37	54100	1.70	X						
64	6660	27.68	53600	1.95	X						
75	5750	23.91	52800	2.3	X						
84	5080	21.15	52100	2.5	X	**K**	**127**	**(E)DRN**	**225M4**	720	619
100	4270	17.77	50800	3.0	X	**KF**	**127**	**(E)DRN**	**225M4**	770	620
124	3450	14.35	49100	3.5	X	**KA**	**127**	**(E)DRN**	**225M4**	700	621
140	3070	12.79	46900	2.8	X	**KAF**	**127**	**(E)DRN**	**225M4**	730	620
166	2580	10.74	45500	3.1	X						
206	2080	8.68	43600	3.5	X						
62	6970	29.00	27100	1.05	X	**K**	**107**	**(E)DRN**	**225M4**	570	613
68	6330	26.32	28600	1.15	X	**KF**	**107**	**(E)DRN**	**225M4**	580	614
79	5440	22.62	30300	1.30	X	**KA**	**107**	**(E)DRN**	**225M4**	540	615
90	4750	19.74	31200	1.50	X	**KAF**	**107**	**(E)DRN**	**225M4**	570	614
107	4030	16.75	31900	1.75	X						
122	3520	14.64	31600	1.95	X	**K**	**107**	**(E)DRN**	**225M4**	570	613
133	3230	13.43	29800	1.35	X	**KF**	**107**	**(E)DRN**	**225M4**	580	614
152	2820	11.73	29600	1.50	X	**KA**	**107**	**(E)DRN**	**225M4**	540	615
180	2390	9.94	29200	1.75	X	**KAF**	**107**	**(E)DRN**	**225M4**	570	614
205	2090	8.69	28700	1.95	X						

P_m = 55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
12	42500	144.59	179100	1.20	X						
14	38100	129.69	178100	1.30	X						
16	33100	112.60	176000	1.50	X						
17	30000	102.16	174200	1.65	X	**K**	**187**	**(E)DRN**	**250ME4**	2130	633
20	25800	88.00	171000	1.95	X	**KH**	**187**	**(E)DRN**	**250ME4**	2060	634
24	21700	73.96	166700	2.3	X						
28	18800	64.04	162700	2.6	X						
20	25800	87.86	144000	1.25	X						
23	22900	78.14	142600	1.40	X						
26	20000	68.07	140600	1.60	X						
29	17800	60.74	138500	1.80	X	**K**	**167**	**(E)DRN**	**250ME4**	1550	631
34	15200	51.77	135400	2.1	X	**KH**	**167**	**(E)DRN**	**250ME4**	1510	632
42	12600	42.89	131200	2.5	X						
49	10700	36.61	127400	3.0	X						

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P_m = 55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
29	17900	61.02	70800	1.00	X						
33	15900	54.29	71300	1.15	X						
38	13700	46.79	71500	1.30	X						
47	11100	38.02	71000	1.60	X						
57	9210	31.30	70000	1.95	X	**K**	**157**	**(E)DRN**	**250ME4**	1150	625
65	8120	27.62	69000	2.2	X	**KF**	**157**	**(E)DRN**	**250ME4**	1230	626
75	7040	23.95	67700	2.5	X	**KA**	**157**	**(E)DRN**	**250ME4**	1120	626
84	6260	21.31	66600	2.9	X	**KAF**	**157**	**(E)DRN**	**250ME4**	1180	626
97	5400	18.37	65000	3.3	X						
120	4390	14.92	62600	4.1	X						
141	3720	12.65	60500	4.6	X						
44	11800	40.19	49000	1.10	X	**K**	**127**	**(E)DRN**	**250ME4**	920	619
57	9220	31.37	49800	1.40	X	**KF**	**127**	**(E)DRN**	**250ME4**	960	620
64	8140	27.68	49900	1.60	X	**KA**	**127**	**(E)DRN**	**250ME4**	890	621
						KAF	**127**	**(E)DRN**	**250ME4**	930	620
75	7030	23.91	49600	1.85	X						
84	6220	21.15	49200	2.1	X						
100	5220	17.77	48400	2.5	X	**K**	**127**	**(E)DRN**	**250ME4**	920	619
124	4220	14.35	47100	2.9	X	**KF**	**127**	**(E)DRN**	**250ME4**	960	620
140	3760	12.79	44900	2.3	X	**KA**	**127**	**(E)DRN**	**250ME4**	890	621
166	3160	10.74	43800	2.5	X	**KAF**	**127**	**(E)DRN**	**250ME4**	930	620
206	2550	8.68	42300	2.8	X						

P_m = 75 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
14	52000	129.69	156600	0.95							
16	45100	112.60	157400	1.10	X						
17	40900	102.16	157300	1.20	X						
20	35300	88.00	156500	1.40	X	**K**	**187**	**(E)DRN**	**280S4**	2130	633
24	29600	73.96	154500	1.70	X	**KH**	**187**	**(E)DRN**	**280S4**	2070	634
28	25600	64.04	152100	1.95	X						
33	21400	53.36	148500	2.3	X						
39	18200	45.50*	144900	2.7	X						
23	31300	78.14	127300	1.00	X						
26	27300	68.07	127200	1.15	X						
29	24300	60.74	126600	1.30	X						
34	20700	51.77	125200	1.55	X						
42	17200	42.89	122800	1.85	X	**K**	**167**	**(E)DRN**	**280S4**	1550	631
49	14600	36.61	120200	2.2	X	**KH**	**167**	**(E)DRN**	**280S4**	1510	632
55	12900	32.25	118000	2.5	X						
62	11500	28.77	115700	2.8	X						
73	9830	24.52	112500	3.2	X						
47	15200	38.02	62100	1.20	X						
57	12500	31.30	62600	1.45	X						
65	11000	27.62	62500	1.60	X	**K**	**157**	**(E)DRN**	**280S4**	1160	625
75	9600	23.95	62100	1.85	X	**KF**	**157**	**(E)DRN**	**280S4**	1240	626
84	8540	21.31	61600	2.1	X	**KA**	**157**	**(E)DRN**	**280S4**	1120	626
97	7360	18.37	60700	2.4	X	**KAF**	**157**	**(E)DRN**	**280S4**	1180	626
120	5980	14.92	59100	3.0	X						
141	5070	12.65	57600	3.4	X						
57	12500	31.37	41400	1.05	X						
64	11100	27.68	42500	1.15	X						
75	9580	23.91	43200	1.35	X						
84	8480	21.15	43600	1.55	X	**K**	**127**	**(E)DRN**	**280S4**	920	619
100	7120	17.77	43700	1.80	X	**KF**	**127**	**(E)DRN**	**280S4**	960	620
124	5750	14.35	43300	2.1	X	**KA**	**127**	**(E)DRN**	**280S4**	890	621
140	5120	12.79	41000	1.65	X	**KAF**	**127**	**(E)DRN**	**280S4**	930	620
166	4310	10.74	40500	1.85	X						
206	3480	8.68	39600	2.1	X						

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P_m = 90 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
17	49200	102.16	144600	1.00	X						
20	42300	88.00	145500	1.20	X						
24	35600	73.96	145300	1.40	X						
28	30800	64.04	144200	1.60	X	**K**	**187**	**(E)DRN**	**280M4**	2250	633
33	25700	53.36	141900	1.95	X	**KH**	**187**	**(E)DRN**	**280M4**	2180	634
39	21900	45.50*	139300	2.3	X						
42	20400	42.51	138000	2.4	X						
46	18500	38.57	136100	2.7	X						
26	32700	68.07	117200	1.00							
29	29200	60.74	117700	1.10	X						
34	24900	51.77	117600	1.30	X						
42	20600	42.89	116500	1.55	X						
49	17600	36.61	114900	1.80	X	**K**	**167**	**(E)DRN**	**280M4**	1670	631
55	15500	32.25	113200	2.1	X	**KH**	**167**	**(E)DRN**	**280M4**	1630	632
62	13800	28.77	111500	2.3	X						
73	11800	24.52	108900	2.7	X						
88	9780	20.32	105400	3.3	X						
103	8350	17.34	102300	3.8	X						
47	18300	38.02	55400	1.00							
74	11500	23.95	57900	1.55	X	**K**	**157**	**(E)DRN**	**280M4**	1270	625
84	10200	21.31	57800	1.75	X	**KF**	**157**	**(E)DRN**	**280M4**	1350	626
97	8840	18.37	57400	2.0	X	**KA**	**157**	**(E)DRN**	**280M4**	1230	626
120	7180	14.92	56400	2.5	X	**KAF**	**157**	**(E)DRN**	**280M4**	1290	626
141	6090	12.65	55400	2.8	X						
75	11500	23.91	38400	1.15	X						
84	10100	21.15	39300	1.30	X						
100	8550	17.77	40100	1.50	X	**K**	**127**	**(E)DRN**	**280M4**	1040	619
124	6910	14.35	40400	1.75	X	**KF**	**127**	**(E)DRN**	**280M4**	1080	620
140	6150	12.79	38000	1.40	X	**KA**	**127**	**(E)DRN**	**280M4**	1010	621
166	5170	10.74	38000	1.55	X	**KAF**	**127**	**(E)DRN**	**280M4**	1050	620
206	4170	8.68	37600	1.75	X						

P_m = 110 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
20	51600	88.00	131000	0.95							
24	43400	73.96	133000	1.15	X						
28	37500	64.04	133600	1.35	X	**K**	**187**	**(E)DRN**	**315S4**	2490	633
34	31300	53.36	133100	1.60	X	**KH**	**187**	**(E)DRN**	**315S4**	2420	634
39	26700	45.50*	131700	1.85	X						
42	24900	42.51	130900	2.0	X	**K**	**187**	**(E)DRN**	**315S4/ERF/NS**	2490	633
						KH	**187**	**(E)DRN**	**315S4/ERF/NS**	2420	634
46	22600	38.57	129600	2.2	X						
54	19400	33.23	127300	2.6	X	**K**	**187**	**(E)DRN**	**315S4**	2490	633
64	16300	27.92	124100	3.0	X	**KH**	**187**	**(E)DRN**	**315S4**	2420	634
35	30300	51.77	107500	1.05	X						
42	25100	42.89	108100	1.25	X	**K**	**167**	**(E)DRN**	**315S4**	1910	631
49	21400	36.61	107700	1.50	X	**KH**	**167**	**(E)DRN**	**315S4**	1870	632
56	18900	32.25	106900	1.70	X	**K**	**167**	**(E)DRN**	**315S4/ERF/NS**	1910	631
						KH	**167**	**(E)DRN**	**315S4/ERF/NS**	1870	632
62	16800	28.77	105800	1.90	X						
73	14300	24.52	104000	2.2	X	**K**	**167**	**(E)DRN**	**315S4**	1910	631
88	11900	20.32	101400	2.7	X	**KH**	**167**	**(E)DRN**	**315S4**	1870	632
103	10100	17.34	98900	3.1	X						
75	14000	23.95	52300	1.30	X	**K**	**157**	**(E)DRN**	**315S4/ERF/NS**	1520	625
						KF	**157**	**(E)DRN**	**315S4/ERF/NS**	1590	626
						KA	**157**	**(E)DRN**	**315S4/ERF/NS**	1480	626
						KAF	**157**	**(E)DRN**	**315S4/ERF/NS**	1540	626
84	12500	21.31	52900	1.45	X	**K**	**157**	**(E)DRN**	**315S4**	1520	625
97	10700	18.37	53100	1.65	X	**KF**	**157**	**(E)DRN**	**315S4**	1590	626
120	8750	14.92	52900	2.1	X	**KA**	**157**	**(E)DRN**	**315S4**	1480	626
141	7420	12.65	52400	2.3	X	**KAF**	**157**	**(E)DRN**	**315S4**	1540	626

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P_m = 132 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
24	52000	73.96	119600	0.95							
28	45000	64.04	122000	1.10	X	**K**	**187**	**(E)DRN**	**315ME4**	2620	633
34	37500	53.36	123400	1.35	X	**KH**	**187**	**(E)DRN**	**315ME4**	2550	634
39	32000	45.50*	123500	1.55	X						
42	29900	42.51	123200	1.65	X	**K**	**187**	**(E)DRN**	**315ME4/ERF/NS**	2620	633
46	27100	38.57	122600	1.85	X	**KH**	**187**	**(E)DRN**	**315ME4/ERF/NS**	2550	634
54	23300	33.23	121300	2.1	X						
64	19600	27.92	119000	2.5	X						
74	17000	24.18	116800	2.8	X	**K**	**187**	**(E)DRN**	**315ME4**	2620	633
89	14100	20.15	113600	3.1	X	**KH**	**187**	**(E)DRN**	**315ME4**	2550	634
104	12000	17.18	110500	3.4	X						
42	30100	42.89	98900	1.05	X	**K**	**167**	**(E)DRN**	**315ME4**	2040	631
49	25700	36.61	99800	1.25	X	**KH**	**167**	**(E)DRN**	**315ME4**	2000	632
56	22600	32.25	99900	1.40	X	**K**	**167**	**(E)DRN**	**315ME4/ERF/NS**	2040	631
62	20200	28.77	99700	1.60	X	**KH**	**167**	**(E)DRN**	**315ME4/ERF/NS**	2000	632
73	17200	24.52	98700	1.85	X						
88	14300	20.32	97000	2.2	X	**K**	**167**	**(E)DRN**	**315ME4**	2040	631
103	12200	17.34	95100	2.6	X	**KH**	**167**	**(E)DRN**	**315ME4**	2000	632
						K	**157**	**(E)DRN**	**315ME4/ERF/NS**	1640	625
75	16800	23.95	46200	1.05	X	**KF**	**157**	**(E)DRN**	**315ME4/ERF/NS**	1720	626
84	14900	21.31	47400	1.20	X	**KA**	**157**	**(E)DRN**	**315ME4/ERF/NS**	1610	626
						KAF	**157**	**(E)DRN**	**315ME4/ERF/NS**	1660	626
						K	**157**	**(E)DRN**	**315ME4**	1640	625
98	12900	18.37	48400	1.40	X	**KF**	**157**	**(E)DRN**	**315ME4**	1720	626
120	10500	14.92	49100	1.70	X	**KA**	**157**	**(E)DRN**	**315ME4**	1610	626
142	8900	12.65	49100	1.90	X	**KAF**	**157**	**(E)DRN**	**315ME4**	1660	626

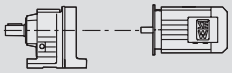
P_m = 160 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
34	45600	53.36	111000	1.10	X						
39	38800	45.50*	112900	1.30	X						
54	28300	33.23	113600	1.75	X						
64	23800	27.92	112600	2.1	X	**K**	**187**	**(E)DRN**	**315L4**	2640	633
74	20600	24.18	111200	2.3	X	**KH**	**187**	**(E)DRN**	**315L4**	2580	634
89	17200	20.15	108900	2.5	X						
104	14600	17.18	106500	2.8	X						
49	31200	36.61	89800	1.00	X						
73	20900	24.52	92000	1.55	X	**K**	**167**	**(E)DRN**	**315L4**	2060	631
88	17300	20.32	91500	1.85	X	**KH**	**167**	**(E)DRN**	**315L4**	2020	632
103	14800	17.34	90400	2.2	X						
						K	**157**	**(E)DRN**	**315L4**	1670	625
97	15600	18.37	42400	1.15	X	**KF**	**157**	**(E)DRN**	**315L4**	1750	626
120	12700	14.92	44200	1.40	X	**KA**	**157**	**(E)DRN**	**315L4**	1630	626
141	10800	12.65	45000	1.55	X	**KAF**	**157**	**(E)DRN**	**315L4**	1690	626

P_m = 200 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
39	48500	45.50*	98000	1.05	X	**K**	**187**	**(E)DRN**	**315H4**	2760	633
						KH	**187**	**(E)DRN**	**315H4**	2700	634
54	35400	33.23	102600	1.40	X	**K**	**187**	**(E)DRN**	**315H4/ERF/NS**	2760	633
						KH	**187**	**(E)DRN**	**315H4/ERF/NS**	2700	634
64	29700	27.92	103400	1.70	X						
74	25700	24.18	103200	1.85	X	**K**	**187**	**(E)DRN**	**315H4**	2760	633
89	21400	20.15	102300	2.0	X	**KH**	**187**	**(E)DRN**	**315H4**	2700	634
104	18300	17.18	100800	2.3	X						
73	26100	24.52	82400	1.20	X	**K**	**167**	**(E)DRN**	**315H4/ERF/NS**	2180	631
						KH	**167**	**(E)DRN**	**315H4/ERF/NS**	2140	632

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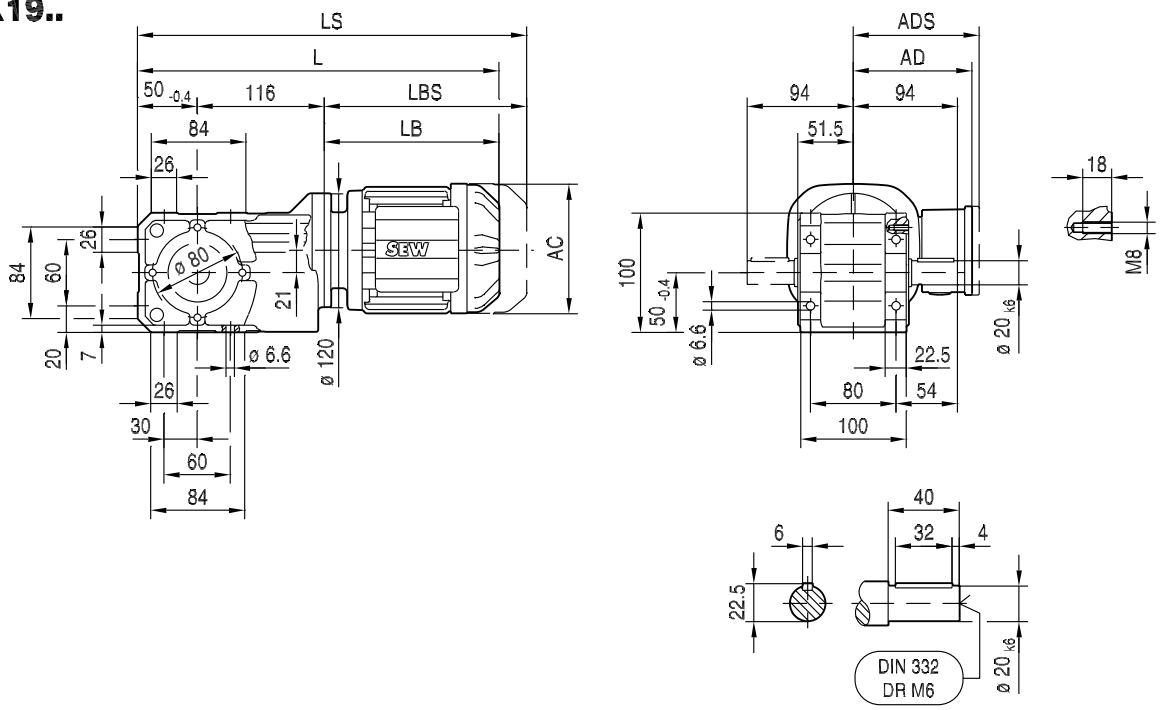
P_m = 200 kW												
n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC						m kg	
88	21600	20.32	83500	1.50	X	**K**	**167**	**(E)DRN**	**315H4**		2180	631
103	18400	17.34	83600	1.75	X	**KH**	**167**	**(E)DRN**	**315H4**		2140	632
						K	**157**	**(E)DRN**	**315H4**		1790	625
120	15900	14.92	37200	1.15	X	**KF**	**157**	**(E)DRN**	**315H4**		1860	626
142	13400	12.65	39100	1.25	X	**KA**	**157**	**(E)DRN**	**315H4**		1750	626
						KAF	**157**	**(E)DRN**	**315H4**		1810	626

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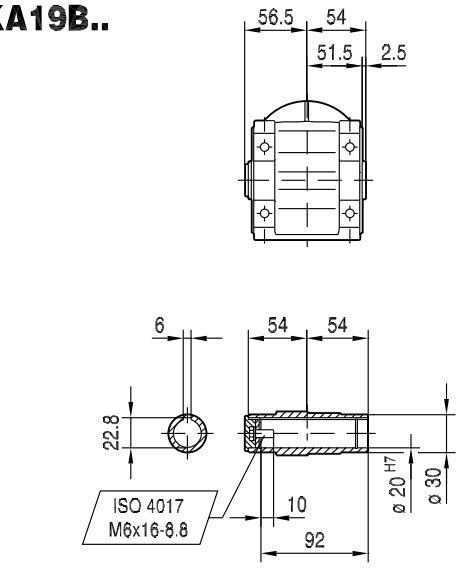
10.4 K..DRN.. dimension sheets in mm

33 008 00 15

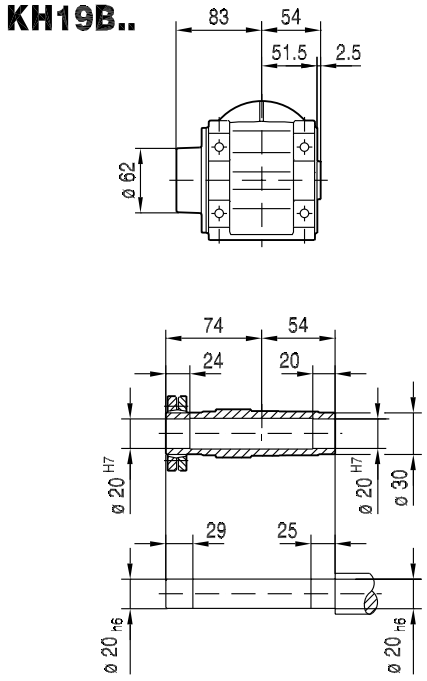
K19..



KA19B..



KH19B..

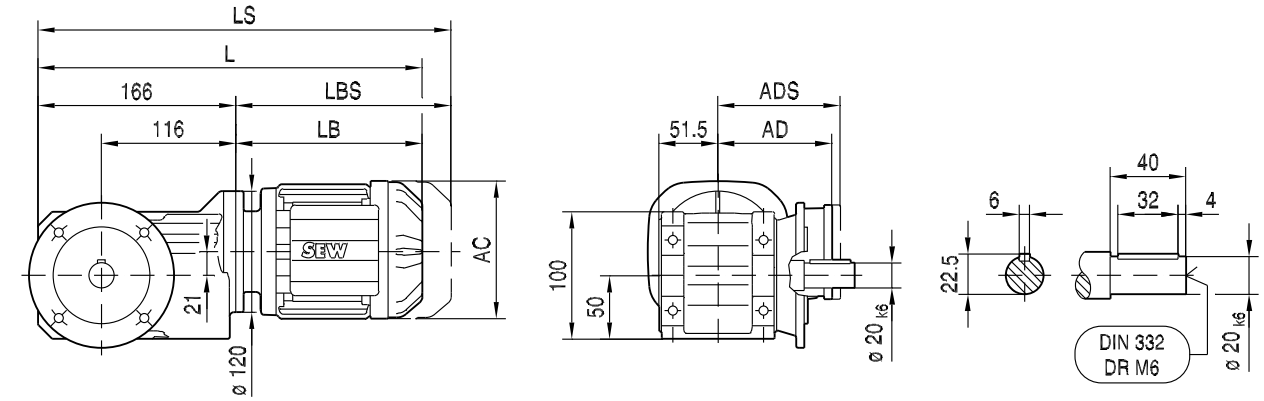


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S			
AC	132	139	139	156	179			
AD	105	119	119	128	140			
ADS	105	129	129	139	150			
L	357	368	393	448	449			
LS	412	436	461	529	543			
LB	191	202	227	282	283			
LBS	246	270	295	363	377			

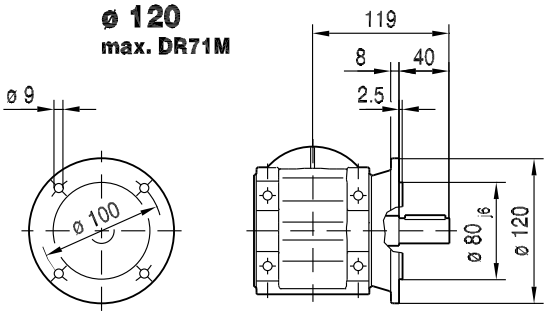
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33 009 00 15

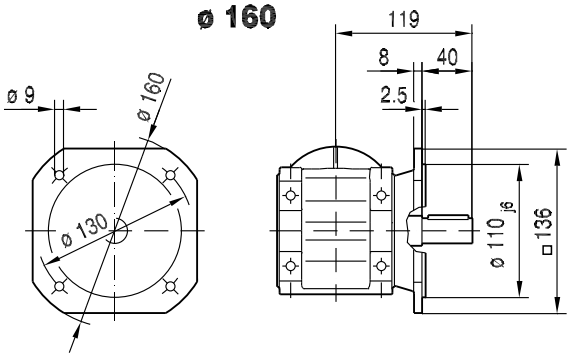
KF19B..



ø 120
max. DR71M

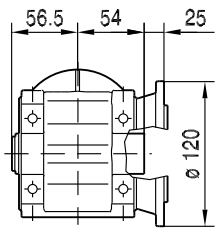


ø 160

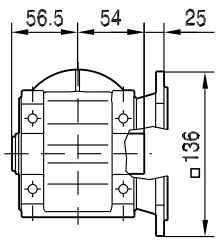


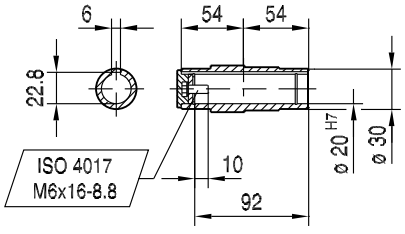
KAF19B..

ø 120
max. DR71M



ø 160



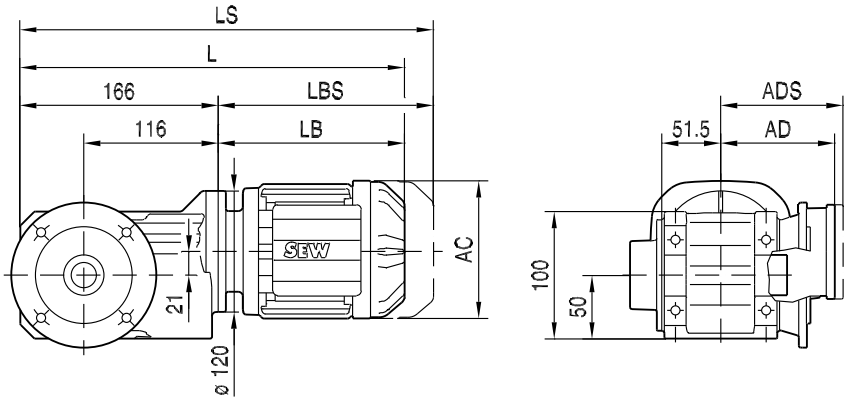


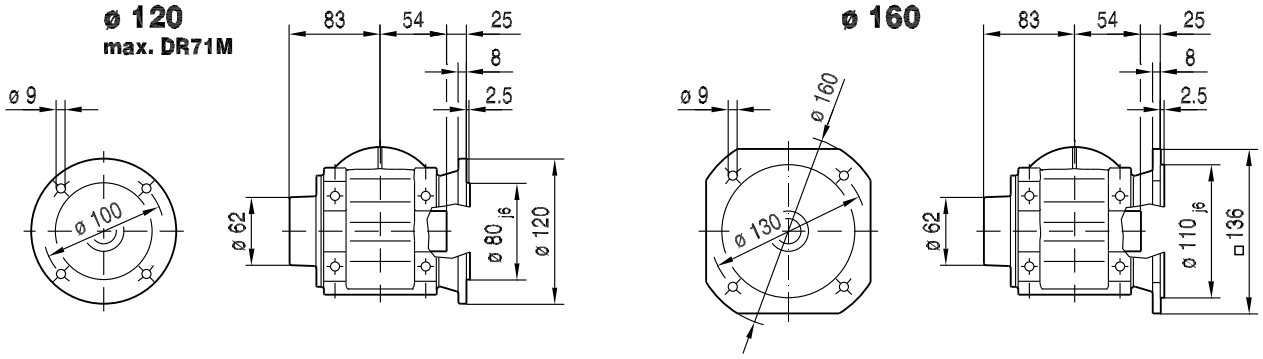
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S			
AC	132	139	139	156	179			
AD	105	119	119	128	140			
ADS	105	129	129	139	150			
L	357	368	393	448	449			
LS	412	436	461	529	543			
LB	191	202	227	282	283			
LBS	246	270	295	363	377			

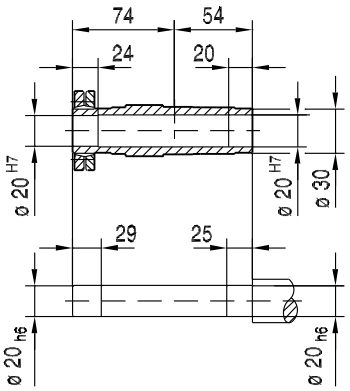
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33 010 00 15

KHF19B..





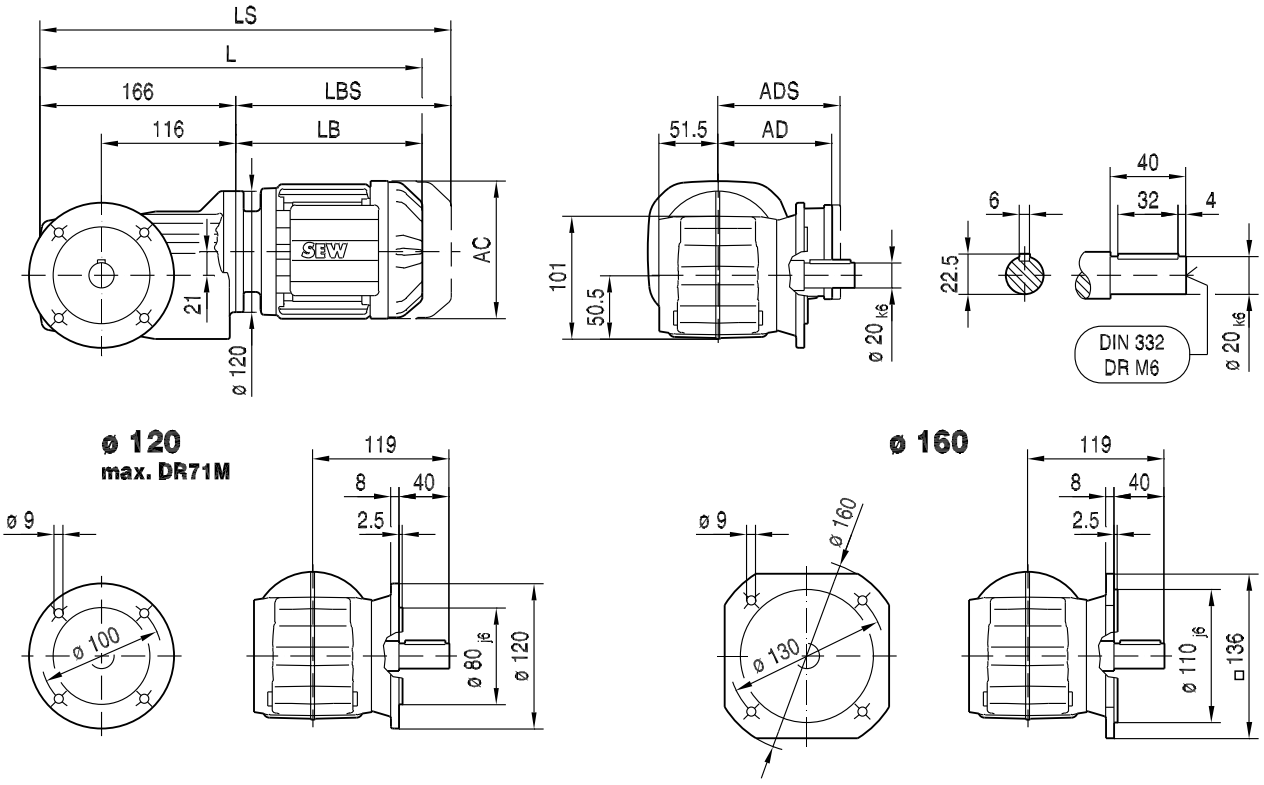


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S			
AC	132	139	139	156	179			
AD	105	119	119	128	140			
ADS	105	129	129	139	150			
L	357	368	393	448	449			
LS	412	436	461	529	543			
LB	191	202	227	282	283			
LBS	246	270	295	363	377			

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33 011 00 15

KF19..

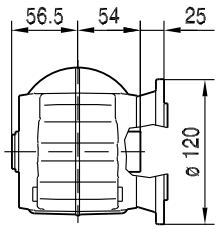


ø 120
max. DR71M

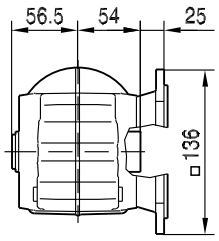
ø 160

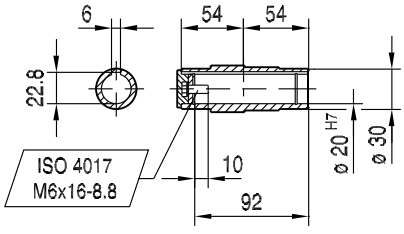
KAF19..

ø 120
max. DR71M



ø 160



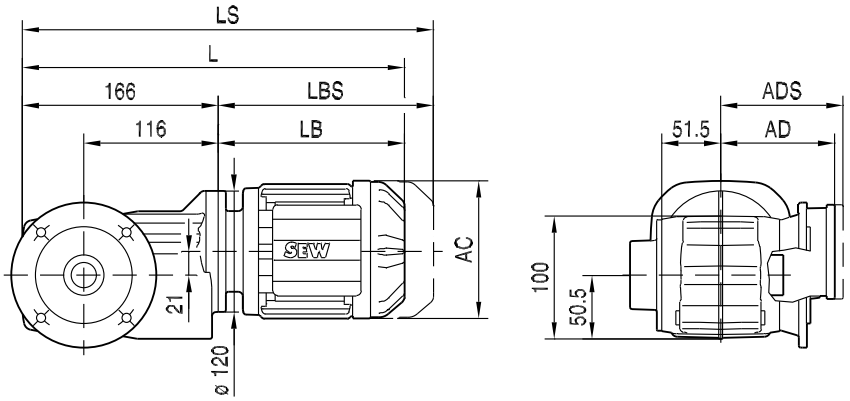


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S			
AC	132	139	139	156	179			
AD	105	119	119	128	140			
ADS	105	129	129	139	150			
L	357	368	393	448	449			
LS	412	436	461	529	543			
LB	191	202	227	282	283			
LBS	246	270	295	363	377			

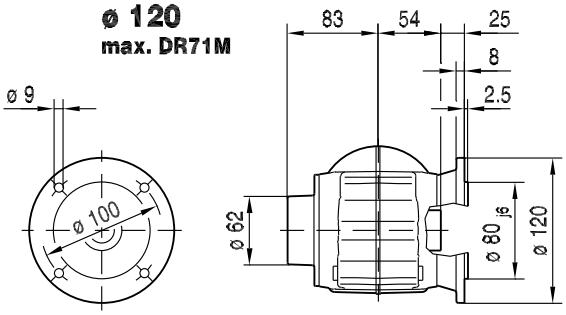
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33 013 00 15

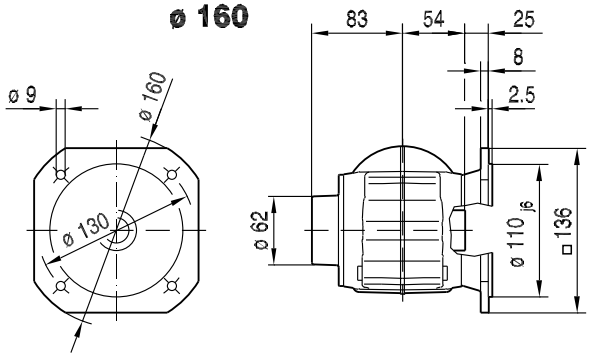
KHF19..

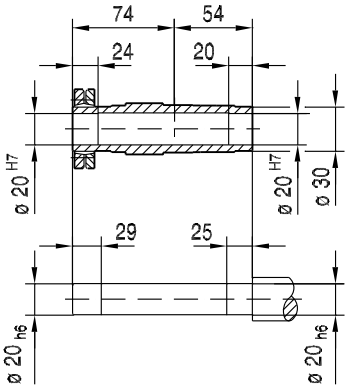


ø 120
max. DR71M



ø 160



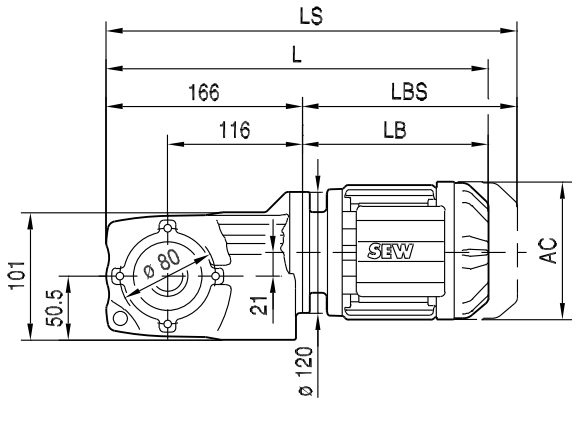


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S			
AC	132	139	139	156	179			
AD	105	119	119	128	140			
ADS	105	129	129	139	150			
L	357	368	393	448	449			
LS	412	436	461	529	543			
LB	191	202	227	282	283			
LBS	246	270	295	363	377			

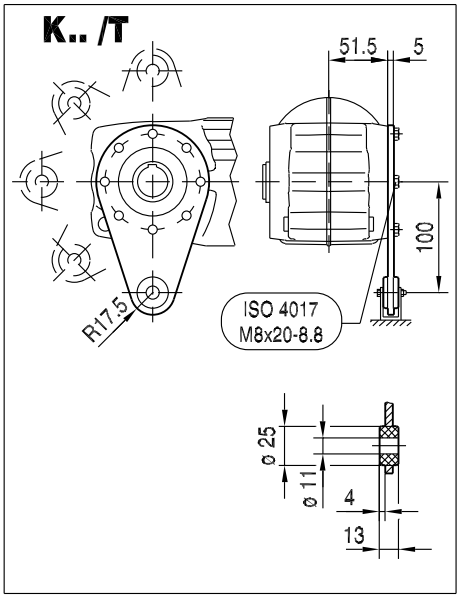
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33 014 00 15

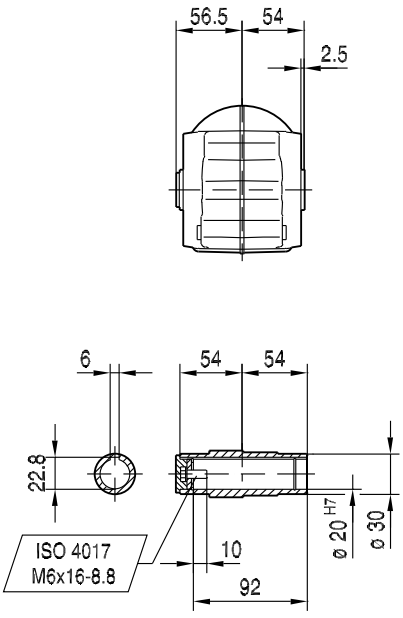
KA19..



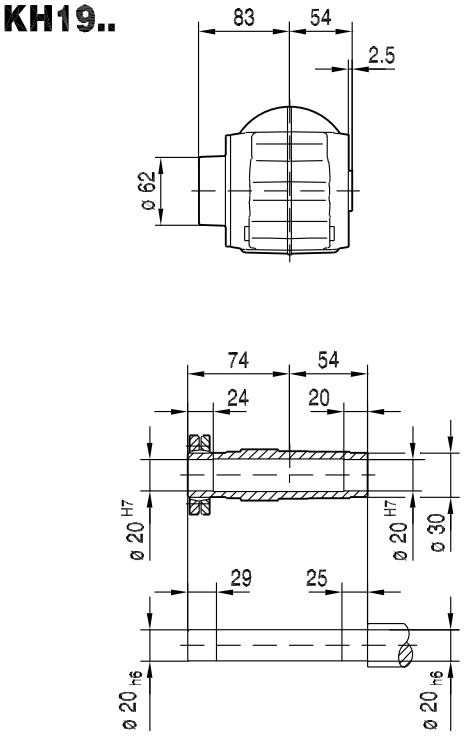
K.. /T



KA19..



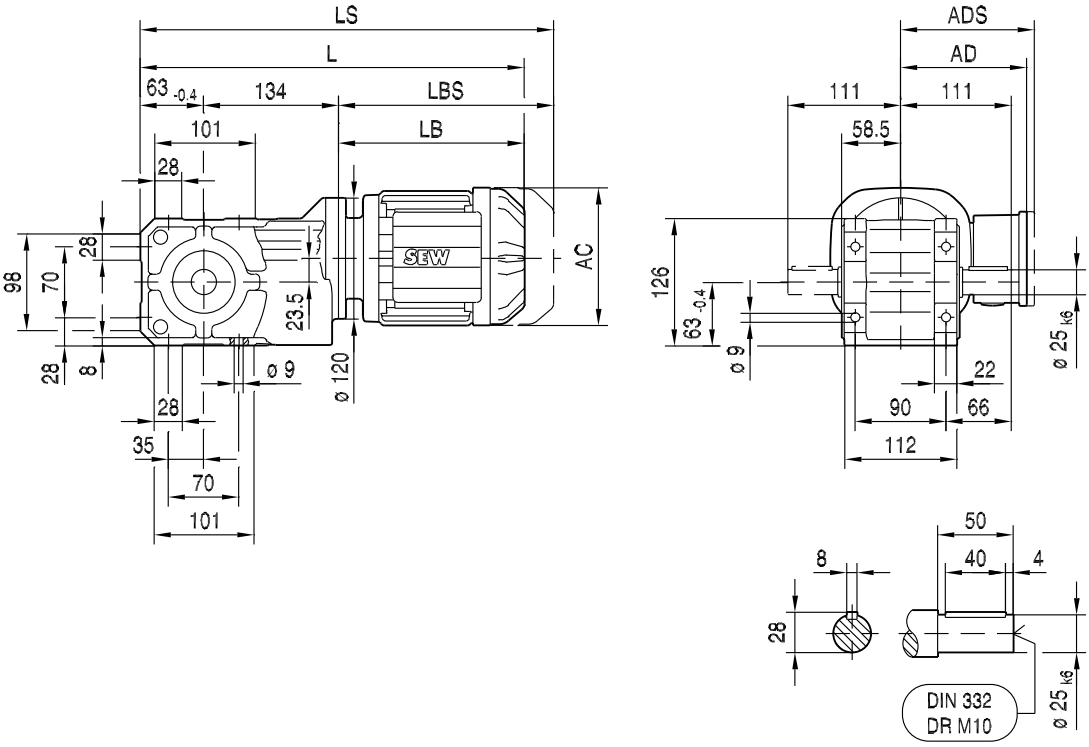
KH19..



(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S			
AC	132	139	139	156	179			
AD	105	119	119	128	140			
ADS	105	129	129	139	150			
L	357	368	393	448	449			
LS	412	436	461	529	543			
LB	191	202	227	282	283			
LBS	246	270	295	363	377			

33 015 01 15

K29..

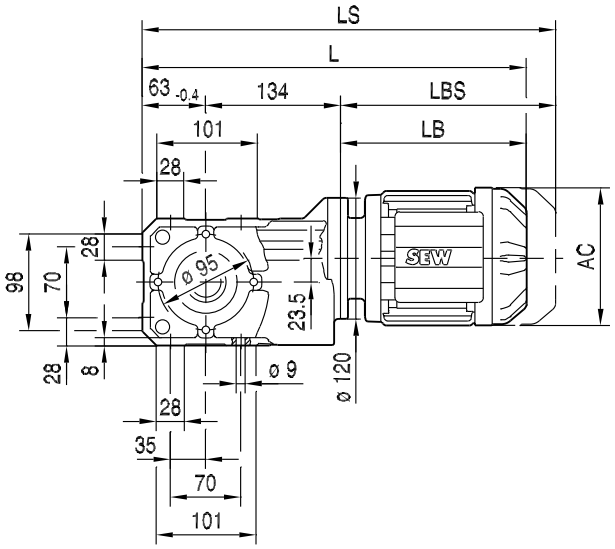


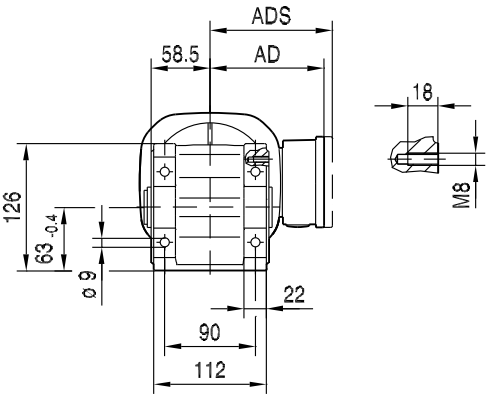
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	388	399	424	479	480	512		
LS	443	467	492	560	574	606		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

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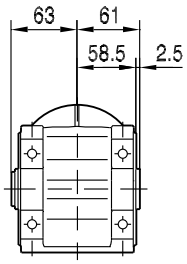
33 364 00 15

KA29B..

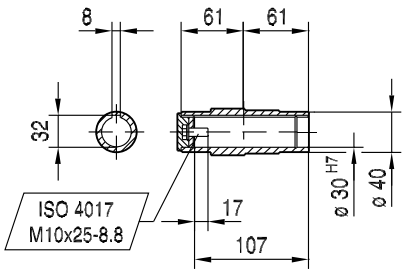




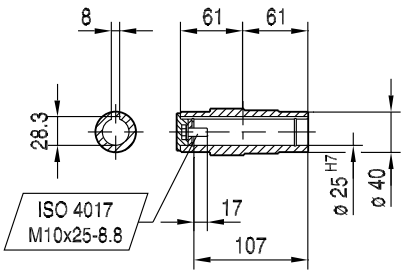
KA29B..



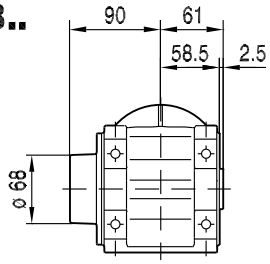
ø 30 H7
DIN 6885-3

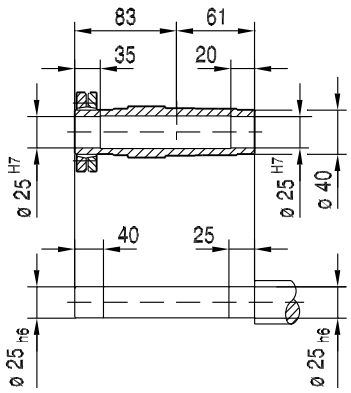


ø 25 H7



KH29B..



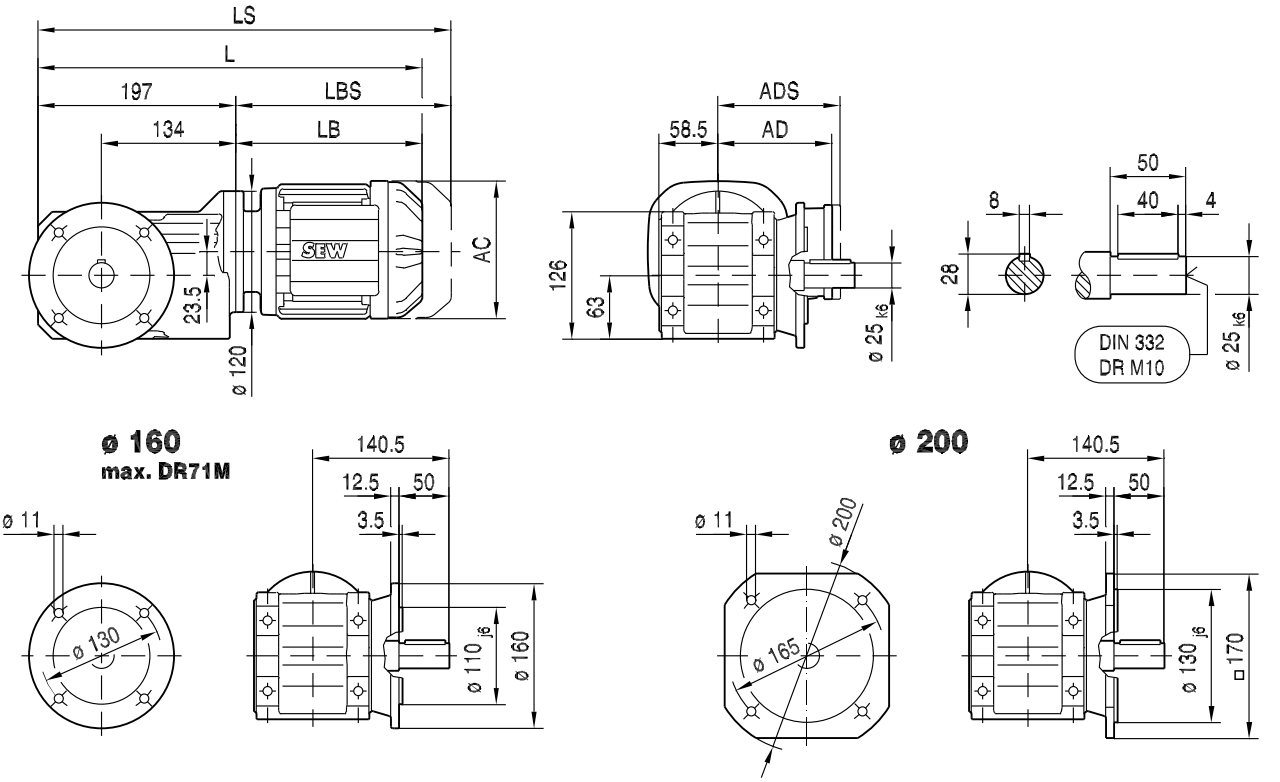


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	388	399	424	479	480	512		
LS	443	467	492	560	574	606		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

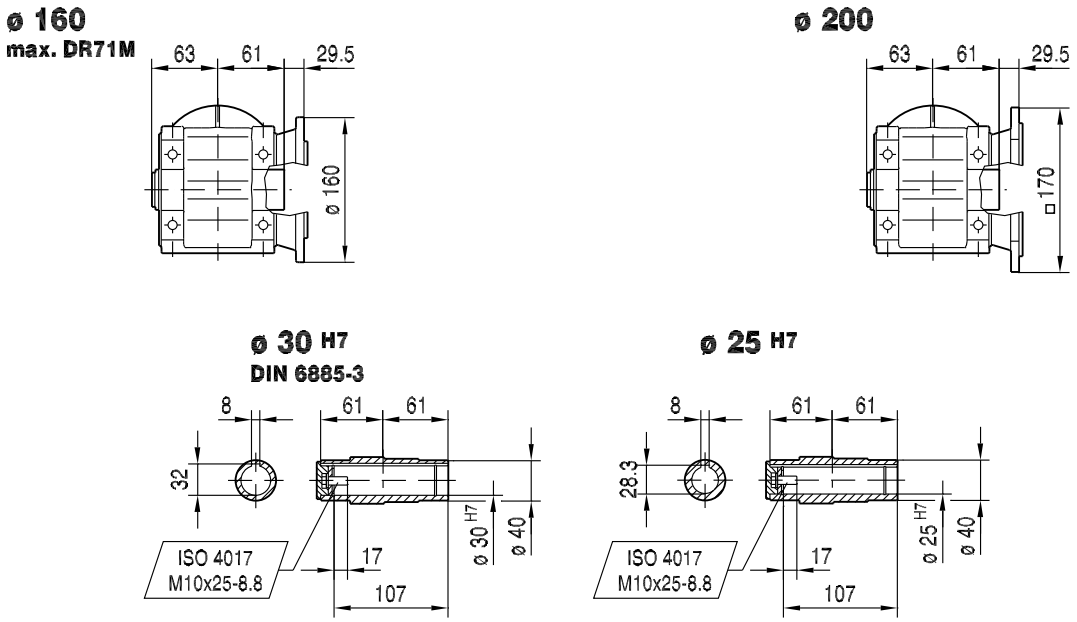
22742654/EN – 08/2016

33 016 00 15

KF29B..



KAF29B..

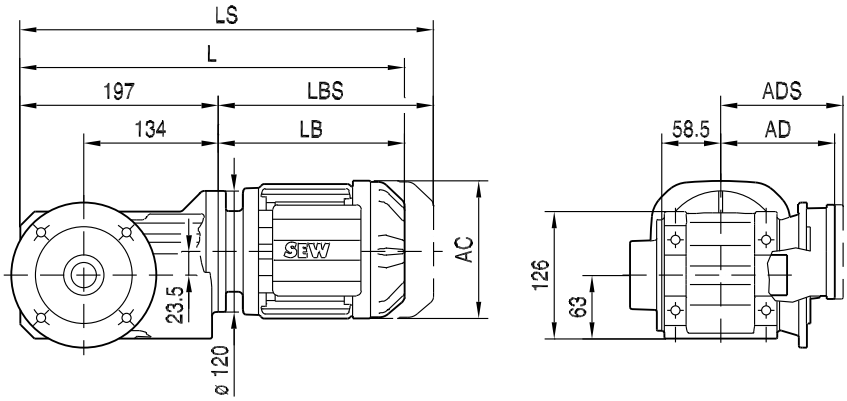


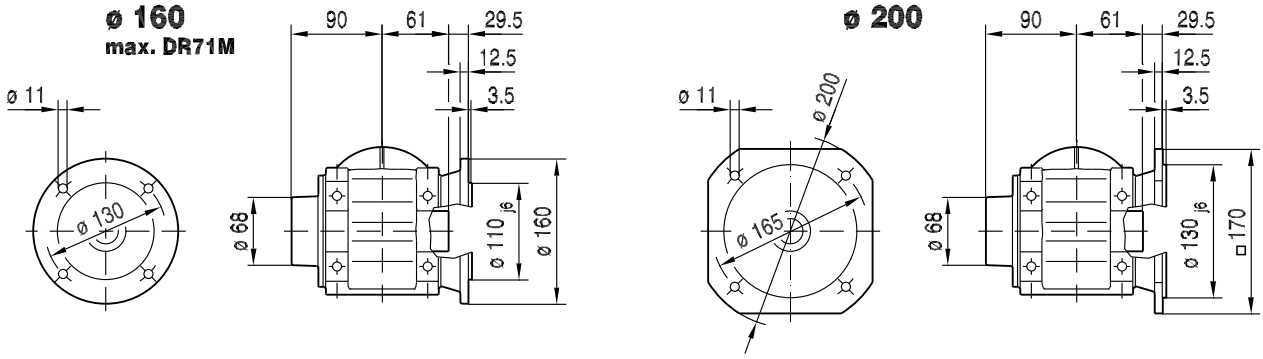
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	388	399	424	479	480	512		
LS	443	467	492	560	574	606		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

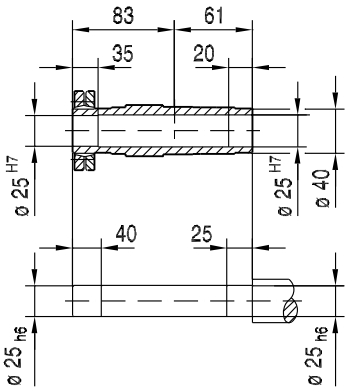
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33 017 00 15

KHF29B..





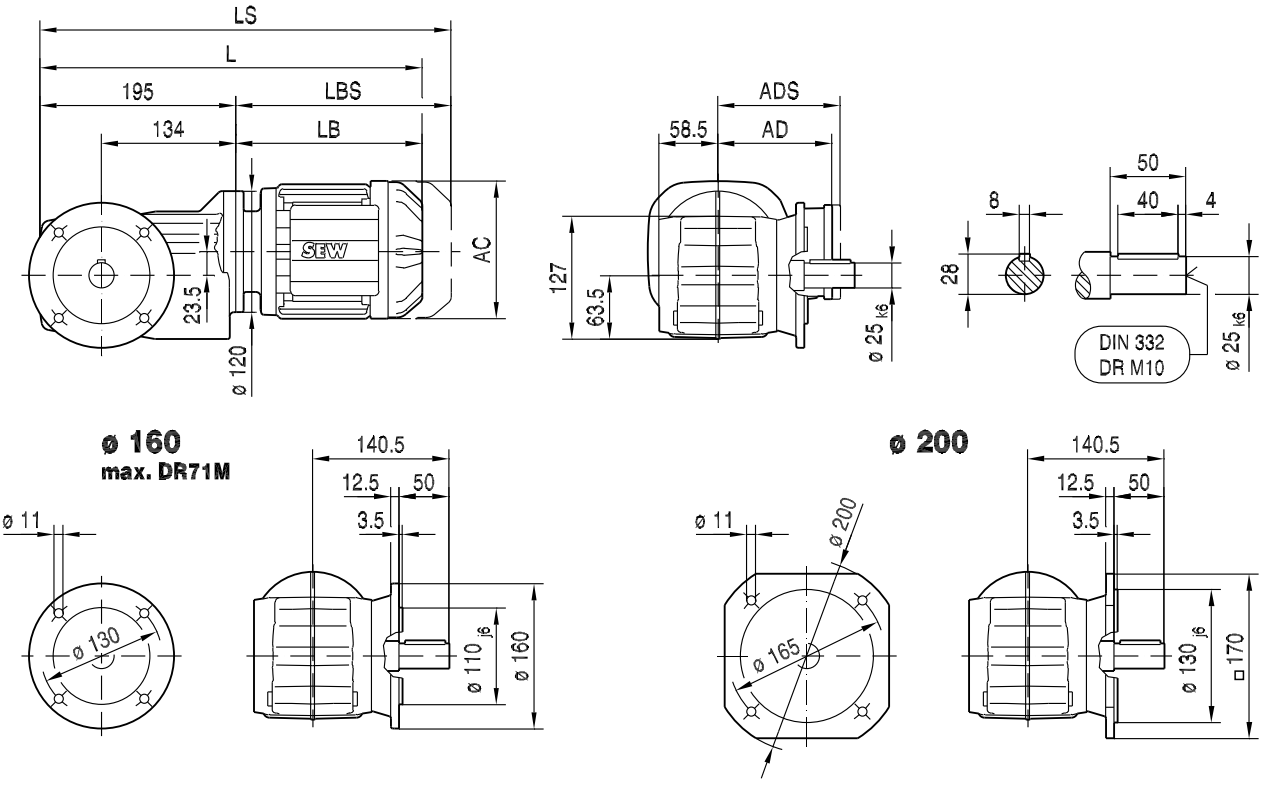


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	388	399	424	479	480	512		
LS	443	467	492	560	574	606		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

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33 018 00 15

KF29..

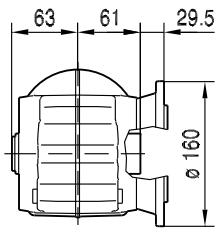


ø 160
max. DR71M

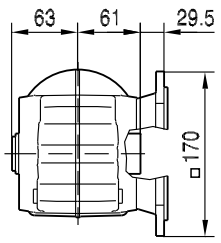
ø 200

KAF29..

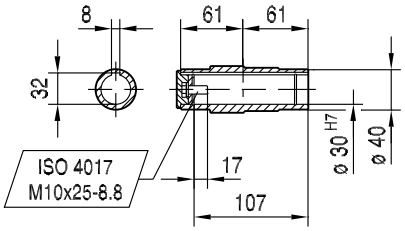
ø 160
max. DR71M



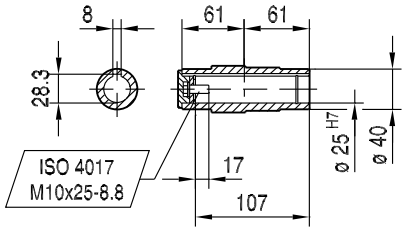
ø 200



ø 30 H7
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ø 25 H7

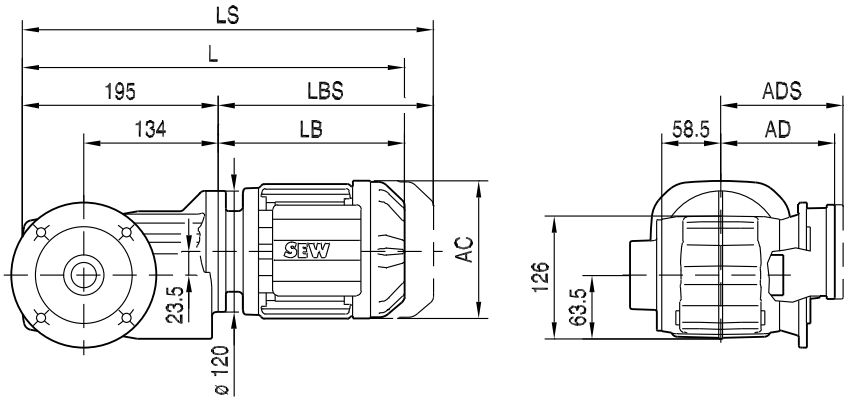


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	386	397	422	477	478	510		
LS	441	465	490	558	572	604		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

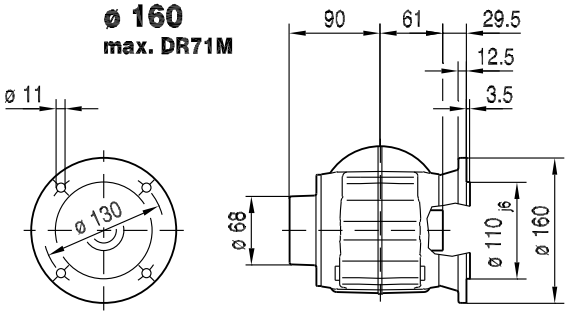
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33 019 00 15

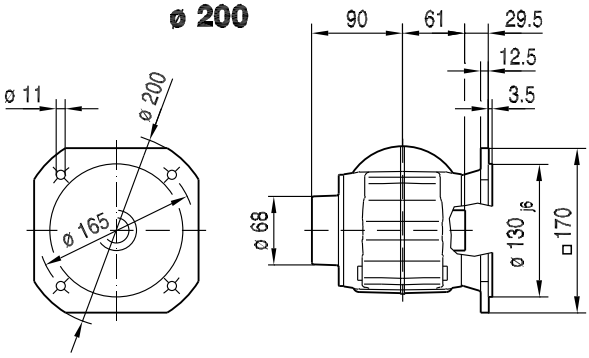
KHF29..

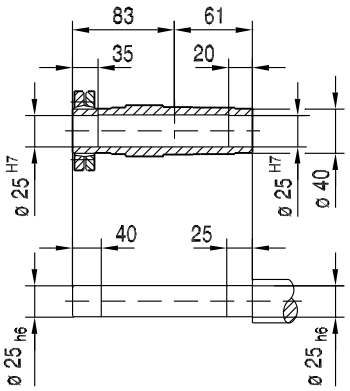


ø 160
max. DR71M



ø 200



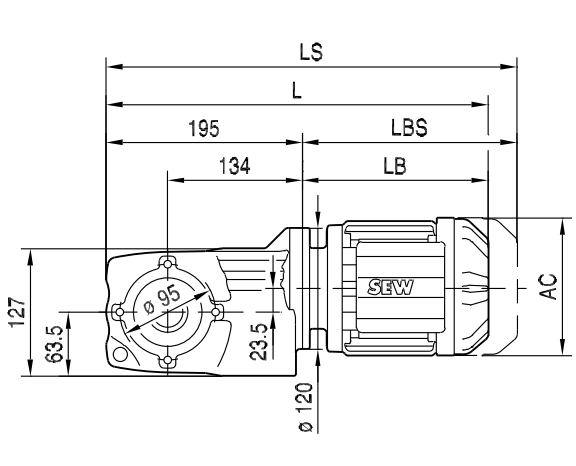


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	386	397	422	477	478	510		
LS	441	465	490	558	572	604		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

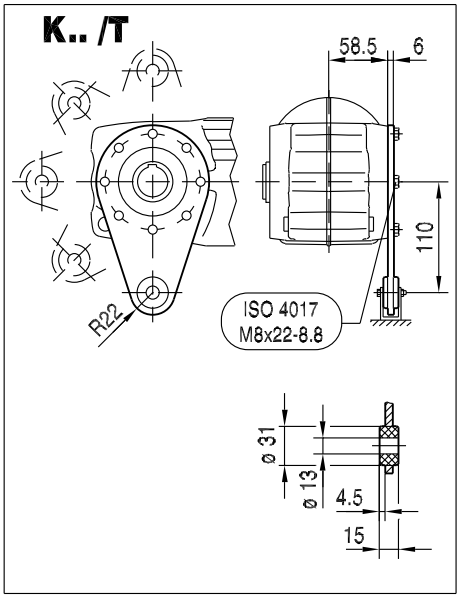
22742654/EN – 08/2016

33 020 00 15

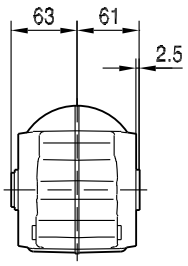
KA29..



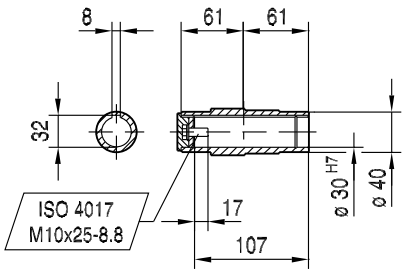
K.. /T



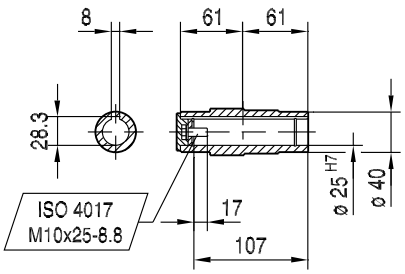
KA29..



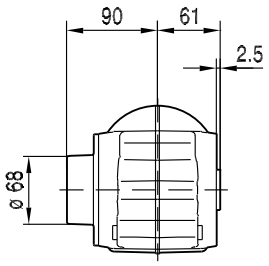
ø 30 H7
DIN 6885-3

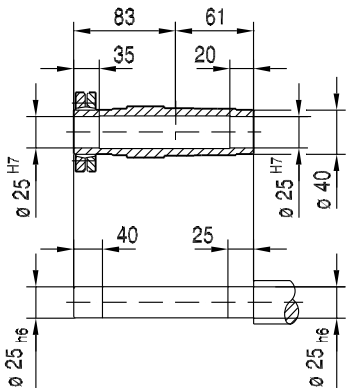


ø 25 H7



KH29..



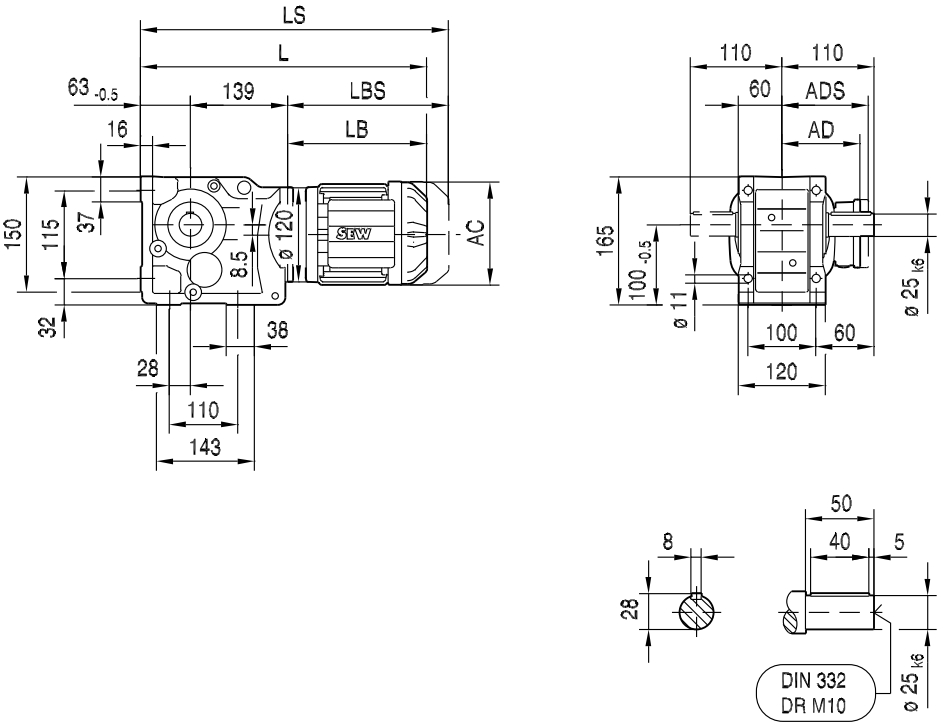


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	386	397	422	477	478	510		
LS	441	465	490	558	572	604		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

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33 037 00 14

K37..

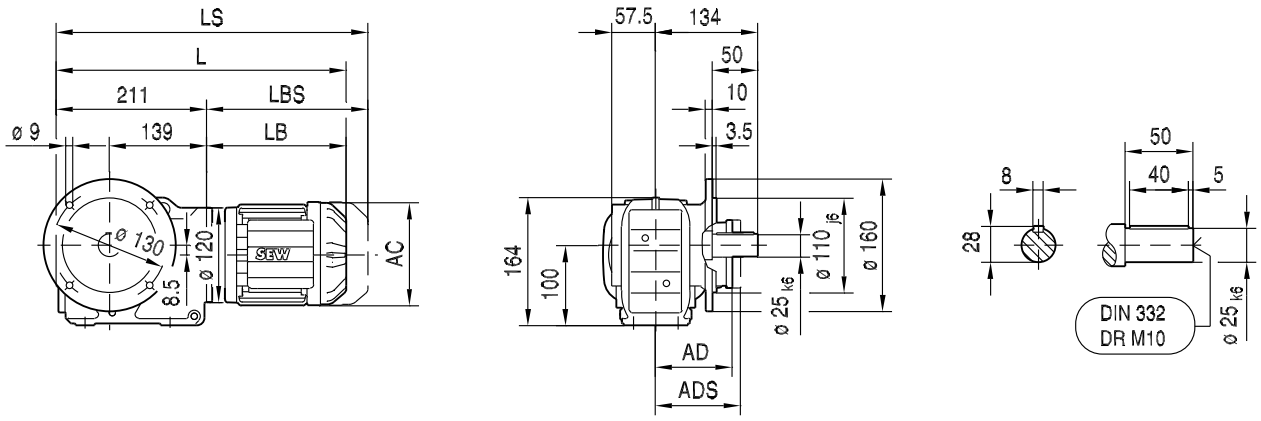


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	393	404	429	484	485	517	516	566
LS	448	472	497	565	579	611	610	660
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

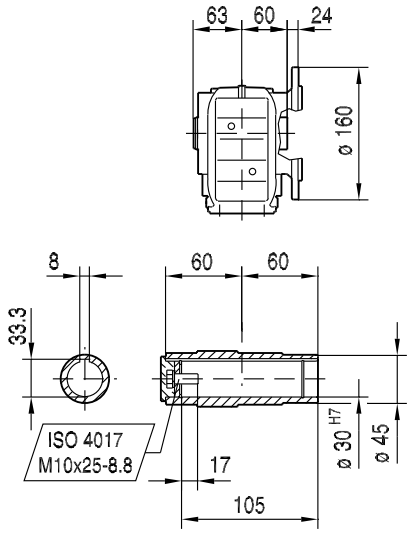
22742654/EN – 08/2016

33 038 00 14

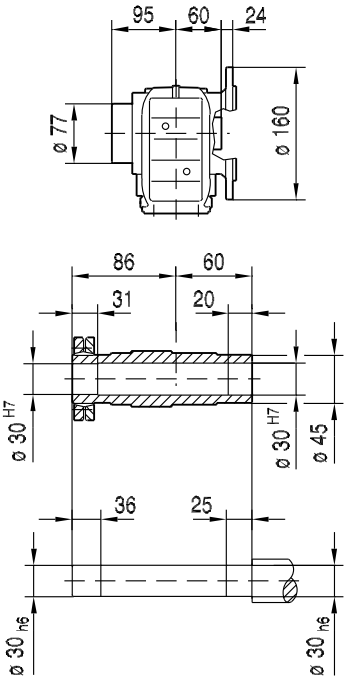
KF37..



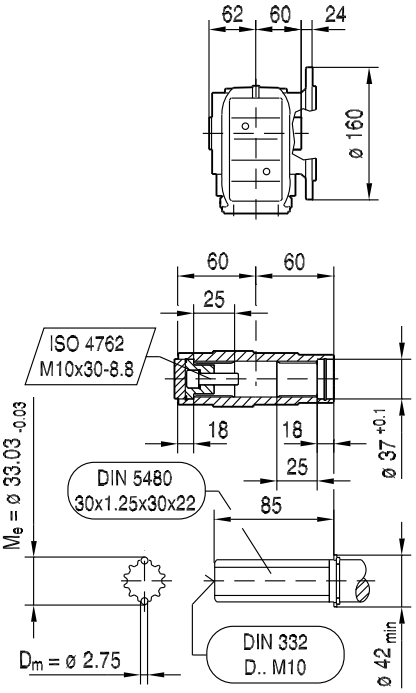
KAF37..



KHF37..



KVF37..

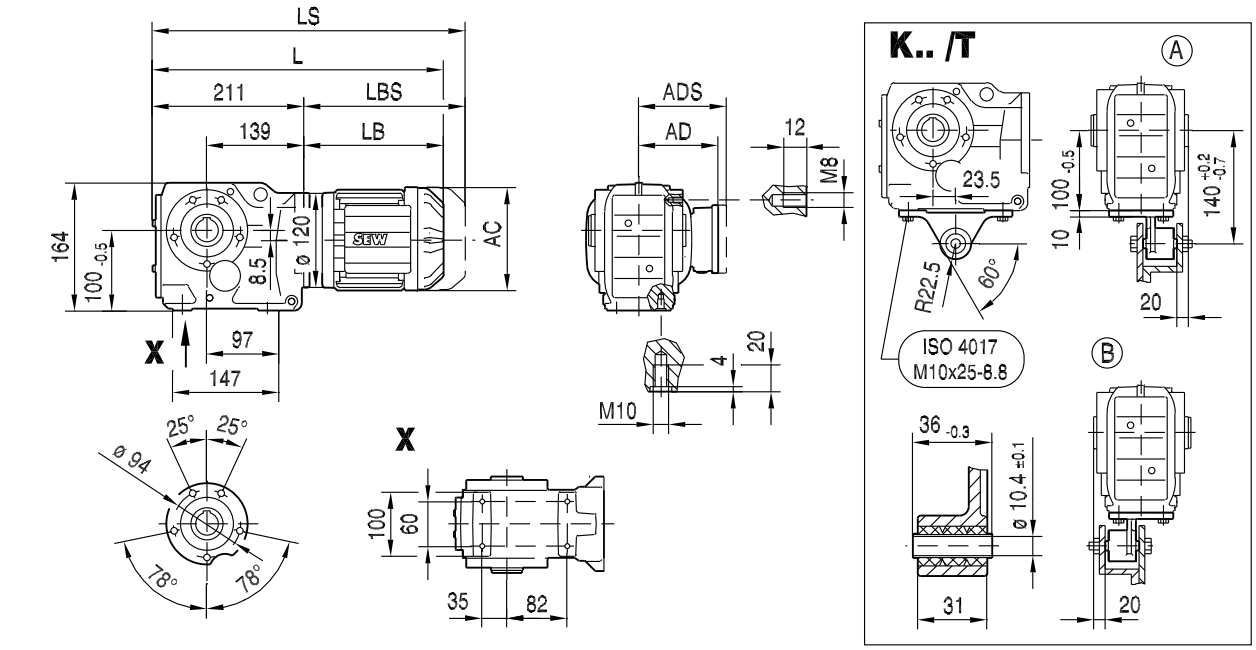


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	402	413	438	493	494	526	525	575
LS	457	481	506	574	588	620	619	669
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

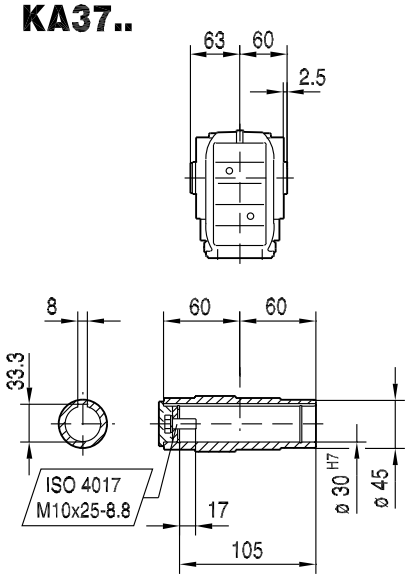
22742654/EN – 08/2016

33 039 00 14

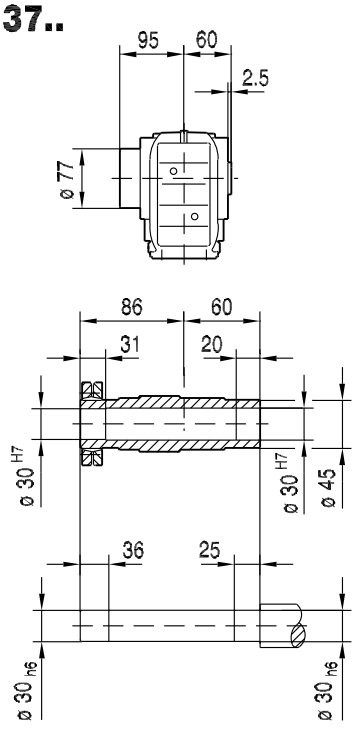
KA37..



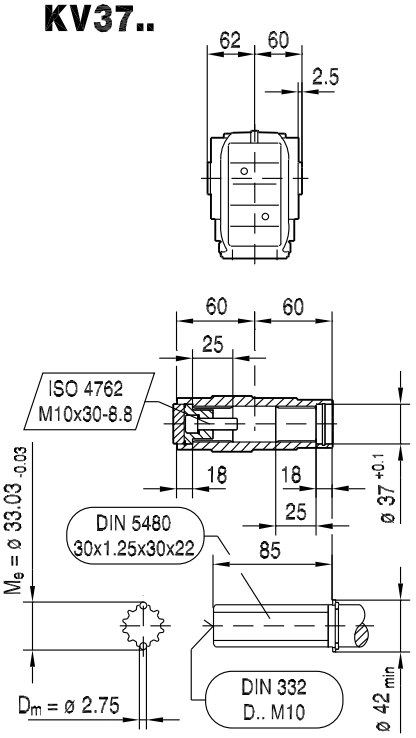
KA37..



KH37..



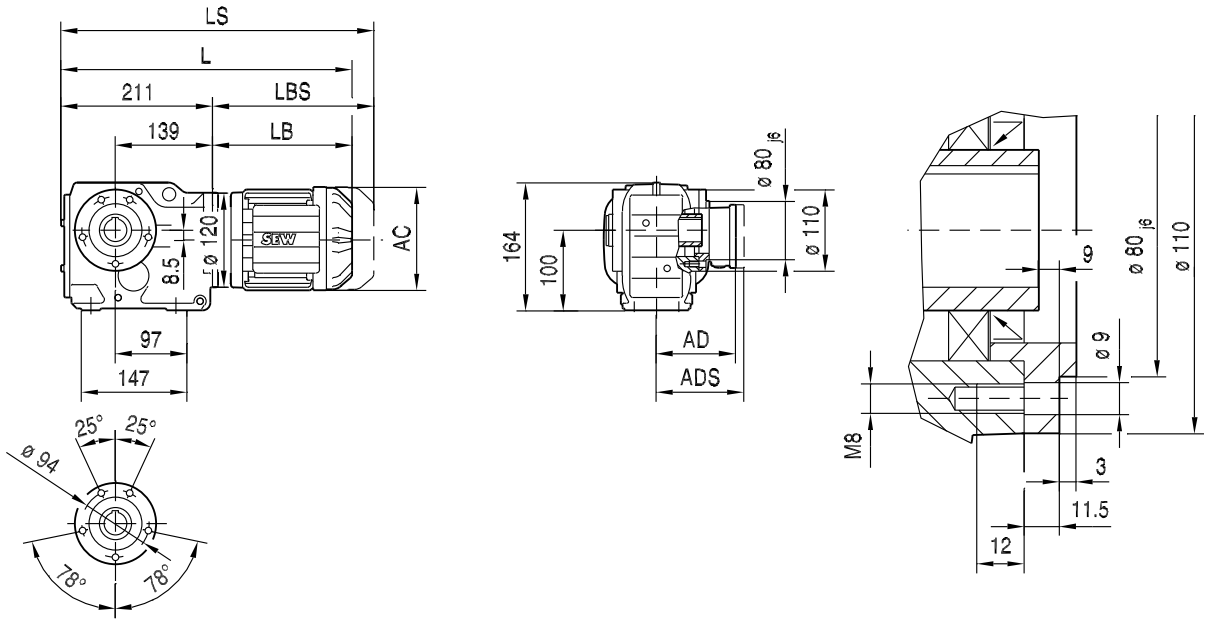
KV37..



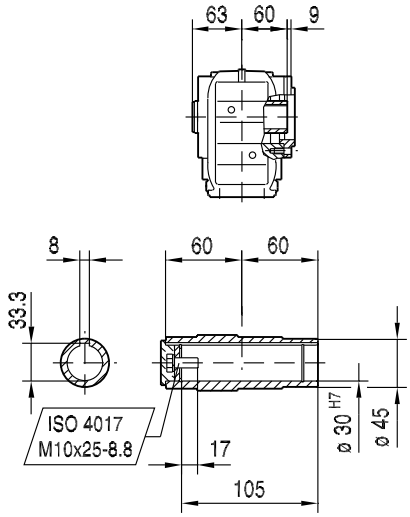
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	402	413	438	493	494	526	525	575
LS	457	481	506	574	588	620	619	669
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

KAZ37..

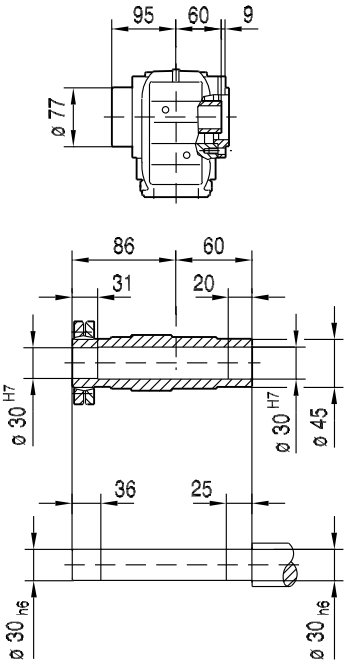
33 040 00 14



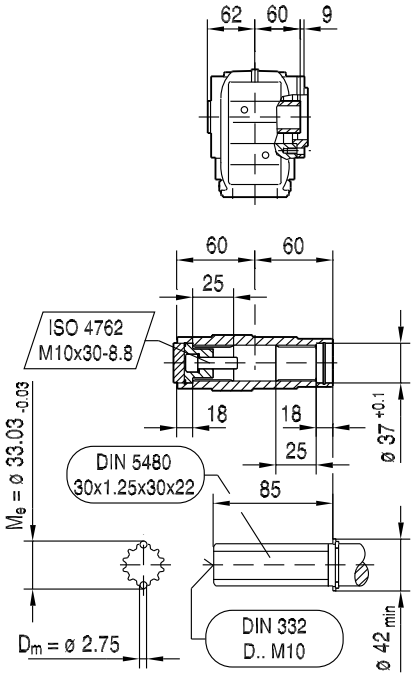
KAZ37..



KHZ37..



KVZ37..

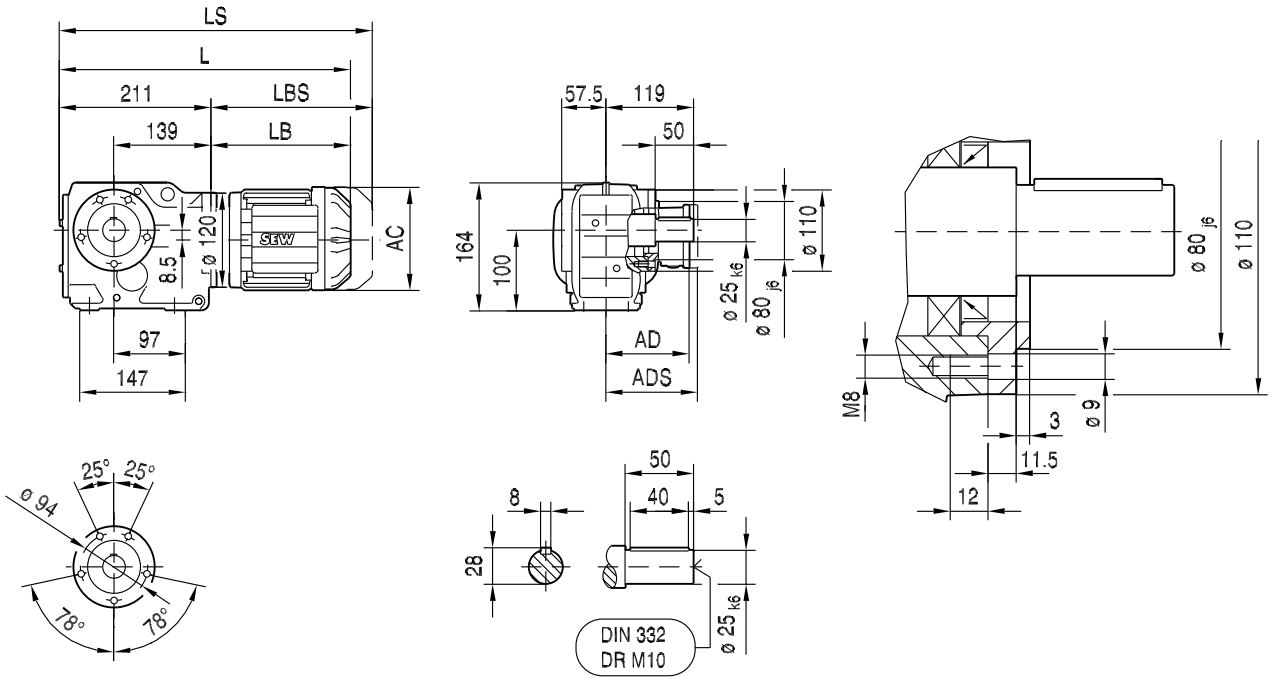


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	402	413	438	493	494	526	525	575
LS	457	481	506	574	588	620	619	669
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

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KZ37..

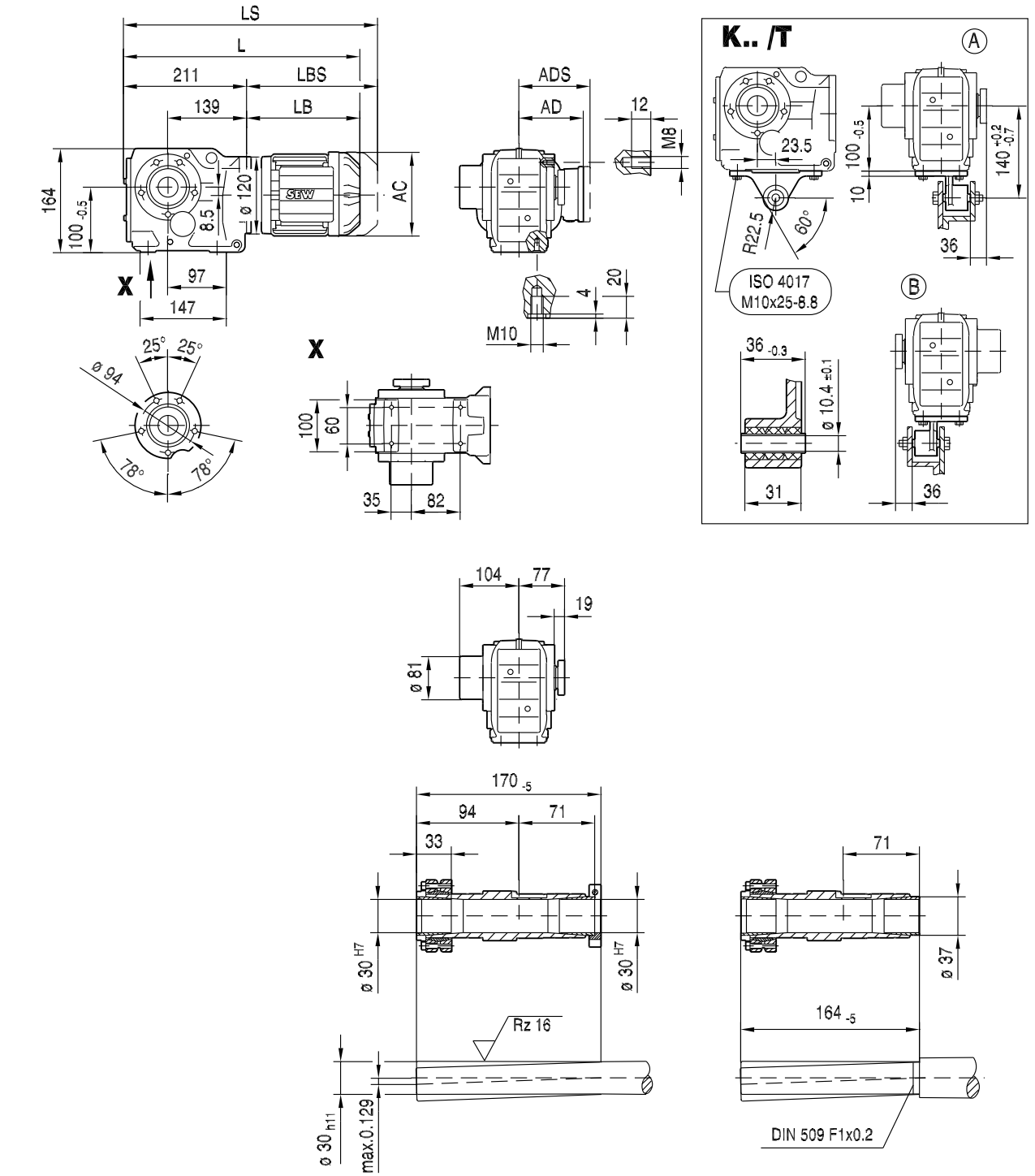
33 232 00 15



(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	402	413	438	493	494	526	525	575
LS	457	481	506	574	588	620	619	669
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

KT37..

33 041 00 14

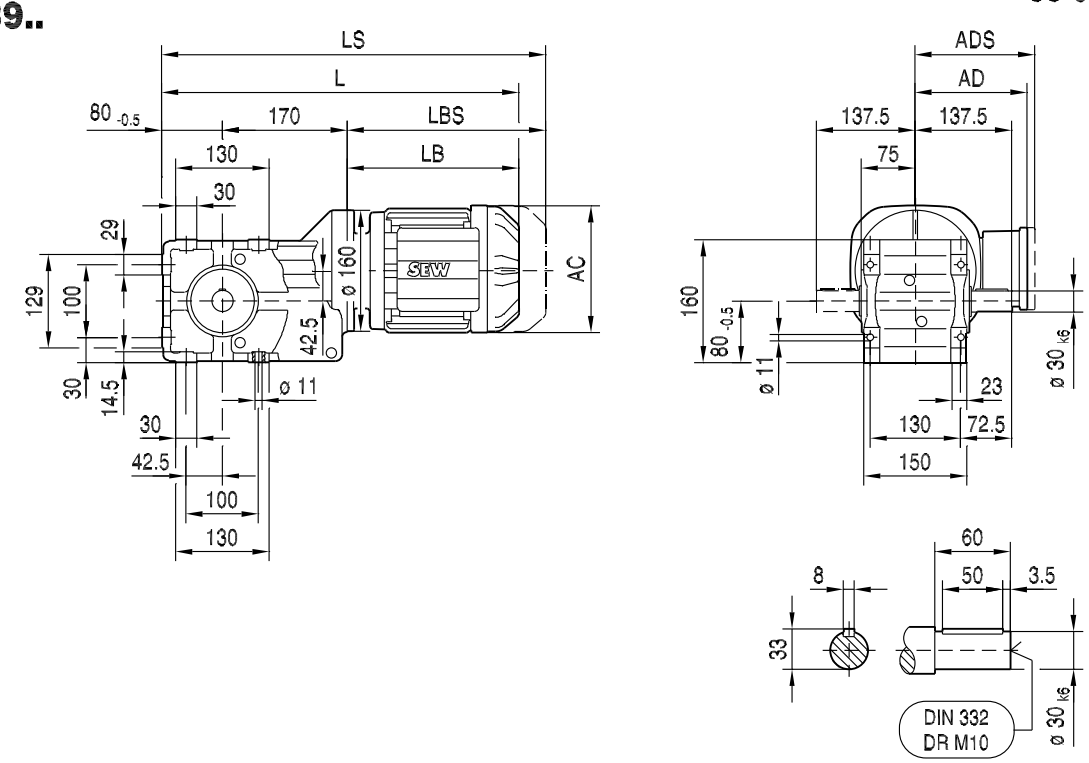


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	402	413	438	493	494	526	525	575
LS	457	481	506	574	588	620	619	669
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

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33 021 00 14

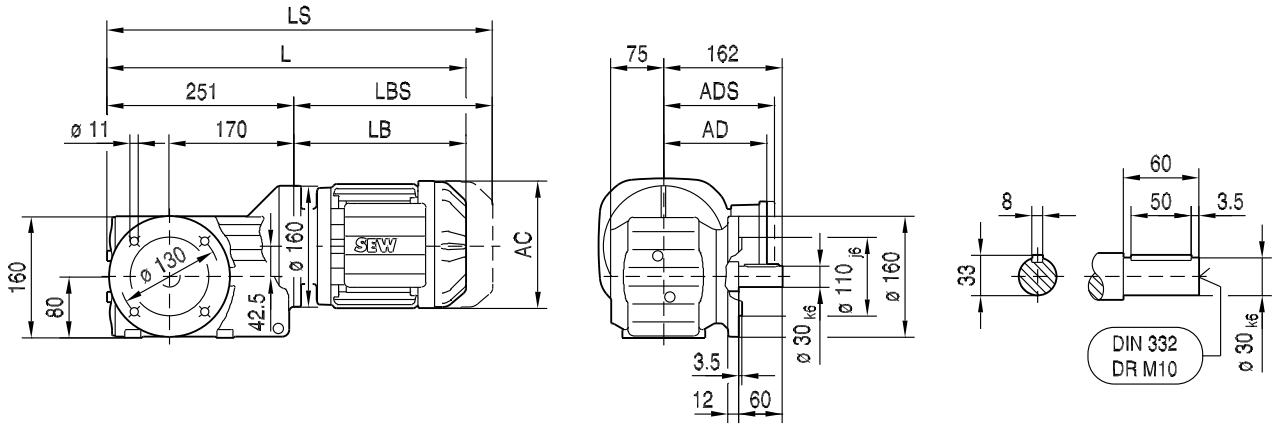
K39..



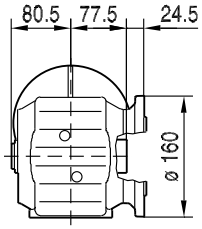
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M
AC	132	139	139	156	179	179	197	197	221
AD	105	119	119	128	140	140	157	157	170
ADS	105	129	129	139	150	150	158	158	172
L	435	446	471	525	527	559	555	605	636
LS	490	514	539	606	620	652	649	699	748
LB	185	196	221	275	277	309	305	355	386
LBS	240	264	289	356	370	402	399	449	498

33 022 00 14

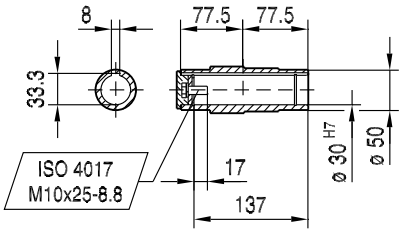
KF39..



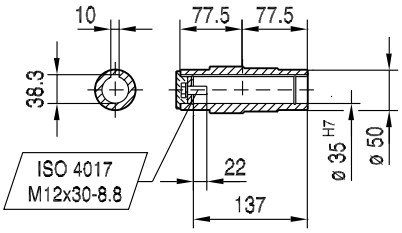
KAF39..



ø 30 H7



ø 35 H7

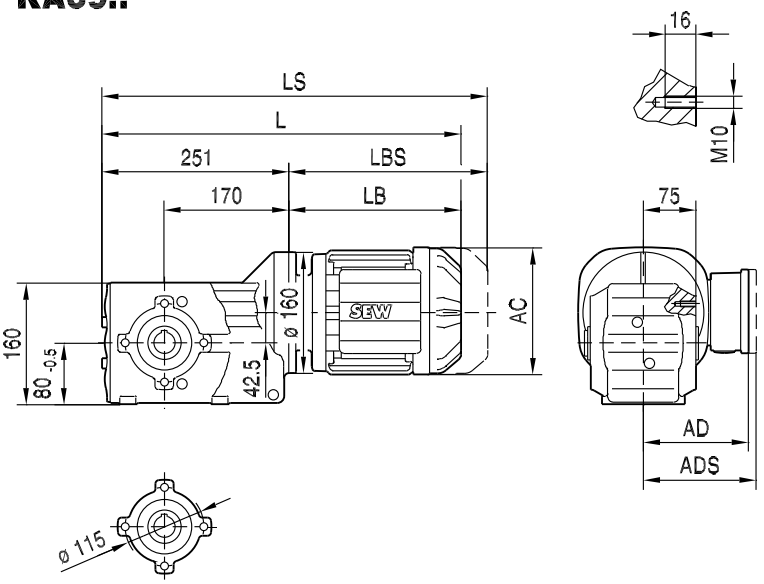


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M
AC	132	139	139	156	179	179	197	197	221
AD	105	119	119	128	140	140	157	157	170
ADS	105	129	129	139	150	150	158	158	172
L	436	447	472	526	528	560	556	606	637
LS	491	515	540	607	621	653	650	700	749
LB	185	196	221	275	277	309	305	355	386
LBS	240	264	289	356	370	402	399	449	498

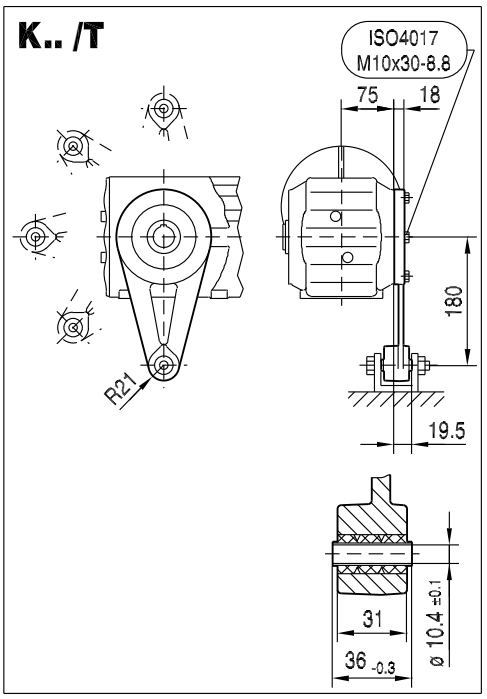
22742654/EN – 08/2016

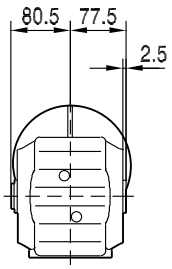
33 023 00 14

KA39..

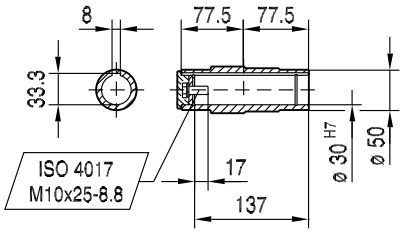


K.. /T

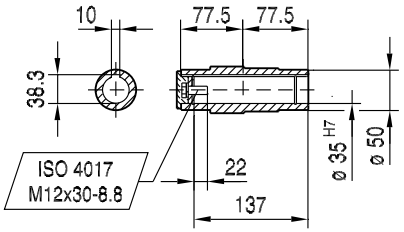




ø 30 H7



ø 35 H7

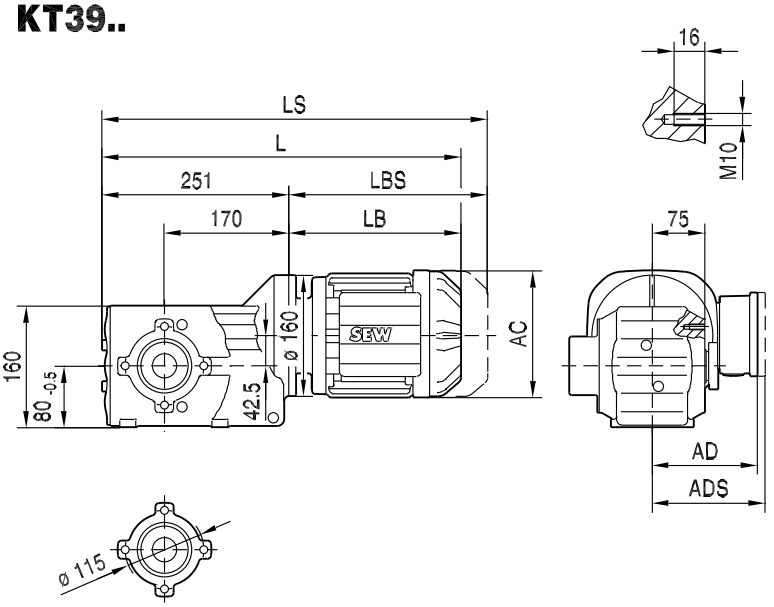


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M
AC	132	139	139	156	179	179	197	197	221
AD	105	119	119	128	140	140	157	157	170
ADS	105	129	129	139	150	150	158	158	172
L	436	447	472	526	528	560	556	606	637
LS	491	515	540	607	621	653	650	700	749
LB	185	196	221	275	277	309	305	355	386
LBS	240	264	289	356	370	402	399	449	498

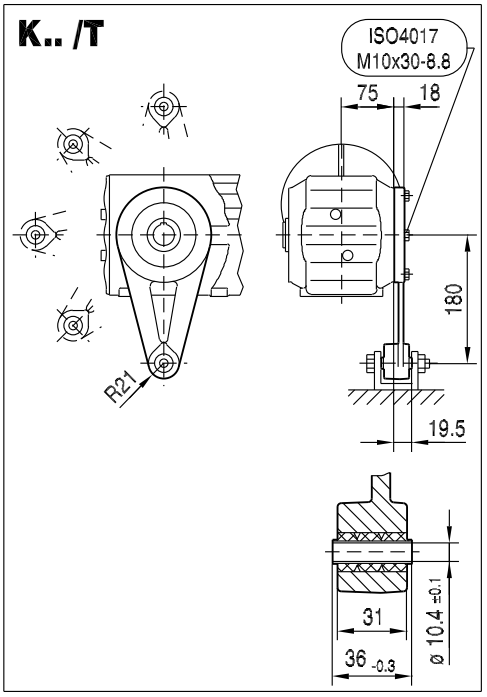
22742654/EN – 08/2016

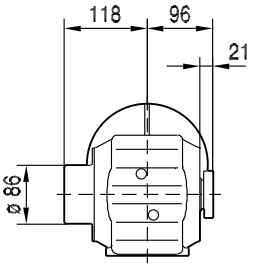
33 024 00 14

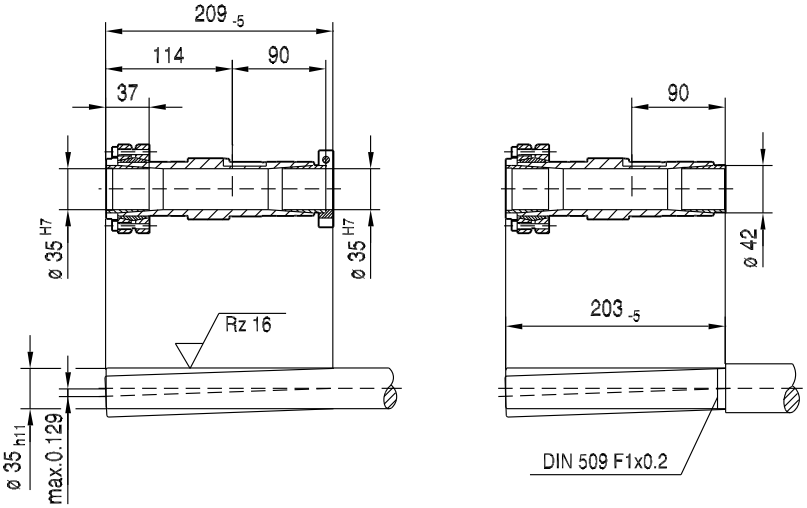
KT39..



K.. /T





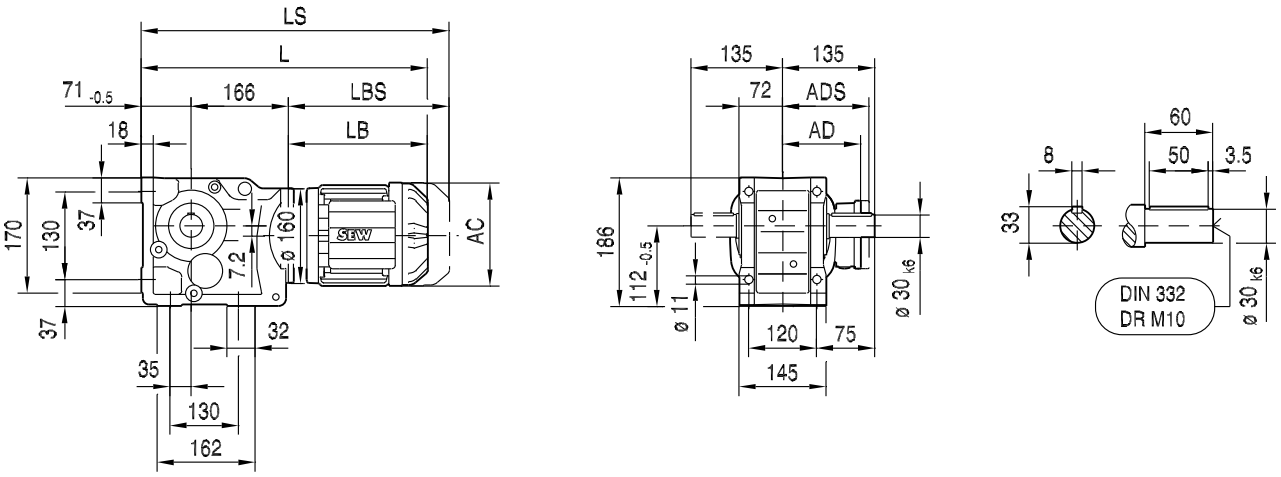


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M
AC	132	139	139	156	179	179	197	197	221
AD	105	119	119	128	140	140	157	157	170
ADS	105	129	129	139	150	150	158	158	172
L	436	447	472	526	528	560	556	606	637
LS	491	515	540	607	621	653	650	700	749
LB	185	196	221	275	277	309	305	355	386
LBS	240	264	289	356	370	402	399	449	498

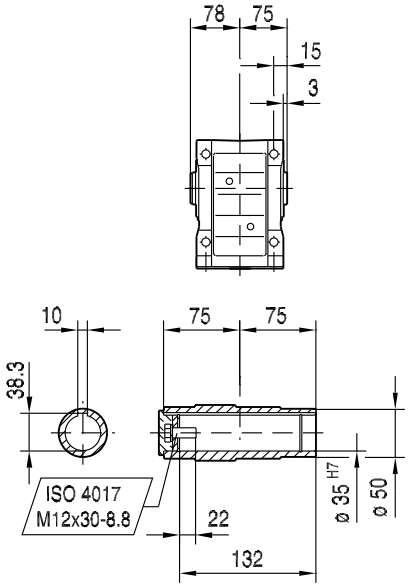
22742654/EN – 08/2016

K47..

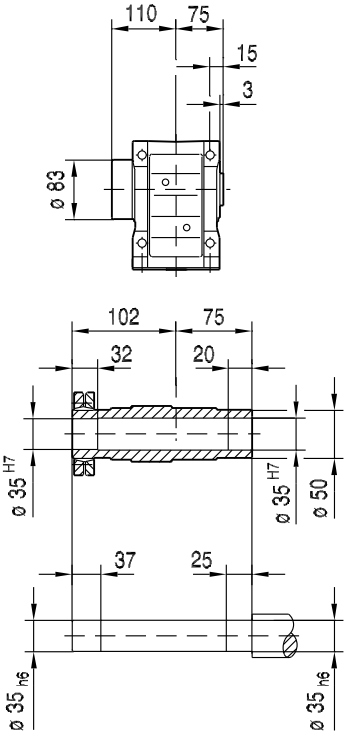
33 042 00 14



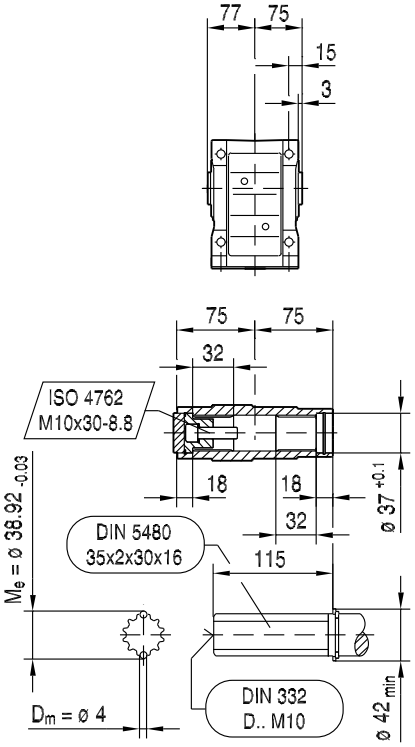
KA47B..



KH47B..



KV47B..

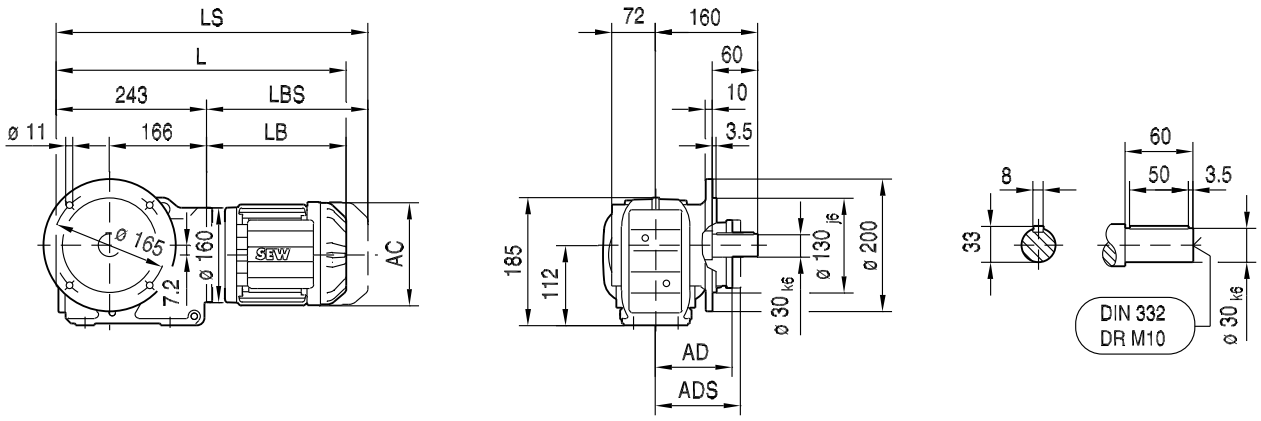


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	422	433	458	512	514	546	542	592
LS	477	501	526	593	607	639	636	686
LB	185	196	221	275	277	309	305	355
LBS	240	264	289	356	370	402	399	449

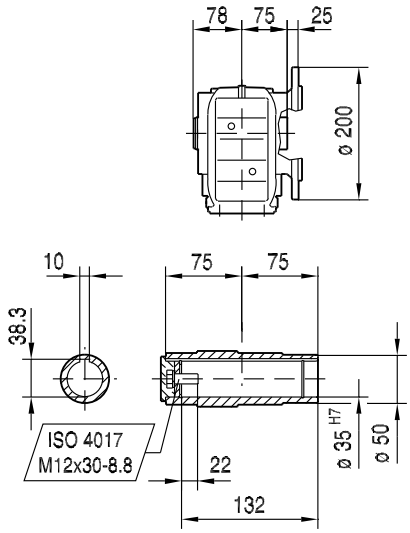
22742654/EN – 08/2016

33 043 00 14

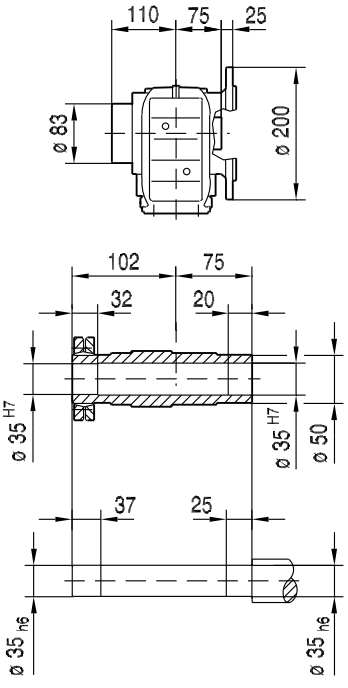
KF47..



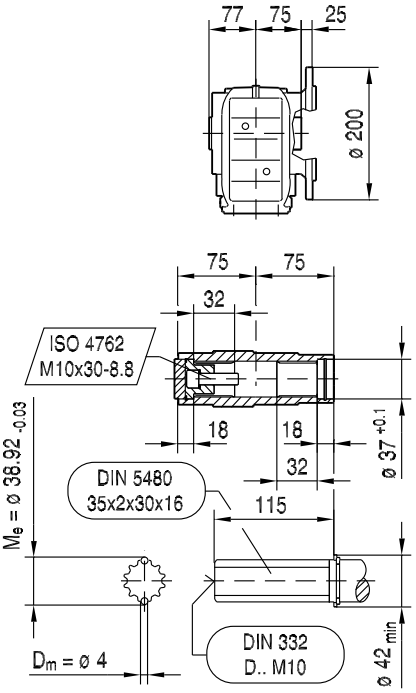
KAF47..



KHF47..



KVF47..

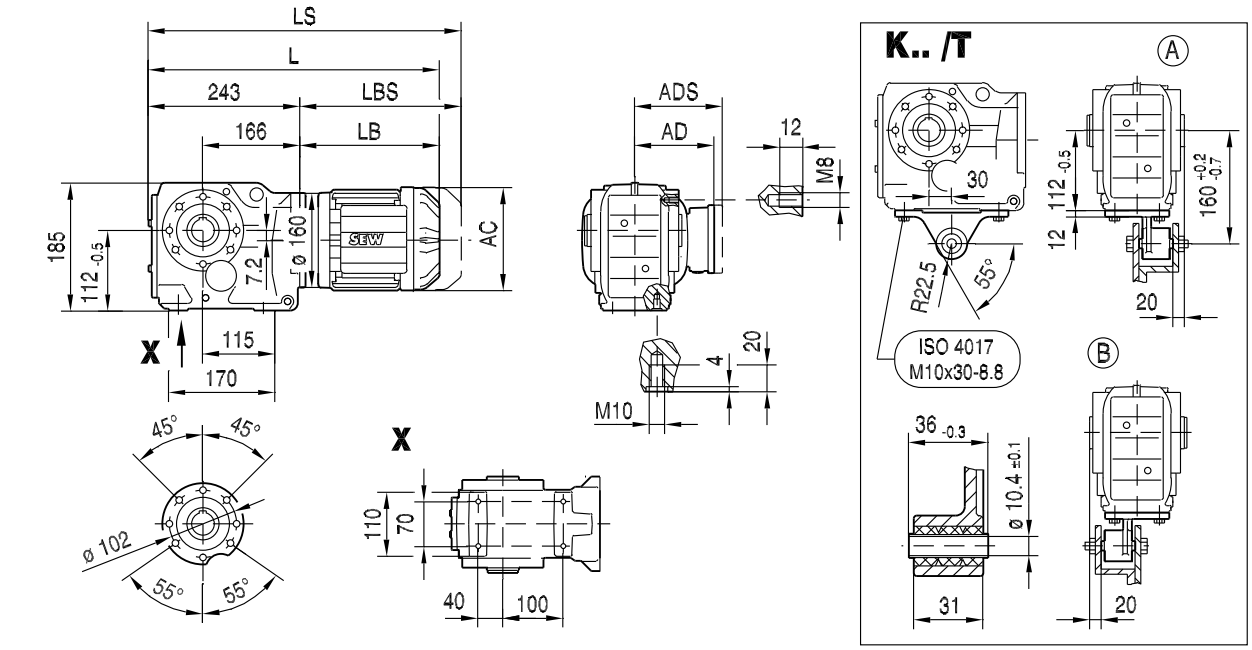


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	428	439	464	518	520	552	548	598
LS	483	507	532	599	613	645	642	692
LB	185	196	221	275	277	309	305	355
LBS	240	264	289	356	370	402	399	449

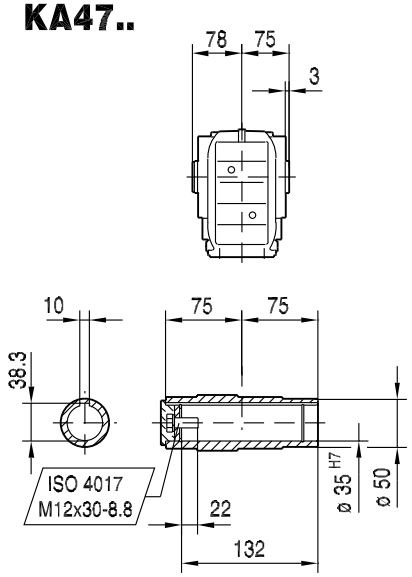
22742654/EN – 08/2016

33 044 00 14

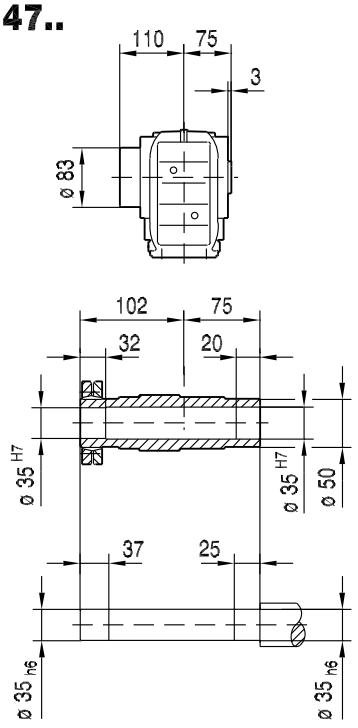
KA47..



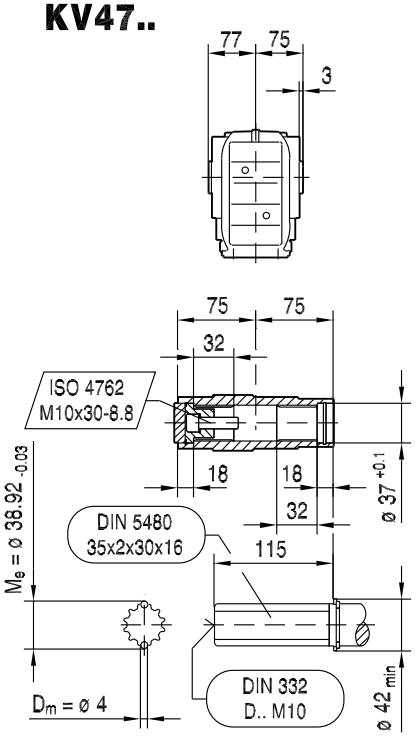
KA47..



KH47..



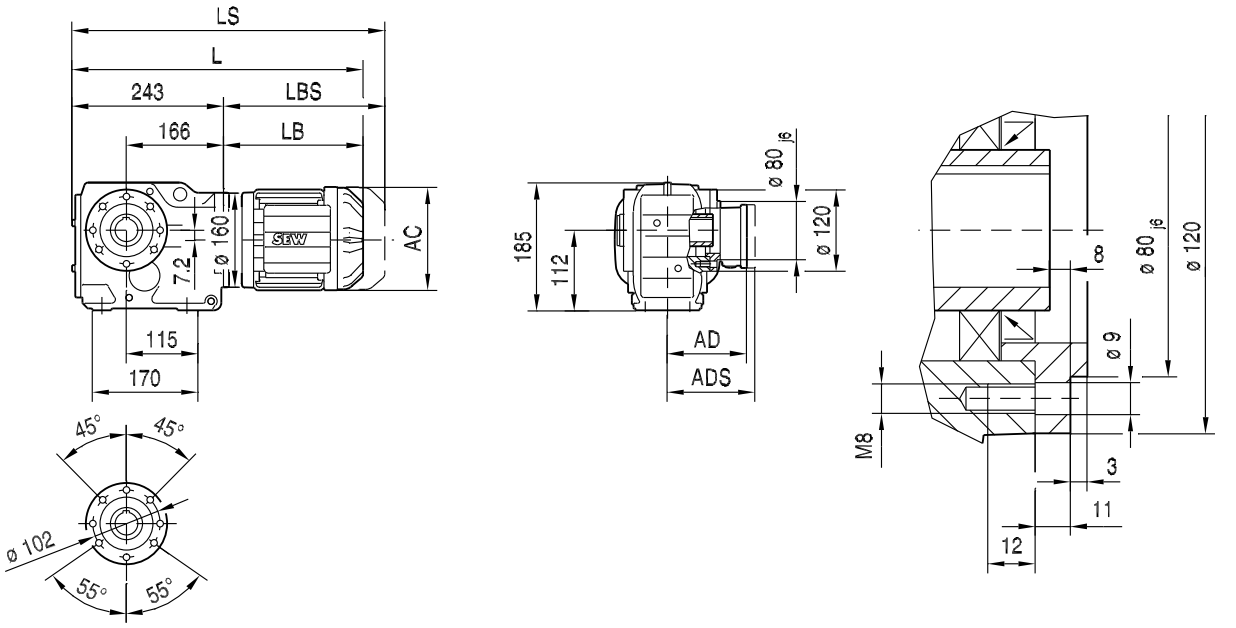
KV47..



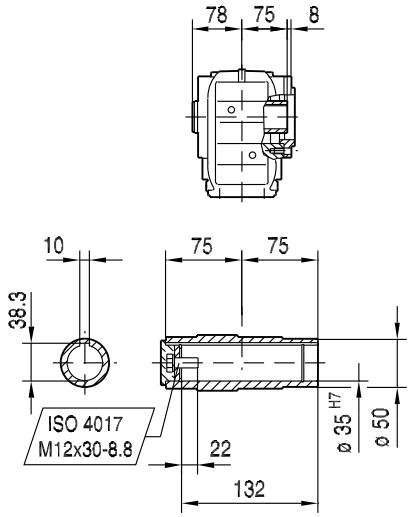
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	428	439	464	518	520	552	548	598
LS	483	507	532	599	613	645	642	692
LB	185	196	221	275	277	309	305	355
LBS	240	264	289	356	370	402	399	449

33 045 00 14

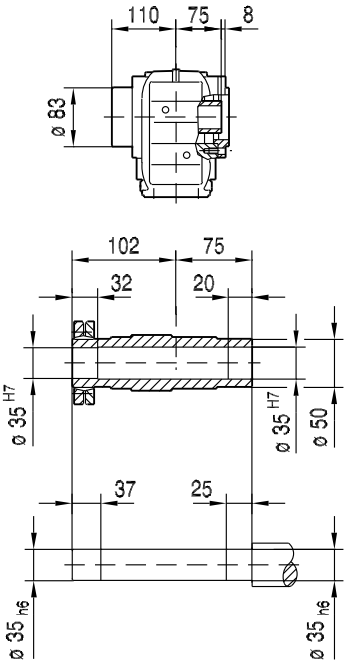
KAZ47..



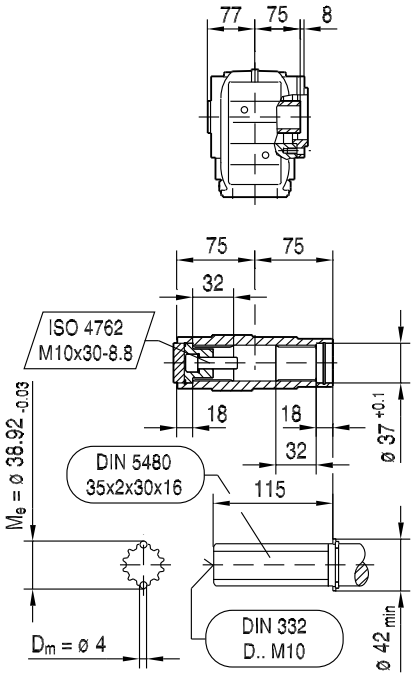
KAZ47..



KHZ47..



KVZ47..

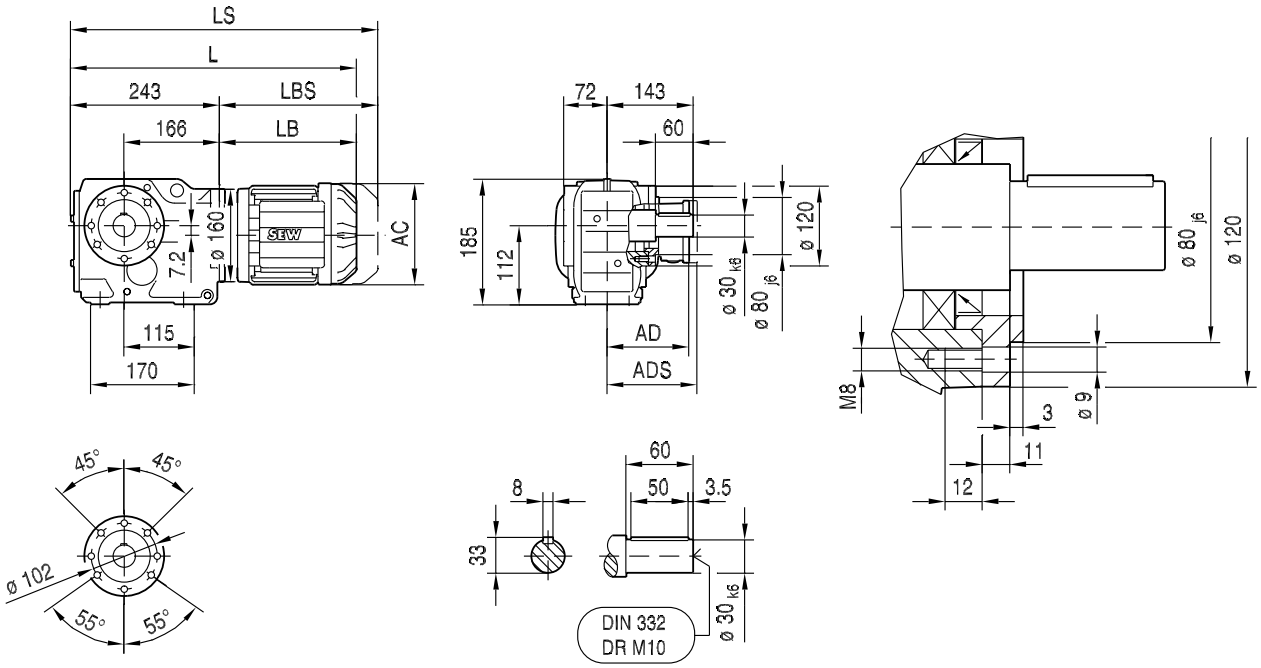


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	428	439	464	518	520	552	548	598
LS	483	507	532	599	613	645	642	692
LB	185	196	221	275	277	309	305	355
LBS	240	264	289	356	370	402	399	449

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33 233 00 15

KZ47..

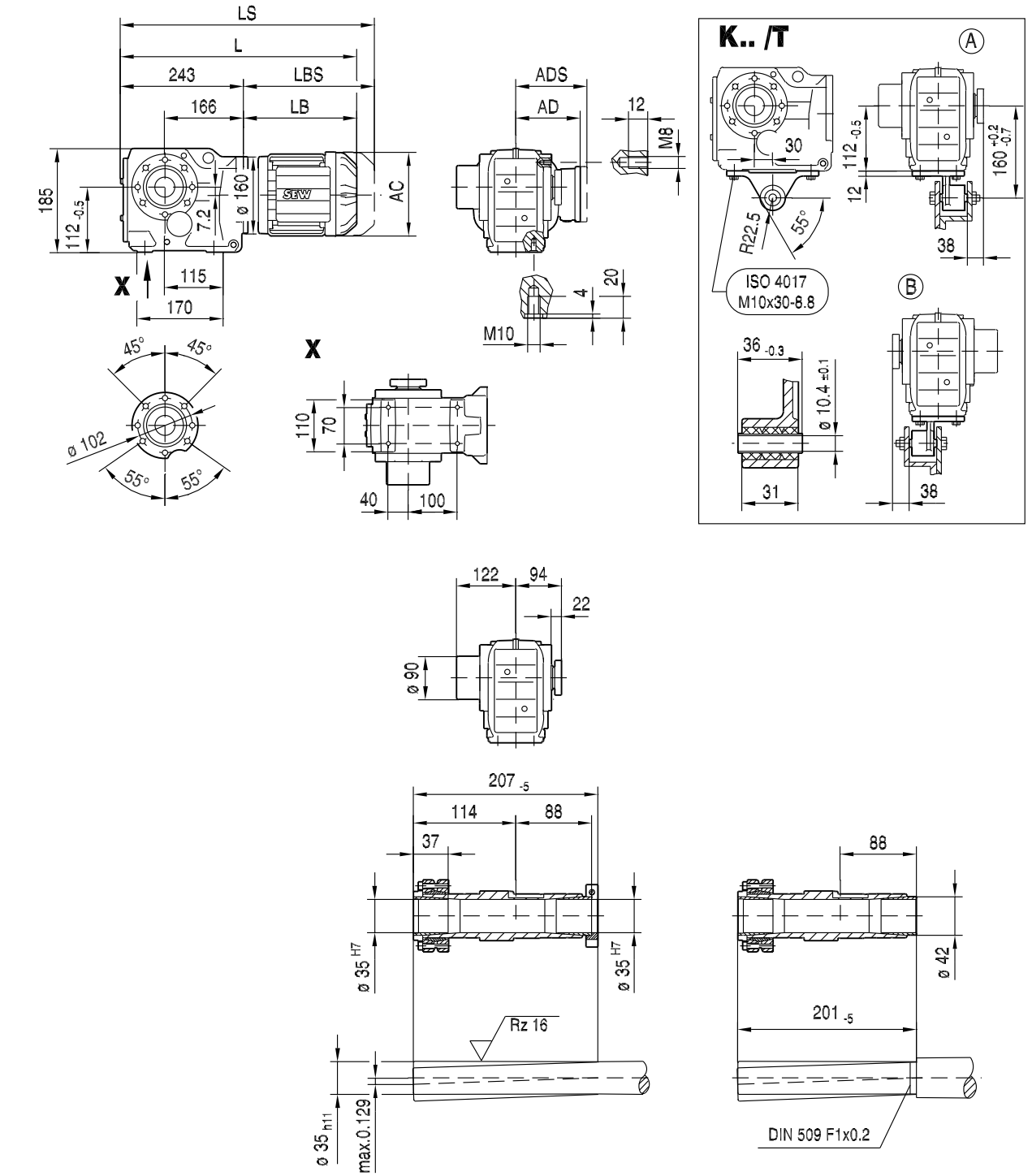


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	428	439	464	518	520	552	548	598
LS	483	507	532	599	613	645	642	692
LB	185	196	221	275	277	309	305	355
LBS	240	264	289	356	370	402	399	449

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KT47..

33 046 00 14

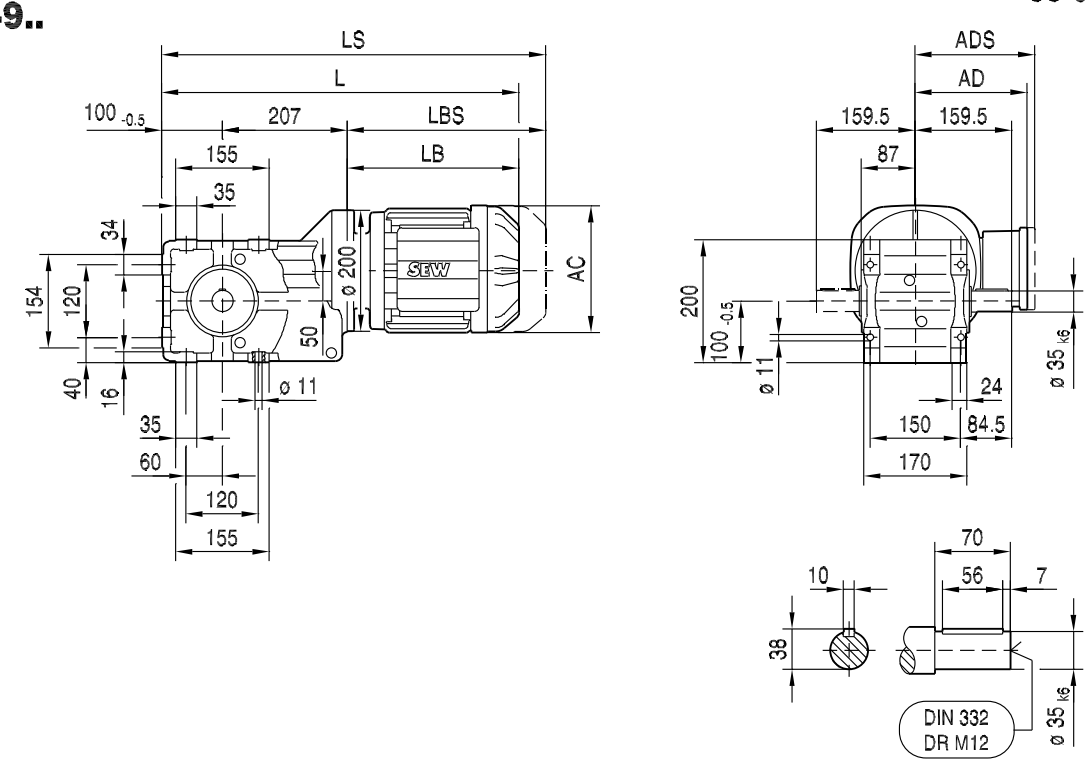


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	428	439	464	518	520	552	548	598
LS	483	507	532	599	613	645	642	692
LB	185	196	221	275	277	309	305	355
LBS	240	264	289	356	370	402	399	449

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33 025 00 14

K49..

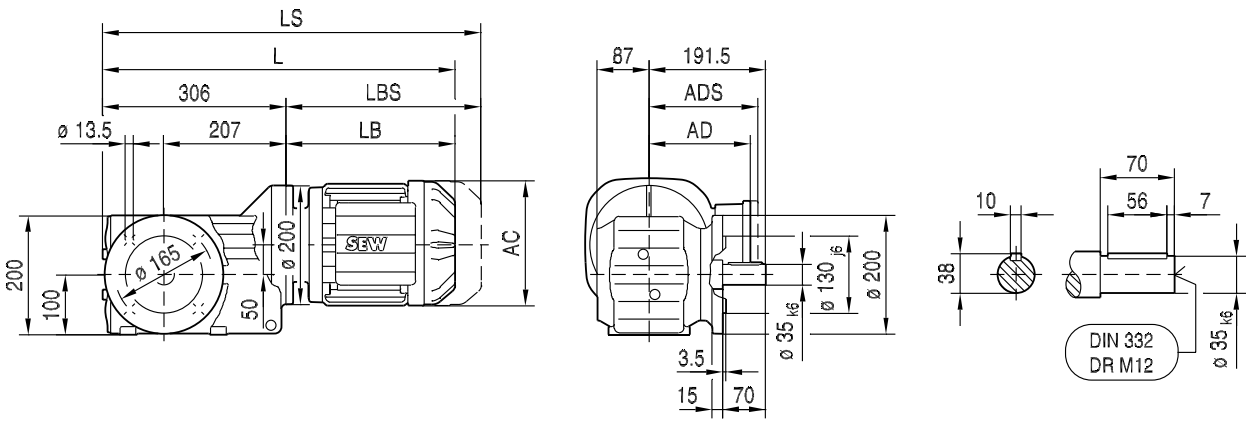


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M
AC	132	139	139	156	179	179	197	197	221	221	261
AD	105	119	119	128	140	140	157	157	170	170	228
ADS	105	129	129	139	150	150	158	158	172	172	228
L	485	496	521	575	577	609	605	655	686	736	754
LS	540	564	589	656	670	702	699	749	798	848	892
LB	178	189	214	268	270	302	298	348	379	429	447
LBS	233	257	282	349	363	395	392	442	491	541	585

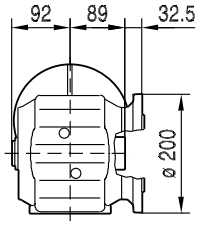
22742654/EN – 08/2016

33 026 01 14

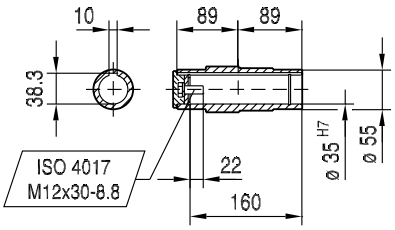
KF49..



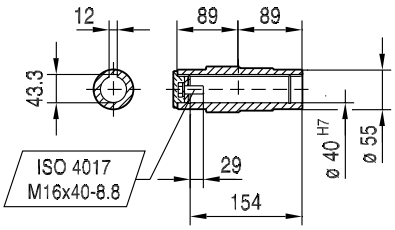
KAF49..



ø 35 H7



ø 40 H7

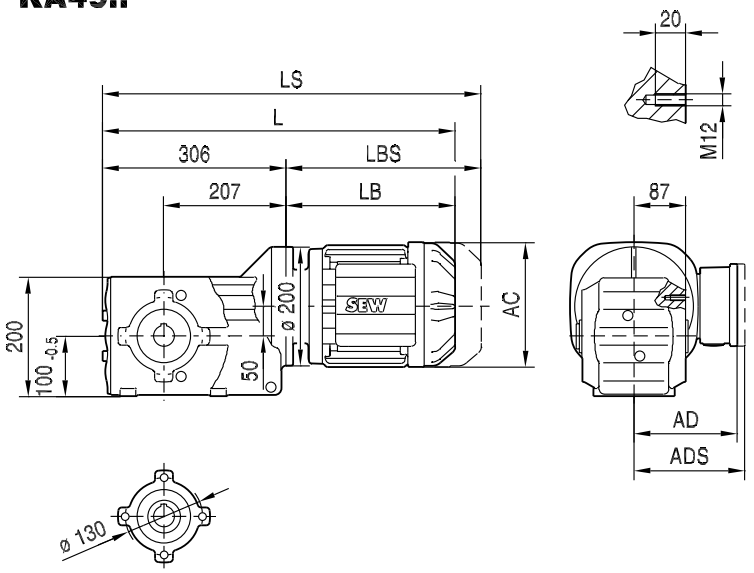


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M
AC	132	139	139	156	179	179	197	197	221	221	261
AD	105	119	119	128	140	140	157	157	170	170	228
ADS	105	129	129	139	150	150	158	158	172	172	228
L	484	495	520	574	576	608	604	654	685	735	753
LS	539	563	588	655	669	701	698	748	797	847	891
LB	178	189	214	268	270	302	298	348	379	429	447
LBS	233	257	282	349	363	395	392	442	491	541	585

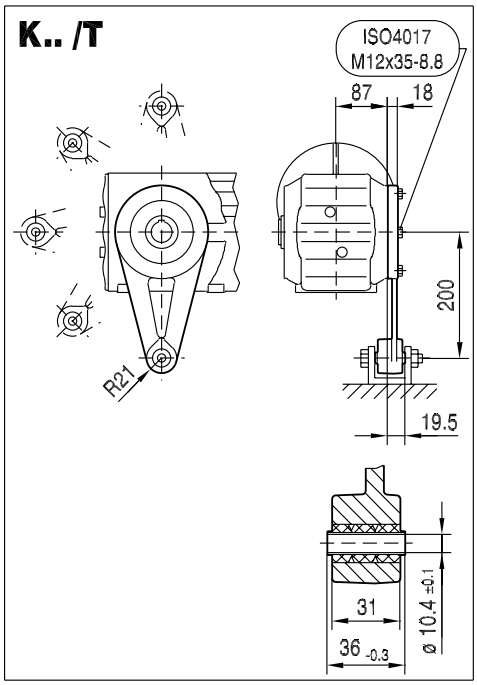
22742654/EN – 08/2016

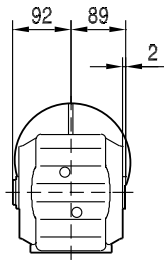
33 027 01 14

KA49..

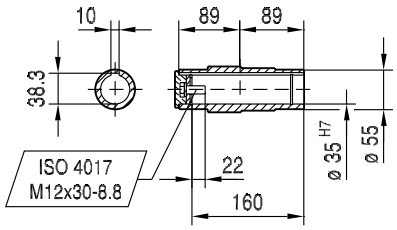


K.. /T

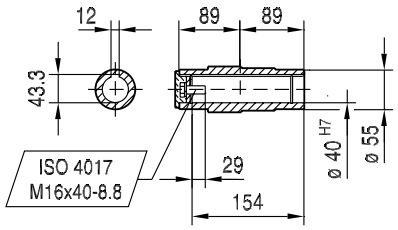




ø 35 H7



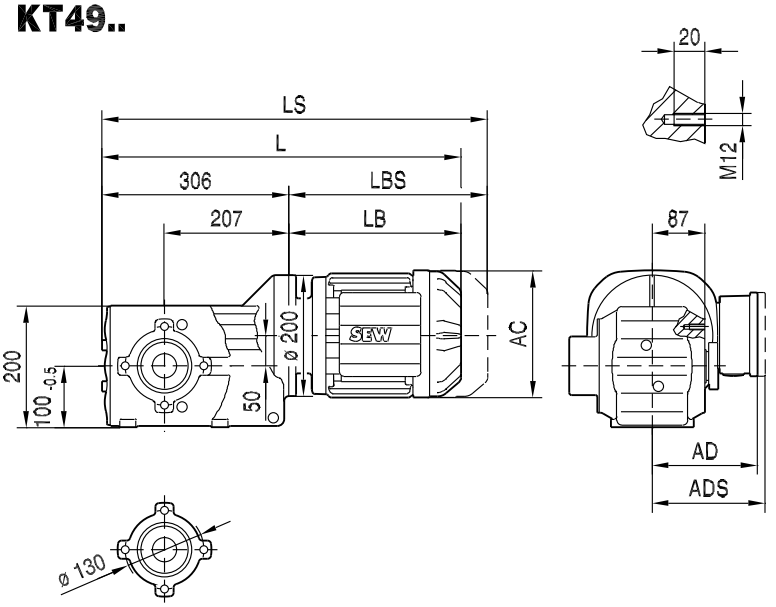
ø 40 H7



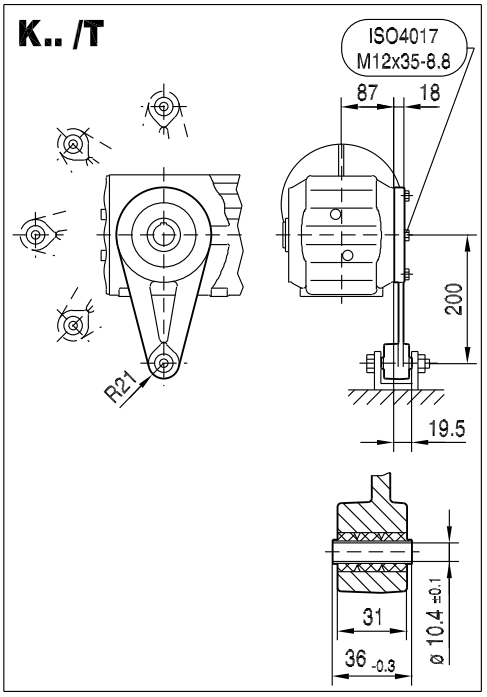
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M
AC	132	139	139	156	179	179	197	197	221	221	261
AD	105	119	119	128	140	140	157	157	170	170	228
ADS	105	129	129	139	150	150	158	158	172	172	228
L	484	495	520	574	576	608	604	654	685	735	753
LS	539	563	588	655	669	701	698	748	797	847	891
LB	178	189	214	268	270	302	298	348	379	429	447
LBS	233	257	282	349	363	395	392	442	491	541	585

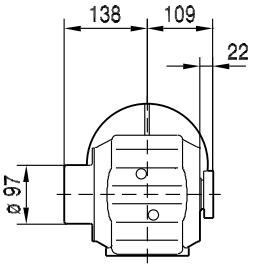
33 028 00 14

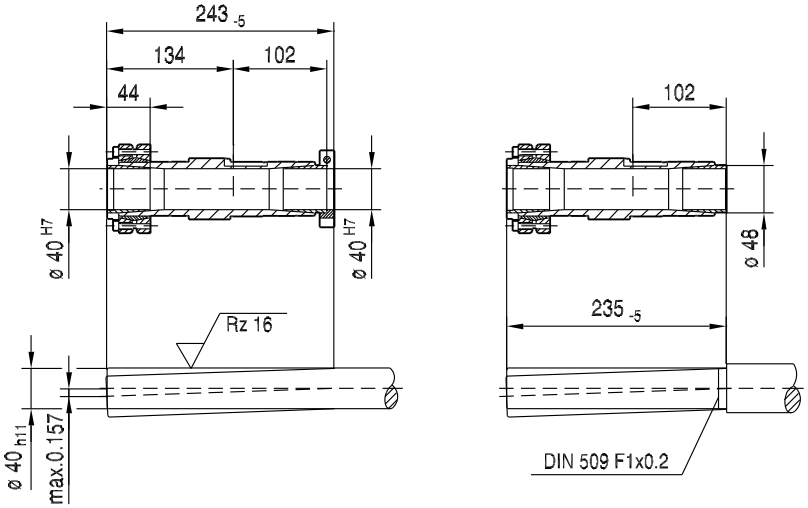
KT49..



K.. /T





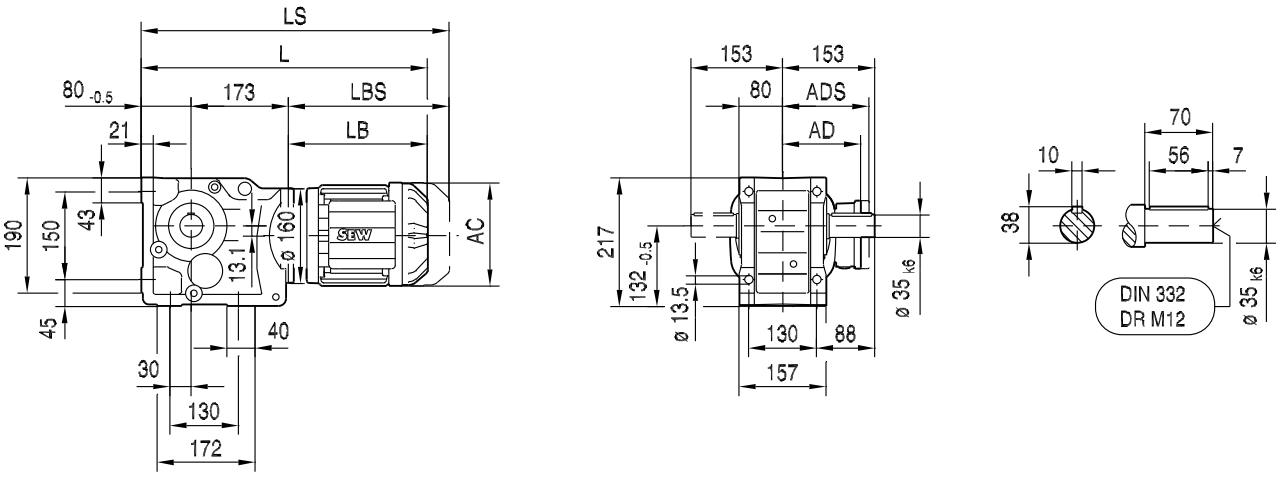


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M
AC	132	139	139	156	179	179	197	197	221	221	261
AD	105	119	119	128	140	140	157	157	170	170	228
ADS	105	129	129	139	150	150	158	158	172	172	228
L	484	495	520	574	576	608	604	654	685	735	753
LS	539	563	588	655	669	701	698	748	797	847	891
LB	178	189	214	268	270	302	298	348	379	429	447
LBS	233	257	282	349	363	395	392	442	491	541	585

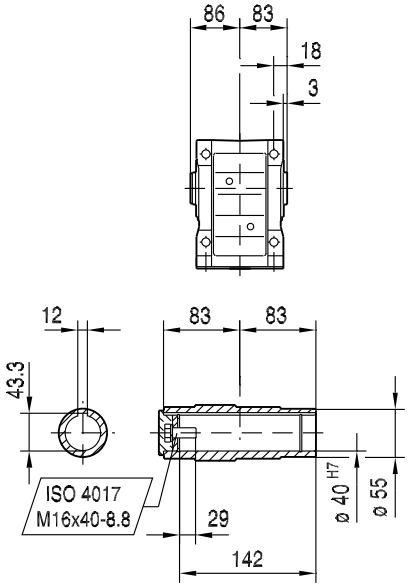
22742654/EN – 08/2016

33 047 00 14

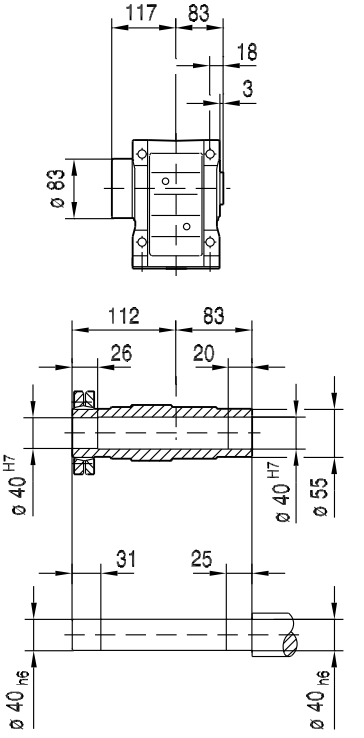
K57..



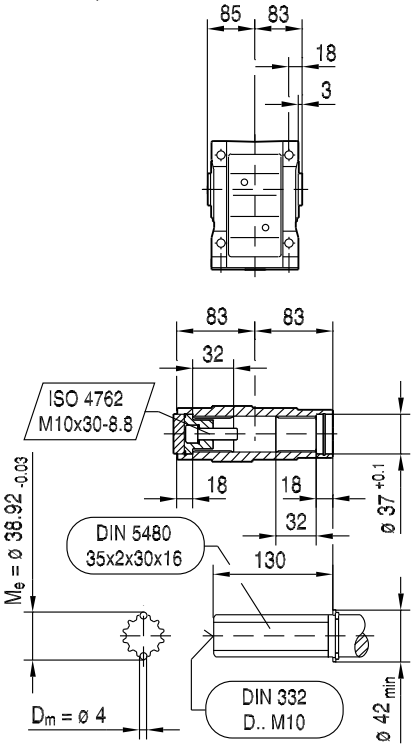
KA57B..



KH57B..



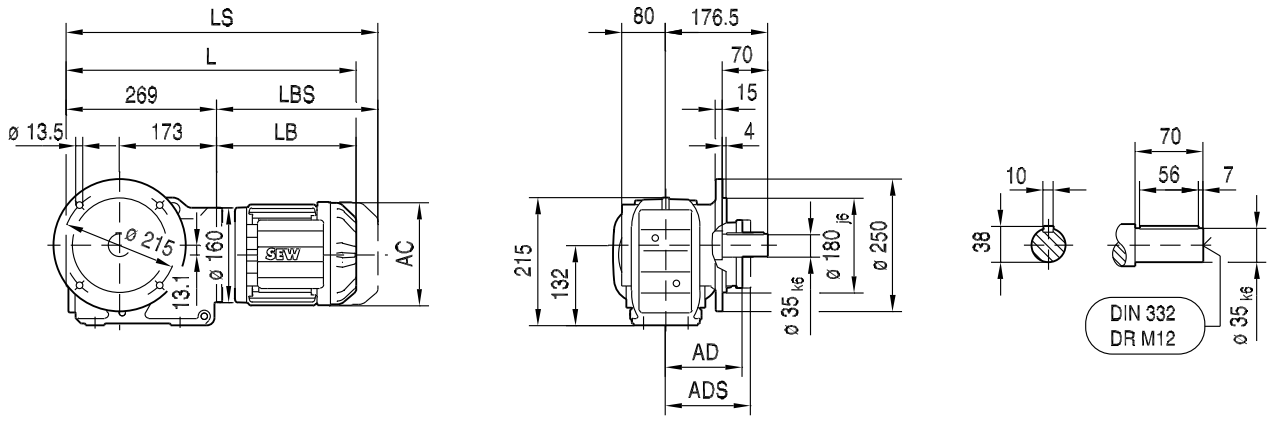
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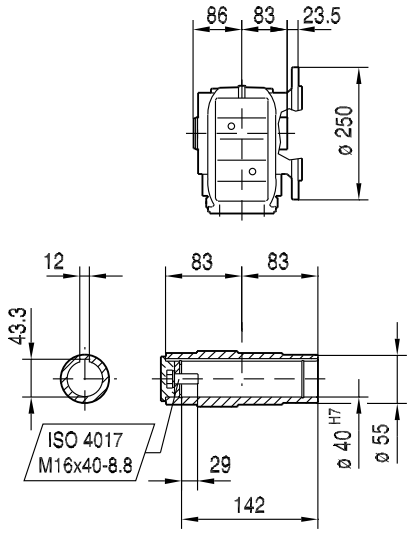
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M
AC	132	139	139	156	179	179	197	197	221
AD	105	119	119	128	140	140	157	157	170
ADS	105	129	129	139	150	150	158	158	172
L	438	449	474	528	530	562	558	608	639
LS	493	517	542	609	623	655	652	702	751
LB	185	196	221	275	277	309	305	355	386
LBS	240	264	289	356	370	402	399	449	498

33 048 00 14

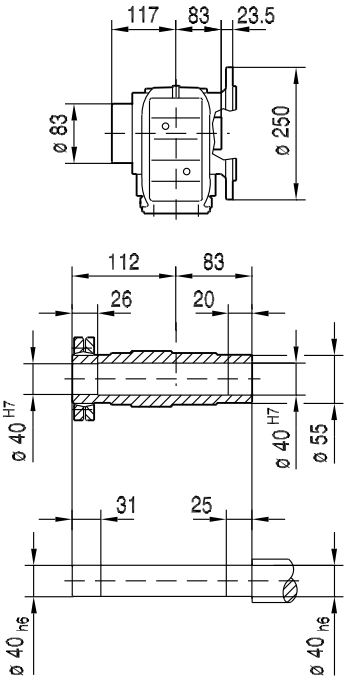
KF57..



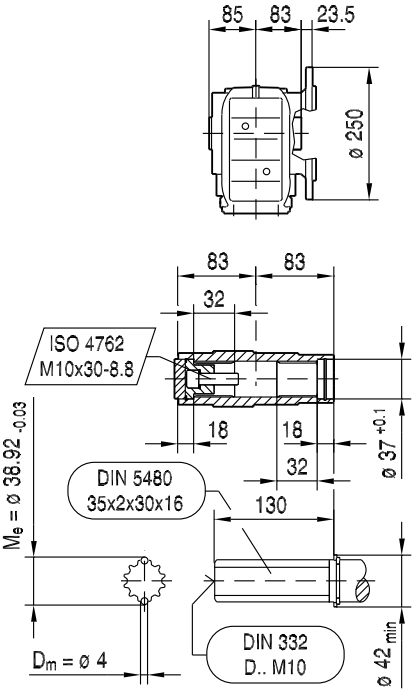
KAF57..



KHF57..



KVF57..

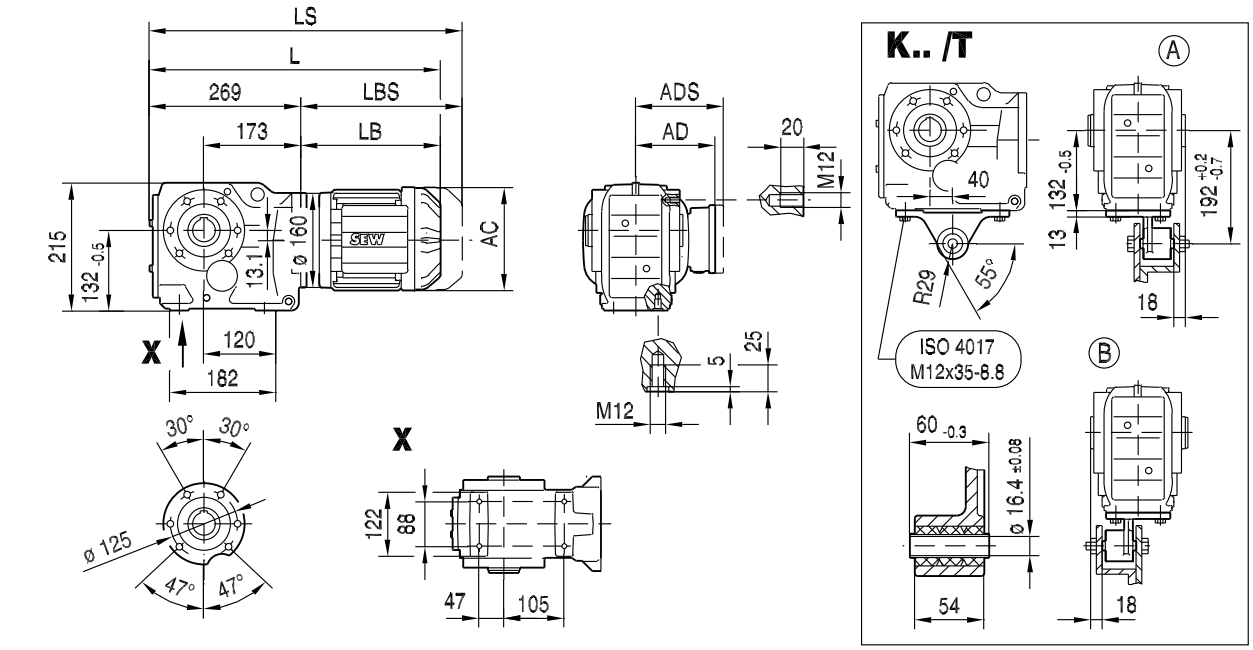


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M
AC	132	139	139	156	179	179	197	197	221
AD	105	119	119	128	140	140	157	157	170
ADS	105	129	129	139	150	150	158	158	172
L	454	465	490	544	546	578	574	624	655
LS	509	533	558	625	639	671	668	718	767
LB	185	196	221	275	277	309	305	355	386
LBS	240	264	289	356	370	402	399	449	498

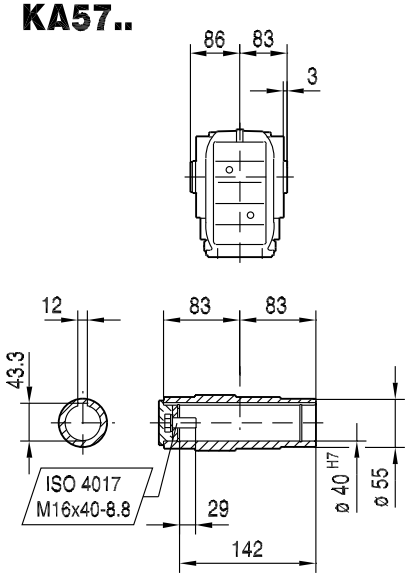
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33 049 00 14

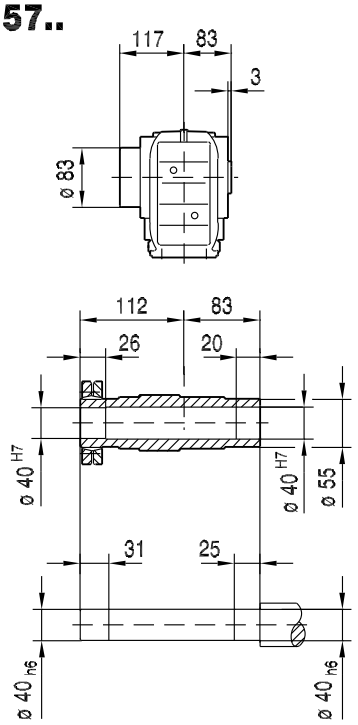
KA57..



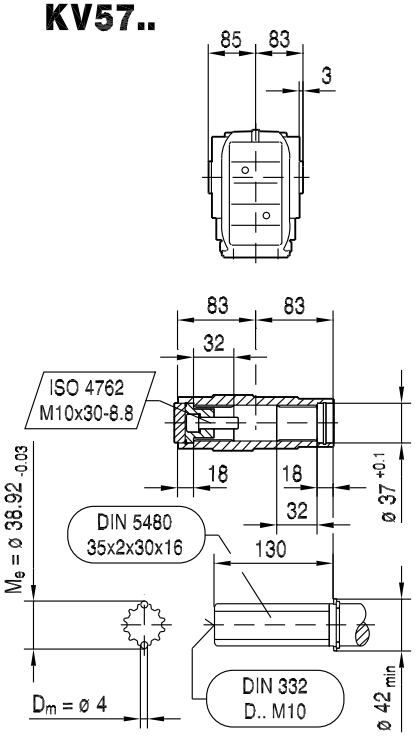
KA57..



KH57..



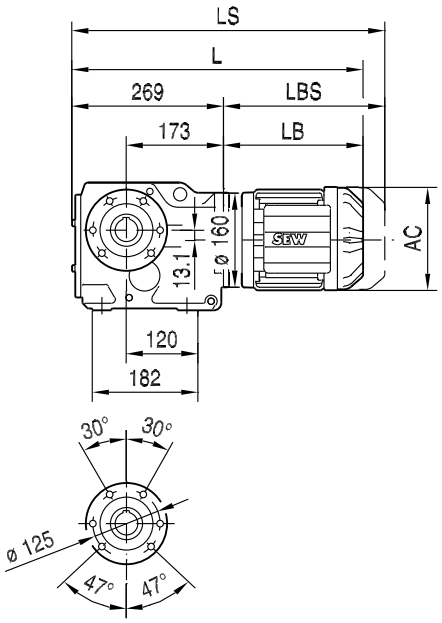
KV57..

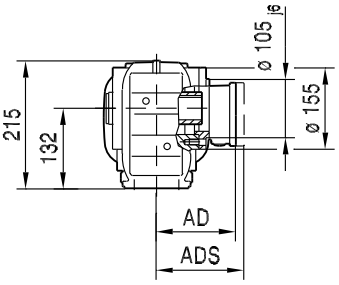


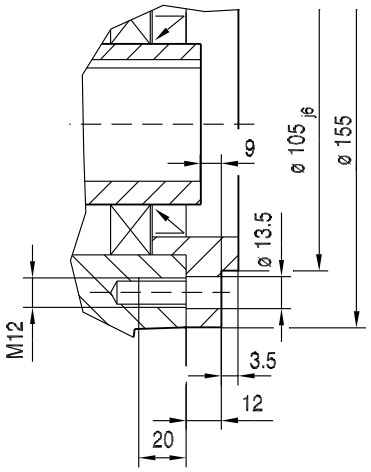
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M
AC	132	139	139	156	179	179	197	197	221
AD	105	119	119	128	140	140	157	157	170
ADS	105	129	129	139	150	150	158	158	172
L	454	465	490	544	546	578	574	624	655
LS	509	533	558	625	639	671	668	718	767
LB	185	196	221	275	277	309	305	355	386
LBS	240	264	289	356	370	402	399	449	498

33 050 00 14

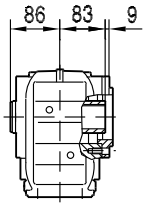
KAZ57..

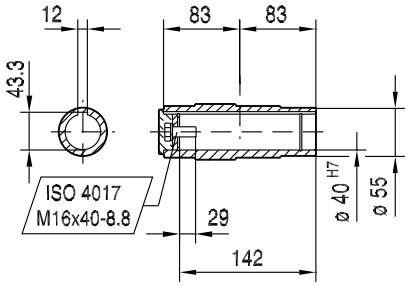




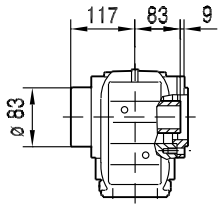


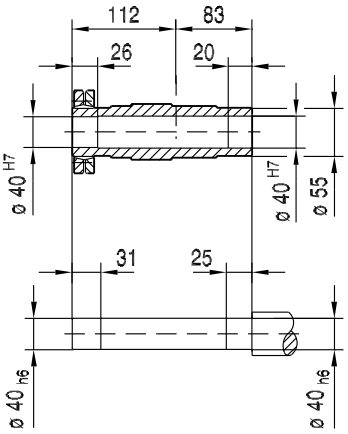
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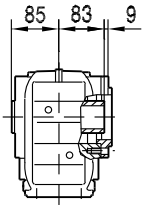


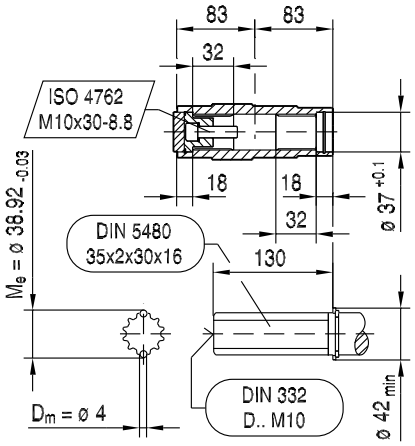
KHZ57..





KVZ57..



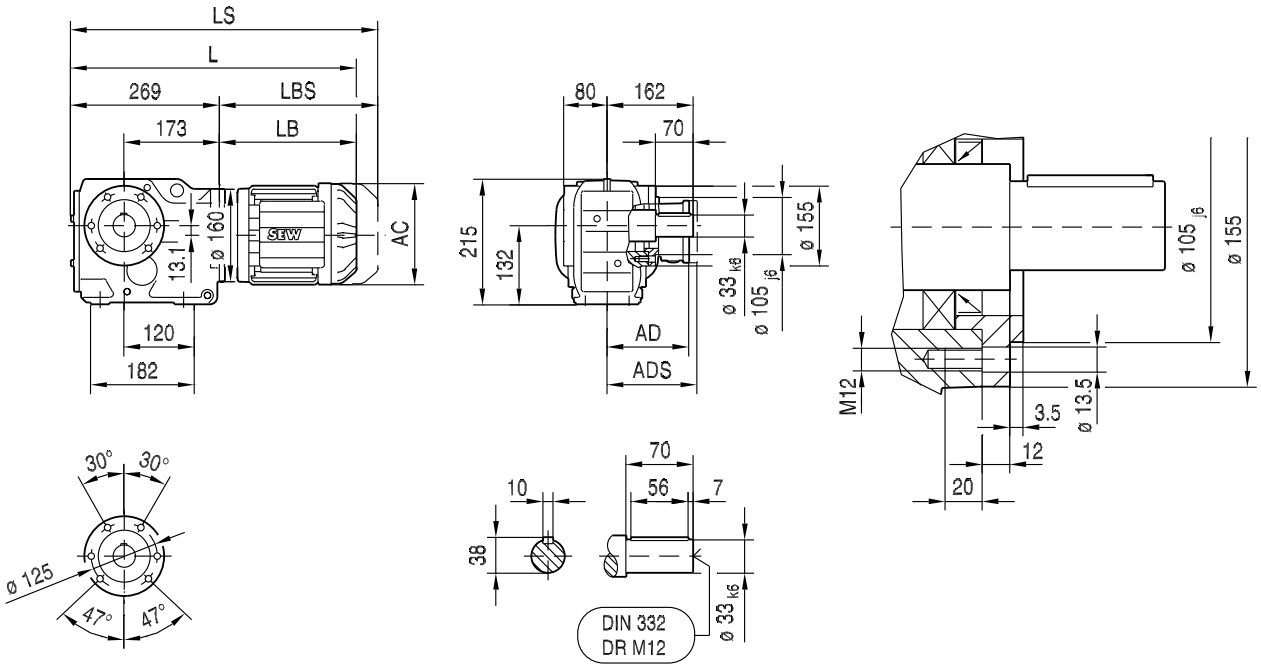


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M
AC	132	139	139	156	179	179	197	197	221
AD	105	119	119	128	140	140	157	157	170
ADS	105	129	129	139	150	150	158	158	172
L	454	465	490	544	546	578	574	624	655
LS	509	533	558	625	639	671	668	718	767
LB	185	196	221	275	277	309	305	355	386
LBS	240	264	289	356	370	402	399	449	498

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33 234 00 15

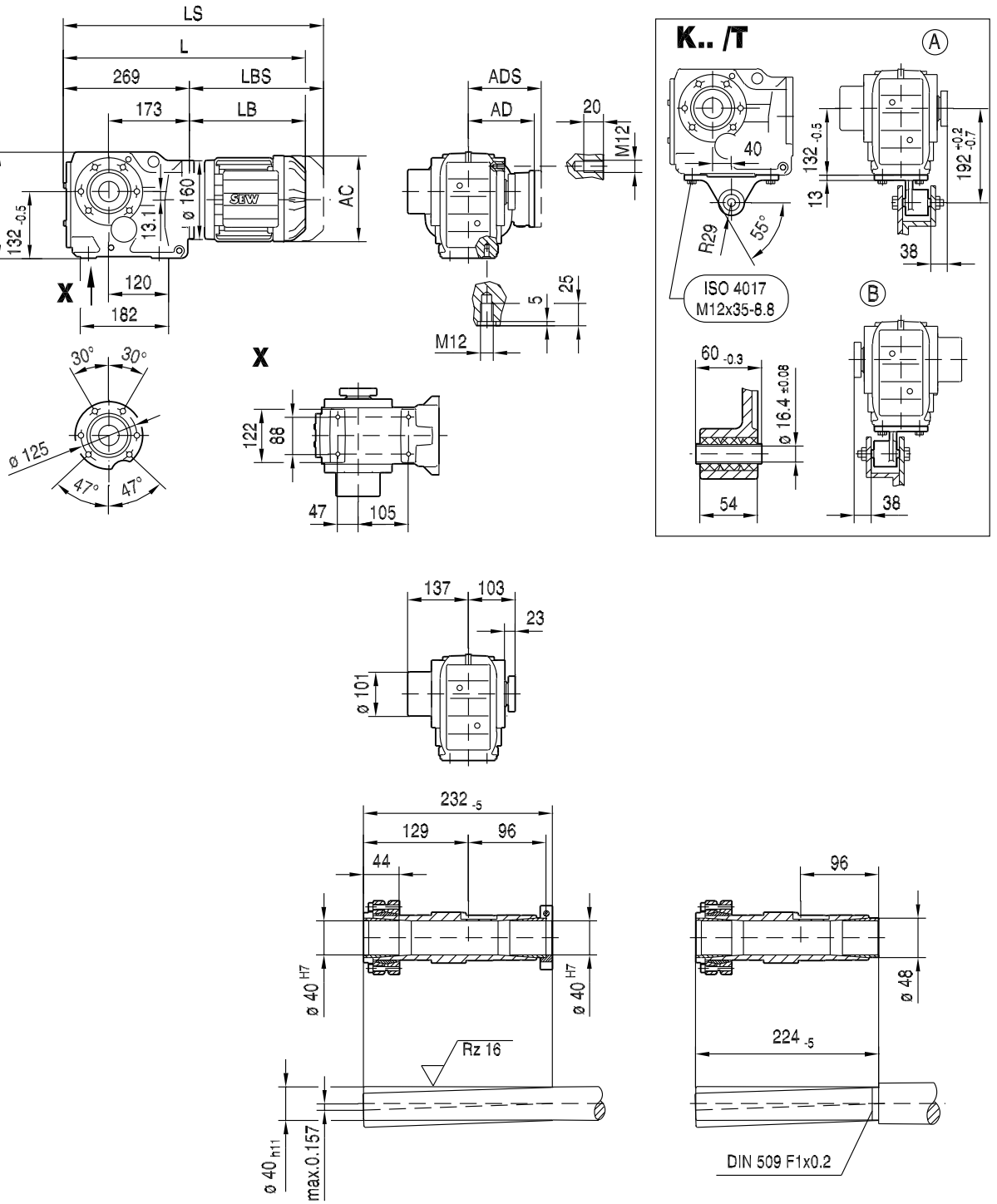
KZ57..



(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M
AC	132	139	139	156	179	179	197	197	221
AD	105	119	119	128	140	140	157	157	170
ADS	105	129	129	139	150	150	158	158	172
L	454	465	490	544	546	578	574	624	655
LS	509	533	558	625	639	671	668	718	767
LB	185	196	221	275	277	309	305	355	386
LBS	240	264	289	356	370	402	399	449	498

KT57..

33 051 00 14

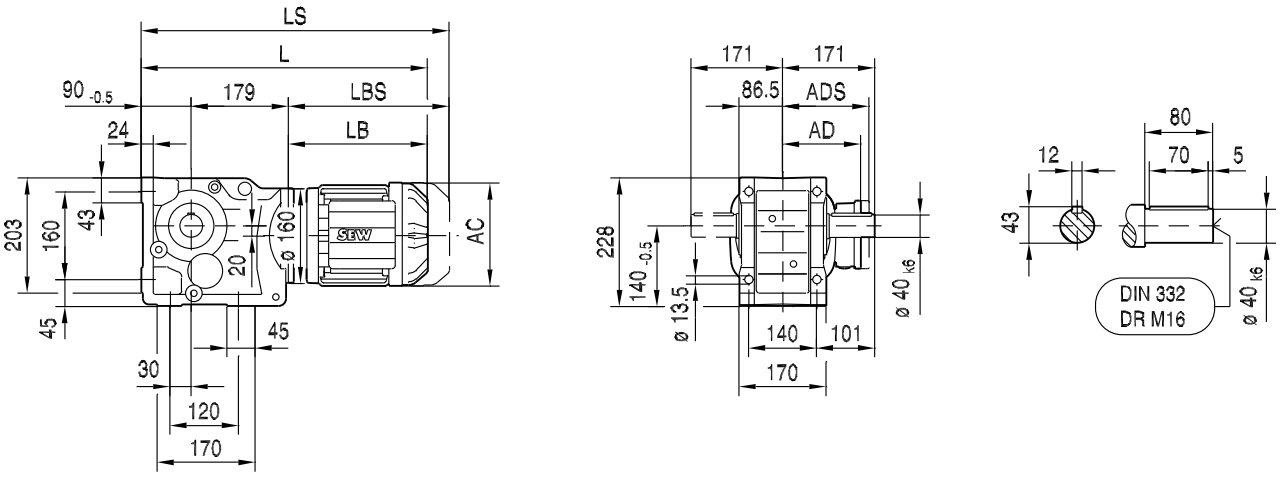


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M
AC	132	139	139	156	179	179	197	197	221
AD	105	119	119	128	140	140	157	157	170
ADS	105	129	129	139	150	150	158	158	172
L	454	465	490	544	546	578	574	624	655
LS	509	533	558	625	639	671	668	718	767
LB	185	196	221	275	277	309	305	355	386
LBS	240	264	289	356	370	402	399	449	498

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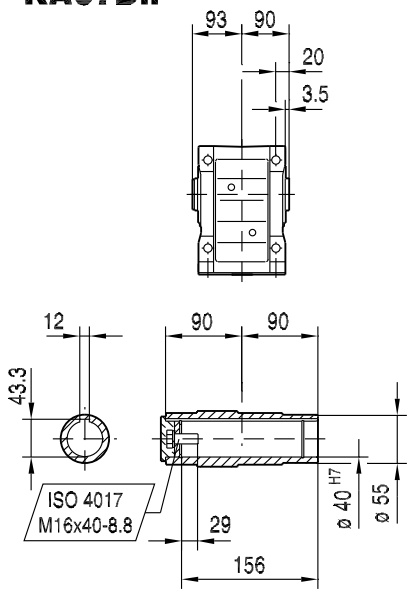
K67..

33 052 00 14

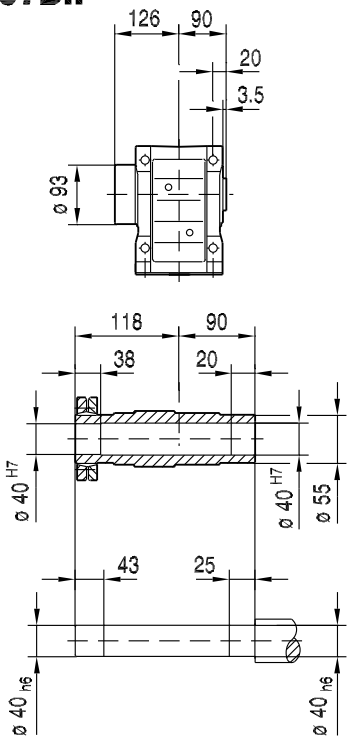


10

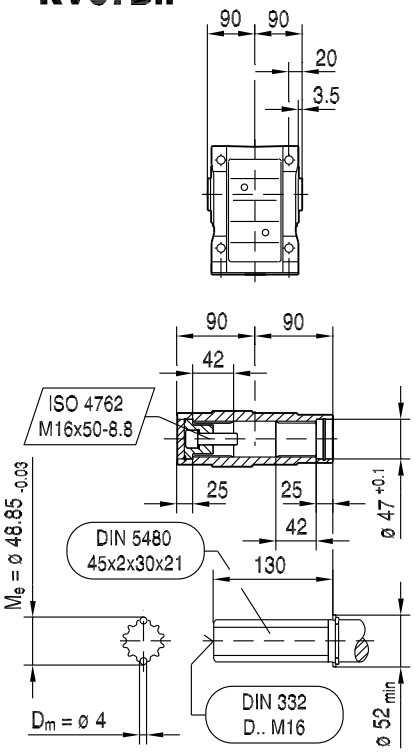
KA67B..



KH67B..



KV67B..

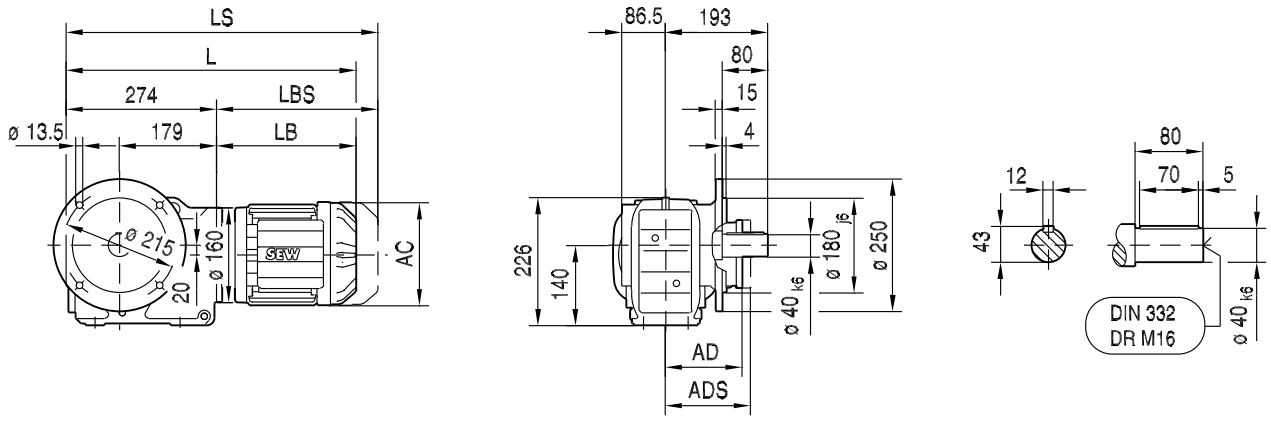


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	454	465	490	544	546	578	574	624	655	709
LS	509	533	558	625	639	671	668	718	767	821
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

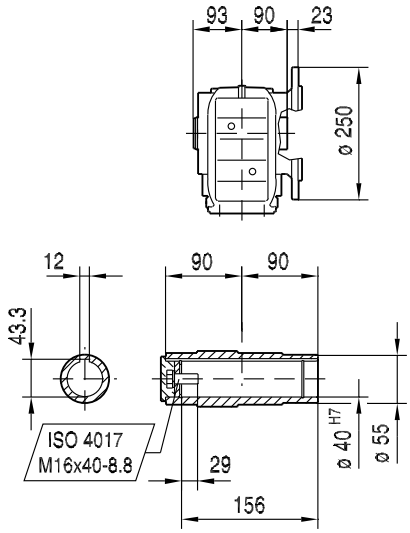
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KF67..

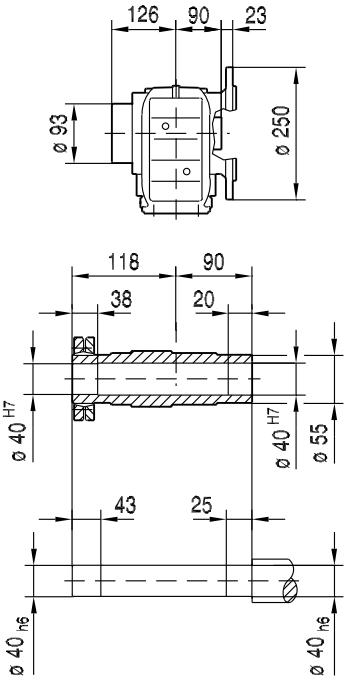
33 053 00 14



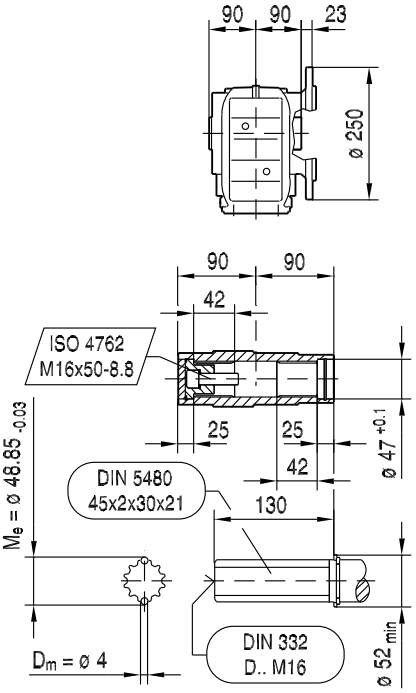
KAF67..



KHF67..



KVF67..

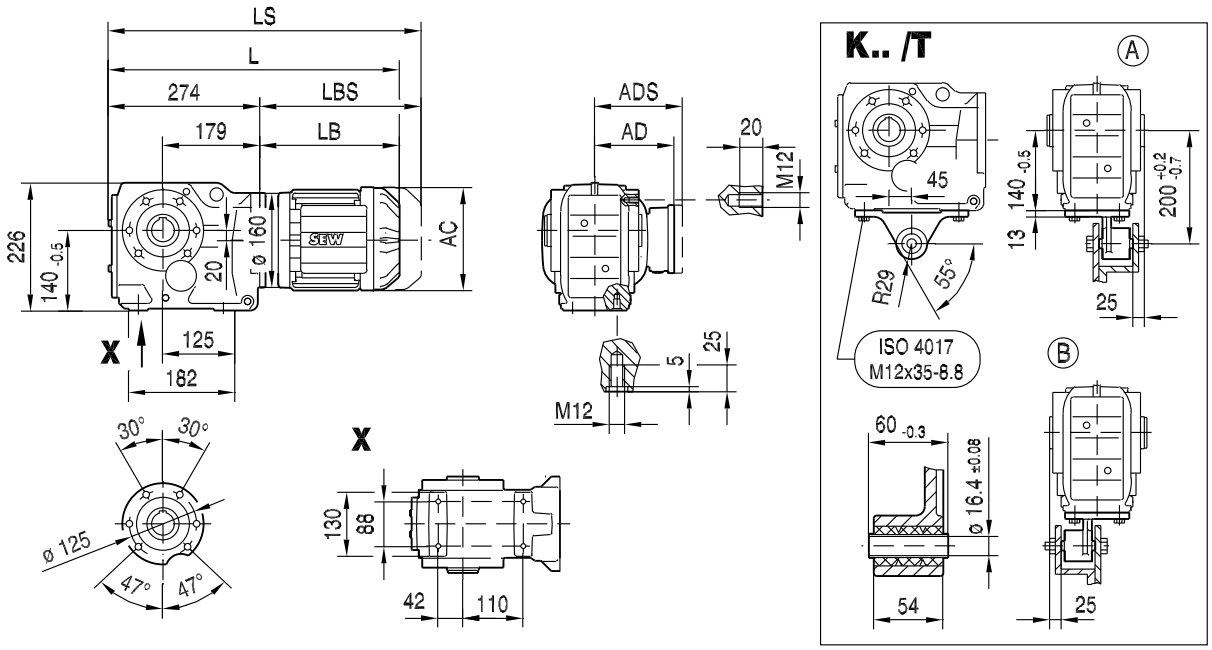


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	459	470	495	549	551	583	579	629	660	714
LS	514	538	563	630	644	676	673	723	772	826
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

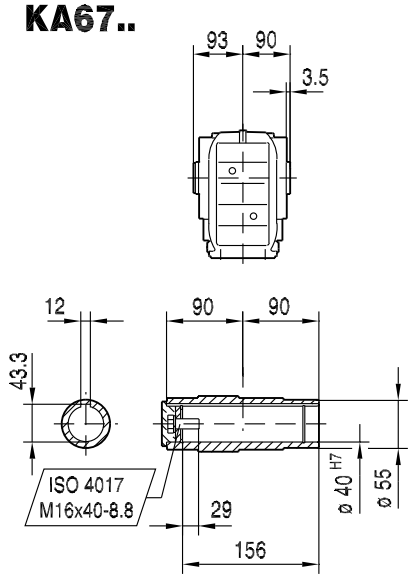
22742654/EN – 08/2016

33 054 00 14

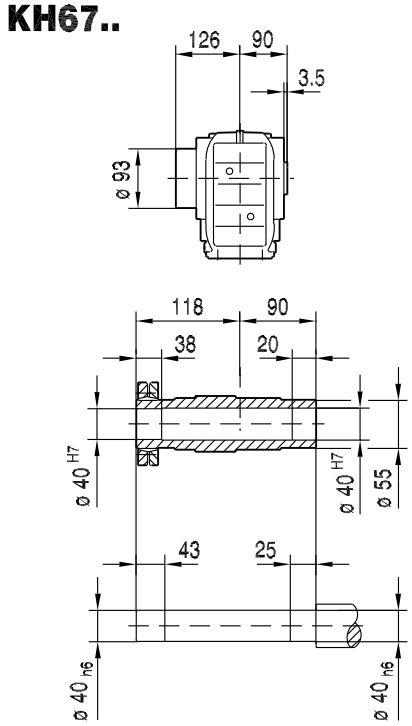
KA67..



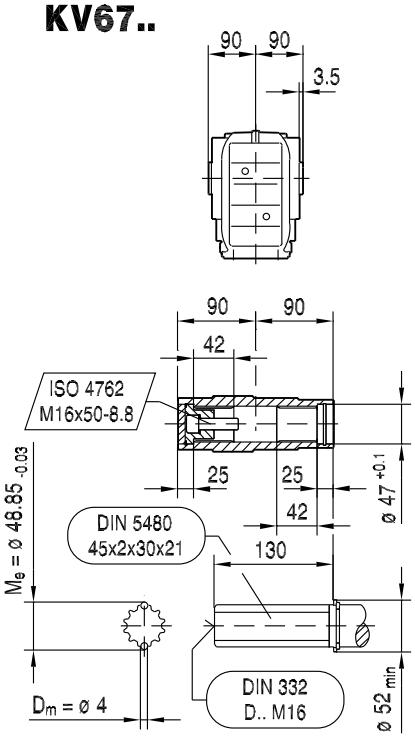
KA67..



KH67..



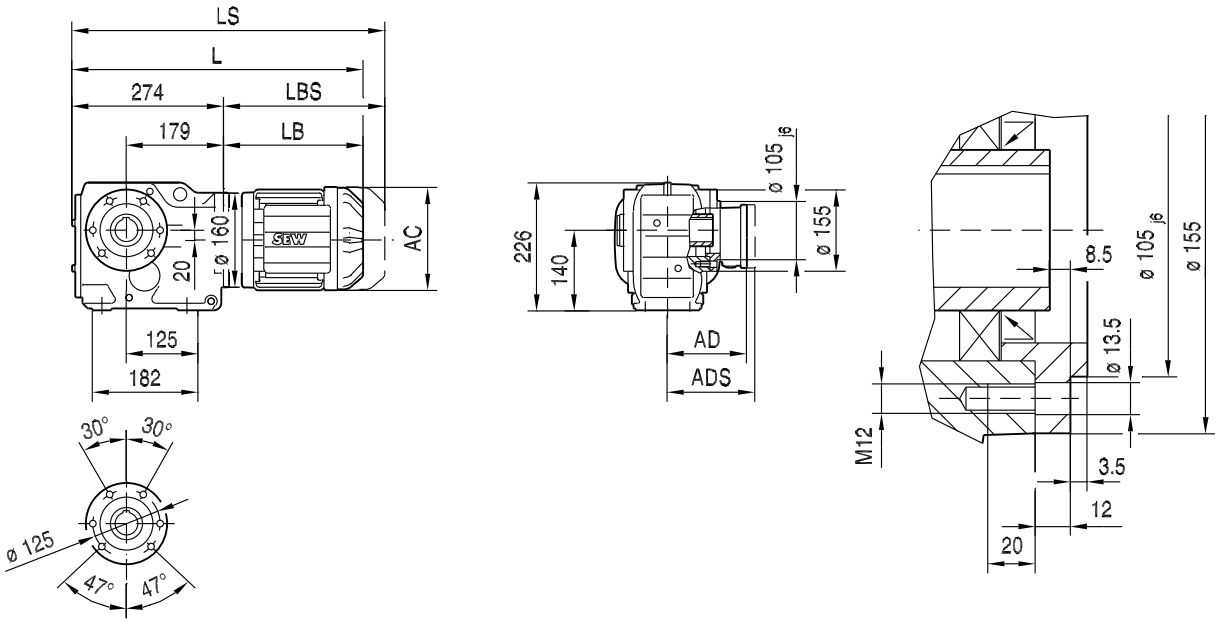
KV67..



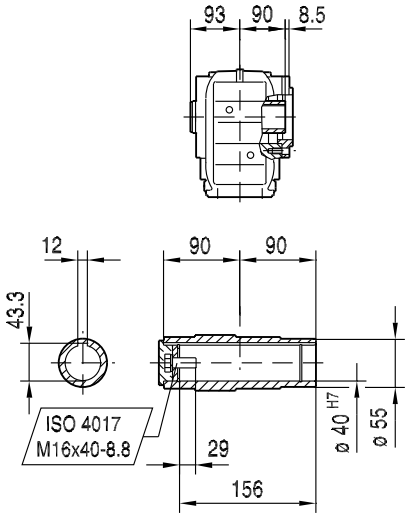
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	459	470	495	549	551	583	579	629	660	714
LS	514	538	563	630	644	676	673	723	772	826
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

33 055 00 14

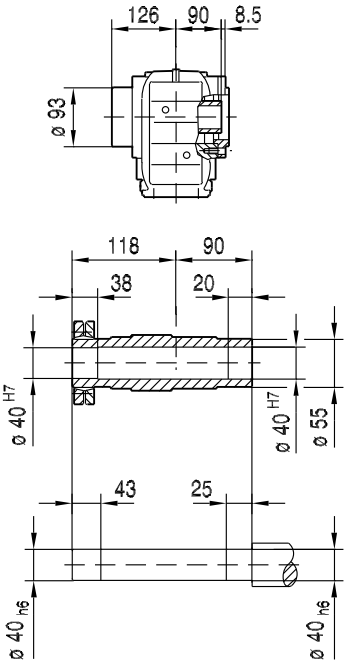
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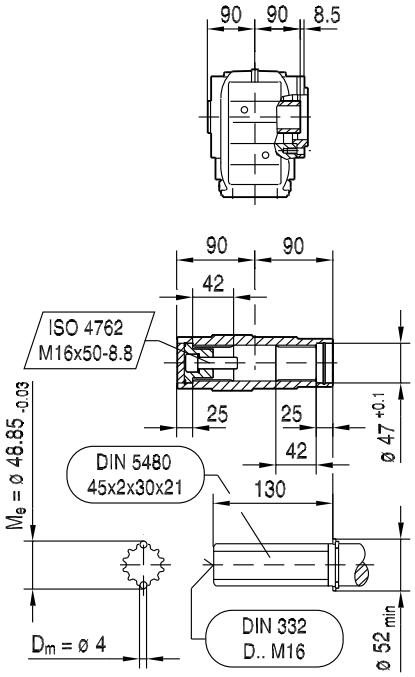
KAZ67..



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KVZ67..

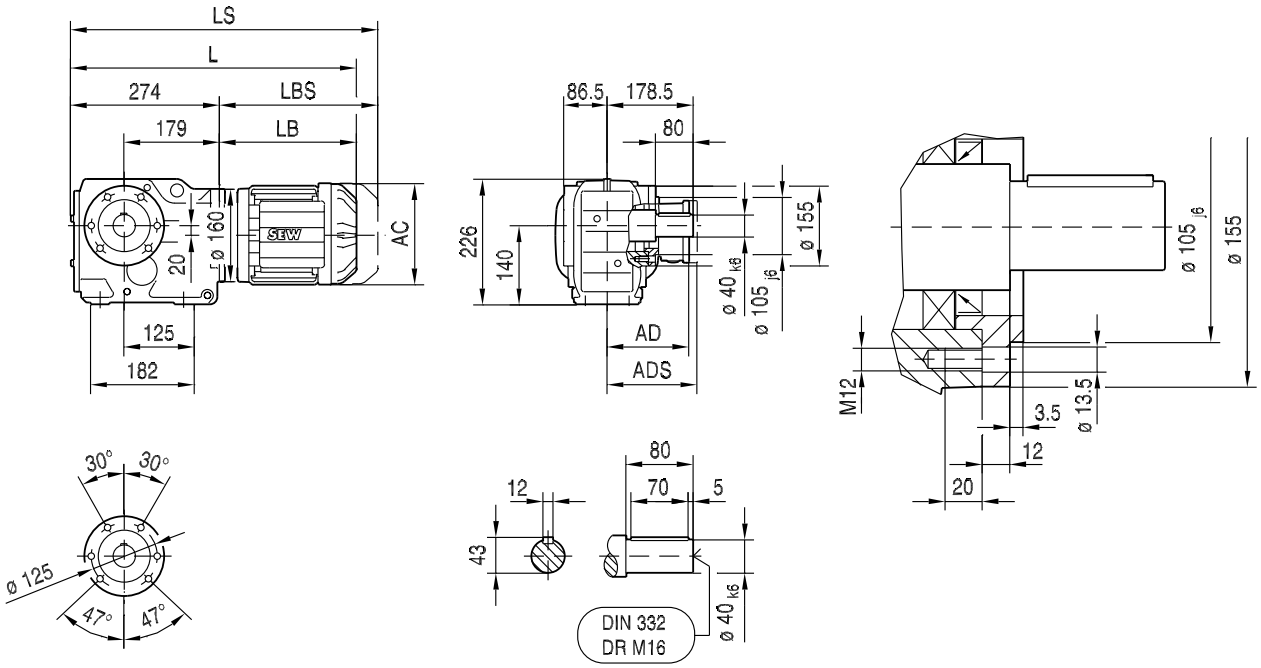


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	459	470	495	549	551	583	579	629	660	714
LS	514	538	563	630	644	676	673	723	772	826
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

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33 235 00 15

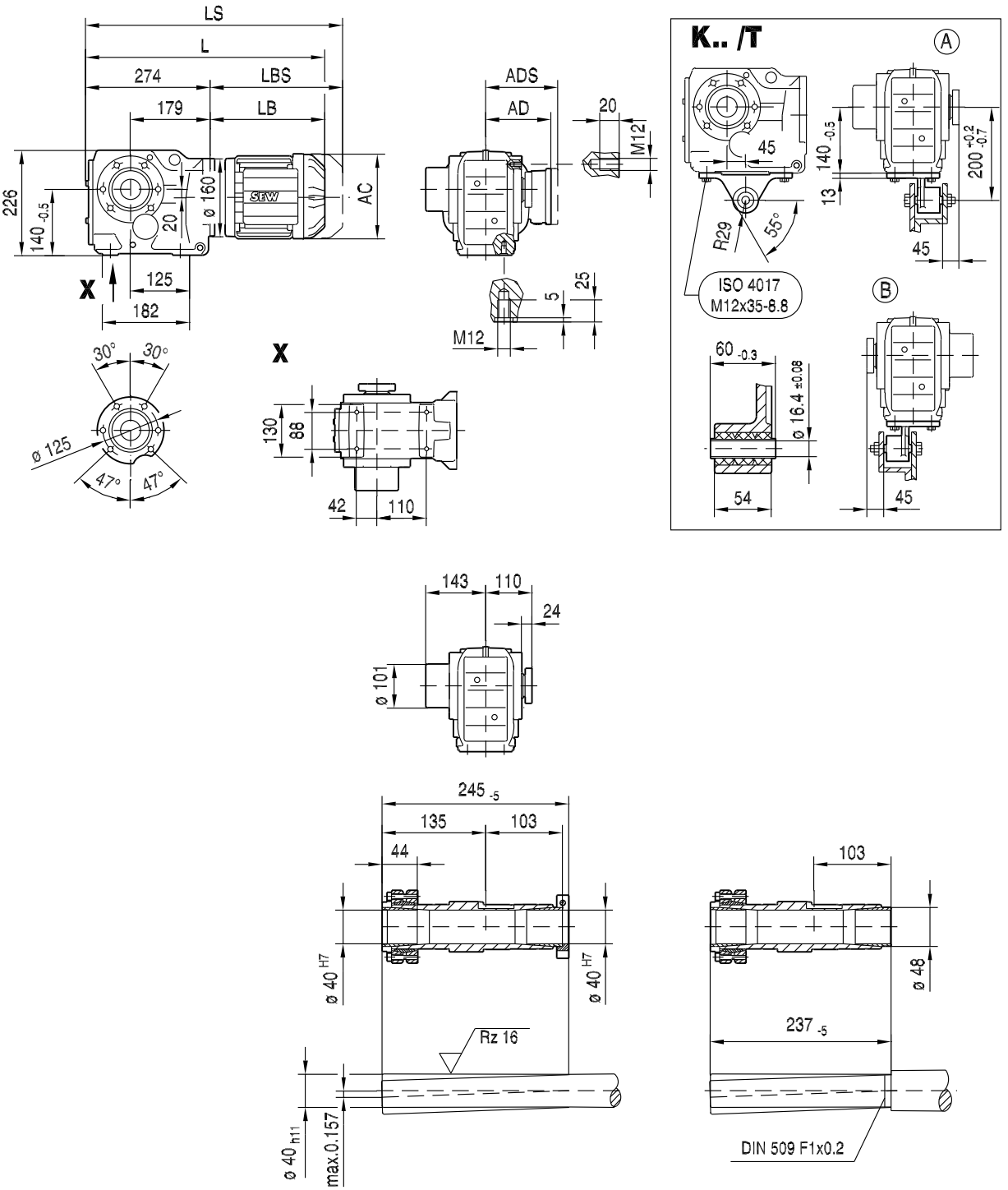
KZ67..



(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	459	470	495	549	551	583	579	629	660	714
LS	514	538	563	630	644	676	673	723	772	826
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

KT67..

33 056 00 14

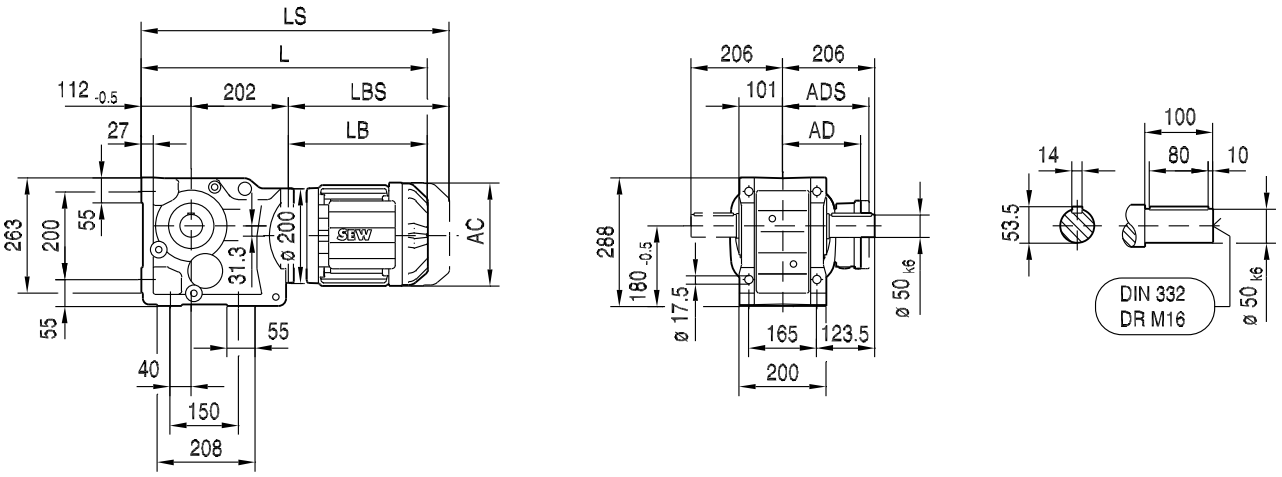


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	459	470	495	549	551	583	579	629	660	714
LS	514	538	563	630	644	676	673	723	772	826
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

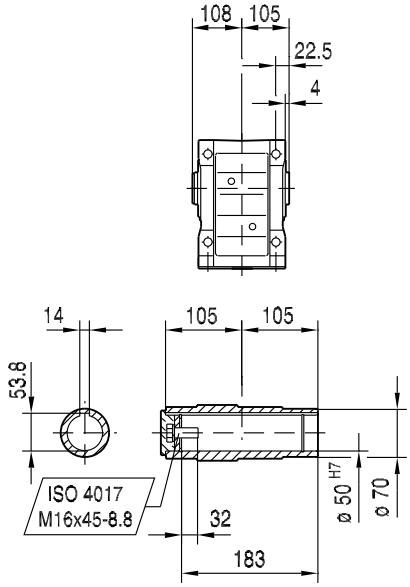
22742654/EN – 08/2016

33 057 00 14

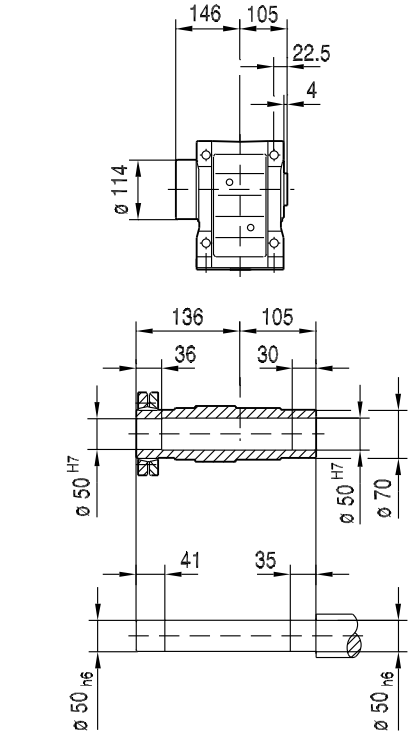
K77..



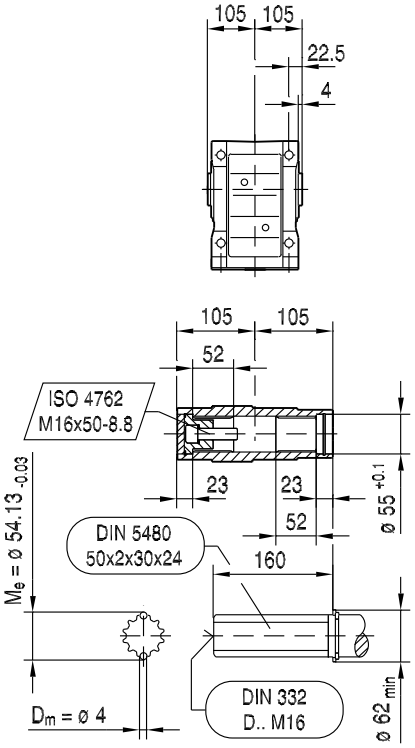
KA77B..



KH77B..



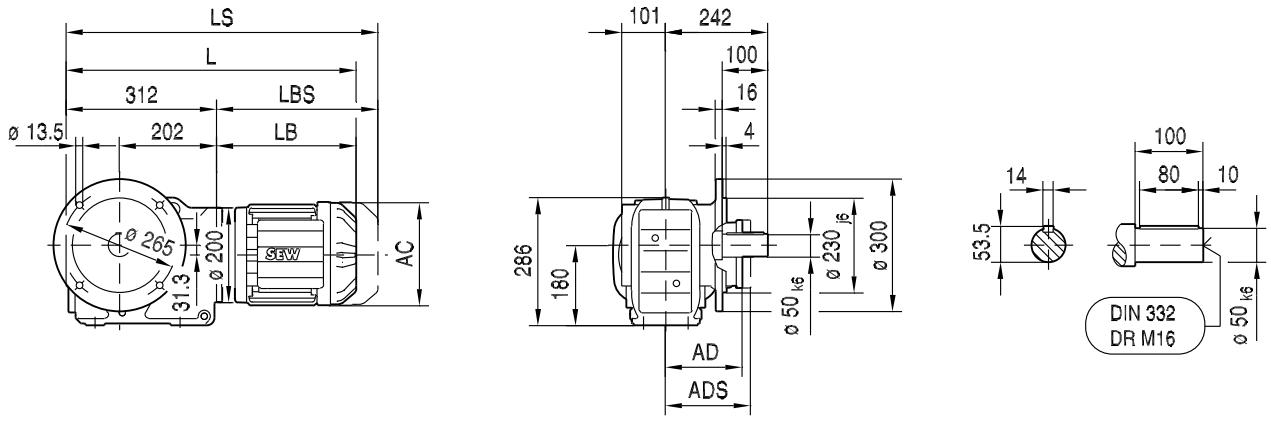
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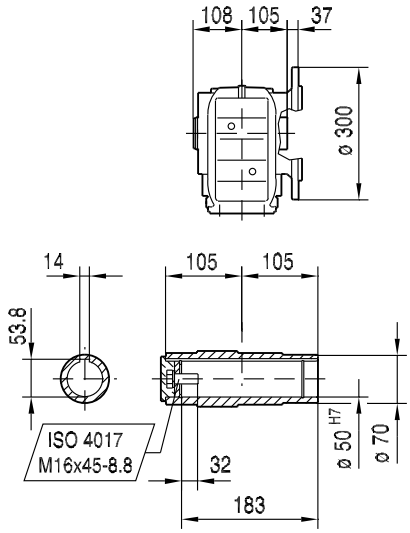
(→ 177)	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M
AC	156	179	179	197	197	221	221	261	261	314
AD	128	140	140	157	157	170	170	228	228	253
ADS	139	150	150	158	158	172	172	228	228	253
L	582	584	616	612	662	693	743	761	787	853
LS	663	677	709	706	756	805	855	899	924	1042
LB	268	270	302	298	348	379	429	447	473	539
LBS	349	363	395	392	442	491	541	585	610	728

33 058 00 14

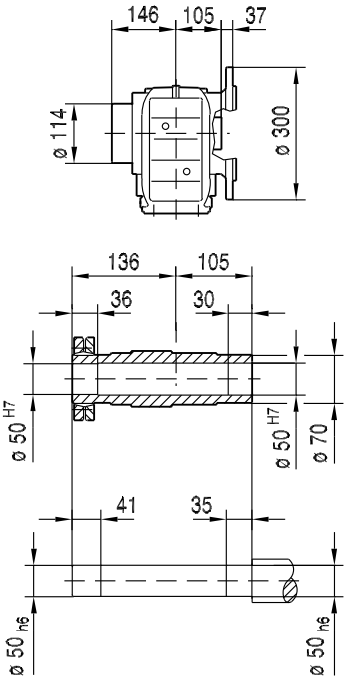
KF77..



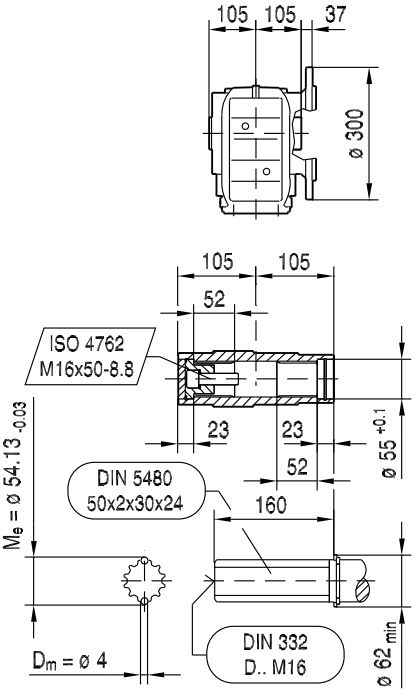
KAF77..



KHF77..



KVF77..

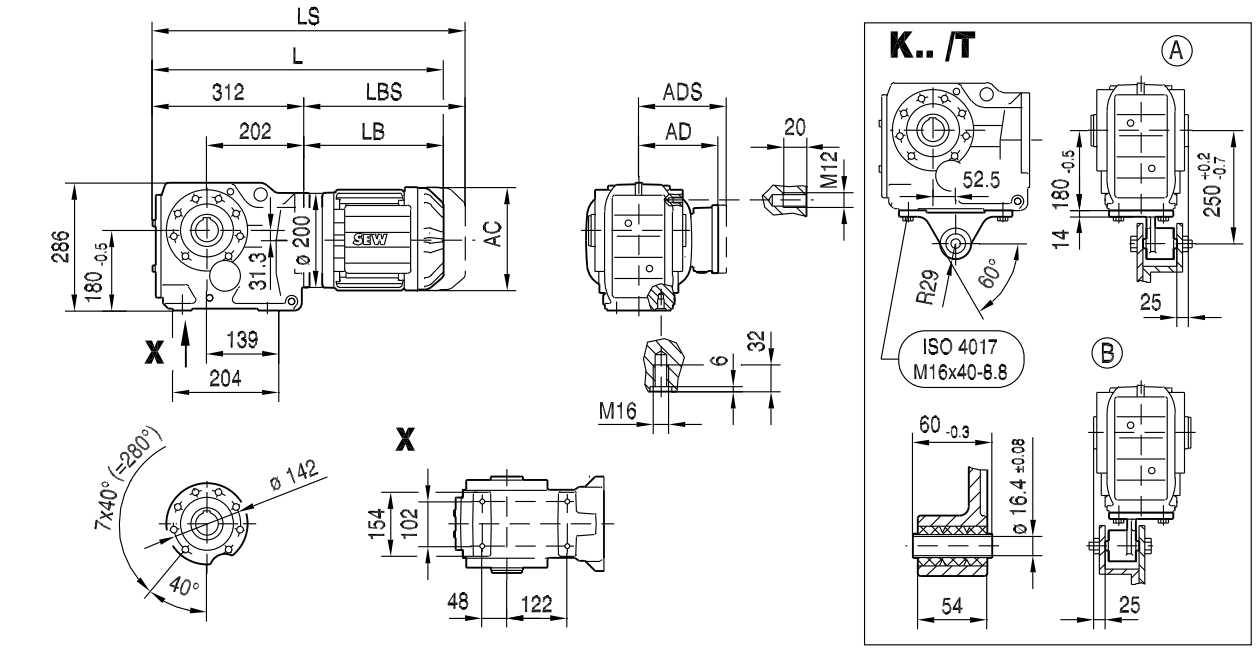


(→ 177)	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M
AC	156	179	179	197	197	221	221	261	261	314
AD	128	140	140	157	157	170	170	228	228	253
ADS	139	150	150	158	158	172	172	228	228	253
L	580	582	614	610	660	691	741	759	785	851
LS	661	675	707	704	754	803	853	897	922	1040
LB	268	270	302	298	348	379	429	447	473	539
LBS	349	363	395	392	442	491	541	585	610	728

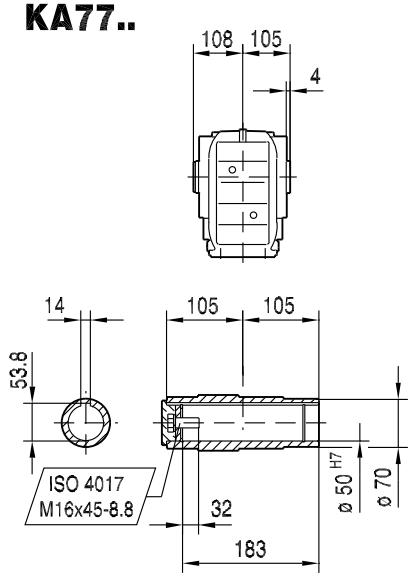
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33 059 00 14

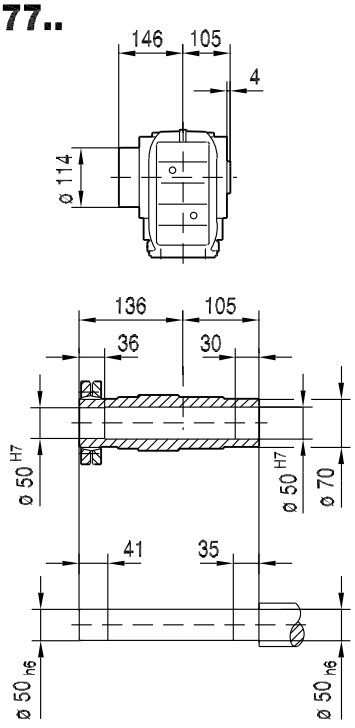
KA77..



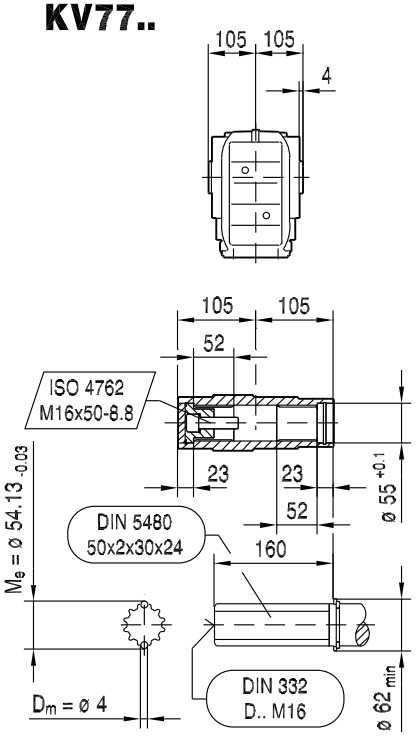
KA77..



KH77..



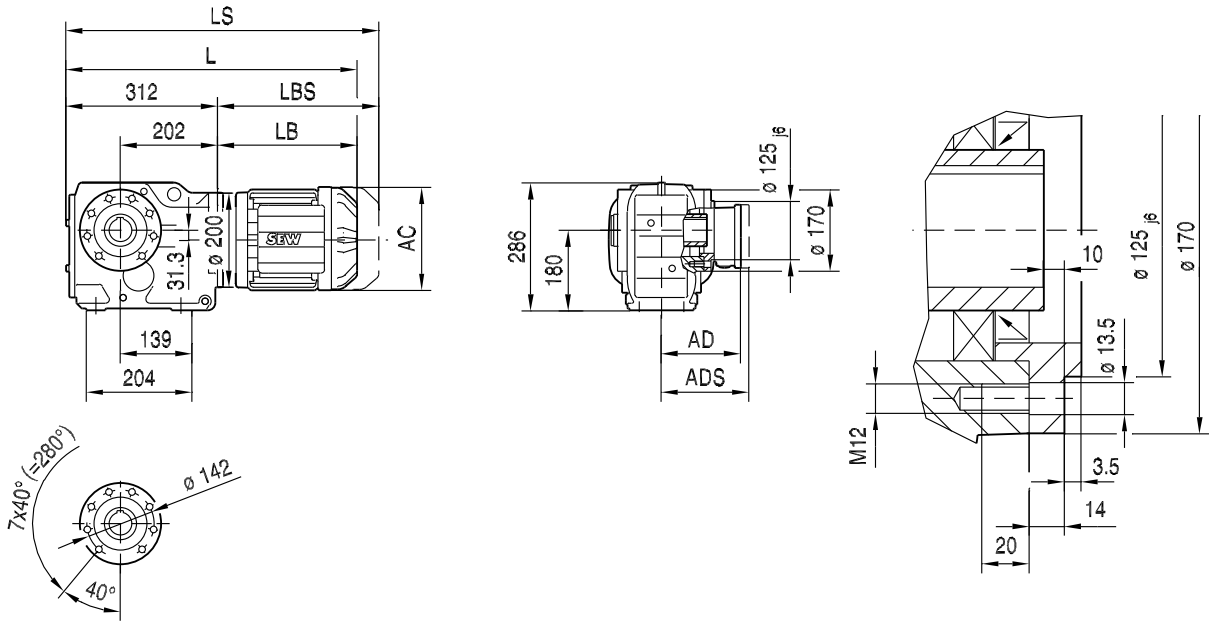
KV77..



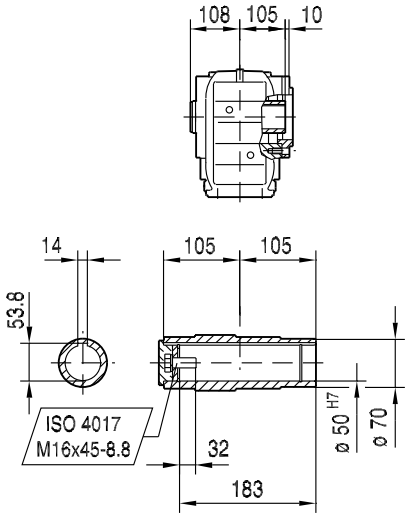
(→ 177)	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M
AC	156	179	179	197	197	221	221	261	261	314
AD	128	140	140	157	157	170	170	228	228	253
ADS	139	150	150	158	158	172	172	228	228	253
L	580	582	614	610	660	691	741	759	785	851
LS	661	675	707	704	754	803	853	897	922	1040
LB	268	270	302	298	348	379	429	447	473	539
LBS	349	363	395	392	442	491	541	585	610	728

KAZ77..

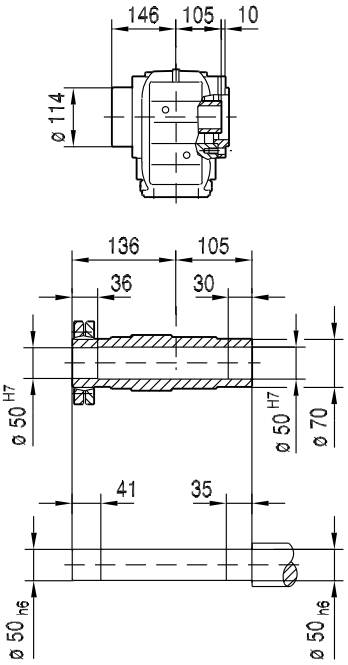
33 060 00 14



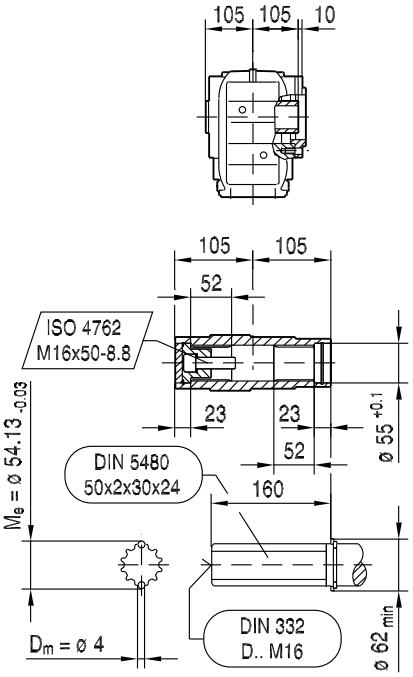
KAZ77..



KHZ77..



KVZ77..

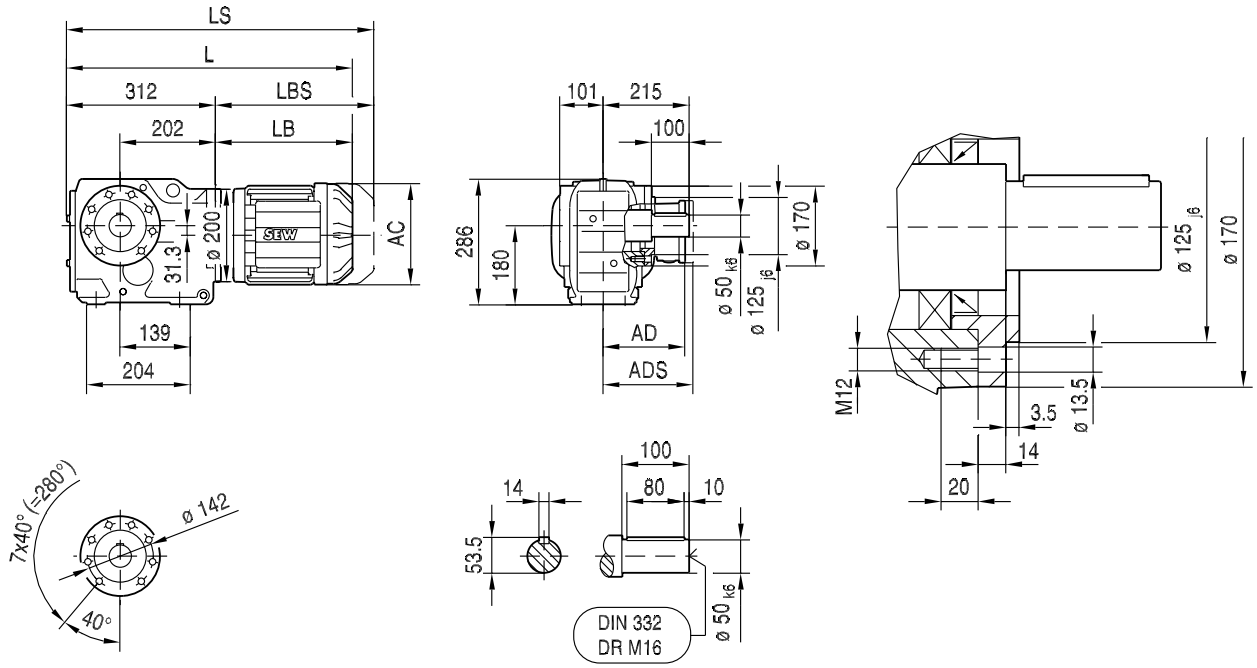


(→ 177)	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M
AC	156	179	179	197	197	221	221	261	261	314
AD	128	140	140	157	157	170	170	228	228	253
ADS	139	150	150	158	158	172	172	228	228	253
L	580	582	614	610	660	691	741	759	785	851
LS	661	675	707	704	754	803	853	897	922	1040
LB	268	270	302	298	348	379	429	447	473	539
LBS	349	363	395	392	442	491	541	585	610	728

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33 236 00 15

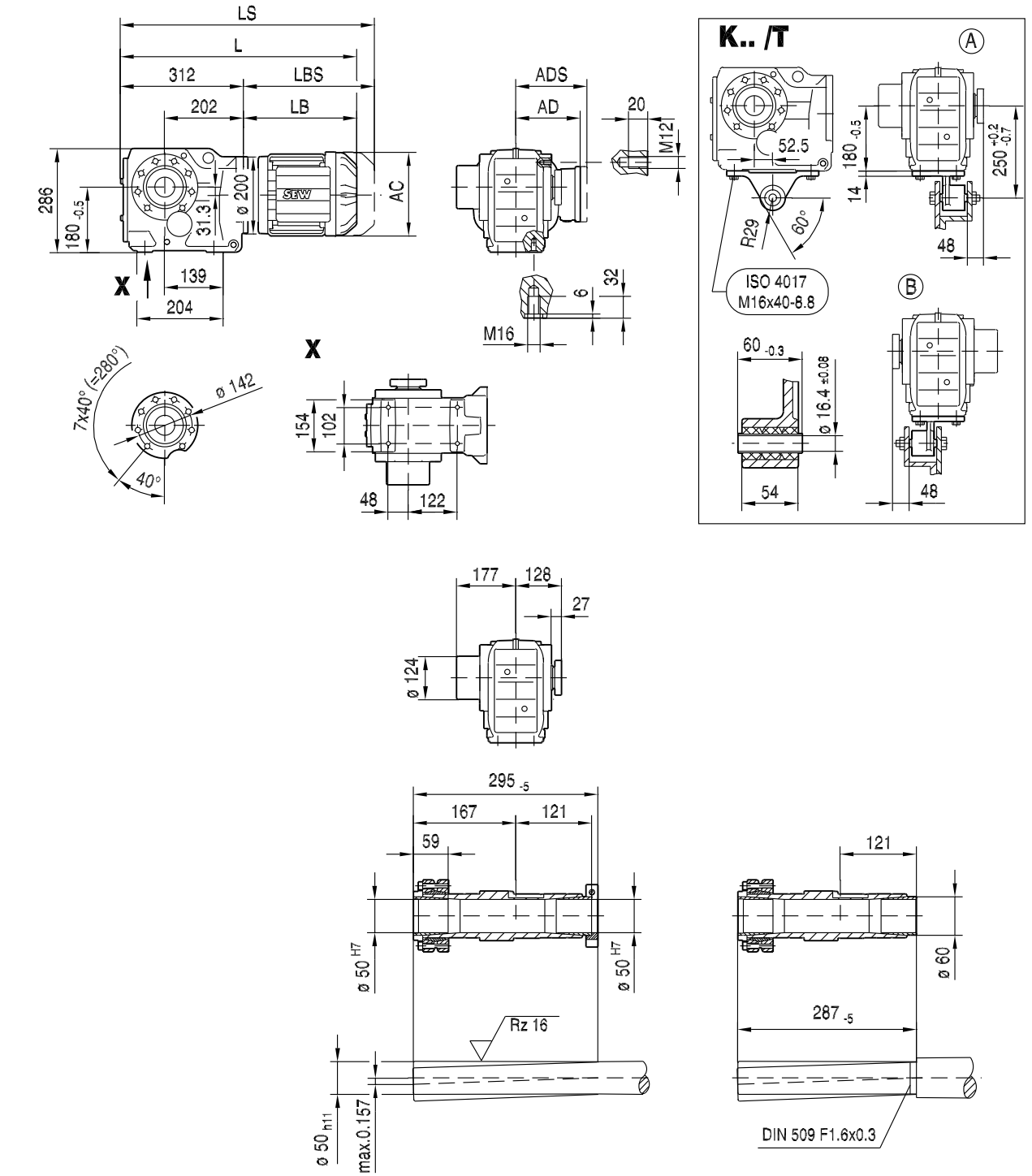
KZ77..



(→ 177)	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M
AC	156	179	179	197	197	221	221	261	261	314
AD	128	140	140	157	157	170	170	228	228	253
ADS	139	150	150	158	158	172	172	228	228	253
L	580	582	614	610	660	691	741	759	785	851
LS	661	675	707	704	754	803	853	897	922	1040
LB	268	270	302	298	348	379	429	447	473	539
LBS	349	363	395	392	442	491	541	585	610	728

KT77..

33 061 00 14

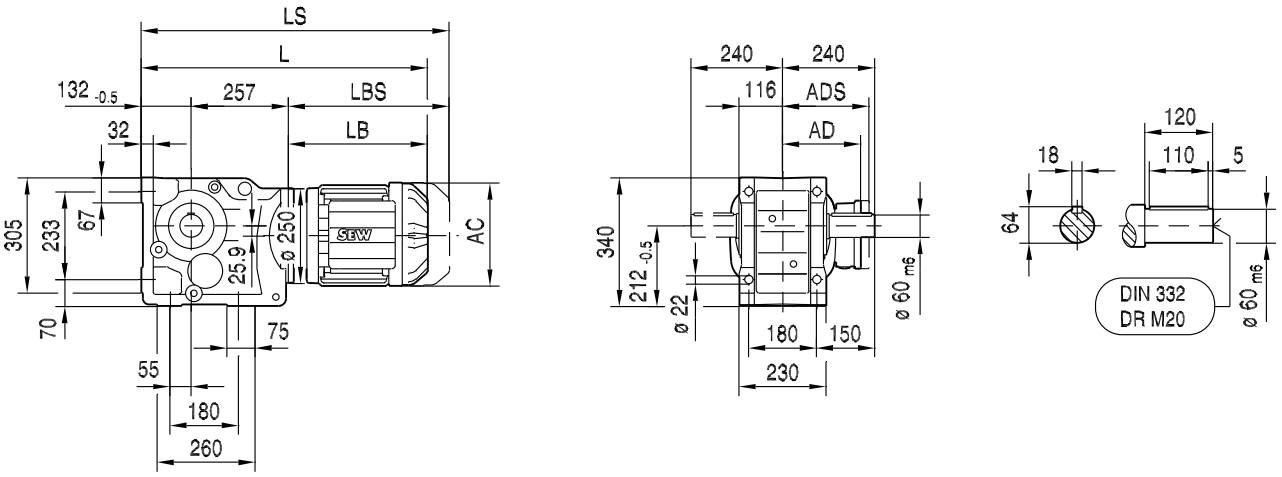


(→ 177)	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M
AC	156	179	179	197	197	221	221	261	261	314
AD	128	140	140	157	157	170	170	228	228	253
ADS	139	150	150	158	158	172	172	228	228	253
L	580	582	614	610	660	691	741	759	785	851
LS	661	675	707	704	754	803	853	897	922	1040
LB	268	270	302	298	348	379	429	447	473	539
LBS	349	363	395	392	442	491	541	585	610	728

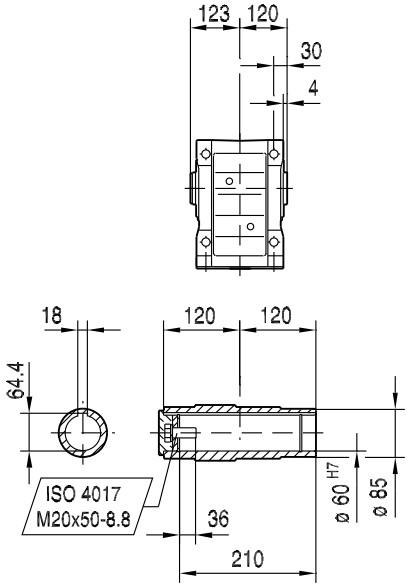
22742654/EN – 08/2016

K87..

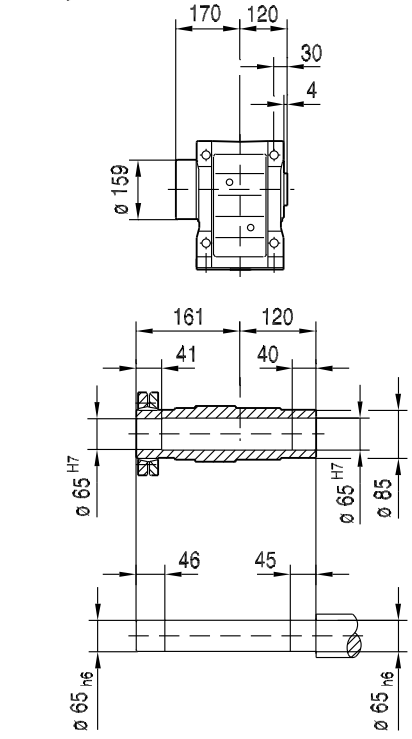
33 062 00 14



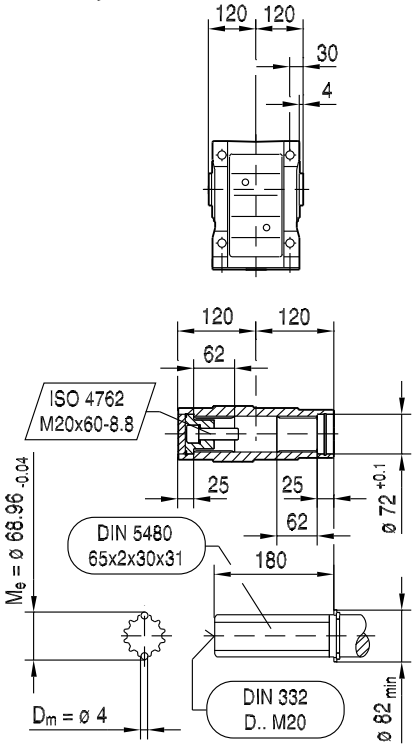
KA87B..



KH87B..



KV87B..

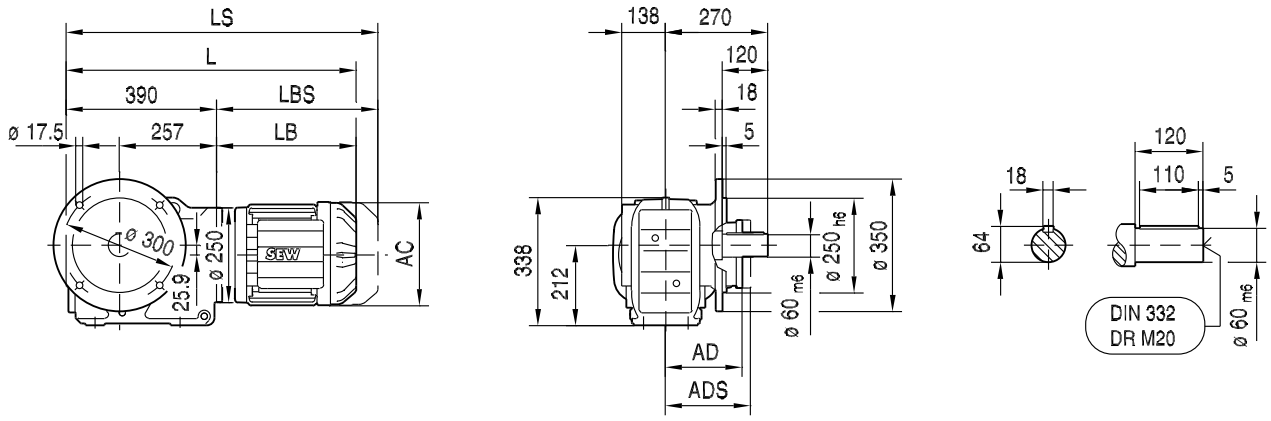


(→ 177)	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	179	197	197	221	221	261	261	314	314	357
AD	140	157	157	170	170	228	228	253	253	268
ADS	150	158	158	172	172	228	228	253	253	268
L	686	682	732	763	813	831	857	923	923	946
LS	779	776	826	875	925	969	994	1112	1112	1135
LB	297	293	343	374	424	442	468	534	534	557
LBS	390	387	437	486	536	580	605	723	723	746

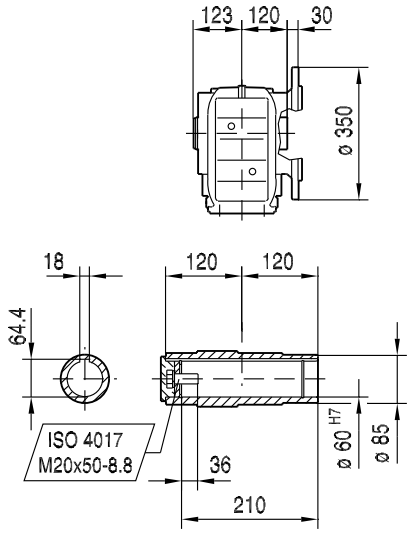
22742654/EN – 08/2016

33 063 00 14

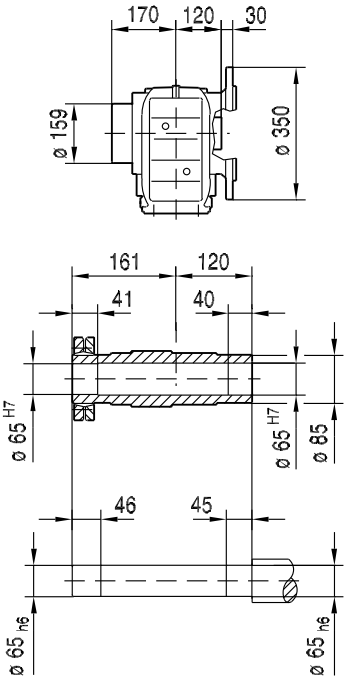
KF87..



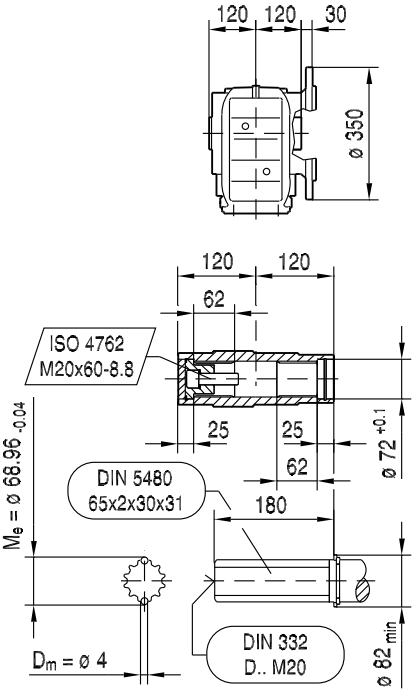
KAF87..



KHF87..



KVF87..

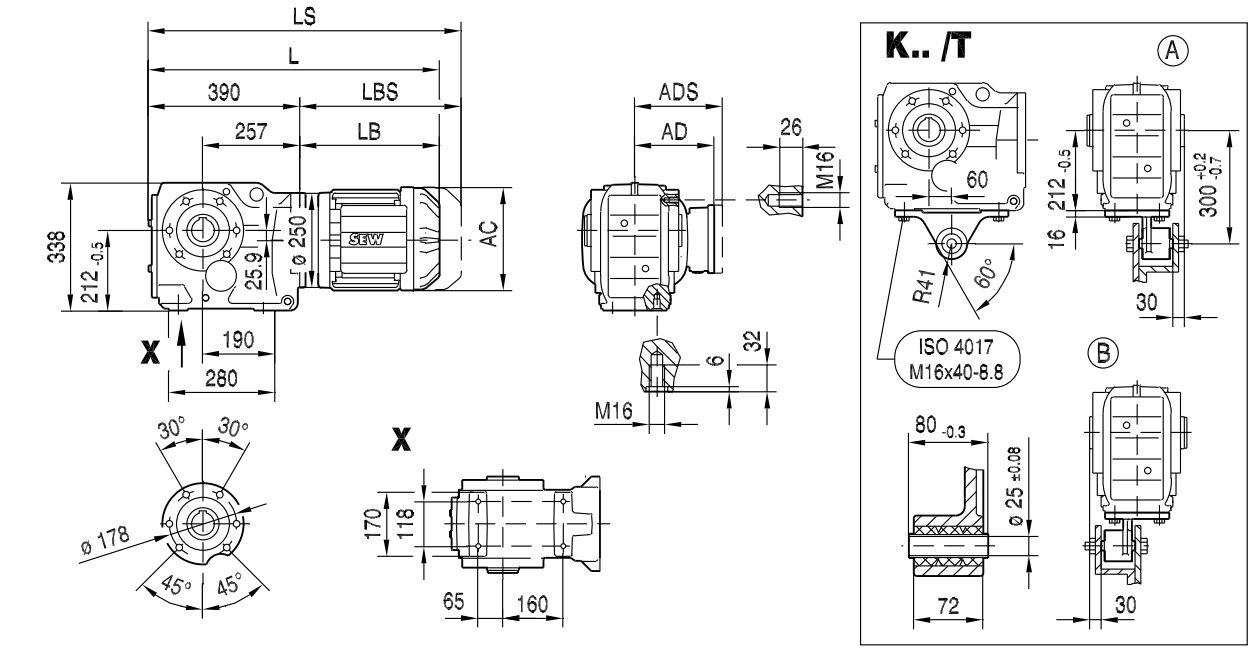


(→ 177)	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	179	197	197	221	221	261	261	314	314	357
AD	140	157	157	170	170	228	228	253	253	268
ADS	150	158	158	172	172	228	228	253	253	268
L	687	683	733	764	814	832	858	924	924	947
LS	780	777	827	876	926	970	995	1113	1113	1136
LB	297	293	343	374	424	442	468	534	534	557
LBS	390	387	437	486	536	580	605	723	723	746

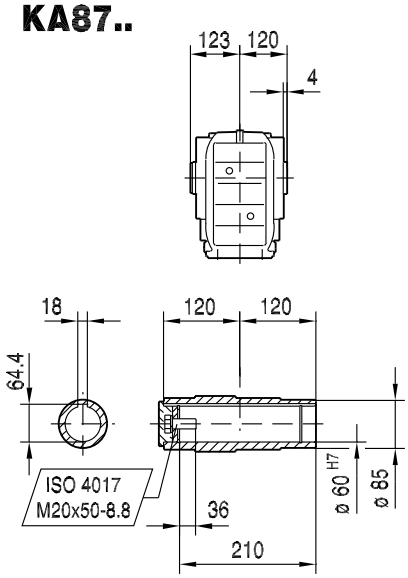
22742654/EN – 08/2016

33 064 00 14

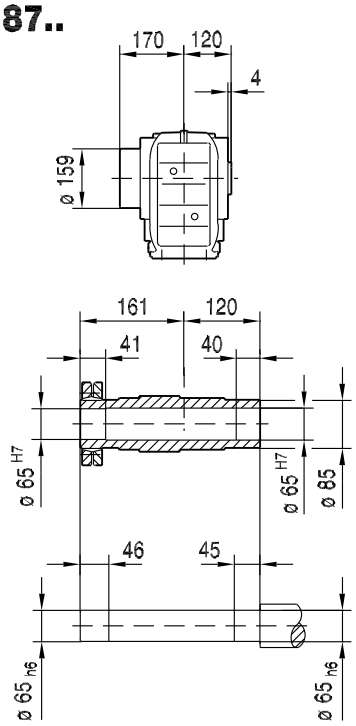
KA87..



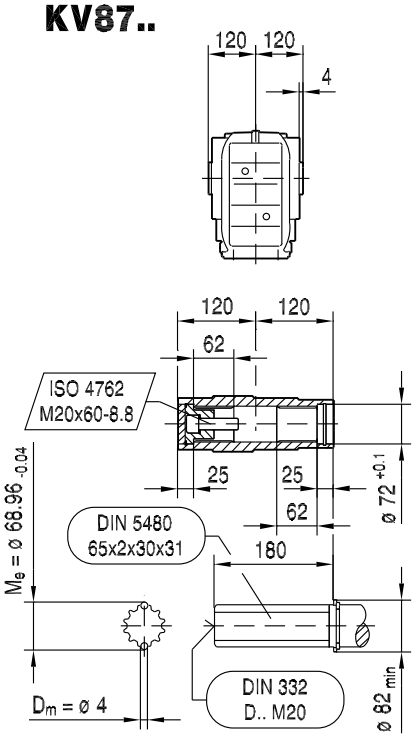
KA87..



KH87..



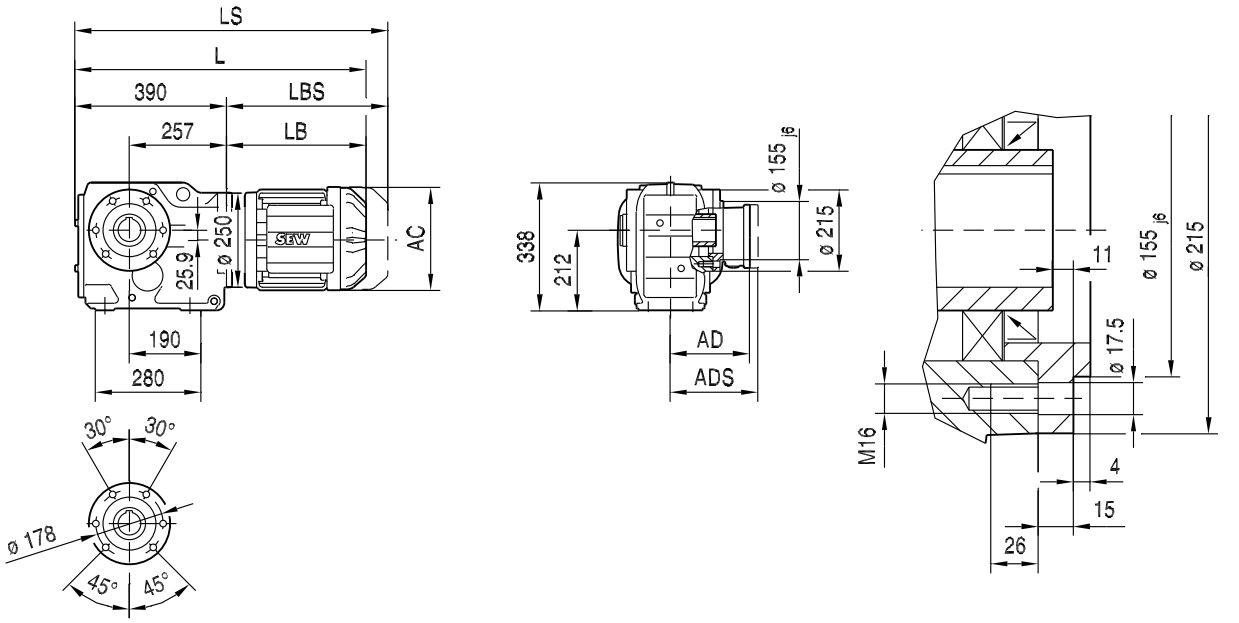
KV87..



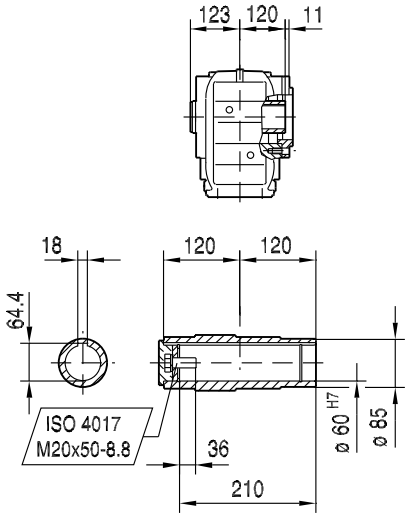
(→ 177)	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	179	197	197	221	221	261	261	314	314	357
AD	140	157	157	170	170	228	228	253	253	268
ADS	150	158	158	172	172	228	228	253	253	268
L	687	683	733	764	814	832	858	924	924	947
LS	780	777	827	876	926	970	995	1113	1113	1136
LB	297	293	343	374	424	442	468	534	534	557
LBS	390	387	437	486	536	580	605	723	723	746

33 065 00 14

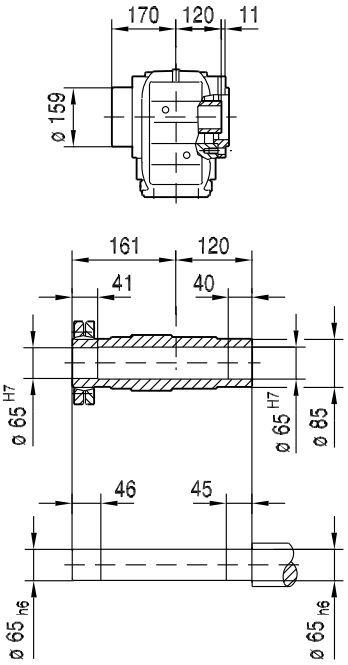
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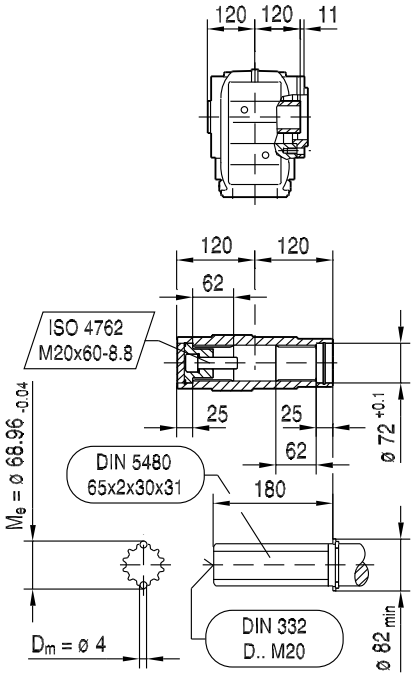
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KHZ87..



KVZ87..

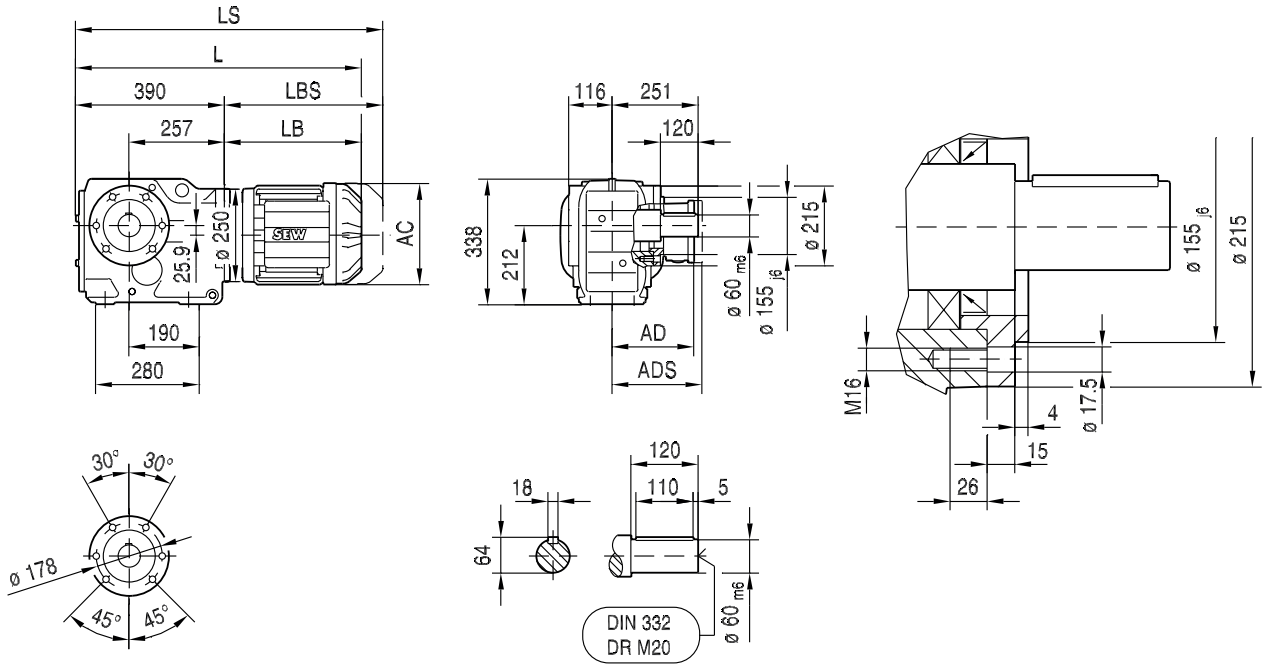


(→ 177)	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	179	197	197	221	221	261	261	314	314	357
AD	140	157	157	170	170	228	228	253	253	268
ADS	150	158	158	172	172	228	228	253	253	268
L	687	683	733	764	814	832	858	924	924	947
LS	780	777	827	876	926	970	995	1113	1113	1136
LB	297	293	343	374	424	442	468	534	534	557
LBS	390	387	437	486	536	580	605	723	723	746

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KZ87..

33 237 00 15

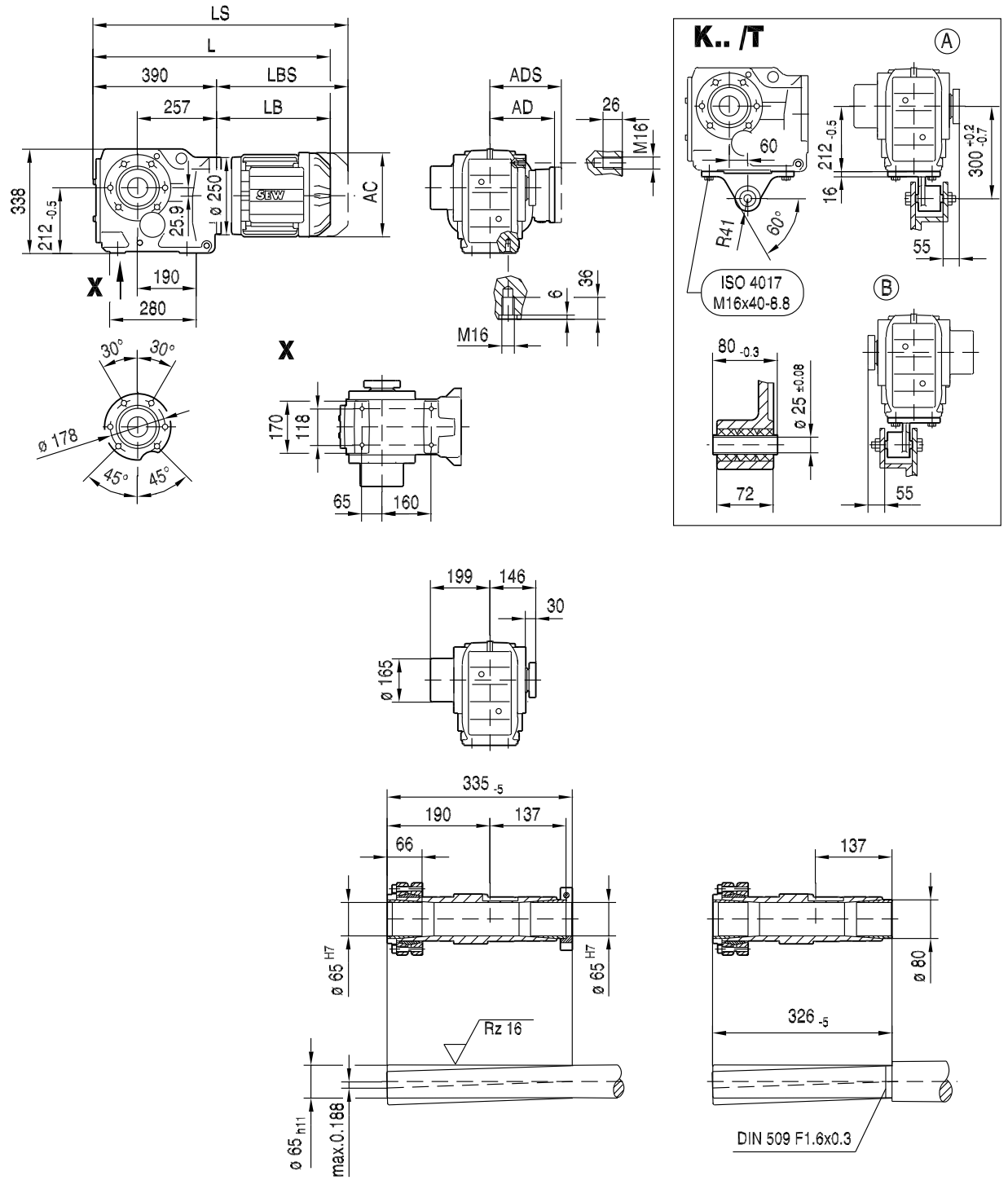


(→ 177)	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	179	197	197	221	221	261	261	314	314	357
AD	140	157	157	170	170	228	228	253	253	268
ADS	150	158	158	172	172	228	228	253	253	268
L	687	683	733	764	814	832	858	924	924	947
LS	780	777	827	876	926	970	995	1113	1113	1136
LB	297	293	343	374	424	442	468	534	534	557
LBS	390	387	437	486	536	580	605	723	723	746

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KT87..

33 066 00 14

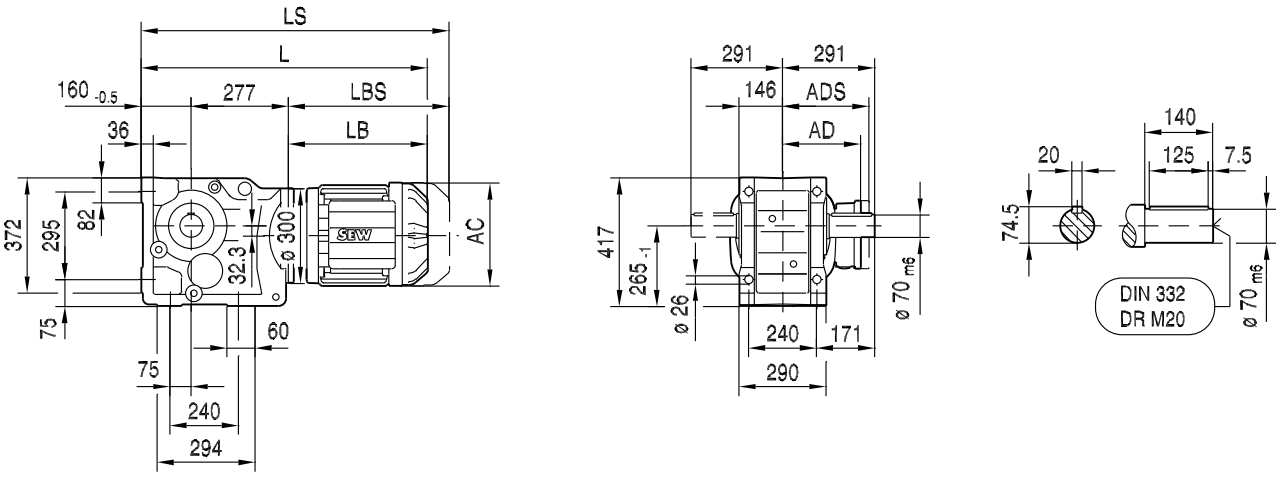


(→ 177)	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	179	197	197	221	221	261	261	314	314	357
AD	140	157	157	170	170	228	228	253	253	268
ADS	150	158	158	172	172	228	228	253	253	268
L	687	683	733	764	814	832	858	924	924	947
LS	780	777	827	876	926	970	995	1113	1113	1136
LB	297	293	343	374	424	442	468	534	534	557
LBS	390	387	437	486	536	580	605	723	723	746

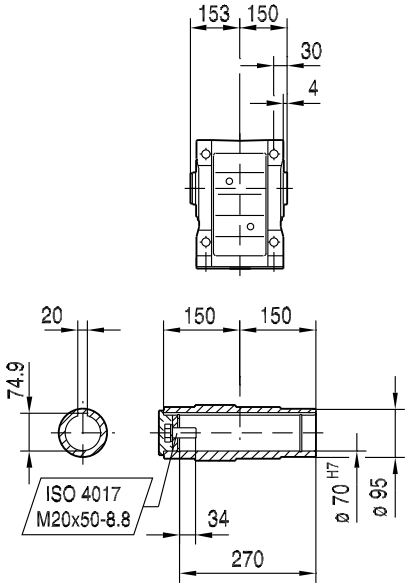
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33 067 00 14

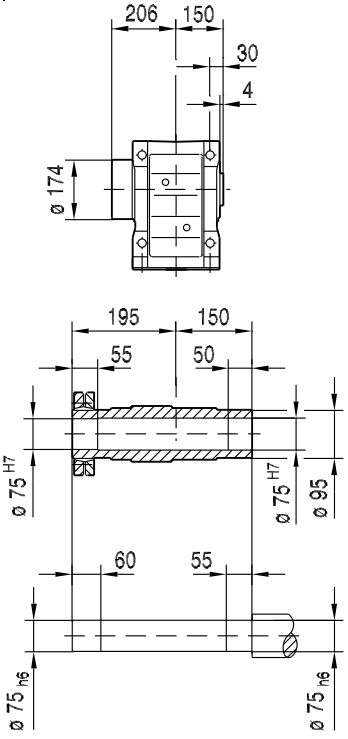
K97..



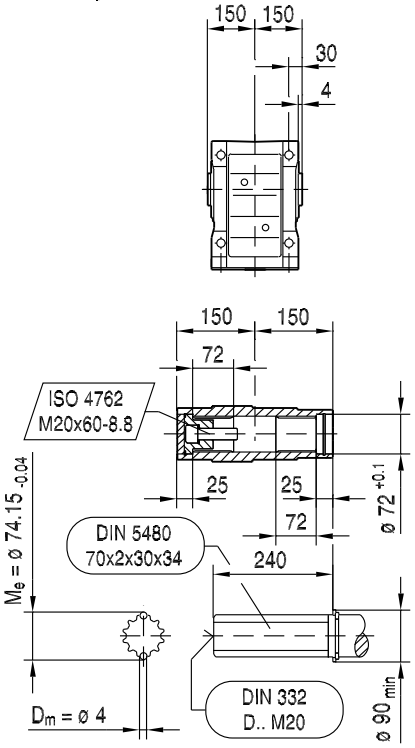
KA97B..



KH97B..



KV97B..

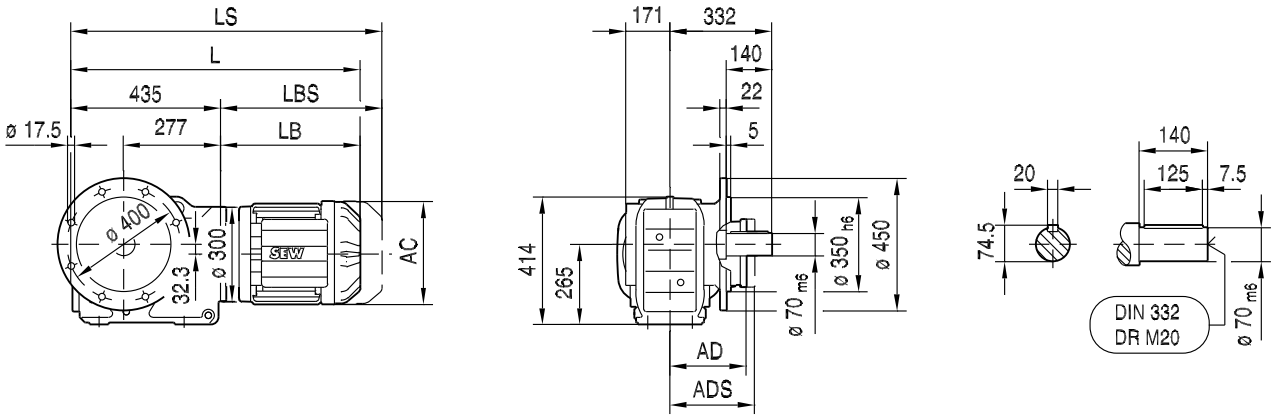


(→ 177)	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L
AC	197	197	221	221	261	261	314	314	357	394
AD	157	157	170	170	228	228	253	253	268	283
ADS	158	158	172	172	228	228	253	253	268	283
L	725	775	806	856	874	900	966	966	989	1099
LS	819	869	918	968	1012	1037	1155	1155	1178	1304
LB	288	338	369	419	437	463	529	529	552	662
LBS	382	432	481	531	575	600	718	718	741	867

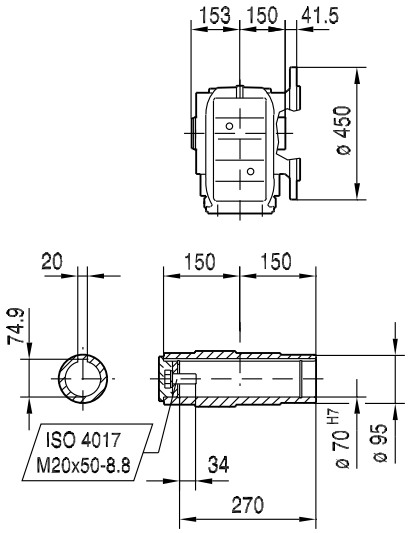
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KF97..

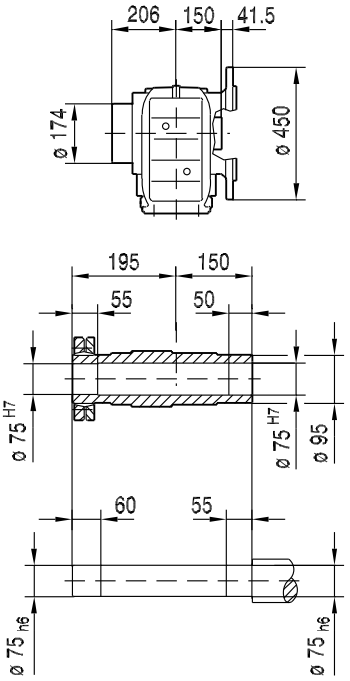
33 068 00 14



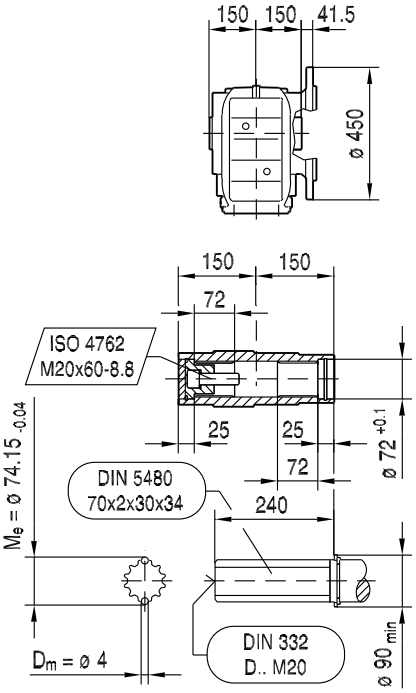
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KHF97..



KVF97..

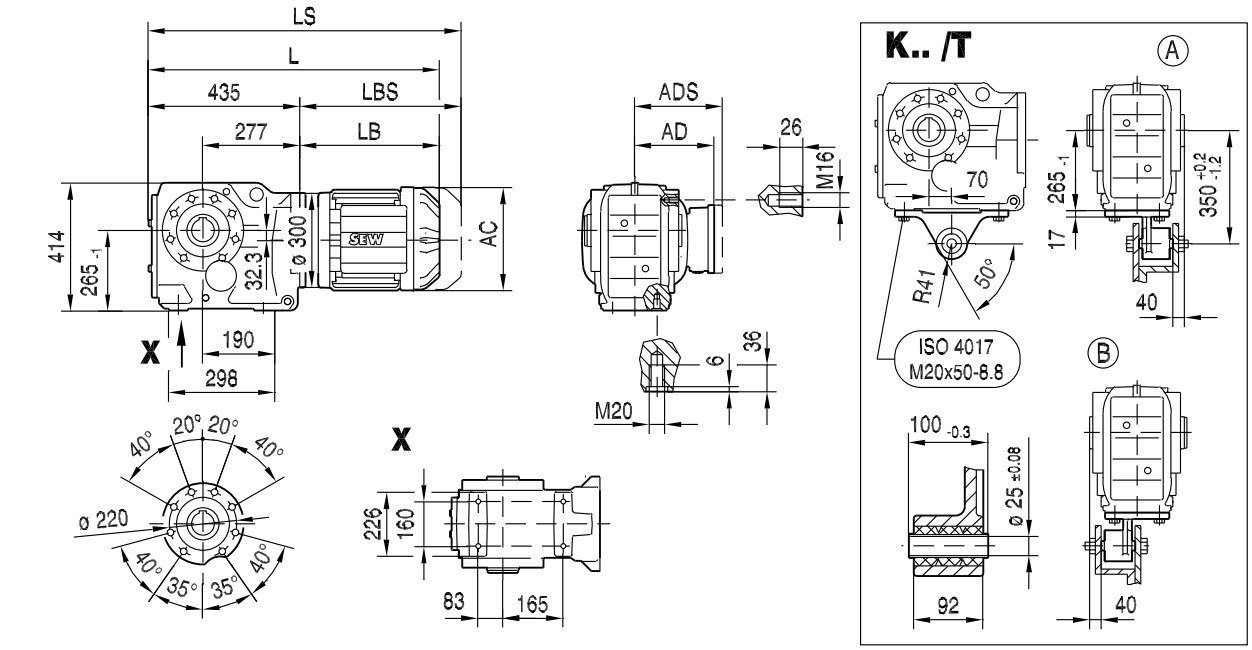


(→ 177)	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L
AC	197	197	221	221	261	261	314	314	357	394
AD	157	157	170	170	228	228	253	253	268	283
ADS	158	158	172	172	228	228	253	253	268	283
L	723	773	804	854	872	898	964	964	987	1097
LS	817	867	916	966	1010	1035	1153	1153	1176	1302
LB	288	338	369	419	437	463	529	529	552	662
LBS	382	432	481	531	575	600	718	718	741	867

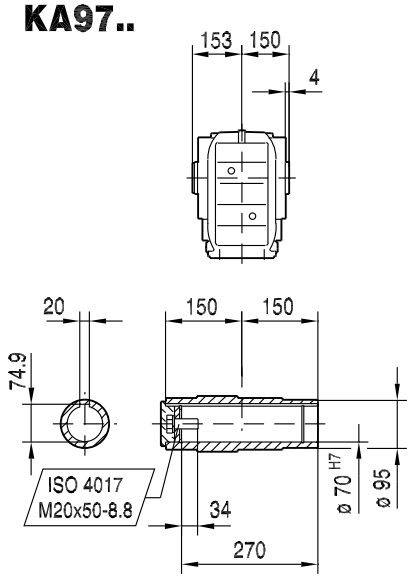
22742654/EN – 08/2016

33 069 00 14

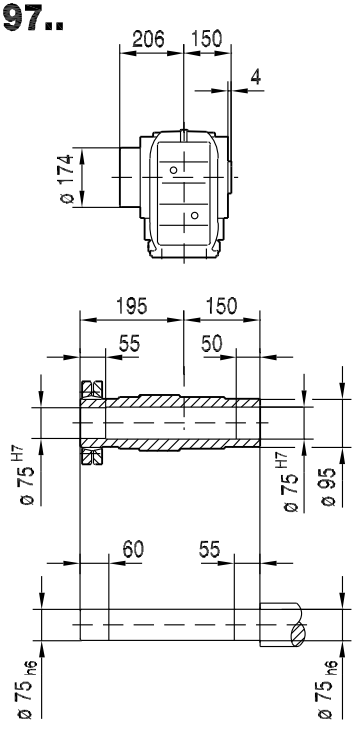
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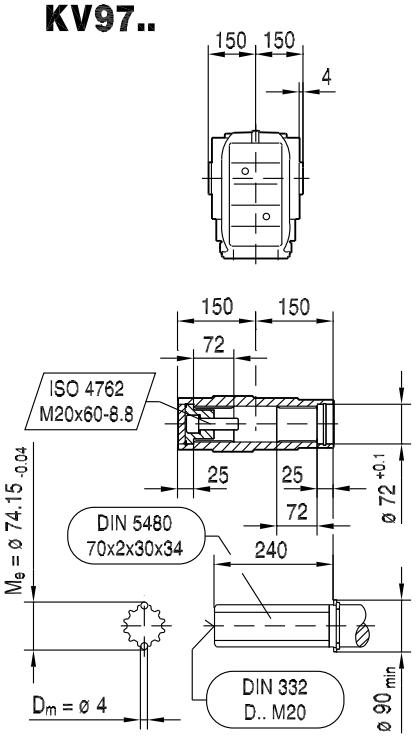
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KH97..



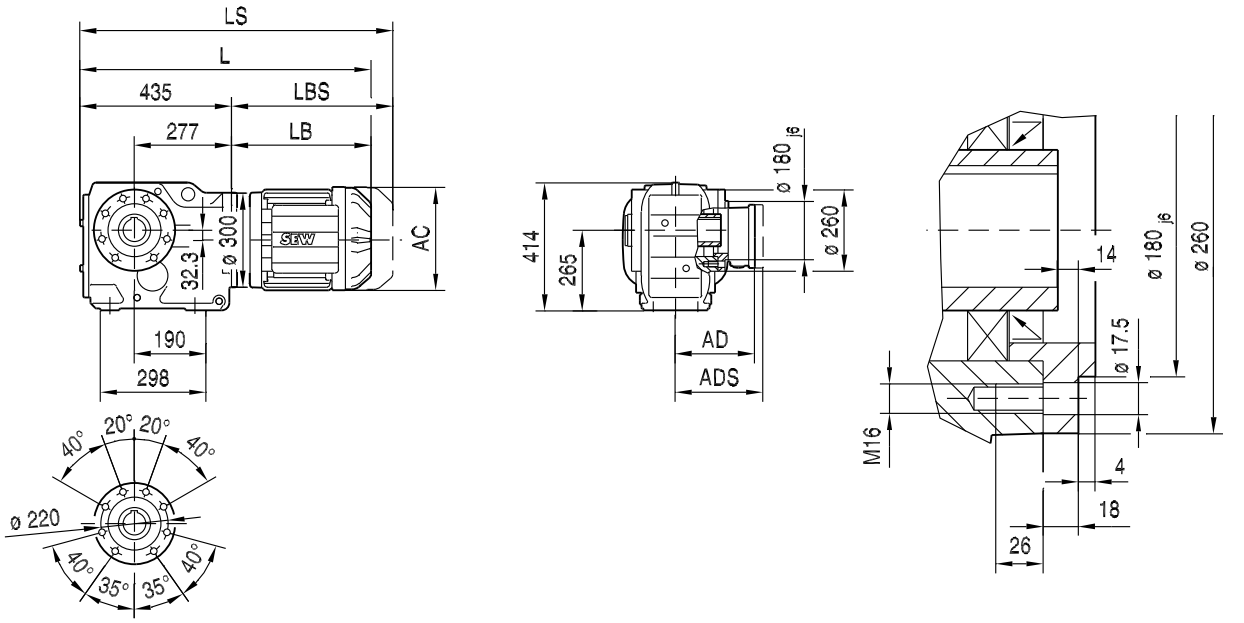
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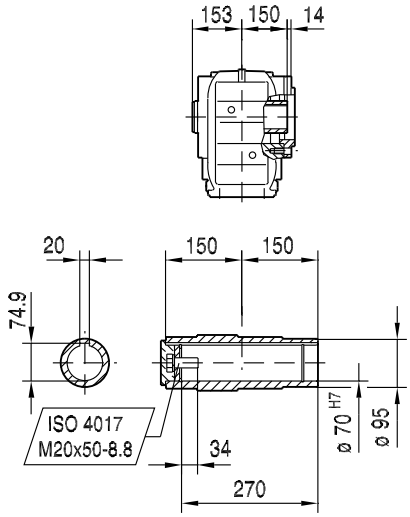
(→ 177)	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L
AC	197	197	221	221	261	261	314	314	357	394
AD	157	157	170	170	228	228	253	253	268	283
ADS	158	158	172	172	228	228	253	253	268	283
L	723	773	804	854	872	898	964	964	987	1097
LS	817	867	916	966	1010	1035	1153	1153	1176	1302
LB	288	338	369	419	437	463	529	529	552	662
LBS	382	432	481	531	575	600	718	718	741	867

33 070 00 14

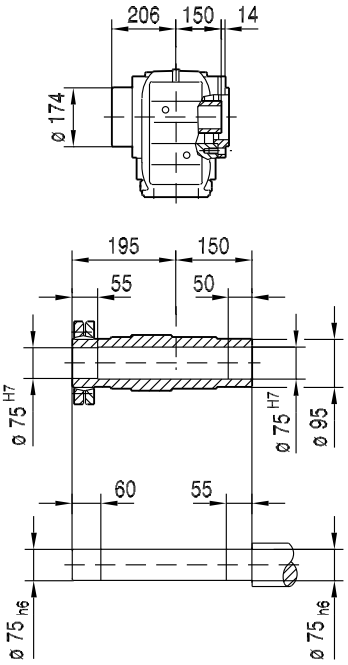
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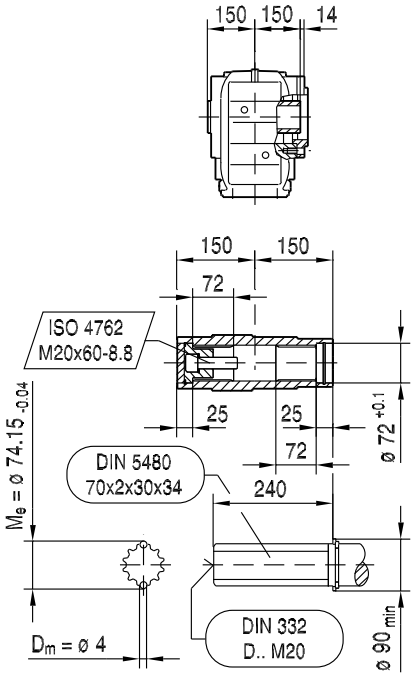
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KHZ97..



KVZ97..

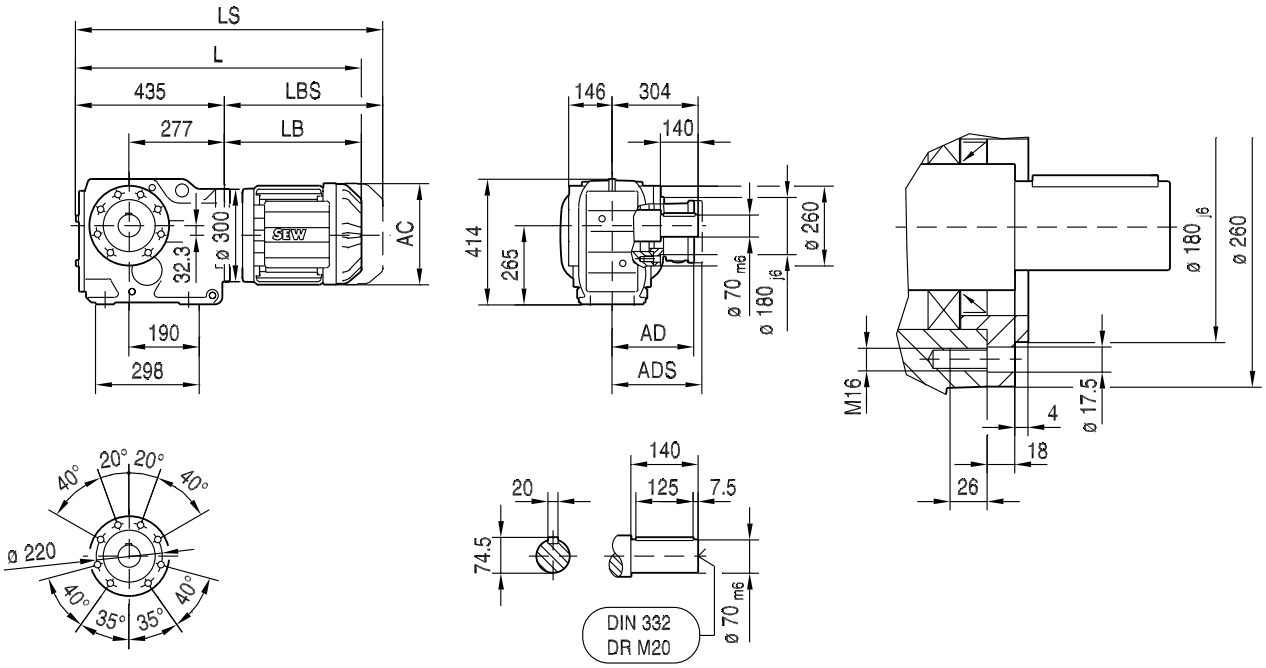


(→ 177)	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L
AC	197	197	221	221	261	261	314	314	357	394
AD	157	157	170	170	228	228	253	253	268	283
ADS	158	158	172	172	228	228	253	253	268	283
L	723	773	804	854	872	898	964	964	987	1097
LS	817	867	916	966	1010	1035	1153	1153	1176	1302
LB	288	338	369	419	437	463	529	529	552	662
LBS	382	432	481	531	575	600	718	718	741	867

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33 238 00 15

KZ97..

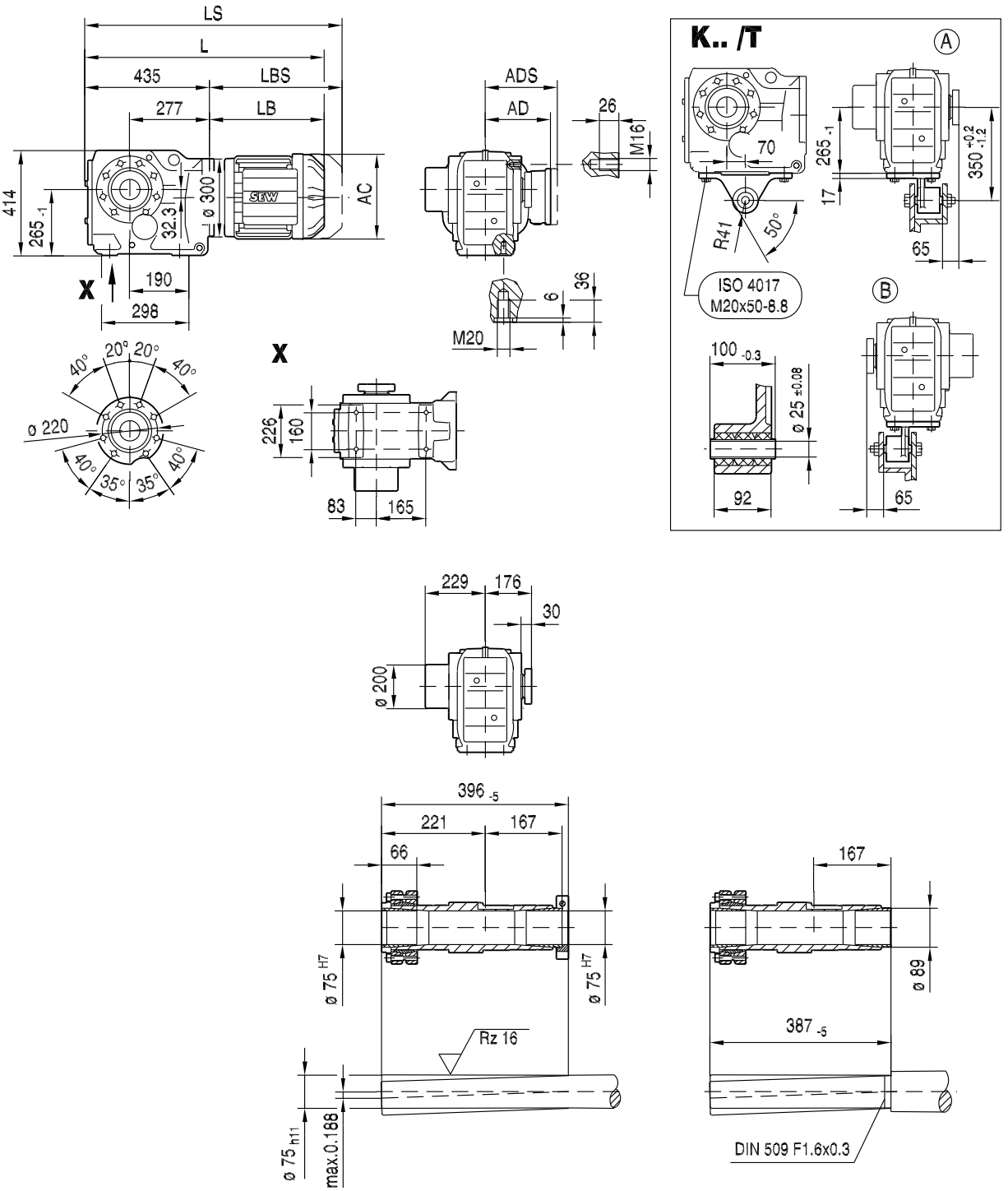


(→ 177)	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L
AC	197	197	221	221	261	261	314	314	357	394
AD	157	157	170	170	228	228	253	253	268	283
ADS	158	158	172	172	228	228	253	253	268	283
L	723	773	804	854	872	898	964	964	987	1097
LS	817	867	916	966	1010	1035	1153	1153	1176	1302
LB	288	338	369	419	437	463	529	529	552	662
LBS	382	432	481	531	575	600	718	718	741	867

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KT97..

33 071 00 14

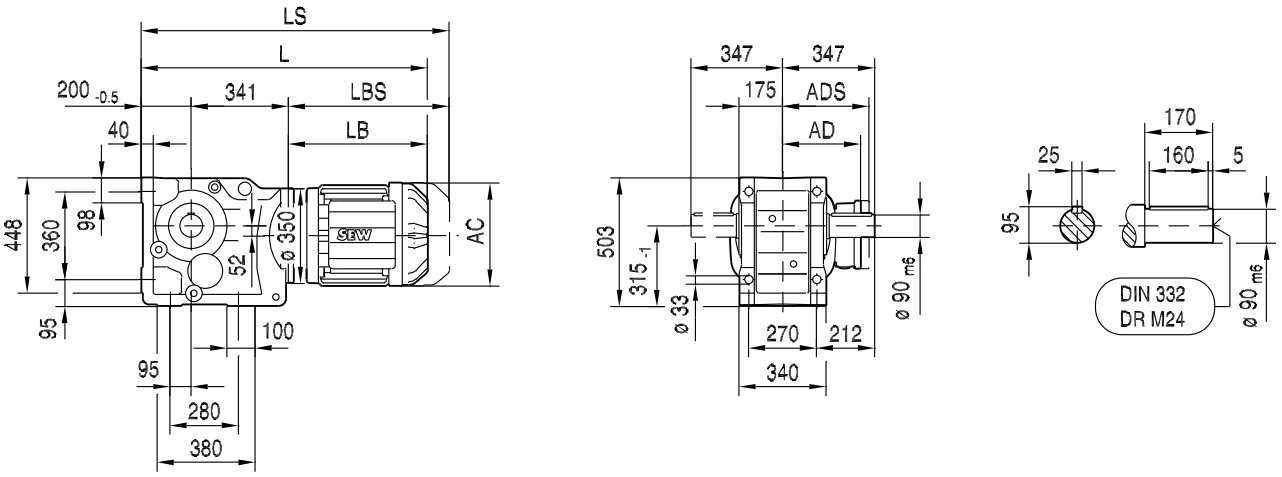


(→ 177)	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L
AC	197	197	221	221	261	261	314	314	357	394
AD	157	157	170	170	228	228	253	253	268	283
ADS	158	158	172	172	228	228	253	253	268	283
L	723	773	804	854	872	898	964	964	987	1097
LS	817	867	916	966	1010	1035	1153	1153	1176	1302
LB	288	338	369	419	437	463	529	529	552	662
LBS	382	432	481	531	575	600	718	718	741	867

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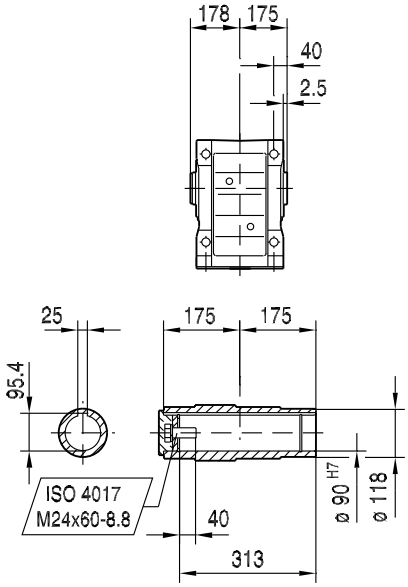
33 072 00 14

K107..

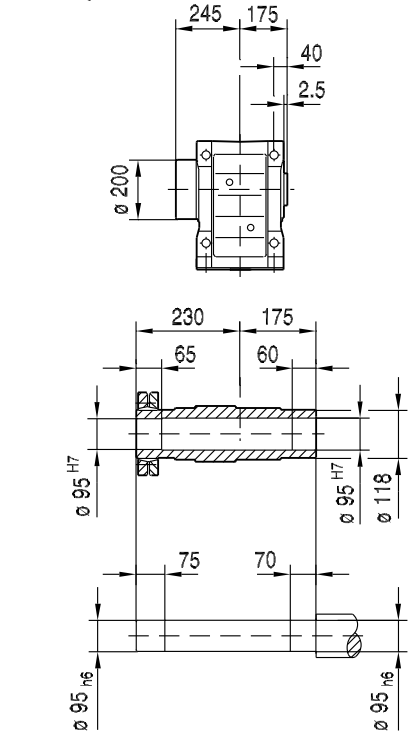


10

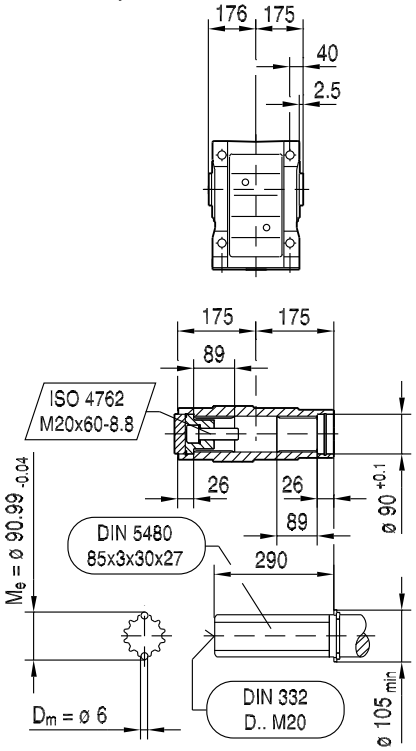
KA107B..



KH107B..



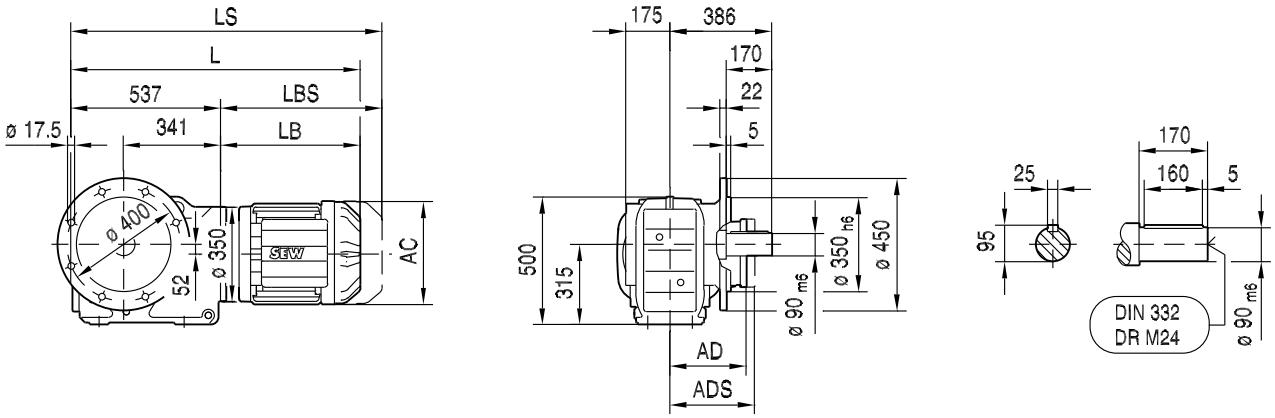
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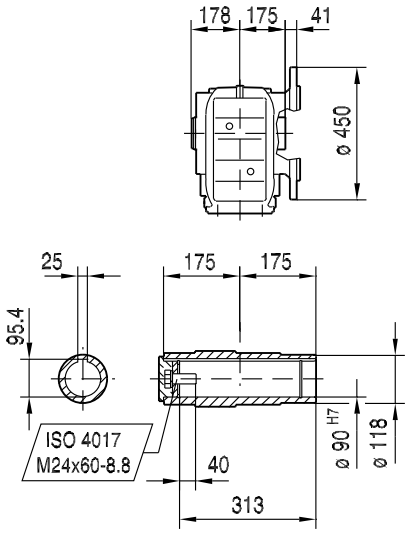
(→ 177)	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..
AC	197	221	221	261	261	314	314	357	394	434
AD	157	170	170	228	228	253	253	268	283	305
ADS	158	172	172	228	228	253	253	268	283	305
L	873	904	954	972	998	1064	1064	1087	1197	1171
LS	967	1016	1066	1110	1135	1253	1253	1276	1402	1376
LB	332	363	413	431	457	523	523	546	656	630
LBS	426	475	525	569	594	712	712	735	861	835

KF107..

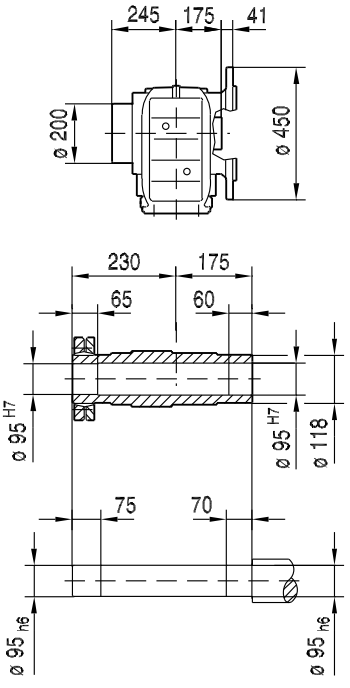
33 073 00 14



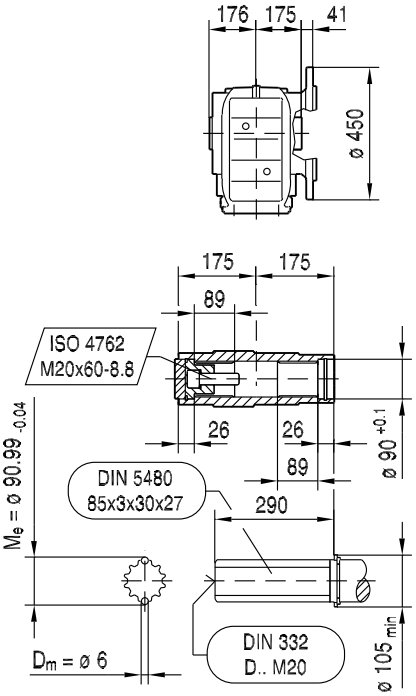
KAF107..



KHF107..



KVF107..

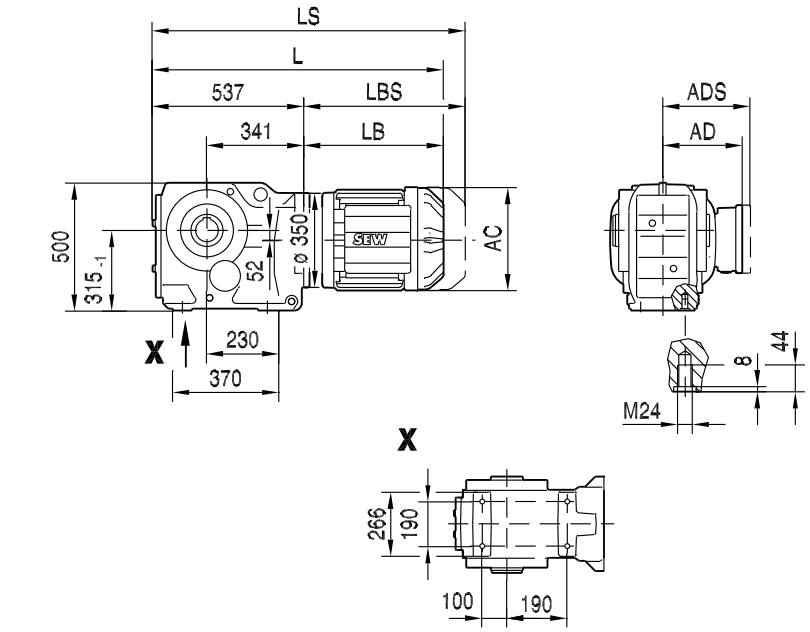


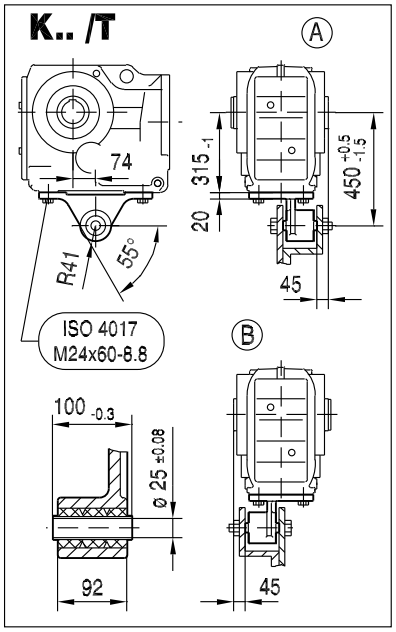
(→ 177)	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..
AC	197	221	221	261	261	314	314	357	394	434
AD	157	170	170	228	228	253	253	268	283	305
ADS	158	172	172	228	228	253	253	268	283	305
L	869	900	950	968	994	1060	1060	1083	1193	1167
LS	963	1012	1062	1106	1131	1249	1249	1272	1398	1372
LB	332	363	413	431	457	523	523	546	656	630
LBS	426	475	525	569	594	712	712	735	861	835

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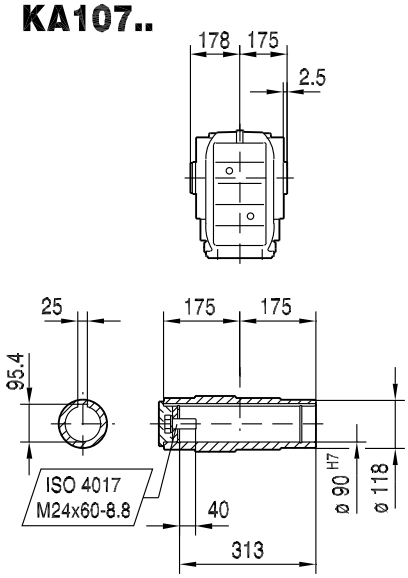
33 074 00 14

KA107..

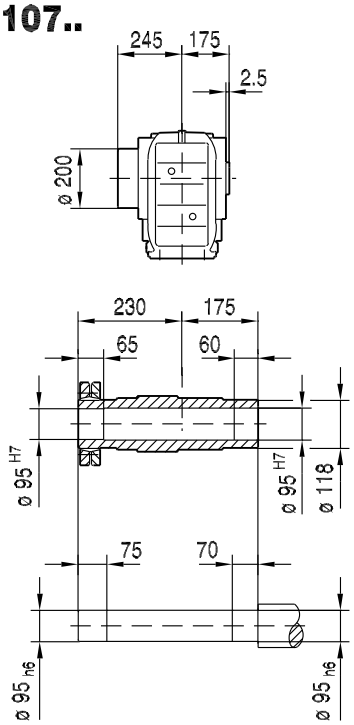




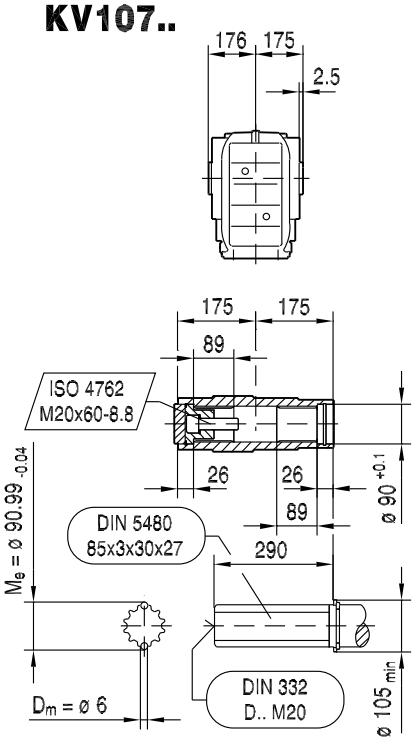
KA107..



KH107..



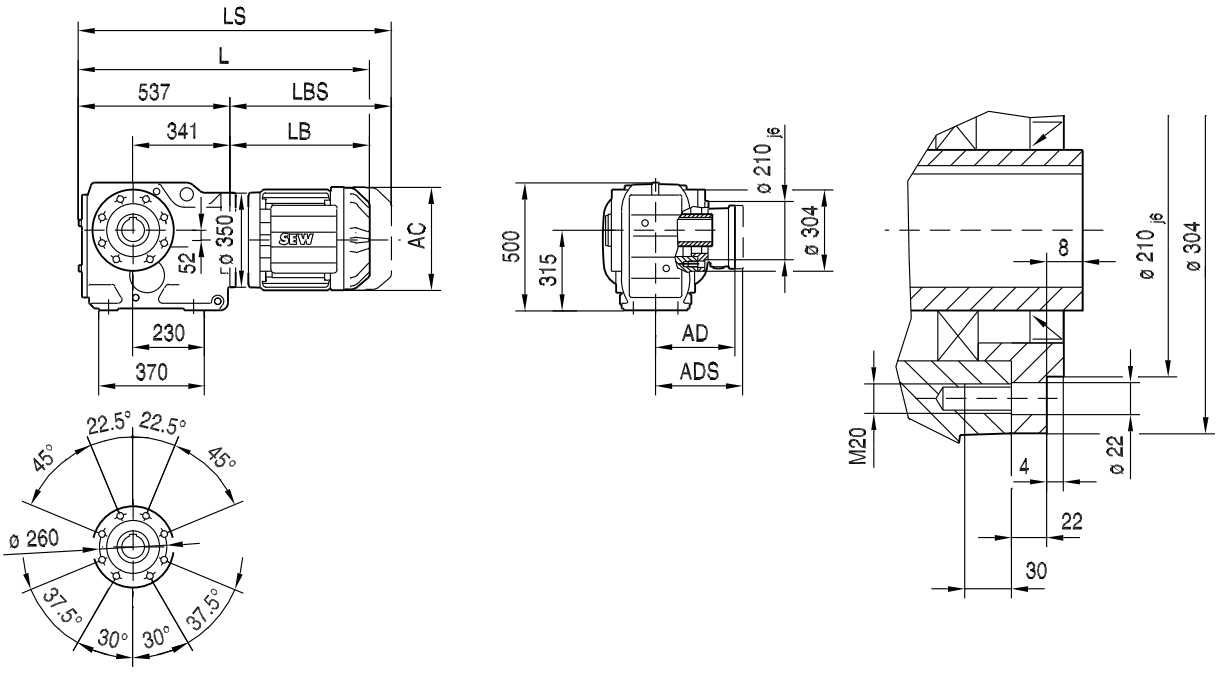
KV107..



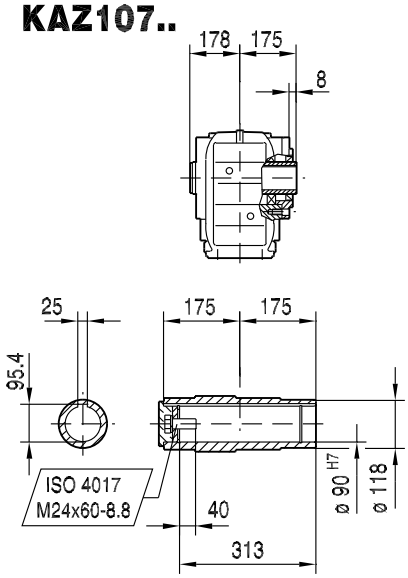
(→ 177)	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..
AC	197	221	221	261	261	314	314	357	394	434
AD	157	170	170	228	228	253	253	268	283	305
ADS	158	172	172	228	228	253	253	268	283	305
L	869	900	950	968	994	1060	1060	1083	1193	1167
LS	963	1012	1062	1106	1131	1249	1249	1272	1398	1372
LB	332	363	413	431	457	523	523	546	656	630
LBS	426	475	525	569	594	712	712	735	861	835

33 075 00 14

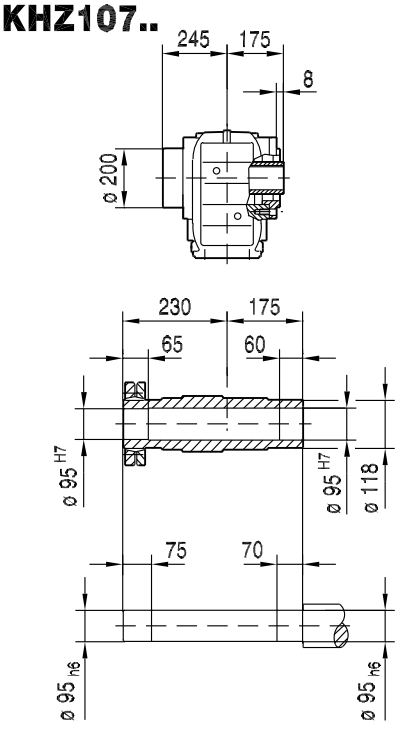
KAZ107..



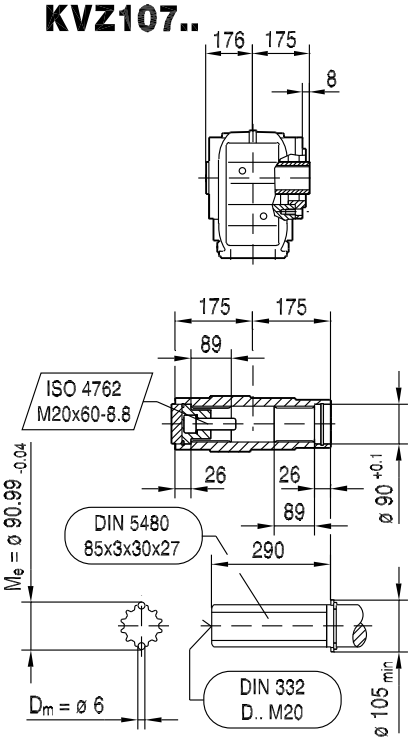
KAZ107..



KHZ107..



KVZ107..

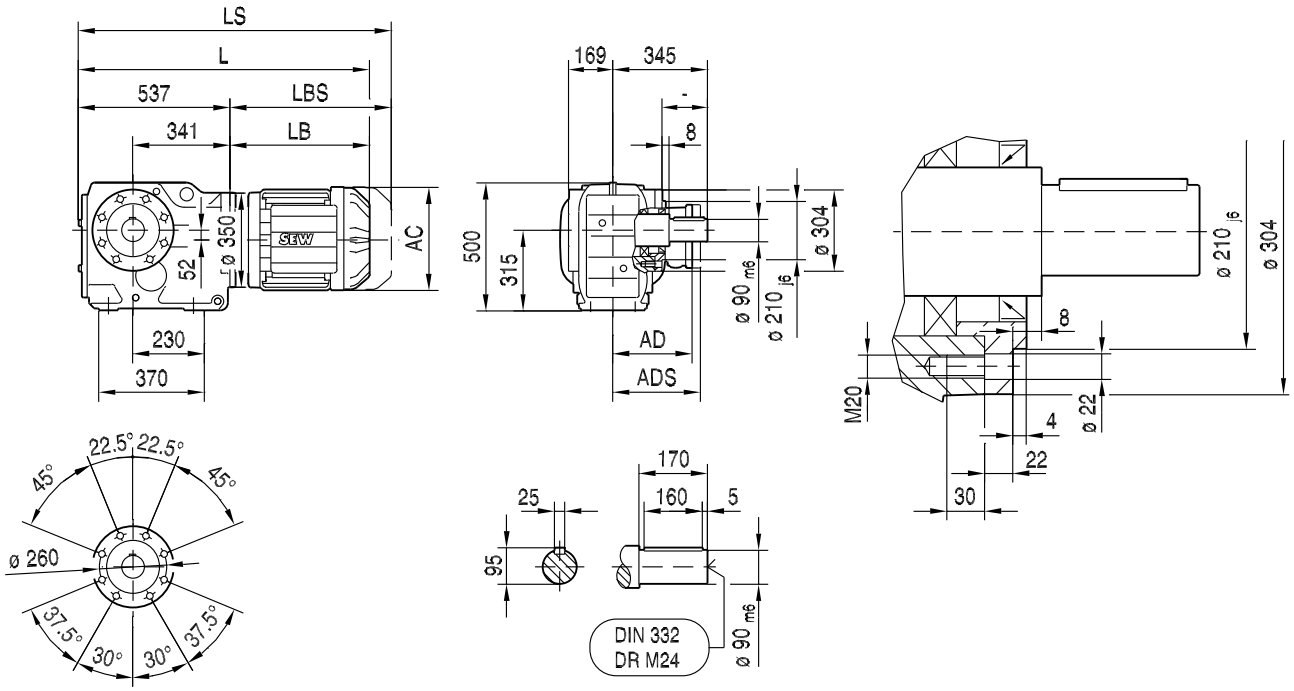


(→ 177)	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..
AC	197	221	221	261	261	314	314	357	394	434
AD	157	170	170	228	228	253	253	268	283	305
ADS	158	172	172	228	228	253	253	268	283	305
L	869	900	950	968	994	1060	1060	1083	1193	1167
LS	963	1012	1062	1106	1131	1249	1249	1272	1398	1372
LB	332	363	413	431	457	523	523	546	656	630
LBS	426	475	525	569	594	712	712	735	861	835

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KZ107..

33 239 00 15

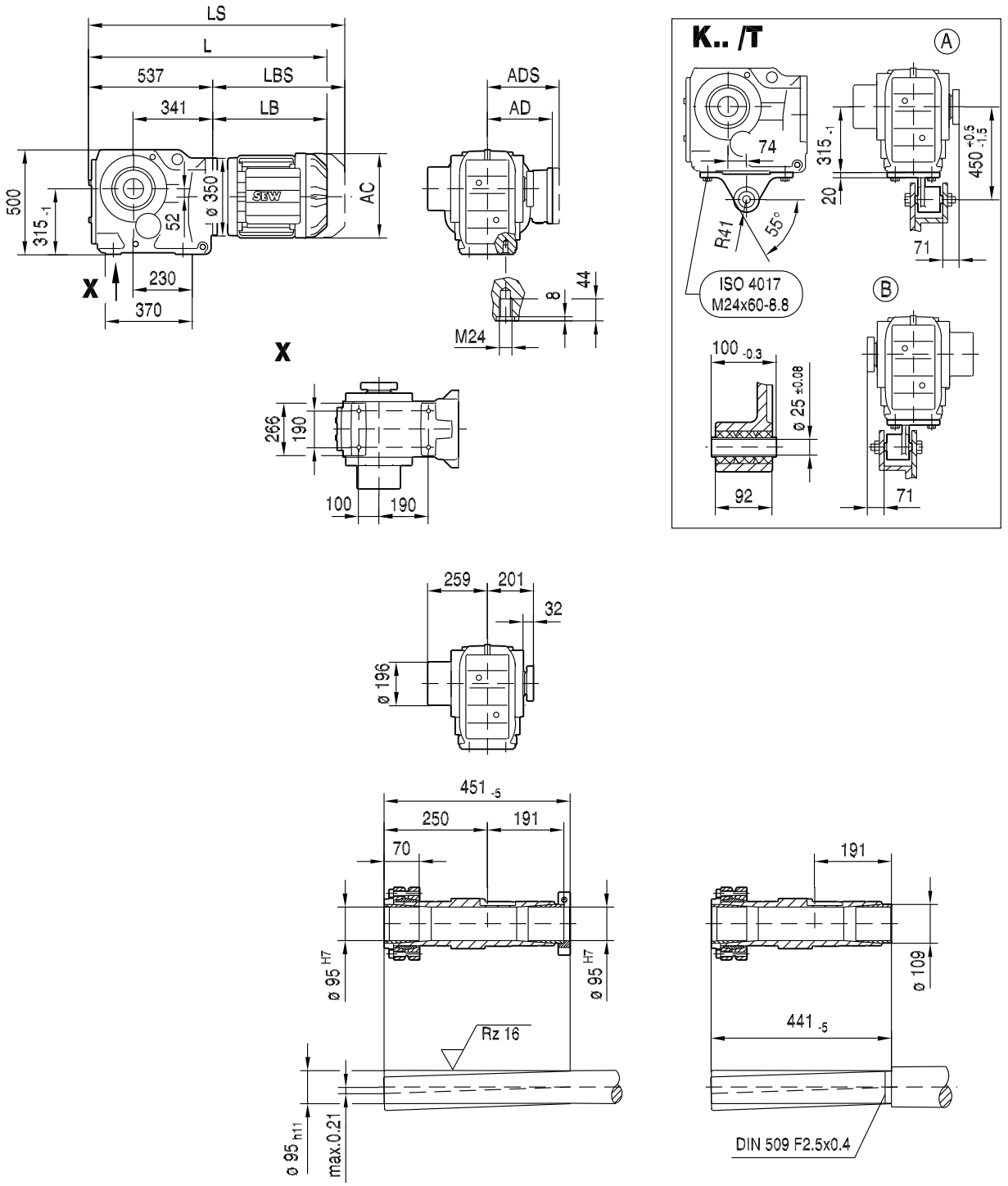


(→ 177)	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..
AC	197	221	221	261	261	314	314	357	394	434
AD	157	170	170	228	228	253	253	268	283	305
ADS	158	172	172	228	228	253	253	268	283	305
L	869	900	950	968	994	1060	1060	1083	1193	1167
LS	963	1012	1062	1106	1131	1249	1249	1272	1398	1372
LB	332	363	413	431	457	523	523	546	656	630
LBS	426	475	525	569	594	712	712	735	861	835

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KT107..

33 076 00 14

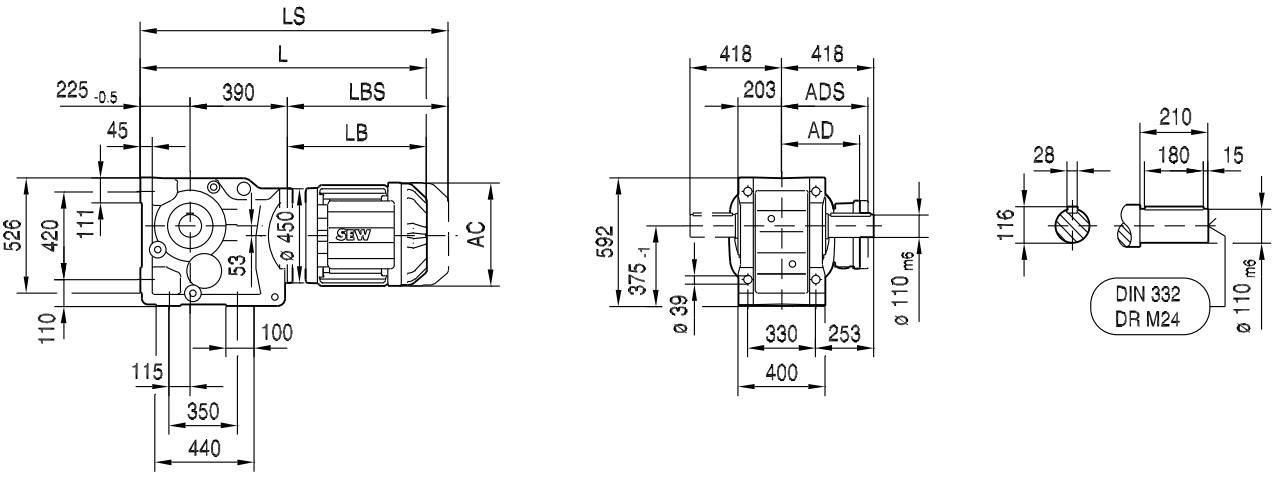


(→ 177)	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..
AC	197	221	221	261	261	314	314	357	394	434
AD	157	170	170	228	228	253	253	268	283	305
ADS	158	172	172	228	228	253	253	268	283	305
L	869	900	950	968	994	1060	1060	1083	1193	1167
LS	963	1012	1062	1106	1131	1249	1249	1272	1398	1372
LB	332	363	413	431	457	523	523	546	656	630
LBS	426	475	525	569	594	712	712	735	861	835

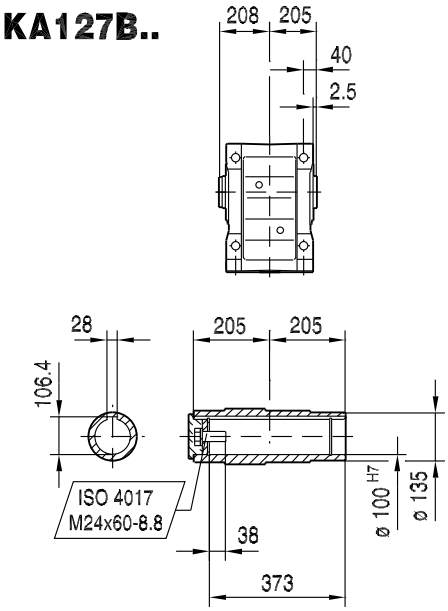
22742654/EN – 08/2016

33 077 00 14

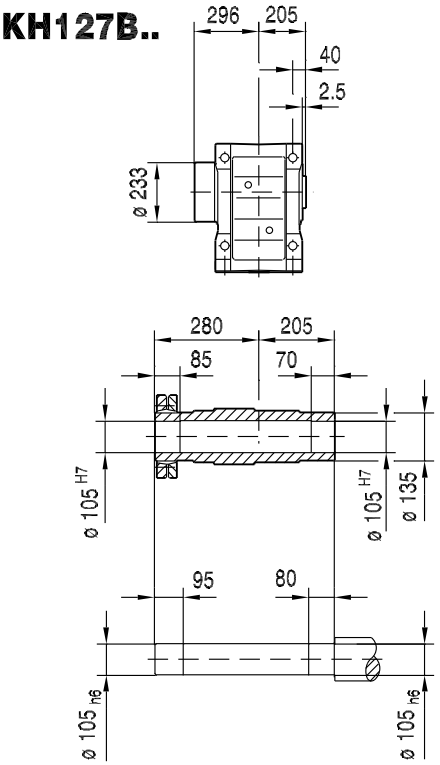
K127..



KA127B..



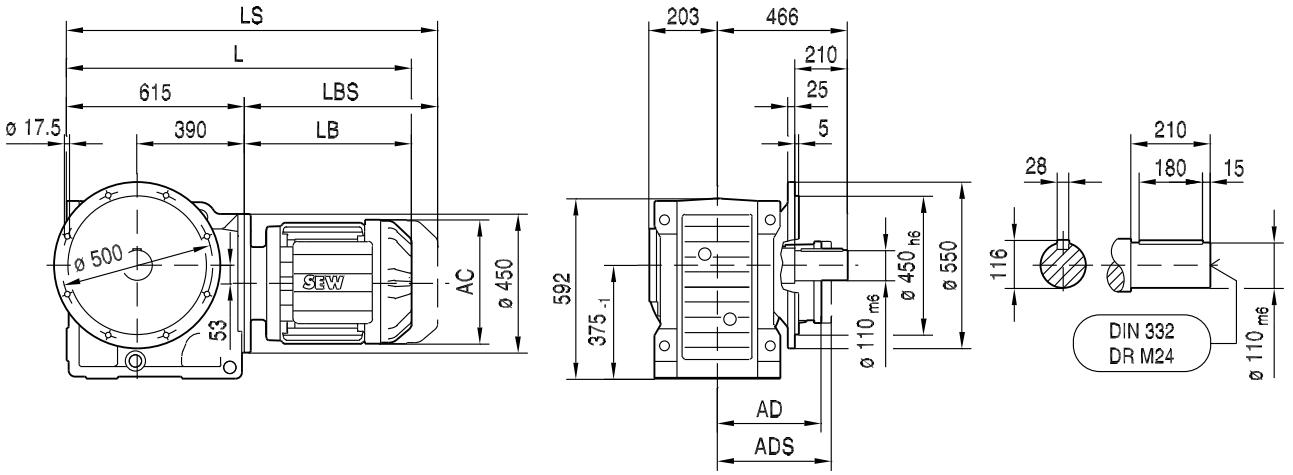
KH127B..



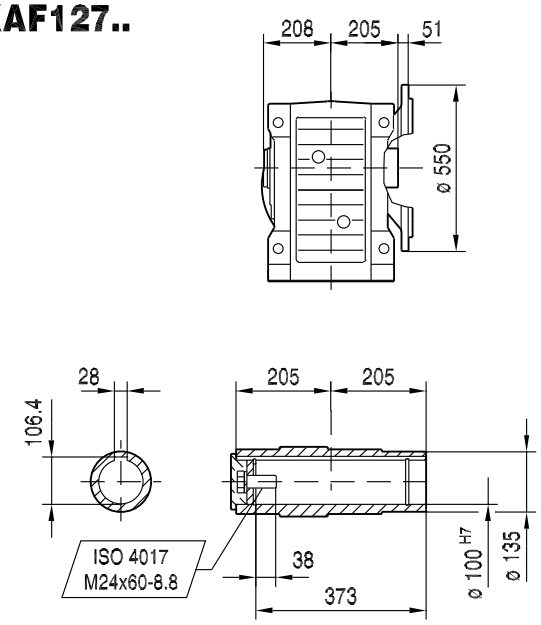
(→ 177)	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M
AC	261	261	314	314	357	394	434	495	495	495
AD	228	228	253	253	268	283	305	394	394	394
ADS	228	228	253	253	268	283	305	394	394	394
L	1031	1057	1123	1123	1146	1256	1230	1367	1367	1462
LS	1169	1194	1312	1312	1335	1461	1435	1607	1607	1702
LB	416	442	508	508	531	641	615	752	752	847
LBS	554	579	697	697	720	846	820	992	992	1087

33 078 00 14

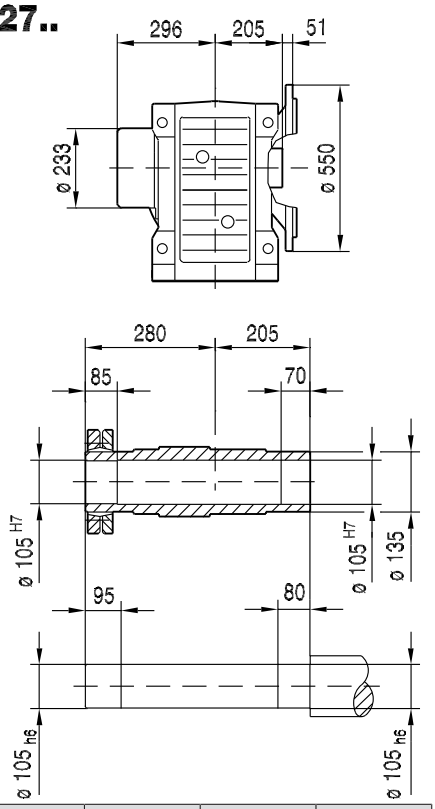
KF127..



KAF127..



KHF127..

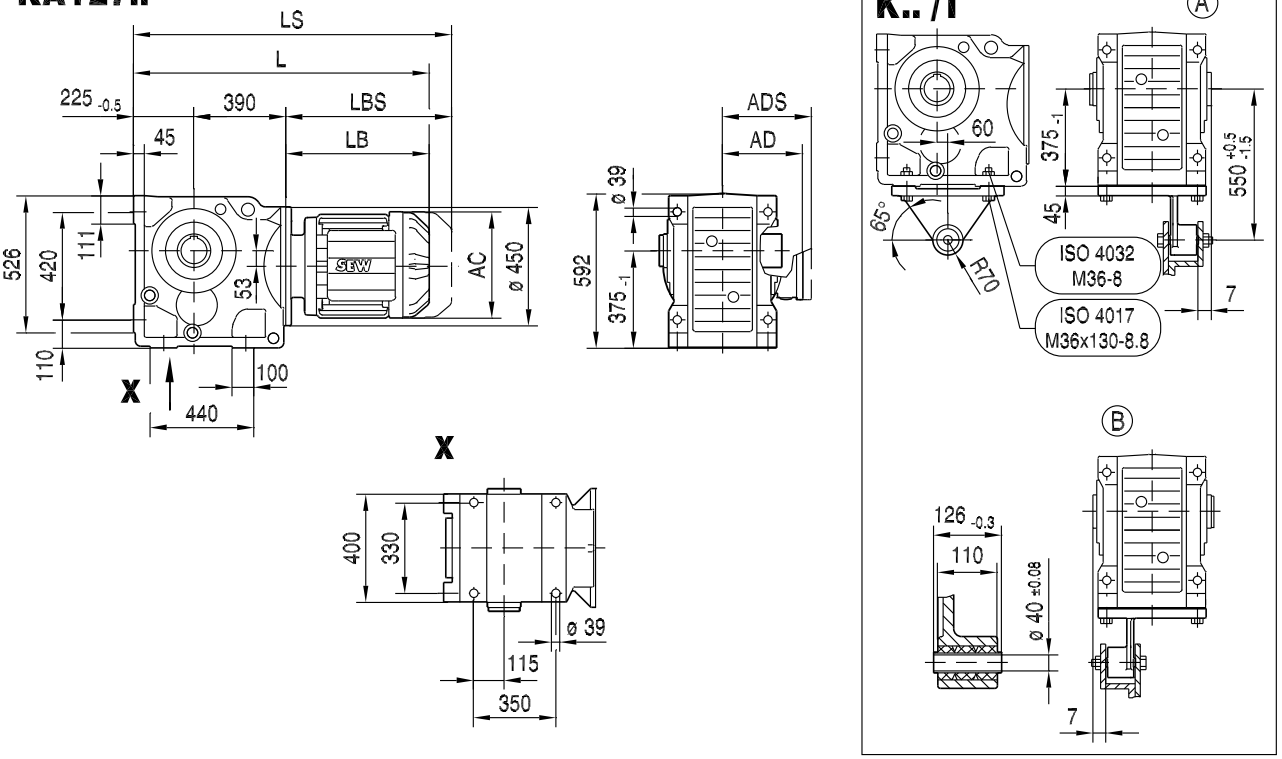


(→ 177)	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M
AC	261	261	314	314	357	394	434	495	495	495
AD	228	228	253	253	268	283	305	394	394	394
ADS	228	228	253	253	268	283	305	394	394	394
L	1031	1057	1123	1123	1146	1256	1230	1367	1367	1462
LS	1169	1194	1312	1312	1335	1461	1435	1607	1607	1702
LB	416	442	508	508	531	641	615	752	752	847
LBS	554	579	697	697	720	846	820	992	992	1087

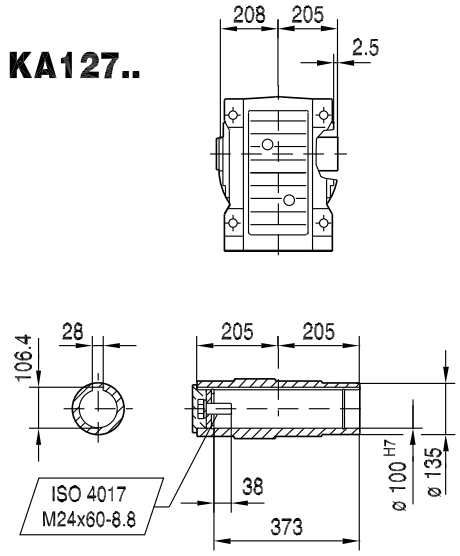
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33 079 00 14

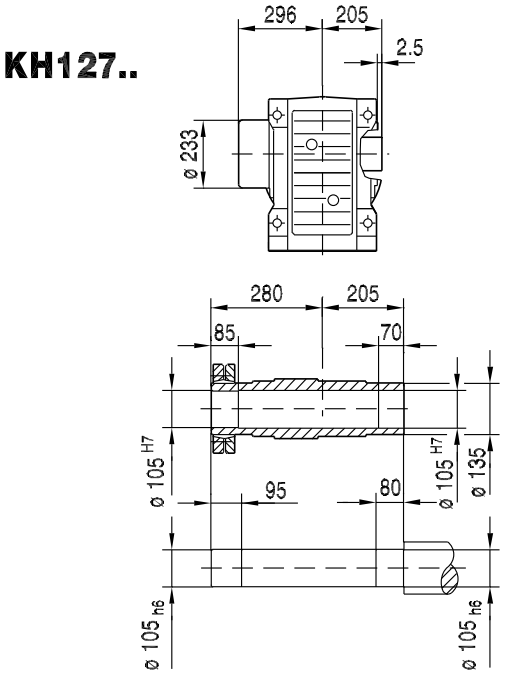
KA127..



KA127..



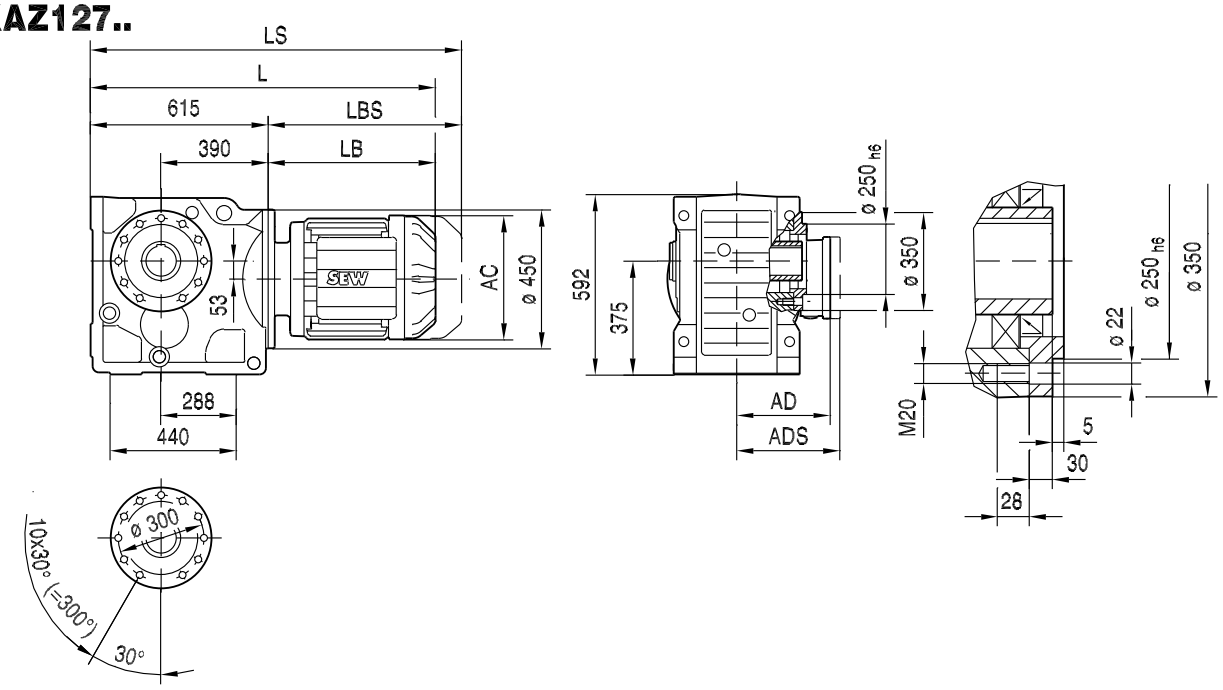
KH127..



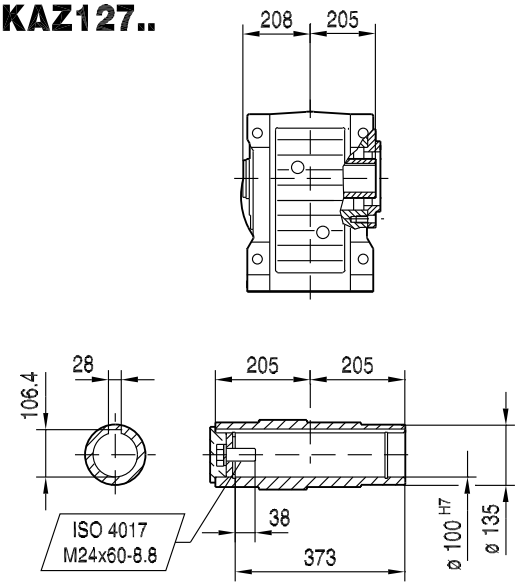
(→ 177)	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M
AC	261	261	314	314	357	394	434	495	495	495
AD	228	228	253	253	268	283	305	394	394	394
ADS	228	228	253	253	268	283	305	394	394	394
L	1031	1057	1123	1123	1146	1256	1230	1367	1367	1462
LS	1169	1194	1312	1312	1335	1461	1435	1607	1607	1702
LB	416	442	508	508	531	641	615	752	752	847
LBS	554	579	697	697	720	846	820	992	992	1087

33 080 00 14

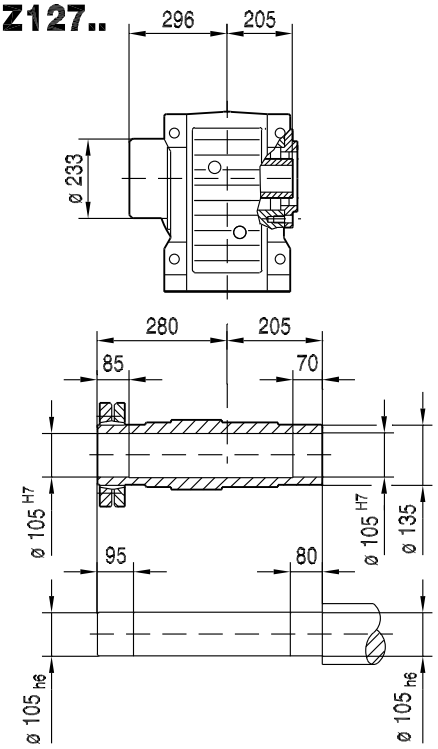
KAZ127..



KAZ127..



KHZ127..

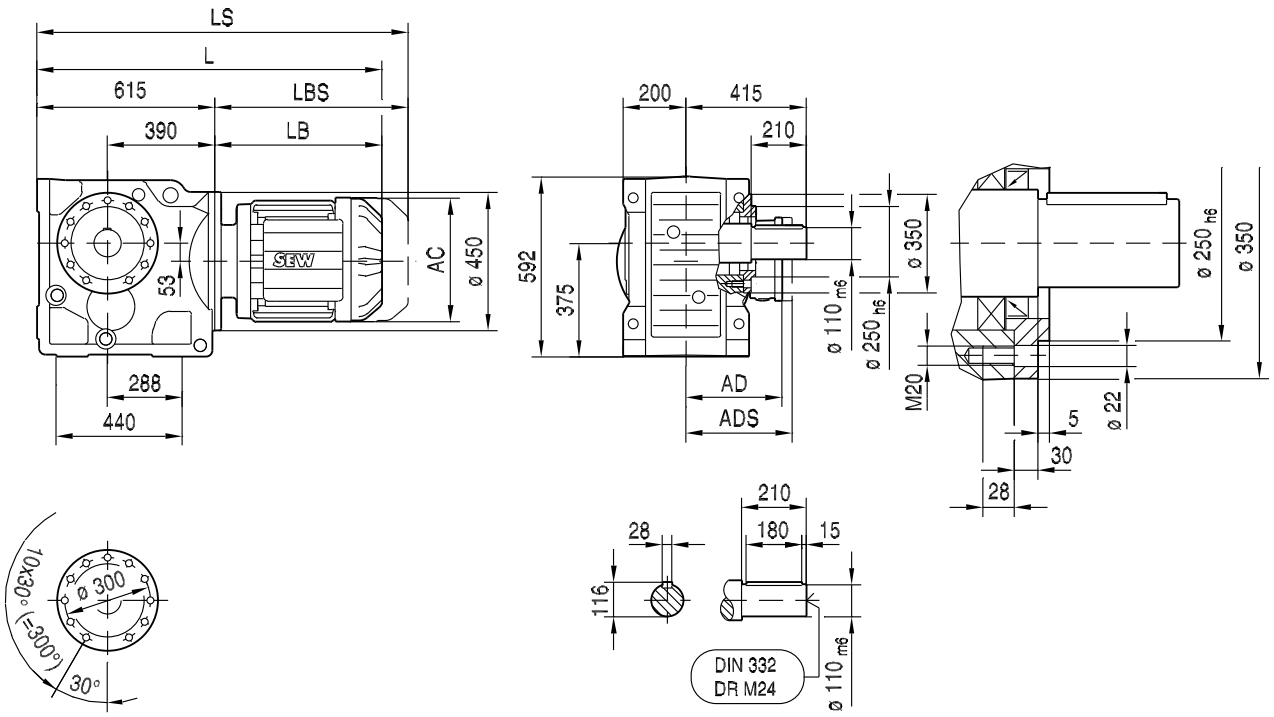


(→ 177)	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M
AC	261	261	314	314	357	394	434	495	495	495
AD	228	228	253	253	268	283	305	394	394	394
ADS	228	228	253	253	268	283	305	394	394	394
L	1031	1057	1123	1123	1146	1256	1230	1367	1367	1462
LS	1169	1194	1312	1312	1335	1461	1435	1607	1607	1702
LB	416	442	508	508	531	641	615	752	752	847
LBS	554	579	697	697	720	846	820	992	992	1087

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33 240 00 15

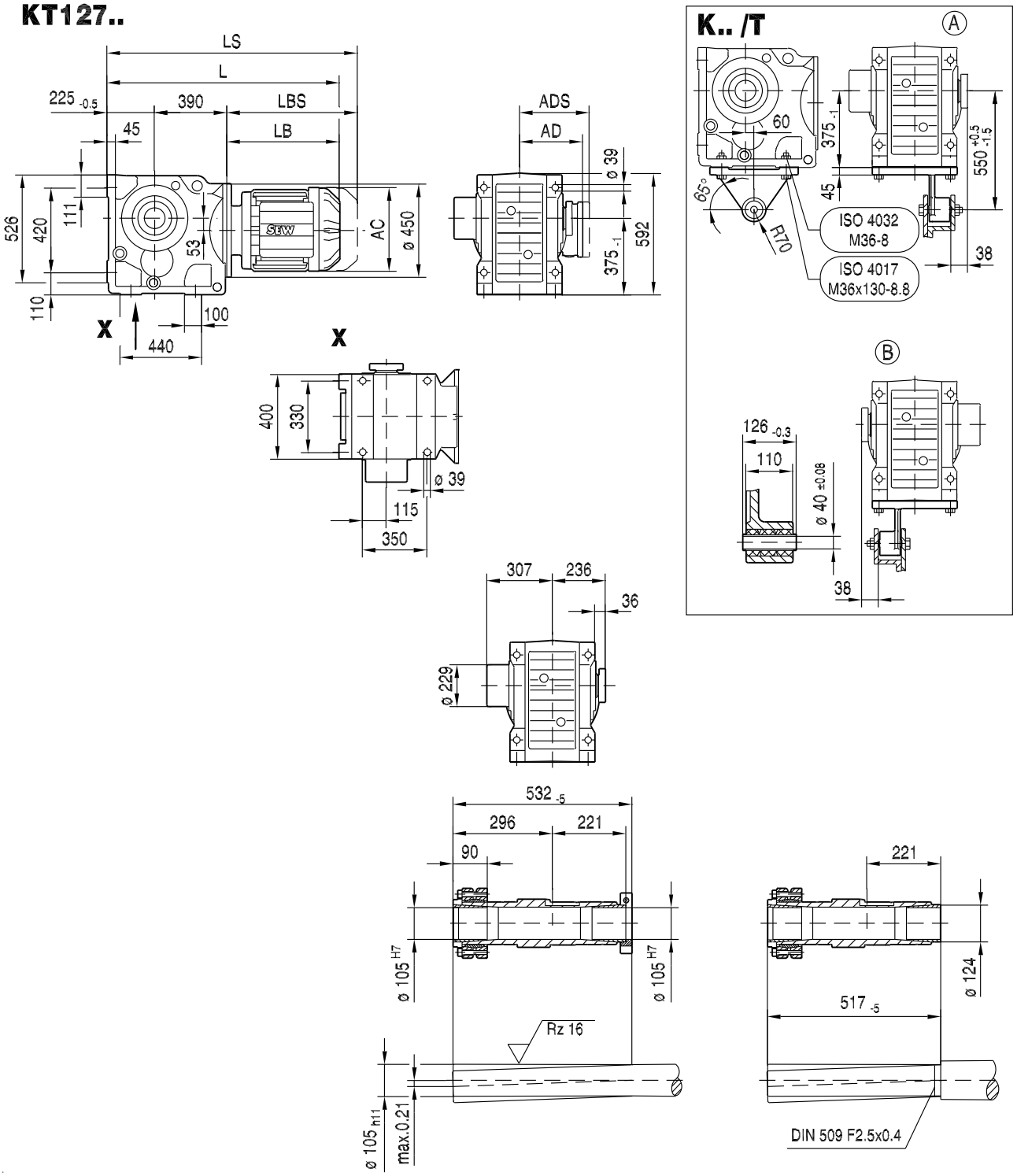
KZ127..



(→ 177)	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M
AC	261	261	314	314	357	394	434	495	495	495
AD	228	228	253	253	268	283	305	394	394	394
ADS	228	228	253	253	268	283	305	394	394	394
L	1031	1057	1123	1123	1146	1256	1230	1367	1367	1462
LS	1169	1194	1312	1312	1335	1461	1435	1607	1607	1702
LB	416	442	508	508	531	641	615	752	752	847
LBS	554	579	697	697	720	846	820	992	992	1087

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33 081 00 14

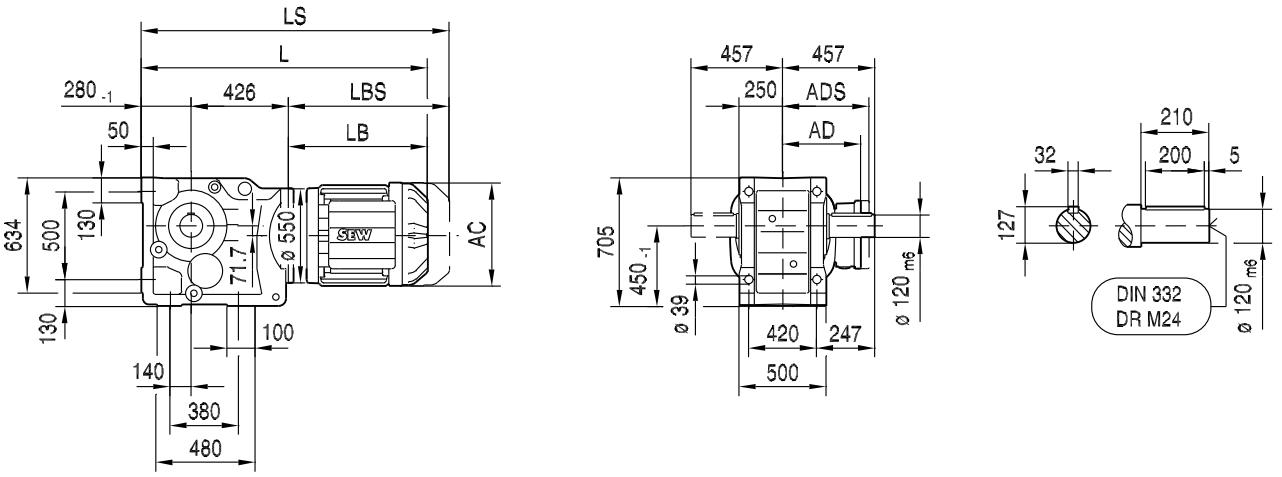


(→ 177)	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M
AC	261	261	314	314	357	394	434	495	495	495
AD	228	228	253	253	268	283	305	394	394	394
ADS	228	228	253	253	268	283	305	394	394	394
L	1031	1057	1123	1123	1146	1256	1230	1367	1367	1462
LS	1169	1194	1312	1312	1335	1461	1435	1607	1607	1702
LB	416	442	508	508	531	641	615	752	752	847
LBS	554	579	697	697	720	846	820	992	992	1087

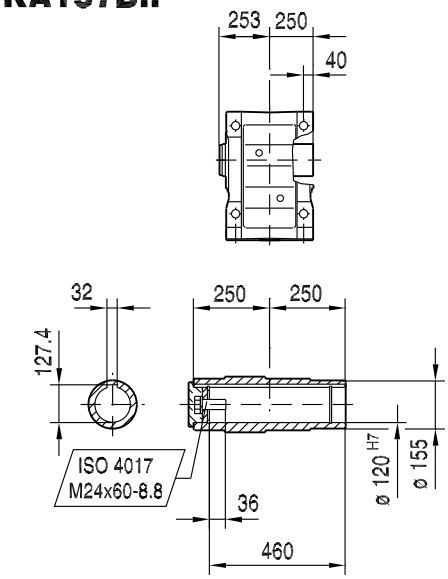
22742654/EN – 08/2016

33 082 00 14

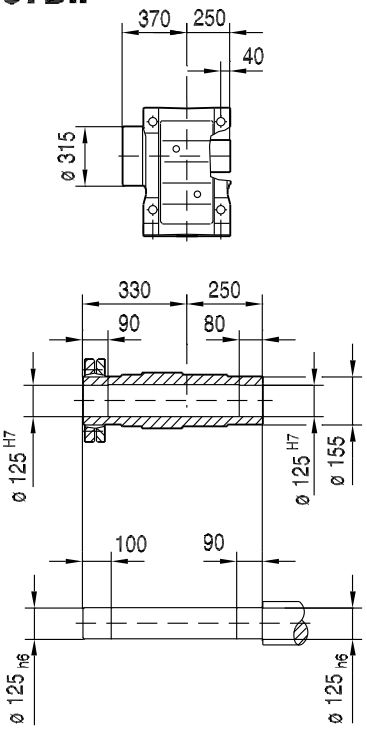
K157..



KA157B..



KH157B..

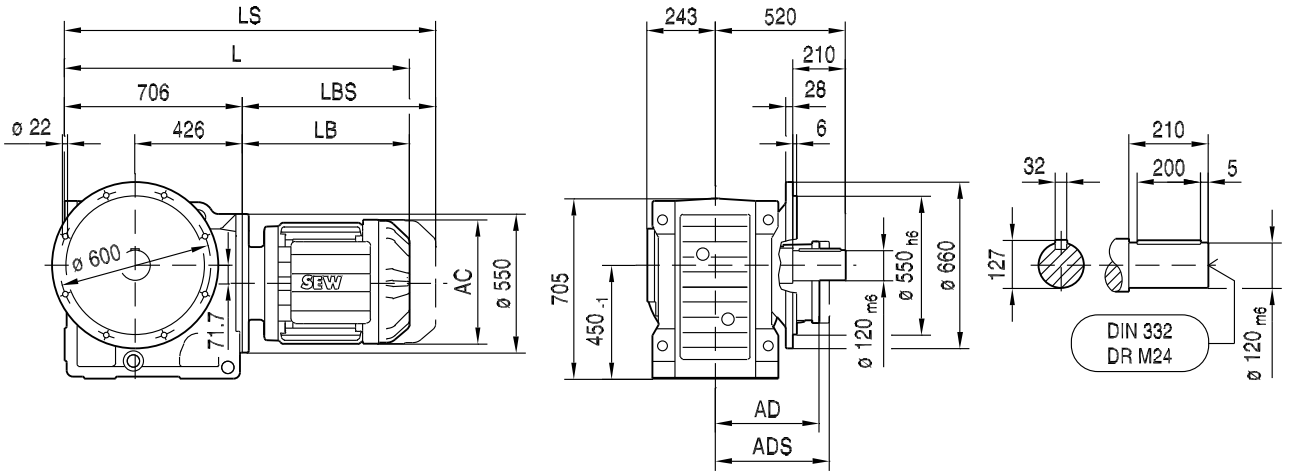


(→ 177)	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M	DRN315S-M	DRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1206	1229	1339	1313	1450	1450	1545	1647	1777
LS	1395	1418	1544	1518	1690	1690	1785	1898	2028
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

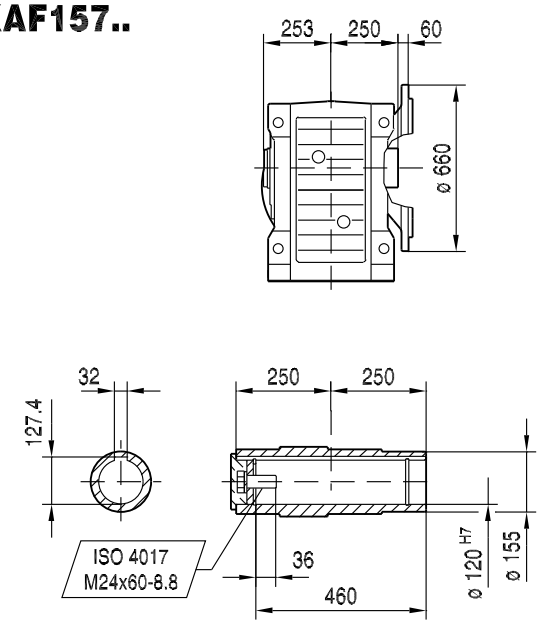
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33 083 00 14

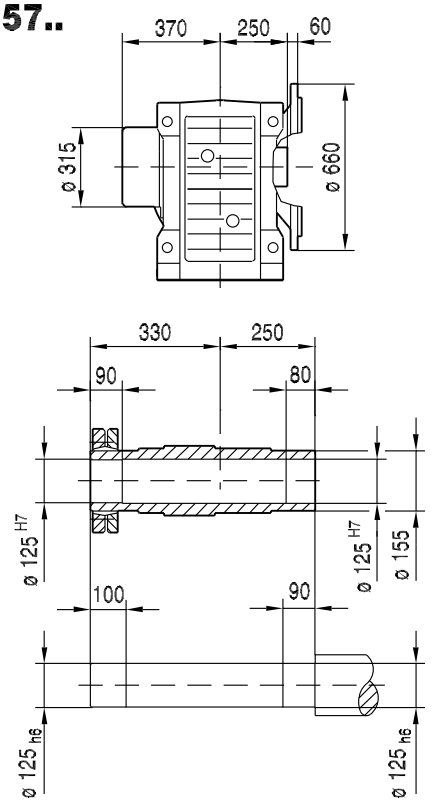
KF157..



KAF157..



KHF157..

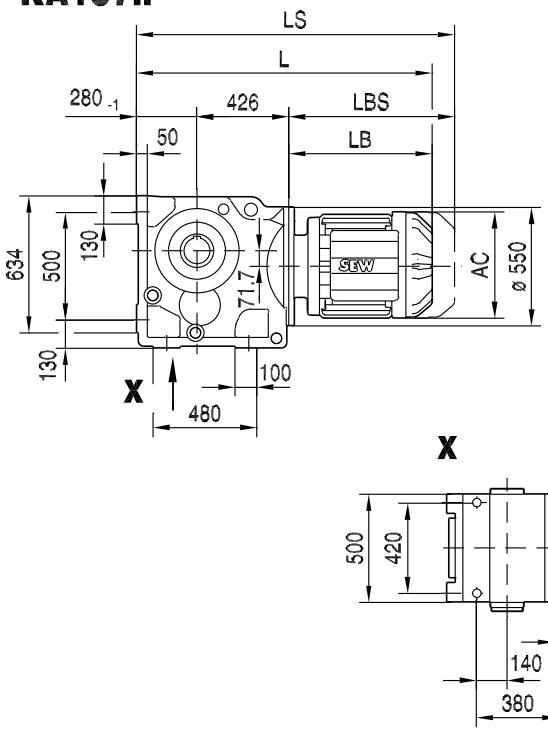


(→ 177)	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M	DRN315S-M	DRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1206	1229	1339	1313	1450	1450	1545	1647	1777
LS	1395	1418	1544	1518	1690	1690	1785	1898	2028
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

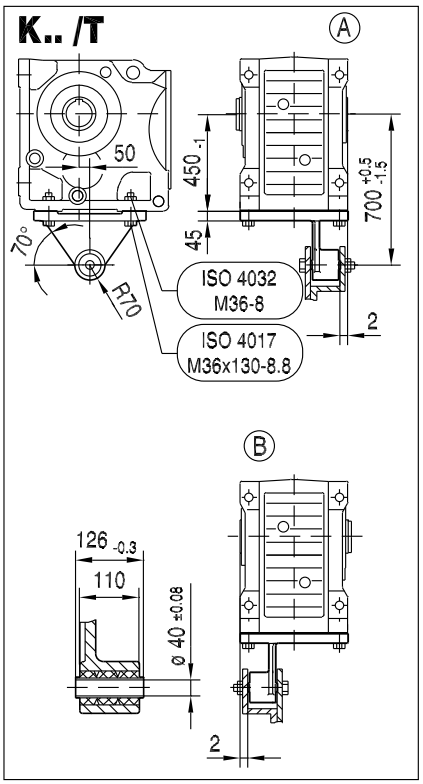
22742654/EN – 08/2016

33 084 00 14

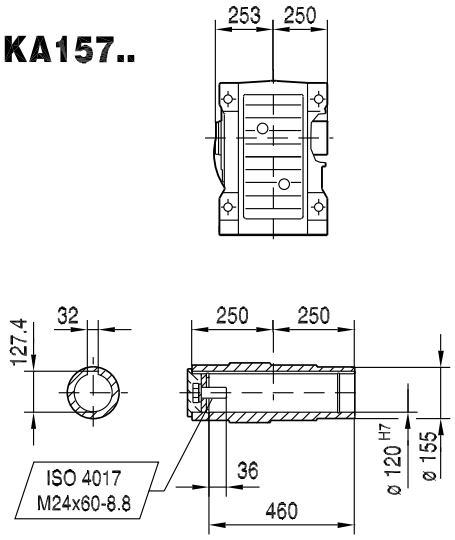
KA157..



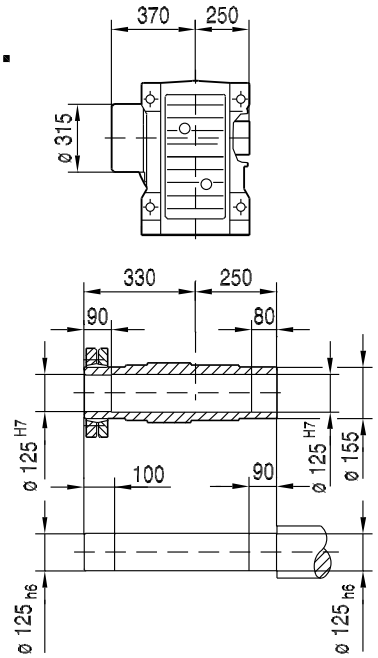
K.. /T



KA157..



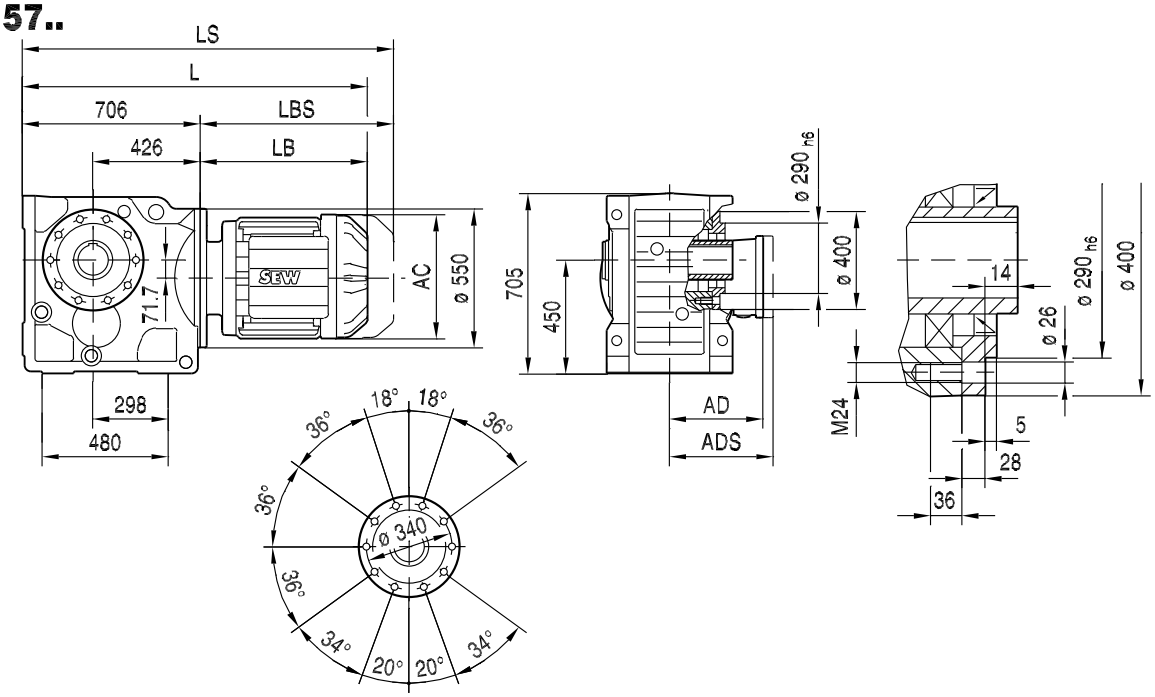
KH157..



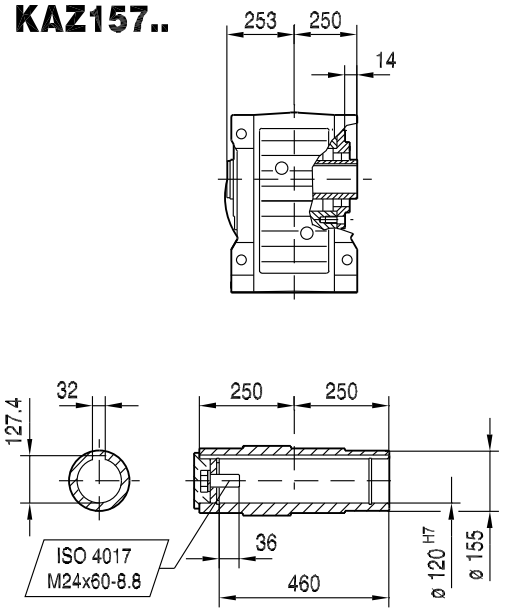
(→ 177)	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M	DRN315S-M	DRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1206	1229	1339	1313	1450	1450	1545	1647	1777
LS	1395	1418	1544	1518	1690	1690	1785	1898	2028
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

33 085 00 14

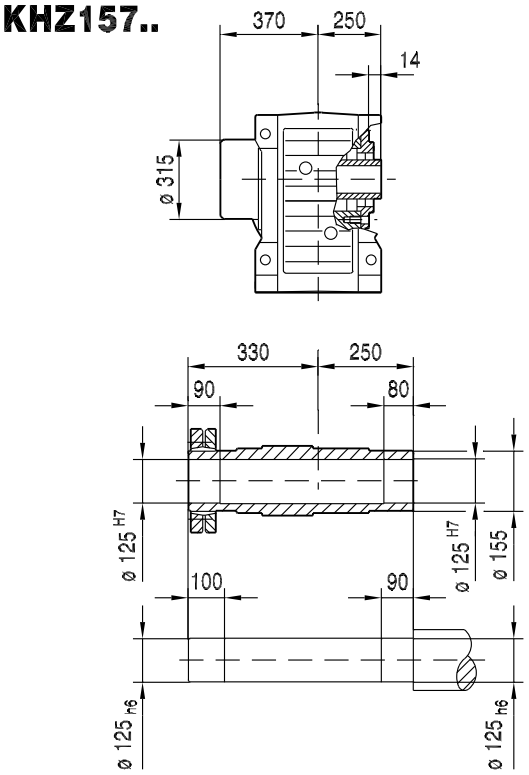
KAZ157..



KAZ157..



KHZ157..

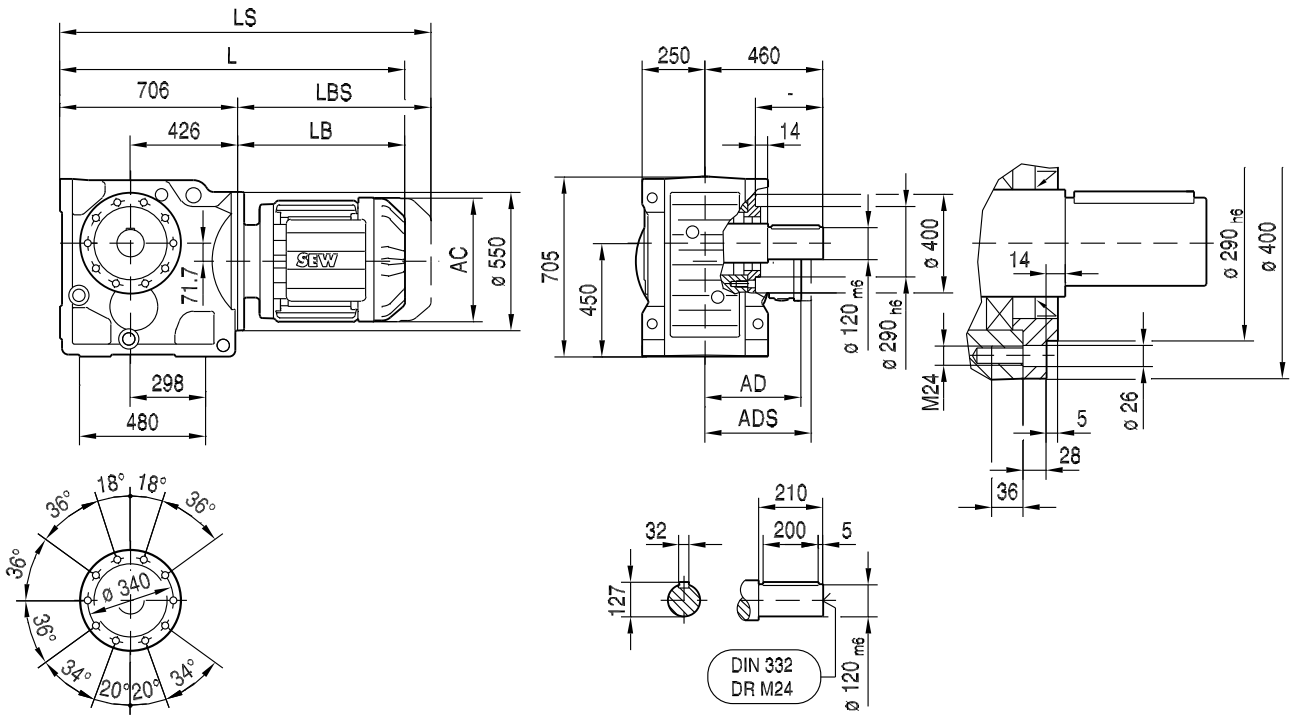


(→ 177)	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M	DRN315S-M	DRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1206	1229	1339	1313	1450	1450	1545	1647	1777
LS	1395	1418	1544	1518	1690	1690	1785	1898	2028
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

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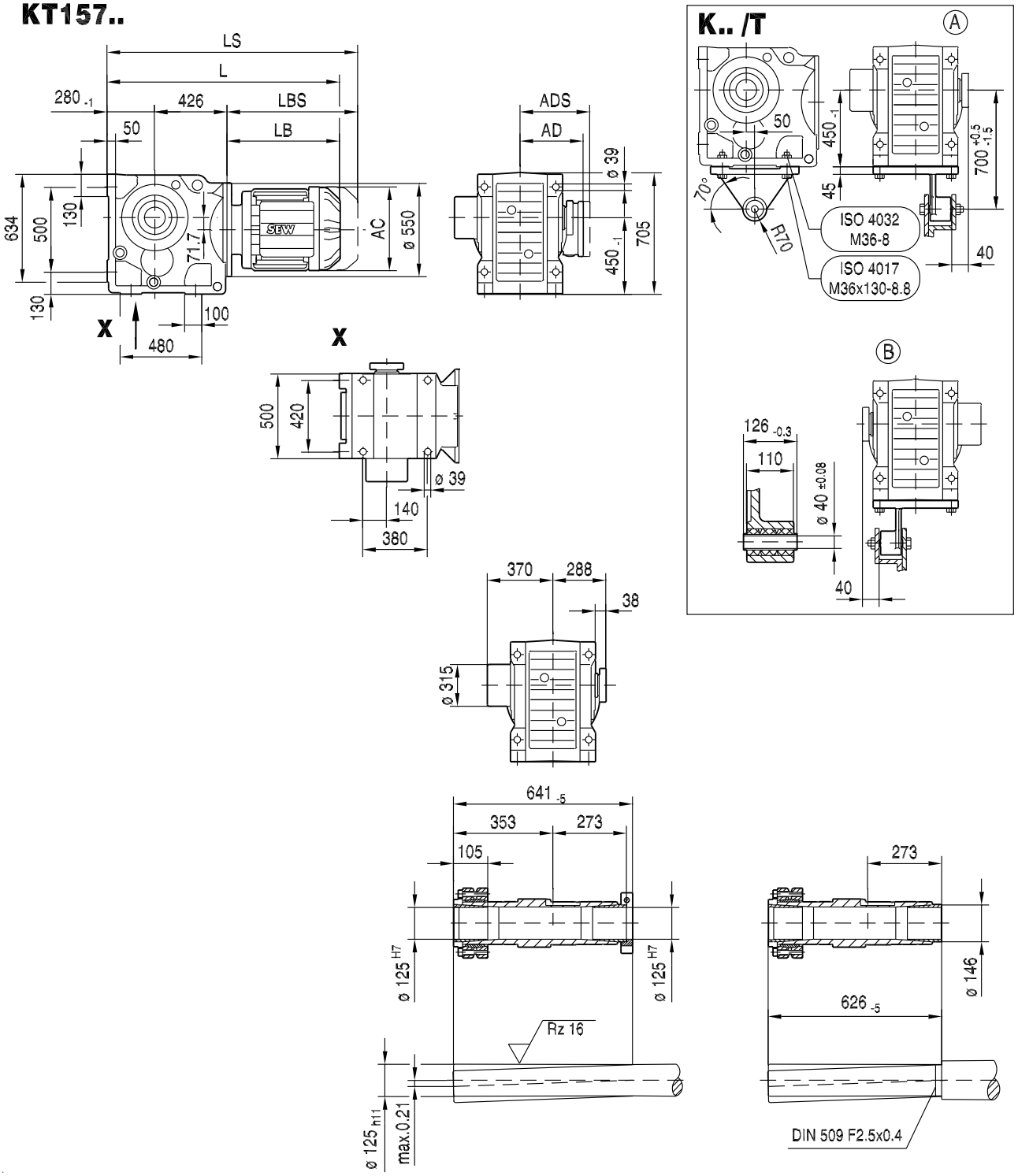
33 241 00 15

KZ157..



(→ 177)	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M	DRN315S-M	DRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1206	1229	1339	1313	1450	1450	1545	1647	1777
LS	1395	1418	1544	1518	1690	1690	1785	1898	2028
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

33 086 00 14

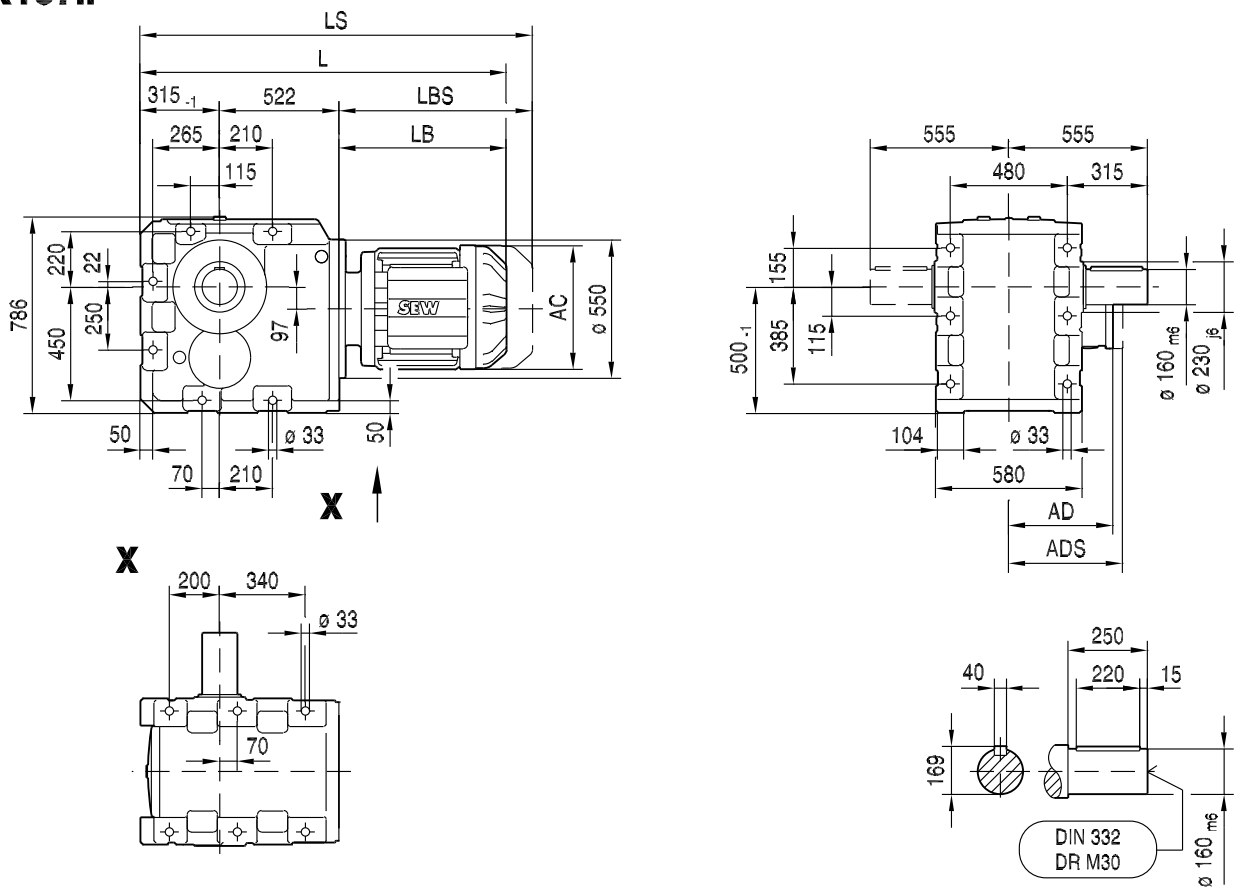


(→ 177)	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M	DRN315S-M	DRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1206	1229	1339	1313	1450	1450	1545	1647	1777
LS	1395	1418	1544	1518	1690	1690	1785	1898	2028
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

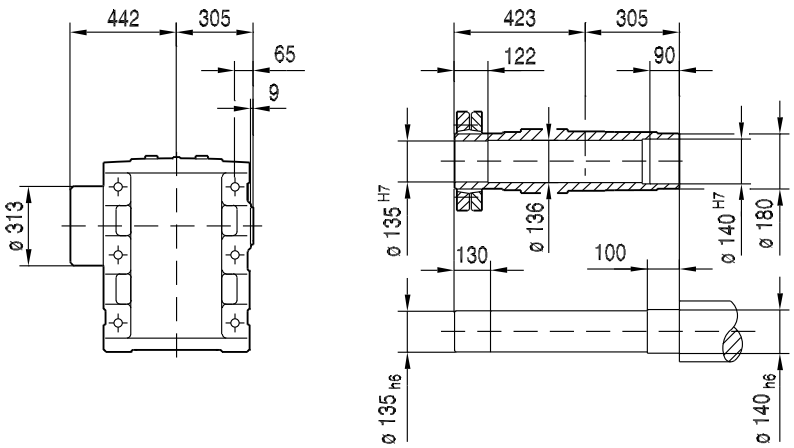
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33 087 00 14

K167..



KH167B..

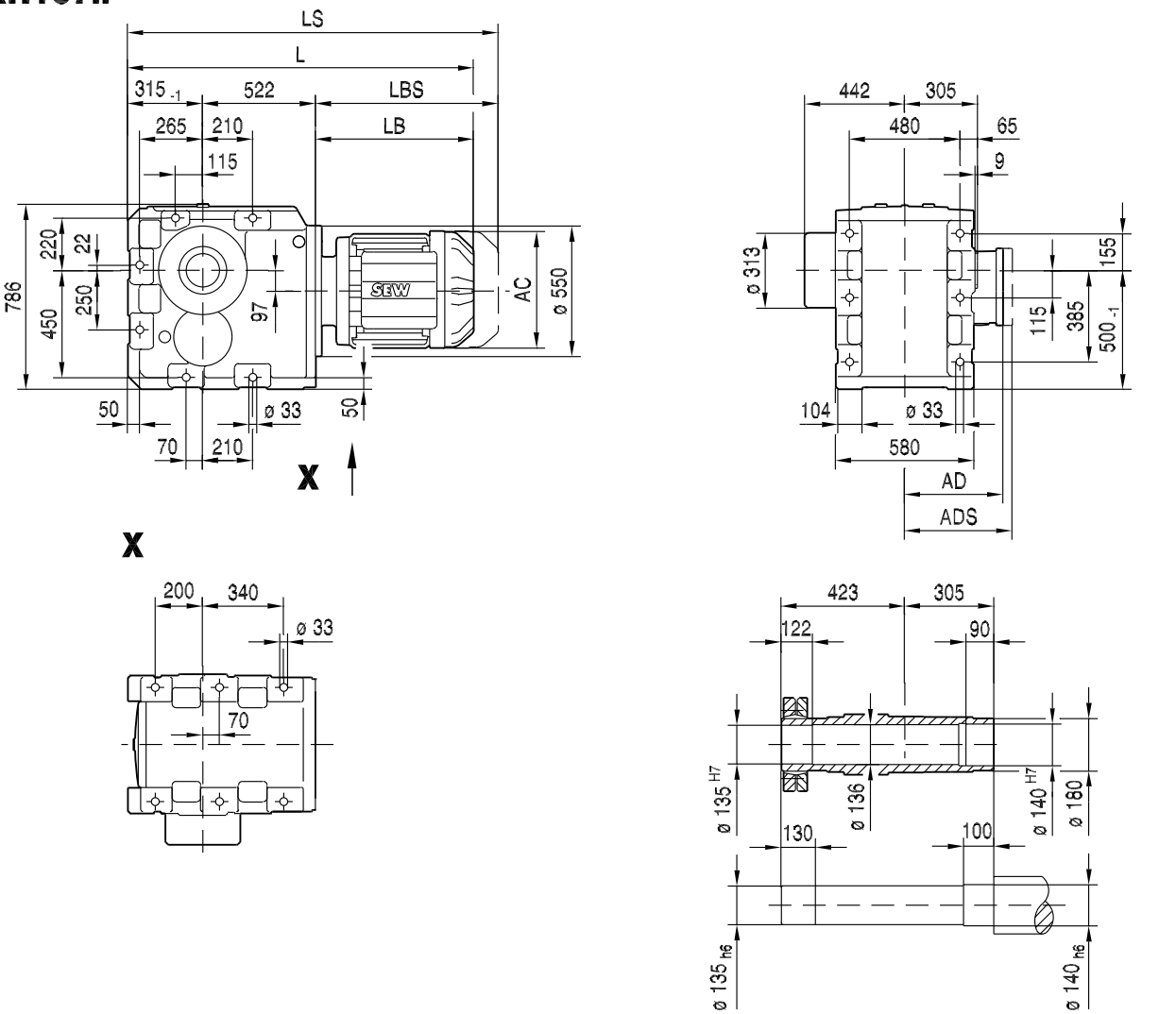


(→ 177)	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M	DRN315S-M	DRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1337	1360	1470	1444	1581	1581	1676	1778	1908
LS	1526	1549	1675	1649	1821	1821	1916	2029	2159
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

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33 088 00 14

KH167..

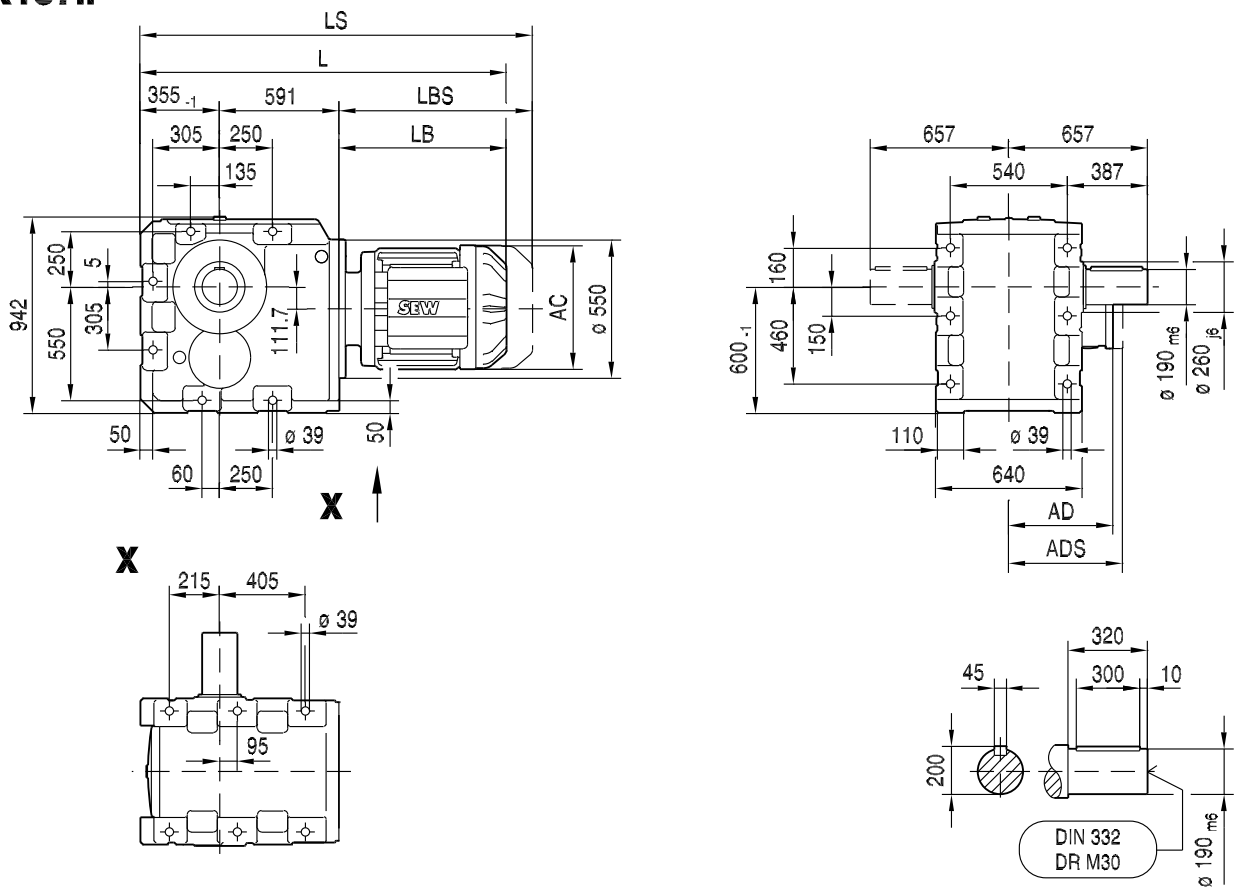


(→ 177)	DRN160L	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M	DRN315S-M	DRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1337	1360	1470	1444	1581	1581	1676	1778	1908
LS	1526	1549	1675	1649	1821	1821	1916	2029	2159
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

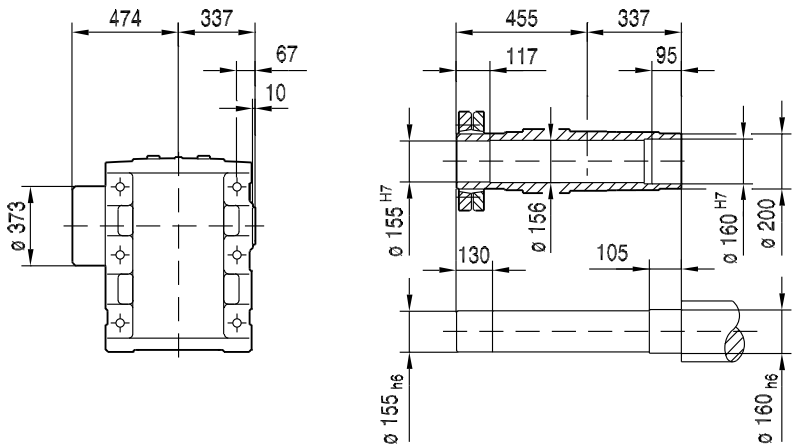
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33 089 00 14

K187..



KH187B..

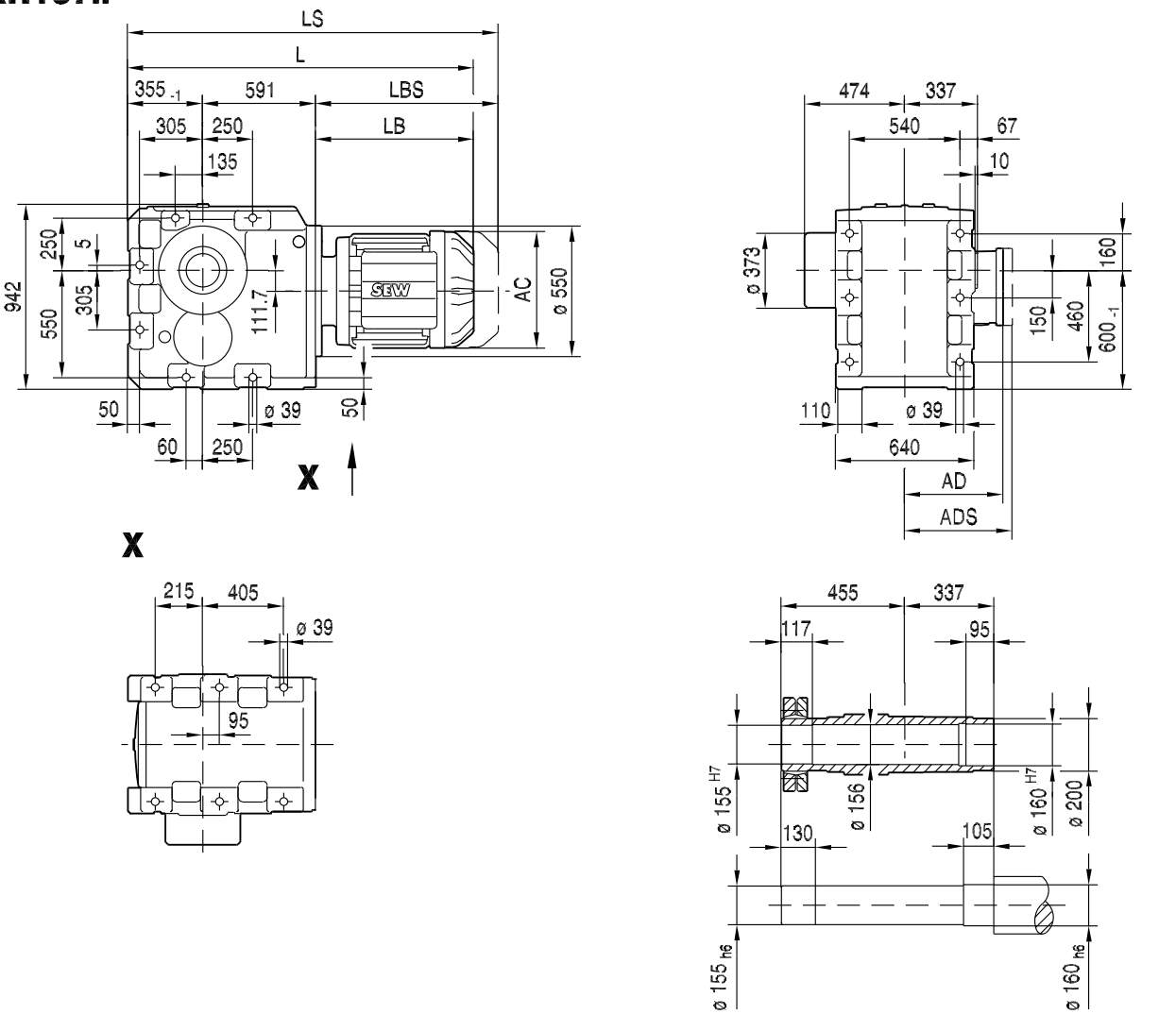


(→ 177)	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M	DRN315S-M	DRN315ME-H
AC	357	394	434	495	495	495	624	624
AD	268	283	305	394	394	394	506	506
ADS	268	283	305	394	394	394	506	506
L	1469	1579	1553	1690	1690	1785	1887	2017
LS	1658	1784	1758	1930	1930	2025	2138	2268
LB	523	633	607	744	744	839	941	1071
LBS	712	838	812	984	984	1079	1192	1322

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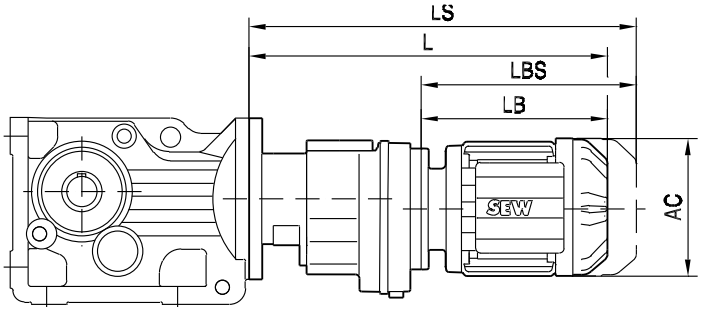
33 090 00 14

KH187..



(→ 177)	DRN180..	DRN200L	DRN225..	DRN250M	DRN280S	DRN280M	DRN315S-M	DRN315ME-H
AC	357	394	434	495	495	495	624	624
AD	268	283	305	394	394	394	506	506
ADS	268	283	305	394	394	394	506	506
L	1469	1579	1553	1690	1690	1785	1887	2017
LS	1658	1784	1758	1930	1930	2025	2138	2268
LB	523	633	607	744	744	839	941	1071
LBS	712	838	812	984	984	1079	1192	1322

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33 133 00 06

(→ 177)		AC	L	LS	LB	LBS
K..37R17	**DR63..**	132	324	379	149	204
	DR71S	139	335	403	160	228
K..39R17	**DR63..**	132	324	379	149	204
	DR71S	139	335	403	160	204
K..47R37	**DR63..**	132	356	411	191	246
	DR71S	139	367	434	202	269
	DR71M	139	392	459	227	294
	DRN80M	156	446	527	281	362
K..49R37	**DR63..**	132	348	403	191	246
	DR71S	139	359	426	202	269
	DR71M	139	384	451	227	294
	DRN80M	156	438	519	281	362
	DRN90S	179	440	533	283	376
	DRN90L	179	472	565	315	408
	DRN100LS	197	471	564	314	407
K..57R37	**DR63..**	132	356	411	191	246
	DR71S	139	367	434	202	269
	DR71M	139	392	459	227	294
	DRN80M	156	446	527	281	362
	DRN90S	179	448	541	283	376
K..67R37	**DR63..**	132	356	411	191	246
	DR71S	139	367	434	202	269
	DR71M	139	392	459	227	294
	DRN80M	156	446	527	281	362
	DRN90S	179	448	541	283	376
K..77R37	**DR63..**	132	348	403	191	246
	DR71S	139	359	426	202	269
	DR71M	139	384	451	227	294
	DRN80M	156	438	519	281	362
	DRN90S	179	440	533	283	376
	DRN90L	179	472	565	315	408
	DRN100LS	197	471	564	314	407
K..87R57	**DR63..**	132	412	467	185	240
	DR71S	139	423	491	196	264
	DR71M	139	448	516	221	289
	DRN80M	156	502	583	275	356
	DRN90S	179	504	597	277	370
	DRN90L	179	536	629	309	402
	DRN100LS	197	533	626	305	398
	DRN100L	197	583	676	355	448
	DRN112M	221	613	725	386	498

(→ 177)		AC	L	LS	LB	LBS
K..97R57	**DR63..**	132	407	462	185	240
	DR71S	139	418	486	196	264
	DR71M	139	443	511	221	289
	DRN80M	156	497	578	275	356
	DRN90S	179	499	592	277	370
	DRN90L	179	531	624	309	402
	DRN100LS	197	528	621	305	398
	DRN100L	197	578	671	355	448
	DRN112M	221	608	720	386	498
K..107R77	**DR63..**	132	425	480	178	233
	DR71S	139	436	504	189	257
	DR71M	139	461	529	214	282
	DRN80M	156	515	596	268	349
	DRN90S	179	517	610	270	363
	DRN90L	179	549	642	302	395
	DRN100LS	197	545	638	298	391
	DRN100L	197	595	688	348	441
	DRN112M	221	626	738	379	491
	DRN132S	221	676	788	429	541
	DRN132M	261	692	831	445	584
	DRN132L	261	717	856	470	609
K..127R77	**DR63..**	132	410	465	178	233
	DR71S	139	421	489	189	257
	DR71M	139	446	514	214	282
	DRN80M	156	500	581	268	349
	DRN90S	179	502	595	270	363
	DRN90L	179	534	627	302	395
	DRN100LS	197	530	623	298	391
	DRN100L	197	580	673	348	441
	DRN112M	221	611	723	379	491
	DRN132S	221	661	773	429	541
K..127R87	**DRN90L**	179	577	670	297	390
	DRN100LS	197	573	666	293	386
	DRN100L	197	623	716	343	436
	DRN112M	221	654	766	374	486
	DRN132S	221	704	816	424	536
	DRN132M	261	720	859	440	579
	DRN132L	261	745	884	465	604
	DRN160M	314	814	1003	534	723
	DRN160L	314	814	1003	534	723

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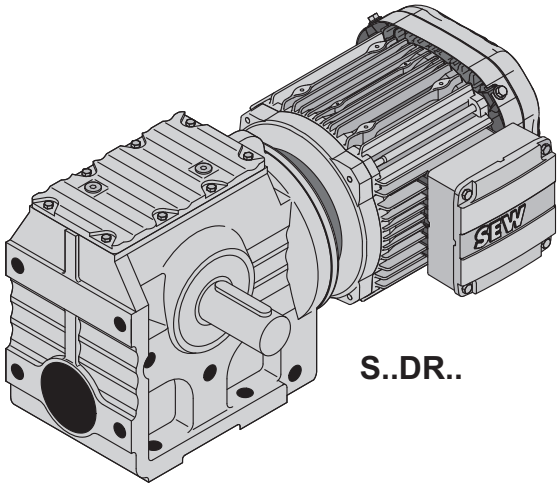
(→ 177)		AC	L	LS	LB	LBS
K..157R97	**DR71M**	139	529	597	204	272
	DRN80M	156	583	664	258	339
	DRN90S	179	585	678	260	353
	DRN90L	179	617	710	292	385
	DRN100LS	197	613	706	288	381
	DRN100L	197	663	756	338	431
	DRN112M	221	694	806	369	481
	DRN132S	221	744	856	419	531
	DRN132M	261	760	899	435	574
	DRN132L	261	785	924	460	599
	DRN160M	314	854	1043	529	718
K..167R97	**DR71M**	139	529	597	204	272
	DRN80M	156	583	664	258	339
	DRN90S	179	585	678	260	353
	DRN90L	179	617	710	292	385
	DRN100LS	197	613	706	288	381
	DRN100L	197	663	756	338	431
	DRN112M	221	694	806	369	481
	DRN132S	221	744	856	419	531
	DRN132M	261	760	899	435	574
	DRN132L	261	785	924	460	599
	DRN160M	314	854	1043	529	718
	DRN160L	314	854	1043	529	718
K..187R97	**DR71M**	139	529	597	204	272
	DRN80M	156	583	664	258	339
	DRN90S	179	585	678	260	353
	DRN90L	179	617	710	292	385
	DRN100LS	197	613	706	288	381
	DRN100L	197	663	756	338	431
	DRN112M	221	694	806	369	481
	DRN132S	221	744	856	419	531
	DRN132M	261	760	899	435	574
	DRN132L	261	785	924	460	599
K..157R107	**DRN132L**	261	836	975	454	593
	DRN160M	314	905	1094	523	712
	DRN160L	314	905	1094	523	712
	DRN180M	357	930	1119	548	737
	DRN180L	357	930	1119	548	737
	DRN200L	394	1038	1243	656	861
K..167R107	**DRN132L**	261	836	975	454	593
	DRN160M	314	905	1094	523	712
	DRN160L	314	905	1094	523	712
	DRN180M	357	930	1119	548	737
	DRN180L	357	930	1119	548	737
	DRN200L	394	1038	1243	656	861
	DRN225S	434	993	1198	611	816
	DRN225M	434	1083	1288	701	906

(→ 177)		AC	L	LS	LB	LBS
K..187R107	**DRN112M**	221	745	857	363	475
	DRN132M	261	811	950	429	568
	DRN132L	261	836	975	454	593
	DRN160M	314	905	1094	523	712
	DRN160L	314	905	1094	523	712
	DRN180M	357	930	1119	548	737
	DRN180L	357	930	1119	548	737
	DRN200L	394	1038	1243	656	861
	DRN225S	434	993	1198	611	816
	DRN225M	434	1083	1288	701	906
	DRN250M	495	1149	1389	767	1007

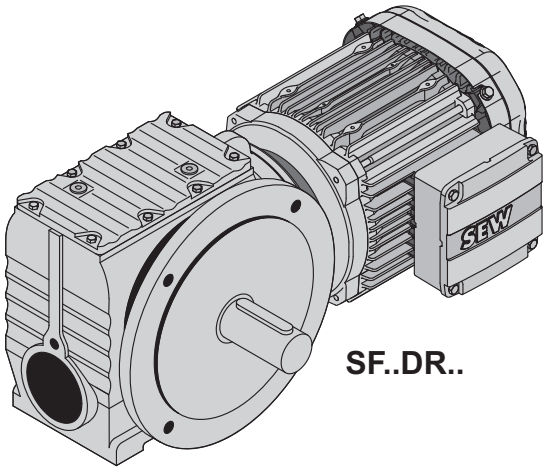
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11 Helical-worm gearmotors

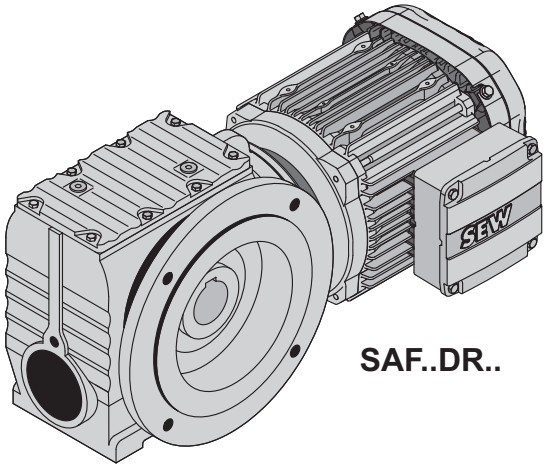
11.1 S..DRN.. designs



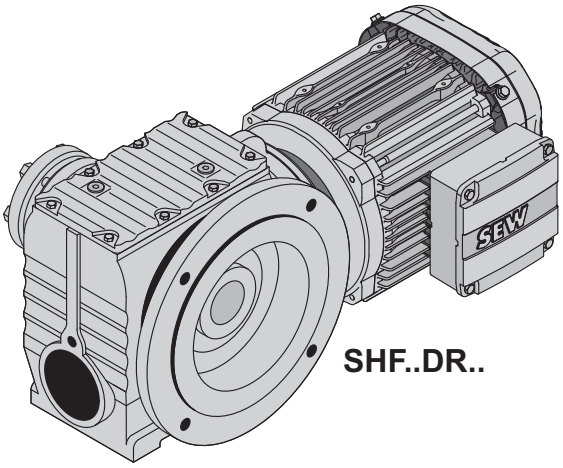
S..DR..



SF..DR..



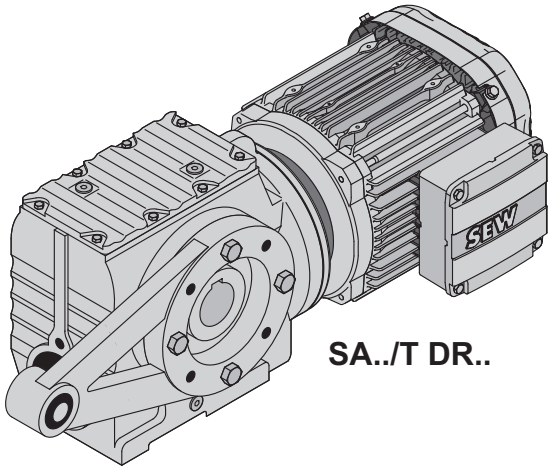
SAF..DR..



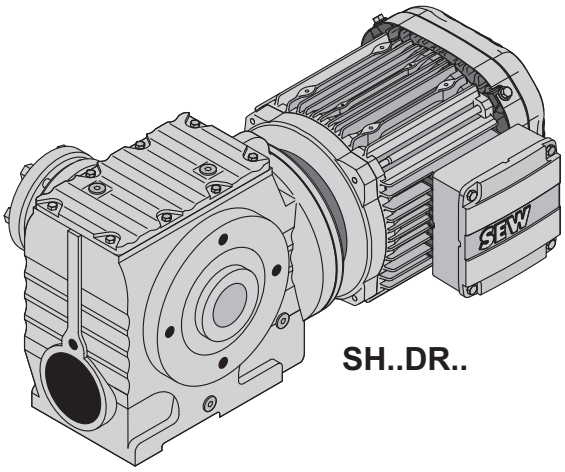
SHF..DR..

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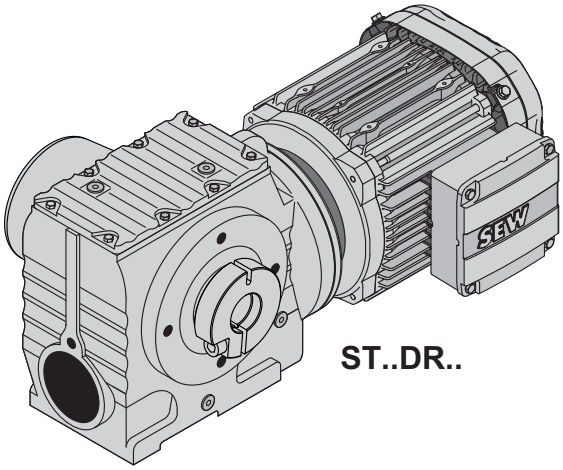
22742654/EN – 08/2016



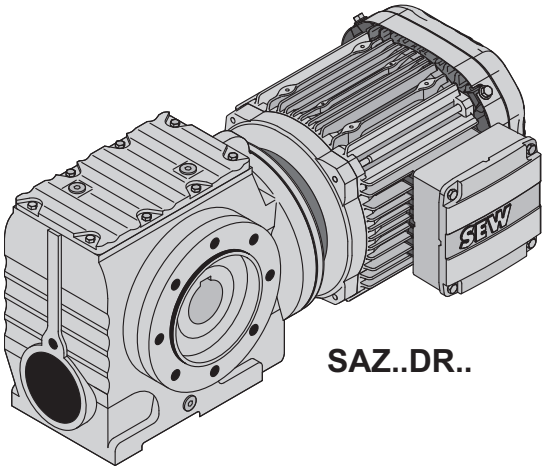
SA../T DR..



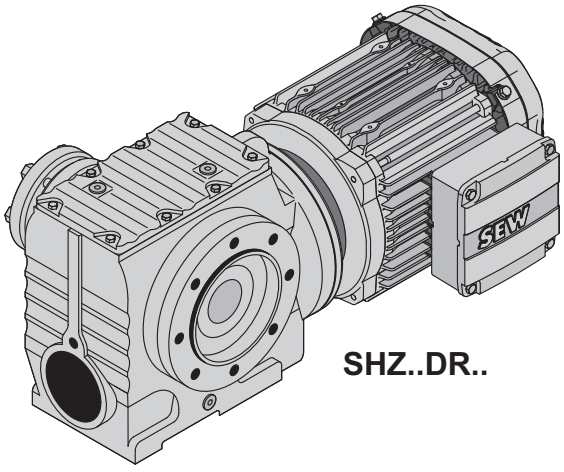
SH..DR..



ST..DR..



SAZ..DR..



SHZ..DR..

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11.2 Possible geometrical combinations of S..DRN.

S37, n_e=1700 min^{-1} — **92 Nm**

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L
					2		
11	91	3000	-	157.43			
12	90	3000	-	144.40*			
14	87	3000	-	122.94			
16	86	3000	-	106.00*			
17	85	3000	-	98.80*			
20	82	3000	-	86.36			
21	82	3000	-	80.96			
24	80	3000	-	71.44*			
27	79	3000	-	63.33			
30	81	3000	-	55.93			
32	76	3000	-	53.83			
33	80	3000	-	51.30*			
39	78	3000	-	43.68			
45	76	2880	-	37.66			
48	75	2800	-	35.10*			
55	73	2660	-	30.68			
59	73	2590	-	28.76			
67	71	2470	-	25.38*			
76	70	2350	-	22.50*			
85	50	2300	-	19.89			
89	68	2210	-	19.13*			
93	49	2220	-	18.24*			
109	48	2090	-	15.53			
127	47	1970	-	13.39			
136	46	1920	-	12.48*			
156	45	1820	-	10.91			
166	45	1770	-	10.23			
188	43	1700	-	9.02*			
212	43	1610	-	8.00*			
250	41	1520	-	6.80*			
269	35	1530	-	6.33			
316	34	1440	-	5.38			
350	33	1390	-	4.86*			
428	32	1280	-	3.97			

S37R17, n_e=1700 min^{-1} — **92 Nm**

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
					2 3	
0.17	92	3000	-	10037		
0.20	92	3000	-	8654		
0.21	92	3000	-	8066		
0.24	92	3000	-	7051		

S37R17, n_e=1700 min^{-1}						92 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
0.28	92	3000	-	6079		
0.31	92	3000	-	5431		
0.36	92	3000	-	4747		
0.41	92	3000	-	4155		
0.47	92	3000	-	3632		
0.59	92	3000	-	2866		
0.69	92	3000	-	2471		
0.79	92	3000	-	2160		
0.90	92	3000	-	1887		
1.0	92	3000	-	1665		
1.2	92	3000	-	1456		
1.3	92	3000	-	1271		
1.5	92	3000	-	1121		
1.7	92	3000	-	994		
2.0	92	3000	-	869		
					2 2	
2.2	92	3000	-	774		
2.6	92	3000	-	666		
2.9	92	3000	-	596		
3.3	92	3000	-	521		
3.7	92	3000	-	456		
4.3	92	3000	-	398		
4.8	92	3000	-	351		
5.6	92	3000	-	303		
6.4	92	3000	-	265		
7.3	92	3000	-	232		
8.4	92	3000	-	202		
9.5	92	3000	-	179		
11	92	3000	-	158		
12	92	3000	-	144		
14	92	3000	-	118		
15	92	3000	-	110*		

S47, n_e=1700 min^{-1}								170 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
						2		
8.5	170	5340	-	201.00*				
9.2	168	5350	-	184.80*				
11	168	5350	-	158.12				
12	167	5360	-	137.05				
13	167	5360	-	128.10*				
15	167	5360	-	110.73				
18	167	5360	-	94.08*				
20	167	5360	-	84.00*				
24	167	5360	-	71.75*				
24	155	5250	-	69.39				

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S47, n_e=1700 min^{-1} — 170 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
25	164	5270	-	67.20*				
27	155	5070	-	63.80*				
30	152	5010	-	56.61				
31	155	4750	-	54.59				
36	155	4460	-	47.32				
38	155	4330	-	44.22*				
44	155	4060	-	38.23				
52	155	3780	-	32.48*				
59	154	3600	-	29.00*				
69	145	3420	-	24.77				
73	142	3350	-	23.20*				
84	110	3080	-	20.33				
87	123	3260	-	19.54				
96	109	2890	-	17.62				
103	109	2800	-	16.47*				
119	109	2600	-	14.24				
140	109	2400	-	12.10*				
157	108	2280	-	10.80*				
184	105	2130	-	9.23*				
197	100	2120	-	8.64*				
234	86	2110	-	7.28				
249	78	2100	-	6.83				
266	76	2060	-	6.40*				
315	65	2030	-	5.39				
357	58	2000	-	4.76				
425	48	1970	-	4.00*				

S47R17, n_e=1700 min^{-1} — 185 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
					 2 3	
0.13	185	5250	-	12909		
0.15	185	5250	-	11189		
0.16	185	5250	-	10374		
0.19	185	5250	-	8992		
0.22	185	5250	-	7860		
0.25	185	5250	-	6887		
0.28	185	5250	-	6055		
0.32	185	5250	-	5292		
0.37	185	5250	-	4637		
0.42	185	5250	-	4092		
0.47	185	5200	-	3582		
0.54	185	5200	-	3131		
0.63	185	5200	-	2714		
0.70	185	5200	-	2412		
0.80	185	5200	-	2131		
0.91	185	5200	-	1863		

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S47R17, n_e=1700 min^{-1}						185 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
1.0	185	5200	-	1663		
1.2	185	5200	-	1435		
1.4	185	5200	-	1254		
1.5	185	5200	-	1120		
1.6	185	5200	-	1083		
1.8	183	5210	-	956		
					2 2	
1.8	185	5200	-	965		
2.0	185	5200	-	865		
2.3	185	5200	-	750		
2.6	185	5200	-	655		
3.0	185	5200	-	574		
3.4	185	5200	-	506		
3.9	185	5200	-	438		
4.4	185	5200	-	388		
5.1	185	5200	-	336		
5.8	185	5200	-	294		
6.6	185	5260	-	257*		
7.4	185	5200	-	229		
8.5	185	5200	-	200		
9.1	185	5200	-	187		
10	185	5200	-	165		
11	185	5200	-	148		
13	185	5200	-	131		

S57, n_e=1700 min^{-1}								295 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
						2		
8.5	295	7130	-	201.00*				
9.2	295	7130	-	184.80*				
11	295	7130	-	158.12				
12	295	7130	-	137.05				
13	295	7130	-	128.10*				
15	295	7130	-	110.73				
18	300	7080	-	94.08*				
20	285	7220	-	84.00*				
24	275	7300	-	71.75*				
24	245	7520	-	69.39				
25	260	7410	-	67.20*				
27	245	7520	-	63.80*				
30	225	7650	-	56.61				
31	245	7520	-	54.59				
36	245	7380	-	47.32				
38	245	7170	-	44.22*				
44	245	6750	-	38.23				
52	245	6300	-	32.48*				

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S57, n_e=1700 min^{-1}								295 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
59	245	6000	-	29.00*				
69	220	5790	-	24.77				
73	210	5700	-	23.20*				
84	168	5240	-	20.33				
87	183	5500	-	19.54				
96	168	4920	-	17.62				
103	168	4770	-	16.47*				
119	169	4460	-	14.24				
140	169	4140	-	12.10*				
157	169	3920	-	10.80*				
184	149	3840	-	9.23*				
197	141	3800	-	8.64*				
234	122	3710	-	7.28				
249	100	3780	-	6.83				
266	98	3690	-	6.40*				
315	95	3460	-	5.39				
357	84	3400	-	4.76				
425	71	3290	-	4.00*				

S57R17, n_e=1700 min^{-1}						330 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
					2 3	
0.13	330	6800	-	12909		
0.15	330	6800	-	11189		
0.16	330	6800	-	10374		
0.19	330	6800	-	8992		
0.22	330	6800	-	7860		
0.25	330	6800	-	6887		
0.28	330	6800	-	6055		
0.32	330	6800	-	5292		
0.37	330	6800	-	4637		
0.42	330	6800	-	4092		
0.47	330	6800	-	3628		
0.54	300	7080	-	3131		
0.63	300	7080	-	2714		
0.70	300	7080	-	2412		
0.80	300	7080	-	2131		
0.91	300	7080	-	1863		
1.0	300	7080	-	1663		
1.2	300	7080	-	1435		
1.4	300	7080	-	1254		
1.6	300	7080	-	1083		
					2 2	
1.8	300	7080	-	965		
2.0	300	7080	-	865		
2.3	300	7080	-	750		

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S57R17, n_e=1700 min^{-1}						330 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
2.6	300	7080	-	655		
3.0	300	7080	-	574		
3.4	300	7080	-	506		
3.9	300	7080	-	438		
4.4	300	7080	-	388		
5.1	300	7080	-	336		
5.8	300	7080	-	294		
6.3	300	7080	-	269		
7.4	300	7080	-	229		
8.3	300	7080	-	204		
9.1	300	7080	-	187		
10	300	7080	-	165		
13	300	7080	-	131		

S67, n_e=1700 min^{-1}										520 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
						2				
7.8	520	8680	-	217.41						
8.9	520	8680	-	190.11						
9.4	520	8680	-	180.60*						
11	520	8680	-	158.45						
13	520	8680	-	134.40*						
14	520	8680	-	121.33						
16	520	8680	-	106.75*						
17	520	8680	-	100.80*						
20	520	8680	-	85.83						
22	510	8770	-	78.00*						
23	480	9020	-	75.06						
25	495	8900	-	67.57						
26	480	8620	-	65.63						
27	480	8430	-	62.35*						
29	460	8670	-	58.80*						
31	480	7950	-	54.70						
37	480	7370	-	46.40*						
41	480	7030	-	41.89						
46	480	6610	-	36.85						
49	480	6430	-	34.80*						
57	480	5950	-	29.63						
63	455	5820	-	26.93						
70	340	5490	-	24.44						
73	405	5730	-	23.33						
73	340	5350	-	23.22*						
83	340	5010	-	20.37						
84	360	5630	-	20.30*						
98	340	4590	-	17.28*						
109	340	4280	-	15.60*						

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S67, n_e=1700 min^{-1}										520 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
124	340	3760	-	13.73*						
131	340	3530	-	12.96*						
154	340	2920	-	11.03						
169	315	3100	-	10.03						
196	280	3350	-	8.69						
225	250	3540	-	7.56*						

S67R37, n_e=1700 min^{-1}								570 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
					2 3			
0.08	570	8190	-	21362*				
0.09	570	8190	-	19594*				
0.09	570	8190	-	18120*				
0.10	570	8190	-	16682				
0.12	570	8190	-	14383				
0.13	570	8190	-	12774				
0.15	570	8190	-	11013				
0.18	570	8190	-	9694*				
0.20	570	8190	-	8529*				
0.23	570	8190	-	7455*				
0.26	570	8190	-	6531				
0.30	570	8190	-	5759				
0.34	570	8190	-	4965				
0.39	570	8190	-	4410				
0.44	570	8190	-	3880				
0.50	570	8190	-	3432				
0.58	570	8190	-	2944*				
0.65	570	8190	-	2630				
0.75	570	8190	-	2279				
0.84	570	8190	-	2014				
0.96	570	8190	-	1772				
1.1	570	8190	-	1559				
1.2	570	8190	-	1363				
1.4	570	8190	-	1194				
1.6	570	8190	-	1045				
1.9	570	8190	-	914				
					2 2			
2.1	570	8190	-	809				
2.4	570	8190	-	712				
2.8	570	8190	-	615				
3.1	570	8190	-	543				
3.6	570	8190	-	469				
4.0	570	8190	-	424				
4.7	570	8190	-	365				
5.3	570	8190	-	319				
6.0	570	8190	-	281				

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S67R37, n_e=1700 min^{-1}								570 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
6.9	570	8190	-	246				
7.7	570	8190	-	221				
8.6	570	8190	-	198				
10	570	8190	-	168				
11	570	8190	-	156				

S77, n_e=1700 min^{-1}											1270 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L
						2					
6.6	1270	11700	-	256.47							
7.5	1270	11700	-	225.26							
7.9	1270	11700	-	214.00*							
9.0	1240	12000	-	189.09							
11	1220	12200	-	161.60*							
11	1200	12300	-	148.15							
13	1170	12600	-	130.00*							
14	1150	12700	-	123.20*							
16	1110	13000	-	107.83							
18	1090	13100	-	97.14							
20	1050	12500	-	85.22							
23	1010	12000	-	75.20*							
23	1100	10800	-	75.09							
24	1100	10500	-	71.33							
25	970	11500	-	66.67							
27	1100	9900	-	63.03							
30	920	11000	-	56.92							
32	1100	9120	-	53.87							
34	1100	8710	-	49.38							
39	1100	8110	-	43.33							
41	1100	7870	-	41.07							
47	1060	7490	-	35.94							
53	1040	7160	-	32.38							
60	990	6880	-	28.41							
68	960	6560	-	25.07							
74	705	4690	-	22.89							
77	920	6310	-	22.22							
81	705	4150	-	20.99							
90	860	6060	-	18.97							
92	710	3270	-	18.42							
97	710	2960	-	17.45							
111	720	2020	-	15.28							
124	720	1460	-	13.76							
141	725	680	-	12.07							
160	725	48	-	10.65							
180	655	715	-	9.44							
211	575	1440	-	8.06							

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S77R37, n_e=1700 min^{-1}								1270 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L
					2	3		
0.07	1270	11700	-	25493				
0.08	1270	11700	-	21787				
0.09	1270	11700	-	19907				
0.10	1270	11700	-	17013				
0.12	1270	11700	-	14668				
0.13	1270	11700	-	13110				
0.15	1270	11700	-	11569				
0.17	1270	11700	-	9887				
0.19	1270	11700	-	8817				
0.22	1270	11700	-	7735				
0.25	1270	11700	-	6735				
0.29	1270	11700	-	5943				
0.33	1270	11700	-	5214				
0.37	1270	11700	-	4618				
0.43	1270	11700	-	3992				
0.48	1270	11700	-	3540				
0.55	1270	11700	-	3098				
0.62	1240	12000	-	2753				
0.72	1240	12000	-	2374				
0.82	1240	12000	-	2083				
0.94	1240	12000	-	1813				
0.97	1240	12000	-	1745				
1.1	1240	12000	-	1600				
1.2	1240	12000	-	1404				
1.4	1240	12000	-	1245				
					2	2		
1.5	1240	12000	-	1100				
1.8	1240	12000	-	954				
2.0	1240	12000	-	837				
2.4	1240	12000	-	714				
2.7	1240	12000	-	637				
3.0	1240	12000	-	574				
3.4	1240	12000	-	499				
3.9	1240	12000	-	438				
4.4	1240	12000	-	389				
5.2	1240	12000	-	327				
5.9	1240	12000	-	289				
6.8	1240	12000	-	250				
7.8	1240	12000	-	219				

S87, n_e=1700 min^{-1}												2280 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L
							2					
5.9	2280	27900	-	288.00*								
6.6	2260	28000	-	258.18								
7.6	2210	28100	-	222.40*								

S87, n_e=1700 min^{-1} — 2280 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L
8.4	2190	28100	-	202.96								
9.4	2130	28200	-	180.00*								
11	2060	28300	-	151.30								
12	2020	28400	-	139.05								
14	1960	28500	-	123.48								
15	1900	28600	-	110.40*								
17	1840	28700	-	99.26								
19	1520	29100	-	91.20*								
20	1770	28800	-	86.15								
21	1600	29000	-	81.76								
22	1700	28900	-	77.14								
24	1600	29000	-	70.43								
26	1600	29000	-	64.27								
27	1580	29100	-	64.00*								
30	1600	29000	-	57.00*								
35	1600	28300	-	47.91								
39	1600	27400	-	44.03								
43	1600	26300	-	39.10								
49	1600	25200	-	34.96*								
54	1600	24200	-	31.43								
62	1600	23000	-	27.28								
67	1240	21700	-	25.50*								
70	1600	22000	-	24.43								
79	1240	20200	-	21.43								
84	1420	21200	-	20.27								
86	1240	19600	-	19.70								
97	1240	18700	-	17.49								
109	1240	17800	-	15.64*								
121	1240	17000	-	14.06								
139	1240	15500	-	12.21								
156	1130	15900	-	10.93								
187	950	15700	-	9.07								
216	830	15500	-	7.88								

S87R57, n_e=1700 min^{-1} — 2500 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
						2 3				
0.07	2500	27500	-	25987						
0.07	2500	27500	-	23940						
0.08	2500	27500	-	20568						
0.09	2500	27500	-	18265						
0.10	2500	27500	-	16774						
0.11	2500	27500	-	14820						
0.13	2500	27500	-	13160						
0.15	2500	27500	-	11200						
0.17	2500	27500	-	9904						
0.20	2500	27500	-	8549						
0.22	2500	27500	-	7643						

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S87R57, n_e=1700 min^{-1} — 2500 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
0.25	2500	27500	-	6706						
0.29	2500	27500	-	5875						
0.33	2500	27500	-	5187						
0.37	2500	27500	-	4606						
0.44	2500	27500	-	3872						
						2	2			
0.49	2500	27500	-	3475						
0.59	2500	27500	-	2905						
0.66	2500	27500	-	2586						
0.73	2500	27500	-	2335						
0.83	2500	27500	-	2054						
0.93	2500	27500	-	1824						
1.0	2500	27500	-	1631*						
1.3	2500	27500	-	1332						
1.4	2500	27500	-	1191						
1.6	2500	27500	-	1032*						
1.8	2500	27500	-	930						
2.0	2500	27500	-	831						
2.4	2500	27500	-	719						
2.7	2500	27500	-	624						
3.0	2500	27500	-	558						
3.5	2500	27500	-	485						
3.9	2450	27600	-	435						
4.5	2450	27600	-	378						
5.3	2400	27700	-	323						
6.0	2400	27700	-	281						
6.7	1980	28400	-	255						
7.7	1980	28400	-	222						
8.3	1980	28400	-	205						

S97, n_e=1700 min^{-1} — 4000 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S
							2						
5.9	4000	33200	-	286.40*									
6.5	4000	33200	-	262.22									
7.3	3960	33300	-	231.67									
8.7	3840	33500	-	196.52									
9.4	3770	33700	-	180.95									
11	3650	33900	-	161.74									
12	3550	34100	-	145.60*									
13	3440	34300	-	131.85									
15	3340	34400	-	116.92									
16	3210	34600	-	105.71									
19	3020	34900	-	89.60*									
21	3270	34500	-	80.85									
22	2870	35100	-	78.26									
24	3300	34500	-	71.43									

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S97, n_e=1700 min^{-1}													4000 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M	DRN132L DRN160M DRN160L	DRN180M DRN180L	DRN200L DRN225S
26	2650	35400	-	65.45									
28	3300	34500	-	60.59									
30	3300	34400	-	55.79									
34	3300	33000	-	49.87									
38	3300	31600	-	44.89									
42	3230	30600	-	40.65									
47	3110	29600	-	36.05									
52	2980	28800	-	32.60									
62	2810	27500	-	27.63									
64	2600	23200	-	26.39									
70	2670	26500	-	24.13									
72	2600	21300	-	23.59									
80	2570	20000	-	21.23									
88	2500	19400	-	19.23									
100	2400	18900	-	17.05									
110	2300	18800	-	15.42									
130	2170	18200	-	13.07									
149	2000	18500	-	11.41									
178	1670	18800	-	9.55									
206	1440	18800	-	8.26									

S97R57, n_e=1700 min^{-1}										4200 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
						2 3				
0.05	4200	32800	-	33818						
0.05	4200	32800	-	31154						
0.06	4200	32800	-	27847						
0.07	4200	32800	-	24641						
0.08	4200	32800	-	21537						
0.09	4200	32800	-	18749*						
0.10	4200	32800	-	16233						
0.12	4200	32800	-	14576						
0.13	4200	32800	-	12752						
0.15	4200	32800	-	11267						
0.17	4200	32800	-	10078						
0.20	4200	32800	-	8608						
0.23	4200	32800	-	7554						
0.26	4200	31300	-	6640						
0.29	4200	31300	-	5780*						
0.34	4200	31300	-	4937						
0.38	4200	31300	-	4444						
0.42	4200	31300	-	4017						
0.49	4200	31300	-	3453						
0.55	4200	31300	-	3108						
0.64	4200	31300	-	2654						
0.73	4200	31300	-	2329						
0.82	4200	31300	-	2081						
0.91	4200	31300	-	1860						

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S97R57, n_e=1700 min^{-1}										4200 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M	DRN132S DRN132M
1.1	4200	31300	-	1574*						
										
1.2	4200	31300	-	1394						
1.4	4200	31300	-	1223						
1.6	4200	31300	-	1070						
1.8	4200	31300	-	928						
2.1	4200	31300	-	824						
2.4	4200	32800	-	714						
2.7	4200	31400	-	626*						
3.2	4200	31400	-	538						
3.5	4200	31400	-	484*						
4.0	4200	31400	-	420						
4.5	4200	31500	-	376						
5.2	4200	31500	-	327						
5.9	4200	31500	-	287						
6.7	4200	31600	-	252						
7.8	4200	31600	-	219						
8.3	4200	31600	-	205						

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11.3 Selection tables S..DRN. in kW

P_m = 0.12 kW												
n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC						m kg	
0.15	3730	11267	33700	1.10		**S**	**97R57**	**DR**	**63S4**		170	709
0.17	3450	10078	34200	1.20		**SF**	**97R57**	**DR**	**63S4**		200	709
0.20	2820	8608	35200	1.50		**SA**	**97R57**	**DR**	**63S4**		165	709
0.22	2500	7554	35600	1.70		**SAF**	**97R57**	**DR**	**63S4**		190	709
0.25	2100	6706	28300	1.20								
0.29	1880	5875	28600	1.35		**S**	**87R57**	**DR**	**63S4**		110	709
0.32	1520	5187	29100	1.65		**SF**	**87R57**	**DR**	**63S4**		130	709
0.36	1350	4606	29300	1.85		**SA**	**87R57**	**DR**	**63S4**		105	709
0.43	1120	3872	29600	2.2		**SAF**	**87R57**	**DR**	**63S4**		120	709
0.47	1080	3540	13300	1.20								
0.54	940	3098	14100	1.35								
0.71	1060	2374	13400	1.15								
0.81	930	2083	14200	1.35		**S**	**77R37**	**DR**	**63S4**		59	709
0.93	780	1813	15000	1.60		**SF**	**77R37**	**DR**	**63S4**		68	709
0.96	740	1745	15200	1.65		**SA**	**77R37**	**DR**	**63S4**		58	709
1.1	675	1600	15400	1.80		**SAF**	**77R37**	**DR**	**63S4**		65	709
1.2	595	1404	15700	2.1								
1.4	515	1245	16000	2.4								
1.4	460	1194	9140	1.25		**S**	**67R37**	**DR**	**63S4**		39	709
1.6	420	1045	9430	1.35		**SF**	**67R37**	**DR**	**63S4**		46	709
1.8	365	914	9800	1.55		**SA**	**67R37**	**DR**	**63S4**		40	709
						SAF	**67R37**	**DR**	**63S4**		45	709
2.1	335	809	9960	1.70								
2.4	295	712	10100	1.95								
2.7	240	615	10400	2.4		**S**	**67R37**	**DR**	**63S4**		39	709
3.1	215	543	10400	2.6		**SF**	**67R37**	**DR**	**63S4**		46	709
3.6	177	469	10600	3.2		**SA**	**67R37**	**DR**	**63S4**		40	709
4.0	161	424	10600	3.5		**SAF**	**67R37**	**DR**	**63S4**		45	709
4.6	151	365	10600	3.8								
2.6	260	655	7390	1.15								
2.9	225	574	7630	1.30								
3.3	198	506	7800	1.50		**S**	**57R17**	**DR**	**63S4**		20	709
3.8	172	438	7940	1.75		**SF**	**57R17**	**DR**	**63S4**		24	709
4.3	150	388	8030	2.0		**SA**	**57R17**	**DR**	**63S4**		20	709
5.0	136	336	8080	2.2		**SAF**	**57R17**	**DR**	**63S4**		23	709
5.7	116	294	8140	2.6								
6.2	113	269	8150	2.7								
3.8	171	438	5280	1.10								
4.3	149	388	5390	1.25								
5.0	135	336	5470	1.40		**S**	**47R17**	**DR**	**63S4**		17	709
5.7	114	294	5560	1.60		**SF**	**47R17**	**DR**	**63S4**		20	709
6.5	79	257	5740	2.4		**SA**	**47R17**	**DR**	**63S4**		18	709
7.3	95	229	5650	1.95		**SAF**	**47R17**	**DR**	**63S4**		19	709
8.4	83	200	5700	2.2								
9.0	77	187	5720	2.4								
8.3	83	202	3000	1.10								
9.4	74	179	3000	1.25		**S**	**37R17**	**DR**	**63S4**		14	709
11	66	158	3000	1.40		**SF**	**37R17**	**DR**	**63S4**		15	709
12	61	144	3000	1.50		**SA**	**37R17**	**DR**	**63S4**		13	709
14	50	118	3000	1.85		**SAF**	**37R17**	**DR**	**63S4**		15	709
15	46	110	3000	2.0								
5.5	120	201.00*	8130	2.5		**S**	**57**	**DR**	**63M6**		17	684
6.0	112	184.80*	8160	2.6		**SF**	**57**	**DR**	**63M6**		21	685
7.0	98	158.12	8200	3.0		**SA**	**57**	**DR**	**63M6**		17	686
8.0	86	137.05	8220	3.4		**SAF**	**57**	**DR**	**63M6**		20	685
5.5	116	201.00*	5590	1.50								
6.0	108	184.80*	5620	1.60		**S**	**47**	**DR**	**63M6**		14	679
7.0	94	158.12	5680	1.80		**SF**	**47**	**DR**	**63M6**		17	680
8.0	83	137.05	5720	2.0		**SA**	**47**	**DR**	**63M6**		15	681
8.6	78	128.10*	5740	2.2		**SAF**	**47**	**DR**	**63M6**		16	680

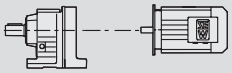
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P_m = 0.12 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
8.4	80	201.00*	5730	2.1							
9.1	75	184.80*	5750	2.2		**S**	**47**	**DR**	**63S4**	14	679
11	65	158.12	5780	2.6		**SF**	**47**	**DR**	**63S4**	17	680
12	58	137.05	5810	2.9		**SA**	**47**	**DR**	**63S4**	15	681
13	54	128.10*	5820	3.1		**SAF**	**47**	**DR**	**63S4**	16	680
15	48	110.73	5840	3.5							
7.0	90	157.43	3000	1.00							
7.6	83	144.40*	3000	1.10		**S**	**37**	**DR**	**63M6**	11	675
8.9	72	122.94	3000	1.25		**SF**	**37**	**DR**	**63M6**	12	676
10	64	106.00*	3000	1.45		**SA**	**37**	**DR**	**63M6**	10	677
11	60	98.80*	3000	1.55		**SAF**	**37**	**DR**	**63M6**	12	676
13	53	86.36	3000	1.70							
11	62	157.43	3000	1.45							
12	58	144.40*	3000	1.55							
14	50	122.94	3000	1.75		**S**	**37**	**DR**	**63S4**	11	675
16	44	106.00*	3000	1.95		**SF**	**37**	**DR**	**63S4**	12	676
17	41	98.80*	3000	2.0		**SA**	**37**	**DR**	**63S4**	10	677
19	37	86.36	3000	2.2		**SAF**	**37**	**DR**	**63S4**	12	676
21	35	80.96	3000	2.4							
24	31	71.44*	3000	2.6							
27	28	63.33	3000	2.8							
30	30	55.93	3000	2.8							
33	27	51.30*	3000	2.9							
38	23	43.68	3000	3.3							
45	20	37.66	3000	3.7		**S**	**37**	**DR**	**63S4**	11	675
48	19	35.10*	3000	3.9		**SF**	**37**	**DR**	**63S4**	12	676
55	17	30.68	3000	4.3		**SA**	**37**	**DR**	**63S4**	10	677
58	16	28.76	3000	4.6		**SAF**	**37**	**DR**	**63S4**	12	676
66	14	25.38*	3000	5.0							
75	13	22.50*	3000	5.6							
84	12	19.89	2920	4.2							
92	11	18.24*	2840	4.5							
108	9.3	15.53	2710	5.1							

P_m = 0.18 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
						S	**87R57**	**DR**	**63M4**	110	709
0.35	2360	4606	27800	1.05		**SF**	**87R57**	**DR**	**63M4**	130	709
0.42	1960	3872	28500	1.25		**SA**	**87R57**	**DR**	**63M4**	105	709
						SAF	**87R57**	**DR**	**63M4**	120	709
0.47	1930	3475	28600	1.30							
0.56	1620	2905	29000	1.55							
0.63	1390	2586	29300	1.80		**S**	**87R57**	**DR**	**63M4**	105	709
0.69	1230	2335	29500	2.0		**SF**	**87R57**	**DR**	**63M4**	130	709
0.79	1060	2054	29600	2.4		**SA**	**87R57**	**DR**	**63M4**	105	709
0.89	940	1824	29700	2.6		**SAF**	**87R57**	**DR**	**63M4**	120	709
0.99	850	1631	29800	2.9							
						S	**77R37**	**DR**	**63M4**	59	709
1.1	990	1404	13900	1.25		**SF**	**77R37**	**DR**	**63M4**	68	709
1.3	860	1245	14600	1.45		**SA**	**77R37**	**DR**	**63M4**	58	709
						SAF	**77R37**	**DR**	**63M4**	65	709
1.5	810	1100	14800	1.50							
1.7	700	954	15300	1.75		**S**	**77R37**	**DR**	**63M4**	58	709
1.9	615	837	15700	2.0		**SF**	**77R37**	**DR**	**63M4**	68	709
2.3	510	714	16000	2.4		**SA**	**77R37**	**DR**	**63M4**	58	709
2.5	450	637	16000	2.8		**SAF**	**77R37**	**DR**	**63M4**	65	709
2.8	410	574	16000	3.0							
2.3	480	712	9010	1.20							
2.6	400	615	9570	1.40		**S**	**67R37**	**DR**	**63M4**	39	709
3.0	360	543	9820	1.60		**SF**	**67R37**	**DR**	**63M4**	46	709
3.5	295	469	10100	1.90		**SA**	**67R37**	**DR**	**63M4**	40	709
3.8	270	424	10200	2.1		**SAF**	**67R37**	**DR**	**63M4**	45	709
4.4	245	365	10300	2.3							

P_m = 0.18 kW												
n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
3.7	280	438	7230	1.05							
4.2	245	388	7490	1.20							
4.8	220	336	7660	1.35		**S**	**57R17**	**DR**	**63M4**	20	709
5.5	192	294	7830	1.55		**SF**	**57R17**	**DR**	**63M4**	24	709
6.0	183	269	7880	1.65		**SA**	**57R17**	**DR**	**63M4**	20	709
7.1	157	229	8000	1.90		**SAF**	**57R17**	**DR**	**63M4**	23	709
7.9	141	204	8060	2.1							
8.7	129	187	8100	2.3							
5.5	189	294	5160	1.00							
6.3	132	257	5520	1.40							
7.1	155	229	5370	1.20		**S**	**47R17**	**DR**	**63M4**	17	709
8.1	135	200	5470	1.35		**SF**	**47R17**	**DR**	**63M4**	20	709
8.7	127	187	5510	1.45		**SA**	**47R17**	**DR**	**63M4**	18	709
9.8	112	165	5580	1.65		**SAF**	**47R17**	**DR**	**63M4**	19	709
11	101	148	5620	1.85							
12	89	131	5670	2.1							
4.9	210	217.41	10500	2.6		**S**	**67**	**DR**	**63L6**	29	689
5.6	187	190.11	10500	3.0		**SF**	**67**	**DR**	**63L6**	35	690
5.9	179	180.60*	10500	3.1		**SA**	**67**	**DR**	**63L6**	30	691
						SAF	**67**	**DR**	**63L6**	34	690
5.3	185	201.00*	7870	1.60		**S**	**57**	**DR**	**63L6**	18	684
5.8	172	184.80*	7930	1.70		**SF**	**57**	**DR**	**63L6**	22	685
6.8	150	158.12	8030	1.95		**SA**	**57**	**DR**	**63L6**	18	686
7.8	132	137.05	8090	2.2		**SAF**	**57**	**DR**	**63L6**	21	685
8.1	129	201.00*	8100	2.3		**S**	**57**	**DR**	**63M4**	17	684
8.8	120	184.80*	8130	2.5		**SF**	**57**	**DR**	**63M4**	21	685
10	104	158.12	8180	2.8		**SA**	**57**	**DR**	**63M4**	17	686
12	92	137.05	8210	3.2		**SAF**	**57**	**DR**	**63M4**	20	685
5.3	178	201.00*	5290	1.00							
5.8	166	184.80*	5360	1.05		**S**	**47**	**DR**	**63L6**	14	679
6.8	145	158.12	5460	1.20		**SF**	**47**	**DR**	**63L6**	18	680
7.8	128	137.05	5540	1.35		**SA**	**47**	**DR**	**63L6**	15	681
8.3	121	128.10*	5570	1.40		**SAF**	**47**	**DR**	**63L6**	17	680
8.1	124	201.00*	5560	1.35							
8.8	116	184.80*	5590	1.45							
10	101	158.12	5650	1.65							
12	89	137.05	5700	1.90		**S**	**47**	**DR**	**63M4**	14	679
13	84	128.10*	5720	2.0		**SF**	**47**	**DR**	**63M4**	17	680
15	74	110.73	5760	2.3		**SA**	**47**	**DR**	**63M4**	15	681
17	64	94.08*	5790	2.6		**SAF**	**47**	**DR**	**63M4**	16	680
19	58	84.00*	5810	2.9							
23	50	71.75*	5840	3.3							
23	57	69.39	5800	2.7							
10	96	157.43	3000	0.95							
11	89	144.40*	3000	1.00							
13	78	122.94	3000	1.10		**S**	**37**	**DR**	**63M4**	11	675
15	68	106.00*	3000	1.25		**SF**	**37**	**DR**	**63M4**	12	676
16	64	98.80*	3000	1.35		**SA**	**37**	**DR**	**63M4**	10	677
19	57	86.36	3000	1.45		**SAF**	**37**	**DR**	**63M4**	12	676
20	54	80.96	3000	1.50							

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P_m = 0.18 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
23	48	71.44*	3000	1.65							
26	43	63.33	3000	1.85							
29	46	55.93	3000	1.75							
32	42	51.30*	3000	1.90							
37	36	43.68	3000	2.1							
43	32	37.66	3000	2.4							
46	30	35.10*	3000	2.5							
53	26	30.68	3000	2.8		**S**	**37**	**DR**	**63M4**	11	675
56	25	28.76	3000	3.0		**SF**	**37**	**DR**	**63M4**	12	676
64	22	25.38*	3000	3.2		**SA**	**37**	**DR**	**63M4**	10	677
72	20	22.50*	3000	3.6		**SAF**	**37**	**DR**	**63M4**	12	676
81	18	19.89	2860	2.7							
89	17	18.24*	2790	2.9							
104	15	15.53	2670	3.3							
121	13	13.39	2560	3.7							
130	12	12.48*	2510	3.9							
148	10	10.91	2410	4.4							
158	9.7	10.23	2360	4.6							

P_m = 0.25 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.55	2350	2905	27800	1.05							
0.62	2030	2586	28400	1.25							
0.69	1820	2335	28700	1.35		**S**	**87R57**	**DR**	**63L4**	110	709
0.78	1570	2054	29100	1.60		**SF**	**87R57**	**DR**	**63L4**	130	709
0.88	1400	1824	29300	1.80		**SA**	**87R57**	**DR**	**63L4**	105	709
0.98	1250	1631	29400	2.0		**SAF**	**87R57**	**DR**	**63L4**	120	709
1.7	745	930	29900	3.3							
1.7	1010	954	13700	1.25							
1.9	880	837	14500	1.40		**S**	**77R37**	**DR**	**63L4**	59	709
2.2	740	714	15200	1.65		**SF**	**77R37**	**DR**	**63L4**	69	709
2.5	655	637	15500	1.90		**SA**	**77R37**	**DR**	**63L4**	59	709
2.8	595	574	15700	2.1		**SAF**	**77R37**	**DR**	**63L4**	65	709
3.2	505	499	16000	2.4							
3.0	520	543	8660	1.10							
3.4	435	469	9330	1.30		**S**	**67R37**	**DR**	**63L4**	40	709
3.8	395	424	9600	1.45		**SF**	**67R37**	**DR**	**63L4**	46	709
4.4	355	365	9840	1.60		**SA**	**67R37**	**DR**	**63L4**	41	709
5.0	305	319	10100	1.85		**SAF**	**67R37**	**DR**	**63L4**	45	709
5.7	265	281	10300	2.1							
5.4	275	294	7260	1.10							
6.0	260	269	7390	1.15							
7.0	225	229	7640	1.35		**S**	**57R17**	**DR**	**63L4**	21	709
7.8	200	204	7780	1.50		**SF**	**57R17**	**DR**	**63L4**	25	709
8.6	186	187	7870	1.60		**SA**	**57R17**	**DR**	**63L4**	21	709
9.7	164	165	7970	1.85		**SAF**	**57R17**	**DR**	**63L4**	24	709
12	131	131	8100	2.3							
5.1	285	217.41	10200	1.95		**S**	**67**	**DRS**	**71S6**	31	689
5.8	250	190.11	10300	2.2		**SF**	**67**	**DRS**	**71S6**	37	690
6.1	240	180.60*	10400	2.3		**SA**	**67**	**DRS**	**71S6**	32	691
6.9	215	158.45	10400	2.5		**SAF**	**67**	**DRS**	**71S6**	36	690
7.4	205	217.41	10500	2.5							
8.4	183	190.11	10500	2.9							
8.9	174	180.60*	10600	3.0		**S**	**67**	**DR**	**63L4**	29	689
10	155	158.45	10600	3.4		**SF**	**67**	**DR**	**63L4**	35	690
12	134	134.40*	10600	3.9		**SA**	**67**	**DR**	**63L4**	30	691
13	122	121.33	10700	4.2		**SAF**	**67**	**DR**	**63L4**	34	690
15	109	106.75*	10700	4.8							
5.5	250	201.00*	7480	1.20							
6.0	230	184.80*	7600	1.25		**S**	**57**	**DRS**	**71S6**	20	684
7.0	200	158.12	7780	1.45		**SF**	**57**	**DRS**	**71S6**	24	685
8.0	179	137.05	7900	1.65		**SA**	**57**	**DRS**	**71S6**	20	686
8.6	169	128.10*	7950	1.75		**SAF**	**57**	**DRS**	**71S6**	23	685

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P_m = 0.25 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
8.0	181	201.00*	7890	1.65							
8.7	168	184.80*	7950	1.75							
10	146	158.12	8040	2.0		**S**	**57**	**DR**	**63L4**	18	684
12	129	137.05	8100	2.3		**SF**	**57**	**DR**	**63L4**	22	685
12	122	128.10*	8130	2.4		**SA**	**57**	**DR**	**63L4**	18	686
14	107	110.73	8170	2.8		**SAF**	**57**	**DR**	**63L4**	21	685
17	92	94.08*	8210	3.2							
19	83	84.00*	8230	3.4							
8.0	175	201.00*	5310	0.95							
8.7	162	184.80*	5380	1.05							
10	142	158.12	5480	1.20							
12	125	137.05	5550	1.35							
12	118	128.10*	5580	1.40							
14	104	110.73	5640	1.60		**S**	**47**	**DR**	**63L4**	14	679
17	90	94.08*	5700	1.85		**SF**	**47**	**DR**	**63L4**	18	680
19	81	84.00*	5730	2.1		**SA**	**47**	**DR**	**63L4**	15	681
22	70	71.75*	5770	2.4		**SAF**	**47**	**DR**	**63L4**	17	680
23	80	69.39	5710	1.95							
24	66	67.20*	5780	2.5							
25	74	63.80*	5730	2.1							
29	64	54.59	5690	2.4							
34	56	47.32	5470	2.8							
16	90	98.80*	3000	0.95							
19	80	86.36	3000	1.05							
20	76	80.96	3000	1.10							
22	68	71.44*	3000	1.20							
25	61	63.33	3000	1.30							
29	64	55.93	3000	1.25							
31	59	51.30*	3000	1.35							
37	51	43.68	3000	1.55							
42	45	37.66	3000	1.70							
46	42	35.10*	3000	1.80							
52	37	30.68	3000	2.0							
56	35	28.76	3000	2.1							
63	31	25.38*	3000	2.3		**S**	**37**	**DR**	**63L4**	11	675
71	27	22.50*	2940	2.5		**SF**	**37**	**DR**	**63L4**	13	676
80	26	19.89	2750	1.95		**SA**	**37**	**DR**	**63L4**	11	677
88	24	18.24*	2700	2.1		**SAF**	**37**	**DR**	**63L4**	13	676
103	20	15.53	2590	2.4							
120	18	13.39	2490	2.7							
128	17	12.48*	2440	2.8							
147	15	10.91	2360	3.1							
156	14	10.23	2320	3.3							
177	12	9.02*	2240	3.6							
200	11	8.00*	2160	4.0							
235	9.2	6.80*	2060	4.5							
253	8.6	6.33	2010	4.1							
297	7.3	5.38	1920	4.6							
329	6.6	4.86*	1860	5.0							
404	5.4	3.97	1750	5.9							
113	18	28.76	2590	3.5							
128	16	25.38*	2500	3.4							
145	14	22.50*	2420	3.1		**S**	**37**	**DR**	**63M2**	11	675
164	13	19.89	2290	3.3		**SF**	**37**	**DR**	**63M2**	12	676
179	12	18.24*	2230	3.5		**SA**	**37**	**DR**	**63M2**	10	677
210	10	15.53	2130	3.9		**SAF**	**37**	**DR**	**63M2**	12	676
243	8.9	13.39	2040	4.4							
261	8.3	12.48*	2000	4.6							

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P_m = 0.37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
0.83	2270	2054	27900	1.10	X						
0.93	2020	1824	28400	1.25	X	**S**	**87R57**	**(E)DRS**	**71S4**	110	709
1.0	1820	1631	28700	1.35	X	**SF**	**87R57**	**(E)DRS**	**71S4**	130	709
1.8	1080	930	29600	2.3	X	**SA**	**87R57**	**(E)DRS**	**71S4**	105	709
2.0	980	831	29700	2.5	X	**SAF**	**87R57**	**(E)DRS**	**71S4**	125	709
2.4	1050	714	13400	1.20	X						
2.7	930	637	14200	1.30	X	**S**	**77R37**	**(E)DRS**	**71S4**	61	709
3.0	840	574	14700	1.45	X	**SF**	**77R37**	**(E)DRS**	**71S4**	71	709
3.4	725	499	15200	1.70	X	**SA**	**77R37**	**(E)DRS**	**71S4**	61	709
3.9	640	438	15600	1.95	X	**SAF**	**77R37**	**(E)DRS**	**71S4**	67	709
4.4	570	389	15800	2.2	X						
4.7	505	365	8780	1.10	X	**S**	**67R37**	**(E)DRS**	**71S4**	42	709
5.3	440	319	9300	1.30	X	**SF**	**67R37**	**(E)DRS**	**71S4**	48	709
6.1	385	281	9660	1.45	X	**SA**	**67R37**	**(E)DRS**	**71S4**	43	709
6.9	350	246	9870	1.60	X	**SAF**	**67R37**	**(E)DRS**	**71S4**	47	709
						S	**77**	**DRS**	**71M6**	53	694
4.3	535	256.47	15900	2.4		**SF**	**77**	**DRS**	**71M6**	63	695
4.9	475	225.26	16000	2.6		**SA**	**77**	**DRS**	**71M6**	52	696
5.1	455	214.00*	16000	2.8		**SAF**	**77**	**DRS**	**71M6**	59	695
5.1	420	217.41	9440	1.30		**S**	**67**	**DRS**	**71M6**	32	689
5.8	375	190.11	9730	1.50		**SF**	**67**	**DRS**	**71M6**	38	690
6.1	355	180.60*	9830	1.55		**SA**	**67**	**DRS**	**71M6**	33	691
6.9	320	158.45	10000	1.70		**SAF**	**67**	**DRS**	**71M6**	37	690
7.8	285	217.41	10200	1.80	X						
8.9	255	190.11	10300	2.0	X	**S**	**67**	**(E)DRS**	**71S4**	31	689
9.4	240	180.60*	10300	2.1	X	**SF**	**67**	**(E)DRS**	**71S4**	37	690
11	215	158.45	10400	2.4	X	**SA**	**67**	**(E)DRS**	**71S4**	32	691
13	188	134.40*	10500	2.8	X	**SAF**	**67**	**(E)DRS**	**71S4**	36	690
14	171	121.33	10600	3.0	X						
7.0	300	158.12	7080	1.00							
8.0	265	137.05	7370	1.10		**S**	**57**	**DRS**	**71M6**	21	684
8.6	250	128.10*	7480	1.20		**SF**	**57**	**DRS**	**71M6**	25	685
9.9	220	110.73	7680	1.35		**SA**	**57**	**DRS**	**71M6**	21	686
12	191	94.08*	7840	1.55		**SAF**	**57**	**DRS**	**71M6**	24	685
13	173	84.00*	7930	1.70							
8.5	250	201.00*	7460	1.15	X						
9.2	235	184.80*	7580	1.25	X						
11	205	158.12	7760	1.45	X						
12	181	137.05	7890	1.65	X						
13	171	128.10*	7940	1.75	X	**S**	**57**	**(E)DRS**	**71S4**	20	684
15	150	110.73	8030	1.95	X	**SF**	**57**	**(E)DRS**	**71S4**	24	685
18	129	94.08*	8100	2.3	X	**SA**	**57**	**(E)DRS**	**71S4**	20	686
20	117	84.00*	8140	2.4	X	**SAF**	**57**	**(E)DRS**	**71S4**	23	685
24	101	71.75*	8190	2.7	X						
24	114	69.39	8150	2.1	X						
25	95	67.20*	8200	2.7	X						
27	106	63.80*	8180	2.3	X						

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P_m = 0.37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
12	175	137.05	5310	0.95							
13	165	128.10*	5360	1.00	X						
15	145	110.73	5460	1.15	X						
18	126	94.08*	5550	1.35	X						
20	114	84.00*	5600	1.45	X						
24	99	71.75*	5660	1.70	X						
24	112	69.39	5580	1.40	X						
25	93	67.20*	5690	1.75	X						
27	104	63.80*	5530	1.50	X	**S**	**47**	**(E)DRS**	**71S4**	16	679
31	90	54.59	5330	1.70	X	**SF**	**47**	**(E)DRS**	**71S4**	20	680
36	79	47.32	5150	1.95	X	**SA**	**47**	**(E)DRS**	**71S4**	17	681
38	74	44.22*	5060	2.1	X	**SAF**	**47**	**(E)DRS**	**71S4**	19	680
44	64	38.23	4880	2.4	X						
52	55	32.48*	4670	2.8	X						
59	50	29.00*	4530	3.1	X						
69	43	24.77	4340	3.4	X						
73	40	23.20*	4260	3.5	X						
84	37	20.33	3980	2.9	X						
96	33	17.62	3830	3.4	X						
103	31	16.47*	3760	3.6	X						
27	85	63.33	3000	0.95							
33	83	51.30*	3000	0.95							
39	71	43.68	3000	1.10	X						
45	62	37.66	3000	1.20	X						
48	58	35.10*	3000	1.30	X						
55	51	30.68	2940	1.40	X						
59	48	28.76	2900	1.50	X						
67	43	25.38*	2820	1.65	X						
76	38	22.50*	2740	1.85	X						
85	36	19.89	2540	1.40	X						
93	33	18.24*	2490	1.45	X	**S**	**37**	**(E)DRS**	**71S4**	13	675
109	28	15.53	2410	1.70	X	**SF**	**37**	**(E)DRS**	**71S4**	15	676
127	25	13.39	2330	1.90	X	**SA**	**37**	**(E)DRS**	**71S4**	13	677
136	23	12.48*	2290	2.0	X	**SAF**	**37**	**(E)DRS**	**71S4**	15	676
156	20	10.91	2220	2.2	X						
166	19	10.23	2180	2.4	X						
188	17	9.02*	2120	2.5	X						
212	15	8.00*	2050	2.9	X						
250	13	6.80*	1960	3.2	X						
268	12	6.33	1920	2.9	X						
316	10	5.38	1840	3.3	X						
350	9.3	4.86*	1780	3.6	X						
429	7.6	3.97	1680	4.2	X						
128	23	25.38*	2410	2.3							
144	21	22.50*	2340	2.1							
163	19	19.89	2190	2.2							
178	18	18.24*	2150	2.4		**S**	**37**	**DR**	**63L2**	11	675
209	15	15.53	2060	2.6		**SF**	**37**	**DR**	**63L2**	13	676
243	13	13.39	1980	3.0		**SA**	**37**	**DR**	**63L2**	11	677
260	12	12.48*	1940	3.1		**SAF**	**37**	**DR**	**63L2**	13	676
298	11	10.91	1870	3.3							
318	10	10.23	1840	3.5							
360	9.0	9.02*	1780	3.8							

P_m = 0.55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
1.3	2290	1332	27900	1.10	X						
1.4	2070	1191	28300	1.20	X						
1.6	1800	1032	28800	1.40	X						
1.8	1670	930	28900	1.50	X	**S**	**87R57**	**(E)DRS**	**71M4**	110	709
2.0	1510	831	29100	1.65	X	**SF**	**87R57**	**(E)DRS**	**71M4**	130	709
2.4	1310	719	29400	1.90	X	**SA**	**87R57**	**(E)DRS**	**71M4**	110	709
2.7	1140	624	29600	2.2	X	**SAF**	**87R57**	**(E)DRS**	**71M4**	125	709
3.0	1030	558	29700	2.4	X						
3.9	820	435	29800	3.0	X						

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P_m = 0.55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
3.9	980	438	13900	1.25	X	**S**	**77R37**	**(E)DRS**	**71M4**	62	709
4.3	870	389	14500	1.40	X	**SF**	**77R37**	**(E)DRS**	**71M4**	72	709
5.2	735	327	15200	1.70	X	**SA**	**77R37**	**(E)DRS**	**71M4**	62	709
5.8	670	289	15500	1.85	X	**SAF**	**77R37**	**(E)DRS**	**71M4**	68	709
6.8	580	250	15800	2.1	X						
6.9	530	246	8550	1.05	X	**S**	**67R37**	**(E)DRS**	**71M4**	43	709
7.7	475	221	9050	1.20	X	**SF**	**67R37**	**(E)DRS**	**71M4**	49	709
8.6	435	198	9350	1.30	X	**SA**	**67R37**	**(E)DRS**	**71M4**	44	709
10	370	168	9750	1.55	X	**SAF**	**67R37**	**(E)DRS**	**71M4**	48	709
3.9	920	288.00*	29700	2.6		**S**	**87**	**DRS**	**80S6**	91	699
4.3	840	258.18	29800	2.8		**SF**	**87**	**DRS**	**80S6**	115	700
5.0	730	222.40*	29900	3.2		**SA**	**87**	**DRS**	**80S6**	89	701
5.5	675	202.96	29900	3.4		**SAF**	**87**	**DRS**	**80S6**	105	700
4.4	785	256.47	15000	1.60							
5.0	700	225.26	15300	1.80		**S**	**77**	**DRS**	**80S6**	55	694
5.2	665	214.00*	15500	1.90		**SF**	**77**	**DRS**	**80S6**	65	695
5.9	595	189.09	15700	2.1		**SA**	**77**	**DRS**	**80S6**	55	696
6.9	515	161.60*	16000	2.4		**SAF**	**77**	**DRS**	**80S6**	61	695
6.6	540	256.47	15900	2.3	X	**S**	**77**	**(E)DRS**	**71M4**	53	694
7.5	480	225.26	16000	2.6	X	**SF**	**77**	**(E)DRS**	**71M4**	63	695
7.9	460	214.00*	16000	2.8	X	**SA**	**77**	**(E)DRS**	**71M4**	52	696
8.9	410	189.09	16000	3.0	X	**SAF**	**77**	**(E)DRS**	**71M4**	59	695
7.8	430	217.41	9380	1.20	X						
8.9	380	190.11	9700	1.35	X						
9.4	365	180.60*	9790	1.40	X						
11	325	158.45	10000	1.60	X						
13	280	134.40*	10200	1.85	X	**S**	**67**	**(E)DRS**	**71M4**	32	689
14	255	121.33	10300	2.0	X	**SF**	**67**	**(E)DRS**	**71M4**	38	690
16	225	106.75*	10400	2.3	X	**SA**	**67**	**(E)DRS**	**71M4**	33	691
17	215	100.80*	10400	2.4	X	**SAF**	**67**	**(E)DRS**	**71M4**	37	690
20	187	85.83	10500	2.8	X						
23	189	75.06	10500	2.5	X						
26	167	65.63	10600	2.9	X						
12	275	94.08*	7260	1.05							
13	250	84.00*	7460	1.15							
16	215	71.75*	7680	1.35		**S**	**57**	**DRS**	**80S6**	23	684
17	205	67.20*	7760	1.45		**SF**	**57**	**DRS**	**80S6**	27	685
21	200	54.59	7790	1.35		**SA**	**57**	**DRS**	**80S6**	23	686
24	175	47.32	7920	1.55		**SAF**	**57**	**DRS**	**80S6**	26	685
25	164	44.22*	7970	1.65							
29	144	38.23	8050	1.90							
11	305	158.12	7020	0.95							
12	270	137.05	7330	1.10	X						
13	250	128.10*	7450	1.15	X						
15	220	110.73	7660	1.30	X						
18	193	94.08*	7830	1.55	X						
20	175	84.00*	7920	1.65	X						
24	151	71.75*	8020	1.80	X						
25	143	67.20*	8060	1.80	X	**S**	**57**	**(E)DRS**	**71M4**	21	684
31	136	54.59	8080	1.80	X	**SF**	**57**	**(E)DRS**	**71M4**	25	685
36	119	47.32	8140	2.1	X	**SA**	**57**	**(E)DRS**	**71M4**	21	686
38	112	44.22*	8160	2.2	X	**SAF**	**57**	**(E)DRS**	**71M4**	24	685
44	97	38.23	7860	2.5	X						
52	83	32.48*	7510	2.9	X						
58	75	29.00*	7270	3.3	X						
68	64	24.77	6940	3.4	X						
73	61	23.20*	6810	3.5	X						
83	56	20.33	6400	3.0	X						

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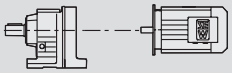
P_m = 0.55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
20	170	84.00*	5340	1.00							
24	148	71.75*	5450	1.15	X						
25	139	67.20*	5490	1.20	X						
31	134	54.59	4950	1.15	X						
36	118	47.32	4810	1.30	X						
38	110	44.22*	4750	1.40	X						
44	96	38.23	4600	1.60	X						
52	83	32.48*	4440	1.90	X	**S**	**47**	**(E)DRS**	**71M4**	17	679
58	74	29.00*	4320	2.1	X	**SF**	**47**	**(E)DRS**	**71M4**	21	680
68	64	24.77	4160	2.3	X	**SA**	**47**	**(E)DRS**	**71M4**	18	681
73	60	23.20*	4090	2.4	X	**SAF**	**47**	**(E)DRS**	**71M4**	20	680
83	56	20.33	3770	1.95	X						
96	49	17.62	3650	2.2	X						
103	46	16.47*	3600	2.4	X						
119	40	14.24	3470	2.8	X						
140	34	12.10*	3330	3.2	X						
156	30	10.80*	3230	3.6	X						
183	26	9.23*	3100	4.0	X						
55	77	30.68	2630	0.95							
59	72	28.76	2610	1.00	X						
67	64	25.38*	2570	1.10	X						
75	57	22.50*	2520	1.20	X						
88	49	19.13*	2450	1.40	X						
109	43	15.53	2200	1.15	X						
126	37	13.39	2150	1.25	X						
135	35	12.48*	2120	1.35	X	**S**	**37**	**(E)DRS**	**71M4**	14	675
155	30	10.91	2070	1.50	X	**SF**	**37**	**(E)DRS**	**71M4**	16	676
165	28	10.23	2050	1.60	X	**SA**	**37**	**(E)DRS**	**71M4**	14	677
187	25	9.02*	2000	1.70	X	**SAF**	**37**	**(E)DRS**	**71M4**	16	676
211	22	8.00*	1940	1.90	X						
249	19	6.80*	1870	2.1	X						
267	18	6.33	1830	1.95	X						
314	15	5.38	1760	2.2	X						
347	14	4.86*	1720	2.4	X						
426	11	3.97	1630	2.8	X						
119	37	28.76	2310	1.55							
135	33	25.38*	2250	1.45							
152	29	22.50*	2190	1.05							
172	27	19.89	2030	1.55							
188	25	18.24*	2000	1.65							
220	22	15.53	1930	1.80		**S**	**37**	**DRS**	**71M2**	14	675
255	19	13.39	1860	2.0		**SF**	**37**	**DRS**	**71M2**	16	676
274	17	12.48*	1830	2.1		**SA**	**37**	**DRS**	**71M2**	14	677
314	15	10.91	1770	2.3		**SAF**	**37**	**DRS**	**71M2**	16	676
334	14	10.23	1740	2.4							
379	13	9.02*	1690	2.5							
428	11	8.00*	1640	1.80							
503	9.6	6.80*	1560	1.65							

P_m = 0.75 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
1.4	3830	1223	33500	1.10	X						
1.6	3370	1070	34400	1.25	X						
1.9	2890	928	35100	1.45	X	**S**	**97R57**	**(E)DRN**	**80M4**	175	709
2.1	2550	824	35600	1.65	X	**SF**	**97R57**	**(E)DRN**	**80M4**	210	709
2.5	1850	714	36300	2.3	X	**SA**	**97R57**	**(E)DRN**	**80M4**	170	709
2.8	1950	626	36200	2.1	X	**SAF**	**97R57**	**(E)DRN**	**80M4**	195	709
3.2	1670	538	36400	2.5	X						
3.6	1510	484	36600	2.8	X						

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P_m = 0.75 kW												
n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg		
1.7	2420	1032	27600	1.05	X							
1.9	2240	930	28000	1.10	X							
2.1	2020	831	28400	1.25	X	**S**	**87R57**	**(E)DRN**	**80M4**	115	709
2.4	1760	719	28800	1.40	X	**SF**	**87R57**	**(E)DRN**	**80M4**	135	709
2.8	1530	624	29100	1.60	X	**SA**	**87R57**	**(E)DRN**	**80M4**	115	709
3.1	1390	558	29300	1.80	X	**SAF**	**87R57**	**(E)DRN**	**80M4**	130	709
4.0	1110	435	29600	2.2	X							
5.4	850	323	29800	2.8	X							
5.3	980	327	13900	1.25	X	**S**	**77R37**	**(E)DRN**	**80M4**	67	709
6.1	890	289	14400	1.40	X	**SF**	**77R37**	**(E)DRN**	**80M4**	77	709
7.0	770	250	15000	1.60	X	**SA**	**77R37**	**(E)DRN**	**80M4**	66	709
8.0	680	219	15400	1.80	X	**SAF**	**77R37**	**(E)DRN**	**80M4**	73	709
4.0	1220	288.00*	29500	1.95		**S**	**87**	**DRN**	**90S6**	99	699
4.5	1100	258.18	29600	2.1		**SF**	**87**	**DRN**	**90S6**	120	700
5.2	960	222.40*	29700	2.4		**SA**	**87**	**DRN**	**90S6**	96	701
5.7	880	202.96	29800	2.6		**SAF**	**87**	**DRN**	**90S6**	110	700
6.1	840	288.00*	29800	2.6	X	**S**	**87**	**(E)DRN**	**80M4**	94	699
6.8	760	258.18	29900	2.8	X	**SF**	**87**	**(E)DRN**	**80M4**	115	700
7.9	665	222.40*	29900	3.2	X	**SA**	**87**	**(E)DRN**	**80M4**	91	701
8.6	610	202.96	30000	3.4	X	**SAF**	**87**	**(E)DRN**	**80M4**	105	700
5.2	920	225.26	14300	1.40		**S**	**77**	**DRN**	**90S6**	63	694
5.4	880	214.00*	14500	1.45		**SF**	**77**	**DRN**	**90S6**	72	695
6.2	785	189.09	15000	1.60		**SA**	**77**	**DRN**	**90S6**	62	696
7.2	680	161.60*	15400	1.85		**SAF**	**77**	**DRN**	**90S6**	69	695
6.8	715	256.47	15300	1.75	X							
7.8	635	225.26	15600	1.90	X							
8.2	610	214.00*	15700	2.0	X							
9.3	545	189.09	15900	2.2	X	**S**	**77**	**(E)DRN**	**80M4**	58	694
11	470	161.60*	16000	2.5	X	**SF**	**77**	**(E)DRN**	**80M4**	67	695
12	435	148.15	16000	2.6	X	**SA**	**77**	**(E)DRN**	**80M4**	57	696
13	385	130.00*	16000	2.8	X	**SAF**	**77**	**(E)DRN**	**80M4**	64	695
14	365	123.20*	16000	2.9	X							
16	325	107.83	16000	3.2	X							
9.2	505	190.11	8810	1.05	X							
9.7	480	180.60*	9000	1.10	X							
11	425	158.45	9390	1.20	X							
13	370	134.40*	9770	1.40	X							
14	335	121.33	9940	1.55	X							
16	300	106.75*	10100	1.75	X	**S**	**67**	**(E)DRN**	**80M4**	37	689
17	285	100.80*	10200	1.80	X	**SF**	**67**	**(E)DRN**	**80M4**	43	690
20	245	85.83	10300	2.0	X	**SA**	**67**	**(E)DRN**	**80M4**	38	691
23	245	75.06	10300	1.95	X	**SAF**	**67**	**(E)DRN**	**80M4**	42	690
27	215	65.63	10100	2.2	X							
28	205	62.35*	9990	2.3	X							
32	185	54.70	9660	2.6	X							
38	158	46.40*	9250	3.0	X							
16	285	71.75*	7180	1.00		**S**	**57**	**DRN**	**90S6**	32	684
17	270	67.20*	7320	1.10		**SF**	**57**	**DRN**	**90S6**	35	685
21	230	56.61	7600	1.25		**SA**	**57**	**DRN**	**90S6**	31	686
25	230	47.32	7620	1.15		**SAF**	**57**	**DRN**	**90S6**	34	685
26	215	44.22*	7700	1.25		**S**	**57**	**DRN**	**90S6**	32	684
						SF	**57**	**DRN**	**90S6**	35	685
						SA	**57**	**DRN**	**90S6**	31	686
						SAF	**57**	**DRN**	**90S6**	34	685

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P_m = 0.75 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
16	295	110.73	7120	1.00							
19	255	94.08*	7440	1.10	X						
21	230	84.00*	7610	1.10	X						
24	200	71.75*	7790	1.10	X						
26	188	67.20*	7860	1.10	X						
32	180	54.59	7900	1.35	X						
37	157	47.32	7940	1.55	X						
40	147	44.22*	7810	1.65	X	**S**	**57**	**(E)DRN**	**80M4**	26	684
46	128	38.23	7530	1.90	X	**SF**	**57**	**(E)DRN**	**80M4**	30	685
54	110	32.48*	7220	2.0	X	**SA**	**57**	**(E)DRN**	**80M4**	26	686
60	99	29.00*	7000	2.0	X	**SAF**	**57**	**(E)DRN**	**80M4**	28	685
71	85	24.77	6710	2.1	X						
75	80	23.20*	6590	2.1	X						
86	74	20.33	6140	2.3	X						
99	64	17.62	5920	2.6	X						
106	60	16.47*	5810	2.8	X						
123	52	14.24	5590	3.2	X						
37	155	47.32	4410	1.00	X						
40	146	44.22*	4370	1.05	X	**S**	**47**	**(E)DRN**	**80M4**	22	679
46	127	38.23	4270	1.20	X	**SF**	**47**	**(E)DRN**	**80M4**	26	680
54	109	32.48*	4140	1.35	X	**SA**	**47**	**(E)DRN**	**80M4**	23	681
60	98	29.00*	4050	1.40	X	**SAF**	**47**	**(E)DRN**	**80M4**	25	680
71	84	24.77	3920	1.40	X						
75	79	23.20*	3870	1.40	X						
86	74	20.33	3520	1.50	X						
99	64	17.62	3420	1.70	X						
106	60	16.47*	3380	1.80	X						
123	52	14.24	3280	2.1	X						
145	45	12.10*	3160	2.4	X	**S**	**47**	**(E)DRN**	**80M4**	22	679
162	40	10.80*	3080	2.4	X	**SF**	**47**	**(E)DRN**	**80M4**	26	680
190	34	9.23*	2970	2.4	X	**SA**	**47**	**(E)DRN**	**80M4**	23	681
203	32	8.64*	2920	2.4	X	**SAF**	**47**	**(E)DRN**	**80M4**	25	680
241	27	7.28	2790	2.4	X						
274	24	6.40*	2690	2.4	X						
325	20	5.39	2570	2.4	X						
368	18	4.76	2480	2.3	X						
438	15	4.00*	2360	2.2	X						
92	65	19.13*	2220	0.95							
140	45	12.48*	1930	0.95							
161	40	10.91	1900	1.05	X						
171	38	10.23	1880	1.10	X						
194	33	9.02*	1850	1.20	X	**S**	**37**	**(E)DRN**	**80M4**	19	675
219	30	8.00*	1810	1.30	X	**SF**	**37**	**(E)DRN**	**80M4**	20	676
258	25	6.80*	1760	1.45	X	**SA**	**37**	**(E)DRN**	**80M4**	19	677
276	24	6.33	1720	1.50	X	**SAF**	**37**	**(E)DRN**	**80M4**	20	676
325	20	5.38	1660	1.70	X						
360	18	4.86*	1620	1.75	X						
442	15	3.97	1550	1.75	X						
182	34	19.13*	1990	0.70							
224	29	15.53	1800	1.35							
260	25	13.39	1760	1.50							
279	23	12.48*	1730	1.60		**S**	**37**	**DRN**	**80MS2**	19	675
319	20	10.91	1680	1.70		**SF**	**37**	**DRN**	**80MS2**	20	676
340	19	10.23	1660	1.80		**SA**	**37**	**DRN**	**80MS2**	19	677
385	17	9.02*	1610	1.80		**SAF**	**37**	**DRN**	**80MS2**	20	676
434	15	8.00*	1570	1.30							
511	13	6.80*	1510	1.25							

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P_m = 1.1 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
2.1	3760	824	33600	1.10	X						
2.5	2740	714	35300	1.55	X	**S**	**97R57**	**(E)DRN**	**90S4**	180	709
2.8	2880	626	35100	1.45	X	**SF**	**97R57**	**(E)DRN**	**90S4**	215	709
3.3	2480	538	35600	1.70	X	**SA**	**97R57**	**(E)DRN**	**90S4**	175	709
3.6	2240	484	35900	1.85	X	**SAF**	**97R57**	**(E)DRN**	**90S4**	200	709
4.2	1940	420	36200	2.2	X						
2.8	2280	624	27900	1.10	X						
3.2	2070	558	28300	1.20	X						
3.6	1810	485	28700	1.35	X						
4.0	1650	435	29000	1.50	X	**S**	**87R57**	**(E)DRN**	**90S4**	120	709
4.7	1450	378	29200	1.70	X	**SF**	**87R57**	**(E)DRN**	**90S4**	145	709
5.5	1260	323	29400	1.90	X	**SA**	**87R57**	**(E)DRN**	**90S4**	120	709
6.3	1100	281	29600	2.2	X	**SAF**	**87R57**	**(E)DRN**	**90S4**	135	709
6.9	1170	255	29500	1.70	X						
7.9	1030	222	29600	1.90	X						
8.6	960	205	29700	2.0	X						
8.0	1000	219	13800	1.25	X	**S**	**77R37**	**(E)DRN**	**90S4**	73	709
						SF	**77R37**	**(E)DRN**	**90S4**	82	709
						SA	**77R37**	**(E)DRN**	**90S4**	72	709
						SAF	**77R37**	**(E)DRN**	**90S4**	79	709
4.1	1830	286.40*	36300	2.3		**S**	**97**	**DRN**	**112M6**	180	704
4.5	1690	262.22	36400	2.5		**SF**	**97**	**DRN**	**112M6**	215	705
5.1	1510	231.67	36600	2.8		**SA**	**97**	**DRN**	**112M6**	175	706
						SAF	**97**	**DRN**	**112M6**	200	705
						S	**87**	**DRN**	**112M6**	125	699
5.3	1390	222.40*	29300	1.70		**SF**	**87**	**DRN**	**112M6**	145	700
5.8	1280	202.96	29400	1.80		**SA**	**87**	**DRN**	**112M6**	120	701
						SAF	**87**	**DRN**	**112M6**	135	700
6.1	1230	288.00*	29500	1.80	X						
6.8	1110	258.18	29600	1.95	X	**S**	**87**	**(E)DRN**	**90S4**	99	699
7.9	970	222.40*	29700	2.2	X	**SF**	**87**	**(E)DRN**	**90S4**	120	700
8.7	890	202.96	29800	2.3	X	**SA**	**87**	**(E)DRN**	**90S4**	96	701
9.8	800	180.00*	29800	2.5	X	**SAF**	**87**	**(E)DRN**	**90S4**	110	700
12	680	151.30	29900	2.9	X						
7.8	930	225.26	14200	1.30	X						
8.2	880	214.00*	14500	1.35	X						
9.3	795	189.09	14900	1.50	X						
11	685	161.60*	15400	1.70	X	**S**	**77**	**(E)DRN**	**90S4**	63	694
12	635	148.15	15600	1.80	X	**SF**	**77**	**(E)DRN**	**90S4**	72	695
14	560	130.00*	15800	1.95	X	**SA**	**77**	**(E)DRN**	**90S4**	62	696
14	535	123.20*	15900	2.0	X	**SAF**	**77**	**(E)DRN**	**90S4**	69	695
16	470	107.83	16000	2.2	X						
18	430	97.14	15800	2.3	X						
21	380	85.22	15200	2.5	X						
15	490	121.33	8910	1.05	X						
17	435	106.75*	9330	1.20	X						
17	415	100.80*	9480	1.20	X						
21	355	85.83	9830	1.35	X						
23	325	78.00*	9990	1.40	X						
27	320	65.63	9480	1.50	X	**S**	**67**	**(E)DRN**	**90S4**	43	689
28	305	62.35*	9380	1.55	X	**SF**	**67**	**(E)DRN**	**90S4**	50	690
32	265	54.70	9120	1.80	X	**SA**	**67**	**(E)DRN**	**90S4**	44	691
38	230	46.40*	8780	2.1	X	**SAF**	**67**	**(E)DRN**	**90S4**	48	690
42	205	41.89	8570	2.3	X						
48	185	36.85	8310	2.6	X						
51	175	34.80*	8190	2.6	X						
59	150	29.63	7860	2.6	X						
25	290	71.75*	7160	0.75		**S**	**57**	**(E)DRN**	**90S4**	32	684
26	270	67.20*	7300	0.75		**SF**	**57**	**(E)DRN**	**90S4**	35	685
31	230	56.61	7590	0.75		**SA**	**57**	**(E)DRN**	**90S4**	31	686
37	225	47.32	7390	1.05	X	**SAF**	**57**	**(E)DRN**	**90S4**	34	685

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P_m = 1.1 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
40	210	44.22*	7300	1.15	X						
46	187	38.23	7080	1.30	X						
54	160	32.48*	6830	1.40	X						
61	144	29.00*	6660	1.40	X						
71	124	24.77	6410	1.45	X						
76	116	23.20*	6310	1.45	X	**S**	**57**	**(E)DRN**	**90S4**	32	684
90	99	19.54	6040	1.45	X	**SF**	**57**	**(E)DRN**	**90S4**	35	685
100	94	17.62	5620	1.80	X	**SA**	**57**	**(E)DRN**	**90S4**	31	686
107	88	16.47*	5530	1.90	X	**SAF**	**57**	**(E)DRN**	**90S4**	34	685
124	76	14.24	5340	2.2	X						
146	65	12.10*	5130	2.3	X						
163	58	10.80*	4980	2.3	X						
191	50	9.23*	4780	2.4	X						
61	142	29.00*	3650	0.95							
71	123	24.77	3570	0.95		**S**	**47**	**(E)DRN**	**90S4**	28	679
76	115	23.20*	3540	0.95		**SF**	**47**	**(E)DRN**	**90S4**	32	680
90	98	19.54	3440	0.95		**SA**	**47**	**(E)DRN**	**90S4**	29	681
100	94	17.62	3070	1.15	X	**SAF**	**47**	**(E)DRN**	**90S4**	31	680
107	88	16.47*	3050	1.25	X						
124	76	14.24	2990	1.40	X						
146	65	12.10*	2920	1.60	X						
163	58	10.80*	2860	1.65	X						
191	50	9.23*	2780	1.65	X	**S**	**47**	**(E)DRN**	**90S4**	28	679
204	47	8.64*	2740	1.65	X	**SF**	**47**	**(E)DRN**	**90S4**	32	680
242	40	7.28	2640	1.60	X	**SA**	**47**	**(E)DRN**	**90S4**	29	681
275	35	6.40*	2550	1.65	X	**SAF**	**47**	**(E)DRN**	**90S4**	31	680
327	30	5.39	2450	1.60	X						
370	26	4.76	2380	1.60	X						
440	22	4.00*	2280	1.55	X						
220	43	8.00*	1600	0.90							
259	37	6.80*	1580	1.00	X	**S**	**37**	**(E)DRN**	**90S4**	25	675
278	34	6.33	1540	1.00	X	**SF**	**37**	**(E)DRN**	**90S4**	26	676
327	29	5.38	1510	1.15	X	**SA**	**37**	**(E)DRN**	**90S4**	25	677
362	27	4.86*	1490	1.20	X	**SAF**	**37**	**(E)DRN**	**90S4**	26	676
444	22	3.97	1440	1.20	X						
260	37	13.39	1580	1.00							
279	34	12.48*	1570	1.10							
319	30	10.91	1540	1.15		**S**	**37**	**DRN**	**80M2**	19	675
341	28	10.23	1520	1.25		**SF**	**37**	**DRN**	**80M2**	20	676
386	25	9.02*	1490	1.25		**SA**	**37**	**DRN**	**80M2**	19	677
436	22	8.00*	1460	0.90		**SAF**	**37**	**DRN**	**80M2**	20	676
512	19	6.80*	1420	0.85							

P_m = 1.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
2.5	3760	714	33700	1.10	X						
2.8	3950	626	33300	1.05	X						
3.3	3400	538	34300	1.25	X	**S**	**97R57**	**(E)DRN**	**90L4**	185	709
3.6	3080	484	34800	1.35	X	**SF**	**97R57**	**(E)DRN**	**90L4**	220	709
4.2	2670	420	35400	1.55	X	**SA**	**97R57**	**(E)DRN**	**90L4**	180	709
4.7	2420	376	35700	1.75	X	**SAF**	**97R57**	**(E)DRN**	**90L4**	205	709
5.4	2130	327	36000	1.95	X						
3.6	2500	485	27500	1.00	X						
4.1	2270	435	27900	1.10	X						
4.7	2000	378	28400	1.20	X	**S**	**87R57**	**(E)DRN**	**90L4**	125	709
5.5	1730	323	28800	1.40	X	**SF**	**87R57**	**(E)DRN**	**90L4**	145	709
6.3	1520	281	29100	1.55	X	**SA**	**87R57**	**(E)DRN**	**90L4**	125	709
6.9	1610	255	29000	1.20	X	**SAF**	**87R57**	**(E)DRN**	**90L4**	140	709
8.0	1410	222	29200	1.40	X						
8.6	1320	205	29400	1.50	X						

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P_m = 1.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
4.1	2500	286.40*	35600	1.65		**S**	**97**	**DRN**	**112M6**	180	704
4.5	2310	262.22	35800	1.80		**SF**	**97**	**DRN**	**112M6**	215	705
5.1	2060	231.67	36100	2.0		**SA**	**97**	**DRN**	**112M6**	175	706
6.0	1770	196.52	36400	2.3		**SAF**	**97**	**DRN**	**112M6**	200	705
6.2	1730	286.40*	36400	2.3	X	**S**	**97**	**(E)DRN**	**90L4**	160	704
6.7	1590	262.22	36500	2.4	X	**SF**	**97**	**(E)DRN**	**90L4**	195	705
7.6	1420	231.67	36600	2.6	X	**SA**	**97**	**(E)DRN**	**90L4**	155	706
9.0	1220	196.52	36800	2.9	X	**SAF**	**97**	**(E)DRN**	**90L4**	180	705
5.3	1910	222.40*	28600	1.25		**S**	**87**	**DRN**	**112M6**	125	699
5.8	1750	202.96	28800	1.35		**SF**	**87**	**DRN**	**112M6**	145	700
6.6	1570	180.00*	29100	1.45		**SA**	**87**	**DRN**	**112M6**	120	701
						SAF	**87**	**DRN**	**112M6**	135	700
6.1	1670	288.00*	28900	1.30	X						
6.8	1510	258.18	29200	1.45	X						
8.0	1320	222.40*	29400	1.60	X						
8.7	1210	202.96	29500	1.70	X	**S**	**87**	**(E)DRN**	**90L4**	100	699
9.8	1080	180.00*	29600	1.85	X	**SF**	**87**	**(E)DRN**	**90L4**	125	700
12	920	151.30	29800	2.1	X	**SA**	**87**	**(E)DRN**	**90L4**	99	701
13	850	139.05	29800	2.2	X	**SAF**	**87**	**(E)DRN**	**90L4**	115	700
14	765	123.48	29900	2.4	X						
16	685	110.40*	29900	2.6	X						
18	620	99.26	30000	2.7	X						
9.3	1080	189.09	13300	1.10	X						
11	930	161.60*	14200	1.25	X						
12	860	148.15	14600	1.30	X						
14	765	130.00*	15100	1.45	X						
14	730	123.20*	15200	1.50	X						
16	645	107.83	15400	1.60	X						
18	585	97.14	15100	1.70	X	**S**	**77**	**(E)DRN**	**90L4**	66	694
21	515	85.22	14600	1.85	X	**SF**	**77**	**(E)DRN**	**90L4**	76	695
24	520	75.09	13600	2.1	X	**SA**	**77**	**(E)DRN**	**90L4**	65	696
25	495	71.33	13400	2.2	X	**SAF**	**77**	**(E)DRN**	**90L4**	72	695
27	410	66.67	13800	2.1	X						
28	440	63.03	13000	2.5	X						
31	350	56.92	13200	2.3	X						
33	380	53.87	12600	2.9	X						
36	345	49.38	12300	3.1	X						
41	305	43.33	11900	3.4	X						
21	485	85.83	8950	1.00	X	**S**	**67**	**(E)DRN**	**90L4**	46	689
23	445	78.00*	9270	1.05	X	**SF**	**67**	**(E)DRN**	**90L4**	53	690
27	435	65.63	8760	1.10	X	**SA**	**67**	**(E)DRN**	**90L4**	47	691
						SAF	**67**	**(E)DRN**	**90L4**	52	690
28	410	62.35*	8700	1.15	X						
32	365	54.70	8510	1.30	X						
38	310	46.40*	8270	1.55	X						
42	280	41.89	8100	1.70	X						
48	250	36.85	7900	1.90	X						
51	235	34.80*	7800	1.90	X	**S**	**67**	**(E)DRN**	**90L4**	46	689
60	200	29.63	7520	1.95	X	**SF**	**67**	**(E)DRN**	**90L4**	53	690
66	186	26.93	7360	1.95	X	**SA**	**67**	**(E)DRN**	**90L4**	47	691
72	179	24.44	6790	1.90	X	**SAF**	**67**	**(E)DRN**	**90L4**	52	690
76	170	23.22*	6720	2.0	X						
87	150	20.37	6540	2.3	X						
102	128	17.28*	6310	2.7	X						
113	115	15.60*	6160	3.0	X						
129	102	13.73*	5970	3.2	X						

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P_m = 1.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
54	215	32.48*	6400	1.05	X						
61	196	29.00*	6270	1.00	X						
71	168	24.77	6080	1.05	X						
76	158	23.20*	6000	1.05	X						
90	134	19.54	5780	1.05	X	**S**	**57**	**(E)DRN**	**90L4**	35	684
100	128	17.62	5290	1.30	X	**SF**	**57**	**(E)DRN**	**90L4**	39	685
107	120	16.47*	5220	1.40	X	**SA**	**57**	**(E)DRN**	**90L4**	35	686
124	104	14.24	5070	1.65	X	**SAF**	**57**	**(E)DRN**	**90L4**	37	685
146	89	12.10*	4900	1.70	X						
164	79	10.80*	4780	1.70	X						
192	68	9.23*	4600	1.75	X						
124	104	14.24	2670	1.05	X	**S**	**47**	**(E)DRN**	**90L4**	31	679
146	88	12.10*	2650	1.20	X	**SF**	**47**	**(E)DRN**	**90L4**	35	680
164	79	10.80*	2620	1.20	X	**SA**	**47**	**(E)DRN**	**90L4**	32	681
						SAF	**47**	**(E)DRN**	**90L4**	34	680
192	68	9.23*	2570	1.20	X						
205	64	8.64*	2540	1.20	X						
243	54	7.28	2480	1.20	X	**S**	**47**	**(E)DRN**	**90L4**	31	679
276	48	6.40*	2400	1.20	X	**SF**	**47**	**(E)DRN**	**90L4**	35	680
328	40	5.39	2320	1.20	X	**SA**	**47**	**(E)DRN**	**90L4**	32	681
371	36	4.76	2260	1.15	X	**SAF**	**47**	**(E)DRN**	**90L4**	34	680
442	30	4.00*	2180	1.15	X						
388	34	9.02*	1360	0.90		**S**	**37**	**DRN**	**90S2**	25	675
438	30	8.00*	1340	0.65		**SF**	**37**	**DRN**	**90S2**	26	676
515	26	6.80*	1310	0.65		**SA**	**37**	**DRN**	**90S2**	25	677
						SAF	**37**	**DRN**	**90S2**	26	676

P_m = 2.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
4.2	3960	420	33300	1.05	X	**S**	**97R57**	**(E)DRN**	**100L4**	195	709
4.7	3580	376	34000	1.15	X	**SF**	**97R57**	**(E)DRN**	**100L4**	230	709
5.4	3140	327	34700	1.35	X	**SA**	**97R57**	**(E)DRN**	**100L4**	190	709
6.1	2770	287	35300	1.50	X	**SAF**	**97R57**	**(E)DRN**	**100L4**	215	709
7.0	2430	252	35700	1.75	X						
						S	**97**	**DRN**	**132S6**	190	704
5.1	3030	231.67	34900	1.40		**SF**	**97**	**DRN**	**132S6**	225	705
6.0	2600	196.52	35500	1.60		**SA**	**97**	**DRN**	**132S6**	185	706
						SAF	**97**	**DRN**	**132S6**	215	705
6.2	2540	286.40*	35600	1.55	X						
6.7	2340	262.22	35800	1.65	X						
7.6	2090	231.67	36100	1.80	X						
9.0	1790	196.52	36400	2.0	X	**S**	**97**	**(E)DRN**	**100L4**	170	704
9.8	1660	180.95	36500	2.1	X	**SF**	**97**	**(E)DRN**	**100L4**	205	705
11	1490	161.74	36600	2.3	X	**SA**	**97**	**(E)DRN**	**100L4**	165	706
12	1350	145.60*	36700	2.4	X	**SAF**	**97**	**(E)DRN**	**100L4**	195	705
13	1230	131.85	36800	2.6	X						
15	1090	116.92	36800	2.8	X						
17	990	105.71	36900	2.9	X						
20	850	89.60*	36900	3.2	X						

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P_m = 2.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
6.8	2220	258.18	28000	0.95							
7.9	1940	222.40*	28500	1.10	X						
8.7	1780	202.96	28800	1.15	X						
9.8	1590	180.00*	29000	1.25	X						
12	1360	151.30	29300	1.45	X						
13	1250	139.05	29400	1.50	X						
14	1120	123.48	29600	1.60	X	**S**	**87**	**(E)DRN**	**100L4**	115	699
16	1010	110.40*	29700	1.75	X	**SF**	**87**	**(E)DRN**	**100L4**	135	700
18	910	99.26	29800	1.85	X	**SA**	**87**	**(E)DRN**	**100L4**	110	701
20	800	86.15	29800	2.0	X	**SAF**	**87**	**(E)DRN**	**100L4**	125	700
22	850	81.76	29800	1.85	X						
23	720	77.14	29900	2.1	X						
25	740	70.43	29900	2.2	X						
27	675	64.27	29900	2.4	X						
31	600	57.00*	30000	2.6	X						
14	1120	130.00*	12900	1.00							
14	1070	123.20*	13300	1.00	X						
16	940	107.83	14100	1.10	X						
18	860	97.14	13900	1.15	X						
21	760	85.22	13600	1.25	X						
23	675	75.20*	13300	1.35	X						
26	600	66.67	12900	1.45	X						
28	645	63.03	12000	1.70	X						
31	520	56.92	12500	1.60	X	**S**	**77**	**(E)DRN**	**100L4**	77	694
33	555	53.87	11700	1.95	X	**SF**	**77**	**(E)DRN**	**100L4**	87	695
36	510	49.38	11500	2.1	X	**SA**	**77**	**(E)DRN**	**100L4**	77	696
41	450	43.33	11200	2.3	X	**SAF**	**77**	**(E)DRN**	**100L4**	83	695
43	430	41.07	11100	2.4	X						
49	375	35.94	10800	2.6	X						
55	340	32.38	10500	2.8	X						
62	300	28.41	10200	3.1	X						
70	265	25.07	9900	3.3	X						
77	250	22.89	9180	2.8	X						
84	230	20.99	9010	3.1	X						
38	460	46.40*	7370	1.05	X						
42	415	41.89	7290	1.15	X						
48	365	36.85	7180	1.30	X						
51	345	34.80*	7120	1.30	X						
60	295	29.63	6950	1.30	X						
66	270	26.93	6830	1.30	X						
76	235	23.33	6650	1.35	X	**S**	**67**	**(E)DRN**	**100L4**	57	689
87	215	20.37	5980	1.55	X	**SF**	**67**	**(E)DRN**	**100L4**	64	690
102	187	17.28*	5830	1.80	X	**SA**	**67**	**(E)DRN**	**100L4**	58	691
113	169	15.60*	5730	2.0	X	**SAF**	**67**	**(E)DRN**	**100L4**	63	690
129	150	13.73*	5600	2.2	X						
136	141	12.96*	5530	2.2	X						
160	121	11.03	5350	2.3	X						
176	110	10.03	5240	2.3	X						
203	96	8.69	5070	2.3	X						
124	152	14.24	4610	1.10	X						
146	130	12.10*	4500	1.15	X						
163	117	10.80*	4420	1.15	X						
191	100	9.23*	4300	1.20	X	**S**	**57**	**(E)DRN**	**100L4**	46	684
204	94	8.64*	4250	1.20	X	**SF**	**57**	**(E)DRN**	**100L4**	50	685
242	79	7.28	4100	1.20	X	**SA**	**57**	**(E)DRN**	**100L4**	46	686
276	70	6.40*	3950	1.20	X	**SAF**	**57**	**(E)DRN**	**100L4**	49	685
327	59	5.39	3800	1.20	X						
371	53	4.76	3700	1.20	X						
441	44	4.00*	3540	1.20	X						

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P_m = 3.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
6.1	3800	287	33600	1.10	X	**S**	**97R57**	**(E)DRN**	**100L4**	195	709
7.0	3330	252	34400	1.25	X	**SF**	**97R57**	**(E)DRN**	**100L4**	230	709
8.1	2910	219	35100	1.45	X	**SA**	**97R57**	**(E)DRN**	**100L4**	190	709
8.6	2740	205	35300	1.55	X	**SAF**	**97R57**	**(E)DRN**	**100L4**	215	709
6.2	3470	286.40*	34200	1.15	X						
6.7	3200	262.22	34600	1.20	X						
7.6	2850	231.67	35200	1.30	X						
9.0	2440	196.52	35700	1.45	X						
9.7	2260	180.95	35900	1.55	X	**S**	**97**	**(E)DRN**	**100L4**	170	704
11	2040	161.74	36100	1.65	X	**SF**	**97**	**(E)DRN**	**100L4**	205	705
12	1840	145.60*	36300	1.75	X	**SA**	**97**	**(E)DRN**	**100L4**	165	706
13	1680	131.85	36400	1.90	X	**SAF**	**97**	**(E)DRN**	**100L4**	195	705
15	1500	116.92	36600	2.0	X						
17	1360	105.71	36700	2.1	X						
20	1160	89.60*	36800	2.3	X						
22	1170	80.85	36800	2.8	X						
9.8	2180	180.00*	28100	0.95							
12	1850	151.30	28700	1.05	X						
13	1710	139.05	28900	1.10	X						
14	1530	123.48	29100	1.20	X						
16	1380	110.40*	29300	1.30	X						
18	1250	99.26	29500	1.35	X						
20	1090	86.15	29600	1.50	X	**S**	**87**	**(E)DRN**	**100L4**	115	699
22	1160	81.76	29500	1.35	X	**SF**	**87**	**(E)DRN**	**100L4**	135	700
23	980	77.14	29700	1.55	X	**SA**	**87**	**(E)DRN**	**100L4**	110	701
25	1010	70.43	29700	1.60	X	**SAF**	**87**	**(E)DRN**	**100L4**	125	700
27	920	64.27	29700	1.75	X						
31	820	57.00*	29800	1.95	X						
37	695	47.91	29900	2.3	X						
40	640	44.03	29900	2.5	X						
45	570	39.10	29900	2.8	X						
50	510	34.96*	29100	3.1	X						
21	1030	85.22	12400	0.95		**S**	**77**	**(E)DRN**	**100L4**	77	694
23	920	75.20*	12200	1.00	X	**SF**	**77**	**(E)DRN**	**100L4**	87	695
26	820	66.67	12000	1.05	X	**SA**	**77**	**(E)DRN**	**100L4**	77	696
28	880	63.03	10800	1.25	X	**SAF**	**77**	**(E)DRN**	**100L4**	83	695
31	710	56.92	11700	1.15	X						
33	760	53.87	10700	1.45	X						
36	700	49.38	10600	1.55	X						
41	615	43.33	10400	1.70	X						
43	585	41.07	10300	1.75	X						
49	515	35.94	10100	1.90	X						
54	465	32.38	9910	2.1	X						
62	410	28.41	9670	2.2	X	**S**	**77**	**(E)DRN**	**100L4**	77	694
70	360	25.07	9420	2.4	X	**SF**	**77**	**(E)DRN**	**100L4**	87	695
77	340	22.89	8560	2.1	X	**SA**	**77**	**(E)DRN**	**100L4**	77	696
84	310	20.99	8440	2.3	X	**SAF**	**77**	**(E)DRN**	**100L4**	83	695
96	275	18.42	8250	2.6	X						
101	260	17.45	8160	2.7	X						
115	230	15.28	7950	3.1	X						
128	205	13.76	7780	3.5	X						
146	183	12.07	7560	3.6	X						
165	162	10.65	7350	3.6	X						
51	475	34.80*	6350	0.95		**S**	**67**	**(E)DRN**	**100L4**	57	689
60	405	29.63	6280	0.95		**SF**	**67**	**(E)DRN**	**100L4**	64	690
65	370	26.93	6230	0.95		**SA**	**67**	**(E)DRN**	**100L4**	58	691
						SAF	**67**	**(E)DRN**	**100L4**	63	690
76	320	23.33	6130	1.00							
87	295	20.37	5340	1.15	X						
102	255	17.28*	5290	1.35	X						
113	230	15.60*	5240	1.45	X	**S**	**67**	**(E)DRN**	**100L4**	57	689
128	200	13.73*	5160	1.60	X	**SF**	**67**	**(E)DRN**	**100L4**	64	690
136	193	12.96*	5120	1.65	X	**SA**	**67**	**(E)DRN**	**100L4**	58	691
160	165	11.03	5000	1.65	X	**SAF**	**67**	**(E)DRN**	**100L4**	63	690
176	150	10.03	4920	1.65	X						
203	130	8.69	4800	1.70	X						
233	114	7.56*	4660	1.70	X						

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P_m = 3.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
163	159	10.80*	4020	0.85							
191	136	9.23*	3950	0.85							
204	128	8.64*	3920	0.90		**S**	**57**	**(E)DRN**	**100L4**	46	684
242	108	7.28	3820	0.90		**SF**	**57**	**(E)DRN**	**100L4**	50	685
275	96	6.40*	3700	0.90		**SA**	**57**	**(E)DRN**	**100L4**	46	686
327	81	5.39	3590	0.90		**SAF**	**57**	**(E)DRN**	**100L4**	49	685
370	72	4.76	3510	0.90							
441	60	4.00*	3380	0.90							

P_m = 3.7 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
						S	**97R57**	**(E)DRN**	**100L4**	195	709
8.0	3620	219	33900	1.15	X	**SF**	**97R57**	**(E)DRN**	**100L4**	230	709
8.6	3400	205	34300	1.25	X	**SA**	**97R57**	**(E)DRN**	**100L4**	190	709
						SAF	**97R57**	**(E)DRN**	**100L4**	215	709
7.6	3530	231.67	34100	1.05	X						
8.9	3020	196.52	34900	1.20	X						
9.7	2800	180.95	35200	1.25	X						
11	2520	161.74	35600	1.35	X						
12	2280	145.60*	35900	1.45	X						
13	2080	131.85	36100	1.50	X	**S**	**97**	**(E)DRN**	**100L4**	170	704
15	1850	116.92	36300	1.65	X	**SF**	**97**	**(E)DRN**	**100L4**	205	705
17	1680	105.71	36400	1.75	X	**SA**	**97**	**(E)DRN**	**100L4**	165	706
20	1440	89.60*	36600	1.90	X	**SAF**	**97**	**(E)DRN**	**100L4**	195	705
22	1450	80.85	36600	2.3	X						
25	1290	71.43	36700	2.5	X						
29	1100	60.59	36800	3.0	X						
32	1010	55.79	36900	3.2	X						
14	1890	123.48	28600	0.95							
16	1710	110.40*	28900	1.05	X						
18	1540	99.26	29100	1.10	X						
20	1350	86.15	29300	1.20	X						
23	1210	77.14	29500	1.25	X						
25	1250	70.43	29400	1.30	X						
27	1140	64.27	29500	1.40	X	**S**	**87**	**(E)DRN**	**100L4**	115	699
31	1010	57.00*	29700	1.55	X	**SF**	**87**	**(E)DRN**	**100L4**	135	700
37	860	47.91	29800	1.85	X	**SA**	**87**	**(E)DRN**	**100L4**	110	701
40	790	44.03	29800	2.0	X	**SAF**	**87**	**(E)DRN**	**100L4**	125	700
45	705	39.10	29400	2.3	X						
50	630	34.96*	28600	2.5	X						
56	570	31.43	27900	2.8	X						
64	495	27.28	26900	2.9	X						
69	475	25.50*	25700	2.6	X						
31	870	56.92	11000	0.95							
33	940	53.87	9800	1.15	X						
36	860	49.38	9760	1.25	X						
41	760	43.33	9680	1.35	X						
43	725	41.07	9630	1.40	X						
49	635	35.94	9500	1.55	X						
54	575	32.38	9370	1.65	X						
62	505	28.41	9200	1.80	X						
70	445	25.07	9010	1.95	X	**S**	**77**	**(E)DRN**	**100L4**	77	694
77	420	22.89	8010	1.70	X	**SF**	**77**	**(E)DRN**	**100L4**	87	695
84	385	20.99	7940	1.85	X	**SA**	**77**	**(E)DRN**	**100L4**	77	696
95	340	18.42	7810	2.1	X	**SAF**	**77**	**(E)DRN**	**100L4**	83	695
101	320	17.45	7750	2.2	X						
115	280	15.28	7590	2.5	X						
128	255	13.76	7460	2.8	X						
146	225	12.07	7280	2.9	X						
165	200	10.65	7100	2.9	X						
186	178	9.44	6920	2.9	X						
218	152	8.06	6670	2.9	X						

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P_m = 3.7 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
102	315	17.28*	4810	1.10	X						
113	285	15.60*	4810	1.20	X						
128	250	13.73*	4780	1.30	X	**S**	**67**	**(E)DRN**	**100L4**	57	689
136	235	12.96*	4770	1.30	X	**SF**	**67**	**(E)DRN**	**100L4**	64	690
159	200	11.03	4700	1.35	X	**SA**	**67**	**(E)DRN**	**100L4**	58	691
175	186	10.03	4650	1.35	X	**SAF**	**67**	**(E)DRN**	**100L4**	63	690
202	161	8.69	4560	1.35	X						
233	141	7.56*	4460	1.35	X						

P_m = 4.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
						S	**97R57**	**(E)DRN**	**112M4**	205	709
8.1	3890	219	33400	1.10	X	**SF**	**97R57**	**(E)DRN**	**112M4**	240	709
8.6	3660	205	33900	1.15	X	**SA**	**97R57**	**(E)DRN**	**112M4**	200	709
						SAF	**97R57**	**(E)DRN**	**112M4**	225	709
7.6	3790	231.67	33600	1.00							
9.0	3250	196.52	34600	1.10	X						
9.8	3010	180.95	34900	1.15	X						
11	2710	161.74	35400	1.25	X						
12	2450	145.60*	35700	1.35	X						
13	2230	131.85	35900	1.40	X	**S**	**97**	**(E)DRN**	**112M4**	180	704
15	1990	116.92	36200	1.50	X	**SF**	**97**	**(E)DRN**	**112M4**	215	705
17	1810	105.71	36300	1.60	X	**SA**	**97**	**(E)DRN**	**112M4**	175	706
20	1540	89.60*	36500	1.75	X	**SAF**	**97**	**(E)DRN**	**112M4**	200	705
22	1560	80.85	36500	2.1	X						
25	1380	71.43	36700	2.4	X						
29	1180	60.59	36800	2.8	X						
32	1090	55.79	36800	3.0	X						
14	2040	123.48	28400	0.90							
16	1830	110.40*	28700	0.95							
18	1660	99.26	29000	1.00	X						
21	1450	86.15	29200	1.10	X						
23	1300	77.14	29400	1.20	X						
25	1340	70.43	29300	1.20	X						
28	1230	64.27	29500	1.30	X	**S**	**87**	**(E)DRN**	**112M4**	125	699
31	1090	57.00*	29600	1.45	X	**SF**	**87**	**(E)DRN**	**112M4**	145	700
37	920	47.91	29700	1.75	X	**SA**	**87**	**(E)DRN**	**112M4**	120	701
40	850	44.03	29800	1.90	X	**SAF**	**87**	**(E)DRN**	**112M4**	135	700
45	755	39.10	29100	2.1	X						
51	680	34.96*	28400	2.4	X						
56	610	31.43	27700	2.6	X						
65	530	27.28	26700	2.7	X						
69	510	25.50*	25500	2.4	X						
31	940	56.92	10700	0.90		**S**	**77**	**(E)DRN**	**112M4**	86	694
33	1010	53.87	9420	1.10	X	**SF**	**77**	**(E)DRN**	**112M4**	96	695
36	930	49.38	9410	1.15	X	**SA**	**77**	**(E)DRN**	**112M4**	86	696
41	820	43.33	9370	1.30	X	**SAF**	**77**	**(E)DRN**	**112M4**	93	695
43	780	41.07	9340	1.30	X						
49	685	35.94	9240	1.45	X						
55	615	32.38	9130	1.55	X						
62	545	28.41	8980	1.70	X						
71	480	25.07	8820	1.80	X						
77	450	22.89	7770	1.55	X	**S**	**77**	**(E)DRN**	**112M4**	86	694
84	415	20.99	7720	1.70	X	**SF**	**77**	**(E)DRN**	**112M4**	96	695
96	365	18.42	7620	1.95	X	**SA**	**77**	**(E)DRN**	**112M4**	86	696
101	345	17.45	7560	2.1	X	**SAF**	**77**	**(E)DRN**	**112M4**	93	695
116	305	15.28	7430	2.4	X						
129	275	13.76	7310	2.6	X						
147	240	12.07	7140	2.7	X						
166	210	10.65	6980	2.7	X						
187	191	9.44	6810	2.7	X						
219	163	8.06	6580	2.7	X						

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P_m = 4.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
102	335	17.28*	4610	1.00	X						
113	305	15.60*	4620	1.10	X						
129	270	13.73*	4620	1.20	X	**S**	**67**	**(E)DRN**	**112M4**	67	689
136	255	12.96*	4610	1.25	X	**SF**	**67**	**(E)DRN**	**112M4**	73	690
160	215	11.03	4560	1.25	X	**SA**	**67**	**(E)DRN**	**112M4**	68	691
176	200	10.03	4520	1.25	X	**SAF**	**67**	**(E)DRN**	**112M4**	72	690
204	173	8.69	4450	1.25	X						
234	151	7.56*	4360	1.25	X						

P_m = 5.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
11	3730	161.74	33700	0.90							
12	3370	145.60*	34400	0.95							
13	3070	131.85	34800	1.05	X						
15	2740	116.92	35300	1.10	X						
17	2490	105.71	35600	1.15	X						
20	2120	89.60*	36000	1.30	X	**S**	**97**	**(E)DRN**	**132S4**	190	704
23	1870	78.26	36300	1.35	X	**SF**	**97**	**(E)DRN**	**132S4**	225	705
25	1910	71.43	36200	1.75	X	**SA**	**97**	**(E)DRN**	**132S4**	185	706
27	1570	65.45	36500	1.35	X	**SAF**	**97**	**(E)DRN**	**132S4**	215	705
29	1620	60.59	36500	2.0	X						
32	1500	55.79	36600	2.2	X						
35	1340	49.87	36700	2.4	X						
39	1210	44.89	36800	2.5	X						
43	1100	40.65	36800	2.7	X						
23	1800	77.14	28800	0.85		**S**	**87**	**(E)DRN**	**132S4**	135	699
28	1500	64.00*	29200	0.90		**SF**	**87**	**(E)DRN**	**132S4**	155	700
31	1500	57.00*	29100	1.05	X	**SA**	**87**	**(E)DRN**	**132S4**	130	701
37	1270	47.91	29200	1.25	X	**SAF**	**87**	**(E)DRN**	**132S4**	150	700
40	1170	44.03	28700	1.35	X						
45	1040	39.10	28100	1.55	X						
51	930	34.96*	27400	1.70	X						
56	840	31.43	26800	1.90	X						
65	735	27.28	26000	1.95	X						
69	700	25.50*	24500	1.75	X	**S**	**87**	**(E)DRN**	**132S4**	135	699
82	590	21.43	23600	2.1	X	**SF**	**87**	**(E)DRN**	**132S4**	155	700
90	545	19.70	23200	2.3	X	**SA**	**87**	**(E)DRN**	**132S4**	130	701
101	485	17.49	22600	2.5	X	**SAF**	**87**	**(E)DRN**	**132S4**	150	700
113	435	15.64*	22100	2.8	X						
126	390	14.06	21500	2.8	X						
145	340	12.21	20800	2.8	X						
162	305	10.93	20300	2.8	X						
43	1070	41.07	7880	0.95		**S**	**77**	**(E)DRN**	**132S4**	98	694
49	940	35.94	7960	1.05	X	**SF**	**77**	**(E)DRN**	**132S4**	105	695
55	850	32.38	7980	1.15	X	**SA**	**77**	**(E)DRN**	**132S4**	97	696
						SAF	**77**	**(E)DRN**	**132S4**	105	695
62	750	28.41	7970	1.25	X						
71	660	25.07	7920	1.30	X						
80	590	22.22	7840	1.35	X						
96	505	18.42	6680	1.40	X						
101	475	17.45	6670	1.50	X	**S**	**77**	**(E)DRN**	**132S4**	98	694
116	420	15.28	6650	1.70	X	**SF**	**77**	**(E)DRN**	**132S4**	105	695
128	380	13.76	6600	1.90	X	**SA**	**77**	**(E)DRN**	**132S4**	97	696
146	330	12.07	6530	1.95	X	**SAF**	**77**	**(E)DRN**	**132S4**	105	695
166	295	10.65	6430	1.95	X						
187	260	9.44	6330	2.0	X						
219	220	8.06	6170	2.0	X						
160	300	11.03	3700	0.90		**S**	**67**	**(E)DRN**	**132S4**	78	689
176	270	10.03	3930	0.90		**SF**	**67**	**(E)DRN**	**132S4**	85	690
204	235	8.69	3930	0.90		**SA**	**67**	**(E)DRN**	**132S4**	79	691
234	205	7.56*	3910	0.90		**SAF**	**67**	**(E)DRN**	**132S4**	84	690

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P_m = 7.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
17	3390	105.71	34300	0.85							
20	2890	89.60*	35100	0.95							
23	2540	78.26	35600	1.00	X						
25	2590	71.43	35500	1.25	X						
27	2140	65.45	36000	1.00							
29	2210	60.59	35900	1.50	X						
32	2040	55.79	36100	1.60	X	**S**	**97**	**(E)DRN**	**132M4**	210	704
36	1830	49.87	36300	1.75	X	**SF**	**97**	**(E)DRN**	**132M4**	245	705
40	1650	44.89	36300	1.85	X	**SA**	**97**	**(E)DRN**	**132M4**	205	706
44	1490	40.65	35600	1.95	X	**SAF**	**97**	**(E)DRN**	**132M4**	230	705
49	1330	36.05	34600	2.1	X						
54	1200	32.60	33900	2.2	X						
67	1000	26.39	31000	2.5	X						
75	890	23.59	30200	2.7	X						
84	810	21.23	29600	2.9	X						
92	735	19.23	28900	3.1	X						
40	1590	44.03	27100	1.00	X	**S**	**87**	**(E)DRN**	**132M4**	150	699
45	1420	39.10	26600	1.15	X	**SF**	**87**	**(E)DRN**	**132M4**	175	700
51	1270	34.96*	26100	1.25	X	**SA**	**87**	**(E)DRN**	**132M4**	150	701
						SAF	**87**	**(E)DRN**	**132M4**	165	700
56	1140	31.43	25600	1.40	X						
65	990	27.28	24900	1.45	X						
70	950	25.50*	23100	1.30	X						
83	800	21.43	22500	1.55	X						
90	740	19.70	22200	1.65	X	**S**	**87**	**(E)DRN**	**132M4**	150	699
101	660	17.49	21700	1.90	X	**SF**	**87**	**(E)DRN**	**132M4**	175	700
113	590	15.64*	21200	2.1	X	**SA**	**87**	**(E)DRN**	**132M4**	150	701
126	530	14.06	20800	2.1	X	**SAF**	**87**	**(E)DRN**	**132M4**	165	700
145	460	12.21	20200	2.1	X						
162	415	10.93	19700	2.1	X						
196	345	9.07	18800	2.1	X						
225	300	7.88	18200	2.0	X						
62	1020	28.41	6610	0.90		**S**	**77**	**(E)DRN**	**132M4**	115	694
71	900	25.07	6720	0.95		**SF**	**77**	**(E)DRN**	**132M4**	125	695
80	800	22.22	6780	1.00		**SA**	**77**	**(E)DRN**	**132M4**	115	696
96	685	18.42	3670	1.05	X	**SAF**	**77**	**(E)DRN**	**132M4**	120	695
102	650	17.45	3990	1.10	X						
116	570	15.28	4670	1.25	X						
129	515	13.76	5120	1.40	X	**S**	**77**	**(E)DRN**	**132M4**	115	694
147	450	12.07	5590	1.45	X	**SF**	**77**	**(E)DRN**	**132M4**	125	695
167	400	10.65	5700	1.45	X	**SA**	**77**	**(E)DRN**	**132M4**	115	696
188	355	9.44	5680	1.45	X	**SAF**	**77**	**(E)DRN**	**132M4**	120	695
220	305	8.06	5610	1.45	X						

P_m = 9.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
23	3110	78.26	34800	0.80		**S**	**97**	**(E)DRN**	**132L4**	220	704
27	2620	65.45	35500	0.80		**SF**	**97**	**(E)DRN**	**132L4**	250	705
32	2500	55.79	35600	1.30	X	**SA**	**97**	**(E)DRN**	**132L4**	215	706
						SAF	**97**	**(E)DRN**	**132L4**	240	705
36	2240	49.87	35800	1.40	X						
40	2020	44.89	35100	1.50	X						
44	1830	40.65	34500	1.60	X						
49	1630	36.05	33700	1.70	X						
54	1480	32.60	33000	1.80	X						
67	1230	26.39	30000	2.1	X	**S**	**97**	**(E)DRN**	**132L4**	220	704
75	1100	23.59	29400	2.2	X	**SF**	**97**	**(E)DRN**	**132L4**	250	705
84	990	21.23	28800	2.4	X	**SA**	**97**	**(E)DRN**	**132L4**	215	706
92	900	19.23	28200	2.5	X	**SAF**	**97**	**(E)DRN**	**132L4**	240	705
104	800	17.05	27500	2.7	X						
115	720	15.42	26900	2.8	X						
136	615	13.07	25900	2.8	X						
156	535	11.41	25100	2.8	X						

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P_m = 9.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
51	1560	34.96*	25000	1.00	X	**S**	**87**	**(E)DRN**	**132L4**	160	699
56	1400	31.43	24600	1.15	X	**SF**	**87**	**(E)DRN**	**132L4**	180	700
65	1220	27.28	24100	1.20	X	**SA**	**87**	**(E)DRN**	**132L4**	160	701
73	1100	24.43	23600	1.20	X	**SAF**	**87**	**(E)DRN**	**132L4**	175	700
88	910	20.27	22800	1.20	X						
90	910	19.70	21300	1.35	X						
101	810	17.49	20900	1.55	X						
113	725	15.64*	20500	1.70	X	**S**	**87**	**(E)DRN**	**132L4**	160	699
126	650	14.06	20100	1.70	X	**SF**	**87**	**(E)DRN**	**132L4**	180	700
145	565	12.21	19600	1.70	X	**SA**	**87**	**(E)DRN**	**132L4**	160	701
162	505	10.93	19200	1.70	X	**SAF**	**87**	**(E)DRN**	**132L4**	175	700
196	420	9.07	18400	1.70	X						
225	365	7.88	17900	1.65	X						
94	840	18.97	6030	0.80							
129	630	13.76	3010	1.15	X	**S**	**77**	**(E)DRN**	**132L4**	125	694
147	555	12.07	3700	1.15	X	**SF**	**77**	**(E)DRN**	**132L4**	135	695
167	490	10.65	4260	1.20	X	**SA**	**77**	**(E)DRN**	**132L4**	125	696
188	435	9.44	4700	1.20	X	**SAF**	**77**	**(E)DRN**	**132L4**	130	695
220	370	8.06	5150	1.20	X						

P_m = 11.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
32	2990	55.79	34900	1.10	X						
36	2680	49.87	34400	1.20	X						
40	2420	44.89	33900	1.25	X						
44	2190	40.65	33400	1.35	X						
49	1950	36.05	32700	1.45	X						
54	1760	32.60	32100	1.55	X	**S**	**97**	**(E)DRN**	**160M4**	250	704
67	1470	26.39	28900	1.75	X	**SF**	**97**	**(E)DRN**	**160M4**	285	705
75	1310	23.59	28400	1.85	X	**SA**	**97**	**(E)DRN**	**160M4**	245	706
84	1180	21.23	27900	2.0	X	**SAF**	**97**	**(E)DRN**	**160M4**	270	705
92	1070	19.23	27400	2.1	X						
104	950	17.05	26800	2.3	X						
115	860	15.42	26300	2.4	X						
136	735	13.07	25400	2.3	X						
156	640	11.41	24700	2.3	X						
65	1460	27.28	23200	1.00		**S**	**87**	**(E)DRN**	**160M4**	190	699
73	1310	24.43	22800	1.00	X	**SF**	**87**	**(E)DRN**	**160M4**	215	700
88	1090	20.27	22100	1.00		**SA**	**87**	**(E)DRN**	**160M4**	190	701
						SAF	**87**	**(E)DRN**	**160M4**	205	700
90	1080	19.70	20300	1.15	X						
102	960	17.49	20100	1.30	X						
114	860	15.64*	19800	1.40	X	**S**	**87**	**(E)DRN**	**160M4**	190	699
126	780	14.06	19500	1.40	X	**SF**	**87**	**(E)DRN**	**160M4**	215	700
146	675	12.21	19000	1.45	X	**SA**	**87**	**(E)DRN**	**160M4**	190	701
163	605	10.93	18700	1.45	X	**SAF**	**87**	**(E)DRN**	**160M4**	205	700
196	505	9.07	18000	1.40	X						
225	440	7.88	17500	1.35	X						

P_m = 15.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
40	3290	44.89	31200	0.90		**S**	**97**	**(E)DRN**	**160L4**	265	704
44	2990	40.65	30900	1.00		**SF**	**97**	**(E)DRN**	**160L4**	300	705
49	2660	36.05	30500	1.05	X	**SA**	**97**	**(E)DRN**	**160L4**	260	706
						SAF	**97**	**(E)DRN**	**160L4**	290	705

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P_m = 15.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
55	2410	32.60	30200	1.10	X						
67	2000	26.39	26600	1.25	X						
75	1790	23.59	26400	1.35	X						
84	1610	21.23	26100	1.45	X						
92	1460	19.23	25800	1.55	X	**S**	**97**	**(E)DRN**	**160L4**	265	704
104	1300	17.05	25300	1.65	X	**SF**	**97**	**(E)DRN**	**160L4**	300	705
115	1180	15.42	24900	1.75	X	**SA**	**97**	**(E)DRN**	**160L4**	260	706
136	1000	13.07	24300	1.70	X	**SAF**	**97**	**(E)DRN**	**160L4**	290	705
156	870	11.41	23700	1.70	X						
186	730	9.55	22900	1.65	X						
215	635	8.26	22200	1.55	X						
114	1180	15.64*	18100	1.05	X	**S**	**87**	**(E)DRN**	**160L4**	210	699
126	1060	14.06	18000	1.05	X	**SF**	**87**	**(E)DRN**	**160L4**	230	700
146	920	12.21	17700	1.05	X	**SA**	**87**	**(E)DRN**	**160L4**	205	701
						SAF	**87**	**(E)DRN**	**160L4**	220	700
163	830	10.93	17500	1.05	X	**S**	**87**	**(E)DRN**	**160L4**	210	699
196	690	9.07	17000	1.05	X	**SF**	**87**	**(E)DRN**	**160L4**	230	700
225	600	7.88	16700	1.00	X	**SA**	**87**	**(E)DRN**	**160L4**	205	701
						SAF	**87**	**(E)DRN**	**160L4**	220	700

P_m = 18.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
49	3270	36.05	28600	0.85							
55	2960	32.60	28400	0.90							
64	2520	27.63	28000	0.95							
74	2200	24.13	27500	0.95							
84	1990	21.23	24400	1.20	X	**S**	**97**	**(E)DRN**	**180M4**	290	704
93	1800	19.23	24300	1.25	X	**SF**	**97**	**(E)DRN**	**180M4**	320	705
104	1600	17.05	24000	1.35	X	**SA**	**97**	**(E)DRN**	**180M4**	285	706
116	1450	15.42	23800	1.40	X	**SAF**	**97**	**(E)DRN**	**180M4**	310	705
136	1230	13.07	23300	1.40	X						
156	1070	11.41	22800	1.35	X						
187	900	9.55	22100	1.35	X						
216	780	8.26	21500	1.25	X						

P_m = 22 kW

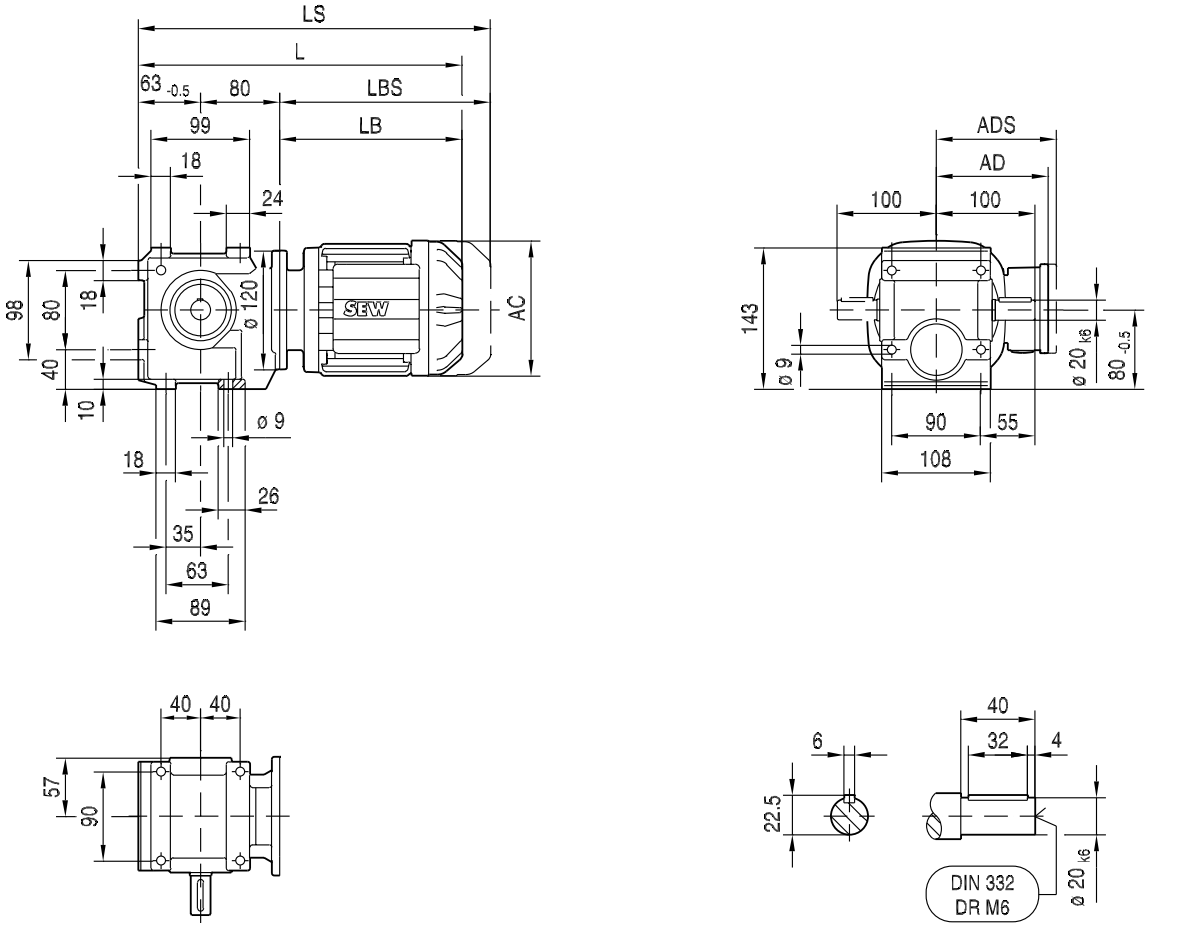
n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
64	2990	27.63	26500	0.80							
74	2620	24.13	26200	0.80		**S**	**97**	**(E)DRN**	**180L4**	305	704
84	2360	21.23	21900	1.00	X	**SF**	**97**	**(E)DRN**	**180L4**	340	705
93	2140	19.23	22800	1.05	X	**SA**	**97**	**(E)DRN**	**180L4**	300	706
104	1900	17.05	22700	1.15	X	**SAF**	**97**	**(E)DRN**	**180L4**	325	705
116	1720	15.42	22600	1.20	X						
136	1460	13.07	22300	1.15	X	**S**	**97**	**(E)DRN**	**180L4**	305	704
156	1280	11.41	21900	1.15	X	**SF**	**97**	**(E)DRN**	**180L4**	340	705
187	1070	9.55	21400	1.10	X	**SA**	**97**	**(E)DRN**	**180L4**	300	706
216	930	8.26	20900	1.05	X	**SAF**	**97**	**(E)DRN**	**180L4**	325	705

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11.4 S..DRN.. dimension sheets in mm

02 008 00 14

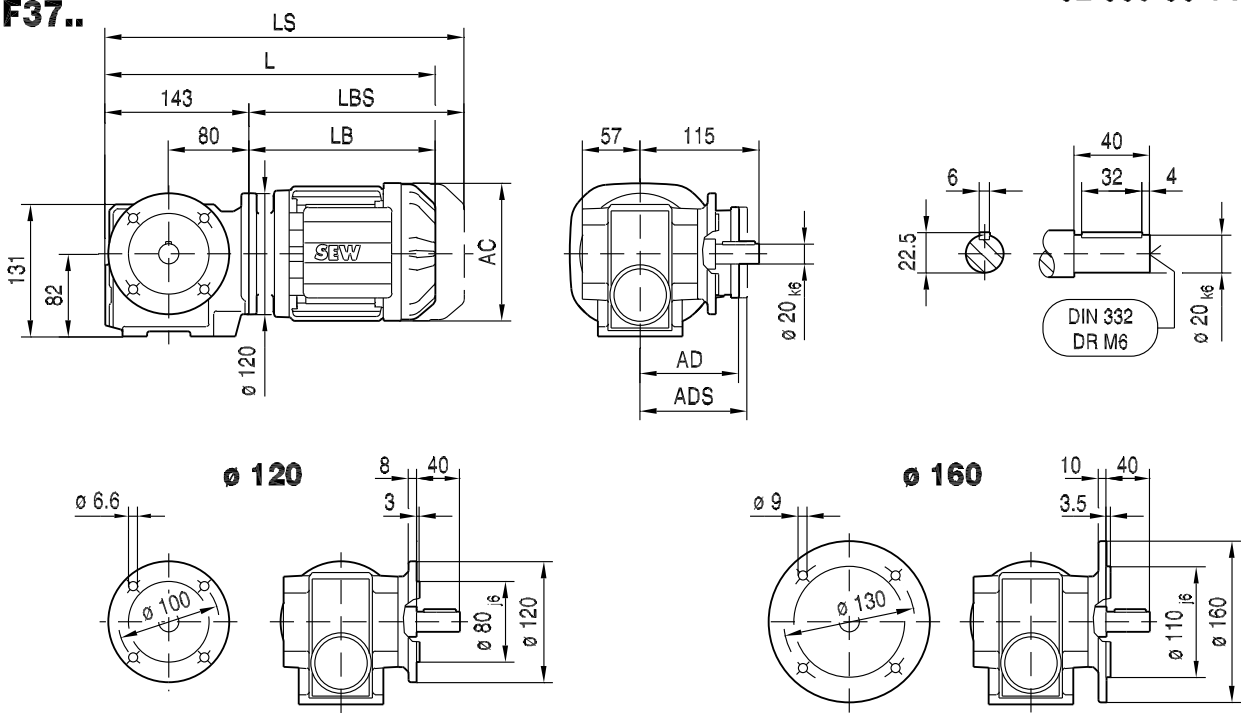
S37..



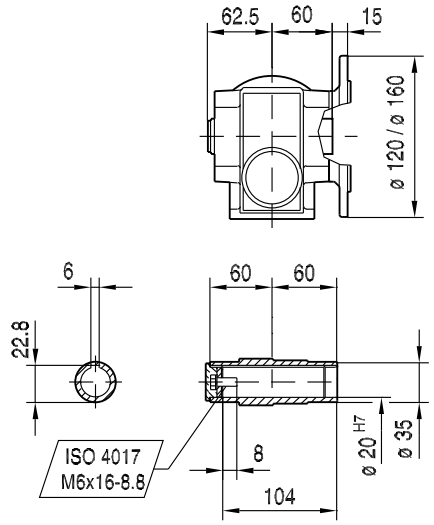
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S			
AC	132	139	139	156	179			
AD	105	119	119	128	140			
ADS	105	129	129	139	150			
L	334	345	370	425	426			
LS	389	413	438	506	520			
LB	191	202	227	282	283			
LBS	246	270	295	363	377			

02 009 00 14

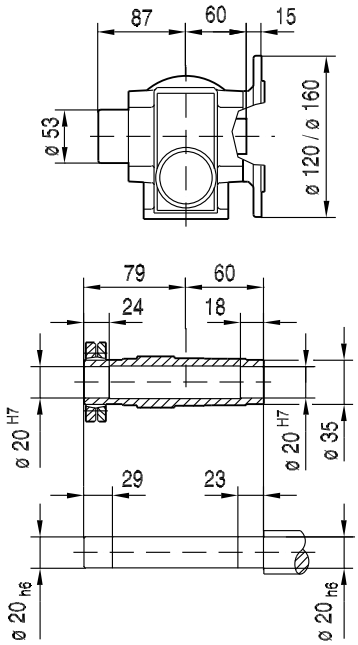
SF37..



SAF37..



SHF37..

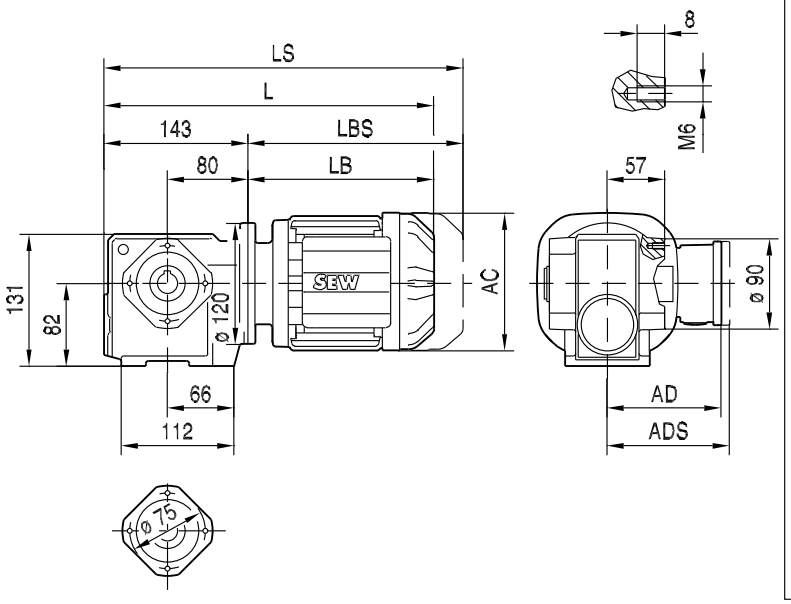


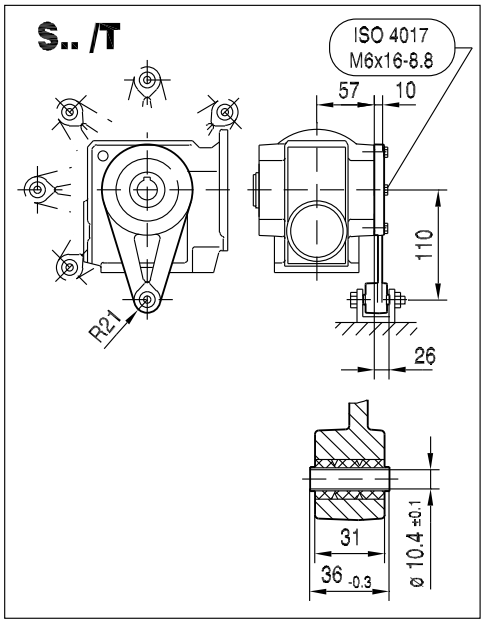
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S			
AC	132	139	139	156	179			
AD	105	119	119	128	140			
ADS	105	129	129	139	150			
L	334	345	370	425	426			
LS	389	413	438	506	520			
LB	191	202	227	282	283			
LBS	246	270	295	363	377			

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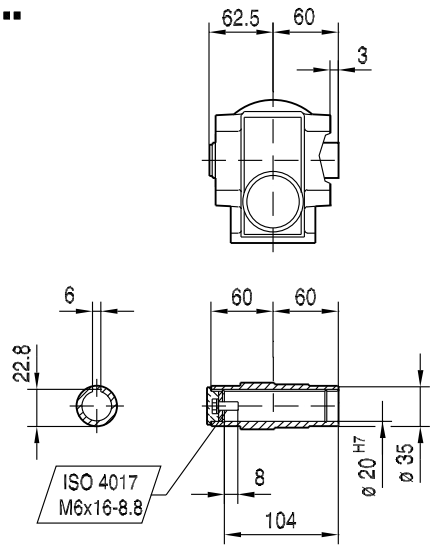
02 010 00 14

SA37..

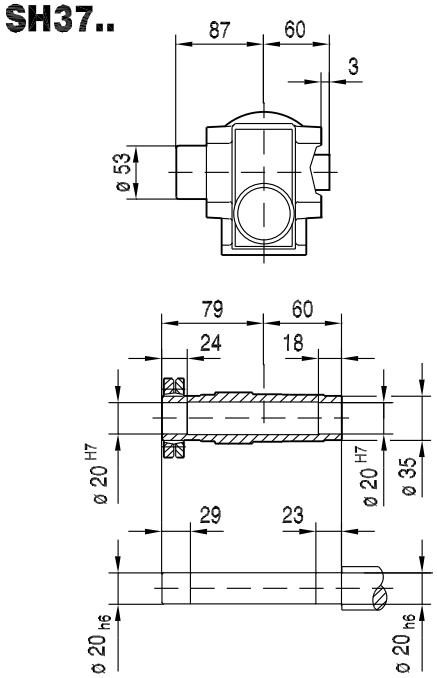




SA37..

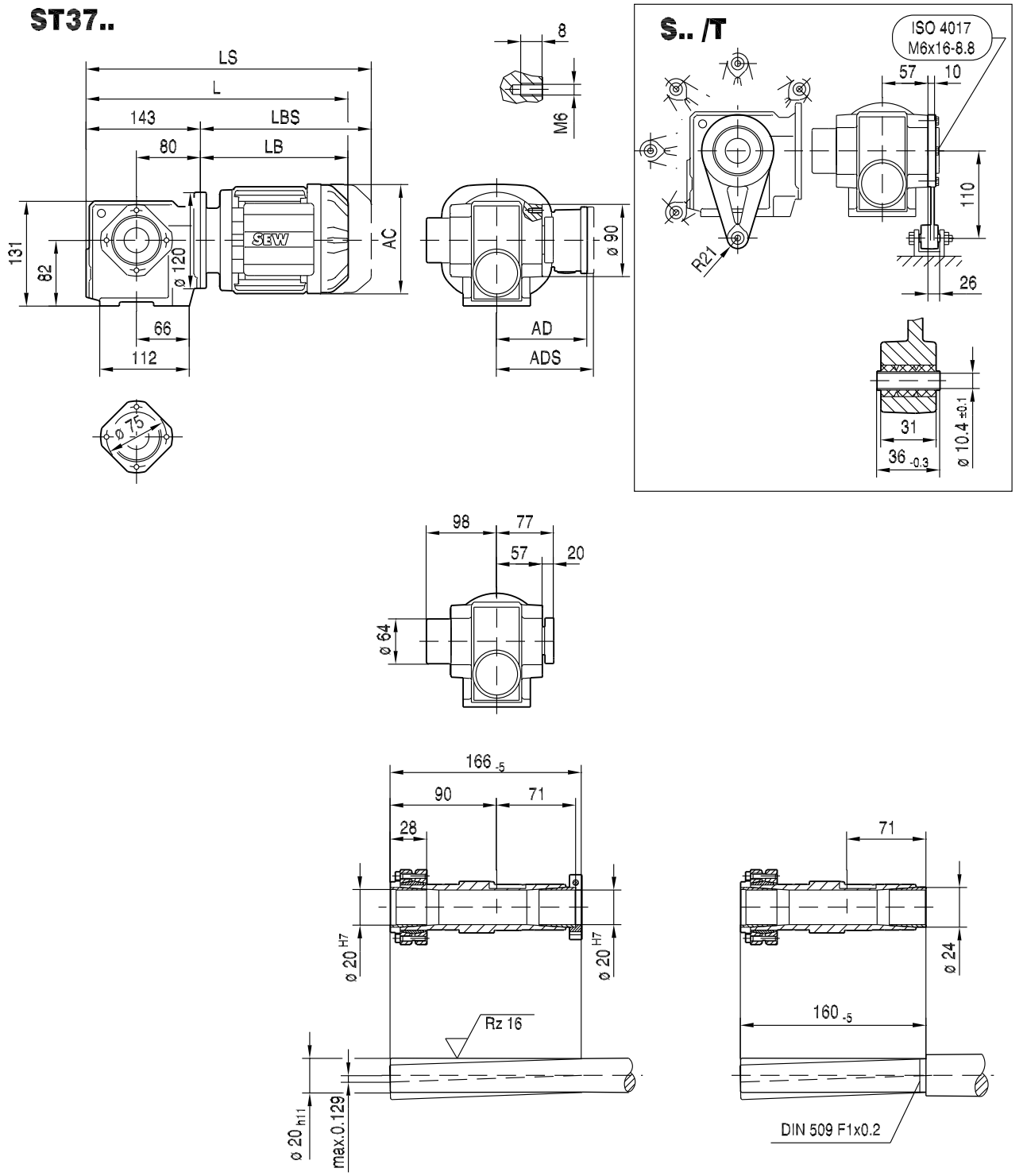


SH37..



(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S			
AC	132	139	139	156	179			
AD	105	119	119	128	140			
ADS	105	129	129	139	150			
L	334	345	370	425	426			
LS	389	413	438	506	520			
LB	191	202	227	282	283			
LBS	246	270	295	363	377			

02 011 00 14

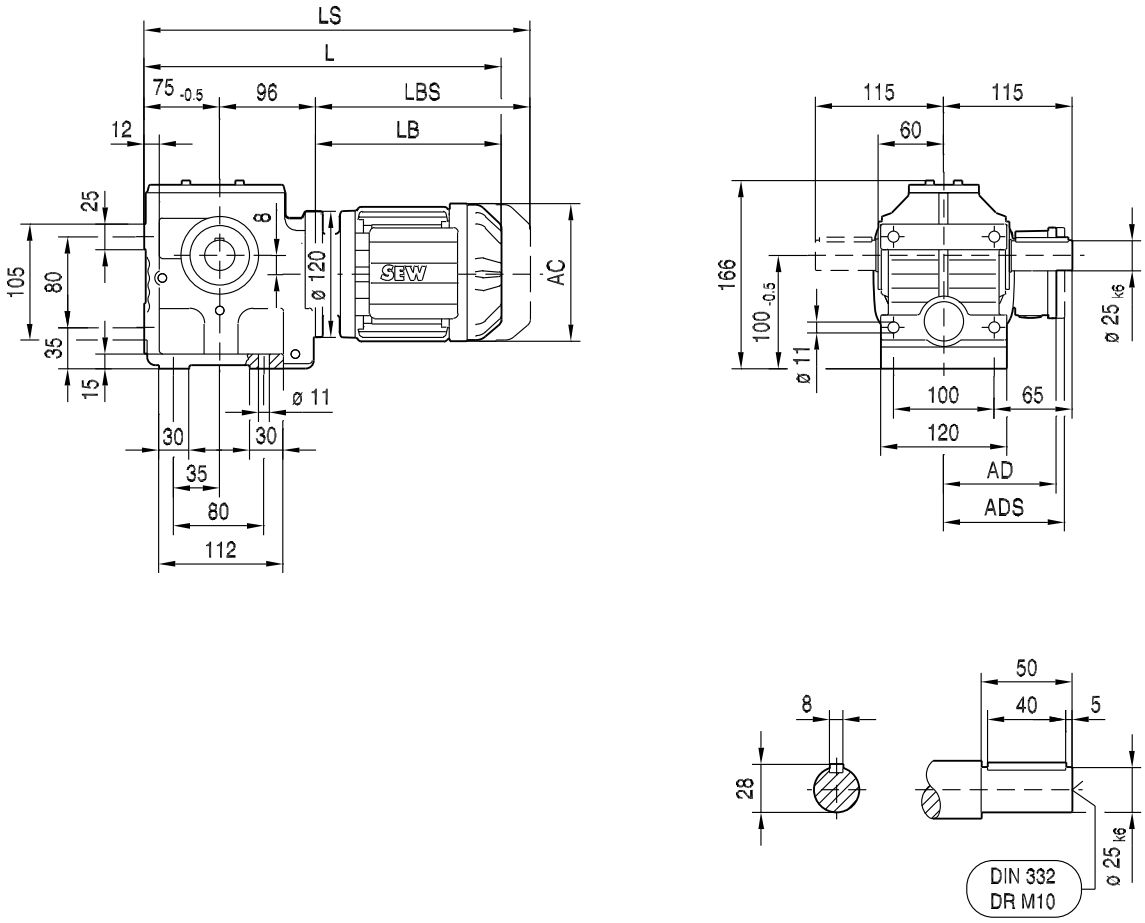


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S			
AC	132	139	139	156	179			
AD	105	119	119	128	140			
ADS	105	129	129	139	150			
L	334	345	370	425	426			
LS	389	413	438	506	520			
LB	191	202	227	282	283			
LBS	246	270	295	363	377			

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02 012 00 14

S47..

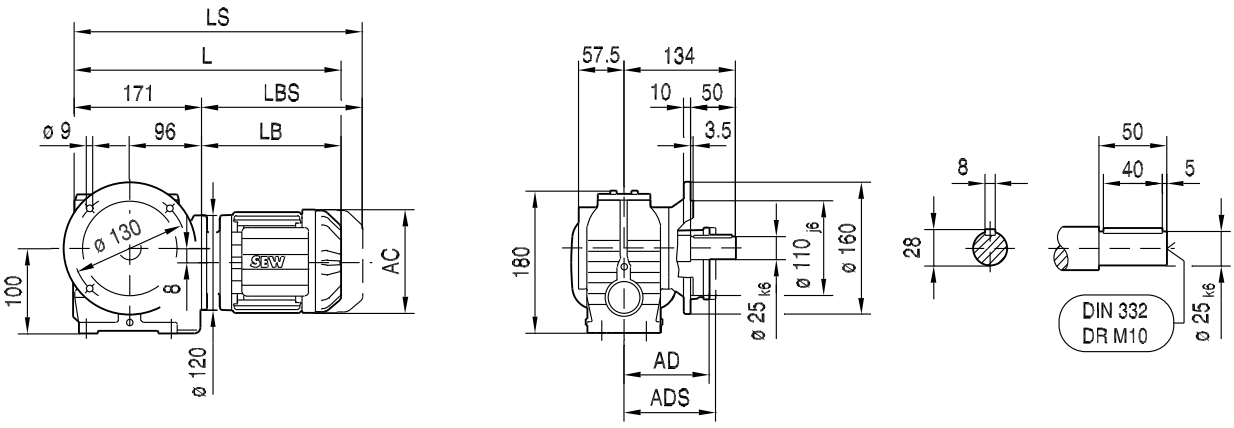


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	362	373	398	453	454	486		
LS	417	441	466	534	548	580		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

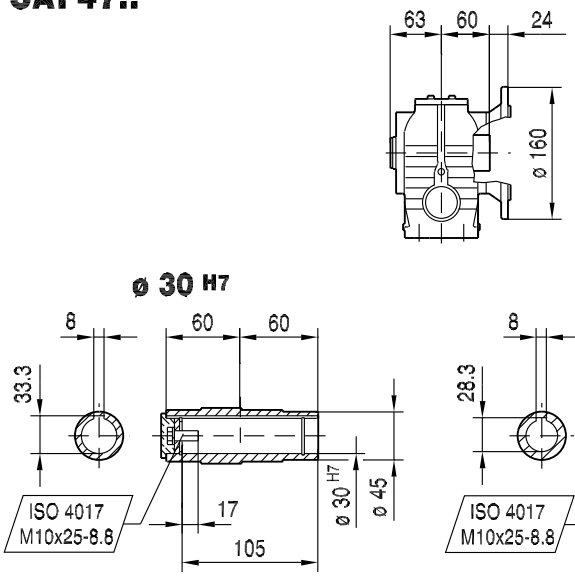
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02 013 00 14

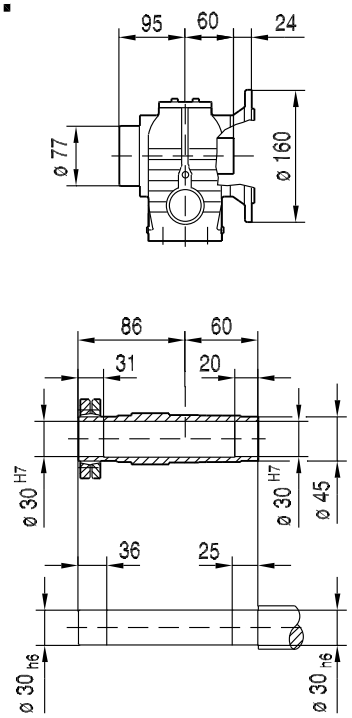
SF47..



SAF47..



SHF47..

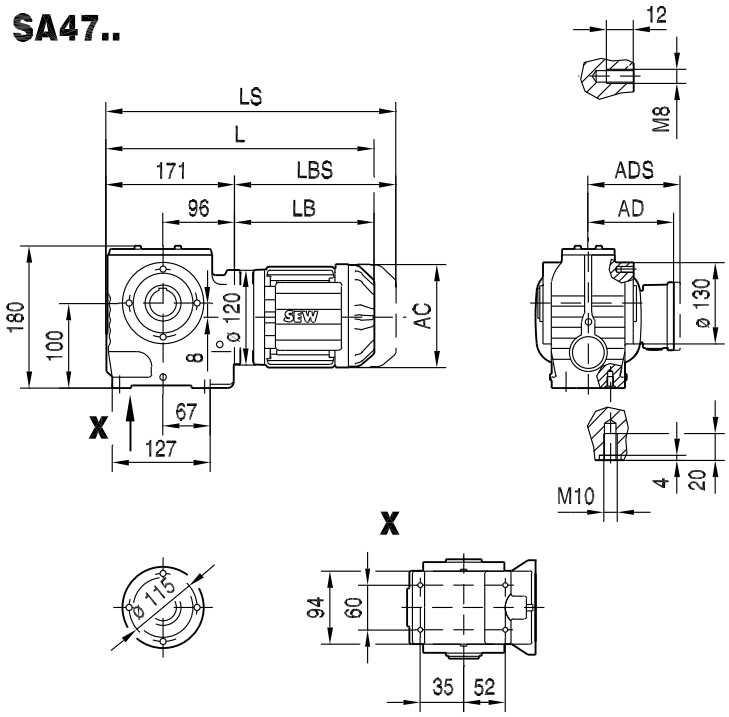


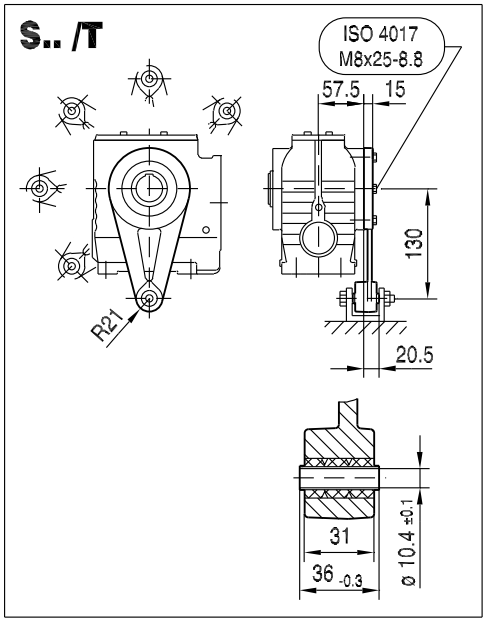
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	362	373	398	453	454	486		
LS	417	441	466	534	548	580		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

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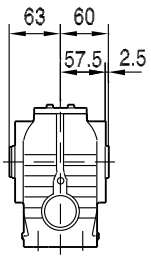
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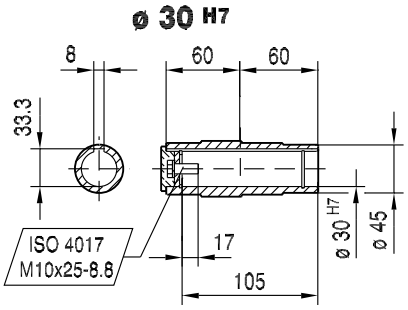
SA47..

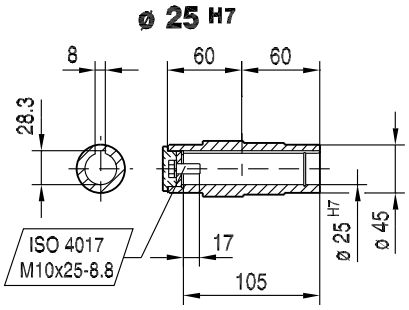




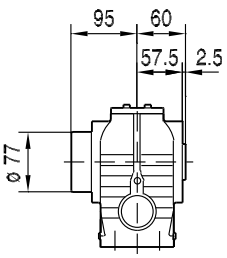
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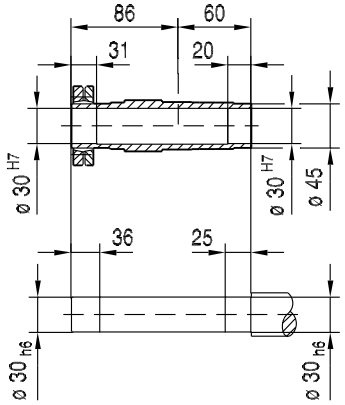






SH47..

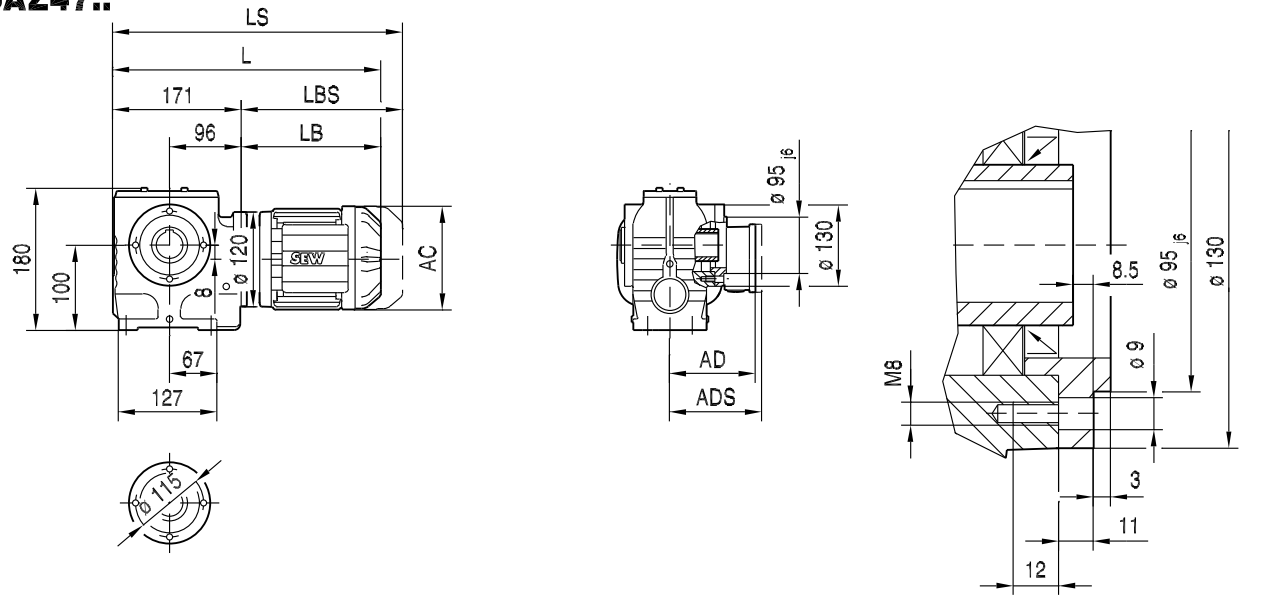




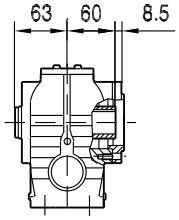
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	362	373	398	453	454	486		
LS	417	441	466	534	548	580		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

02 015 00 14

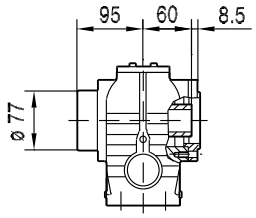
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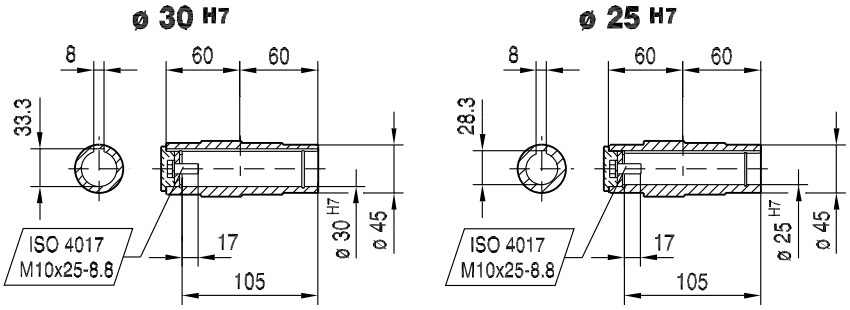


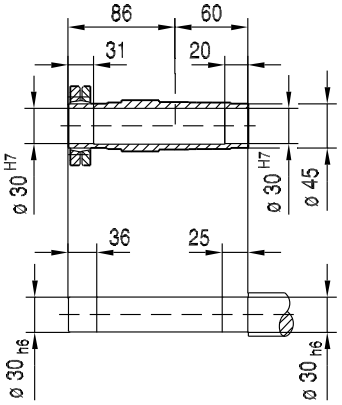
SAZ47..



SHZ47..

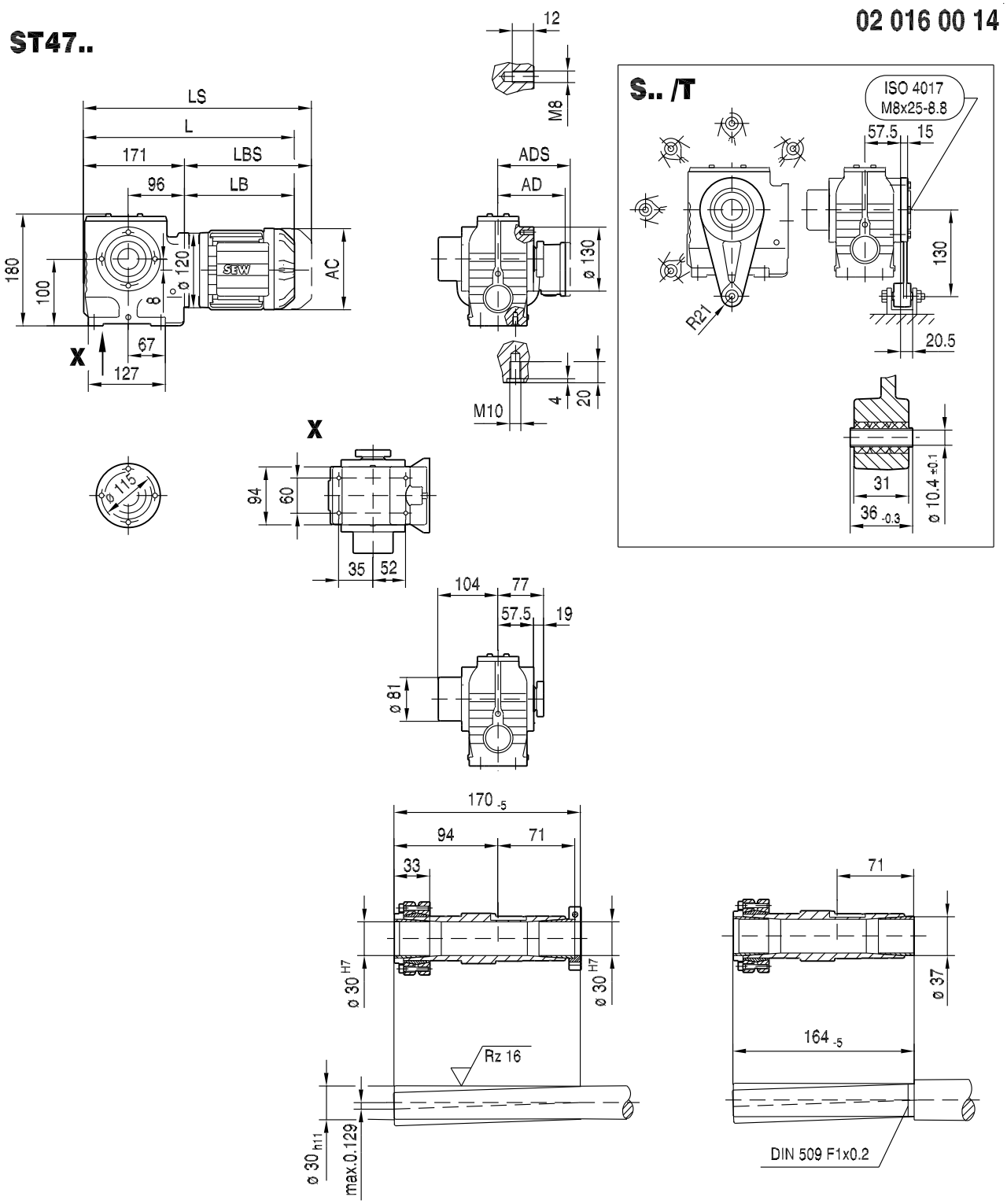






(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	362	373	398	453	454	486		
LS	417	441	466	534	548	580		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

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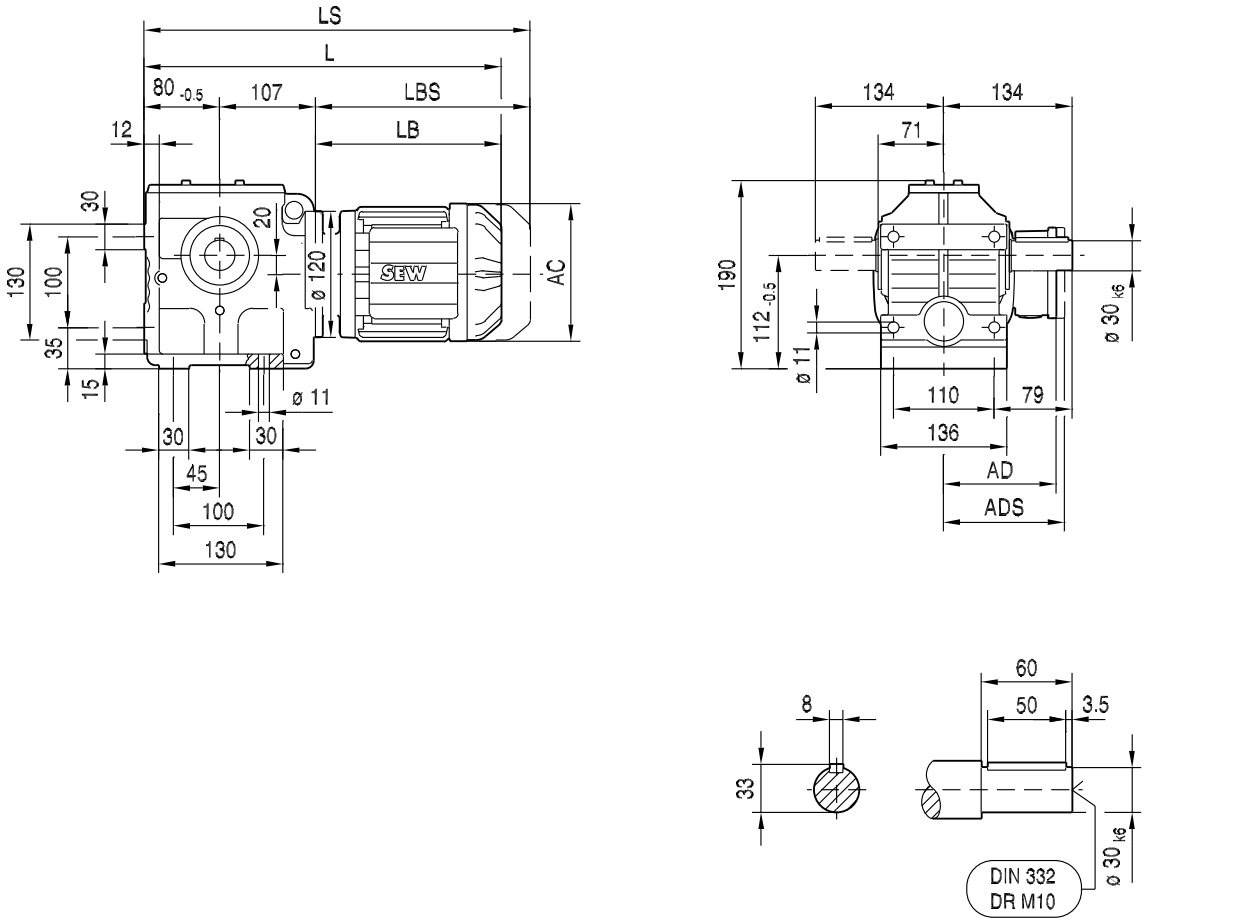


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	362	373	398	453	454	486		
LS	417	441	466	534	548	580		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

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S57..

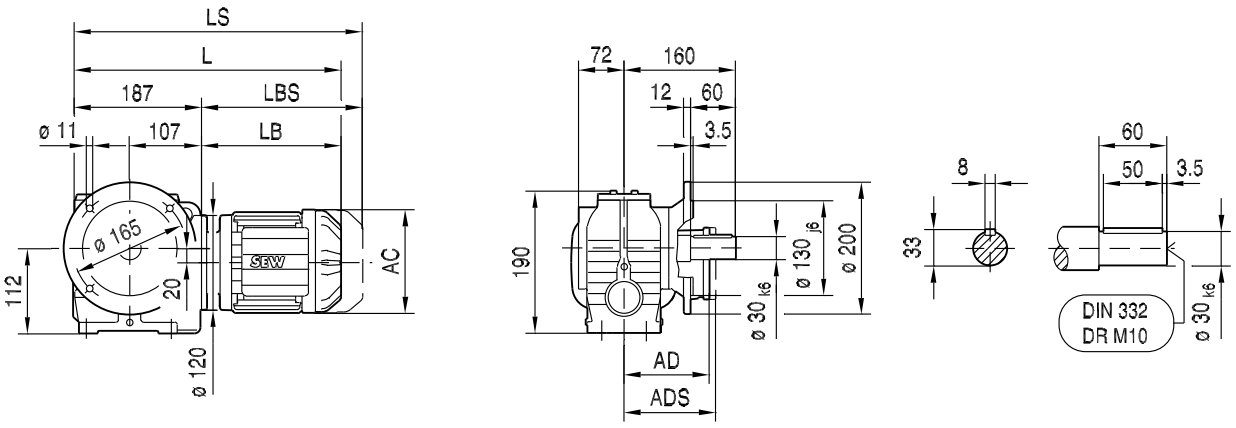


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	378	389	414	469	470	502	501	551
LS	433	457	482	550	564	596	595	645
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

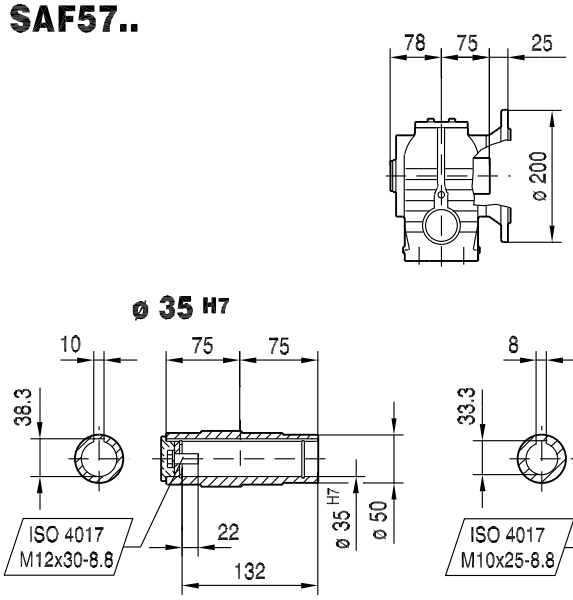
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02 018 00 14

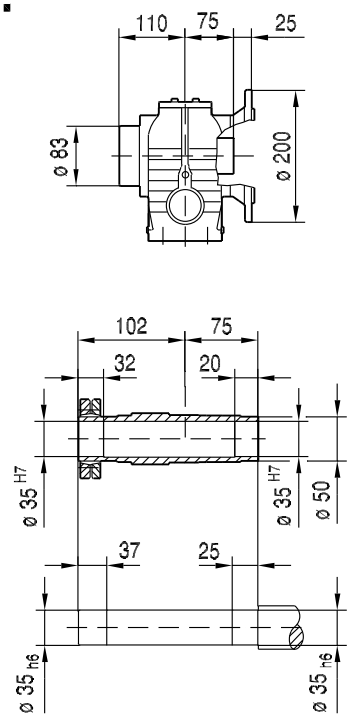
SF57..



SAF57..



SHF57..

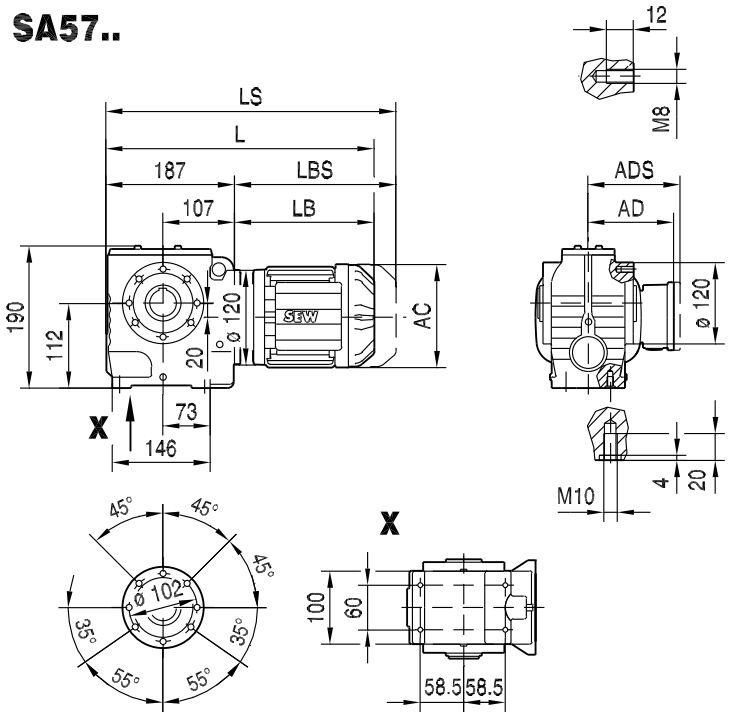


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	378	389	414	469	470	502	501	551
LS	433	457	482	550	564	596	595	645
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

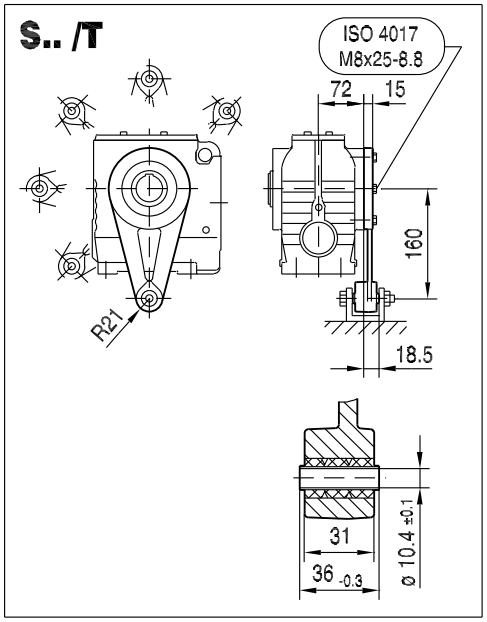
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02 019 00 14

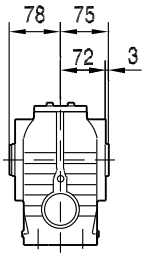
SA57..



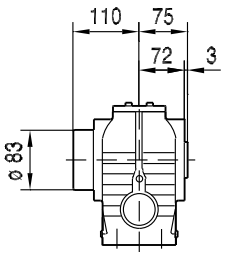
S.. /T



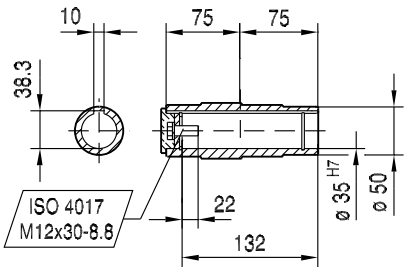
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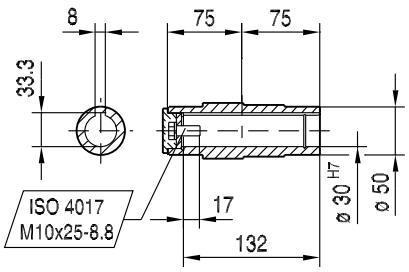
SH57..

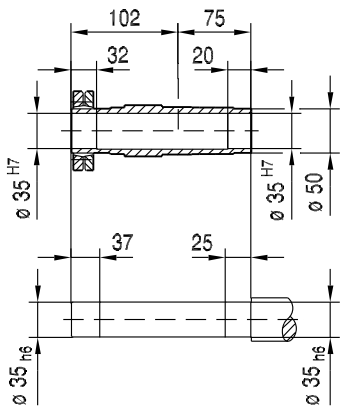


ø 35 H7



ø 30 H7



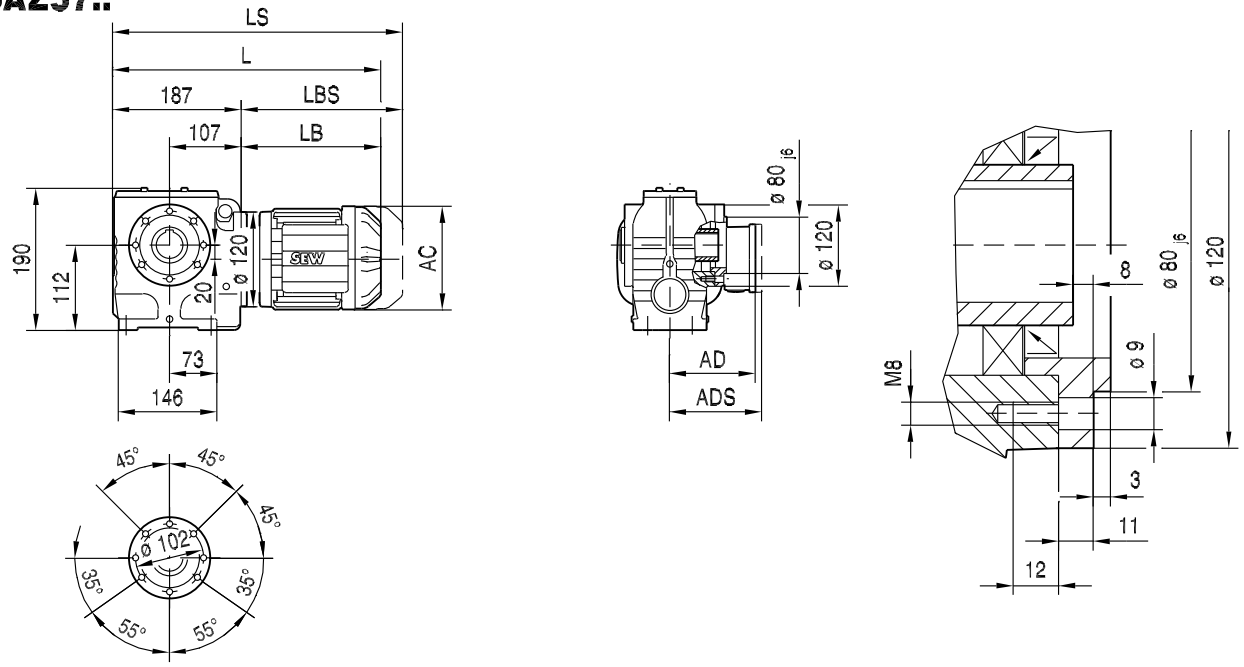


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	378	389	414	469	470	502	501	551
LS	433	457	482	550	564	596	595	645
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

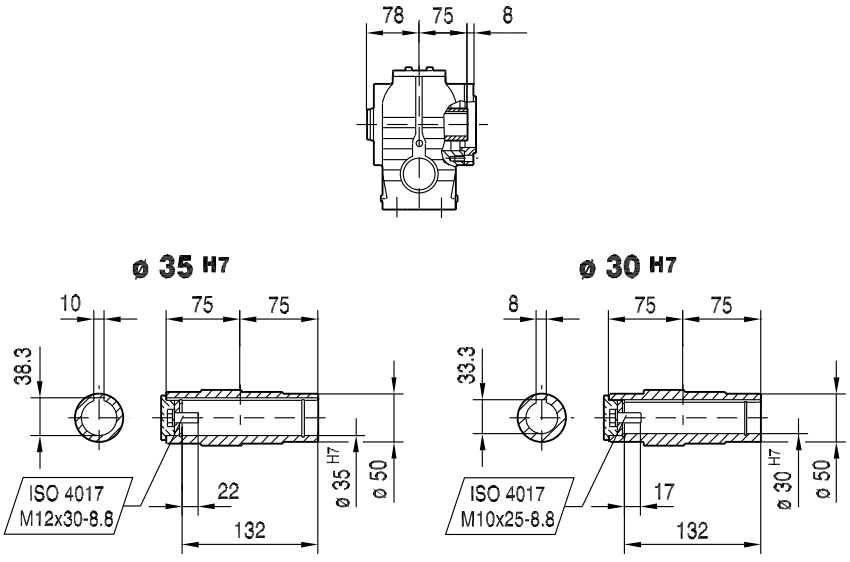
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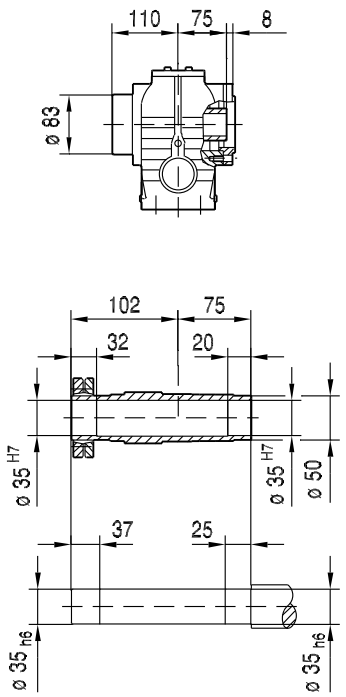
SAZ57..



SAZ57..



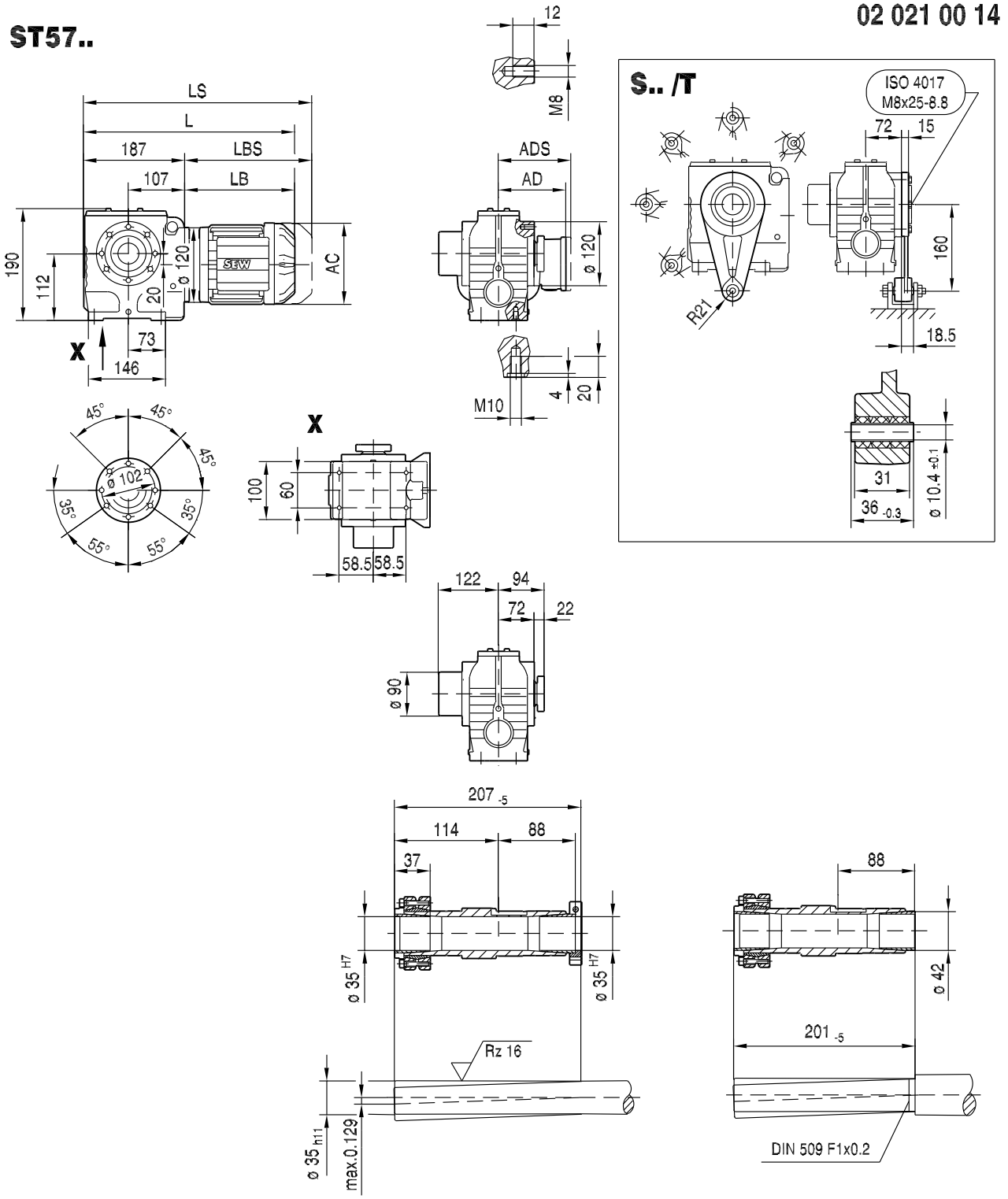
SHZ57..



(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	378	389	414	469	470	502	501	551
LS	433	457	482	550	564	596	595	645
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

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02 021 00 14

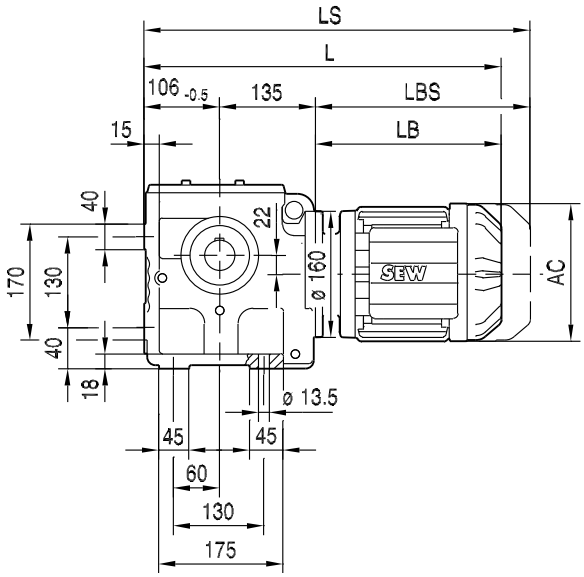


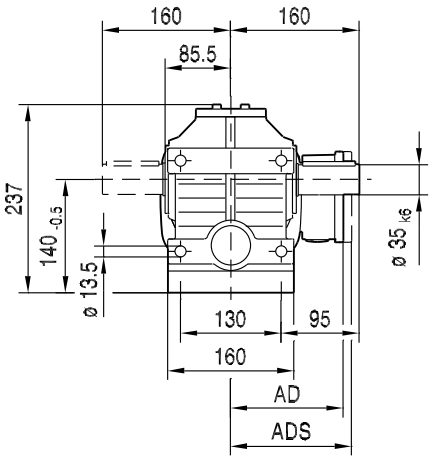
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L
AC	132	139	139	156	179	179	197	197
AD	105	119	119	128	140	140	157	157
ADS	105	129	129	139	150	150	158	158
L	378	389	414	469	470	502	501	551
LS	433	457	482	550	564	596	595	645
LB	191	202	227	282	283	315	314	364
LBS	246	270	295	363	377	409	408	458

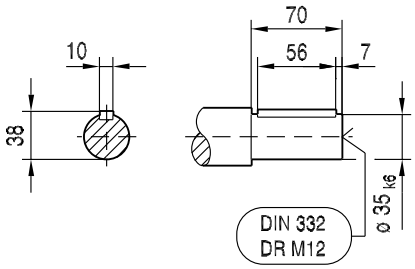
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02 022 00 14

S67..



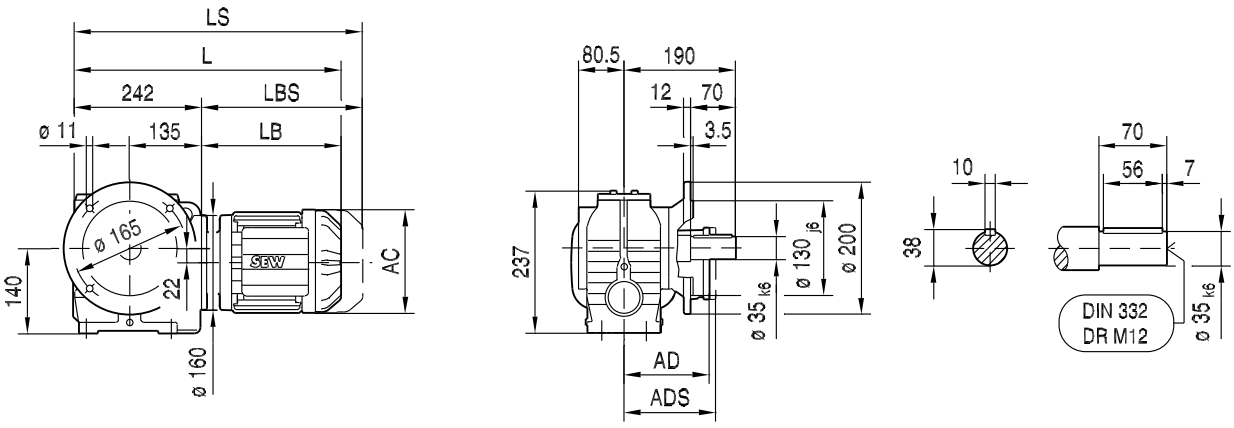




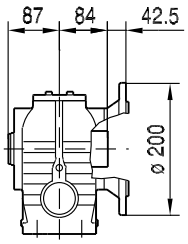
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	426	437	462	516	518	550	546	596	627	681
LS	481	505	530	597	611	643	640	690	739	793
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

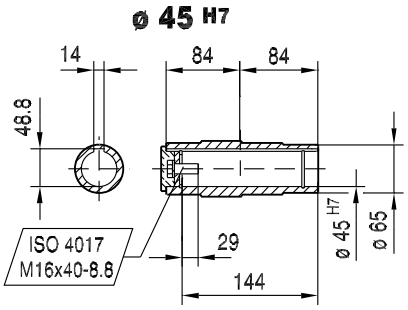
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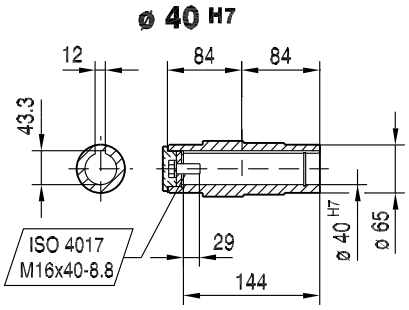
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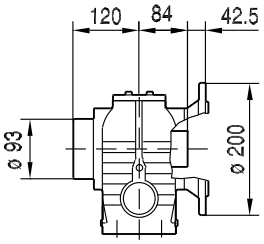
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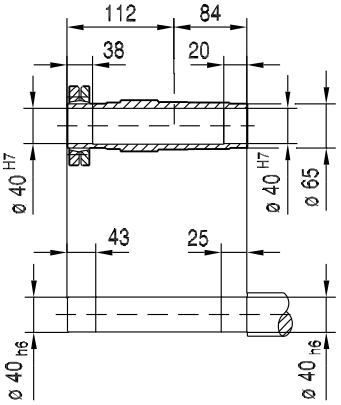






SHF67..



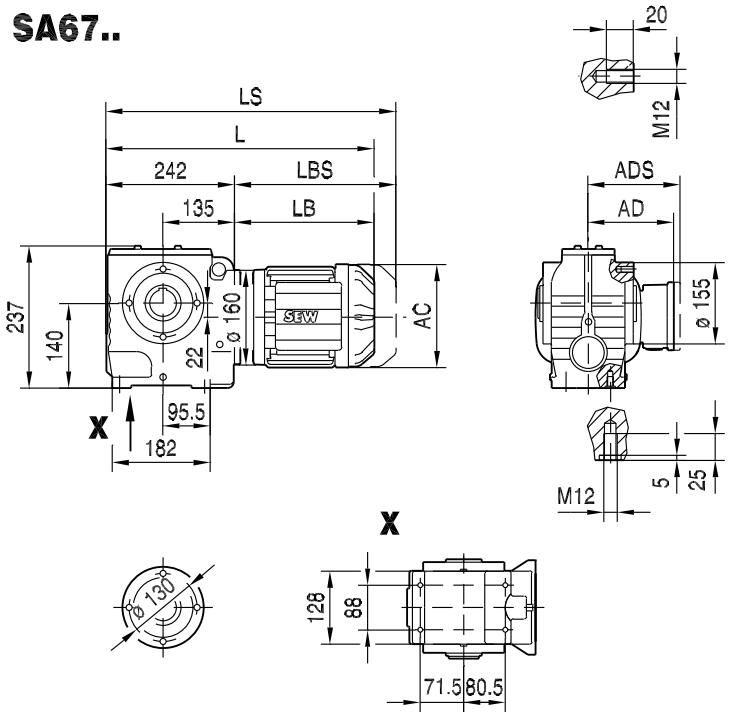


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	427	438	463	517	519	551	547	597	628	682
LS	482	506	531	598	612	644	641	691	740	794
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

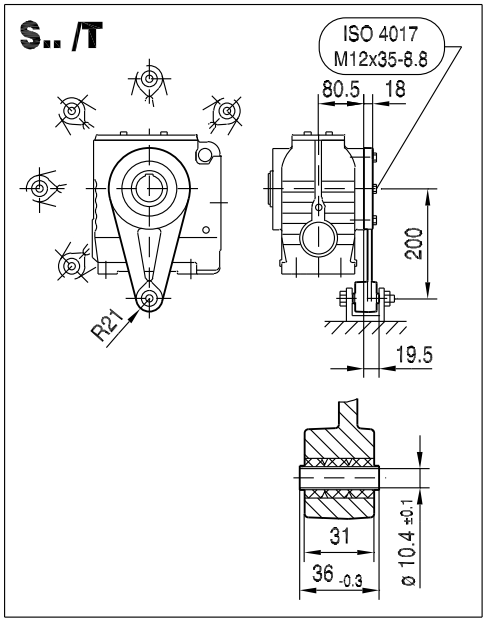
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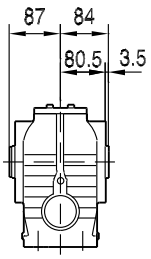
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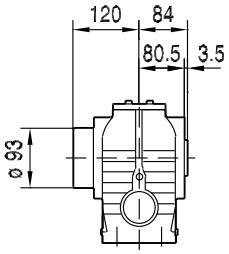
S.. /T

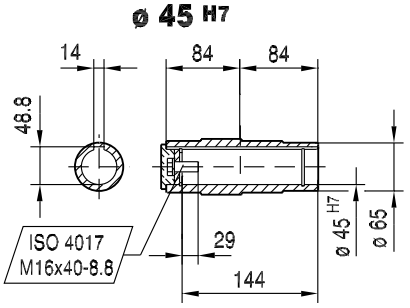


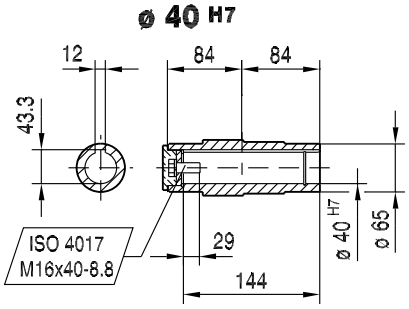
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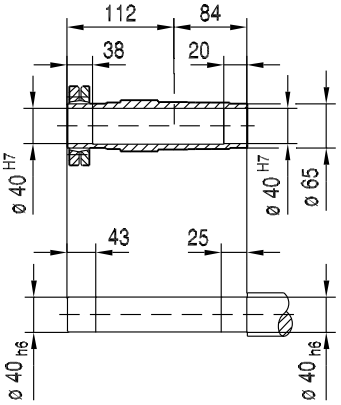


SH67..





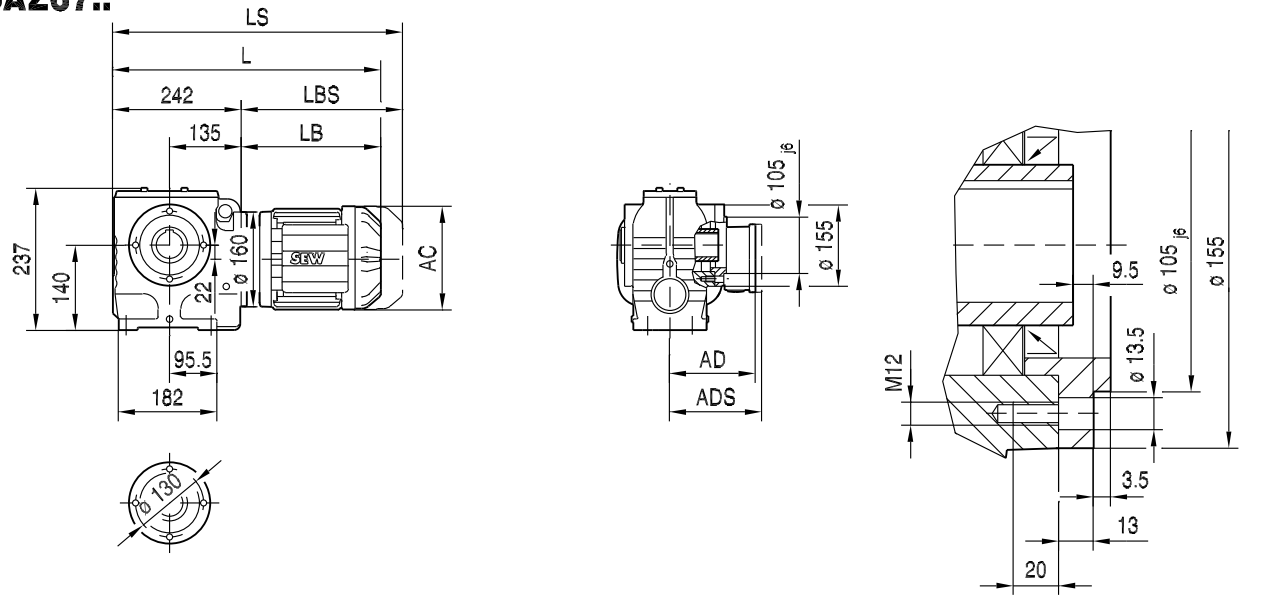




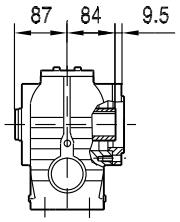
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	427	438	463	517	519	551	547	597	628	682
LS	482	506	531	598	612	644	641	691	740	794
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

02 025 00 14

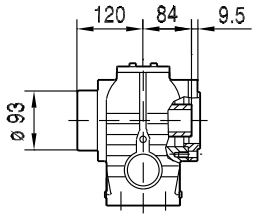
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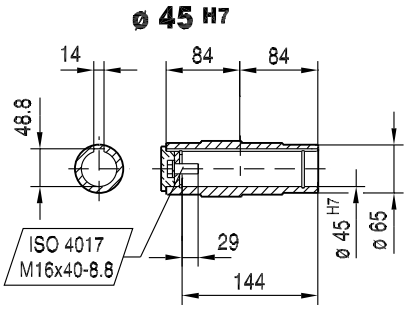


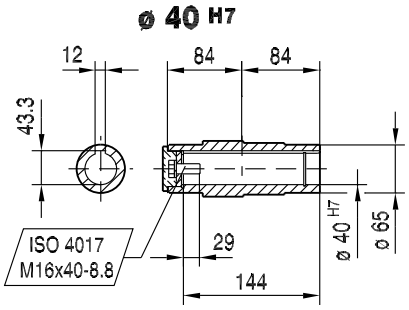
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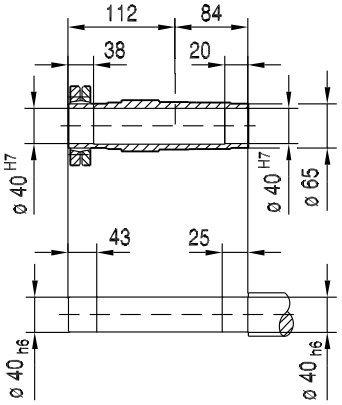


SHZ67..





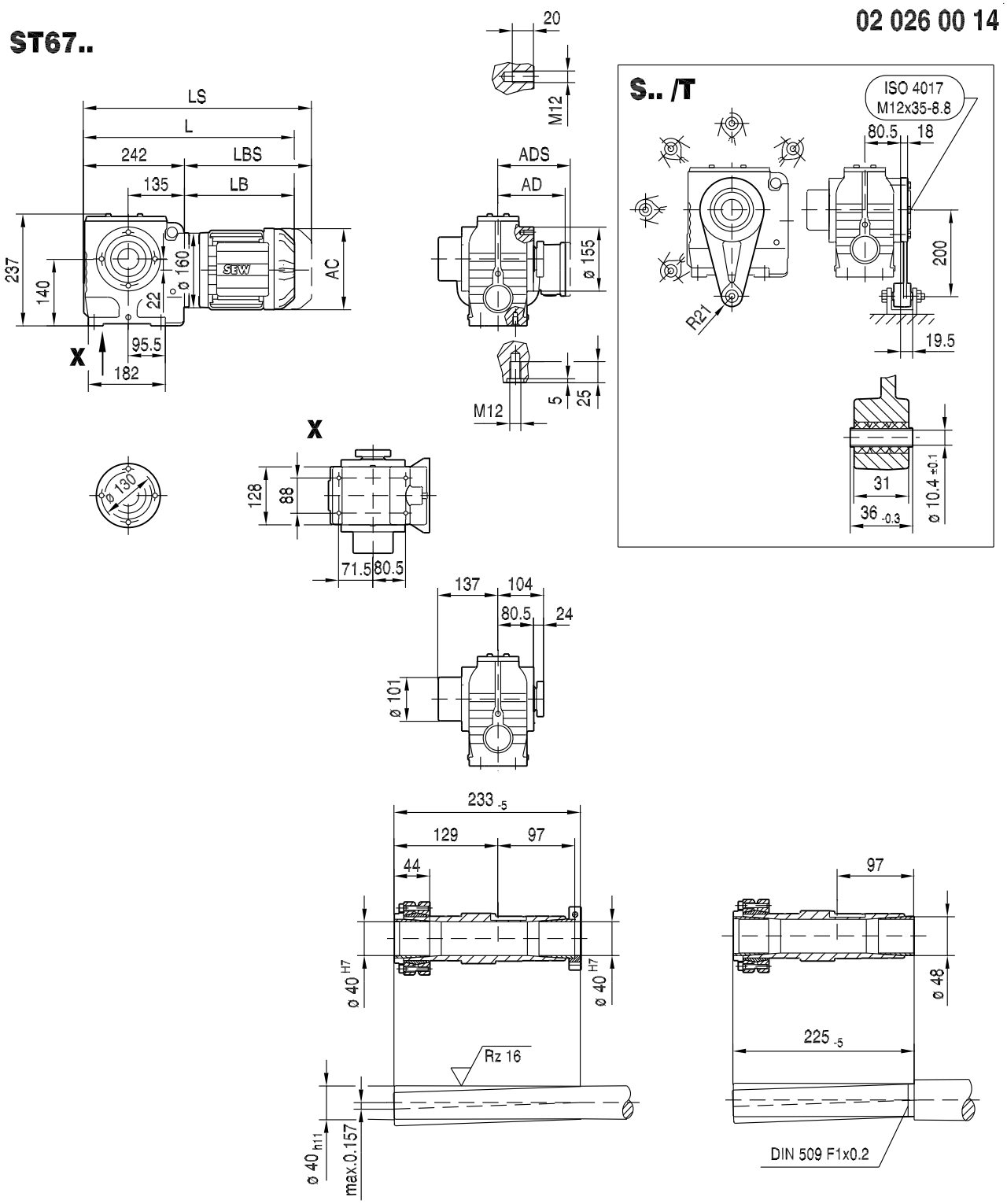




(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	427	438	463	517	519	551	547	597	628	682
LS	482	506	531	598	612	644	641	691	740	794
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

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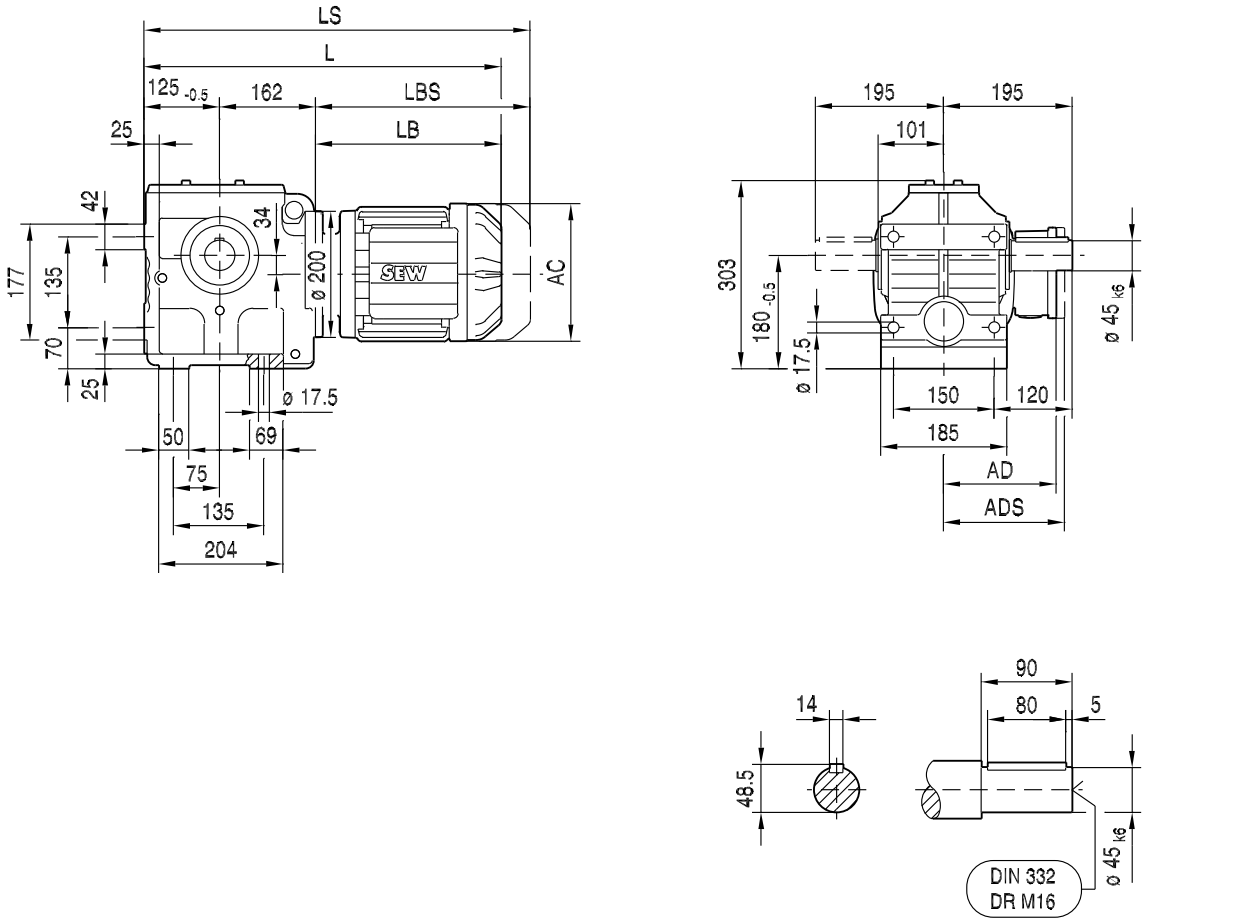
02 026 00 14



(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S
AC	132	139	139	156	179	179	197	197	221	221
AD	105	119	119	128	140	140	157	157	170	170
ADS	105	129	129	139	150	150	158	158	172	172
L	427	438	463	517	519	551	547	597	628	682
LS	482	506	531	598	612	644	641	691	740	794
LB	185	196	221	275	277	309	305	355	386	440
LBS	240	264	289	356	370	402	399	449	498	552

02 027 00 14

S77..

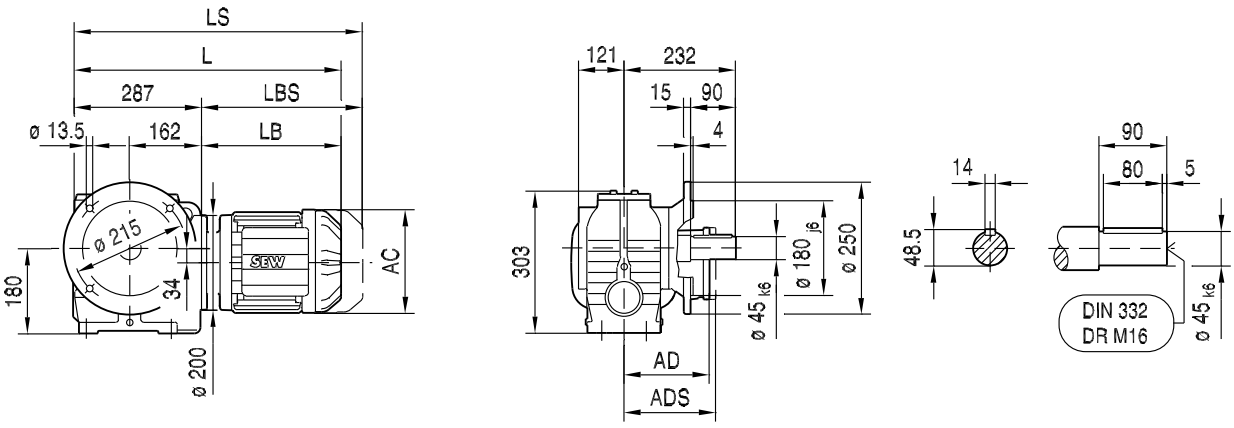


(→ 177)	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L
AC	139	156	179	179	197	197	221	221	261	261
AD	119	128	140	140	157	157	170	170	228	228
ADS	129	139	150	150	158	158	172	172	228	228
L	501	555	557	589	585	635	666	716	734	760
LS	569	636	650	682	679	729	778	828	872	897
LB	214	268	270	302	298	348	379	429	447	473
LBS	282	349	363	395	392	442	491	541	585	610

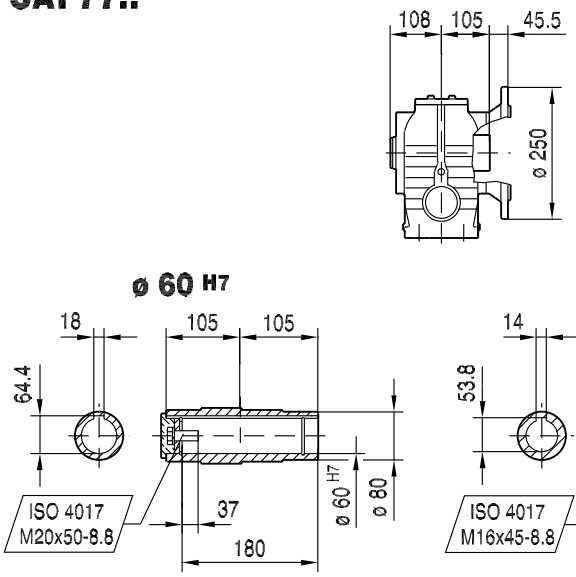
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02 028 00 14

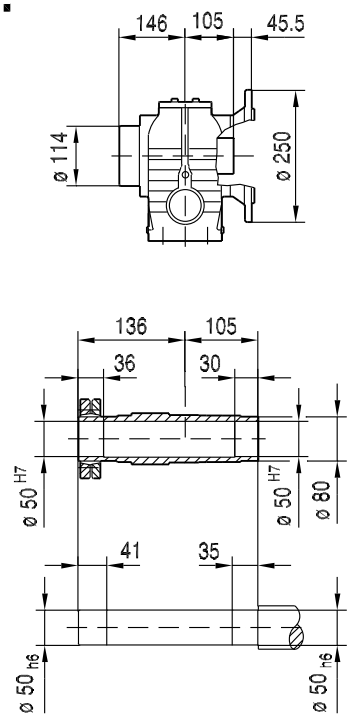
SF77..



SAF77..



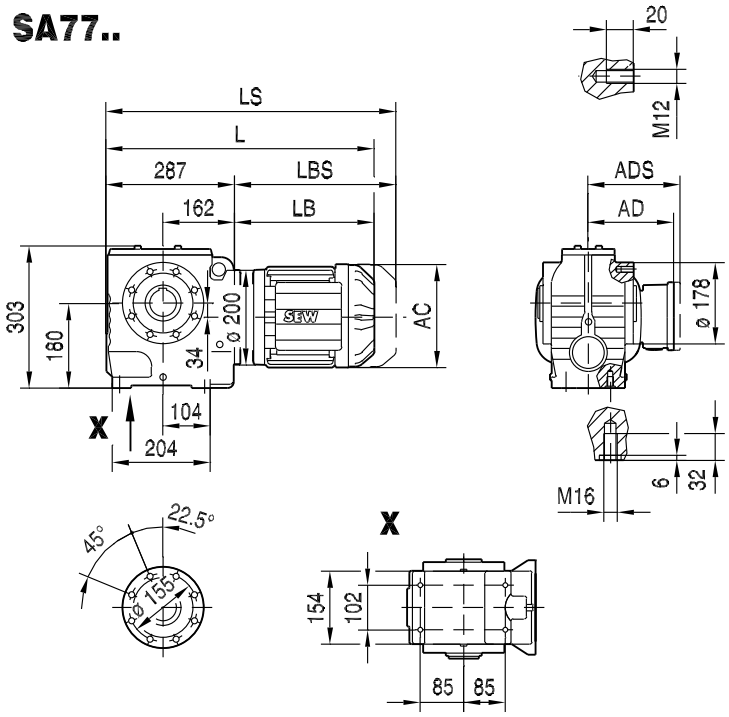
SHF77..

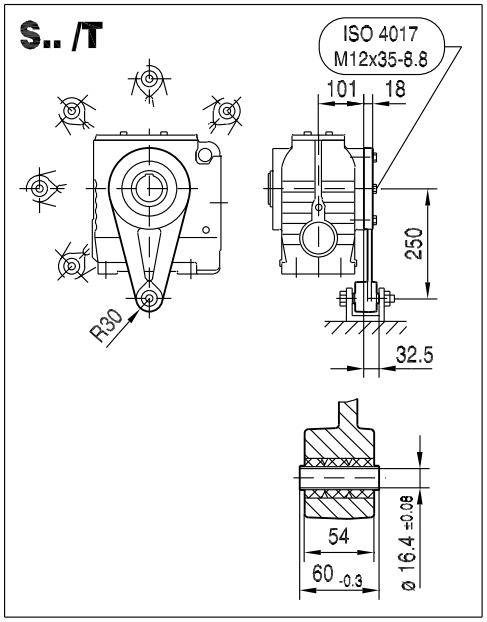


(→ 177)	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L
AC	139	156	179	179	197	197	221	221	261	261
AD	119	128	140	140	157	157	170	170	228	228
ADS	129	139	150	150	158	158	172	172	228	228
L	501	555	557	589	585	635	666	716	734	760
LS	569	636	650	682	679	729	778	828	872	897
LB	214	268	270	302	298	348	379	429	447	473
LBS	282	349	363	395	392	442	491	541	585	610

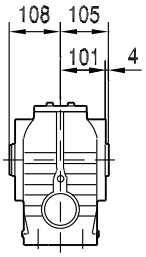
02 029 00 14

SA77..

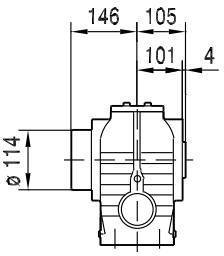


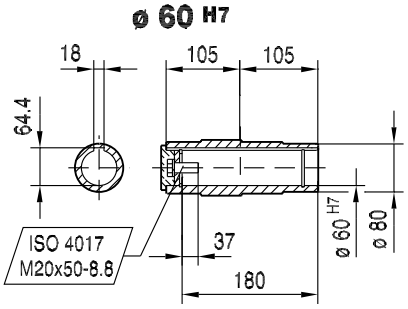


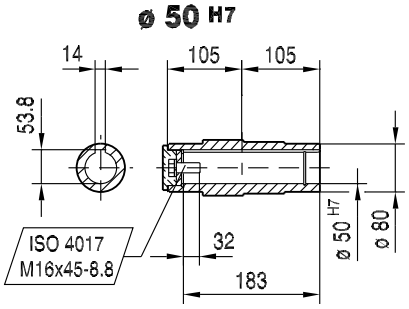
SA77..

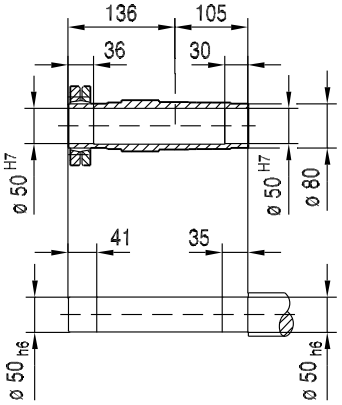


SH77..







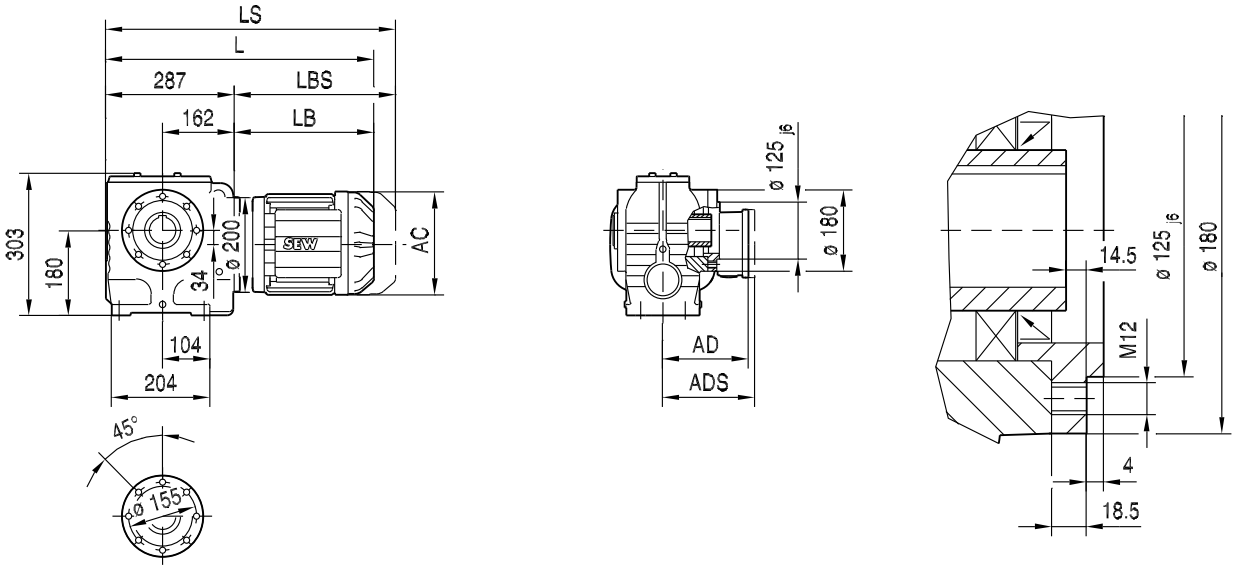


(→ 177)	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L
AC	139	156	179	179	197	197	221	221	261	261
AD	119	128	140	140	157	157	170	170	228	228
ADS	129	139	150	150	158	158	172	172	228	228
L	501	555	557	589	585	635	666	716	734	760
LS	569	636	650	682	679	729	778	828	872	897
LB	214	268	270	302	298	348	379	429	447	473
LBS	282	349	363	395	392	442	491	541	585	610

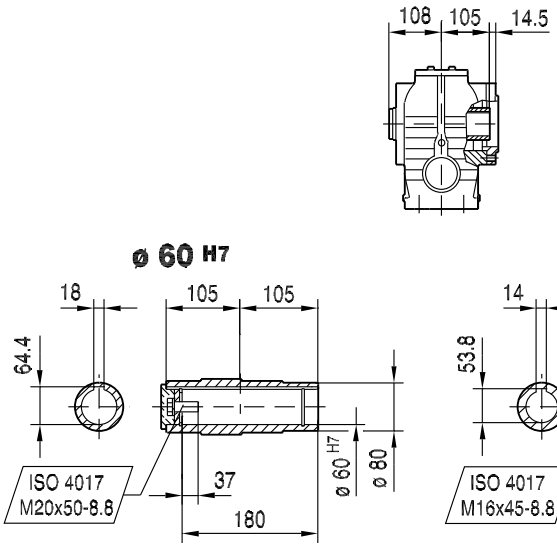
22742654/EN – 08/2016

02 030 00 14

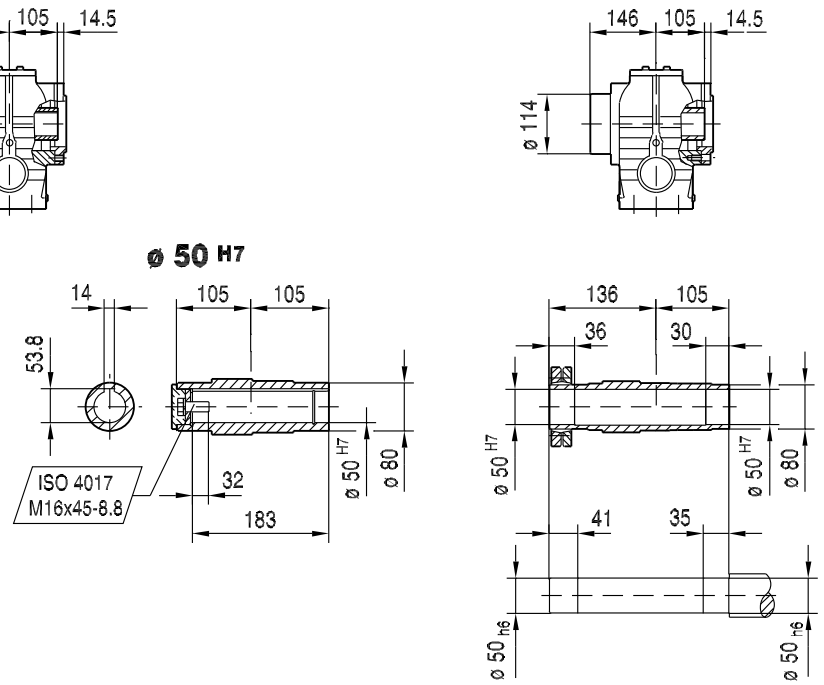
SAZ77..



SAZ77..



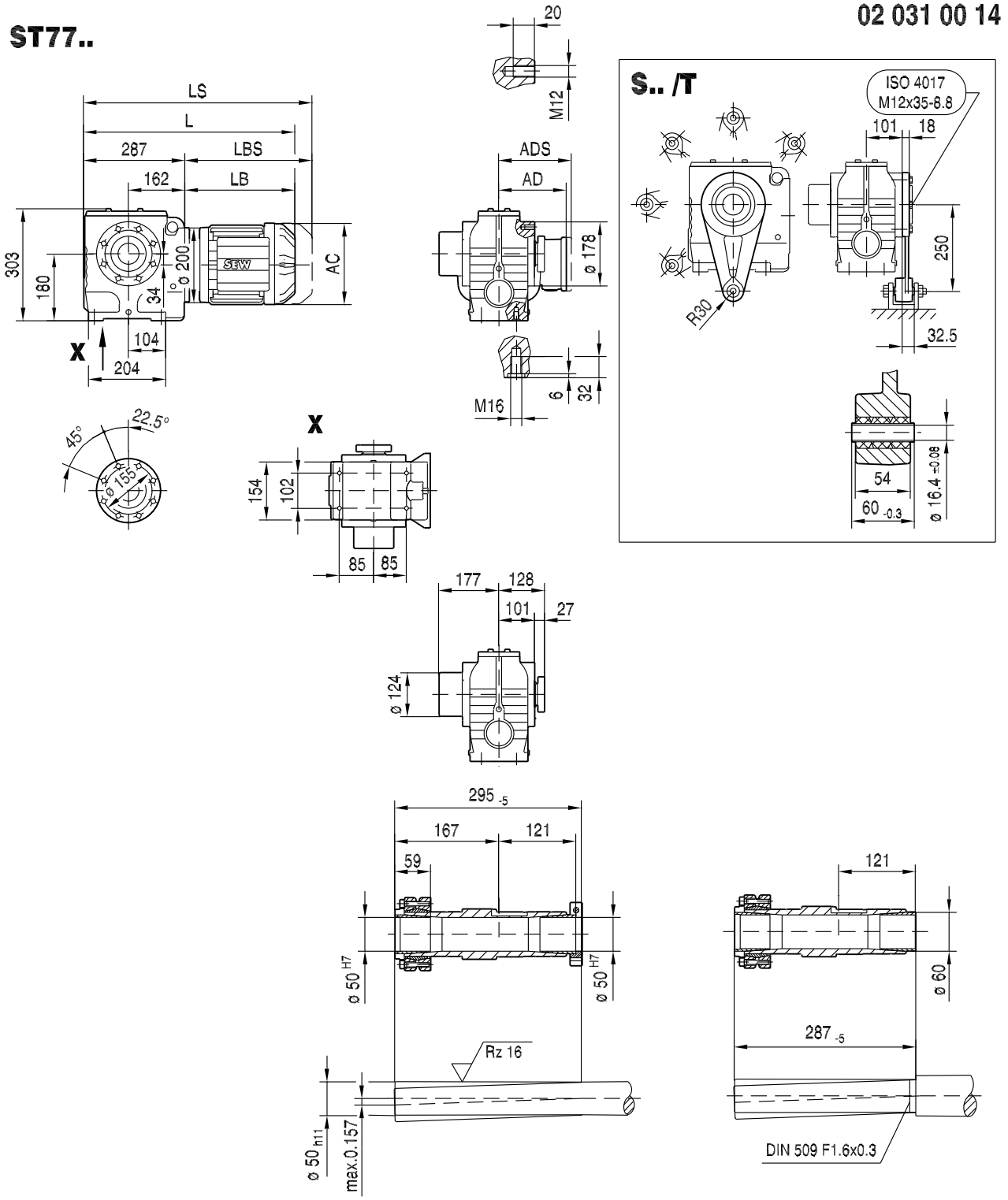
SHZ77..



(→ 177)	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L
AC	139	156	179	179	197	197	221	221	261	261
AD	119	128	140	140	157	157	170	170	228	228
ADS	129	139	150	150	158	158	172	172	228	228
L	501	555	557	589	585	635	666	716	734	760
LS	569	636	650	682	679	729	778	828	872	897
LB	214	268	270	302	298	348	379	429	447	473
LBS	282	349	363	395	392	442	491	541	585	610

02 031 00 14

ST77..

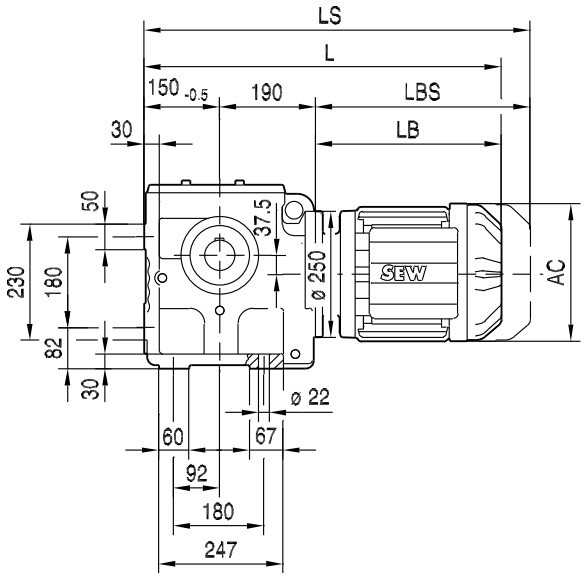


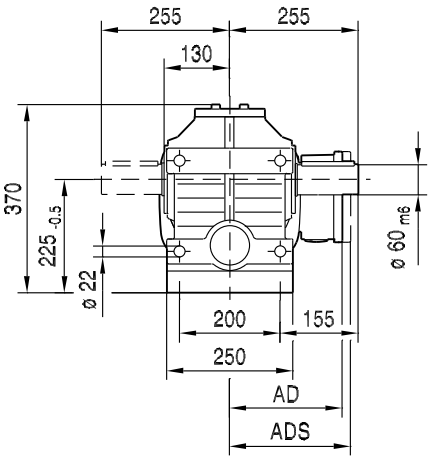
(→ 177)	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L
AC	139	156	179	179	197	197	221	221	261	261
AD	119	128	140	140	157	157	170	170	228	228
ADS	129	139	150	150	158	158	172	172	228	228
L	501	555	557	589	585	635	666	716	734	760
LS	569	636	650	682	679	729	778	828	872	897
LB	214	268	270	302	298	348	379	429	447	473
LBS	282	349	363	395	392	442	491	541	585	610

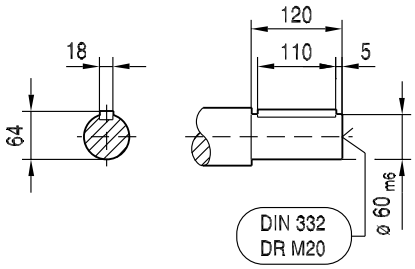
22742654/EN – 08/2016

02 032 00 14

S87..



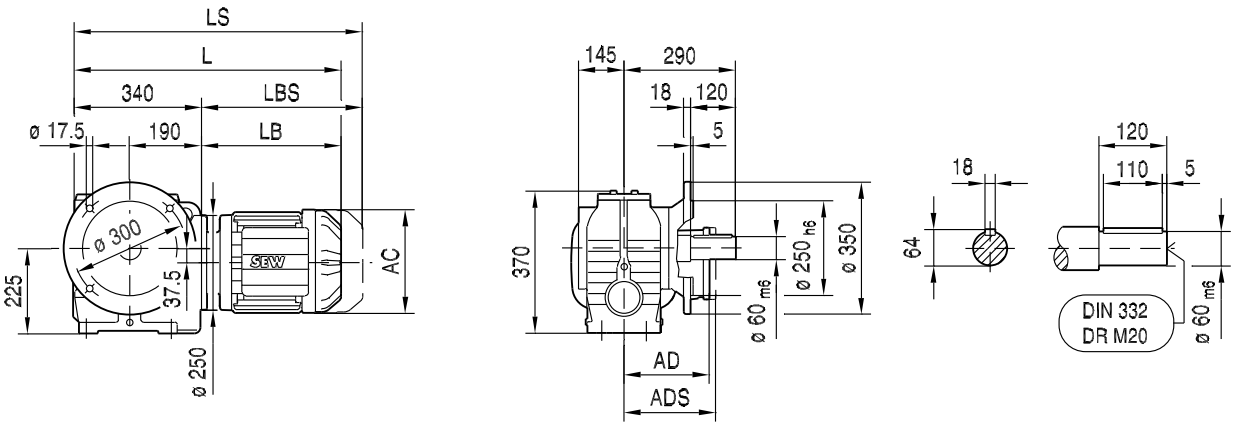




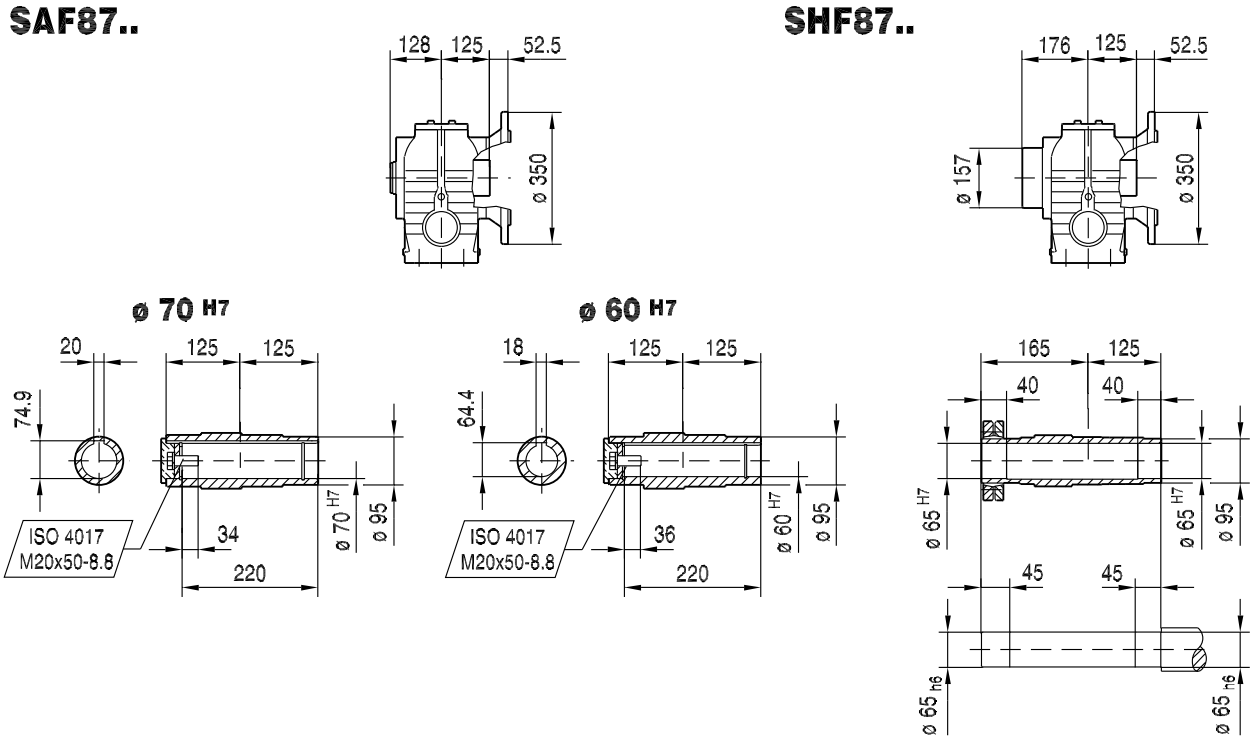
(→ 177)	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L
AC	179	179	197	197	221	221	261	261	314	314
AD	140	140	157	157	170	170	228	228	253	253
ADS	150	150	158	158	172	172	228	228	253	253
L	605	637	633	683	714	764	782	808	874	874
LS	698	730	727	777	826	876	920	945	1063	1063
LB	265	297	293	343	374	424	442	468	534	534
LBS	358	390	387	437	486	536	580	605	723	723

02 033 00 14

SF87..



SAF87..



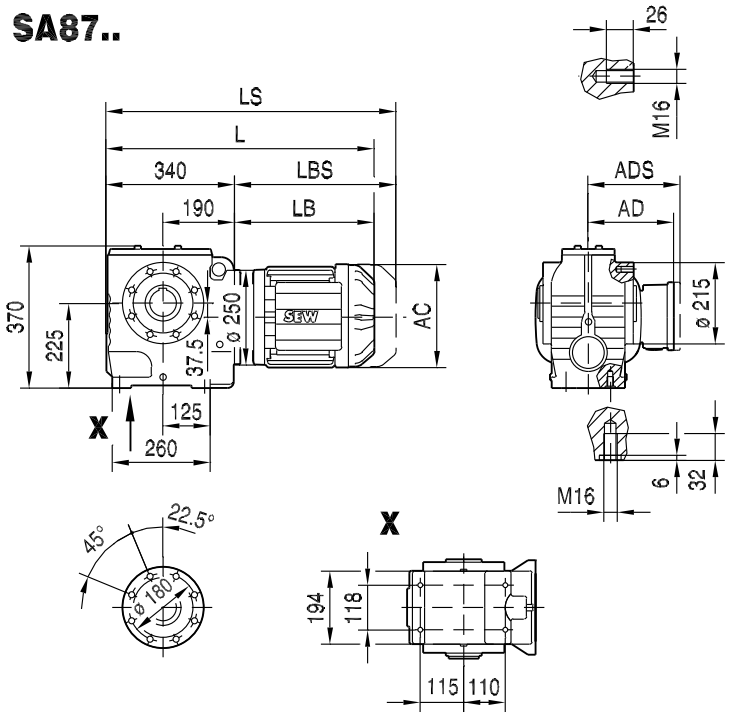
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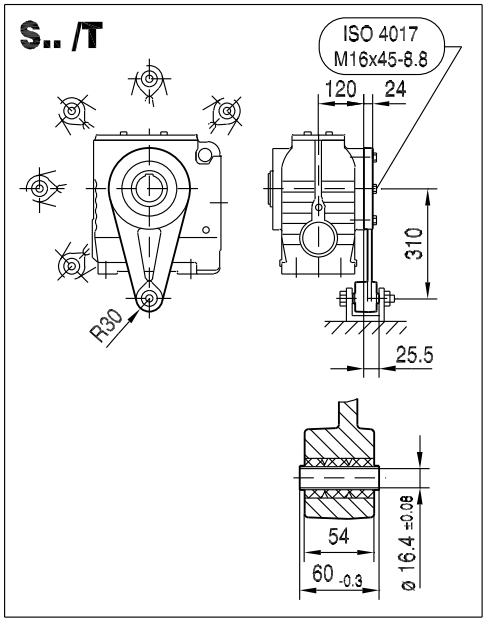
(→ 177)	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L
AC	179	179	197	197	221	221	261	261	314	314
AD	140	140	157	157	170	170	228	228	253	253
ADS	150	150	158	158	172	172	228	228	253	253
L	605	637	633	683	714	764	782	808	874	874
LS	698	730	727	777	826	876	920	945	1063	1063
LB	265	297	293	343	374	424	442	468	534	534
LBS	358	390	387	437	486	536	580	605	723	723

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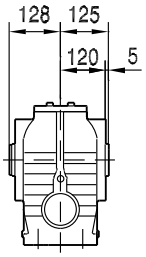
02 034 00 14

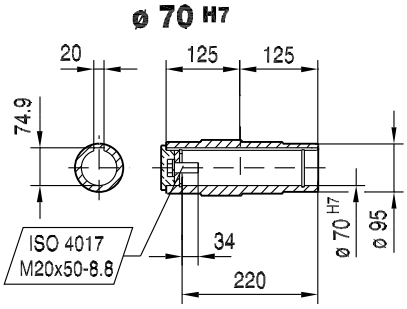
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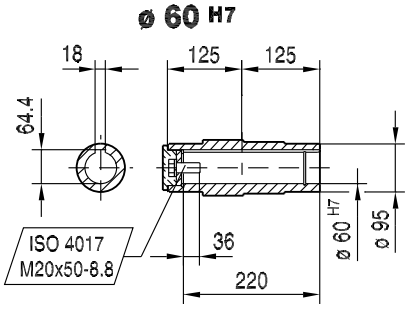




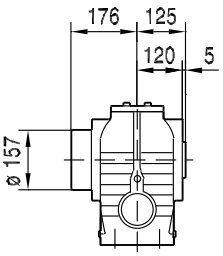
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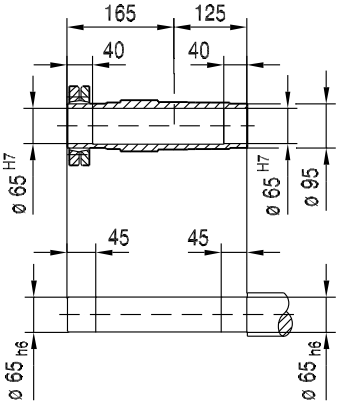






SH87..

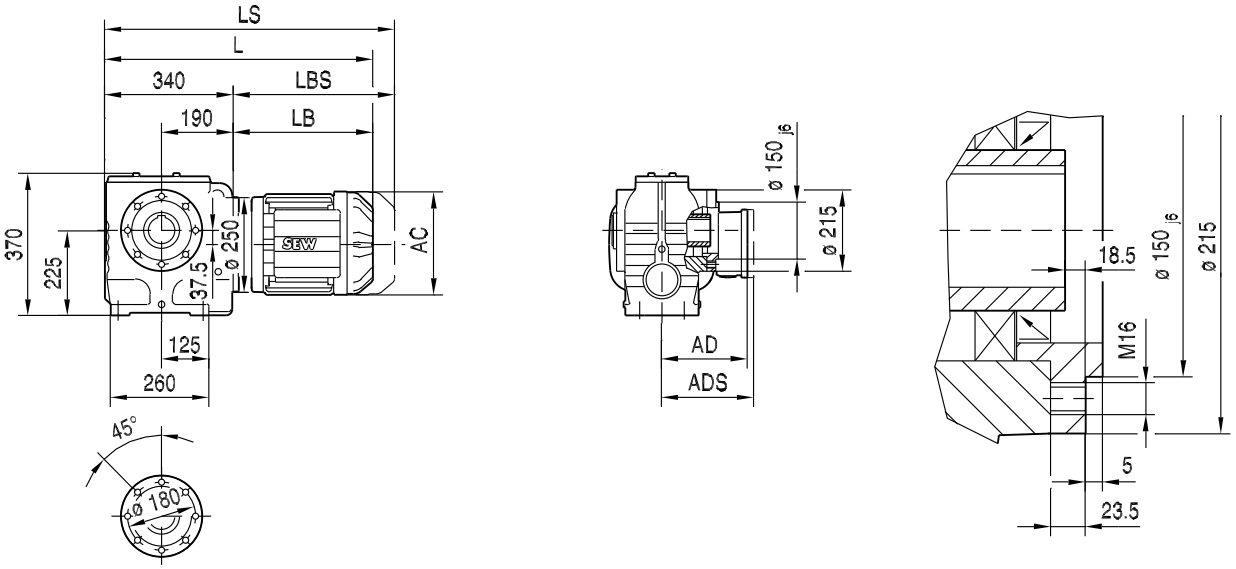




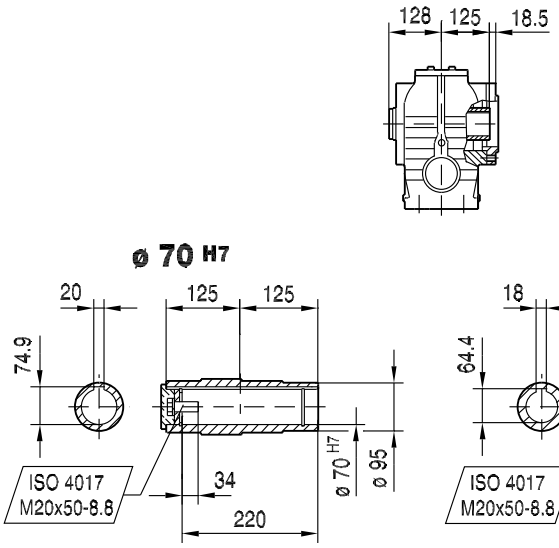
(→ 177)	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L
AC	179	179	197	197	221	221	261	261	314	314
AD	140	140	157	157	170	170	228	228	253	253
ADS	150	150	158	158	172	172	228	228	253	253
L	605	637	633	683	714	764	782	808	874	874
LS	698	730	727	777	826	876	920	945	1063	1063
LB	265	297	293	343	374	424	442	468	534	534
LBS	358	390	387	437	486	536	580	605	723	723

02 035 00 14

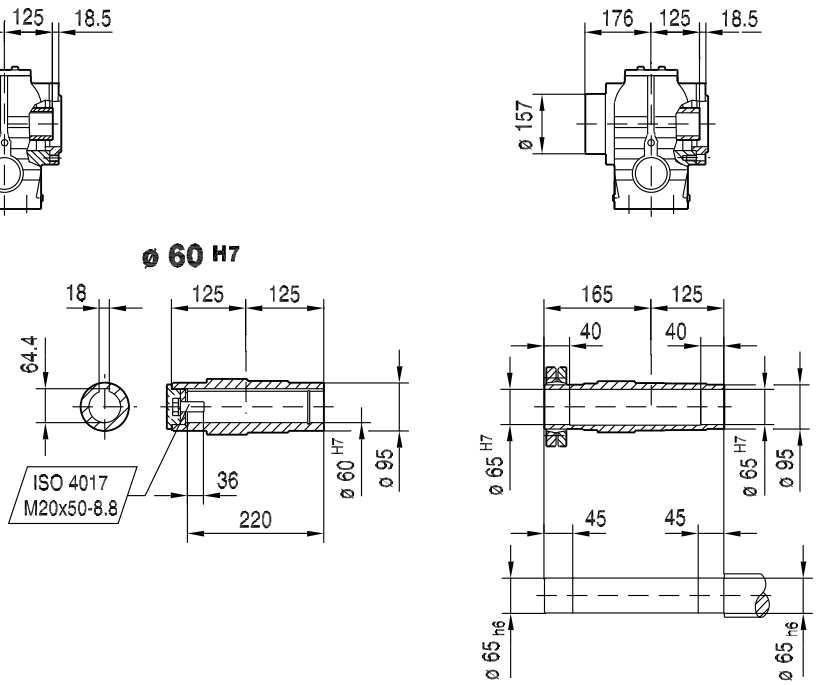
SAZ87..



SAZ87..

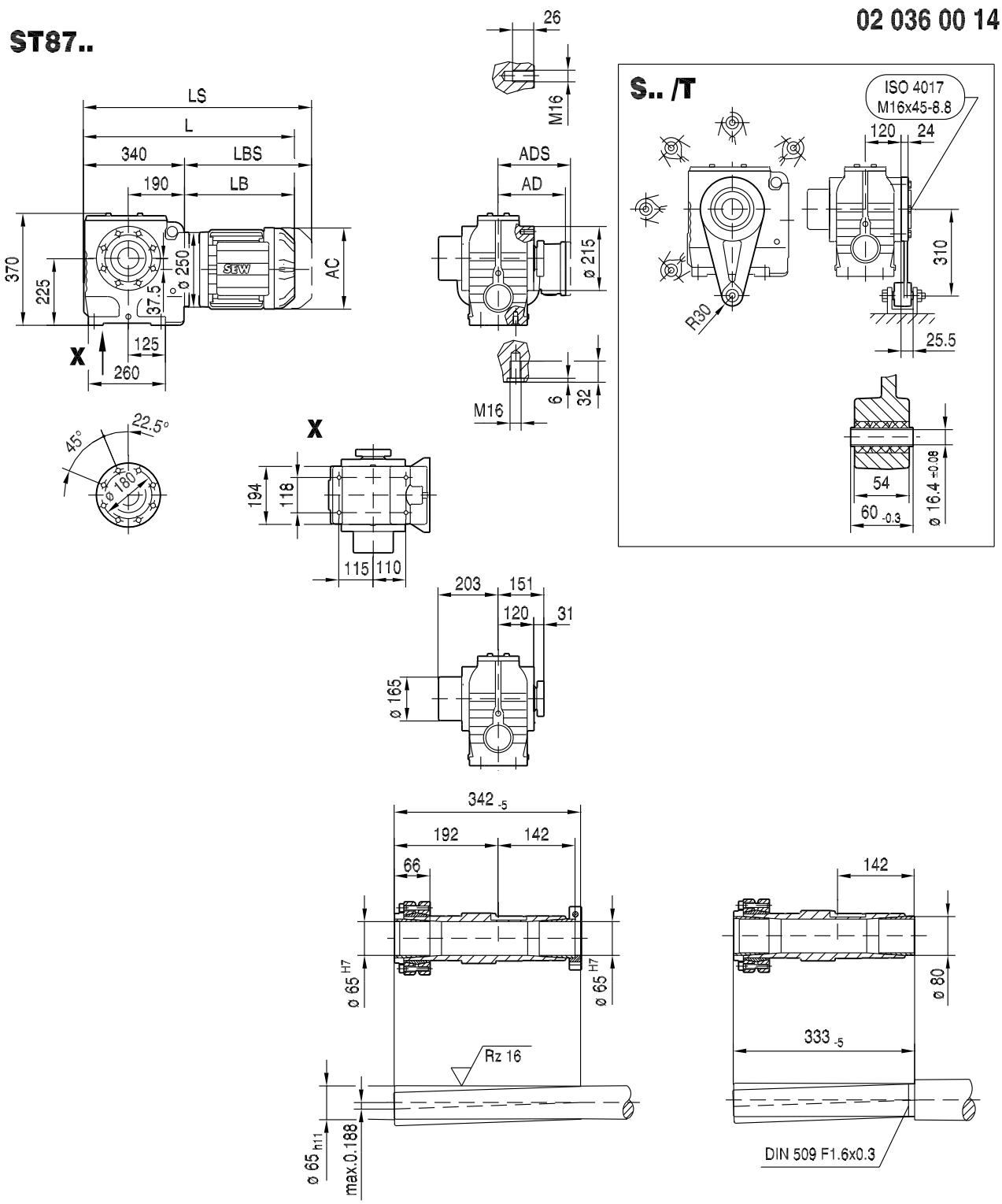


SHZ87..



(→ 177)	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L
AC	179	179	197	197	221	221	261	261	314	314
AD	140	140	157	157	170	170	228	228	253	253
ADS	150	150	158	158	172	172	228	228	253	253
L	605	637	633	683	714	764	782	808	874	874
LS	698	730	727	777	826	876	920	945	1063	1063
LB	265	297	293	343	374	424	442	468	534	534
LBS	358	390	387	437	486	536	580	605	723	723

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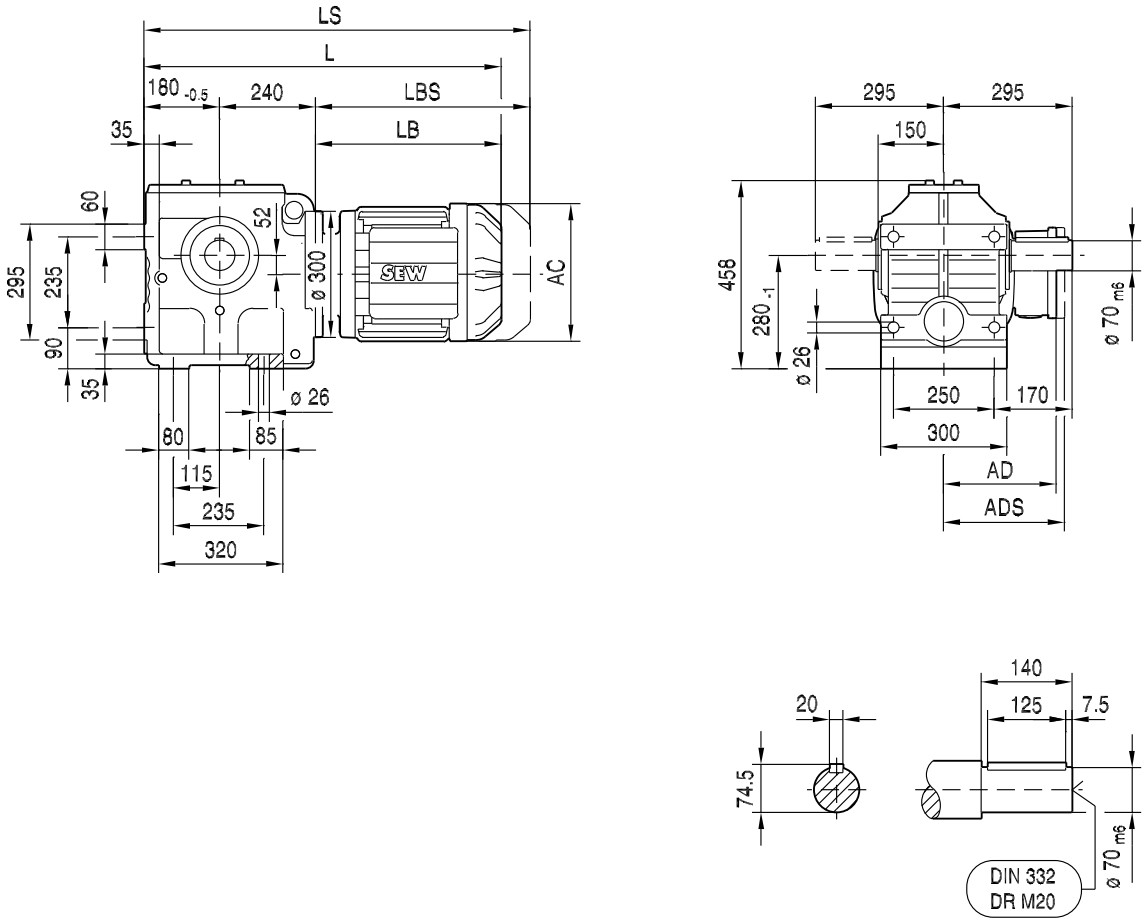


(→ 177)	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L
AC	179	179	197	197	221	221	261	261	314	314
AD	140	140	157	157	170	170	228	228	253	253
ADS	150	150	158	158	172	172	228	228	253	253
L	605	637	633	683	714	764	782	808	874	874
LS	698	730	727	777	826	876	920	945	1063	1063
LB	265	297	293	343	374	424	442	468	534	534
LBS	358	390	387	437	486	536	580	605	723	723

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02 037 00 14

S97..

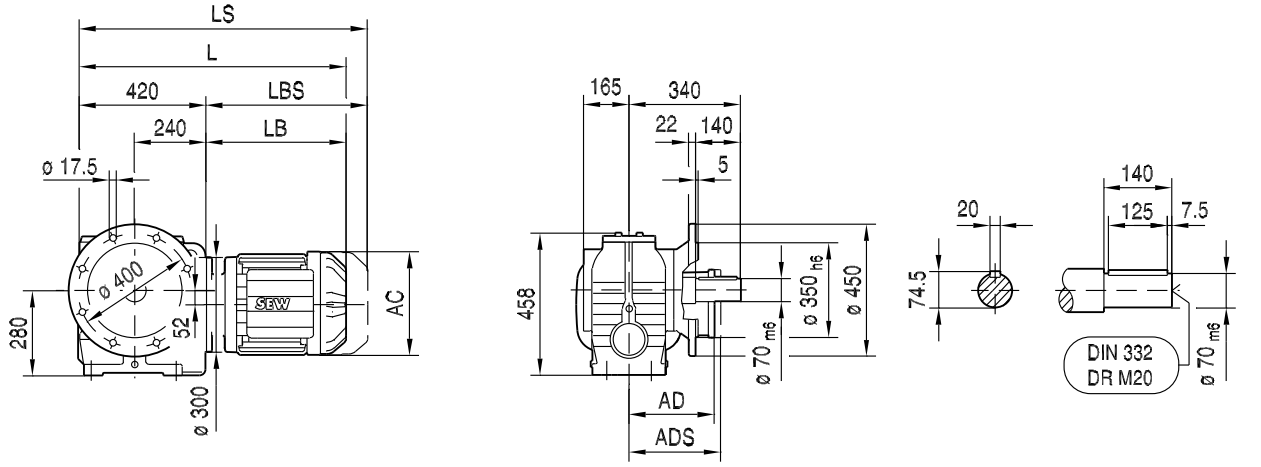


(→ 177)	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	179	197	197	221	221	261	261	314	314	357
AD	140	157	157	170	170	228	228	253	253	268
ADS	150	158	158	172	172	228	228	253	253	268
L	712	708	758	789	839	857	883	949	949	972
LS	805	802	852	901	951	995	1020	1138	1138	1161
LB	292	288	338	369	419	437	463	529	529	552
LBS	385	382	432	481	531	575	600	718	718	741

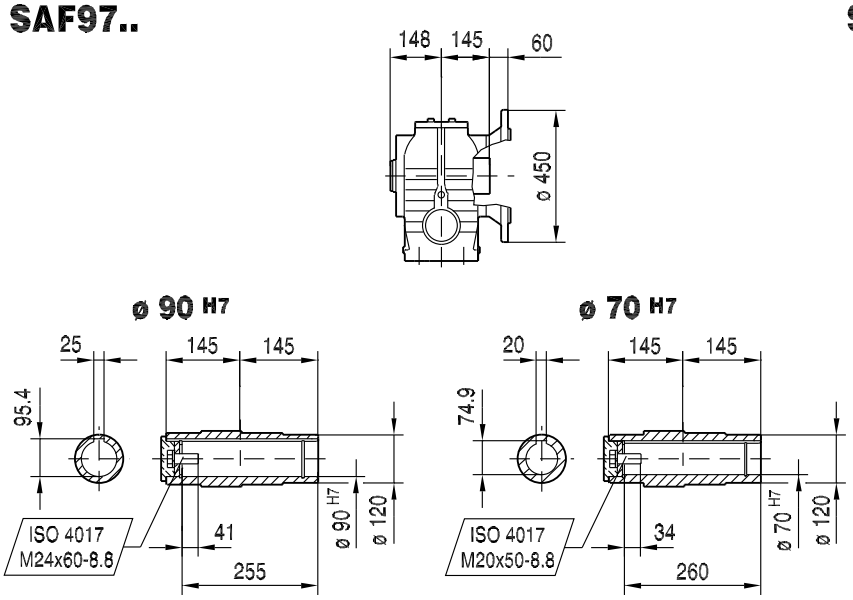
22742654/EN – 08/2016

SF97..

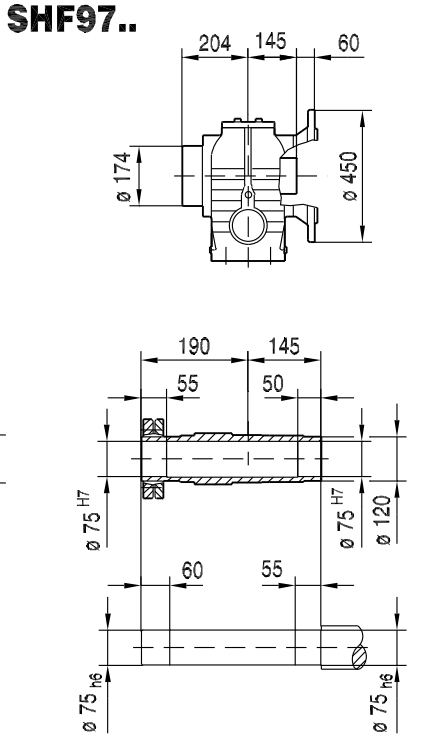
02 038 00 14



SAF97..



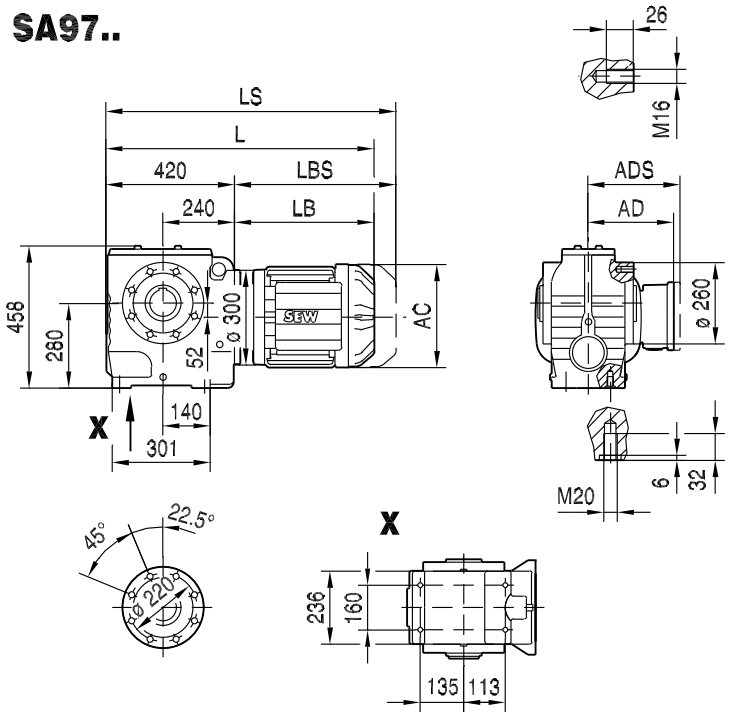
SHF97..



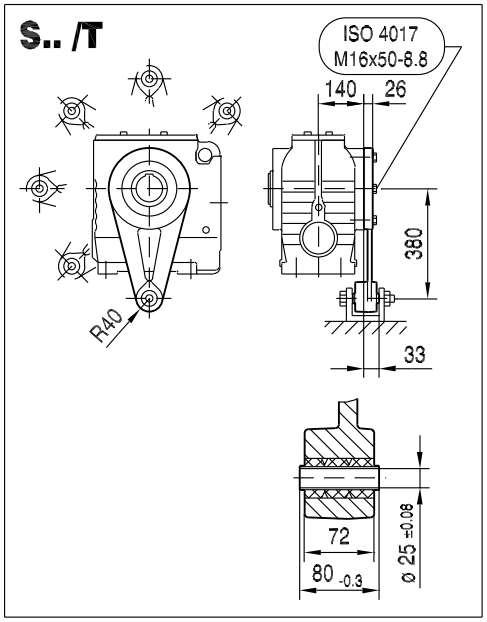
(→ 177)	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	179	197	197	221	221	261	261	314	314	357
AD	140	157	157	170	170	228	228	253	253	268
ADS	150	158	158	172	172	228	228	253	253	268
L	712	708	758	789	839	857	883	949	949	972
LS	805	802	852	901	951	995	1020	1138	1138	1161
LB	292	288	338	369	419	437	463	529	529	552
LBS	385	382	432	481	531	575	600	718	718	741

02 039 00 14

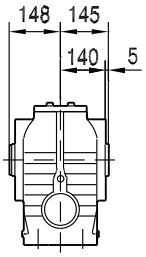
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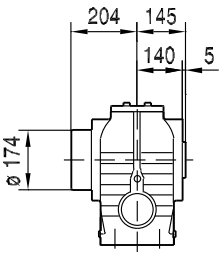
S.. /T

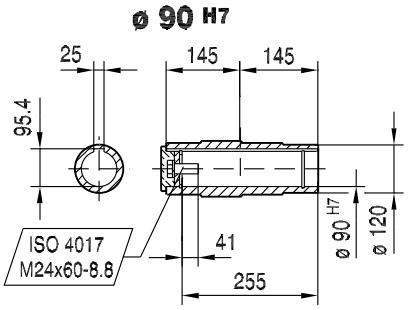


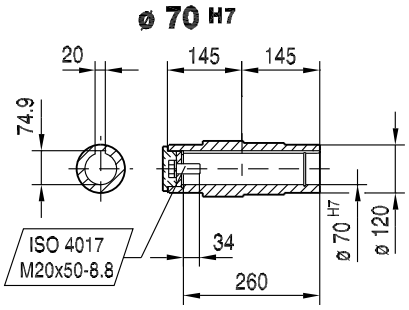
SA97..

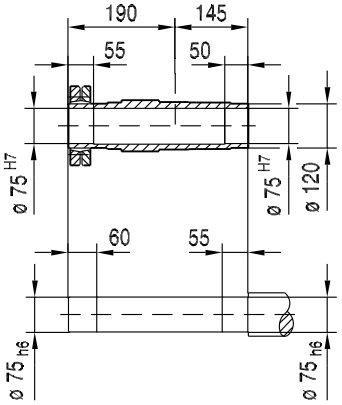


SH97..







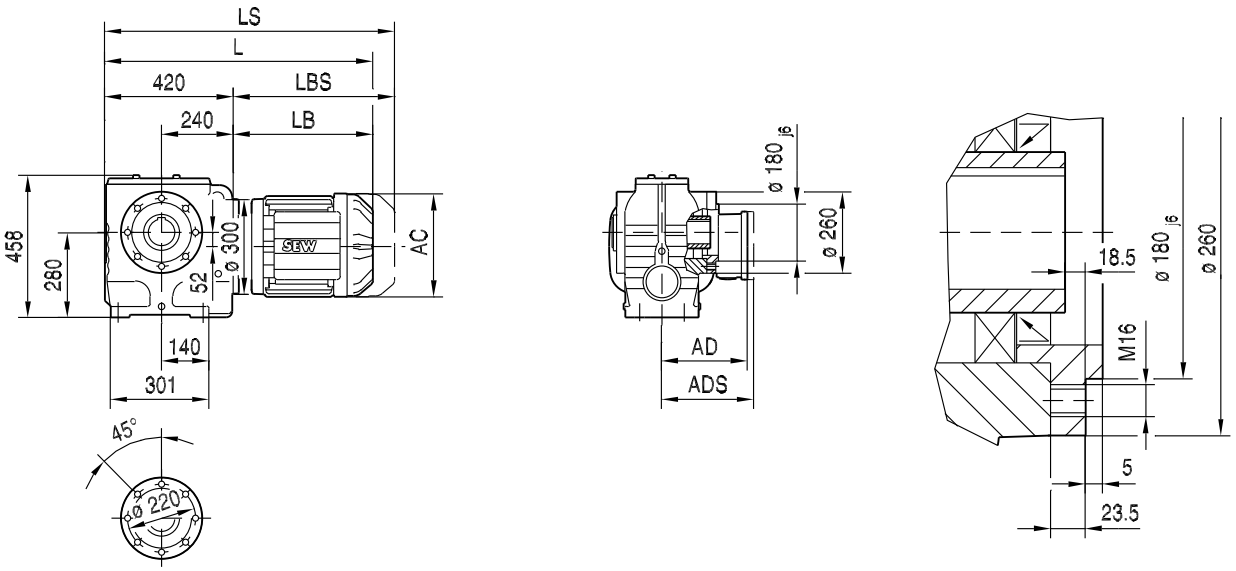


(→ 177)	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	179	197	197	221	221	261	261	314	314	357
AD	140	157	157	170	170	228	228	253	253	268
ADS	150	158	158	172	172	228	228	253	253	268
L	712	708	758	789	839	857	883	949	949	972
LS	805	802	852	901	951	995	1020	1138	1138	1161
LB	292	288	338	369	419	437	463	529	529	552
LBS	385	382	432	481	531	575	600	718	718	741

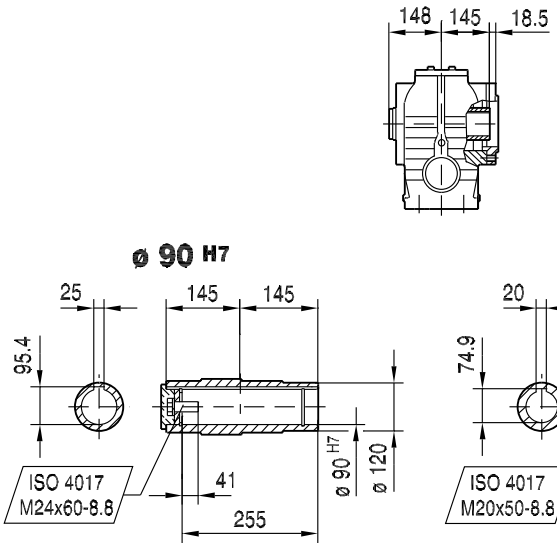
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02 040 00 14

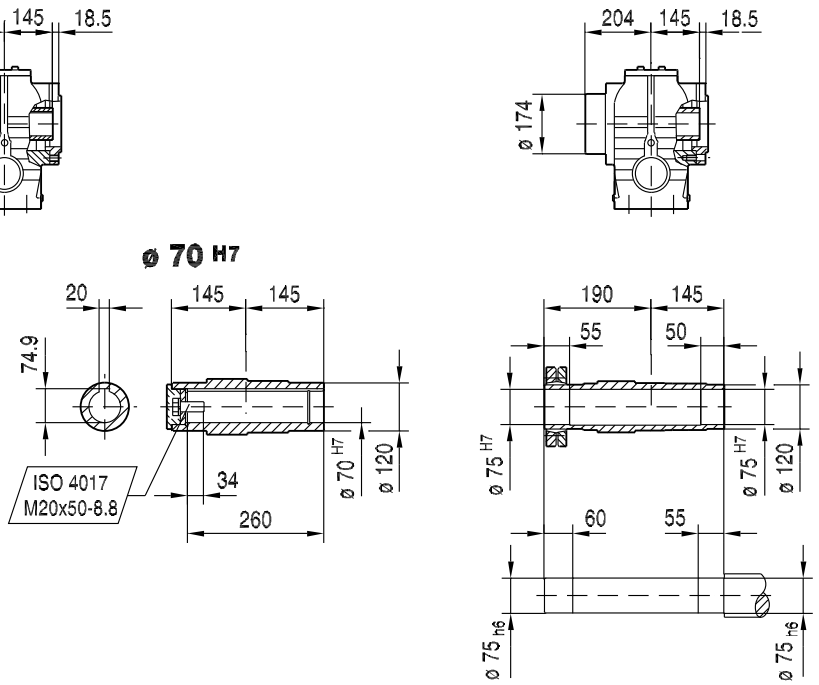
SAZ97..



SAZ97..

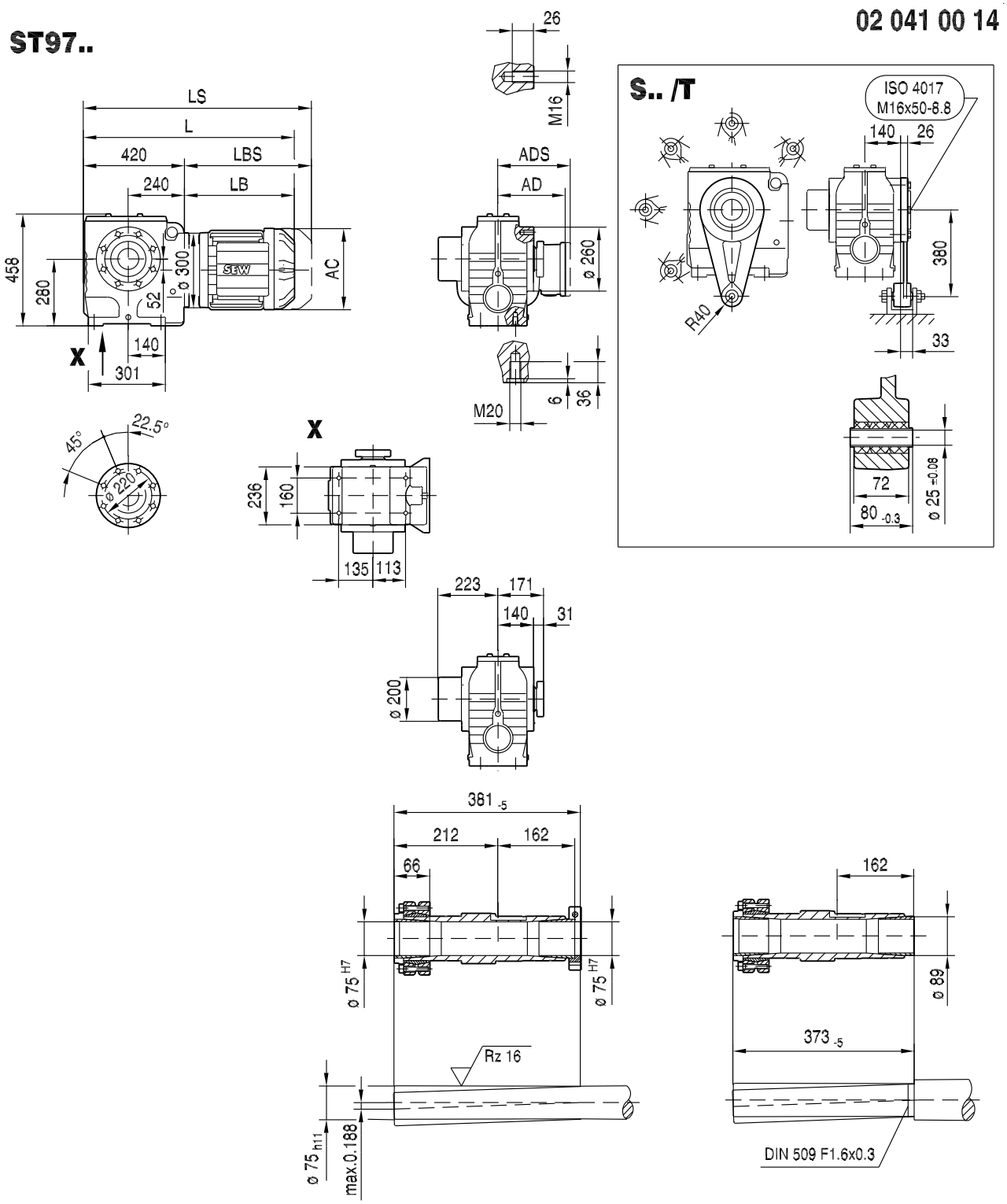


SHZ97..



(→ 177)	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	179	197	197	221	221	261	261	314	314	357
AD	140	157	157	170	170	228	228	253	253	268
ADS	150	158	158	172	172	228	228	253	253	268
L	712	708	758	789	839	857	883	949	949	972
LS	805	802	852	901	951	995	1020	1138	1138	1161
LB	292	288	338	369	419	437	463	529	529	552
LBS	385	382	432	481	531	575	600	718	718	741

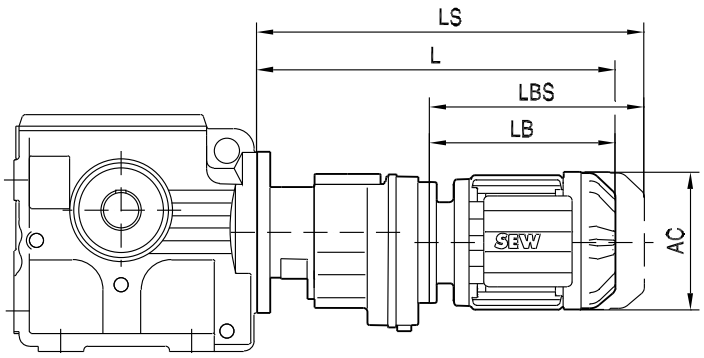
02 041 00 14



(→ 177)	DRN90L	DRN100LS	DRN100L	DRN112M	DRN132S	DRN132M	DRN132L	DRN160M	DRN160L	DRN180..
AC	179	197	197	221	221	261	261	314	314	357
AD	140	157	157	170	170	228	228	253	253	268
ADS	150	158	158	172	172	228	228	253	253	268
L	712	708	758	789	839	857	883	949	949	972
LS	805	802	852	901	951	995	1020	1138	1138	1161
LB	292	288	338	369	419	437	463	529	529	552
LBS	385	382	432	481	531	575	600	718	718	741

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02 080 00 06



(→ 177)		AC	L	LS	LB	LBS
S..37R17	**DR63..**	132	324	379	149	204
S..47R17	**DR63..**	132	324	379	149	204
	DR71S	139	335	403	160	228
S..57R17	**DR63..**	132	324	379	149	204
	DR71S	139	335	403	160	228
	DR71M	139	360	428	185	253
S..67R37	**DR63..**	132	356	411	191	246
	DR71S	139	367	434	202	269
	DR71M	139	392	459	227	294
	DRN80M	156	446	527	281	362
	DRN90S	179	448	541	283	376
S..77R37	**DR63..**	132	348	403	191	246
	DR71S	139	359	426	202	269
	DR71M	139	384	451	227	294
	DRN80M	156	438	519	281	362
	DRN90S	179	440	533	283	376
	DRN90L	179	472	565	315	408
S..87R57	**DR63..**	132	412	467	185	240
	DR71S	139	423	491	196	264
	DR71M	139	448	516	221	289
	DRN80M	156	502	583	275	356
	DRN90S	179	504	597	277	370
	DRN90L	179	536	629	309	402
	DRN100LS	197	533	626	305	398
S..97R57	**DR63..**	132	407	462	185	240
	DR71S	139	418	486	196	264
	DR71M	139	443	511	221	289
	DRN80M	156	497	578	275	356
	DRN90S	179	499	592	277	370
	DRN90L	179	531	624	309	402
	DRN100LS	197	528	621	305	398
	DRN100L	197	578	671	355	448
	DRN112M	221	608	720	386	498

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11.5 Technical data S. SF. SA. SAF 37

3400 - 2800 min^{-1}

i_{tot}	i_s	n_e = 3400 min^{-1}				n_e = 3200 min^{-1}				n_e = 2800 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
157.43	38/1	22	78	0.31	57	20	80	0.30	57	18	82	0.27	57
144.40		24	76	0.33	58	22	78	0.31	58	19	80	0.28	57
122.94		28	74	0.37	58	26	75	0.35	58	23	78	0.32	58
106.00		32	71	0.41	59	30	72	0.39	59	26	76	0.36	59
98.80		34	70	0.43	59	32	72	0.41	59	28	75	0.38	59
86.36		39	68	0.47	60	37	69	0.45	60	32	72	0.41	60
80.96		42	66	0.49	60	40	68	0.47	60	35	72	0.43	60
71.44		48	55	0.47	58	45	64	0.50	60	39	70	0.47	61
63.33		54	37	0.41	51	51	51	0.47	57	44	67	0.51	61
53.83		63	29	0.39	49	59	32	0.40	50	52	53	0.49	59
55.93	27/2	61	70	0.58	77	57	71	0.56	76	50	72	0.50	76
51.30		66	68	0.61	77	62	70	0.60	77	55	72	0.54	76
43.68		78	66	0.70	77	73	67	0.67	77	64	70	0.61	77
37.66		90	64	0.78	78	85	65	0.74	78	74	68	0.68	78
35.10		97	62	0.81	78	91	64	0.78	78	80	66	0.71	78
30.68		111	61	0.90	78	104	62	0.87	78	91	64	0.78	78
28.76		118	58	0.92	78	111	61	0.91	78	97	64	0.83	78
25.38		134	47	0.86	77	126	53	0.90	78	110	62	0.91	79
22.50		151	31	0.69	71	142	43	0.84	76	124	57	0.94	79
19.13		178	24	0.65	69	167	27	0.67	70	146	44	0.87	77
19.89	24/5	171	42	0.88	86	161	43	0.85	86	141	44	0.76	86
18.24		186	41	0.93	86	175	42	0.90	86	154	44	0.83	86
15.53		219	39	1.0	86	206	40	1.0	86	180	42	0.92	86
13.39		254	37	1.1	86	239	39	1.1	86	209	41	1.0	86
12.48		272	37	1.2 *	86	256	38	1.2 *	86	224	40	1.1	86
10.91		312	35	1.3 *	86	293	36	1.3 *	86	257	39	1.2 *	87
10.23		332	35	1.4 *	87	313	36	1.4 *	87	274	38	1.3 *	87
9.02		377	31	1.4 *	86	355	34	1.5 *	87	310	36	1.3 *	87
8.00		425	20	1.1	82	400	29	1.4 *	86	350	35	1.5 *	87
6.80		500	16	1.0	81	471	18	1.1	82	412	29	1.4 *	86
6.33	19/5	537	24	1.5 *	87	506	27	1.6 *	88	442	32	1.7 *	88
5.38		632	20	1.5 *	87	595	22	1.6 *	87	520	26	1.6 *	88
4.86		700	18	1.5 *	87	658	19	1.5 *	87	576	24	1.6 *	88
3.97		856	14	1.5 *	86	806	15	1.5 *	87	705	19	1.6 *	88

* P_{emax} = 1.1 kW

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2200 - 1400 min^{-1}

i_{tot}	i_s	n_e = 2200 min^{-1}				n_e = 1700 min^{-1}				n_e = 1400 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
157.43	38/1	14	87	0.23	56	11	91	0.19	54	8.9	92	0.16	53
144.40		15	86	0.24	56	12	90	0.20	55	9.7	92	0.17	54
122.94		18	83	0.27	57	14	87	0.22	56	11	91	0.20	55
106.00		21	81	0.30	58	16	86	0.25	57	13	88	0.22	56
98.80		22	80	0.32	58	17	85	0.27	57	14	87	0.23	56
86.36		25	78	0.35	59	20	82	0.29	58	16	86	0.25	57
80.96		27	77	0.37	60	21	82	0.31	59	17	85	0.27	58
71.44		31	75	0.40	60	24	80	0.33	60	20	84	0.29	59
63.33		35	73	0.44	61	27	79	0.37	60	22	82	0.32	60
53.83		41	69	0.48	62	32	76	0.41	61	26	80	0.36	61
55.93	27/2	39	77	0.42	75	30	81	0.35	74	25	81	0.29	73
51.30		43	76	0.45	76	33	80	0.37	75	27	81	0.31	74
43.68		50	74	0.51	76	39	78	0.42	76	32	81	0.36	75
37.66		58	72	0.57	77	45	76	0.47	76	37	79	0.41	76
35.10		63	71	0.60	77	48	75	0.50	77	40	78	0.43	76
30.68		72	70	0.67	78	55	73	0.55	77	46	76	0.47	76
28.76		76	68	0.70	78	59	73	0.58	77	49	75	0.50	77
25.38		87	67	0.77	79	67	71	0.64	78	55	74	0.55	77
22.50		98	66	0.85	79	76	70	0.70	79	62	73	0.61	78
19.13		115	63	0.95	80	89	68	0.80	79	73	71	0.69	79
19.89	24/5	111	48	0.65	85	85	50	0.53	85	70	52	0.46	84
18.24		121	47	0.70	85	93	49	0.56	85	77	52	0.50	84
15.53		142	45	0.78	86	109	48	0.64	85	90	50	0.56	85
13.39		164	44	0.88	86	127	47	0.73	86	105	49	0.63	85
12.48		176	43	0.92	86	136	46	0.76	86	112	48	0.66	86
10.91		202	42	1.0	87	156	45	0.85	86	128	48	0.75	86
10.23		215	41	1.1	87	166	45	0.90	87	137	47	0.78	86
9.02		244	40	1.2 *	87	188	43	0.98	87	155	46	0.86	87
8.00		275	39	1.3 *	87	213	43	1.1	87	175	45	0.95	87
6.80		324	37	1.4 *	88	250	41	1.2 *	88	206	43	1.1	87
6.33	19/5	348	35	1.4 *	88	269	35	1.1	88	221	35	0.93	87
5.38		409	34	1.6 *	88	316	34	1.3 *	88	260	34	1.1	88
4.86		453	32	1.7 *	89	350	33	1.4 *	88	288	33	1.1	88
3.97		554	26	1.7 *	88	428	32	1.6 *	89	353	32	1.3 *	88

* P_{emax} = 1.1 kW

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1100 - 700 min^{-1}

i_{tot}	i_s	n_e = 1100 min^{-1}				n_e = 900 min^{-1}				n_e = 700 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
157.43	38/1	7.0	92	0.13	52	5.7	92	0.11	50	4.4	92	0.09	49
144.40		7.6	92	0.14	52	6.2	92	0.12	51	4.8	92	0.09	50
122.94		8.9	92	0.16	54	7.3	92	0.14	52	5.7	92	0.11	51
106.00		10	92	0.18	55	8.5	92	0.15	53	6.6	92	0.12	52
98.80		11	92	0.19	55	9.1	92	0.16	54	7.1	92	0.13	52
86.36		13	90	0.21	56	10	92	0.18	55	8.1	92	0.15	53
80.96		14	89	0.22	57	11	92	0.19	55	8.6	92	0.16	54
71.44		15	87	0.24	57	13	91	0.21	56	9.8	92	0.17	55
63.33		17	86	0.27	58	14	89	0.23	57	11	92	0.19	56
53.83		20	84	0.30	60	17	87	0.26	58	13	91	0.22	57
55.93	27/2	20	87	0.25	72	16	91	0.21	71	13	92	0.17	70
51.30		21	87	0.27	73	18	90	0.23	72	14	92	0.19	71
43.68		25	84	0.30	74	21	87	0.26	73	16	92	0.22	71
37.66		29	82	0.34	75	24	86	0.29	74	19	89	0.24	72
35.10		31	82	0.36	75	26	84	0.31	74	20	88	0.25	73
30.68		36	80	0.40	76	29	82	0.34	75	23	87	0.28	74
28.76		38	79	0.42	76	31	82	0.36	75	24	86	0.30	74
25.38		43	78	0.46	77	35	81	0.40	76	28	84	0.33	75
22.50		49	77	0.51	77	40	79	0.43	76	31	82	0.36	75
19.13		58	75	0.58	78	47	78	0.50	77	37	81	0.41	76
19.89	24/5	55	55	0.38	83	45	58	0.33	83	35	60	0.27	82
18.24		60	54	0.41	84	49	56	0.35	83	38	60	0.29	82
15.53		71	53	0.47	84	58	55	0.40	84	45	58	0.33	83
13.39		82	52	0.53	85	67	54	0.45	84	52	56	0.37	83
12.48		88	51	0.55	85	72	53	0.47	84	56	55	0.39	84
10.91		101	50	0.62	86	82	52	0.53	85	64	54	0.43	84
10.23		108	49	0.64	86	88	51	0.55	85	68	54	0.46	84
9.02		122	48	0.71	86	100	50	0.61	86	78	53	0.51	85
8.00		138	47	0.78	87	113	49	0.67	86	88	52	0.56	85
6.80		162	46	0.90	87	132	48	0.77	87	103	51	0.64	86
6.33	19/5	174	45	0.94	87	142	45	0.77	87	111	45	0.61	86
5.38		204	43	1.1	88	167	43	0.86	87	130	43	0.68	87
4.86		226	42	1.1	88	185	42	0.93	88	144	42	0.73	87
3.97		277	40	1.3 *	88	227	40	1.1	88	176	40	0.84	88

* P_{emax} = 1.1 kW

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500 - 10 min^{-1}

i_{tot}	i_s	n_e = 500 min^{-1}				n_e = 250 min^{-1}				n_e = 10 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
157.43	38/1	3.2	92	0.06	47	1.6	92	0.033	46	0.06	92	< 0.05	26
144.40		3.5	92	0.07	48	1.7	92	0.036	46	0.07	92	< 0.05	27
122.94		4.1	92	0.08	49	2.0	92	0.042	46	0.08	92	< 0.05	29
106.00		4.7	92	0.09	50	2.4	92	0.049	47	0.09	92	< 0.05	30
98.80		5.1	92	0.10	50	2.5	92	0.05	47	0.10	92	< 0.05	31
86.36		5.8	92	0.11	51	2.9	92	0.06	47	0.12	92	< 0.05	32
80.96		6.2	92	0.12	51	3.1	92	0.06	47	0.12	92	< 0.05	33
71.44		7.0	92	0.13	52	3.5	92	0.07	48	0.14	92	< 0.05	35
63.33		7.9	92	0.14	53	3.9	92	0.08	49	0.16	92	< 0.05	37
53.83		9.3	92	0.16	55	4.6	92	0.09	50	0.19	92	< 0.05	39
55.93	27/2	8.9	92	0.13	69	4.5	92	0.06	67	0.18	92	< 0.05	48
51.30		9.7	92	0.14	69	4.9	92	0.07	67	0.19	92	< 0.05	49
43.68		11	92	0.16	70	5.7	92	0.08	67	0.23	92	< 0.05	51
37.66		13	92	0.18	71	6.6	92	0.10	67	0.27	92	< 0.05	53
35.10		14	92	0.19	71	7.1	92	0.10	68	0.28	92	< 0.05	54
30.68		16	92	0.22	72	8.1	92	0.11	68	0.33	92	< 0.05	56
28.76		17	91	0.23	72	8.7	92	0.12	69	0.35	92	< 0.05	57
25.38		20	89	0.25	73	9.9	92	0.14	69	0.39	92	< 0.05	59
22.50		22	87	0.28	74	11	92	0.15	70	0.44	92	< 0.05	61
19.13		26	85	0.31	75	13	92	0.18	71	0.52	92	< 0.05	62
19.89	24/5	25	68	0.22	81	13	72	0.12	79	0.50	72	< 0.05	65
18.24		27	66	0.23	81	14	72	0.13	79	0.55	72	< 0.05	66
15.53		32	63	0.26	82	16	72	0.15	79	0.64	72	< 0.05	68
13.39		37	61	0.29	82	19	72	0.18	80	0.75	72	< 0.05	71
12.48		40	59	0.30	82	20	72	0.19	80	0.80	72	< 0.05	72
10.91		46	58	0.34	83	23	71	0.21	81	0.92	71	< 0.05	73
10.23		49	57	0.35	83	24	70	0.22	81	0.98	70	< 0.05	73
9.02		55	56	0.39	84	28	66	0.24	81	1.1	66	< 0.05	74
8.00		63	55	0.43	84	31	63	0.25	82	1.2	63	< 0.05	74
6.80		74	54	0.49	85	37	61	0.29	82	1.5	61	< 0.05	75
6.33	19/5	79	45	0.44	85	39	45	0.23	83	1.6	45	<0.05	80
5.38		93	43	0.49	86	46	43	0.25	83	1.9	43	<0.05	80
4.86		103	42	0.53	86	51	42	0.27	84	2.1	42	<0.05	80
3.97		126	40	0.61	87	63	40	0.31	84	2.5	40	<0.05	80

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11.6 Technical data S. SF. SA. SAF 47

3400 - 2800 min^{-1}

i_{tot}	i_s	n_e = 3400 min^{-1}				n_e = 3200 min^{-1}				n_e = 2800 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
201.00	42/1	17	150	0.44	60	16	150	0.42	60	14	150	0.37	59
184.80		18	150	0.48	60	17	150	0.45	60	15	150	0.40	59
158.12		22	150	0.55	61	20	150	0.52	61	18	150	0.46	60
137.05		25	150	0.63	62	23	150	0.59	62	20	150	0.52	61
128.10		27	150	0.67	63	25	150	0.63	62	22	150	0.56	62
110.73		31	138	0.70	63	29	148	0.71	63	25	150	0.63	63
94.08		36	113	0.69	62	34	123	0.70	63	30	146	0.72	63
84.00		40	95	0.66	61	38	107	0.69	62	33	130	0.71	63
71.75		47	58	0.55	53	45	82	0.64	60	39	107	0.70	63
67.20		51	53	0.54	52	48	68	0.60	57	42	99	0.69	62
56.61		60	40	0.51	49	57	46	0.53	51	49	75	0.65	60
69.39	29/2	49	140	0.91	79	46	140	0.86	78	40	140	0.76	78
63.80		53	140	0.99	79	50	140	0.93	79	44	140	0.82	78
54.59		62	140	1.1	80	59	140	1.1	79	51	140	0.95	79
47.32		72	139	1.3	80	68	140	1.2	80	59	140	1.1	80
44.22		77	129	1.3	80	72	139	1.3	80	63	140	1.2	80
38.23		89	112	1.3	80	84	120	1.3	80	73	139	1.3	80
32.48		105	91	1.3	79	99	100	1.3	80	86	117	1.3	80
29.00		117	76	1.2	78	110	86	1.3	79	97	104	1.3	80
24.77		137	47	0.94	72	129	66	1.2	77	113	87	1.3	80
23.20		147	42	0.90	71	138	54	1.0	75	121	79	1.3	79
19.54		174	32	0.84	69	164	37	0.89	71	143	59	1.1	77
20.33	27/5	167	100	2.0 *	88	157	100	1.9 *	88	138	100	1.6 *	88
17.62		193	97	2.2 *	88	182	100	2.2 *	88	159	100	1.9 *	88
16.47		206	90	2.2 *	88	194	97	2.2 *	88	170	100	2.0 *	88
14.24		239	78	2.2 *	88	225	83	2.2 *	88	197	97	2.3 *	88
12.10		281	63	2.1 *	88	264	69	2.2 *	88	231	82	2.2 *	88
10.80		315	53	2.0 *	87	296	60	2.1 *	88	259	72	2.2 *	88
9.23		368	32	1.5	83	347	45	1.9 *	86	303	60	2.2 *	88
8.64		394	29	1.5	82	370	37	1.7 *	85	324	55	2.1 *	88
7.28		467	22	1.3	81	440	25	1.4	82	385	41	1.9 *	86
6.83	20/5	498	34	2.0 *	87	469	37	2.1 *	88	410	45	2.2 *	88
6.4		531	31	2.0 *	87	500	34	2.0 *	87	438	42	2.2 *	88
5.39		631	24	1.8 *	86	594	27	1.9 *	87	519	34	2.1 *	88
4.76		714	20	1.8 *	85	672	23	1.9 *	86	588	29	2.0 *	87
4		850	16	1.7 *	85	800	18	1.8 *	85	700	23	1.9 *	87

* P_{emax} = 1.5 kW

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2200 - 1400 min^{-1}

i_{tot}	i_s	n_e = 2200 min^{-1}				n_e = 1700 min^{-1}				n_e = 1400 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
201.00	42/1	11	167	0.33	58	8.5	170	0.27	56	7.0	170	0.23	55
184.80		12	167	0.36	58	9.2	168	0.29	57	7.6	170	0.24	56
158.12		14	167	0.41	60	11	168	0.33	58	8.9	170	0.28	57
137.05		16	165	0.46	60	12	167	0.37	59	10	168	0.31	58
128.10		17	165	0.49	61	13	167	0.39	59	11	168	0.33	58
110.73		20	165	0.55	62	15	167	0.44	61	13	168	0.38	59
94.08		23	165	0.64	63	18	167	0.51	62	15	168	0.43	60
84.00		26	162	0.70	64	20	167	0.57	62	17	167	0.48	61
71.75		31	145	0.73	64	24	167	0.65	63	20	167	0.55	62
67.20		33	137	0.73	64	25	164	0.68	64	21	167	0.58	63
56.61		39	115	0.73	64	30	152	0.74	65	25	165	0.67	64
69.39	29/2	32	155	0.67	77	24	155	0.52	76	20	155	0.44	75
63.80		34	155	0.72	77	27	155	0.57	76	22	155	0.47	75
54.59		40	155	0.84	78	31	155	0.66	77	26	155	0.55	76
47.32		46	155	0.96	79	36	155	0.75	78	30	155	0.63	77
44.22		50	155	1.0	79	38	155	0.80	78	32	155	0.67	77
38.23		58	154	1.2	80	44	155	0.92	79	37	155	0.76	78
32.48		68	146	1.3	80	52	155	1.1	80	43	155	0.89	79
29.00		76	137	1.3	81	59	154	1.2	80	48	155	0.99	79
24.77		89	117	1.3	81	69	145	1.3	81	57	155	1.1	80
23.20		95	111	1.4	81	73	142	1.3	81	60	152	1.2	80
19.54		113	92	1.3	81	87	123	1.4	81	72	144	1.3	81
20.33	27/5	108	109	1.4	87	84	110	1.1	87	69	110	0.92	86
17.62		125	108	1.6 *	88	96	109	1.3	87	79	110	1.1	86
16.47		134	108	1.7 *	88	103	109	1.4	87	85	110	1.1	87
14.24		154	108	2.0 *	88	119	109	1.6 *	88	98	110	1.3	87
12.10		182	105	2.3 *	89	140	109	1.8 *	88	116	109	1.5	88
10.80		204	95	2.3 *	89	157	108	2.0 *	88	130	109	1.7 *	88
9.23		238	82	2.3 *	89	184	105	2.3 *	89	152	109	2.0 *	88
8.64		255	77	2.3 *	89	197	100	2.3 *	89	162	109	2.1 *	88
7.28		302	64	2.3 *	89	234	86	2.4 *	89	192	103	2.3 *	89
6.83	20/5	322	62	2.4 *	89	249	78	2.3 *	89	205	78	1.9 *	89
6.4		344	58	2.3 *	89	266	76	2.4 *	89	219	76	2.0 *	89
5.39		408	48	2.3 *	89	315	65	2.4 *	89	260	74	2.3 *	89
4.76		462	42	2.3 *	89	357	58	2.4 *	89	294	72	2.5 *	90
4		550	34	2.2 *	88	425	48	2.4 *	89	350	61	2.5 *	90

* P_{emax} = 1.5 kW

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1100 - 700 min^{-1}

i_{tot}	i_s	n_e = 1100 min^{-1}				n_e = 900 min^{-1}				n_e = 700 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
201.00	42/1	5.5	176	0.19	53	4.5	180	0.16	52	3.5	185	0.13	51
184.80		6.0	174	0.20	54	4.9	178	0.17	53	3.8	183	0.14	51
158.12		7.0	172	0.23	55	5.7	176	0.20	54	4.4	180	0.16	52
137.05		8.0	171	0.26	56	6.6	172	0.22	55	5.1	178	0.18	53
128.10		8.6	171	0.27	57	7.0	172	0.23	55	5.5	176	0.19	54
110.73		9.9	169	0.30	58	8.1	171	0.26	56	6.3	174	0.21	55
94.08		12	169	0.35	59	9.6	171	0.30	57	7.4	172	0.24	56
84.00		13	169	0.39	60	11	169	0.32	58	8.3	171	0.26	57
71.75		15	169	0.45	61	13	169	0.37	60	9.8	171	0.30	58
67.20		16	169	0.47	61	13	169	0.40	60	10	171	0.32	58
56.61		19	169	0.55	63	16	169	0.46	61	12	171	0.37	60
69.39	29/2	16	173	0.39	74	13	176	0.33	73	10	180	0.27	71
63.80		17	173	0.42	74	14	175	0.35	73	11	180	0.29	72
54.59		20	171	0.48	75	16	173	0.40	74	13	176	0.33	73
47.32		23	171	0.55	76	19	173	0.46	75	15	175	0.37	73
44.22		25	171	0.58	76	20	171	0.49	75	16	175	0.39	74
38.23		29	169	0.66	77	24	171	0.56	76	18	173	0.44	75
32.48		34	169	0.77	78	28	171	0.65	77	22	171	0.51	75
29.00		38	170	0.86	78	31	171	0.72	77	24	171	0.57	76
24.77		44	169	0.99	79	36	170	0.83	78	28	171	0.66	77
23.20		47	164	1.0	79	39	170	0.88	79	30	171	0.70	77
19.54		56	154	1.1	80	46	165	1.0	79	36	170	0.81	78
20.33	27/5	54	112	0.75	85	44	114	0.63	84	34	116	0.50	83
17.62		62	112	0.86	86	51	113	0.71	85	40	115	0.57	84
16.47		67	112	0.91	86	55	113	0.76	85	43	114	0.60	84
14.24		77	111	1.0	86	63	112	0.86	86	49	113	0.69	85
12.10		91	111	1.2	87	74	111	1.0	86	58	113	0.80	85
10.80		102	111	1.4	87	83	111	1.1	87	65	112	0.88	86
9.23		119	110	1.6 *	88	98	111	1.3	87	76	112	1.0	86
8.64		127	109	1.7 *	88	104	111	1.4	87	81	112	1.1	87
7.28		151	109	2.0 *	88	124	111	1.6 *	88	96	111	1.3	87
6.83	20/5	161	95	1.8 *	89	132	95	1.5	88	102	95	1.2	88
6.4		172	93	1.9 *	89	141	93	1.6 *	88	109	93	1.2	88
5.39		204	89	2.1 *	89	167	89	1.8 *	89	130	89	1.4	88
4.76		231	87	2.4 *	89	189	87	1.9 *	89	147	87	1.5	89
4		275	78	2.5 *	90	225	84	2.2 *	89	175	84	1.7 *	89

* P_{emax} = 1.5 kW

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500 - 10 min^{-1}

i_{tot}	i_s	n_e = 500 min^{-1}				n_e = 250 min^{-1}				n_e = 10 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
201.00	42/1	2.5	185	0.10	49	1.2	185	0.05	48	0.05	185	< 0.05	32
184.80		2.7	185	0.11	49	1.4	185	0.05	48	0.05	185	< 0.05	32
158.12		3.2	185	0.12	50	1.6	185	0.06	48	0.06	185	< 0.05	35
137.05		3.6	185	0.14	51	1.8	185	0.07	48	0.07	185	< 0.05	37
128.10		3.9	183	0.15	51	2.0	185	0.08	48	0.08	185	< 0.05	38
110.73		4.5	181	0.16	52	2.3	185	0.09	49	0.09	185	< 0.05	40
94.08		5.3	178	0.19	54	2.7	185	0.10	49	0.11	185	< 0.05	42
84.00		6.0	176	0.20	54	3.0	185	0.12	50	0.12	185	< 0.05	43
71.75		7.0	174	0.23	56	3.5	185	0.13	51	0.14	185	< 0.05	44
67.20		7.4	172	0.24	56	3.7	185	0.14	51	0.15	185	< 0.05	44
56.61		8.8	172	0.28	57	4.4	181	0.16	53	0.18	181	< 0.05	45
69.39	29/2	7.2	185	0.20	70	3.6	185	0.10	68	0.14	185	< 0.05	56
63.80		7.8	185	0.22	70	3.9	185	0.11	68	0.16	185	< 0.05	57
54.59		9.2	185	0.25	71	4.6	185	0.13	68	0.18	185	< 0.05	60
47.32		11	181	0.28	72	5.3	185	0.15	68	0.21	185	< 0.05	61
44.22		11	180	0.30	72	5.7	185	0.16	69	0.23	185	< 0.05	62
38.23		13	178	0.33	73	6.5	185	0.18	69	0.26	185	< 0.05	63
32.48		15	174	0.38	74	7.7	185	0.21	70	0.31	185	< 0.05	64
29.00		17	174	0.42	74	8.6	185	0.24	71	0.34	185	< 0.05	65
24.77		20	172	0.48	75	10	183	0.27	71	0.40	183	< 0.05	66
23.20		22	172	0.51	76	11	181	0.28	72	0.43	181	< 0.05	66
19.54		26	172	0.60	77	13	178	0.33	73	0.51	178	< 0.05	67
20.33	27/5	25	124	0.39	82	12	157	0.25	80	0.49	157	< 0.05	75
17.62		28	120	0.43	83	14	149	0.28	80	0.57	149	< 0.05	76
16.47		30	118	0.45	83	15	145	0.29	81	0.61	145	< 0.05	76
14.24		35	116	0.51	84	18	138	0.31	81	0.70	138	< 0.05	77
12.10		41	115	0.59	84	21	131	0.35	82	0.83	131	< 0.05	77
10.80		46	114	0.65	85	23	127	0.37	82	0.93	127	< 0.05	77
9.23		54	113	0.75	85	27	121	0.41	83	1.1	121	< 0.05	78
8.64		58	113	0.80	86	29	120	0.44	83	1.2	120	< 0.05	78
7.28		69	112	0.93	86	34	117	0.50	84	1.4	117	< 0.05	78
6.83	20/5	73	95	0.84	87	7	95	0.43	84	1.5	95	<0.05	81
6.4		78	93	0.88	87	39	93	0.45	85	1.6	93	<0.05	81
5.39		93	89	0.99	87	46	89	0.51	85	1.9	89	<0.05	81
4.76		105	87	1.1	88	53	87	0.56	86	2.1	87	<0.05	81
4		125	84	1.2	88	63	84	0.64	86	2.5	84	<0.05	81

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11.7 Technical data S. SF. SA. SAF 57

3400 - 2800 min^{-1}

i_{tot}	i_s	n_e = 3400 min^{-1}				n_e = 3200 min^{-1}				n_e = 2800 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
201.00	42/1	17	270	0.75	64	16	270	0.71	63	14	270	0.63	62
184.80		18	270	0.81	64	17	270	0.77	64	15	270	0.68	63
158.12		22	270	0.93	65	20	270	0.88	65	18	270	0.78	64
137.05		25	255	1.0	66	23	270	1.0	66	20	270	0.89	65
128.10		27	245	1.0	66	25	255	1.0	66	22	270	0.94	65
110.73		31	215	1.0	67	29	230	1.0	67	25	255	1.0	66
94.08		36	184	1.0	67	34	196	1.0	67	30	225	1.1	67
84.00		40	165	1.0	67	38	175	1.0	67	33	200	1.0	67
71.75		47	139	1.0	67	45	149	1.0	67	39	174	1.1	67
67.20		51	128	1.0	66	48	139	1.0	67	42	164	1.1	67
56.61		60	103	1.0	65	57	114	1.0	66	49	138	1.1	67
69.39	29/2	49	220	1.4	81	46	220	1.3	80	40	220	1.2	80
63.80		53	220	1.5	81	50	220	1.4	81	44	220	1.3	80
54.59		62	220	1.8	81	59	220	1.7	81	51	220	1.5	81
47.32		72	210	1.9	82	68	220	1.9	82	59	220	1.7	81
44.22		77	197	1.9	82	72	205	1.9	82	63	220	1.8	81
38.23		89	174	2.0	82	84	184	2.0	82	73	205	1.9	82
32.48		105	148	2.0	82	99	157	2.0	82	86	180	2.0	82
29.00		117	131	2.0	82	110	141	2.0	82	97	162	2.0	82
24.77		137	111	1.9	82	129	120	2.0	82	113	139	2.0	82
23.20		147	102	1.9	82	138	111	2.0	82	121	131	2.0	82
19.54		174	81	1.8	81	164	90	1.9	82	143	109	2.0	82
20.33	27/5	167	160	3.2 *	89	157	160	3.0	89	138	160	2.6	88
17.62		193	140	3.2 *	89	182	149	3.2 *	89	159	160	3.0	89
16.47		206	132	3.2 *	89	194	140	3.2 *	89	170	158	3.2 *	89
14.24		239	116	3.2 *	89	225	123	3.2 *	89	197	139	3.2 *	89
12.10		281	99	3.3 *	89	264	105	3.3 *	89	231	121	3.3 *	89
10.80		315	88	3.3 *	89	296	94	3.3 *	89	259	108	3.3 *	89
9.23		368	73	3.2 *	89	347	79	3.2 *	89	303	93	3.3 *	89
8.64		394	68	3.2 *	89	370	74	3.2 *	89	324	87	3.3 *	89
7.28		467	54	3.0	88	440	60	3.1 *	89	385	72	3.2 *	89
6.8	20/5	498	54	3.2 *	89	469	58	3.2 *	89	410	69	3.3 *	90
6.4		531	50	3.1 *	89	500	54	3.2 *	89	438	64	3.3 *	89
5.4		631	41	3.1 *	89	594	44	3.1 *	89	519	53	3.2 *	89
4.8		714	35	3.0	88	672	38	3.0	89	588	46	3.2 *	89
4		850	28	2.8	88	800	31	2.9	88	700	38	3.1 *	89

* P_{emax} = 3.0 kW

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2200 - 1400 min^{-1}

i_{tot}	i_s	n_e = 2200 min^{-1}				n_e = 1700 min^{-1}				n_e = 1400 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
201.00	42/1	11	295	0.55	61	8.5	295	0.44	59	7.0	295	0.37	58
184.80		12	295	0.60	62	9.2	295	0.48	60	7.6	295	0.40	58
158.12		14	295	0.69	63	11	295	0.55	61	8.9	295	0.46	60
137.05		16	295	0.78	64	12	295	0.62	62	10	295	0.52	61
128.10		17	295	0.83	64	13	295	0.66	62	11	295	0.55	61
110.73		20	290	0.93	65	15	295	0.75	63	13	295	0.63	62
94.08		23	275	1.0	66	18	300	0.88	65	15	295	0.73	63
84.00		26	250	1.0	67	20	285	0.93	65	17	295	0.80	64
71.75		31	220	1.1	67	24	275	1.0	66	20	290	0.91	65
67.20		33	210	1.1	67	25	260	1.0	67	21	285	0.95	65
56.61		39	179	1.1	68	30	225	1.1	67	25	265	1.0	67
69.39	29/2	32	245	1.0	79	24	245	0.81	77	20	245	0.68	76
63.80		34	245	1.1	79	27	245	0.88	78	22	245	0.73	77
54.59		40	245	1.3	80	31	245	1.0	79	26	245	0.85	78
47.32		46	245	1.5	81	36	245	1.2	79	30	245	0.97	79
44.22		50	245	1.6	81	38	245	1.2	80	32	245	1.0	79
38.23		58	245	1.8	81	44	245	1.4	80	37	245	1.2	80
32.48		68	225	1.9	82	52	245	1.7	81	43	245	1.4	80
29.00		76	200	1.9	82	59	245	1.8	81	48	245	1.5	81
24.77		89	177	2.0	82	69	220	1.9	82	57	245	1.8	81
23.20		95	167	2.0	83	73	210	2.0	82	60	245	1.9	82
19.54		113	143	2.0	83	87	183	2.0	83	72	215	2.0	82
20.33	27/5	108	168	2.2	88	84	168	1.7	87	69	168	1.4	87
17.62		125	168	2.5	88	96	168	1.9	88	79	168	1.6	87
16.47		134	169	2.7	88	103	168	2.1	88	85	168	1.7	87
14.24		154	169	3.1 *	89	119	169	2.4	88	98	169	2.0	88
12.10		182	150	3.2 *	89	140	169	2.8	89	116	169	2.3	88
10.80		204	136	3.2 *	89	157	169	3.1 *	89	130	169	2.6	88
9.23		238	119	3.3 *	89	184	149	3.2 *	89	152	169	3.0	89
8.64		255	112	3.3 *	89	197	141	3.3 *	89	162	166	3.2 *	89
7.28		302	96	3.4 *	90	234	122	3.3 *	90	192	146	3.3 *	89
6.8	20/5	322	91	3.4 *	90	249	100	2.9	90	205	100	2.4	89
6.4		344	85	3.4 *	90	266	98	3.0	90	219	98	2.5	89
5.4		408	72	3.4 *	90	315	95	3.5 *	90	260	95	2.9	90
4.8		462	63	3.4 *	90	357	84	3.5 *	90	294	93	3.2 *	90
4		550	53	3.4 *	90	425	71	3.5 *	90	350	88	3.6 *	90

* P_{emax} = 3.0 kW

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1100 - 700 1/min^{-1}

i_{tot}	i_s	n_e = 1100 min^{-1}				n_e = 900 min^{-1}				n_e = 700 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
201.00	42/1	5.5	295	0.30	56	4.5	300	0.26	55	3.5	310	0.21	53
184.80		6.0	295	0.32	57	4.9	300	0.28	55	3.8	305	0.23	54
158.12		7.0	295	0.37	58	5.7	295	0.31	56	4.4	300	0.25	55
137.05		8.0	295	0.42	59	6.6	295	0.35	57	5.1	300	0.29	56
128.10		8.6	295	0.45	59	7.0	295	0.37	58	5.5	295	0.30	56
110.73		9.9	295	0.51	61	8.1	295	0.43	59	6.3	295	0.34	57
94.08		12	295	0.59	62	9.6	295	0.49	60	7.4	295	0.39	58
84.00		13	295	0.65	63	11	295	0.54	61	8.3	295	0.43	59
71.75		15	295	0.74	64	13	295	0.62	62	9.8	295	0.50	61
67.20		16	300	0.80	64	13	295	0.66	63	10	295	0.53	61
56.61		19	290	0.91	65	16	300	0.78	64	12	295	0.61	62
69.39	29/2	16	270	0.60	75	13	270	0.49	74	10	270	0.39	73
63.80		17	270	0.64	76	14	270	0.53	75	11	270	0.42	73
54.59		20	270	0.74	77	16	270	0.62	75	13	270	0.49	74
47.32		23	270	0.85	77	19	270	0.70	76	15	270	0.56	75
44.22		25	270	0.91	78	20	270	0.75	77	16	270	0.59	75
38.23		29	270	1.0	79	24	270	0.86	77	18	270	0.68	76
32.48		34	270	1.2	79	28	270	1.0	78	22	270	0.79	77
29.00		38	270	1.3	80	31	270	1.1	79	24	270	0.88	78
24.77		44	270	1.6	81	36	270	1.3	80	28	270	1.0	78
23.20		47	270	1.7	81	39	270	1.4	80	30	270	1.1	79
19.54		56	250	1.8	81	46	270	1.6	81	36	270	1.3	80
20.33	27/5	54	168	1.1	86	44	170	0.93	85	34	172	0.74	84
17.62		62	169	1.3	86	51	169	1.1	86	40	170	0.83	85
16.47		67	168	1.4	87	55	168	1.1	86	43	170	0.89	85
14.24		77	168	1.6	87	63	168	1.3	86	49	170	1.0	86
12.10		91	169	1.8	88	74	169	1.5	87	58	169	1.2	86
10.80		102	169	2.1	88	83	169	1.7	87	65	169	1.3	87
9.23		119	170	2.4	88	98	168	2.0	88	76	168	1.5	87
8.64		127	170	2.6	88	104	169	2.1	88	81	168	1.6	87
7.28		151	170	3.0	89	124	170	2.5	88	96	170	1.9	88
6.8	20/5	161	120	2.3	89	132	120	1.9	89	102	120	1.5	88
6.4		172	117	2.4	89	141	117	1.9	89	109	117	1.5	88
5.4		204	111	2.6	90	167	111	2.2	89	130	111	1.7	89
4.8		231	108	2.9	90	189	108	2.4	90	147	108	1.9	89
4		275	103	3.3 *	90	225	103	2.7	90	175	103	2.1	89

* P_{emax} = 3.0 kW

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500 - 10 min^{-1}

i_{tot}	i_s	n_e = 500 min^{-1}				n_e = 250 min^{-1}				n_e = 10 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
201.00	42/1	2.5	330	0.17	51	1.2	330	0.09	49	0.05	330	< 0.05	42
184.80		2.7	330	0.18	51	1.4	330	0.10	49	0.05	330	< 0.05	43
158.12		3.2	315	0.20	52	1.6	330	0.11	49	0.06	330	< 0.05	44
137.05		3.6	310	0.22	53	1.8	330	0.13	50	0.07	330	< 0.05	45
128.10		3.9	305	0.23	54	2.0	330	0.14	50	0.08	330	< 0.05	46
110.73		4.5	300	0.26	55	2.3	330	0.15	51	0.09	330	< 0.05	46
94.08		5.3	300	0.30	56	2.7	330	0.18	51	0.11	330	< 0.05	47
84.00		6.0	295	0.32	57	3.0	325	0.19	52	0.12	325	< 0.05	47
71.75		7.0	295	0.37	58	3.5	310	0.21	53	0.14	310	< 0.05	48
67.20		7.4	295	0.39	58	3.7	310	0.23	54	0.15	310	< 0.05	48
56.61		8.8	295	0.46	60	4.4	300	0.25	55	0.18	300	< 0.05	48
69.39	29/2	7.2	300	0.32	71	3.6	300	0.17	68	0.14	300	< 0.05	63
63.80		7.8	300	0.34	71	3.9	300	0.18	68	0.16	300	< 0.05	64
54.59		9.2	300	0.40	72	4.6	300	0.21	69	0.18	300	< 0.05	65
47.32		11	300	0.45	73	5.3	300	0.24	70	0.21	300	< 0.05	66
44.22		11	300	0.48	74	5.7	300	0.25	70	0.23	300	< 0.05	66
38.23		13	295	0.54	74	6.5	300	0.29	71	0.26	300	< 0.05	67
32.48		15	295	0.63	75	7.7	300	0.34	71	0.31	300	< 0.05	67
29.00		17	295	0.70	76	8.6	300	0.38	72	0.34	300	< 0.05	67
24.77		20	295	0.81	77	10	300	0.43	73	0.40	300	< 0.05	68
23.20		22	295	0.86	77	11	300	0.46	73	0.43	300	< 0.05	68
19.54		26	295	1.0	78	13	295	0.53	74	0.51	295	< 0.05	68
20.33	27/5	25	181	0.56	83	12	215	0.35	80	0.49	215	< 0.05	77
17.62		28	175	0.62	83	14	210	0.39	81	0.57	210	< 0.05	77
16.47		30	174	0.66	84	15	205	0.40	81	0.61	205	< 0.05	78
14.24		35	172	0.75	84	18	198	0.45	81	0.70	198	< 0.05	78
12.10		41	170	0.87	85	21	188	0.49	82	0.83	188	< 0.05	78
10.80		46	170	0.97	85	23	184	0.54	83	0.93	184	< 0.05	78
9.23		54	170	1.1	86	27	177	0.60	83	1.1	177	< 0.05	79
8.64		58	170	1.2	86	29	175	0.64	83	1.2	175	< 0.05	79
7.28		69	170	1.4	87	34	172	0.73	84	1.4	172	< 0.05	79
6.8	20/5	73	120	1.1	87	37	120	0.54	85	1.5	120	<0.05	81
6.4		78	117	1.1	87	39	117	0.56	85	1.6	117	<0.05	81
5.4		93	111	1.2	88	46	111	0.63	86	1.9	111	<0.05	81
4.8		105	108	1.3	88	53	108	0.69	86	2.1	108	<0.05	81
4		125	103	1.5	89	63	103	0.78	87	2.5	103	<0.05	81

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11.8 Technical data S. SF. SA. SAF 67

3400 - 2800 min^{-1}

i_{tot}	i_s	n_e = 3400 min^{-1}				n_e = 3200 min^{-1}				n_e = 2800 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
217.41	42/1	16	465	1.2	66	15	465	1.1	66	13	465	0.96	65
190.11		18	465	1.3	67	17	465	1.2	67	15	465	1.1	66
180.60		19	465	1.4	67	18	465	1.3	67	16	465	1.1	66
158.45		21	465	1.5	68	20	465	1.5	68	18	465	1.3	67
134.40		25	465	1.8	69	24	465	1.7	68	21	465	1.5	68
121.33		28	455	1.9	69	26	465	1.9	69	23	465	1.6	68
106.75		32	405	2.0	69	30	430	2.0	69	26	465	1.9	69
100.80		34	380	1.9	69	32	410	2.0	69	28	465	2.0	69
85.83		40	320	1.9	69	37	345	1.9	69	33	400	2.0	70
78.00		44	285	1.9	69	41	310	1.9	69	36	365	2.0	70
67.57		50	235	1.8	67	47	260	1.9	68	41	315	2.0	69
58.80		58	184	1.7	65	54	215	1.8	67	48	270	1.9	69
75.06	29/2	45	435	2.5	82	43	435	2.4	82	37	435	2.1	81
65.63		52	435	2.9	82	49	435	2.7	82	43	435	2.4	82
62.35		55	435	3.0	83	51	435	2.8	82	45	435	2.5	82
54.70		62	435	3.4	83	59	435	3.2	83	51	435	2.8	83
46.40		73	395	3.6	83	69	415	3.6	83	60	435	3.3	83
41.89		81	355	3.6	83	76	380	3.6	83	67	430	3.6	83
36.85		92	310	3.6	83	87	335	3.6	84	76	380	3.6	84
34.80		98	295	3.6	83	92	315	3.6	84	80	365	3.7	84
29.63		115	250	3.6	83	108	270	3.7	83	94	310	3.7	84
26.93		126	220	3.5	83	119	240	3.6	83	104	280	3.6	84
23.33		146	182	3.4	82	137	200	3.5	83	120	245	3.7	84
20.30		167	141	3.1	81	158	164	3.3	82	138	205	3.6	83
24.44	27/5	139	315	5.1	90	131	315	4.8	90	115	315	4.2	89
23.22		146	315	5.4	90	138	315	5.1	90	121	315	4.4	90
20.37		167	315	6.1 *	90	157	315	5.8 *	90	137	315	5.0	90
17.28		197	270	6.2 *	90	185	290	6.2 *	90	162	315	5.9 *	90
15.60		218	245	6.2 *	90	205	260	6.2 *	90	179	295	6.1 *	90
13.73		248	215	6.2 *	90	233	230	6.2 *	90	204	265	6.3 *	90
12.96		262	200	6.1 *	90	247	215	6.1 *	90	216	250	6.3 *	90
11.03		308	169	6.1 *	90	290	183	6.2 *	90	254	215	6.3 *	90
10.03		339	151	6.0 *	90	319	164	6.1 *	90	279	194	6.3 *	90
8.69		391	124	5.7 *	89	368	137	5.9 *	90	322	166	6.2 *	90
7.56		450	95	5.1	88	423	112	5.6 *	89	370	141	6.1 *	90

* P_{emax} = 5.5 kW

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2200 - 1400 min^{-1}

i_{tot}	i_s	n_e = 2200 min^{-1}				n_e = 1700 min^{-1}				n_e = 1400 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
217.41	42/1	10	520	0.86	64	7.8	520	0.69	62	6.4	520	0.58	61
190.11		12	520	0.97	65	8.9	520	0.77	63	7.4	520	0.65	62
180.60		12	520	1.0	65	9.4	520	0.81	63	7.8	520	0.68	62
158.45		14	520	1.1	66	11	520	0.91	64	8.8	520	0.76	63
134.40		16	520	1.3	67	13	520	1.1	65	10	520	0.88	64
121.33		18	520	1.5	68	14	520	1.2	66	12	520	0.97	65
106.75		21	520	1.6	68	16	520	1.3	67	13	520	1.1	66
100.80		22	510	1.7	69	17	520	1.4	67	14	520	1.1	66
85.83		26	490	1.9	69	20	520	1.6	68	16	520	1.3	67
78.00		28	465	2.0	70	22	510	1.7	69	18	520	1.4	68
67.57		33	410	2.0	70	25	495	1.9	69	21	520	1.6	69
58.80		37	360	2.0	70	29	460	2.0	70	24	500	1.8	69
75.06	29/2	29	480	1.8	81	23	480	1.4	79	19	480	1.2	79
65.63		34	480	2.1	81	26	480	1.6	80	21	480	1.4	79
62.35		35	480	2.2	81	27	480	1.7	80	22	480	1.4	79
54.70		40	480	2.5	82	31	480	1.9	81	26	480	1.6	80
46.40		47	480	2.9	82	37	480	2.3	82	30	480	1.9	81
41.89		53	480	3.2	83	41	480	2.5	82	33	480	2.1	81
36.85		60	475	3.6	83	46	480	2.8	82	38	480	2.3	82
34.80		63	450	3.6	83	49	480	3.0	83	40	480	2.5	82
29.63		74	395	3.7	84	57	480	3.5	83	47	480	2.9	83
26.93		82	360	3.7	84	63	455	3.6	83	52	480	3.2	83
23.33		94	320	3.8	84	73	405	3.7	84	60	480	3.6	83
20.30		108	280	3.8	84	84	360	3.8	84	69	425	3.7	84
24.44	27/5	90	340	3.6	89	70	340	2.8	88	57	340	2.3	88
23.22		95	340	3.8	89	73	340	2.9	89	60	340	2.4	88
20.37		108	340	4.3	89	83	340	3.3	89	69	340	2.8	88
17.28		127	340	5.0	90	98	340	3.9	89	81	340	3.2	89
15.60		141	340	5.6 *	90	109	340	4.3	89	90	340	3.6	89
13.73		160	330	6.1 *	90	124	340	4.9	90	102	340	4.1	89
12.96		170	315	6.2 *	90	131	340	5.2	90	108	340	4.3	89
11.03		199	275	6.3 *	90	154	340	6.1 *	90	127	340	5.0	90
10.03		219	250	6.3 *	91	169	315	6.2 *	90	140	340	5.5	90
8.69		253	220	6.4 *	91	196	280	6.3 *	91	161	335	6.3 *	90
7.56		291	192	6.5 *	91	225	250	6.5 *	91	185	295	6.3 *	91

* P_{emax} = 5.5 kW

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1100 - 700 min^{-1}

i_{tot}	i_s	n_e = 1100 min^{-1}				n_e = 900 min^{-1}				n_e = 700 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
217.41	42/1	5.1	555	0.50	59	4.1	560	0.42	58	3.2	570	0.34	56
190.11		5.8	555	0.56	60	4.7	560	0.47	59	3.7	565	0.38	57
180.60		6.1	555	0.59	61	5.0	555	0.49	59	3.9	565	0.40	57
158.45		6.9	550	0.65	62	5.7	555	0.55	60	4.4	560	0.44	58
134.40		8.2	550	0.75	63	6.7	550	0.63	61	5.2	555	0.51	60
121.33		9.1	550	0.82	63	7.4	550	0.69	62	5.8	555	0.56	60
106.75		10	550	0.92	64	8.4	550	0.77	63	6.6	555	0.62	61
100.80		11	550	0.97	65	8.9	550	0.81	63	6.9	555	0.66	62
85.83		13	550	1.1	66	10	550	0.94	64	8.2	550	0.75	63
78.00		14	550	1.2	66	12	550	1.0	65	9.0	550	0.82	63
67.57		16	550	1.4	67	13	550	1.2	66	10	550	0.93	64
58.80		19	530	1.5	68	15	550	1.3	67	12	550	1.0	65
75.06	29/2	15	525	1.0	77	12	525	0.86	76	9.3	525	0.68	75
65.63		17	525	1.2	78	14	525	0.98	77	11	525	0.77	76
62.35		18	525	1.2	78	14	525	1.0	77	11	525	0.81	76
54.70		20	525	1.4	79	16	525	1.2	78	13	525	0.92	77
46.40		24	525	1.6	80	19	525	1.4	79	15	525	1.1	78
41.89		26	525	1.8	80	21	525	1.5	79	17	525	1.2	78
36.85		30	525	2.0	81	24	525	1.7	80	19	525	1.3	79
34.80		32	525	2.1	81	26	525	1.8	80	20	525	1.4	79
29.63		37	525	2.5	82	30	525	2.1	81	24	525	1.6	80
26.93		41	525	2.7	82	33	525	2.3	81	26	525	1.8	80
23.33		47	525	3.1	83	39	525	2.6	82	30	525	2.0	81
20.30		54	520	3.5	83	44	525	3.0	82	34	525	2.3	81
24.44	27/5	45	355	1.9	87	37	360	1.6	87	29	365	1.3	86
23.22		47	355	2.0	87	39	360	1.7	87	30	365	1.3	86
20.37		54	355	2.3	88	44	355	1.9	87	34	365	1.5	86
17.28		64	355	2.7	88	52	355	2.2	88	41	360	1.8	87
15.60		71	350	2.9	88	58	355	2.4	88	45	355	1.9	87
13.73		80	350	3.3	89	66	355	2.8	88	51	355	2.2	88
12.96		85	350	3.5	89	69	350	2.9	88	54	355	2.3	88
11.03		100	350	4.1	89	82	350	3.4	89	63	355	2.7	88
10.03		110	345	4.4	90	90	350	3.7	89	70	355	2.9	88
8.69		127	345	5.1	90	104	350	4.2	89	81	350	3.3	89
7.56		146	345	5.8 *	90	119	345	4.8	90	93	350	3.8	89

* P_{emax} = 5.5 kW

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500 - 10 min^{-1}

i_{tot}	i_s	n_e = 500 min^{-1}				n_e = 250 min^{-1}				n_e = 10 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
217.41	42/1	2.3	570	0.25	54	1.1	570	0.13	51	0.05	570	< 0.05	47
190.11		2.6	570	0.29	55	1.3	570	0.15	51	0.05	570	< 0.05	48
180.60		2.8	570	0.30	55	1.4	570	0.16	51	0.06	570	< 0.05	48
158.45		3.2	570	0.34	56	1.6	570	0.18	52	0.06	570	< 0.05	49
134.40		3.7	565	0.38	57	1.9	570	0.21	53	0.07	570	< 0.05	50
121.33		4.1	560	0.42	58	2.1	570	0.23	53	0.08	570	< 0.05	50
106.75		4.7	560	0.47	59	2.3	570	0.26	54	0.09	570	< 0.05	50
100.80		5.0	560	0.49	59	2.5	570	0.27	55	0.10	570	< 0.05	50
85.83		5.8	555	0.56	60	2.9	570	0.31	56	0.12	570	< 0.05	51
78.00		6.4	555	0.61	61	3.2	570	0.34	56	0.13	570	< 0.05	51
67.57		7.4	555	0.69	62	3.7	565	0.38	57	0.15	565	< 0.05	51
58.80		8.5	550	0.78	63	4.3	560	0.43	58	0.17	560	< 0.05	51
75.06	29/2	6.7	570	0.54	73	3.3	570	0.28	70	0.13	570	< 0.05	68
65.63		7.6	570	0.61	74	3.8	570	0.32	71	0.15	570	< 0.05	68
62.35		8.0	570	0.64	74	4.0	570	0.34	71	0.16	570	< 0.05	69
54.70		9.1	570	0.73	75	4.6	570	0.38	71	0.18	570	< 0.05	69
46.40		11	570	0.85	76	5.4	570	0.44	72	0.22	570	< 0.05	69
41.89		12	570	0.93	76	6.0	570	0.49	73	0.24	570	< 0.05	69
36.85		14	570	1.1	77	6.8	570	0.55	73	0.27	570	< 0.05	69
34.80		14	570	1.1	77	7.2	570	0.58	74	0.29	570	< 0.05	69
29.63		17	565	1.3	78	8.4	570	0.68	75	0.34	570	< 0.05	70
26.93		19	565	1.4	79	9.3	570	0.74	75	0.37	570	< 0.05	70
23.33		21	565	1.6	79	11	570	0.84	76	0.43	570	< 0.05	70
20.30		25	565	1.8	80	12	570	0.96	77	0.49	570	< 0.05	70
24.44	27/5	20	365	0.93	85	10	355	0.46	82	0.41	355	0.019	80
23.22		22	365	0.97	85	11	355	0.49	82	0.43	355	< 0.05	80
20.37		25	380	1.1	85	12	365	0.57	83	0.49	365	< 0.05	80
17.28		29	365	1.3	86	14	435	0.79	83	0.58	435	< 0.05	81
15.60		32	365	1.4	86	16	430	0.86	84	0.64	430	< 0.05	81
13.73		36	365	1.6	87	18	415	0.94	84	0.73	415	< 0.05	81
12.96		39	360	1.7	87	19	410	0.98	84	0.77	410	< 0.05	81
11.03		45	355	1.9	87	23	390	1.1	85	0.91	390	< 0.05	81
10.03		50	355	2.1	88	25	380	1.2	85	1.0	380	< 0.05	81
8.69		58	355	2.4	88	29	370	1.3	86	1.2	370	0.06	81
7.56		66	355	2.8	88	33	365	1.5	86	1.3	365	0.06	81

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11.9 Technical data S. SF. SA. SAF 77

3400 - 2800 min^{-1}

i_{tot}	i_s	n_e = 3400 min^{-1}				n_e = 3200 min^{-1}				n_e = 2800 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
256.47	40/1	13	1160	2.3	71	12	1160	2.1	71	11	1160	1.9	70
225.26		15	1130	2.5	72	14	1150	2.4	71	12	1160	2.1	71
214.00		16	1110	2.6	72	15	1140	2.5	71	13	1160	2.2	71
189.09		18	1080	2.8	72	17	1100	2.7	72	15	1140	2.5	71
161.60		21	1040	3.1	73	20	1050	3.0	73	17	1090	2.7	72
148.15		23	1010	3.3	73	22	1030	3.2	73	19	1070	2.9	73
130.00		26	970	3.6	74	25	990	3.5	74	22	1030	3.2	73
123.20		28	950	3.7	74	26	970	3.6	74	23	1010	3.3	73
107.83		32	900	4.0	74	30	920	3.9	74	26	970	3.6	74
97.14		35	860	4.2	75	33	880	4.1	74	29	930	3.8	74
85.22		40	770	4.3	75	38	820	4.3	75	33	880	4.1	75
75.20		45	675	4.3	74	43	725	4.3	75	37	830	4.3	75
66.67		51	585	4.2	74	48	635	4.3	75	42	745	4.4	75
56.92		60	485	4.1	73	56	530	4.2	74	49	635	4.4	75
75.09	40/3	45	1020	5.6	86	43	1020	5.3	86	37	1020	4.6	86
71.33		48	1020	5.9	87	45	1020	5.5	86	39	1020	4.9	86
63.03		54	1020	6.6	87	51	1020	6.2	87	44	1020	5.5	86
53.87		63	980	7.4	87	59	1000	7.1	87	52	1020	6.4	87
49.38		69	950	7.8	87	65	970	7.5	87	57	1010	6.9	87
43.33		78	910	8.5	88	74	930	8.2	88	65	970	7.5	87
41.07		83	900	8.9	88	78	910	8.5	88	68	950	7.8	87
35.94		95	800	9.0	88	89	850	9.0	88	78	910	8.5	88
32.38		105	725	9.1	88	99	770	9.1	88	86	880	9.1	88
28.41		120	635	9.1	88	113	680	9.1	88	99	780	9.1	88
25.07		136	560	9.1	88	128	600	9.1	88	112	695	9.2	88
22.22		153	485	8.9	88	144	525	9.0	88	126	615	9.2	88
18.97		179	395	8.5	87	169	440	8.9	88	148	520	9.1	88
22.89	34/6	149	590	10.0 *	91	140	590	9.5 *	91	122	590	8.3	91
20.99		162	590	10.9 *	92	152	590	10.3 *	92	133	590	9.0	91
18.42		185	590	12.4 *	92	174	590	11.7 *	92	152	590	10.3 *	92
17.45		195	590	13.1 *	92	183	590	12.4 *	92	160	590	10.8 *	92
15.28		223	530	13.5 *	92	209	560	13.4 *	92	183	590	12.3 *	92
13.76		247	480	13.5 *	92	233	505	13.4 *	92	203	585	13.6 *	92
12.07		282	415	13.3 *	92	265	445	13.4 *	92	232	515	13.6 *	92
10.65		319	365	13.3 *	92	300	390	13.4 *	92	263	455	13.6 *	92
9.44		360	315	13.0 *	92	339	345	13.3 *	92	297	405	13.7 *	92
8.06		422	260	12.6 *	91	397	285	12.9 *	92	347	340	13.5 *	92

* P_{emax} = 9.2 kW

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2200 - 1400 min^{-1}

i_{tot}	i_s	n_e = 2200 min^{-1}				n_e = 1700 min^{-1}				n_e = 1400 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
256.47	40/1	8.6	1260	1.6	69	6.6	1270	1.3	67	5.5	1270	1.1	66
225.26		9.8	1230	1.8	69	7.5	1270	1.5	68	6.2	1270	1.2	67
214.00		10	1220	1.9	70	7.9	1270	1.6	68	6.5	1270	1.3	67
189.09		12	1200	2.1	70	9.0	1240	1.7	69	7.4	1270	1.5	68
161.60		14	1160	2.3	71	11	1220	1.9	70	8.7	1260	1.7	69
148.15		15	1140	2.5	72	11	1200	2.1	70	9.4	1240	1.8	69
130.00		17	1100	2.7	72	13	1170	2.3	71	11	1210	1.9	70
123.20		18	1080	2.8	73	14	1150	2.3	71	11	1200	2.0	70
107.83		20	1040	3.0	73	16	1110	2.5	72	13	1170	2.2	71
97.14		23	1010	3.3	74	18	1090	2.8	73	14	1140	2.4	72
85.22		26	970	3.5	74	20	1050	3.0	73	16	1100	2.6	72
75.20		29	920	3.8	74	23	1010	3.2	74	19	1070	2.9	73
66.67		33	880	4.1	75	25	970	3.5	74	21	1040	3.1	73
56.92		39	830	4.5	75	30	920	3.9	75	25	990	3.4	74
75.09	40/3	29	1100	4.0	85	23	1100	3.1	84	19	1100	2.6	83
71.33		31	1100	4.2	85	24	1100	3.2	85	20	1100	2.7	84
63.03		35	1100	4.7	86	27	1100	3.7	85	22	1100	3.0	84
53.87		41	1100	5.5	86	32	1100	4.3	86	26	1100	3.5	85
49.38		45	1080	5.8	87	34	1100	4.6	86	28	1100	3.8	85
43.33		51	1050	6.4	87	39	1100	5.2	86	32	1100	4.3	86
41.07		54	1030	6.6	87	41	1100	5.5	86	34	1100	4.6	86
35.94		61	980	7.2	87	47	1060	6.1	87	39	1100	5.2	86
32.38		68	960	7.8	88	53	1040	6.6	87	43	1090	5.7	87
28.41		77	920	8.5	88	60	990	7.1	87	49	1050	6.2	87
25.07		88	870	9.1	88	68	960	7.8	88	56	1020	6.8	87
22.22		99	790	9.3 *	88	77	920	8.4	88	63	980	7.4	87
18.97		116	680	9.4 *	88	90	860	9.2	88	74	930	8.2	88
22.89	34/6	96	710	7.9	91	74	705	6.1	90	61	705	5.0	90
20.99		105	710	8.6	91	81	705	6.6	91	67	705	5.5	90
18.42		119	720	9.9 *	91	92	710	7.6	91	76	705	6.2	90
17.45		126	720	10.4 *	91	97	710	8.0	91	80	710	6.6	91
15.28		144	720	11.9 *	92	111	720	9.2	91	92	710	7.5	91
13.76		160	725	13.2 *	92	124	720	10.2 *	91	102	710	8.3	91
12.07		182	650	13.5 *	92	141	725	11.7 *	92	116	720	9.6 *	91
10.65		207	580	13.6 *	92	160	725	13.2 *	92	131	720	10.8 *	92
9.44		233	520	13.8 *	92	180	655	13.4 *	92	148	725	12.3 *	92
8.06		273	445	13.8 *	92	211	575	13.8 *	92	174	680	13.5 *	92

* P_{emax} = 9.2 kW

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1100 - 700 min^{-1}

i_{tot}	i_s	n_e = 1100 min^{-1}				n_e = 900 min^{-1}				n_e = 700 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
256.47	40/1	4.3	1270	0.89	64	3.5	1270	0.75	63	2.7	1270	0.60	61
225.26		4.9	1270	1.0	65	4.0	1270	0.84	63	3.1	1270	0.67	62
214.00		5.1	1270	1.0	65	4.2	1270	0.88	64	3.3	1270	0.70	62
189.09		5.8	1270	1.2	66	4.8	1270	0.98	65	3.7	1270	0.78	63
161.60		6.8	1270	1.3	67	5.6	1270	1.1	66	4.3	1270	0.90	64
148.15		7.4	1270	1.5	68	6.1	1270	1.2	66	4.7	1270	0.97	65
130.00		8.5	1260	1.6	69	6.9	1270	1.4	67	5.4	1270	1.1	66
123.20		8.9	1250	1.7	69	7.3	1270	1.4	68	5.7	1270	1.1	66
107.83		10	1220	1.9	70	8.3	1260	1.6	69	6.5	1270	1.3	67
97.14		11	1200	2.0	70	9.3	1250	1.8	69	7.2	1270	1.4	68
85.22		13	1170	2.2	71	11	1220	1.9	70	8.2	1270	1.6	69
75.20		15	1140	2.4	72	12	1190	2.1	71	9.3	1250	1.8	69
66.67		16	1110	2.6	72	13	1160	2.3	71	10	1220	1.9	70
56.92		19	1060	2.9	73	16	1120	2.6	72	12	1190	2.2	71
75.09	40/3	15	1120	2.1	83	12	1130	1.7	82	9.3	1170	1.4	81
71.33		15	1120	2.2	83	13	1130	1.8	82	9.8	1120	1.4	81
63.03		17	1120	2.5	83	14	1120	2.0	82	11	1130	1.6	81
53.87		20	1120	2.9	84	17	1120	2.4	83	13	1120	1.9	82
49.38		22	1120	3.1	84	18	1120	2.6	83	14	1120	2.0	82
43.33		25	1130	3.5	85	21	1120	2.9	84	16	1120	2.3	83
41.07		27	1130	3.7	85	22	1120	3.1	84	17	1120	2.4	83
35.94		31	1150	4.3	85	25	1130	3.5	85	19	1120	2.7	84
32.38		34	1130	4.7	86	28	1130	3.9	85	22	1120	3.0	84
28.41		39	1110	5.2	86	32	1150	4.5	86	25	1130	3.4	85
25.07		44	1080	5.7	87	36	1120	4.9	86	28	1130	3.9	85
22.22		50	1050	6.3	87	41	1100	5.4	86	32	1150	4.4	86
18.97		58	1010	7.0	87	47	1060	6.1	87	37	1120	5.0	86
22.89	34/6	48	695	3.9	89	39	695	3.2	89	31	705	2.6	88
20.99		52	705	4.3	90	43	695	3.5	89	33	705	2.8	88
18.42		60	700	4.9	90	49	700	4.0	89	38	700	3.1	89
17.45		63	700	5.1	90	52	700	4.2	90	40	700	3.3	89
15.28		72	710	5.9	90	59	700	4.8	90	46	700	3.8	89
13.76		80	710	6.6	91	65	700	5.3	90	51	700	4.2	90
12.07		91	710	7.5	91	75	710	6.1	90	58	700	4.7	90
10.65		103	715	8.5	91	85	710	6.9	91	66	710	5.4	90
9.44		117	720	9.6 *	91	95	715	7.8	91	74	710	6.1	90
8.06		136	725	11.3 *	92	112	720	9.2	91	87	710	7.1	91

* P_{emax} = 9.2 kW

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500 - 10 min^{-1}

i_{tot}	i_s	n_e = 500 min^{-1}				n_e = 250 min^{-1}				n_e = 10 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
256.47	40/1	1.9	1270	0.44	59	0.97	1270	0.23	56	0.04	1270	< 0.05	54
225.26		2.2	1270	0.49	60	1.1	1270	0.26	56	0.04	1270	< 0.05	55
214.00		2.3	1270	0.52	60	1.2	1270	0.28	56	0.05	1270	< 0.05	55
189.09		2.6	1270	0.58	61	1.3	1270	0.31	57	0.05	1270	< 0.05	55
161.60		3.1	1270	0.67	62	1.5	1270	0.36	58	0.06	1270	< 0.05	55
148.15		3.4	1270	0.72	62	1.7	1270	0.39	58	0.07	1270	< 0.05	55
130.00		3.8	1270	0.81	63	1.9	1270	0.43	59	0.08	1270	< 0.05	55
123.20		4.1	1270	0.85	64	2.0	1270	0.46	59	0.08	1270	< 0.05	55
107.83		4.6	1270	0.95	65	2.3	1270	0.51	60	0.09	1270	< 0.05	56
97.14		5.1	1270	1.0	65	2.6	1270	0.56	61	0.10	1270	< 0.05	56
85.22		5.9	1270	1.2	66	2.9	1270	0.63	62	0.12	1270	< 0.05	56
75.20		6.6	1270	1.3	67	3.3	1270	0.71	62	0.13	1270	< 0.05	56
66.67		7.5	1270	1.5	68	3.7	1270	0.79	63	0.15	1270	< 0.05	56
56.92		8.8	1260	1.7	69	4.4	1270	0.91	64	0.18	1270	< 0.05	56
75.09	40/3	6.7	1160	1.0	79	3.3	1120	0.51	76	0.13	1120	< 0.05	75
71.33		7.0	1110	1.0	79	3.5	1060	0.51	77	0.14	1060	< 0.05	75
63.03		7.9	1230	1.3	80	4.0	1200	0.65	77	0.16	1200	< 0.05	76
53.87		9.3	1180	1.4	81	4.6	1240	0.77	78	0.19	1240	< 0.05	76
49.38		10	1160	1.5	81	5.1	1240	0.84	78	0.20	1240	< 0.05	76
43.33		12	1120	1.7	82	5.8	1240	0.95	79	0.23	1240	< 0.05	76
41.07		12	1120	1.7	82	6.1	1240	1.0	79	0.24	1240	< 0.05	76
35.94		14	1120	2.0	82	7.0	1240	1.1	79	0.28	1240	< 0.05	76
32.38		15	1120	2.2	83	7.7	1240	1.3	80	0.31	1240	0.05	76
28.41		18	1120	2.5	83	8.8	1190	1.4	80	0.35	1190	0.06	76
25.07		20	1120	2.8	84	10	1170	1.5	81	0.40	1170	0.06	76
22.22		23	1130	3.2	84	11	1130	1.6	81	0.45	1130	0.07	76
18.97		26	1130	3.7	85	13	1120	1.9	82	0.53	1120	0.08	76
22.89	34/6	22	690	1.8	87	11	675	0.91	85	0.44	675	< 0.05	83
20.99		24	725	2.1	87	12	740	1.1	85	0.48	740	< 0.05	83
18.42		27	705	2.3	88	14	830	1.4	86	0.54	830	0.06	83
17.45		29	705	2.4	88	14	810	1.4	86	0.57	810	0.06	83
15.28		33	705	2.7	88	16	785	1.6	86	0.65	785	0.06	83
13.76		36	695	3.0	89	18	770	1.7	87	0.73	770	0.07	83
12.07		41	695	3.4	89	21	750	1.9	87	0.83	750	0.08	83
10.65		47	695	3.8	89	23	725	2.0	87	0.94	725	0.09	83
9.44		53	705	4.4	90	26	705	2.2	88	1.1	705	0.09	83
8.06		62	705	5.1	90	31	705	2.6	88	1.2	705	0.11	83

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3400 - 2800 min^{-1}

i_{tot}	i_s	n_e = 3400 min^{-1}				n_e = 3200 min^{-1}				n_e = 2800 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
288.00	40/1	12	2030	3.4	74	11	2070	3.3	73	9.7	2070	2.9	73
258.18		13	1990	3.7	74	12	2010	3.5	74	11	2070	3.2	73
222.40		15	1910	4.1	75	14	1950	4.0	74	13	2010	3.6	74
202.96		17	1850	4.3	75	16	1890	4.2	75	14	1970	3.8	74
180.00		19	1800	4.7	75	18	1830	4.5	75	16	1910	4.2	75
151.30		22	1690	5.3	75	21	1730	5.1	75	19	1800	4.6	75
139.05		24	1630	5.5	76	23	1680	5.4	76	20	1760	4.9	75
123.48		28	1570	6.0	76	26	1600	5.7	76	23	1690	5.3	76
110.40		31	1430	6.1	76	29	1540	6.2	76	25	1620	5.7	76
99.26		34	1260	6.0	75	32	1380	6.2	76	28	1550	6.0	76
86.15		39	1030	5.8	74	37	1150	6.0	75	33	1390	6.2	76
77.14		44	830	5.3	72	41	970	5.7	74	36	1220	6.1	76
64.00		53	500	4.3	65	50	620	4.7	68	44	960	5.9	75
91.20	38/3	37	1470	6.6	88	35	1470	6.2	87	31	1470	5.4	87
81.76		42	1470	7.3	88	39	1470	6.9	88	34	1470	6.0	87
70.43		48	1470	8.4	88	45	1470	7.9	88	40	1470	7.0	88
64.27		53	1470	9.2	88	50	1470	8.7	88	44	1470	7.6	88
57.00		60	1470	10.4	88	56	1470	9.8	88	49	1470	8.6	88
47.91		71	1470	12.3	89	67	1470	11.6	89	58	1470	10.2	88
44.03		77	1470	13.4	89	73	1470	12.6	89	64	1470	11.0	89
39.10		87	1300	13.3	89	82	1400	13.5	89	72	1470	12.4	89
34.96		97	1140	13.1	89	92	1240	13.4	89	80	1440	13.6	89
31.43		108	1000	12.8	88	102	1090	13.1	89	89	1290	13.5	89
27.28		125	810	12.1	88	117	910	12.7	88	103	1110	13.4	89
24.43		139	660	11.1	87	131	775	12.1	88	115	960	13.0	89
20.27		168	395	8.4	82	158	490	9.6	84	138	755	12.4	88
25.50	34/6	133	990	15.0	92	125	990	14.1	92	110	990	12.4	92
21.43		159	990	17.8 *	92	149	990	16.8 *	92	131	990	14.7	92
19.70		173	990	19 *	92	162	990	18.3 *	92	142	990	16.0 *	92
17.49		194	870	19 *	92	183	930	19 *	92	160	990	18.0 *	92
15.64		217	760	19 *	92	205	830	19 *	92	179	960	19 *	92
14.06		242	660	18.2 *	92	228	725	19 *	92	199	860	19 *	92
12.21		278	540	17.2 *	91	262	605	18.1 *	92	229	730	19 *	92
10.93		311	440	15.8 *	90	293	510	17.1 *	91	256	645	19 *	92
9.07		375	255	11.5	87	353	325	13.5	89	309	500	17.7 *	92
7.88		431	200	10.5	86	406	230	11.3	87	355	375	15.5 *	90

* P_{emax} =15 kW

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2200 - 1400 min^{-1}

i_{tot}	i_s	n_e = 2200 min^{-1}				n_e = 1700 min^{-1}				n_e = 1400 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
288.00	40/1	7.6	2210	2.5	71	5.9	2280	2.0	70	4.9	2280	1.7	69
258.18		8.5	2170	2.7	72	6.6	2260	2.2	71	5.4	2280	1.9	69
222.40		9.9	2130	3.0	73	7.6	2210	2.5	71	6.3	2280	2.1	70
202.96		11	2080	3.2	73	8.4	2190	2.7	72	6.9	2260	2.3	71
180.00		12	2020	3.5	74	9.4	2130	2.9	73	7.8	2210	2.5	72
151.30		15	1940	4.0	75	11	2060	3.3	74	9.3	2150	2.9	73
139.05		16	1880	4.2	75	12	2020	3.5	74	10	2100	3.0	73
123.48		18	1820	4.5	75	14	1960	3.8	74	11	2060	3.3	74
110.40		20	1770	4.9	76	15	1900	4.1	75	13	2000	3.6	74
99.26		22	1700	5.2	76	17	1840	4.4	75	14	1960	3.9	75
86.15		26	1620	5.7	76	20	1770	4.8	76	16	1880	4.3	75
77.14		29	1540	6.0	76	22	1700	5.2	76	18	1820	4.6	76
64.00		34	1360	6.4	77	27	1580	5.7	77	22	1700	5.1	76
91.20	38/3	24	1540	4.5	87	19	1520	3.5	86	15	1510	2.9	85
81.76		27	1600	5.2	87	21	1600	4.0	86	17	1600	3.4	86
70.43		31	1600	6.0	87	24	1600	4.7	87	20	1600	3.9	86
64.27		34	1600	6.6	88	26	1600	5.1	87	22	1600	4.2	86
57.00		39	1600	7.4	88	30	1600	5.7	87	25	1600	4.8	87
47.91		46	1600	8.7	88	35	1600	6.8	88	29	1600	5.6	87
44.03		50	1600	9.5	88	39	1600	7.4	88	32	1600	6.1	87
39.10		56	1600	10.6	89	43	1600	8.3	88	36	1600	6.8	88
34.96		63	1600	11.9	89	49	1600	9.2	88	40	1600	7.6	88
31.43		70	1600	13.2	89	54	1600	10.2	89	45	1600	8.5	88
27.28		81	1450	13.7	89	62	1600	11.7	89	51	1600	9.7	89
24.43		90	1310	13.8	89	70	1600	13.1	89	57	1600	10.8	89
20.27		109	1080	13.8	89	84	1420	14.0	89	69	1600	13.0	89
25.50	34/6	86	1240	12.2	92	67	1240	9.5	91	55	1240	7.8	91
21.43		103	1240	14.5	92	79	1240	11.2	92	65	1240	9.3	91
19.70		112	1240	15.7 *	92	86	1240	12.2	92	71	1240	10.1	91
17.49		126	1240	17.7 *	92	97	1240	13.7	92	80	1240	11.3	92
15.64		141	1230	20 *	92	109	1240	15.3 *	92	90	1240	12.7	92
14.06		156	1110	20 *	92	121	1240	17.0 *	92	100	1240	14.1	92
12.21		180	970	20 *	93	139	1240	20 *	92	115	1240	16.1 *	92
10.93		201	870	20 *	93	156	1130	20 *	93	128	1240	18.0 *	92
9.07		243	720	20 *	92	187	950	20 *	93	154	1140	20 *	93
7.88		279	605	19 *	92	216	830	20 *	93	178	1010	20 *	93

* P_{emax} = 15 kW

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1100 - 700 min^{-1}

i_{tot}	i_s	n_e = 1100 min^{-1}				n_e = 900 min^{-1}				n_e = 700 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
288.00	40/1	3.8	2400	1.4	67	3.1	2450	1.2	66	2.4	2480	0.98	64
258.18		4.3	2380	1.6	68	3.5	2430	1.3	67	2.7	2470	1.1	65
222.40		4.9	2350	1.8	69	4.0	2400	1.5	68	3.1	2450	1.2	66
202.96		5.4	2330	1.9	70	4.4	2380	1.6	68	3.4	2430	1.3	67
180.00		6.1	2280	2.1	70	5.0	2350	1.8	69	3.9	2400	1.4	68
151.30		7.3	2240	2.4	71	5.9	2310	2.0	70	4.6	2350	1.7	69
139.05		7.9	2190	2.5	72	6.5	2260	2.2	71	5.0	2330	1.8	69
123.48		8.9	2150	2.8	73	7.3	2240	2.4	71	5.7	2310	2.0	70
110.40		10	2110	3.0	73	8.2	2190	2.6	72	6.3	2280	2.1	71
99.26		11	2070	3.3	74	9.1	2150	2.8	73	7.1	2240	2.3	71
86.15		13	2000	3.6	74	10	2090	3.1	73	8.1	2190	2.6	72
77.14		14	1940	3.9	75	12	2040	3.4	74	9.1	2150	2.8	73
64.00		17	1840	4.4	76	14	1960	3.9	75	11	2070	3.2	74
91.20	38/3	12	1490	2.2	84	9.9	1480	1.8	83	7.7	1460	1.4	82
81.76		13	1760	2.9	85	11	1760	2.4	84	8.6	1760	1.9	83
70.43		16	1760	3.4	85	13	1760	2.8	85	9.9	1760	2.2	83
64.27		17	1760	3.7	86	14	1760	3.0	85	11	1760	2.4	84
57.00		19	1760	4.1	86	16	1760	3.4	85	12	1760	2.7	84
47.91		23	1760	4.9	87	19	1760	4.0	86	15	1760	3.2	85
44.03		25	1760	5.3	87	20	1760	4.4	86	16	1760	3.4	85
39.10		28	1760	6.0	87	23	1760	4.9	87	18	1760	3.9	86
34.96		31	1760	6.6	88	26	1760	5.5	87	20	1760	4.3	86
31.43		35	1760	7.4	88	29	1760	6.1	87	22	1760	4.7	87
27.28		40	1760	8.4	88	33	1760	6.9	88	26	1760	5.4	87
24.43		45	1760	9.4	88	37	1760	7.7	88	29	1760	6.0	87
20.27		54	1760	11.3	89	44	1760	9.3	88	35	1760	7.2	88
25.50	34/6	43	1340	6.7	90	35	1340	5.5	90	27	1340	4.3	89
21.43		51	1340	7.9	91	42	1340	6.5	90	33	1340	5.1	90
19.70		56	1340	8.6	91	46	1340	7.1	91	36	1340	5.5	90
17.49		63	1340	9.7	91	51	1340	7.9	91	40	1340	6.2	90
15.64		70	1340	10.8	92	58	1340	8.9	91	45	1340	6.9	91
14.06		78	1340	12.0	92	64	1340	9.8	91	50	1340	7.7	91
12.21		90	1340	13.8	92	74	1340	11.3	92	57	1340	8.8	91
10.93		101	1340	15.3 *	92	82	1340	12.6	92	64	1340	9.8	91
9.07		121	1340	18.4 *	92	99	1340	15.1 *	92	77	1340	11.8	92
7.88		140	1260	20 *	93	114	1340	17.4 *	92	89	1340	13.6	92

* P_{emax} = 15 kW

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500 - 10 min^{-1}

i_{tot}	i_s	n_e = 500 min^{-1}				n_e = 250 min^{-1}				n_e = 10 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
288.00	40/1	1.7	2500	0.73	62	0.87	2500	0.38	59	0.03	2500	< 0.05	58
258.18		1.9	2500	0.80	63	0.97	2500	0.43	59	0.04	2500	< 0.05	58
222.40		2.2	2500	0.92	64	1.1	2500	0.49	60	0.04	2500	< 0.05	59
202.96		2.5	2480	0.99	64	1.2	2500	0.53	61	0.05	2500	< 0.05	59
180.00		2.8	2480	1.1	65	1.4	2500	0.60	61	0.06	2500	< 0.05	59
151.30		3.3	2430	1.3	67	1.7	2500	0.70	62	0.07	2500	< 0.05	59
139.05		3.6	2430	1.4	67	1.8	2500	0.75	63	0.07	2500	< 0.05	59
123.48		4.0	2400	1.5	68	2.0	2500	0.84	63	0.08	2500	< 0.05	59
110.40		4.5	2380	1.6	69	2.3	2500	0.93	64	0.09	2500	< 0.05	59
99.26		5.0	2330	1.8	69	2.5	2470	1.0	65	0.10	2470	< 0.05	59
86.15		5.8	2310	2.0	70	2.9	2450	1.1	66	0.12	2450	0.05	59
77.14		6.5	2260	2.2	71	3.2	2430	1.2	66	0.13	2430	0.06	59
64.00		7.8	2220	2.5	72	3.9	2400	1.5	68	0.16	2400	0.07	59
91.20	38/3	5.5	1450	1.0	81	2.7	1390	0.51	79	0.11	1390	< 0.05	78
81.76		6.1	1960	1.5	82	3.1	1880	0.76	79	0.12	1880	< 0.05	78
70.43		7.1	1980	1.8	82	3.5	1980	0.92	80	0.14	1980	< 0.05	79
64.27		7.8	1980	2.0	83	3.9	1980	1.0	80	0.16	1980	< 0.05	79
57.00		8.8	1980	2.2	83	4.4	1980	1.1	80	0.18	1980	< 0.05	79
47.91		10	1980	2.6	84	5.2	1980	1.3	81	0.21	1980	0.06	79
44.03		11	1980	2.8	84	5.7	1980	1.4	81	0.23	1980	0.06	79
39.10		13	1980	3.1	85	6.4	1980	1.6	82	0.26	1980	0.07	79
34.96		14	1980	3.5	85	7.2	1980	1.8	82	0.29	1980	0.08	79
31.43		16	1980	3.9	85	8.0	1980	2.0	83	0.32	1980	0.08	79
27.28		18	1980	4.4	86	9.2	1980	2.3	83	0.37	1980	0.10	79
24.43		20	1980	4.9	86	10	1980	2.5	84	0.41	1980	0.11	79
20.27		25	1980	5.9	87	12	1980	3.0	85	0.49	1980	0.13	79
25.50	34/6	20	1430	3.3	88	9.8	1390	1.6	87	0.39	1390	0.07	85
21.43		23	1420	3.9	89	12	1510	2.1	87	0.47	1510	0.09	85
19.70		25	1410	4.2	89	13	1570	2.4	87	0.51	1570	0.10	85
17.49		29	1390	4.6	89	14	1570	2.7	88	0.57	1570	0.11	85
15.64		32	1390	5.2	90	16	1540	2.9	88	0.64	1540	0.12	85
14.06		36	1390	5.7	90	18	1510	3.2	88	0.71	1510	0.13	85
12.21		41	1390	6.6	90	20	1460	3.5	89	0.82	1460	0.15	85
10.93		46	1390	7.3	91	23	1430	3.9	89	0.91	1430	0.16	85
9.07		55	1410	8.9	91	28	1390	4.5	89	1.1	1390	0.19	85
7.88		63	1410	10.3	91	32	1390	5.1	90	1.3	1390	0.22	85

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3400 - 2800 min^{-1}

i_{tot}	i_s	n_e = 3400 min^{-1}				n_e = 3200 min^{-1}				n_e = 2800 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
286.40	40/1	12	3520	5.8	76	11	3590	5.6	76	9.8	3700	5.0	75
262.22		13	3450	6.2	76	12	3520	5.9	76	11	3630	5.4	75
231.67		15	3310	6.7	76	14	3380	6.4	76	12	3520	5.9	76
196.52		17	3120	7.4	77	16	3210	7.2	76	14	3350	6.6	76
180.95		19	3030	7.8	77	18	3120	7.5	77	15	3250	6.9	76
161.74		21	2910	8.3	77	20	2970	8.0	77	17	3120	7.4	77
145.60		23	2760	8.8	77	22	2850	8.5	77	19	3000	7.9	77
131.85		26	2660	9.4	77	24	2740	9.1	77	21	2880	8.3	77
116.92		29	2320	9.3	76	27	2550	9.5	77	24	2740	8.9	77
105.71		32	1980	8.9	75	30	2210	9.2	76	26	2630	9.5	77
89.60		38	1280	7.3	70	36	1670	8.5	74	31	2210	9.4	77
78.26		43	920	6.4	65	41	1040	6.7	67	36	1770	8.8	75
65.45		52	675	5.9	63	49	775	6.2	64	43	1030	6.8	68
80.85	37/3	42	3150	15.5	89	40	3150	14.6	89	35	3150	12.8	89
71.43		48	3090	17.2	90	45	3150	16.5	89	39	3150	14.5	89
60.59		56	2910	19	90	53	2970	18.3	90	46	3120	16.9	90
55.79		61	2820	20	90	57	2880	19	90	50	3030	17.8	90
49.87		68	2710	22	90	64	2760	21	90	56	2910	19	90
44.89		76	2430	21	90	71	2630	22	90	62	2790	20	90
40.65		84	2170	21	90	79	2350	22	90	69	2680	21	90
36.05		94	1830	20	89	89	2020	21	89	78	2400	22	90
32.60		104	1560	19	89	98	1760	20	89	86	2150	22	90
27.63		123	1010	15.2	86	116	1320	18.2	88	101	1740	21	89
24.13		141	725	12.9	83	133	820	13.6	84	116	1390	19	88
26.39	35/6	129	1750	25 *	93	121	1750	24 *	93	106	1750	21	93
23.59		144	1750	28 *	93	136	1750	27 *	93	119	1750	23 *	93
21.23		160	1750	32 *	93	151	1750	30 *	93	132	1750	26 *	93
19.23		177	1550	31 *	93	166	1680	31 *	93	146	1750	29 *	93
17.05		199	1320	30 *	93	188	1450	31 *	93	164	1730	32 *	93
15.42		220	1110	28 *	92	208	1260	30 *	93	182	1540	31 *	93
13.07		260	725	22	90	245	940	26 *	92	214	1240	30 *	93
11.41		298	515	18.3	88	280	585	19	89	245	1000	28 *	92
9.55		356	375	16.2	87	335	435	17.5	87	293	580	20	89
8.26		412	290	14.7	85	387	335	15.8	86	339	455	18.4	88

* P_{emax} = 22 kW

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2200 - 1400 min^{-1}

i_{tot}	i_s	n_e = 2200 min^{-1}				n_e = 1700 min^{-1}				n_e = 1400 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
286.40	40/1	7.7	3920	4.2	74	5.9	4000	3.4	73	4.9	4000	2.9	72
262.22		8.4	3840	4.5	75	6.5	4000	3.7	73	5.3	4000	3.1	72
231.67		9.5	3770	5.0	75	7.3	3960	4.1	74	6.0	4000	3.5	73
196.52		11	3580	5.5	76	8.7	3840	4.7	75	7.1	4000	4.0	74
180.95		12	3510	5.9	76	9.4	3770	4.9	75	7.7	3920	4.3	74
161.74		14	3410	6.4	76	11	3650	5.3	76	8.7	3840	4.7	75
145.60		15	3270	6.8	77	12	3550	5.7	76	9.6	3730	5.0	75
131.85		17	3170	7.2	77	13	3440	6.1	76	11	3650	5.4	76
116.92		19	3020	7.7	77	15	3340	6.6	77	12	3510	5.8	76
105.71		21	2930	8.3	77	16	3210	7.0	77	13	3440	6.2	76
89.60		25	2730	9.1	77	19	3020	7.8	77	16	3240	6.9	77
78.26		28	2540	9.6	78	22	2870	8.4	78	18	3080	7.5	77
65.45		34	2120	9.7	77	26	2650	9.2	78	21	2900	8.3	78
80.85	37/3	27	3300	10.6	89	21	3270	8.2	88	17	3230	6.7	88
71.43		31	3300	12.0	89	24	3300	9.3	88	20	3300	7.7	88
60.59		36	3300	14.1	89	28	3300	10.9	89	23	3300	9.0	88
55.79		39	3270	15.1	89	30	3300	11.8	89	25	3300	9.8	88
49.87		44	3170	16.3	90	34	3300	13.2	89	28	3300	10.9	89
44.89		49	3050	17.5	90	38	3300	14.6	89	31	3300	12.1	89
40.65		54	2950	19	90	42	3230	15.8	90	34	3300	13.3	89
36.05		61	2810	20	90	47	3110	17.1	90	39	3300	15.0	89
32.60		67	2700	21	90	52	2980	18.1	90	43	3200	16.0	90
27.63		80	2390	22	90	62	2810	20	90	51	3010	17.8	90
24.13		91	2060	22	90	70	2670	22	90	58	2870	19	90
26.39	35/6	83	2550	24 *	93	64	2600	19	93	53	2600	15.6	92
23.59		93	2450	26 *	93	72	2600	21	93	59	2600	17.5	93
21.23		104	2380	28 *	93	80	2570	23 *	93	66	2600	19	93
19.23		114	2280	29 *	93	88	2500	25 *	93	73	2600	21	93
17.05		129	2170	31 *	93	100	2400	27 *	93	82	2570	24 *	93
15.42		143	2040	33 *	93	110	2300	28 *	93	91	2470	25 *	93
13.07		168	1720	32 *	93	130	2170	32 *	93	107	2330	28 *	93
11.41		193	1480	32 *	93	149	2000	33 *	93	123	2210	30 *	93
9.55		230	1200	31 *	93	178	1670	33 *	93	147	2040	33 *	94
8.26		266	980	30 *	93	206	1440	33 *	93	169	1770	34 *	94

* P_{emax} = 22 kW

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1100 - 700 min^{-1}

i_{tot}	i_s	n_e = 1100 min^{-1}				n_e = 900 min^{-1}				n_e = 700 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
286.40	40/1	3.8	4200	2.4	70	3.1	4200	2.0	69	2.4	4200	1.6	68
262.22		4.2	4200	2.6	71	3.4	4200	2.2	70	2.7	4200	1.7	68
231.67		4.7	4200	2.9	72	3.9	4200	2.4	70	3.0	4200	1.9	69
196.52		5.6	4160	3.4	73	4.6	4200	2.8	71	3.6	4200	2.2	70
180.95		6.1	4120	3.6	73	5.0	4200	3.0	72	3.9	4200	2.4	70
161.74		6.8	4030	3.9	74	5.6	4160	3.3	73	4.3	4200	2.7	71
145.60		7.6	3950	4.2	74	6.2	4080	3.6	73	4.8	4200	2.9	72
131.85		8.3	3880	4.5	75	6.8	4030	3.9	74	5.3	4200	3.2	72
116.92		9.4	3760	4.9	75	7.7	3910	4.2	74	6.0	4120	3.5	73
105.71		10	3650	5.3	76	8.5	3840	4.6	75	6.6	4030	3.8	74
89.60		12	3500	5.9	76	10	3690	5.1	76	7.8	3910	4.3	75
78.26		14	3370	6.5	77	12	3580	5.7	76	8.9	3800	4.7	75
65.45		17	3170	7.2	77	14	3400	6.4	77	11	3650	5.4	76
80.85	37/3	14	3230	5.3	87	11	3200	4.3	86	8.7	3170	3.4	85
71.43		15	3600	6.7	87	13	3600	5.5	87	9.8	3600	4.3	86
60.59		18	3600	7.8	88	15	3600	6.4	87	12	3600	5.0	86
55.79		20	3600	8.5	88	16	3600	7.0	87	13	3600	5.5	87
49.87		22	3600	9.4	88	18	3600	7.8	88	14	3600	6.1	87
44.89		25	3600	10.4	88	20	3600	8.6	88	16	3600	6.7	87
40.65		27	3600	11.5	89	22	3600	9.5	88	17	3600	7.4	88
36.05		31	3530	12.7	89	25	3600	10.6	89	19	3600	8.3	88
32.60		34	3420	13.5	89	28	3600	11.7	89	21	3600	9.2	88
27.63		40	3260	15.2	90	33	3460	13.2	89	25	3600	10.8	89
24.13		46	3130	16.6	90	37	3320	14.5	89	29	3560	12.2	89
26.39	35/6	42	2650	12.6	92	34	2620	10.2	92	27	2620	8.0	91
23.59		47	2650	14.0	92	38	2650	11.5	92	30	2620	8.9	91
21.23		52	2650	15.6	92	42	2650	12.8	92	33	2620	9.9	92
19.23		57	2650	17.2	93	47	2650	14.1	92	36	2620	10.9	92
17.05		65	2670	19	93	53	2650	15.9	92	41	2650	12.4	92
15.42		71	2670	21	93	58	2650	17.5	93	45	2650	13.7	92
13.07		84	2540	24 *	93	69	2670	21	93	54	2650	16.1	92
11.41		96	2420	26 *	93	79	2590	23 *	93	61	2650	18.4	93
9.55		115	2280	29 *	93	94	2440	26 *	93	73	2650	22	93
8.26		133	2140	32 *	94	109	2320	28 *	93	85	2540	24 *	93

* P_{emax} = 22 kW

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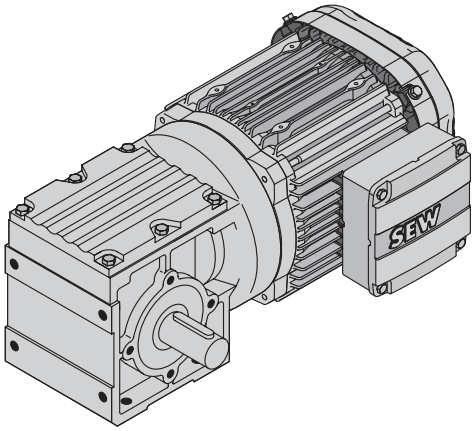
500 - 10 min^{-1}

i_{tot}	i_s	n_e = 500 min^{-1}				n_e = 250 min^{-1}				n_e = 10 min^{-1}			
		n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %	n_a min^{-1}	M_{amax} Nm	P_e kW	η %
286.40	40/1	1.7	4200	1.2	65	0.87	4200	0.62	62	0.03	4200	< 0.05	60
262.22		1.9	4200	1.3	66	0.95	4200	0.68	62	0.04	4200	< 0.05	60
231.67		2.2	4200	1.4	67	1.1	4200	0.76	63	0.04	4200	< 0.05	60
196.52		2.5	4200	1.6	68	1.3	4200	0.88	64	0.05	4200	< 0.05	60
180.95		2.8	4200	1.8	68	1.4	4200	0.95	64	0.06	4200	< 0.05	60
161.74		3.1	4200	2.0	69	1.5	4200	1.1	65	0.06	4200	< 0.05	60
145.60		3.4	4200	2.2	70	1.7	4200	1.2	65	0.07	4200	0.05	60
131.85		3.8	4200	2.4	70	1.9	4200	1.3	66	0.08	4200	0.06	60
116.92		4.3	4200	2.6	71	2.1	4200	1.4	67	0.09	4200	0.06	60
105.71		4.7	4200	2.9	72	2.4	4200	1.5	67	0.09	4200	0.07	60
89.60		5.6	4160	3.3	73	2.8	4200	1.8	69	0.11	4200	0.08	60
78.26		6.4	4080	3.7	74	3.2	4200	2.0	69	0.13	4200	0.09	60
65.45		7.6	3910	4.2	75	3.8	4200	2.4	70	0.15	4200	0.11	60
80.85	37/3	6.2	3110	2.4	84	3.1	3010	1.2	82	0.12	3010	< 0.05	80
71.43		7.0	4200	3.6	85	3.5	4160	1.9	82	0.14	4160	0.08	81
60.59		8.3	4200	4.3	85	4.1	4080	2.1	83	0.17	4080	0.09	81
55.79		9.0	4200	4.6	86	4.5	4200	2.4	83	0.18	4200	0.10	81
49.87		10	4200	5.1	86	5.0	4200	2.6	83	0.20	4200	0.11	81
44.89		11	4160	5.6	86	5.6	4200	2.9	84	0.22	4200	0.12	81
40.65		12	4120	6.1	87	6.2	4200	3.2	84	0.25	4200	0.13	81
36.05		14	4080	6.8	87	6.9	4200	3.6	85	0.28	4200	0.15	81
32.60		15	3990	7.3	87	7.7	4200	4.0	85	0.31	4200	0.17	81
27.63		18	3910	8.4	88	9.0	4200	4.7	86	0.36	4200	0.20	81
24.13		21	3800	9.3	88	10	4200	5.3	86	0.41	4200	0.23	81
26.39	35/6	19	2590	5.7	90	9.5	2540	2.8	89	0.38	2540	0.12	87
23.59		21	2590	6.3	91	11	2540	3.2	89	0.42	2540	0.13	87
21.23		24	2590	7.0	91	12	2570	3.6	89	0.47	2570	0.15	87
19.23		26	2620	7.8	91	13	2570	3.9	89	0.52	2570	0.16	87
17.05		29	2620	8.8	91	15	2570	4.4	90	0.59	2570	0.18	87
15.42		32	2620	9.7	92	16	2570	4.8	90	0.65	2570	0.20	87
13.07		38	2650	11.6	92	19	2590	5.7	90	0.77	2590	0.24	87
11.41		44	2650	13.2	92	22	2590	6.6	91	0.88	2590	0.27	87
9.55		52	2650	15.7	92	26	2620	7.9	91	1.0	2620	0.33	87
8.26		61	2650	18.1	93	30	2620	9.1	91	1.2	2620	0.38	87

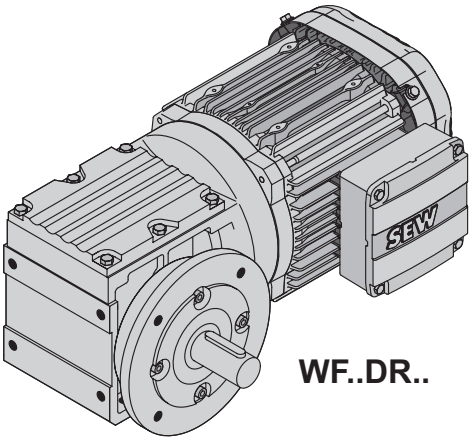
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12 SPIROPLAN® gearmotors

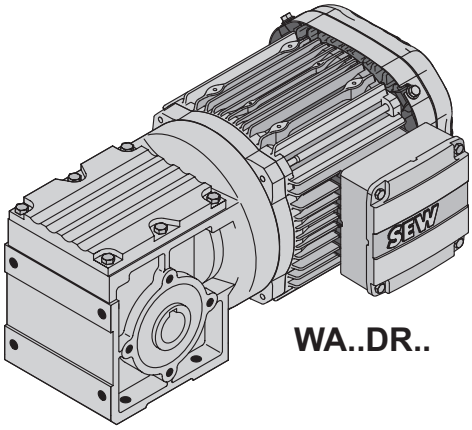
12.1 W..DRN.. designs



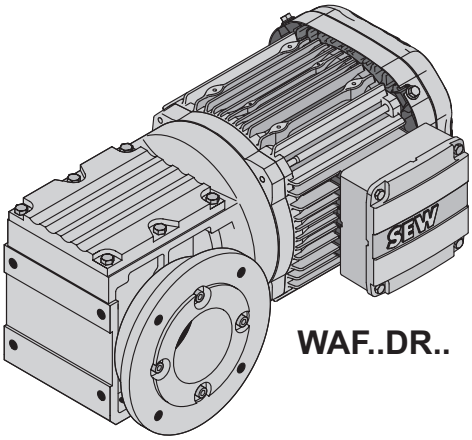
W..DR..



WF..DR..



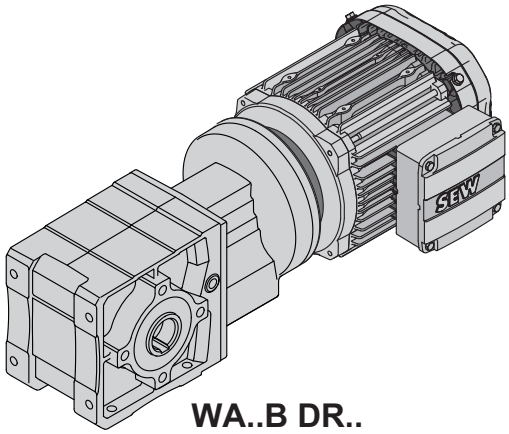
WA..DR..



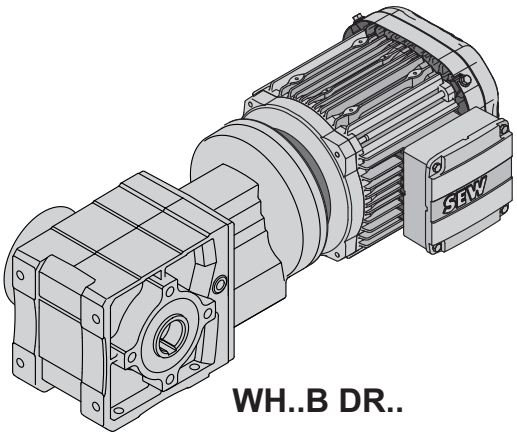
WAF..DR..

8665099019

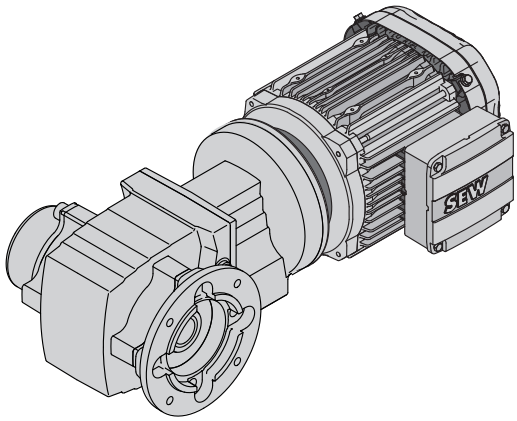
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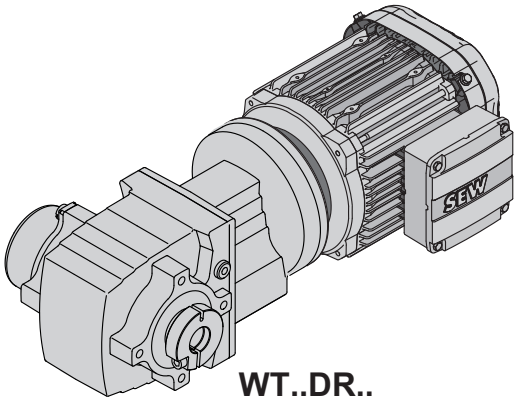
WA..B DR..



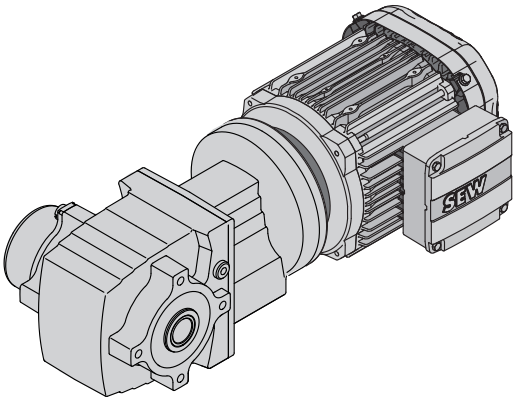
WH..B DR..



WHF..DR..



WT..DR..



WH..DR..

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12.2 Possible geometrical combinations of W..DRN.

W10, n_e=1700 min^{-1}					25 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DT56M DT56L
					1
23	25	1800	-	75.00*	
28	25	1800	-	60.00*	
35	25	1800	-	48.00*	
44	25	1800	-	39.00*	
52	25	1800	-	32.50*	
62	24	1800	-	27.50*	
69	25	1800	-	24.50*	
87	25	1800	-	19.50*	
103	20	1800	-	16.50*	
119	22	1800	-	14.33	
166	13	1800	-	10.25*	
207	12	1730	-	8.20*	
259	12	1610	-	6.57	

W20, n_e=1700 min^{-1}					40 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M
					1
23	40	2200	-	75.00*	
28	40	2200	-	60.00*	
35	40	2200	-	48.00*	
44	40	2200	-	39.00*	
52	40	2200	-	32.50*	
62	40	2200	-	27.50*	
69	40	2200	-	24.50*	
87	35	2110	-	19.50*	
103	30	2040	-	16.50*	
119	30	1960	-	14.33	
166	25	1780	-	10.25*	
207	20	1700	-	8.20*	
259	20	1600	-	6.57	

W30, n_e=1700 min^{-1}						70 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
					1	
23	70	3000	-	75.00*		
28	70	3000	-	60.00*		
35	70	3000	-	48.00*		
44	70	3000	-	39.00*		
52	70	3000	-	32.50*		
62	70	3000	-	27.50*		
69	70	3000	-	24.50*		

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W30, n_e=1700 min^{-1} — 70 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
87	70	3000	-	19.50*		
104	60	3000	-	16.33		
119	60	3000	-	14.33		
166	50	2750	-	10.25*		
207	40	2610	-	8.20*		
259	40	2430	-	6.57		

W37, n_e=1700 min^{-1} — 110 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L
					2		
25	110	3320	-	69.05			
27	110	3320	-	63.33			
32	110	3320	-	53.92			
37	110	3320	-	46.49			
45	110	3320	-	37.88			
49	90	3610	-	34.52			
54	90	3610	-	31.67			
54	110	3320	-	31.33			
61	110	3320	-	27.78			
63	90	3610	-	26.96			
73	90	3610	-	23.25			
80	110	3100	-	21.33			
90	90	3420	-	18.94			
108	90	3140	-	15.67			
122	90	2970	-	13.89			
134	70	3530	-	12.70			
146	70	3420	-	11.65			
159	90	2630	-	10.67			
171	70	3210	-	9.92			
199	70	3040	-	8.55			
244	70	2800	-	6.97			
295	70	2600	-	5.77			
333	70	2480	-	5.11			
433	70	2230	-	3.93			
531	70	2050	-	3.20*			

W37R17, n_e=1700 min^{-1} — 110 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M
					2 3
0.39	110	3320	-	4402	
0.45	110	3320	-	3795	
0.52	110	3320	-	3272	

W37R17, n_e=1700 min^{-1}					110 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M
0.59	110	3320	-	2899	
0.66	110	3320	-	2558	
0.71	110	3320	-	2382	
0.78	110	3320	-	2172	
0.87	110	3320	-	1952	
0.95	110	3320	-	1795	
1.1	110	3320	-	1593	
1.2	110	3320	-	1463	
1.3	110	3320	-	1298	
2.3	110	3320	-	754	
2.5	110	3320	-	669	
				 2 2	
1.4	110	3320	-	1173	
1.6	110	3320	-	1063	
1.8	110	3320	-	956	
2.0	110	3320	-	854	
2.8	110	3320	-	600	
3.2	110	3320	-	532	
3.6	110	3320	-	472	
3.9	110	3320	-	434	
4.4	110	3320	-	384	
4.7	110	3320	-	359	
5.2	110	3320	-	327	
5.9	110	3320	-	286	
6.4	110	3320	-	267	
7.3	110	3320	-	233	
8.2	110	3320	-	207	
9.2	110	3320	-	184	
11	110	3320	-	160	
12	110	3320	-	141	
14	110	3320	-	125	
16	110	3320	-	109	
18	110	3320	-	96	
21	110	3320	-	82	
23	90	3610	-	73	
27	90	3610	-	63	
32	90	3610	-	53	
35	90	3610	-	48	

W47, n_e=1700 min^{-1}									180 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M
						 2			
23	180	6400	-	74.98					
25	180	6400	-	68.93					
29	180	6090	-	58.98					
33	180	5700	-	51.12					

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W47, n_e=1700 min^{-1} — 180 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M DRN90S	DRN90L	DRN100L	DRN112M
36	180	5520	-	47.78					
41	180	5150	-	41.30					
48	180	4760	-	35.09					
54	160	5110	-	31.62					
54	180	4500	-	31.33					
62	160	4790	-	27.41					
64	180	4150	-	26.76					
66	160	4650	-	25.62					
68	180	4010	-	25.07					
77	160	4340	-	22.15					
90	160	4030	-	18.82					
101	160	3820	-	16.80					
118	160	3530	-	14.35					
126	160	3420	-	13.44					
138	110	4220	-	12.30					
150	160	3140	-	11.32					
159	110	3990	-	10.66					
171	110	3880	-	9.96					
197	110	3660	-	8.61					
232	110	3430	-	7.32					
260	110	3280	-	6.53					
305	110	3070	-	5.58					
325	110	2990	-	5.23					
386	110	2780	-	4.40					
437	110	2640	-	3.89					
520	110	2450	-	3.27					

W47R17, n_e=1700 min^{-1} — 180 Nm

n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
					 2 3	
0.35	180	6400	-	4815		
0.41	180	6400	-	4173		
0.44	180	6400	-	3870		
0.47	180	6400	-	3598		
0.51	180	6400	-	3354		
0.54	180	6400	-	3171		
0.62	180	6400	-	2748		
0.70	180	6400	-	2425		
0.75	180	6400	-	2258		
0.81	180	6400	-	2111		
0.87	180	6400	-	1959		
0.95	180	6400	-	1797		
1.1	180	6400	-	1595		
1.1	180	6400	-	1486		
1.2	180	6400	-	1448		
1.5	180	6400	-	1170		

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W47R17, n_e=1700 min^{-1}						180 Nm
n_a rpm	M_{amax} Nm	F_{Ra} N	$\varphi_{(/R)}$ '	i	DR63S DR63M DR63L DRS71S DRS71M	DRN80M
2.3	180	6400	-	754		
					2 2	
1.3	180	6400	-	1290		
1.4	180	6400	-	1183		
1.6	180	6400	-	1042		
1.8	180	6400	-	956		
2.0	180	6400	-	869		
2.6	180	6400	-	661		
2.9	180	6400	-	596		
3.2	180	6400	-	536		
3.6	180	6400	-	473		
3.9	180	6400	-	434		
4.4	180	6400	-	386		
4.7	180	6400	-	359		
5.3	180	6400	-	318		
5.8	180	6400	-	291		
6.3	180	6400	-	270		
6.4	180	6400	-	265		
7.2	180	6400	-	237		
8.1	180	6400	-	210		
9.3	180	6400	-	183		
11	180	6400	-	159		
12	180	6400	-	141		
14	160	6650	-	124		
14	180	6400	-	120		
16	160	6650	-	105		
18	160	6650	-	95		
20	160	6650	-	85		
22	160	6650	-	77		
24	160	6650	-	72		

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12.3 Selection tables W..DRN. in kW

P_m = 0.10 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
22	18	75.00*	1800	1.40							
27	16	60.00*	1800	1.55							
34	15	48.00*	1800	1.70							
42	13	39.00*	1800	1.90							
50	12	32.50*	1800	2.1							
60	11	27.50*	1800	2.3		**W**	**10**	**DT**	**56M4**	5.3	755
67	9.9	24.50*	1800	2.5		**WF**	**10**	**DT**	**56M4**	5.5	756
84	8.4	19.50*	1800	3.0		**WA**	**10**	**DT**	**56M4**	5.3	757
99	7.5	16.50*	1800	2.6		**WAF**	**10**	**DT**	**56M4**	5.5	756
114	6.8	14.33	1800	3.3							
160	5.2	10.25*	1800	2.5							
200	4.2	8.20*	1800	2.8							
250	3.5	6.57	1720	3.4							

P_m = 0.12 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
4.7	110	359	3330	1.00							
5.1	105	327	3400	1.05							
5.9	92	286	3590	1.20							
6.3	88	267	3640	1.25							
7.2	77	233	3760	1.45							
8.1	65	207	3870	1.70							
9.1	59	184	3920	1.85							
10	56	160	3950	1.95		**W**	**37R17**	**DR**	**63S4**	13	775
12	49	141	3990	2.2		**WF**	**37R17**	**DR**	**63S4**	13	775
13	44	125	4020	2.5		**WA**	**37R17**	**DR**	**63S4**	13	775
15	40	109	4050	2.8		**WAF**	**37R17**	**DR**	**63S4**	13	775
17	35	96	4070	3.1							
21	30	82	4090	3.7							
23	31	73	4080	2.9							
27	28	63	4100	3.3							
32	23	53	4110	3.9							
35	22	48	4120	4.2							
24	33	69.05	4080	3.4							
27	30	63.33	4090	3.6							
31	26	53.92	4100	4.2		**W**	**37**	**DR**	**63S4**	10	765
36	23	46.49	4110	4.8		**WF**	**37**	**DR**	**63S4**	10	766
44	19	37.88	4120	5.8		**WA**	**37**	**DR**	**63S4**	10	768
49	20	34.52	4120	4.6		**WAF**	**37**	**DR**	**63S4**	10	766
53	18	31.67	4120	5.0							
15	34	75.00*	3000	2.0		**W**	**30**	**DR**	**63M6**	9.1	761
18	32	60.00*	3000	2.2		**WF**	**30**	**DR**	**63M6**	9.4	762
34	21	32.50*	3000	3.3		**WA**	**30**	**DR**	**63M6**	8.8	764
40	20	27.50*	3000	3.6		**WAF**	**30**	**DR**	**63M6**	9.1	763
22	24	75.00*	3000	3.0							
28	22	60.00*	3000	3.2		**W**	**30**	**DR**	**63S4**	9.1	761
35	19	48.00*	3000	3.7		**WF**	**30**	**DR**	**63S4**	9.4	762
43	17	39.00*	3000	4.1		**WA**	**30**	**DR**	**63S4**	8.8	764
52	14	32.50*	3000	4.9		**WAF**	**30**	**DR**	**63S4**	9.1	763
15	31	75.00*	2200	1.30		**W**	**20**	**DR**	**63M6**	6.6	758
18	27	60.00*	2200	1.50		**WF**	**20**	**DR**	**63M6**	6.8	759
34	22	32.50*	2200	1.80		**WA**	**20**	**DR**	**63M6**	6.3	760
40	19	27.50*	2200	2.1		**WAF**	**20**	**DR**	**63M6**	6.3	759

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P_m = 0.12 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
22	21	75.00*	2200	1.90							
28	19	60.00*	2200	2.1							
35	17	48.00*	2200	2.4							
43	16	39.00*	2200	2.6							
52	15	32.50*	2200	2.6							
61	13	27.50*	2200	3.1		**W**	**20**	**DR**	**63S4**	6.6	758
69	12	24.50*	2200	3.5		**WF**	**20**	**DR**	**63S4**	6.8	759
86	9.9	19.50*	2200	3.5		**WA**	**20**	**DR**	**63S4**	6.3	760
102	8.6	16.50*	2200	3.5		**WAF**	**20**	**DR**	**63S4**	6.3	759
117	7.9	14.33	2200	3.8							
164	5.9	10.25*	2030	4.2							
205	4.9	8.20*	1900	4.1							
256	4.1	6.57	1780	4.9							
21	22	75.00*	1800	1.15							
27	19	60.00*	1800	1.30							
33	18	48.00*	1800	1.40							
41	16	39.00*	1800	1.55							
49	15	32.50*	1800	1.70							
58	13	27.50*	1800	1.85		**W**	**10**	**DT**	**56L4**	5.3	755
65	12	24.50*	1800	2.1		**WF**	**10**	**DT**	**56L4**	5.5	756
82	10	19.50*	1800	2.4		**WA**	**10**	**DT**	**56L4**	5.3	757
97	9.2	16.50*	1800	2.2		**WAF**	**10**	**DT**	**56L4**	5.5	756
112	8.3	14.33	1800	2.6							
156	6.3	10.25*	1800	2.0							
195	5.2	8.20*	1800	2.3							
243	4.3	6.57	1730	2.8							

P_m = 0.18 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
5.1	183	318	6380	1.00							
6.0	155	270	6560	1.15							
6.8	145	237	6620	1.25							
7.7	127	210	6730	1.40							
8.8	109	183	6840	1.65							
10	99	159	6890	1.80		**W**	**47R17**	**DR**	**63M4**	18	775
11	88	141	6960	2.0		**WF**	**47R17**	**DR**	**63M4**	19	775
13	91	124	7010	1.75		**WA**	**47R17**	**DR**	**63M4**	17	775
13	75	120	7030	2.4		**WAF**	**47R17**	**DR**	**63M4**	18	775
15	77	105	7080	2.1							
17	73	95	7100	2.2							
19	64	85	7140	2.5							
21	59	77	7160	2.7							
22	54	72	7180	3.0							
7.8	109	207	3340	1.00							
8.8	99	184	3500	1.10							
10	91	160	3600	1.20							
11	81	141	3720	1.35							
13	73	125	3810	1.50		**W**	**37R17**	**DR**	**63M4**	13	775
15	65	109	3880	1.70		**WF**	**37R17**	**DR**	**63M4**	13	775
17	58	96	3930	1.90		**WA**	**37R17**	**DR**	**63M4**	13	775
20	50	82	3990	2.2		**WAF**	**37R17**	**DR**	**63M4**	13	775
22	51	73	3980	1.75							
26	46	63	4010	1.95							
30	39	53	4050	2.3							
34	36	48	4060	2.5							
22	58	74.98	7120	3.1							
24	54	68.93	7140	3.3							
27	47	58.98	7180	3.8		**W**	**47**	**DR**	**63M4**	16	770
32	41	51.12	7200	4.4		**WF**	**47**	**DR**	**63M4**	16	771
34	39	47.78	7220	4.6		**WA**	**47**	**DR**	**63M4**	14	773
39	34	41.30	7120	5.3		**WAF**	**47**	**DR**	**63M4**	15	771
51	29	31.62	6600	5.6							

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P_m = 0.18 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
23	50	69.05	3980	2.2							
26	47	63.33	4010	2.4							
30	41	53.92	4040	2.7							
35	36	46.49	4060	3.1							
43	30	37.88	4090	3.7		**W**	**37**	**DR**	**63M4**	10	765
47	30	34.52	4090	3.0		**WF**	**37**	**DR**	**63M4**	10	766
51	28	31.67	4100	3.2		**WA**	**37**	**DR**	**63M4**	10	768
58	22	27.78	4110	4.9		**WAF**	**37**	**DR**	**63M4**	10	766
60	24	26.96	4110	3.7							
70	21	23.25	4120	4.3							
76	18	21.33	4120	6.2							
86	17	18.94	4120	5.2							
14	52	75.00*	3000	1.35		**W**	**30**	**DR**	**63L6**	9.8	761
18	48	60.00*	3000	1.45		**WF**	**30**	**DR**	**63L6**	10	762
33	32	32.50*	3000	2.2		**WA**	**30**	**DR**	**63L6**	9.5	764
39	30	27.50*	3000	2.3		**WAF**	**30**	**DR**	**63L6**	9.8	763
22	37	75.00*	3000	1.90							
27	34	60.00*	3000	2.1							
34	29	48.00*	3000	2.4							
42	27	39.00*	3000	2.6							
50	22	32.50*	3000	3.1							
59	21	27.50*	3000	3.4		**W**	**30**	**DR**	**63M4**	9.1	761
66	19	24.50*	3000	3.6		**WF**	**30**	**DR**	**63M4**	9.4	762
83	16	19.50*	3000	4.3		**WA**	**30**	**DR**	**63M4**	8.8	764
99	14	16.33	3000	4.3		**WAF**	**30**	**DR**	**63M4**	9.1	763
113	13	14.33	3000	4.7							
158	9.5	10.25*	3000	5.3							
198	7.8	8.20*	2990	5.2							
247	6.5	6.57	2790	6.1							
136	9.7	24.50*	3000	7.2							
170	8.2	19.50*	3000	8.6		**W**	**30**	**DR**	**63S2**	9.1	761
203	7.0	16.33	2960	8.6		**WF**	**30**	**DR**	**63S2**	9.4	762
232	6.3	14.33	2840	9.5		**WA**	**30**	**DR**	**63S2**	8.8	764
324	4.7	10.25*	2560	11		**WAF**	**30**	**DR**	**63S2**	9.1	763
405	3.9	8.20*	2380	10							
18	41	60.00*	2200	0.95		**W**	**20**	**DR**	**63L6**	7.3	758
39	29	27.50*	2200	1.40		**WF**	**20**	**DR**	**63L6**	7.5	759
55	23	19.50*	2200	1.55		**WA**	**20**	**DR**	**63L6**	7.0	760
						WAF	**20**	**DR**	**63L6**	7.0	759
22	33	75.00*	2200	1.20							
27	29	60.00*	2200	1.40							
34	26	48.00*	2200	1.50							
42	24	39.00*	2200	1.65							
50	23	32.50*	2200	1.70							
59	20	27.50*	2200	2.0		**W**	**20**	**DR**	**63M4**	6.6	758
66	18	24.50*	2200	2.2		**WF**	**20**	**DR**	**63M4**	6.8	759
83	15	19.50*	2200	2.3		**WA**	**20**	**DR**	**63M4**	6.3	760
98	13	16.50*	2200	2.2		**WAF**	**20**	**DR**	**63M4**	6.3	759
113	12	14.33	2200	2.4							
158	9.2	10.25*	2010	2.7							
198	7.6	8.20*	1890	2.6							
247	6.3	6.57	1780	3.1							
136	9.1	24.50*	2110	4.4							
170	7.8	19.50*	1970	4.5		**W**	**20**	**DR**	**63S2**	6.6	758
201	6.8	16.50*	1870	4.4		**WF**	**20**	**DR**	**63S2**	6.8	759
232	6.2	14.33	1790	4.8		**WA**	**20**	**DR**	**63S2**	6.3	760
324	4.6	10.25*	1620	5.4		**WAF**	**20**	**DR**	**63S2**	6.3	759
405	3.8	8.20*	1510	5.3							

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P_m = 0.25 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
8.7	160	183	6530	1.15							
10	143	159	6630	1.25							
11	128	141	6730	1.40							
13	132	124	6800	1.20		**W**	**47R17**	**DR**	**63L4**	19	775
13	110	120	6830	1.65		**WF**	**47R17**	**DR**	**63L4**	20	775
15	112	105	6910	1.45		**WA**	**47R17**	**DR**	**63L4**	18	775
17	105	95	6940	1.55		**WAF**	**47R17**	**DR**	**63L4**	18	775
19	92	85	7000	1.75							
21	86	77	7040	1.85							
22	78	72	7070	2.0							
13	105	125	3400	1.05							
15	94	109	3560	1.15							
17	84	96	3680	1.30		**W**	**37R17**	**DR**	**63L4**	14	775
20	72	82	3810	1.50		**WF**	**37R17**	**DR**	**63L4**	14	775
22	75	73	3780	1.20		**WA**	**37R17**	**DR**	**63L4**	14	775
26	66	63	3860	1.35		**WAF**	**37R17**	**DR**	**63L4**	14	775
30	57	53	3940	1.60							
33	52	48	3970	1.75							
						W	**47**	**DRS**	**71S6**	18	770
15	114	74.98	6810	1.60		**WF**	**47**	**DRS**	**71S6**	19	771
16	106	68.93	6860	1.70		**WA**	**47**	**DRS**	**71S6**	17	773
						WAF	**47**	**DRS**	**71S6**	17	771
21	82	74.98	6990	2.2							
23	76	68.93	7020	2.4		**W**	**47**	**DR**	**63L4**	16	770
27	66	58.98	7080	2.7		**WF**	**47**	**DR**	**63L4**	17	771
31	58	51.12	7120	3.1		**WA**	**47**	**DR**	**63L4**	15	773
33	55	47.78	7140	3.3		**WAF**	**47**	**DR**	**63L4**	16	771
23	71	69.05	3830	1.55							
25	66	63.33	3870	1.70							
30	57	53.92	3940	1.95							
34	50	46.49	3990	2.2							
42	42	37.88	4040	2.6							
46	43	34.52	4030	2.1							
51	40	31.67	4050	2.3							
58	32	27.78	4080	3.5		**W**	**37**	**DR**	**63L4**	11	765
59	34	26.96	4070	2.6		**WF**	**37**	**DR**	**63L4**	11	766
69	30	23.25	4090	3.0		**WA**	**37**	**DR**	**63L4**	11	768
75	25	21.33	4110	4.4		**WAF**	**37**	**DR**	**63L4**	11	766
84	24	18.94	4110	3.7							
102	20	15.67	4120	4.4							
115	18	13.89	3980	4.9							
126	18	12.70	3940	4.0							
137	16	11.65	3840	4.3							
150	14	10.67	3680	6.4							
161	14	9.92	3650	5.1							
15	71	75.00*	3000	1.00							
18	66	60.00*	3000	1.05		**W**	**30**	**DRS**	**71S6**	12	761
34	44	32.50*	3000	1.60		**WF**	**30**	**DRS**	**71S6**	12	762
45	38	24.50*	3000	1.85		**WA**	**30**	**DRS**	**71S6**	11	764
56	32	19.50*	3000	2.2		**WAF**	**30**	**DRS**	**71S6**	12	763
21	51	75.00*	3000	1.35							
27	47	60.00*	3000	1.50							
33	41	48.00*	3000	1.70							
41	37	39.00*	3000	1.90							
49	31	32.50*	3000	2.2							
58	29	27.50*	3000	2.4		**W**	**30**	**DR**	**63L4**	9.8	761
65	27	24.50*	3000	2.6		**WF**	**30**	**DR**	**63L4**	10	762
82	23	19.50*	3000	3.1		**WA**	**30**	**DR**	**63L4**	9.5	764
98	20	16.33	3000	3.1		**WAF**	**30**	**DR**	**63L4**	9.8	763
112	18	14.33	3000	3.4							
156	13	10.25*	3000	3.8							
195	11	8.20*	2980	3.7							
243	9.2	6.57	2780	4.3							

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P_m = 0.25 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
133	14	24.50*	3000	5.1							
167	12	19.50*	3000	6.1		**W**	**30**	**DR**	**63M2**	9.1	761
200	9.9	16.33	2950	6.1		**WF**	**30**	**DR**	**63M2**	9.4	762
227	8.9	14.33	2830	6.7		**WA**	**30**	**DR**	**63M2**	8.8	764
318	6.7	10.25*	2550	7.5		**WAF**	**30**	**DR**	**63M2**	9.1	763
398	5.4	8.20*	2380	7.3							
40	39	27.50*	2200	1.00							
45	35	24.50*	2200	1.15							
56	31	19.50*	2200	1.15		**W**	**20**	**DRS**	**71S6**	9.1	758
77	25	14.33	2200	1.20		**WF**	**20**	**DRS**	**71S6**	9.2	759
107	19	10.25*	2190	1.35		**WA**	**20**	**DRS**	**71S6**	8.8	760
134	15	8.20*	2070	1.30		**WAF**	**20**	**DRS**	**71S6**	8.8	759
167	13	6.57	1970	1.55							
27	40	60.00*	2200	1.00							
33	37	48.00*	2200	1.10							
41	34	39.00*	2200	1.20							
49	33	32.50*	2200	1.20							
58	28	27.50*	2200	1.45		**W**	**20**	**DR**	**63L4**	7.3	758
65	25	24.50*	2200	1.60		**WF**	**20**	**DR**	**63L4**	7.5	759
82	22	19.50*	2200	1.60		**WA**	**20**	**DR**	**63L4**	7.0	760
97	19	16.50*	2200	1.60		**WAF**	**20**	**DR**	**63L4**	7.0	759
112	17	14.33	2170	1.75							
156	13	10.25*	1980	1.95							
195	11	8.20*	1860	1.90							
243	8.9	6.57	1760	2.2							
100	17	32.50*	2200	2.4							
119	14	27.50*	2130	2.8							
133	13	24.50*	2070	3.1		**W**	**20**	**DR**	**63M2**	6.6	758
167	11	19.50*	1940	3.2		**WF**	**20**	**DR**	**63M2**	6.8	759
198	9.5	16.50*	1840	3.1		**WA**	**20**	**DR**	**63M2**	6.3	760
227	8.8	14.33	1770	3.4		**WAF**	**20**	**DR**	**63M2**	6.3	759
318	6.5	10.25*	1600	3.9							
398	5.3	8.20*	1500	3.8							

P_m = 0.37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
12	183	141	6380	1.00							
14	158	120	6540	1.15	X						
16	160	105	6650	1.00	X	**W**	**47R17**	**(E)DRS**	**71S4**	21	775
18	148	95	6720	1.10	X	**WF**	**47R17**	**(E)DRS**	**71S4**	21	775
20	132	85	6810	1.20	X	**WA**	**47R17**	**(E)DRS**	**71S4**	19	775
22	122	77	6860	1.30	X	**WAF**	**47R17**	**(E)DRS**	**71S4**	20	775
24	112	72	6910	1.45	X						
21	104	82	3410	1.05	X	**W**	**37R17**	**(E)DRS**	**71S4**	15	775
32	81	53	3720	1.10	X	**WF**	**37R17**	**(E)DRS**	**71S4**	15	775
35	74	48	3790	1.20	X	**WA**	**37R17**	**(E)DRS**	**71S4**	15	775
						WAF	**37R17**	**(E)DRS**	**71S4**	15	775
15	168	74.98	6480	1.05							
16	156	68.93	6550	1.15		**W**	**47**	**DRS**	**71M6**	19	770
19	136	58.98	6680	1.30		**WF**	**47**	**DRS**	**71M6**	20	771
22	120	51.12	6770	1.50		**WA**	**47**	**DRS**	**71M6**	18	773
23	113	47.78	6820	1.60		**WAF**	**47**	**DRS**	**71M6**	19	771

P_m = 0.37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
23	114	74.98	6810	1.55	X						
25	106	68.93	6850	1.70	X						
29	92	58.98	6930	1.95	X						
33	81	51.12	6950	2.2	X						
36	76	47.78	6830	2.4	X						
41	67	41.30	6580	2.7	X						
48	58	35.09	6300	3.1	X						
54	56	31.62	6200	2.8	X						
54	52	31.33	6110	3.5	X	**W**	**47**	**(E)DRS**	**71S4**	18	770
62	49	27.41	5960	3.2	X	**WF**	**47**	**(E)DRS**	**71S4**	19	771
64	45	26.76	5860	4.0	X	**WA**	**47**	**(E)DRS**	**71S4**	17	773
66	46	25.62	5840	3.5	X	**WAF**	**47**	**(E)DRS**	**71S4**	17	771
68	42	25.07	5750	4.2	X						
77	40	22.15	5610	4.0	X						
90	34	18.82	5350	4.6	X						
101	31	16.80	5180	5.2	X						
118	27	14.35	4940	6.0	X						
138	24	12.30	4800	4.5	X						
159	21	10.66	4590	5.2	X						
171	20	9.96	4490	5.6	X						
27	92	63.33	3590	1.20	X						
32	80	53.92	3730	1.40	X						
37	70	46.49	3830	1.55	X						
45	58	37.88	3930	1.90	X						
49	60	34.52	3920	1.50	X						
54	55	31.67	3950	1.65	X						
61	44	27.78	4020	2.5	X						
63	48	26.96	4000	1.90	X	**W**	**37**	**(E)DRS**	**71S4**	13	765
73	41	23.25	4040	2.2	X	**WF**	**37**	**(E)DRS**	**71S4**	13	766
80	35	21.33	4070	3.2	X	**WA**	**37**	**(E)DRS**	**71S4**	13	768
90	34	18.94	4070	2.6	X	**WAF**	**37**	**(E)DRS**	**71S4**	13	766
109	29	15.67	3930	3.2	X						
122	25	13.89	3800	3.5	X						
134	24	12.70	3800	2.9	X						
146	22	11.65	3700	3.1	X						
159	20	10.67	3530	4.5	X						
171	19	9.92	3530	3.6	X						
199	17	8.55	3370	4.2	X						
23	72	75.00*	3000	0.95							
28	66	60.00*	3000	1.05	X						
35	58	48.00*	3000	1.20	X						
44	52	39.00*	3000	1.35	X						
52	44	32.50*	3000	1.60	X						
62	41	27.50*	3000	1.75	X	**W**	**30**	**(E)DRS**	**71S4**	12	761
69	38	24.50*	3000	1.85	X	**WF**	**30**	**(E)DRS**	**71S4**	12	762
87	32	19.50*	3000	2.2	X	**WA**	**30**	**(E)DRS**	**71S4**	11	764
104	27	16.33	3000	2.2	X	**WAF**	**30**	**(E)DRS**	**71S4**	12	763
119	25	14.33	3000	2.4	X						
166	19	10.25*	3000	2.7	X						
207	15	8.20*	2880	2.6	X						
259	13	6.57	2690	3.1	X						
133	20	24.50*	3000	3.4							
167	17	19.50*	3000	4.1		**W**	**30**	**DR**	**63L2**	9.8	761
199	15	16.33	2900	4.1		**WF**	**30**	**DR**	**63L2**	10	762
227	13	14.33	2790	4.5		**WA**	**30**	**DR**	**63L2**	9.5	764
317	9.9	10.25*	2520	5.1		**WAF**	**30**	**DR**	**63L2**	9.8	763
396	8.1	8.20*	2360	5.0							
62	39	27.50*	2200	1.05	X						
69	35	24.50*	2200	1.15	X						
87	30	19.50*	2180	1.15	X	**W**	**20**	**(E)DRS**	**71S4**	9.1	758
103	26	16.50*	2090	1.15	X	**WF**	**20**	**(E)DRS**	**71S4**	9.2	759
119	24	14.33	2030	1.25	X	**WA**	**20**	**(E)DRS**	**71S4**	8.8	760
166	18	10.25*	1870	1.40	X	**WAF**	**20**	**(E)DRS**	**71S4**	8.8	759
207	15	8.20*	1770	1.35	X						
259	12	6.57	1690	1.60	X						

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P_m = 0.37 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
133	19	24.50*	1980	2.1							
167	16	19.50*	1870	2.1		**W**	**20**	**DR**	**63L2**	7.3	758
197	14	16.50*	1780	2.1		**WF**	**20**	**DR**	**63L2**	7.5	759
227	13	14.33	1720	2.3		**WA**	**20**	**DR**	**63L2**	7.0	760
317	9.6	10.25*	1570	2.6		**WAF**	**20**	**DR**	**63L2**	7.0	759
396	7.9	8.20*	1470	2.5							

P_m = 0.55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
22	175	51.12	6430	1.05							
23	165	47.78	6500	1.10							
27	145	41.30	6620	1.25		**W**	**47**	**DRS**	**80S6**	22	770
32	125	35.09	6500	1.45		**WF**	**47**	**DRS**	**80S6**	22	771
35	124	31.62	6490	1.30		**WA**	**47**	**DRS**	**80S6**	20	773
36	113	31.33	6350	1.60		**WAF**	**47**	**DRS**	**80S6**	21	771
41	109	27.41	6300	1.45							
44	102	25.62	6200	1.55							
23	171	74.98	6460	1.05	X						
25	159	68.93	6540	1.15	X						
29	138	58.98	6630	1.30	X						
33	121	51.12	6450	1.50	X						
35	114	47.78	6370	1.60	X	**W**	**47**	**(E)DRS**	**71M4**	19	770
41	100	41.30	6180	1.80	X	**WF**	**47**	**(E)DRS**	**71M4**	20	771
48	86	35.09	5960	2.1	X	**WA**	**47**	**(E)DRS**	**71M4**	18	773
53	84	31.62	5920	1.90	X	**WAF**	**47**	**(E)DRS**	**71M4**	19	771
54	78	31.33	5800	2.3	X						
62	74	27.41	5710	2.2	X						
66	69	25.62	5620	2.3	X						
45	87	37.88	3650	1.25	X						
53	83	31.67	3700	1.10	X						
61	66	27.78	3870	1.65	X						
63	71	26.96	3820	1.25	X						
73	62	23.25	3900	1.45	X						
79	52	21.33	3980	2.1	X						
89	51	18.94	3930	1.75	X						
108	43	15.67	3760	2.1	X	**W**	**37**	**(E)DRS**	**71M4**	14	765
122	38	13.89	3650	2.4	X	**WF**	**37**	**(E)DRS**	**71M4**	14	766
133	37	12.70	3700	1.90	X	**WA**	**37**	**(E)DRS**	**71M4**	14	768
145	34	11.65	3620	2.1	X	**WAF**	**37**	**(E)DRS**	**71M4**	14	766
158	30	10.67	3410	3.0	X						
170	29	9.92	3450	2.4	X						
198	25	8.55	3310	2.8	X						
242	20	6.97	3110	3.5	X						
293	17	5.77	2940	4.2	X						
331	15	5.11	2840	4.7	X						
431	12	3.93	2620	6.0	X						
52	66	32.50*	3000	1.05	X						
61	61	27.50*	3000	1.15	X						
69	56	24.50*	3000	1.25	X	**W**	**30**	**(E)DRS**	**71M4**	13	761
103	41	16.33	3000	1.45	X	**WF**	**30**	**(E)DRS**	**71M4**	13	762
118	37	14.33	3000	1.60	X	**WA**	**30**	**(E)DRS**	**71M4**	13	764
165	28	10.25*	2990	1.80	X	**WAF**	**30**	**(E)DRS**	**71M4**	13	763
206	23	8.20*	2810	1.75	X						
257	19	6.57	2640	2.1	X						
140	29	24.50*	3000	2.4							
175	24	19.50*	2920	2.9		**W**	**30**	**DRS**	**71M2**	13	761
209	21	16.33	2780	2.9		**WF**	**30**	**DRS**	**71M2**	13	762
239	19	14.33	2680	3.2		**WA**	**30**	**DRS**	**71M2**	13	764
334	14	10.25*	2440	3.6		**WAF**	**30**	**DRS**	**71M2**	13	763
417	11	8.20*	2280	3.5							

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P_m = 0.55 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} 1) N	SEW f_B	HAZ LOC					m kg	
140	27	24.50*	1830	1.45							
175	23	19.50*	1740	1.50							
207	20	16.50*	1660	1.50		**W**	**20**	**DRS**	**71M2**	10	758
239	18	14.33	1620	1.65		**WF**	**20**	**DRS**	**71M2**	11	759
334	14	10.25*	1490	1.85		**WA**	**20**	**DRS**	**71M2**	10	760
417	11	8.20*	1410	1.80		**WAF**	**20**	**DRS**	**71M2**	10	759
520	9.4	6.57	1340	2.1							

P_m = 0.75 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} 1) N	SEW f_B	HAZ LOC					m kg	
30	182	58.98	5980	1.00							
34	160	51.12	5870	1.10	X						
37	151	47.78	5810	1.20	X						
42	132	41.30	5680	1.35	X						
50	114	35.09	5520	1.60	X						
55	111	31.62	5550	1.45	X	**W**	**47**	**(E)DRN**	**80M4**	24	770
56	103	31.33	5410	1.75	X	**WF**	**47**	**(E)DRN**	**80M4**	25	771
64	97	27.41	5390	1.65	X	**WA**	**47**	**(E)DRN**	**80M4**	23	773
65	89	26.76	5240	2.0	X	**WAF**	**47**	**(E)DRN**	**80M4**	24	771
68	91	25.62	5310	1.75	X						
70	84	25.07	5170	2.1	X						
79	79	22.15	5140	2.0	X						
93	68	18.82	4940	2.4	X						
142	48	12.30	4590	2.3	X						
56	97	31.33	3520	1.15	X						
63	87	27.78	3650	1.25	X						
75	82	23.25	3710	1.10	X						
82	69	21.33	3680	1.60	X						
92	67	18.94	3670	1.35	X						
112	56	15.67	3530	1.60	X						
126	50	13.89	3440	1.80	X	**W**	**37**	**(E)DRN**	**80M4**	18	765
164	39	10.67	3240	2.3	X	**WF**	**37**	**(E)DRN**	**80M4**	18	766
176	38	9.92	3400	1.85	X	**WA**	**37**	**(E)DRN**	**80M4**	18	768
205	32	8.55	3260	2.2	X	**WAF**	**37**	**(E)DRN**	**80M4**	18	766
251	26	6.97	3070	2.6	X						
304	22	5.77	2900	3.2	X						
343	20	5.11	2800	3.6	X						
446	15	3.93	2580	4.7	X						
547	12	3.20*	2420	5.7	X						
107	54	16.33	3000	1.10	X						
122	49	14.33	3000	1.25	X	**W**	**30**	**(E)DRN**	**80M4**	17	761
171	37	10.25*	2870	1.35	X	**WF**	**30**	**(E)DRN**	**80M4**	18	762
214	30	8.20*	2710	1.35	X	**WA**	**30**	**(E)DRN**	**80M4**	17	764
266	25	6.57	2560	1.60	X	**WAF**	**30**	**(E)DRN**	**80M4**	17	763
142	39	24.50*	2970	1.80							
213	28	16.33	2690	2.2		**W**	**30**	**DRN**	**80MS2**	17	761
243	25	14.33	2600	2.4		**WF**	**30**	**DRN**	**80MS2**	18	762
339	19	10.25*	2380	2.7		**WA**	**30**	**DRN**	**80MS2**	17	764
424	15	8.20*	2240	2.6		**WAF**	**30**	**DRN**	**80MS2**	17	763

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P_m = 1.1 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
50	166	35.09	4850	1.10	X						
56	162	31.62	5000	1.00							
56	150	31.33	4800	1.20	X						
64	142	27.41	4910	1.15	X						
66	129	26.76	4710	1.40	X						
69	133	25.62	4860	1.20	X						
70	122	25.07	4670	1.50	X	**W**	**47**	**(E)DRN**	**90S4**	30	770
80	116	22.15	4740	1.40	X	**WF**	**47**	**(E)DRN**	**90S4**	31	771
94	99	18.82	4600	1.60	X	**WA**	**47**	**(E)DRN**	**90S4**	29	773
105	89	16.80	4500	1.80	X	**WAF**	**47**	**(E)DRN**	**90S4**	30	771
123	76	14.35	4350	2.1	X						
131	72	13.44	4290	2.2	X						
143	70	12.30	4430	1.60	X						
165	60	10.66	4260	1.80	X						
177	57	9.96	4190	1.95	X						
205	49	8.61	4020	2.2	X						
112	82	15.67	3200	1.10	X						
127	73	13.89	3140	1.25	X						
165	57	10.67	3010	1.60	X						
178	55	9.92	3270	1.30	X	**W**	**37**	**(E)DRN**	**90S4**	24	765
206	47	8.55	3150	1.50	X	**WF**	**37**	**(E)DRN**	**90S4**	24	766
253	39	6.97	2980	1.80	X	**WA**	**37**	**(E)DRN**	**90S4**	24	768
306	32	5.77	2820	2.2	X	**WAF**	**37**	**(E)DRN**	**90S4**	24	766
345	28	5.11	2730	2.5	X						
449	22	3.93	2530	3.2	X						
551	18	3.20*	2380	3.9	X						
213	41	16.33	2550	1.45		**W**	**30**	**DRN**	**80M2**	17	761
243	37	14.33	2470	1.65		**WF**	**30**	**DRN**	**80M2**	18	762
340	27	10.25*	2300	1.80		**WA**	**30**	**DRN**	**80M2**	17	764
425	22	8.20*	2170	1.80		**WAF**	**30**	**DRN**	**80M2**	17	763

P_m = 1.5 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
66	176	26.76	4120	1.00	X						
70	166	25.07	4110	1.10	X						
80	157	22.15	4300	1.00	X						
94	135	18.82	4220	1.20	X						
105	121	16.80	4160	1.30	X						
123	104	14.35	4060	1.55	X	**W**	**47**	**(E)DRN**	**90L4**	34	770
131	98	13.44	4010	1.65	X	**WF**	**47**	**(E)DRN**	**90L4**	34	771
156	83	11.32	3890	1.95	X	**WA**	**47**	**(E)DRN**	**90L4**	32	773
166	82	10.66	4110	1.35	X	**WAF**	**47**	**(E)DRN**	**90L4**	33	771
177	77	9.96	4040	1.45	X						
205	67	8.61	3900	1.65	X						
241	57	7.32	3740	1.95	X						
270	51	6.53	3620	2.2	X						
166	77	10.67	2740	1.15	X						
207	64	8.55	3030	1.10	X						
254	53	6.97	2880	1.35	X	**W**	**37**	**(E)DRN**	**90L4**	27	765
306	44	5.77	2740	1.60	X	**WF**	**37**	**(E)DRN**	**90L4**	27	766
346	39	5.11	2660	1.80	X	**WA**	**37**	**(E)DRN**	**90L4**	27	768
450	30	3.93	2470	2.4	X	**WAF**	**37**	**(E)DRN**	**90L4**	27	766
552	24	3.20*	2330	2.9	X						

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P_m = 2.2 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
123	153	14.35	3550	1.05	X						
131	143	13.44	3530	1.10	X						
156	122	11.32	3480	1.30	X						
205	98	8.61	3690	1.10	X						
241	83	7.32	3560	1.30	X	**W**	**47**	**(E)DRN**	**100L4**	45	770
270	75	6.53	3460	1.45	X	**WF**	**47**	**(E)DRN**	**100L4**	45	771
316	64	5.58	3330	1.70	X	**WA**	**47**	**(E)DRN**	**100L4**	43	773
338	60	5.23	3280	1.85	X	**WAF**	**47**	**(E)DRN**	**100L4**	44	771
401	51	4.40	3140	2.2	X						
454	45	3.89	3040	2.5	X						
540	38	3.27	2890	2.9	X						

P_m = 3.0 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
270	102	6.53	3280	1.10	X						
316	87	5.58	3180	1.25	X	**W**	**47**	**(E)DRN**	**100L4**	45	770
337	82	5.23	3130	1.35	X	**WF**	**47**	**(E)DRN**	**100L4**	45	771
400	69	4.40	3010	1.60	X	**WA**	**47**	**(E)DRN**	**100L4**	43	773
453	61	3.89	2930	1.80	X	**WAF**	**47**	**(E)DRN**	**100L4**	44	771
540	51	3.27	2800	2.1	X						

P_m = 3.7 kW

n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
336	101	5.23	3010	1.10	X	**W**	**47**	**(E)DRN**	**100L4**	45	770
399	85	4.40	2910	1.30	X	**WF**	**47**	**(E)DRN**	**100L4**	45	771
452	76	3.89	2830	1.45	X	**WA**	**47**	**(E)DRN**	**100L4**	43	773
538	64	3.27	2720	1.75	X	**WAF**	**47**	**(E)DRN**	**100L4**	44	771

P_m = 4.0 kW

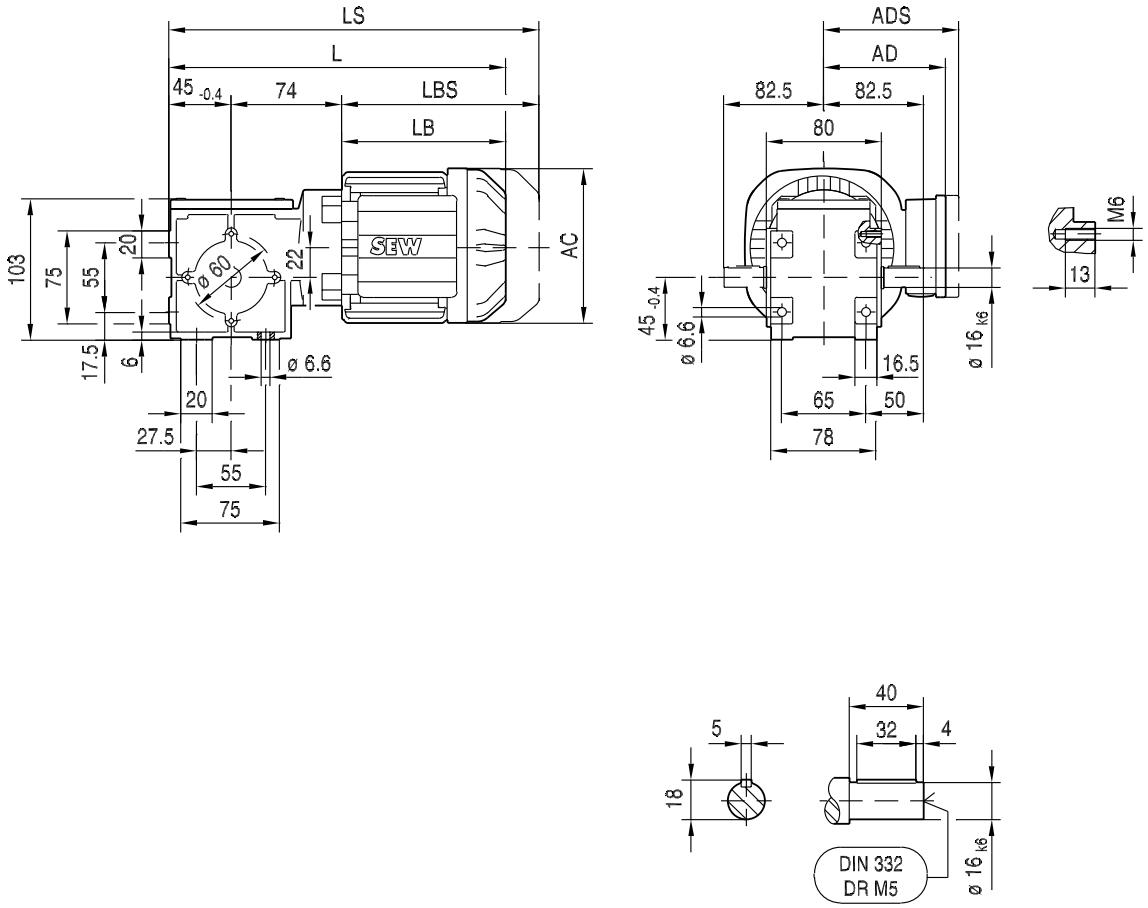
n_a min^{-1}	M_a Nm	i	F_{Ra} [1] N	SEW f_B	HAZ LOC					m kg	
338	109	5.23	2950	1.00	X	**W**	**47**	**(E)DRN**	**112M4**	54	770
402	92	4.40	2860	1.20	X	**WF**	**47**	**(E)DRN**	**112M4**	55	771
455	81	3.89	2790	1.35	X	**WA**	**47**	**(E)DRN**	**112M4**	53	773
542	68	3.27	2690	1.60	X	**WAF**	**47**	**(E)DRN**	**112M4**	53	771

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12.4 W..DRN.. dimension sheets in mm

W10..

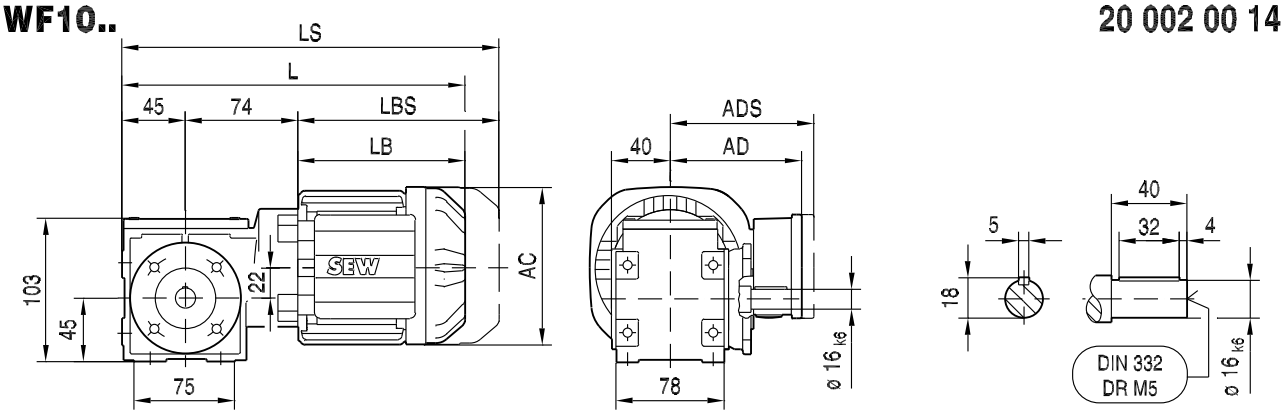
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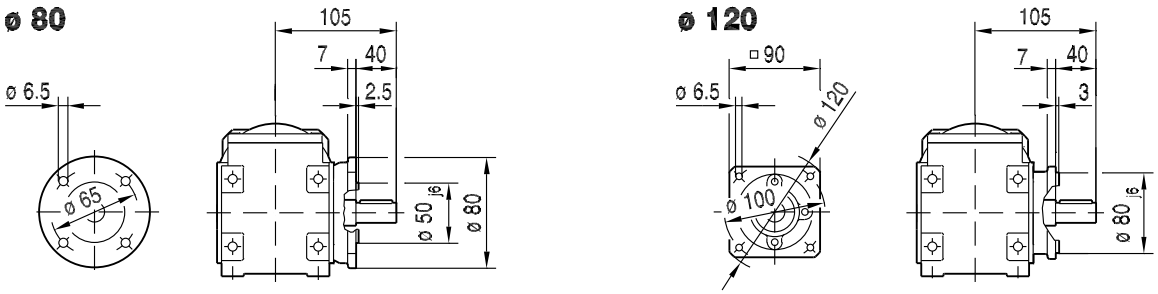


(→ 177)	DT56..							
AC	109							
AD	87							
ADS	87							
L	255							
LS	291							
LB	136							
LBS	172							

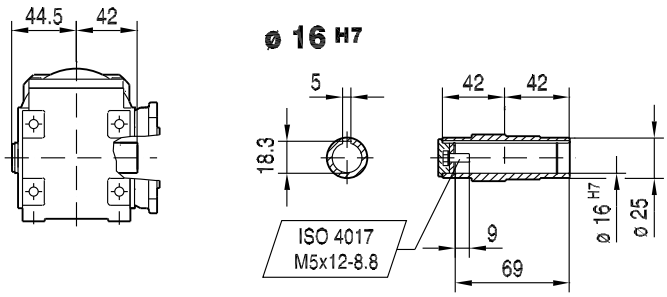
WF10..

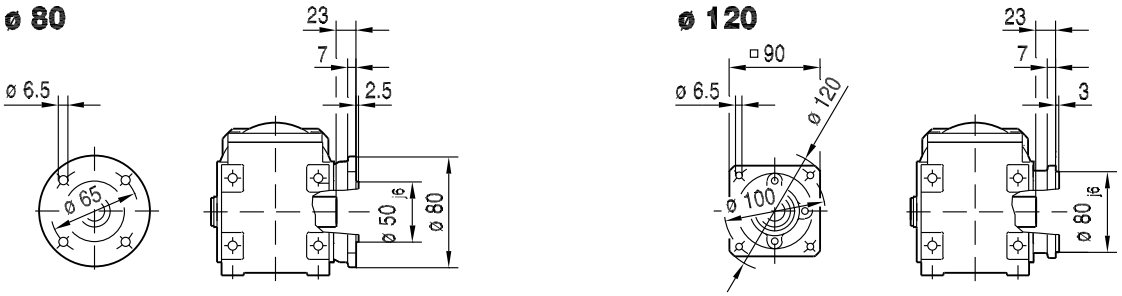
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WAF10..

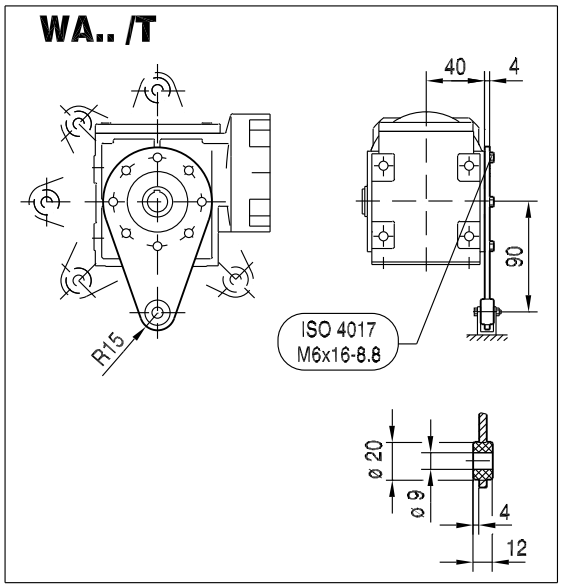


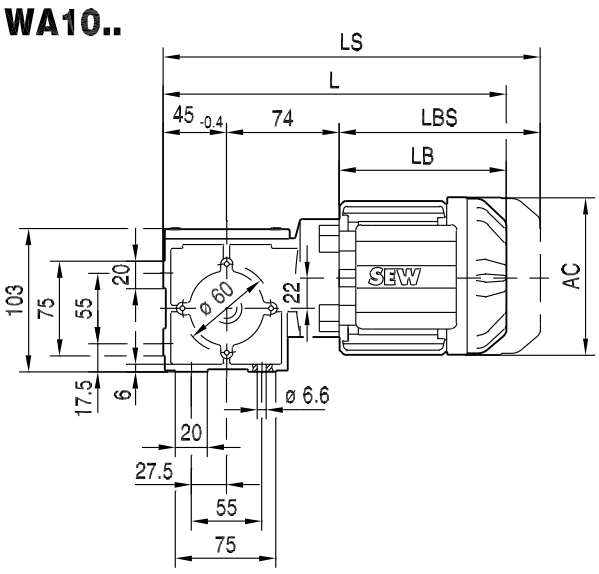


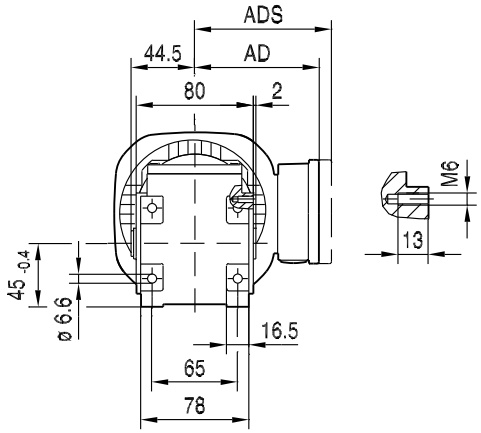
(→ 177)	DT56..							
AC	109							
AD	87							
ADS	87							
L	255							
LS	291							
LB	136							
LBS	172							

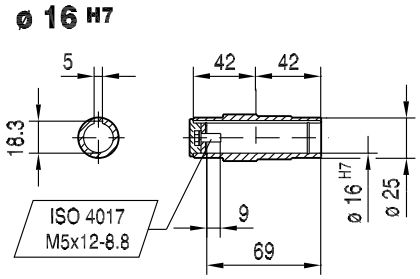
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20 003 00 14





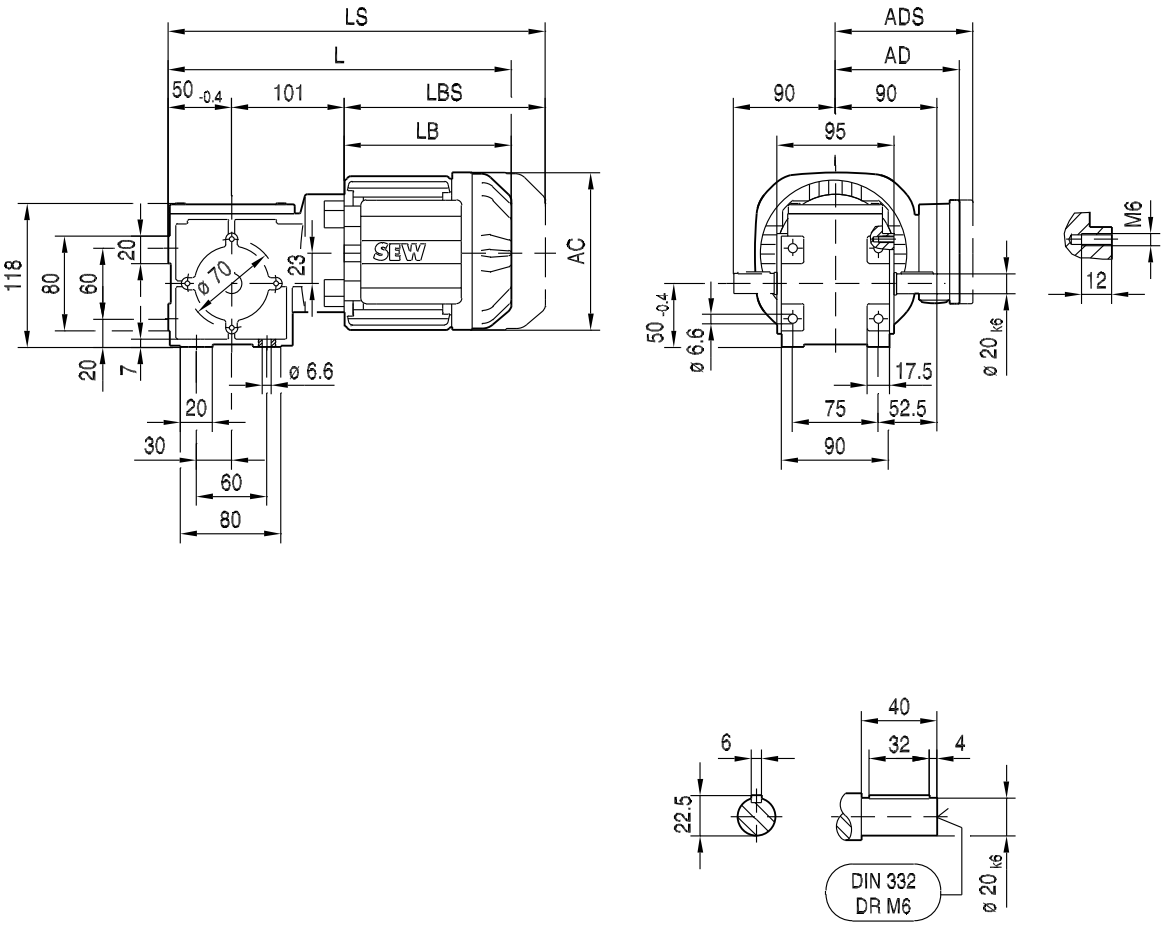




(→ 177)	DT56..							
AC	109							
AD	87							
ADS	87							
L	255							
LS	291							
LB	136							
LBS	172							

W20..

20 004 00 14

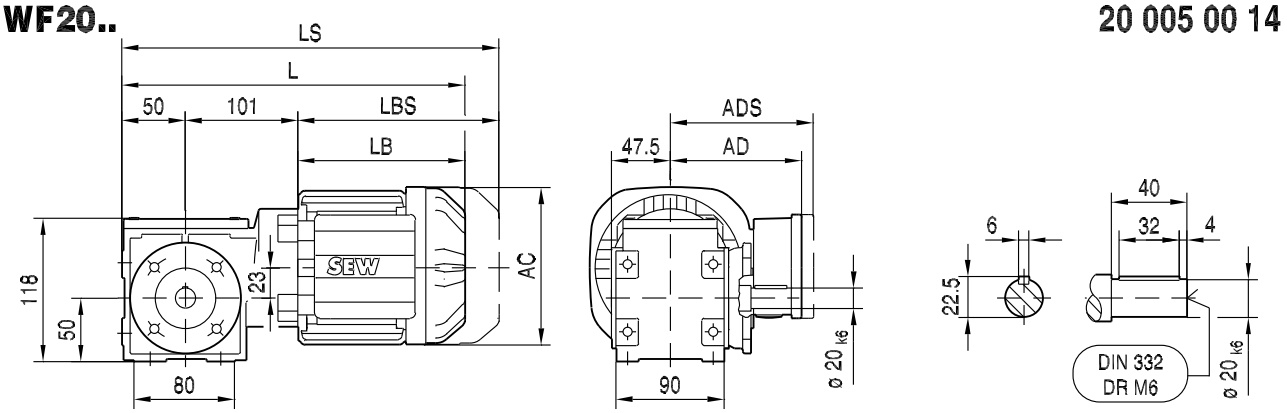


(→ 177)	DR63..	DR71S	DR71M					
AC	132	139	139					
AD	105	119	119					
ADS	105	129	129					
L	300	311	336					
LS	355	379	404					
LB	149	160	185					
LBS	204	228	253					

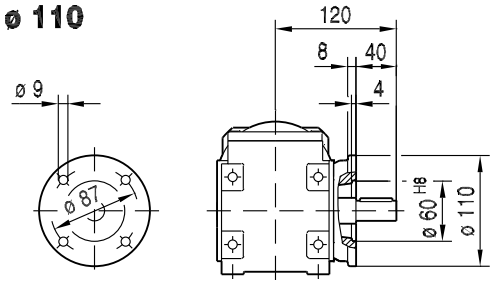
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WF20..

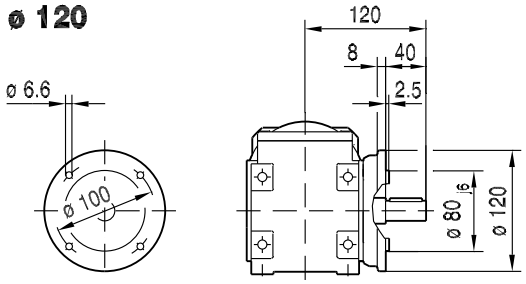
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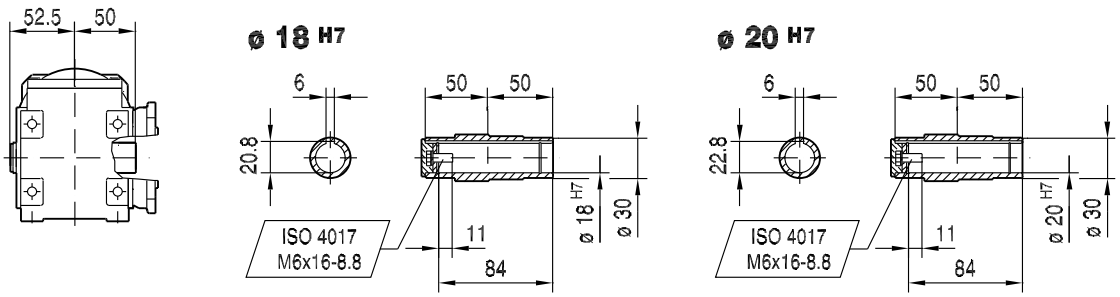
ø 110



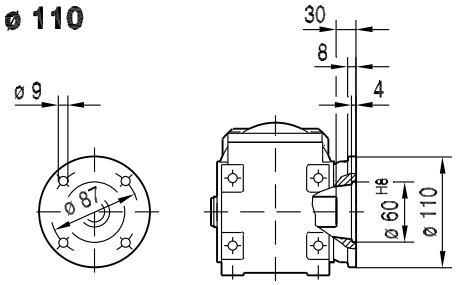
ø 120



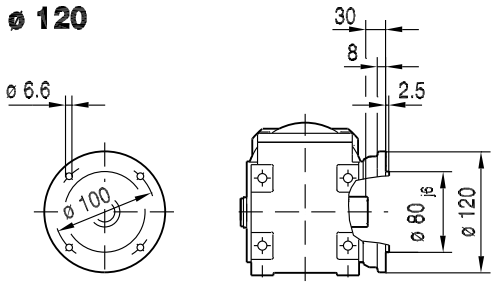
WAF20..



ø 110



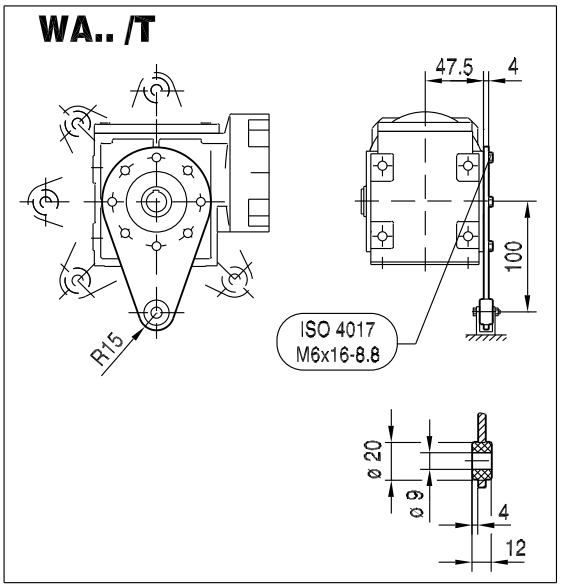
ø 120

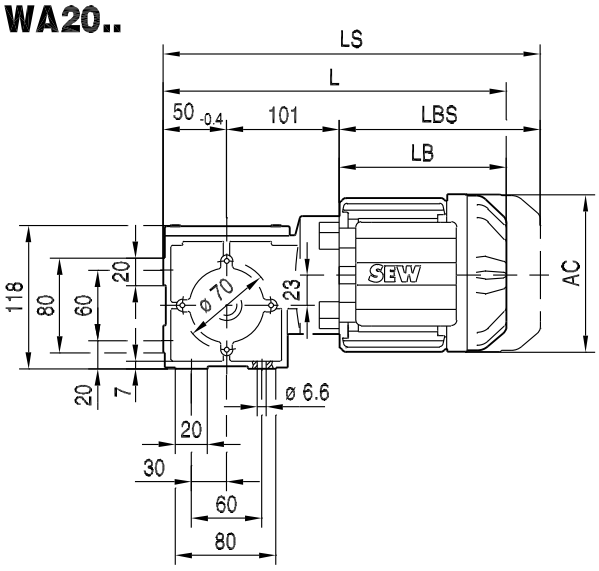


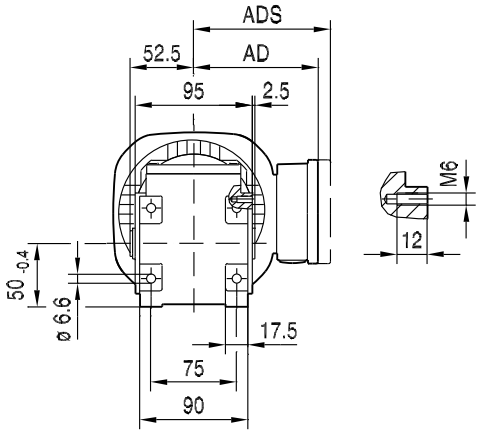
(→ 177)	DR63..	DR71S	DR71M					
AC	132	139	139					
AD	105	119	119					
ADS	105	129	129					
L	300	311	336					
LS	355	379	404					
LB	149	160	185					
LBS	204	228	253					

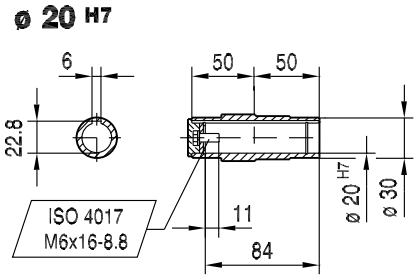
22742654/EN – 08/2016

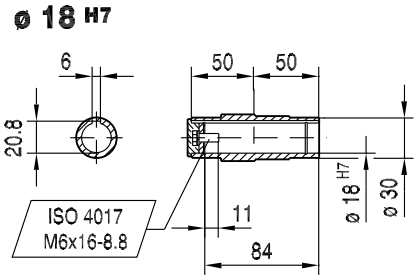
20 006 00 14









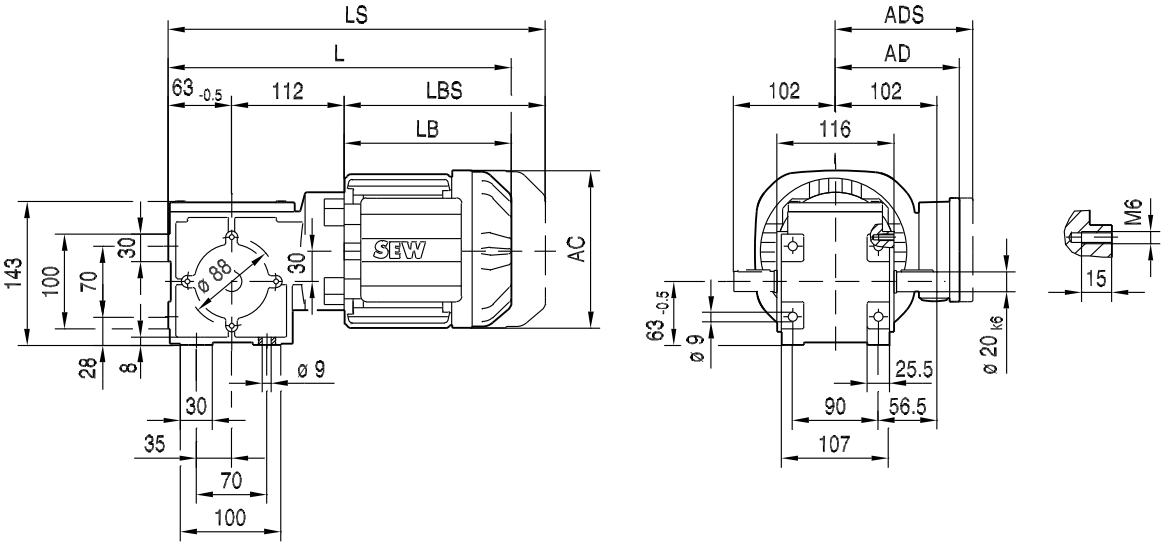


(→ 177)	DR63..	DR71S	DR71M					
AC	132	139	139					
AD	105	119	119					
ADS	105	129	129					
L	300	311	336					
LS	355	379	404					
LB	149	160	185					
LBS	204	228	253					

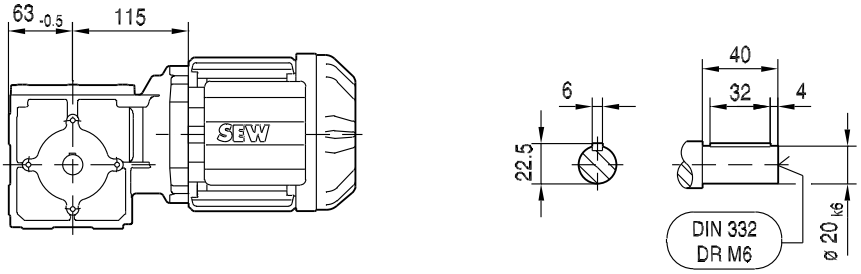
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20 007 00 14

W30..



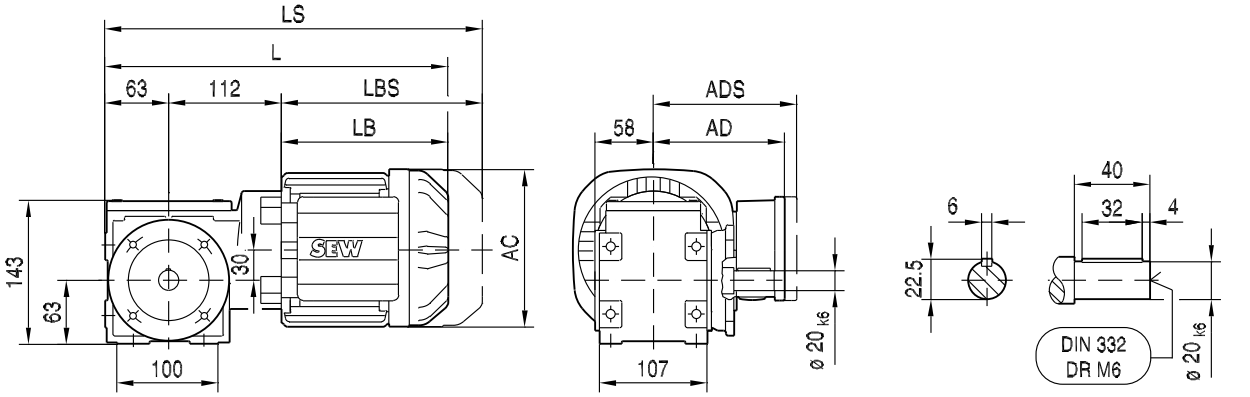
DR80..



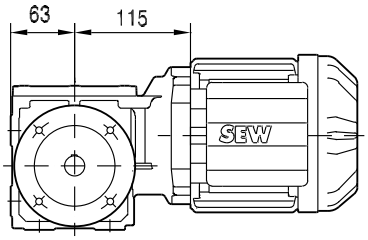
(→ 177)	DR63..	DR71S	DR71M	DRN80M				
AC	132	139	139	156				
AD	105	119	119	128				
ADS	105	129	129	139				
L	324	335	360	410				
LS	379	403	428	491				
LB	149	160	185	235				
LBS	204	228	253	316				

WF30..

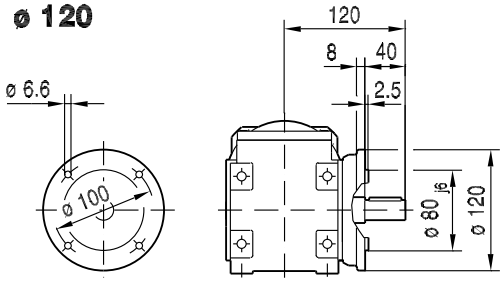
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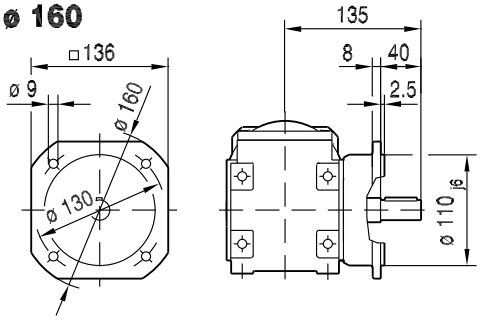
DR80..



ø 120



ø 160

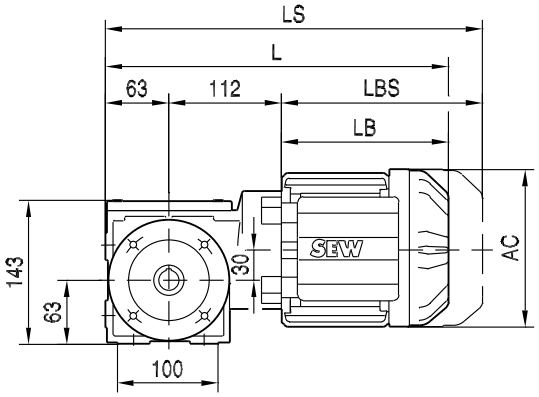


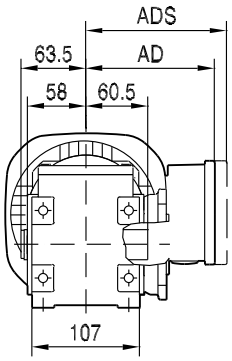
(→ 177)	DR63..	DR71S	DR71M	DRN80M				
AC	132	139	139	156				
AD	105	119	119	128				
ADS	105	129	129	139				
L	324	335	360	410				
LS	379	403	428	491				
LB	149	160	185	235				
LBS	204	228	253	316				

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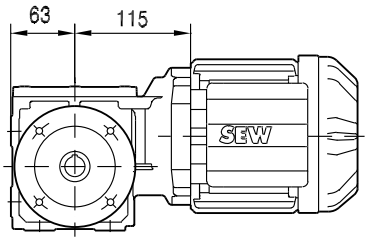
WAF30..

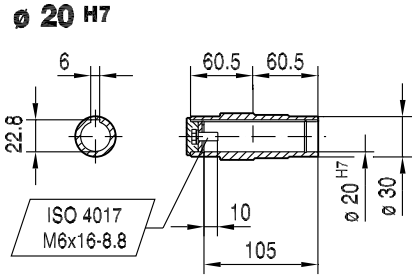
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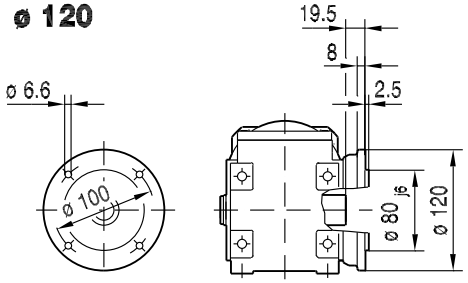


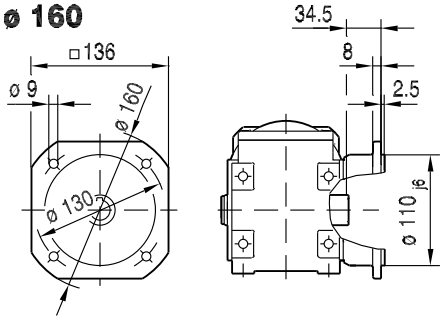


DR80..





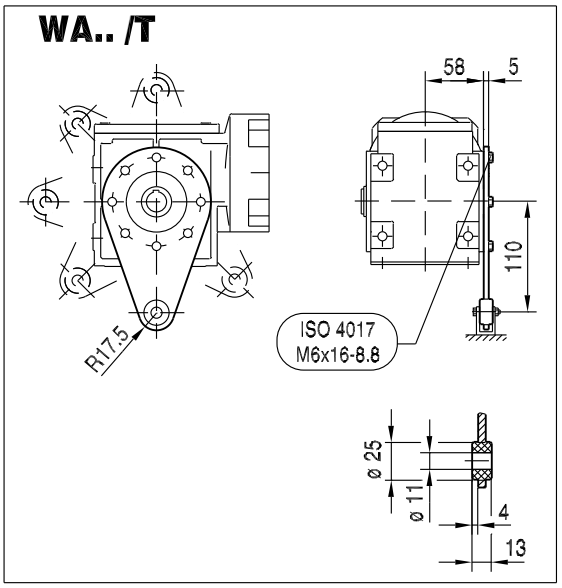


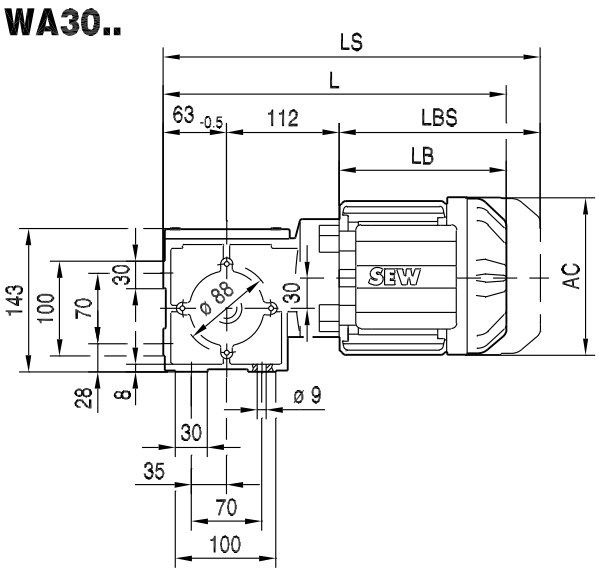


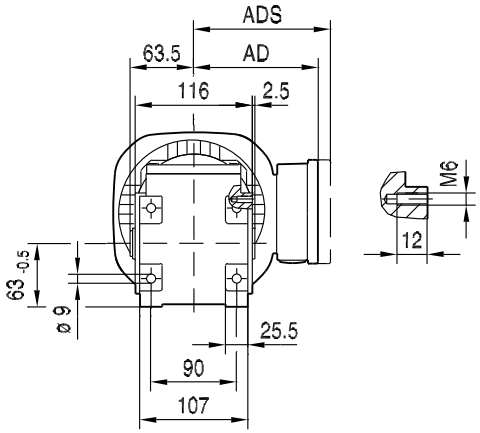
(→ 177)	DR63..	DR71S	DR71M	DRN80M				
AC	132	139	139	156				
AD	105	119	119	128				
ADS	105	129	129	139				
L	324	335	360	410				
LS	379	403	428	491				
LB	149	160	185	235				
LBS	204	228	253	316				

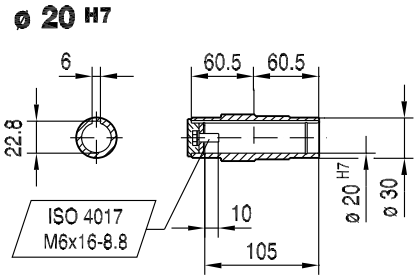
22742654/EN – 08/2016

20 010 00 14







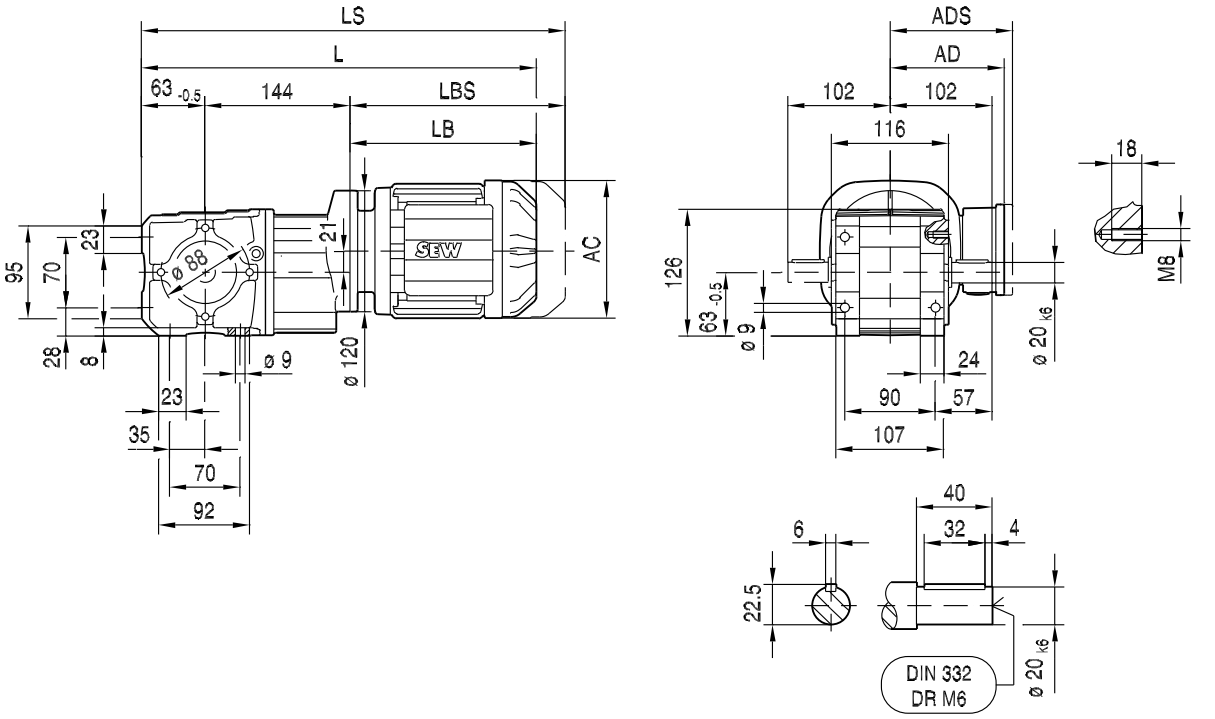


(→ 177)	DR63..	DR71S	DR71M	DRN80M				
AC	132	139	139	156				
AD	105	119	119	128				
ADS	105	129	129	139				
L	324	335	360	410				
LS	379	403	428	491				
LB	149	160	185	235				
LBS	204	228	253	316				

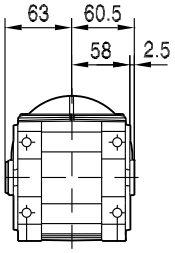
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20 011 00 14

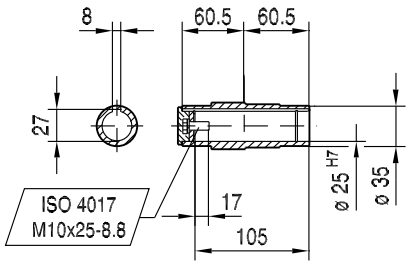
W37..



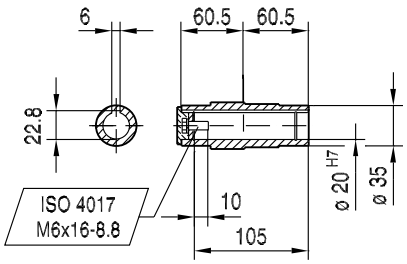
WA37B..



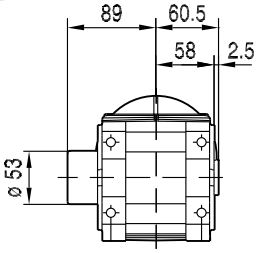
ø 25 H7
DIN 6885-3

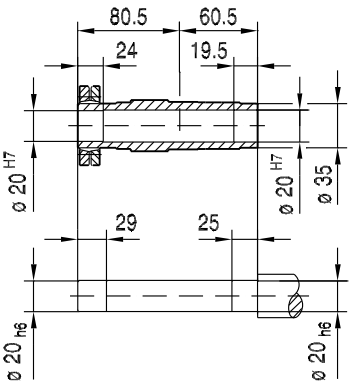


ø 20 H7



WH37B..

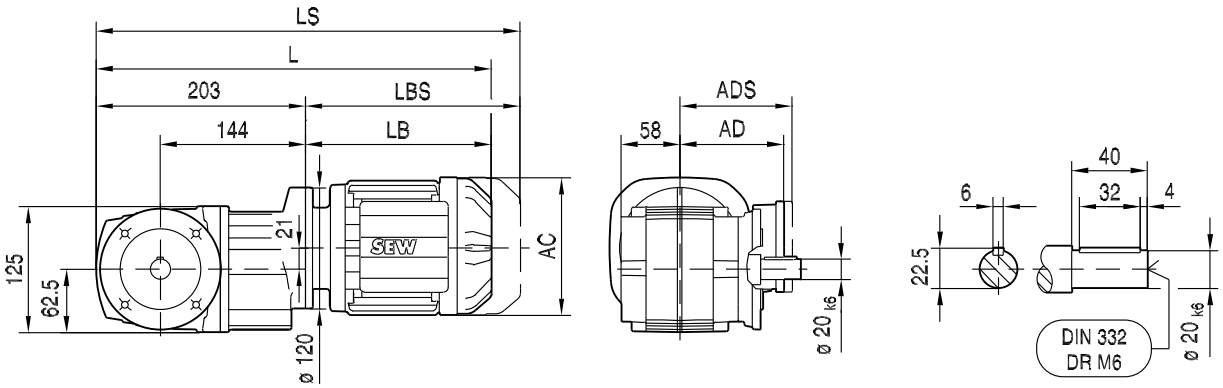




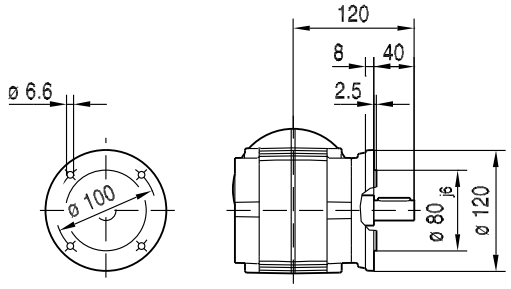
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	398	409	434	489	490	522		
LS	453	477	502	570	584	616		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

20 012 00 14

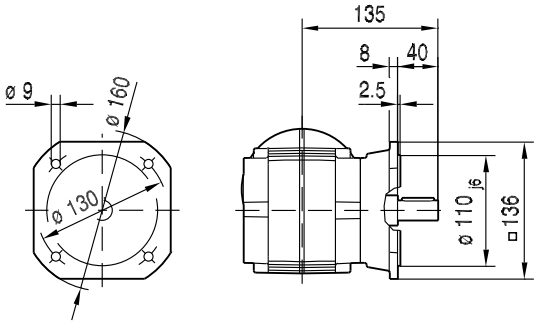
WF37..



ø 120
max. DR71..

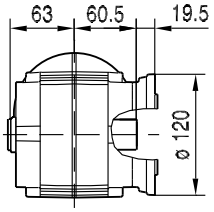


ø 160

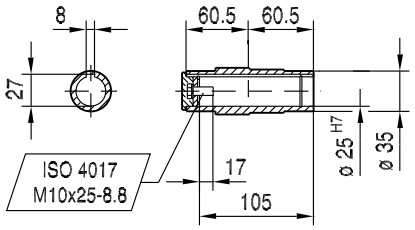


WAF37..

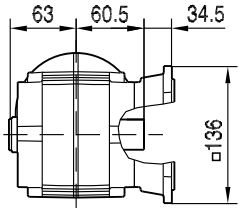
ø 120
max. DR71..



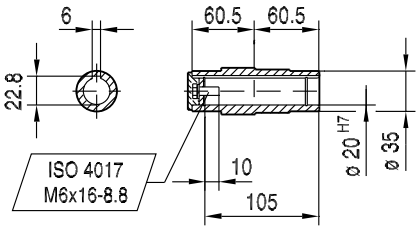
ø 25 H7
DIN 6885-3



ø 160



ø 20 H7

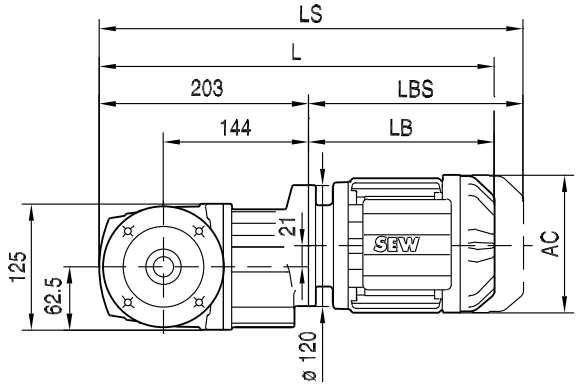


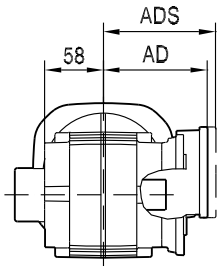
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	394	405	430	485	486	518		
LS	449	473	498	566	580	612		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

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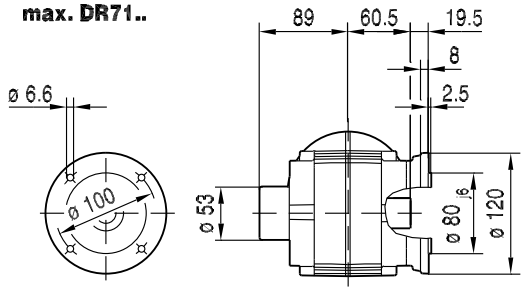
20 013 00 14

WHF37..

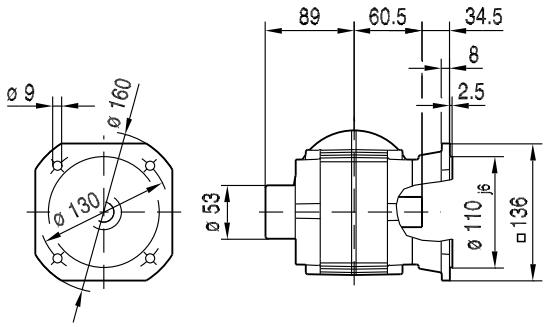


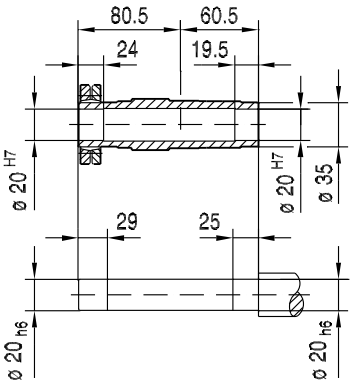


ø 120
max. DR71..



ø 160



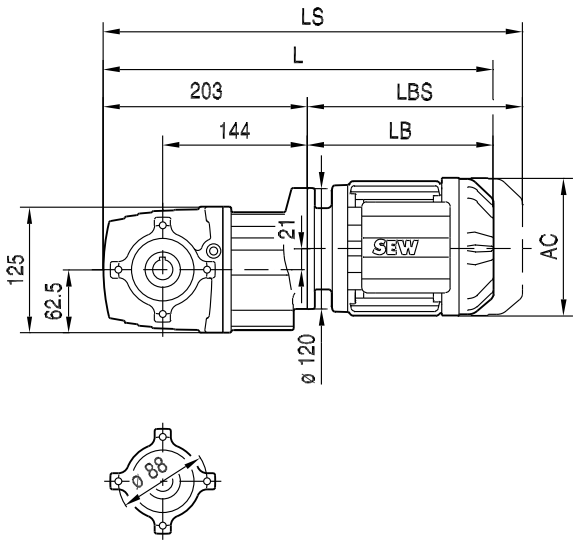


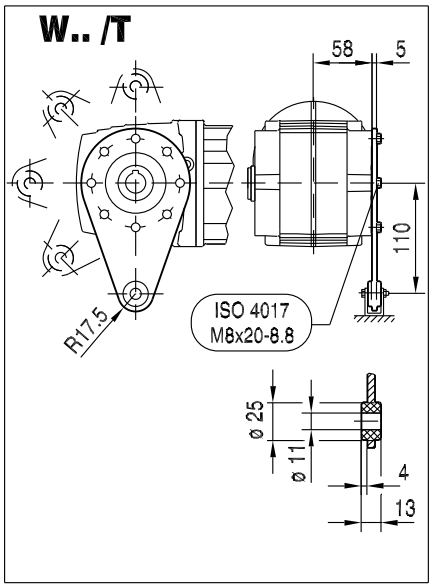
(→ 🗎 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	394	405	430	485	486	518		
LS	449	473	498	566	580	612		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

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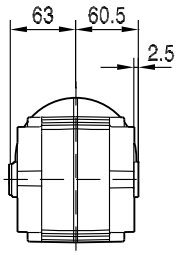
20 014 00 14

WA37..

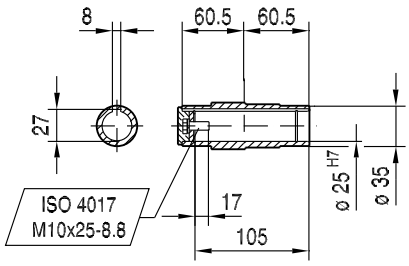




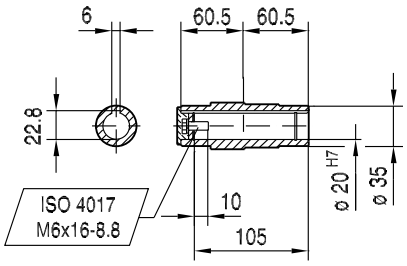
WA37..



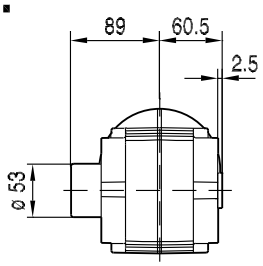
ø 25 H7
DIN 6885-3

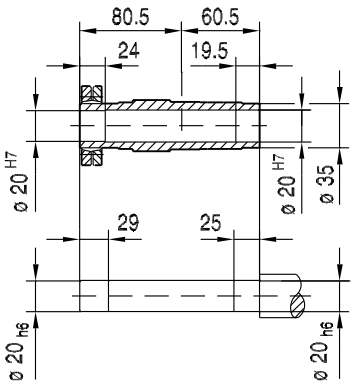


ø 20 H7



WH37..



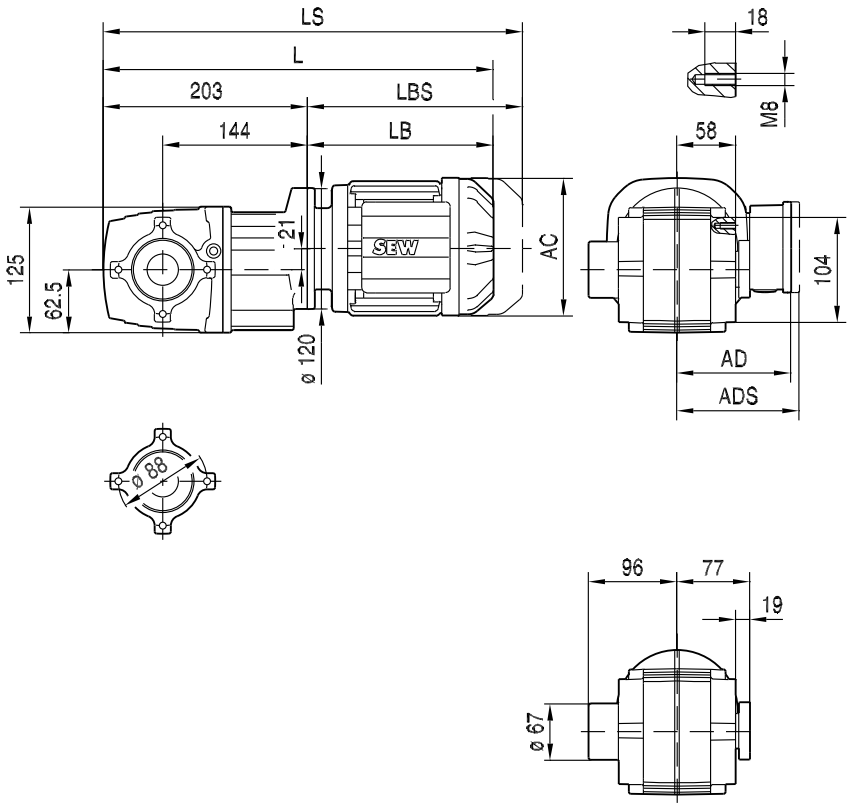


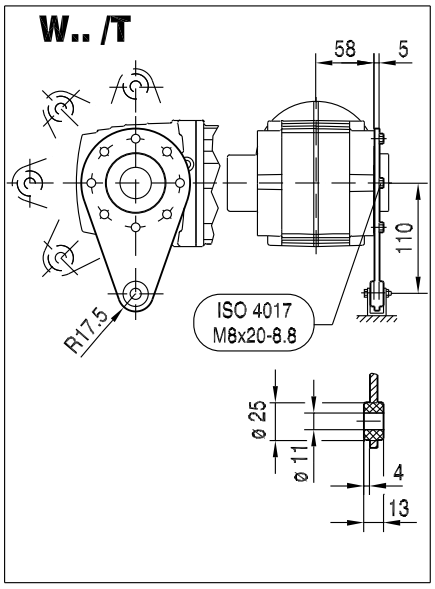
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	394	405	430	485	486	518		
LS	449	473	498	566	580	612		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

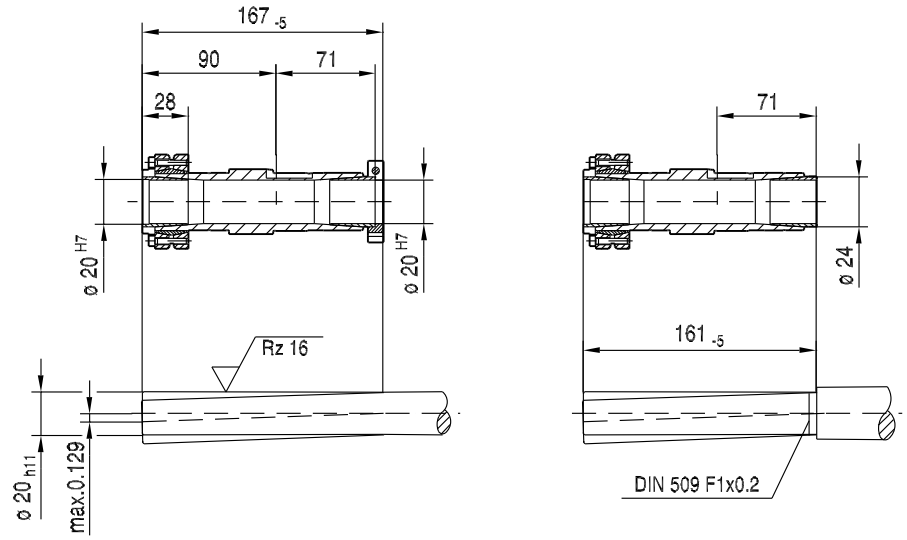
22742654/EN – 08/2016

20 015 00 14

WT37..





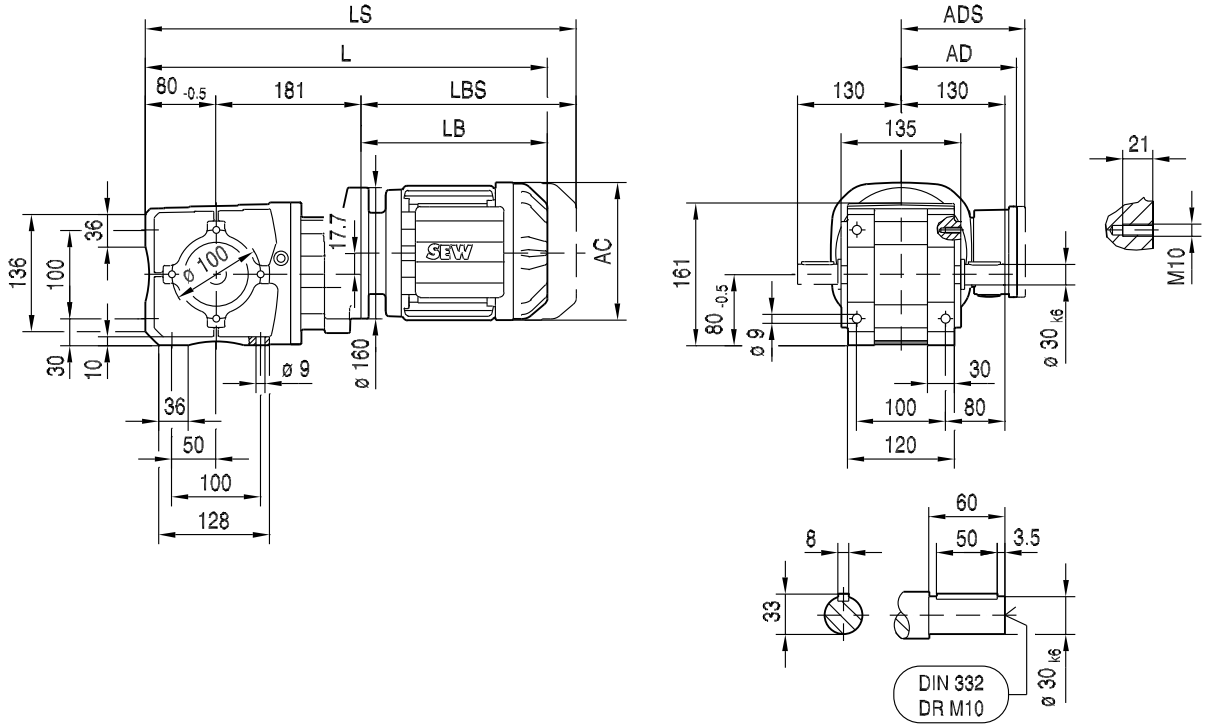


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L		
AC	132	139	139	156	179	179		
AD	105	119	119	128	140	140		
ADS	105	129	129	139	150	150		
L	394	405	430	485	486	518		
LS	449	473	498	566	580	612		
LB	191	202	227	282	283	315		
LBS	246	270	295	363	377	409		

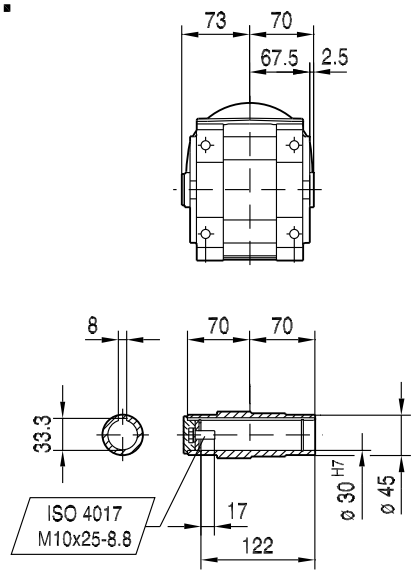
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20 016 00 14

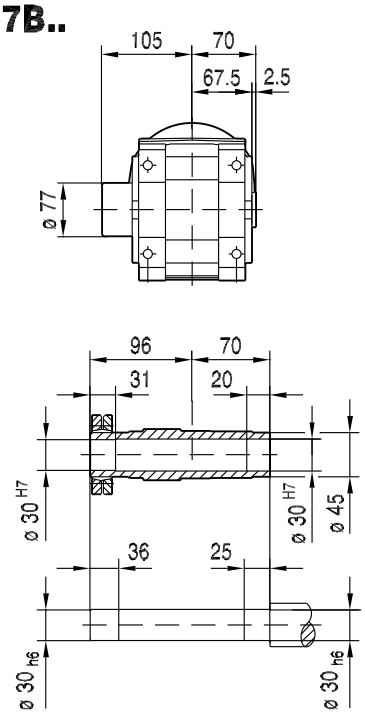
W47..



WA47B..



WH47B..

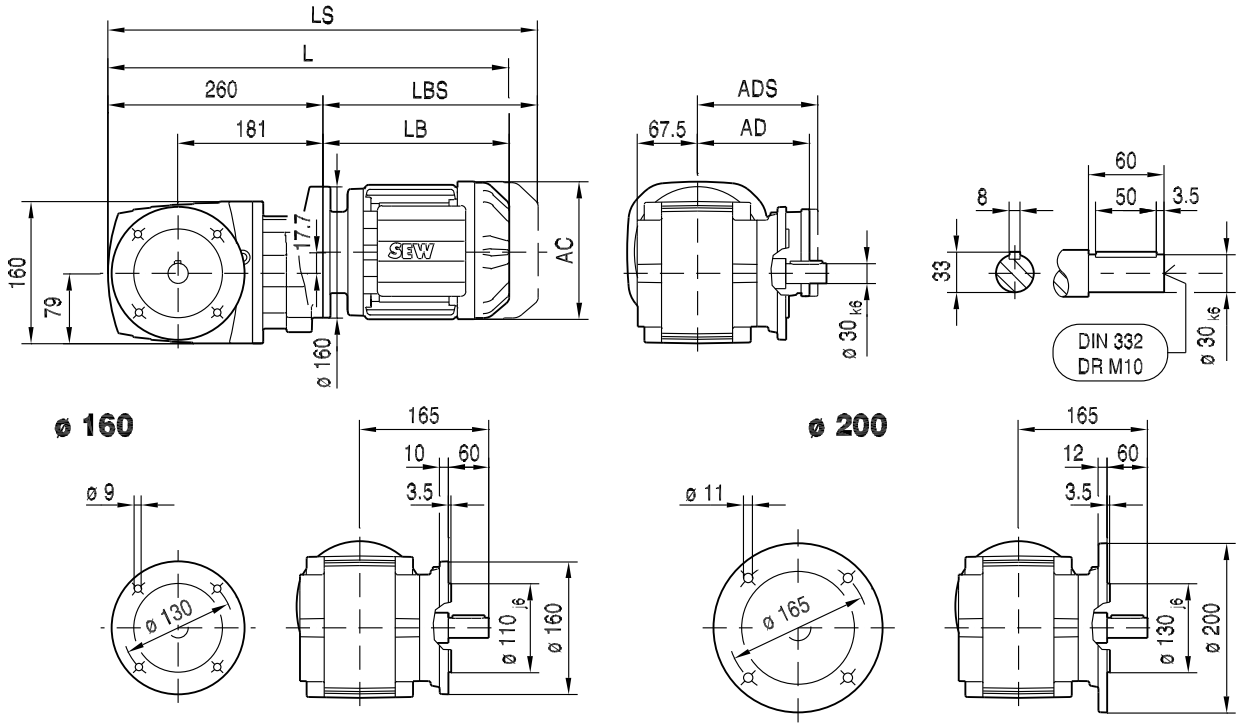


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M
AC	132	139	139	156	179	179	197	197	221
AD	105	119	119	128	140	140	157	157	170
ADS	105	129	129	139	150	150	158	158	172
L	446	457	482	536	538	570	566	616	647
LS	501	525	550	617	631	663	660	710	759
LB	185	196	221	275	277	309	305	355	386
LBS	240	264	289	356	370	402	399	449	498

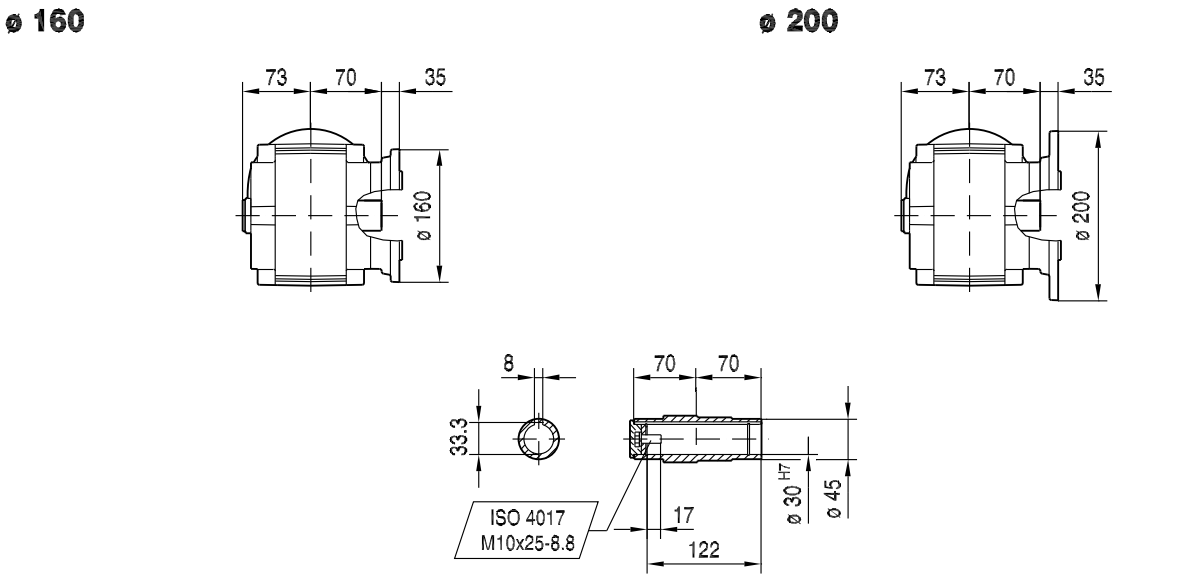
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20 017 01 14

WF47..



WAF47..

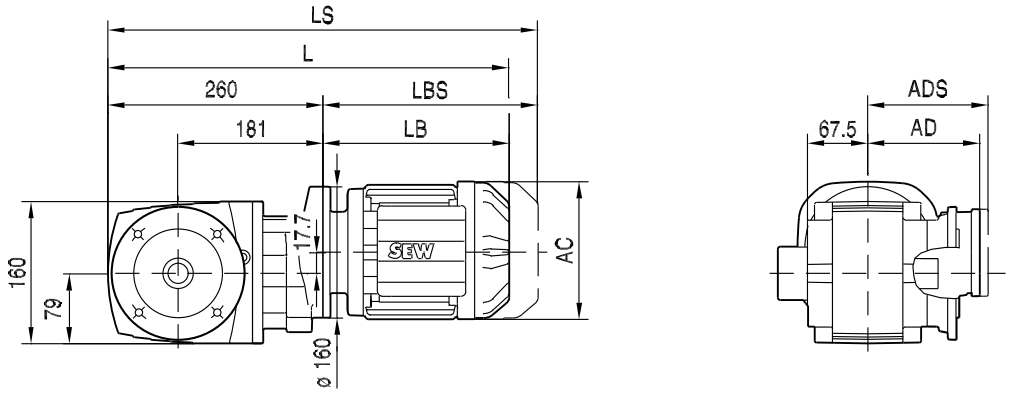


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M
AC	132	139	139	156	179	179	197	197	221
AD	105	119	119	128	140	140	157	157	170
ADS	105	129	129	139	150	150	158	158	172
L	445	456	481	535	537	569	565	615	646
LS	500	524	549	616	630	662	659	709	758
LB	185	196	221	275	277	309	305	355	386
LBS	240	264	289	356	370	402	399	449	498

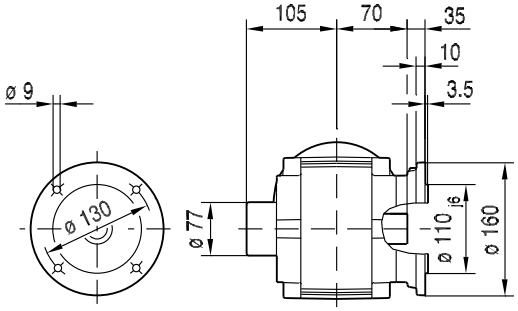
22742654/EN – 08/2016

20 054 00 15

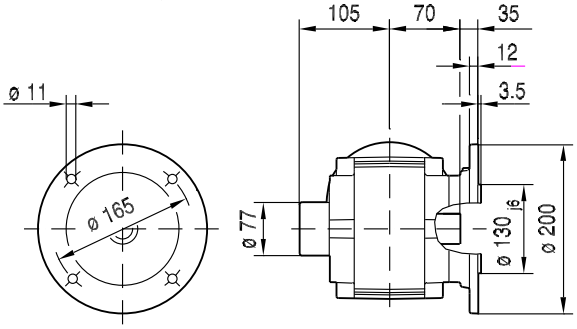
WHF47..

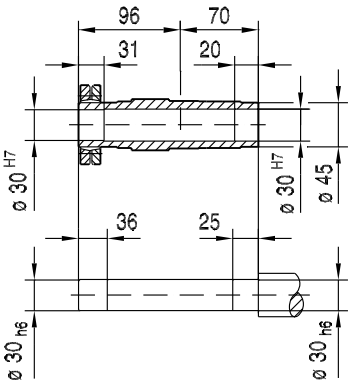


ø 160



ø 200



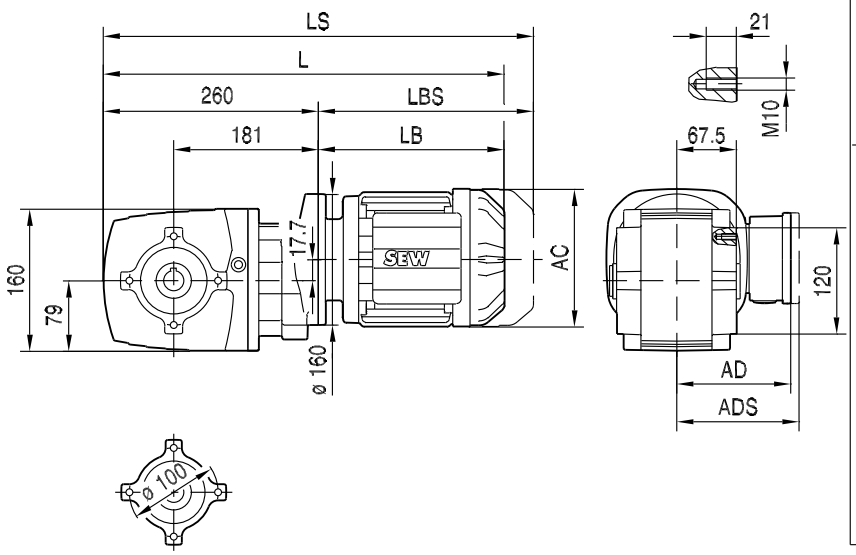


(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M
AC	132	139	139	156	179	179	197	197	221
AD	105	119	119	128	140	140	157	157	170
ADS	105	129	129	139	150	150	158	158	172
L	445	456	481	535	537	569	565	615	646
LS	500	524	549	616	630	662	659	709	758
LB	185	196	221	275	277	309	305	355	386
LBS	240	264	289	356	370	402	399	449	498

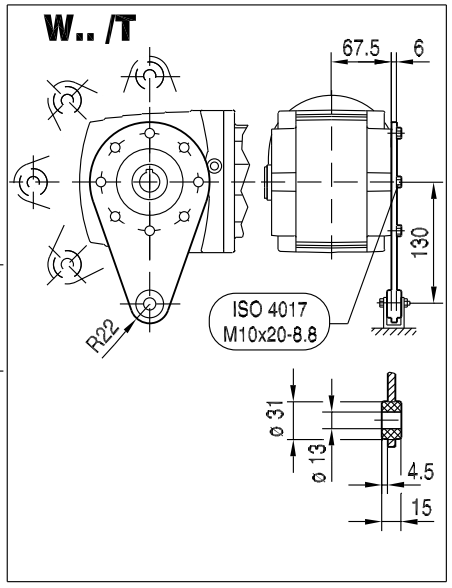
22742654/EN – 08/2016

20 018 00 14

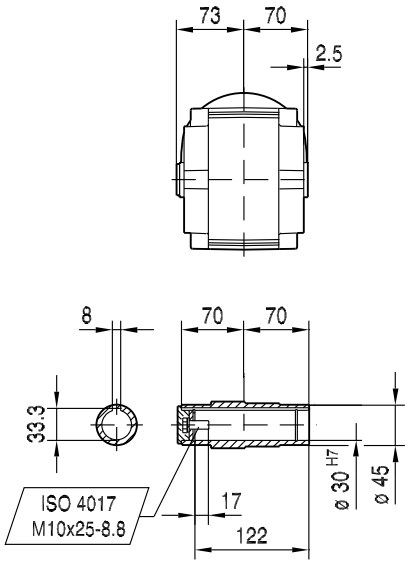
WA47..



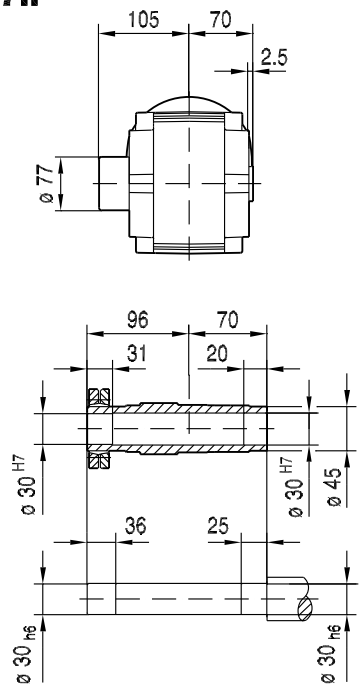
W.. /T



WA47..



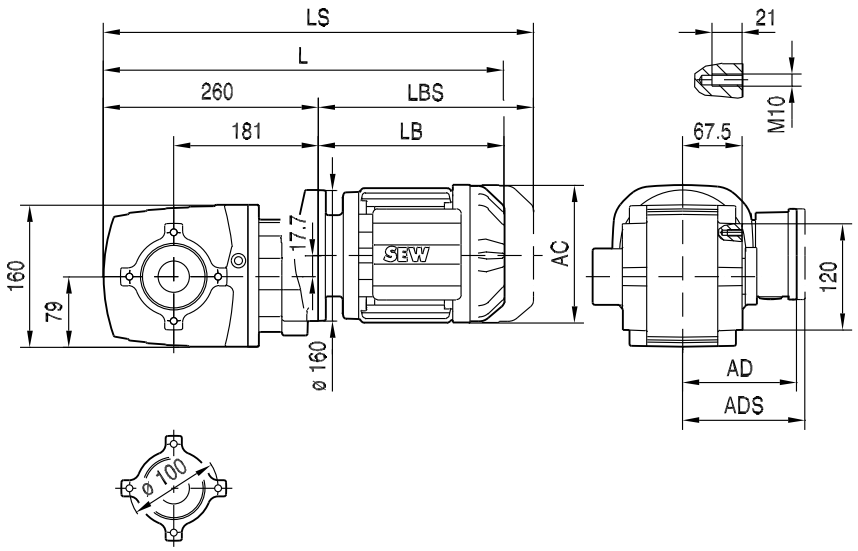
WH47..

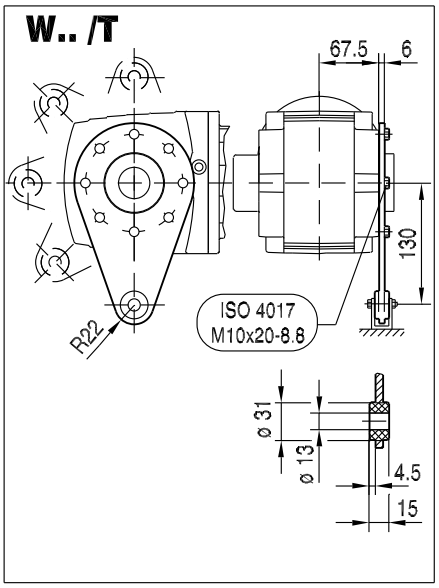


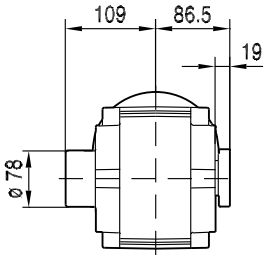
(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M
AC	132	139	139	156	179	179	197	197	221
AD	105	119	119	128	140	140	157	157	170
ADS	105	129	129	139	150	150	158	158	172
L	445	456	481	535	537	569	565	615	646
LS	500	524	549	616	630	662	659	709	758
LB	185	196	221	275	277	309	305	355	386
LBS	240	264	289	356	370	402	399	449	498

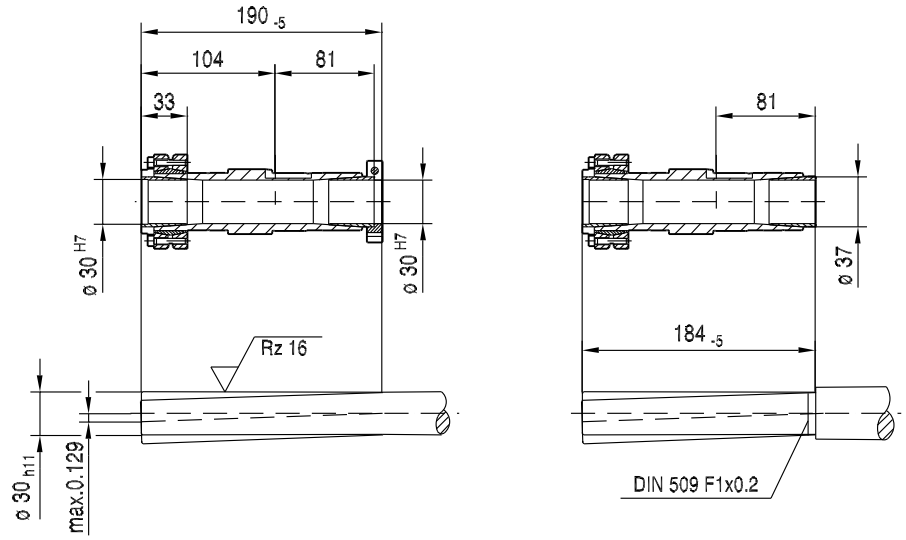
20 019 00 14

WT47..





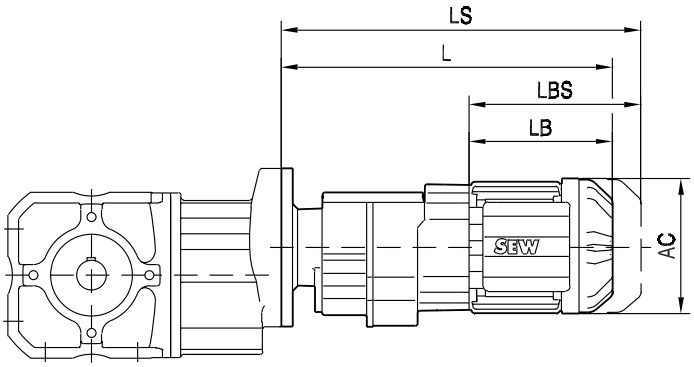




(→ 177)	DR63..	DR71S	DR71M	DRN80M	DRN90S	DRN90L	DRN100LS	DRN100L	DRN112M
AC	132	139	139	156	179	179	197	197	221
AD	105	119	119	128	140	140	157	157	170
ADS	105	129	129	139	150	150	158	158	172
L	445	456	481	535	537	569	565	615	646
LS	500	524	549	616	630	662	659	709	758
LB	185	196	221	275	277	309	305	355	386
LBS	240	264	289	356	370	402	399	449	498

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(→ 177)		AC	L	LS	LB	LBS
W..37R17	**DR63..**	132	324	379	149	204
	DR71S..	139	335	403	160	228
W..47R17	**DR63..**	132	324	379	149	204
	DR71S..	139	335	403	160	228
	DR71M..	139	360	428	185	253

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13 Technical data of the motors

13.1 Motors for 380 V, 60 Hz

13.1.1 DT56.., DR63.., DRS71.. motors

DR63.., DRS71.., 380V, 60Hz, 2-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 380 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DR63S2	0.18	0.25	0.52	3320	0.47	0.88	-	-	-	4.6	2.4 2.2	2.3
DR63M2	0.25	0.33	0.73	3260	0.68	0.86	-	-	-	3.5	2.2 1.9	2.0
DR63L2	0.37	0.5	1.09	3250	0.97	0.87	-	-	-	3.8	2.1 1.9	2.0
DRS 71S 2	0.18	0.25	0.52	3300	0.57	0.90	-	-	-	3.2	2.2 1.9	2.0
DRS 71S 2	0.25	0.33	0.72	3300	0.8	0.9	-	-	-	3.2	2.2 1.9	2.0
DRS 71S 2	0.37	0.5	1.07	3300	1.15	0.89	-	-	-	3.2	2.2 1.9	2.0
DRS 71M 2	0.55	0.75	1.54	3420	1.33	0.83	73.5	76.3	76.1	5.8	3.1 1.9	2.5

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BR../ BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DR63S2	0.18	0.25	0.52	3320	6.2	3.6	BR03	4000 -	1.6	8.0	4.8
DR63M2	0.25	0.33	0.73	3260	6.2	3.6	BR03	3600 -	2.4	8.0	4.8
DR63L2	0.37	0.5	1.09	3250	6.7	4.4	BR03	3200 -	3.2	8.5	5.6
DRS 71S 2	0.18	0.25	0.52	3300	7.9	5.13	BE05	2000 3300	5	10.0	6.43
DRS 71S 2	0.25	0.33	0.72	3300	7.9	5.13	BE05	2000 3300	5	10.0	6.43
DRS 71S 2	0.37	0.5	1.07	3300	7.9	5.13	BE05	2000 3300	5	10	6.43
DRS 71M 2	0.55	0.75	1.54	3420	9	7.21	BE05	1600 3600	3.5	11	8.51

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DT56.., DR63.., DRS71.., 380 V, 60 Hz, 4-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 380 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DT56M4	0.1	0.12	0.58	1640	0.35	0.65	-	-	-	3	2.4 2	2.4
DT56L4	0.12	0.16	0.72	1600	0.44	0.68	-	-	-	2.8	2.2 1.9	2.0
DT56L4	0.15	0.2	0.90	1600	0.50	0.70	-	-	-	2.8	2.2 2	2.1
DR63S4	0.12	0.16	0.68	1680	0.41	0.69	-	-	-	3.6	2.4 2.2	2.4
DR63M4	0.18	0.25	1.06	1620	0.58	0.78	-	-	-	3.2	1.8 1.7	1.8
DR63L4	0.25	0.33	1.49	1600	0.72	0.81	-	-	-	3.1	1.8 1.7	1.8
DRS 71S 4	0.18	0.25	1.01	1710	0.54	0.70	69.1	73.3	74.2	4.8	2.5 2.3	2.6
DRS 71S 4	0.25	0.33	1.4	1700	0.7	0.74	69.9	74.4	75.3	4.6	1.9 1.9	2.5
DRS 71S 4	0.37	0.5	2.1	1700	1.11	0.69	66.6	71.3	72.3	4.2	1.9 1.9	2.5
DRS 71M 4	0.55	0.75	3.1	1690	1.51	0.71	73.5	76.0	75.4	4.3	2.2 2.1	2.4

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BMG../ BR../ BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DT56M4	0.1	0.12	0.58	1640	-[1]	1.1	BMG02	8000 -	0.8	-[1]	1.2
DT56L4	0.12	0.16	0.72	1600	-[1]	1.1	BMG02	8000 -	1.2	-[1]	1.2
DT56L4	0.15	0.2	0.90	1600	-[1]	1.1	BMG02	8000 -	1.2	-[1]	1.2
DR63S4	0.12	0.16	0.68	1680	6.1	3.6	BR03	8000 -	2.4	7.6	4.8
DR63M4	0.18	0.25	1.06	1620	6.1	3.6	BR03	8000 -	3.2	7.6	4.8
DR63L4	0.25	0.33	1.49	1600	6.7	4.4	BR03	8000 -	3.2	8.2	5.6
DRS 71S 4	0.18	0.25	1.01	1710	7.9	5.13	BE05	4800 7600	5	10	6.43
DRS 71S 4	0.25	0.33	1.4	1700	7.9	5.13	BE05	4800 7600	5	10	6.43
DRS 71S 4	0.37	0.5	2.1	1700	7.9	5.13	BE05	4800 7600	5	10	6.43
DRS 71M 4	0.55	0.75	3.1	1690	9	7.21	BE1	3300 8800	10	12	8.51

1) Only available as gearmotor

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DR63.., DRS71.., 380V, 60Hz, 6-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 380 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DR63S6	0.09	0.12	0.78	1100	0.40	0.64	-	-	-	2.2	1.8 1.6	1.8
DR63M6	0.12	0.16	1.04	1100	0.61	0.65	-	-	-	2.1	1.8 1.7	2.1
DR63L6	0.18	0.25	1.61	1070	0.82	0.70	-	-	-	2.2	1.6 1.5	1.9
DRS 71S 6	0.18	0.25	1.56	1100	0.57	0.71	-	-	67.9	3.2	1.7 1.7	2. 0
DRS 71S 6	0.25	0.33	2.15	1100	0.79	0.71	64.2	68.2	67.9	2.9	1.7 1.7	2.0
DRS 71M 6	0.37	0.5	3.2	1100	1.09	0.72	67.8	71.3	70.9	3.5	1.9 1.9	2.1

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BR.. BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DR63S6	0.09	0.12	0.78	1100	6.1	5.4	BR03	16000 -	2.5	7.6	6.6
DR63M6	0.12	0.16	1.04	1100	6.1	5.4	BR03	16000 -	3.2	7.6	6.6
DR63L6	0.18	0.25	1.61	1070	6.7	6.8	BR03	16000 -	3.2	8.2	8.0
DRS 71S 6	0.18	0.25	1.56	1100	7.9	8.29	BE05	5600 12800	5	10	9.59
DRS 71S 6	0.25	0.33	2.15	1100	7.9	8.29	BE05	5600 12800	5	10	9.59
DRS 71M 6	0.37	0.5	3.2	1100	9	11.9	BE1	5280 12000	10	12	13.2

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13.1.2 DRN.. motors

DRN.., 380 V, 60 Hz, 2-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 380 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DRN 80MS 2	0.75	1.0	2.05	3476	1.68	0.82	79.7	84.8	82.5	7.4	3.2 2.9	3.4
DRN 80M 2	1.1	1.5	3	3485	2.35	0.83	82.3	84.1	84.0	8.2	3.7 3.0	3.6
DRN 90S 2	1.5	2	4.1	3505	3.2	0.81	83.7	85.6	85.5	8.3	3.3 2.7	3.5
DRN 90L 2	2.2	3	6	3525	4.5	0.85	84.7	86.4	86.5	9.8	3.1 2.1	3.5
DRN 100LM 2	3	4	8.1	3517	6.2	0.83	88.0	89.1	88.5	10.2	3.8 2.8	4.2
DRN 100L 2	3.7	5	10.1	3508	7	0.88	88.6	89.1	88.5	11.0	4.2 3.4	4.1
DRN 112M 2	4	5.4	10.8	3552	7.8	0.86	87.4	88.6	88.5	10.1	3.1 1.4	4.1
DRN 132S 2	5.5	7.5	14.8	3544	9.9	0.92	89.0	89.7	89.5	11.0	3.3 2.1	4.2
DRN 132S 2	7.5	10	20	3545	14.7	0.85	89.6	90.4	90.2	9.3	3.6 2.4	4.6

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DRN 80MS 2	0.75	1.0	2.05	3476	11	18.5	BE05	960 2720	5	15	20
DRN 80M 2	1.1	1.5	3	3485	14	24.1	BE1	800 2080	7	18	25.6
DRN 90S 2	1.5	2	4.1	3505	20	53.1	BE1	480 1040	10	22	54.7
DRN 90L 2	2.2	3	6	3525	23	66.3	BE2	- 800	14	27	71
DRN 100LM 2	3	4	8.1	3517	33	89.7	BE2	- 600	20	37	94.4
DRN 100L 2	3.7	5	10.1	3508	34	111	BE2	- 600	20	39	115
DRN 112M 2	4	5.4	10.8	3552	45	178	BE5	- 320	28	52	183
DRN 132S 2	5.5	7.5	14.8	3544	56	241	BE5	- 240	40	64	246
DRN 132S 2	7.5	10	20	3545	56	241	BE5	- 240	55	64	246

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DRN.., 380 V, 60 Hz, 4-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 380 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DRN 80M 4	0.75	1.0	4.1	1751	1.89	0.70	82.0	84.9	85.5	8.1	3.7 3.0	4.2
DRN 90S 4	1.1	1.5	6	1762	2.8	0.69	83.5	86.1	86.5	8.2	3.3 2.3	4.0
DRN 90L 4	1.5	2	8.1	1767	3.65	0.70	83.8	86.1	86.5	9.1	3.3 1.9	4.0
DRN 100L 4	2.2	3	11.9	1765	5	0.74	87.5	89.2	89.5	9.4	3.7 2.2	4.2
DRN 100L 4	3	4	16.2	1763	7	0.73	87.6	89.3	89.5	9.2	3.9 2.3	4.4
DRN 100L 4	3.7	5	20	1758	8.7	0.72	87.8	89.4	89.5	9.1	4.1 2.0	4.4
DRN 112M 4	4	5.4	21.5	1769	8.5	0.79	88.5	89.6	89.5	9.8	2.8 1.4	4.0
DRN 132S 4	5.5	7.5	29.5	1768	11.1	0.82	90.9	91.8	91.7	9.8	3.5 2.8	4.3
DRN 132M 4	7.5	10	40.5	1774	16.1	0.77	91.1	91.9	91.7	8.5	3.7 2.6	3.7
DRN 132L 4	9.2	12.3	49.5	1775	20	0.76	91.0	91.9	91.7	8.4	4.3 1.7	4.1
DRN 160M 4	11	15	59	1776	22.5	0.80	91.2	92.3	92.4	7.0	2.6 2.1	3.1
DRN 160L 4	15	20	81	1777	30.5	0.80	92.3	93.3	93.0	9.0	3.4 2.1	3.8
DRN 180M 4	18.5	25	99	1781	35.5	0.84	92.7	93.6	93.6	9.5	4.1 3.4	4.0
DRN 180L 4	22	30	118	1781	41.5	0.86	93.2	93.8	93.6	9.8	4.2 2.7	3.9
DRN 200L 4	30	40	161	1783	59	0.82	93.0	94.0	94.1	8.5	3.5 2.5	3.3
DRN 225S 4	37	50	198	1785	67	0.88	94.2	94.7	94.5	9.2	3.4 2.6	3.0
DRN 225M 4	45	60	240	1785	85	0.85	94.5	95.1	95.0	8.9	3.6 2.2	2.7
DRN 250ME 4	55	75	295	1785	107	0.82	94.3	95.2	95.4	8.6	4.6 2.4	2.7
DRN 280S 4	75	100	400	1785	151	0.79	94.6	95.3	95.4	9.1	4.8 2.7	3.1
DRN 280M 4	90	125	480	1784	171	0.83	94.8	95.4	95.4	8.0	4.8 2.5	2.9
DRN 315S 4	110	150	590	1788	199	0.88	95.3	95.8	95.8	6.6	2.8 2.1	3.0
DRN 315ME 4	132	177	700	1790	240	0.87	95.3	96.0	96.2	7.8	3.5 2.9	4.0
DRN 315L 4	150	200	800	1788	270	0.88	95.6	96.2	96.2	7.3	3.1 2.5	3.5
DRN 315L 4	160	210	860	1787	285	0.88	95.8	96.3	96.2	6.9	2.9 2.4	3.3
DRN 315H 4	185	250	990	1787	335	0.87	96.0	96.4	96.2	6.2	3.0 2.3	3.0

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DRN 80M 4	0.75	1.0	4.1	1751	14	24.7	BE1	2600 6600	10	18	26.2
DRN 90S 4	1.1	1.5	6	1762	20	54	BE2	1800 4800	14	24	58.7
DRN 90L 4	1.5	2	8.1	1767	23	67.2	BE2	1800 4700	20	27	71.9
DRN 100L 4	2.2	3	11.9	1765	34	112	BE5	1400 3700	28	40	118
DRN 100L 4	3	4	16.2	1763	34	112	BE5	- 2900	40	40	118
DRN 100L 4	3.7	5	20	1758	34	112	BE5	- 2900	40	40	118
DRN 112M 4	4	5.4	21.5	1769	45	178	BE5	- 2300	55	52	183
DRN 132S 4	5.5	7.5	29.5	1768	56	241	BE11	- 1700	80	71	251
DRN 132M 4	7.5	10	40.5	1774	73	381	BE11	- 900	110	91	403
DRN 132L 4	9.2	12.3	49.5	1775	81	439	BE11	- 780	110	100	461
DRN 160M 4	11	15	59	1776	115	817	BE20	- 720	150	145	877
DRN 160L 4	15	20	81	1777	130	1040	BE20	- 640	200	165	1100
DRN 180M 4	18.5	25	99	1781	155	1630	BE20	- 400	200	190	1690
DRN 180L 4	22	30	118	1781	170	1950	BE30	- 380	300	210	2090
DRN 200L 4	30	40	161	1783	280	2660	BE32	- 400	400	335	2890
DRN 225S 4	37	50	198	1785	310	4350	BE32	- 180	400	365	4580
DRN 225M 4	45	60	240	1785	310	4350	BE32	- 160	500	365	4580
DRN 250ME 4	55	75	295	1785	510	8940	BE60	- 120	600	590	9280
DRN 280S 4	75	100	400	1785	520	8940	BE62	- 120	1000	600	9530
DRN 280M 4	90	125	480	1784	630	12000	BE62	- 63	1000	720	12600
DRN 315S 4	110	150	590	1788	870	23400	BE122	- 42	1200	1000	24400
DRN 315ME 4	132	177	700	1790	990	28300	BE122	- 33	1600	1130	29400
DRN 315L 4	150	200	800	1788	1020	28600	BE122	- 27	2000	1150	29600
DRN 315L 4	160	210	860	1787	1020	28600	BE122	- 27	2000	1150	29600
DRN 315H 4	185	250	990	1787	1140	35200	BE122	- 18	2000	1270	36200

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DRN.., 380 V, 60 Hz, 6-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 380 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DRN 90S 6	0.75	1	6.1	1165	2.2	0.63	79.1	82.6	82.5	5.6	2.4 2.3	3.0
DRN 112M 6	1.1	1.5	8.9	1183	3.1	0.61	84.6	86.9	87.5	7.9	2.5 1.8	3.9
DRN 112M 6	1.5	2	12.1	1181	4.05	0.63	86.1	88.2	88.5	7.7	2.5 1.9	3.8
DRN 132S 6	2.2	3	17.8	1179	5.9	0.63	87.2	89.2	89.5	6.7	2.7 2.4	3.9
DRN 132S 6	3	4	24.5	1178	8.1	0.63	87.6	89.4	89.5	6.9	2.7 2.5	4.0
DRN 132M 6	3.7	5	30	1182	10.7	0.59	86.8	89.0	89.5	6.7	3.4 2.8	3.3
DRN 132M 6	4	5.4	32.5	1181	11.1	0.61	87.4	89.2	89.5	6.4	3.2 2.6	3.1
DRN 160M 6	5.5	7.5	44.5	1185	12.6	0.72	88.4	90.4	91.0	8.6	2.9 1.3	4.4
DRN 160M 6	7.5	10	61	1182	17.2	0.73	89.2	90.8	91.0	8.0	2.9 1.3	4.2

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DRN 90S 6	0.75	1	6.1	1165	20	54	BE2	1920 4000	14	24	58.7
DRN 112M 6	1.1	1.5	8.9	1183	45	178	BE5	- 2080	20	52	183
DRN 112M 6	1.5	2	12.1	1181	45	178	BE5	- 2080	28	52	183
DRN 132S 6	2.2	3	17.8	1179	56	245	BE5	- 1840	40	64	250
DRN 132S 6	3	4	24.5	1178	56	245	BE5	- 1840	55	64	250
DRN 132M 6	3.7	5	30	1182	73	381	BE11	- 1440	80	91	403
DRN 132M 6	4	5.4	32.5	1181	73	381	BE11	- 1440	80	91	403
DRN 160M 6	5.5	7.5	44.5	1185	115	1290	BE20	- 960	110	145	1350
DRN 160M 6	7.5	10	61	1182	115	1290	BE20	- 960	150	145	1350

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13.2 Motors for 440 V, 60 Hz

13.2.1 DT56.., DR63.., DRS71.. motors

DR63.., DRS71.., 440 V, 60Hz, 2-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 440 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DR63S2	0.18	0.25	0.52	3320	0.41	0.88	-	-	-	4.6	2.4 2.2	2.3
DR63M2	0.25	0.33	0.73	3260	0.59	0.86	-	-	-	3.5	2.2 1.9	2
DR63L2	0.37	0.5	1.09	3250	0.84	0.87	-	-	-	3.8	2.1 1.9	2
DRS 71S 2	0.18	0.25	0.52	3300	0.50	0.90	-	-	-	3.2	2.2 1.9	2.0
DRS 71S 2	0.25	0.33	0.72	3300	0.69	0.90	-	-	-	3.2	2.2 1.9	2.0
DRS 71S 2	0.37	0.5	1.07	3300	0.99	0.89	-	-	-	3.2	2.2 1.9	2.0
DRS 71M 2	0.55	0.75	1.54	3420	1.15	0.83	73.5	76.3	76.1	5.8	3.1 1.9	2.5

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BR../ BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DR63S2	0.18	0.25	0.52	3320	6.2	3.6	BR03	4000 -	1.6	8.0	4.8
DR63M2	0.25	0.33	0.73	3260	6.2	3.6	BR03	3600 -	2.4	8.0	4.8
DR63L2	0.37	0.5	1.09	3250	6.7	4.4	BR03	3200 -	3.2	8.5	5.6
DRS 71S 2	0.18	0.25	0.52	3300	7.9	5.13	BE05	2000 3300	5	10.0	6.43
DRS 71S 2	0.25	0.33	0.72	3300	7.9	5.13	BE05	2000 3300	5	10.0	6.43
DRS 71S 2	0.37	0.5	1.07	3300	7.9	5.13	BE05	2000 3300	5	10	6.43
DRS 71M 2	0.55	0.75	1.54	3420	9	7.21	BE05	1600 3600	3.5	11	8.51

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DT56.., DR63.., DRS71.., 440 V, 60 Hz, 4-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 440 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DT56M4	0.1	0.12	0.58	1640	0.30	0.65	-	-	-	3	2.4 2	2.4
DT56L4	0.12	0.16	0.72	1600	0.38	0.68	-	-	-	2.8	2.2 1.9	2.0
DT56L4	0.15	0.2	0.90	1600	0.43	0.70	-	-	-	2.8	2.2 2	2.1
DR63S4	0.12	0.16	0.68	1680	0.36	0.69	-	-	-	3.6	2.4 2.2	2.4
DR63M4	0.18	0.25	1.06	1620	0.50	0.78	-	-	-	3.2	1.8 1.7	1.8
DR63L4	0.25	0.33	1.49	1600	0.62	0.81	-	-	-	3.1	1.8 1.7	1.8
DRS 71S 4	0.18	0.25	1.01	1710	0.47	0.7	69.1	73.3	74.2	4.8	2.5 2.3	2.6
DRS 71S 4	0.25	0.33	1.4	1700	0.6	0.74	69.9	74.4	75.3	4.6	1.9 1.9	2.5
DRS 71S 4	0.37	0.5	2.1	1700	0.96	0.69	66.6	71.3	72.3	4.2	1.9 1.9	2.5
DRS 71M 4	0.55	0.75	3.1	1690	1.31	0.71	73.5	76.0	75.4	4.3	2.2 2.1	2.4

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BMG../ BR../ BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DT56M4	0.1	0.12	0.58	1640	-[1]	1.1	BMG02	8000 -	0.8	-[1]	1.2
DT56L4	0.12	0.16	0.72	1600	-[1]	1.1	BMG02	8000 -	1.2	-[1]	1.2
DT56L4	0.15	0.2	0.90	1600	-[1]	1.1	BMG02	8000 -	1.2	-[1]	1.2
DR63S4	0.12	0.16	0.68	1680	6.1	3.6	BR03	8000 -	2.4	7.6	4.8
DR63M4	0.18	0.25	1.06	1620	6.1	3.6	BR03	8000 -	3.2	7.6	4.8
DR63L4	0.25	0.33	1.49	1600	6.7	4.4	BR03	8000 -	3.2	8.2	5.6
DRS 71S 4	0.18	0.25	1.01	1710	7.9	5.13	BE05	4800 7600	5	10	6.43
DRS 71S 4	0.25	0.33	1.4	1700	7.9	5.13	BE05	4800 7600	5	10	6.43
DRS 71S 4	0.37	0.5	2.1	1700	7.9	5.13	BE05	4800 7600	5	10	6.43
DRS 71M 4	0.55	0.75	3.1	1690	9	7.21	BE1	3300 8800	10	12	8.51

1) Only available as gearmotor

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DR63.., DRS71.., 440 V, 60Hz, 6-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 440 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DR63S6	0.09	0.12	0.78	1100	0.35	0.64	-	-	-	2.2	1.8 1.6	1.8
DR63M6	0.12	0.16	1.04	1100	0.52	0.65	-	-	-	2.1	1.8 1.7	2.1
DR63L6	0.18	0.25	1.61	1070	0.71	0.70	-	-	-	2.2	1.6 1.5	1.9
DRS 71S 6	0.18	0.25	1.56	1100	0.50	0.71	-	-	67.9	3.2	1.7 1.7	2.0
DRS 71S 6	0.25	0.33	2.15	1100	0.68	0.71	64.2	68.2	67.9	2.9	1.7 1.7	2.0
DRS 71M 6	0.37	0.5	3.2	1100	0.94	0.72	67.8	71.3	70.9	3.5	1.9 1.9	2.1

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BR.. BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DR63S6	0.09	0.12	0.78	1100	6.1	5.4	BR03	16000 -	2.5	7.6	6.6
DR63M6	0.12	0.16	1.04	1100	6.1	5.4	BR03	16000 -	3.2	7.6	6.6
DR63L6	0.18	0.25	1.61	1070	6.7	6.8	BR03	16000 -	3.2	8.2	8.0
DRS 71S 6	0.18	0.25	1.56	1100	7.9	8.29	BE05	5600 12800	5	10	9.59
DRS 71S 6	0.25	0.33	2.15	1100	7.9	8.29	BE05	5600 12800	5	10	9.59
DRS 71M 6	0.37	0.5	3.2	1100	9	11.9	BE1	5280 12000	10	12	13.2

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13.2.2 DRN.. motors

DRN.., 440 V, 60 Hz, 2-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 440 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DRN 80MS 2	0.75	1.0	2.05	3476	1.45	0.82	79.7	84.8	82.5	7.4	3.2 2.9	3.4
DRN 80M 2	1.1	1.5	3	3485	2.05	0.83	82.3	84.1	84.0	8.2	3.7 3.0	3.6
DRN 90S 2	1.5	2	4.1	3505	2.8	0.81	83.7	85.6	85.5	8.3	3.3 2.7	3.5
DRN 90L 2	2.2	3	6	3525	3.85	0.85	84.7	86.4	86.5	9.8	3.1 2.1	3.5
DRN 100LM 2	3	4	8.1	3517	5.3	0.83	88.0	89.1	88.5	10.2	3.8 2.8	4.2
DRN 100L 2	3.7	5	10.1	3508	6.1	0.88	88.6	89.1	88.5	11.0	4.2 3.4	4.1
DRN 112M 2	4	5.4	10.8	3552	6.8	0.86	87.4	88.6	88.5	10.1	3.1 1.4	4.1
DRN 132S 2	5.5	7.5	14.8	3544	8.6	0.92	89.0	89.7	89.5	11.0	3.3 2.1	4.2
DRN 132S 2	7.5	10	20	3545	12.7	0.85	89.6	90.4	90.2	9.3	3.6 2.4	4.6

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DRN 80MS 2	0.75	1.0	2.05	3476	11	18.5	BE05	960 2720	5	15	20
DRN 80M 2	1.1	1.5	3	3485	14	24.1	BE1	800 2080	7	18	25.6
DRN 90S 2	1.5	2	4.1	3505	20	53.1	BE1	480 1040	10	22	54.7
DRN 90L 2	2.2	3	6	3525	23	66.3	BE2	- 800	14	27	71
DRN 100LM 2	3	4	8.1	3517	33	89.7	BE2	- 600	20	37	94.4
DRN 100L 2	3.7	5	10.1	3508	34	111	BE2	- 600	20	39	115
DRN 112M 2	4	5.4	10.8	3552	45	178	BE5	- 320	28	52	183
DRN 132S 2	5.5	7.5	14.8	3544	56	241	BE5	- 240	40	64	246
DRN 132S 2	7.5	10	20	3545	56	241	BE5	- 240	55	64	246

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DRN.., 440 V, 60 Hz, 4-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 440 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DRN 80M 4	0.75	1.0	4.1	1751	1.63	0.70	82.0	84.9	85.5	8.1	3.7 3.0	4.2
DRN 90S 4	1.1	1.5	6	1762	2.4	0.69	83.5	86.1	86.5	8.2	3.3 2.3	4.0
DRN 90L 4	1.5	2	8.1	1767	3.15	0.70	83.8	86.1	86.5	9.1	3.3 1.9	4.0
DRN 100L 4	2.2	3	11.9	1765	4.35	0.74	87.5	89.2	89.5	9.4	3.7 2.2	4.2
DRN 100L 4	3	4	16.2	1763	6	0.73	87.6	89.3	89.5	9.2	3.9 2.3	4.4
DRN 100L 4	3.7	5	20	1758	7.5	0.72	87.8	89.4	89.5	9.1	4.1 2.0	4.4
DRN 112M 4	4	5.4	21.5	1769	7.4	0.79	88.5	89.6	89.5	9.8	2.8 1.4	4.0
DRN 132S 4	5.5	7.5	29.5	1768	9.6	0.82	90.9	91.8	91.7	9.8	3.5 2.8	4.3
DRN 132M 4	7.5	10	40.5	1774	13.9	0.77	91.1	91.9	91.7	8.5	3.7 2.6	3.7
DRN 132L 4	9.2	12.3	49.5	1775	17.2	0.76	91.0	91.9	91.7	8.4	4.3 1.7	4.1
DRN 160M 4	11	15	59	1776	19.3	0.80	91.2	92.3	92.4	7.0	2.6 2.1	3.1
DRN 160L 4	15	20	81	1777	26.5	0.80	92.3	93.3	93.0	9.0	3.4 2.1	3.8
DRN 180M 4	18.5	25	99	1781	31	0.84	92.7	93.6	93.6	9.5	4.1 3.4	4.0
DRN 180L 4	22	30	118	1781	35.5	0.86	93.2	93.8	93.6	9.8	4.2 2.7	3.9
DRN 200L 4	30	40	161	1783	51	0.82	93.0	94.0	94.1	8.5	3.5 2.5	3.3
DRN 225S 4	37	50	198	1785	58	0.88	94.2	94.7	94.5	9.2	3.4 2.6	3.0
DRN 225M 4	45	60	240	1785	73	0.85	94.5	95.1	95.0	8.9	3.6 2.2	2.7
DRN 250ME 4	55	75	295	1785	92	0.82	94.3	95.2	95.4	8.6	4.6 2.4	2.7
DRN 280S 4	75	100	400	1785	131	0.79	94.6	95.3	95.4	9.1	4.8 2.7	3.1
DRN 280M 4	90	125	480	1784	147	0.83	94.8	95.4	95.4	8.0	4.8 2.5	2.9
DRN 315S 4	110	150	590	1788	171	0.88	95.1	95.7	95.8	6.9	3.0 2.2	3.2
DRN 315ME 4	132	177	700	1790	205	0.87	95.8	96.4	96.2	7.7	3.5 2.8	3.9
DRN 315L 4	150	200	800	1788	230	0.88	95.7	96.2	96.2	7.2	3.1 2.5	3.5
DRN 315L 4	160	210	860	1787	245	0.89	95.9	96.3	96.2	6.8	2.9 2.3	3.2
DRN 315H 4	185	250	990	1791	295	0.85	95.4	96.1	96.2	8.1	4.1 3.1	4.2

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DRN 80M 4	0.75	1.0	4.1	1751	14	24.7	BE1	2600 6600	10	18	26.2
DRN 90S 4	1.1	1.5	6	1762	20	54	BE2	1800 4800	14	24	58.7
DRN 90L 4	1.5	2	8.1	1767	23	67.2	BE2	1800 4700	20	27	71.9
DRN 100L 4	2.2	3	11.9	1765	34	112	BE5	1400 3700	28	40	118
DRN 100L 4	3	4	16.2	1763	34	112	BE5	- 2900	40	40	118
DRN 100L 4	3.7	5	20	1758	34	112	BE5	- 2900	40	40	118
DRN 112M 4	4	5.4	21.5	1769	45	178	BE5	- 2300	55	52	183
DRN 132S 4	5.5	7.5	29.5	1768	56	241	BE11	- 1700	80	71	251
DRN 132M 4	7.5	10	40.5	1774	73	381	BE11	- 900	110	91	403
DRN 132L 4	9.2	12.3	49.5	1775	81	439	BE11	- 780	110	100	461
DRN 160M 4	11	15	59	1776	115	817	BE20	- 720	150	145	877
DRN 160L 4	15	20	81	1777	130	1040	BE20	- 640	200	165	1100
DRN 180M 4	18.5	25	99	1781	155	1630	BE20	- 400	200	190	1690
DRN 180L 4	22	30	118	1781	170	1950	BE30	- 380	300	210	2090
DRN 200L 4	30	40	161	1783	280	2660	BE32	- 400	400	335	2890
DRN 225S 4	37	50	198	1785	310	4350	BE32	- 180	400	365	4580
DRN 225M 4	45	60	240	1785	310	4350	BE32	- 160	500	365	4580
DRN 250ME 4	55	75	295	1785	510	8940	BE60	- 120	600	590	9280
DRN 280S 4	75	100	400	1785	520	8940	BE62	- 120	1000	600	9530
DRN 280M 4	90	125	480	1784	630	12000	BE62	- 63	1000	720	12600
DRN 315S 4	110	150	590	1788	870	23400	BE122	- 42	1200	1000	24400
DRN 315ME 4	132	177	700	1790	990	28300	BE122	- 33	1600	1130	29400
DRN 315L 4	150	200	800	1788	1020	28600	BE122	- 27	2000	1150	29600
DRN 315L 4	160	210	860	1787	1020	28600	BE122	- 27	2000	1150	29600
DRN 315H 4	185	250	990	1791	1140	35200	BE122	- 18	2000	1270	36200

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DRN.., 440 V, 60 Hz, 6-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 440 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DRN 90S 6	0.75	1	6.1	1165	1.88	0.63	79.1	82.6	82.5	5.6	2.4 2.3	3.0
DRN 112M 6	1.1	1.5	8.9	1183	2.65	0.61	84.6	86.9	87.5	7.9	2.5 1.8	3.9
DRN 112M 6	1.5	2	12.1	1181	3.5	0.63	86.1	88.2	88.5	7.7	2.5 1.9	3.8
DRN 132S 6	2.2	3	17.8	1179	5.1	0.63	87.2	89.2	89.5	6.7	2.7 2.4	3.9
DRN 132S 6	3	4	24.5	1178	7	0.63	87.6	89.4	89.5	6.9	2.7 2.5	4.0
DRN 132M 6	3.7	5	30	1182	9.2	0.59	86.8	89.0	89.5	6.7	3.4 2.8	3.3
DRN 132M 6	4	5.4	32.5	1181	9.6	0.61	87.4	89.2	89.5	6.4	3.2 2.6	3.1
DRN 160M 6	5.5	7.5	44.5	1185	10.9	0.72	88.4	90.4	91.0	8.6	2.9 1.3	4.4
DRN 160M 6	7.5	10	61	1182	14.8	0.73	89.2	90.8	91.0	8.0	2.9 1.3	4.2

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DRN 90S 6	0.75	1	6.1	1165	20	54	BE2	1920 4000	14	24	58.7
DRN 112M 6	1.1	1.5	8.9	1183	45	178	BE5	- 2080	20	52	183
DRN 112M 6	1.5	2	12.1	1181	45	178	BE5	- 2080	28	52	183
DRN 132S 6	2.2	3	17.8	1179	56	245	BE5	- 1840	40	64	250
DRN 132S 6	3	4	24.5	1178	56	245	BE5	- 1840	55	64	250
DRN 132M 6	3.7	5	30	1182	73	381	BE11	- 1440	80	91	403
DRN 132M 6	4	5.4	32.5	1181	73	381	BE11	- 1440	80	91	403
DRN 160M 6	5.5	7.5	44.5	1185	115	1290	BE20	- 960	110	145	1350
DRN 160M 6	7.5	10	61	1182	115	1290	BE20	- 960	150	145	1350

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13.3 Motors for 460 V, 60 Hz

13.3.1 DT56.., DR63.., DRS71.. motors

DR63.., DRS71.., 460 V, 60 Hz, 2-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 460 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DR63S2	0.18	0.25	0.52	3320	0.39	0.88	-	-	-	4.6	2.4 2.2	2.3
DR63M2	0.25	0.33	0.73	3260	0.57	0.86	-	-	-	3.5	2.2 1.9	2.0
DR63L2	0.37	0.5	1.09	3250	0.8	0.87	-	-	-	3.8	2.1 1.9	2.0
DRS 71S 2	0.18	0.25	0.52	3300	0.48	0.90	-	-	-	3.2	2.2 1.9	2.0
DRS 71S 2	0.25	0.33	0.72	3300	0.66	0.90	-	-	-	3.2	2.2 1.9	2.0
DRS 71S 2	0.37	0.5	1.07	3300	1.15	0.89	-	-	-	3.2	2.2 1.9	2.0
DRS 71M 2	0.55	0.75	1.54	3420	1.33	0.83	73.5	76.3	76.1	5.8	3.1 1.9	2.5

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BR../ BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DR63S2	0.18	0.25	0.52	3320	6.2	3.6	BR03	4000 -	1.6	8.0	4.8
DR63M2	0.25	0.33	0.73	3260	6.2	3.6	BR03	3600 -	2.4	8.0	4.8
DR63L2	0.37	0.5	1.09	3250	6.7	4.4	BR03	3200 -	3.2	8.5	5.6
DRS 71S 2	0.18	0.25	1.01	1710	7.9	5.13	BE05	2000 3300	5	10.0	6.43
DRS 71S 2	0.25	0.33	0.72	3300	7.9	5.13	BE05	2000 3300	5	10	6.43
DRS 71S 2	0.37	0.5	1.07	3300	7.9	5.13	BE05	2000 3300	5	10	6.43
DRS 71M 2	0.55	0.75	1.54	3420	9	7.21	BE05	1600 3600	3.5	11	8.51

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DT56.., DR63.., DRS71.., 460 V, 60 Hz, 4-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 460 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DT56M4	0.1	0.12	0.58	1640	0.29	0.65	-	-	-	3	2.4 2	2.4
DT56L4	0.12	0.16	0.72	1600	0.37	0.68	-	-	-	2.8	2.2 1.9	2.0
DT56L4	0.15	0.2	0.90	1600	0.41	0.70	-	-	-	2.8	2.2 2	2.1
DR63S4	0.12	0.16	0.68	1680	0.34	0.69	-	-	-	3.6	2.4 2.2	2.4
DR63M4	0.18	0.25	1.06	1620	0.48	0.78	-	-	-	3.2	1.8 1.7	1.8
DR63L4	0.25	0.33	1.49	1600	0.60	0.81	-	-	-	3.1	1.8 1.7	1.8
DRS 71S 4	0.18	0.25	1.01	1710	0.45	0.7	69.1	73.3	74.2	4.8	2.5 2.3	2.6
DRS 71S 4	0.25	0.33	1.4	1700	0.57	0.74	69.9	74.4	75.3	4.6	1.9 1.9	2.5
DRS 71S 4	0.37	0.5	2.1	1700	0.92	0.69	66.6	71.3	72.0	4.2	1.9 1.9	2.5
DRS 71M 4	0.55	0.75	3.1	1690	1.25	0.71	73.5	76.0	74.0	4.3	2.2 2.1	2.4

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BMG../ BR../ BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm^2		h^{-1}	Nm	kg	10^{-4} kgm^2
DT56M4	0.1	0.12	0.58	1640	-[1]	1.1	BMG02	8000 -	0.8	-[1]	1.2
DT56L4	0.12	0.16	0.72	1600	-[2]	1.1	BMG02	8000 -	1.2	-[1]	1.2
DT56L4	0.15	0.2	0.90	1600	-[1]	1.1	BMG02	8000 -	1.2	-[1]	1.2
DR63S4	0.12	0.16	0.68	1680	6.1	3.6	BR03	8000 -	2.4	7.6	4.8
DR63M4	0.18	0.25	1.06	1620	6.1	3.6	BR03	8000 -	3.2	7.6	4.8
DR63L4	0.25	0.33	1.49	1600	6.7	4.4	BR03	8000 -	3.2	8.2	5.6
DRS 71S 4	0.18	0.25	1.01	1710	7.9	5.13	BE05	4800 7600	5	10	6.43
DRS 71S 4	0.25	0.33	1.4	1700	7.9	5.13	BE05	4800 7600	5	10	6.43
DRS 71S 4	0.37	0.5	2.1	1700	7.9	5.13	BE05	4800 7600	5	10	6.43
DRS 71M 4	0.55	0.75	3.1	1690	9	7.21	BE1	3300 8800	10	12	8.51

1) Only available as gearmotor
2) Only available as gearmotor

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DR63.., DRS71.., 460 V, 60 Hz, 6-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 460 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DR63S6	0.09	0.12	0.78	1100	0.33	0.64	-	-	-	2.2	1.8 1.6	1.8
DR63M6	0.12	0.16	1.04	1100	0.50	0.65	-	-	-	2.1	1.8 1.7	2.1
DR63L6	0.18	0.25	1.61	1070	0.68	0.70	-	-	-	2.2	1.6 1.5	1.9
DRS 71S 6	0.18	0.25	1.56	1100	0.48	0.71	-	-	67.9	3.2	1.7 1.7	2.0
DRS 71S 6	0.25	0.33	2.15	1100	0.65	0.71	64.2	68.2	67.9	2.9	1.7 1.7	2.0
DRS 71M 6	0.37	0.5	3.2	1100	0.9	0.72	67.8	71.3	70.0	3.5	1.9 1.9	2.1

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BR.. BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DR63S6	0.09	0.12	0.78	1100	6.1	5.4	BR03	16000 -	2.5	7.6	6.6
DR63M6	0.12	0.16	1.04	1100	6.1	5.4	BR03	16000 -	3.2	7.6	6.6
DR63L6	0.18	0.25	1.61	1070	6.7	6.8	BR03	16000 -	3.2	8.2	8.0
DRS 71S 6	0.18	0.25	1.56	1100	7.9	8.29	BE05	5600 12800	5	10	9.59
DRS 71S 6	0.25	0.33	2.15	1100	7.9	8.29	BE05	5600 12800	5	10	9.59
DRS 71M 6	0.37	0.5	3.2	1100	9	11.9	BE1	5280 12000	10	12	13.2

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13.3.2 DRN.. motors

DRN.., 460 V, 60 Hz, 2-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 460 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DRN 80MS 2	0.75	1.0	2.05	3476	1.39	0.82	79.7	84.8	82.5	7.4	3.2 2.9	3.4
DRN 80M 2	1.1	1.5	3	3485	1.94	0.83	82.3	84.1	84.0	8.2	3.7 3.0	3.6
DRN 90S 2	1.5	2	4.1	3505	2.65	0.81	83.7	85.6	85.5	8.3	3.3 2.7	3.5
DRN 90L 2	2.2	3	6	3525	3.7	0.85	84.7	86.4	86.5	9.8	3.1 2.1	3.5
DRN 100LM 2	3	4	8.1	3517	5.1	0.83	88.0	89.1	88.5	10.2	3.8 2.8	4.2
DRN 100L 2	3.7	5	10.1	3508	5.8	0.88	88.6	89.1	88.5	11.0	4.2 3.4	4.1
DRN 112M 2	4	5.4	10.8	3552	6.5	0.86	87.4	88.6	88.5	10.1	3.1 1.4	4.1
DRN 132S 2	5.5	7.5	14.8	3544	8.2	0.92	89.0	89.7	89.5	11.0	3.3 2.1	4.2
DRN 132S 2	7.5	10	20	3545	12.2	0.85	89.6	90.4	90.2	9.3	3.6 2.4	4.6

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DRN 80MS 2	0.75	1.0	2.05	3476	11	18.5	BE05	960 2720	5	15	20
DRN 80M 2	1.1	1.5	3	3485	14	24.1	BE1	800 2080	7	18	25.6
DRN 90S 2	1.5	2	4.1	3505	20	53.1	BE1	480 1040	10	22	54.7
DRN 90L 2	2.2	3	6	3525	23	66.3	BE2	- 800	14	27	71
DRN 100LM 2	3	4	8.1	3517	33	89.7	BE2	- 600	20	37	94.4
DRN 100L 2	3.7	5	10.1	3508	34	111	BE2	- 600	20	39	115
DRN 112M 2	4	5.4	10.8	3552	45	178	BE5	- 320	28	52	183
DRN 132S 2	5.5	7.5	14.8	3544	56	241	BE5	- 240	40	64	246
DRN 132S 2	7.5	10	20	3545	56	241	BE5	- 240	55	64	246

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DRN.., 460 V, 60 Hz, 4-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 460 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DRN 80M 4	0.75	1.0	4.1	1751	1.63	0.70	82.0	84.9	85.5	8.1	3.7 3.0	4.2
DRN 90S 4	1.1	1.5	6	1762	2.4	0.69	83.5	86.1	86.5	8.2	3.3 2.3	4.0
DRN 90L 4	1.5	2	8.1	1767	3.15	0.70	83.8	86.1	86.5	9.1	3.3 1.9	4.0
DRN 100L 4	2.2	3	11.9	1765	4.35	0.74	87.5	89.2	89.5	9.4	3.7 2.2	4.2
DRN 100L 4	3	4	16.2	1763	6	0.73	87.6	89.3	89.5	9.2	3.9 2.3	4.4
DRN 100L 4	3.7	5	20	1758	7.5	0.72	87.8	89.4	89.5	9.1	4.1 2.0	4.4
DRN 112M 4	4	5.4	21.5	1769	7.4	0.79	88.5	89.6	89.5	9.8	2.8 1.4	4.0
DRN 132S 4	5.5	7.5	29.5	1768	9.6	0.82	90.9	91.8	91.7	9.8	3.5 2.8	4.3
DRN 132M 4	7.5	10	40.5	1774	13.9	0.77	91.1	91.9	91.7	8.5	3.7 2.6	3.7
DRN 132L 4	9.2	12.3	49.5	1775	17.2	0.76	91.0	91.9	91.7	8.4	4.3 1.7	4.1
DRN 160M 4	11	15	59	1776	19.3	0.80	91.2	92.3	92.4	7.0	2.6 2.1	3.1
DRN 160L 4	15	20	81	1777	26.5	0.80	92.3	93.3	93.0	9.0	3.4 2.1	3.8
DRN 180M 4	18.5	25	99	1781	31	0.84	92.7	93.6	93.6	9.5	4.1 3.4	4.0
DRN 180L 4	22	30	118	1781	35.5	0.86	93.2	93.8	93.6	9.8	4.2 2.7	3.9
DRN 200L 4	30	40	161	1783	51	0.82	93.0	94.0	94.1	8.5	3.5 2.5	3.3
DRN 225S 4	37	50	198	1785	58	0.88	94.2	94.7	94.5	9.2	3.4 2.6	3.0
DRN 225M 4	45	60	240	1785	73	0.85	94.5	95.1	95.0	8.9	3.6 2.2	2.7
DRN 250ME 4	55	75	295	1785	92	0.82	94.3	95.2	95.4	8.6	4.6 2.4	2.7
DRN 280S 4	75	100	400	1785	131	0.79	94.6	95.3	95.4	9.1	4.8 2.7	3.1
DRN 280M 4	90	125	480	1784	147	0.83	94.8	95.4	95.4	8.0	4.8 2.5	2.9
DRN 315S 4	110	150	590	1788	171	0.88	95.1	95.7	95.8	6.9	3.0 2.2	3.2
DRN 315ME 4	132	177	700	1790	205	0.87	95.8	96.4	96.2	7.7	3.5 2.8	3.9
DRN 315L 4	150	200	800	1788	230	0.88	95.7	96.2	96.2	7.2	3.1 2.5	3.5
DRN 315L 4	160	210	860	1787	245	0.89	95.9	96.3	96.2	6.8	2.9 2.3	3.2
DRN 315H 4	185	250	990	1791	295	0.85	95.4	96.1	96.2	8.1	4.1 3.1	4.2

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DRN 80M 4	0.75	1.0	4.1	1751	14	24.7	BE1	2600 6600	10	18	26.2
DRN 90S 4	1.1	1.5	6	1762	20	54	BE2	1800 4800	14	24	58.7
DRN 90L 4	1.5	2	8.1	1767	23	67.2	BE2	1800 4700	20	27	71.9
DRN 100L 4	2.2	3	11.9	1765	34	112	BE5	1400 3700	28	40	118
DRN 100L 4	3	4	16.2	1763	34	112	BE5	- 2900	40	40	118
DRN 100L 4	3.7	5	20	1758	34	112	BE5	- 2900	40	40	118
DRN 112M 4	4	5.4	21.5	1769	45	178	BE5	- 2300	55	52	183
DRN 132S 4	5.5	7.5	29.5	1768	56	241	BE11	- 1700	80	71	251
DRN 132M 4	7.5	10	40.5	1774	73	381	BE11	- 900	110	91	403
DRN 132L 4	9.2	12.3	49.5	1775	81	439	BE11	- 780	110	100	461
DRN 160M 4	11	15	59	1776	115	817	BE20	- 720	150	145	877
DRN 160L 4	15	20	81	1777	130	1040	BE20	- 640	200	165	1100
DRN 180M 4	18.5	25	99	1781	155	1630	BE20	- 400	200	190	1690
DRN 180L 4	22	30	118	1781	170	1950	BE30	- 380	300	210	2090
DRN 200L 4	30	40	161	1783	280	2660	BE32	- 400	400	335	2890
DRN 225S 4	37	50	198	1785	310	4350	BE32	- 180	400	365	4580
DRN 225M 4	45	60	240	1785	310	4350	BE32	- 160	500	365	4580
DRN 250ME 4	55	75	295	1785	510	8940	BE60	- 120	600	590	9280
DRN 280S 4	75	100	400	1785	520	8940	BE62	- 120	1000	600	9530
DRN 280M 4	90	125	480	1784	630	12000	BE62	- 63	1000	720	12600
DRN 315S 4	110	150	590	1788	870	23400	BE122	- 42	1200	1000	24400
DRN 315ME 4	132	177	700	1790	990	28300	BE122	- 33	1600	1130	29400
DRN 315L 4	150	200	800	1788	1020	28600	BE122	- 27	2000	1150	29600
DRN 315L 4	160	210	860	1787	1020	28600	BE122	- 27	2000	1150	29600
DRN 315H 4	185	250	990	1791	1140	35200	BE122	- 18	2000	1270	36200

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DRN.., 460 V, 60 Hz, 6-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 460 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DRN 90S 6	0.75	1	6.1	1165	1.8	0.63	79.1	82.6	82.5	5.6	2.4 2.3	3.0
DRN 112M 6	1.1	1.1	8.9	1183	2.55	0.61	84.6	86.9	87.5	7.9	2.5 1.8	3.9
DRN 112M 6	1.5	2	12.1	1181	3.35	0.63	86.1	88.2	88.5	7.7	2.5 1.9	3.8
DRN 132S 6	2.2	3	17.8	1179	4.9	0.63	87.2	89.2	89.5	6.7	2.7 2.4	3.9
DRN 132S 6	3	4	24.5	1178	6.7	0.63	87.6	89.4	89.5	6.9	2.7 2.5	4.0
DRN 132M 6	3.7	5	30	1182	8.8	0.59	86.8	89.0	89.5	6.7	3.4 2.8	3.3
DRN 132M 6	4	5.4	32.5	1181	9.2	0.61	87.4	89.2	89.5	6.4	3.2 2.6	3.1
DRN 160M 6	5.5	7.5	44.5	1185	10.4	0.72	88.4	90.4	91.0	8.6	2.9 1.3	4.4
DRN 160M 6	7.5	10	61	1182	14.2	0.73	89.2	90.8	91.0	8.0	2.9 1.3	4.2

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DRN 90S 6	0.75	1	6.1	1165	20	54	BE2	1920 4000	14	24	58.7
DRN 112M 6	1.1	1.1	8.9	1183	45	178	BE5	- 2080	20	52	183
DRN 112M 6	1.5	2	12.1	1181	45	178	BE5	- 2080	28	52	183
DRN 132S 6	2.2	3	17.8	1179	56	245	BE5	- 1840	40	64	250
DRN 132S 6	3	4	24.5	1178	56	245	BE5	- 1840	55	64	250
DRN 132M 6	3.7	5	30	1182	73	381	BE11	- 1440	80	91	403
DRN 132M 6	4	5.4	32.5	1181	73	381	BE11	- 1440	80	91	403
DRN 160M 6	5.5	7.5	44.5	1185	115	1290	BE20	- 960	110	145	1350
DRN 160M 6	7.5	10	61	1182	115	1290	BE20	- 960	150	145	1350

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13.4 Motors for 575 V, 60 Hz

13.4.1 DT56.., DR63.., DRS71.. motors

DR63.., DRS71.., 575 V, 60 Hz, 2-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 575 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DR63S2	0.18	0.25	0.52	3320	0.31	0.88	-	-	-	4.6	2.4 2.2	2.3
DR63M2	0.25	0.33	0.73	3260	0.45	0.86	-	-	-	3.5	2.2 1.9	2
DR63L2	0.37	0.5	1.09	3250	0.64	0.87	-	-	-	3.8	2.1 1.9	2
DRS 71S 2	0.18	0.25	0.52	3300	0.38	0.90	-	-	-	3.2	2.2 1.9	2.0
DRS 71S 2	0.25	0.33	0.72	3300	0.53	0.90	-	-	-	3.2	2.2 1.9	2.0
DRS 71S 2	0.37	0.5	1.07	3300	0.76	0.89	-	-	-	3.2	2.2 1.9	2.0
DRS 71M 2	0.55	0.75	1.54	3420	0.88	0.83	73.5	76.3	75.5	5.8	3.1 1.9	2.5

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BR../ BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DR63S2	0.18	0.25	0.52	3320	6.2	3.6	BR03	4000 -	1.6	8.0	4.8
DR63M2	0.25	0.33	0.73	3260	6.2	3.6	BR03	3600 -	2.4	8.0	4.8
DR63L2	0.37	0.5	1.09	3250	6.7	4.4	BR03	3200 -	3.2	8.5	5.6
DRS 71S 2	0.18	0.25	0.52	3300	7.9	5.13	BR05	2000 3300	5	10.0	6.43
DRS 71S 2	0.25	0.33	0.72	3300	7.9	5.13	BE05	2000 3300	5	10	6.43
DRS 71S 2	0.37	0.5	1.07	3300	7.9	5.13	BE05	2000 3300	5	10	6.43
DRS 71M 2	0.55	0.75	1.54	3420	9	7.21	BE05	1600 3600	3.5	11	8.51

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DT56.., DR63.., DRS71.., 575 V, 60 Hz, 4-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 575 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DT56M4	0.1	0.12	0.58	1640	0.23	0.65	-	-	-	3	2.4 2	2.4
DT56L4	0.15	0.2	0.90	1600	0.33	0.70	-	-	-	2.8	2.2 2	2.1
DR63S4	0.12	0.16	0.68	1680	0.27	0.69	-	-	-	3.6	2.4 2.2	2.4
DR63M4	0.18	0.25	1.06	1620	0.39	0.78	-	-	-	3.2	1.8 1.7	1.8
DR63L4	0.25	0.33	1.49	1600	0.48	0.81	-	-	-	3.1	1.8 1.7	1.8
DRS 71S 4	0.18	0.25	1.01	1710	0.36	0.70	69.1	73.3	74.2	4.8	2.5 2.3	2.6
DRS 71S 4	0.25	0.33	1.4	1700	0.46	0.74	69.9	74.4	75.3	4.6	1.9 1.9	2.5
DRS 71S 4	0.37	0.5	2.1	1700	0.74	0.69	66.6	71.3	72.0	4.2	1.9 1.9	2.5
DRS 71M 4	0.55	0.75	3.1	1690	1	0.71	73.5	76.0	74.0	4.3	2.2 2.1	2.4

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DT56M4	0.1	0.12	0.58	1640	-[1)]	1.1	BMG02	8000 -	0.8	-[1)]	1.2
DT56L4	0.15	0.2	0.90	1600	-[1)]	1.1	BMG02	8000 -	1.2	-[1)]	1.2
DR63S4	0.12	0.16	0.68	1680	6.1	3.6	BR03	8000 -	2.4	7.6	4.8
DR63M4	0.18	0.25	1.06	1620	6.1	3.6	BR03	8000 -	3.2	7.6	4.8
DR63L4	0.25	0.33	1.49	1600	6.7	4.4	BR03	8000 -	3.2	8.2	5.6
DRS 71S 4	0.18	0.25	1.01	1710	7.9	5.13	BE05	4800 7600	5	10.0	6.43
DRS 71S 4	0.25	0.33	1.4	1700	7.9	5.13	BE05	4800 7600	5	10	6.43
DRS 71S 4	0.37	0.5	2.1	1700	7.9	5.13	BE05	4800 7600	5	10	6.43
DRS 71M 4	0.55	0.75	3.1	1690	9	7.21	BE1	3300 8800	10	12	8.51

1) Only available as gearmotor

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DR63.., DRS71.., 575 V, 60 Hz, 6-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 575 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DR63S6	0.09	0.12	0.78	1100	0.27	0.64	-	-	-	2.2	1.8 1.6	1.8
DR63M6	0.12	0.16	1.04	1100	0.40	0.65	-	-	-	2.1	1.8 1.7	2.1
DR63L6	0.18	0.25	1.61	1070	0.54	0.70	-	-	-	2.2	1.6 1.5	1.9
DRS 71S 6	0.18	0.25	1.56	1100	0.38	0.71	-	-	67.9	3.2	1.7 1.7	2.0
DRS 71S 6	0.25	0.33	2.15	1100	0.52	0.71	64.2	68.2	67.9	2.9	1.7 1.7	2.0
DRS 71M 6	0.37	0.5	3.2	1100	0.72	0.72	67.8	71.3	70.0	3.5	1.9 1.9	2.1

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BR.. BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DR63S6	0.09	0.12	0.78	1100	6.1	5.4	BR03	16000 -	2.5	7.6	6.6
DR63M6	0.12	0.16	1.04	1100	6.1	5.4	BR03	16000 -	3.2	7.6	6.6
DR63L6	0.18	0.25	1.61	1070	6.7	6.8	BR03	16000 -	3.2	8.2	8.0
DRS 71S 6	0.18	0.25	1.56	1100	7.9	8.29	BE05	5600 12800	5	10	9.59
DRS 71S 6	0.25	0.33	2.15	1100	7.9	8.29	BE05	5600 12800	5	10	9.59
DRS 71M 6	0.37	0.5	3.2	1100	9	11.9	BE1	5280 12000	10	12	13.2

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13.4.2 DRN.. motors

DRN.., 575 V, 60 Hz, 2-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 575 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DRN 80MS 2	0.75	1.0	2.05	3476	1.11	0.82	79.7	84.8	82.5	7.4	3.2 2.9	3.4
DRN 80M 2	1.1	1.5	3	3485	1.55	0.83	82.3	84.1	84.0	8.2	3.7 3.0	3.6
DRN 90S 2	1.5	2	4.1	3505	2.15	0.81	83.7	85.6	85.5	8.3	3.3 2.7	3.5
DRN 90L 2	2.2	3	6	3525	2.95	0.85	84.7	86.4	86.5	9.8	3.1 2.1	3.5
DRN 100LM 2	3	4	8.1	3517	4.05	0.83	88.0	89.1	88.5	10.2	3.8 2.8	4.2
DRN 100L 2	3.7	5	10.1	3508	4.65	0.88	88.6	89.1	88.5	11.0	4.2 3.4	4.1
DRN 112M 2	4	5.4	10.8	3552	5.2	0.86	87.4	88.6	88.5	10.1	3.1 1.4	4.1
DRN 132S 2	5.5	7.5	14.8	3544	6.6	0.92	89.0	89.7	89.5	11.0	3.3 2.1	4.2
DRN 132S 2	7.5	10	20	3545	9.7	0.85	89.6	90.4	90.2	9.3	3.6 2.4	4.6

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DRN 80MS 2	0.75	1.0	2.05	3476	11	18.5	BE05	960 2720	5	15	20
DRN 80M 2	1.1	1.5	3	3485	14	24.1	BE1	800 2080	7	18	25.6
DRN 90S 2	1.5	2	4.1	3505	20	53.1	BE1	480 1040	10	22	54.7
DRN 90L 2	2.2	3	6	3525	23	66.3	BE2	- 800	14	27	71
DRN 100LM 2	3	4	8.1	3517	33	89.7	BE2	- 600	20	37	94.4
DRN 100L 2	3.7	5	10.1	3508	34	111	BE2	- 600	20	39	115
DRN 112M 2	4	5.4	10.8	3552	45	178	BE5	- 320	28	52	183
DRN 132S 2	5.5	7.5	14.8	3544	56	241	BE5	- 240	40	64	246
DRN 132S 2	7.5	10	20	3545	56	241	BE5	- 240	55	64	246

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DRN.., 575 V, 60 Hz, 4-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 575 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DRN 80M 4	0.75	1.0	4.1	1751	1.25	0.70	82.0	84.9	85.5	8.1	3.7 3.0	4.2
DRN 90S 4	1.1	1.5	6	1762	1.85	0.69	83.5	86.1	86.5	8.2	3.3 2.3	4.0
DRN 90L 4	1.5	2	8.1	1767	2.4	0.70	83.8	86.1	86.5	9.1	3.3 1.9	4.0
DRN 100L 4	2.2	3	11.9	1765	3.35	0.74	87.5	89.2	89.5	9.4	3.7 2.2	4.2
DRN 100L 4	3	4	16.2	1763	4.65	0.73	87.6	89.3	89.5	9.2	3.9 2.3	4.4
DRN 100L 4	3.7	5	20	1758	5.7	0.72	87.8	89.4	89.5	9.1	4.1 2.0	4.4
DRN 112M 4	4	5.4	21.5	1769	5.6	0.79	88.5	89.6	89.5	9.8	2.8 1.4	4.0
DRN 132S 4	5.5	7.5	29.5	1768	7.4	0.82	90.9	91.8	91.7	9.8	3.5 2.8	4.3
DRN 132M 4	7.5	10	40.5	1774	10.6	0.77	91.1	91.9	91.7	8.5	3.7 2.6	3.7
DRN 132L 4	9.2	12.3	49.5	1775	13.2	0.76	91.0	91.9	91.7	8.4	4.3 1.7	4.1
DRN 160M 4	11	15	59	1776	14.8	0.80	91.2	92.3	92.4	7.0	2.6 2.1	3.1
DRN 160L 4	15	20	81	1777	20	0.80	92.3	93.3	93.0	9.0	3.4 2.1	3.8
DRN 180M 4	18.5	25	99	1781	23.5	0.84	92.7	93.6	93.6	9.5	4.1 3.4	4.0
DRN 180L 4	22	30	118	1781	27.5	0.86	93.2	93.8	93.6	9.8	4.2 2.7	3.9
DRN 200L 4	30	40	161	1783	39	0.82	93.0	94.0	94.1	8.5	3.5 2.5	3.3
DRN 225S 4	37	50	198	1785	44.5	0.88	94.2	94.7	94.5	9.2	3.4 2.6	3.0
DRN 225M 4	45	60	240	1785	56	0.85	94.5	95.1	95.0	8.9	3.6 2.2	2.7
DRN 250ME 4	55	75	295	1785	70	0.82	94.3	95.2	95.4	8.6	4.6 2.4	2.7
DRN 280S 4	75	100	400	1785	100	0.79	94.6	95.3	95.4	9.1	4.8 2.7	3.1
DRN 280M 4	90	125	480	1784	113	0.83	94.8	95.4	95.4	8.0	4.8 2.5	2.9
DRN 315H 4	200	270	1070	1788	240	0.87	95.9	96.3	96.2	6.7	3.3 2.5	3.3

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DRN 80M 4	0.75	1.0	4.1	1751	14	24.7	BE1	2600 6600	10	18	26.2
DRN 90S 4	1.1	1.5	6	1762	20	54	BE2	1800 4800	14	24	58.7
DRN 90L 4	1.5	2	8.1	1767	23	67.2	BE2	1800 4700	20	27	71.9
DRN 100L 4	2.2	3	11.9	1765	34	112	BE5	1400 3700	28	40	118
DRN 100L 4	3	4	16.2	1763	34	112	BE5	– 2900	40	40	118
DRN 100L 4	3.7	5	20	1758	34	112	BE5	– 2900	40	40	118
DRN 112M 4	4	5.4	21.5	1769	45	178	BE5	– 2300	55	52	183
DRN 132S 4	5.5	7.5	29.5	1768	56	241	BE11	- 1700	80	71	251
DRN 132M 4	7.5	10	40.5	1774	73	381	BE11	- 900	110	91	403
DRN 132L 4	9.2	12.3	49.5	1775	81	439	BE11	- 780	110	100	461
DRN 160M 4	11	15	59	1776	115	817	BE20	– 720	150	145	877
DRN 160L 4	15	20	81	1777	130	1040	BE20	– 640	200	165	1100
DRN 180M 4	18.5	25	99	1781	155	1630	BE20	– 400	200	190	1690
DRN 180L 4	22	30	118	1781	170	1950	BE30	– 380	300	210	2090
DRN 200L 4	30	40	161	1783	280	2660	BE32	– 400	400	335	2890
DRN 225S 4	37	50	198	1785	310	4350	BE32	– 180	400	365	4580
DRN 225M 4	45	60	240	1785	310	4350	BE32	– 160	500	365	4580
DRN 250ME 4	55	75	295	1785	510	8940	BE60	– 120	600	590	9280
DRN 280S 4	75	100	400	1785	520	8940	BE62	– 120	1000	600	9530
DRN 280M 4	90	125	480	1784	630	12000	BE62	– 63	1000	720	12600
DRN 315H 4	200	270	1070	1788	1140	35200	BE122	- 18	2000	1270	36200

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DRN.., 575 V, 60 Hz, 6-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 575 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
DRN 90S 6	0.75	1	6.1	1165	1.44	0.63	79.1	82.6	82.5	5.6	2.4 2.3	3.0
DRN 112M 6	1.1	1.1	8.9	1183	2.05	0.61	84.6	86.9	87.5	7.9	2.5 1.8	3.9
DRN 112M 6	1.5	2	12.1	1181	2.7	0.63	86.1	88.2	88.5	7.7	2.5 1.9	3.8
DRN 132S 6	2.2	3	17.8	1179	3.95	0.63	87.2	89.2	89.5	6.7	2.7 2.4	3.9
DRN 132S 6	3	4	24.5	1178	5.3	0.63	87.6	89.4	89.5	6.9	2.7 2.5	4.0
DRN 132M 6	3.7	5	30	1182	7.1	0.59	86.8	89.0	89.5	6.7	3.4 2.8	3.3
DRN 132M 6	4	5.4	32.5	1181	7.4	0.61	87.4	89.2	89.5	6.4	3.2 2.6	3.1
DRN 160M 6	5.5	7.5	44.5	1185	8.3	0.72	88.4	90.4	91.0	8.6	2.9 1.3	4.4
DRN 160M 6	7.5	10	61	1182	11.3	0.73	89.2	90.8	91.0	8.0	2.9 1.3	4.2

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BE..	Z_0 BG BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
DRN 90S 6	0.75	1	6.1	1165	20	54	BE2	1920 4000	14	24	58.7
DRN 112M 6	1.1	1.1	8.9	1183	45	178	BE5	– 2080	20	52	183
DRN 112M 6	1.5	2	12.1	1181	45	178	BE5	– 2080	28	52	183
DRN 132S 6	2.2	3	17.8	1179	56	245	BE5	– 1840	40	64	250
DRN 132S 6	3	4	24.5	1178	56	245	BE5	– 1840	55	64	250
DRN 132M 6	3.7	5	30	1182	73	381	BE11	- 1440	80	91	403
DRN 132M 6	4	5.4	32.5	1181	73	381	BE11	- 1440	80	91	403
DRN 160M 6	5.5	7.5	44.5	1185	115	1290	BE20	– 960	110	145	1350
DRN 160M 6	7.5	10	61	1182	115	1290	BE20	– 960	150	145	1350

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13.5 Motors for 460 V (HazLoc-NA®), 60Hz

13.5.1 EDRS.., 460 V, 60 Hz, 4-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 460 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
EDRS 71S 4	0.18	0.25	1	1715	0.44	0.69	70.2	74.6	75.7	4.8	2.5 2.2	2.5
EDRS 71S 4	0.25	0.33	1.4	1700	0.57	0.74	69.9	74.4	75.3	4.6	1.9 1.9	2.5
EDRS 71S 4	0.37	0.5	2.1	1700	0.92	0.69	66.6	71.3	72.3	4.2	1.9 1.9	2.5
EDRS 71M 4	0.55	0.75	3.1	1690	1.25	0.71	73.5	76.0	75.4	4.3	2.2 2.1	2.4

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BE..	Z_0 BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
EDRS 71S 4	0.18	0.25	1	1715	8	5.13	BE05	1500	2.50	10	6.43
EDRS 71S 4	0.25	0.33	1.4	1700	8	5.13	BE05	1500	3.50	10	6.43
EDRS 71S 4	0.37	0.5	2.1	1700	8	5.13	BE05	1500	5	10	6.43
EDRS 71M 4	0.55	0.75	3.1	1690	9.1	7.21	BE1	1500	7	12	8.51

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13.5.2 EDRN.., 460 V, 60 Hz, 4-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 400 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
EDRN 80M 4	0.75	1.0	4.1	1751	1.56	0.70	82.0	84.9	85.5	8.1	3.7 3.0	4.2
EDRN 90S 4	1.1	1.5	6	1762	2.3	0.69	83.5	86.1	86.5	8.2	3.3 2.3	4.0
EDRN 90L 4	1.5	2	8.1	1767	3	0.70	83.5	85.9	86.5	9.1	3.3 1.9	4.0
EDRN 100L 4	2.2	3	11.9	1765	4.15	0.74	87.5	89.2	89.5	9.4	3.7 2.2	4.2
EDRN 100L 4	3	4	16.2	1763	5.8	0.73	87.6	89.3	89.5	9.2	3.9 2.3	4.4
EDRN 100L 4	3.7	5	20	1758	7.2	0.72	87.8	89.4	89.5	9.1	4.1 2.0	4.4
EDRN 112M 4	4	5.4	21.5	1769	7.1	0.79	88.5	89.6	89.5	9.8	2.8 1.4	4.0
EDRN 132S 4	5.5	7.5	29.5	1768	9.2	0.82	90.9	91.8	91.7	9.8	3.5 2.8	4.3
EDRN 132M 4	7.5	10	40.5	1774	13.3	0.77	91.1	91.9	91.7	8.5	3.7 2.6	3.7
EDRN 132L 4	9.2	12.3	49.5	1775	16.5	0.76	91.0	91.9	91.7	8.4	4.3 1.7	4.1
EDRN 160M 4	11	15	59	1776	18.5	0.80	91.2	92.3	92.4	7.0	2.6 2.1	3.1
EDRN 160L 4	15	20	81	1777	25	0.80	92.3	93.3	93.0	9.0	3.4 2.1	3.8
EDRN 180M 4	18.5	25	99	1781	29.5	0.84	92.7	93.6	93.6	9.5	4.1 3.4	4.0
EDRN 180L 4	22	30	118	1781	34	0.86	93.2	93.8	93.6	9.8	4.2 2.7	3.9
EDRN 200L 4	30	40	161	1783	48.5	0.82	93.0	94.0	94.1	8.5	3.5 2.5	3.3
EDRN 225S 4	37	50	198	1785	56	0.88	94.2	94.7	94.5	9.2	3.4 2.6	3.0
EDRN 225M 4	45	60	240	1785	70	0.85	94.5	95.1	95.0	8.9	3.6 2.2	2.7
EDRN 250ME 4	55	75	295	1785	88	0.82	94.3	95.2	95.4	8.6	4.6 2.4	2.7
EDRN 280S 4	75	100	400	1785	125	0.79	94.6	95.3	95.4	9.1	4.8 2.7	3.1
EDRN 280M 4	90	125	480	1784	141	0.83	94.8	95.4	95.4	8.0	4.8 2.5	2.9
EDRN 315S 4	110	150	590	1790	165	0.87	95.0	95.7	95.8	7.6	3.3 2.5	3.5
EDRN 315ME 4	132	177	700	1791	200	0.86	95.4	96.0	96.2	8.3	3.8 3.1	4.3
EDRN 315L 4	150	200	800	1788	225	0.87	95.5	96.1	96.2	7.8	3.4 2.7	3.8
EDRN 315L 4	160	210	850	1788	235	0.88	95.6	96.2	96.2	7.4	3.2 2.6	3.6
EDRN 315H 4	185	250	990	1792	290	0.83	94.8	95.9	96.2	8.6	4.6 3.4	4.6
EDRN 315H 4	200	270	1070	1791	310	0.84	95.0	96.0	96.2	8.1	4.2 3.1	4.3

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BE..	Z_0 BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
EDRN 80M 4	0.75	1.0	4.1	1751	14	24.7	BE1	1060	10	18	26.2
EDRN 90S 4	1.1	1.5	6	1762	20	54	BE2	770	14	24	58.7
EDRN 90L 4	1.5	2	8.1	1767	23	67.2	BE2	750	20	28	71.9
EDRN 100L 4	2.2	3	11.9	1765	34	112	BE5	590	28	40	118
EDRN 100L 4	3	4	16.2	1763	34	112	BE5	460	40	40	118
EDRN 100L 4	3.7	5	20	1758	34	112	BE5	460	40	40	118
EDRN 112M 4	4	5.4	21.5	1769	45	178	BE5	370	55	52	183
EDRN 132S 4	5.5	7.5	29.5	1768	57	241	BE11	270	80	71	251
EDRN 132M 4	7.5	10	40.5	1774	73	381	BE11	140	110	92	403
EDRN 132L 4	9.2	12.3	49.5	1775	82	439	BE11	120	110	100	461
EDRN 160M 4	11	15	59	1776	115	817	BE20	120	150	145	877
EDRN 160L 4	15	20	81	1777	130	1040	BE20	100	200	165	1100
EDRN 180M 4	18.5	25	99	1781	155	1630	BE20	60	200	190	1690
EDRN 180L 4	22	30	118	1781	175	1950	BE30	60	300	215	2090
EDRN 200L 4	30	40	161	1783	280	2660	BE32	60	400	335	2890
EDRN 225S 4	37	50	198	1785	310	4350	BE32	30	400	365	4580
EDRN 225M 4	45	60	240	1785	310	4350	BE32	25	500	365	4580
EDRN 250ME 4	55	75	295	1785	510	8940	BE60	20	600	590	9280
EDRN 280S 4	75	100	400	1785	520	8940	BE62	20	800	600	9530
EDRN 280M 4	90	125	480	1784	630	12000	BE62	10	1000	720	12600
EDRN 315S 4	110	150	590	1790	870	23400	BE122	10	1200	1010	24400
EDRN 315ME 4	132	177	700	1791	1000	28300	BE122	5	1600	1130	29400
EDRN 315L 4	150	200	800	1788	1020	28600	BE122	5	1600	1150	29600
EDRN 315L 4	160	210	850	1788	1020	28600	BE122	5	2000	1150	29600
EDRN 315H 4	185	250	990	1792	1140	35200	BE122	5	2000	1270	36200
EDRN 315H 4	200	270	1070	1791	1140	35200	BE122	5	2000	1270	36200

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13.6 Motors for 575 V (HazLoc-NA®), 60Hz

13.6.1 EDRS.., 575 V, 60 Hz, 4-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 575 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
EDRS 71S 4	0.18	0.25	1	1715	0.35	0.69	70.2	74.6	75.7	4.8	2.5 2.2	2.5
EDRS 71S 4	0.25	0.33	1.4	1700	0.46	0.74	69.9	74.4	75.3	4.6	1.9 1.9	2.5
EDRS 71S 4	0.37	0.5	2.1	1700	0.74	0.69	66.6	71.3	72.3	4.2	1.9 1.9	2.5
EDRS 71M 4	0.55	0.75	3.1	1690	1	0.71	73.5	76.0	75.4	4.3	2.2 2.1	2.4

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BE..	Z_0 BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
EDRS 71S 4	0.18	0.25	1	1715	8	5.13	BE05	1500	2.50	10	6.43
EDRS 71S 4	0.25	0.33	1.4	1700	8	5.13	BE05	1500	3.50	10	6.43
EDRS 71S 4	0.37	0.5	2.1	1700	8	5.13	BE05	1500	5	10	6.43
EDRS 71M 4	0.55	0.75	3.1	1690	9.1	7.21	BE1	1500	7	12	8.51

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13.6.2 EDRN.., 575 V, 60 Hz, 4-pole, S1

Information on motors

Motor	P_N		M_N	n_N	I_N 575 V	cosφ	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	I_A/I_N	M_A/M_N M_H/M_N	M_K/M_N
	kW	hp	Nm	min^{-1}	A		%	%	%			
EDRN 80M 4	0.75	1	4.1	1751	1.25	0.70	82.0	84.9	85.5	8.1	3.7 3.0	4.2
EDRN 90S 4	1.1	1.5	6	1762	1.85	0.69	83.5	86.1	86.5	8.2	3.3 2.3	4.0
EDRN 90L 4	1.5	2	8.1	1767	2.4	0.70	83.5	85.9	86.5	9.1	3.3 1.9	4.0
EDRN 100L 4	2.2	3	11.9	1765	3.35	0.74	87.5	89.2	89.5	9.4	3.7 2.2	4.2
EDRN 100L 4	3	4	16.2	1763	4.65	0.73	87.6	89.3	89.5	9.2	3.9 2.3	4.4
EDRN 100L 4	3.7	5	20	1758	5.7	0.72	87.8	89.4	89.5	9.1	4.1 2.0	4.4
EDRN 112M 4	4	5.4	21.5	1769	5.6	0.79	88.5	89.6	89.5	9.8	2.8 1.4	4.0
EDRN 132S 4	5.5	7.5	29.5	1768	7.4	0.82	90.9	91.8	91.7	9.8	3.5 2.8	4.3
EDRN 132M 4	7.5	10	40.5	1774	10.6	0.77	91.1	91.9	91.7	8.5	3.7 2.6	3.7
EDRN 132L 4	9.2	12.3	49.5	1775	13.2	0.76	91.0	91.9	91.7	8.4	4.3 1.7	4.1
EDRN 160M 4	11	15	59	1776	14.8	0.80	91.2	92.3	92.4	7.0	2.6 2.1	3.1
EDRN 160L 4	15	20	81	1777	20	0.80	92.3	93.3	93.0	9.0	3.4 2.1	3.8
EDRN 180M 4	18.5	25	99	1781	23.5	0.84	92.7	93.6	93.6	9.5	4.1 3.4	4.0
EDRN 180L 4	22	30	118	1781	27.5	0.86	93.2	93.8	93.6	9.8	4.2 2.7	3.9
EDRN 200L 4	30	40	161	1783	39	0.82	93.0	94.0	94.1	8.5	3.5 2.5	3.3
EDRN 225S 4	37	50	198	1785	44.5	0.88	94.2	94.7	94.5	9.2	3.4 2.6	3.0
EDRN 225M 4	45	60	240	1785	56	0.85	94.5	95.1	95.0	8.9	3.6 2.2	2.7
EDRN 250ME 4	55	75	295	1785	70	0.82	94.3	95.2	95.4	8.6	4.6 2.4	2.7
EDRN 280S 4	75	100	400	1785	100	0.79	94.6	95.3	95.4	9.1	4.8 2.7	3.1
EDRN 280M 4	90	125	480	1784	113	0.83	94.8	95.4	95.4	8.0	4.8 2.5	2.9
EDRN 315S 4	110	150	590	1788	130	0.88	95.3	95.8	95.8	6.6	2.8 2.1	3.0
EDRN 315ME 4	132	177	700	1791	159	0.86	95.1	96.0	96.2	8.3	3.9 2.9	4.1
EDRN 315L 4	150	200	800	1789	179	0.87	95.4	96.1	96.2	7.9	3.4 2.6	3.6
EDRN 315L 4	160	210	850	1789	189	0.87	95.6	96.2	96.2	7.5	3.2 2.4	3.4
EDRN 315H 4	185	250	990	1790	220	0.87	95.7	96.2	96.2	7.3	3.6 2.8	3.7
EDRN 315H 4	200	270	1070	1788	240	0.87	95.9	96.3	96.2	6.8	3.4 2.6	3.4

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Further information on motors and brakemotors

Motor	P_N		M_N	n_N	m_{Mot}	J_{Mot}	BE..	Z_0 BGE	M_B	m_{BMot}	J_{BMot}
	kW	hp	Nm	min^{-1}	kg	10^{-4} kgm²		h^{-1}	Nm	kg	10^{-4} kgm²
EDRN 80M 4	0.75	1	4.1	1751	14	24.7	BE1	1060	10	18	26.2
EDRN 90S 4	1.1	1.5	6	1762	20	54	BE2	770	14	24	58.7
EDRN 90L 4	1.5	2	8.1	1767	23	67.2	BE2	750	20	28	71.9
EDRN 100L 4	2.2	3	11.9	1765	34	112	BE5	590	28	40	118
EDRN 100L 4	3	4	16.2	1763	34	112	BE5	460	40	40	118
EDRN 100L 4	3.7	5	20	1758	34	112	BE5	460	40	40	118
EDRN 112M 4	4	5.4	21.5	1769	45	178	BE5	370	55	52	183
EDRN 132S 4	5.5	7.5	29.5	1768	57	241	BE11	270	80	71	251
EDRN 132M 4	7.5	10	40.5	1774	73	381	BE11	140	110	92	403
EDRN 132L 4	9.2	12.3	49.5	1775	82	439	BE11	120	110	100	461
EDRN 160M 4	11	15	59	1776	115	817	BE20	120	150	145	877
EDRN 160L 4	15	20	81	1777	130	1040	BE20	100	200	165	1100
EDRN 180M 4	18.5	25	99	1781	155	1630	BE20	60	200	190	1690
EDRN 180L 4	22	30	118	1781	175	1950	BE30	60	300	215	2090
EDRN 200L 4	30	40	161	1783	280	2660	BE32	60	400	335	2890
EDRN 225S 4	37	50	198	1785	310	4350	BE32	30	400	365	4580
EDRN 225M 4	45	60	240	1785	310	4350	BE32	25	500	365	4580
EDRN 250ME 4	55	75	295	1785	510	8940	BE60	20	600	590	9280
EDRN 280S 4	75	100	400	1785	520	8940	BE62	20	800	600	9530
EDRN 280M 4	90	125	480	1784	630	12000	BE62	10	1000	720	12600
EDRN 315S 4	110	150	590	1788	870	23400	BE122	10	1200	1010	24400
EDRN 315ME 4	132	177	700	1791	1000	28300	BE122	5	1600	1130	29400
EDRN 315L 4	150	200	800	1789	1020	28600	BE122	5	1600	1150	29600
EDRN 315L 4	160	210	850	1789	1020	28600	BE122	5	2000	1150	29600
EDRN 315H 4	185	250	990	1790	1140	35200	BE122	5	2000	1270	36200
EDRN 315H 4	200	270	1070	1788	1140	35200	BE122	5	2000	1270	36200

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14 Address directory SEW-EURODRIVE

Algeria			
Sales	Algiers	REDUCOM Sarl 16, rue des Frères Zaghnoune Bellevue 16200 El Harrach Alger	Tel. +213 21 8214-91 Fax +213 21 8222-84 http://www.reducom-dz.com info@reducom-dz.com
Argentina			
Assembly Sales	Buenos Aires	SEW EURODRIVE ARGENTINA S.A. Ruta Panamericana Km 37.5, Lote 35 (B1619IEA) Centro Industrial Garín Prov. de Buenos Aires	Tel. +54 3327 4572-84 Fax +54 3327 4572-21 http://www.sew-eurodrive.com.ar sewar@sew-eurodrive.com.ar
	Córdoba	SEW EURODRIVE ARGENTINA S.A. Ruta Nacional 19, Manzana 97, Lote 5 (X5125) Malvinas Argentinas Prov. de Córdoba	Tel. +54 351-490-0010 http://www.sew-eurodrive.com.ar sewcor@sew-eurodrive.com.ar
	Santa Fe	SEW EURODRIVE ARGENTINA S.A. Ruta Prov. 21 Km 7, Lote 41 Parque Industrial Alvear (2126) Gral. Alvear Prov. de Santa Fe	Tel. +54 341-317-7277 http://www.sew-eurodrive.com.ar sewsfe@sew-eurodrive.com.ar
Service	Mendoza	SEW EURODRIVE ARGENTINA S.A. Francisco Gabrielli (ex Urquiza) 2060-Zona Industrial- Guaymallen- CP 5521	Tel. +54 261-4214150 http://www.sew-eurodrive.com.ar sewmen@sew-eurodrive.com.ar
Technical Offices	Tucumán	SEW EURODRIVE ARGENTINA S.A. Balcarce 609 (T4000IAM) S.M. de Tucumán Prov. de Tucumán	Tel. +54 381-400-4569 http://www.sew-eurodrive.com.ar sewtuc@sew-eurodrive.com.ar
	Bahía Blanca	SEW EURODRIVE ARGENTINA S.A. O'Higgins 95, 1er Piso A (B8000IVA) Bahía Blanca Prov. de Buenos Aires	Tel. +54 291-451-7345 http://www.sew-eurodrive.com.ar sewbb@sew-eurodrive.com.ar
	Neuquén	SEW EURODRIVE ARGENTINA S.A.	Tel. +549 299 588 7950 http://www.sew-eurodrive.com.ar sewnqn@sew-eurodrive.com.ar
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Assembly Sales Service	Melbourne	SEW-EURODRIVE PTY. LTD. 27 Beverage Drive Tullamarine, Victoria 3043	Tel. +61 3 9933-1000 Fax +61 3 9933-1003 http://www.sew-eurodrive.com.au enquires@sew-eurodrive.com.au
	Sydney	SEW-EURODRIVE PTY. LTD. 9, Sleigh Place, Wetherill Park New South Wales, 2164	Tel. +61 2 9725-9900 Fax +61 2 9725-9905 enquires@sew-eurodrive.com.au
Sales Service	Adelaide	SEW-EURODRIVE PTY. LTD. 9C Park Way Mawson Lakes, SA 5095	Tel. +61 8 8161 4000 Fax +61 8 8161 4002 enquires@sew-eurodrive.com.au
	Brisbane	SEW-EURODRIVE PTY. LTD. 1 /34 Collinsvale St Rocklea, Queensland, 4106	Tel. +61 7 3276 5100 Fax +61 7 3276 5102 enquires@sew-eurodrive.com.au
	Perth	SEW-EURODRIVE PTY. LTD. 10 Colin Jamieson Drive Welshpool, WA 6106	Tel. +61 8 9251-4900 Fax +61 8 9251-4903 enquires@sew-eurodrive.com.au
Sales	Townsville	SEW-EURODRIVE PTY. LTD. 12 Leyland Street Garbutt, QLD 4814	Tel. +61 7 4779 4333 Fax +61 7 4779 5333 enquires@sew-eurodrive.com.au
Austria			
Assembly Sales Service	Vienna	SEW-EURODRIVE Ges.m.b.H. Richard-Strauss-Straße 24 1230 Wien	Tel. +43 1 617 55 00-0 Fax +43 1 617 55 00-30 http://www.sew-eurodrive.at sew@sew-eurodrive.at
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	Graz	SEW-EURODRIVE Ges.m.b.H. Grabenstraße 231 8045 Graz	Tel. +43 316 685 756-0 Fax +43 316 685 756-20 tb-graz@sew-eurodrive.at
	Dornbirn	SEW-EURODRIVE Ges.m.b.H. Lustenauerstraße 27/1 6850 Dornbirn	Tel. +43 5572 3725 99-0 Fax +43 5572 3725 99-20 tb-dornbirn@sew-eurodrive.at
Bangladesh			
Sales	Bangladesh	SEW-EURODRIVE INDIA PRIVATE LIMITED 345 DIT Road East Rampura Dhaka-1219, Bangladesh	Tel. +88 01729 097309 salesdhaka@seweurodrivebangladesh.com
Belarus			
Sales	Minsk	Foreign unitary production enterprise SEW-EURODRIVE RybalkoStr. 26 220033 Minsk	Tel. +375 17 298 47 56 / 298 47 58 Fax +375 17 298 47 54 http://www.sew.by sales@sew.by
Belgium			
Assembly Sales Service	Brussels	SEW-EURODRIVE n.v./s.a. Researchpark Haasrode 1060 Evenementenlaan 7 3001 Leuven	Tel. +32 16 386-311 Fax +32 16 386-336 http://www.sew-eurodrive.be info@sew-eurodrive.be
Service Competence Center	Industrial Gears	SEW-EURODRIVE n.v./s.a. Rue de Parc Industriel, 31 6900 Marche-en-Famenne	Tel. +32 84 219-878 Fax +32 84 219-879 http://www.sew-eurodrive.be service-IG@sew-eurodrive.be
Brazil			
Production Sales Service	São Paulo	SEW-EURODRIVE Brasil Ltda. Estrada Municipal José Rubim, 205 – Rodovia Santos Dumont Km 49 Indaiatuba – 13347-510 – SP	Tel. +55 19 3835-8000 sew@sew.com.br
Assembly Sales Service	Rio Claro	SEW-EURODRIVE Brasil Ltda. Rodovia Washington Luiz, Km 172 Condomínio Industrial Conpark Caixa Postal: 327 13501-600 – Rio Claro / SP	Tel. +55 19 3522-3100 Fax +55 19 3524-6653 montadora.rc@sew.com.br
	Joinville	SEW-EURODRIVE Brasil Ltda. Rua Dona Francisca, 12.346 – Pirabeiraba 89239-270 – Joinville / SC	Tel. +55 47 3027-6886 Fax +55 47 3027-6888 filial.sc@sew.com.br
Bulgaria			
Sales	Sofia	BEVER-DRIVE GmbH Bogdanovetz Str.1 1606 Sofia	Tel. +359 2 9151160 Fax +359 2 9151166 bever@bever.bg
Cameroon			
Sales	Douala	SEW-EURODRIVE S.A.R.L. Ancienne Route Bonabéri P.O. Box B.P 8674 Douala-Cameroun	Tel. +237 233 39 02 10 Fax +237 233 39 02 10 info@sew-eurodrive-cm
Canada			
Assembly Sales Service	Toronto	SEW-EURODRIVE CO. OF CANADA LTD. 210 Walker Drive Bramalea, ON L6T 3W1	Tel. +1 905 791-1553 Fax +1 905 791-2999 http://www.sew-eurodrive.ca l.watson@sew-eurodrive.ca
	Vancouver	SEW-EURODRIVE CO. OF CANADA LTD. Tilbury Industrial Park 7188 Honeyman Street Delta, BC V4G 1G1	Tel. +1 604 946-5535 Fax +1 604 946-2513 b.wake@sew-eurodrive.ca
	Montreal	SEW-EURODRIVE CO. OF CANADA LTD. 2555 Rue Leger Lasalle, PQ H8N 2V9	Tel. +1 514 367-1124 Fax +1 514 367-3677 a.peluso@sew-eurodrive.ca

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Chile			
Assembly Sales Service	Santiago de Chile	SEW-EURODRIVE CHILE LTDA Las Encinas 1295 Parque Industrial Valle Grande LAMPA Santiago de Chile P.O. Box Casilla 23 Correo Quilicura - Santiago - Chile	Tel. +56 2 2757 7000 Fax +56 2 2757 7001 http://www.sew-eurodrive.cl ventas@sew-eurodrive.cl
China			
Production Assembly Sales Service	Tianjin	SEW-EURODRIVE (Tianjin) Co., Ltd. No. 78, 13th Avenue, TEDA Tianjin 300457	Tel. +86 22 25322612 Fax +86 22 25323273 http://www.sew-eurodrive.cn info@sew-eurodrive.cn
Assembly Sales Service	Suzhou	SEW-EURODRIVE (Suzhou) Co., Ltd. 333, Suhong Middle Road Suzhou Industrial Park Jiangsu Province, 215021	Tel. +86 512 62581781 Fax +86 512 62581783 suzhou@sew-eurodrive.cn
	Guangzhou	SEW-EURODRIVE (Guangzhou) Co., Ltd. No. 9, JunDa Road East Section of GETDD Guangzhou 510530	Tel. +86 20 82267890 Fax +86 20 82267922 guangzhou@sew-eurodrive.cn
	Shenyang	SEW-EURODRIVE (Shenyang) Co., Ltd. 10A-2, 6th Road Shenyang Economic Technological Development Area Shenyang, 110141	Tel. +86 24 25382538 Fax +86 24 25382580 shenyang@sew-eurodrive.cn
	Taiyuan	SEW-EURODRIVE (Taiyuan) Co,. Ltd. No.3, HuaZhang Street, TaiYuan Economic & Technical Development Zone ShanXi, 030032	Tel. +86-351-7117520 Fax +86-351-7117522 taiyuan@sew-eurodrive.cn
	Wuhan	SEW-EURODRIVE (Wuhan) Co., Ltd. 10A-2, 6th Road No. 59, the 4th Quanli Road, WEDA 430056 Wuhan	Tel. +86 27 84478388 Fax +86 27 84478389 wuhan@sew-eurodrive.cn
	Xi'An	SEW-EURODRIVE (Xi'An) Co., Ltd. No. 12 Jinye 2nd Road Xi'An High-Technology Industrial Development Zone Xi'An 710065	Tel. +86 29 68686262 Fax +86 29 68686311 xian@sew-eurodrive.cn
Sales Service	Hong Kong	SEW-EURODRIVE LTD. Unit No. 801-806, 8th Floor Hong Leong Industrial Complex No. 4, Wang Kwong Road Kowloon, Hong Kong	Tel. +852 36902200 Fax +852 36902211 contact@sew-eurodrive.hk
Colombia			
Assembly Sales Service	Bogota	SEW-EURODRIVE COLOMBIA LTDA. Calle 17 No. 132-18 Interior 2 Bodega 6, Manzana B Santafé de Bogotá	Tel. +57 1 54750-50 Fax +57 1 54750-44 http://www.sew-eurodrive.com.co sew@sew-eurodrive.com.co
Croatia			
Sales Service	Zagreb	KOMPEKS d. o. o. Zeleni dol 10 10 000 Zagreb	Tel. +385 1 4613-158 Fax +385 1 4613-158 kompeks@inet.hr
Czech Republic			
Assembly Sales Service	Hostivice	SEW-EURODRIVE CZ s.r.o. Floriánova 2459 253 01 Hostivice	Tel. +420 255 709 601 Fax +420 235 350 613 http://www.sew-eurodrive.cz sew@sew-eurodrive.cz
	Drive Service Hotline / 24 Hour Service	+420 800 739 739 (800 SEW SEW)	Service Tel. +420 255 709 632 Fax +420 235 358 218 servis@sew-eurodrive.cz

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Assembly Service	Plzeň	SEW-EURODRIVE CZ s.r.o. Areal KRPA a.s. Zahradni 173/2 326 00 Plzeň	Tel. +420 378 775 320 Fax +420 377 970 710 sew@sew-eurodrive.cz
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	Hradec Králové	SEW-EURODRIVE CZ s.r.o. Čechova 498 50202 Hradec Králové	Tel. +420 495 510 141 Fax +420 495 521 313 miroslav.moravec@sew-eurodrive.cz
	Ostrava	SEW-EURODRIVE CZ s.r.o. Studentská 6202/17 708 00 Ostrava-Poruba	Tel. +420 597 329 044 david.kenkus@sew-eurodrive.cz
	Klatovy	SEW-EURODRIVE CZ s.r.o. Vídeňská 841 33901 Klatovy	Tel. +420 376 331 634 Fax +420 376 331 634 viktor.kubernat@sew-eurodrive.cz
Service	Přerov	SEW-EURODRIVE CZ s.r.o. Areál STS Přerov a.s. ul. 9. května 2452 750 02 Přerov I – Město	Tel. +420 581 224 374 Fax +420 581 224 374 servis@sew-eurodrive.cz
Denmark			
Assembly Sales Service	Copenhagen	SEW-EURODRIVEA/S Geminivej 28-30 2670 Greve	Tel. +45 43 95 8500 Fax +45 43 9585-09 http://www.sew-eurodrive.dk sew@sew-eurodrive.dk
Egypt			
Sales Service	Cairo	Copam Egypt for Engineering & Agencies Building 10, Block 13005, First Industrial Zone, Obour City Cairo	Tel. +202 44812673 / 79 (7 lines) Fax +202 44812685 http://www.copam-egypt.com copam@copam-egypt.com
Estonia			
Sales	Tallin	ALAS-KUUL AS Reti tee 4 75301 Peetri küla, Rae vald, Harjumaa	Tel. +372 6593230 Fax +372 6593231 http://www.alas-kuul.ee veiko.soots@alas-kuul.ee
Finland			
Assembly Sales Service	Hollola	SEW-EURODRIVE OY Vesimäentie 4 15860 Hollola	Tel. +358 201 589-300 Fax +358 3 780-6211 http://www.sew-eurodrive.fi sew@sew.fi
Service	Hollola	SEW-EURODRIVE OY Keskikankaantie 21 15860 Hollola	Tel. +358 201 589-300 Fax +358 3 780-6211 http://www.sew-eurodrive.fi sew@sew.fi
Production Assembly	Karkkila	SEW Industrial Gears Oy Santasalonkatu 6, PL 8 03620 Karkkila, 03601 Karkkila	Tel. +358 201 589-300 Fax +358 201 589-310 http://www.sew-eurodrive.fi sew@sew.fi
Technical Offices	Helsinki	SEW-EURODRIVE OY Luutnantintie 5 00410 Helsinki	Tel. +358 201 589-300 sew@sew.fi
	Oulu	SEW Industrial Gears Oy Paulaharjuntie 22 90530 Oulu	Tel. +358 201 589 300 sew@sew.fi
	Vaasa	SEW Industrial Gears Oy Asemakatu 7 65100 Vaasa	Tel. +358 201 589-300 sew@sew.fi
	Kuopio	SEW Industrial Gears Oy Leväsentie 23 70780 Kuopio	Tel. +358 201 589-300 sew@sew.fi
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Production	Forbach	SEW-USOCOME Zone industrielle Technopôle Forbach Sud B. P. 30269 57604 Forbach Cedex	Tel. +33 3 87 29 38 00
	Brumath	SEW-USOCOME 1 Rue de Bruxelles 67670 Mommenheim Cedex	Tel. +33 3 88 37 48 00
Assembly Sales Service	Bordeaux	SEW-USOCOME Parc d'activités de Magellan 62 avenue de Magellan – B. P. 182 33607 Pessac Cedex	Tel. +33 5 57 26 39 00 Fax +33 5 57 26 39 09
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	Nantes	SEW-USOCOME Parc d'activités de la forêt 4 rue des Fontenelles 44140 Le Bignon	Tel. +33 2 40 78 42 00 Fax +33 2 40 78 42 20
	Paris	SEW-USOCOME Zone industrielle 2 rue Denis Papin 77390 Verneuil l'Étang	Tel. +33 1 64 42 40 80 Fax +33 1 64 42 40 88
Technical Offices	Alsace	SEW-USOCOME	Tel. +33 3 89 74 51 62 Fax +33 3 89 76 58 71
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	Auvergne / Limousin	SEW-USOCOME	Tel. +33 5 55 20 12 10 Fax +33 5 55 20 12 11
	Lower Normandie	SEW-USOCOME	Tel. +33 2 31 37 92 86 Fax +33 2 31 74 68 15
	Brittany	SEW-USOCOME	Tel. +33 2 40 78 42 04 Fax +33 2 40 78 42 20
	Burgundy	SEW-USOCOME	Tel. +33 3 85 49 92 18 Fax +33 3 85 49 92 19
	Centre / Poitou	SEW-USOCOME	Tel. +33 2 40 78 42 11 Fax +33 2 40 78 42 20
	Champagne-Ardenne	SEW-USOCOME	Tel. +33 3 25 79 63 24 Fax +33 3 25 79 63 25
	Franche-Comté	SEW-USOCOME	Tel. +33 3 84 68 57 71 Fax +33 3 84 68 57 95
	Île-de-France East / Aisne	SEW-USOCOME	Tel. +33 3 23 62 81 24 Fax +33 3 23 62 81 44
	Île-de-France North / Picardie	SEW-USOCOME	Tel. +33 1 41 05 92 74 Fax +33 1 41 05 92 75
	Île-de-France South	SEW-USOCOME	Tel. +33 1 60 81 10 56 Fax +33 1 60 81 10 57
	Lorraine / Alsace North	SEW-USOCOME	Tel. +33 3 83 96 28 04 Fax +33 3 83 96 28 07
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	Rhône-Alpes East	SEW-USOCOME	Tel. +33 4 75 05 65 95 Fax +33 4 75 05 65 96
	Rhône-Alpes North	SEW-USOCOME	Tel. +33 4 74 99 60 03 Fax +33 4 74 99 60 15
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	Koblenz	SEW-EURODRIVE GmbH & Co KG Bahnstraße 17a 56743 Mendig	Tel. +49 2652 9713-30 Fax +49 2652 9713-40 tb-koblenz@sew-eurodrive.de
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	Langenfeld	SEW-EURODRIVE GmbH & Co KG Siemensstraße 1 40764 Langenfeld	Tel. +49 2173 8507-10 Fax +49 2173 8507-50 tb-langenfeld@sew-eurodrive.de
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	Münster	SEW-EURODRIVE GmbH & Co KG Hafenplatz 4 48155 Münster	Tel. +49 251 41475-11 Fax +49 251 41475-50 tb-muenster@sew-eurodrive.de
	Nuremberg	SEW-EURODRIVE GmbH & Co KG Lina-Ammon-Straße 22 90471 Nürnberg	Tel. +49 911 98884-50 Fax +49 911 98884-60 tb-nuernberg@sew-eurodrive.de
	Regensburg	SEW-EURODRIVE GmbH & Co KG Im Gewerbepark A15 93059 Regensburg	Tel. +49 941 46668-68 Fax +49 941 46668-66 tb-regensburg@sew-eurodrive.de
	Rhine-Main	SEW-EURODRIVE GmbH & Co KG Niederstedter Weg 5 61348 Bad Homburg	Tel. +49 6172 9617-0 Fax +49 6172 9617-50 tb-rheinmain@sew-eurodrive.de
	Stuttgart	SEW-EURODRIVE GmbH & Co KG Friedrich-List-Straße 46 70771 Leinfelden-Echterdingen	Tel. +49 711 16072-0 Fax +49 711 16072-72 tb-stuttgart@sew-eurodrive.de
	Zwickau / Meerane	SEW-EURODRIVE GmbH & Co KG Dänkritzer Weg1 08393 Meerane	Tel. +49 3764 7606-0 Fax +49 3764 7606-20 tb-zwickau@sew-eurodrive.de
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	Drive Service Hotline / 24 Hour Service		Tel. 01924 896911
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	Northern Ireland	Heyn Engineering (NI) Ltd. 1 Corry Place, Belfast, BT3 9AH	Tel. +44 02890350022 Fax +44 02890350012 http://www.heyn.co.uk info@heyn.co.uk
Greece			
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Technical Office	Thessaloniki	Christ. Boznos & Son S.A. Asklipiou 26 562 24 Evosmos, Thessaloniki	Tel. +30 2 310 7054-00 Fax +30 2 310 7055-15 info@boznos.gr

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Iceland			
Sales	Reykjavik	Varma & Vélaverk ehf. Knarrarvogi 4 104 Reykjavík	Tel. +354 585 1070 Fax +354 585)1071 http://www.varmaverk.is vov@vov.is
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Registered Office Assembly Sales Service	Vadodara	SEW-EURODRIVE India Private Limited Plot No. 4, GIDC POR Ramangamdi • Vadodara - 391 243 Gujarat	Tel. +91 265 3045200 Fax +91 265 3045300 http://www.seweurodriveindia.com salesvadodara@seweurodriveindia.com
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	Pondicherry	SEW-EURODRIVE India Private Limited Plot No 1, Flat No S2, Shubhamangala Apartment, 14th Cross Extension, Krishna Nagar, Pondicherry 605008	Tel. +91 9840971370 salespondicherry@seweurodriveindia.com
	Pune	SEW-EURODRIVE India Private Limited Plot No. 7,"Shri Shantadurga Niwas" Shivaji Co –operative Housing Society Ltd., Behind J.W. Marriot. Off Senapati Bapat Marg. Pune –411 016, Maharashtra	Tel. +91 20 25635466 / 467 salespune@seweurodriveindia.com
	Pune	SEW-EURODRIVE India Private Limited Jai Tulajabhavani Complex. Office No:- 15 First Floor, Opp. Century Enka Company, MIDC Bhosari , Pune 411 026	Tel. +91 20-65118890 / 91 Fax +91 20 25380721 salespune@seweurodriveindia.com
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	Ranchi	SEW-EURODRIVE India Private Limited 1D- Shail Madhuri Apartment, Near Kokar Pool, H.B Road, Kokar Ranchi - 834001, Jharkhand.	Tel. +91 82946 30772 salesranchi@seweurodriveindia.com
	Tiruchirappalli	SEW-EURODRIVE India Private Limited Plot No.24, Door No.64A Rajaram Salai, K.K Nagar Trichy-620 021, Tamilnadu	Tel. +91 97899 79855 salestrichy@seweurodriveindia.com
	Vadodara	SEW-EURODRIVE India Private Limited Unit No. 301, Savorite Bldg, Plot No. 143, Vinayak Society, off old Padra Road, Vadodara - 390 007, Gujarat	Tel. +91 265 2325258 / 6560482 salesvadodara@seweurodriveindia.com
	Vizag	SEW-EURODRIVE India Private Limited D.No.7-13-50/1, Near Padmaja hospital, Ramalayam street, Chittinaidu colony,Old gajuwaka, Visakhapatnam – 530026, Andhra Pradesh	Tel. +91 99895 01748 salesvizag@seweurodriveindia.com
Indonesia			
Sales	Medan	PT. Serumpun Indah Lestari Jl.Pulau Solor no. 8, Kawasan Industri Medan II Medan 20252	Tel. +62 61 687 1221 Fax +62 61 6871429 / +62 61 6871458 / +62 61 30008041 sil@serumpunindah.com serumpunindah@yahoo.com http://www.serumpunindah.com
	Jakarta	PT. Cahaya Sukses Abadi Komplek Rukan Puri Mutiara Blok A no 99, Sunter Jakarta 14350	Tel. +62 21 65310599 Fax +62 21 65310600 csajkt@cbn.net.id
	Jakarta	PT. Agrindo Putra Lestari JL.Pantai Indah Selatan, Komplek Sentra Industri Terpadu, Pantai indah Kapuk Tahap III, Blok E No. 27 Jakarta 14470	Tel. +62 21 2921-8899 Fax +62 21 2921-8988 aplindo@indosat.net.id http://www.aplindo.com
	Surabaya	PT. TRIAGRI JAYA ABADI Jl. Sukosemolo No. 63, Galaxi Bumi Permai G6 No. 11 Surabaya 60111	Tel. +62 31 5990128 Fax +62 31 5962666 sales@triagri.co.id http://www.triagri.co.id
	Surabaya	CV. Multi Mas Jl. Raden Saleh 43A Kav. 18 Surabaya 60174	Tel. +62 31 5458589 Fax +62 31 5317220 sianhwa@sby.centrin.net.id http://www.cvmultimas.com

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Israel			
Sales	Tel Aviv	Liraz Handasa Ltd. Ahofer Str 34B / 228 58858 Holon	Tel. +972 3 5599511 Fax +972 3 5599512 http://www.liraz-handasa.co.il office@liraz-handasa.co.il
Italy			
Assembly Sales Service	Milan	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Via Bernini,14 20020 Solaro (Milano)	Tel. +39 02 96 980229 Fax +39 02 96 980 999 http://www.sew-eurodrive.it milano@sew-eurodrive.it
Drive Center	Bologna	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Via della Grafica, 47 40064 Ozzano dell'Emilia (Bo)	Tel. +39 051 65-23-801 Fax +39 02 96 980 499 bologna@sew-eurodrive.it
	Caserta	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Viale Carlo III Km. 23,300 81020 S. Nicola la Strada (Caserta)	Tel. +39 0823 219011 Fax +39 02 96 980 599 caserta@sew-eurodrive.it
	Pescara	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Viale Europa,132 65010 Villa Raspa di Spoltore (PE)	Tel. +39 085 41-59-427 Fax +39 02 96 980 699 pescara@sew-eurodrive.it
	Turin	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Filiale Torino c.so Unione Sovietica 612/15 - int. C 10135 Torino	Tel. +39 011 3473780 Fax +39 02 96 980 799 torino@sew-eurodrive.it
	Verona	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Via Antonio Meucci, 5 37042 - Caldiero (VR)	Tel. +39 045 89-239-11 Fax +39 02 96 980 814 verona@sew-eurodrive.it
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Latvia			
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Lebanon			
Sales (Lebanon)	Beirut	Gabriel Acar & Fils sarl B. P. 80484 Bourj Hammoud, Beirut	Tel. +961 1 510 532 Fax +961 1 494 971 ssacar@inco.com.lb
Sales (Jordan, Kuwait , Saudi Arabia, Syria)	Beirut	Middle East Drives S.A.L. (offshore) Sin El Fil. B. P. 55-378 Beirut	Tel. +961 1 494 786 Fax +961 1 494 971 http://www.medrives.com info@medrives.com
Lithuania			
Sales	Alytus	UAB Irseva Statybininku 106C 63431 Alytus	Tel. +370 315 79204 Fax +370 315 56175 http://www.irseva.lt irmantas@irseva.lt
Luxembourg			
representation: Belgium			
Macedonia			
Sales	Skopje	Boznos DOOEL Dime Anicin 2A/7A 1000 Skopje	Tel. +389 23256553 Fax +389 23256554 http://www.boznos.mk
Malaysia			
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	Ipoh	SEW-EURODRIVE SDN BHD West Malaysia	Tel. +60 19 7177366 sewsa@sew-eurodrive.com.my
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Namibia			
Sales	Swakopmund	DB Mining & Industrial Services Einstein Street Strauss Industrial Park Unit1 Swakopmund	Tel. +264 64 462 738 Fax +264 64 462 734 anton@dbminingnam.com
Netherlands			
Assembly Sales Service	Rotterdam	SEW-EURODRIVE B.V. Industrieweg 175 3044 AS Rotterdam Postbus 10085 3004 AB Rotterdam	Tel. +31 10 4463-700 Fax +31 10 4155-552 Service: 0800-SEWHELP http://www.sew-eurodrive.nl info@sew-eurodrive.nl
New Zealand			
Assembly Sales Service	Auckland	SEW-EURODRIVE NEW ZEALAND LTD. P.O. Box 58-428 82 Greenmount drive East Tamaki Auckland	Tel. +64 9 2745627 Fax +64 9 2740165 http://www.sew-eurodrive.co.nz sales@sew-eurodrive.co.nz
	Christchurch	SEW-EURODRIVE NEW ZEALAND LTD. 30 Lodestar Avenue, Wigram Christchurch	Tel. +64 3 384-6251 Fax +64 3 384-6455 sales@sew-eurodrive.co.nz
Technical Office	Palmerston North	SEW-EURODRIVE NEW ZEALAND LTD. C/-Grant Shearman, RD 5, Aronui Road Palmerston North	Tel. +64 6 355-2165 Fax +64 6 355-2316 sales@sew-eurodrive.co.nz
Nigeria			
Sales	Lagos	Greenpeg Nig. Ltd Plot 296A, Adeyemo Akapo Str. Omole GRA Ikeja Lagos-Nigeria	Tel. +234-701-821-9200-1 http://www.greenpegltd.com bolaji.adekunle@greenpegltd.com

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Pakistan			
Sales	Karachi	Industrial Power Drives Al-Fatah Chamber A/3, 1st Floor Central Commercial Area, Sultan Ahmed Shah Road, Block 7/8, Karachi	Tel. +92 21 452 9369 Fax +92-21-454 7365 seweurodrive@cyber.net.pk
Paraguay			
Sales	Fernando de la Mora	SEW-EURODRIVE PARAGUAY S.R.L De la Victoria 112, Esquina nueva Asunción Departamento Central Fernando de la Mora, Barrio Bernardino	Tel. +595 991 519695 Fax +595 21 3285539 sewpy@sew-eurodrive.com.py
Peru			
Assembly Sales Service	Lima	SEW EURODRIVE DEL PERU S.A.C. Los Calderos, 120-124 Urbanizacion Industrial Vulcano, ATE, Lima	Tel. +51 1 3495280 Fax +51 1 3493002 http://www.sew-eurodrive.com.pe sewperu@sew-eurodrive.com.pe
Philippines			
Sales	Makati	P.T. Cerna Corporation 4137 Ponte St., Brgy. Sta. Cruz Makati City 1205	Tel. +63 2 519 6214 Fax +63 2 890 2802 mech_drive_sys@ptcerna.com http://www.ptcerna.com
Poland			
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	Service	Tel. +48 42 293 0030 Fax +48 42 293 0043	24 Hour Service Tel. +48 602 739 739 (+48 602 SEW SEW) serwis@sew-eurodrive.pl
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	Bydgoszcz	SEW-EURODRIVE Polska Sp.z.o.o. ul. Fordońska 246 85-766 Bydgoszcz	Tel.+48 52 567 30 00 Fax +48 52 567 30 09
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	Radom	SEW-EURODRIVE Polska Sp.z.o.o. ul. Słowackiego 84 26-600 Radom	Tel. +48 48 679 47 00 Fax +48 48 679 47 09
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Service Competence Center	Lisbon	SEW-EURODRIVE, LDA. Núcleo Empresarial I de São Julião do Tojal Rua de Entremuros, 54 Fracção I 2660-533 São Julião do Tojal	Tel. +351 21 958-0198 Fax +351 21 958-0245 esc.lisboa@sew-eurodrive.pt

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Assembly Sales Service	St. Petersburg	ЗАО «СЕВ-ЕВРОДРАЙФ» а. я. 36 195220 Санкт-Петербург	Tel. +7 812 3332522 / +7 812 5357142 Fax +7 812 3332523 http://www.sew-eurodrive.ru sew@sew-eurodrive.ru
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	Moscow	ЗАО «СЕВ-ЕВРОДРАЙФ» Malaja Semjonowskaja Str. д. 9, корпус 2 107023 Moskau	Tel. +7 495 9337090 Fax +7 495 9337094 mso@sew-eurodrive.ru
	Novosibirsk	ЗАО «СЕВ-ЕВРОДРАЙФ» pr. K Marksa 30 630087 Novosibirsk	Tel. +7 383 3350200 Fax +7 383 3462544 nso@sew-eurodrive.ru
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	Togliatti	ЗАО «СЕВ-ЕВРОДРАЙФ» Sportivnaya Str. 4B, office 2 Samarskaya obl. 445057 Togliatti	Tel. +7 8482 710529 Fax +7 8482 810590 tso@sew-eurodrive.ru
Sambia			
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Sales	Belgrade	DIPAR d.o.o. Ustanicka 128a PC Košum, IV floor 11000 Beograd	Tel. +381 11 347 3244 / +381 11 288 0393 Fax +381 11 347 1337 office@dipar.rs
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Slovakia			
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	Cape Town	SEW-EURODRIVE (PROPRIETARY) LIMITED Rainbow Park Cnr. Racecourse & Omuramba Road Montague Gardens Cape Town P.O.Box 36556 Chempet 7442	Tel. +27 21 552-9820 Fax +27 21 552-9830 Telex 576 062 bgriffiths@sew.co.za
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	Busan	SEW-EURODRIVE KOREA CO., LTD. 28, Noksansandan 262-ro 50beon-gil, Gangseo-gu, Busan, Zip 618-820	Tel. +82 51 832-0204 Fax +82 51 832-0230
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	Daejeon	SEW-EURODRIVE KOREA CO., LTD. No.302 Hongin officetel, 28, Daehak-ro, Yuseong-gu, Daejeon, Zip 305-710	Tel. +82 42 828-6461 Fax +82 42 828-6463
	Gwangju	SEW-EURODRIVE KOREA CO., LTD. 5fl., Hyundai B/D B, 40, Bungmun-daero, Buk-gu, Gwangju, Zip 500-855	Tel. +82 62 511-9172 Fax +82 62 511-9174
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	Valencia	MEB Músico Andreu i Piqueres, 4 46.900 Torrente (Valencia)	Tel. +34 961 565 493 Fax +34 961 566 688 mebsa.valencia@mebsa.com
Sri Lanka			
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Swaziland			
Sales	Manzini	C G Trading Co. (Pty) Ltd PO Box 2960 Manzini M200	Tel. +268 2 518 6343 Fax +268 2 518 5033 engineering@cgtrading.co.sz
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	Bern / Solothurn	Rudolf Bühler Muntersweg 5 2540 Grenchen	Tel. +41 32 652 2339 Fax +41 32 652 2331
	Central Switzerland, Aargau	Armin Pfister Stierenweid 4950 Huttwil, BE	Tel. +41 62 962 54 55 Fax +41 62 962 54 56
	Zürich, Ticino	Gian-Michele Muletta Fischerstrasse 61 8132 Egg bei Zürich	Tel. +41 44 994 81 15 Fax +41 44 994 81 16
	Lake Constance and East Switzerland	Markus Künzle Eichweg 4 9403 Goldach	Tel. +41 71 845 2808 Fax +41 71 845 2809

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	Nan Tou	Ting Shou Trading Co., Ltd. No. 55 Kung Yeh N. Road Industrial District Nan Tou 540	Tel. +886 49 255353 Fax +886 49 257878 sewtwn@ms63.hinet.net http://www.tingshou.com.tw
Tanzania			
Sales	Daressalam	SEW-EURODRIVE PTY LIMITED TANZANIA Plot 52, Regent Estate PO Box 106274 Dar Es Salaam	Tel. +255 0 22 277 5780 Fax +255 0 22 277 5788 http://www.sew-eurodrive.co.tz info@sew.co.tz
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	Hat Yai	SEW-EURODRIVE (Thailand) Ltd. Hadyai Country Home Condominium 59/101 Soi.17/1 Rachas-Utid Road. Hadyai, Songkhla 90110	Tel. +66 74 359441 Fax +66 74 359442 sewthailand@sew-eurodrive.com
	Khon Kaen	SEW-EURODRIVE (Thailand) Ltd. 4th Floor, Kaow-U-HA MOTOR Bldg, 359/2, Mitraphab Road. Muang District Khonkaen 40000	Tel. +66 43 225745 Fax +66 43 324871 sewthailand@sew-eurodrive.com
Tunisia			
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Turkey			
Assembly Sales Service	Kocaeli-Gebze	SEW-EURODRİVE Hareket Sistemleri San. Ve TIC. Ltd. Sti Gebze Organize Sanayi Böl. 400 Sok No. 401 41480 Gebze Kocaeli	Tel. +90 262 9991000 04 Fax +90 262 9991009 http://www.sew-eurodrive.com.tr sew@sew-eurodrive.com.tr
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	Ankara	SEW-EURODRİVE Hareket Sistemleri San. Ve TIC. Ltd. Sti 1368.Cadde Eminel İşmerkezi No: 18/68 İvogsan / Ankara	Tel. +90 312 385 33 90 Fax +90 312 385 32 58
	Bursa	SEW-EURODRİVE Hareket Sistemleri San. Ve TIC. Ltd. Sti Üçevler Mah. Bayraktepe Sok. Akay İş Merkezi Kat:3 No: 7/6 Nilüfer / Bursa	Tel. +90 224 443 45 60 Fax +90 224 443 45 58
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Ukraine			
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Sales	Kiev	ООО «СЕВ-Евродрайв» ул. С.Олейника, 21 02068 Киев	Tel. +380 44 503 95 77 Fax +380 44 503 95 78 kso@sew-eurodrive.ua
	Ivano-Frankivsk	ООО «СЕВ-Евродрайв» ул. Независимости, 4, оф.303 76000 Ивано-Франковск	Tel. +380 342 725 190 Fax +380 342 725 191 ifso@sew-eurodrive.ua
Uruguay			
Assembly Sales	Montevideo	SEW-EURODRIVE Uruguay, S. A. Jose Serrato 3569 Esqina Corumbe CP 12000 Montevideo	Tel. +598 2 21181-89 Fax +598 2 21181-90 sewuy@sew-eurodrive.com.uy
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Assembly Sales Service	Northeast Region	SEW-EURODRIVE INC. Pureland Ind. Complex 2107 High Hill Road, P.O. Box 481 Bridgeport, New Jersey 08014	Tel. +1 856 467-2277 Fax +1 856 845-3179 csbridgeport@seweurodrive.com
	Midwest Region	SEW-EURODRIVE INC. 2001 West Main Street Troy, Ohio 45373	Tel. +1 937 335-0036 Fax +1 937 332-0038 cstroy@seweurodrive.com
	Southwest Region	SEW-EURODRIVE INC. 3950 Platinum Way Dallas, Texas 75237	Tel. +1 214 330-4824 Fax +1 214 330-4724 csdallas@seweurodrive.com
	Western Region	SEW-EURODRIVE INC. 30599 San Antonio St. Hayward, CA 94544	Tel. +1 510 487-3560 Fax +1 510 487-6433 cshayward@seweurodrive.com
	Wellford	SEW-EURODRIVE INC. 148/150 Finch Rd. Wellford, S.C. 29385	IGLogistics@seweurodrive.com
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Vietnam			
Sales	Ho Chi Minh City	Nam Trung Co., Ltd Huế - South Vietnam / Construction Materials 250 Binh Duong Avenue, Thu Dau Mot Town, Binh Duong Province HCM office: 91 Tran Minh Quyen Street District 10, Ho Chi Minh City	Tel. +84 8 8301026 Fax +84 8 8392223 khanh-nguyen@namtrung.com.vn http://www.namtrung.com.vn
	Hanoi	MICO LTD Quảng Trị - North Vietnam / All sectors except Construction Materials 8th Floor, Ocean Park Building, 01 Dao Duy Anh St, Ha Noi, Viet Nam	Tel. +84 4 39386666 Fax +84 4 3938 6888 nam_ph@micogroup.com.vn http://www.micogroup.com.vn

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Inquiry/order

Customer data:

Company: _____ Customer no.: _____
Department: _____
Name: _____ Phone: _____
Street/P.O. box: _____ Fax: _____
_____ Email: _____
Zip code/city: _____

Contact at SEW:

Name: _____ Phone: _____
Technical office: _____ Fax: _____

Technical data:

Quantity: _____ Desired delivery date: _____
Catalog designation: _____

Gear unit type:

☐ Helical gear units ☐ Parallel-shaft helical gear units ☐ Helical-bevel gear unit ☐ Helical-worm gear unit ☐ Spiroplan® gear units
☐ Double gear units ☐ Servo gear units ☐ Variable-speed gear unit ☐ Electrified monorail system ☐ Miscellaneous: _____

Power: _____ kW **Output speed:** _____ rpm **Output torque:** _____ Nm

Cycles/hour: _____ c/h **Cyclic duration factor:** S _____ / _____ % cdf

☐ 1-shift operation ☐ 2-shift operation ☐ 3-shift operation
☐ Regular ☐ Irregular ☐ Very irregular

Mounting position: [1)]

M1 ☐ M2 ☐ M3 ☐ M4 ☐ M5 ☐ M6 ☐ Pivoted ☐

Housing form:

☐ Foot-mounted ☐ Flange (bore) ☐ Flange (thread)
☐ Torque arm ☐ Miscellaneous: _____

Shaft design:

☐ Solid shaft with key ☐ Shrink disk Shaft/hollow shaft Ø: _____ mm
☐ Hollow shaft with key ☐ TorqLOC® Flange Ø : _____ mm

Shaft position (for right-angle gear units): ☐ A | ☐ B | ☐ AB

Terminal box position: ☐ 0°(R) ☐ 90°(B) | ☐ 180°(L) | ☐ 270°(T)

Cable entry: ☐X ☐1 | ☐2 | ☐3

Degree of protection:

IP54 ☐ IP55 ☐ IP56 ☐ IP65 ☐ IP66 ☐ IP69K ☐

Thermal class:

130(B) ☐ 155(F) ☐ 180(H) ☐

Surface/corrosion protection:

KS ☐ OS1 ☐ OS2 ☐ OS3 ☐ OS4 ☐

Line voltage: _____ V
Line frequency: ☐ 50Hz ☐ 60Hz

Connection type: ☐ Δ | ☐ Y | ☐ YY | ☐ Y/Y

Energy efficiency class: ☐IE1 | ☐IE2 | ☐IE3 | ☐IE4

☐ For inverter operation: Max. frequency: _____ Hz | **Control range:** _____

Required options:

☐ Brake: Voltage _____ V Braking torque: _____ Nm
☐ Manual brake release: ☐ HR or ☐ HF
☐ Forced cooling fan: Forced cooling fan voltage: ____ V
☐ Motor protection: ☐ TF or ☐ TH
☐ Encoder: _____
☐ Plug connector connection: _____
☐ Inverter: _____
☐ RAL 7031 or ☐ RAL _____

Further options:

Special ambient conditions:

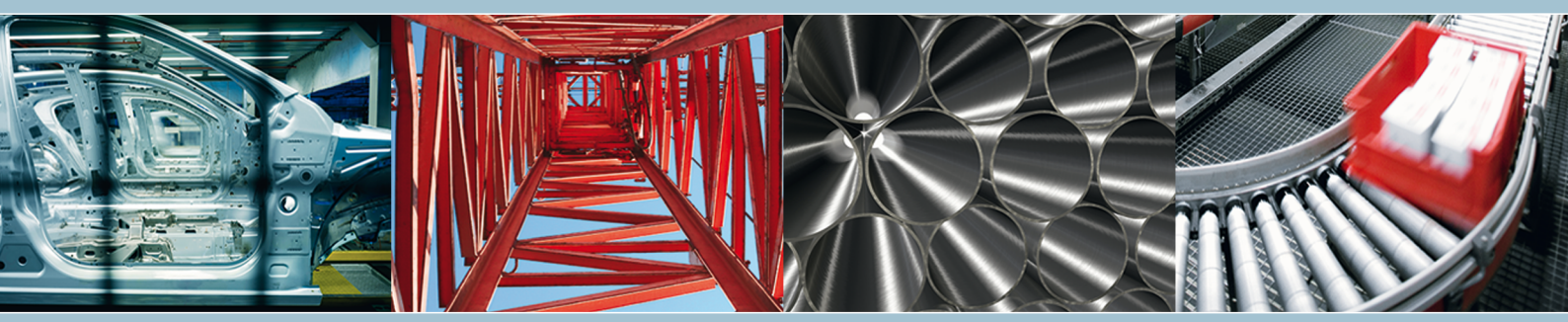
Temperature: from _____ °C to _____ °C | ☐ Operation outdoors | ☐ Installation altitude >1000m above NN
Further environmental conditions: _____

Miscellaneous: _____

1) see back

Place, date _____ **Signature:** _____

SEW-EURODRIVE GmbH & Co KG / P.O. Box 30 23 / D-76642 Bruchsal / Tel. +49 7251 75-0 / Fax +49 7251 75-1970
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