Drive Technology \ Drive Automation \ System Integration \ Services

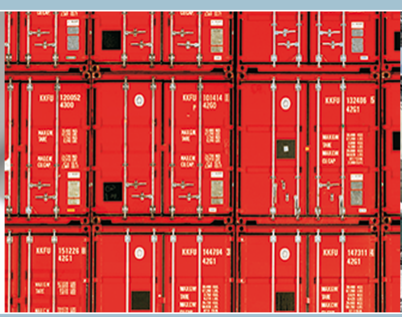
Catalog

Gear Units

Edition 03/2020

29154650/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 reliable products with regard to functionality and investment.

Products and services from SEW-EURODRIVE are represented in all important industries of our time. We also show this presence with subsidiaries and production plants all over the world, as well as with our service, which we see as an integrative part of our portfolio that extends SEW-EURODRIVE's high quality standards.

1.1.2 Always the right drive solution

With the broad product range of SEW-EURODRIVE, which also includes mechatronic drive units, frequency inverters, controllers, software and communication in addition to the tried-and-tested modular system for gearmotors, it is possible to implement the perfect drive solution for every application.

Gear units and motors

Thanks to the modular system, gearmotors can be combined individually according to the required speed and torque ranges, the space requirements and the ambient conditions. Gear units and gearmotors offering a unique and finely tuned performance range and the best economic prerequisites to face any drive challenge.

Motors by SEW-EURODRIVE can be mounted directly or via adapter to SEW-EURODRIVE gear units. They meet all worldwide requirements regarding energy efficiency and technical regulations. A wide range of options and accessories ensures high flexibility for adjusting the motor to the requirements of the user and the application.

Inverter

The proven inverter series MOVITRAC®, MOVIDRIVE® and MOVIAXIS® enhance the gearmotors, forming a combination that blends in perfectly with the existing range of SEW-EURODRIVE systems.

Modular automation system

With its brand MOVI-C®, SEW-EURODRIVE launches a new generation of drive and automation technology. MOVI-C® is the modular automation system that allows for the highest level of system and machine automation. It comprises drive technology, motion control, control technology and visualization.

MOVIDRIVE® modular is the modular application inverter for all types of applications, ranging from simple open-loop speed control to servo drives with kinematic model. MOVIDRIVE® modular can be supplemented by connecting MOVIDRIVE® system single-axis units. These possess functionalities comparable to those of axis modules, but have their own line connection. Especially in the upper power range, MOVIDRIVE® system complements the modular application inverter.

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MOVIDRIVE® modular and system are intended for operation at the MOVI-C® CONTROLLER, the controller from SEW-EURODRIVE. They offer a powerful clock-synchronous connection via the integrated EtherCAT®/SBus^{PLUS} communication interface. Other EtherCAT® stations from SEW-EURODRIVE or other manufacturers can be controlled and diagnosed by the MOVI-C® CONTROLLER.

The MOVISUITE® engineering software, with its unique operating philosophy, controls all MOVI-C® hardware and software components. MOVISUITE® was developed with a focus on systematically shortening the startup time and covers the entire engineering process, from planning to diagnostics.

Decentralized drive technology

For economical, decentralized installations, SEW-EURODRIVE offers decentralized drive technology components, such as MOVIMOT®, the gearmotor with integrated frequency inverter or MOVI-SWITCH®, the gearmotor with integrated switching and protection function. SEW-EURODRIVE hybrid cables have been designed specifically to ensure cost-effective solutions, independent of the philosophy behind or the size of the system.

The decentralized drive technology portfolio is complemented by the 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.

The smart energy management system MOVI-DPS® enhances the modular product range of SEW-EURODRIVE. With MOVI-DPS®, SEW-EURODRIVE offers the perfect combination: Conserving resources. Reducing costs.

MOVI-DPS® allows for stable power grids, no power failures, and consequently reliable system availability. MOVI-DPS® is convincing in both, mobile and stationary applications. In addition, MOVI-DPS® can be combined with other systems such as the contactless energy transfer system MOVITRANS®, resulting in further important synergy effects.

Industrial gear units

Power, quality and sturdy design combined in one standard product: With high torque levels, industrial gear units from SEW-EURODRIVE realize major movements. The modular concept will once again provide optimum adaptation of industrial gear units to meet a wide range of different applications.

Individual system solutions with MAXOLUTION®

MAXOLUTION® from SEW-EURODRIVE provides individual application solutions in all areas of system and machine automation. From electromechanical drives, controllers and communication to visualization and the contactless energy transfer system MOVITRANS® up to a comprehensive service portfolio, MAXOLUTION® offers all modules required to design customer-specific solutions for machines and systems.

MAXOLUTION® combines individual products of the proven modular system with innovative system components to form individual solutions that perfectly match the requirements of the specific application – "powered by SEW-EURODRIVE".

Safe - flexible - effective: safetyDRIVE

Guaranteeing the safety of all employees and preventing work accidents while ensuring trouble-free production processes are demands placed on all production areas. safetyDRIVE, the comprehensive safety concept, allows you to implement your machines "safely," in accordance with the currently valid guidelines. With controllers that meet the respective requirement of safety categories or performance levels and that monitor instead of switching off.

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All of our drive and frequency inverters provide the function that safely stops the electrical power to the motor (STO). The MOVISAFE® components complete the portfolio – integrated into the inverter as DFS..B or DCS..B option cards or modular as UCS..B safety monitors. The decentralized MOVIFIT® and MOVIPRO® drive technologies with integrated safety functions are ready for use in decentralized installations.

The functionally safe motor options allow for implementing safety functions in safety-related applications. Safety encoders are used to implement safety functions with respect to speed, direction of rotation, standstill, and relative position. Safety brakes can implement safety functions with respect to decelerating and stopping.

1.1.3 Your ideal partner

Its global presence, extensive product portfolio 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.

For detailed information on the entire SEW-EURODRIVE range of products, refer to our website www.sew-eurodrive.com where you can find out about components, system solutions, services and industries. Via the Online Support, you can access a large selection of documents and tools such as the product configurator and different selection guides as well as all documentation in different languages for download.

1.2 Documentation

1.2.1 Contents of this documentation

This "Gear Units" catalog describes the following product groups offered by SEW-EURODRIVE:

R.., F.., K.., S.., and SPIROPLAN® W gear units in combination with:

- AM adapter
- AT adapter
- AD input shaft assembly
- AR slip clutch

The descriptions include:

- Product descriptions
- Overview of types
- Project planning notes
- Description of mounting positions
- Combination overviews and technical data
- Dimension sheets

For details on motor options, refer to the AC Motors" catalog.

For information on R.., F.., K.., S.. and SPIROPLAN® W gear units in combination with the AQ adapter for mounting servomotors, refer to the "Servo Gear Units" catalog.

1.2.2 Additional documentation

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

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Catalogs

- Servo gear units
- AC motors
- DRS../DR2S.. gearmotors (IE1)
- DRE.. gearmotors (IE2)
- DRN.. gearmotors (IE3)
- DRU..J (IE4) and DRE..J (IE2) synchronous gearmotors
- (E)DRN.. gearmotors – 60 Hz
- 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

For detailed documentation about the entire topic of electrical drive engineering, refer to the publications of the "Drive Engineering – Practical Implementation" series:

- Project planning manual – Project Planning for Controlled and Non-Controlled Drives
- EMC in Drive Engineering – Basic Theoretical Principles and EMC-Compliant Installation in Practice
- Efficient Plant Automation with Mechatronic Drive Solutions

1.3 Decimal separator in numerical values

In this document, a period is used to indicate the decimal separator.

Example: 30.5 kg

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

2.1 Product features

2.1.1 Operating temperatures

Gear units

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

Gear units	Filled with	Permitted standard temperature range
K..19, K..29, K..39, K..49	CLP(PG) VG460	-20 °C to +40 °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(PG) 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.

INFORMATION

For information on churning losses and thermal rating, refer to chapter "Churning losses and thermal rating" (→ 🗎 47).

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

Motors of the DRN.. product family 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.

INFORMATION

If the drive is to be operated on a frequency inverter, you must also consider the project planning notes of 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 apply to a maximum installation altitude of 1000 m above sea level. Installation altitudes > 1000 m above sea level must be taken into account for the 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 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.

2.1.5 Painting

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

Gear units	Painting
R, F, K, S, W gear units	blue/gray RAL 7031

Exception: SPIROPLAN® W..10DR2S5 gearmotors have an aluminum housing and are supplied unpainted as standard.

Special paintings are available on request.

2.1.6 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.

2.1.7 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.

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2.1.8 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, which is the reason that no universally applicable information can be provided. For recommended lubricant fill quantities depending on the mounting position, refer to the chapter "Lubricant fill quantities" (→ 🗎 127). For the exact weight, refer to the quotation or the order confirmation.

2.1.9 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.

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 side is blocked. The specified values have a tolerance of ± 2 angular minutes. For further information, refer to the chapter "Reduced backlash gear unit design /R" (→ 🗎 133).

2.1.10 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 maximum motor torque to match the maximum permitted output torque of the gear unit.

2.1.11 Gear units and gearmotors for agitators and mixers

A special design variant of the helical gear, parallel-shaft and helical-bevel gear units are gear units and gearmotors equipped with an extended output bearing hub (RM../FM../FAM../KM.. and KAM..). These units are designed especially for agitator and mixer applications and allow for high bending moments as well as overhung and axial loads. The remaining data corresponds to that of standard gear units and gearmotors. For further information on gear unit and gearmotor designs for agitators and mixers, refer to chapter "Agitator designs" (→ 🗎 20).

2.1.12 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.

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.

2.1.13 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.

Motor swings are available with the following optional accessories:

- Torque arm
- Mechanical thermal monitoring device
- Proximity-type thermal monitoring device

Contact SEW-EURODRIVE for additional information.

2.1.14 International markets

On request, SEW-EURODRIVE supplies motors that are certified or registered for the relevant market.

Marks	Meaning
CE	CE mark to state compliance with European guidelines, such as the Low Voltage Directive
Ex	ATEX mark to state compliance with the European Directive 94/9/EC
	UR logo to confirm that UL (Underwriters Laboratory) is informed about the registered components; register number by UL: E337323
MC170602 SP®	CSA mark to confirm the Canadian Standard Association (CSA) and the market conformity of AC motors
EAC	EAC mark (EurAsian Conformity) Confirms compliance with the technical regulations of the Eurasion Economic/Customs Union
EAC Ex	Ex EAC mark (EurAsian Conformity) Confirms compliance with the technical regulations of the Eurasian Economic/Customs Union
013	UA.TR (UkrSEPRO) mark (Ukrainian Certification of Products) Confirms compliance with the technical regulations of the country Ukraine

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:

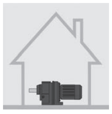
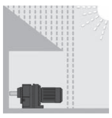
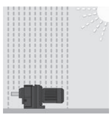
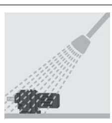
- KS corrosion protection for motors
- Surface protection OS for motors and gear units

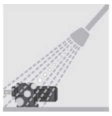
For motors, optimum protection is offered by a combination of KS corrosion protection and OS surface protection.

Optional preventive measures are also available for the output shafts.

2.2.2 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 in buildings and rooms indoors with neutral atmospheres. Based on corrosivity category[3)]: • C1 (negligible)	• Machines and systems in the automotive industry • Transport systems in logistics • Conveyor belts at airports
OS1		Suitable for environments prone to condensation and atmospheres with low humidity or contamination, such as applications outdoors under roof or with protection device. Based on corrosivity category[3)]: • C2 (low)	• Systems in saw mills • Hall gates • Agitators and mixers
OS2		Suitable for environments with high humidity or moderate atmospheric contamination, such as applications outdoors subject to direct weathering. Based on corrosivity category[3)]: • C3 (moderate)	• Applications in amusement parks • Cable cars and chairlifts • Applications in gravel plants • Systems in nuclear power plants
OS3		Suitable for environments with high humidity and occasionally severe atmospheric and chemical contamination. Occasional acidic or caustic wet cleaning. Also for applications in coastal areas with moderate salt load. Based on corrosivity category[3)]: • C4 (high)	• Sewage treatment plants • Port cranes • Mining applications

Surface protection[1][2]		Ambient conditions	Sample 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. Based on 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

2.2.3 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

2.2.4 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 Design

SEW-EURODRIVE recommends the "extended storage" gear unit design for storage periods longer than 9 months. The lubricant of those gear units is then 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

For SPIROPLAN® gear units, the extended storage option is not available yet.

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	• Under roof • Protected against rain and snow • Protected against shocks	Up to 3 years with regular inspection of the packaging and humidity indicator (rel. humidity < 50%)
	Open	• Under roof and enclosed at constant temperature and atmospheric humidity (5 °C < ϑ < 50 °C, relative humidity < 50%) • 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

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	• Under roof • Protected against rain and snow • Protected against shocks	Up to 3 years with regular inspection of the packaging and humidity 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

2.4.1 /DUO10A oil aging sensor

The DUO10A 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, this unit analyzes the oil temperature to 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 replaces 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.

For the technical data and part numbers of the DUO10A oil aging sensor, refer to chapter "Information on oil aging sensor /DUO10A" (→ 🗎 166).

2.4.2 /DUV40A vibration monitoring system

The DUV40A vibration monitoring system is used to detect damage of gear units and gearmotors early (e.g. bearing damage or imbalances). For this, permanent broadband frequency-selective monitoring of the gearmotor is used. Apart from the vibration analysis, additional measured values of up to 3 signal encoders can be detected, recorded and analyzed. The additional signals can be used as reference values for signal analysis e.g. to trigger event-based measuring tasks. After the analysis and depending on alarm limits defined during rated operation of the drive (teach-in mode), the system can switch outputs and display the state using LEDs.

Configuration and visualization of the DUV40A system are realized via the SmartWeb software. If you use several DUV40A systems, you can control them via the SmartUtility Light software centrally from one PC.

If you use the SmartUtility software that is subject to a fee, you can analyze measurement data in the SmartUtility Viewer and download configurations or upload them onto other devices.

For information on the scope of delivery, part number and technical data, refer to chapter "Information on the /DUV40A vibration monitoring system" (→ 🗎 168).

2.5 Oil expansion tank

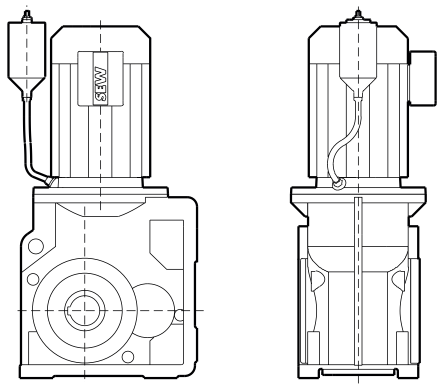
The oil fill level for gear units in mounting position M4 has technical reasons. In case of unfavorable circumstances, oil may leak from the breather valve of these gear units. Use an oil expansion tank to reliably avoid oil from leaking. The oil expansion tank provides additional space for the lubricant to expand.

In case of gear units and gearmotors of size 107 and larger, an oil expansion tank is always required for operation in mounting position M4.

SEW-EURODRIVE recommends using an oil expansion tank for gear units and gearmotors in mounting position M4, in the following cases:

- For input speeds > 2000 min^{-1}
- For sizes 77 – 97 and input speeds > 1800 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.

2.6 Agitator designs

All gear units in agitator design are equipped with an extended bearing hub especially suitable for mixing and agitating applications. Agitator gear units are based on 3 proven standard gear unit series by SEW-EURODRIVE. Almost any agitator, mixer, blender or kneader application in a whole range of different industries can be provided by using one of the agitator designs of the gear unit.

Advantages of agitator gear units:

- FEM-optimized housing and a special agitator flange for particularly high permitted overhung loads
- No additional bearing required for the agitator shaft
- Shaft and flange dimensions are compatible with standard dimensions
- Many different options and design variants for optimum adaptation to the application
- Gear units/gearmotors also available in explosion-proof design
- Global service provided by SEW-EURODRIVE

	RM.. series helical gear units (2 and 3 stages)	**Parallel-shaft helical gear units FM../FAM.. series (2 and 3 stages)**	**Helical-bevel gear units KM../KAM.. series (3 stages)**
Sizes:	57 / 67 / 77 / 87 / 97 / 107 / 127 / 137 / 147 / 167	67 / 77 / 87 / 97 / 107 / 127 / 157	67 / 77 / 87 / 97 / 107 / 127 / 157
Gear ratio i:	4.29 – 289.74	3.87 – 281.71	5.20 – 197.37
Maximum output torque in Nm:	450 – 20000	820 – 20000	820 – 20000
Maximum permitted output overhung load in N:	4000 – 120000	35000 – 135000	20000 – 135000

Available options:

- Double oil seal on the output side for additional protection against leaks
- Grease nipple for further greasing of output shaft bearings
- The gear units use series housings and series gearing components. The special flange is bolted to the output side of the standard gear unit.
- Energy efficiency classes IE1 – IE4 for gearmotors
- Motor power range of 0.12 – 200 kW
- Motor adapter AM.. for mounting IEC and NEMA motors

Also available for FM../FAM... and KM../KAM.. series:

- Reinforced bearings also opposite the output side. These increase the permitted overhung load, particularly for high output speeds and low gear ratios.
- Drywell design with leak sensor prevents the product from being contaminated by leaking lubricant.

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2.7 Explosion protection according to ATEX

2.7.1 Area of application

ATEX directive 2014/34/EU includes requirements for devices and protective systems for designated use in potentially explosive atmospheres for the European Economic Area. Other European countries, such as Switzerland, have since fallen in with this regulation.

2.7.2 Available designs according to ATEX

SEW-EURODRIVE supplies explosion-proof gear units, gearmotors, options and accessories in accordance with the EU Directive "ATEX" 2014/34/EU.

Depending on equipment and dimensioning, the following gear unit and motor designs are available:

- Gear units in II2GD design for use in zones 1, 2, 21 and 22
- Motors in II3GD design for use in zones 2 and 22
- Motors in II3G design for use in zone 2

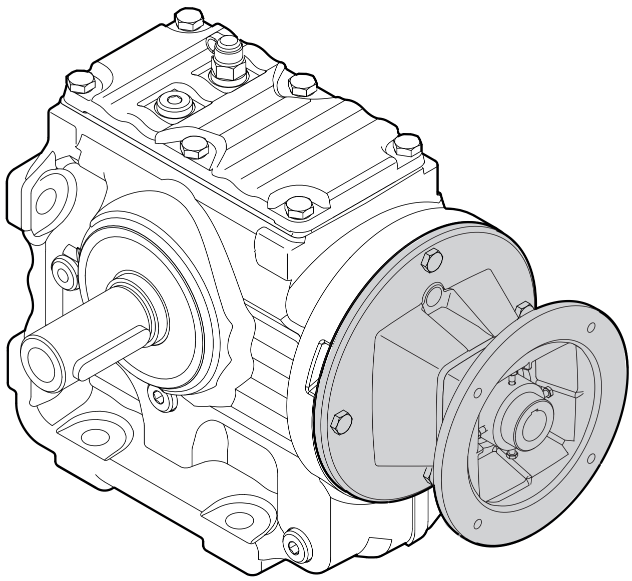
2.7.3 Other documentation

For detailed information about explosion-protected SEW-EURODRIVE products, refer to the "Explosion-Protected DRN.. gearmotors (IE3) in ATEX and IECEx" catalog and the "Explosion-Protected AC Motors" catalog.

2.8 Components on the input end

2.8.1 Gear units with IEC or NEMA adapter AM

The following figure shows a helical gear unit with AM adapter:



21431258123

AM adapters are used for mounting motors according to IEC standard or NEMA (type C or TC) to helical gear units, parallel-shaft helical gear units, helical-bevel gear units, helical-worm gear units, and SPIROPLAN® gear units from SEW-EURODRIVE.

Adapters are available for IEC motor sizes 63 to 280. Adapters are available for NEMA motor sizes 56 to 365.

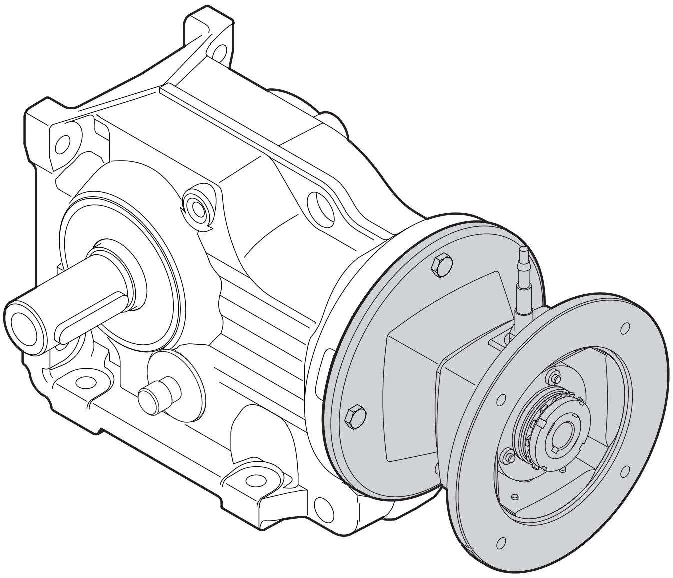
The designation of the adapter size corresponds to the respective IEC or NEMA motor size.

Torque is transmitted between the motor and the gear unit via a positive and impact resistant claw coupling. Vibrations and shocks that occur during operation are effectively attenuated by an inserted polyurethane ring gear.

For more information, refer to the project planning chapter "Gear units with IEC or NEMA adapter AM" (→ 🗎 58).

2.8.2 AR adapter with slip clutch

The following figure shows a helical-bevel gear unit with AR adapter:



21431290763

The torque is transmitted non-positive via friction linings. The slip torque of the coupling can be adjusted with a setting nut and cup springs. Different slip torques are possible depending on the thickness and arrangement of the cup springs. In the event of an overload, the coupling slips and interrupts the power flow between motor and gear unit. This prevents damages to the system and drive.

For more information, refer to the project planning chapter "AR adapter with slip clutch" (→ 🗎 59).

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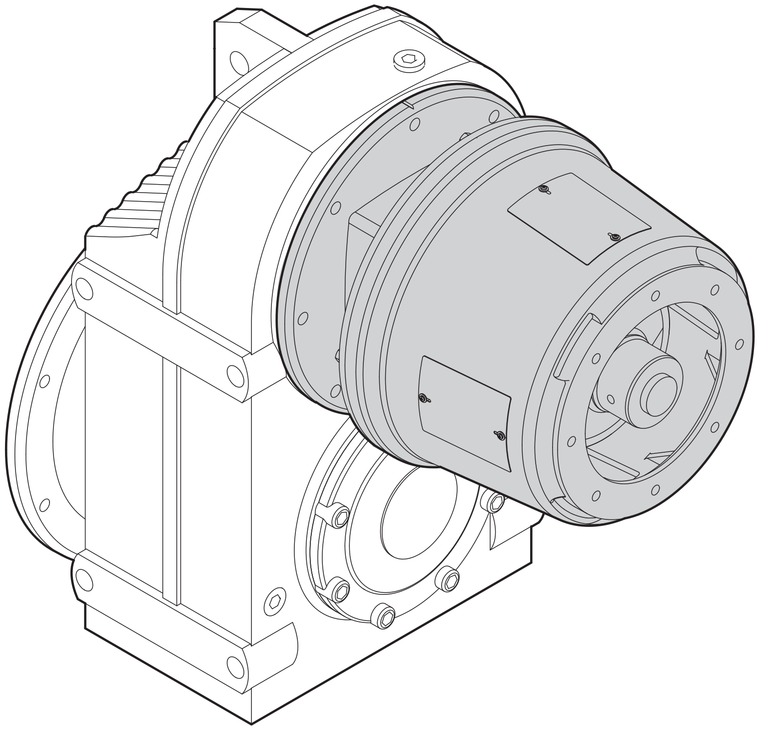
2.8.3 AT adapter with hydraulic start-up coupling

The following figure shows a parallel-shaft gear unit with AT adapter:



21429584395

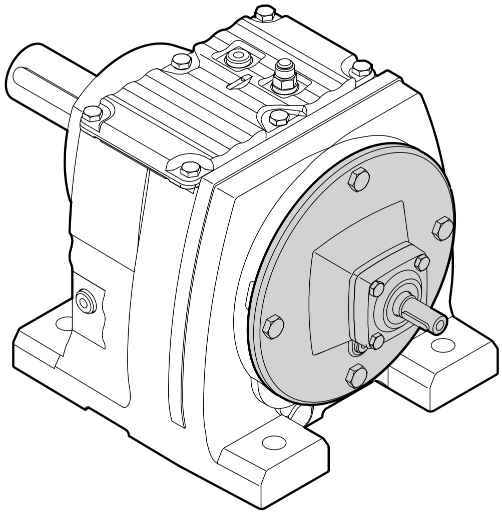
Helical, parallel-shaft helical, helical-bevel, helical-worm and SPIROPLAN® gear units can be combined with adapters and hydraulic start-up couplings for machines with high inertia starting (such as mixers, agitators, etc.). The hydraulic start-up coupling protects the motor and the driven machine against overload during the start-up phase and ensures that the machine starts up smoothly. The coupling is installed in a housing to prevent anyone from touching it. Ventilation openings in the housing ensure the cooling of the couplings. SEW-EURODRIVE motors of size 71 to 180 (0.37 to 22 kW) can be mounted.

Preferred speeds are 1400 min^{-1} and 2800 min^{-1} for 4- or 2-pole attached motors. The noise level increases when using the 2-pole drive combination.

For more information, refer to the project planning chapter "AT adapter with hydraulic start-up coupling" (→ 🗎 65).

2.8.4 AD input shaft assembly

The following figure shows a helical gear unit with AD input shaft assembly:



21429589259

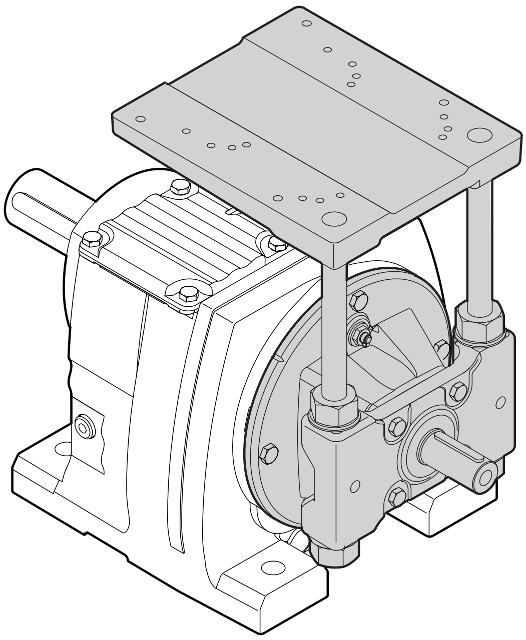
Helical, parallel-shaft helical, helical-bevel, helical-worm, and SPIROPLAN® gear units are equipped with an input shaft assembly for the drive via an exposed shaft extension. The dimensions of the drive shafts are given in metric units according to IEC standard (inch dimensions on request). The end of the input shaft has a center bore to standard 332 for mounting and attaching drive components.

The bearings of the input shaft are lubricated with grease. NBR oil seals and gap rings are used for sealing the cover. The solid output shaft bearings allows for high overhung loads.

For more information, refer to the chapter "AD input shaft assembly" (→ 🗎 67).

Motor mounting platform AD.. /P

The following figure depicts a helical gear unit with input shaft assembly and motor platform AD../P:



21431255691

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Belt drives are available with adjustable motor platform for space-saving installation. The motor platform is arranged parallel to the drive shaft and has tapped holes for IEC standard motors (also available without tapped holes on request). The distance from the input shaft can be adjusted using threaded columns.

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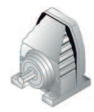
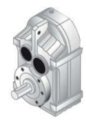
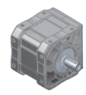
3 Overview of types and type designations

3.1 Overview of gear units

3.1.1 Axially parallel gear units

Gear unit type		**RX..**	**R..**	**F..**
Technical data:				
Figure				
Maximum continuous torque	M_{a_max}	69 – 830 Nm	50 – 20000 Nm	130 – 20000 Nm
Gear ratio range	i	1.3 – 8.65	3.21 – 289.74	3.77 – 281.71
Option with reduced backlash	/R	–	X	X
Mechanical data:				
Hollow shaft		–	–	X
Foot mounting		X	X	–
B5 flange		X	X	X
B14 flange		–	X	X

3.1.2 Right-angle gear units

Gear unit type		**K..7**	**K..9**	**S..**	**W..**
Technical data:					
Figure					
Maximum continuous torque	M_{a_max}	200 – 53000 Nm	300 – 500 Nm	92 – 4000 Nm	110 – 180 Nm
Gear ratio range	i	3.98 – 179.86	2.81 – 75.20	3.97 – 288.0	3.2 – 74.98
Option with reduced backlash	/R	X	–	–	–
Mechanical data:					
Hollow shaft		X	X	X	X
Foot mounting		X	X	X	X
B5 flange		X	X	X	X
B14 flange		X	–	X	–

For information on all available options and variants, refer to the following chapters.

3.2 Designs and options – R, F, K, S, W gear units

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

3.2.1 Helical gear units

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

3.2.2 Parallel-shaft helical gear units

Designation	Description
F..	Foot-mounted design, output shaft with key
FA..B	Foot-mounted design, hollow shaft with keyway
FH..B	Foot-mounted design, hollow shaft with shrink disk
FV..B	Foot-mounted design, splined hollow shaft to DIN 5480
FF..	B5 flange-mounted design, output shaft with key
FAF..	B5 flange-mounted design, hollow shaft with keyway
FHF..	B5 flange-mounted design, hollow shaft with shrink disk
FVF..	B5 flange-mounted design, splined hollow shaft to DIN 5480
FA..	Hollow shaft with keyway
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, output shaft with key
FAZ..	B14 flange-mounted design, hollow shaft with keyway
FHZ..	B14 flange-mounted design, hollow shaft with shrink disk
FVZ..	B14 flange-mounted design, splined hollow shaft to DIN 5480
FM..	B5 flange-mounted design with extended bearing hub, output shaft with key
FAM..	B5 flange-mounted design with extended bearing hub, hollow shaft with keyway

3.2.3 Helical-bevel gear units

Designation	
K..	Foot-mounted design, output shaft with key
KA..B	Foot-mounted design, hollow shaft with keyway
KAF..B	B5 flange-mounted design, foot-mounted design, hollow shaft with keyway
KF..B	B5 flange-mounted design, foot-mounted design, output shaft with key
KH..B	Foot-mounted design, hollow shaft with shrink disk
KHF..B	B5 flange-mounted design, foot-mounted design, hollow shaft with shrink disk
KV..B	Foot-mounted design, splined hollow shaft to DIN 5480
KF..	B5 flange-mounted design, output shaft with key
KAF..	B5 flange-mounted design, hollow shaft with keyway
KHF..	B5 flange-mounted design, hollow shaft with shrink disk
KVF..	B5 flange-mounted design, splined hollow shaft to DIN 5480
KA..	Hollow shaft with keyway
KH..	Hollow shaft with shrink disk
KT..	Hollow shaft with TorqLOC® hollow shaft mounting system
KV..	Splined hollow shaft to DIN 5480
KZ..	B14 flange-mounted design, output shaft with key
KAZ..	B14 flange-mounted design, hollow shaft with keyway
KHZ..	B14 flange-mounted design, hollow shaft with shrink disk
KVZ..	B14 flange-mounted design, splined hollow shaft to DIN 5480
KM..	B5 flange-mounted design with extended bearing hub, output shaft with key
KAM..	B5 flange-mounted design with extended bearing hub, hollow shaft with keyway

3.2.4 Helical-worm gear units

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

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Designation	Description
SHZ..	B14 flange-mounted design and hollow shaft with shrink disk

3.2.5 SPIROPLAN® gear units

Designation	Description
W..	Foot-mounted design, output shaft with key
WF..	B5 flange-mounted design, output shaft with key
WAF..	B5 flange-mounted design and hollow shaft with keyway
WA..	Hollow shaft with keyway
WA..B	Foot-mounted design and hollow shaft with keyway
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

3.2.6 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

3.2.7 Condition monitoring

Designation	Description
/DUO	Diagnostic Unit Oil = Oil aging sensor
/DUV	Diagnostic Unit Vibration = Vibration sensor

3.2.8 Adapters

Designation	Option
AM..	Adapter for mounting IEC/NEMA motors
AR..	Adapter with slip clutch
AT..	Adapter with hydraulic start-up coupling

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3.2.9 Adapter options

Designation	Option
AM../RS	Adapter for mounting IEC/NEMA motors with backstop
AR../W	Adapter with slip clutch and speed monitoring
AR../WS	Adapter with slip clutch and slip monitoring
AT../RS	Adapter with hydraulic start-up coupling and backstop

3.2.10 Input shaft assembly

Designation	Option
AD..	Input shaft assembly

3.2.11 Options for input shaft assembly

Designation	Option
AD../P	Input shaft assembly with motor platform
AD../RS	Input shaft assembly with backstop
AD../ZR	Input shaft assembly with centering shoulder

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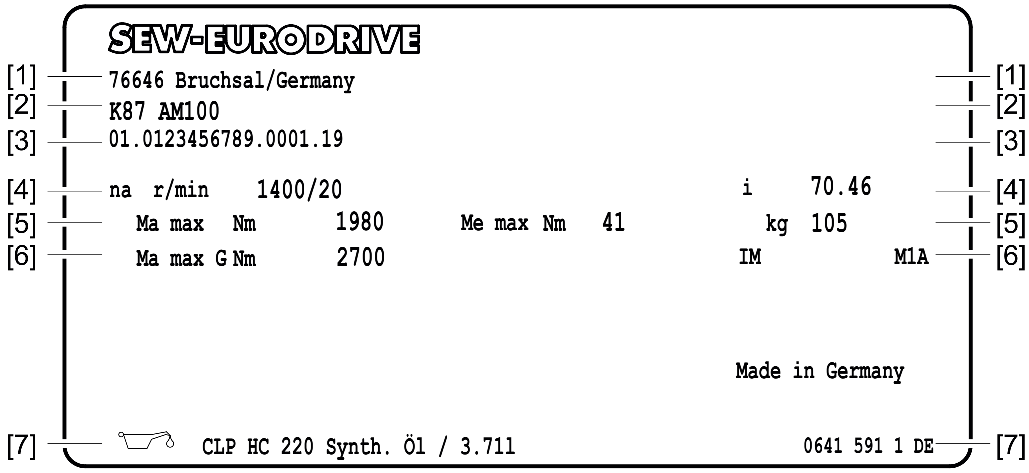
3.3 Gear unit nameplate

The following figure shows an example of a nameplate for a helical-bevel gear unit with input adapter:



9007219936788107

- [1] • Manufacturer, address
- [2] • Type designation
- [3] • Serial number
- [4] • Input speed / output speed
  • Gear ratio
- [5] • Maximum permitted output torque of the gear unit / adapter combination
  • Maximum permitted input torque
  • Weight
- [6] • Maximum permitted output torque of the open gear unit without additional component
  • Mounting position
- [7] • Oil type and oil fill volume

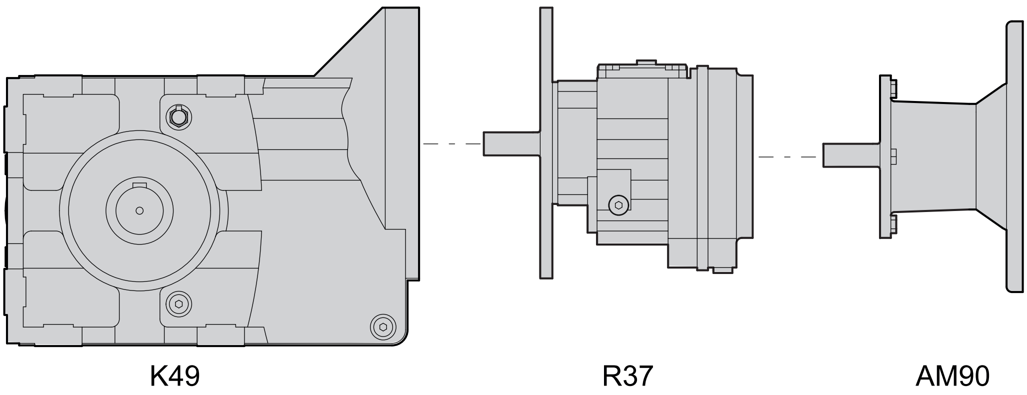
Explanation of the production number:

01.	0123456789.	0001.	19
Sales organization	Order number	Item number	Year of manufacture

3.4 Type designation of a gear unit

The type designation of the gear unit starts from the component on the output side. For example, a helical-bevel compound gear unit with adapter for IEC motors has the following type designation:

Example: K49R37AM90		
Gear unit type	K	1st gear unit
Gear unit size	49	
Gear unit type	R	2nd gear unit
Gear unit size	37	
Adapter for installation of IEC motors	AM	Gear unit component on the input side
Adapter size	90	



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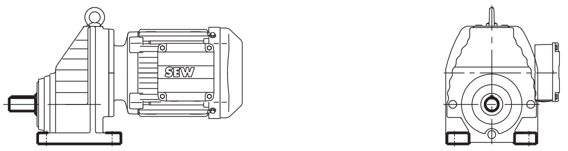
3.5 Gear unit designs

INFORMATION

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

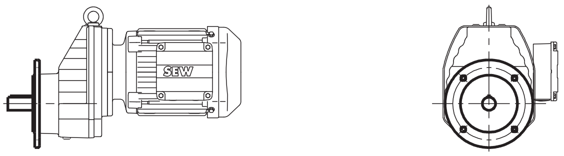
3.5.1 Helical gearmotors

The following designs of helical gearmotors are available:



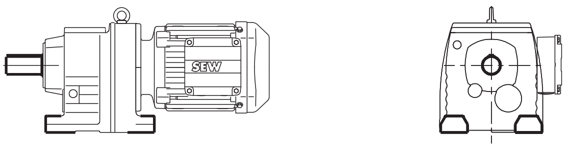
RX..DRN..

Single-stage, helical gearmotor in foot-mounted design



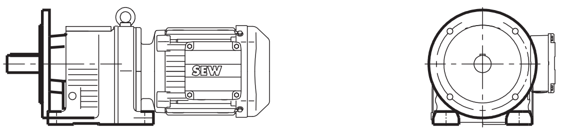
RXF..DRN..

Single-stage helical gearmotor in B5 flange-mounted design



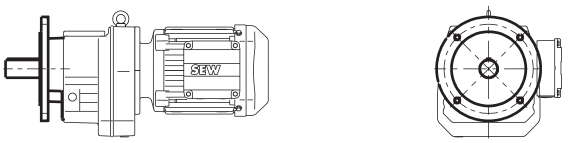
R..DRN..

Helical gearmotor in foot-mounted design



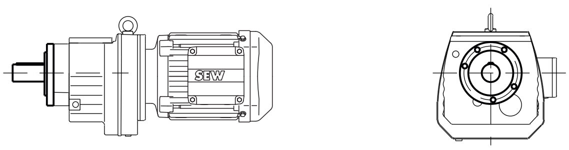
R..F DRN..

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



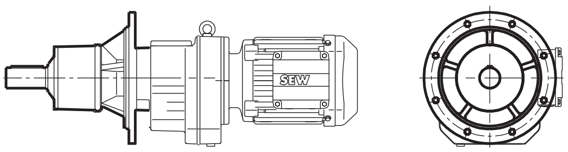
RF..DRN..

Helical gearmotor in B5 flange-mounted design



RZ..DRN..

Helical gearmotor in B14 flange-mounted design



RM..DRN..

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

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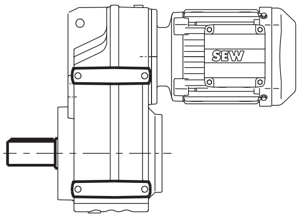
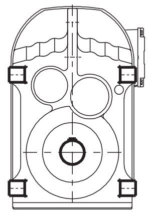
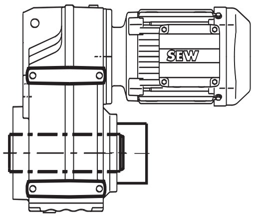
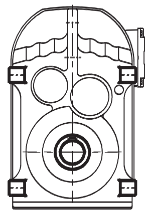
3.5.2 Parallel-shaft helical gearmotors

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

F..DRN..

Parallel-shaft helical gearmotor in foot-mounted design

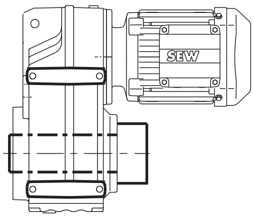
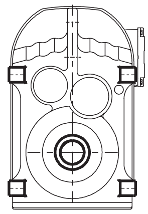



FA..B DRN..

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

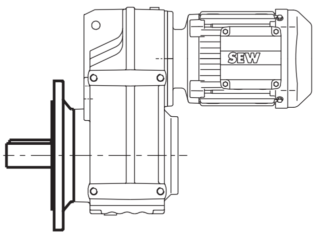
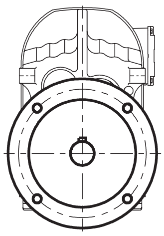
FV..B DRN..

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

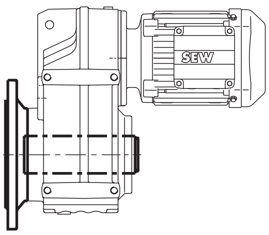
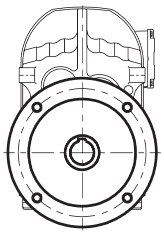
FH..B DRN..

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

FF..DRN..

Parallel-shaft helical gearmotor in B5 flange-mounted design

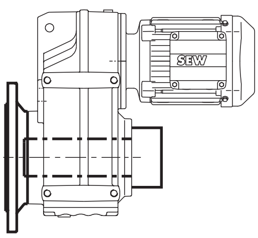
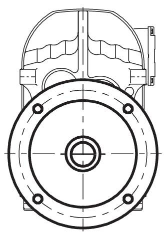



FAF..DRN..

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

FVF..DRN..

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

FHF..DRN..

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

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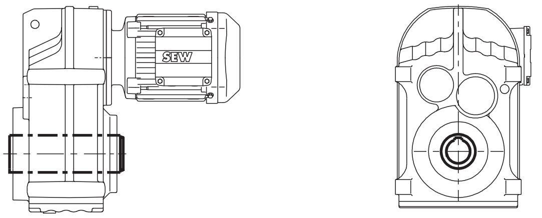
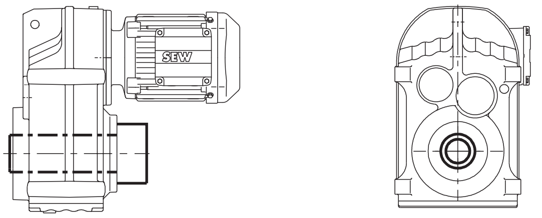


FA..DRN..

Parallel-shaft helical gearmotor with hollow shaft

FV..DRN..

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

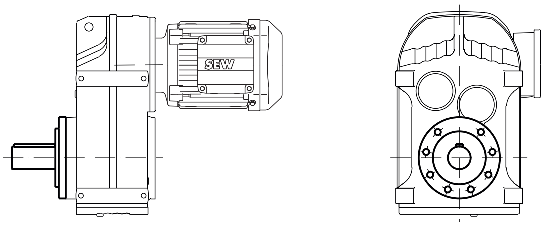


FH..DRN..

Parallel-shaft helical gearmotor with hollow shaft and shrink disk

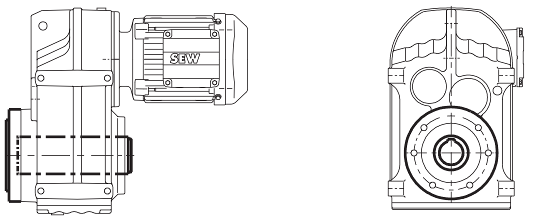
FT..DRN..

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



FZ..DRN..

Parallel-shaft helical gearmotor in B14 flange-mounted design

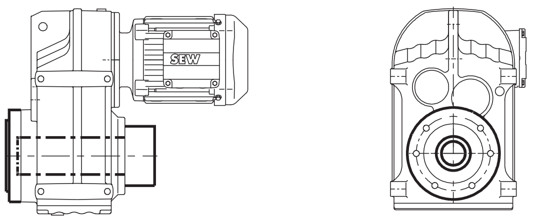


FAZ..DRN..

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

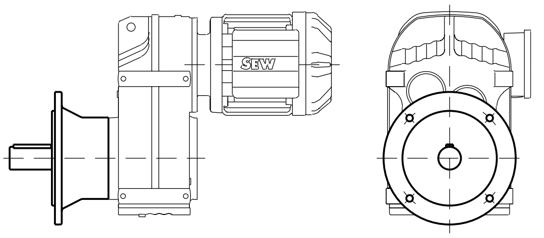
FVZ..DRN..

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



FHZ..DRN..

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



FM.. DRN..

Parallel-shaft helical gearmotor in B5 flange-mounted design with extended bearing hub, output shaft with key

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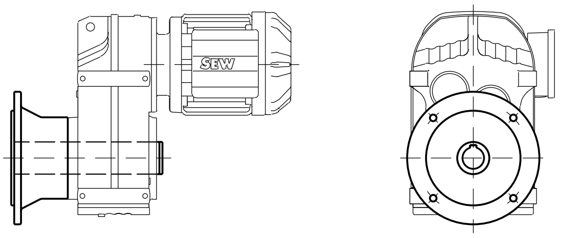
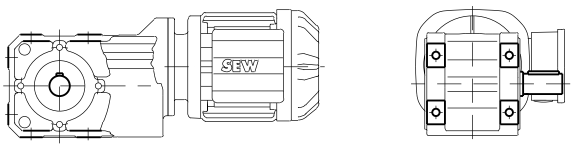


FAM.. DRN..

Parallel-shaft helical gearmotor in B5 flange-mounted design with extended bearing hub and hollow shaft

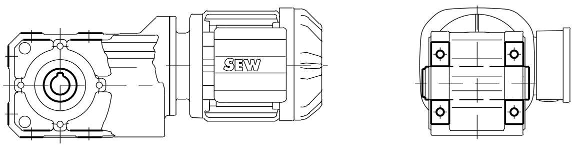
3.5.3 Helical-bevel gearmotors, gear unit sizes K..19 and K..29

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



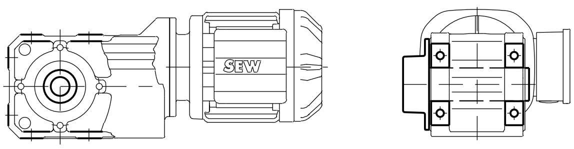
K19 DRN.., K29 DRN..

Helical-bevel gearmotor in foot-mounted design



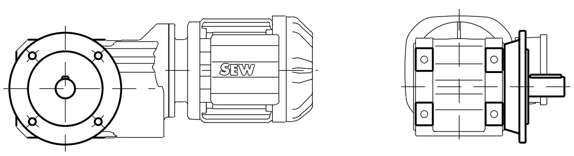
KA19B DRN.., KA29B DRN..

Foot-mounted helical-bevel gearmotor with hollow shaft



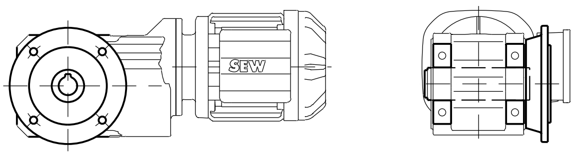
KH19B DRN.., KH29B DRN..

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



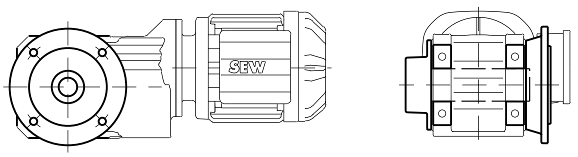
KF19B DRN.., KF29B DRN..

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



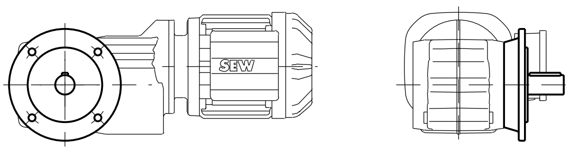
KAF19B DRN.., KAF29B DRN..

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



KHF19B DRN.., KHF29B DRN..

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



KF19 DRN.., KF29 DRN..

Helical-bevel gearmotor in B5 flange-mounted design

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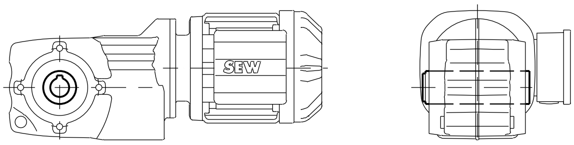
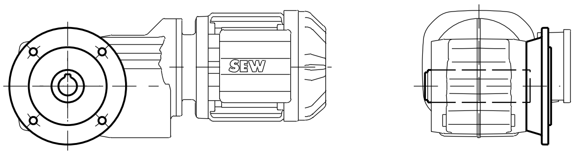


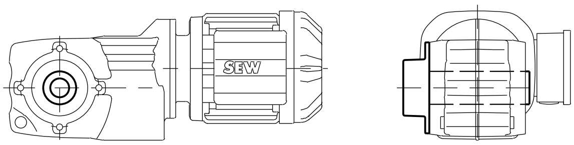
KA19 DRN.., KA29 DRN..

Helical-bevel gearmotor with hollow shaft



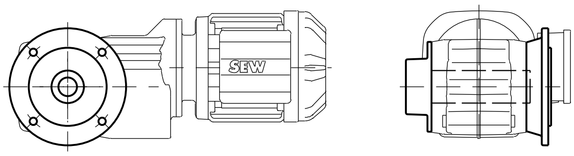
KAF19 DRN.., KAF29 DRN..

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



KH19 DRN.., KH29 DRN..

Helical-bevel gearmotor with hollow shaft and shrink disk

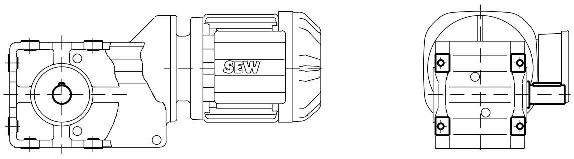


KHF19 DRN.., KHF29 DRN..

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

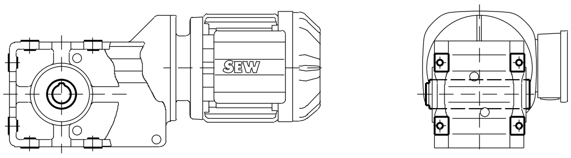
3.5.4 Helical-bevel gearmotors, gear unit sizes K..39 and K..49

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



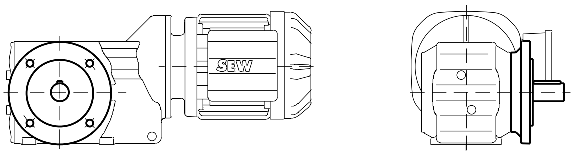
K39 DRN.., K49 DRN..

Helical-bevel gearmotor in foot-mounted design



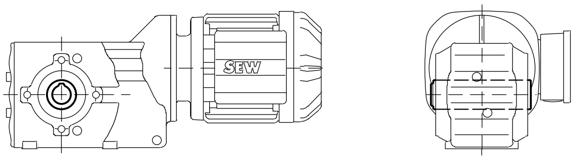
KA39B DRN.., KA49B DRN..

Helical-bevel gearmotor in foot-mounted design



KF39 DRN.., KF49 DRN..

Helical-bevel gearmotor in B5 flange-mounted design



KA39 DRN.., KA49 DRN..

Helical-bevel gearmotor with hollow shaft

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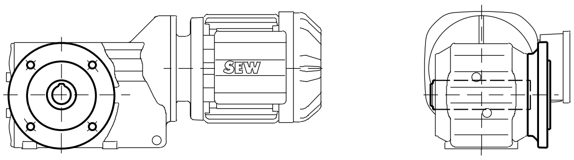
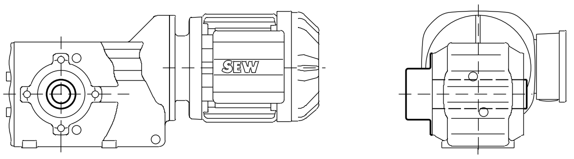


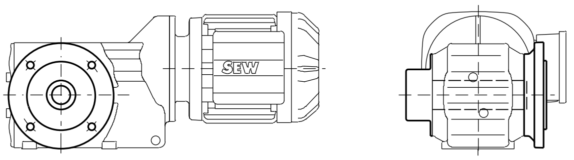
KAF39 DRN.., KAF49 DRN..

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



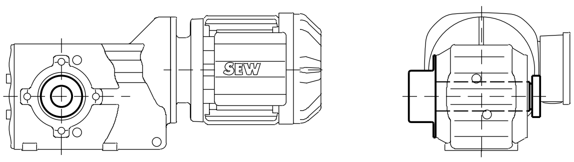
KH39 DRN.., KH49 DRN..

Helical-bevel gearmotor with hollow shaft and shrink disk



KHF39 DRN.., KHF49 DRN..

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

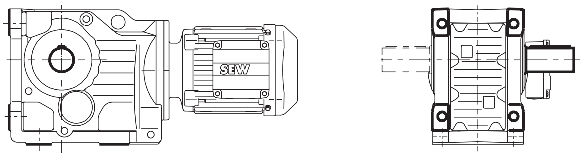


KT39 DRN.., KT49 DRN..

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

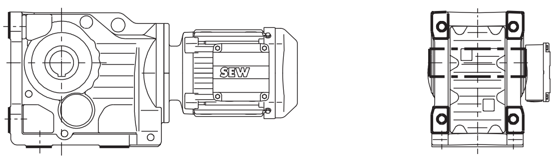
3.5.5 Helical-bevel gearmotors, gear unit sizes K..7

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



K..7 DRN..

Helical-bevel gearmotor in foot-mounted design

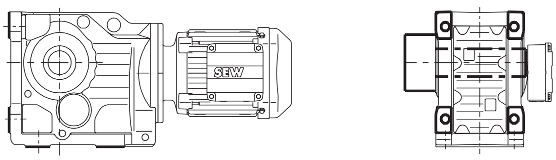


KA..7B DRN..

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

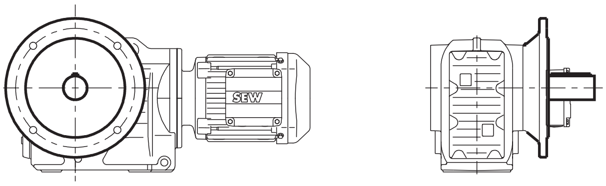
KV..7B DRN..

Foot-mounted helical-bevel gearmotor with splined hollow shaft according to DIN 5480



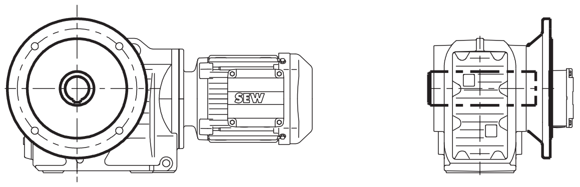
KH..7B DRN..

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



KF..7 DRN..

Helical-bevel gearmotor in B5 flange-mounted design

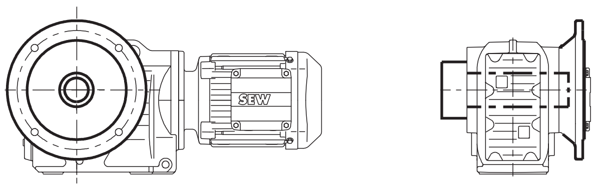


KAF..7 DRN..

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

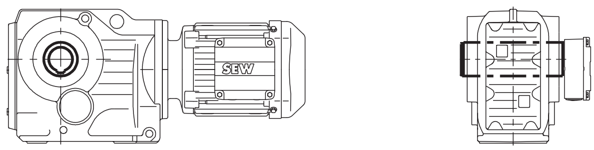
KVF..7 DRN..

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



KHF..7 DRN..

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

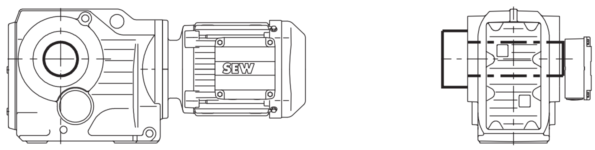


KA..7 DRN..

Helical-bevel gearmotor with hollow shaft

KV..7 DRN..

Helical-bevel gearmotor with hollow shaft and splined hollow shaft according to DIN 5480

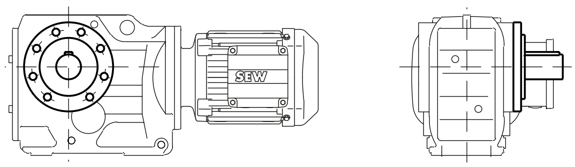


KH..7 DRN..

Helical-bevel gearmotor with hollow shaft and shrink disk

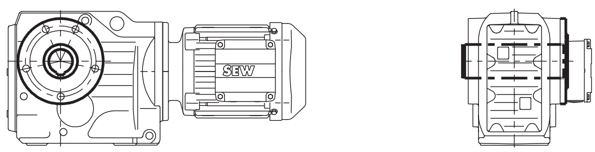
KT..7 DRN..

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



KZ..7 DRN..

Helical-bevel gearmotor in B14 flange-mounted design

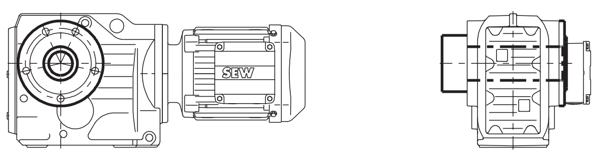


KAZ..7 DRN..

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

KVZ..7 DRN..

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



KHZ..7 DRN..

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

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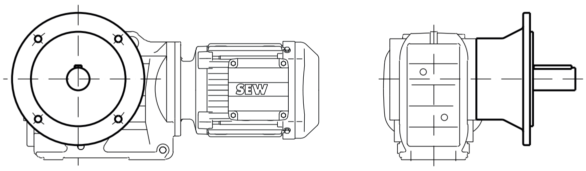
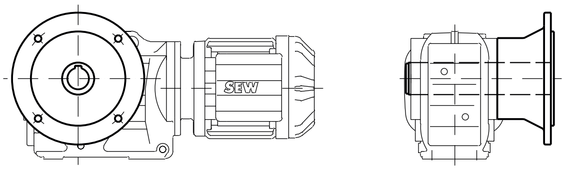


KM..7 DRN..

Helical-bevel gearmotor in B5 flange-mounted design with extended bearing hub, output shaft with key

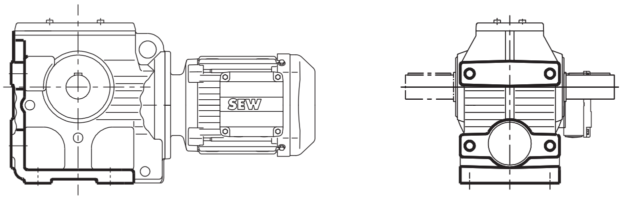


KAM..7 DRN..

Helical-bevel gearmotor in B5 flange-mounted design with extended bearing hub and hollow shaft

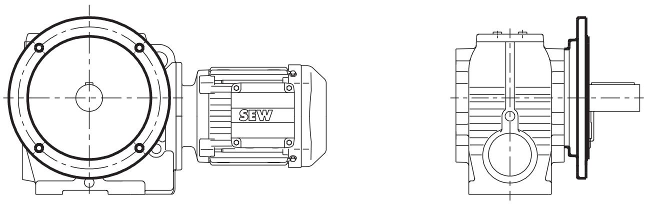
3.5.6 Helical-worm gearmotors

The following designs of helical-worm gearmotors are available:



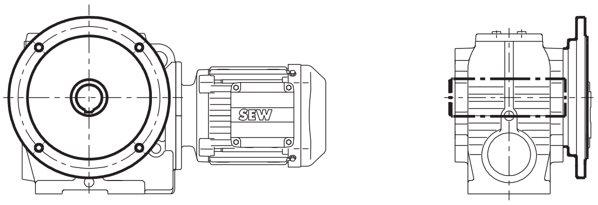
S..DRN..

Helical-worm gearmotor in foot-mounted design



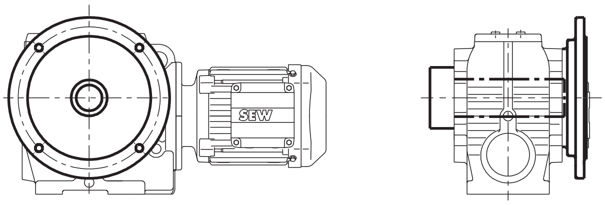
SF..DRN..

Helical-worm gearmotor in B5 flange-mounted design



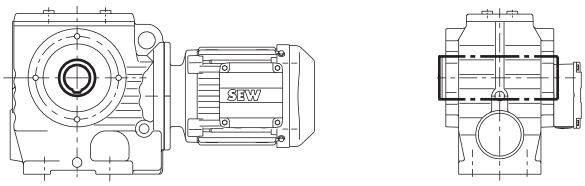
SAF..DRN..

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



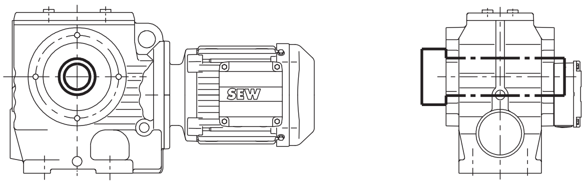
SHF..DRN..

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



SA..DRN..

Helical-worm gearmotor with hollow shaft

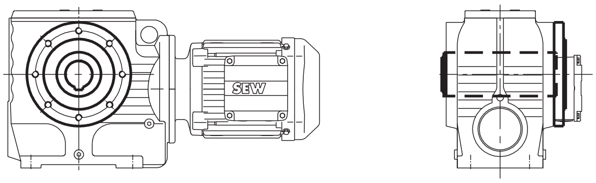


SH..DRN..

Helical-worm gearmotor with hollow shaft and shrink disk

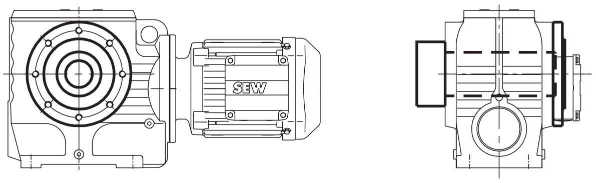
ST..DRN..

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



SAZ..DRN..

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

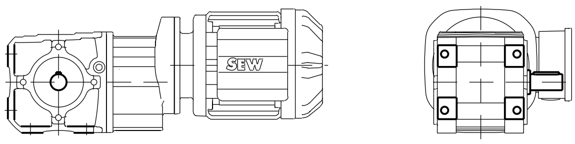


SHZ..DRN..

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

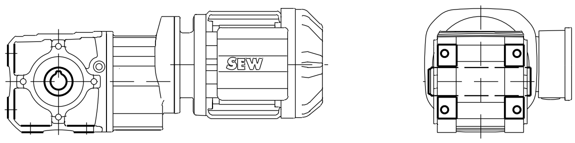
3.5.7 SPIROPLAN® gearmotors, gear unit sizes W..37 and W..47

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



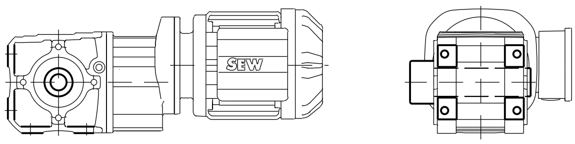
W37 DRN.., W47 DRN..

Foot-mounted SPIROPLAN® gearmotor



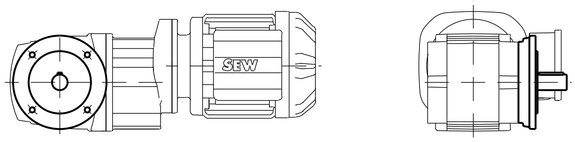
WA37B DRN.., WA47B DRN..

Foot-mounted SPIROPLAN® gearmotor with hollow shaft



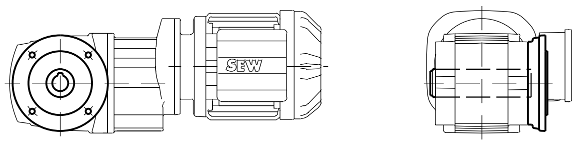
WH37B DRN.., WH47B DRN..

Foot-mounted SPIROPLAN® gearmotor with hollow shaft and shrink disk



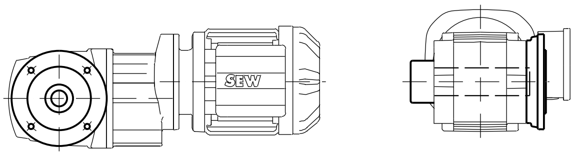
WF37 DRN.., WF47 DRN..

SPIROPLAN® gearmotor in B5 flange mounted design



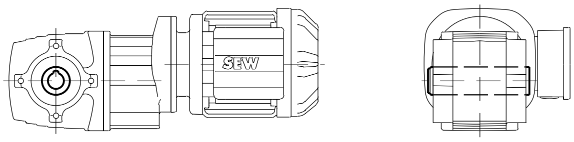
WAF37 DRN.., WAF47 DRN..

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



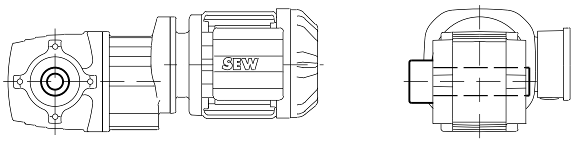
WHF37 DRN.., WHF47 DRN..

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



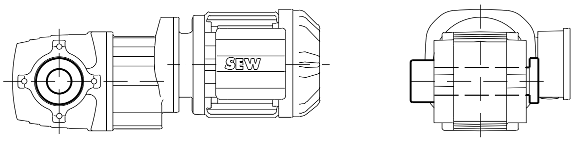
WA37 DRN.., WA47 DRN..

SPIROPLAN® gearmotor with hollow shaft



WH37 DRN.., WH47 DRN..

SPIROPLAN® gearmotor with hollow shaft and shrink disk



WT37 DRN.., WT47 DRN..

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

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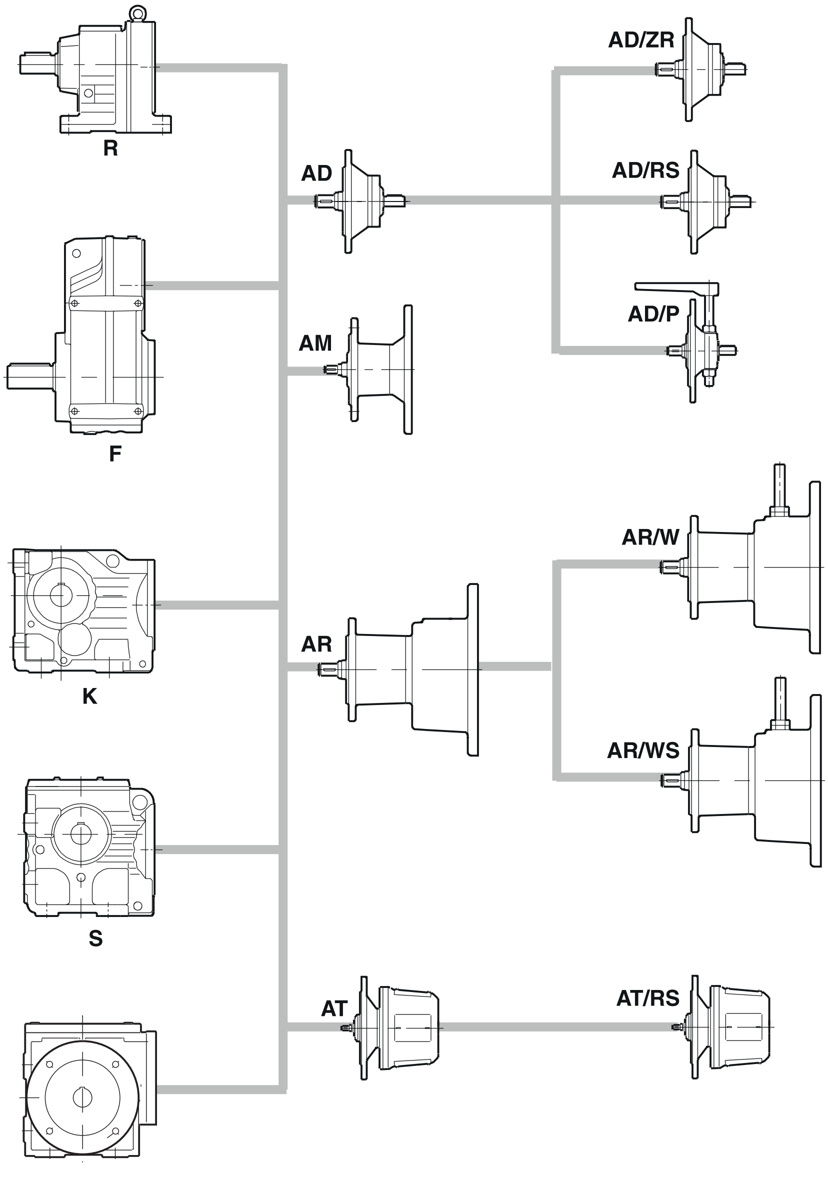
3.6 Components on the input end

The following figure shows an overview of the components on the input side:



AD	Input shaft assembly	AR/WS[1)]	Adapter with slip clutch and slip monitoring
AD/ZR	Input shaft assembly with centering shoulder	/W	Speed monitor
AD/RS	Input shaft assembly with backstop	/WS	Slip monitor
AD/P	Input shaft assembly with motor platform	AT	Adapter with hydraulic start-up coupling
AM	Adapter for mounting IEC/ NEMA motors	AT/RS	Adapter with hydraulic start-up coupling and backstop
AR	Adapter with slip clutch		
AR/W	Adapter with slip clutch and speed monitoring		

1) Only with VARIBLOC® variable-speed gear unit

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4 Project planning for gear units

Project planning must be carried out for each gear unit. Adhere to the project planning specifications and notes provided in this chapter.

SEW-EURODRIVE will gladly carry out this project planning for you.

4.1 Drive and gear unit selection data

Determining 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 documentation "Drive Engineering – Practical Implementation, Project Planning" or the SEW-Workbench project planning software for assistance.

Selecting the correct drive

Calculate power, rotational speed, torque, and overhung load of the drive. Observe all mechanical requirements. The suitable drive can then be determined.

Servomotor data

As the dimensions of servomotors are not standardized, the following motor data must be known to select the appropriate adapter:

- Shaft diameter and length
- Flange dimensions (edge length, diameter, centering shoulder and hole circle)
- Maximum torque

Contact SEW-EURODRIVE if you have any questions on selection and project planning.

Application data required for project planning:

Designation	Meaning	Unit
n_{G_min}	Minimum output speed	min^{-1}
n_{G_max}	Maximum output speed	min^{-1}
P_{a_nmin}	Output power at minimum output speed	kW
P_{a_nmax}	Output power at maximum output speed	kW
M_{a_nmin}	Output torque at minimum output speed	Nm
M_{a_nmax}	Output torque at maximum output speed	Nm
F_O	Axial load (tension and compression) on the output shaft	N
F_{R_a}	Overhung load acting on the output shaft	N
J_L	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" (→ 🗎 74) and "Project planning notes R, F, K, S, W gear units" (→ 🗎 46)	-
T_{amb}	Ambient temperature	°C
h	Installation altitude	m above sea level (asl)
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	h^{-1}
M_{slip}	Slip torque (AR)	
M_{B_req}	Required braking torque	Nm

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4.2 Project planning sequence

The following flow chart shows the steps for planning a project including a gear unit with a component on the input side.

Necessary information regarding the machine to be driven

- Technical data and environmental 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
- Rotational speeds
- Torques, power ratings
- Travel diagram, if required
- Determination of the required service factor f_B

↓

Gear unit selection

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

↓

Selecting components on the input side

- Definition of component type and version
- Definition of component size
- Checking the component load

↓

Options

- Monitoring functions (monitoring devices and equipment)
- Brake for AT
- Backstop
- Centering shoulder
- Motor platform

↓

Ensure that all requirements have been met.

INFORMATION

For thermal project planning of R, F, K, S, W gear units, contact SEW-EURODRIVE.

4.3 Project planning notes – R, F, K, S, W gear units

4.3.1 Efficiency of gear units

General information

The efficiency of the gear units is mainly determined by the gearing and bearing friction as well as by churning losses. Keep in mind that the starting efficiency of a gear unit is always less than its efficiency at operating speed. This factor is particularly true for helical-worm and SPIROPLAN® right-angle gear units.

INFORMATION

For information on churning losses and thermal rating, refer to chapter "Churning losses and thermal rating" (→ 🗎 47).

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 tooth friction 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 are significantly more efficient than plain worm gear units; see chapter "Technical data of S.., SF.., SA.., SAF 37" (→ 🗎 592) and subsequent chapters.

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 η is ≤ 0.5. SPIROPLAN® gear units W..10 – W..30 are dynamically self-locking to some extent (with highest ratios). 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.

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Run-in phase

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

During the running-in phase, the nominal efficiency of the gear unit is reduced by the respective value in the following tables.

	Worm	
	i range	**η reduction**
1-start	About 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 to 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. Helical-worm and SPIROPLAN® gear units achieve their nominal efficiency values when the following conditions have been met:

- 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.

4.3.2 Churning losses and thermal rating

* (→ 🗎 X)

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

- A mounting position where the first gear unit stage is fully immersed in the lubricant. The respective mounting positions of the gear units are indicated with a * in chapter "Mounting position sheets" (→ 🗎 79).
- A high mean input speed and thus a high circumferential velocity of the gear wheels of the input gear stage.

If one or both requirements are met, determine the requirements of the application and the corresponding operating conditions (see chapter "Data for calculating the thermal rating" (→ 🗎 48)) and contact SEW-EURODRIVE. SEW-EURODRIVE can calculate the thermal rating based on the actual operating 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.

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INFORMATION

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

Data for calculating the thermal rating

The following information is required for calculating the thermal rating:

Gear unit type and design:

- Gear unit ratio i
- Mean input speed $\bar{n}_{Mot}$ or mean output speed $\bar{n}_G$ in min^{-1}
- Effective motor torque M_{Mot_eff} in Nm
- Input motor power P_{Mot} in kW
- Mounting position M1 – M6 or pivoting angle

Installation site:

- Ambient temperature T_{amb} in °C
- Installation altitude
- In small, closed rooms or in large rooms (halls) or outdoors

Installation on site:

- Space-critical or well ventilated
- Steel base or concrete base

4.4 Service factor

4.4.1 Service factor f_B

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

For the service factor, refer to the order confirmation and the selection tables in the gearmotor catalogs from SEW-EURODRIVE .

4.4.2 Required service factor f_{B_req}

The operating conditions are considered in order to determine the required service factor f_{B_req} for the gearmotor selection. Decisive factors are the requirements of the driven machine, as well as the ambient temperature and gear unit type, if applicable.

The service factor f_{B_req} results from other service factors described in the following chapters.

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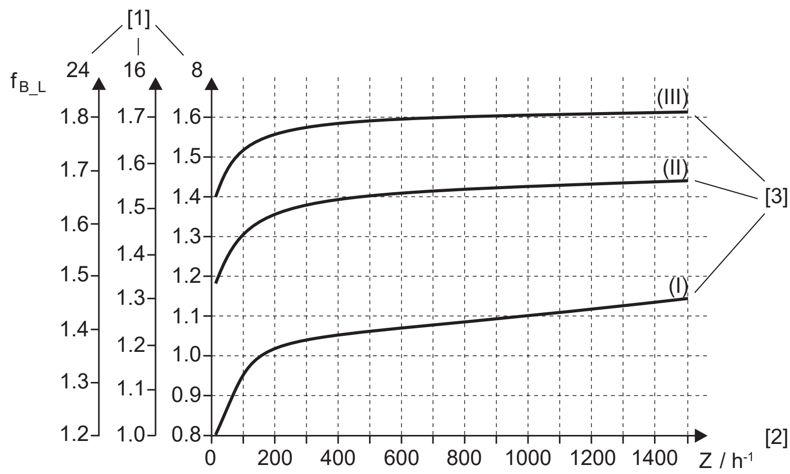
4.4.3 Application service factor

The effect of the driven machine on the gear unit is taken into account to a sufficient level of accuracy using the application service factor f_{B_L}. The service factor is determined according to the daily operating time and the switching 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.



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[1] Service factor f_{B_L} in relation to the daily operating time in hours/day
[2] Switching frequency Z: The cycles include all starting and braking procedures as well as changeovers from low to high speed and vice versa.
[3] Curves for load classification I, II and III

Definition of the load classification

The following 3 load classifications are distinguished:

- Load classification I: Uniform, almost no shock load, permitted mass acceleration factor ≤ 0.2
- Load classification II: Non-uniform, moderate shock load, permitted mass acceleration factor ≤ 3
- Load classification III: Very non-uniform, severe shock load, permitted mass acceleration factor ≤ 10

Mass moment of inertia ratio

The mass moment of inertia ratio is calculated as follows:

$$f_a = \frac{J_x}{J_{Mot}}$$

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f_a	= Mass moment of inertia ratio	
J_x	= Load moment of inertia, reduced to motor shaft	$[J_{Lx}] = kgm^2$
J_{mot}	= Motor moment of inertia	$[J_{Mot}] = kgm^2$

The motor moment of inertia J_{Mot} is the mass moment of inertia of the motor and, if installed, the brake and the flywheel fan (Z fan).

The load moment of inertia J_x includes the mass moments of inertia of the driven machine and the gear unit, reduced to the motor shaft.

Reducing the mass moment of inertia to the motor shaft

The calculation for scaling down to motor speed is performed using the following formula:

$$J_x = J_L \times \left(\frac{1}{i_G}\right)^2$$

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J_x	=	Load moment of inertia, reduced to motor shaft	$[J_{Lx}] = kgm^2$
J_L	=	Mass moment of inertia with reference to the output speed of the gear unit	$[J_L] = kgm^2$
i_G	=	Gear unit ratio	

Service factors f_{B_L} > 1.8 may be required with large mass acceleration factors (> 10), high levels of backlash in the transmission elements or large overhung loads. Contact SEW-EURODRIVE in such cases.

4.4.4 Service factor at low temperatures

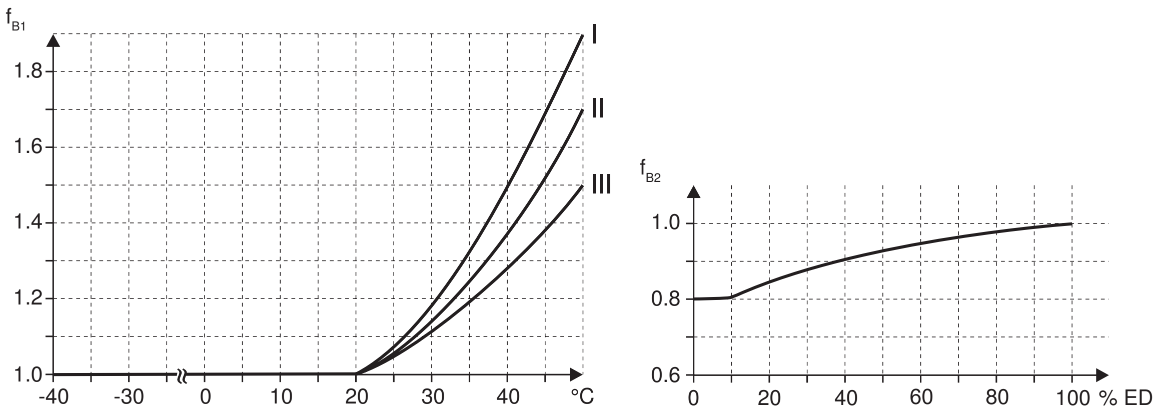
At an ambient temperature of < -30 °C, observe the additional service factor f_{B3} = 1.2.

4.4.5 Service factors for helical-worm gear units

In case of helical-worm gear units, the following 2 service factors must be observed:

- f_{B1} = Service factor based on 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_L}. The following diagram shows the additional service factors f_{B1} and f_{B2}:



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Cyclic duration factor

$$ED = \frac{t_L}{60} \times 100$$

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ED	=	Cyclic duration factor	[cdf] = %
t_L	=	Time under load	$[t_{L\_tot}]$ = min h^{-1}

4.4.6 Conditions for selecting gear units based on the service factor

The determined required service factor f_{B_req} must be smaller than or equal to the service factor according to the selection tables.

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$$f_{B\_req} \leq f_B$$

$$F_{B\_L} \times [f_{B1} \times f_{B2} \times f_{B3}] \leq f_B$$

or

$$M_a \times \leq f_{B\_req} \leq M_{a\_max}$$

$$M_a \times F_{B\_L} \times [f_{B1} \times f_{B2} \times f_{B3}] \leq M_{a\_max}$$

The service factors in square brackets are only taken into account for specific conditions regarding the application and ambient conditions. Else, the value is 1.

f_B	= Service factor	
f_{B_req}	= Required service factor	
f_{B_L}	= Application service factor based on load classification and switching frequency	
f_{B3}	= Low temperature service factor, only applies to ambient temperatures of < -30 °C	
f_{B1}	= Service factor for helical-worm gear units only, based on ambient temperature	
f_{B2}	= Service factor for helical-worm gear units only, based on cdf	
M_a	= Gearmotor output torque ($M_{Mot} \times i_G$)	$[M_a]$ = Nm
M_{a_max}	= Maximum permitted output torque	$[M_{a\_max}]$ = Nm

4.4.7 Examples

- An application with mass acceleration factor 2.5 (load classification II), operating time 14 hours/day (read off at 16 h/day (→ 🗎 49)) and 300 cycles/h1 produce a service factor f_{B_L} = 1.5 as shown in the figure. The f_B value of the required gearmotor must therefore be ≥ 1.5.

  If the gearmotor is intended for operation at -35 °C, the following applies:

  $f_{B\_req} = f_{B\_L} \times f_{B3} = 1.5 \times 1.2 = 1.8$

  The gearmotor to be selected now requires an f_B value of ≥ 1.8.

- The gearmotor with service factor f_{B_L} = 1.5 of the previous example is to be a helical-worm gearmotor, and the ambient temperature is 40 °C:

  → f_{B1} = 1.36 (read off at load classification II (→ 🗎 50))

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

  The required service factor is:

  $f_{B\_req} = f_{B\_L} \times f_{B1} \times f_{B2} = 1.5 \times 1.36 \times 0.95 = 1.94$

  The selected helical-worm gearmotor requires a service factor f_B ≥ 1.94.

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4.5 Overhung and axial loads – R, F, K, S, and W gear units

4.5.1 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 must be considered for various transmission elements.

Transmission element	Transmission element factor f_Z	Comments
Gear wheels	1.15	< 17 teeth
Sprockets	1.40	< 13 teeth
Sprockets	1.25	< 20 teeth
Narrow V-belt pulleys	1.75	Consider influence of pre-tension force
Flat belt pulleys	2.50	Consider influence of pre-tension force
Toothed belt pulleys	1.50	Consider influence of pre-tension force
Gear rack pinion, pretensioned	2.00	Consider influence of pre-tension force
Gear rack pinion, not pretensioned	1.15	< 17 teeth

Transmission element factor at low temperatures

For temperatures < -30 °C, observe a transmission element factor f_{Z1} = 1.2.

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

$$F_R = \frac{M_{G\_max} \times 2000}{d_{FR}} \times f_Z \times f_{Z1}$$

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F_R	=	Overhung load	$[F_R]$ = N
M_{G_max}	=	Torque	$[M_{G\_max}]$ = Nm
f_Z	=	Transmission element factor	
f_{Z1}	=	A transmission element factor of 1.2 for ambient temperatures < -30 °C. For ambient temperatures ≥ -30 °C observe f_{Z1} = 1	
d_{FR}	=	Overhung load determined by diameter of installed transmission element	[d] = mm

4.5.2 Permitted overhung load F_{R_a}

The following important information refers to the overhung load value F_{R_a} in the relevant tables of this catalog:

F_{R_a} is calculated from the nominal bearing service life L_{10h} (according to ISO 281). For special operating conditions, the permitted overhung loads can be determined based on the modified bearing service life L_{na}. Consult SEW-EURODRIVE in this case.

The permitted overhung load is influenced by the direction of rotation and the force application angle. The values F_{R_a} listed in the catalog are based on the least favorable conditions.

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.

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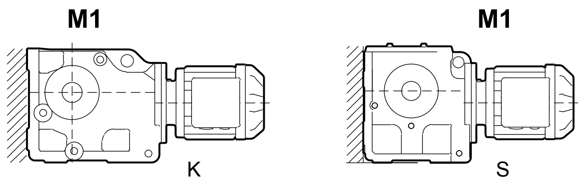
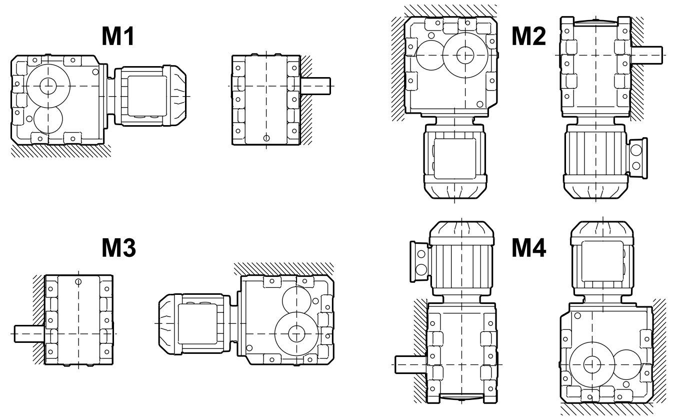
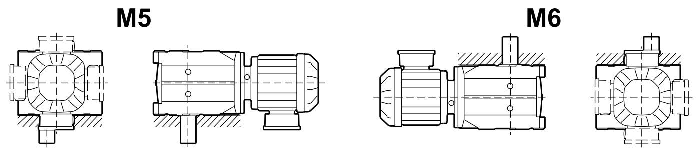
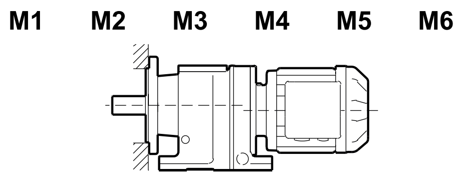
The overhung load data refers to a force application at the center of the output shaft 0.5 × l. With right-angle gear units, the application point is assumed to be at the A-side.

For gear units with hollow shaft and key (shaft-mounted design), the values refer to force application to the front end of the hollow shaft.

Reduced permitted overhung load

The following table lists the cases that require the overhung load to be limited:

Mounting surface	Gear unit	Mounting position	Restriction
	K37 – K157 S37 – S97	M1	Maximally 50% of the overhung load F_{R_a} specified in the selection tables is permitted in the case of mounting at the front-end (gray-shaded surfaces).
	K167 K187	M1 M2 M3 M4	No reduction when the unit is mounted using the gray-shaded feet.
			A maximum of 50% of the overhung load F_{R_a} specified in the selection tables is permitted in the case of deviating mounting.
	K167 K187	M5 M6	No reduction when the unit is mounted using the gray-shaded feet. In case of deviating mounting, contact SEW-EURODRIVE.
	R07F – R87F	M1 – M6	In case of all foot-mounted/flange-mounted gear units (R..F) with torque transmission via the flange connection, maximally 50% of the overhung load F_{R_a} specified in the selection tables is permitted.

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4.5.3 Higher permitted overhung loads

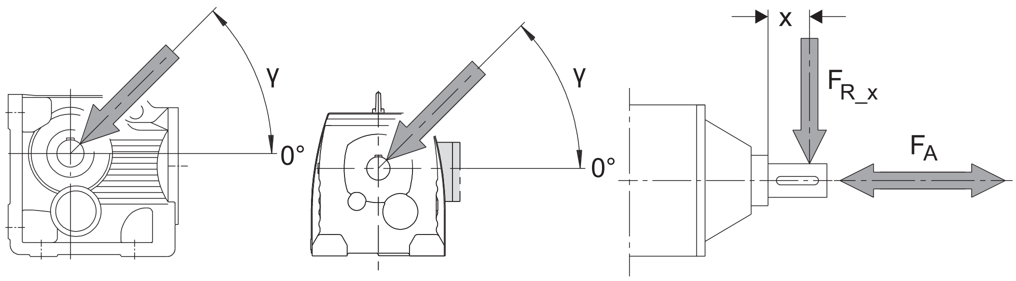
Exactly considering the force application angle γ and the direction of rotation makes it possible to achieve a higher overhung load than listed in the selection tables.

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.

4.5.4 Definition of the force application

Force application is defined according to the following figure:



γ	=	Force application angle	$[\gamma] = °$
F_{R_x}	=	Permitted overhung load at distance x	$[F_{R\_x}] = N$
F_O	=	Permitted axial force	$[F_A] = N$

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

INFORMATION

Contact SEW-EURODRIVE for all other gear unit designs and in the event of significantly greater axial loads or combinations of overhung load and axial load.

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4.5.6 Input side: 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.

4.5.7 Output side: Overhung load conversion for off-center force application

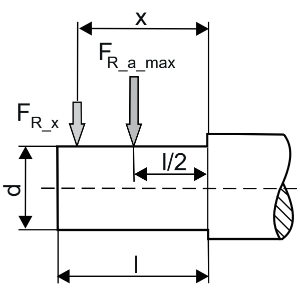
The permitted overhung loads must be calculated according to the selection tables using the following formulas in the event of force application to areas other than the center of the shaft end. The smaller of the two values $F_{R\_x\_b}$ (according to bearing service life) and $F_{R\_x\_w}$ (according to shaft strength) is the permitted value for the overhung load at distance x. Note that the calculations apply to M_{a_max}. The permitted overhung load values $F_{R\_a\_max}$ specified in the data table are valid for force application at 0.5 × l (solid shaft).

The following conditions must be met:

$F_{R\_per\_b}$ according to bearing service life: $$F_{R\_per\_b} = F_{R\_a\_max} \times \frac{a}{b+x}$$

$F_{R\_per\_w}$ according to shaft strength: $$F_{R\_per\_w} = \frac{c}{f+x}$$

F_{R_x}	Permitted overhung load at distance x in N	$[F_{R\_x}]$ = N
$F_{R\_a\_max}$	Permitted overhung load in N	$[F_{R\_a\_max}]$ = N
x	Distance from the shaft shoulder to the force application point in mm	[x] = mm
a, b, f	Gear unit constants for overhung load conversion in mm	[a, b, f] = 1
c	Gear unit constant for overhung load conversion in Nmm	[c] = 1



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

Gear unit type	a mm	b mm	c Nmm	f mm	d mm	l mm
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
R127	311	226	$4.93 x 10^6$	0	90	170
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
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

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Gear unit type	a mm	b mm	c Nmm	f mm	d mm	l mm
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	$4.26 x 10^5$	35.6	30	60

Values for designs not listed are available on request.

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4.6 Project planning for components on the input end

4.6.1 Gear units with IEC or NEMA adapter AM

Permissible power ratings and mass moments of inertia

Adapter type		P_{Mot}[1]	J_{AM}
IEC	**NEMA**	**kW**	**kg × m²**
AM63	–	0.25	0.44×10^{-4}
AM71	AM56	0.37	0.44×10^{-4}
AM80	AM143	0.75	1.9×10^{-4}
AM90	AM145	1.5	1.9×10^{-4}
AM100	AM182	3	5.2×10^{-4}
AM112	AM184	4	5.2×10^{-4}
AM132S/M	AM213/215	7.5	19×10^{-4}
AM132ML	–	9.2	19×10^{-4}
AM160	AM254/256	15	91×10^{-4}
AM180	AM284/286	22	90×10^{-4}
AM200	AM324/326	30	174×10^{-4}
AM225	AM364/365	45	174×10^{-4}
AM250	–	55	173×10^{-4}
AM280	–	90	685×10^{-4}

1) Maximum rated power of the attached standard electric motor at 1400 1/min

Selecting the gear unit

Follow the steps in the diagram to select a matching gear unit:

Determine the gear unit type
↓
Determine the gear unit size in the selection tables for gear units with AM adapter by means of the following parameters: • Maximum output torque (M_{a_max}) • Gear ratio (i)
↓
Check the maximum permitted overhung load value on the output (F_{R_a})
↓
Check the maximum permitted input power at the adapter (P_{Mot}) (see the chapter "Permissible power ratings and mass moments of inertia" (→ 🗎 58))
↓
Is the required adapter size available?
↓
Is the required combination feasible?

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Checking the input power at the gear unit (P_{Mot})

The values in the selection tables refer to an input speed of n_{Mot} = 1400 min^{-1}. The input power at the gear unit corresponds to a maximum torque at the input side. If the speed differs, convert the input power by means of the maximum torque.

Backstop AM../RS

If the application permits only one direction of rotation, the AM adapter can be equipped with a backstop. Backstops with centrifugal lift-off sprags are used. The advantage of this design is that the sprags move around inside the backstop without making contact above a certain speed (lift-off speed). This means the backstops operate wear-free, without losses, maintenance-free and are suited for high speeds.

Dimensions:

The backstop is completely integrated in the adapter. The dimensions are the same for adapters with and without backstop (see the dimension sheets in the chapters for AM adapters)

Locking torques:

Type	Maximum locking torque of the backstop	Minimum lift-off speed
	Nm	min^{-1}
AM80/90/RS, AM143/145/RS	65	820
AM100/112/RS, AM182/184/RS	425	620
AM132/RS, AM213/215/RS	850	530
AM160/180/RS, AM254/286/RS	1450	480
AM200/225/RS, AM324-365/RS	1950	450
AM250/280/RS	1950	450

4.6.2 AR adapter with slip clutch

Double gear unit with adapter and slip clutch

In combination with compound gear units, the adapter with slip clutch is preferably installed between the two gear units. Please contact SEW-EURODRIVE if required.

Selecting the gear unit

The type sizes of the AR adapter with slip clutch correspond to those of the AM adapter for IEC motors.

This means you can select the gear unit using the selection tables for AM adapters. In this case, substitute the type designation AM with AR and determine the required slip torque.

Determining the slip torque

The slip torque should be about 1.5 times the rated torque of the drive. When determining the slip torque, bear in mind the maximum permitted output torque of the gear unit as well as the variations in the slip torque of the clutch (± 20%) depending on the design.

When you order a gear unit with adapter and slip clutch, you have to specify the required slip torque of the coupling.

If you do not specify the slip torque, it will be set according to the maximum permitted output torque of the gear unit.

Torques, slip torques

The following table shows an overview of torques and slip torques sorted by adapter:

Type	P_{Mot} 1) kW	M_{slip} 2). Nm	M_{slip} 2) Nm	M_{slip} 2) Nm	Heavier than AM.. adapter by kg
AR71	0.37	1 – 6	–	–	2
AR80	0.75	1 – 6	6.1 – 16	–	2
AR90	1.5	1 – 6	6.1 – 16	17 – 32	2
AR100	3.0	5 – 13	14 – 80	–	3
AR112	4.0	5 – 13	14 – 80	–	3
AR132S/M	7.5	15 – 130	–	–	7
AR132ML	9.2	15 – 130	–	–	7
AR160	15	30 – 85	86 – 200	–	14
AR180	22	30 – 85	86 – 300	–	14

1) Maximum rated power of the attached standard electric motor at 1400 1/min

2) Slip torque can be set based on the cup springs installed

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Speed monitor option /W

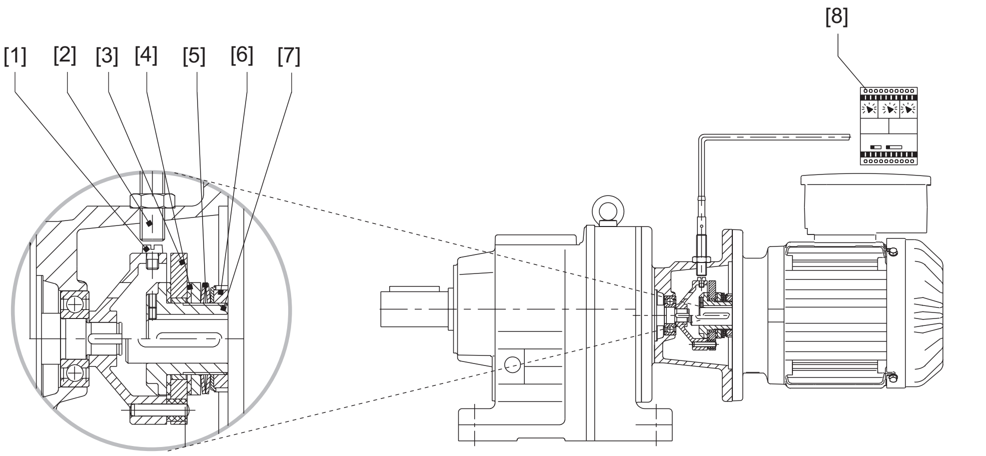
Part number 19139438

We recommend monitoring the speed of the coupling using a speed monitor to avoid uncontrolled slippage of the coupling and the associated wear to the friction ring pads.

The speed of the output end coupling half of the slip clutch is detected in a proximity-type method using a trigger cam and an inductive encoder. The speed monitor compares the pulses with a defined reference speed. The output relay (NC or NO contact) trips when the speed drops below the specified speed (overload). The monitor is equipped with a start bypass to suppress error messages during the startup phase. The start bypass can be set within a time window of 0.5 to 15 seconds.

Reference speed, start bypass and switching hysteresis can be set on the speed monitor.

The following figure shows the adapter with slip clutch and speed monitor /W:



4513827211

[1] Trip cam	[4] Friction lining	[7] Friction hub
[2] Incremental encoder (adapter)	[5] Cup spring	[8] Speed monitor
[3] Driving disk	[6] Slotted nut	

Connection /W

The encoder is connected to the slip monitor using a two or three-core cable (depending on the encoder type).

- Maximum cable length: 500 m with a line cross section of 1.5 mm^2
- Standard supply cable: 3-core/2 m
- Route the signal lines separately (not in multi-conductor cables) and shield them, if necessary.
- Degree of protection: IP40 (terminals IP20)
- Operating voltage: AC 110 – 240 V or DC 24 V
- Maximum switching capacity of the output relay: 6 A (AC 250 V)

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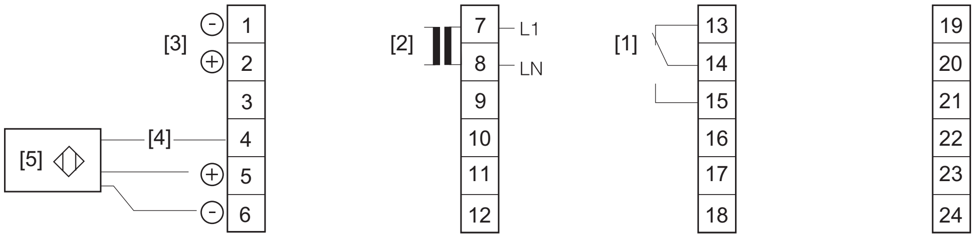
Terminal assignment /W

The following figure shows the terminal assignment /W:

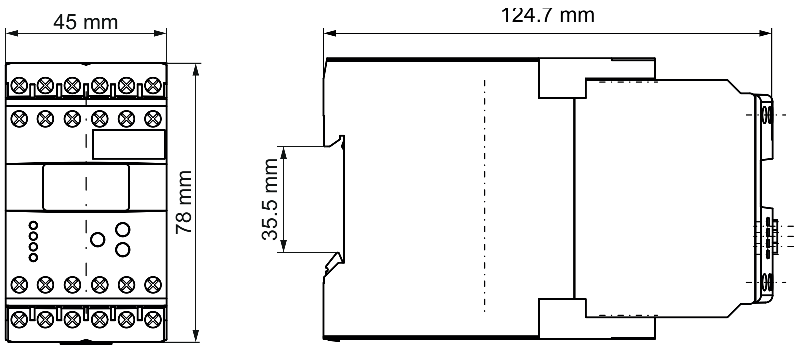


14599261451

[1] Relay output
[2] AC 110 – 240 V connection voltage (47 – 63 Hz)
[3] DC 24 V connection voltage
[4] Signal (pnp)
[5] Encoder

Dimensions /W

The following figure shows the dimensions for /W:



13479389835

Slip monitor option /WS

Part number: 01649493

The following figure shows the slip monitor option /WS:

In conjunction with VARIBLOC® variable speed gear units (see "Variable Speed Gear Units" catalog), the speed monitor is replaced by a slip monitor for monitoring the speed difference between the input and output halves of the coupling.

Depending on the size of the variable speed gear unit, signals are detected using two incremental encoders or an incremental encoder and an AC encoder.

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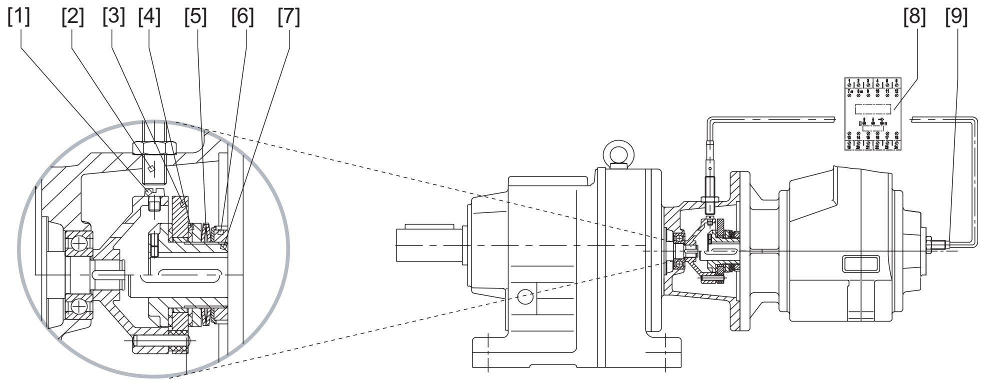
The following figure shows the adapter with slip clutch and slip monitor /WS:



4513831563

[1] Trigger cam
[2] Incremental encoder (adapter)
[3] Carrier disk
[4] Friction lining
[5] Cup spring
[6] Slotted nut
[7] Friction hub
[8] Slip monitor /WS
[9] Encoder IG

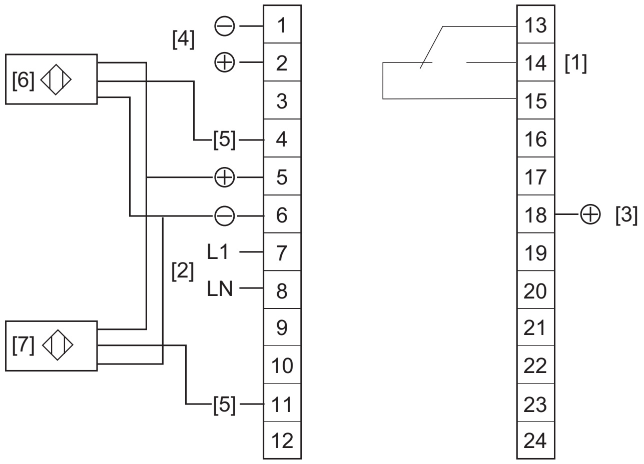
Connection /WS

The IG voltage encoder is connected to the WS slip monitor via a 2 or 3-core cable depending on the type.

- Maximum cable length: 500 m with a cable cross section of 1.5 mm^2
- Standard supply cable: 3-core (2 m)
- Route the signal lines separately (not in multicore cables) and shield them, if necessary
- Degree of protection: IP40 (terminals IP20)
- Operating voltage: AC 110 V – 240 V or DC 24 V
- Maximum switching capacity of the output relay: 6 A (AC 250 V)

Terminal assignment /WS

The following figure shows the terminal assignment of the slip monitor /WS:

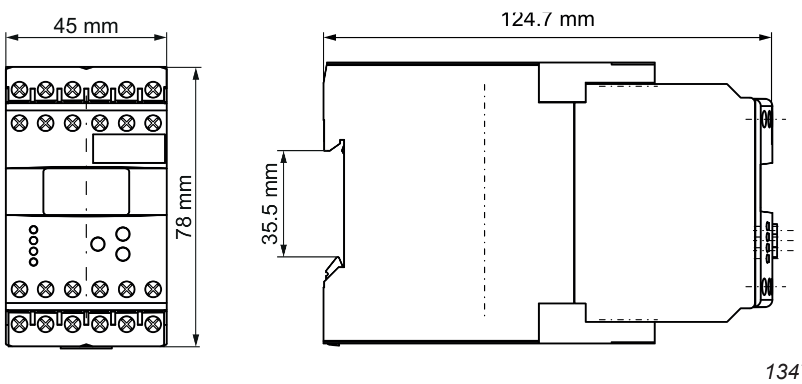


4569288075

[1] Relay output
[2] AC 230 V, 47 Hz – 63 Hz connection voltage
[3] External slip reset
[4] DC 24 V connection voltage
[5] Signal
[6] Encoder 1
[7] Encoder 2

Dimensions /WS

The following figure shows the dimensions /WS:



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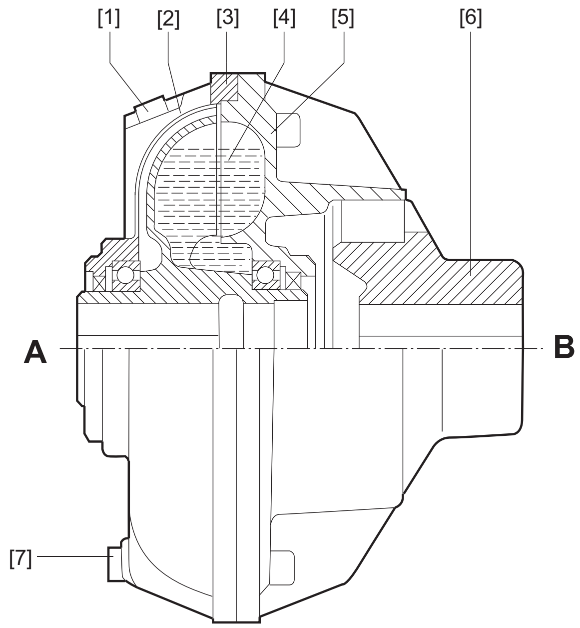
4.6.3 AT adapter with hydraulic start-up coupling

Start-up coupling



4513847051

[1]	Filling plug	[6]	Flexible connecting coupling
[2]	Turbine wheel	[7]	Fusible screw plug
[3]	Coupling half	[A]	Gear unit side
[4]	Operating fluid (hydraulic oil)	[B]	Motor side
[5]	Pump wheel		

The power which the coupling can transmit depends significantly on the speed. A distinction is made between startup phase and stationary operation. During the startup phase, the motor starts without load until the coupling transmits torque. During this phase, the machine is accelerated slowly and smoothly. Once the stationary operating condition has been reached, a level of operating slip is established between the motor and the gear unit which is determined by the functional principle of the coupling. The motor now only has to supply the load torque demand of the machine. Load peaks are absorbed by the coupling.

The hydraulic start-up coupling is equipped with fusible safety plugs that allow the operating fluid to be evacuated in the event of excessive temperature (excessive overload, blockage). In this way the coupling and system are protected from damage.

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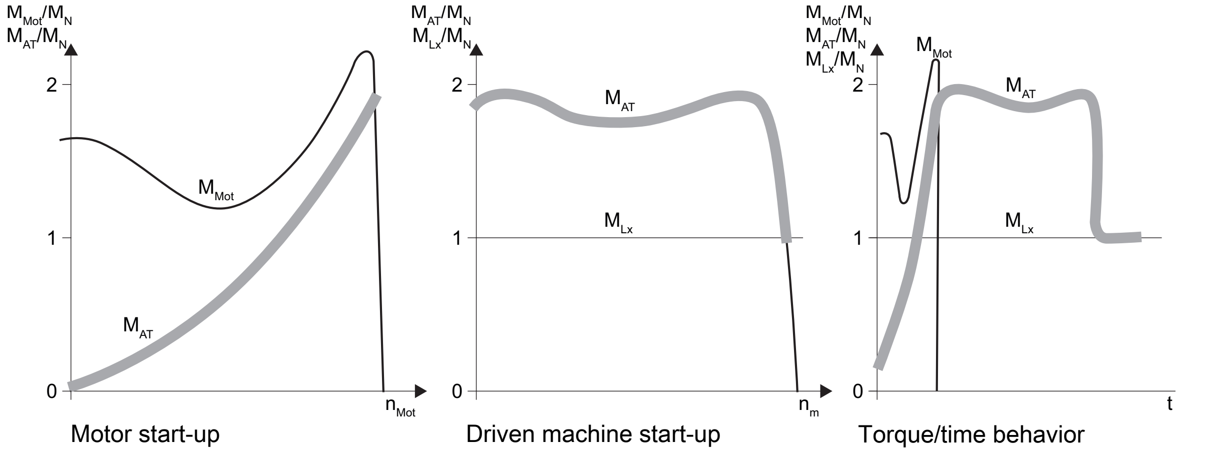
Characteristic curves



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M_{Mot}	Motor torque	$[M_{Mot}]$ = Nm
M_N	Nominal torque	$[M_N]$ = Nm
M_{AT}	Coupling torque	$[M_{AT}]$ = Nm
M_{Lx}	Load torque	$[M_{Lx}]$ = Nm
n_{Mot}	Motor speed	$[n_{Mot}]$ = min^{-1}
n_m	Driven machine speed	$[n_m]$ = min^{-1}

Selecting the gear unit

Follow the steps in the diagram to select a matching gear unit:

Determine the gear unit type
↓
Determine the gear unit size using the selection tables for gear units with **AM..** adapter by means of the following parameters: • Maximum output torque (M_{a_max}) • Gear ratio (i)
↓
Determine the adapter type using the selection tables for **AT..** adapters by means of the following parameters: • Motor speed (n_{Mot}) • Gear unit size • Nominal power of the driving motor (P_{Mot})

Backstop option AT../RS

If the application permits only one direction of rotation, the hydraulic start-up coupling can be equipped with a backstop. Backstops with centrifugal lift-off sprags are used. The advantage of this design is that the sprags move around in the backstop without making contact above a certain speed. This means the backstops operate wear-free, without losses, maintenance-free and are suited for high speeds.

Dimensions

The dimensions of the hydraulic start-up coupling with backstop AT../RS are identical to those of the hydraulic start-up coupling AT.. (see dimension sheets in the chapter for hydraulic start-up couplings AT..).

Locking torques

Type	Maximum locking torque of the backstop Nm	Lift-off speed min^{-1}
AT311/RS – AT322/RS	425	620
AT421/RS – AT422/RS	850	530
AT522/RS – AT542/RS	1450	480

4.6.4 AD input shaft assembly

Selecting the gear unit

Follow the steps in the diagram to select a matching gear unit:

Determine the gear unit type
↓
Determine the gear unit size using the selection tables for gear units mit AD input shaft assembly by means of the following parameters: • Maximum output torque (M_{a_max}) • Gear ratio (i) When selecting AD/P, please observe the "selection notes" (→ 🗎 69).
↓
Check the maximum permitted overhung load value on the output (F_{R_a}).
↓
Check the maximum permitted input power at the gear unit (P_{Mot}) by taking account of the thermal limit rating, see the chapter "Thermal limit rating for gear units with input shaft assembly" (→ 🗎 68).
↓
Check the overhung load at the input (F_{R_e}).
↓
Please contact SEW-EURODRIVE if the requirements are more demanding (e.g. higher overhung load on input end).

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Thermal limit rating for gear units with input shaft assembly

The power values given in the selection tables for gear units with input shaft assemblies are mechanical limit powers. However, gear units might become thermally overloaded before they reach the mechanical power limit depending on the mounting position and gear ratio. If a gear ratio in the selection tables is marked with a footnote, observe the chapter "Churning losses and thermal rating" (→ 🗎 47).

R107, n_{Mot}= 1400 min^{-1}, $M_{a\,max}$/Nm												4300 Nm
i	n_G	$M_{a\,max\,G}$	F_{R_a} 1)	$\varphi_{(/R)}$	AM							
	min^{-1}	Nm	N	'	100	112	132S/M	132ML	160	180	200	225
2												
4.92 2)	285	2900	11300	9	430	900	1070	2020	2020			

[1]

24010249739

[1] For gear ratios with a footnote, refer to the chapter "Churning losses and thermal rating" (→ 🗎 47).

Centering shoulder AD../ZR

The input shaft assembly can optionally be configured with a centering shoulder. In this way, a customer's application can be attached to the cover centrally in relation to the input shaft side.

Backstop AD../RS

The input shaft assembly can be supplied with a backstop if the application permits only one direction of rotation. Backstops with centrifugal lift-off sprags are used. The advantage of this design is that the sprags move around inside the backstop without making contact above a certain speed (lift-off speed). This means the backstops operate wear-free, without losses, maintenance-free and are suited for high speeds.

The backstop is completely integrated in the cover. This means there is no difference in dimensions between an input shaft assembly with or without backstop (see dimension sheets in the Input shaft assembly AD chapters).

Locking torques:

Type	Maximum locking torque of the backstop Nm	Minimum lift-off speed min^{-1}
AD2/RS	65	820
AD3/RS	425	620
AD4/RS	850	530
AD5/RS	1450)	480
AD6/RS	1950	450
AD7/RS	1950	450
AD8/RS	1950	450

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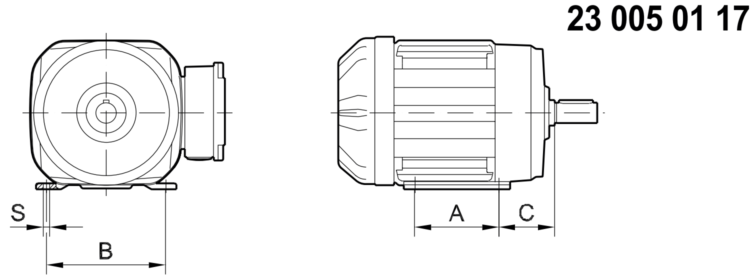
Motor platform AD../P

Available combinations

The following table shows motor dimensions and available input shaft assemblies with motor platform:



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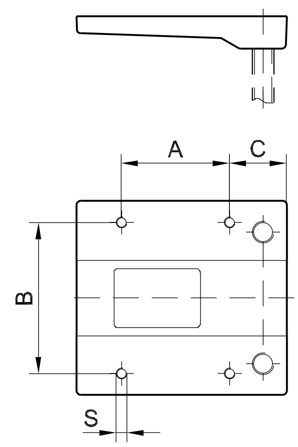
Motor	A mm	B mm	C mm	S mm	Cover
DRN71MS	90	112	45	7	AD2/P
DRN71M	90	112	45	7	
DRN80MK	100	125	50	10	
DRN80M	100	125	50	10	
DRN90S	100	140	45	10	
DRN90L	125	140	56	10	
DRN100LS	140	160	63	12	AD3/P
DRN100L	140	160	63	12	
DRN100LM	140	160	63	12	
DRN112M	140	190	70	12	
DRN132S	178	216	89	12	AD4/P
DRN132M	178	216	89	13	
DRN132L	178	216	89	13	
DRN160M	254	254	108	14.5	AD5/P
DRN160L	254	254	108	14.5	
DRN180M	279	279	121	14.5	
DRN180L	279	279	121	14.5	
DRN200L	305	316	133	18.5	AD6/P
DRN225S	286	356	149	18.5	
DRN225M	311	356	149	18.5	
DRN250M	349	406	168	24.5	AD7/P
DRN250ME	349	406	168	24.5	
DRN280S	419	457	190	24.5	
DRN280M	419	457	190	24.5	

If the required combination of gear unit cover (motor platform) and motor is not listed, contact SEW-EURODRIVE. You find available combinations of gear units and motors in the chapters for dimension sheets for input shaft assemblies with motor platform.

Bore dimensions and weight

The following table shows bore dimensions and weight information of the motor platform. The motor platform is also available without bores.

23 006 00 17



9007220625288075

Cover	A mm	B mm	C mm	S	Weight P kg
AD2/P	90	112	42	M6	5.5
	100	125	47	M8	
	100	140	53	M8	
	125	140	53	M8	
AD3/P	100	140	52	M8	11
	125	140	52	M8	
	140	160	59	M10	
	140	190	66	M10	
AD4/P	140	216	86	M10	23
	178	216	86	M12	
	210	254	105	M12	
AD5/P	210	254	105	M12	41
	254	254	105	M12	
	241	279	118	M12	
	279	279	118	M12	

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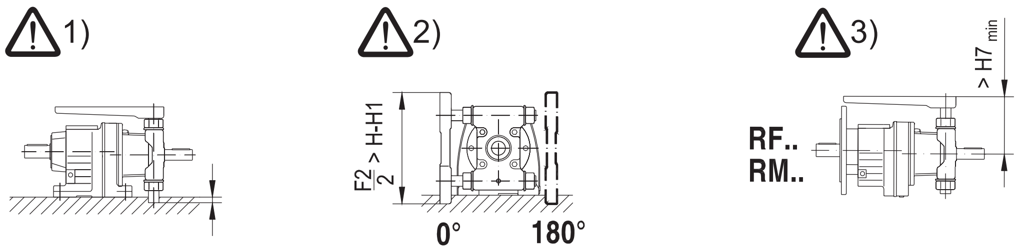
Cover	A mm	B mm	C mm	S	Weight P kg
AD6/P	305	318	129	M16	62
	286	356	145	M16	
	311	356	145	M16	
AD7/P	349	406	166	M20	103
	368	457	188	M20	
	419	457	188	M20	

Risks of collision

The following critical cases can occur when using gear units with input shaft assembly and motor platform:



4531208203

1. The column might protrude beyond the foot mounting surface depending on the adjustment.
2. The motor platform protrudes beyond the foot mounting surface.
3. The motor platform might collide with the gear unit flange depending on the adjustment.

These cases are indicated in the right column of the dimension tables.

E2	F2	G2	H6	H7 min	H7 max	H11 min	H11 max	K2	Q4	D1	L1	L13	L14	T1	U1	⚠ →73

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4.7 Multi-stage gearmotors

4.7.1 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.

4.7.2 Limiting the motor power

Reduce the maximum output motor power according to the maximum permitted output torque on the gear unit (M_{a_max}). 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

$$M_{Mot\_max} = \frac{M_{a\_max}}{i_{tot} \times \eta_{tot}}$$

M_{Mot_max}	Maximum permitted motor torque	$[M_{Mot\_max}]$ = Nm
M_{a_max}	Maximum permitted output torque	$[M_{a\_max}]$ = Nm
i_{tot}	Total gear unit ratio	$[i_{tot}]$ = 1
η_{tot}	Overall efficiency	$[\eta_{tot}]$ = %

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 M_{Mot_max}. An appropriate measure would be to set the tripping current of the motor protection switch to this maximum current value. A motor protection switch 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.

4.7.3 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 permitted switching frequency of multi-stage brakemotors, please contact SEW-EURODRIVE.

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4.7.4 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.

INFORMATION

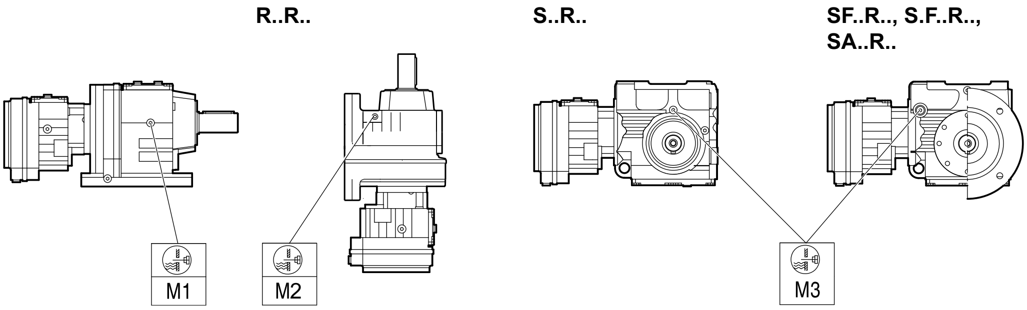
Contact SEW-EURODRIVE if blockages of the double gear unit or multi-stage gearmotor cannot be avoided due to the application.

4.7.5 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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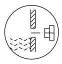
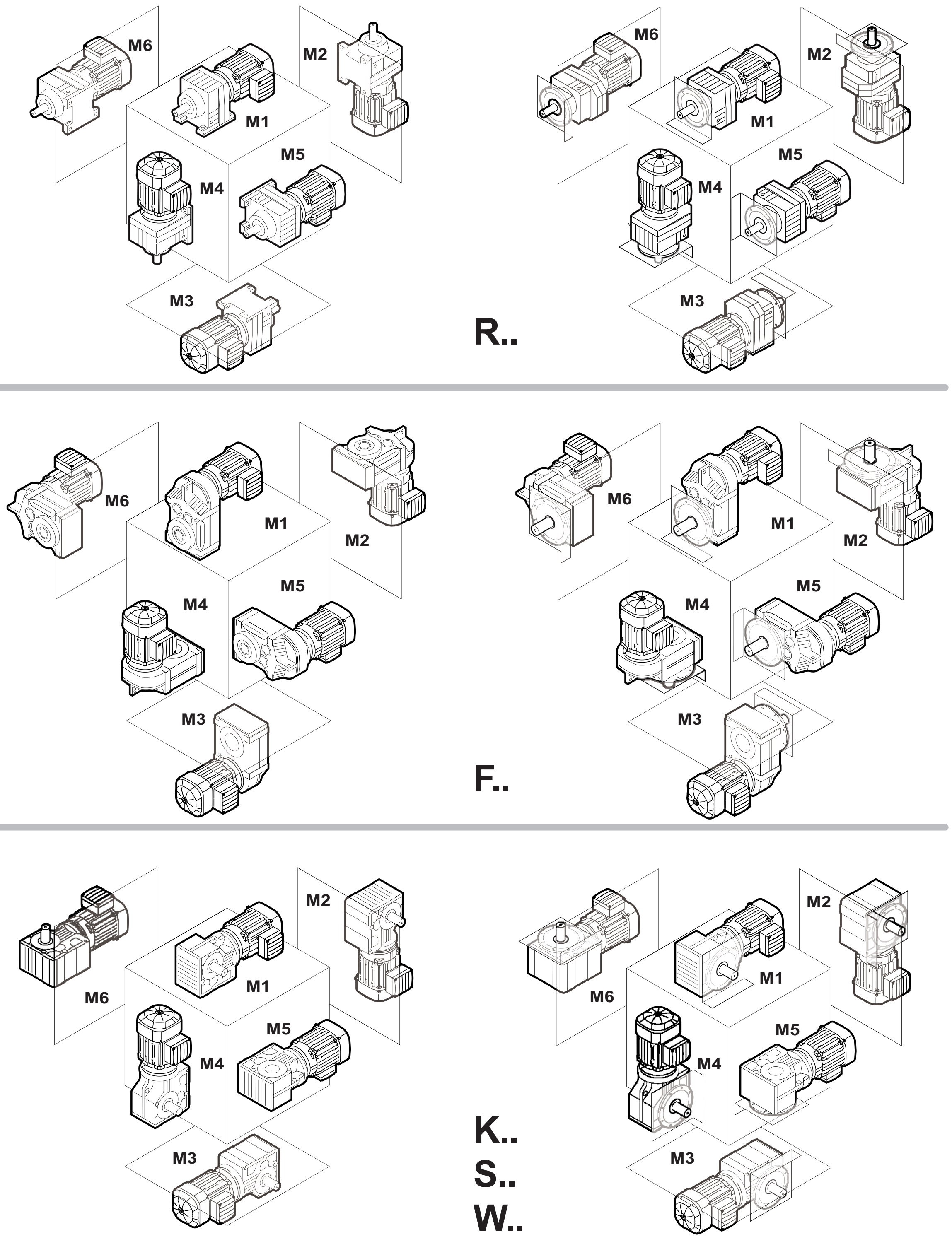
Icon	Meaning
	Oil level plug

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 drive's operating mode, an oil expansion tank might be necessary (see chapter "Oil expansion tank" (→ 🗎 19)).
- 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 SEW-EURODRIVE when changing to mounting position M2 or M3.
- For helical gearmotors: Contact SEW-EURODRIVE when changing to mounting position M2.
- 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 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.

For mounting position MX, the gear units are delivered with the maximally possible amount of oil and are 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" (→ 🗎 127)). Customers will also have to mount the enclosed breather valve at the proper location depending on the mounting position, see chapter Mounting position sheets.

Before startup, always check that the oil level is correct.

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.

5.1.3 Position of the breather valve/oil drain plug in the adapter flange

As shown in the mounting position sheets in chapter Mounting position sheets, the position of the breather valve and oil drain plug depends on the mounting position of the gear unit.

The following table shows the position of the breather valve or 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 adapter flange**	In the gear unit housing
M2	In the gear unit housing	**In the adapter flange**

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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.

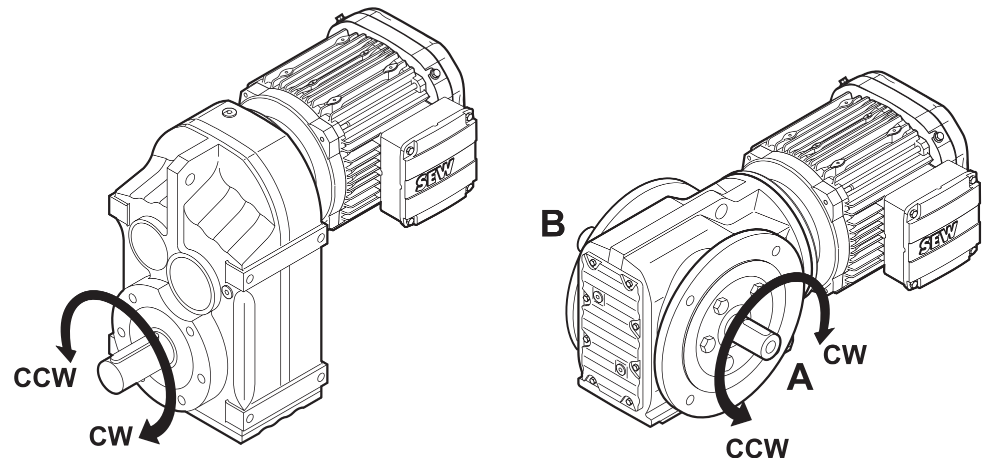
This information is also required for gearmotors that do not depend on a particular mounting position.

5.2.1 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):

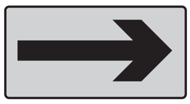
- CW rotation
- CCW rotation



4579708555

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:



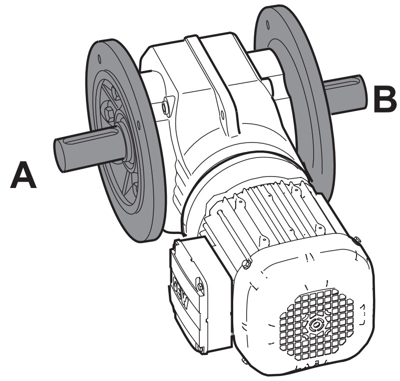
15985405835

A replacement label is enclosed for the customer.

5.2.2 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

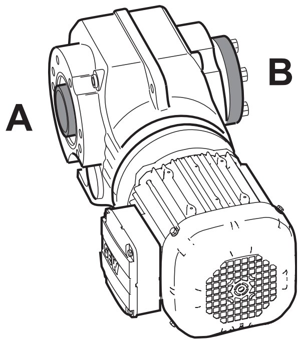


4579723275

5.2.3 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 side. In the figure below, the A-side is the output side. The shrink disk is located opposite the output side.

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



4579730955

INFORMATION

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

5.2.4 Position of motor terminal box and cable entry

The position of the motor terminal box has so far been indicated with 0°, 90°, 180° or 270° as viewed onto the fan guard (= B-side), see also the following figure. A change in the standard DIN EN 60034 specifies that the following designations will have to be used for terminal box positions for foot-mounted motors in the future:

- As viewed onto the output shaft = A-side
- 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). For gearmotors, the previous designation is maintained. 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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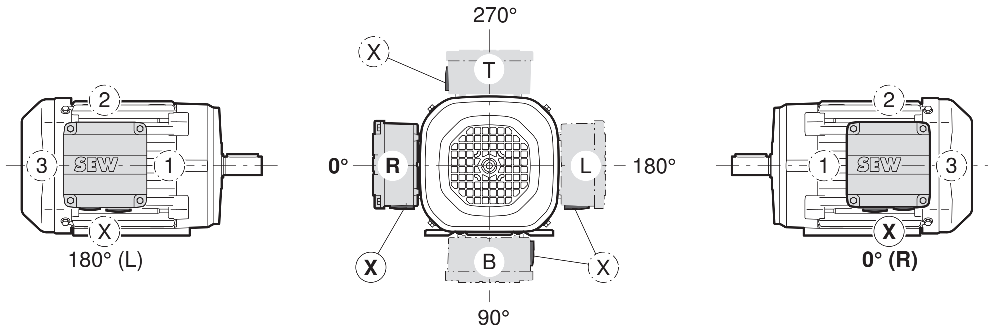
The position of the cable entry can be selected as well. "X" (= normal position), "1", "2" or "3" are possible, as shown in following figure.



3975310859

Unless indicated otherwise, you will receive the terminal box type 0° with "X" cable entry. SEW-EURODRIVE recommends selecting cable entry "2" with mounting position M3.

INFORMATION

Only cable entries "X" and "2" are possible for DR2S56.. and DRN63.. motors. Exception: This limitation does not apply with IS plug connectors.

INFORMATION

When the **terminal box is in the 90° (B) position**, check to see if 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 any case. 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 are available on the SEW-EURODRIVE website via the respective CAD data.

5.2.5 Sample orders

Examples	Mounting position	Shaft position	Flange position	Connection side	Shrink disk position	Output direction of rotation
K47AM71/RS	M2	A	-	-	-	Right
SF77AT312DRN80M4	M6	AB	AB	-	-	-
KA97AM184	M4	-	-	B	-	-
KH107AD4	M1	-	-	A	B	-

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 end.

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

INFORMATION

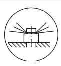
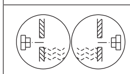
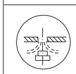
SPIROPLAN® gearmotors do not depend on the mounting position. An exception are W..37 and W..47 gearmotors in M4 mounting position. However, mounting positions M1 to M6 are also shown for SPIROPLAN® gearmotors to assist you in working with this documentation.

INFORMATION

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

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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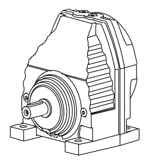
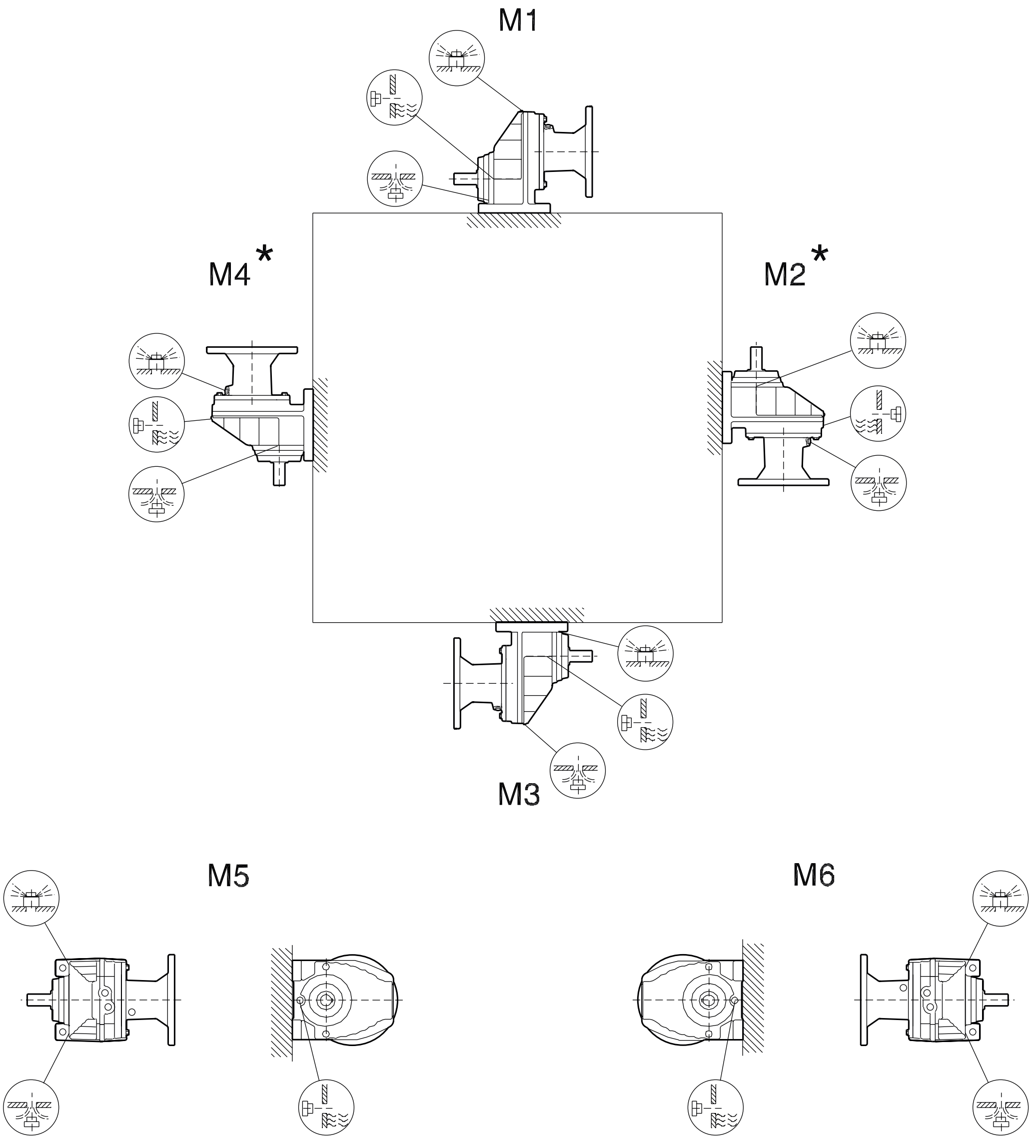
5.3.2 Mounting positions of helical gear units

RX57 – RX107

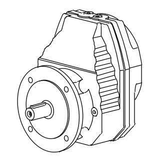
01 001 01 10



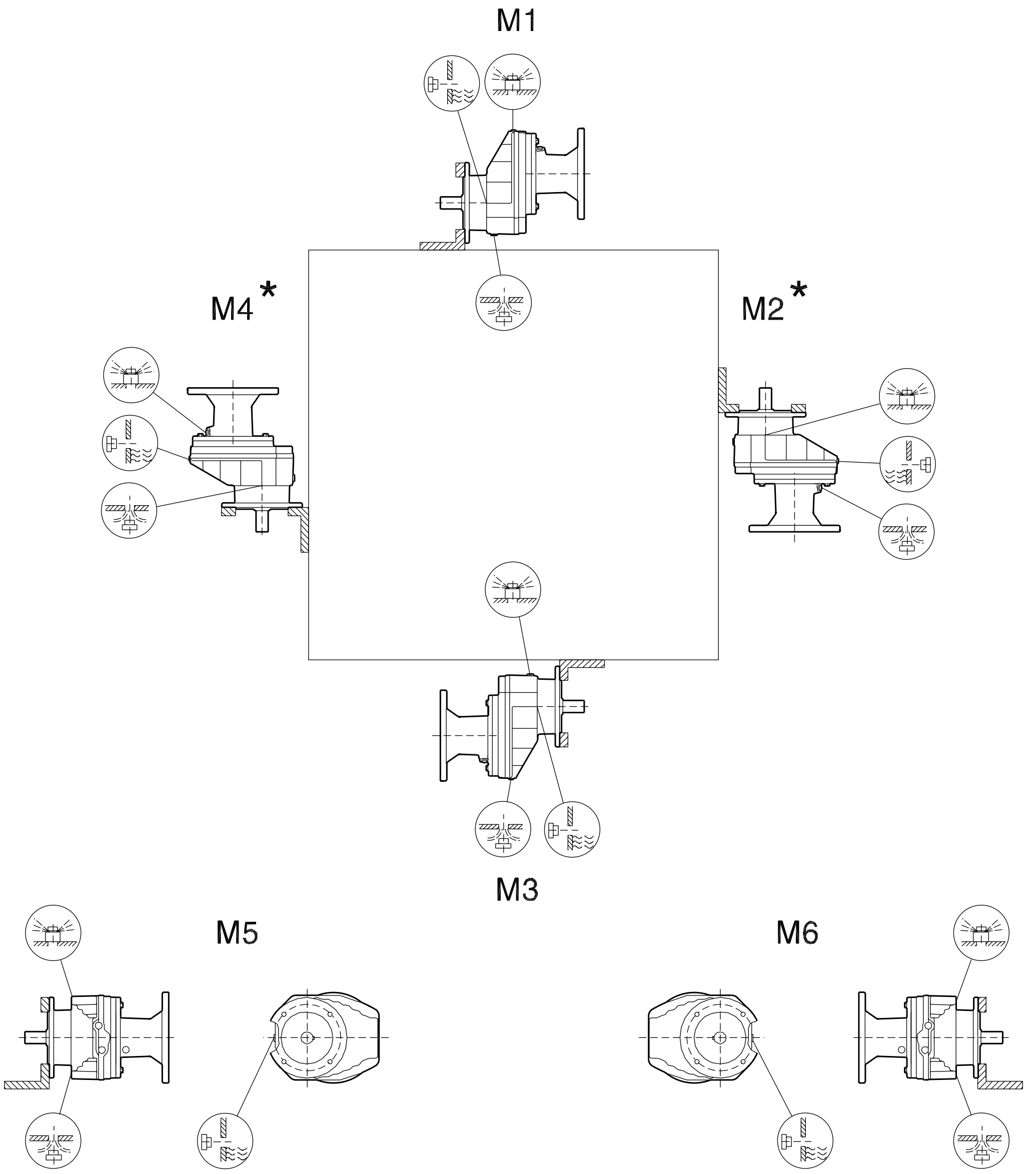


* (→ 🗎 47)

RXF57 – RXF107



01 002 01 10



* (→ 🗎 47)

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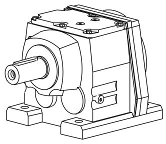
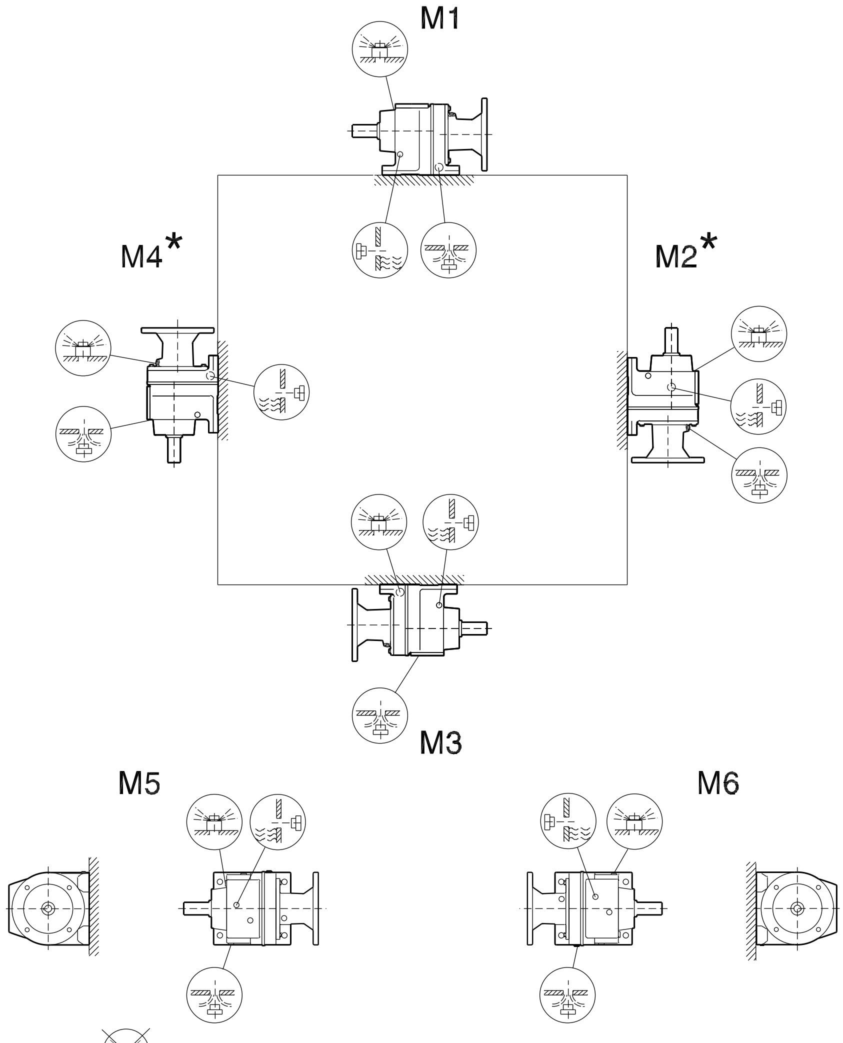
R07 – R167



01 003 01 10



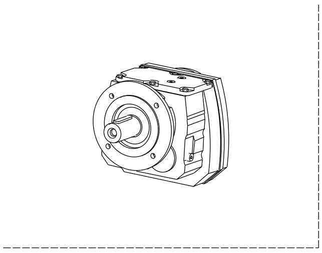
R27		M1, M3 , M5 , M6
R27		
R47, R57		M5

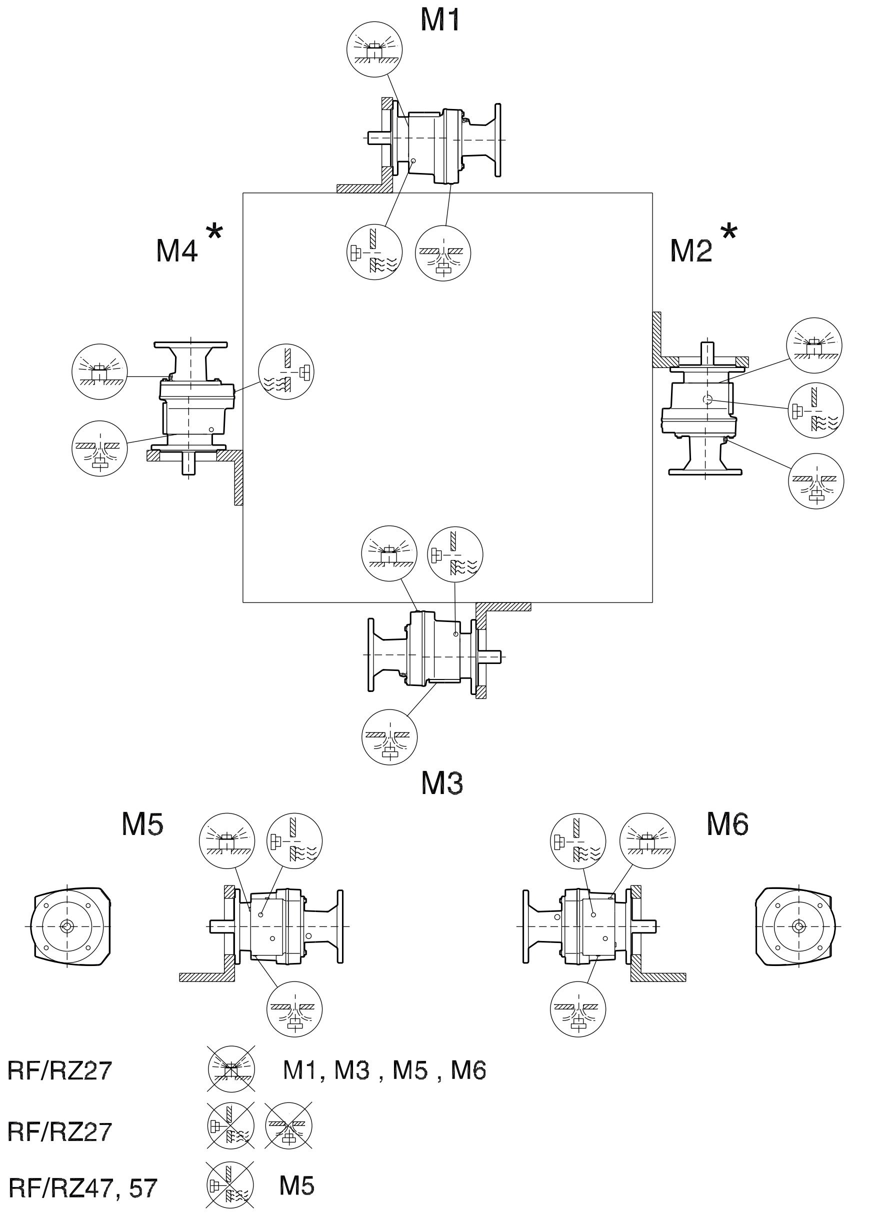
* (→ 🗎 47)

Observe the information in chapter "Overhung and axial loads – R, F, K, S, and W gear units" (→ 🗎 52).

RF07 – RF167, RZ07 – RZ87, RM57 – RM167

01 004 01 10





* (→ 47)

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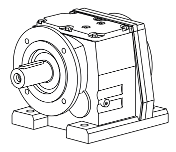
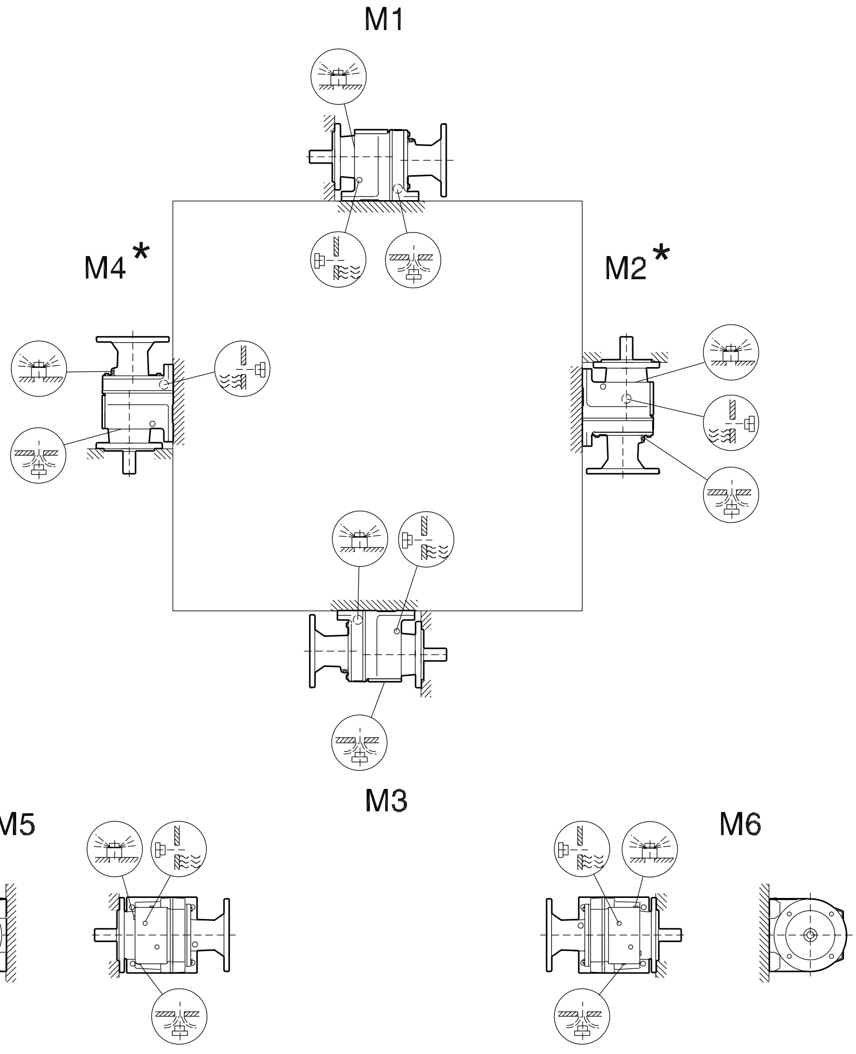
R07F – R87F



01 005 01 10



R27F M1, M3 , M5 , M6

R27F

R47F, R57F M5

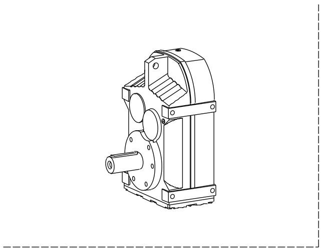
* (→ 🗎 47)

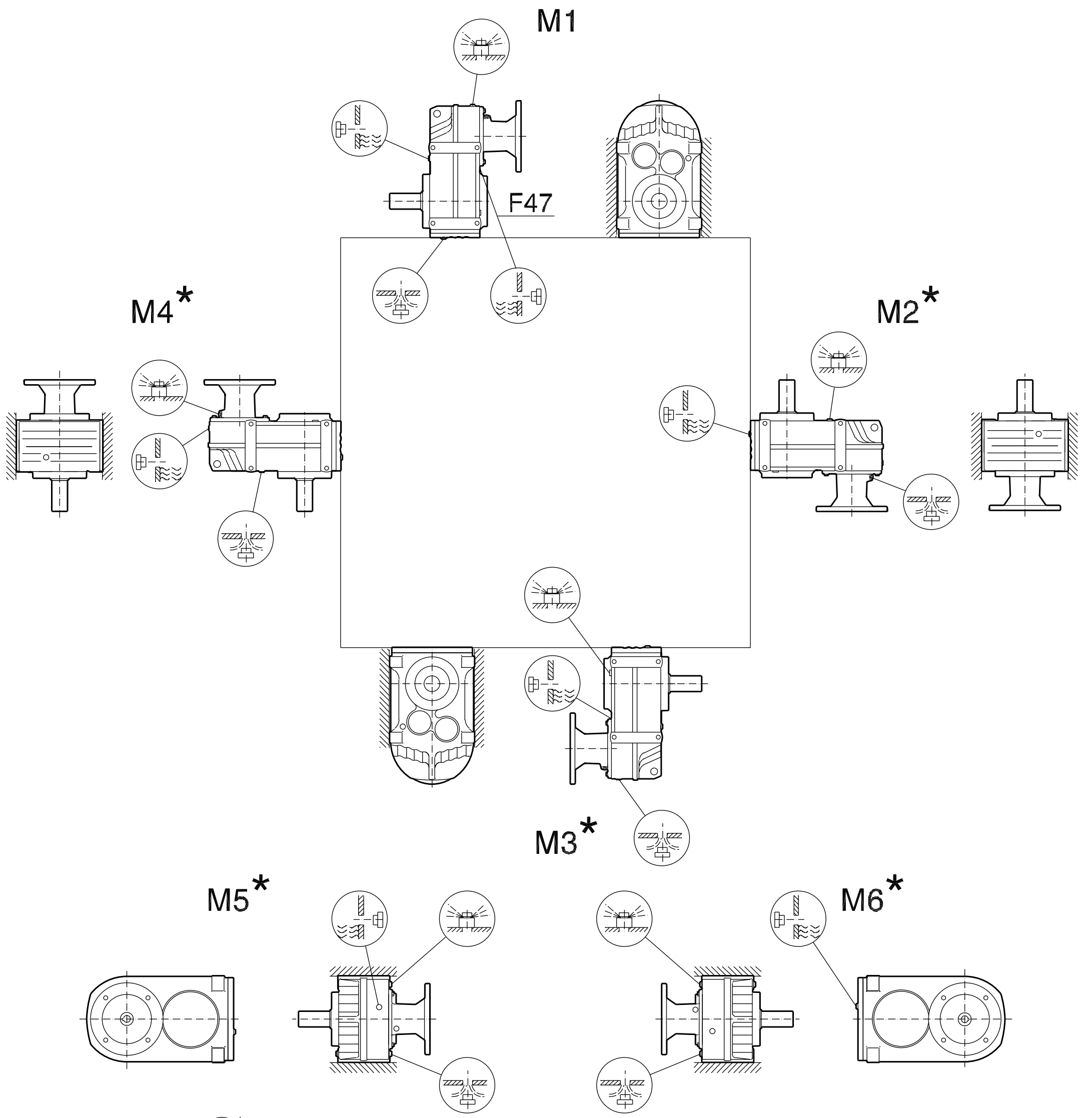
Observe the information in chapter "Overhung and axial loads – R, F, K, S, and W gear units" (→ 🗎 52).

5.3.3 Mounting positions of parallel-shaft helical gear units

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

42 002 01 10





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

* (→ 🗎 47)

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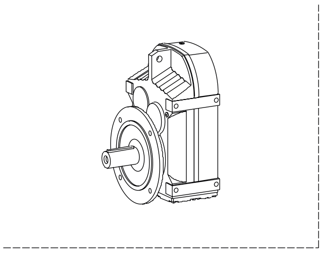
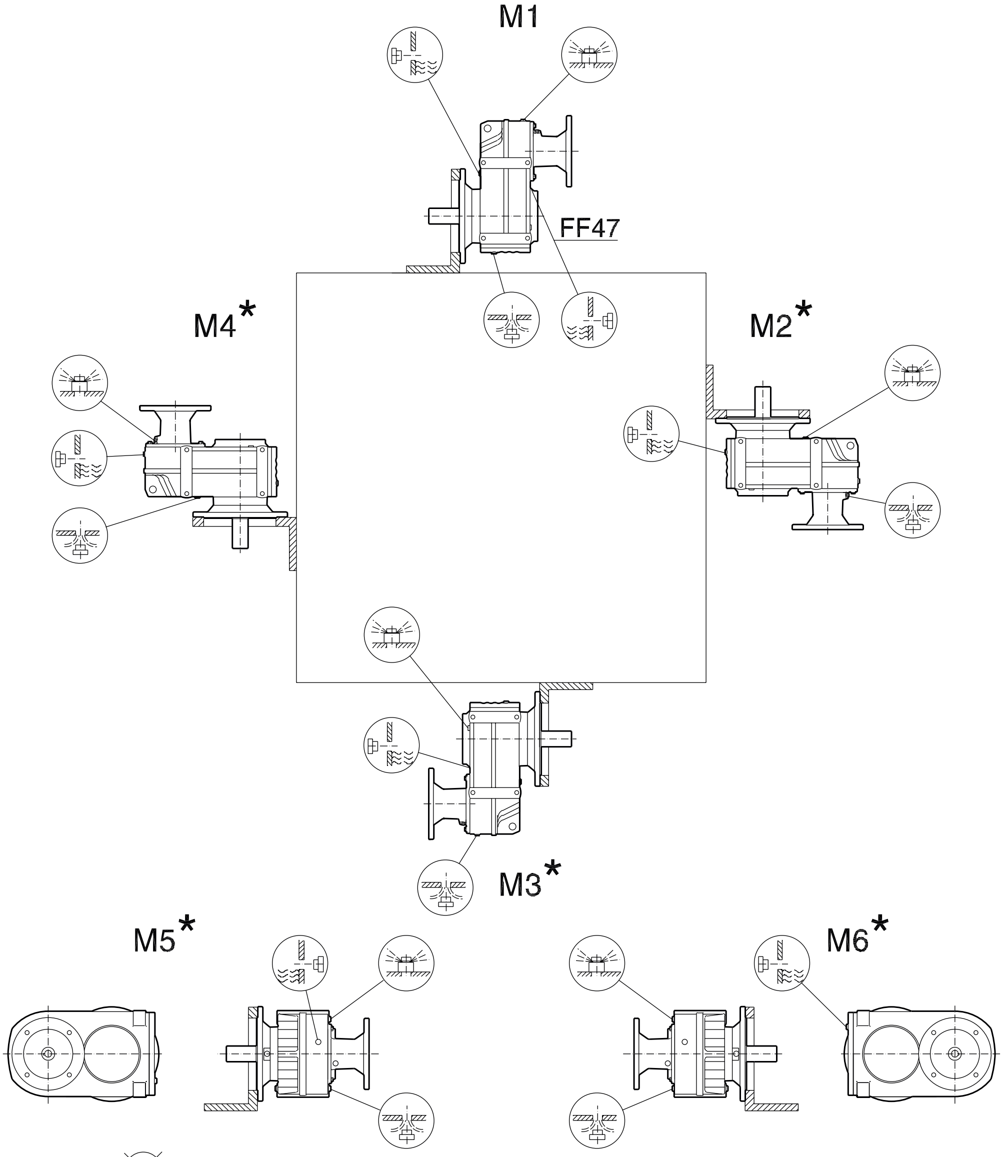
FF/FAF/FHF/FZ/FAZ/FHZ27-157, FVF/FVZ27-107, FM/FAM67-157

42 003 01 10





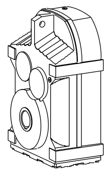
F..27		M1, M3, M5, M6
F..27		M1 - M6
F..27		M1, M3, M5, M6

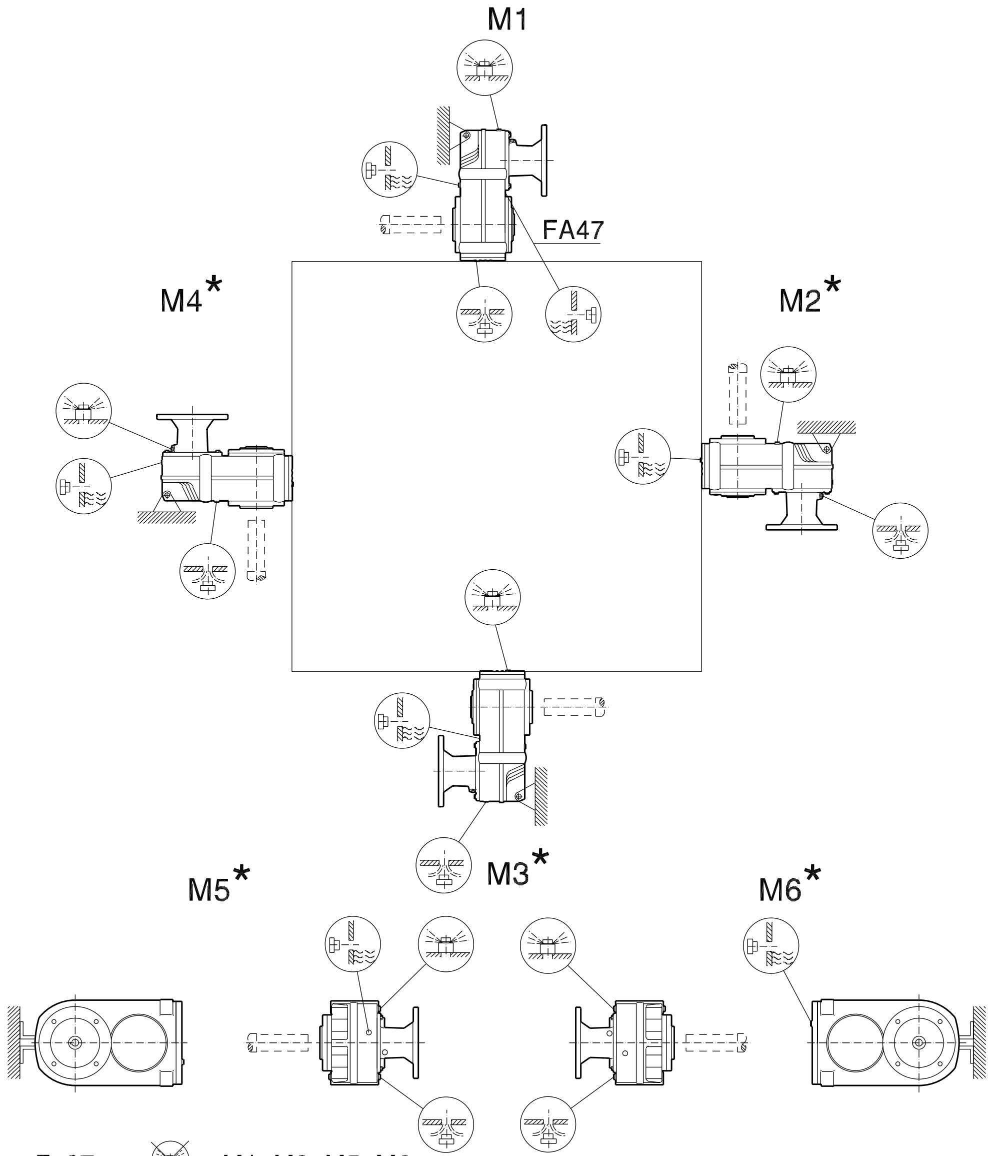
* (→ 🗎 47)

29154650/EN – 03/2020

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

42 004 01 10





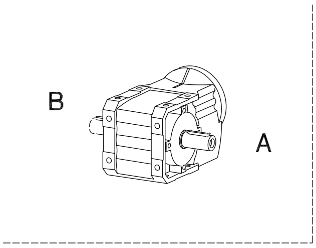
F..27		M1, M3, M5, M6
F..27		M1 - M6
F..27		M1, M3, M5, M6

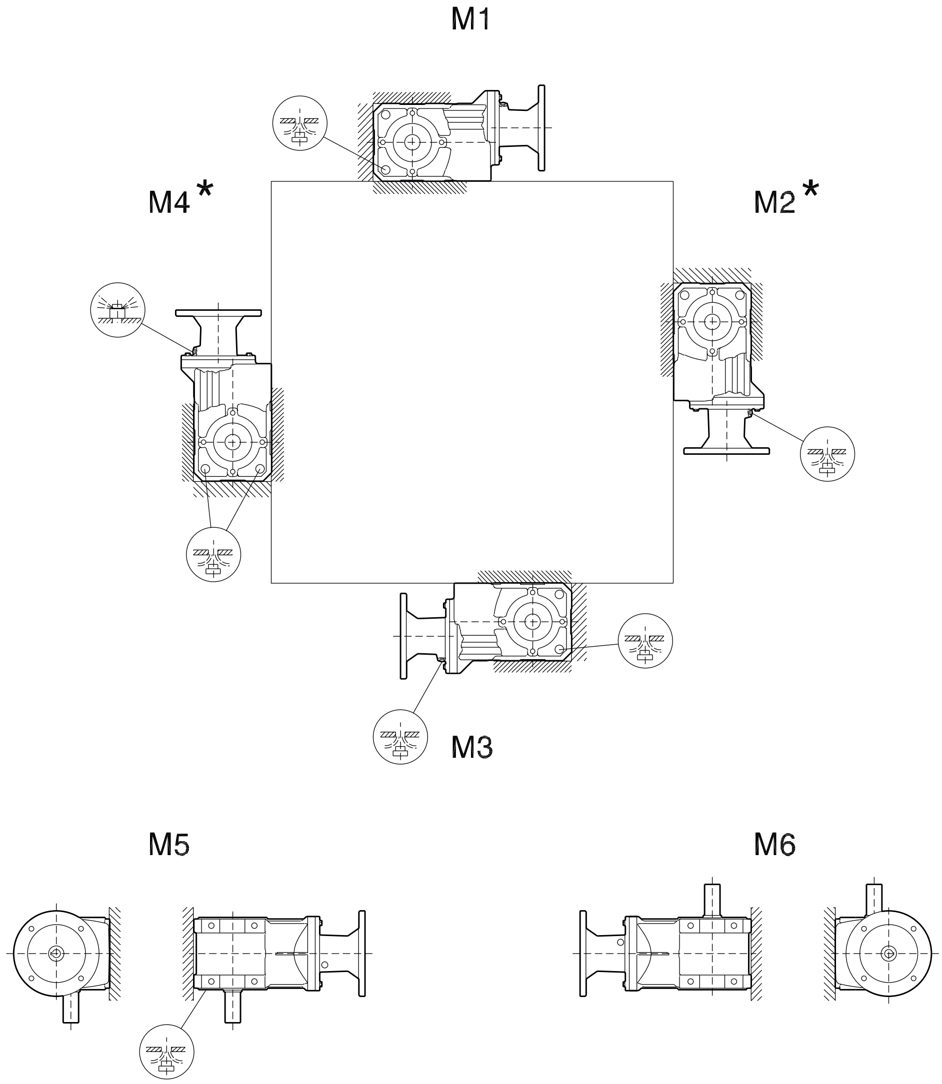
* (→ 🗎 47)

5.3.4 Mounting positions of helical-bevel gear units

K/KA..B/KH19B-29B

33 244 00 17





* (→ 🗎 47)

Observe the information in chapter "Overhung and axial loads – R, F, K, S, and W gear units" (→ 🗎 52).

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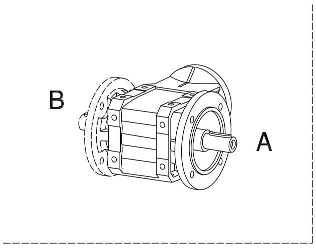
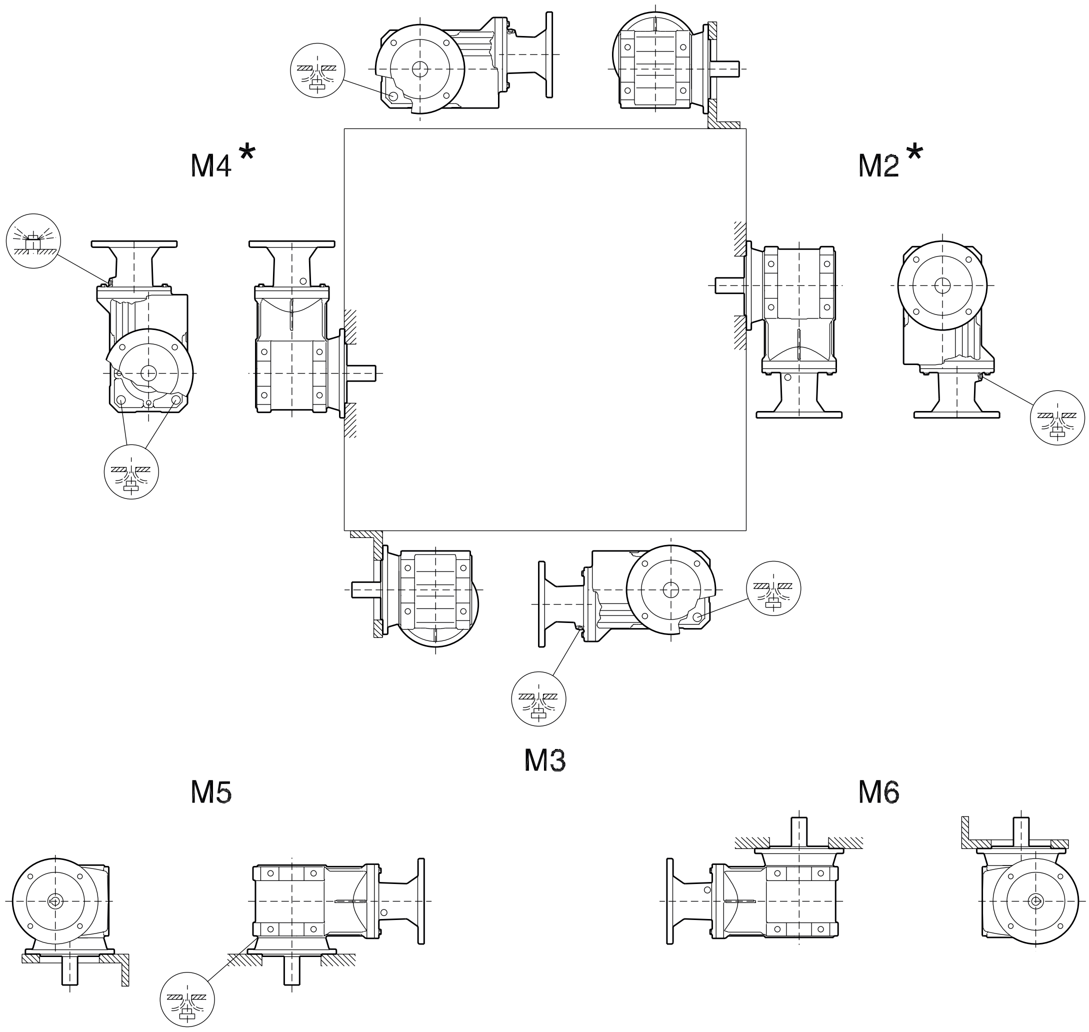
KF..B/KAF..B/KHF19B-29B

33 245 00 17





* (→ 🗎 47)

Observe the information in chapter "Overhung and axial loads – R, F, K, S, and W gear units" (→ 🗎 52).

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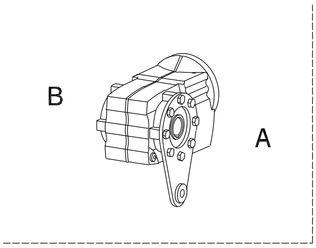
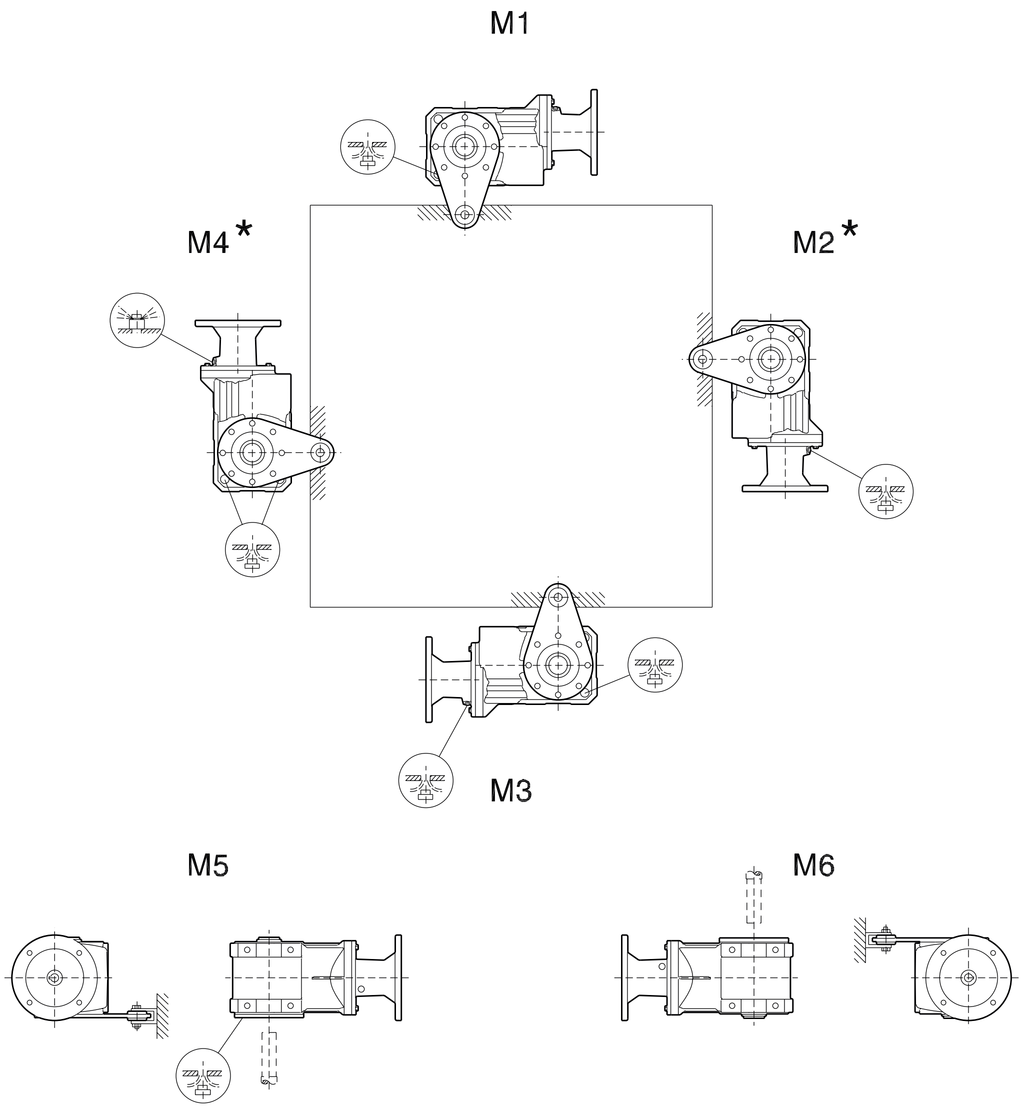
KA..B/KH19B-29B



33 246 00 17



* (→ 🗎 47)

Observe the information in chapter "Overhung and axial loads – R, F, K, S, and W gear units" (→ 🗎 52).

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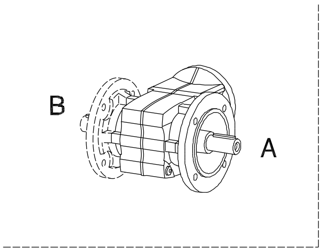
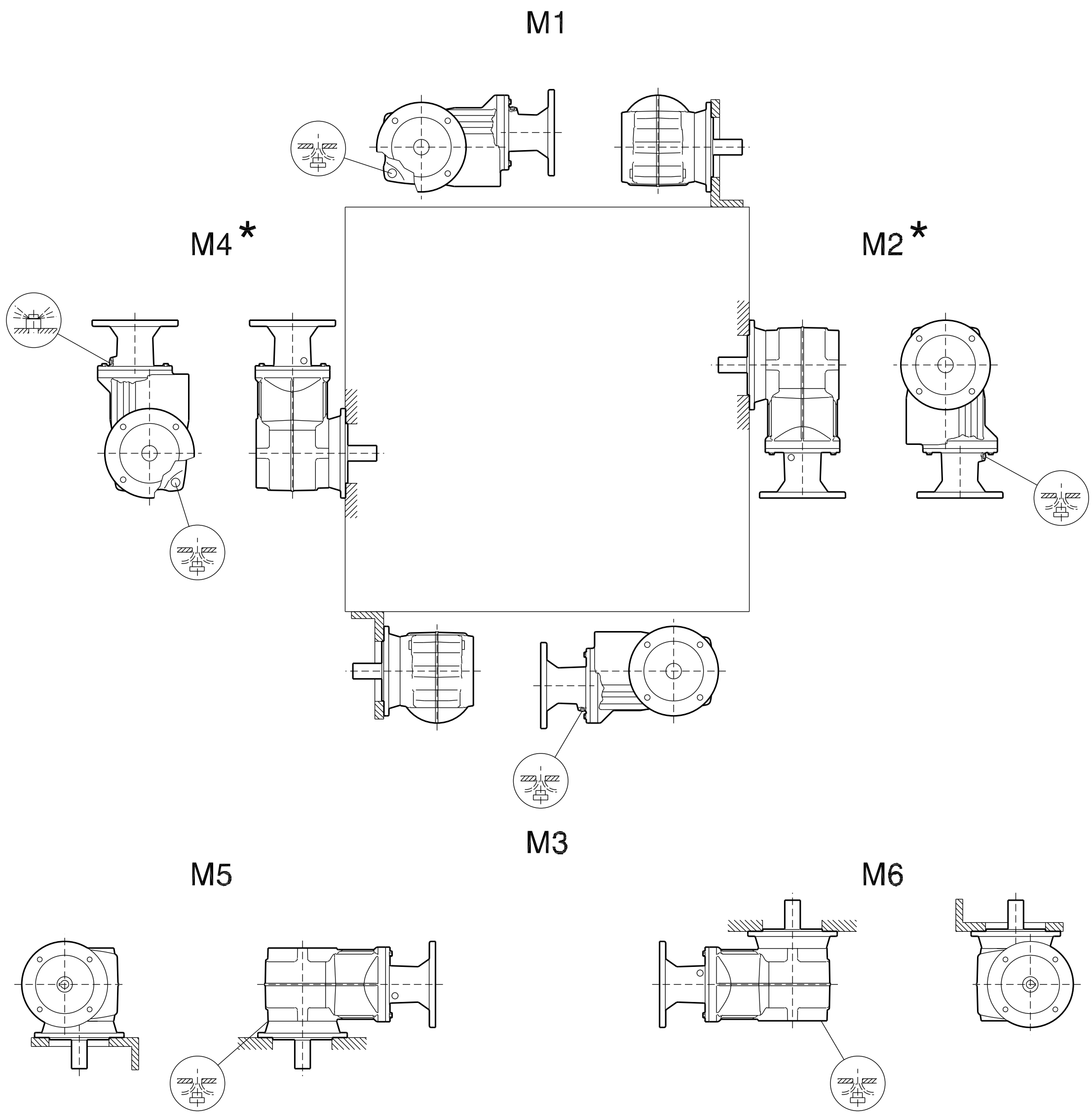
KF/KAF/KHF19-29

33 247 00 17





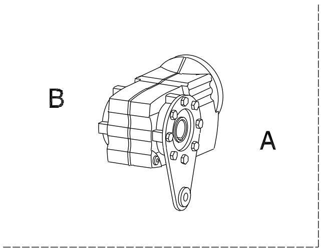
* (→ 🗎 47)

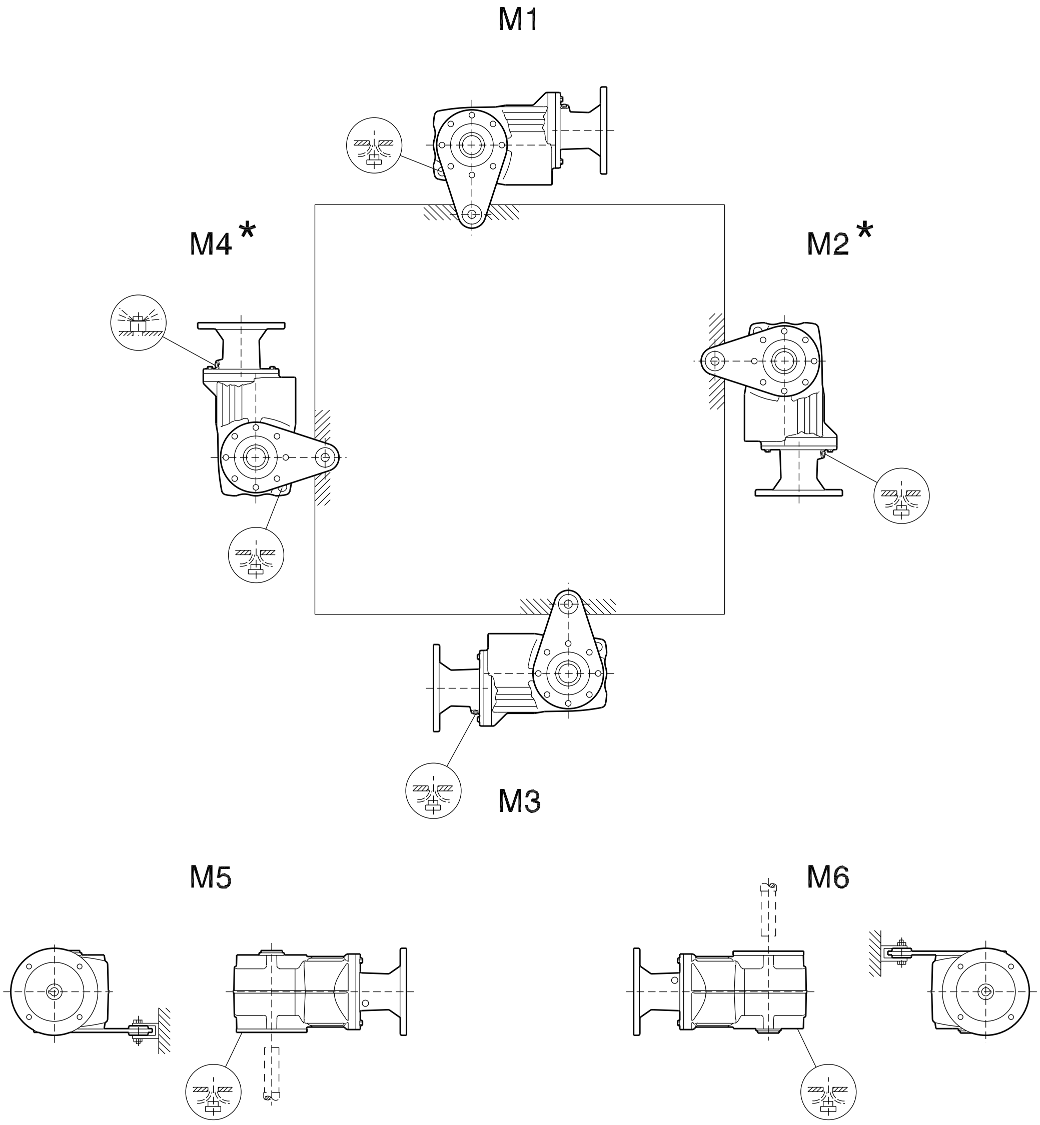
29154650/EN – 03/2020

Observe the information in chapter "Overhung and axial loads – R, F, K, S, and W gear units" (→ 🗎 52).

KA/KH19-29

33 248 00 17





* (→ 🗎 47)

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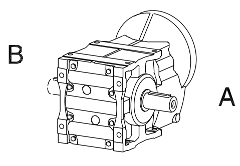
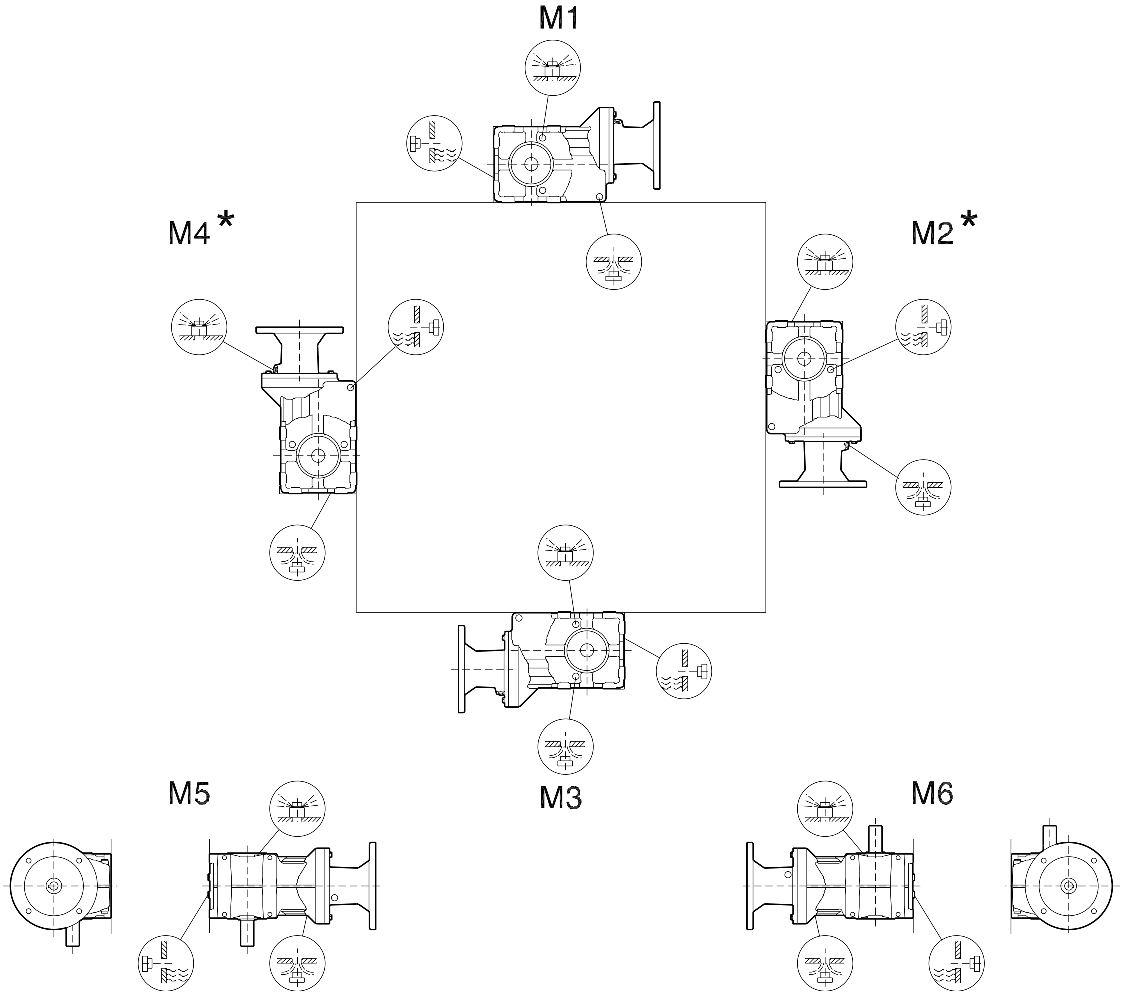
K/KA..B39-49



33 249 01 17

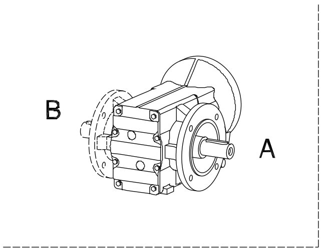


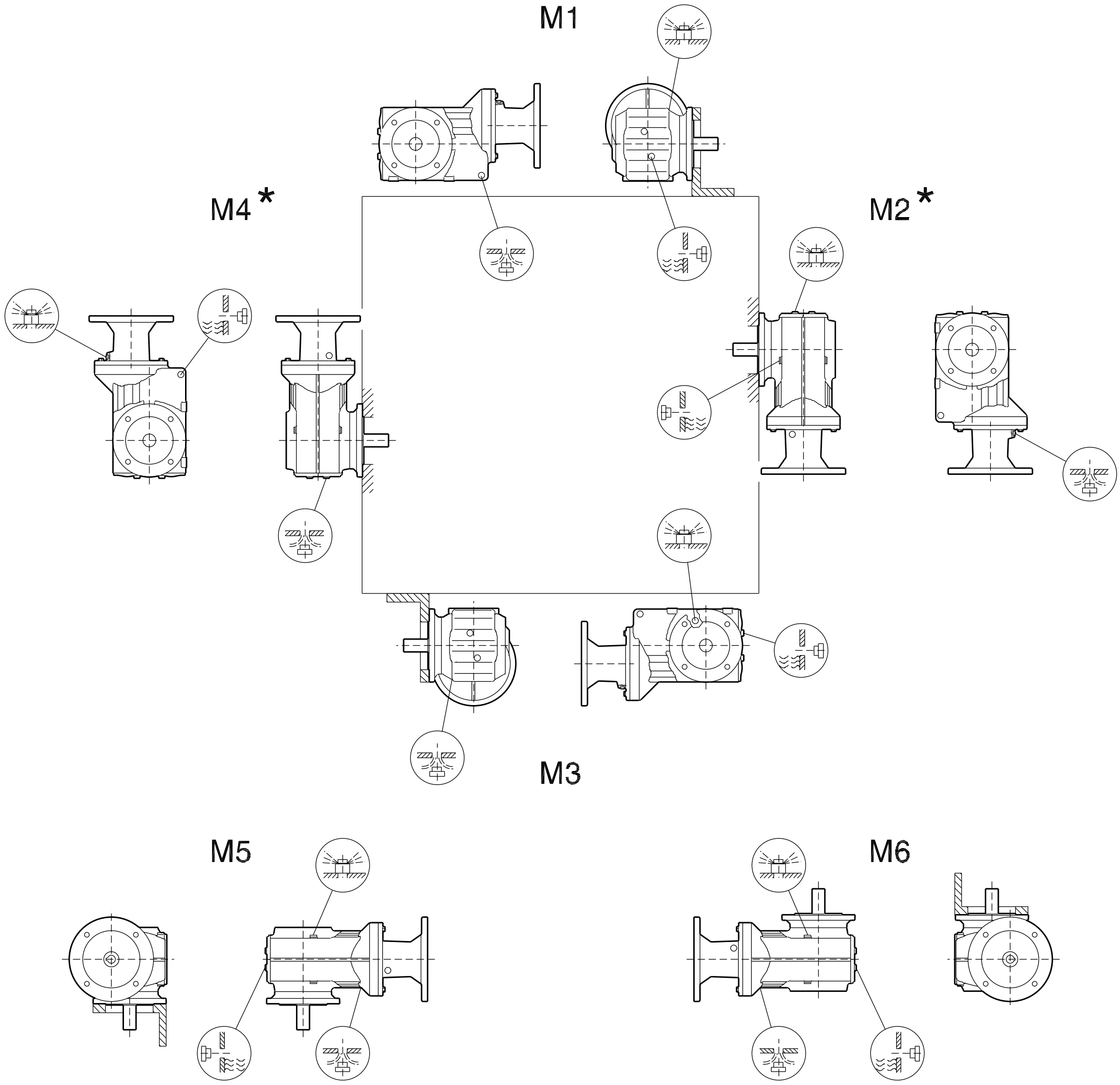
* (→ 🗎 47)

29154650/EN – 03/2020

KF/KAF/KHF39-49

33 250 00 17

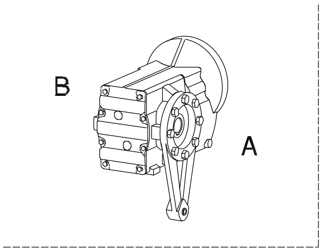




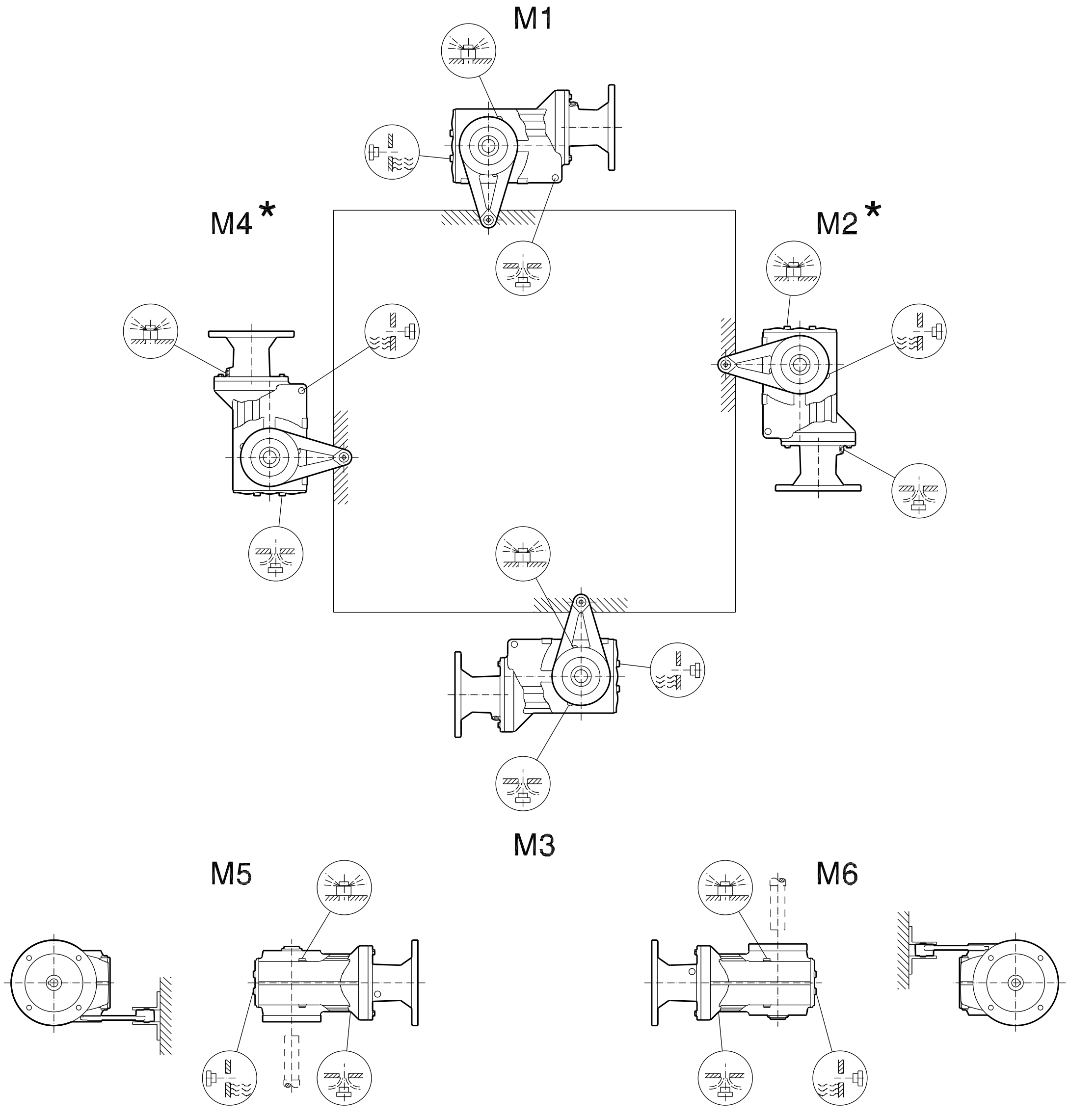
* (→ 🗎 47)

29154650/EN – 03/2020

KA/KH/KT39-49



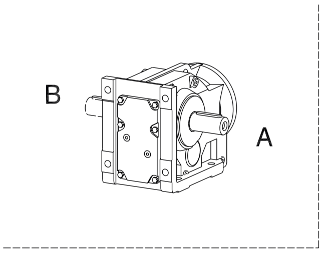
33 251 00 15

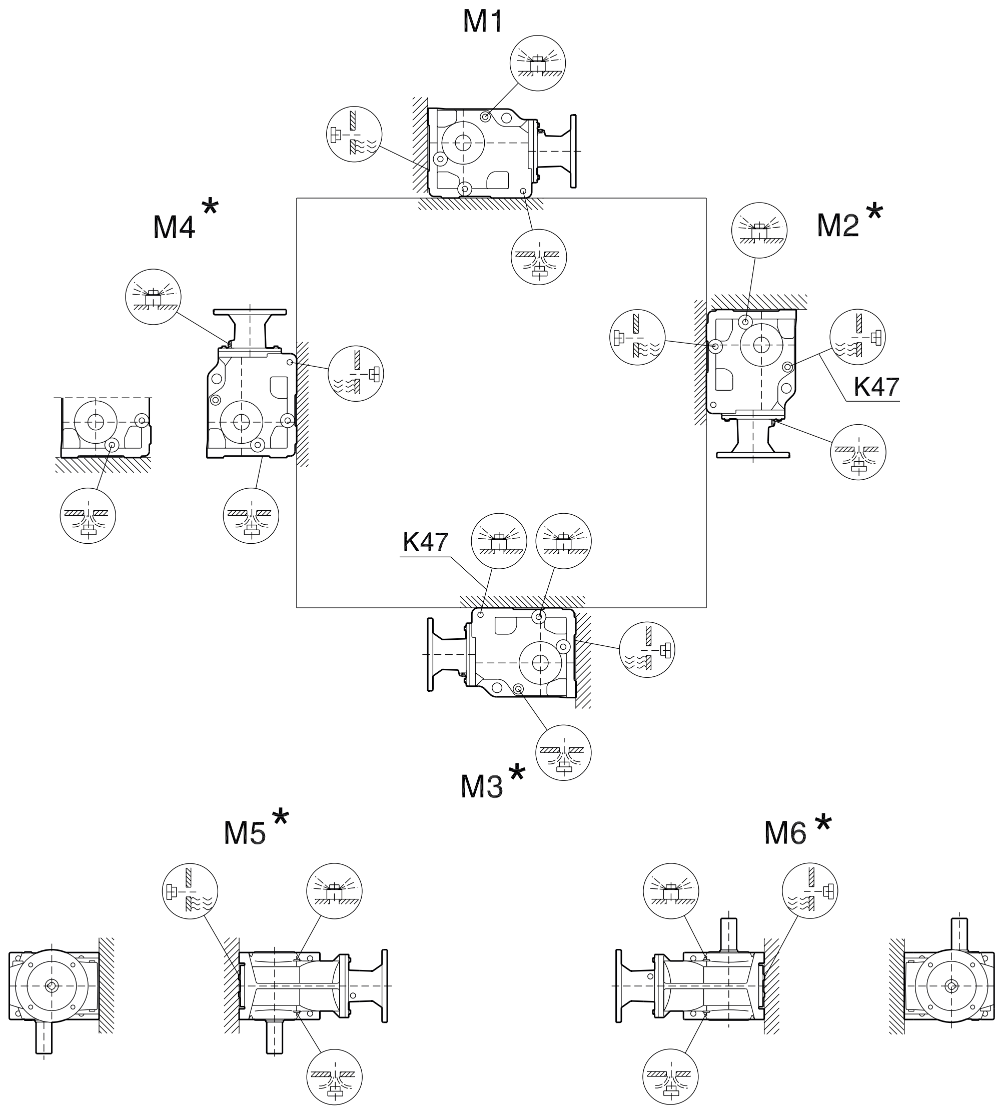


* (→ 🗎 47)

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

33 001 01 10





* (→ 🗎 47)

Observe the information in chapter "Overhung and axial loads – R, F, K, S, and W gear units" (→ 🗎 52).

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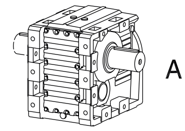
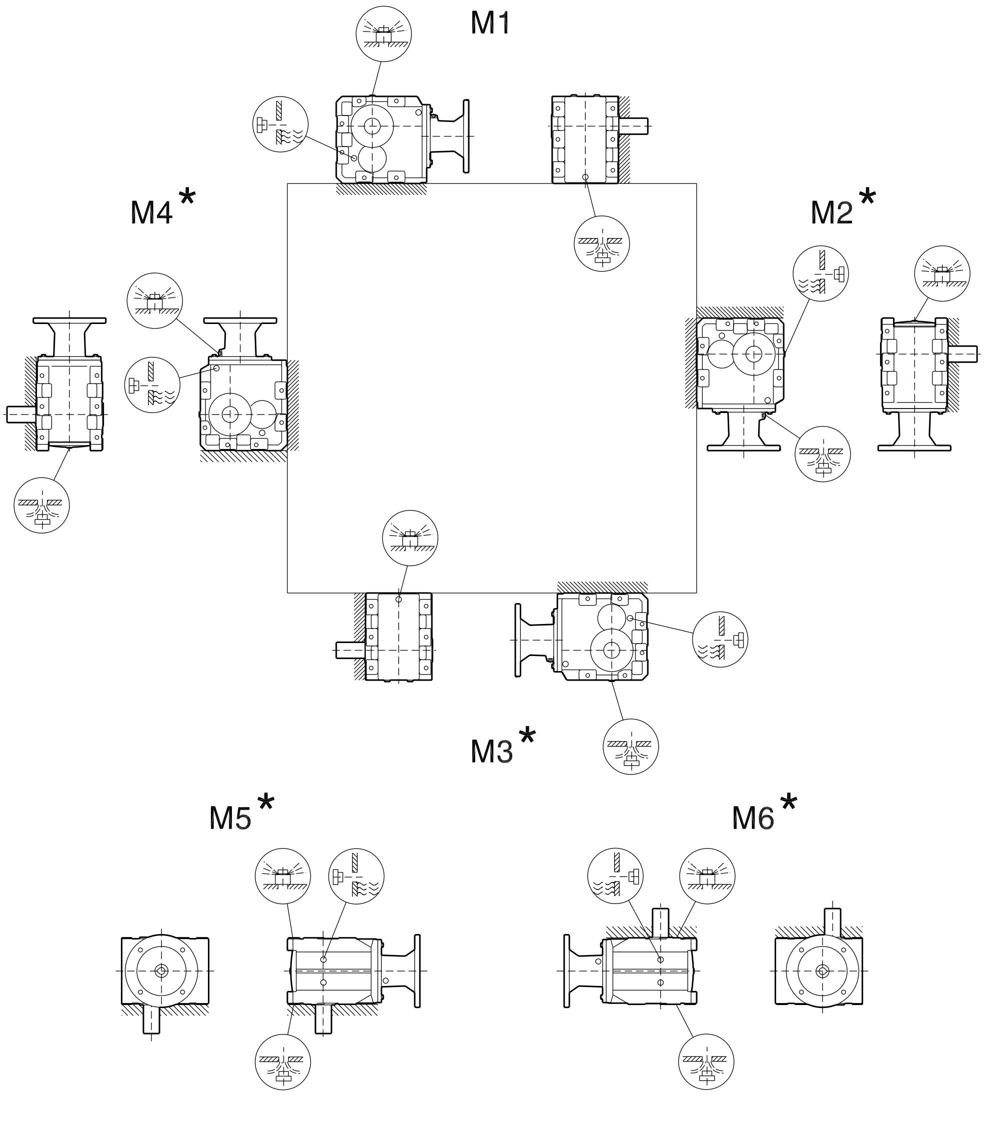
K167-187, KH167B-187B

33 002 01 10





* (→ 🗎 47)

Observe the information in chapter "Overhung and axial loads – R, F, K, S, and W gear units" (→ 🗎 52).

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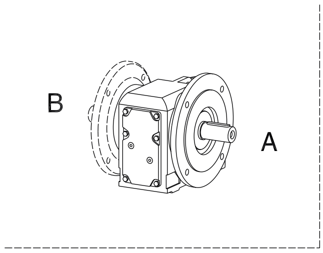
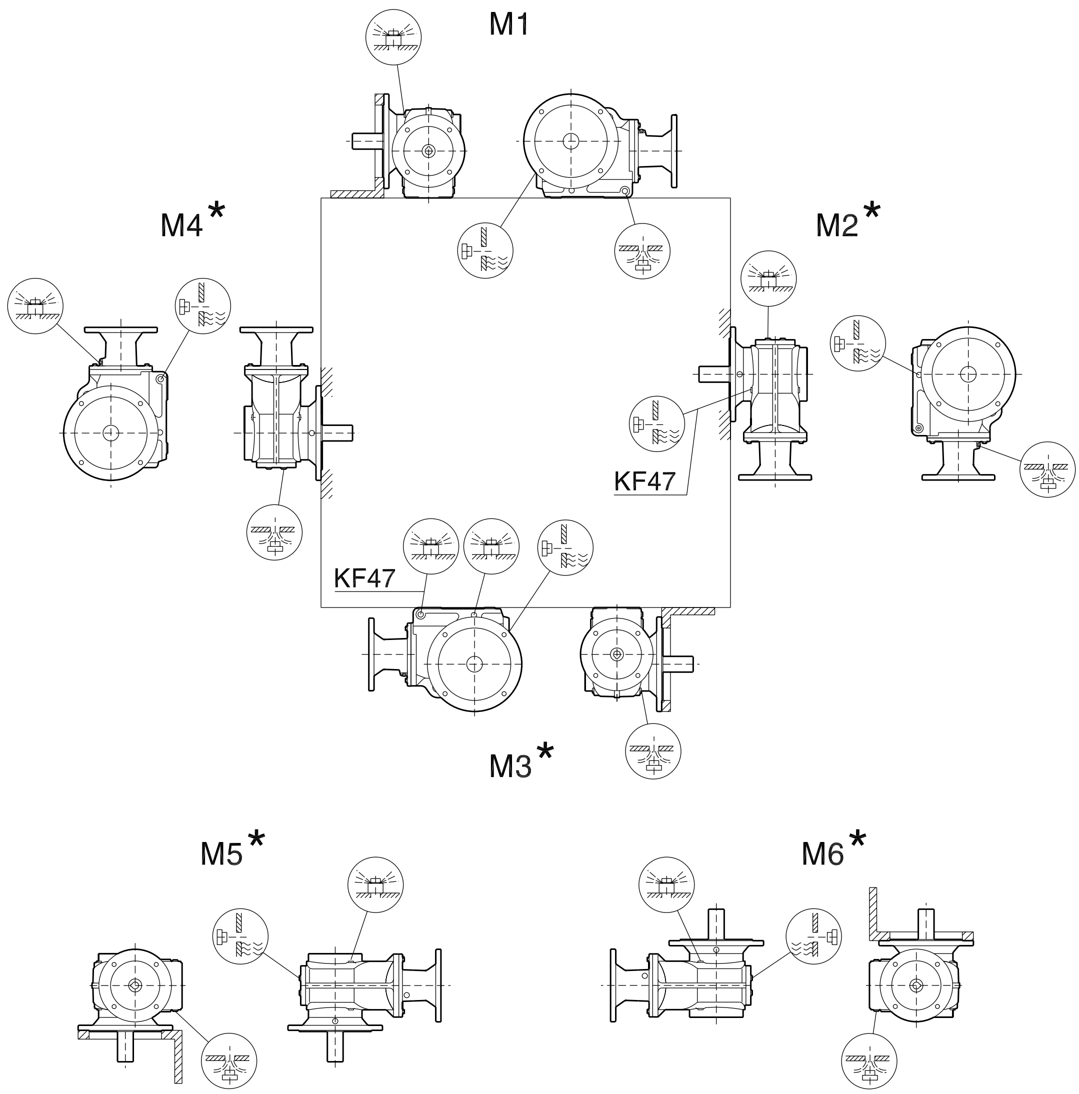
KF/KAF/KHF/KZ/KAZ/KHZ37–157, KVF/KVZ37–107, KM/KAM67–157

33 003 01 10



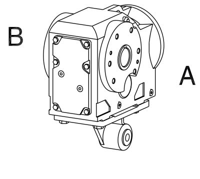


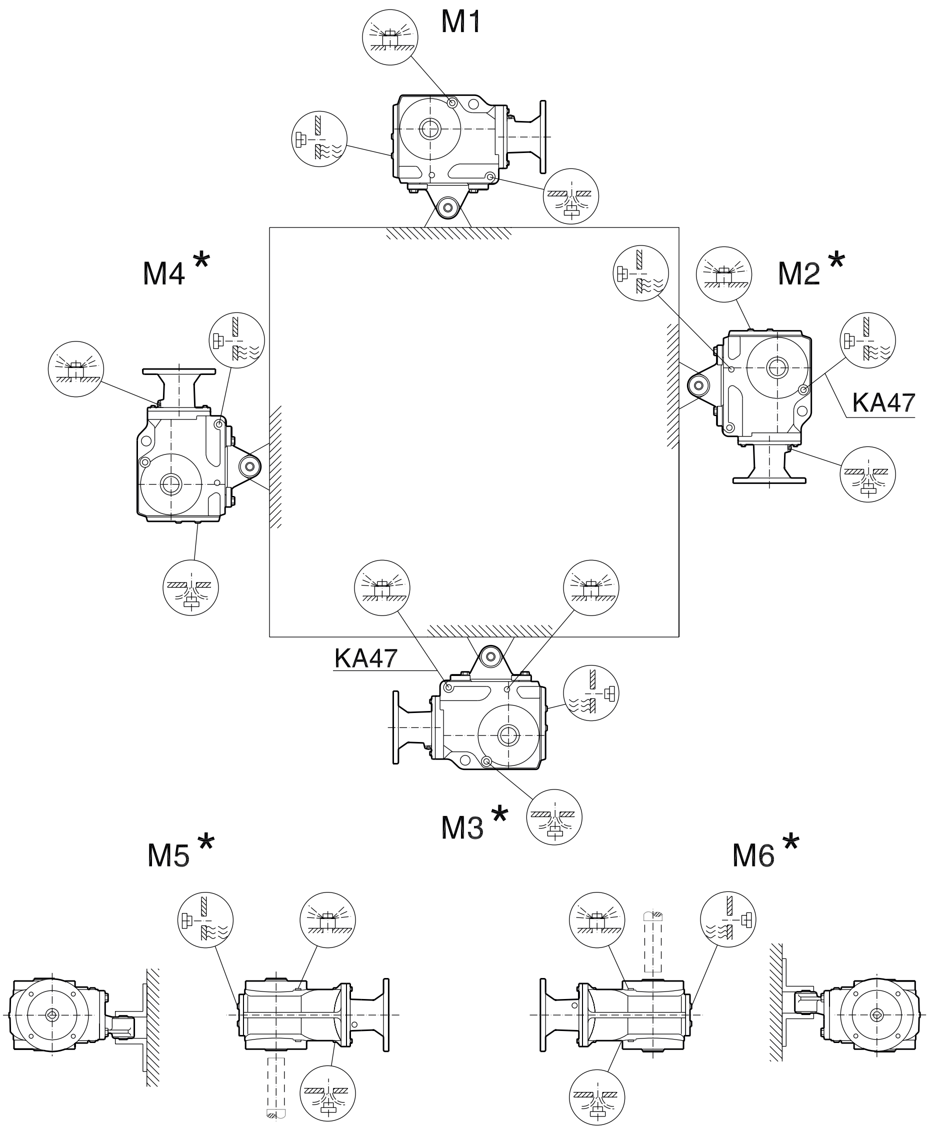
* (→ 🗎 47)

29154650/EN – 03/2020

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

33 004 01 10

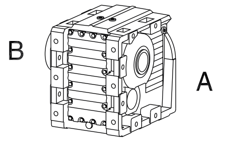


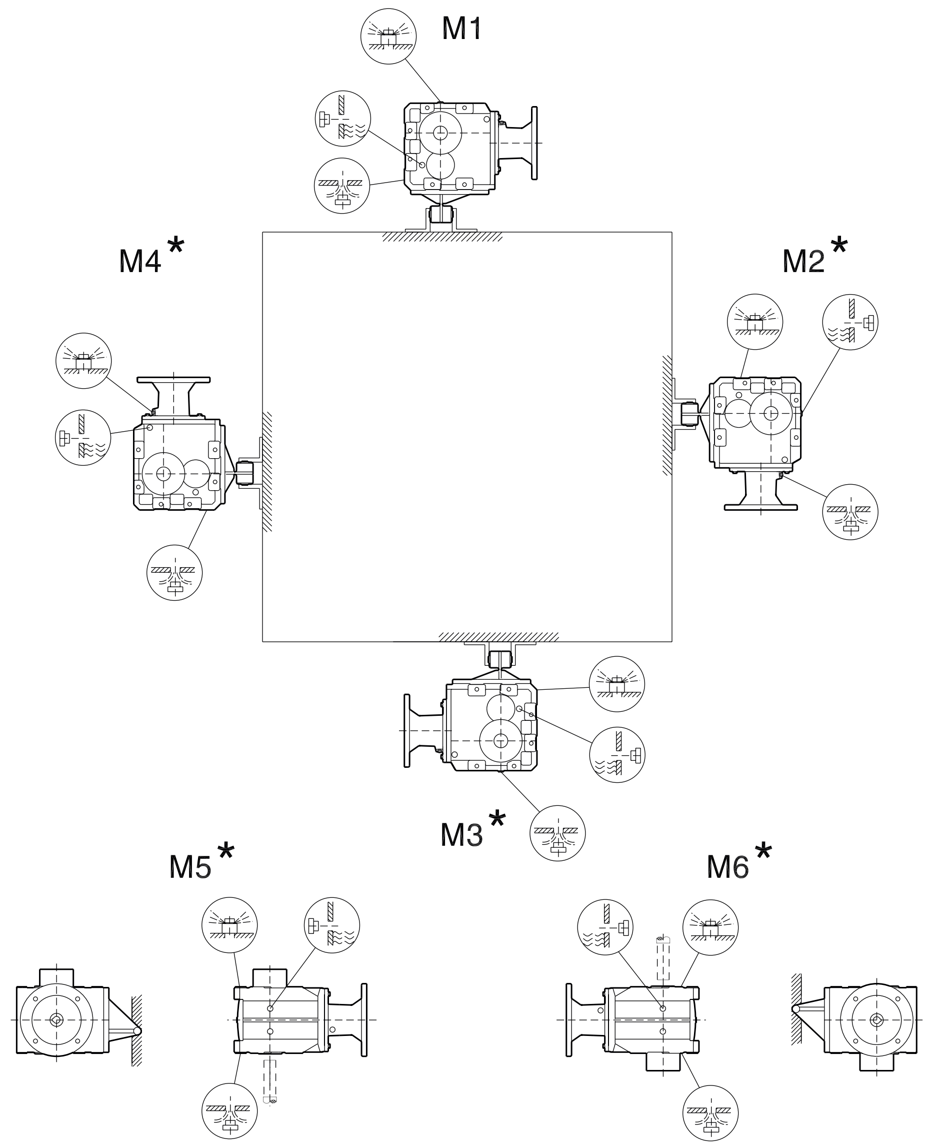


* (→ 🗎 47)

KH167-187

33 005 01 10

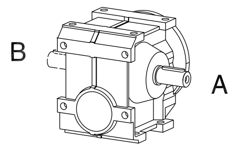




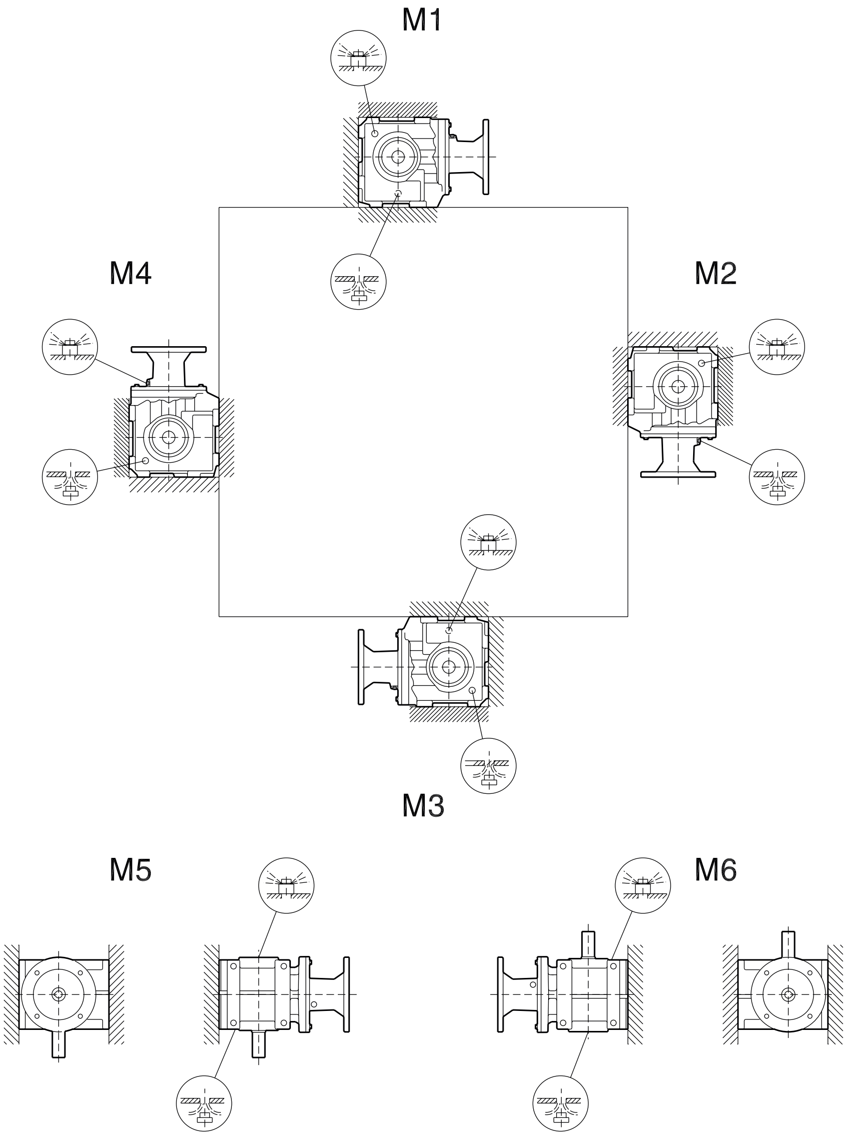
* (→ 🗎 47)

5.3.5 Mounting positions of helical-worm gear units

S37



02 001 01 10



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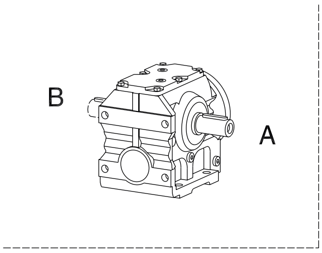
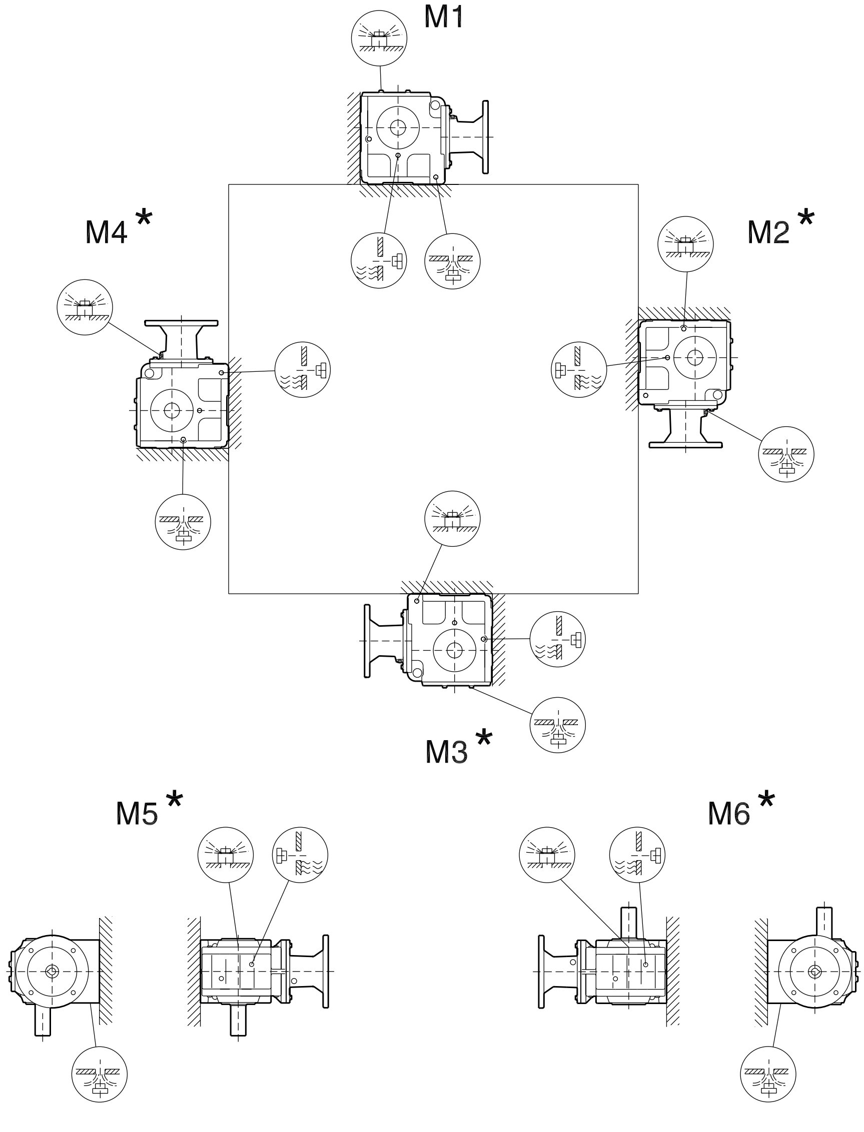
Observe the notes in chapter "Overhung and axial loads – R, F, K, S, and W gear units" (→ 🗎 52).

S47-S97

02 002 01 10





* (→ 🗎 47)

Observe the notes in chapter "Overhung and axial loads – R, F, K, S, and W gear units" (→ 🗎 52).

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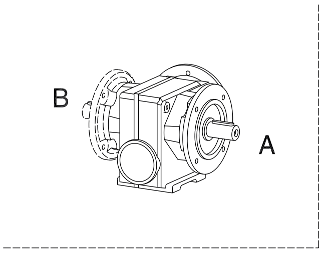
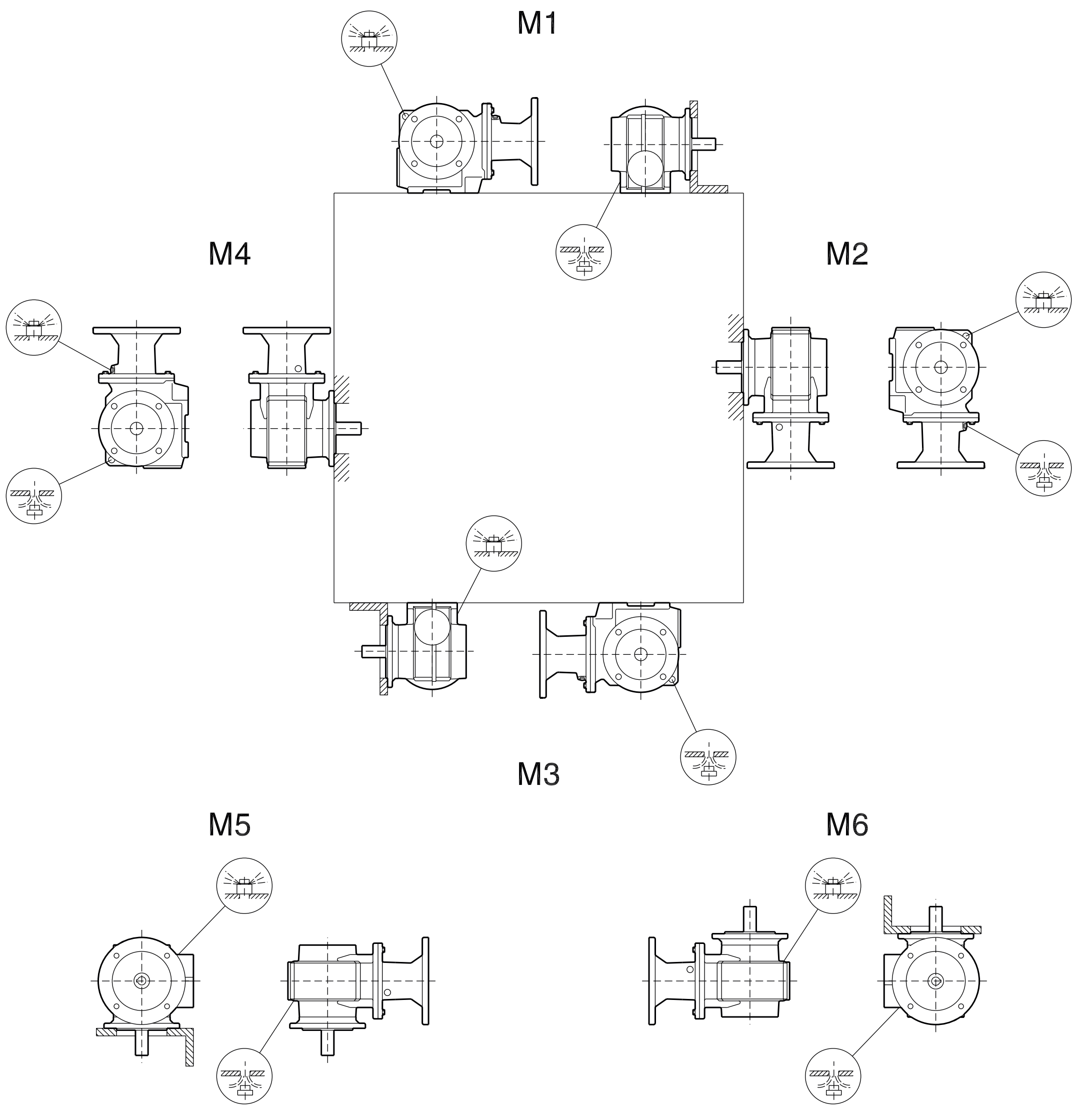
SF/SAF/SHF37

02 003 01 10





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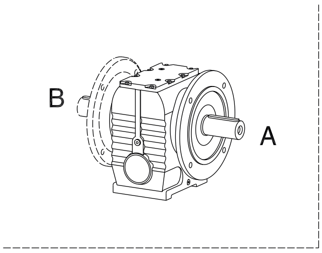
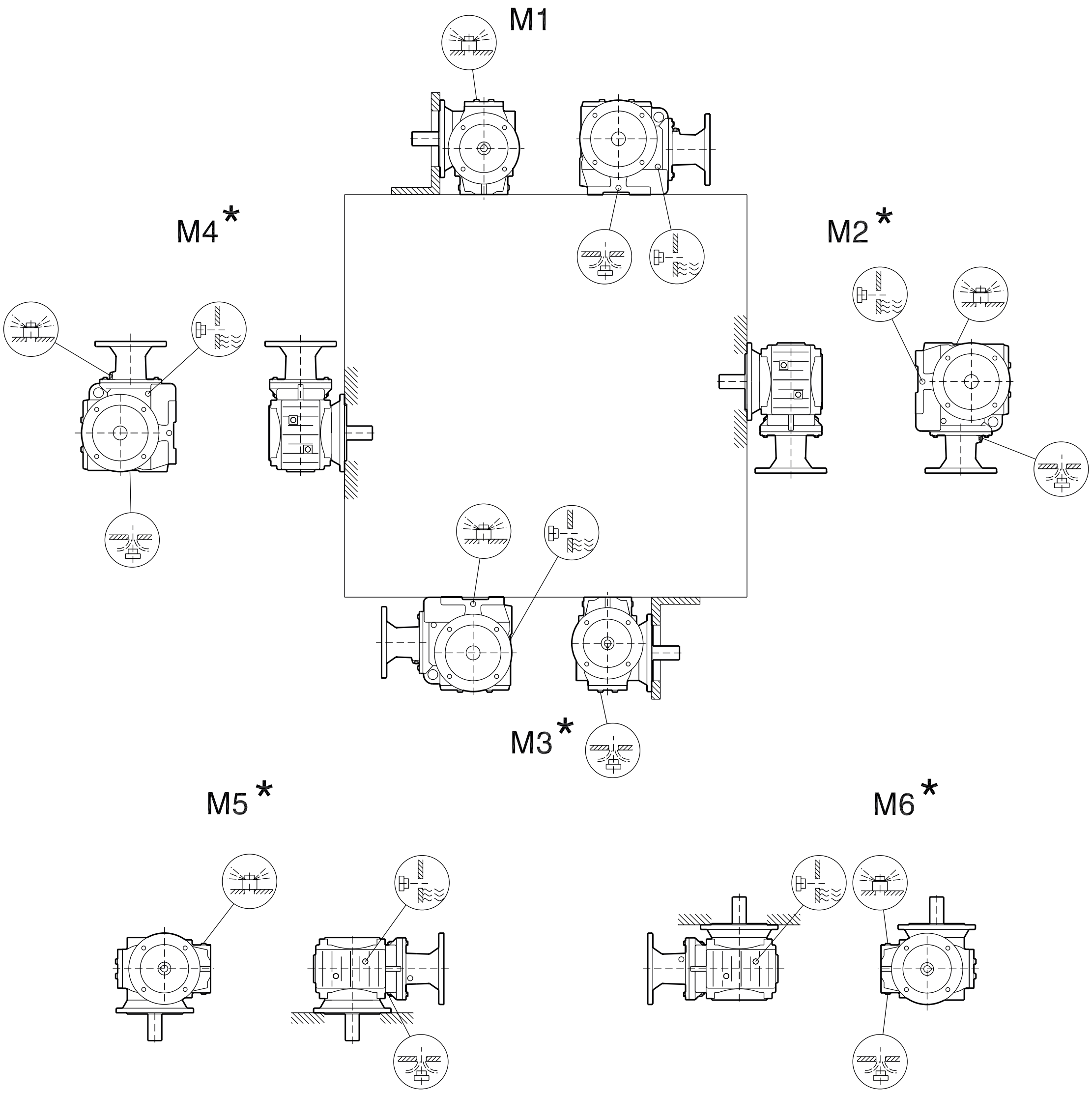
SF/SAF/SHF/SAZ/SHZ47-97

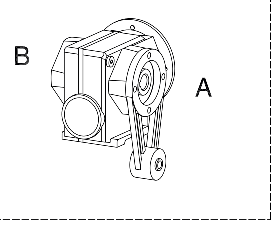
02 004 01 10



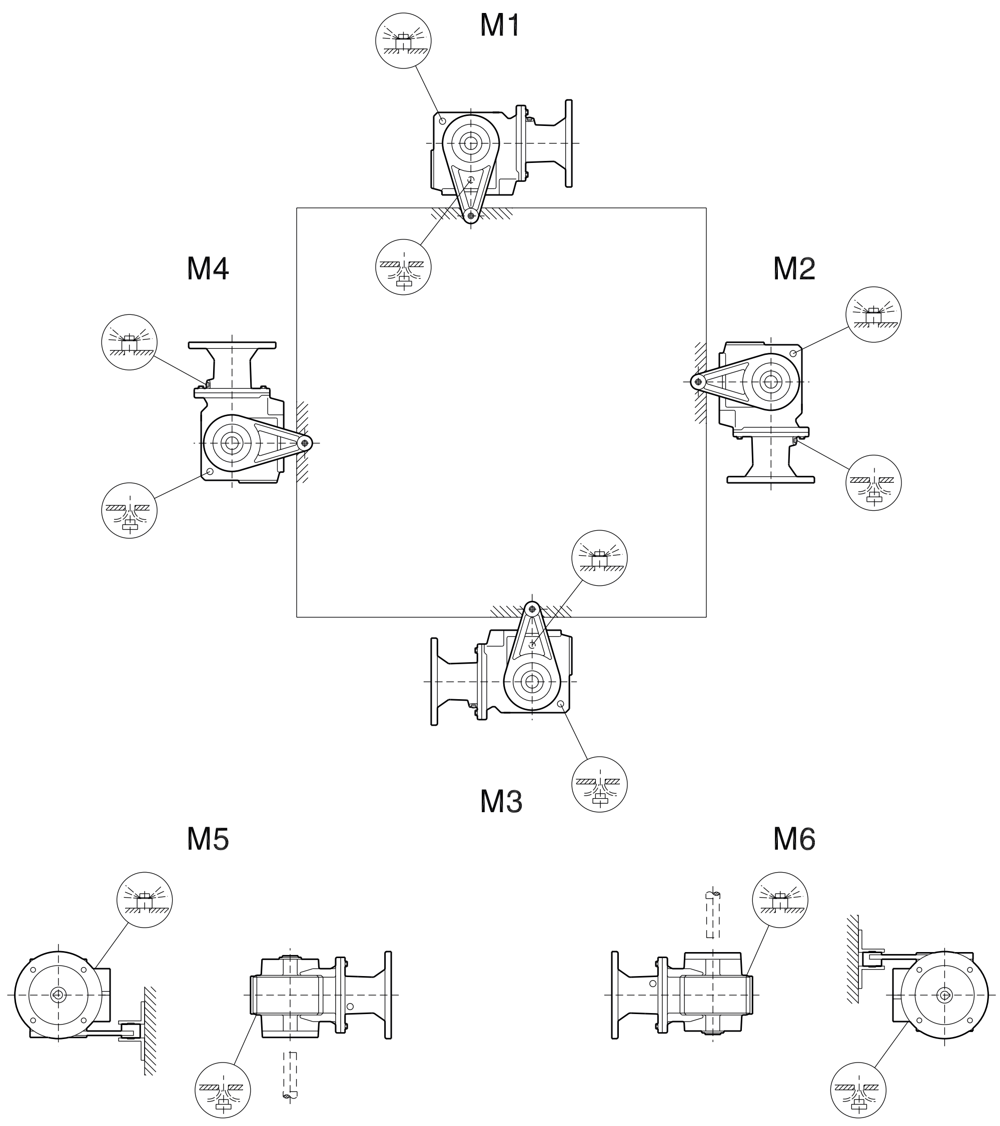


* (→ 🗎 47)

SA/SH/ST37

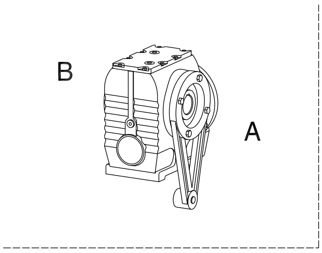


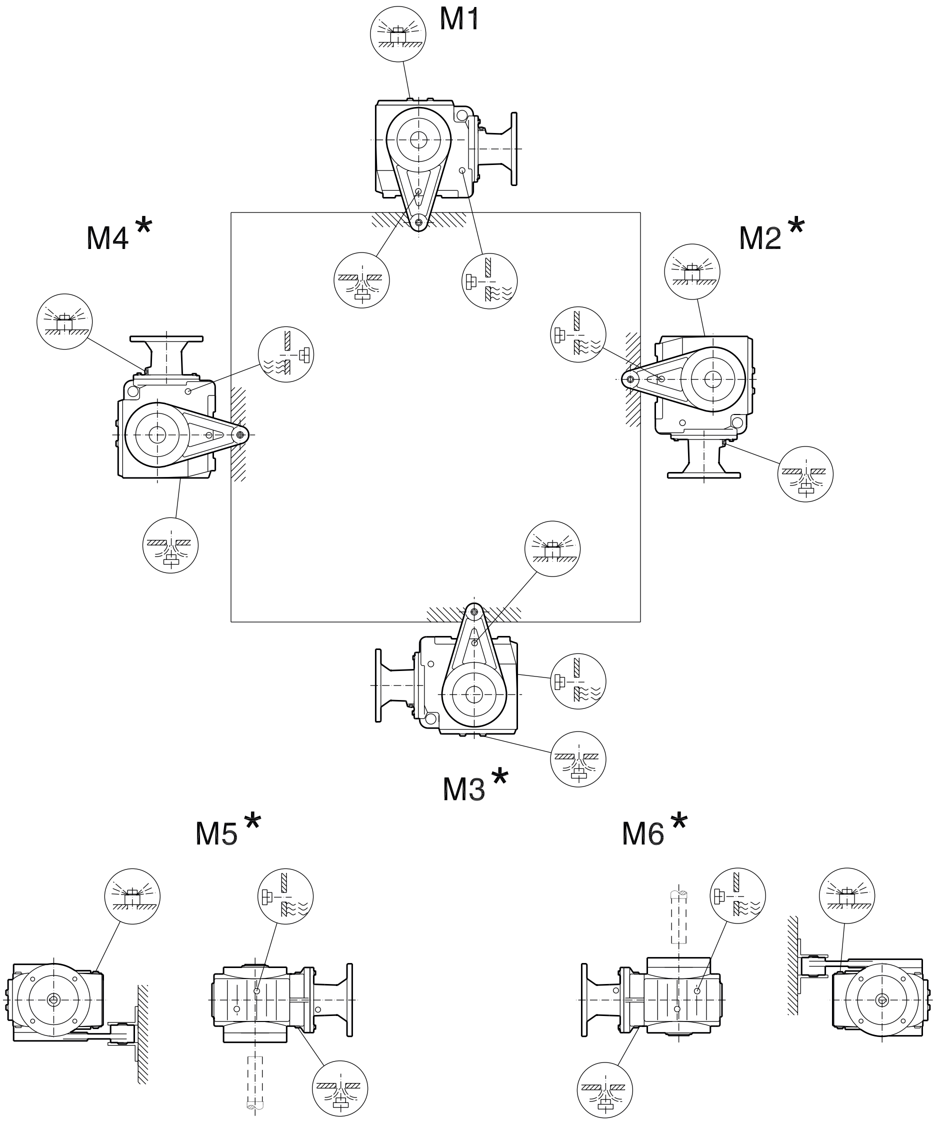
02 005 01 10



SA/SH/ST47-97

02 006 01 10





* (→ 🗎 47)

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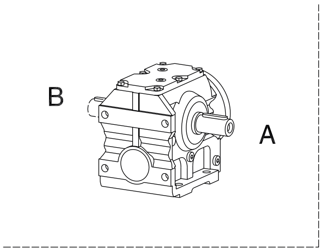
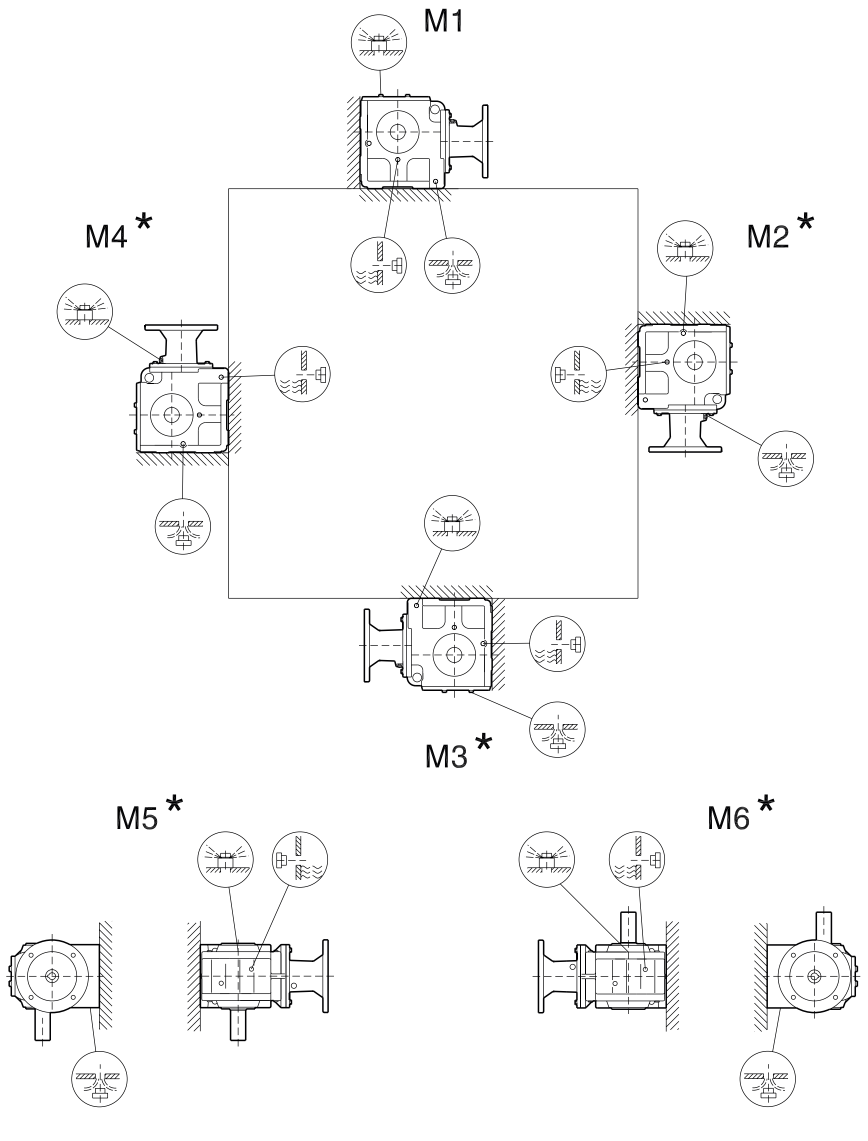
5.3.6 Mounting positions of SPIROPLAN® gearmotors

W/WA..B/WH37B-47B



02 002 01 10



* (→ 🗎 47)

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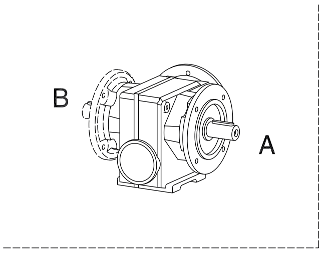
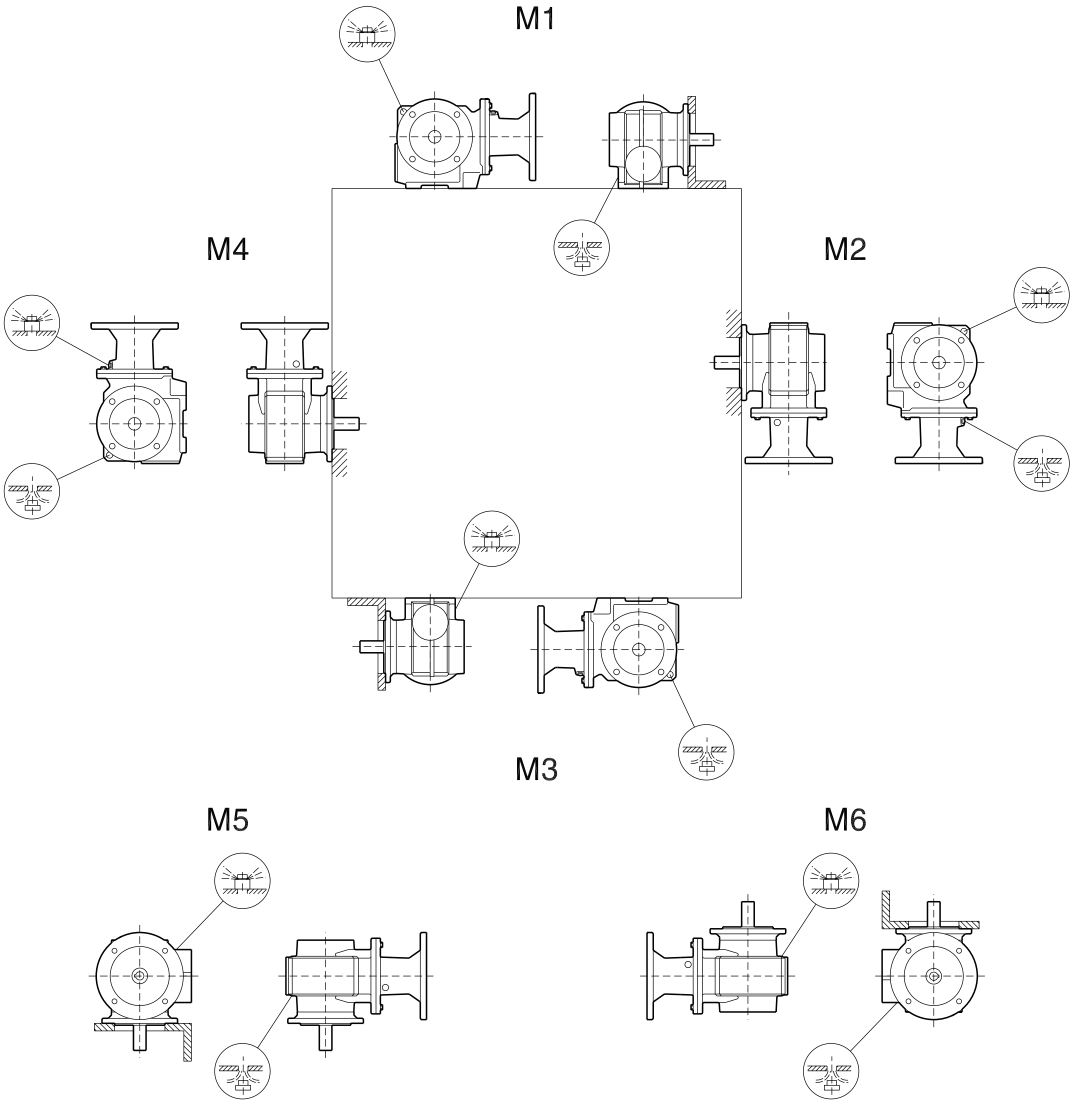
WF/WAF/WHF37-47



02 003 01 10



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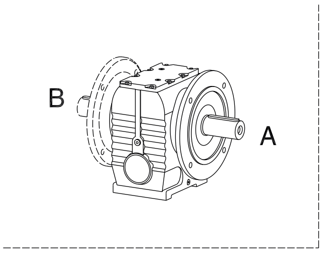
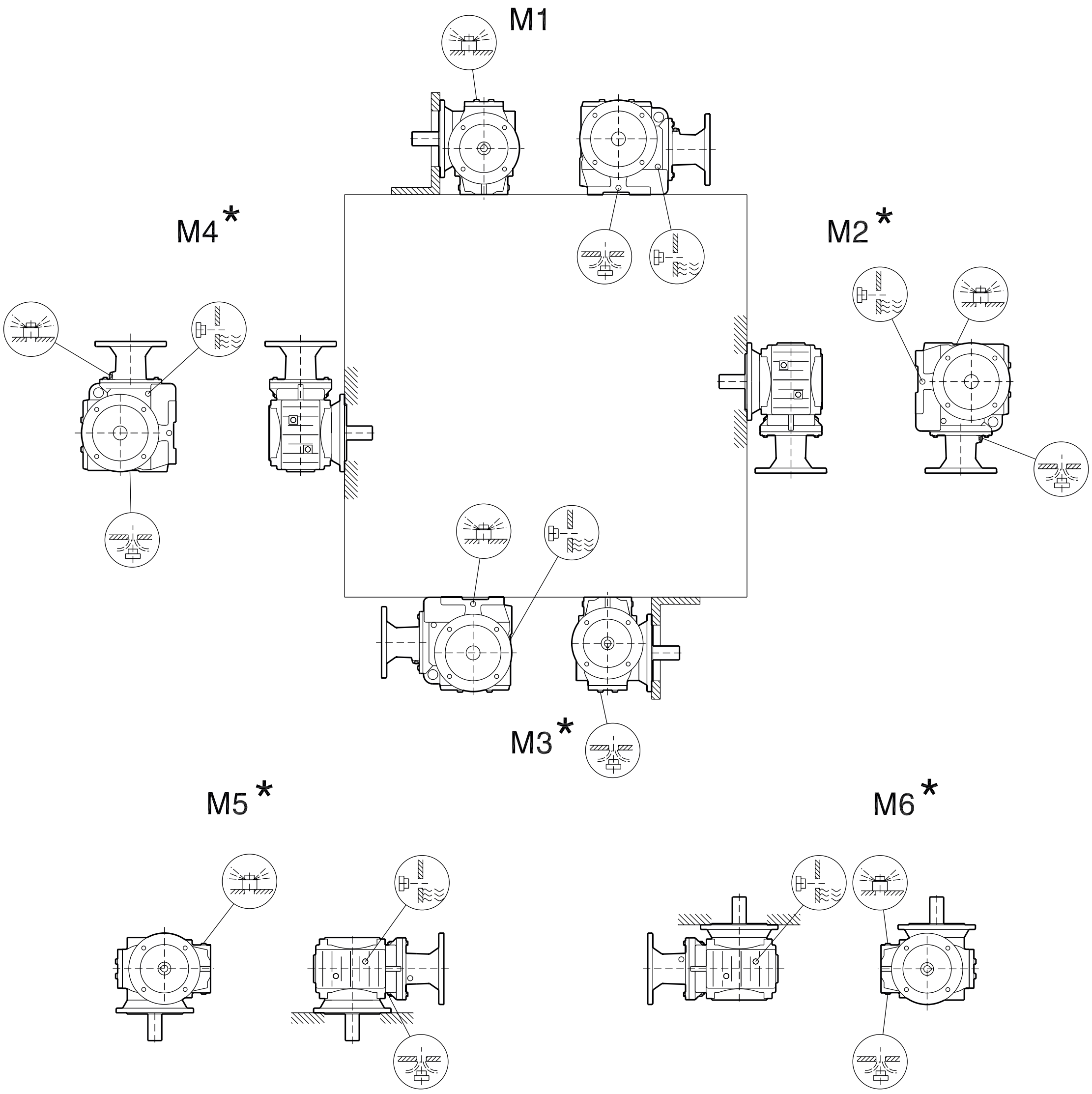
WA/WH/WT37-47



02 004 01 10



* (→ 🗎 47)

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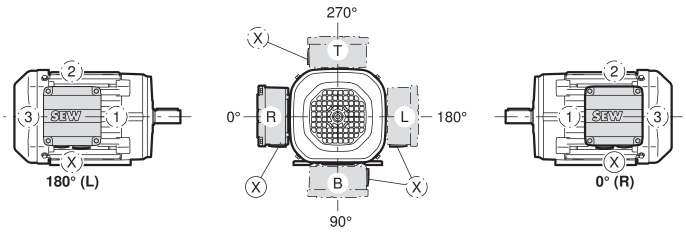
5.4 Mounting positions of AC motors

5.4.1 Motor terminal box position and cable entry



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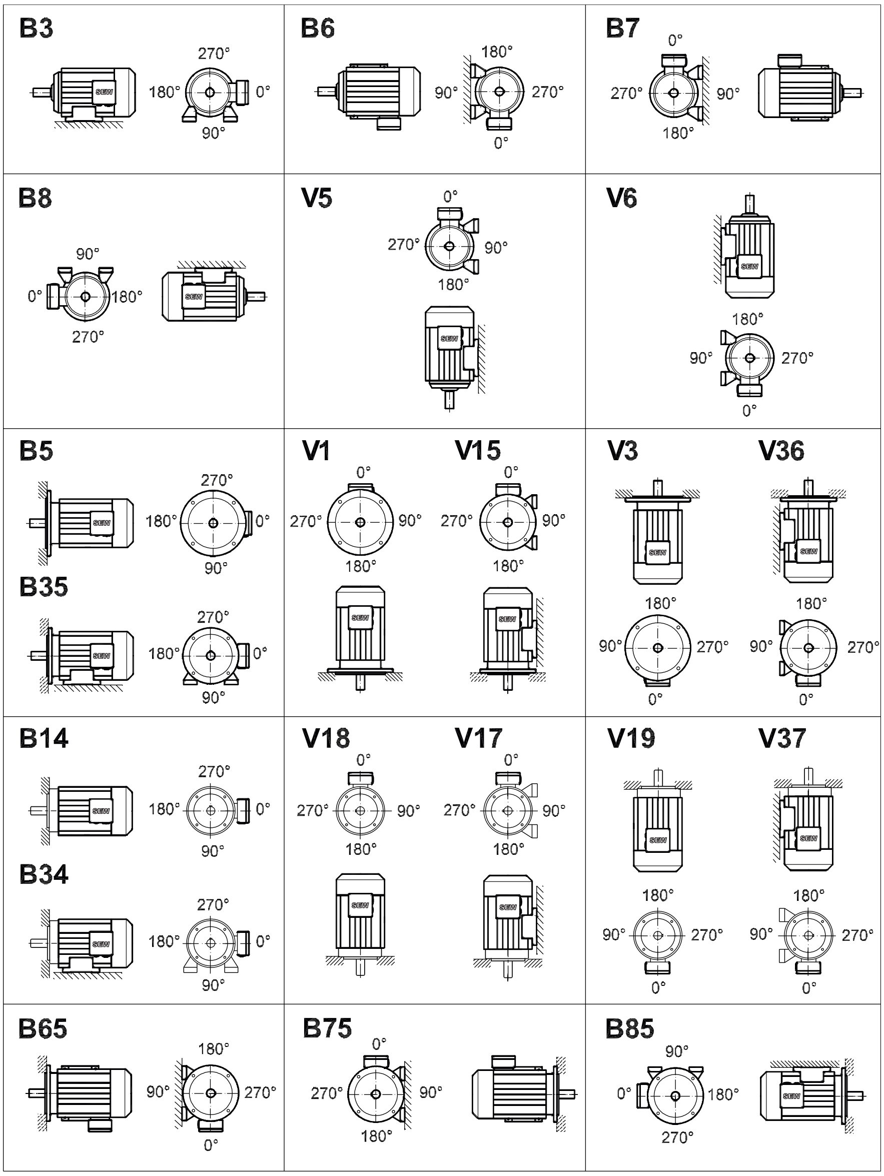
5.4.2 Mounting positions



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6 Design and operating notes

6.1 Lubricants

Unless a special arrangement is made, SEW-EURODRIVE supplies the drives with a lubricant fill adapted for the specific gear unit and mounting position. The decisive factor is the mounting position specified when ordering the drive. If you change the mounting position later, you must adapt the lubricant fill quantity accordingly.

6.1.1 SEW GearOil – Premium lubricant for gear units

With decades of experience in gear unit development and construction, as well as numerous customer applications, SEW-EURODRIVE has extensive tribological knowledge. Based on this knowledge and the results of long-term testing, SEW-EURODRIVE has developed a special formulation for our own premium gear unit oil – SEW GearOil. It provides the perfect protection for gear units from SEW-EURODRIVE.

By using high-quality base materials and additives as well as the appropriate logistics, SEW-EURODRIVE ensures the highest level of quality.

SEW GearOil increases the performance of all gear units, that is of standard, servo and industrial gear units. The premium gear oil reduces the friction between gears by creating a very good lubrication film. This increases the service life of lubricant and wear parts, such as seals and bearings. The high damage load stage of the SEW GearOil Base mineral lubricant (damage load stage 14) improves protection from fretting on the gearing. At the same time, SEW GearOil increases the efficiency of the gear unit and protects it from corrosion and damaging oil foaming. The "self-cleaning" properties of the lubricants prevent deposits as they bind water and dirt particles.

As an option, SEW GearOil can be selected as initial filling for gear units and gearmotors. The premium gear oil can be ordered in cans or barrels for service and maintenance purposes. In an unopened packing unit, SEW GearOil can be stored for up to 6 years.

Refer to the following table for the amounts available to order and the respective part numbers:

SEW GearOil	Part numbers			
	5 liter can	**20 liter can**	**205 liter barrel**	**1000 liter IBC**
Base 150 E1	–	03287866	03287742	03096750
Base 220 E1	–	03287858	03287734	03096688
Base 320 E1	–	03287831	03287726	03096742
Base 460 E1	–	03287823	03287718	03096734
Base 680 E1	–	03287815	03287696	03096726
Base 680 S E1	–	03287807	03287688	03096718
Poly 460 W E1	03096599	03287750	03287645	03096696
Poly 460 H1 E1	03287076	03288099	03287068	–

For additional information on using SEW GearOil lubricants and on the most important technical properties, refer to the lubricant tables in the chapter "Lubrication table (017511804)" (→ 🗎 113). Technical data sheets and safety data sheets are available from SEW-EURODRIVE on request.

6.1.2 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.

The table shows the lubricants recommended by SEW-EURODRIVE:

Area of operation	Ambient temperature	Manufacturer	Type
Standard	-40 °C to +80 °C	Fuchs	Renolit CX-TOM 15[1]
	-40 °C to +80 °C	Klüber	Petamo GHY 133 N
 2)	-40 °C to +40 °C	Bremer & Leguil	Cassida Grease GTS 2
 3)	-20 °C to +40 °C	Fuchs	Plantogel 2S

1) Bearing grease based on semi-synthetic base oil
2) Lubricant for the food processing industry
3) Easily biodegradable lubricant for environmentally sensitive areas

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 side):** Fill the cavities between the rolling elements two-thirds full with grease.

6.1.3 Lubrication table (017511804)

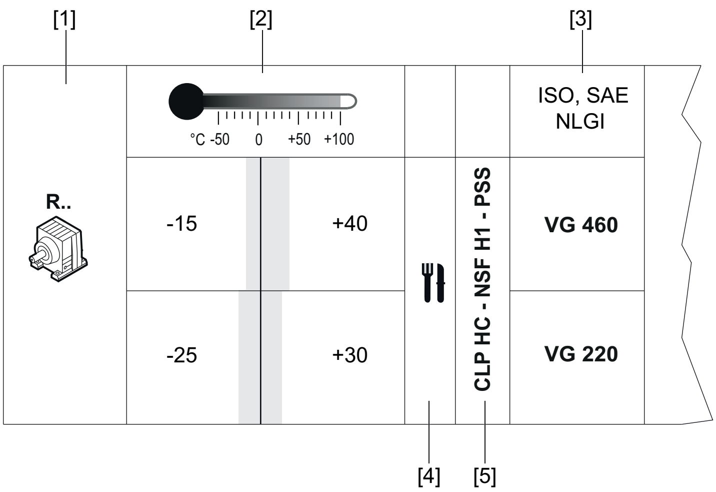
NOTICE

Damage to the gear unit due to improper lubricants.

Possible damage to property.

- The oil viscosity and type (mineral/synthetic) 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 you use other lubricants for the gear units and/or use the lubricants at temperatures outside the recommended temperature range, SEW-EURODRIVE does not assume liability.
- 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 lubricants and mineral lubricants.
- Oils of the same viscosity class from different manufacturers do not have the same characteristics. In particular, the minimally and maximally 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 is subject to dynamic change on the part of the lubricant manufacturers. For the latest information about the lubricants, visit: **www.sew-eurodrive.de/lubricants**.

Information on table structure



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

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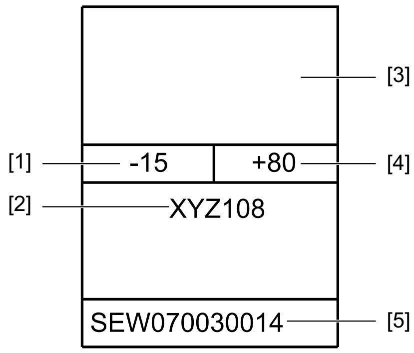
The specified ambient temperatures are guide values for selecting a suitable lubricant. The exact upper and lower temperature limits for project planning are specified in the table with the respective trade name. Bear in mind during project planning that the viscosity increases at low temperatures and that this might influence the starting behavior.

Information on the various lubricants



[1] Lowest oil sump temperature in °C, **going below this value during operation is not permitted**
[2] Trade name
[3] Manufacturer
[4] Highest oil sump temperature in °C. The service life will be considerably reduced when this temperature is exceeded. Adhere to the lubricant change intervals in chapter "Current lubricant change intervals" in the operating instructions.
[5] 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 regarding elastomer compatibility.

Approved application temperature range of the oil seals

In the low temperature range, oil seals can withstand shaft deflections (e. g. through overhung load) only to a limited extent. Especially avoid or limit pulsating or changing radial displacements of the shaft. Contact SEW-EURODRIVE, if required.

Oil seal material class	Permitted oil sump temperature
NBR	-40 °C to +80 °C
FKM	-25 °C to +115 °C
FKM-PSS	-25 °C to +115 °C

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

<table>
<tr><th colspan="3">Material class</th><th colspan="2">Manufacturer</th><th colspan="2">Material</th></tr>
<tr><td rowspan="6">S</td><td rowspan="2">1</td><td rowspan="2">NBR</td><td>1</td><td>Freudenberg</td><td></td><td>72 NBR 902</td></tr>
<tr><td>2</td><td>Trelleborg</td><td></td><td>4NV11</td></tr>
<tr><td colspan="6"></td></tr>
<tr><td rowspan="3">2</td><td rowspan="3">FKM</td><td rowspan="2">1</td><td rowspan="2">Freudenberg</td><td>1</td><td>75 FKM 585</td></tr>
<tr><td>2</td><td>75 FKM 170055</td></tr>
<tr><td>2</td><td>Trelleborg</td><td>1</td><td>VCBVR</td></tr>
</table>

Examples:

S11: Only the elastomer 72NBR902 of the Freudenberg company 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 symbols used in the lubricant table and explains what they mean:

Abbreviation/ symbol	Meaning
	Synthetic lubricant (marked gray)
	Mineral lubricant
CLP	Mineral oil
CLP PG	Polyglycol (PG)
CLP HC	Synthetic hydrocarbons – polyalphaolefin (PAO)
E	Ester-based oil
	Lubricant for the food processing industry and feed industry. Oils are NSF-H1 registered and compliant according to FDA 21 CFR § 178.3570
	Easily biodegradable oil for environmentally sensitive areas
	Lubricant suitable for ATEX environment.
1)	Helical-worm gear units with CLP-PG: Contact SEW-EURODRIVE
2)	Low-viscosity grease
3)	With appropriate measures, the gear units can be operated at ambient temperatures as low as -40 °C. Contact SEW-EURODRIVE.
RWDR	Oil seal
PSS	Oil seal type Premium Sine Seal (PSS). The addendum "PSS" for the lubricant type indicates compatibility with the sealing system.

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

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

Observe the thermal limit of the oil seal material, see chapter "Lubricant compatibility with oil seal" (→ 🗎 114).

R.. RES K..7 KES HK.. F..	[3] °C -50 0 +50 +100	[1]	[2]	ISO,SAE NLGI	SEW EURODRIVE	bremer & leguil	Castrol	FUCHS	Mobil®	KLÜBER LUBRICATION	Shell	TOTAL
[4]	-15 … +40		CLP	VG 220	-15 … +80 SEW GearOil Base 220 E1 / US1 SEW070040313		-15 … +80 Optigear BM 220	-15 … +80 Renolin CLP 220 Plus SEW070040313	-15 … +80 Mobilgear 600 XP 220 SEW070040313	-15 … +80 Klüberoil GEM 1-220 N	-15 … +80 Shell Omala SG 220	-15 … +80 Cater EP 220
	-20 … +30		CLP	VG 150	-20 … +80 SEW GearOil Base 150 E1 / US1 SEW070040313		-20 … +80 Optigear BM 150	-20 … +80 Renolin CLP150 Plus SEW070040313	-20 … +80 Mobilgear 600 XP 150 SEW070040313	-20 … +80 Klüberoil GEM 1-150 N	-20 … +80 Shell Omala SG 150	-20 … +80 Cater EP 150
[4]	-15 … +40		CLP PSS	VG 220	-15 … +80 SEW GearOil Base 220 E1 / US1 SEW0700400313							
	-20 … +30		CLP PSS	VG 150	-20 … +80 SEW GearOil Base 150 E1 / US1 SEW070040313							

[1] Note on special approvals
[2] Oil type
[3] Ambient temperature range
[4] Standard

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

Observe the thermal limit of the oil seal material, see chapter "Lubricant compatibility with oil seal" (→ 🗎 114).

	[3] °C -50 0 +50 +100	[1]	[2]	ISO,SAE NLGI	SEW EURODRIVE	bremer & leguil	Castrol	FUCHS	Mobil	KLÜBER LUBRICATION	Shell	TOTAL
R.. RES K..7 KES HK.. F..	[4] -25 … +80	Ex	CLP PG	VG 220	-25 +115 SEW GearOil Poly 220 E1 SEW0700400313		-25 +115 Optigear Synthetic 800/220	-25 +115 Renolin PG220	-25 +115 Mobil GLyoyle 220	-25 +115 Klübersyth GH 6-220	-25 +115 Shell Omala S4 WE 220	-25 +115 Cater SY 220
	-30 … +70			VG 150	-30 +115 SEW GearOil Poly 150 E1 SEW0700400313					-30 +115 Klübersyth UH1-150		
	[4] -25 … +80	Ex	CLP PG PSS	VG 220	-25 +115 SEW GearOil Poly 220 E1 SEW0700400313					-25 +115 Klübersyth GH 6-220		
	-30 … +70			VG 150	-30a +115 SEW GearOil Poly 150 E1 SEW0700400313					-30 +115 Klübersyth UH1 6 - 150		
	[4] -25 … +40	Ex	CLP PG NSF H1 (-PSS)	VG 220	-25 +95 SEW GearOil Poly 220 H1 E1 SEW070040313					-25 +95 Klübersyth UH1 6 - 220		
	-20 … +80			VG 460	-20 +115 SEW GearOil Poly 460 H1 E1 SEW070040313					-20 +115 Klübersyth UH1 6 - 460		
	-30 … +30			VG 150	-30 +80 SEW GearOil Poly 150 H1 E1 SEW070040313					-30 +80 Klübersyth UH1 6 - 150		

[1] Note on special approvals
[2] Oil type
[3] Ambient temperature range
[4] Standard

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

Observe the thermal limit of the oil seal material, see chapter "Lubricant compatibility with oil seal" (→ 🗎 114).

Gear units	[3] Ambient temperature °C	[1]	[2]	ISO, SAE NLGI	SEW-EURODRIVE	bremer & leguil	Castrol	FUCHS	Mobil®	KLÜBER LUBRICATION	Shell	TOTAL
R.., RES, K..7, KES, HK.., F..	[4] -25 … +60	Ex	CLP HC	VG 220 3)	-25 … +110 SEW GearOil Synth 220 E1 SEW070040313			-25 … +110 Renolin Unisyn CLP220	-25 … +110 Mobil SHC 630	-25 … +110 Klübersynth GEM 4-220 N	-25 … +110 Shell Omala S4 GX 220	-25 … +110 Cater SH 220
	-30 … +50	Ex	CLP HC	VG 150 3)	-30 … +100 SEW GearOil Synth 150 E1 SEW070040313			-30 … +95 Renolin Unisyn CLP150	-30 … +100 Mobil SHC 629	-30 … +100 Klübersynth GEM 4-150 N	-30 … +100 Shell Omala S4 GX 150	-30 … +95 Cater SH 150
	-35 … +20	Ex	CLP HC	VG 68				-35 … +75 Renolin Unisyn CLP68	-40 … +75 Mobil SHC 626		-40 … +75 Shell Omala S4 GX 68	
	-40 … 0	Ex	CLP HC	VG 32				-40 … +50 Renolin Unisyn OL32	-40 … +50 Mobil SHC 624			-40 … +50 Dacnis SH 32
	[4] -25 … +60	Ex	CLP HC - PSS	VG 220 3)	-25 … +110 SEW GearOil Synth 220 E1 SEW070040313				-25 … +110 Mobil SHC 630			
	-30 … +50	Ex	CLP HC - PSS	VG 150 3)	-30 … +100 SEW GearOil Synth 150 E1 SEW070040313				-30 … +100 Mobil SHC 629			

[1] Note on special approvals
[2] Oil type
[3] Ambient temperature range
[4] Standard

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

Observe the thermal limit of the oil seal material, see chapter "Lubricant compatibility with oil seal" (→ 🗎 114).

R.. RES K..7 KES HK.. F..	[3] °C -50 0 +50 +100	[1]	[2]	ISO,SAE NLGI	SEW EURODRIVE	bremer & leguil	Castrol	FUCHS	Mobil®	KLÜBER LUBRICATION	Shell	TOTAL
	[4] -15 … +40		CLP HC - NSF H1	VG 460		-15 +100 Cassida Fluid GL 460	-15 +100 Optileb GT 460 SEW070040013	-15 +100 Cassida Fluid GL 460		-15 +105 Klüberoil 4UH1-460 N		
	-25 … +30		CLP HC - NSF H1	VG 220		-25 +80 Cassida Fluid GL 220	-25 +80 Optileb GT 220 SEW070040013	-25 +80 Cassida Fluid GL 220		-25 +80 Klüberoil 4UH1-220 N		
	-35 … 0		CLP HC - NSF H1	VG 68		-40 +50 Cassida Fluid HF 68	-35 +50 Optileb HY 68	-40 +50 Cassida Fluid HF 68		-35 +50 Klüberoil 4UH1-68 N		
	-40 … -10		CLP HC - NSF H1	VG 32		-40 +30 Cassida Fluid HF 32	-40 +30 Optileb HY 32	-40 +30 Cassida Fluid HF 32		-40 +30 KlüberSummit HySynFG32		
	[4] -15 … +40		CLP HC - NSF H1 - PSS	VG 460			-15 +100 Optileb GT 460 SEW070040013					
	-25 … +30		CLP HC - NSF H1 - PSS	VG 220			-25 +80 Optileb GT 220 SEW070040013					
	-20 … +40		E	VG 460				-20 +80 Plantogear 460 S S2		-20 +80 Klüberbio CA2-460 S2		

[1] Note on special approvals
[2] Oil type
[3] Ambient temperature range
[4] Standard

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Lubricant table for K..9 gear units

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

Observe the thermal limit of the oil seal material, see chapter "Lubricant compatibility with oil seal" (→ 🗎 114).

K.9	[3] °C -50 0 +50 +100	[1]	[2]	ISO,SAE NLGI	SEW EURODRIVE	bremer & leguil	Castrol	FUCHS	Mobil®	KLÜBER LUBRICATION	Shell	TOTAL
	[4] -20 … +60	Ex	CLP PG (-PSS)	VG 460	-20 … +95 SEW GearOil Poly 460 E1 SEW 070040313					-20 … +95 Klübersynth GH 6-460		
	-15 … +80			VG 680						-15 … +115 Klübersynth GH 6-680		
	-25 … +40			VG 220	-25 … +70 SEW GearOil Poly 220 E1 SEW 070040313					-25 … +70 Klübersynth GH 6-220		
	-30 … +30			VG 150	-30 … +60 SEW GearOil Poly 150 E1 SEW 070040313					-30 … +60 Klübersynth GH 6-150		
	[4] -20 … +60	Ex	CLP PG - NSF H1 (-PSS)	VG 460	-20 … +95 SEW GearOil Poly 460 H1 E1 SEW 070040313					-20 … +95 Klübersynth UH1 6-460		
	-15 … +80			VG 680						-15 … +115 Klübersynth UH1 6-680		
	-25 … +40			VG 220	-25 … +70 SEW GearOil Poly 220 H1 E1 SEW 070040313					-25 … +70 Klübersynth UH1 6-220		
	-30 … +30			VG 150	-30 … +60 SEW GearOil Poly 150 H1 E1 SEW 070040313					-30 … +60 Klübersynth UH1 6-150		

[1] Note on special approvals
[2] Oil type
[3] Ambient temperature range
[4] Standard

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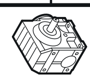
Lubricant table for S.. gear units

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

Observe the thermal limit of the oil seal material, see chapter "Lubricant compatibility with oil seal" (→ 🗎 114).

	[3] °C	[1]	[2]	ISO,SAE NLGI	SEW EURODRIVE	bremer & leguil	Castrol	FUCHS	Mobil®	KLÜBER LUBRICATION	Shell	TOTAL
S.. HS.. 	[4] 0 … +40		CLP	VG 680	0 … +80 SEW GearOil Base 680 S E1 SEW070040313		0 … +80 Optigear BM 680	0 … +80 Renolin CLP 680 Plus SEW070040313	0 … +80 Mobilegear 600 XP 680 SEW070040313	0 … +80 Klüberoil GEM 1-680 N	0 … +80 Shell Omala SG 680	0 … +80 Carter EP 680
	-20 … +25		CLP	VG 150	-20 … +65 SEW GearOil Base 150 E1 / US1 SEW070040313		-20 … +65 Optigear BM150	-20 … +65 Renolin CLP 150 Plus SEW070040313	-20 … +65 Mobilegear 600 XP 150 SEW070040313	-20 … +65 Klüberoil GEM 1-150 N	-20 … +65 Shell Omala SG 150	-20 … +65 Carter EP 150
	[4] 0 … +40		CLP - PSS	VG 680	0 … +80 SEW GearOil Base 680 S E1 SEW070040313							
	-20 … +25		CLP - PSS	VG 150	-20 … +65 SEW GearOil Base 150 E1 / US1 SEW070040313							

[1] Note on special approvals
[2] Oil type
[3] Ambient temperature range
[4] Standard

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

Observe the thermal limit of the oil seal material, see chapter "Lubricant compatibility with oil seal" (→ 🗎 114).

Gear unit	[3] °C	[1]	[2]	ISO,SAE NLGI	SEW EURODRIVE	bremer & leguil	Castrol	FUCHS	Mobil®	KLÜBER LUBRICATION	Shell	TOTAL
S.. HS..	[4] -20 … +80	Ex	CLP PG	VG 460 1)	-20 … +115 SEW GearOil Poly 460 E1 SEW070040313					-20 … +115 Klübersyth GH 6-460		
	-25 … +60			VG 220 1)	-25 … +100 SEW GearOil Poly 220 E1 SEW070040313		-25 … +90 Optigear Synthetic 800/220	-25 … +95 Renolin PG 220	-25 … +100 Mobile Glygoyle 220	-25 … +100 Klübersyth GH 6-220	-25 … +90 Shell Omala S4 WE 220	-25 … +90 Caeter SY 220
	-30 … +40			VG 150 1)	-30 … +85 SEW GearOil Poly 150 E1 SEW070040313					-30 … +85 Klübersyth GH 6-150		
	[4] -20 … +80	Ex	CLP PG - PSS	VG 460 1)	-20 … +115 SEW GearOil Poly 460 E1 SEW070040313					-20 … +115 Klübersyth GH 6-460		
	-25 … +60			VG 220 1)	-25 … +100 SEW GearOil Poly 220 E1 SEW070040313					-25 … +100 Klübersyth GH 6-220		
	-30 … +40			VG 150 1)	-30 … +85 SEW GearOil Poly 150 E1 SEW070040313					-30 … +85 Klübersyth GH 6-150		
	[4] -20 … +70	Ex	CLP PG - NSF H1 (- PSS)	VG 460 1)	-20 … +110 SEW GearOil Poly 460 H1 E1 SEW070040313					-20 … +110 Klübersyth UH1 6-460		
	-25 … +40			VG 220 1)	-25 … +80 SEW GearOil Poly 220 H1 E1 SEW070040313					-25 … +80 Klübersyth UH1 6-220		
	-30 … +20			VG 150 1)	-30 … +65 SEW GearOil Poly 150 H1 E1 SEW070040313					-30 … +65 Klübersyth UH1 6-150		

[1] Note on special approvals
[2] Oil type
[3] Ambient temperature range
[4] Standard

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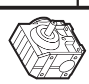
Observe the thermal limit of the oil seal material, see chapter "Lubricant compatibility with oil seal" (→ 🗎 114).



[3] °C -50 0 +50 +100	[1]	[2]	ISO,SAE NLGI	SEW EURODRIVE	bremer & leguil	Castrol	FUCHS	Mobil	KLÜBER LUBRICATION	Shell	TOTAL
[4] -15 … +60	Ex	CLP HC	VG 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 Carter SH 460
-30 … +30			VG 150 3)				-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 Carter SH 150
-40 … +20			VG 68				-35 … +50 Renolin Unisyn CLP 68	-40 … +55 Mobil SHC 626		-40 … +50 Shell Omala S4 GX 68	
-40 … 0			VG 32				-40 … +30 Renolin Unisyn OL 32	-40 … +30 Mobil SHC 624			-40 … +30 Dacnis SH 32
[4] -15 … +60	Ex	CLP HC - PSS	VG 460					-20 … +105 Mobil SHC 634			
-30 … +30			VG 150 3)					-30 … +75 Mobil SHC 629			

[1] Note on special approvals
[2] Oil type
[3] Ambient temperature range
[4] Standard

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

Observe the thermal limit of the oil seal material, see chapter "Lubricant compatibility with oil seal" (→ 🗎 114).

S.. HS..	[3] °C	[1]	[2]	ISO,SAE NLGI	SEW EURODRIVE	bremer & leguil	Castrol	FUCHS	Mobil	KLÜBER LUBRICATION	Shell	TOTAL
	[4] -15 … +40		CLP HC - NSF H1	VG 460		-15 … +85 Cassida Fluid GL 460	-15 … +90 Optileb GT 460 SEW070040013			-15 … +90 Klüberoil 4UH1-460 N		
	-25 … +30		CLP HC - NSF H1	VG 220		-25 … +75 Cassida Fluid GL 220	-25 … +70 Optileb GT 220 SEW070040013			-25 … +70 Klüberoil 4UH1-220 N		
	[4] -35 … +10		CLP HC - NSF H1	VG 68		-35 … +40 Cassida Fluid HF 68	-35 … +40 Optileb HY 68			-35 … +25 Klüberoil 4UH1-68 N		
	-40 … -10		CLP HC - NSF H1	VG 32		-40 … +25 Cassida Fluid HF 32	-40 … +20 Optileb HY 32			-40 … +25 KlüberSummit HySyn FG 32		
	[4] -15 … +40		CLP HC - NSF H1 - PSS	VG 460			-15 … +90 Optileb GT 460 SEW070040013					
	-25 … +30		CLP HC - NSF H1 - PSS	VG 220			-15 … +90 Optileb GT 220 SEW070040013					
	-20 … +40		E	VG 460				-20 … +80 Plantogear 460 S		-20 … +80 Klüberbio CA2-460		

[1] Note on special approvals
[2] Oil type
[3] Ambient temperature range
[4] Standard

Lubricant table for W.. gear units

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

Observe the thermal limit of the oil seal material, see chapter "Lubricant compatibility with oil seal" (→ 🗎 114).

W.. HW..	[3] °C -50 0 +50 +100 [4]	[1]	[2]	ISO,SAE NLGI	SEW EURODRIVE	bremer & leguil	Castrol	FUCHS	Mobil®	KLÜBER LUBRICATION	Shell	TOTAL
	-20 +60		CLP PG (-PSS)	VG 460	-20 +115 SEW GearOil Poly 460 W E1 SEW070040313							
	-20 +60		CLP PG NSF H1(-PSS)	VG 460	-20 +115 SEW GearOil Poly 460 H1 E1 SEW070040313					-20 +115 Klübersynth UH1 6-460		
	-30 +20			VG 150¹⁾	-30 +65 SEW GearOil Poly 1510 H1 E1 SEW070040313					-30 +65 Klübersynth UH1 6-150		
	-40 +10		API GL5	SAE 75W90 (~VG 100)					-40 +65 Mobil Synth Gear Oil 75 W90			

[1] Note on special approvals
[2] Oil type
[3] Ambient temperature range
[4] Standard

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6.1.4 Lubricant fill quantities

INFORMATION

The specified fill quantities are **guide values**. The exact values vary depending on the number of gear 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" (→ 🗎 74)) must therefore be specified in the drive order.

When the mounting position is changed, the lubricant fill quantity must be adapted accordingly (see the following chapters). Consequently, a mounting position may only be **changed** after consultation with SEW-EURODRIVE, **otherwise your rights to claim under limited 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

<table>
<tr><th rowspan="2">Gear unit</th><th colspan="6">Fill quantity in liters</th></tr>
<tr><th>M1[1)]</th><th>M2</th><th>M3</th><th>M4</th><th>M5</th><th>M6</th></tr>
<tr><td>R07</td><td>0.12</td><td colspan="5">0.20</td></tr>
<tr><td>R17</td><td>0.25</td><td>0.55</td><td>0.35</td><td>0.55</td><td>0.35</td><td>0.40</td></tr>
<tr><td>R27</td><td>0.25/0.40</td><td>0.70</td><td>0.50</td><td>0.70</td><td colspan="2">0.50</td></tr>
<tr><td>R37</td><td>0.30/0.95</td><td>0.85</td><td>0.95</td><td>1.05</td><td>0.75</td><td>0.95</td></tr>
<tr><td>R47</td><td>0.70/1.50</td><td>1.60</td><td>1.50</td><td>1.65</td><td colspan="2">1.50</td></tr>
<tr><td>R57</td><td>0.80/1.70</td><td>1.90</td><td>1.70</td><td>2.10</td><td colspan="2">1.70</td></tr>
<tr><td>R67</td><td>1.10/2.30</td><td>2.40</td><td>2.80</td><td>2.90</td><td>1.80</td><td>2.00</td></tr>
<tr><td>R77</td><td>1.20/3.00</td><td>3.30</td><td>3.60</td><td>3.80</td><td>2.50</td><td>3.40</td></tr>
<tr><td>R87</td><td>2.30/6.0</td><td>6.4</td><td colspan="2">7.2</td><td>6.3</td><td>6.5</td></tr>
<tr><td>R97</td><td>4.60/9.8</td><td colspan="2">11.7</td><td>13.4</td><td>11.3</td><td>11.7</td></tr>
<tr><td>R107</td><td>6.0/13.7</td><td>16.3</td><td>16.9</td><td>19.2</td><td>13.2</td><td>15.9</td></tr>
<tr><td>R127</td><td>6.4/17</td><td>18.3</td><td>18.2</td><td>22.0</td><td>16.8</td><td>17.9</td></tr>
<tr><td>R137</td><td>10.0/25.0</td><td>28.0</td><td>29.5</td><td>31.5</td><td colspan="2">25.0</td></tr>
<tr><td>R147</td><td>15.4/40.0</td><td>46.5</td><td>48.0</td><td>52.0</td><td>39.5</td><td>41.0</td></tr>
<tr><td>R167</td><td>27.0/70.0</td><td>82.0</td><td>78.0</td><td>88.0</td><td>66.0</td><td>69.0</td></tr>
</table>

1) The larger gear unit of compound gear units must be filled with the larger oil volume.

RF.., RM.., RZ..

<table>
<tr><th rowspan="2">Gear unit</th><th colspan="6">Fill quantity in liters</th></tr>
<tr><th>M1[1)]</th><th>M2</th><th>M3</th><th>M4</th><th>M5</th><th>M6</th></tr>
<tr><td>RF07</td><td>0.12</td><td colspan="5">0.20</td></tr>
<tr><td>RF17</td><td>0.25</td><td>0.55</td><td>0.35</td><td>0.55</td><td>0.35</td><td>0.40</td></tr>
<tr><td>RF27</td><td>0.25/0.40</td><td>0.70</td><td>0.50</td><td>0.70</td><td colspan="2">0.50</td></tr>
<tr><td>RF37</td><td>0.35/0.95</td><td>0.90</td><td>0.95</td><td>1.05</td><td>0.75</td><td>0.95</td></tr>
<tr><td>RF47</td><td>0.65/1.50</td><td>1.60</td><td>1.50</td><td>1.65</td><td colspan="2">1.50</td></tr>
<tr><td>RF57</td><td>0.80/1.70</td><td>1.80</td><td>1.70</td><td>2.00</td><td colspan="2">1.70</td></tr>
<tr><td>RF67</td><td>1.20/2.50</td><td>2.50</td><td>2.70</td><td>2.80</td><td>1.90</td><td>2.10</td></tr>
<tr><td>RF77</td><td>1.20/2.60</td><td>3.10</td><td>3.30</td><td>3.60</td><td>2.40</td><td>3.00</td></tr>
<tr><td>RF87</td><td>2.40/6.0</td><td>6.4</td><td>7.1</td><td>7.2</td><td>6.3</td><td>6.4</td></tr>
<tr><td>RF97</td><td>5.1/10.2</td><td>11.9</td><td>11.2</td><td>14.0</td><td>11.2</td><td>11.8</td></tr>
<tr><td>RF107</td><td>6.3/14.9</td><td>15.9</td><td>17.0</td><td>19.2</td><td>13.1</td><td>15.9</td></tr>
<tr><td>RF127</td><td>6.6/16.0</td><td>18.3</td><td>18.2</td><td>21.4</td><td>15.9</td><td>17.0</td></tr>
<tr><td>RF137</td><td>9.5/25.0</td><td>27.0</td><td>29.0</td><td>32.5</td><td colspan="2">25.0</td></tr>
<tr><td>RF147</td><td>16.4/42.0</td><td>47.0</td><td>48.0</td><td>52.0</td><td>42.0</td><td>42.0</td></tr>
<tr><td>RF167</td><td>26.0/70.0</td><td>82.0</td><td>78.0</td><td>88.0</td><td>65.0</td><td>71.0</td></tr>
</table>

1) The larger gear unit of compound gear units must be filled with the larger oil volume.

RX..

<table>
<tr><th rowspan="2">Gear unit</th><th colspan="6">Fill quantity in liters</th></tr>
<tr><th>M1</th><th>M2</th><th>M3</th><th>M4</th><th>M5</th><th>M6</th></tr>
<tr><td>RX57</td><td>0.60</td><td>0.80</td><td colspan="2">1.30</td><td colspan="2">0.90</td></tr>
<tr><td>RX67</td><td colspan="2">0.80</td><td>1.70</td><td>1.90</td><td colspan="2">1.10</td></tr>
<tr><td>RX77</td><td>1.10</td><td>1.50</td><td>2.60</td><td>2.70</td><td colspan="2">1.60</td></tr>
<tr><td>RX87</td><td>1.70</td><td>2.50</td><td colspan="2">4.80</td><td colspan="2">2.90</td></tr>
<tr><td>RX97</td><td>2.10</td><td>3.40</td><td>7.4</td><td>7.0</td><td colspan="2">4.80</td></tr>
<tr><td>RX107</td><td>3.90</td><td>5.6</td><td>11.6</td><td>11.9</td><td colspan="2">7.7</td></tr>
</table>

RXF..

<table>
<tr><th rowspan="2">Gear unit</th><th colspan="6">Fill quantity in liters</th></tr>
<tr><th>M1</th><th>M2</th><th>M3</th><th>M4</th><th>M5</th><th>M6</th></tr>
<tr><td>RXF57</td><td>0.50</td><td>0.80</td><td colspan="2">1.10</td><td colspan="2">0.70</td></tr>
<tr><td>RXF67</td><td>0.70</td><td>0.80</td><td>1.50</td><td>1.40</td><td colspan="2">1.00</td></tr>
</table>

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Gear unit	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
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 unit	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
F..27	0.60	0.80	0.65	0.70	0.60	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	2.25	3.15	1.65	3.15	2.40	2.50
F..67	2.70	3.80	1.90	3.80	2.90	3.20
F..77	5.90	7.30	4.30	8.00	6.00	6.30
F..87	10.8	13.0	7.70	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	27.0
F..127	39.5	51.7	31.5	60.1	45.6	44.2
F..157	69.0	104.0	63.0	105.0	86.0	78.0

FF..

Gear unit	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
FF27	0.60	0.80	0.65	0.70	0.60	0.60
FF37	1.00	1.25	0.70	1.30	1.00	1.10
FF47	1.60	1.85	1.10	1.90	1.50	1.70
FF57	2.30	3.10	1.70	3.10	2.30	2.40
FF67	2.70	3.80	1.90	3.80	2.90	3.20
FF77	5.90	7.30	4.30	8.10	6.00	6.30
FF87	10.8	13.2	7.80	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	40.6	51.6	31.5	61.2	46.3	44.9
FF157	72.0	105.0	64.0	106.0	87.0	79.0

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

Gear unit	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
F..27	0.60	0.80	0.65	0.70	0.60	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	2.40	3.10	1.70	3.15	2.40	2.50
F..67	2.70	3.80	1.90	3.80	2.90	3.20
F..77	5.90	7.30	4.30	8.00	6.00	6.30
F..87	10.8	13.0	7.70	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	27.0
F..127	38.3	50.9	31.5	59.7	44.7	43.3
F..157	68.0	103.0	62.0	104.0	85.0	77.0

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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

<table>
<tr><th rowspan="2">Gear unit</th><th colspan="6">Fill quantity in liters</th></tr>
<tr><th>M1</th><th>M2</th><th>M3</th><th>M4</th><th>M5</th><th>M6</th></tr>
<tr><td>K..19</td><td colspan="3">0.40</td><td>0.45</td><td colspan="2">0.40</td></tr>
<tr><td>K..29</td><td colspan="3">0.70</td><td>0.85</td><td colspan="2">0.70</td></tr>
<tr><td>K..39</td><td>0.90</td><td>1.70</td><td>1.55</td><td>1.9</td><td>1.55</td><td>1.30</td></tr>
<tr><td>K..49</td><td>1.70</td><td>3.40</td><td>2.80</td><td>4.20</td><td>3.15</td><td>2.80</td></tr>
<tr><td>K..37</td><td>0.50</td><td colspan="2">1.00</td><td>1.25</td><td colspan="2">0.95</td></tr>
<tr><td>K..47</td><td>0.80</td><td>1.30</td><td>1.50</td><td>2.00</td><td colspan="2">1.60</td></tr>
<tr><td>K..57</td><td>1.10</td><td colspan="2">2.20</td><td>2.80</td><td>2.30</td><td>2.10</td></tr>
<tr><td>K..67</td><td>1.10</td><td>2.40</td><td>2.60</td><td>3.45</td><td colspan="2">2.60</td></tr>
<tr><td>K..77</td><td>2.20</td><td>4.10</td><td>4.40</td><td>5.80</td><td>4.20</td><td>4.40</td></tr>
<tr><td>K..87</td><td>3.70</td><td>8.0</td><td>8.70</td><td>10.90</td><td colspan="2">8.0</td></tr>
<tr><td>K..97</td><td>7.0</td><td>14.0</td><td>15.70</td><td>20.0</td><td>15.70</td><td>15.50</td></tr>
<tr><td>K..107</td><td>10.0</td><td>21.0</td><td>25.50</td><td>33.50</td><td colspan="2">24.0</td></tr>
<tr><td>K..127</td><td>21.0</td><td>41.50</td><td>44.0</td><td>54.0</td><td>40.0</td><td>41.0</td></tr>
<tr><td>K..157</td><td>31.0</td><td>65.0</td><td>68.0</td><td>90.0</td><td>62.0</td><td>63.0</td></tr>
<tr><td>K..167</td><td>33.0</td><td>97.0</td><td>109.0</td><td>127.0</td><td>89.0</td><td>86.0</td></tr>
<tr><td>K..187</td><td>53.0</td><td>156.0</td><td>174.0</td><td>207.0</td><td>150.0</td><td>147.0</td></tr>
</table>

KF..

<table>
<tr><th rowspan="2">Gear unit</th><th colspan="6">Fill quantity in liters</th></tr>
<tr><th>M1</th><th>M2</th><th>M3</th><th>M4</th><th>M5</th><th>M6</th></tr>
<tr><td>KF19</td><td colspan="3">0.40</td><td>0.45</td><td colspan="2">0.40</td></tr>
<tr><td>KF29</td><td colspan="3">0.70</td><td>0.85</td><td colspan="2">0.70</td></tr>
<tr><td>KF39</td><td>0.90</td><td>1.70</td><td>1.55</td><td>1.9</td><td>1.55</td><td>1.30</td></tr>
<tr><td>KF49</td><td>1.70</td><td>3.40</td><td>2.80</td><td>4.20</td><td>3.15</td><td>2.80</td></tr>
<tr><td>KF37</td><td>0.50</td><td colspan="2">1.10</td><td>1.50</td><td colspan="2">1.00</td></tr>
<tr><td>KF47</td><td>0.80</td><td>1.30</td><td>1.70</td><td>2.20</td><td colspan="2">1.60</td></tr>
<tr><td>KF57</td><td>1.20</td><td>2.20</td><td>2.40</td><td>3.15</td><td>2.50</td><td>2.30</td></tr>
<tr><td>KF67</td><td>1.10</td><td>2.40</td><td>2.80</td><td>3.70</td><td colspan="2">2.70</td></tr>
<tr><td>KF77</td><td>2.10</td><td>4.10</td><td>4.40</td><td>5.90</td><td colspan="2">4.50</td></tr>
<tr><td>KF87</td><td>3.70</td><td>8.20</td><td>9.0</td><td>11.90</td><td colspan="2">8.40</td></tr>
<tr><td>KF97</td><td>7.0</td><td>14.70</td><td>17.30</td><td>21.50</td><td>15.70</td><td>16.50</td></tr>
<tr><td>KF107</td><td>10.0</td><td>21.80</td><td>25.80</td><td>35.10</td><td colspan="2">25.20</td></tr>
<tr><td>KF127</td><td>21.0</td><td>41.50</td><td>46.0</td><td>55.0</td><td colspan="2">41.0</td></tr>
<tr><td>KF157</td><td>31.0</td><td>66.0</td><td>69.0</td><td>92.0</td><td>62.0</td><td>63.0</td></tr>
</table>

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

<table>
<tr><th rowspan="2">Gear unit</th><th colspan="6">Fill quantity in liters</th></tr>
<tr><th>M1</th><th>M2</th><th>M3</th><th>M4</th><th>M5</th><th>M6</th></tr>
<tr><td>K..19</td><td colspan="3">0.40</td><td>0.45</td><td colspan="2">0.40</td></tr>
<tr><td>K..29</td><td colspan="3">0.70</td><td>0.85</td><td colspan="2">0.70</td></tr>
<tr><td>K..39</td><td>0.90</td><td>1.70</td><td>1.55</td><td>1.9</td><td>1.55</td><td>1.30</td></tr>
<tr><td>K..49</td><td>1.70</td><td>3.40</td><td>2.80</td><td>4.20</td><td>3.15</td><td>2.80</td></tr>
<tr><td>K..37</td><td>0.50</td><td colspan="2">1.00</td><td>1.40</td><td colspan="2">1.00</td></tr>
<tr><td>K..47</td><td>0.80</td><td>1.30</td><td>1.60</td><td>2.15</td><td colspan="2">1.60</td></tr>
<tr><td>K..57</td><td>1.20</td><td>2.20</td><td>2.40</td><td>3.15</td><td>2.70</td><td>2.40</td></tr>
</table>

Gear unit	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
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	1.03	0.80	
S57	0.50	1.20	1.00/1.20	1.43	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 volume.

SF..

Gear unit	Fill quantity in liters						
	M1	M2	M3[1)]	M4		M5	M6
				Output A or B	Output A + B		
SF37	0.25	0.40	0.50	0.55	0.6	0.40	
SF47	0.40	0.90	0.90/1.05	1.08	1.13	1.00	
SF57	0.50	1.20	1.00/1.50	1.48	1.53	1.40	
SF67	1.00	2.20	2.30/3.00	3.20	3.5	2.70	
SF77	1.90	4.10	3.90/5.8	6.5	7.2	4.90	
SF87	3.80	8.0	7.1/10.1	12.0	13.2	9.1	
SF97	7.4	15.0	13.8/18.8	23.1	25.2	18.0	

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

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	1.03	0.80	
S..57	0.50	1.10	1.00/1.50	1.43	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	21.0	15.7	

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

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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

<table>
<tr><th rowspan="2">Gear unit</th><th colspan="6">Fill quantity in liters</th></tr>
<tr><th>M1</th><th>M2</th><th>M3</th><th>M4</th><th>M5</th><th>M6</th></tr>
<tr><td>W..10</td><td colspan="6">0.16</td></tr>
<tr><td>W..20</td><td colspan="6">0.24</td></tr>
<tr><td>W..30</td><td colspan="6">0.40</td></tr>
<tr><td>W..37</td><td colspan="3">0.50</td><td>0.70</td><td colspan="2">0.50</td></tr>
<tr><td>W..47</td><td colspan="3">0.90</td><td>1.40</td><td colspan="2">0.90</td></tr>
</table>

WF..

<table>
<tr><th rowspan="2">Gear unit</th><th colspan="6">Fill quantity in liters</th></tr>
<tr><th>M1</th><th>M2</th><th>M3</th><th>M4</th><th>M5</th><th>M6</th></tr>
<tr><td>WF10</td><td colspan="6">0.16</td></tr>
<tr><td>WF20</td><td colspan="6">0.24</td></tr>
<tr><td>WF30</td><td colspan="6">0.40</td></tr>
<tr><td>WF37</td><td colspan="3">0.50</td><td>0.70</td><td colspan="2">0.50</td></tr>
<tr><td>WF47</td><td colspan="3">0.90</td><td>1.55</td><td colspan="2">0.90</td></tr>
</table>

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

<table>
<tr><th rowspan="2">Gear unit</th><th colspan="6">Fill quantity in liters</th></tr>
<tr><th>M1</th><th>M2</th><th>M3</th><th>M4</th><th>M5</th><th>M6</th></tr>
<tr><td>W..10</td><td colspan="6">0.16</td></tr>
<tr><td>W..20</td><td colspan="6">0.24</td></tr>
<tr><td>W..30</td><td colspan="6">0.40</td></tr>
<tr><td>W..37</td><td colspan="3">0.50</td><td>0.70</td><td colspan="2">0.50</td></tr>
<tr><td>W..47</td><td colspan="3">0.80</td><td>1.40</td><td colspan="2">0.80</td></tr>
</table>

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 side is blocked. The specified values have a tolerance of ± 2 angular minutes.

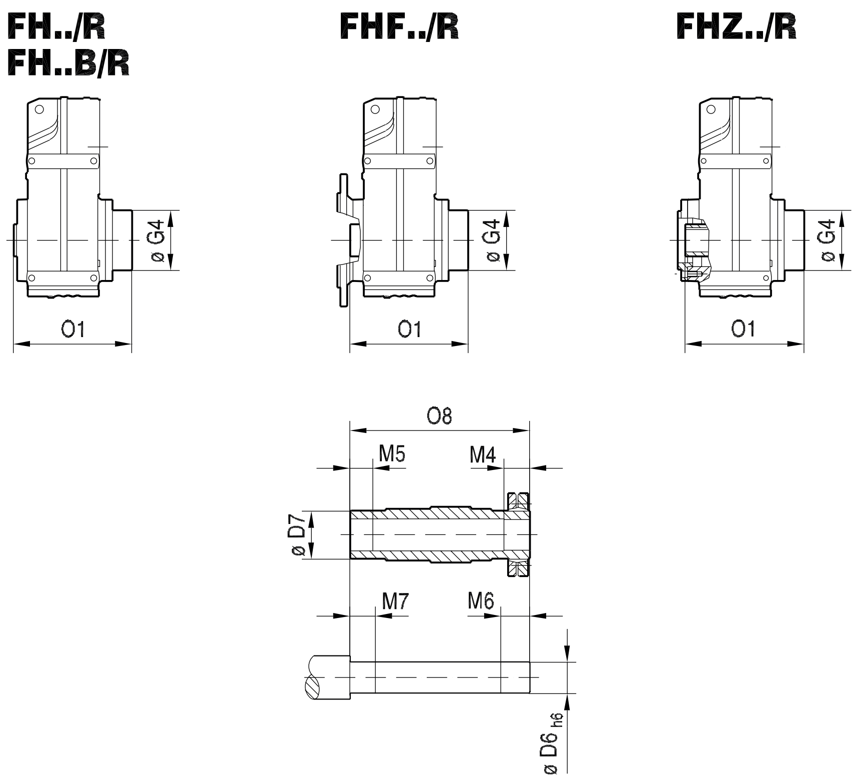
The reduced backlash design is available for the following gear units:

- Helical gear units (R), sizes 37 to 167
- Parallel-shaft helical gear units (F), sizes 37 to 157
- Helical-bevel gear units (only K..7) in gear unit sizes 37 to 187

The dimensions of the reduced backlash variants 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 the FH.87 and FH.97 gear units with reduced backlash:

42 020 00 09



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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

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

INFORMATION

Use the supplied NOCO® fluid for mounting. The fluid prevents contact corrosion and facilitates subsequent disassembly.

INFORMATION

The key dimension L12 is specified for the customer and depends on the application requirements and the used materials.

See figure "Customer shaft with [A] and without [B] contact shoulder".

INFORMATION

For the dimensioning of the keyed connection, observe that the hollow shaft of the gear unit (hub) is made of the material C45R(1.1201).

SEW-EURODRIVE recommends **2 options for mounting** gear units with hollow shaft and key onto the input shaft of the driven machine (= customer shaft):

- Mounting using supplied fastening parts
- Mounting/dismounting 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".

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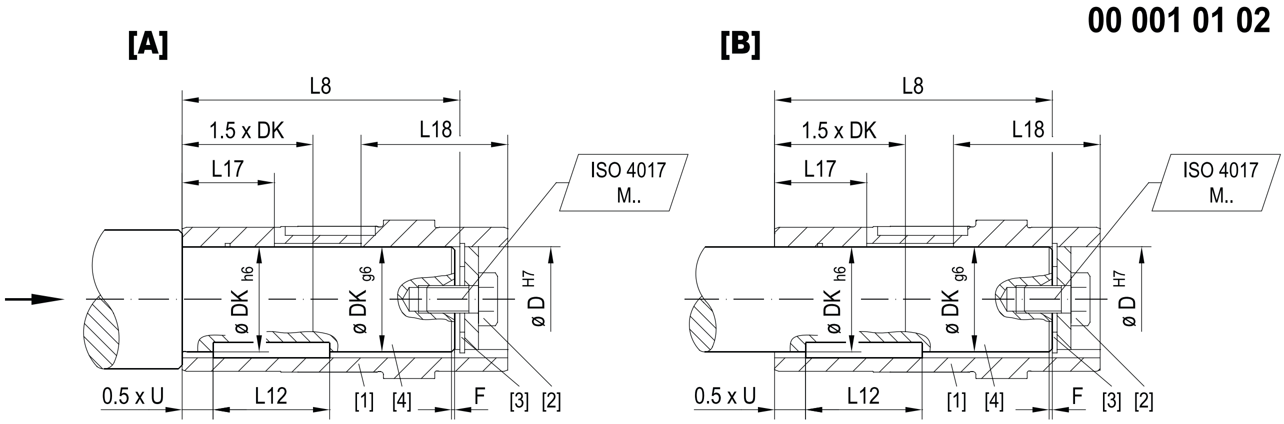
The following figure shows the customer shaft with contact shoulder [A] and without contact shoulder [B].



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D	Hollow shaft diameter		L18	Cylinder section length with dimension H7
DK	Diameter of customer shaft		U	Key width
F	Shaft end chamfer		[1]	Hollow shaft
L8	Customer shaft length		[2]	Retaining screw with washer
L12	Key length		[3]	Retaining ring
L17	Cylinder section length with dimension H7		[4]	Customer shaft

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

Gear unit type	D^{H7} mm	DK mm	L17 mm	L18 mm	F mm	L8 mm	MS Nm	U mm	ISO 4017 M..
WA..10	16		24	24	0.5	69	8	5	M5 × 12
WA..20	18		27	27	1	84	8	6	M6 × 16
WA..20	20		26	30	1	84	8	6	M6 × 16
KA..19	20		28	30	1	92	8	6	M6 × 16
FA..27	25		30	30	1	89	20	8	M10 × 25
KA..29	25		30	38	1	107	20	8	M10 × 25
KA..29	30		35	35	1	107	20	8	M10 × 25
WA..30	20		30	30	1	105	8	6	M6 × 16
SA..37	20		40	40	1	104	8	6	M6 × 16
WA37	20		28	30	1	105	8	6	M6 × 16
WA37	25		40	40	1	105	20	8	M10 × 25
FA..37, KA..37	30		39	45	1	105	20	8	M10 × 25
KA..39	30		35	45	1	137	20	8	M10 × 25
KA..39	35		35	45	1	137	20	10	M12 × 30
KA..49	35		35	45	1	160	20	10	M12 × 30
KA..49	40		35	45	1	154	40	12	M16 × 40
SA..47	25		38	38	1	105	20	8	M10 × 25
SA..47	30		39	45	1	105	20	8	M10 × 25
FA..47, KA..47	35		45	52	1	132	20	10	M12 × 30

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Gear unit type	D^{H7} mm	DK mm	L17 mm	L18 mm	F mm	L8 mm	MS Nm	U mm	ISO 4017 M..
WA..47	30		35	45	1	122	20	8	M10 × 25
SA..57	30		39	45	1	132	20	8	M10 × 25
SA..57	35		45	52	1	132	20	10	M12 × 30
FA..57, KA..57	40		50	60	1	142	40	12	M16 × 40
FA..67, KA..67	40		50	60	1	156	40	12	M16 × 40
FAM67, KAM67	40		50	60	1	278	40	12	M16 × 40
SA..67	40		50	60	1	144	40	12	M16 × 40
SA..67	45		50	60	1	144	40	14	M16 × 40
FA..77, KA..77	50		65	75	1	183	40	14	M16 × 45
FAM77, KAM77	50		65	75	1	309	40	14	M16 × 45
SA..77	50		63	75	1	180	40	14	M16 × 45
SA..77	60		72	90	1	180	80	18	M20 × 50
FA..87, KA..87	60		75	90	1	210	80	18	M20 × 50
FAM87, KAM87	60		75	90	1	363	80	18	M20 × 50
SA..87	60		75	90	1	220	80	18	M20 × 50
SA..87	70		90	105	2	220	80	20	M20 × 50
FA..97, KA..97	70		90	105	2	270	80	20	M20 × 50
FAM97, KAM97	70		90	105	2	422	80	20	M20 × 50
SA..97	70		90	105	2	260	80	20	M20 × 50
SA..97	90		110	125	2	255	200	25	M24 × 60
FA..107, KA..107	90		110	125	2	313	200	25	M24 × 60
FAM107, KAM107	90		110	125	2	473	200	25	M24 × 60
FA..127, KA..127	100		120	150	2	373	200	28	M24 × 60
FAM127, KAM127	100		120	150	2	553	200	28	M24 × 60
FA..157, KA..157	120		180	180	2	460	200	32	M24 × 60
FAM157, KAM157	120		180	180	2	691	200	32	M24 × 60

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

Assembly

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

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

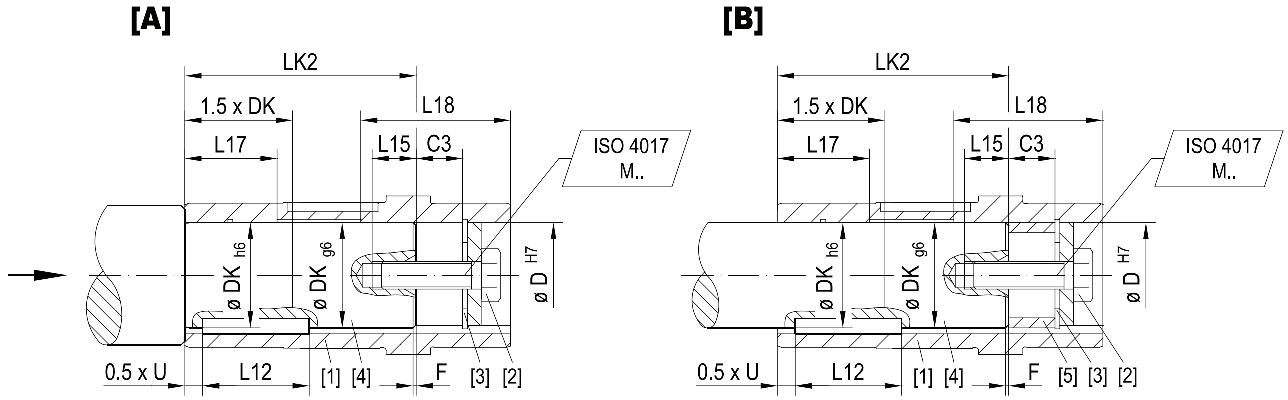
The short retaining screw delivered as standard is not required.

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 01 02



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C3	Indentation fixed nut and forcing washer
D	Hollow shaft diameter
DK	Diameter of customer shaft
F	Shaft end chamfer
L8	Customer shaft length
L12	Key length
L15	Thread depth of customer shaft
L17	Cylinder section length with dimension H7
L18	Cylinder section length with dimension H7
LK2	Length of customer shaft when used
U	Key width
[1]	Hollow shaft
[2]	Retaining screw with washer
[3]	Retaining ring
[4]	Customer shaft
[5]	Spacer tube

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

Type	D^{H7}	DK	LK2	L15	C3	MS	U	L17	L18	ISO 4017	Part number of the assembly/disassembly kit
	mm	mm	mm	mm	mm	Nm	mm	mm	mm	M..	
WA..10	16		58	12.5	11	8	5	24	24	M5 × 50	06437125
WA..20	18		72	16	12	8	6	27	27	M6 × 25	0643682X
WA..20	20		72	16	12	8	6	26	30	M6 × 25	06436838
WA..30	20		93	16	12	8	6	30	30	M6 × 25	06436838
WA..37	20		93	16	12	8	6	28	30	M6 × 25	06436838
SA..37	20		92	16	12	8	6	40	40	M6 × 25	06436838
KA..19	20		80	16	12	8	6	28	30	M6 × 25	06436838
KA..29	25		91	22	16	20	8	30	38	M10 × 35	06436846
FA..27	25		73	22	16	20	8	30	30	M10 × 35	06436846
SA..47	25		89	22	16	20	8	38	38	M10 × 35	06436846
WA..37	25		89	22	16	20	8	40	40	M10 × 35	06436846
WA..47	30		106	22	16	20	8	35	45	M10 × 35	06436854
FA..37	30		89	22	16	20	8	39	45	M10 × 35	06436854

Type	D^{H7}	DK	LK2	L15	C3	MS	U	L17	L18	ISO 4017	Part number of the assembly/disassembly kit
	mm	mm	mm	mm	mm	Nm	mm	mm	mm	M..	
KA..37	30		89	22	16	20	8	39	45	M10 × 35	06436854
SA..47	30		89	22	16	20	8	39	45	M10 × 35	06436854
SA..57	30		116	22	16	20	8	39	45	M10 × 35	06436854
KA..29	30		91	22	16	20	8	35	35	M10 × 35	06436854
KA..39	30		121	22	16	20	8	35	45	M10 × 35	06436854
KA..39	35		119	28	18	20	10	35	45	M12 × 45	06436862
FA..47	35		114	28	18	20	10	45	52	M12 × 45	06436862
KA..47	35		114	28	18	20	10	45	52	M12 × 45	06436862
SA..57	35		114	28	18	20	10	45	52	M12 × 45	06436862
KA..49	35		142	28	18	20	10	35	45	M12 × 45	06436862
KA..49	40		136	36	18	40	12	35	45	M16 × 50	06436870
FA..57	40		124	36	18	40	12	50	60	M16 × 50	06436870
KA..57	40		124	36	18	40	12	50	60	M16 × 50	06436870
FA..67	40		138	36	18	40	12	50	60	M16 × 50	06436870
FAM67	40		260	36	18	40	12	50	60	M16 × 50	06436870
KA..67	40		138	36	18	40	12	50	60	M16 × 50	06436870
KAM67	40		260	36	18	40	12	50	60	M16 × 50	06436870
SA..67	40		126	36	18	40	12	50	60	M16 × 50	06436870
SA..67	45		126	36	18	40	14	50	60	M16 × 50	06436889
FA..77	50		165	36	18	40	14	65	75	M16 × 50	06436897
FAM77	50		291	36	18	40	14	65	75	M16 × 50	06436897
KA..77	50		165	36	18	40	14	65	75	M16 × 50	06436897
KAM77	50		291	36	18	40	14	65	75	M16 × 50	06436897
SA..77	50		165	36	18	40	14	63	75	M16 × 50	06436897
FA..87	60		188	42	22	80	18	75	90	M20 × 60	06436900
FAM87	60		341	42	22	80	18	75	90	M20 × 60	06436900
KA..87	60		188	42	22	80	18	75	90	M20 × 60	06436900
KAM87	60		341	42	22	80	18	75	90	M20 × 60	06436900
SA..77	60		158	42	22	80	18	72	90	M20 × 60	06436900
SA..87	60		198	42	22	80	18	75	90	M20 × 60	06436900
FA..97	70		248	42	22	80	20	90	105	M20 × 60	06436919
FAM97	70		400	42	22	80	20	90	105	M20 × 60	06436919
KA..97	70		248	42	22	80	20	90	105	M20 × 60	06436919
KAM97	70		400	42	22	80	20	90	105	M20 × 60	06436919
SA..87	70		198	42	22	80	20	90	105	M20 × 60	06436919
SA..97	70		238	42	22	80	20	90	105	M20 × 60	06436919

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Type	D^{H7} mm	DK mm	LK2 mm	L15 mm	C3 mm	MS Nm	U mm	L17 mm	L18 mm	ISO 4017 M..	Part number of the assembly/disassembly kit
FA..107	90		287	50	26	200	25	110	125	M24 × 70	06436927
FAM107	90		447	50	26	200	25	110	125	M24 × 70	06436927
KA..107	90		287	50	26	200	25	110	125	M24 × 70	06436927
KAM107	90		447	50	26	200	25	110	125	M24 × 70	06436927
SA..97	90		229	50	26	200	25	110	125	M24 × 70	06436927
FA..127	100		347	50	26	200	28	120	150	M24 × 70	06436935
FAM127	100		527	50	26	200	28	120	150	M24 × 70	06436935
KA..127	100		347	50	26	200	28	120	150	M24 × 70	06436935
KAM127	100		527	50	26	200	28	120	150	M24 × 70	06436935
FA..157	120		434	50	26	200	32	180	180	M24 × 70	06436943
FAM157	120		665	50	26	200	32	180	180	M24 × 70	06436943
KA..157	120		434	50	26	200	32	180	180	M24 × 70	06436943
KAM157	120		665	50	26	200	32	180	180	M24 × 70	06436943

Disassembly

INFORMATION

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

- 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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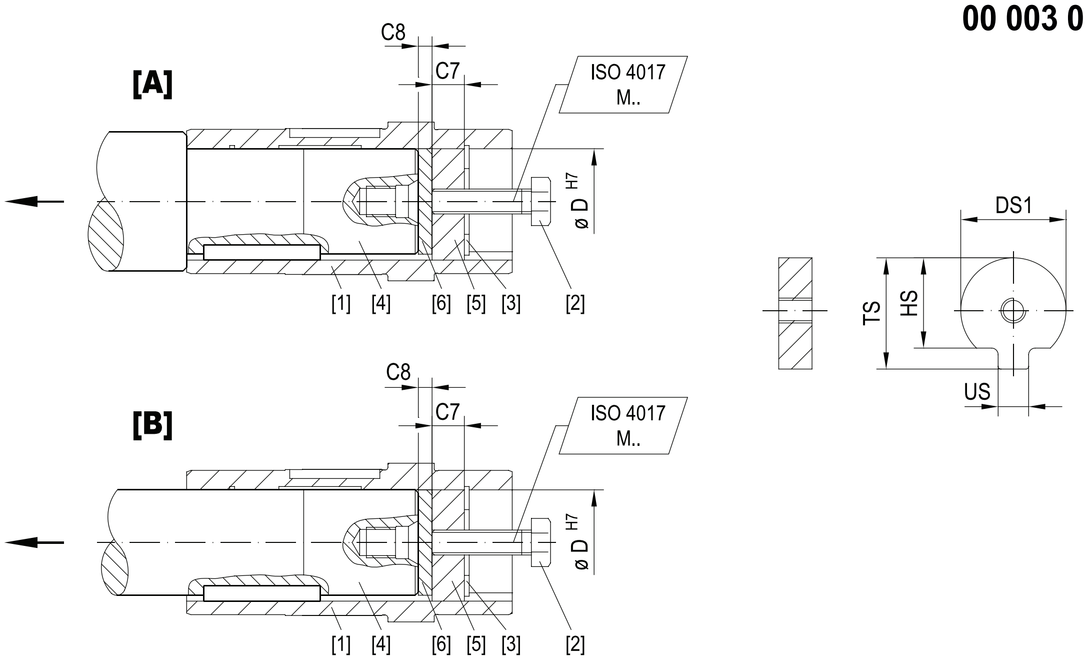

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C7	Width of fixed nut	[1]	Hollow shaft
C8	Width of forcing washer	[2]	Retaining screw
D	Hollow shaft diameter	[3]	Retaining ring
DS1	Diameter of fixed nut	[4]	Customer shaft
HS	Height 1 for fixed nut	[5]	Fixed nut for disassembly
TS	Height 2 for fixed nut	[6]	Forcing washer
US	Base width of fixed nut		

Dimensions and part numbers of the assembly/disassembly kit:

Type	D^{H7} mm	C8 mm	C7 mm	HS mm	US mm	TS mm	DS1 mm	ISO 4017 M..	Part number of the assembly/disassembly kit
WA..10	16	5	5	12	4.5	18	15.7	M5 × 50	06437125
WA..20	18	5	6	13.5	5.5	20.5	17.7	M6 × 25	0643682X
WA..20, WA..30, SA..37, WA..37, KA..19	20	5	6	15.5	5.5	22.5	19.7	M6 × 25	06436838
FA..27, SA..47, WA..47, KA..29	25	5	10	20	7.5	28	24.7	M10 × 35	06436846
FA..37, KA..29, KA..37, KA..39, SA..47, SA..57, WA..47	30	5	10	25	7.5	33	29.7	M10 × 35	06436854
FA..47, KA..39, KA..47, KA..49, SA..57	35	5	12	29	9.5	38	34.7	M12 × 45	06436862
FA..57, KA..57, FA..67, KA..49, KA..67, SA..67	40	5	12	34	11.5	41.9	39.7	M16 × 50	06436870

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Type	D^{H7} mm	C8 mm	C7 mm	HS mm	US mm	TS mm	DS1 mm	ISO 4017 M..	Part number of the assembly/disassembly kit
SA..67	45	5	12	38.5	13.5	48.5	44.7	M16 × 50	06436889
FA..77, KA..77, SA..77	50	5	12	43.5	13.5	53.5	49.7	M16 × 50	06436897
FA..87, KA..87, SA..77, SA..87	60	5	16	56	17.5	64	59.7	M20 × 60	06436900
FA..97, KA..97, SA..87, SA..97	70	5	16	65.5	19.5	74.5	69.7	M20 × 60	06436919
FA..107, KA..107, SA..97	90	5	20	80	24.5	95	89.7	M24 × 70	06436927
FA..127, KA..127	100	5	20	89	27.5	106	99.7	M24 × 70	06436935
FA..157, KA..157	120	5	20	107	31	127	119.7	M24 × 70	06436943

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:

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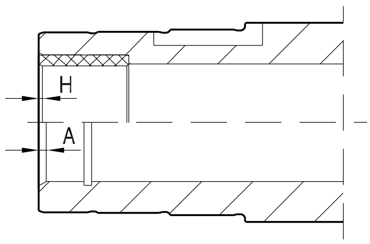

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Dimension tables for the chamfers of the F, K, S, and W gear units:

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 °

Gear unit	Design	
	with hollow shaft (A)	with hollow shaft and shrink disk (H)
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 °

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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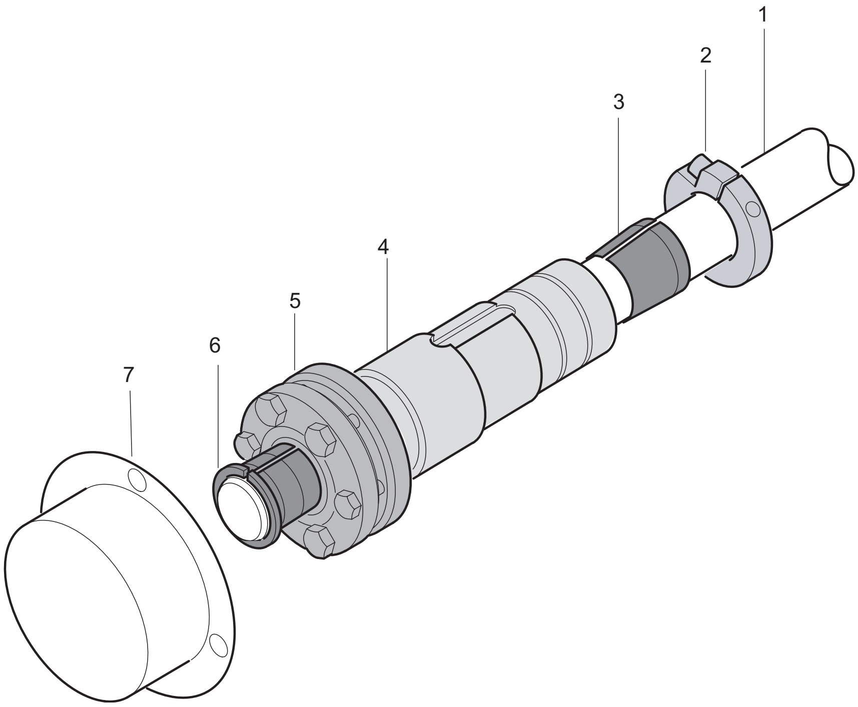
6.6 TorqLOC® mounting system for gear units with hollow shaft

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 output torques of 92 Nm to 20000 Nm.

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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 units in 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:

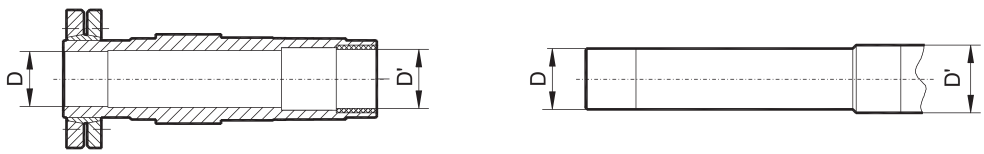
- For helical-bevel, helical-worm and SPIROPLAN® gear units (KT.., ST.., WT.7..): "torque arm" option (../T)
- For parallel-shaft helical gear units (FT..): "rubber buffer" option (../G)

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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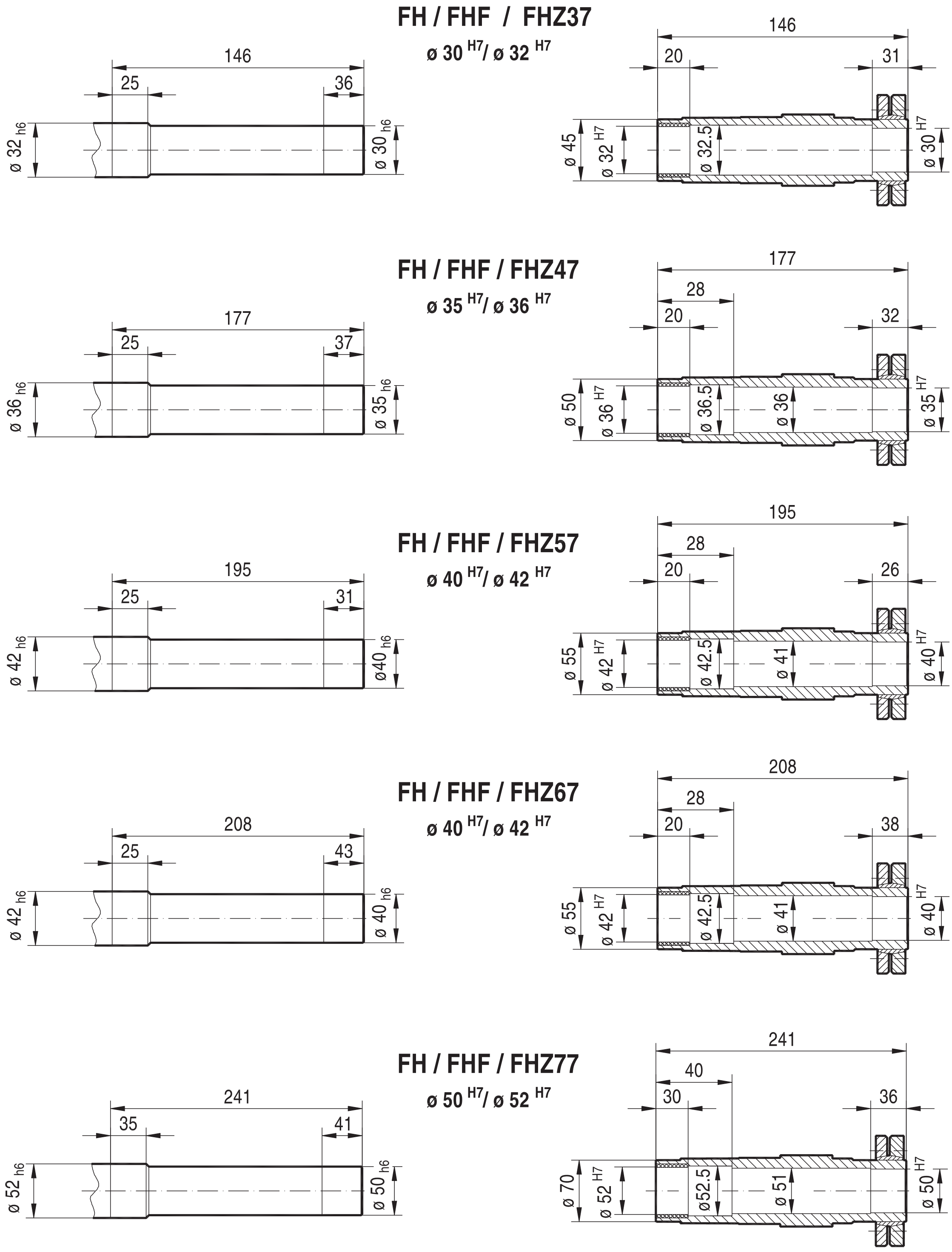
Gear unit	Bore diameter D/ optionally D' mm
FH/FHF/FHZ37, KH/KHF/KHZ37, SH/SHF/SHZ47	30/32
FH/FHF/FHZ47, KH/KHF/KHZ47, SH/SHF/SHZ57	35/36
FH/FHF/FHZ57, KH/KHF/KHZ57	40/42
FH/FHF/FHZ67, KH/KHF/KHZ67, SH/SHF/SHZ67	40/42
FH/FHF/FHZ77, KH/KHF/KHZ77, SH/SHF/SHZ77	50/52
FH/FHF/FHZ87, KH/KHF/KHZ87, SH/SHF/SHZ87	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 DRN80M4 with hollow shaft 30/32 mm

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



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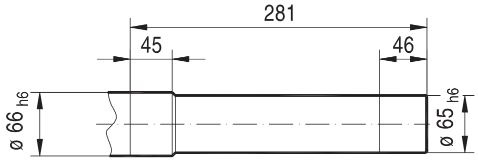
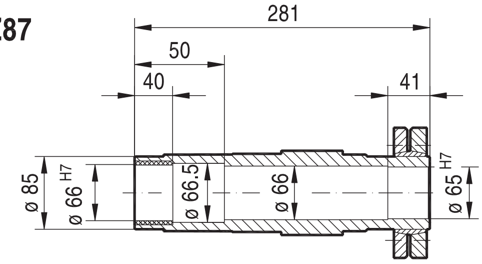
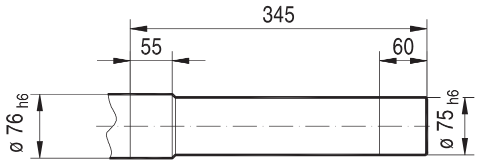
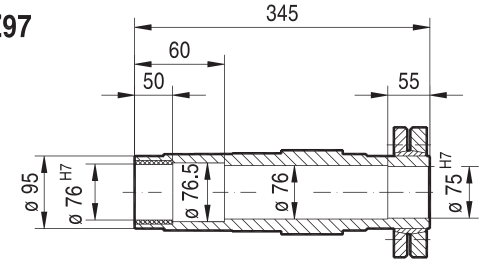
FH / FHF / FHZ87
ø 65 H7/ ø 66 H7



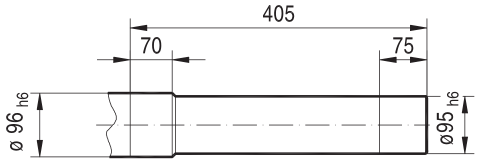


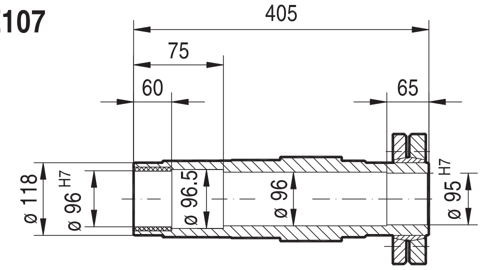
FH / FHF / FHZ97
ø 75 H7/ ø 76 H7



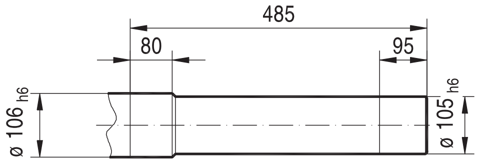


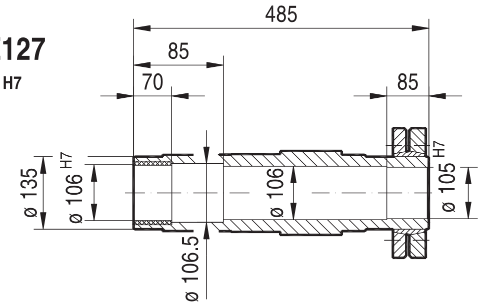
FH / FHF / FHZ107
ø 95 H7/ ø 96 H7



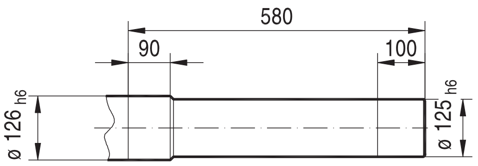


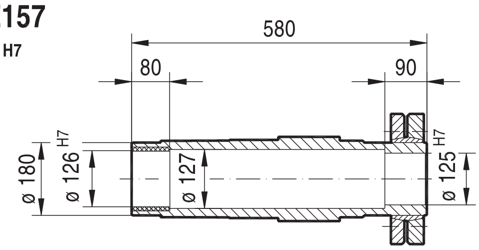
FH / FHF / FHZ127
ø 105 H7/ ø 106 H7





FH / FHF / FHZ157
ø 125 H7/ ø 126 H7





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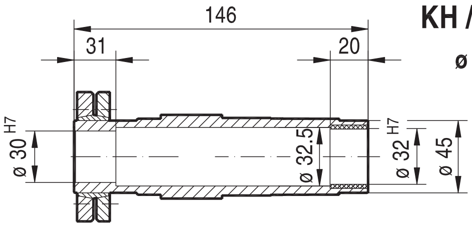
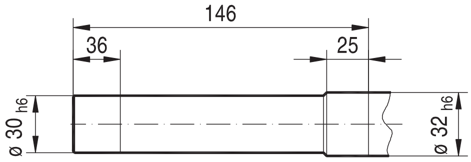
6.7.3 Helical-bevel gear units with shouldered hollow shaft (dimensions in mm):

KH / KHF / KHZ37

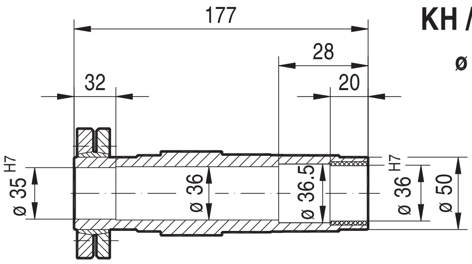
ø 30 H7/ ø 32 H7

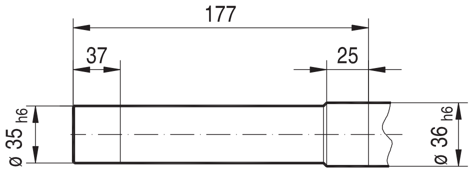




KH / KHF / KHZ47

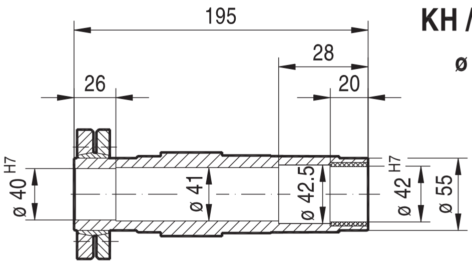
ø 35 H7/ ø 36 H7

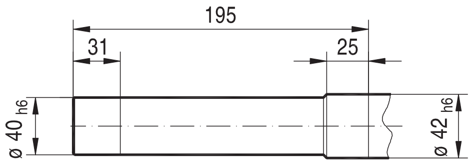




KH / KHF / KHZ57

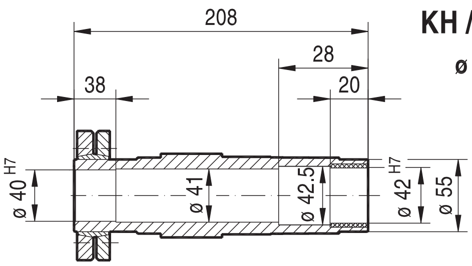
ø 40 H7/ ø 42 H7

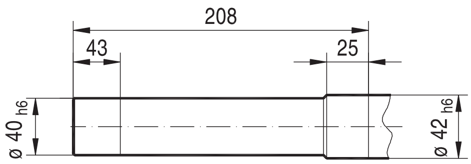




KH / KHF / KHZ67

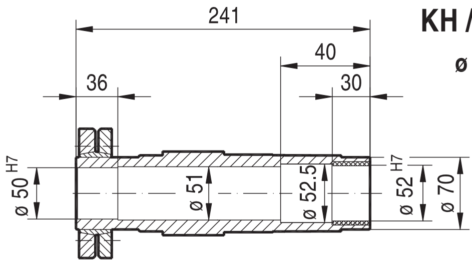
ø 40 H7/ ø 42 H7

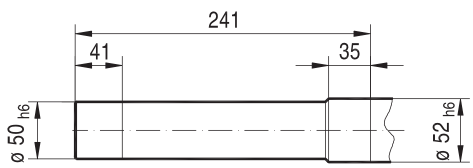




KH / KHF / KHZ77

ø 50 H7/ ø 52 H7





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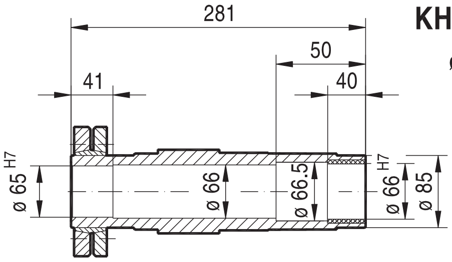
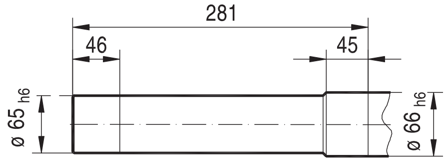
KH / KHF / KHZ87

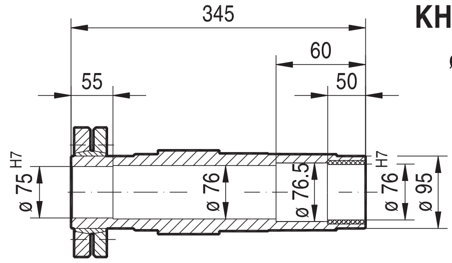
ø 65 ^{H7}/ ø 66 ^{H7}

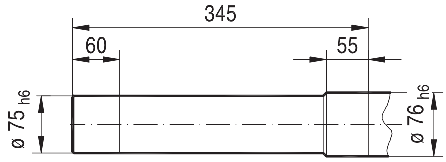




KH / KHF / KHZ97

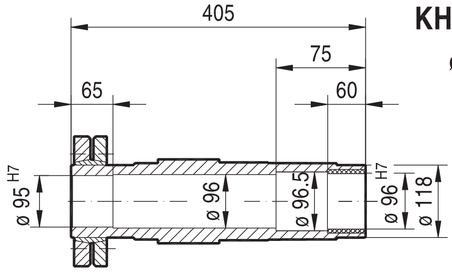
ø 75 ^{H7}/ ø 76 ^{H7}

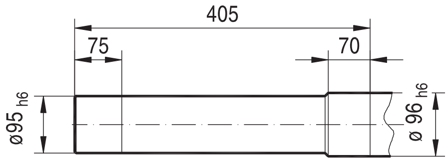




KH / KHF / KHZ107

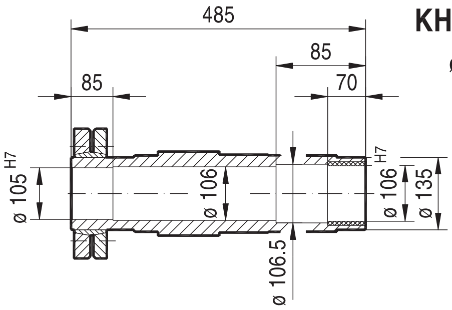
ø 95 ^{H7}/ ø 96 ^{H7}

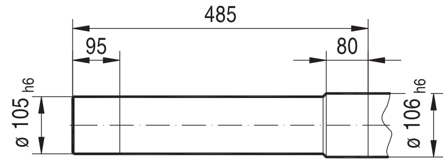




KH / KHF / KHZ127

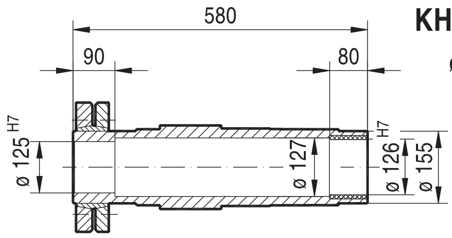
ø 105 ^{H7}/ ø 106 ^{H7}

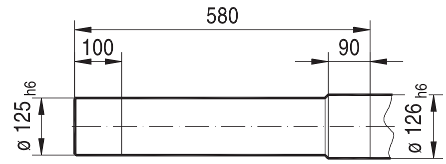




KH / KHF / KHZ157

ø 125 ^{H7}/ ø 126 ^{H7}





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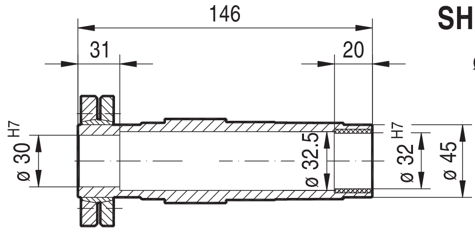
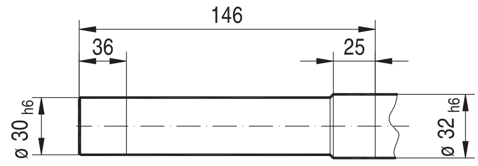
6.7.4 Helical-worm gear units with shouldered hollow shaft (dimensions in mm):

SH / SHF / SHZ47

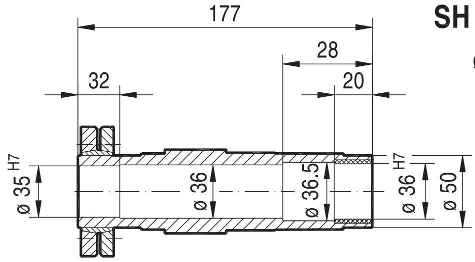
ø 30 H7/ ø 32 H7

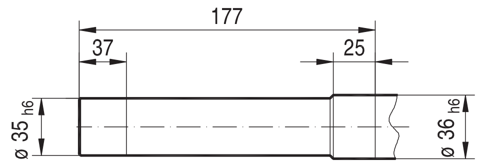




SH / SHF / SHZ57

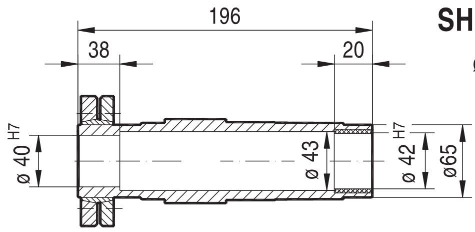
ø 35 H7/ ø 36 H7

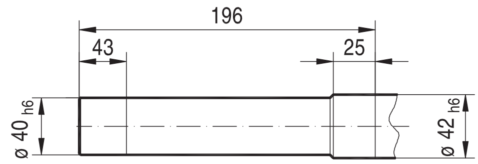




SH / SHF / SHZ67

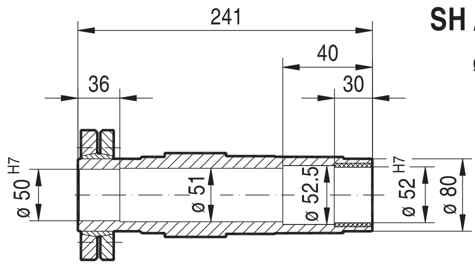
ø 40 H7/ ø 42 H7

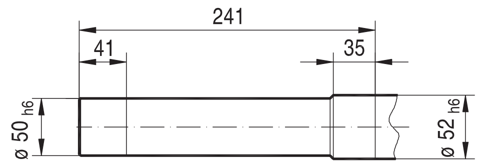




SH / SHF / SHZ77

ø 50 H7/ ø 52 H7





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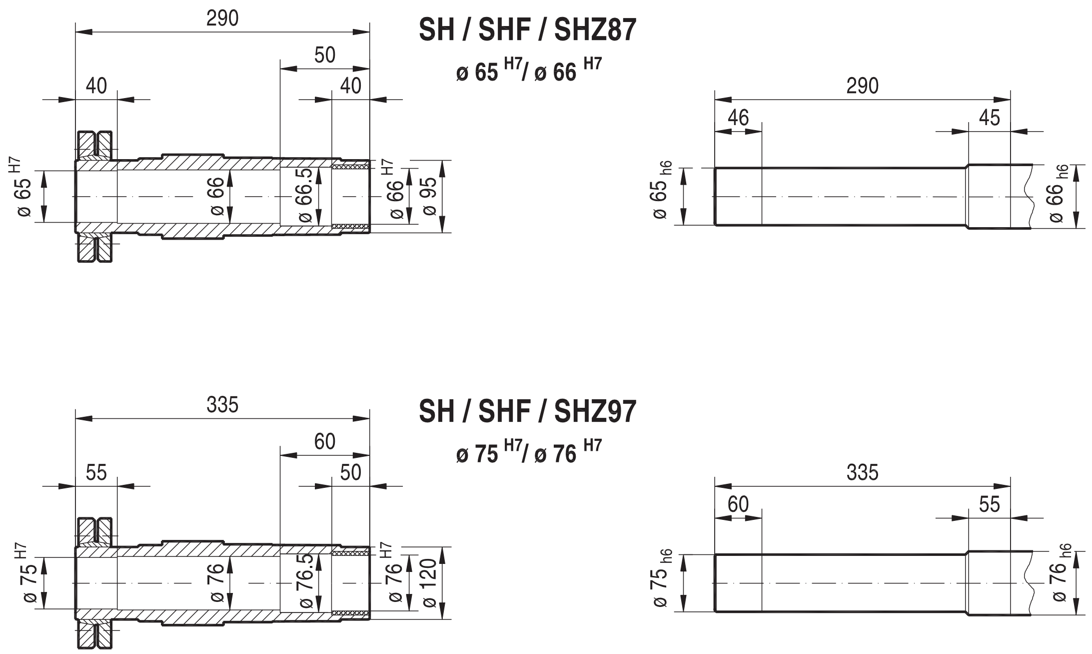

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6.8 Notes on stainless shrink disk or output shaft

Before using a stainless steel shrink disk or stainless steel output shaft, check if the ambient conditions, used chemicals and cleaning agents are compatible with the stainless steel material. For information on the material, refer to the order confirmation.

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6.9 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 mm	Strength class of the screws
RF37/R37F	120	10.9
RF47/R47F	140	
RF57/R57F	160	
FF/FAF77 KF/KAF77	250	
FM/FAM67, FM/FAM77 KM/KAM67, KM/KAM77	300	
FM/FAM87 KM/KAM87	350	
FM/FAM97 KM/KAM97	400	
RF147 FM/FAM107 KM/KAM107	450	
RF167 FM/FAM127 KM/KAM127	550	
FM/FAM157 KM/KAM157	660	
RZ37 – RZ87	60ZR – 130ZR	

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6.10 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 variant, 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.

6.10.1 Standard torque arms

The following table lists the part numbers of all galvanized steel or gray cast iron torque arms available for shipment:

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

6.10.2 Stainless steel torque arm

Torque arms made of stainless steel are available for K..19/29 and SPIROPLAN® gear units. Suitable retaining screws made of stainless steel are included in the delivery in a bag.

Gear unit	Size	
	19	29
KA, KH, KT	10638008	10638016

Gear unit	Size				
	10	20	30	37	47
WA, WH, WT	10638024	10638032	10638040	10638059	10638067

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6.10.3 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.

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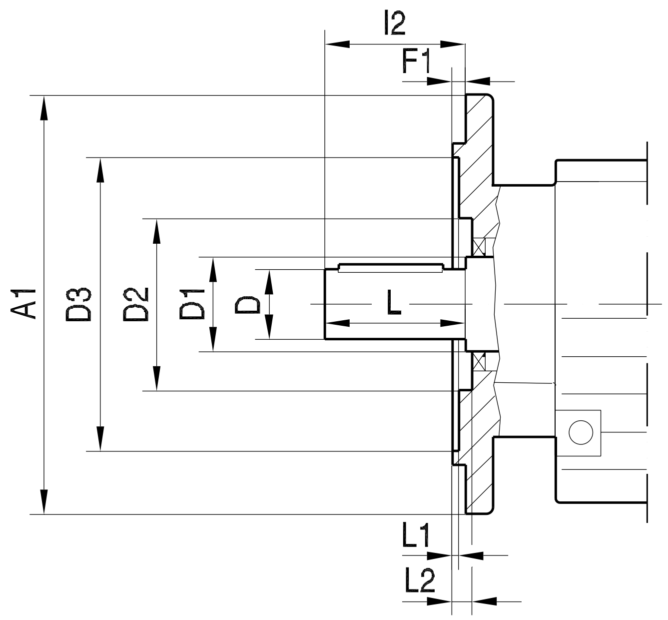
6.11 Flange contours of RF.. and R..F gear units



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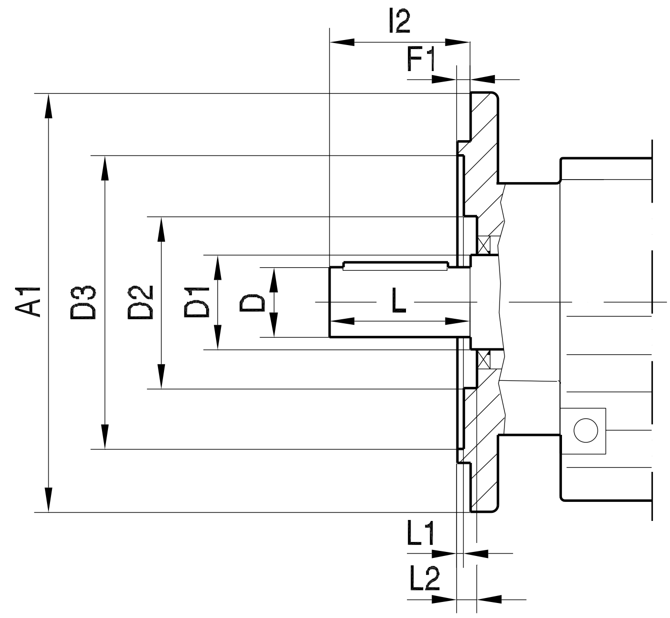
Check dimensions L1 and L2 for selection and installation of output elements.

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

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



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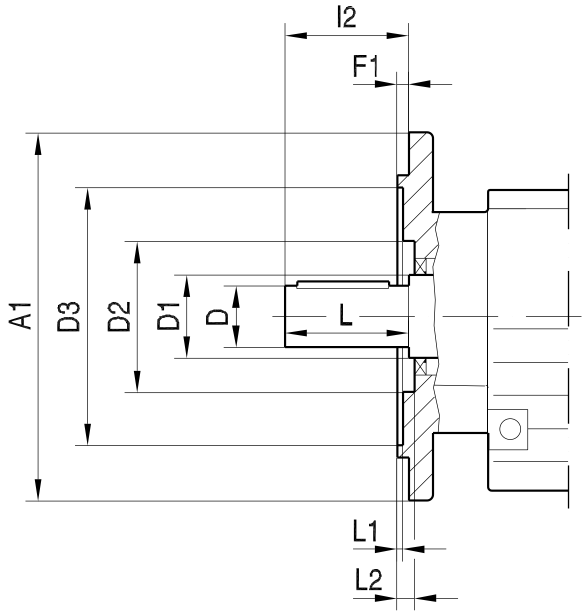
Check dimensions L1 and L2 for selection and installation of output elements.

Type	Dimensions in mm											
	A1	D	D1	D2		D3	F1	l2	L	L1		L2
				RF	R..F					RF	R..F	
RF107	350	70	82	157		232	5	140	140	0		11
	450	70	82	186		316	5	140	140	0		11
RF127	450	90	108	180		316	5	170	170	0		10
RF137	450	90	108	180		316	5	170	170	0		10
	550	90	108	180		416	5	170	170	0		10
RF147	450	110	125	210		316	5	210	210	0		10
	550	110	125	210		416	5	210	210	0		10
RF167	550	120	145	290		416	5	210	210	1		10
	660	120	145	290		517	6	210	210	2		11

6.12 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	160	25	30	70	94	3.5	50	50	2	6
FF47	200	30	40	72	115	3.5	60	60	3.5	7.5
FF57	250	35	40	84	155	4	70	70	4	9
FF67	250	40	50	84	155	4	80	80	4	9
FF77	300	50	55	82	205	4	100	100	5	9
FF87	350	60	65	115	220	5	120	120	5	9
FF97	450	70	75	112	320	5	140	140	8	10
FF107	450	90	100	159	318	5	170	170	16	9
FF127	550	110	118	-	420	5	210	210	10	-
FF157	660	120	135	190	520	6	210	210	8	14
KF19	120	20	25	-	70	2.5	40	40	-	11.5
KF19	160	20	25	-	100	2.5	40	40	-	11.5
KF29	160	25	30	-	109	3.5	50	50	-	6.5
KF29	200	25	30	-	115	3.5	50	50	-	6.5
KF37	160	25	30	70	94	3.5	50	50	2	6
KF39	160	30	39	68	96	3.5	60	60	13.5	23.5
KF47	200	30	40	72	115	3.5	60	60	3.5	7.5
KF49	200	35	49	76	115	3.5	70	70	24.5	28
KF57	250	35	40	84	155	4	70	70	4	9
KF67	250	40	50	84	155	4	80	80	4	9
KF77	300	50	55	82	205	4	100	100	5	9
KF87	350	60	65	115	220	5	120	120	5	9
KF97	450	70	75	112	320	5	140	140	8	10
KF107	450	90	100	159	318	5	170	170	16	9
KF127	550	110	118	-	420	5	210	210	10	-
KF157	660	120	135	190	520	6	210	210	8	14

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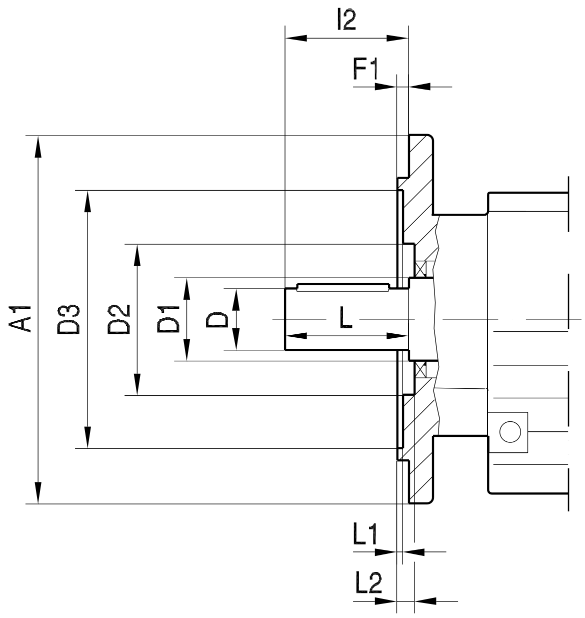

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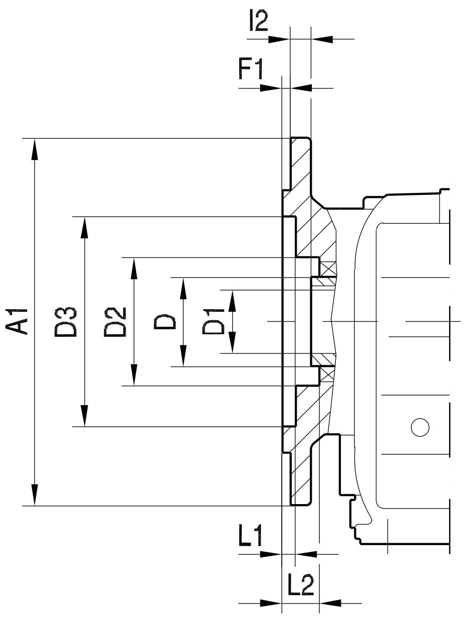
Check dimensions L1 and L2 for selection and installation of output elements.

Type	Dimensions in mm									
	A1	D	D1	D2	D3	F1	l2	L	L1	L2
SF37	120	20	25	-	68	3	40	40	6	-
SF37	160	20	25	-	96	3.5	40	40	5.5	-
SF47	160	25	30	70	94	3.5	50	50	2	6
SF57	200	30	40	72	115	3.5	60	60	3.5	7.5
SF67	200	35	45	-	115	3.5	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	5	140	140	8.5	10
WF10	80	16	25	-	39	2.5	40	40	30	-
WF10	120	16	25	39	74	3	40	40	5	30
WF20	110	20	30	44	53	-4	40	40	27	35
WF20	120	20	30	-	45	2.5	40	40	37.5	-
WF30	120	20	30	48	63	2.5	40	40	18	27
WF30	160	20	30	48	63	2.5	40	40	33	42
WF37	120	20	30	-	63	2.5	40	40	-	10.5
WF37	160	20	30	-	63	2.5	40	40	-	25.5
WF47	160	30	35	-	92	3.5	10	60	6	-

6.13 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	160	45	30	62	94	3.5	24	2	30
FAF47	200	50	35	70	115	3.5	25	3.5	31.5
FAF57	250	55	40	76	155	4	23.5	4	31
FAF67	250	55	40	76	155	4	23	4	31
FAF77	300	70	50	95	205	4	37	5	45
FAF87	350	85	60	120	220	5	30	5	39
FAF97	450	95	70	135	320	5	41.5	5.5	51
FAF107	450	118	90	224	320	5	41	16	52
FAF127	550	135	100	185	420	5	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
KAF19	160	30	20	60	100	2.5	25	9	25.5
KAF29	160	40	25 / 30	-	105	3.5	33.5	-	6.5
KAF29	200	40	25 / 30	-	118	3.5	33.5	-	6.5
KAF39	160	50	30 / 35	68	96	3.5	24.5	10	27
KAF37	160	45	30	62	94	3.5	24	2	30
KAF47	200	50	35	70	115	3.5	25	3.5	8.5
KAF49	200	55	35 / 40	76	115	3.5	32.5	16	34.5
KAF57	250	55	40	76	155	4	23.5	4	31
KAF67	250	55	40	76	155	4	23	4	31
KAF77	300	70	50	95	205	4	37	5	45
KAF87	350	85	60	120	220	5	30	5	39
KAF97	450	95	70	135	320	5	41.5	5.5	51
KAF107	450	118	90	224	320	5	41	16	52
KAF127	550	135	100	185	420	5	51	6	63
KAF157	660	155	120	200	520	6	60	10	74

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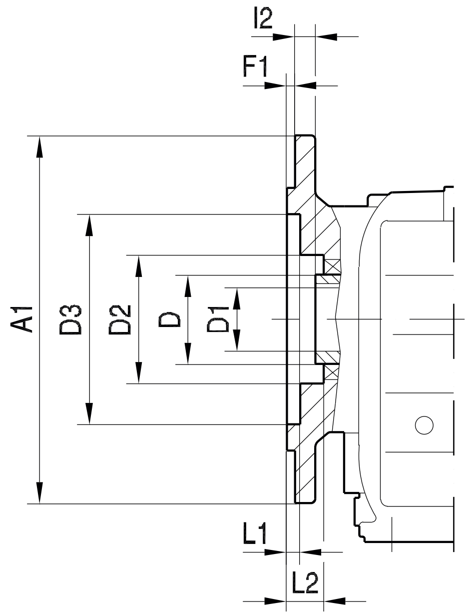

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Check dimensions L1 and L2 for selection and installation of output elements.

Type	Dimensions in mm								
	A1	**D**	**D1**	**D2**	**D3**	**F1**	**I2**	**L1**	**L2**
SAF37	120	35	20	-	68	3	15	6	-
SAF37	160	35	20	-	96	3.5	15	5.5	-
SAF47	160	45	30 / 25	62	94	3.5	24	2	30
SAF57	200	50	35 / 30	70	115	3.5	25	3.5	31.5
SAF67	200	65	45 / 40	91	115	3.5	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
SAF97	450	120	90 / 70	160	320	5	60	6.5	69
WAF10	80	25	16	-	39	2.5	23	30	-
WAF10	120	25	16	39	74	3	23	5	30
WAF20	110	30	18 / 20	45	53	-4	30	27	35
WAF20	120	30	18 / 20	-	45	2.5	30	37.5	-
WAF30	120	30	20	48	63	2.5	19.5	18	27
WAF30	160	30	20	48	63	2.5	34.5	22	42
WAF37	120	35	20 / 25	62	63	2.5	19.5	9	24.5
WAF37	160	35	20 / 25	62	63	2.5	34.5	24	39.5
WAF47	160	45	30	62.5	92	3.5	35	6	41
WAF47	200	45	30	62.5	115	3.5	35	6	41

6.14 Safety covers

6.14.1 Rotating safety cover

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

Gear unit type	Sizes
KH..	19 – 49 and 37 – 97
FH.., SH.., WH..	37 – 97

Should you require a fixed plastic or metal safety cover for safety reasons, refer to the part numbers in the following chapters.

6.14.2 High fixed plastic safety cover

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

Gear unit type	Sizes
FH..	27 and 107 – 127
KH..	107 – 127

Should you require a high fixed plastic safety cover for other gear unit types or sizes due to safety reasons, refer to the part numbers in the following chapters.

6.14.3 Fixed sheet metal safety cover

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

Gear unit type	Sizes
KH..	157, 167 and 187
FH..	157
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 safety 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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6.14.4 Flat fixed plastic safety cover

The following gear unit types with hollow shaft can optionally be equipped with a flat fixed plastic safety cover:

Gear unit type	Sizes
FA.., FV..	27 – 97
KA..	19 – 49 and 37 – 97
KV..	37 – 97
SA..	37 – 97
WA..	10 – 30 and 37/47

Should you require a flat fixed plastic safety cover for these gear unit types due to safety reasons, refer to the part numbers in the following chapters.

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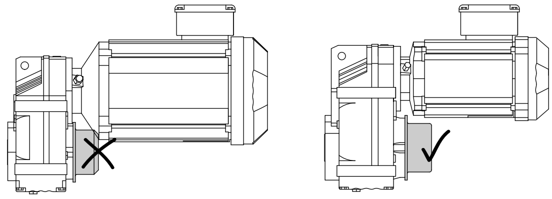
6.14.5 Motor mounting sizes and terminal box position with fixed safety cover

The size of the attached motor may be limited by the use of a high fixed safety cover for parallel-shaft helical gear units.



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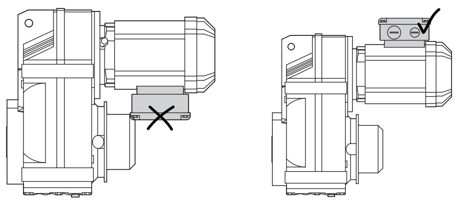

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INFORMATION

SEW-EURODRIVE recommends the terminal box position ≠ 90° for parallel-shaft helical gear units with high safety cover to simplify assembly and maintenance.

If necessary, check the configuration in the product configurator on the SEW-EURODRIVE website.

High fixed plastic safety cover

The following table shows the maximum possible motor mounting sizes, depending on the gear unit size, for a high fixed plastic safety 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 safety cover

The following table shows the maximum possible motor sizes, depending on the gear unit size, for a high fixed sheet metal safety cover:

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

6.14.6 Part numbers and dimensions for high fixed plastic covers

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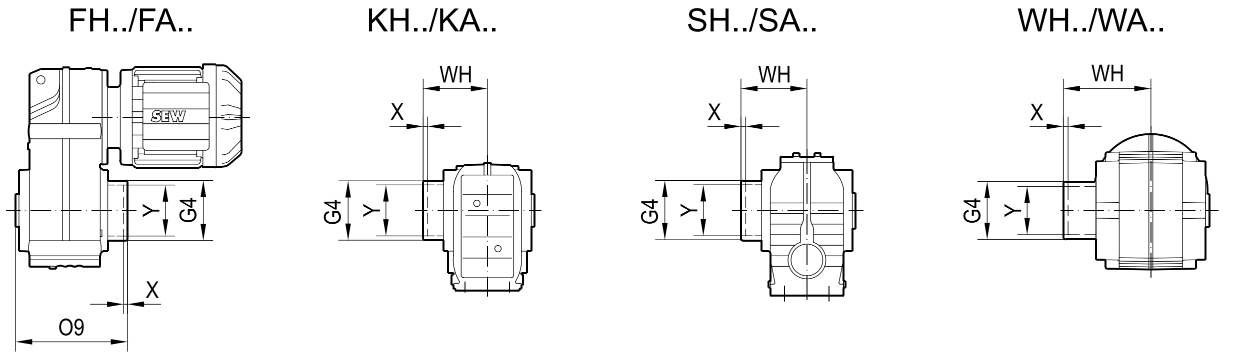

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Parallel-shaft helical gearmotors	FH/FA ..27	FH/FA ..37	FH/FA ..47	FH/FA ..57	FH/FA ..67	FH/FA ..77	FH/FA ..87	FH/FA ..97
Part number	06435319	6435130	6435149	6435157	6435157	6435165	6435173	6435181
G4 in mm	58	78	88	100	100	121	164	185
O9 in mm	134	157	188.5	207.5	221.5	255	295	363.5
X in mm	0.8	2	4.5	7.5	6	6	4	6.5
Y in mm	56	75	83	83	93	114	159	174

Helical-bevel gearmotors	KH/KA ..19	KH/KA ..29
Part number	10684158	10684166
G4 in mm	62	68
WH 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
WH 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
WH 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	10611363	10611940
G4 in mm	68	80.5
WH in mm	95.5	109.5
X in mm	11	12.5
Y in mm	50	72

6.14.7 Part numbers and dimensions for fixed sheet metal covers

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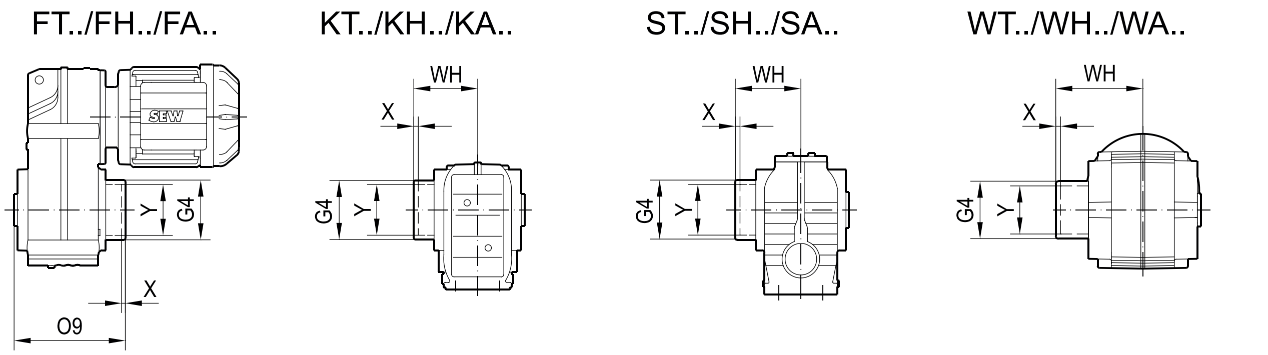

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Parallel-shaft helical gearmotors	FT/FH/FA ..37	FT/FH/FA ..47	FT/FH/FA ..57	FT/FH/FA ..67	FT/FH/FA ..77	FT/FH/FA ..87	FT/FH/FA ..97	FT/FH/FA ..107	FT/FH/FA ..127	FT/FH/FA ..157
Part number	0643584X	06435858	06435866	06435866	06435874	06435882	06435890	06421814	06421822	06421830
G4 in mm	81	90	101	101	124	165	200	196	229	275
O9 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/KH/KA ..39	KT/KH/KA ..49
Part number	10686320	10686339	10682651	10682964
G4 in mm	60	68	86	97
WH in mm	84.5	91.5	117.5	138
X in mm	1.5	1.5	1	1
Y in mm	50	60	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
WH 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
WH 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
WH in mm	95.5	109
X in mm	1	1
Y in mm	64	76

6.14.8 Part numbers and dimensions for flat fixed plastic covers

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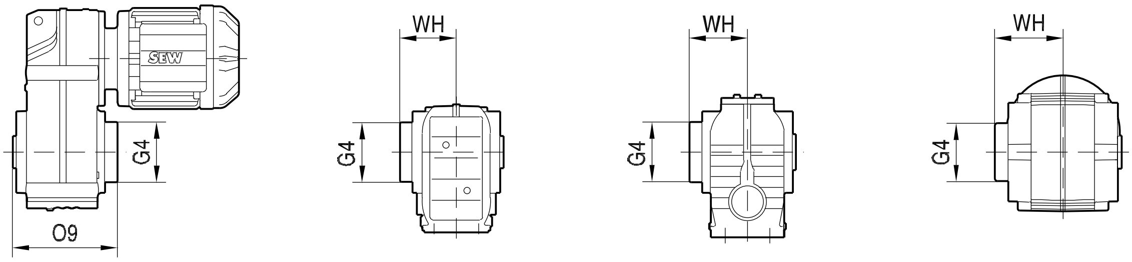
FA../FV.. KA../KV.. SA.. WA..



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Parallel-shaft helical gearmotors	FA/FV..27	FA/FV..37	FA/FV..47	FA/FV..57	FA/FV..67	FA/FV..77	FA/FV..87	FA/FV..97
Part number	10688684	10688293	10688390	10688498	10688498	10688595	10688692	10688781
G4 in mm	57.4	80.4	80.4	84.7	84.7	117.4	147.5	187.4
O9 in mm	111	134	163	179	193	223	251	313

Helical-bevel gearmotors	KA ..19	KA ..29	KA ..39	KA ..49
Part number	10688684	10688293	10688498	10688498
G4 in mm	57.4	80.4	84.7	84.7
WH in mm	63.2	73.5	90	90

Helical-bevel gearmotors[1)]	KA/KV..37	KA/KV..47	KA/KV..57	KA/KV..67	KA/KV..77	KA/KV..87	KA/KV..97
Part number	10688293	10688390	10688498	10688498	10688595	10688692	10688781
G4 in mm	80.4	80.4	84.7	84.7	117.4	147.5	187.4
WH in mm	72.5	87	95	101.5	116	131	161

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

Helical-worm gearmotors	SA ..37	SA..47	SA ..57	SA..67	SA..77	SA.. 87	SA..97
Part number	10687890	10688293	10688390	10688498	10688595	10688692	10688781
G4 in mm	57.4	80.4	80.4	84.7	117.4	147.5	187.4
WH in mm	68	72.5	87	95.5	116	135	155

SPIROPLAN® gearmotors	WA..10	WA..20	WA..30	WA..37	WA..47
Part number	10687998	10687998	10688099	10688099	10688196
G4 in mm	42.4	42.4	57.4	57.4	62.4
WH in mm	51	58.5	69	69	82.5

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6.15 Technical data condition monitoring

6.15.1 Information on oil aging sensor /DUO10A

Technical data

	Technical data		
Preset oil grades	OIL1	CLP mineral oil	T_{max} = 100 °C
		Biodegradable oil	T_{max} = 100 °C
	OIL2	CLP HC synthetic oil	T_{max} = 130 °C
		CLP PAO oil	T_{max} = 130 °C
	OIL3	CLP PG polyglycol	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: Exceeded temperature 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 device)	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 bores:

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

6.15.2 Information on the /DUV40A vibration monitoring system

Scope of delivery

- Device Vibration SmartCheck with integrated software FAG SmartWeb
- User documentation Vibration SmartCheck and FAG SmartWeb on CD-ROM
- FAG SmartUtility Light software with user documentation on CD-ROM
- 1 retaining screw: Hexagon socket head screw M6 × 45
- 1 O-ring to secure the retaining screw against loss
- 1 plug with logo to close assembly opening
- 3 closing plugs to close unused M12 connections

INFORMATION

Cables for connecting the device are not included in the standard delivery of Vibration SmartCheck devices.

Technical data

DUV40A (Diagnostic Unit Vibration)	
Housing	Glass fiber reinforced plastic
Fastening	Hexagon socket head screw M6 × 45 Contact surface on the machine: 25 mm Ø
Current consumption	< 200 mA at 24 V
Ambient temperature	-20 to +70 °C
Internal operating temperature	-20 to +85 °C

DUV40A (Diagnostic Unit Vibration)	
Voltage supply	11 – 32 VDC or Power over Ethernet (PoE) based on 802.3af Mode A
Size	44 mm × 57 mm × 55 mm
Weight	ca. 210 g
Degree of protection	IP 67
Operating system	Embedded Linux
Software	FAG SmartWeb (Mozilla Firefox ESR 38 (recommended), Internet Explorer 11, Internet Explorer 9 not recommended due to performance reasons) Vibration SmartUtility Light or optionally Vibration SmartUtility Languages: German, English, Chinese, Spanish, and French

Internal sensor technology	
Vibration	Acceleration sensor (piezoelectric sensor) Frequency range 0.8 Hz to 10 kHz Measuring range ±50 g
Temperature	Measuring range -20 to +70 °C

Measurement	
Measurement functions	Acceleration Speed and distance by integration System temperature Process parameters (e.g. speed, load, pressure)
Diagnostic methods	Time signal, envelope, spectrum and trend analysis, speed and frequency checking

Characteristic values (time and frequency range)	
Defined characteristic values	DIN/ISO 10816
Calculated characteristic values	RMS, frequency selected RMS, direct component, peak, peak to peak, crest factor, Wellhausen count, carpet level, condition monitoring Other user-defined characteristic values are available.

Signal processor	
Frequency resolution	1600, 3200, 6400, or 12800 lines Line width min. 0.0039 Hz at 50 Hz (depending on low pass)
Measurement resolution	24 Bit (A/D converter)
Frequency range	0.8 Hz – 10 kHz
Low passes	50 Hz – 10 kHz (50 Hz, 100 Hz, 200 Hz, 500 Hz, 1 kHz, 2 kHz, 5 kHz, 10 kHz)
High passes (only envelope)	750 Hz, 1 kHz, 2 kHz (other filters upon request)

Memory	
Program and data	64 MB RAM, 128 MB flash

Inputs and outputs	
Inputs	**2 analog inputs** (0 – 10 V / 0 – 24 V / 0 – 20 mA / 4 – 20 mA), frequency range 0 – 500 Hz, 12 Bit **1 digital input** (0 – 30 V, 0.1 Hz – 1 kHz)
Outputs	**1 analog output** (0 – 10 V / -20 mA / 4 – 20 mA), 12 Bit **1 switching output** (open collector, max. 1 A, 28 V) Optional galvanic isolation between inputs and outputs

Interfaces	
Control elements	2 capacitive pushbuttons (learning mode, alarm reset, restart, factory settings)
Display elements	1 LED to display status and alarm 1 LED to acknowledge the pushbuttons 2 LEDs to display communication
Communication	Ethernet 100 Mb/s RS485 (currently not yet supported)
Electrical connections	3 M12 plug connectors (polarity reversal protected) for supply, RS485, inputs/outputs, and Ethernet

Part numbers

	Description	Part number
Sensor	DUV40A (Diagnostic Unit Vibration)	19175892
Cables	Voltage supply cable 8-pin for SmartCheck 5 m; M12(B) <-> open end	19179596
Cables	Ethernet cable for SmartCheck 5 m; M12 <-> RJ45	19179618
Cables	I/O cable 8-pin for SmartCheck 5 m; M12(St) <-> open end	19179626
Cables	Power/Ethernet/I-O signals in 10m and 20m	

	Description	Part number
Base for mounting on standard gear units (R, F, K, and S gear units)	Mounting base with sealing ring M10 × 1	20593422
	Mounting base with sealing ring M12 × 1.5	20593430
	Mounting base with sealing ring M22 × 1.5	20593449
	Mounting base with sealing ring M33 × 2	20593457
	Mounting base with sealing ring M42 × 2	20593465

	Description	Part number
Base for mounting on industrial gear units	Mounting base with sealing ring G3/4"	20593384
	Mounting base with sealing ring G1"	20593392
	Mounting base with sealing ring G1 1/4"	20593406
	Mounting base with sealing ring G1 1/2"	20593414

	Description	Part number
Base for mounting on standard motors	Mounting base M5	21014175
	Mounting base M6	21014167
	Mounting base M8	20593503
	Mounting base M10	21014248
	Mounting base M12	20593473
	Mounting base M16	20593481
	Mounting base M20	20593511

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7 Important information on selection tables and dimension drawings

7.1 Information on the selection tables

7.1.1 Information on selection tables for adapters AM..

R77, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm												820 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	φ (/R)	AM							
	min^{-1}	Nm	N	'	63	71	80	90	100	112	132S/M	132ML
		2										[7]
5.31	264	510	3990	8			77	77	215	215	475	475
5.99	234	540	3990	8			87	87	240	240	535	535
6.79	206	580	3850	8	33	33	99	99	275	275	580	580
7.74	181	610	3940	8	38	38	113	113	315	315	610	610
8.59	163	630	4110	7	42	42	126	126	350	350	630	
9.64	145	630	6300	7			141	141	390	390	630	630
10.88	129	660	6490	6			159	159	440	440	660	660

[1] [2] [3] [4] [5] [6]

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- [1] Gear unit ratio: For gear ratios with a footnote[2]), refer to the chapter "Churning losses and thermal rating" (→ 47).
- [2] Output speed
- [3] Maximum permitted output torque of the open gear unit without additional component
- [4] Permitted overhung load at maximum output torque ([1]) foot-mounted gear unit with solid shaft)
- [5] Numerical value given: The reduced backlash option (/R) is possible; the numerical value specifies the rotational clearance of the reduced backlash version in angular minutes '. No data (-): The reduced backlash option (/R) is not possible for this i value.
- [6] Maximum permitted output torque of the gear unit/adapter combination
- [7] Stages of the following gear ratios

Combination is **not possible**.
Combination is **possible**.

The following table provides weight information for gear units with IEC or NEMA adapter

m /kg		AM							
IEC	s	63	71	80	90	100	112	132S/M	132ML
R77	2	33	34	36	36	40	40	47	47
R77	3	34	35	37	37	41	41	48	48
NEMA		-	56	143	145	182	184	213/215	-
R77	2	-	34	36	36	39	39	45	-
R77	3	-	35	37	37	40	40	46	-
RF: + 5.7 kg / RM: + 30.7 kg									

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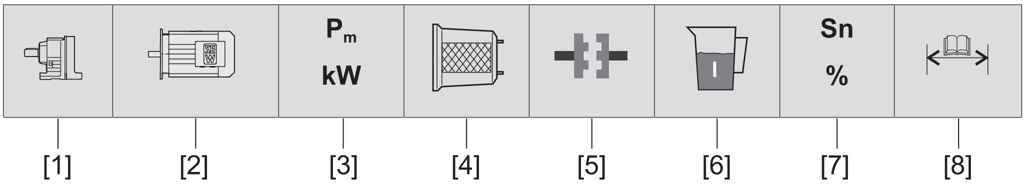
7.1.2 Information on selection tables for adapters AT..



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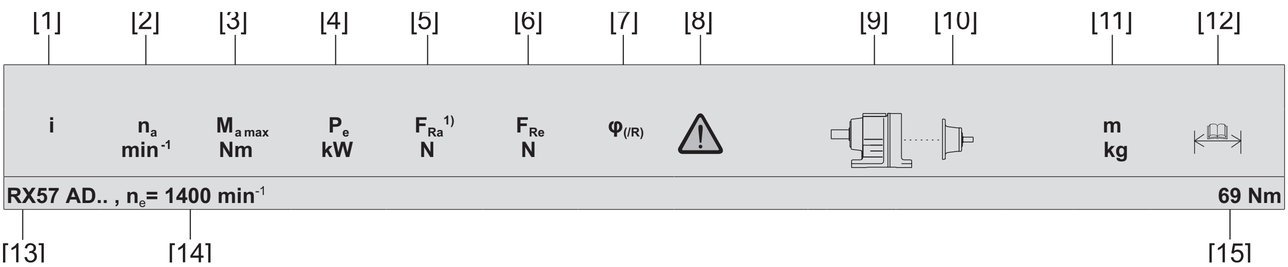
[1] Gear unit size
[2] Motor type
[3] Motor power
[4] Adapter type
[5] Coupling type
[6] Fill quantity in liters
[7] Rated slip of the coupling
[8] Dimension sheet page number

7.1.3 Information on the selection tables for input shaft assemblies AD..



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[1] Gear unit ratio; A value marked with ***** indicates a finite gear unit ratio.
[2] Output speed
[3] Maximum permitted output torque
[4] Calculated input power of the gear unit
[5] Permitted overhung load at maximum output torque (foot-mounted gear unit with solid shaft)
[6] Permitted overhung load on input end
[7] Numerical value given: The reduced backlash option (/R) is possible; the numerical value specifies the rotational clearance of the reduced backlash version in angular minutes ’. No data (-): The reduced backlash option (/R) is not possible for this i value.
[8] Observe the chapter "Thermal limit rating for gear units with input shaft assembly" (→ 🗎 68).
[9] Gear unit size
[10] Cover type
[11] Weight
[12] Dimension sheet page number
[13] Gear unit type and size
[14] Rated speed
[15] Maximum output torque of the gear unit

7.2 Dimension sheet information

7.2.1 Symbols for scope of delivery

 Standard parts supplied by SEW-EURODRIVE.

 Standard parts not supplied by SEW-EURODRIVE.

7.2.2 Tolerances

Shaft heights

The following tolerances apply to the indicated dimensions:

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

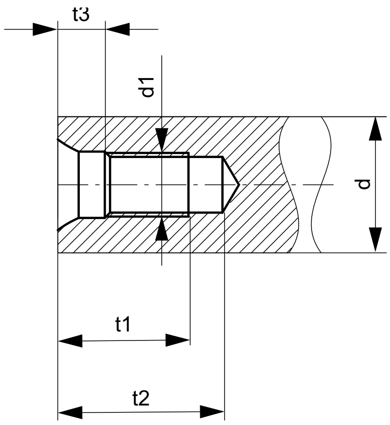
Foot-mounted gear units: Check the mounted motor because it might project below the mounting surface.

Shaft ends

Diameter tolerance:

Ø	≤ 50 mm	→ ISO k6
Ø	> 50 mm	→ ISO m6

Center holes according to DIN 332, shape DR:



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d	d1	t1 +2/0	t2 min	t3 +1/0
13 < d ≤ 16	M5	12.5	17	4
16 < d ≤ 21	M6	16	21	5
21 < d ≤ 24	M8	19	25	6
24 < d ≤ 30	M10	22	30	7.5
30 < d ≤ 38	M12	28	37	9.5
38 < d ≤ 50	M16	36	45	12

d	d1	t1 +2/0	t2 min	t3 +1/0
50 < d ≤ 85	M20	42	53	15
85 < d ≤ 130	M24	50	63	18
130 < d ≤ 225	M30	63	85	20

Keys: according to DIN 6885 (domed type)

Keyway width to ISO N9

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

The fit of the hollow shafts with splined hollow shaft is 9H.

The assumed fit of the customer shaft in the dimension sheets of the catalog is 7d.

The fit pair 9H/7d specified in the dimension sheets is a clearance fit. Depending on the application requirements, it is the customer's responsibility to choose another fit pair and to manufacture the customer shaft accordingly.

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.

7.2.3 Eyebolts, lifting eyes

R07 – R27 helical gear units, K..167 – K..187 helical-bevel gear units, motors up to DRN90 and SPIROPLAN® gearmotors W..10 – 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
	lifting 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
S..37 – S47	—	X	—
S..47 – S..97	—	—	X
W..37 – W..47	—	X	—
≥ DRN100L	X	—	—

Legend: — not available, X available

7.2.4 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.

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7.2.5 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 $R_z \leq 16$ µm
- Elastic limit of the customer shaft material R_e and/or $Rp_{0.2} \geq 305$ N/mm²
- Design of the customer shaft as solid shaft

For customer shafts designed as hollow shaft, contact SEW-EURODRIVE.

7.2.6 Splined hollow shaft

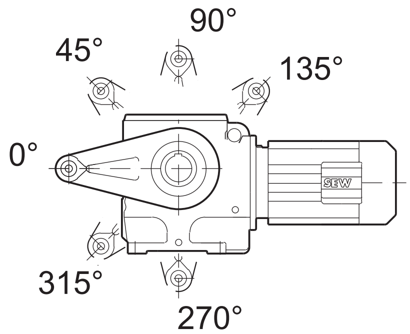
FV.. hollow shaft gear unit sizes 27 to 107, and KV.. sizes 37 to 107 are supplied with splining according to standard DIN 5480.

7.2.7 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.

7.2.8 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 from page
Helical-bevel gearmotors	(→ 🗎 219)
Helical-worm gearmotors	(→ 🗎 550)
SPIROPLAN® gearmotors	(→ 🗎 627)

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7.2.9 Dimensions of gear units and gearmotors

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.

Special designs

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

Dimension designations of gear units

The dimensions of the gear units are described below:

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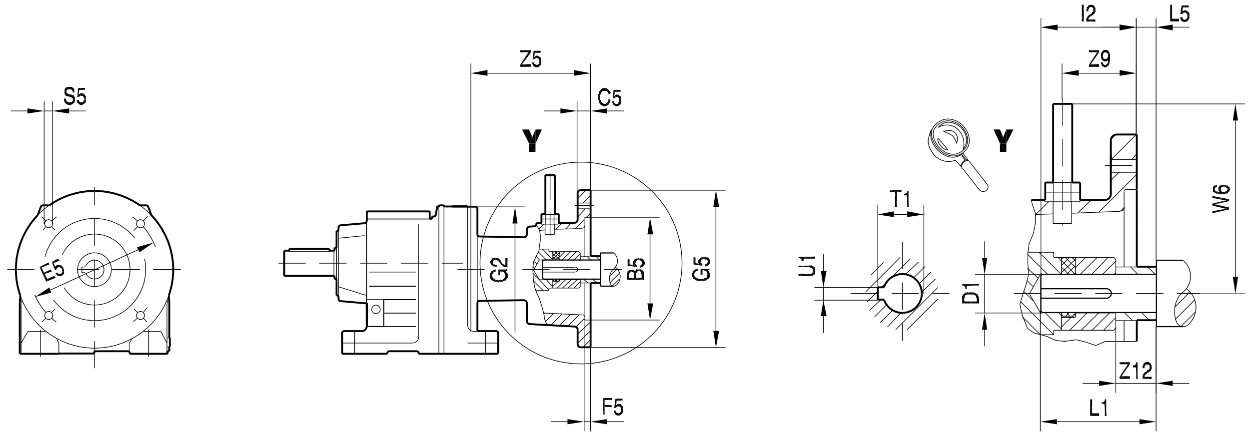

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G5	Adapter flange diameter	C5	Flange thickness
S5	Threaded hole	B5	Center bore diameter
E5	Hole circle diameter	F5	Centering depth
Z5	Adapter length	L1	Shaft end length (motor)
G2	Gear unit input end flange diameter	I2	Maximum insertion depth in adapter
D1	Coupling bore diameter	L5	Shaft collar length to flange surface
U1	Keyway width	Z9	Encoder position
T1	Keyway depth	W6	Encoder height
Z12	Shaft collar length to coupling		

INFORMATION

For motors with other feedback systems than resolvers, possible additional lengths must be considered.

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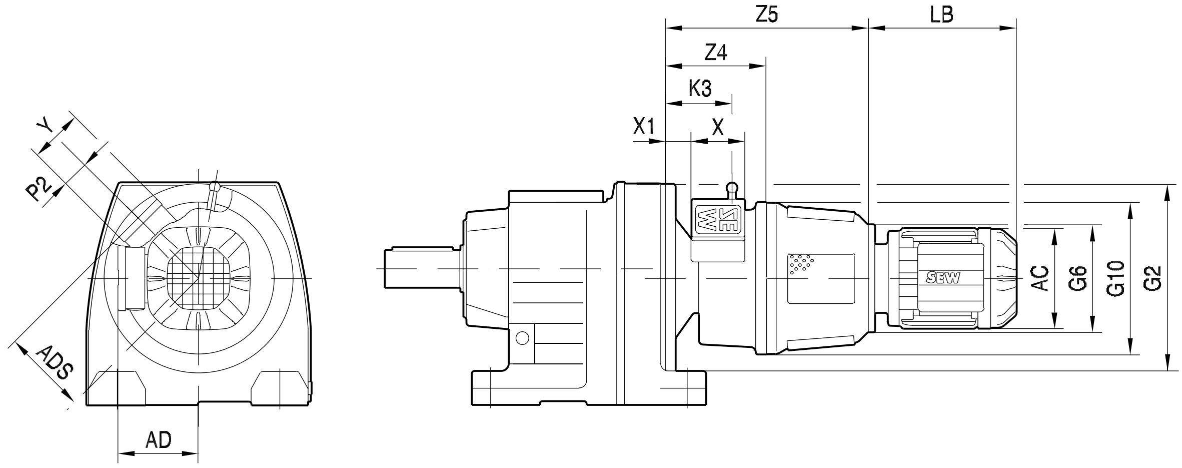
AT..

01 177 00 09



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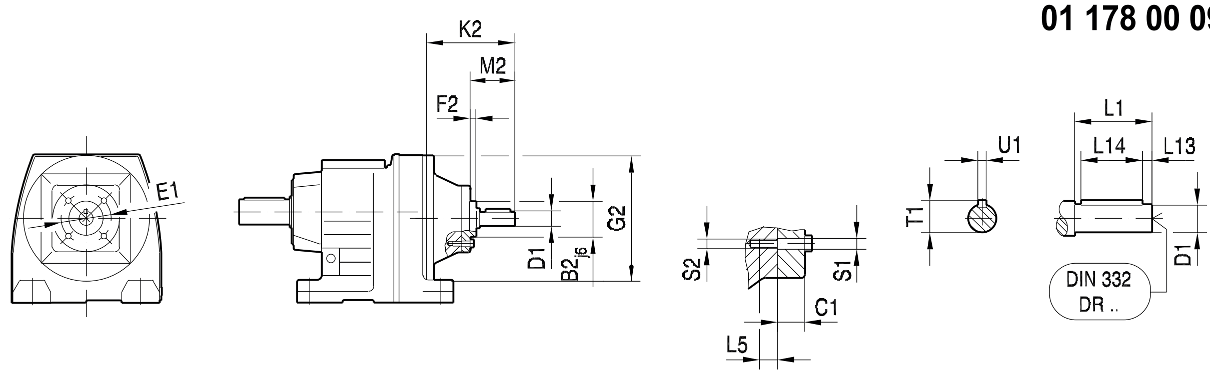
LB	Motor length	G10	Housing diameter of start-up coupling
G6	Motor flange diameter	Z4	Distance of gear unit and hydraulic coupling
Z5	Adapter length	AD	Height of motor terminal box
G2	Flange diameter on input side of gear unit	AC	Motor diameter

AD../ZR

01 178 00 09



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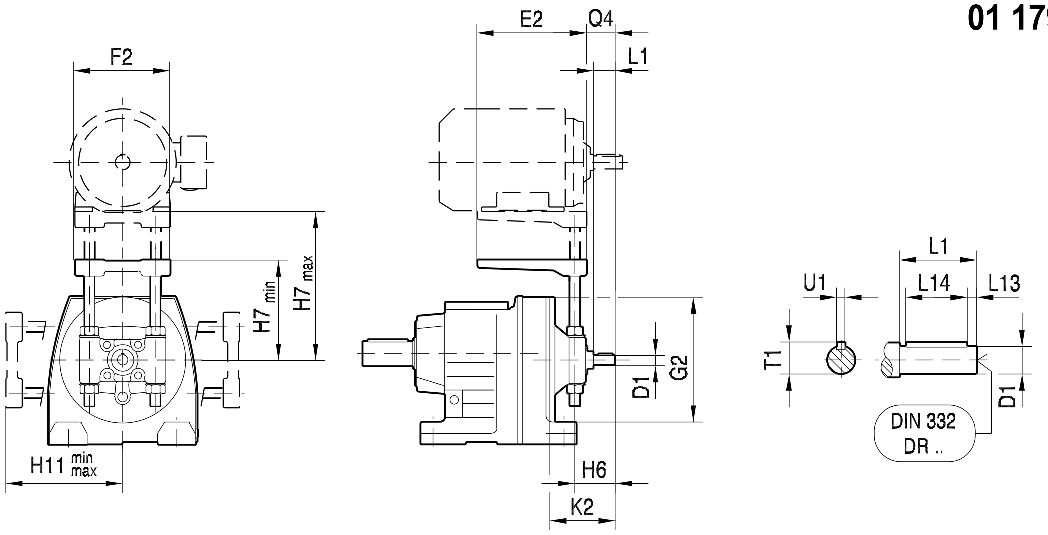
K2	Input shaft assembly length	G2	Flange diameter on input side of gear unit
B2	Center bore diameter	F2	Center bore height
M2	Contact surface position	E1	Hole circle diameter
S1	through bores	S2	Thread diameter
C1	Flange thickness	L5	Thread depth
D1	Shaft diameter	L1	Length of shaft end
L13	Position of key	L14	Key length
U1	Key width	T1	Key height in shaft

AD../P

01 179 00 09



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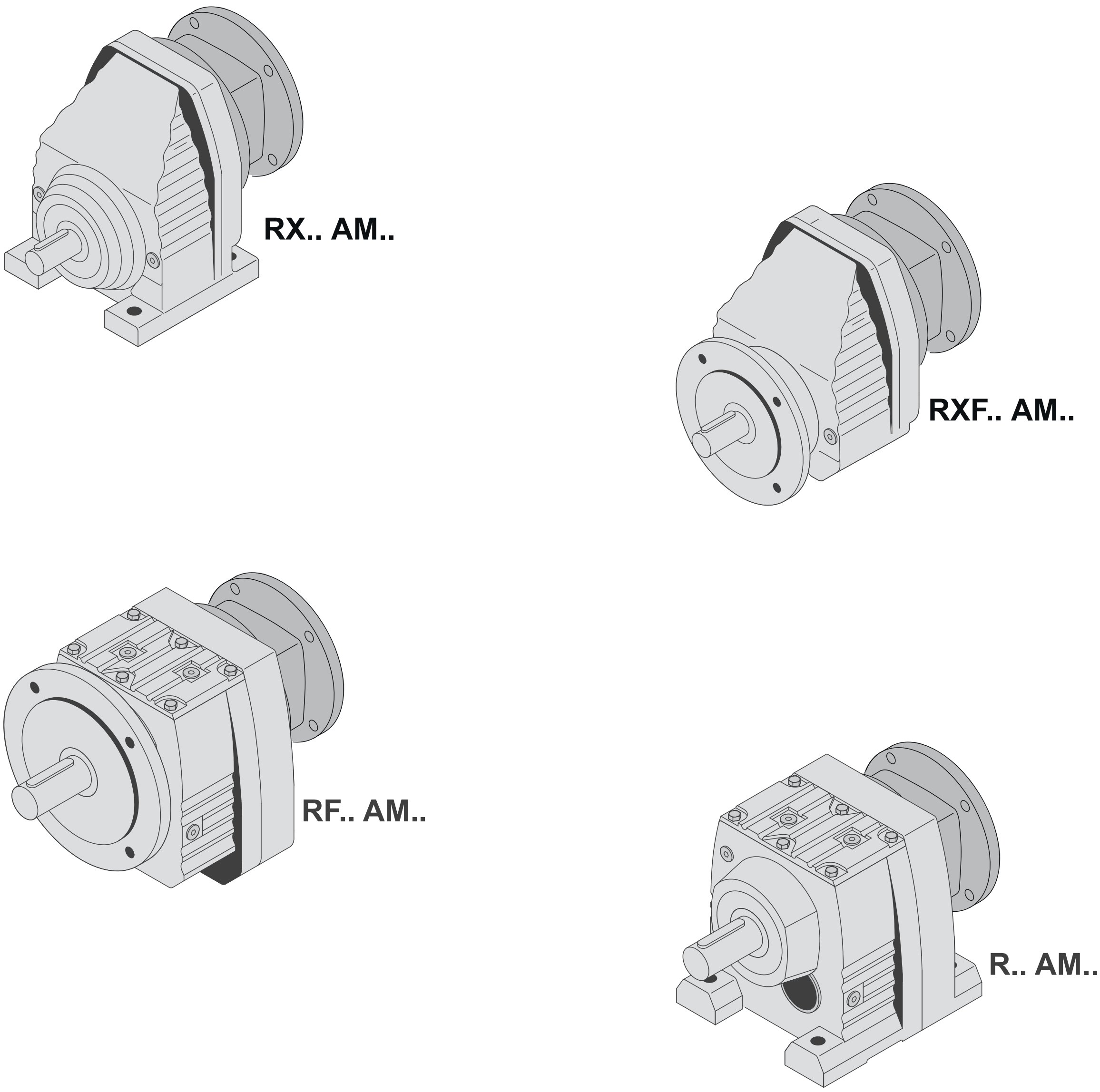
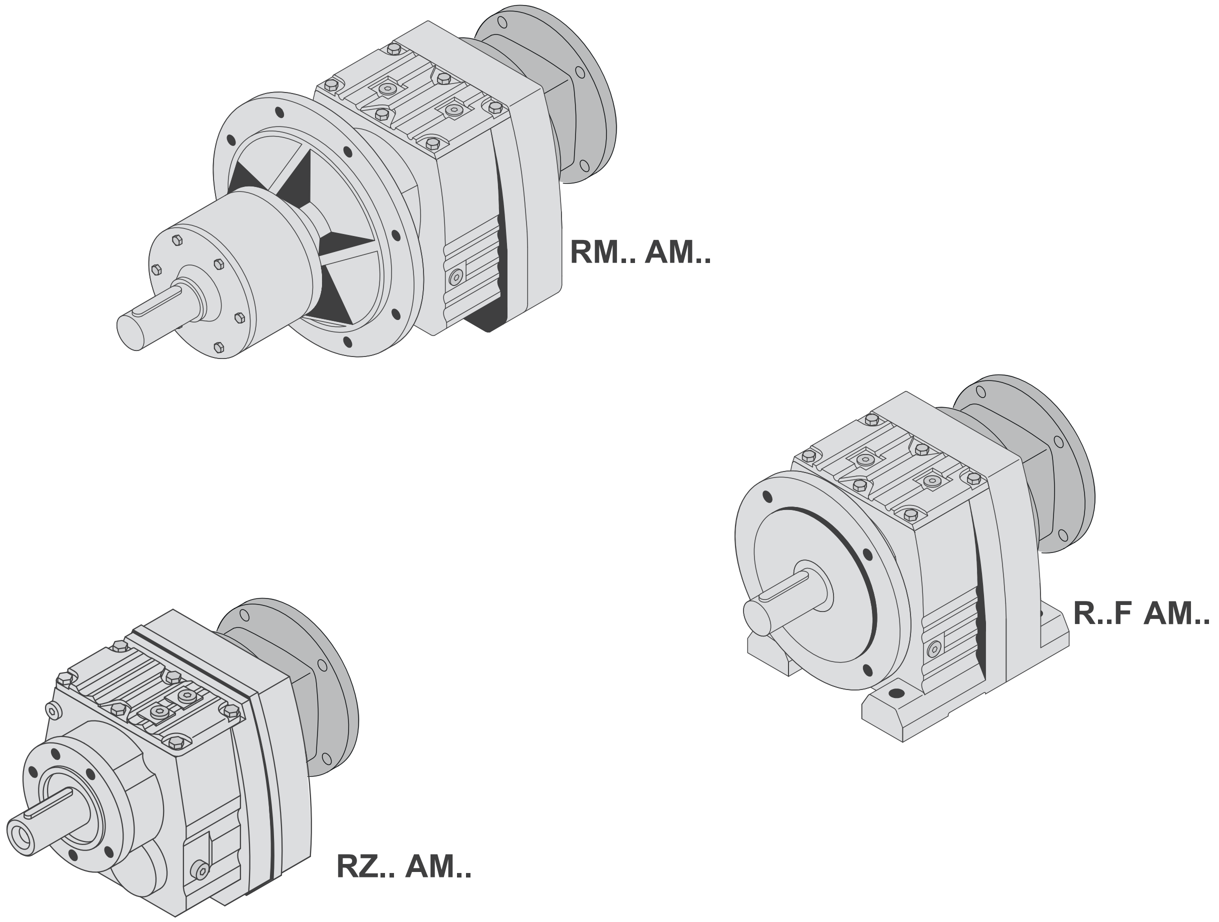
K2	Input shaft assembly length	G2	Flange diameter on input side of gear unit
E2	Length of motor platform	Q4	Distance from end of shaft to base plate
F2	Width of motor platform	H6	Distance from end of shaft to middle of column
H7	Adjusting height	H11	Adjusting height (0°, 180°)
D1	Shaft diameter	L1	Length of shaft end
L13	Position of key	L14	Key length
U1	Key width	T1	Key height in shaft

8 R.. helical gear units

8.1 Selection tables for adapters for mounting IEC/NEMA motors (AM..)



21441596299



21441598731

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8.1.1 RX.. AM.. /Nm

RX57, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm											69 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM						
	min^{-1}	Nm	N	'	63	71	80	90	100	112	132S/M
					1						
1.30	1075	63	132	-	6	6	19	19	54	54	63
1.48	946	68	112	-	7	7	22	22	61	61	68
1.65	848	69	430	-	8	8	24	24	68	68	69
1.92	729	69	880	-	9	9	28	28	69	69	69
2.04	686	69	1070	-	10	10	30	30	69	69	69
2.37	591	69	1500	-	12	12	35	35	69	69	
2.64	530	69	1810	-	13	13	39	39	69	69	
2.91	481	67	2170	-	15	15	43	43			
3.14	446	65	2320	-	16	16	47	47	65		
3.55	394	69	2420	-	18	18	50	50			
3.79	369	69	2480	-	19	19	51	51			
4.35	322	68	2640	-	22	22	53				
5.07	276	36	3030	-	26	26					
5.50	255	39	3100	-	28	28					

RX57, m /kg			AM						
RX	IEC	s	63	71	80	90	100	112	132S/M
		1	12	13	15	15	20	20	27
	NEMA	s	-	56	143	145	182	184	213/215
		1	-	13	15	15	19	19	24
RXF: + 1.9 kg									

RX67, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm											134 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM						
	min^{-1}	Nm	N	'	63	71	80	90	100	112	132S/M
					1						
1.40	1000	104	205	-			20	20	58	58	104
1.61	870	114	245	-	8	8	24	24	66	66	114
1.86	753	126	225	-	9	9	27	27	77	77	126
2.04	686	134	230	-	10	10	30	30	84	84	134
2.40	583	123	1530	-	12	12	35	35	96	99	123
2.54	551	118	2000	-	13	13	38	38	100	105	118
2.89	484	106	2640	-	14	14	43	43	106	106	
3.20	438	100	2800	-	16	16	48	48	100	100	
3.77	371	87	3090	-	19	19	56	56	87		
4.30	326	80	3300	-	22	22	61	61			
4.53	309	82	3350	-	23	23	61	61			
5.18	270	75	3580	-	26	26	63				
6.07	231	43	4000	-	31	31					

RX67, m /kg			AM						
RX	IEC	s	63	71	80	90	100	112	132S/M
		1	15	15	17	17	22	22	29
	NEMA	s	-	56	143	145	182	184	213/215
		1	-	16	17	17	21	21	27
RXF: + 4.0 kg									

RX77, n_e = 1400 min^{-1}, $M_{a\ max}$/Nm												215 Nm
i	n_a	$M_{a\ max\ G}$	F_{Ra} 1)	$φ_{(/R)}$	AM							
	min^{-1}	Nm	N	'	63	71	80	90	100	112	132S/M	132ML
							1					
1.42	986	155	240	-			21	21	58	58	128	128
1.67	838	173	240	-			24	24	68	68	151	151
1.88	745	187	255	-			27	27	77	77	170	170
2.13	657	200	360	-	10	10	31	31	88	88	193	193
2.43	576	215	425	-	12	12	36	36	100	100	215	215
2.70	519	215	1030	-	13	13	40	40	111	111	215	
3.08	455	193	2490	-	15	15	46	46	127	127	193	
3.25	431	182	3140	-	16	16	48	48	134	134	182	
3.70	378	153	4280	-	18	18	55	55	145	151		
4.04	347	143	4490	-	20	20	60	60	143	143		
4.73	296	123	4890	-	24	24	70	70	123			
5.35	262	103	5240	-	27	27	77	77				
5.63	249	110	5300	-	28	28	77	77				
6.41	218	103	5600	-	32	32	79					
7.47	187	53	6200	-	38	38						
8.00	175	57	6330	-	40	40						

RX77, m /kg			AM							
RX	IEC	s	63	71	80	90	100	112	132S/M	132ML
		1	25	25	27	27	32	32	39	39
	NEMA	s	-	56	143	145	182	184	213/215	-
		1	-	25	27	27	31	31	37	-
RXF: + 2.3 kg										

RX87, n_e = 1400 min^{-1}, $M_{a\ max}$/Nm												405 Nm
i	n_a	$M_{a\ max\ G}$	F_{Ra} 1)	$φ_{(/R)}$	AM							
	min^{-1}	Nm	N	'	80	90	100	112	132S/M	132ML	160	180
							1					
1.39	1005	290	74	-					125	125	255	290
1.60	875	315	74	-			65	65	144	144	295	315
1.93	725	355	185	-			79	79	174	174	355	355
2.15	651	385	42	-	31	31	88	88	194	194	385	385
2.48	565	405	470	-	36	36	102	102	220	220	405	405
2.76	507	405	1200	-	40	40	113	113	250	250	405	405
3.09	453	405	2030	-	45	45	127	127	275	275	405	
3.48	402	405	2810	-	51	51	143	143	315	315	405	
3.78	370	305	5050	-	56	56	156	156	305			
4.50	311	290	5520	-	67	67	186	186	290			
5.07	276	250	5990	-	75	75	210	210				
5.56	252	225	6330	-	83	83	215	215				
6.45	217	192	6860	-	96	96	192					
7.20	194	140	7380	-	107	107						
7.63	183	149	7500	-	107	107						
8.65	162	139	7890	-	109							

RX87, m /kg			AM							
RX	IEC	s	80	90	100	112	132S/M	132ML	160	180
		1	43	43	48	48	56	56	72	72
	NEMA	s	143	145	182	184	213/215	-	254/256	284/286
		1	43	43	47	47	54	-	67	69
RXF: + 5.0 kg										

RX97, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm											595 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra}[1]	$φ_{(/R)}$	AM						
	min^{-1}	Nm	N	'	100	112	132S/M	132ML	160	180	200
					1						
1.42[2]	986	455	132	-			126	126	260	315	455
1.64[2]	854	505	51	-			146	146	300	360	505
1.96	714	570	19	-			175	175	360	435	570
2.24	625	595	545	-	91	91	200	200	415	495	595
2.64	530	595	2020	-	108	108	235	235	490	585	595
2.92	479	595	2890	-	119	119	260	260	545	595	595
3.30	424	595	3820	-	135	135	295	295	595	595	
3.64	385	595	4610	-	149	149	325	325	595	595	
4.04	347	595	5450	-	166	166	365	365	595		
4.52	310	595	6210	-	186	186	405	405	595		
4.91	285	395	7240	-	200	200	395				
5.79	242	420	7650	-	235	235	420				
6.56	213	300	8510	-	270	270					
7.16	196	260	8960	-	260	260					
8.23	170	225	9570	-	225						

RX97, m /kg			AM						
RX	IEC	s	100	112	132S/M	132ML	160	180	200
		1	73	73	79	79	97	97	115
	NEMA	s	182	184	213/215	-	254/256	284/286	324/326
		1	72	72	77	-	92	94	110
RXF: + 8.6 kg									

RX107, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm												830 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra}[1]	$φ_{(/R)}$	AM							
	min^{-1}	Nm	N	'	100	112	132S/M	132ML	160	180	200	225
					1							
1.44[2]	972	645	315	-				128	265	320	600	600
1.71[2]	819	705	345	-			152	152	315	375	705	705
1.95	718	765	420	-			174	174	360	430	765	765
2.30	609	830	760	-			205	205	425	510	830	830
2.64	530	830	1850	-	107	107	235	235	490	585	830	830
3.07	456	830	3300	-	125	125	275	275	570	680	830	830
3.38	414	830	4190	-	138	138	305	305	630	735	830	830
3.81	367	830	5260	-	156	156	340	340	710	755		
4.20	333	830	6140	-	172	172	375	375	775	775		
4.65	301	695	7380	-	191	191	420	420	695			
5.19	270	695	7780	-	210	210	455	455	695			
5.61	250	455	9040	-	230	230	455					
6.63	211	460	9660	-	260	270	460					

RX107, m /kg			AM							
RX	IEC	s	100	112	132S/M	132ML	160	180	200	225
		1	105	105	110	110	130	130	145	150
	NEMA	s	182	184	213/215	-	254/256	284/286	324/326	364/365
		1	105	105	105	-	125	125	145	145
RXF: + 17 kg										

8.1.2 R.. AM.. /Nm

R27, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm								130 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM			
	min^{-1}	Nm	N	'	63	71	80	90
2								
3.37	415	79	900	-	17	17	49	49
4.00	350	85	900	-	20	20	59	59
4.27	328	87	920	-	21	21	63	63
5.00	280	95	860	-	25	25	74	74
5.60	250	99	880	-	28	28	83	83
6.59	212	106	880	-	33	33	98	98
7.63	183	112	900	-	39	39	106	106
8.16	172	116	870	-	41	41	108	108
9.41	149	122	900	-	48	48	112	
10.13	138	122	1890	-	51	51	122	122
11.86	118	129	1980	-	60	60	129	129
13.28	105	130	2140	-	67	67	130	130
15.63	90	130	2290	-	80	80	130	130
18.08	77	130	2440	-	92	92	130	130
19.35	72	130	2510	-	99	99	130	130
22.32	63	130	2660	-	114	114	130	
26.09	54	130	2840	-	130	130		
28.37	49	130	2940	-	130	130		
3								
24.47	57	130	2760	-	123	123	130	130
28.78	49	130	2950	-	130	130	130	130
32.47	43	130	3100	-	130	130	130	130
36.79	38	130	3260	-	130	130	130	130
39.25	36	130	3350	-	130	130	130	130
44.90	31	130	3530	-	130	130	130	130
48.17	29	130	3630	-	130	130	130	130
55.87	25	130	3840	-	130	130	130	
61.30	23	130	3980	-	130	130	130	130
69.47	20	130	4180	-	130	130	130	130
74.11	19	130	4230	-	130	130	130	130
84.78	17	130	4230	-	130	130	130	130
90.96	15	130	4230	-	130	130	130	130
105.49	13	130	4230	-	130	130	130	
123.91	11	130	4230	-	130	130		
135.09	10	130	4230	-	130	130		

R27, m /kg			AM			
	IEC	s	63	71	80	90
		2	6.2	6.5	8.9	8.9
		3	6.5	6.7	9.1	9.2
R	NEMA	s	-	56	143	145
		2	-	6.8	8.9	8.9
		3	-	7.1	9.1	9.2
RF: + -0.05 kg						

R37, n_e = 1400 min^{-1}, $M_{a\ max}$/Nm								200 Nm
i	n_a	$M_{a\ max\ G}$	F_{Ra} 1)	$\varphi_{(I/R)}$	AM			
	min^{-1}	Nm	N	'	63	71	80	90
					2			
3.41	411	112	900	14	17	17	50	50
4.05	346	122	840	13	20	20	60	60
4.32	324	126	820	13	21	21	64	64
5.06	277	135	790	13	25	25	75	75
5.67	247	142	760	12	28	28	84	84
6.67	210	144	1000	12	34	34	99	99
7.97	176	156	1720	8	40	40	118	118
9.47	148	167	1760	8	48	48	140	140
10.11	138	170	1820	8	51	51	150	150
11.83	118	183	1810	8	60	60	175	175
13.25	106	190	1880	8	67	67	190	190
15.60	90	200	2010	8	80	80	200	200
18.05	78	200	2390	8	92	92	200	200
19.31	73	200	2570	7	99	99	200	200
22.27	63	200	2970	7	114	114	200	
26.03	54	185	3860	7	134	134		
28.32	49	200	3690	7	144	144		
					3			
24.42	57	200	3240	9	122	122	200	200
28.73	49	200	3740	9	144	144	200	200
32.40	43	200	4120	9	163	163	200	200
36.72	38	200	4540	9	185	185	200	200
39.17	36	200	4760	9	198	198	200	200
44.81	31	200	4940	9	200	200	200	200
48.08	29	200	4940	9	200	200	200	200
55.76	25	200	4940	9	200	200	200	
61.18	23	200	4940	8	200	200	200	200
69.33	20	200	4940	8	200	200	200	200
73.96	19	200	4940	8	200	200	200	200
84.61	17	200	4940	8	200	200	200	200
90.77	15	200	4940	8	200	200	200	200
105.28	13	200	4940	8	200	200	200	
123.66	11	200	4940	8	200	200		
134.82	10	200	4940	8	200	200		

R37, m /kg			AM			
R	IEC	s	63	71	80	90
		2	12	12	15	15
		3	12	13	15	15
	NEMA	s	-	56	143	145
		2	-	13	15	15
		3	-	13	15	15
RF: + 1.5 kg						

R47, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm											300 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM						
	min^{-1}	Nm	N	'	63	71	80	90	100	112	132S/M
2											
3.83	366	144	2080	11	19	19	56	56	144	144	144
4.34	323	146	2190	11	21	21	64	64	146	146	146
4.85	289	150	2280	10	24	24	71	71	150	150	150
5.64	248	155	2410	10	28	28	83	83	155	155	155
6.00	233	156	2470	10	30	30	88	88	156	156	156
6.96	201	159	2620	10	35	35	103	103	159	159	
7.76	180	163	2720	10	39	39	115	115	163	163	
8.01	175	205	2690	8	40	40	118	118	205	205	205
9.07	154	220	2780	8	45	45	134	134	220	220	220
10.15	138	230	2880	7	51	51	150	150	230	230	230
11.79	119	245	3020	7	59	59	174	174	245	245	245
12.54	112	250	3080	7	63	63	186	186	250	250	250
14.56	96	265	3230	7	74	74	215	215	265	265	
16.22	86	275	3350	7	82	82	240	240	275	275	
17.89	78	290	3390	7	91	91	265	265			
19.27	73	295	3530	7	98	98	285	285	295		
21.81	64	300	3710	7	111	111	300	300			
23.28	60	300	3820	7	119	119	300	300			
26.74	52	300	4050	7	137	137	300				
31.12	45	220	4610	7	160	160					
33.79	41	240	4680	7	174	174					
3											
23.59	59	300	3840	8	116	116	300	300	300		
26.70	52	300	4050	8	132	132	300	300	300		
29.88	47	300	4240	8	149	149	300	300	300		
34.73	40	300	4520	8	173	173	300	300	300		
36.93	38	300	4630	8	185	185	300	300	300		
42.87	33	300	4930	8	215	215	300	300	300		
47.75	29	300	5140	8	240	240	300	300	300		
52.69	27	300	5350	8	265	265	300	300			
56.73	25	300	5420	8	285	285	300	300	300		
64.21	22	300	5420	8	300	300	300	300			
68.54	20	300	5420	8	300	300	300	300			
76.23	18	300	5420	7	300	300	300	300			
84.90	16	300	5420	7	300	300	300	300			
93.68	15	300	5420	7	300	300	300	300			
100.86	14	300	5420	7	300	300	300	300			
114.17	12	300	5420	7	300	300	300	300			
121.87	11	300	5420	7	300	300	300	300			
139.99	10	300	5420	7	300	300	300				
162.94	8.6	300	5420	7	300	300					
176.88	7.9	300	5420	7	300	300					

R47, m /kg			AM						
	IEC	s	63	71	80	90	100	112	132S/M
		2	16	16	18	19	23	23	30
		3	17	17	19	19	24	24	31
R	NEMA	s	-	56	143	145	182	184	213/215
		2	-	17	18	19	22	22	28
		3	-	17	19	19	23	23	28

RF: + 0.15 kg

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R57, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm											450 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM						
	min^{-1}	Nm	N	'	63	71	80	90	100	112	132S/M
2											
4.39	319	280	1900	10			64	64	179	179	280
5.05	277	305	1730	10	25	25	74	74	205	205	305
5.82	241	320	1820	10	29	29	86	86	235	235	320
6.41	218	335	1770	9	32	32	94	94	260	260	335
7.53	186	350	1950	9	38	38	111	111	305	305	350
7.97	176	355	2020	9	40	40	118	118	325	325	355
9.06	155	375	2010	9	46	46	134	134	355	365	
9.35	150	370	3180	7	46	46	137	137	370	370	370
10.79	130	390	3330	7	54	54	159	159	390	390	390
11.88	118	405	3430	7	59	59	175	175	405	405	405
13.95	100	430	3610	7	70	70	205	205	430	430	430
14.77	95	435	3690	7	74	74	215	215	435	435	435
16.79	83	450	3860	7	85	85	245	245	450	450	
18.60	75	450	4050	7	94	94	275	275	450	450	
21.93	64	450	4370	7	112	112	325	325	450		
24.99	56	450	4640	6	127	127	360	360			
26.31	53	450	4750	6	134	134	360	360			
3											
26.97	52	450	4800	8	133	133	390	390	450	450	450
30.18	46	450	5040	8	150	150	440	440	450	450	450
35.07	40	450	5390	8	175	175	450	450	450	450	450
37.30	38	450	5530	8	186	186	450	450	450	450	450
43.30	32	450	5900	8	215	215	450	450	450	450	
48.23	29	450	6170	8	240	240	450	450	450	450	
53.22	26	450	6430	8	265	265	450	450			
57.29	24	450	6630	8	285	285	450	450	450		
64.85	22	450	6980	8	325	325	450	450			
69.23	20	450	7100	7	350	350	450	450			
80.55	17	450	7100	7	400	400	450	450	450	450	
89.71	16	450	7100	7	450	450	450	450	450	450	
98.99	14	450	7100	7	450	450	450	450			
106.58	13	450	7100	7	450	450	450	450	450		
120.63	12	450	7100	7	450	450	450	450			
128.77	11	450	7100	7	450	450	450	450			
147.92	9.5	450	7100	7	450	450	450				
172.17	8.1	450	7100	7	450	450					
186.89	7.5	450	7100	7	450	450					

R57, m /kg			AM						
R	IEC	s	63	71	80	90	100	112	132S/M
		2	21	21	23	23	28	28	35
		3	22	22	24	24	29	29	36
	NEMA	s	-	56	143	145	182	184	213/215
		2	-	22	23	23	27	27	33
		3	-	22	24	24	28	28	34
RF: + 3.4 kg / RM: + 15 kg									

R67, n_e = 1400 min^{-1}, $M_{a\ max}$/Nm											600 Nm
i	n_a	$M_{a\ max\ G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM						
	min^{-1}	Nm	N	'	63	71	80	90	100	112	132S/M
					2						
4.29	326	270	5000	10			63	63	175	175	270
4.93	284	290	5210	9	24	24	72	72	200	200	290
5.70	246	310	5450	9	28	28	84	84	230	230	310
6.27	223	330	5590	9	31	31	92	92	250	255	330
7.36	190	370	5790	8	37	37	108	108	280	300	370
7.79	180	380	5830	8	39	39	115	115	290	315	380
8.70	161	440	5960	7			128	128	355	355	440
10.00	140	470	6220	7	49	49	147	147	405	405	470
11.54	121	500	6500	7	57	57	170	170	470	470	500
12.70	110	520	6640	6	63	63	187	187	510	520	520
14.91	94	550	6980	6	75	75	220	220	550	550	550
15.79	89	560	7130	6	79	79	230	230	560	560	560
17.95	78	590	7330	6	91	91	265	265	590	590	
19.89	70	600	7560	6	101	101	295	295	600	600	
23.44	60	560	8010	6	119	119	345	345	560		
26.72	52	540	8210	6	136	136	375	375			
28.13	50	540	8210	6	143	143	375	375			
					3						
28.83	49	520	8400	7	142	142	420	420	520	520	520
32.27	43	540	8210	7	160	160	470	470	540	540	540
37.50	37	570	7900	7	187	187	545	545	570	570	570
39.88	35	580	7790	7	199	199	580	580	580	580	580
46.29	30	600	7560	7	230	230	600	600	600	600	
51.56	27	600	7560	7	255	255	600	600	600	600	
56.89	25	600	7560	7	285	285	600	600			
61.26	23	600	7560	7	305	305	600	600	600		
69.75	20	600	7560	7	345	345	600	600	600	600	600
74.17	19	600	7560	7	370	370	600	600	600	600	600
86.11	16	600	7560	6	430	430	600	600	600	600	
95.91	15	600	7560	6	480	480	600	600	600	600	
105.83	13	600	7560	6	530	530	600	600			
113.94	12	600	7560	6	575	575	600	600	600		
128.97	11	600	7560	6	600	600	600	600			
137.67	10	600	7560	6	600	600	600	600			
158.14	8.9	600	7560	6	600	600	600				
184.07	7.6	600	7560	6	600	600					
199.81	7.0	600	7560	6	600	600					

R67, m /kg			AM						
R	IEC	s	63	71	80	90	100	112	132S/M
		2	28	28	30	30	35	35	42
		3	28	29	31	31	36	36	43
	NEMA	s	-	56	143	145	182	184	213/215
		2	-	28	30	30	34	34	39
		3	-	29	31	31	35	35	40
RF: + 3.2 kg / RM: + 19 kg									

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R77, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm												820 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM							
	min^{-1}	Nm	N	'	63	71	80	90	100	112	132S/M	132ML
2												
5.31	264	510	3990	8			77	77	215	215	475	475
5.99	234	540	3990	8			87	87	240	240	535	535
6.79	206	580	3850	8	33	33	99	99	275	275	580	580
7.74	181	610	3940	8	38	38	113	113	315	315	610	610
8.59	163	630	4110	7	42	42	126	126	350	350	630	
9.64	145	630	6300	7			141	141	390	390	630	630
10.88	129	660	6490	6			159	159	440	440	660	660
12.33	114	690	6740	6	60	60	181	181	500	500	690	690
14.05	100	720	7050	6	69	69	205	205	575	575	720	720
15.60	90	740	7390	6	77	77	225	225	635	635	740	
17.82	79	780	7620	6	89	89	260	260	730	730	780	
18.80	74	780	7980	6	94	94	275	275	770	770	780	
21.43	65	820	8250	6	108	108	315	315	820	820		
23.37	60	820	8870	6	118	118	345	345	820	820		
3												
25.23	55	780	10100	7			365	365	780	780	780	780
29.00	48	820	9920	7	141	141	420	420	820	820	820	820
33.47	42	820	9920	7	164	164	485	485	820	820	820	820
36.83	38	820	9920	7	181	181	535	535	820	820	820	
43.26	32	820	9920	7	210	210	630	630	820	820	820	
45.81	31	820	9920	7	225	225	665	665	820	820	820	
52.07	27	820	9920	7	255	255	760	760	820	820		
57.68	24	820	9920	7	285	285	820	820	820	820		
65.77	21	820	9920	7	320	320	820	820	820	820	820	
77.24	18	820	9920	6	380	380	820	820	820	820	820	
81.80	17	820	9920	6	405	405	820	820	820	820	820	
92.97	15	820	9920	6	460	460	820	820	820	820		
102.99	14	820	9920	6	510	510	820	820	820	820		
121.42	12	820	9920	6	605	605	820	820	820			
138.39	10	820	9920	6	690	690	820	820				
145.67	9.6	820	9920	6	725	725	820	820				
166.59	8.4	820	9920	6	820	820	820					
195.24	7.2	820	9920	6	820	820						

R77, m /kg			AM							
R	IEC	s	63	71	80	90	100	112	132S/M	132ML
		2	33	34	36	36	40	40	47	47
		3	34	35	37	37	41	41	48	48
	NEMA	s	-	56	143	145	182	184	213/215	-
		2	-	34	36	36	39	39	45	-
		3	-	35	37	37	40	40	46	-
RF: + 5.7 kg / RM: + 31 kg										

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R87, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm												1550 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM							
	min^{-1}	Nm	N	'	80	90	100	112	132S/M	132ML	160	180
2												
5.30	264	910	1710	7			210	210	470	470	910	910
6.39	219	1020	970	7			255	255	570	570	1020	1020
7.13	196	1070	820	7	103	103	290	290	635	635	1070	1070
8.22	170	1160	225	7	119	119	330	330	735	735	1160	1160
9.14	153	1210	99	6	133	133	370	370	810	810	1210	1210
9.90	141	1180	3520	6			400	400	880	880	1180	1180
11.93	117	1230	4120	6			480	480	1060	1060	1230	1230
13.33	105	1280	4220	6	192	192	540	540	1190	1190	1280	1280
15.35	91	1340	4450	6	220	220	625	625	1340	1340	1340	1340
17.08	82	1390	4580	6	245	245	695	695	1390	1390	1390	1390
19.10	73	1440	4800	6	275	275	775	775	1440	1440	1440	
21.51	65	1500	4970	6	315	315	870	870	1500	1500	1500	
23.40	60	1550	5000	6	340	340	950	950	1550			
27.84	50	1550	6640	6	410	410	1140	1140	1550			
31.40	45	1550	7820	5	460	460	1280	1280				
34.40	41	1500	9480	5	505	505	1310	1300				
3												
27.88	50	1500	7370	7	395	395	1120	1120	1500	1500	1500	1500
32.66	43	1550	8220	7	465	465	1310	1310	1550	1550	1550	1550
36.84	38	1550	9470	7	530	530	1480	1480	1550	1550	1550	1550
41.74	34	1550	10800	7	600	600	1550	1550	1550	1550	1550	
47.58	29	1550	12300	7	685	685	1550	1550	1550	1550	1550	
52.82	27	1550	13500	6	765	765	1550	1550	1550			
60.35	23	1550	15200	6	870	870	1550	1550	1550			
63.68	22	1550	15800	6	920	920	1550	1550	1550			
72.57	19	1550	16900	6	1050	1050	1550	1550				
81.92	17	1550	16900	6	1180	1180	1550	1550	1550	1550	1550	
93.38	15	1550	16900	6	1350	1350	1550	1550	1550	1550	1550	
103.65	14	1550	16900	6	1500	1500	1550	1550	1550			
118.43	12	1550	16900	6	1550	1550	1550	1550	1550			
124.97	11	1550	16900	6	1550	1550	1550	1550	1550			
142.41	9.8	1550	16900	6	1550	1550	1550	1550				
155.34	9.0	1550	16900	6	1550	1550	1550	1550				
181.77	7.7	1550	16900	6	1550	1550	1550					
205.71	6.8	1550	16900	6	1550	1550						
216.54	6.5	1550	16900	6	1550	1550						
246.54	5.7	1550	16900	6	1550							

R87, m /kg			AM							
R	IEC	s	80	90	100	112	132S/M	132ML	160	180
		2	62	62	67	67	74	74	90	90
		3	63	63	68	68	76	76	92	92
	NEMA	s	143	145	182	184	213/215	-	254/256	284/286
		2	62	62	66	66	72	-	85	88
		3	63	63	67	67	74	-	87	89
RF: + 7.1 kg / RM: + 37 kg										

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R97, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm											3000 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM						
	min^{-1}	Nm	N	'	100	112	132S/M	132ML	160	180	200
2											
4.50	311	1630	0	6			395	395	820	980	1630
5.20	269	1780	0	6			460	460	950	1140	1780
6.21	225	1890	0	6			550	550	1140	1360	1890
7.12	197	2000	0	6	285	285	630	630	1310	1560	2000
8.39	167	2030	0	6	335	335	745	745	1540	1850	2030
9.29	151	2030	0	6	375	375	820	820	1710	2030	2030
10.83	129	2090	3720	6			960	960	1990	2090	2090
12.39	113	2190	3850	6	495	495	1100	1100	2190	2190	2190
14.62	96	2300	4240	6	590	590	1300	1300	2300	2300	2300
16.17	87	2400	4130	6	655	655	1440	1440	2400	2400	2400
18.24	77	2500	4270	6	740	740	1620	1620	2500	2500	
20.14	70	2610	4110	5	810	810	1800	1800	2610	2610	
22.37	63	2720	4060	5	910	910	2000	2000	2720		
25.03	56	2830	4140	5	1020	1020	2230	2220	2830		
27.19	51	2560	8380	5	1110	1110	2280				
32.05	44	2560	10600	5	1300	1300	2340				
3											
27.58	51	2670	7260	6	1090	1090	2420	2420	2670	2670	2670
33.25	42	2890	7160	6	1320	1320	2890	2890	2890	2890	2890
37.13	38	3000	7410	6	1480	1480	3000	3000	3000	3000	3000
42.78	33	3000	9480	6	1710	1710	3000	3000	3000	3000	
47.58	29	3000	11100	6	1910	1910	3000	3000	3000	3000	
53.21	26	3000	12900	6	2140	2140	3000	3000	3000		
59.92	23	3000	14800	6	2410	2410	3000	3000	3000		
65.21	21	3000	16300	6	2630	2630	3000				
72.17	19	3000	18000	6	2880	2880	3000	3000	3000	3000	3000
83.15	17	3000	19800	6	3000	3000	3000	3000	3000	3000	
92.48	15	3000	19800	6	3000	3000	3000	3000	3000	3000	
103.44	14	3000	19800	6	3000	3000	3000	3000	3000		
116.48	12	3000	19800	6	3000	3000	3000	3000	3000		
126.75	11	3000	19800	6	3000	3000	3000				
150.78	9.3	3000	19800	6	3000	3000	3000				
170.02	8.2	3000	19800	6	3000	3000					
186.30	7.5	3000	19800	6	3000	3000					
216.28	6.5	3000	19800	6	3000						
241.25	5.8	3000	19800	6							
255.71	5.5	3000	19800	6							
289.74	4.8	3000	19800	6							

R97, m /kg			AM						
R	IEC	s	100	112	132S/M	132ML	160	180	200
		2	105	105	115	115	130	130	145
		3	110	110	115	115	135	135	150
	NEMA	s	182	184	213/215	-	254/256	284/286	324/326
		2	105	105	110	-	125	130	145
		3	110	110	115	-	130	130	150
RF: + 17 kg / RM: + 68 kg									

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R107, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm												4300 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM							
	min^{-1}	Nm	N	'	100	112	132S/M	132ML	160	180	200	225
2												
4.92 2)	285	2900	11300	9				430	900	1070	2020	2020
5.82	241	2970	12100	9			510	510	1060	1270	2400	2400
6.66	210	2970	12800	9			585	585	1220	1460	2750	2750
7.86	178	2970	13800	9			695	695	1440	1720	2970	2970
8.56 2)	164	4300	11300	7				750	1560	1870	3520	3520
10.13	138	4300	12400	7			890	890	1850	2220	4170	4170
11.59	121	4300	13300	7			1020	1020	2120	2540	4300	4300
13.66	102	4300	14400	7			1210	1210	2510	3000	4300	4300
15.65	89	4300	15400	7	625	625	1390	1390	2870	3440	4300	4300
18.21	77	4300	16600	7	730	730	1620	1620	3350	4010	4300	4300
20.07	70	4300	17300	7	810	810	1780	1780	3690	4300	4300	4300
22.62	62	4300	18300	7	910	910	2010	2010	4160	4300		
24.90	56	4300	19200	7	1010	1010	2220	2220	4300	4300		
27.58	51	4300	20100	7	1120	1120	2460	2460	4300			
30.77	45	4300	21100	7	1250	1250	2750	2750	4300			
3												
29.49	47	4300	20700	7			2570	2570	4300	4300	4300	4300
35.26	40	4300	22400	7			3080	3080	4300	4300	4300	4300
40.37	35	4300	23800	7	1590	1590	3540	3540	4300	4300	4300	4300
47.63	29	4300	25500	7	1890	1890	4180	4180	4300	4300	4300	4300
52.68	27	4300	26600	7	2100	2100	4300	4300	4300	4300	4300	4300
59.41	24	4300	28000	7	2370	2370	4300	4300	4300	4300		
65.60	21	4300	29200	7	2630	2630	4300	4300	4300	4300		
72.88	19	4300	29500	7	2920	2920	4300	4300	4300			
78.57	18	4300	29500	7	3110	3110	4300	4300	4300	4300	4300	4300
92.70	15	4300	29500	7	3680	3680	4300	4300	4300	4300	4300	4300
102.53	14	4300	29500	7	4090	4090	4300	4300	4300	4300	4300	4300
115.63	12	4300	29500	7	4300	4300	4300	4300	4300	4300		
127.68	11	4300	29500	7	4300	4300	4300	4300	4300	4300		
141.83	9.9	4300	29500	7	4300	4300	4300	4300	4300			
158.68	8.8	4300	29500	7	4300	4300	4300	4300	4300			
172.34	8.1	4300	29500	7	4300	4300	4300					
203.16	6.9	4300	29500	7	4300	4300	4300					
229.95	6.1	4300	29500	7	4300	4300						
251.15	5.6	4300	29500	7	4300	4300						

R107, m /kg			AM							
R	IEC	s	100	112	132S/M	132ML	160	180	200	225
		2	160	160	165	165	185	185	200	205
		3	170	170	170	170	190	190	205	210
	NEMA	s	182	184	213/215	-	254/256	284/286	324/326	364/365
		2	160	160	160	-	180	180	200	200
		3	165	165	170	-	185	185	205	205
RF: + 6.0 kg / RM: + 94 kg										

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R127, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm												6000 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} [1)]	$\varphi_{(/R)}$	AM							
	min^{-1}	Nm	N	'	100	112	132S/M	132ML	160	180	200	225
2												
5.55[2)]	252	3930	37600	8				485	1010	1210	2280	2280
6.56	213	3930	40200	8			575	575	1200	1430	2700	2700
7.51	186	3930	42400	8			660	660	1370	1640	3090	3090
8.85	158	3930	43000	8			780	780	1620	1940	3520	3520
8.96[2)]	156	5420	41400	7				785	1630	1960	3690	3690
10.59	132	5700	43000	6			930	930	1940	2320	4360	4360
12.12	116	5940	43000	6			1070	1070	2220	2660	5000	5000
14.29	98	6000	43000	6			1260	1260	2620	3140	5690	5690
16.37	86	6000	43000	6	655	655	1450	1450	3010	3600	5930	5930
19.04	74	6000	43000	6	765	765	1690	1690	3500	4190	6000	6000
20.98	67	6000	43000	6	840	840	1860	1860	3860	4600	6000	6000
23.65	59	6000	43000	6	950	950	2110	2110	4350	4720		
26.04	54	6000	43000	6	1050	1050	2320	2320	4800	4830		
28.84	49	6000	43000	6	1170	1170	2570	2570	4970			
32.18	44	6000	43000	6	1300	1300	2850	2850	4860			
3												
30.84	45	5380	43000	7			2690	2690	5380	5380	5380	5380
36.88	38	5730	43000	7			3220	3220	5730	5730	5730	5730
42.22	33	6000	43000	7	1670	1670	3700	3700	6000	6000	6000	6000
49.81	28	6000	43000	7	1980	1980	4370	4370	6000	6000	6000	6000
55.09	25	6000	43000	7	2190	2190	4840	4840	6000	6000	6000	6000
62.13	23	6000	43000	7	2480	2480	5470	5470	6000	6000		
68.61	20	6000	43000	7	2750	2750	6000	6000	6000	6000		
76.21	18	6000	43000	7	3060	3060	6000	6000	6000			
82.17	17	6000	43000	6	3250	3250	6000	6000	6000	6000	6000	6000
85.26	16	6000	43000	7	3420	3420	6000	6000	6000			
96.95	14	6000	43000	6	3850	3850	6000	6000	6000	6000	6000	6000
107.23	13	6000	43000	6	4270	4270	6000	6000	6000	6000	6000	6000
120.92	12	6000	43000	6	4830	4830	6000	6000	6000	6000		
133.53	10	6000	43000	6	5350	5350	6000	6000	6000	6000		
148.33	9.4	6000	43000	6	5950	5950	6000	6000	6000			
165.95	8.4	6000	43000	6	6000	6000	6000	6000	6000			
180.23	7.8	6000	43000	6	6000	6000	6000					
212.46	6.6	6000	43000	6	6000	6000	6000					
240.48	5.8	6000	43000	6	6000	6000						
262.65	5.3	6000	43000	6	6000	6000						

R127, m /kg			AM							
R	IEC	s	100	112	132S/M	132ML	160	180	200	225
		2	210	210	210	210	230	230	245	250
		3	225	225	225	225	245	245	265	270
	NEMA	s	182	184	213/215	-	254/256	284/286	324/326	364/365
		2	205	205	210	-	225	230	245	245
		3	225	225	225	-	240	245	260	260
RF: + 11 kg / RM: + 105 kg										

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R137, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm										8000 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} [1]	$φ_{(/R)}$	AM					
	min^{-1}	Nm	N	'	132S/M	132ML	160	180	200	225
2										
5.15	272	4600	34500	8				1120	2110	2110
6.38	219	5110	35900	8		555	1160	1390	2620	2620
7.59	184	5110	39000	8	665	665	1380	1660	3130	3130
8.71	161	7840	27600	6				1900	3580	3580
10.79	130	8000	31100	6		940	1960	2360	4440	4440
12.83	109	8000	34700	6	1120	1120	2340	2810	5290	5290
14.51	96	8000	37300	6	1280	1280	2660	3180	5980	5980
16.80	83	8000	40600	6	1480	1480	3080	3690	6760	6760
19.04	74	8000	43500	6	1680	1680	3500	4180	6970	6970
22.00	64	8000	47100	6	1950	1950	4040	4840	7250	7250
24.12	58	8000	49400	6	2140	2140	4440	5310	7400	7400
29.57	47	7780	53900	6	2630	2630	5450	5610		
3										
27.83	50	7680	54100	6		2400	5020	6010	7680	7680
32.91	43	8000	53400	6	2860	2860	5950	7120	8000	8000
37.65	37	8000	53400	6	3280	3280	6820	8000	8000	8000
44.39	32	8000	53400	6	3880	3880	8000	8000	8000	8000
50.86	28	8000	53400	6	4450	4450	8000	8000	8000	8000
59.17	24	8000	53400	6	5190	5190	8000	8000	8000	8000
65.20	21	8000	53400	6	5730	5730	8000	8000	8000	8000
73.49	19	8000	53400	6	6470	6470	8000	8000		
80.91	17	8000	53400	6	7130	7130	8000	8000		
88.70	16	8000	53400	6	7770	7770	8000	8000	8000	8000
103.20	14	8000	53400	6	8000	8000	8000	8000	8000	8000
113.72	12	8000	53400	6	8000	8000	8000	8000	8000	8000
128.18	11	8000	53400	6	8000	8000	8000	8000		
141.12	9.9	8000	53400	6	8000	8000	8000	8000		
156.31	9.0	8000	53400	6	8000	8000	8000			
174.40	8.0	8000	53400	6	8000	8000	8000			
188.45	7.4	8000	53400	6	8000					
222.60	6.3	8000	53400	6	8000					

R137, m /kg			AM					
R	IEC	s	132S/M	132ML	160	180	200	225
		2	245	245	265	265	280	285
		3	255	255	275	275	290	295
	NEMA	s	213/215	-	254/256	284/286	324/326	364/365
		2	245	-	260	260	280	280
		3	255	-	270	270	290	290
RF: + 23 kg / RM: + 135 kg								

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R147, n_e = 1400 min^{-1}, $M_{a\ max}$/Nm											13000 Nm
i	n_a	$M_{a\ max\ G}$	F_{Ra} 1)	$φ_{(/R)}$	AM						
	min^{-1}	Nm	N	'	132ML	160	180	200	225	250	280
2											
5.00	280	8670	49300	8				2050	2050	3200	3200
5.89	238	8670	53200	8			1280	2420	2420	3480	3780
7.25	193	8670	58400	8	630	1320	1580	2980	2980	3790	4650
8.26	169	13000	49900	6				3390	3390	5290	5290
9.74	144	13000	54400	6			2120	4000	4000	5760	6250
11.99	117	13000	60400	5	1040	2180	2620	4930	4930	6270	7700
13.91	101	12600	63400	5	1220	2540	3040	5730	5730	6510	8940
15.64	90	13000	62700	5	1370	2860	3430	6450	6450	10000	10000
18.04	78	10500	67000	5	1590	3310	3960	7330	7330	10500	10500
20.44	68	12000	64600	5	1810	3750	4490	7550	7550	12000	12000
3											
24.19	58	11900	64700	6			5210	9820	9820	11900	11900
29.95	47	13000	62700	6	2580	5400	6470	12100	12100	13000	13000
35.64	39	13000	62700	6	3090	6440	7710	13000	13000	13000	13000
40.29	35	13000	62700	6	3500	7290	8730	13000	13000	13000	13000
46.65	30	13000	62700	6	4070	8460	10100	13000	13000	13000	13000
52.87	26	13000	62700	6	4630	9600	11400	13000	13000	13000	13000
61.09	23	13000	62700	6	5360	11100	13000	13000	13000		
66.99	21	13000	62700	6	5890	12100	13000	13000	13000		
72.09	19	13000	62700	6	6270	13000	13000	13000	13000	13000	13000
83.47	17	13000	62700	6	7290	13000	13000	13000	13000	13000	13000
94.60	15	13000	62700	6	8280	13000	13000	13000	13000	13000	13000
109.31	13	13000	62700	5	9600	13000	13000	13000	13000		
119.86	12	13000	62700	5	10500	13000	13000	13000	13000		
146.91	9.5	13000	62700	5	12900	13000	13000				
163.31	8.6	13000	62700	5	13000	13000					

R147, m /kg			AM						
R	IEC	s	132ML	160	180	200	225	250	280
		2	380	390	390	405	410	445	445
		3	390	405	405	420	425	455	455
	NEMA	s	-	254/256	284/286	324/326	364/365	-	-
		2	-	385	390	405	405	-	-
		3	-	400	400	415	415	-	-
RF: + 8.3 kg / RM: + 175 kg									

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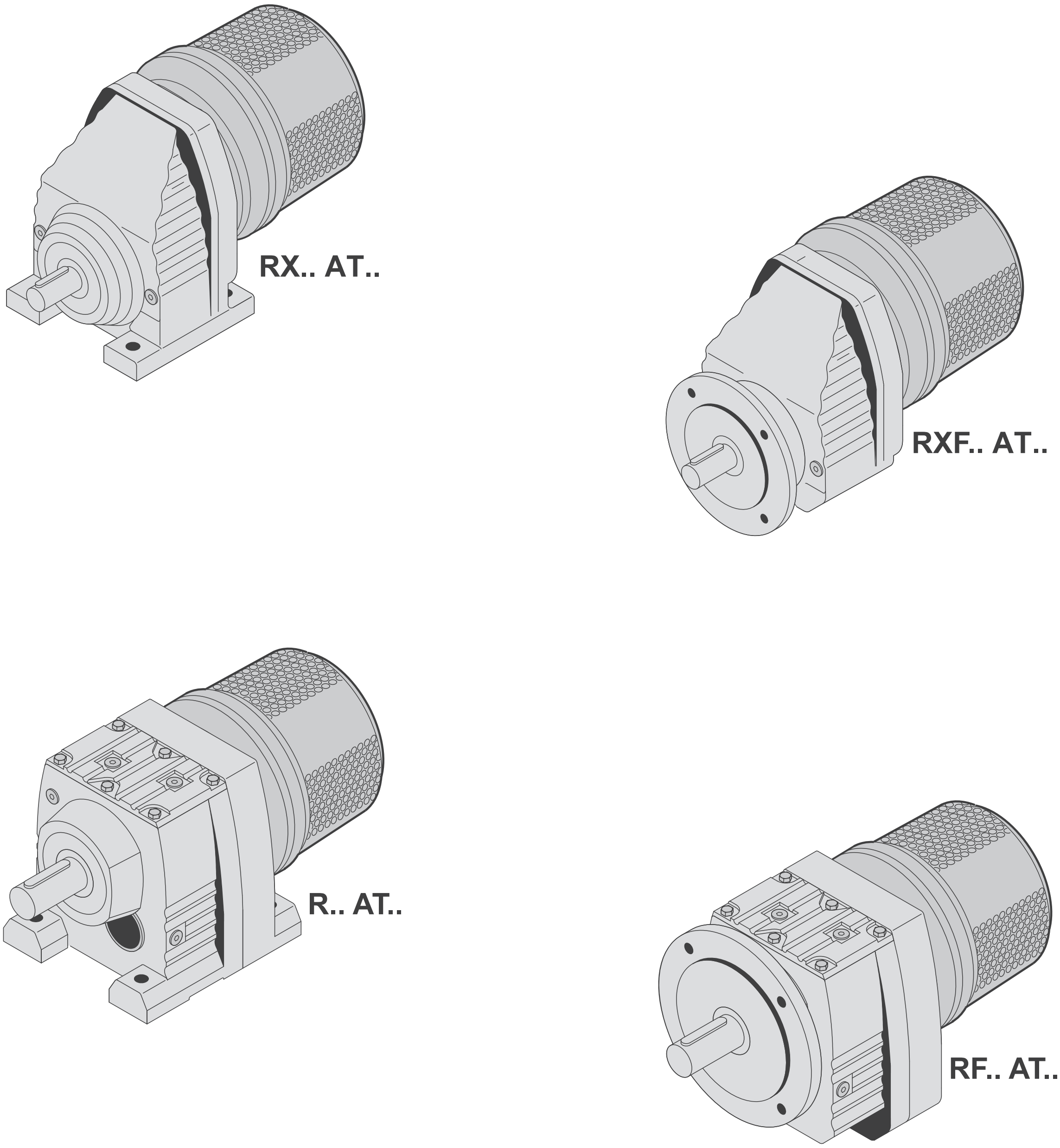
R167, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm										20000 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM					
	min^{-1}	Nm	N	'	160	180	200	225	250	280
					2					
10.24	137	18500	77500	5			4190	4190	6560	6560
11.99	117	19000	83300	5		2610	4920	4920	7100	7690
14.48	97	19700	89300	5	2640	3160	5950	5950	7560	9290
16.98	82	20000	95400	5	3100	3720	6990	6990	7940	10900
19.03	74	20000	100600	5	3480	4170	7850	7850	12200	12200
21.85	64	20000	107100	5	4000	4790	8790	8790	14000	14000
24.57	57	16400	120000	5	4510	5400	8990	8990	15800	15800
30.71	46	11700	120000	5	5650	6760	9410	9410		
37.74	37	10200	120000	5	6940	7150				
46.00	30	9460	120000	5	7350					
					3					
23.71	59	18800	114400	6			9610	9610	15000	15000
27.96	50	20000	119500	6		6010	11300	11300	16200	17700
34.41	41	20000	120000	6	6200	7430	13900	13900	17600	20000
39.92	35	20000	120000	6	7210	8640	16200	16200	18300	20000
44.87	31	20000	120000	6	8120	9720	18200	18200	20000	20000
51.76	27	20000	120000	6	9380	11200	20000	20000	20000	20000
58.65	24	20000	120000	6	10600	12700	20000	20000	20000	20000
67.40	21	20000	120000	6	12200	14600	20000	20000		
73.70	19	20000	120000	6	13300	16000	20000	20000		
82.91	17	20000	120000	5	14900	17900	20000	20000	20000	20000
93.19	15	20000	120000	5	16800	20000	20000	20000	20000	20000
107.49	13	20000	120000	5	19400	20000	20000	20000	20000	20000
121.81	11	20000	120000	5	20000	20000	20000	20000	20000	20000
139.98	10	20000	120000	5	20000	20000	20000	20000		
153.07	9.1	20000	120000	5	20000	20000	20000	20000		
186.93	7.5	20000	120000	5	20000	20000				
229.71	6.1	20000	120000	5	20000					

R167, m /kg			AM					
	IEC	s	160	180	200	225	250	280
		2	650	650	670	670	700	700
		3	650	650	670	680	700	700
R	NEMA	s	254/256	284/286	324/326	364/365	-	-
		2	640	640	660	660	-	-
		3	650	650	670	670	-	-
RF: + 6.4 kg / RM: + 200 kg								

8.2 Selection tables for adapters with hydraulic start-up coupling (AT..)



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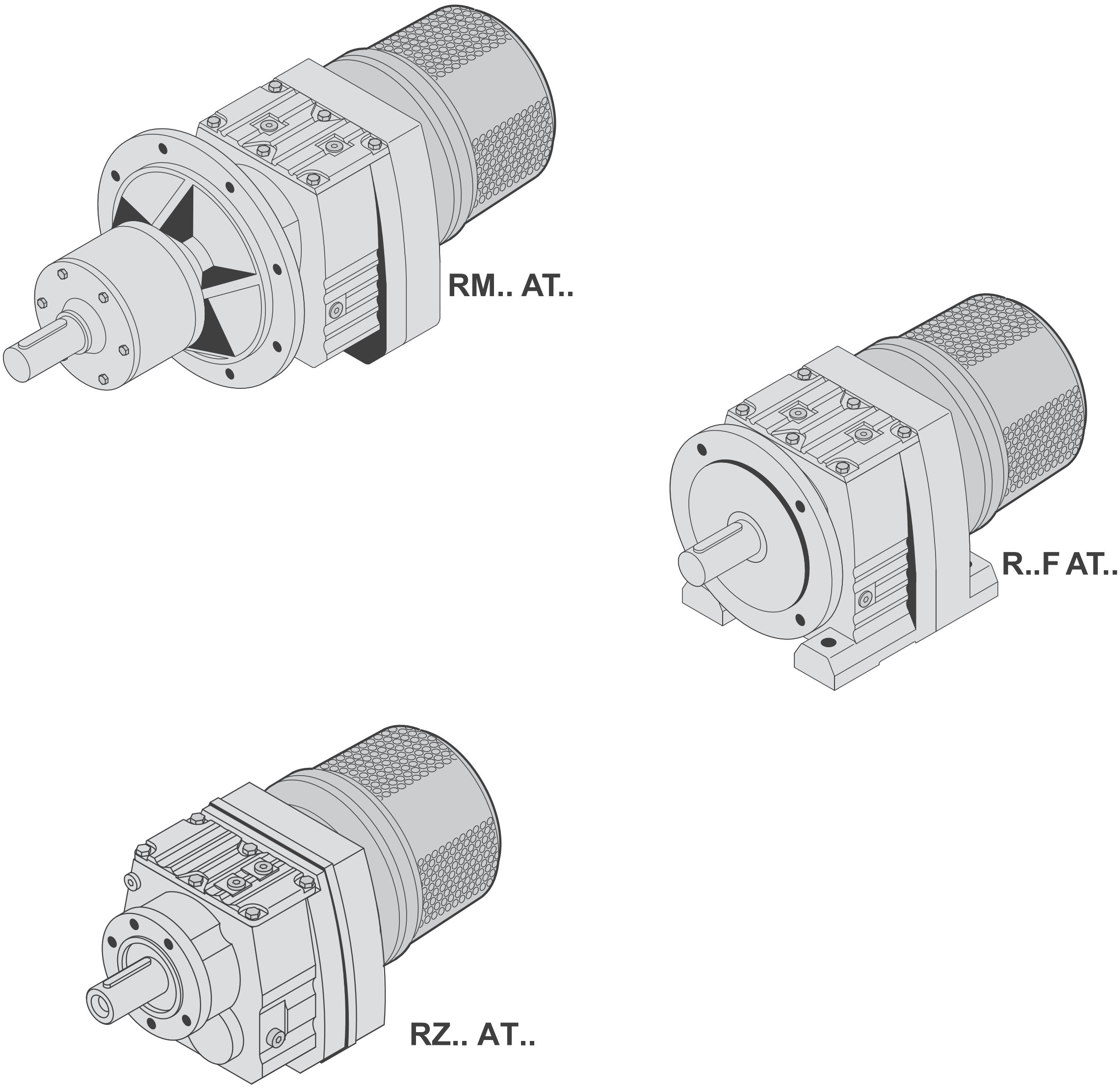

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8.2.1 R..AT/DRN..4

		P_{Mot} kW				Sn %	
R67	DRN71M4	0.37	AT311	T11	0.42	12	(→ 🗎 268)
	DRN80MK4	0.55	AT312	T11D	0.55	11	
	DRN80M4	0.75	AT312	T11D	0.7	11	
	DRN90S4	1.1	AT312	T11D	0.72	15	
	DRN90L4	1.5	AT321	T21	0.85	9	
	DRN100LS4	2.2	AT321	T21	0.9	13	
	DRN100L4	3	AT322	T21D	1.53	11	
R77	DRN80MK4	0.55	AT312	T11D	0.55	11	
	DRN80M4	0.75	AT312	T11D	0.7	11	
	DRN90S4	1.1	AT312	T11D	0.72	15	
	DRN90L4	1.5	AT421	T21	0.85	9	
	DRN100LS4	2.2	AT421	T21	0.9	13	
	DRN100L4	3	AT422	T21D	1.53	11	
	DRN112M4	4	AT422	T21D	1.6	12	
R87	DRN90S4	1.1	AT312	T11D	0.72	15	
	DRN90L4	1.5	AT421	T21	0.85	9	
	DRN100LS4	2.2	AT421	T21	0.9	13	
	DRN100L4	3	AT422	T21D	1.53	11	
	DRN112M4	4	AT422	T21D	1.6	12	
	DRN132S4	5.5	AT541	T41	2	6	
	DRN132M4	7.5	AT541	T41	2.4	8	
	DRN132L4	9.2	AT541	T41	2.5	10	
	DRN160M4	11	AT541	T41	2.5	13	
	DRN160L4	15	AT542	T41D	4.2	8	

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		P_{Mot} kW				Sn %	
R97	DRN90S4	1.1	AT312	T11D	0.72	15	(→ 268)
	DRN90L4	1.5	AT421	T21	0.85	9	
	DRN100LS4	2.2	AT421	T21	0.9	13	
	DRN100L4	3	AT422	T21D	1.53	11	
	DRN112M4	4	AT422	T21D	1.6	12	
	DRN132S4	5.5	AT541	T41	2	6	
	DRN132M4	7.5	AT541	T41	2.4	8	
	DRN132L4	9.2	AT541	T41	2.5	10	
	DRN160M4	11	AT541	T41	2.5	13	
	DRN160L4	15	AT542	T41D	4.2	8	
	DRN180M4	18.5	AT542	T41D	4.3	10	
	DRN180L4	22	AT542	T41D	4.3	14	
R107	DRN100LS4	2.2	AT421	T21	0.9	13	
	DRN100L4	3	AT422	T21D	1.53	11	
	DRN112M4	4	AT422	T21D	1.6	12	
	DRN132S4	5.5	AT541	T41	2	6	
	DRN132M4	7.5	AT541	T41	2.4	8	
	DRN132L4	9.2	AT541	T41	2.5	10	
	DRN160M4	11	AT541	T41	2.5	13	
	DRN160L4	15	AT542	T41D	4.2	8	
	DRN180M4	18.5	AT542	T41D	4.3	10	
	DRN180L4	22	AT542	T41D	4.3	14	
R127	DRN100LS4	2.2	AT421	T21	0.9	13	
	DRN100L4	3	AT422	T21D	1.53	11	
	DRN112M4	4	AT422	T21D	1.6	12	
	DRN132S4	5.5	AT541	T41	2	6	
	DRN132M4	7.5	AT541	T41	2.4	8	
	DRN132L4	9.2	AT541	T41	2.5	10	
	DRN160M4	11	AT541	T41	2.5	13	
	DRN160L4	15	AT542	T41D	4.2	8	
	DRN180M4	18.5	AT542	T41D	4.3	10	
	DRN180L4	22	AT542	T41D	4.3	14	

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		P_{Mot} kW				Sn %	
R137	DRN100LS4	2.2	AT421	T21	0.9	13	(→ 268)
	DRN100L4	3	AT422	T21D	1.53	11	
	DRN112M4	4	AT422	T21D	1.6	12	
	DRN132S4	5.5	AT541	T41	2	6	
	DRN132M4	7.5	AT541	T41	2.4	8	
	DRN132L4	9.2	AT541	T41	2.5	10	
	DRN160M4	11	AT541	T41	2.5	13	
	DRN160L4	15	AT542	T41D	4.2	8	
	DRN180M4	18.5	AT542	T41D	4.3	10	
	DRN180L4	22	AT542	T41D	4.3	14	
R147	DRN132M4	7.5	AT541	T41	2.4	8	
	DRN132L4	9.2	AT541	T41	2.5	10	
	DRN160M4	11	AT541	T41	2.5	13	
	DRN160L4	15	AT542	T41D	4.2	8	
	DRN180M4	18.5	AT542	T41D	4.3	10	
	DRN180L4	22	AT542	T41D	4.3	14	
R167	DRN160M4	11	AT541	T41	2.5	13	
	DRN160L4	15	AT542	T41D	4.2	8	
	DRN180M4	18.5	AT542	T41D	4.3	10	
	DRN180L4	22	AT542	T41D	4.3	14	

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8.2.2 R..AT/DRN..2

		P_{Mot}				Sn	
R67	DRN71M2	0.55	AT311	T11	0.19	3	(→ 268)
	DRN80MS2	0.75	AT311	T11	0.22	4.5	
	DRN80M2	1.1	AT311	T11	0.27	6	
	DRN90S2	1.5	AT311	T11	0.29	8.5	
	DRN90L2	2.2	AT311	T11	0.31	11.5	
	DRN100LM2	3	AT311	T11	0.4	12	
	DRN112M2	4	AT312	T11D	0.52	10	
R77	DRN71M2	0.55	AT311	T11	0.19	3	
	DRN80MS2	0.75	AT311	T11	0.22	4.5	
	DRN80M2	1.1	AT311	T11	0.27	6	
	DRN90S2	1.5	AT311	T11	0.29	8.5	
	DRN90L2	2.2	AT311	T11	0.31	11.5	
	DRN100LM2	3	AT311	T11	0.4	12	
	DRN112M2	4	AT312	T11D	0.52	10	
	DRN132S2	5.5	AT321	T11D	0.58	12	
	DRN132S2	5.5	AT421	T21	0.6	8	
R87	DRN90S2	1.5	AT311	T11	0.29	8.5	
	DRN90L2	2.2	AT311	T11	0.31	11.5	
	DRN100LM2	3	AT311	T11	0.4	12	
	DRN112M2	4	AT312	T11D	0.52	10	
	DRN132S2	5.5	AT321	T11D	0.58	12	
	DRN132S2	5.5	AT421	T21	0.6	8	
R97	DRN90S2	1.5	AT311	T11	0.29	8.5	
	DRN90L2	2.2	AT311	T11	0.31	11.5	
	DRN100LM2	3	AT311	T11	0.4	12	
	DRN112M2	4	AT312	T11D	0.52	10	
	DRN132S2	5.5	AT321	T11D	0.58	12	
	DRN132S2	5.5	AT421	T21	0.6	8	
R107	DRN100LM2	3	AT311	T11	0.4	12	
	DRN112M2	4	AT312	T11D	0.52	10	
	DRN132S2	5.5	AT321	T11D	0.58	12	
	DRN132S2	5.5	AT421	T21	0.6	8	

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		P_{Mot}				Sn	
R127	DRN100LM2	3	AT311	T11	0.4	12	(→ 🗎 268)
	DRN112M2	4	AT312	T11D	0.52	10	
	DRN132S2	5.5	AT321	T11D	0.58	12	
	DRN132S2	5.5	AT421	T21	0.6	8	
R137	DRN132S2	5.5	AT421	T21	0.6	8	

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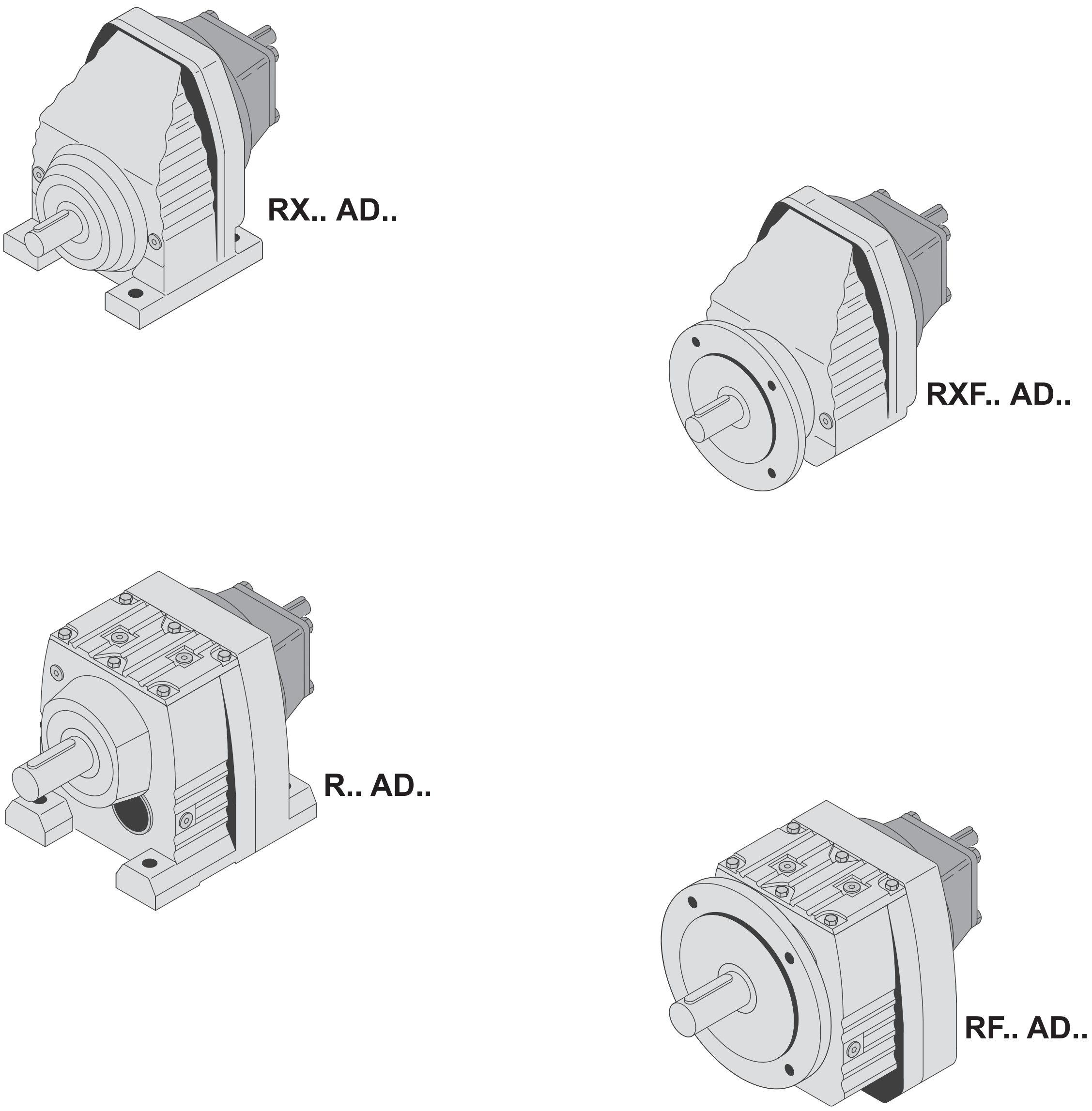
8.3 Selection tables for input shaft assembly (AD..)



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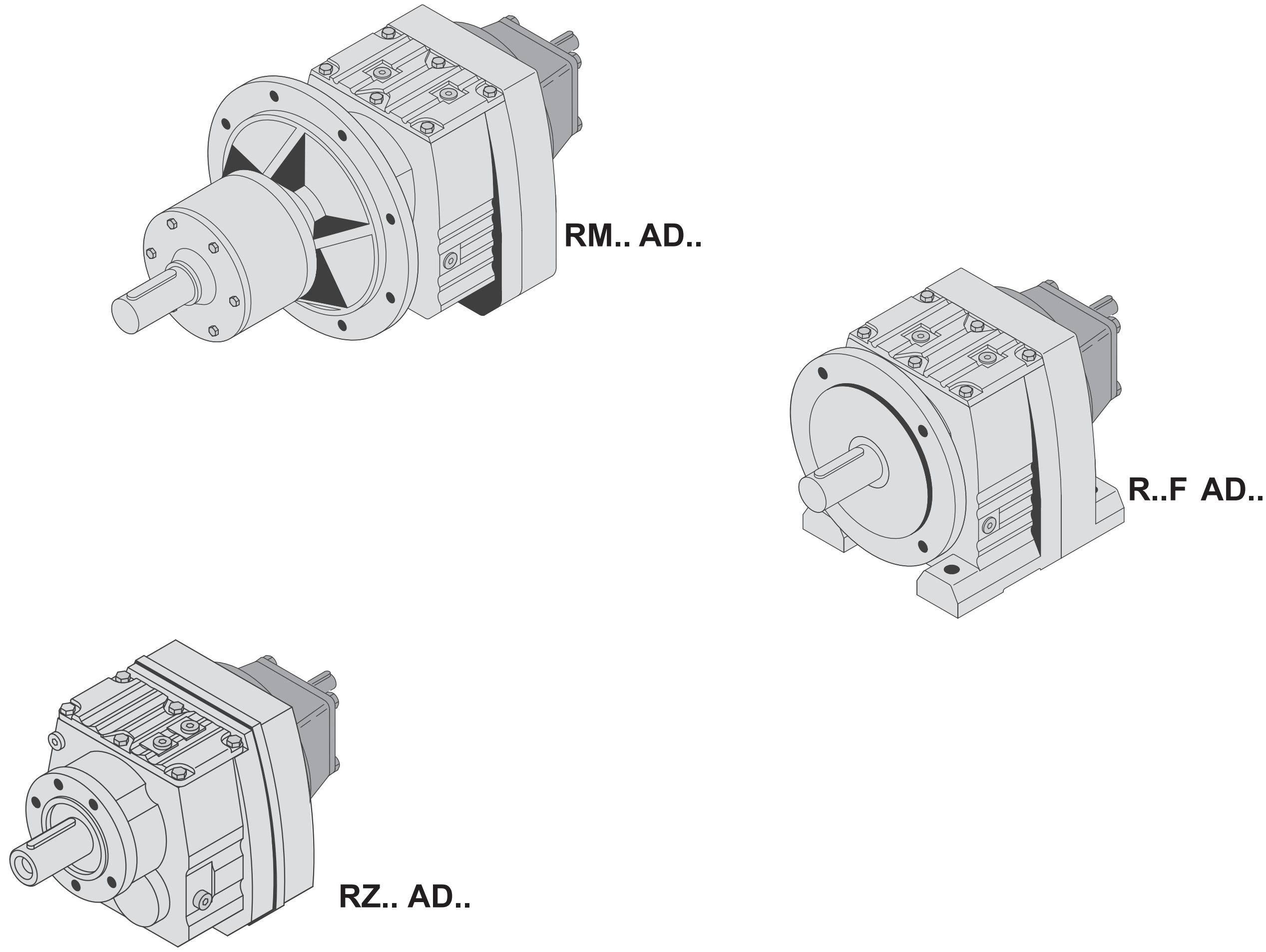

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RX57 AD.. , n_e = 1400 min^{-1}												69 Nm
i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
5.50*	255	37	1.0	3120	515	-	-					
5.07	276	34	1.0	3050	645	-	-					
4.35	322	61	2.1	2690	1110	-	-					
3.79	369	58	2.3	2560	1130	-	-	**RX**	**57**	**AD2**	13	274
3.55*	394	55	2.3	2520	1150	-	-	**RXF**	**57**	**AD2**	15	274
3.14	446	65	3.1	2320	990	-	-					
2.91	481	49	2.5	2370	1190	-	-					
2.64*	530	69	3.9	1810	880	-	-					
2.37	591	69	4.4	1500	1860	-	-					
2.04	686	69	5.1	1070	1810	-	-					
1.92*	729	69	5.4	880	1780	-	-	**RX**	**57**	**AD3**	16	274
1.65	847	69	6.3	430	1720	-	-	**RXF**	**57**	**AD3**	18	274
1.48	948	68	6.9	112	1660	-	-					
1.30	1075	63	7.2	132	1710	-	-					

RX67 AD.. , n_e = 1400 min^{-1}												134 Nm
i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
6.07	231	41	1.0	4020	630	-	-					
5.18	270	75	2.2	3580	1090	-	-	**RX**	**67**	**AD2**	15	274
4.53	309	71	2.4	3420	1120	-	-	**RXF**	**67**	**AD2**	19	274
4.30*	326	69	2.4	3370	1140	-	-					
3.77	371	87	3.5	3090	880	-	-					
3.20*	438	100	4.7	2800	1700	-	-					
2.89	485	105	5.5	2640	1610	-	-					
2.54	551	118	7.0	2000	1400	-	-					
2.40*	583	123	7.7	1530	1300	-	-	**RX**	**67**	**AD3**	19	274
2.04	685	114	8.3	1260	1310	-	-	**RXF**	**67**	**AD3**	23	274
1.86	754	108	8.7	1180	1340	-	-					
1.61	870	99	9.2	1080	1380	-	-					
1.40*	1000	90	9.6	1030	1420	-	-					

RX77 AD.. , n_e = 1400 min^{-1}												215 Nm
i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
8.00*	175	54	1.1	6350	520	-	-					
7.47	188	50	1.0	6220	655	-	-	**RX**	**77**	**AD2**	25	274
6.41	218	101	2.4	5610	1050	-	-	**RXF**	**77**	**AD2**	27	274
5.63	249	107	2.9	5320	970	-	-					
5.35*	262	101	2.9	5250	1020	-	-					
4.73	296	123	3.9	4900	1800	-	-	**RX**	**77**	**AD3**	29	274
4.04*	347	143	5.3	4500	1580	-	-	**RXF**	**77**	**AD3**	31	274
3.70	378	143	5.8	4350	1560	-	-					
3.25*	431	182	8.4	3200	3160	-	-					
3.08*	455	193	9.4	2560	3040	-	-					
2.70	519	215	11.9	1110	2780	-	-					
2.43	576	215	13.2	510	2670	-	-	**RX**	**77**	**AD4**	35	274
2.13	657	200	14.0	435	2720	-	-	**RXF**	**77**	**AD4**	37	274
1.88*	745	187	14.9	335	2750	-	-					
1.67	840	173	15.5	315	2800	-	-					
1.42	984	155	16.3	315	2870	-	-					

RX87 AD.. , n_e = 1400 min^{-1}												405 Nm
i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
8.65	162	139	2.4	7890	1070	-	-	**RX**	**87**	**AD2**	41	274
7.63	183	145	2.9	7510	1020	-	-	**RXF**	**87**	**AD2**	46	274
7.20*	194	136	2.9	7390	1060	-	-					
6.45	217	192	4.5	6850	1640	-	-	**RX**	**87**	**AD3**	45	274
5.56*	252	225	6.1	6320	1410	-	-	**RXF**	**87**	**AD3**	50	274
5.07	276	215	6.4	6140	1440	-	-					

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RX87 AD.. , n_e = 1400 min^{-1} — **405 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$					m kg	
4.50*	311	290	9.7	5500	3010	-	-	**RX**	**87**	**AD4**	52	274
3.78	370	305	12.1	5030	2850	-	-	**RXF**	**87**	**AD4**	56	274
3.48	403	405	17.4	2730	5330	-	-					
3.09	454	405	19.6	1950	5250	-	-					
2.76*	507	405	22	1200	5160	-	-					
2.48	564	405	24	470	5060	-	-	**RX**	**87**	**AD5**	66	274
2.15	650	385	27	42	5050	-	-	**RXF**	**87**	**AD5**	71	274
1.93	726	355	28	185	5150	-	-					
1.60*	875	315	29	74	5230	-	-					
1.39	1005	290	31	74	5310	-	-					

RX97 AD.. , n_e = 1400 min^{-1} — **595 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$					m kg	
8.23	170	225	4.2	9560	1710	-	-	**RX**	**97**	**AD3**	70	274
7.16*	196	260	5.5	8950	1520	-	-	**RXF**	**97**	**AD3**	78	274
6.56	214	300	6.9	8500	1260	-	-					
5.79	242	420	10.9	7630	2770	-	-	**RX**	**97**	**AD4**	75	274
4.91	285	395	12.1	7220	2820	-	-	**RXF**	**97**	**AD4**	84	274
4.52	309	595	19.7	6180	4980	-	-					
4.04	346	595	22	5380	4900	-	-					
3.64*	385	595	24	4530	4810	-	-					
3.30	425	595	27	3730	4730	-	-	**RX**	**97**	**AD5**	92	274
2.92	479	595	30	2810	4620	-	-	**RXF**	**97**	**AD5**	100	274
2.64	530	595	34	1980	4510	-	-					
2.24*	625	595	40	495	4280	-	-					
1.96	716	570	43	19	4260	-	-					
1.64	856	505	46	51	4390	-	-					
1.42	988	455	48	132	7450	-	-	**RX**	**97**	**AD6**	105	274
								RXF	**97**	**AD6**	115	274

RX107 AD.. , n_e = 1400 min^{-1} — **830 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$					m kg	
6.63*	211	460	10.4	9700	2710	-	-	**RX**	**107**	**AD4**	110	274
5.61	250	455	12.2	9080	2660	-	-	**RXF**	**107**	**AD4**	125	274
5.19	270	695	20	7850	4730	-	-					
4.65	301	695	22	7450	4660	-	-	**RX**	**107**	**AD5**	125	274
4.20*	333	830	30	6420	3800	-	-	**RXF**	**107**	**AD5**	140	274
3.81	367	830	32	5550	3610	-	-					
3.38	414	830	37	4490	3360	-	-					
3.07	456	830	40	3600	6560	-	-					
2.64*	530	830	47	2160	6350	-	-					
2.30	608	830	54	900	6150	-	-	**RX**	**107**	**AD6**	135	274
1.95	716	730	56	1260	6410	-	-	**RXF**	**107**	**AD6**	155	274
1.71	820	640	56	1840	6700	-	-					
1.44	969	540	56	2610	7070	-	-					

R27 AD.. , n_e = 1400 min^{-1} — **130 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
135.09	10	130	0.17	4230	750	-	-					
123.91	11	130	0.18	4230	750	-	-					
105.49	13	130	0.21	4230	745	-	-					
90.96	15	130	0.24	4230	740	-	-					
84.78	17	130	0.26	4230	740	-	-					
74.11	19	130	0.29	4230	735	-	-					
69.47	20	130	0.31	4180	735	-	-					
61.30	23	130	0.35	3980	725	-	-	**R**	**27**	**AD1**	6.0	274
55.87	25	130	0.38	3840	565	-	-	**RF**	**27**	**AD1**	5.9	274
48.17	29	130	0.43	3630	550	-	-					
44.90	31	130	0.47	3530	540	-	-					
39.25	36	130	0.53	3350	520	-	-					
36.79	38	130	0.56	3260	505	-	-					
32.47	43	130	0.64	3100	485	-	-					
28.78	49	130	0.72	2950	460	-	-					
24.47	57	130	0.84	2760	425	-	-					
28.37	49	130	0.72	2940	1080	-	-					
26.09	54	130	0.78	2840	1060	-	-					
22.32	63	130	0.91	2660	1020	-	-					
19.35	72	130	1.0	2510	1550	-	-					
18.08	77	130	1.1	2440	1540	-	-					
15.63	90	130	1.3	2290	1520	-	-					
13.28*	105	130	1.5	2140	1510	-	-					
11.86	118	129	1.7	1980	1490	-	-					
10.13	138	122	1.9	1890	1490	-	-	**R**	**27**	**AD2**	6.9	274
9.41	149	122	2.0	900	1150	-	-	**RF**	**27**	**AD2**	6.8	274
8.16	172	116	2.2	870	1160	-	-					
7.63*	184	112	2.2	900	1170	-	-					
6.59	212	106	2.5	880	1170	-	-					
5.60*	250	99	2.7	880	1190	-	-					
5.00*	280	95	2.9	860	1180	-	-					
4.27	328	87	3.1	920	1200	-	-					
4.00*	350	85	3.2	900	1200	-	-					
3.37	415	79	3.6	900	1190	-	-					

R37 AD.. , n_e = 1400 min^{-1} — **200 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
134.82	10	200	0.25	4940	675	8	-					
123.66	11	200	0.27	4940	665	8	-					
105.28	13	200	0.31	4940	655	8	-					
90.77	15	200	0.36	4940	640	8	-					
84.61	17	200	0.38	4940	635	8	-	**R**	**37**	**AD1**	12	274
73.96	19	200	0.44	4940	615	8	-	**RF**	**37**	**AD1**	13	274
69.33	20	200	0.47	4940	605	8	-					
61.18	23	200	0.53	4940	590	8	-					
55.76	25	200	0.57	4940	355	9	-					
48.08	29	200	0.66	4940	1510	9	-					
44.81	31	200	0.71	4940	1490	9	-					
39.17	36	200	0.81	4760	1460	9	-					
36.72	38	200	0.86	4540	1440	9	-	**R**	**37**	**AD2**	13	274
32.40	43	200	0.97	4120	1390	9	-	**RF**	**37**	**AD2**	14	274
28.73	49	200	1.1	3740	1650	9	-					
24.42	57	200	1.3	3240	1630	9	-					

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R37 AD.. , n_e = 1400 min^{-1} — **200 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
28.32	49	189	1.0	4000	490	7	-					
26.03	54	173	1.0	4180	620	7	-					
22.27	63	200	1.4	2970	1380	7	-					
19.31	73	200	1.6	2570	1360	7	-					
18.05	78	200	1.7	2390	1350	8	-					
15.60	90	200	2.0	2010	1320	8	-					
13.25	106	190	2.2	1880	1320	8	-					
11.83	118	183	2.4	1810	1320	8	-	**R**	**37**	**AD2**	13	274
10.11	139	170	2.6	1820	1330	8	-	**RF**	**37**	**AD2**	14	274
9.47	148	167	2.7	1760	1320	8	-					
7.97	176	156	3.0	1720	1310	8	-					
6.67	210	144	3.3	1000	920	12	-					
5.67	247	142	3.8	760	890	12	-					
5.06	277	135	4.0	790	890	13	-					
4.32	324	126	4.4	820	900	13	-					
4.05	346	121	4.5	880	910	13	-					
3.41	411	107	4.8	1070	950	14	-					

R47 AD.. , n_e = 1400 min^{-1} — **300 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
176.88	7.9	300	0.29	5420	1790	7	-					
162.94	8.6	300	0.31	5420	1780	7	-					
139.99	10	300	0.36	5420	1780	7	-					
121.87	11	300	0.41	5420	1780	7	-					
114.17	12	300	0.43	5420	1770	7	-					
100.86	14	300	0.49	5420	1770	7	-					
93.68	15	300	0.52	5420	1760	7	-					
84.90	16	300	0.58	5420	1760	7	-					
76.23	18	300	0.64	5420	1760	7	-					
68.54	20	300	0.70	5420	1450	8	-	**R**	**47**	**AD2**	17	274
64.21	22	300	0.74	5420	1440	8	-	**RF**	**47**	**AD2**	17	274
56.73	25	300	0.84	5420	1410	8	-					
52.69	27	300	0.90	5350	1380	8	-					
47.75	29	300	0.99	5140	1360	8	-					
42.87	33	300	1.1	4930	1640	8	-					
36.93	38	300	1.3	4630	1620	8	-					
34.73	40	300	1.4	4520	1620	8	-					
29.88	47	300	1.6	4240	1600	8	-					
26.70	52	300	1.8	4050	1580	8	-					
23.59	59	300	2.0	3840	1570	8	-					
33.79	41	225	1.0	4740	525	7	-					
31.12	45	205	1.0	4660	670	7	-					
26.74	52	300	1.7	4050	1270	7	-					
23.28	60	300	2.0	3820	1250	7	-					
21.81	64	300	2.1	3710	1240	7	-					
19.27	73	295	2.3	3530	1230	7	-					
17.89	78	290	2.5	3390	1220	7	-					
16.22	86	275	2.6	3350	1240	7	-					
14.56	96	265	2.8	3230	1240	7	-					
12.54	112	250	3.0	3080	1240	7	-	**R**	**47**	**AD2**	16	274
11.79	119	245	3.2	3020	1240	7	-	**RF**	**47**	**AD2**	17	274
10.15	138	230	3.5	2880	1240	7	-					
9.07	154	220	3.7	2780	1230	8	-					
8.01	175	205	3.9	2690	1250	8	-					
7.76*	181	163	3.2	2720	1080	10	-					
6.96	201	159	3.5	2620	1070	10	-					
6.00	233	156	4.0	2470	1040	10	-					
5.64*	248	155	4.2	2410	1020	10	-					
4.85	288	150	4.7	2280	1000	10	-					
4.34	323	146	5.1	2190	970	11	-					
3.83	365	144	5.7	2080	1970	11	-	**R**	**47**	**AD3**	20	274
								RF	**47**	**AD3**	20	274

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R57 AD.. , n_e = 1400 min^{-1} — **450 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
186.89	7.5	450	0.40	7100	1700	7	-					
172.17	8.1	450	0.43	7100	1690	7	-					
147.92	9.5	450	0.50	7100	1670	7	-					
128.77	11	450	0.57	7100	1650	7	-					
120.63	12	450	0.60	7100	1640	7	-					
106.58	13	450	0.68	7100	1620	7	-					
98.99	14	450	0.73	7100	1590	7	-					
89.71	16	450	0.80	7100	1580	7	-					
80.55	17	450	0.89	7100	1550	7	-	**R**	**57**	**AD2**	22	274
69.23	20	450	1.0	7100	1020	7	-	**RF**	**57**	**AD2**	26	274
64.85	22	450	1.1	6980	1570	8	-	**RM**	**57**	**AD2**	38	274
57.29	24	450	1.2	6630	1560	8	-					
53.22	26	450	1.3	6430	1540	8	-					
48.23	29	450	1.5	6170	1540	8	-					
43.30	32	450	1.6	5900	1520	8	-					
37.30*	38	450	1.9	5530	1500	8	-					
35.07	40	450	2.0	5390	1490	8	-					
30.18	46	450	2.3	5040	1460	8	-					
26.97	52	450	2.6	4800	1440	8	-					
26.31	53	420	2.4	4860	1100	6	-					
24.99*	56	410	2.5	4780	1120	6	-	**R**	**57**	**AD2**	21	274
21.93	64	450	3.1	4370	1000	7	-	**RF**	**57**	**AD2**	25	274
18.60*	75	450	3.7	4050	960	7	-	**RM**	**57**	**AD2**	37	274
16.79	83	450	4.1	3860	920	7	-					
14.77*	95	435	4.5	3690	930	7	-					
13.95*	100	430	4.7	3610	1940	7	-					
11.88	118	405	5.2	3430	1930	7	-					
10.79	130	390	5.5	3330	1930	7	-					
9.35	150	370	6.0	3180	1920	7	-					
9.06	155	335	5.6	2900	1580	9	-	**R**	**57**	**AD3**	25	274
7.97	176	355	6.8	2020	1460	9	-	**RF**	**57**	**AD3**	28	274
7.53	186	350	7.0	1950	1460	9	-	**RM**	**57**	**AD3**	40	274
6.41	218	335	7.9	1770	1420	9	-					
5.82	240	320	8.3	1820	1430	10	-					
5.05	277	305	9.2	1730	1400	10	-					
4.39	319	280	9.7	1900	1440	10	-					

R67 AD.. , n_e = 1400 min^{-1} — **600 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
199.81	7.0	600	0.49	7560	1510	6	-					
184.07	7.6	600	0.53	7560	1500	6	-					
158.14	8.8	600	0.61	7560	1480	6	-					
137.67	10	600	0.70	7560	1450	6	-					
128.97	11	600	0.74	7560	1440	6	-					
113.94	12	600	0.84	7560	1410	6	-					
105.83	13	600	0.90	7560	1380	6	-					
95.91	15	600	0.99	7560	1360	6	-					
86.11	16	600	1.1	7560	1640	6	-	**R**	**67**	**AD2**	29	274
74.17	19	600	1.3	7560	1620	7	-	**RF**	**67**	**AD2**	32	274
69.75	20	600	1.4	7560	1620	7	-	**RM**	**67**	**AD2**	48	274
61.26	23	600	1.5	7560	1450	7	-					
56.89	25	600	1.6	7560	1440	7	-					
51.56	27	600	1.8	7560	1420	7	-					
46.29	30	600	2.0	7560	1410	7	-					
39.88*	35	580	2.3	7790	1400	7	-					
37.50	37	570	2.4	7900	1390	7	-					
32.27	43	540	2.6	8210	1390	7	-					
28.83	49	520	2.8	8400	1380	7	-					
28.13	50	410	2.2	9270	1150	6	-	**R**	**67**	**AD2**	28	274
26.72	52	400	2.3	9340	1160	6	-	**RF**	**67**	**AD2**	31	274
23.44	60	560	3.6	8010	810	6	-	**RM**	**67**	**AD2**	47	274

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R67 AD.. , n_e = 1400 min^{-1} — **600 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$					m kg	
19.89	70	600	4.6	7560	1710	6	-					
17.95	78	590	5.0	7330	1700	6	-					
15.79	89	560	5.4	7130	1720	6	-					
14.91	94	550	5.6	6980	1720	6	-					
12.70	110	520	6.2	6640	1700	6	-					
11.54	121	500	6.6	6500	1700	7	-	**R**	**67**	**AD3**	31	274
10.00	140	470	7.1	6220	1700	7	-	**RF**	**67**	**AD3**	34	274
8.70*	161	440	7.7	5960	1710	7	-	**RM**	**67**	**AD3**	50	274
7.79	180	380	7.4	5830	1280	8	-					
7.36*	190	370	7.6	5790	1290	8	-					
6.27	223	330	8.0	5590	1360	9	-					
5.70	246	310	8.2	5450	1400	9	-					
4.93	284	290	8.9	5210	1400	9	-					
4.29	326	270	9.5	5000	1410	10	-					

R77 AD.. , n_e = 1400 min^{-1} — **820 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$					m kg	
195.24*	7.2	820	0.68	9920	1300	6	-					
166.59	8.4	820	0.79	9920	1270	6	-					
145.67	9.6	820	0.90	9920	1240	6	-					
138.39	10	820	0.95	9920	1240	6	-					
121.42	12	820	1.1	9920	1630	6	-					
102.99	14	820	1.3	9920	1610	6	-					
92.97	15	820	1.4	9920	1600	6	-					
81.80	17	820	1.6	9920	1590	6	-	**R**	**77**	**AD2**	35	274
77.24	18	820	1.7	9920	1590	6	-	**RF**	**77**	**AD2**	41	274
65.77	21	820	1.9	9920	1560	7	-	**RM**	**77**	**AD2**	66	274
57.68	24	820	2.2	9920	1380	7	-					
52.07	27	820	2.4	9920	1370	7	-					
45.81	31	820	2.8	9920	1350	7	-					
43.26	32	820	2.9	9920	1340	7	-					
36.83	38	820	3.4	9920	1290	7	-					
33.47	42	820	3.8	9920	1270	7	-					
29.00	48	820	4.4	9920	1220	7	-					
25.23	55	780	4.8	10100	1210	7	-					
23.37	60	820	5.3	8870	1620	6	-					
21.43	65	820	5.8	8250	1600	6	-					
18.80	74	780	6.3	7980	1630	6	-					
17.82*	79	780	6.7	7620	1600	6	-	**R**	**77**	**AD3**	37	274
15.60	90	740	7.2	7390	1620	6	-	**RF**	**77**	**AD3**	43	274
14.05	100	720	7.8	7050	1590	6	-	**RM**	**77**	**AD3**	68	274
12.33	114	690	8.5	6740	1580	6	-					
10.88	129	660	9.2	6490	1570	6	-					
9.64	145	630	9.9	6300	1560	7	-					
8.59	163	630	11.1	4110	2970	7	-					
7.74	181	610	11.9	3940	2920	8	-	**R**	**77**	**AD4**	43	274
6.79	206	580	12.9	3850	2930	8	-	**RF**	**77**	**AD4**	49	274
5.99*	234	540	13.7	3990	2970	8	-	**RM**	**77**	**AD4**	74	274
5.31*	264	510	14.5	3990	2980	8	-					

R87 AD.. , n_e = 1400 min^{-1} — **1550 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
246.54	5.7	1550	1.0	16900	1570	6	-					
216.54	6.5	1550	1.1	16900	1570	6	-					
205.71	6.8	1550	1.2	16900	1570	6	-					
181.77	7.7	1550	1.4	16900	1540	6	-					
155.34	9.0	1550	1.6	16900	1530	6	-					
142.41	9.8	1550	1.7	16900	1520	6	-					
124.97	11	1550	1.9	16900	1510	6	-	**R**	**87**	**AD2**	61	274
118.43*	12	1550	2.0	16900	1500	6	-	**RF**	**87**	**AD2**	68	274
103.65	14	1550	2.3	16900	1480	6	-	**RM**	**87**	**AD2**	98	274
93.38	15	1550	2.6	16900	1460	6	-					
81.92	17	1550	3.0	16900	1440	6	-					
72.57	19	1550	3.3	16900	1160	6	-					
63.68*	22	1550	3.8	15800	1130	6	-					
60.35*	23	1550	4.0	15200	1120	6	-					
52.82	27	1550	4.5	13500	1080	6	-					
47.58	29	1550	5.0	12300	1040	7	-					
41.74	34	1550	5.7	16900	1940	7	-	**R**	**87**	**AD3**	65	274
36.84*	38	1550	6.5	16800	1900	7	-	**RF**	**87**	**AD3**	72	274
32.66*	43	1550	7.3	16000	1850	7	-	**RM**	**87**	**AD3**	100	274
27.88	50	1500	8.3	15100	1810	7	-					
34.40*	41	1360	6.0	11500	1400	5	-	**R**	**87**	**AD3**	64	274
31.40	45	1280	6.2	11700	1450	5	-	**RF**	**87**	**AD3**	71	274
								RM	**87**	**AD3**	100	274
27.84*	50	1550	8.5	15000	3200	6	-					
23.40	60	1550	10.1	13900	3130	6	-					
21.51	65	1500	10.6	13600	3120	6	-					
19.10	73	1440	11.4	13000	3130	6	-	**R**	**87**	**AD4**	70	274
17.08*	82	1390	12.4	12600	3130	6	-	**RF**	**87**	**AD4**	77	274
15.35	91	1340	13.2	12100	3130	6	-	**RM**	**87**	**AD4**	105	274
13.33	105	1280	14.6	11600	3110	6	-					
11.93	117	1230	15.6	11200	3100	6	-					
9.90*	141	1180	18.1	10400	3020	6	-					
9.14*	153	1210	20	10500	5360	6	-					
8.22	170	1160	21	10200	5380	7	-	**R**	**87**	**AD5**	85	274
7.13	196	1070	23	9780	5440	7	-	**RF**	**87**	**AD5**	92	274
6.39	219	1020	24	9450	5450	7	-	**RM**	**87**	**AD5**	120	274
5.30*	264	910	26	8980	5510	7	-					

R97 AD.. , n_e = 1400 min^{-1} — **3000 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
216.28	6.5	3000	2.2	19800	2210	6	-					
186.30	7.5	3000	2.5	19800	2200	6	-					
170.02	8.2	3000	2.8	19800	2180	6	-					
150.78	9.3	3000	3.1	19800	2170	6	-					
126.75	11	3000	3.7	19800	2140	6	-					
116.48	12	3000	4.0	19800	2130	6	-	**R**	**97**	**AD3**	105	274
103.44	14	3000	4.5	19800	2100	6	-	**RF**	**97**	**AD3**	125	274
92.48	15	3000	5.0	19800	2070	6	-	**RM**	**97**	**AD3**	175	274
83.15	17	3000	5.6	19800	2040	6	-					
72.17	19	3000	6.5	18000	2000	6	-					
65.21	21	3000	7.1	19800	1550	6	-					
59.92	23	3000	7.7	19800	1510	6	-					
53.21	26	3000	8.7	19800	1460	6	-					
47.58	29	3000	9.7	19800	3440	6	-					
42.78	33	3000	10.8	19800	3400	6	-	**R**	**97**	**AD4**	110	274
37.13	38	3000	12.4	18600	3320	6	-	**RF**	**97**	**AD4**	130	274
33.25	42	2890	13.4	17900	3310	6	-	**RM**	**97**	**AD4**	180	274
27.58	51	2670	14.9	16900	3290	6	-					
32.05	44	2560	12.1	10600	2370	5	-	**R**	**97**	**AD4**	110	274
27.19	52	2430	13.6	9910	2490	5	-	**RF**	**97**	**AD4**	125	274
								RM	**97**	**AD4**	175	274

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R97 AD.. , n_e = 1400 min⁻¹ — **3000 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$					m kg	
25.03	56	2830	17.1	15900	5290	5	-					
22.37	63	2720	18.4	15300	5320	5	-					
20.14	70	2610	19.6	14800	5350	5	-					
18.24	77	2500	21	14400	5390	6	-					
16.17	87	2400	22	13800	5410	6	-					
14.62	96	2300	24	13400	5430	6	-	**R**	**97**	**AD5**	125	274
12.39	113	2190	27	12700	5380	6	-	**RF**	**97**	**AD5**	145	274
10.83	129	2090	29	12100	5380	6	-	**RM**	**97**	**AD5**	195	274
9.29	151	2030	33	12200	4260	6	-					
8.39	167	2030	37	11700	4140	6	-					
7.12	197	2000	42	10900	3810	6	-					
6.21	225	1890	46	10500	3940	6	-					
5.20	269	1780	52	9850	6870	6	-	**R**	**97**	**AD6**	140	274
4.50*	311	1630	55	9500	6940	6	M2	**RF**	**97**	**AD6**	155	274
								RM	**97**	**AD6**	210	274

R107 AD.. , n_e = 1400 min⁻¹ — **4300 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$					m kg	
251.15	5.6	4300	2.7	29500	2150	7	-					
229.95	6.1	4300	3.0	29500	2140	7	-					
203.16	6.9	4300	3.3	29500	2130	7	-					
172.34	8.1	4300	3.9	29500	2110	7	-					
158.68	8.8	4300	4.2	29500	2090	7	-					
141.83	9.9	4300	4.7	29500	2070	7	-	**R**	**107**	**AD3**	165	274
127.68	11	4300	5.2	29500	2040	7	-	**RF**	**107**	**AD3**	170	274
115.63	12	4300	5.8	29500	2020	7	-	**RM**	**107**	**AD3**	260	274
102.53	14	4300	6.5	29500	1990	7	-					
92.70	15	4300	7.2	29500	1960	7	-					
78.57	18	4300	8.5	29500	1890	7	-					
72.88	19	4300	9.1	29500	1400	7	-					
65.60*	21	4300	10.1	29200	3400	7	-					
59.41	24	4300	11.2	28000	3360	7	-					
52.68	27	4300	12.6	26600	3310	7	-	**R**	**107**	**AD4**	170	274
47.63	29	4300	13.9	25500	3260	7	-	**RF**	**107**	**AD4**	175	274
40.37*	35	4300	16.4	23800	3150	7	-	**RM**	**107**	**AD4**	265	274
35.26	40	4300	18.8	22400	3070	7	-					
29.49	47	4300	22	20700	2920	7	-					
30.77	46	4300	21	21100	4810	7	-					
27.58	51	4300	24	20100	4730	7	-					
24.90*	56	4300	26	19200	4600	7	-	**R**	**107**	**AD5**	180	274
22.62	62	4300	29	18300	4510	7	-	**RF**	**107**	**AD5**	185	274
20.07	70	4300	32	17300	4400	7	-	**RM**	**107**	**AD5**	270	274
18.21	77	4300	36	16600	4300	7	-					
15.65	89	4300	42	15400	4070	7	-					
13.66	102	4300	48	14400	6890	7	-					
11.59	121	4280	56	13300	6650	7	-					
10.13	138	3740	56	13300	6930	7	-					
8.56	163	3160	56	13200	7280	7	M2	**R**	**107**	**AD6**	190	274
7.86	178	2900	56	13900	6250	9	-	**RF**	**107**	**AD6**	200	274
6.66	210	2460	56	13500	6650	9	-	**RM**	**107**	**AD6**	285	274
5.82	240	2150	56	13200	6930	9	-					
4.92	284	2000	61	12500	6950	9	M2					

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R127 AD.. , n_e = 1400 min^{-1} — **6000 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$φ_{(/R)}$	⚠				m kg	
262.65	5.3	6000	3.6	43000	1940	6	-					
240.48	5.8	6000	3.9	43000	1920	6	-					
212.46	6.6	6000	4.4	43000	1900	6	-					
180.23	7.8	6000	5.2	43000	1870	6	-					
165.95	8.4	6000	5.6	43000	1850	6	-					
148.33	9.4	6000	6.3	43000	1820	6	-					
133.53	10	6000	7.0	43000	1790	6	-	**R**	**127**	**AD3**	220	274
120.92	12	6000	7.7	43000	1760	6	-	**RF**	**127**	**AD3**	235	274
107.23	13	6000	8.7	43000	1720	6	-	**RM**	**127**	**AD3**	330	274
96.95	14	6000	9.6	43000	1670	6	-					
85.26	16	6000	10.8	43000	660	7	-					
82.17	17	6000	11.3	43000	1590	6	-					
76.21	18	6000	12.1	43000	560	7	-					
68.61	20	6000	13.4	43000	460	7	-					
62.13	23	6000	14.8	43000	350	7	-					
55.09	25	6000	16.7	43000	2850	7	-					
49.81	28	6000	18.5	43000	2790	7	-	**R**	**127**	**AD4**	230	274
42.22	33	6000	22	43000	2650	7	-	**RF**	**127**	**AD4**	240	274
36.88	38	5730	24	43000	2630	7	M2	**RM**	**127**	**AD4**	335	274
30.84	45	5380	27	43000	2580	7	M1-6					
32.18	44	4850	23	43000	4440	6	-					
28.84	49	5320	28	43000	3800	6	-	**R**	**127**	**AD5**	225	274
26.04	54	5790	34	43000	2760	6	-	**RF**	**127**	**AD5**	245	274
23.65	59	6000	38	43000	2190	6	-	**RM**	**127**	**AD5**	340	274
20.98	67	6000	43	43000	1910	6	M2					
19.04	74	6000	48	43000	5660	6	M1-6					
16.37	86	6000	55	43000	5130	6	M1-6					
14.29	98	5290	56	43000	6080	6	M1-6					
12.12	116	4480	56	43000	6520	6	M1-6					
10.59	132	3910	56	43000	6820	6	M1-6	**R**	**127**	**AD6**	240	274
8.96	156	3300	56	43000	7180	7	M1-6	**RF**	**127**	**AD6**	260	274
8.85	158	3270	56	43000	6110	8	M1-6	**RM**	**127**	**AD6**	355	274
7.51	186	2770	56	43000	6530	8	M1-6					
6.56	213	2420	56	43000	6820	8	M1-6					
5.55	252	2050	56	43000	7170	8	M1-6					

R137 AD.. , n_e = 1400 min^{-1} — **8000 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$φ_{(/R)}$	⚠				m kg	
222.60*	6.3	8000	5.6	53400	3730	6	-					
188.45	7.4	8000	6.6	53400	3690	6	-					
174.40*	8.0	8000	7.1	53400	3680	6	-					
156.31	9.0	8000	7.9	53400	3650	6	-					
141.12*	9.9	8000	8.8	53400	3600	6	-					
128.18	11	8000	9.7	53400	3570	6	-	**R**	**137**	**AD4**	255	274
113.72	12	8000	10.9	53400	3530	6	-	**RF**	**137**	**AD4**	280	274
103.20*	14	8000	12.0	53400	3490	6	-	**RM**	**137**	**AD4**	390	274
88.70*	16	8000	14.0	53400	3420	6	-					
80.91*	17	8000	15.2	53400	2790	6	-					
73.49	19	8000	16.7	53400	2740	6	-					
65.20	21	8000	18.9	53400	2670	6	-					
59.17*	24	8000	21	53400	2600	6	-					
50.86*	28	8000	24	53400	5670	6	-					
44.39	32	8000	28	53400	5560	6	M2	**R**	**137**	**AD5**	270	274
37.65	37	8000	33	53400	5400	6	M1-6	**RF**	**137**	**AD5**	290	274
32.91	43	8000	37	53400	5240	6	M1-6	**RM**	**137**	**AD5**	405	274
27.83	50	7680	42	54100	5160	6	M1-6					
29.57*	47	7780	40	53800	5200	6	-	**R**	**137**	**AD6**	270	274
24.12	58	8000	50	49400	4330	6	M2	**RF**	**137**	**AD6**	295	274
								RM	**137**	**AD6**	405	274

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R137 AD.. , n_e = 1400 min^{-1} — **8000 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$					m kg	
22.00*	64	8000	55	47100	11700	6	M1-6					
19.04*	74	8000	63	43500	10700	6	M1-6					
16.80*	83	8000	72	40600	9940	6	M1-6					
14.51	96	8000	83	37300	8800	6	M1-6					
12.83	109	7390	87	37400	9850	6	M1-6	**R**	**137**	**AD7**	280	274
10.79	130	7200	101	34700	8850	6	M1-6	**RF**	**137**	**AD7**	305	274
8.71	161	6900	120	31800	7540	6	M1-6	**RM**	**137**	**AD7**	415	274
7.59	184	4600	91	41100	8460	8	M1-6					
6.38	219	4400	104	38900	7940	8	M1-6					
5.15	272	4100	120	36600	7410	8	M1-6					

R147 AD.. , n_e = 1400 min^{-1} — **13000 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$					m kg	
163.31	8.6	13000	12.3	62700	2990	5	-					
146.91	9.5	13000	13.6	62700	2940	5	-	**R**	**147**	**AD4**	385	274
119.86	12	13000	16.7	62700	2800	5	-	**RF**	**147**	**AD4**	395	274
109.31	13	13000	18.3	62700	2750	5	-	**RM**	**147**	**AD4**	560	274
94.60*	15	13000	21	62700	2650	6	-					
83.47	17	13000	24	62700	2560	6	-					
72.09	19	13000	28	62700	5670	6	M2					
66.99	21	13000	30	62700	4550	6	-	**R**	**147**	**AD5**	400	274
61.09	23	13000	33	62700	4470	6	-	**RF**	**147**	**AD5**	410	274
52.87	26	13000	38	62700	4310	6	-	**RM**	**147**	**AD5**	570	274
46.65	30	13000	43	62700	4170	6	M2,4					
40.29	35	13000	49	62700	6970	6	M1-6	**R**	**147**	**AD6**	410	274
								RF	**147**	**AD6**	420	274
								RM	**147**	**AD6**	590	274
35.64	39	13000	56	62700	16800	6	M1-6	**R**	**147**	**AD7**	410	274
29.95	47	13000	66	62700	16600	6	M1-6	**RF**	**147**	**AD7**	420	274
24.19	58	11900	75	64700	16500	6	M1-6	**RM**	**147**	**AD7**	590	274
20.44	68	11700	86	65100	23700	5	M1-6					
18.04	78	10300	86	67300	24300	5	M1-6					
15.64	90	13000	125	62700	22400	5	M1-6					
13.91	101	12300	133	64000	22500	5	M1-6	**R**	**147**	**AD8**	420	274
11.99	117	10600	133	66900	23200	5	M1-6	**RF**	**147**	**AD8**	425	274
9.74	144	8650	134	67400	23900	6	M1-6	**RM**	**147**	**AD8**	590	274
8.26	169	7340	134	66900	24400	6	M1-6					
7.25	193	6440	134	65300	23200	8	M1-6					
5.89	238	5230	134	64000	23900	8	M1-6					
5.00	280	4430	134	62600	24500	8	M1-6					

R167 AD.. , n_e = 1400 min^{-1} — **20000 Nm**

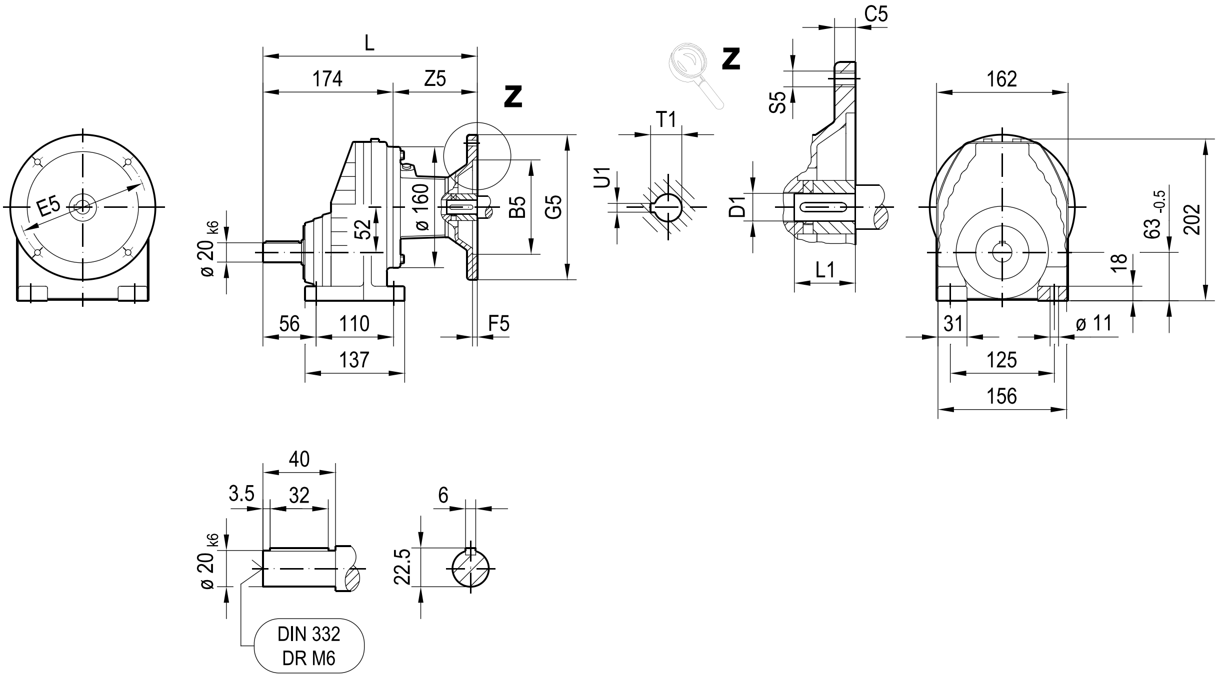
i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$					m kg	
229.71	6.1	20000	13.5	120000	5880	5	-					
186.93*	7.5	20000	16.5	120000	5800	5	-					
153.07	9.2	20000	20	120000	5660	5	-					
139.98	10	20000	22	120000	5620	5	-	**R**	**167**	**AD5**	650	275
121.81*	11	20000	25	120000	5520	5	-	**RF**	**167**	**AD5**	650	275
107.49	13	20000	29	120000	5430	5	-	**RM**	**167**	**AD5**	850	275
93.19	15	20000	33	120000	5320	5	-					
82.91*	17	20000	37	120000	5210	5	-					
73.70*	19	20000	42	120000	2380	6	-					
67.40	21	20000	45	120000	6240	6	-	**R**	**167**	**AD6**	670	275
58.65	24	20000	52	120000	5870	6	-	**RF**	**167**	**AD6**	670	275
51.76	27	20000	59	120000	5530	6	M2	**RM**	**167**	**AD6**	870	275
44.87	31	20000	68	120000	13700	6	M1-6	**R**	**167**	**AD7**	660	275
39.92	35	20000	77	120000	12900	6	M1-6	**RF**	**167**	**AD7**	670	275
34.41	41	20000	89	120000	12000	6	M1-6	**RM**	**167**	**AD7**	860	275
27.96	50	19800	108	120000	25000	6	M1-6	**R**	**167**	**AD8**	680	275
23.71	59	18400	119	115400	25000	6	M1-6	**RF**	**167**	**AD8**	690	275
								RM	**167**	**AD8**	880	275

R167 AD.. , n_e = 1400 min^{-1}												20000 Nm
i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
46.00	30	8460	28	120000	3140	5	-	**R**	**167**	**AD5**	640	275
								RF	**167**	**AD5**	650	275
								RM	**167**	**AD5**	840	275
37.74	37	9940	40	120000	5170	5	-	**R**	**167**	**AD6**	660	275
30.71	46	11400	56	120000	2870	5	-	**RF**	**167**	**AD6**	670	275
								RM	**167**	**AD6**	860	275
24.57	57	15800	97	120000	22800	5	M2					
21.85	64	14000	97	120000	23500	5	M2,4					
19.03	74	18100	143	105700	21200	5	M1-6	**R**	**167**	**AD8**	680	275
16.98	82	16100	143	105900	21900	5	M1-6	**RF**	**167**	**AD8**	680	275
14.48	97	19500	203	89800	19500	5	M1-6	**RM**	**167**	**AD8**	880	275
11.99	117	18800	236	83900	19100	5	M1-6					
10.24	137	18300	269	78700	18600	5	M1-6					

8.4 Dimension sheets for adapters for mounting IEC motors (AM..)

01 010 02 01

RX57..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	240	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	240	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	273	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	273	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	308	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	308	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	365	M12	191	38	80	41.3	10

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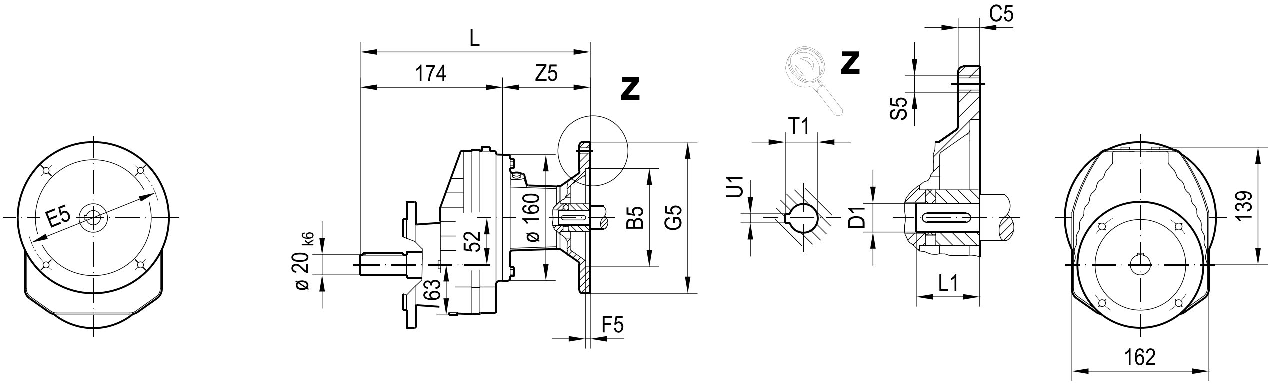
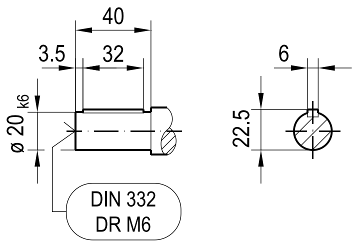
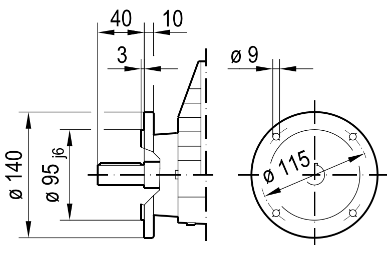
01 011 03 01

RXF57..

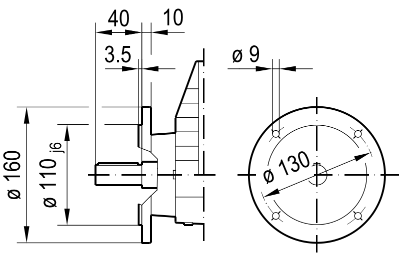




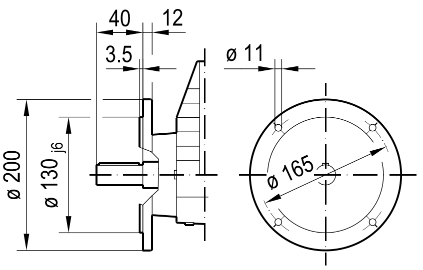
ø 140



ø 160



ø 200



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	240	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	240	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	273	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	273	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	308	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	308	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	365	M12	191	38	80	41.3	10

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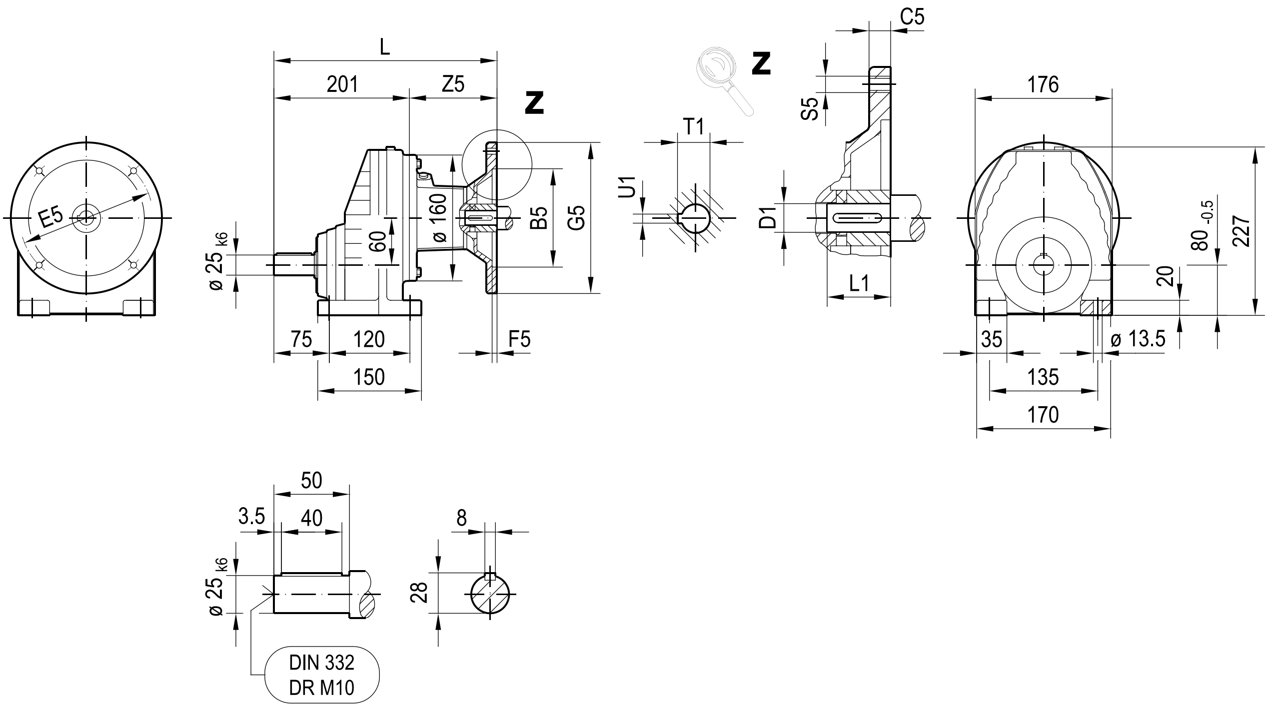
01 012 03 01

RX67..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	267	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	267	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	300	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	300	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	335	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	335	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	392	M12	191	38	80	41.3	10

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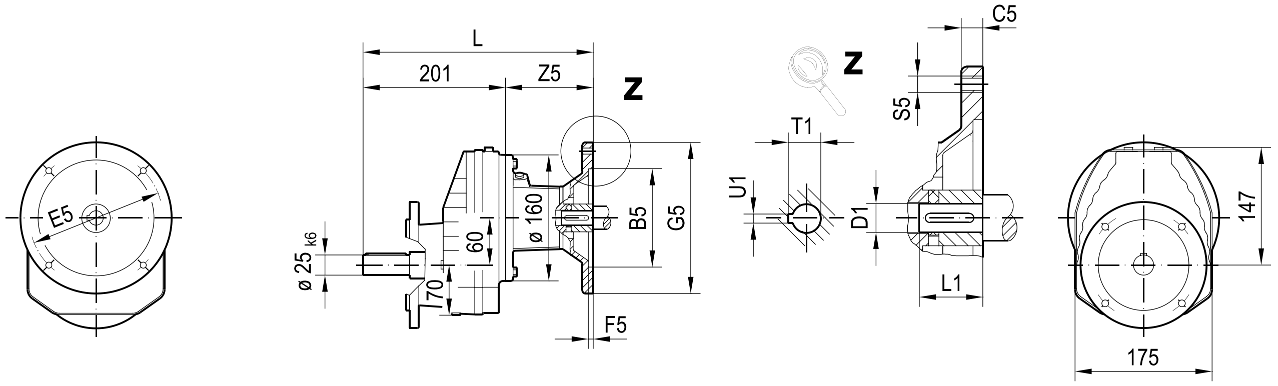
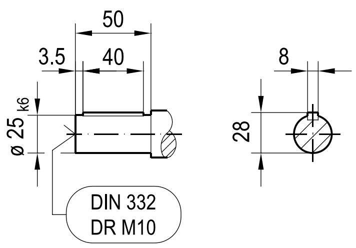
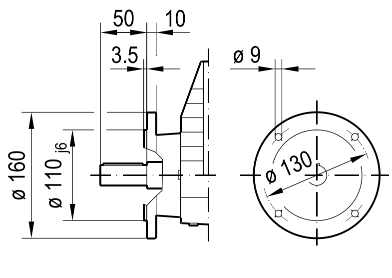
01 013 02 01

RXF67..

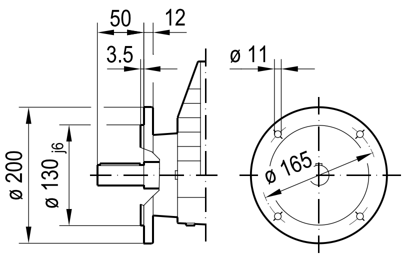




ø 160



ø 200



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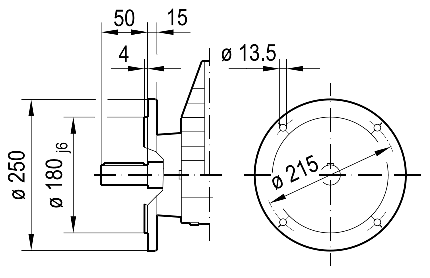

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	267	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	267	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	300	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	300	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	335	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	335	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	392	M12	191	38	80	41.3	10

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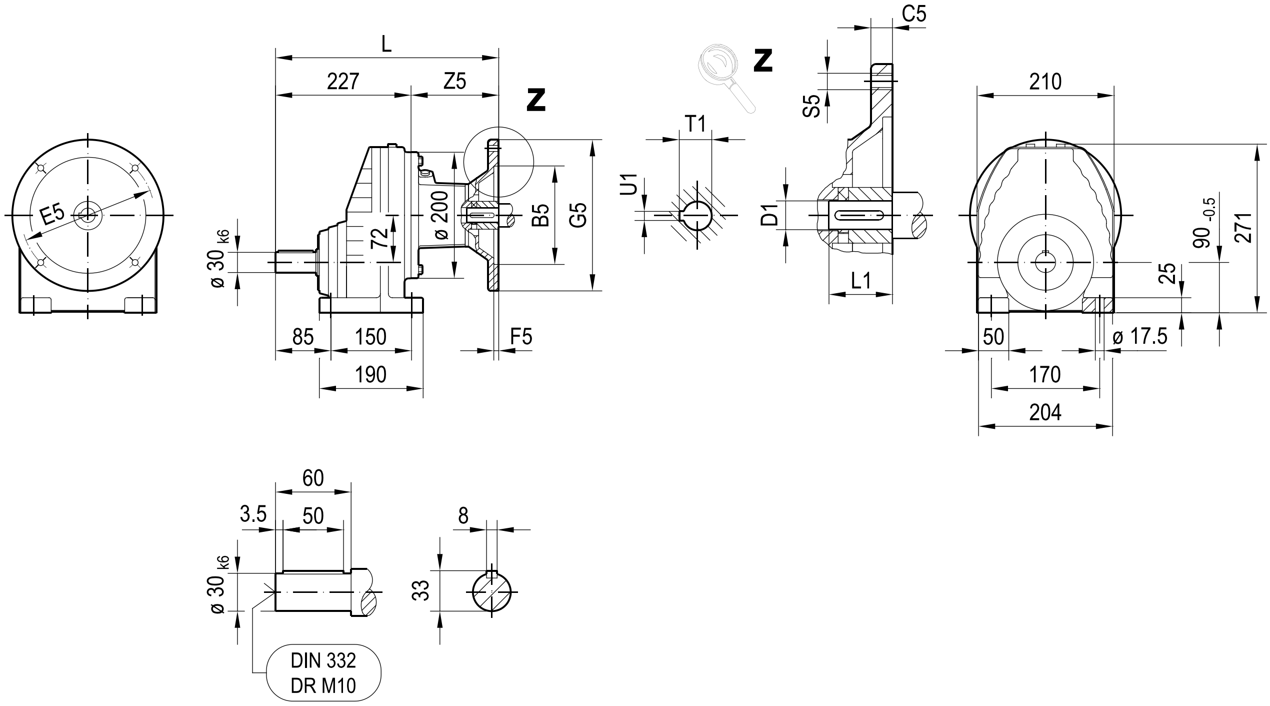
01 014 02 01

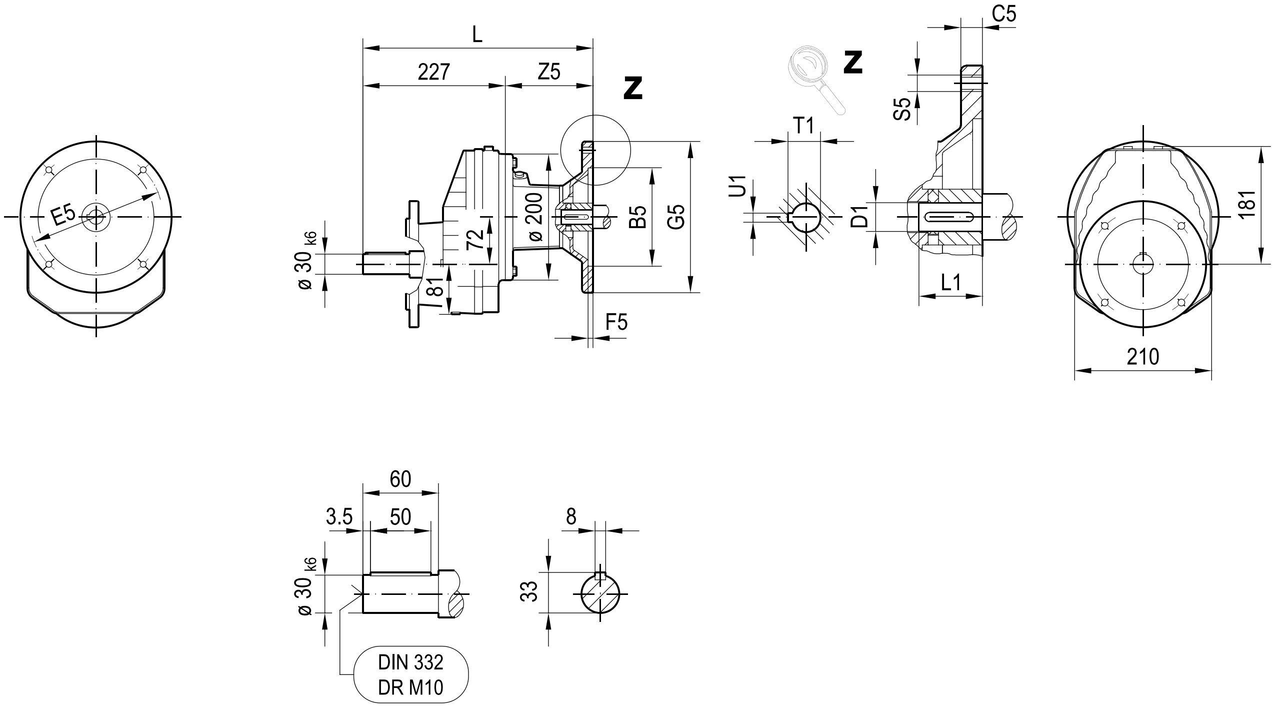
RX77..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	287	M8	60	11	23	12.8	4
AM71	110	10	130	4	160	287	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	319	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	319	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	353	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	353	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	406	M12	179	38	80	41.3	10
AM132ML	230	16	265	5	300	406	M12	179	38	80	41.3	10

01 015 03 01

RXF77..



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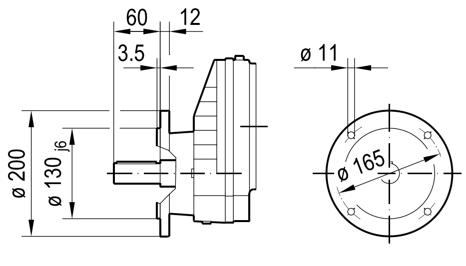

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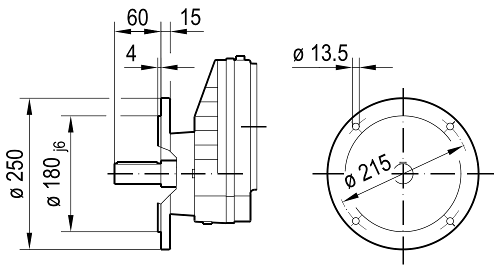
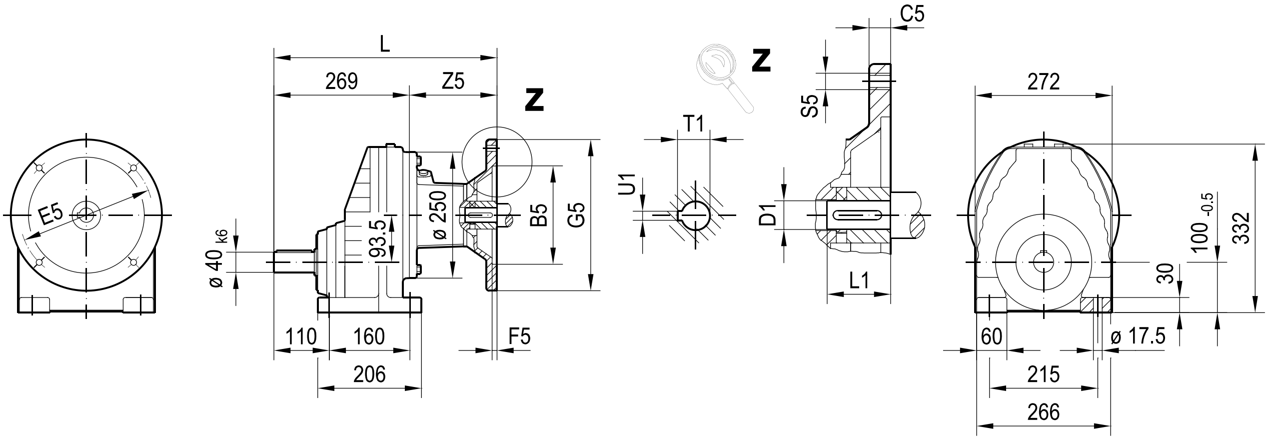
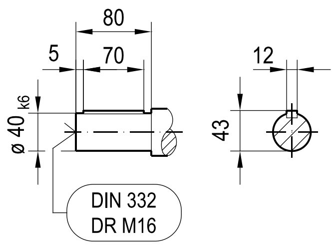


(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	287	M8	60	11	23	12.8	4
AM71	110	10	130	4	160	287	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	319	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	319	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	353	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	353	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	406	M12	179	38	80	41.3	10
AM132ML	230	16	265	5	300	406	M12	179	38	80	41.3	10

01 016 01 01

RX87..





(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM80	130	12	165	4.5	200	356	M10	87	19	40	21.8	6
AM90	130	12	165	4.5	200	356	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	390	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	390	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	443	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	443	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	501	M16	232	42	110	45.3	12
AM180	250	18	300	6	350	501	M16	232	48	110	51.8	14

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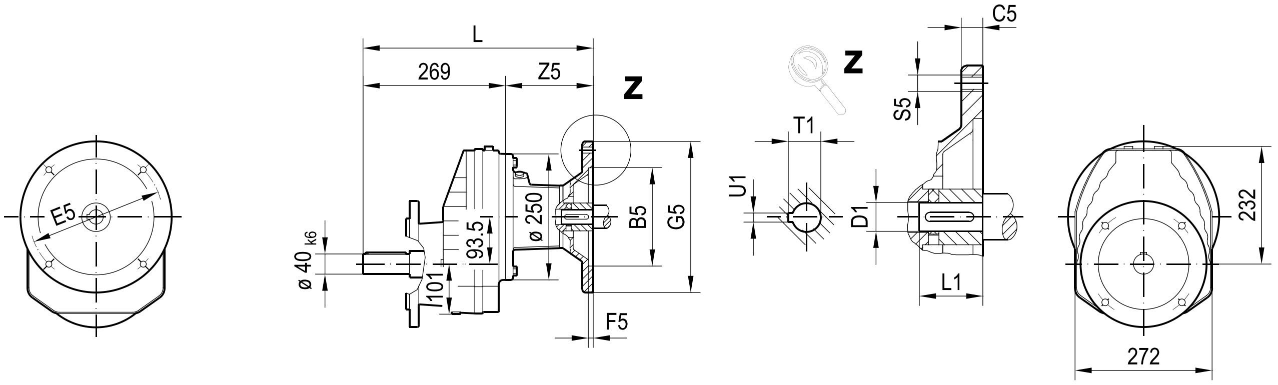
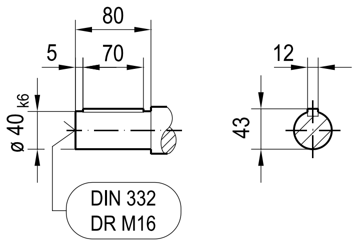
01 017 02 01

RXF87..





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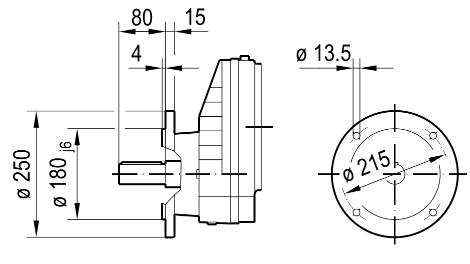

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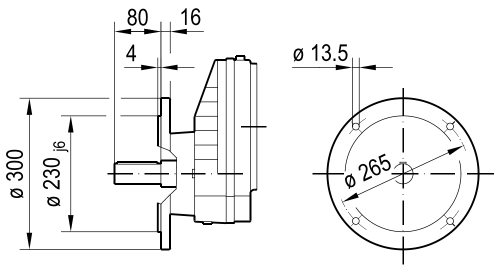

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM80	130	12	165	4.5	200	356	M10	87	19	40	21.8	6
AM90	130	12	165	4.5	200	356	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	390	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	390	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	443	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	443	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	501	M16	232	42	110	45.3	12
AM180	250	18	300	6	350	501	M16	232	48	110	51.8	14

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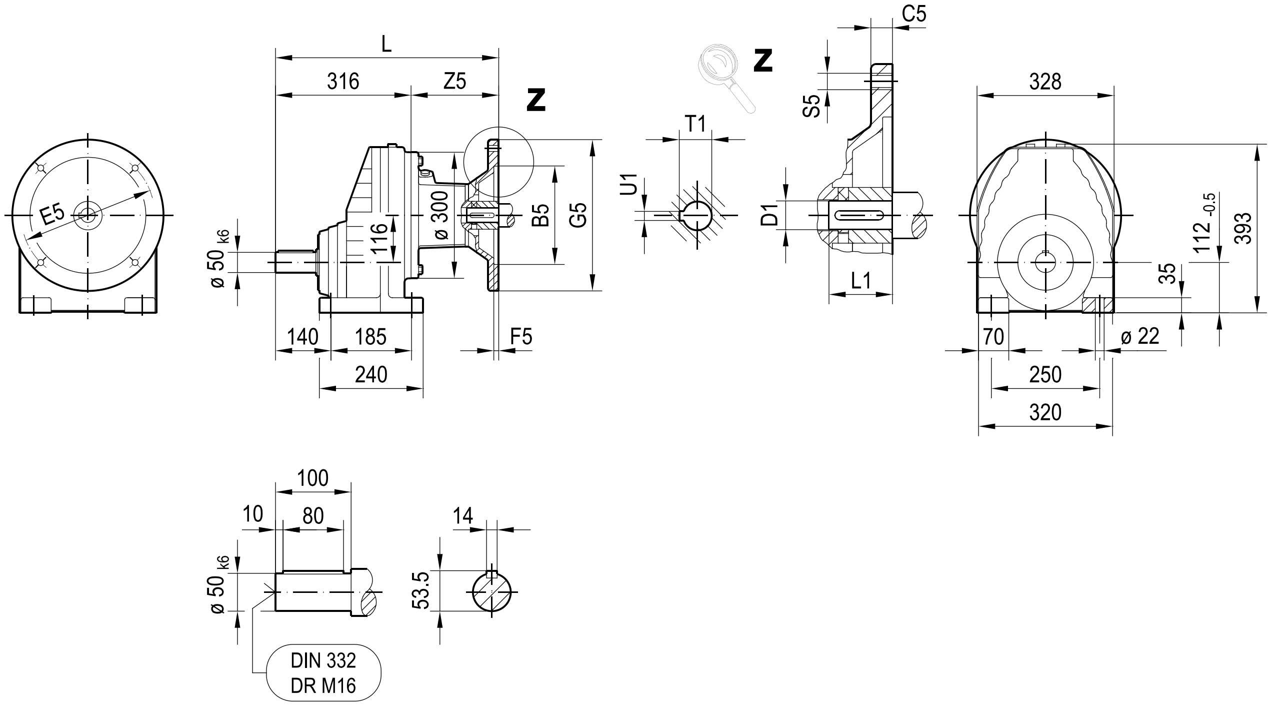
01 018 01 01

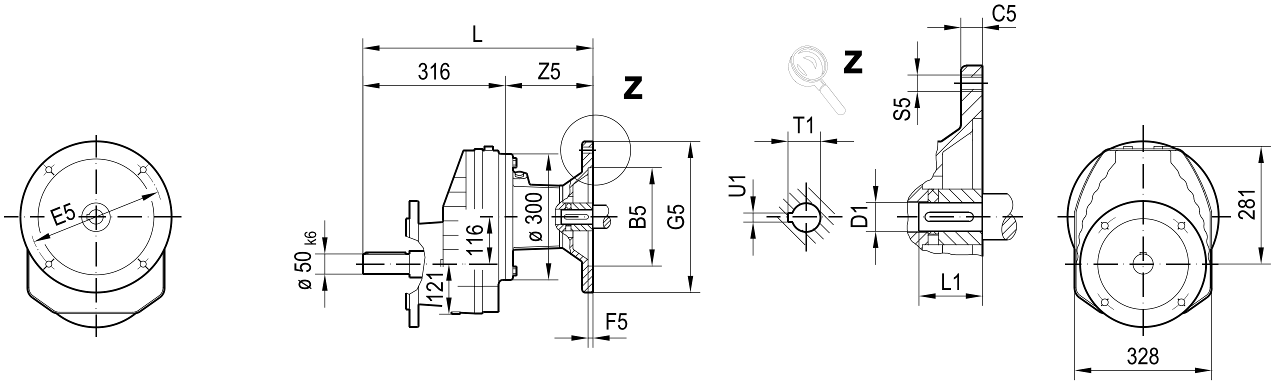
RX97..

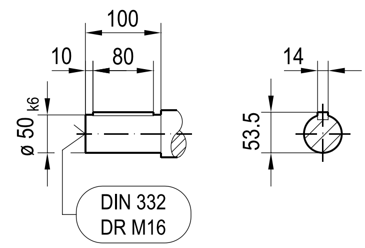


(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	432	M12	116	28	60	31.3	8
AM112	180	15	215	5	250	432	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	485	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	485	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	543	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	543	M16	227	48	110	51.8	14
AM200	300	20	350	7	400	584	M16	268	55	110	59.3	16

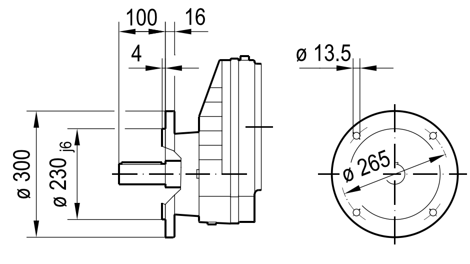
01 019 02 01

RXF97..

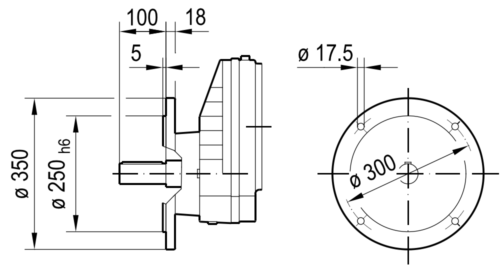




ø 300



ø 350



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	432	M12	116	28	60	31.3	8
AM112	180	15	215	5	250	432	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	485	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	485	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	543	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	543	M16	227	48	110	51.8	14
AM200	300	20	350	7	400	584	M16	268	55	110	59.3	16

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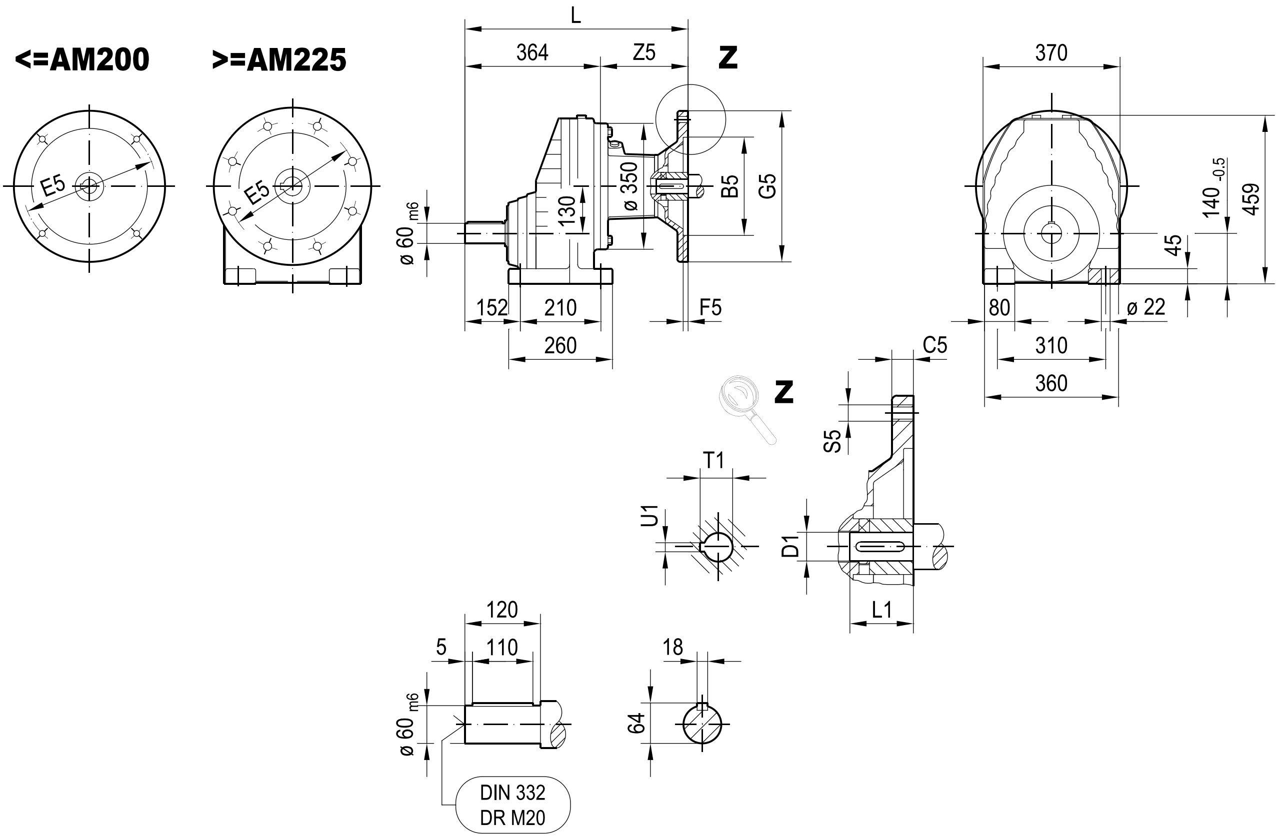
01 020 01 01

RX107..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	474	M12	110	28	60	31.3	8
AM112	180	15	215	5	250	474	M12	110	28	60	31.3	8
AM132S/M	230	16	265	5	300	527	M12	163	38	80	41.3	10
AM132ML	230	16	265	5	300	527	M12	163	38	80	41.3	10
AM160	250	18	300	6	350	585	M16	221	42	110	45.3	12
AM180	250	18	300	6	350	585	M16	221	48	110	51.8	14
AM200	300	20	350	7	400	626	M16	262	55	110	59.3	16
AM225	350	22	400	7	450	641	M16	277	60	140	64.4	18

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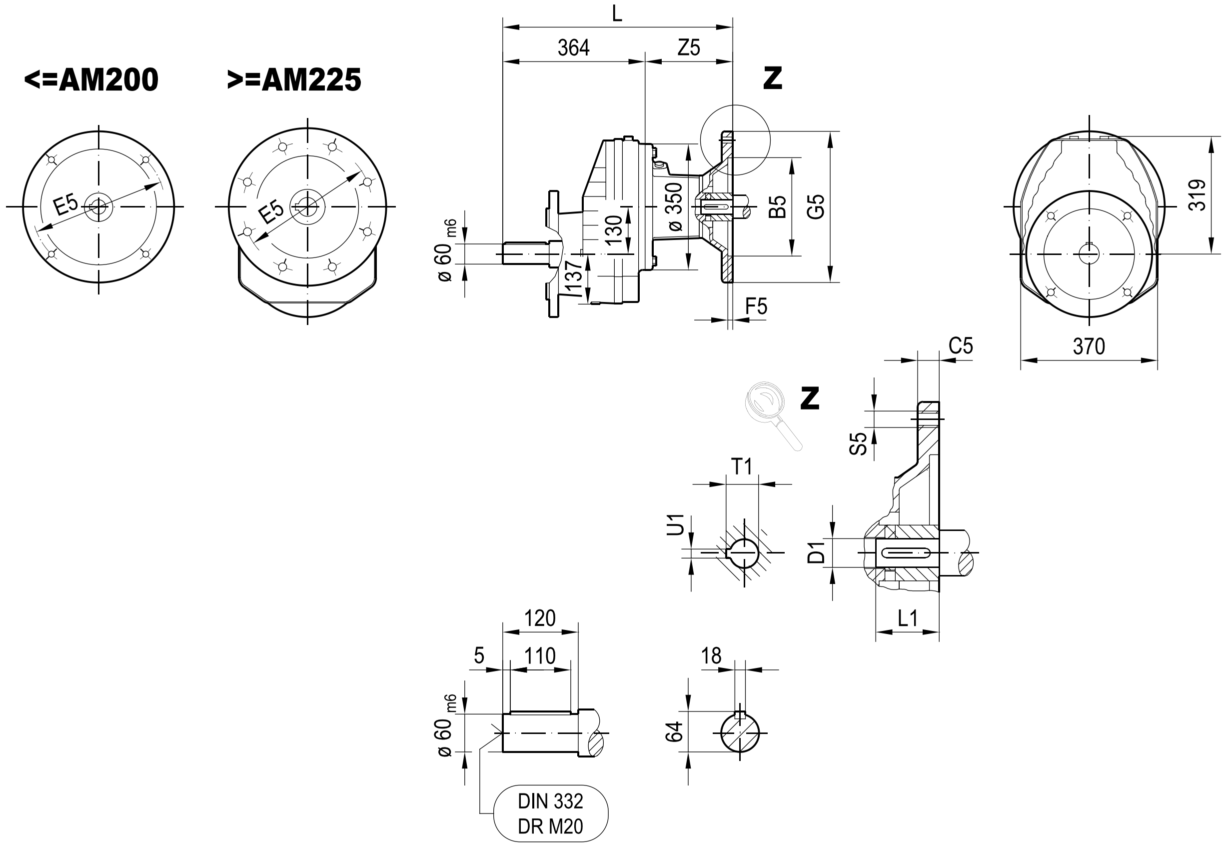
01 021 02 01

RXF107..



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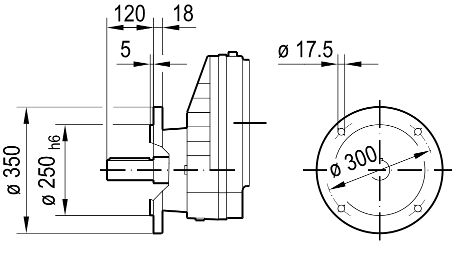

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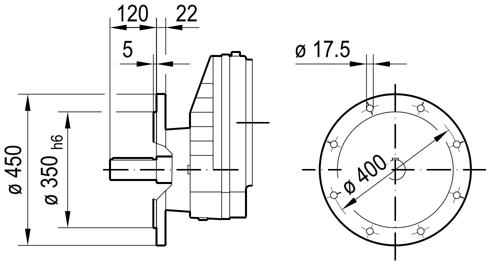

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	474	M12	110	28	60	31.3	8
AM112	180	15	215	5	250	474	M12	110	28	60	31.3	8
AM132S/M	230	16	265	5	300	527	M12	163	38	80	41.3	10
AM132ML	230	16	265	5	300	527	M12	163	38	80	41.3	10
AM160	250	18	300	6	350	585	M16	221	42	110	45.3	12
AM180	250	18	300	6	350	585	M16	221	48	110	51.8	14
AM200	300	20	350	7	400	626	M16	262	55	110	59.3	16
AM225	350	22	400	7	450	641	M16	277	60	140	64.4	18

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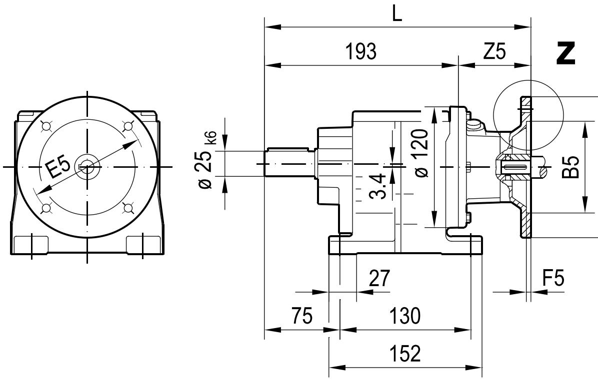
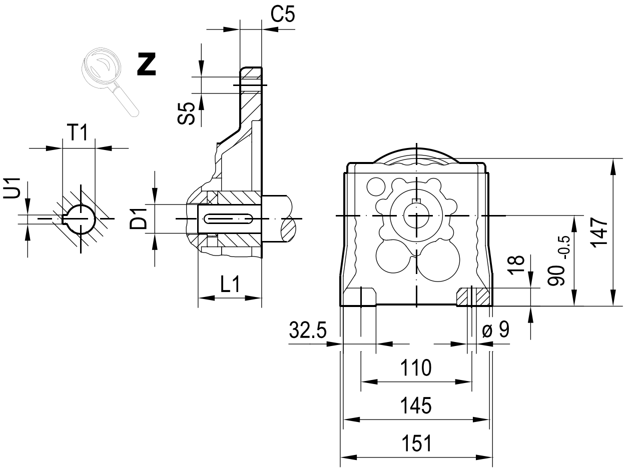
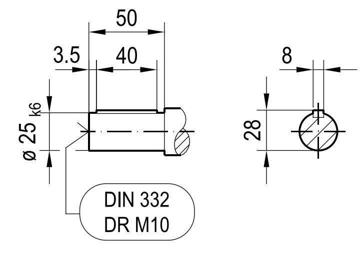
01 022 03 01

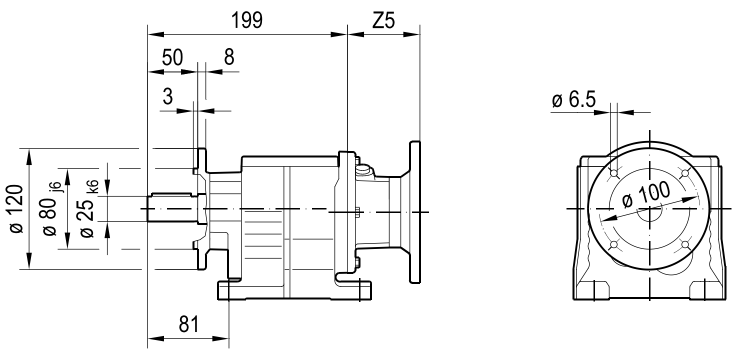
R27..







R27F..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	265	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	265	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	299	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	299	M10	106	24	50	27.3	8

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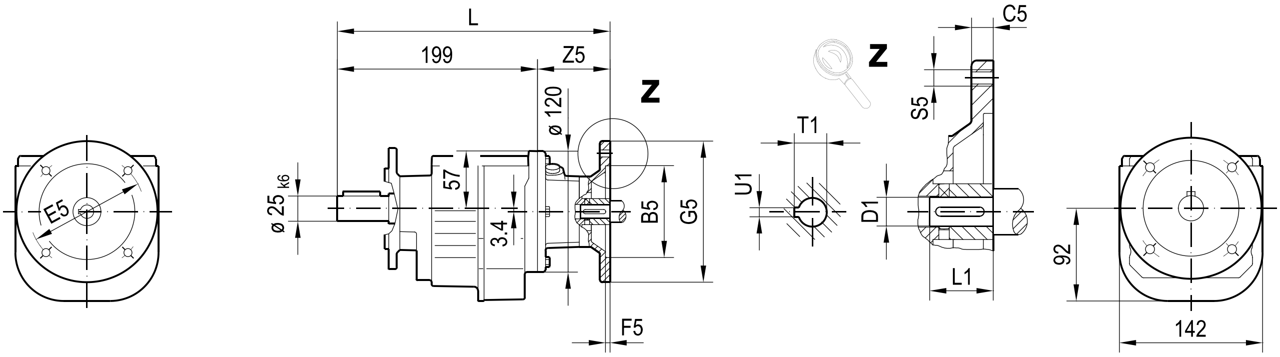
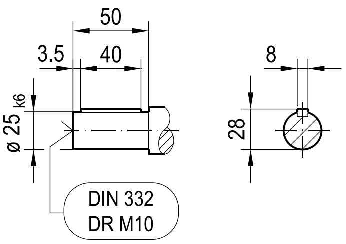
01 023 02 01

RF27..





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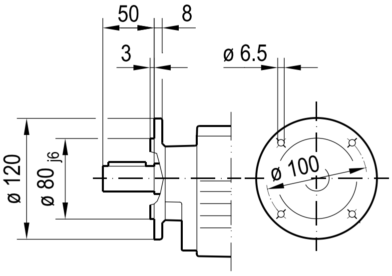

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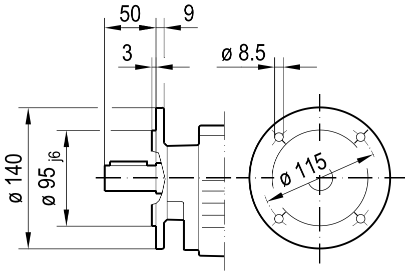
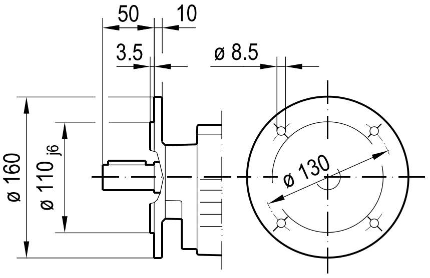


ø 160



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	271	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	271	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	305	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	305	M10	106	24	50	27.3	8

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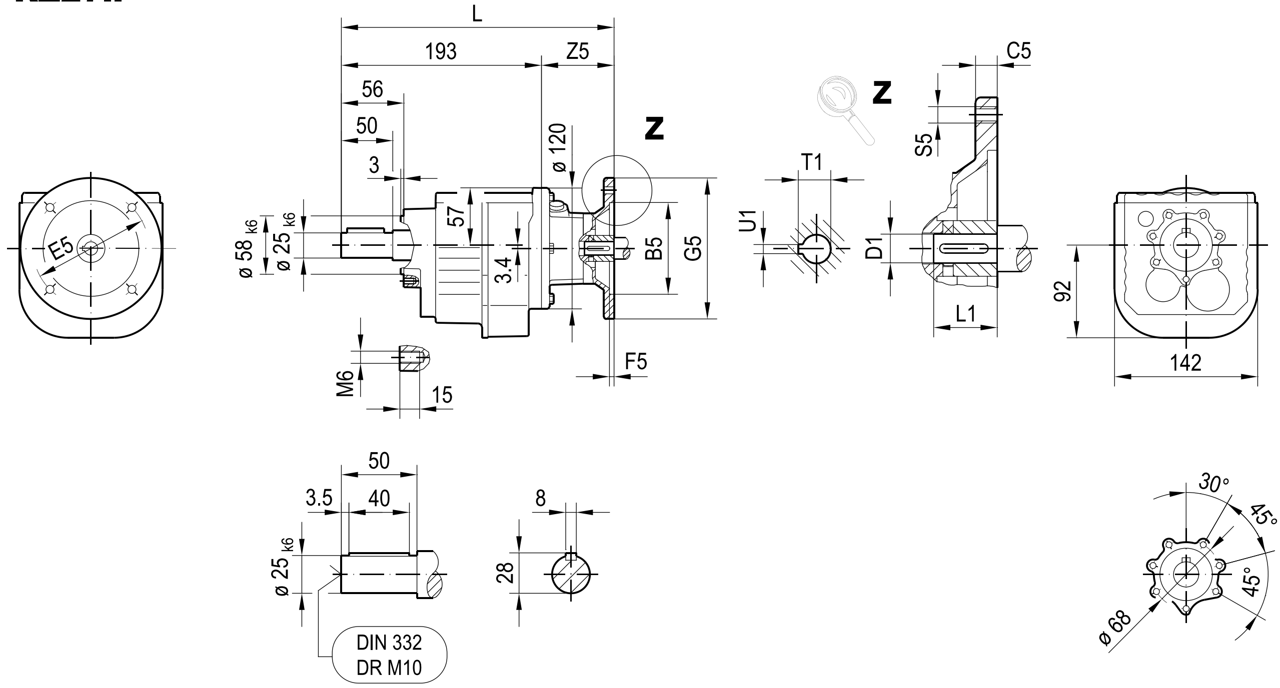
01 004 01 07

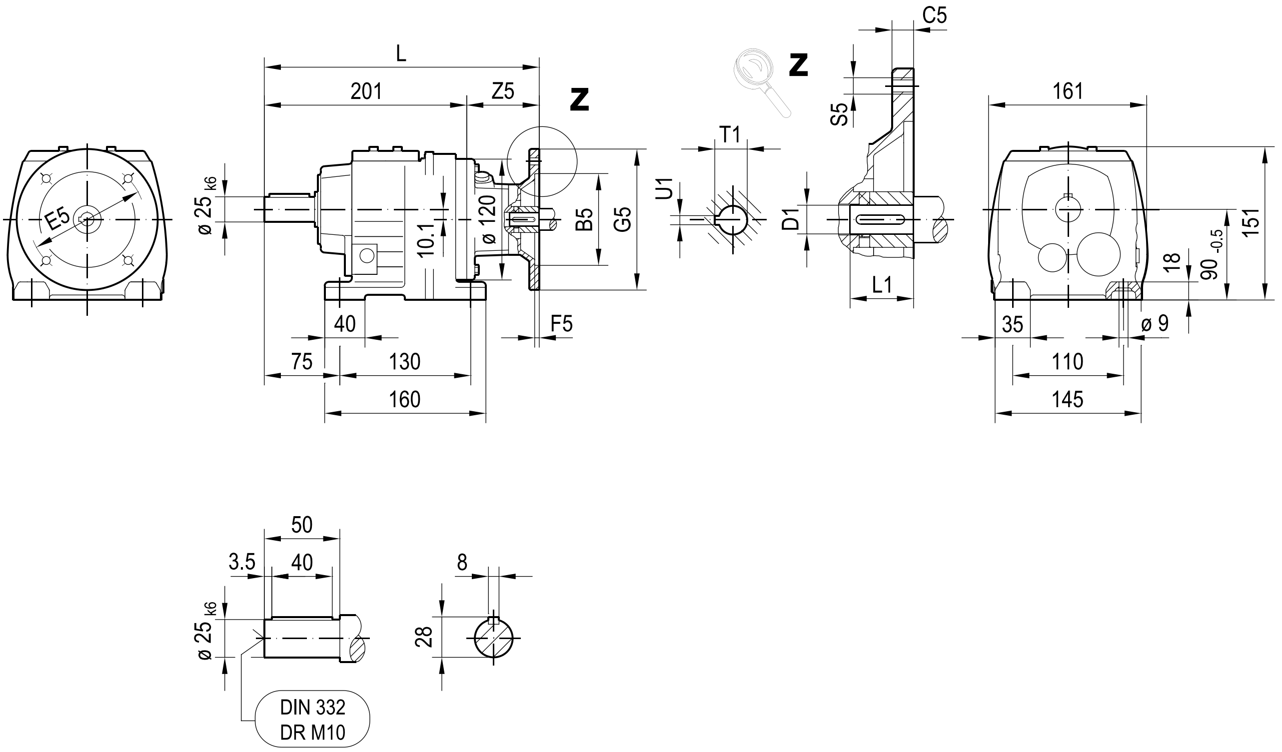
RZ27..



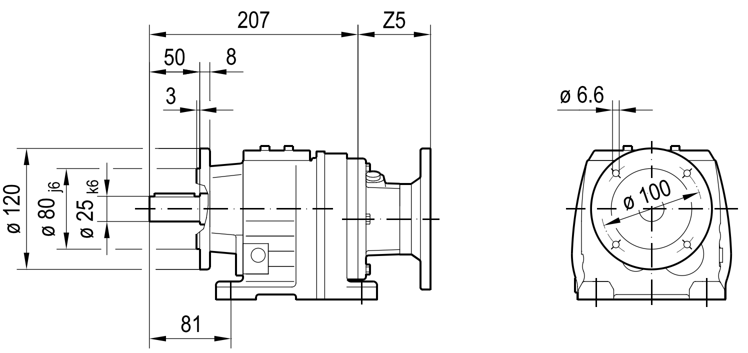
(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	265	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	265	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	299	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	299	M10	106	24	50	27.3	8

R37..

01 024 03 01



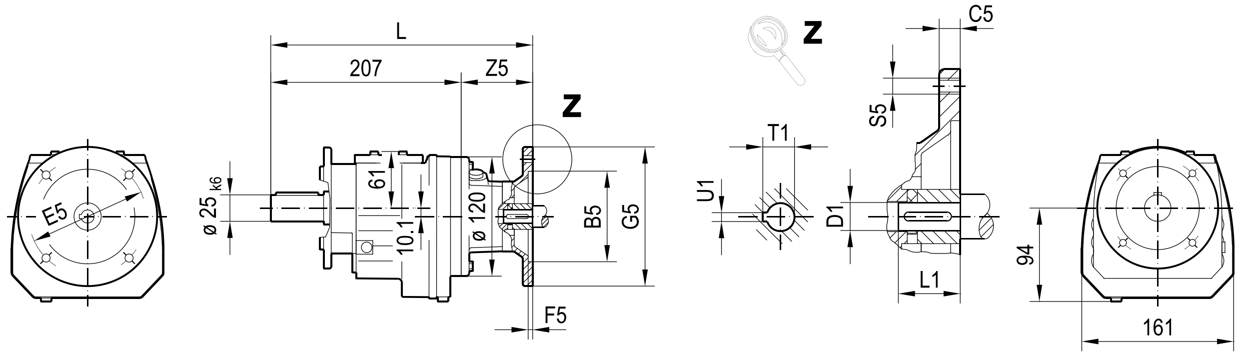
R37F..

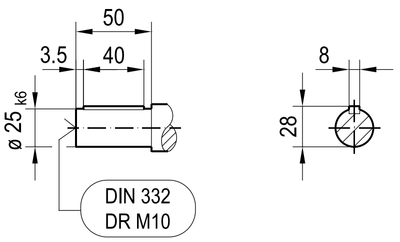


(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	273	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	273	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	307	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	307	M10	106	24	50	27.3	8

01 025 03 01

RF37..





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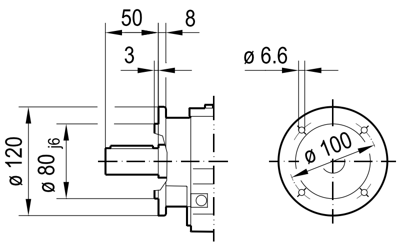

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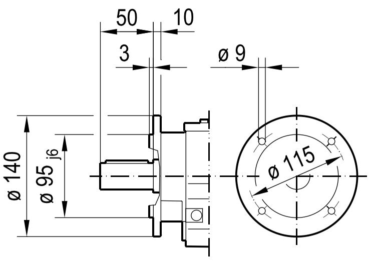
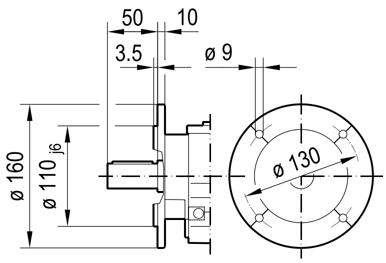


ø 160



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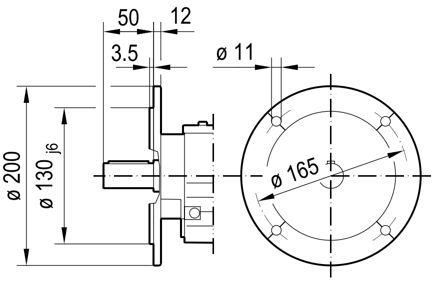

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	279	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	279	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	313	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	313	M10	106	24	50	27.3	8

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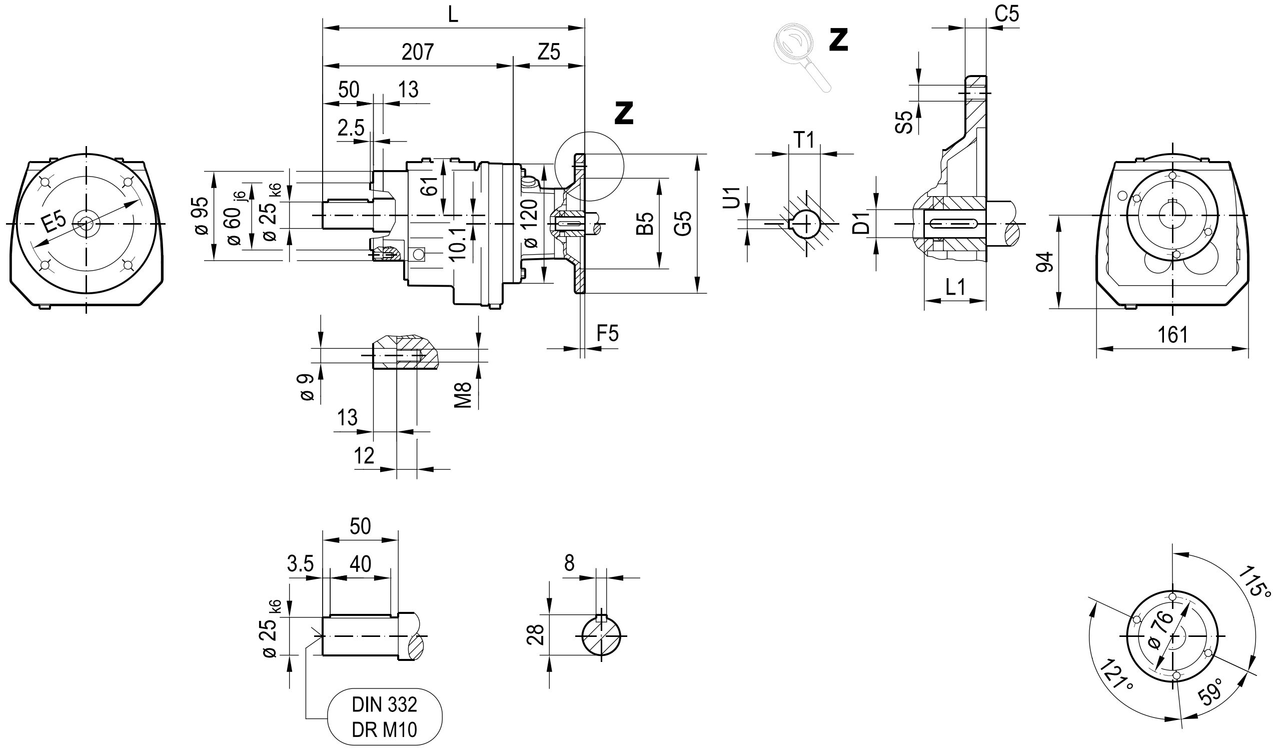
RZ37..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	279	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	279	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	313	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	313	M10	106	24	50	27.3	8

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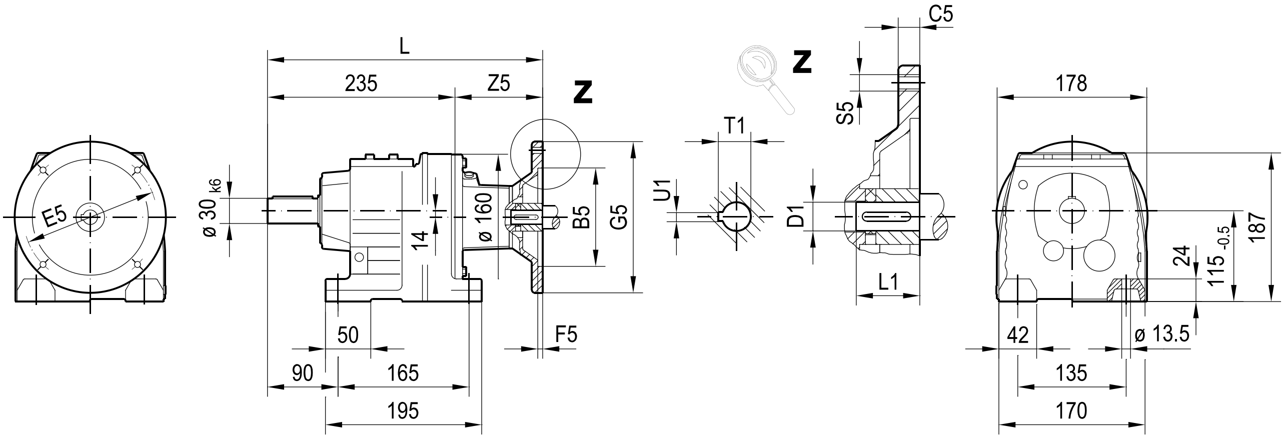
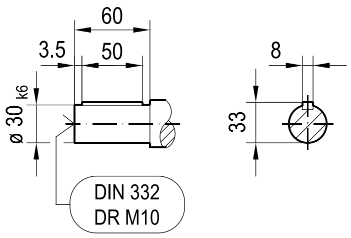
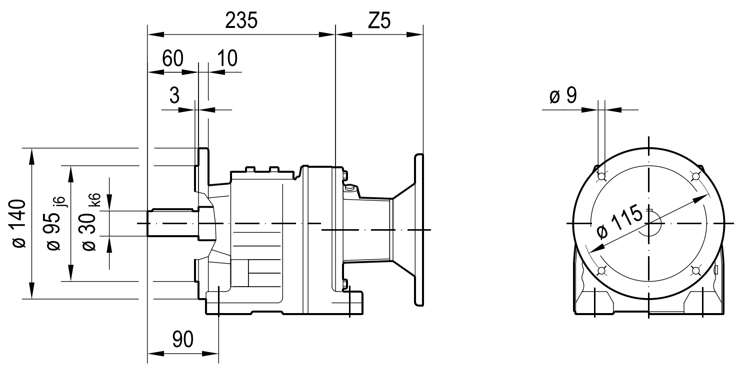
R47..





R47F..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	301	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	301	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	334	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	334	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	369	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	369	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	426	M12	191	38	80	41.3	10

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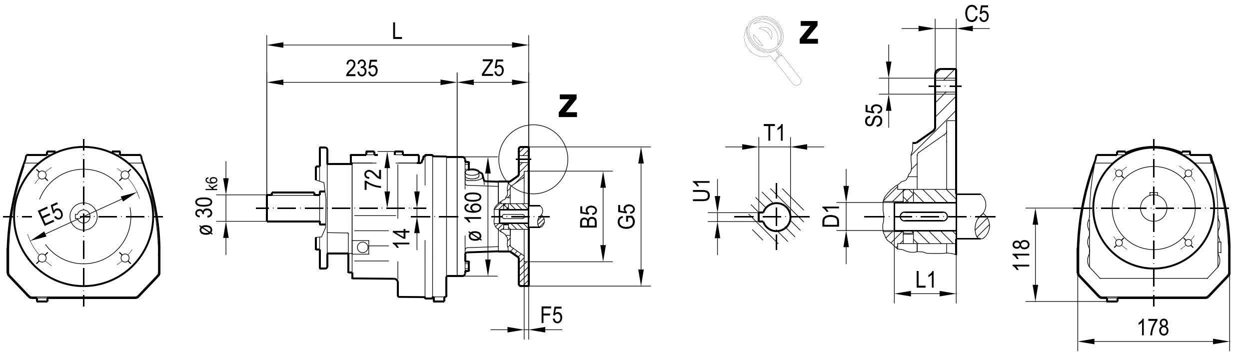
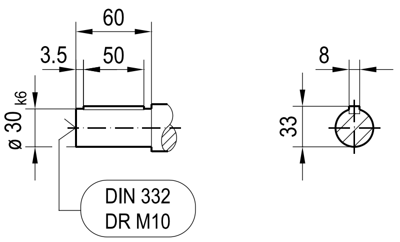
01 027 03 01

RF47..





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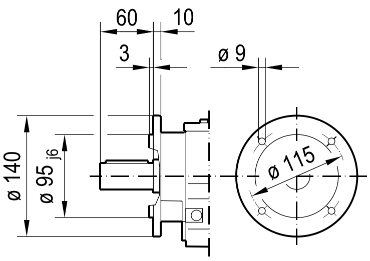
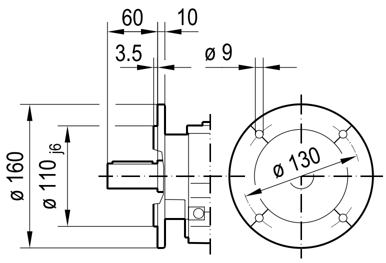


ø 160



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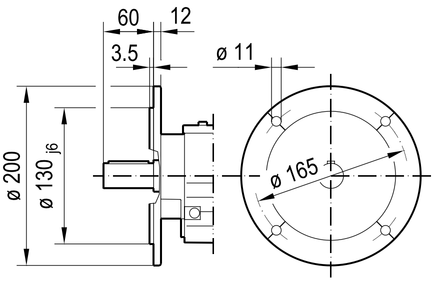

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	301	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	301	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	334	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	334	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	369	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	369	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	426	M12	191	38	80	41.3	10

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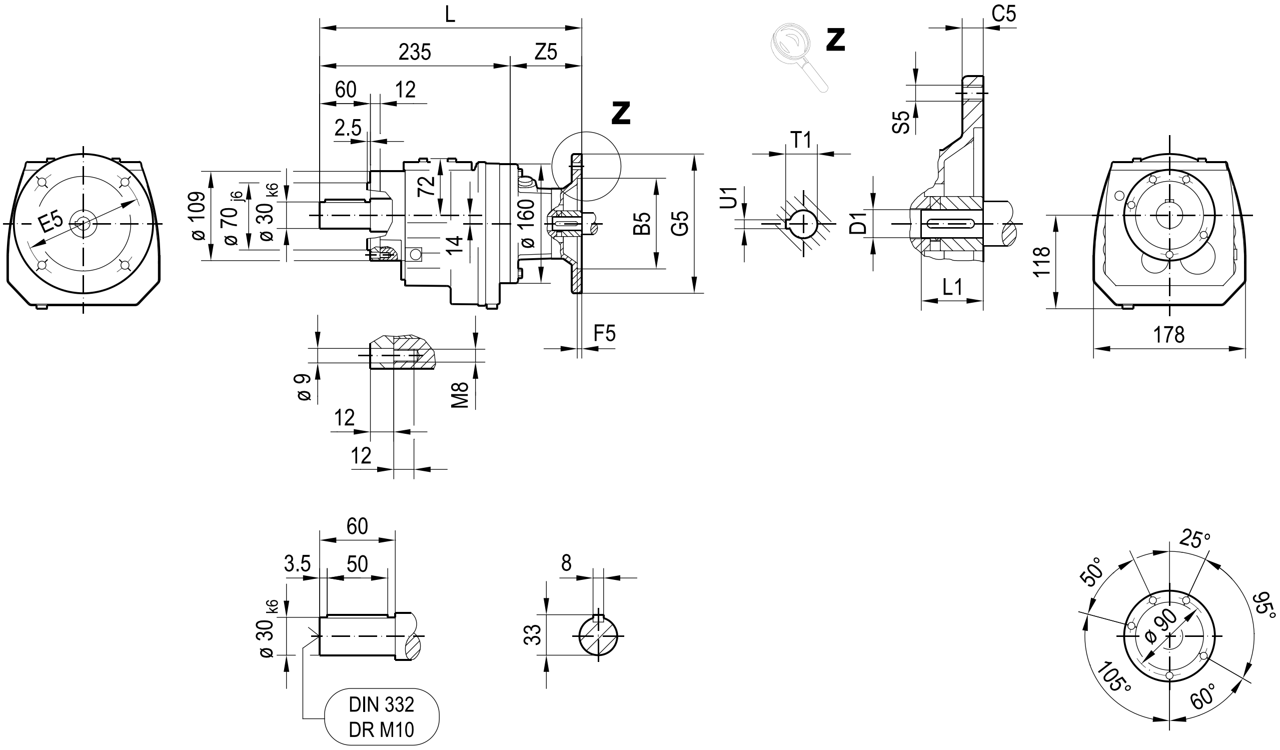
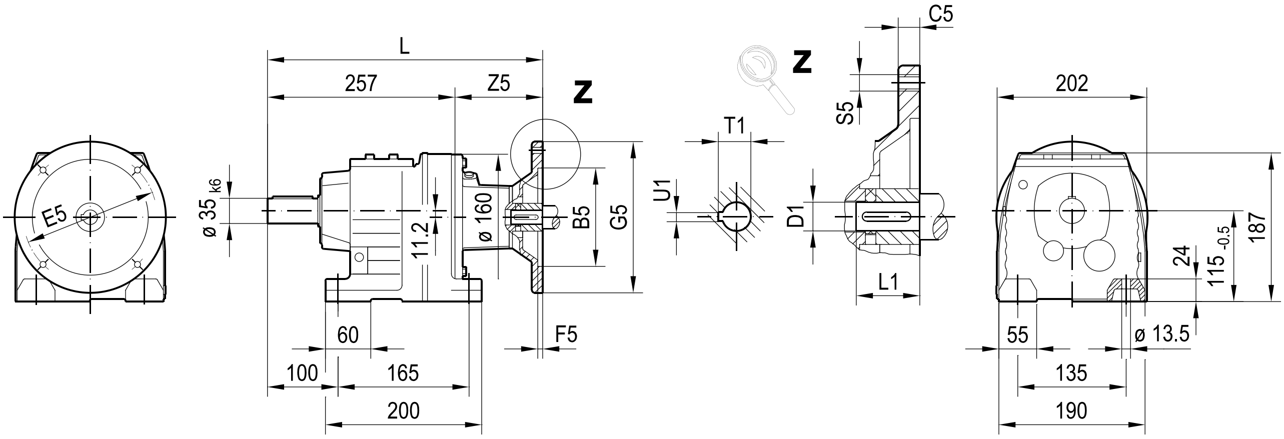
RZ47..

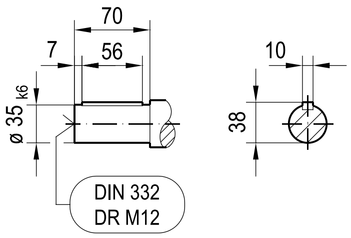


(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	301	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	301	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	334	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	334	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	369	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	369	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	426	M12	191	38	80	41.3	10

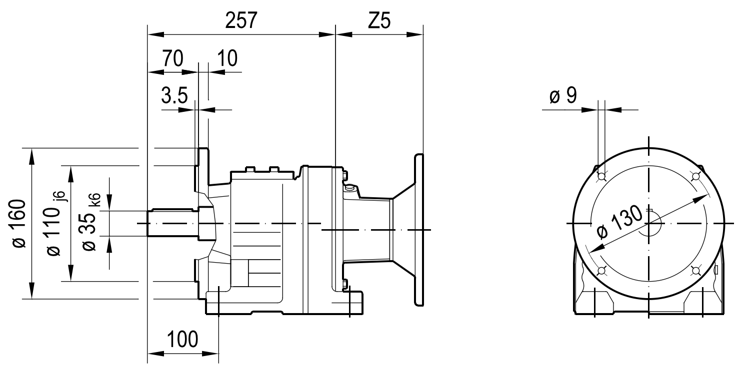
01 028 03 01

R57..





R57F..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	323	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	323	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	356	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	356	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	391	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	391	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	448	M12	191	38	80	41.3	10

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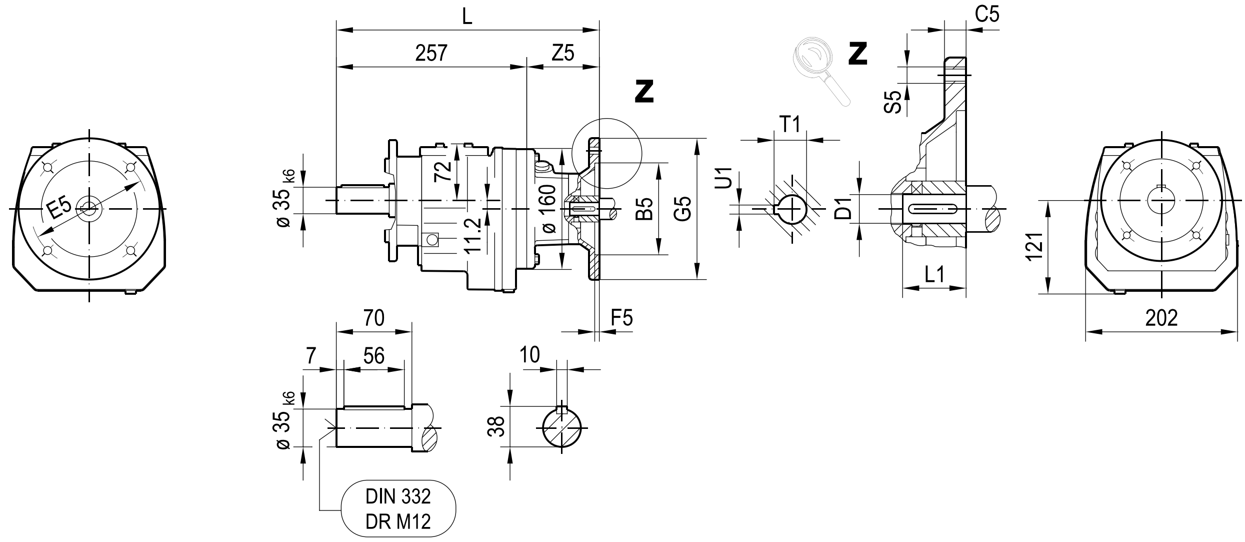
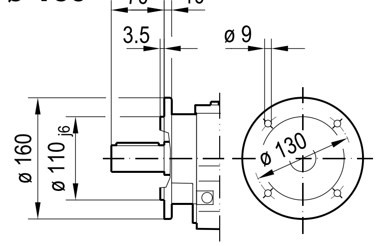
01 029 03 01

RF57..



ø 160



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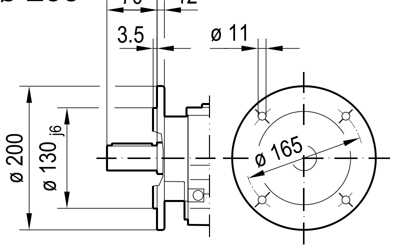

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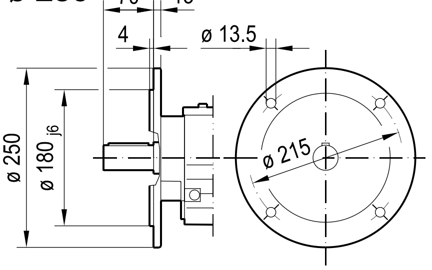
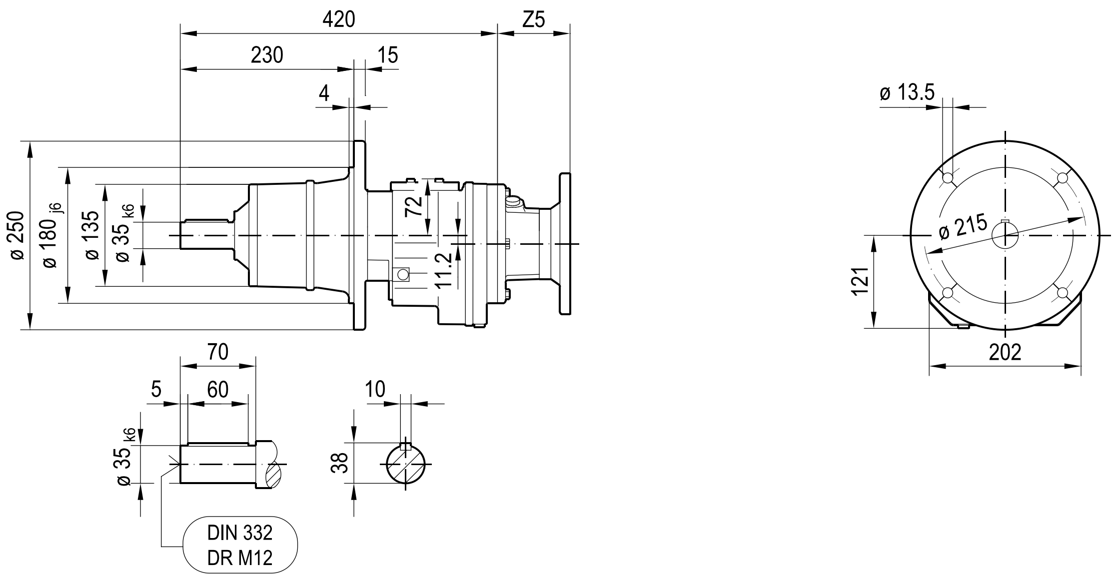


RM57..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	323	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	323	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	356	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	356	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	391	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	391	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	448	M12	191	38	80	41.3	10

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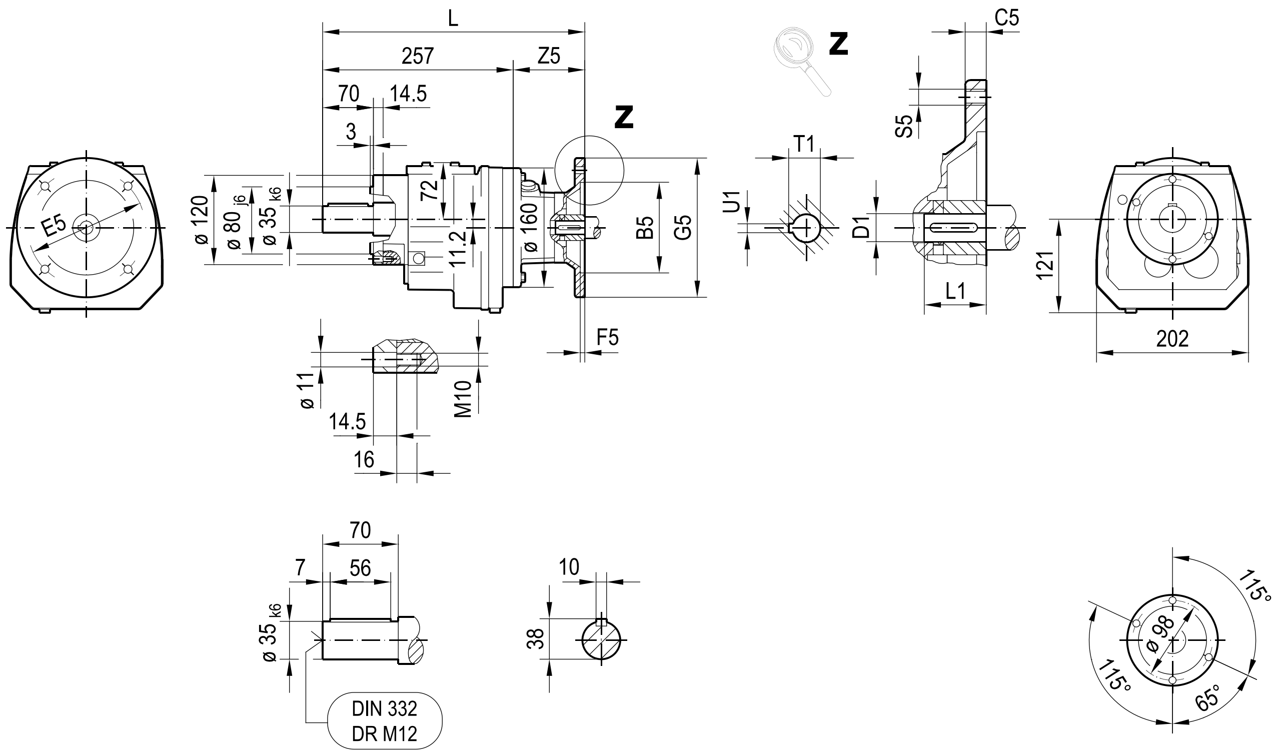
RZ57..

01 007 01 07



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	323	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	323	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	356	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	356	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	391	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	391	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	448	M12	191	38	80	41.3	10

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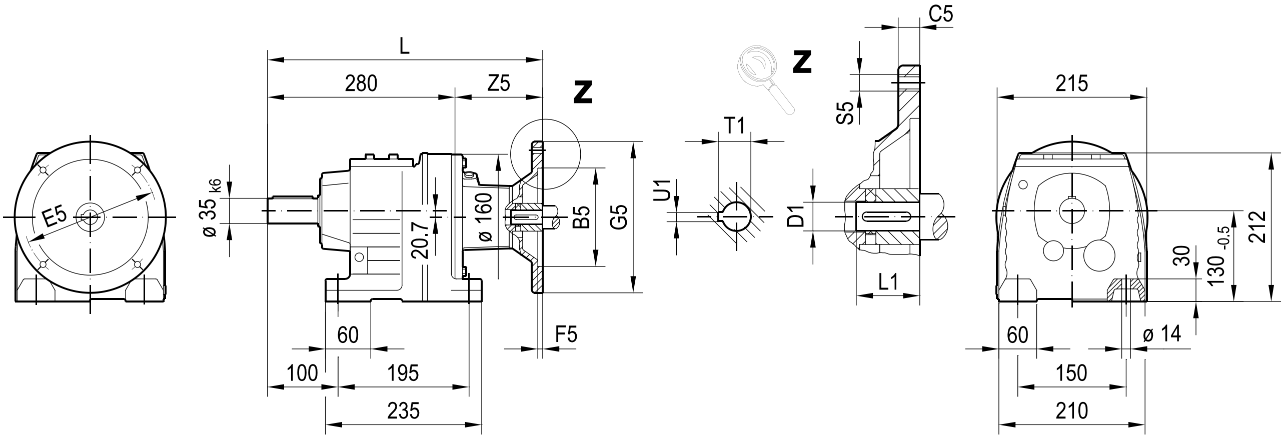
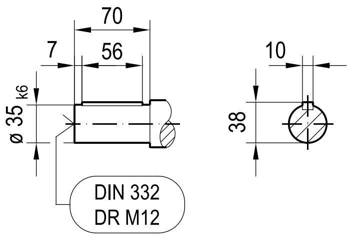
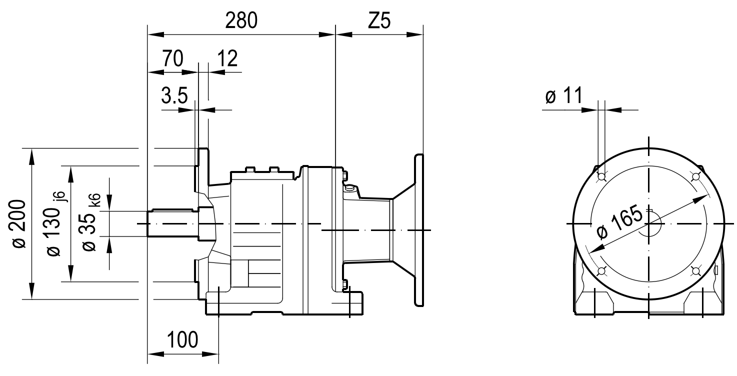
01 030 02 01

R67..





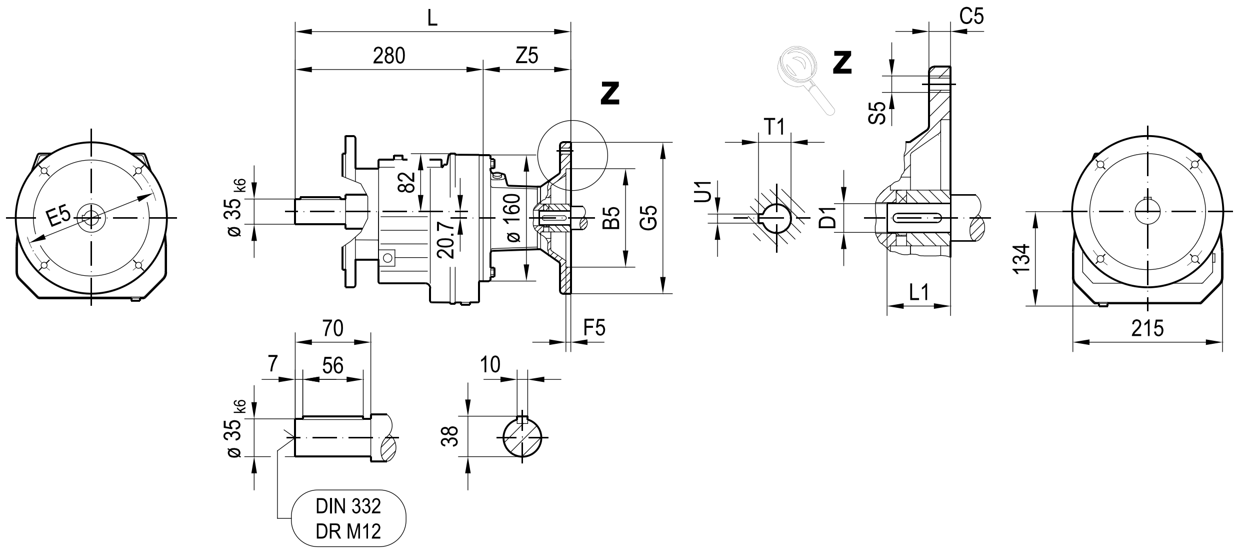
R67F..



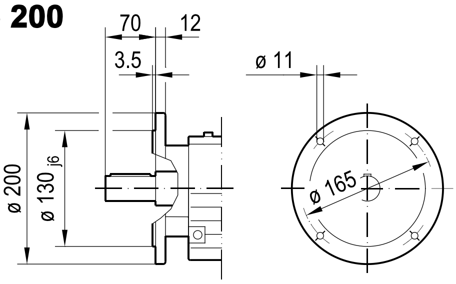
(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	346	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	346	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	379	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	379	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	414	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	414	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	471	M12	191	38	80	41.3	10

01 031 03 01

RF67..



ø 200



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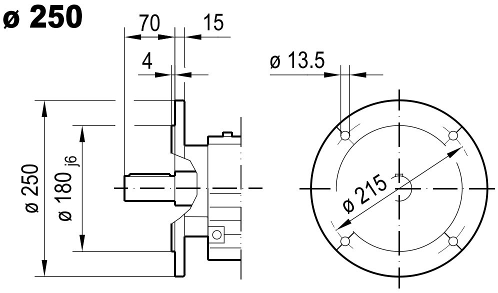
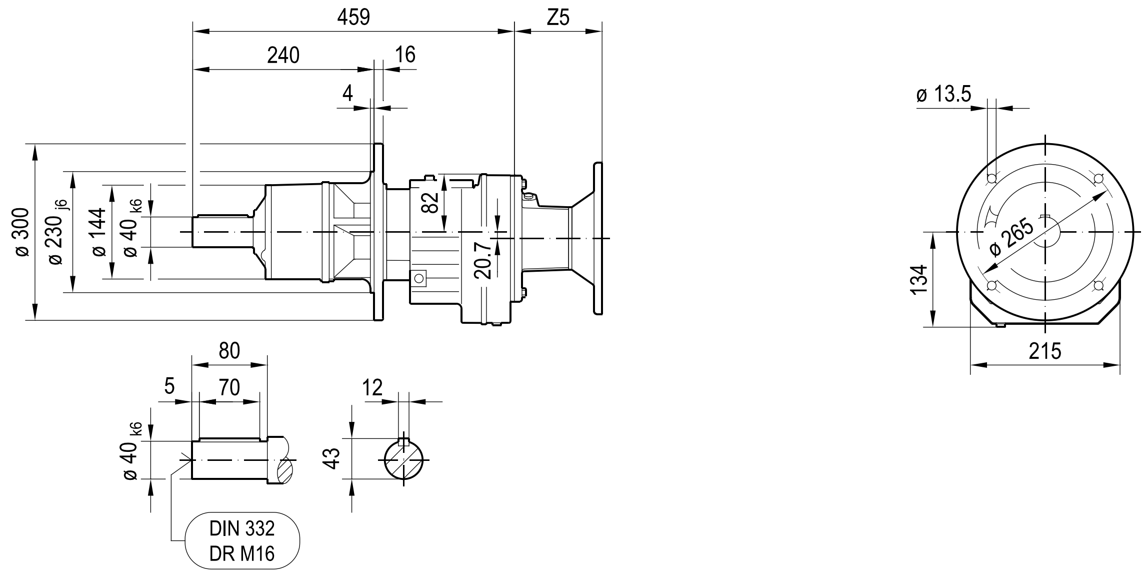


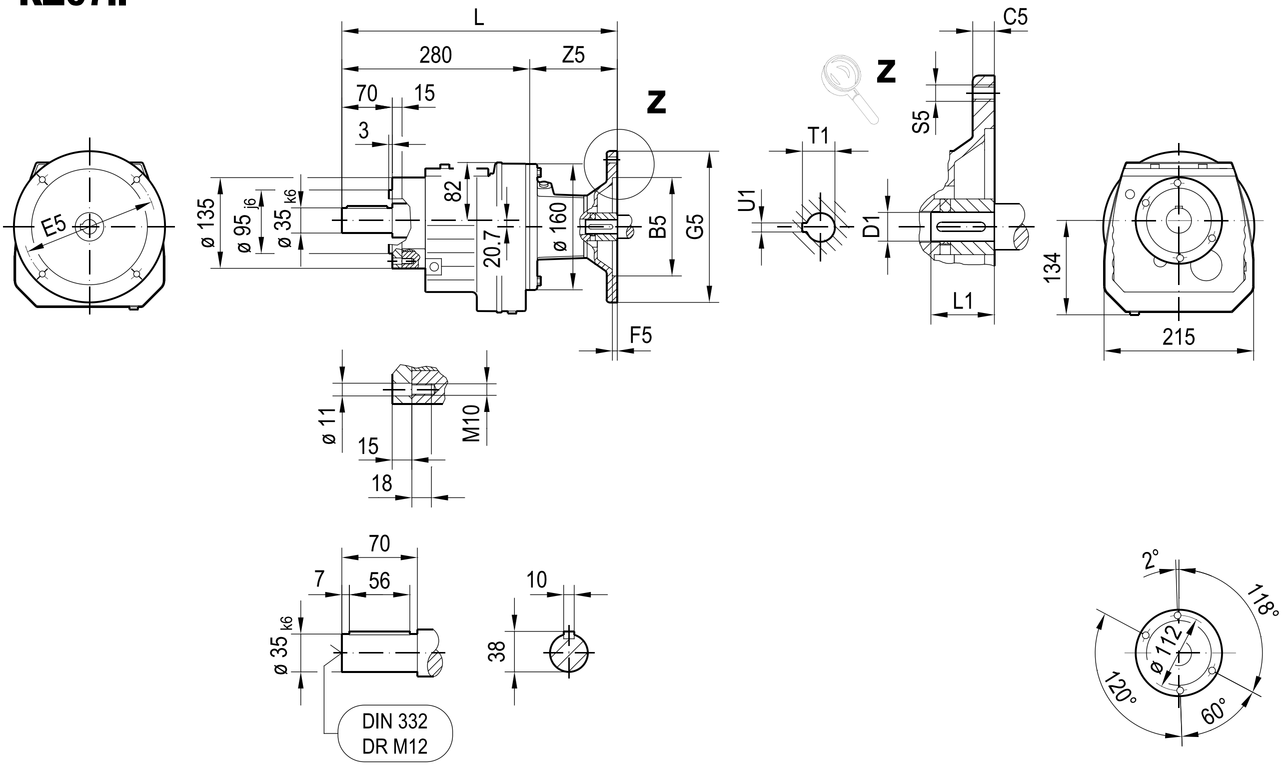
RM67..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	346	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	346	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	379	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	379	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	414	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	414	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	471	M12	191	38	80	41.3	10

01 008 01 07

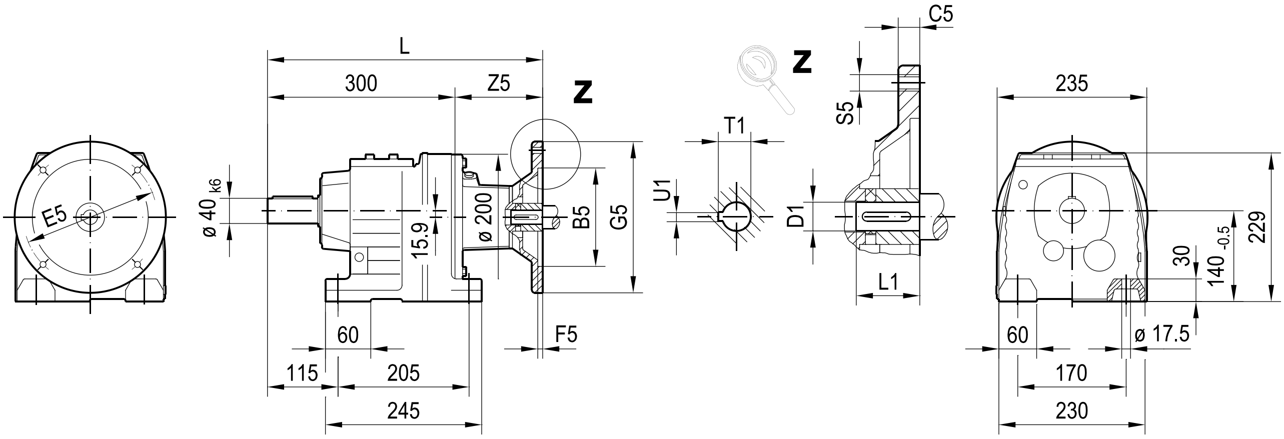
RZ67..

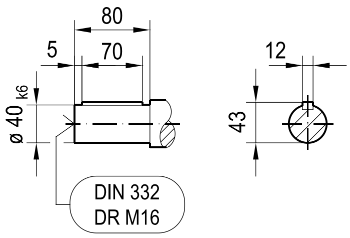


(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	346	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	346	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	379	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	379	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	414	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	414	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	471	M12	191	38	80	41.3	10

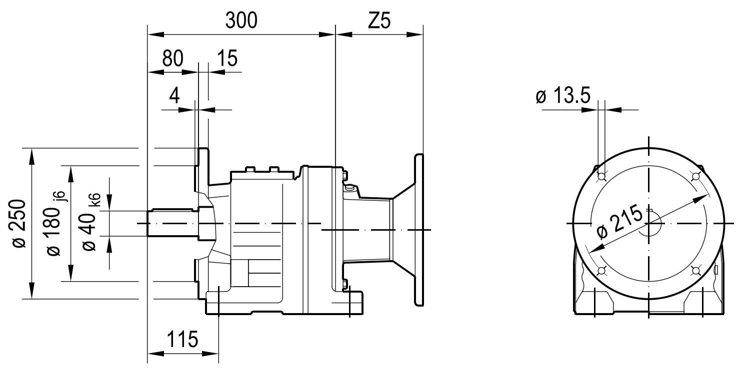
01 032 03 01

R77..





R77F..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	360	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	392	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	392	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	426	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	426	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	479	M12	179	38	80	41.3	10
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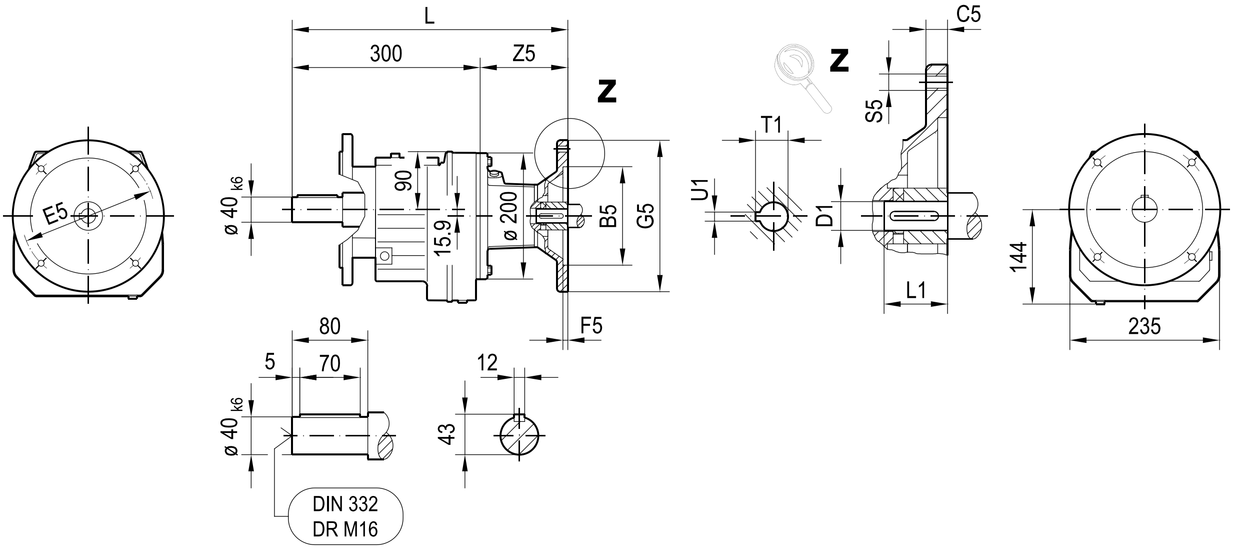
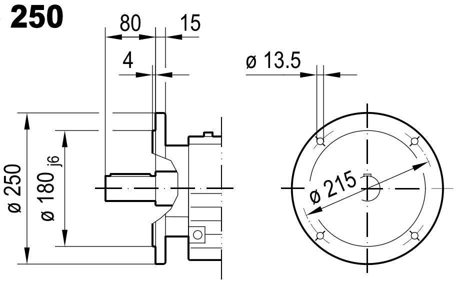
01 033 03 01

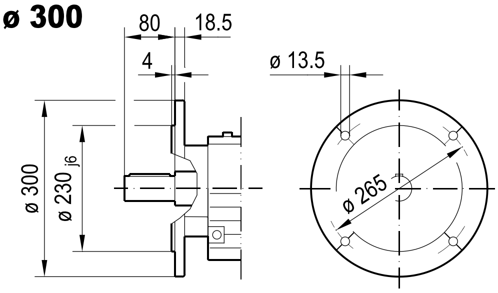
RF77..



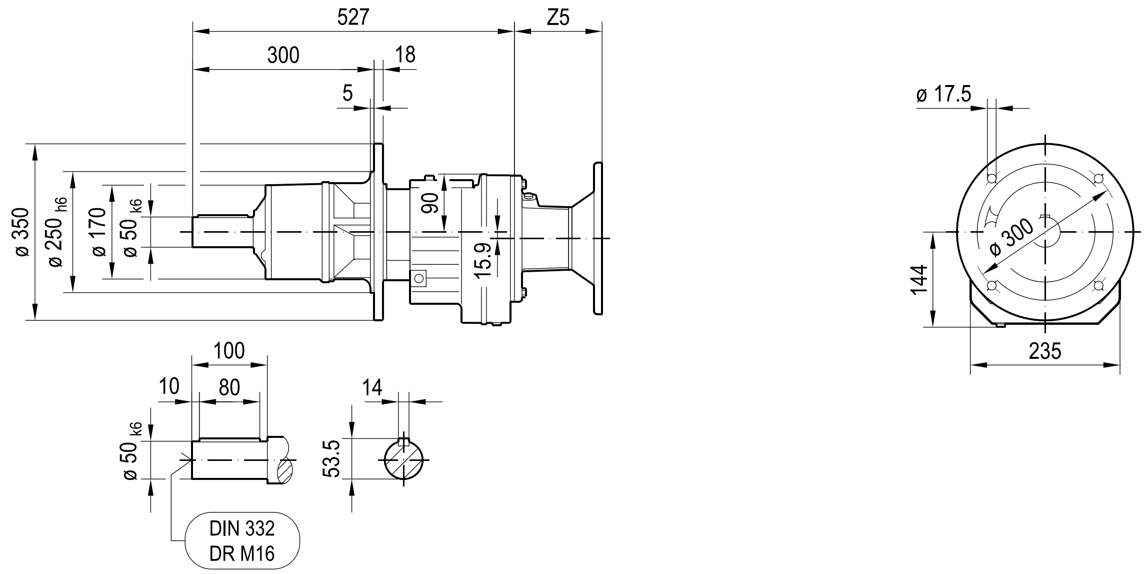
ø 250



ø 300



RM77..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	360	M8	60	11	23	12.8	4
AM71	110	10	130	4	160	360	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	392	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	392	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	426	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	426	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	479	M12	179	38	80	41.3	10
AM132ML	230	16	265	5	300	479	M12	179	38	80	41.3	10

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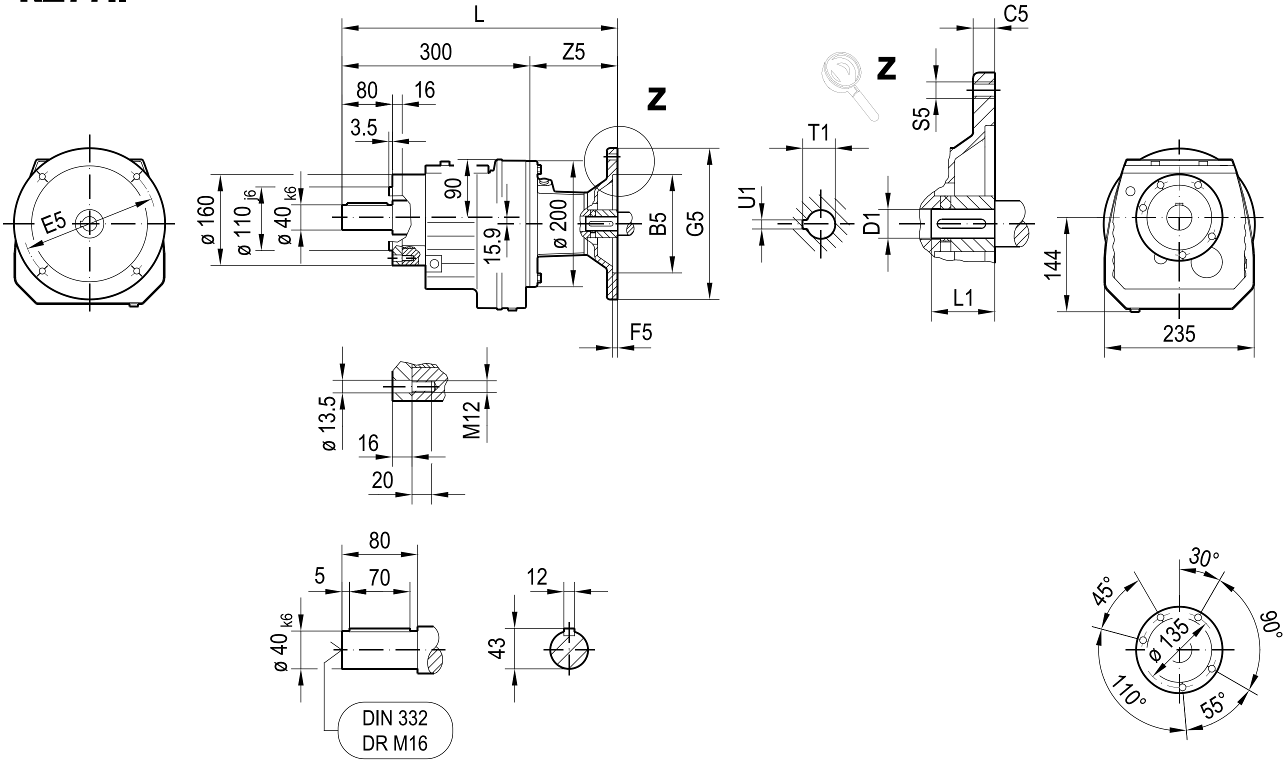
RZ77..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	360	M8	60	11	23	12.8	4
AM71	110	10	130	4	160	360	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	392	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	392	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	426	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	426	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	479	M12	179	38	80	41.3	10
AM132ML	230	16	265	5	300	479	M12	179	38	80	41.3	10

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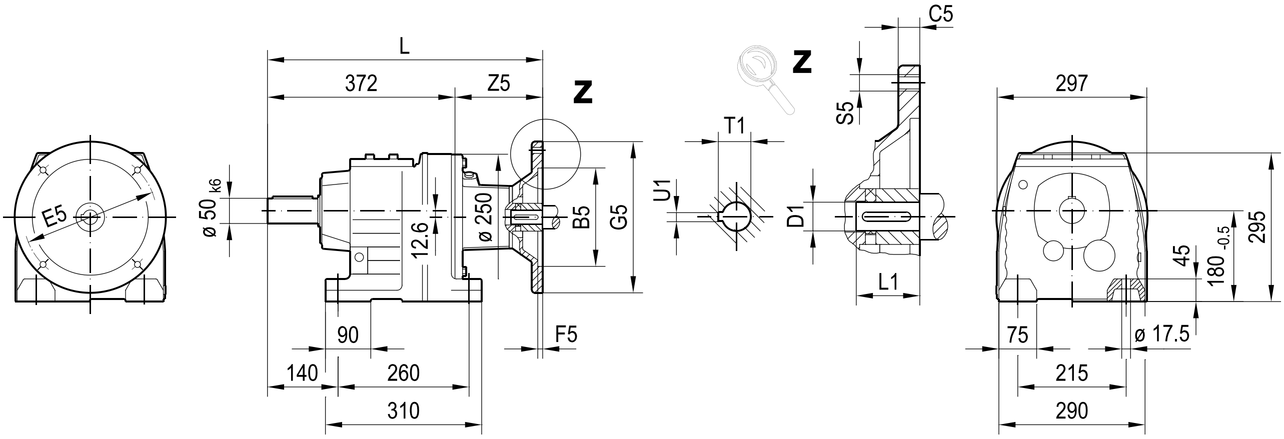
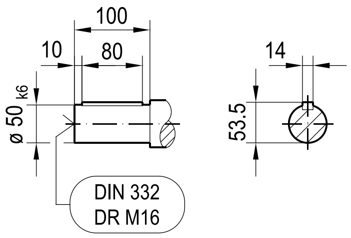
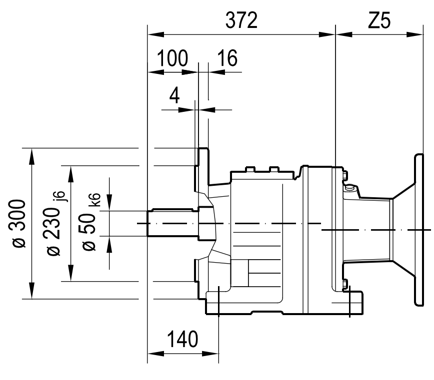
01 034 02 01

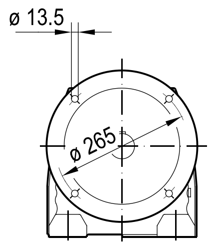
R87..





R87F..

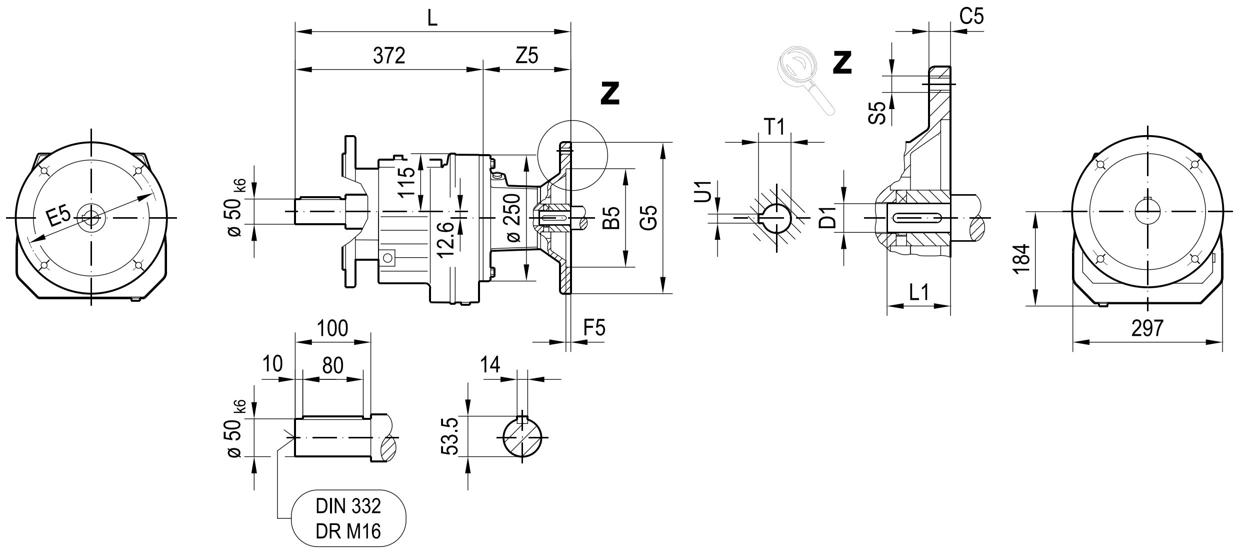




(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM80	130	12	165	4.5	200	459	M10	87	19	40	21.8	6
AM90	130	12	165	4.5	200	459	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	493	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	493	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	546	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	546	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	604	M16	232	42	110	45.3	12
AM180	250	18	300	6	350	604	M16	232	48	110	51.8	14

01 035 02 01

RF87..



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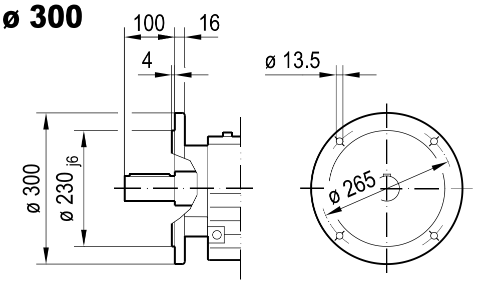
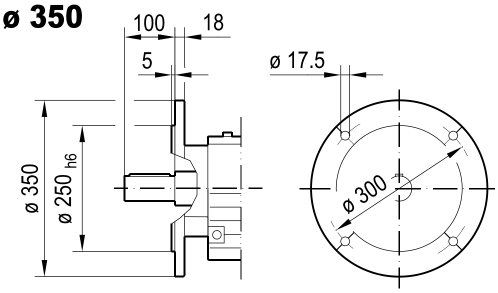
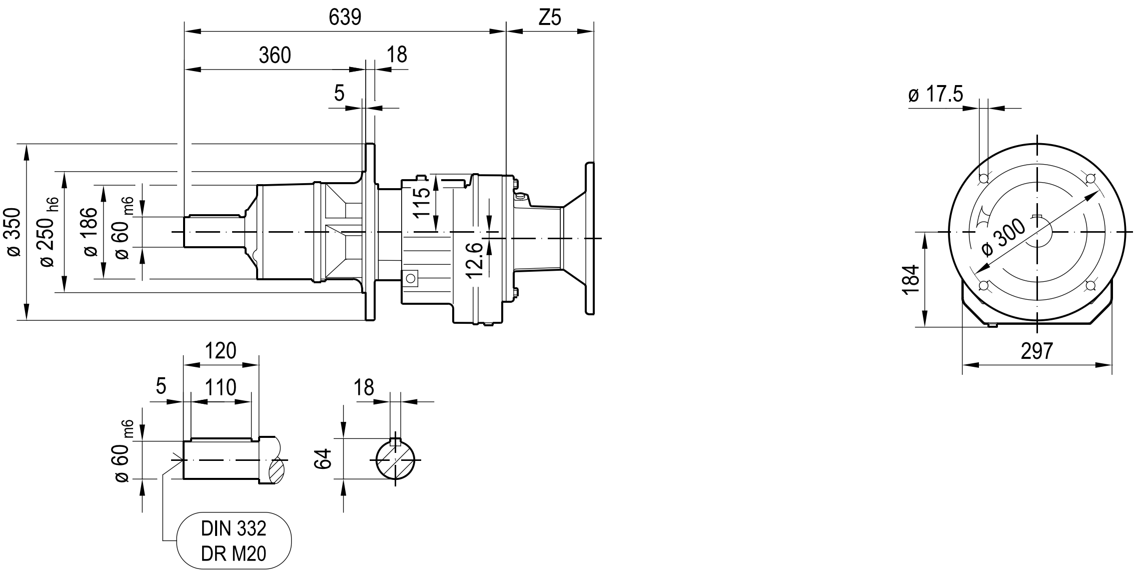


ø 350



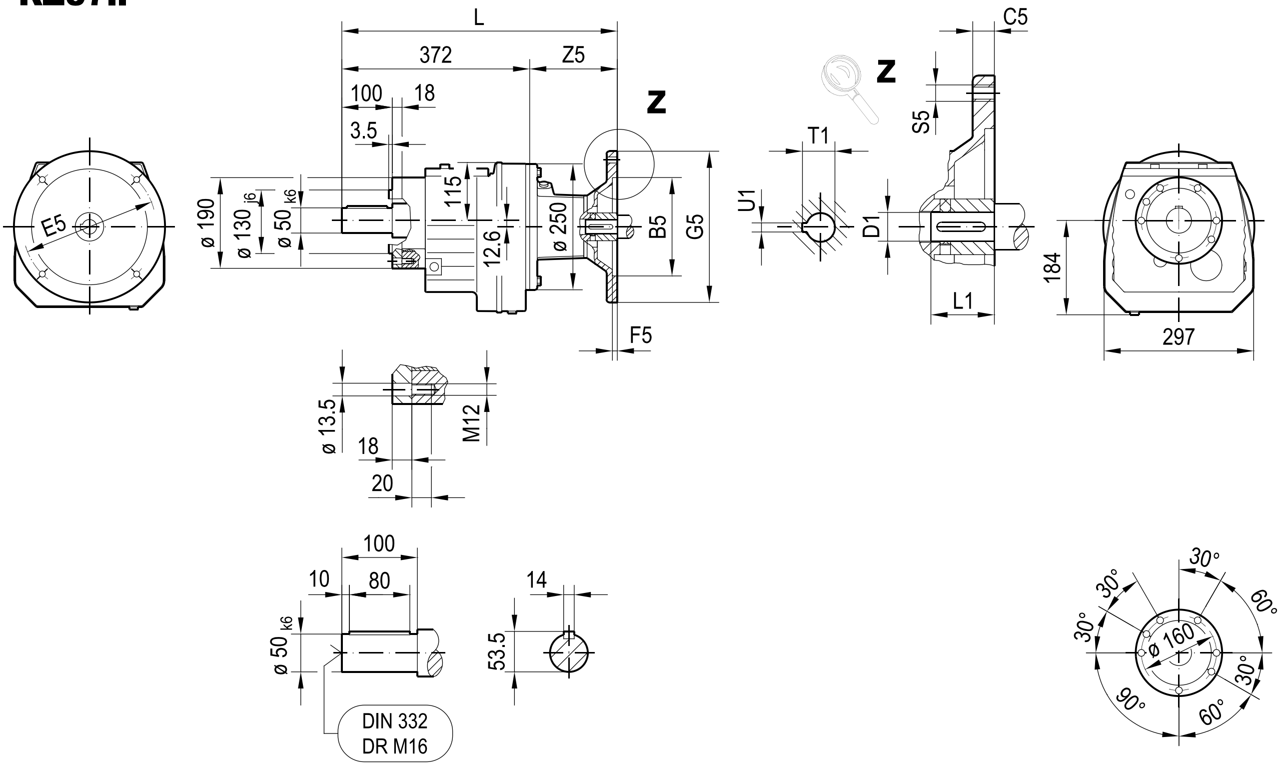
RM87..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM80	130	12	165	4.5	200	459	M10	87	19	40	21.8	6
AM90	130	12	165	4.5	200	459	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	493	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	493	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	546	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	546	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	604	M16	232	42	110	45.3	12
AM180	250	18	300	6	350	604	M16	232	48	110	51.8	14

01 010 01 07

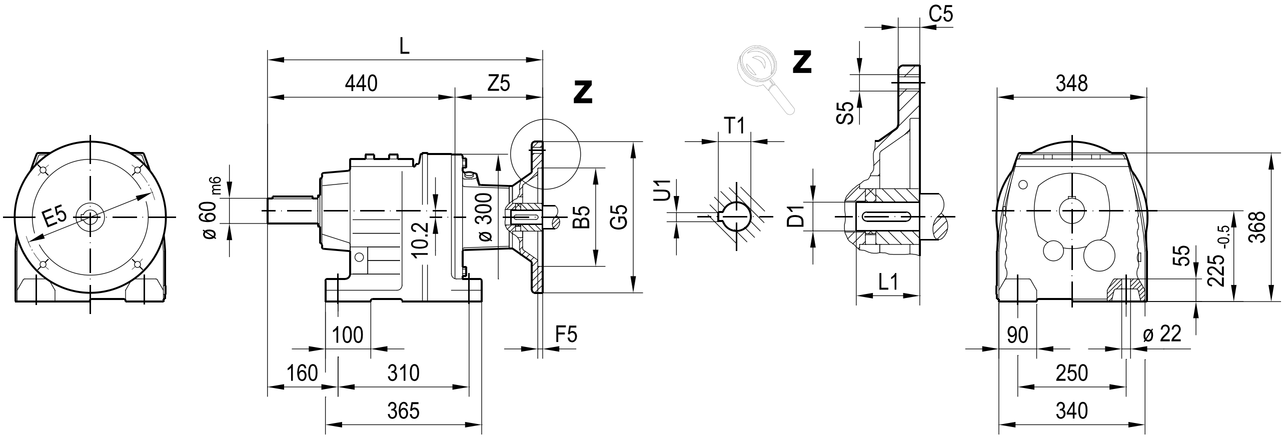
RZ87..

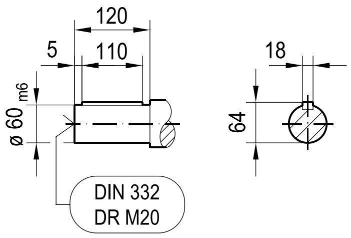


(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM80	130	12	165	4.5	200	459	M10	87	19	40	21.8	6
AM90	130	12	165	4.5	200	459	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	493	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	493	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	546	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	546	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	604	M16	232	42	110	45.3	12
AM180	250	18	300	6	350	604	M16	232	48	110	51.8	14

01 036 02 01

R97..





(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	556	M12	116	28	60	31.3	8
AM112	180	15	215	5	250	556	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	609	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	609	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	667	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	667	M16	227	48	110	51.8	14
AM200	300	20	350	7	400	708	M16	268	55	110	59.3	16

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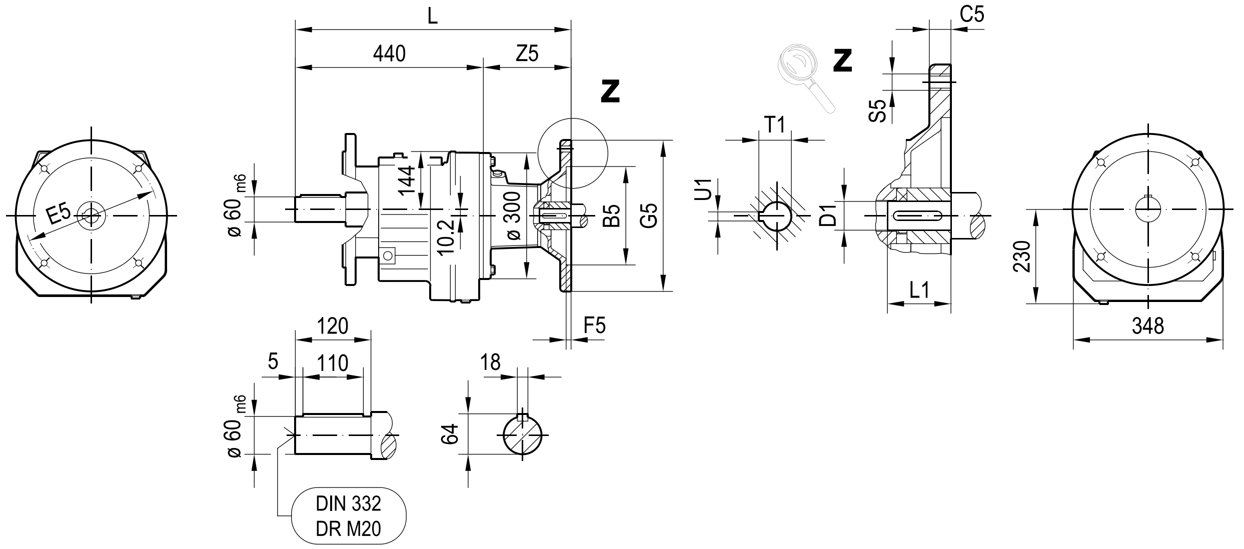
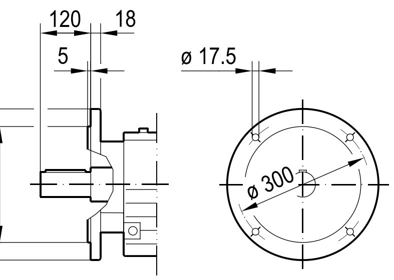
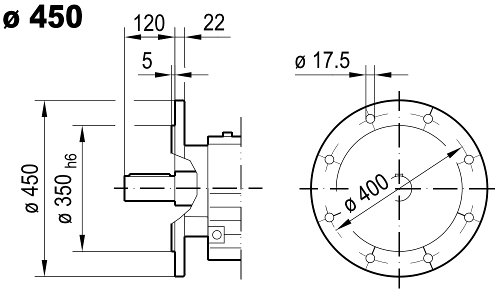
RF97..



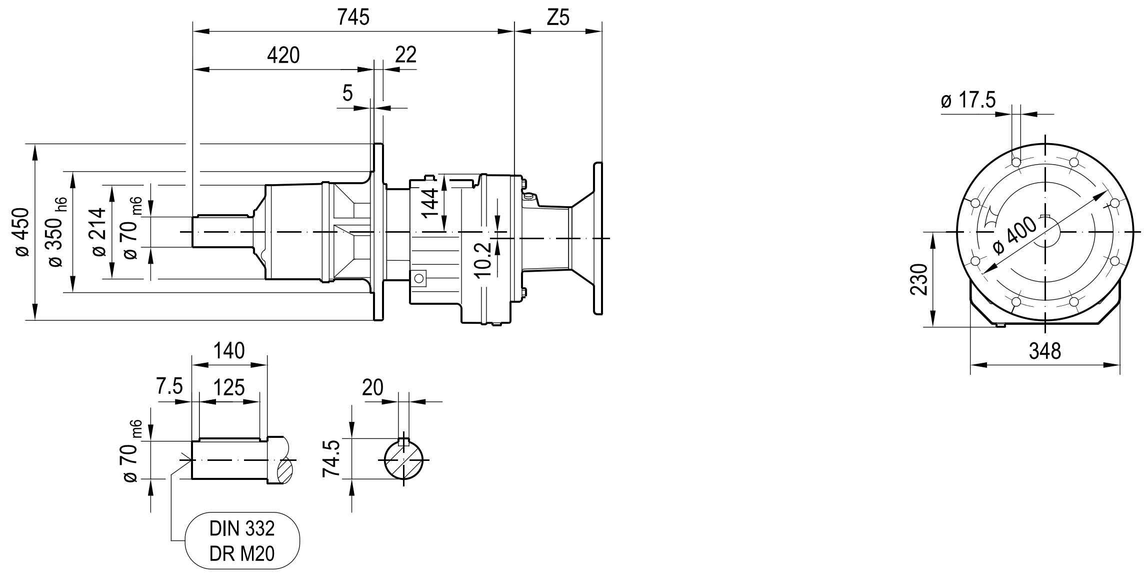
ø 350



ø 450



RM97..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	556	M12	116	28	60	31.3	8
AM112	180	15	215	5	250	556	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	609	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	609	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	667	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	667	M16	227	48	110	51.8	14
AM200	300	20	350	7	400	708	M16	268	55	110	59.3	16

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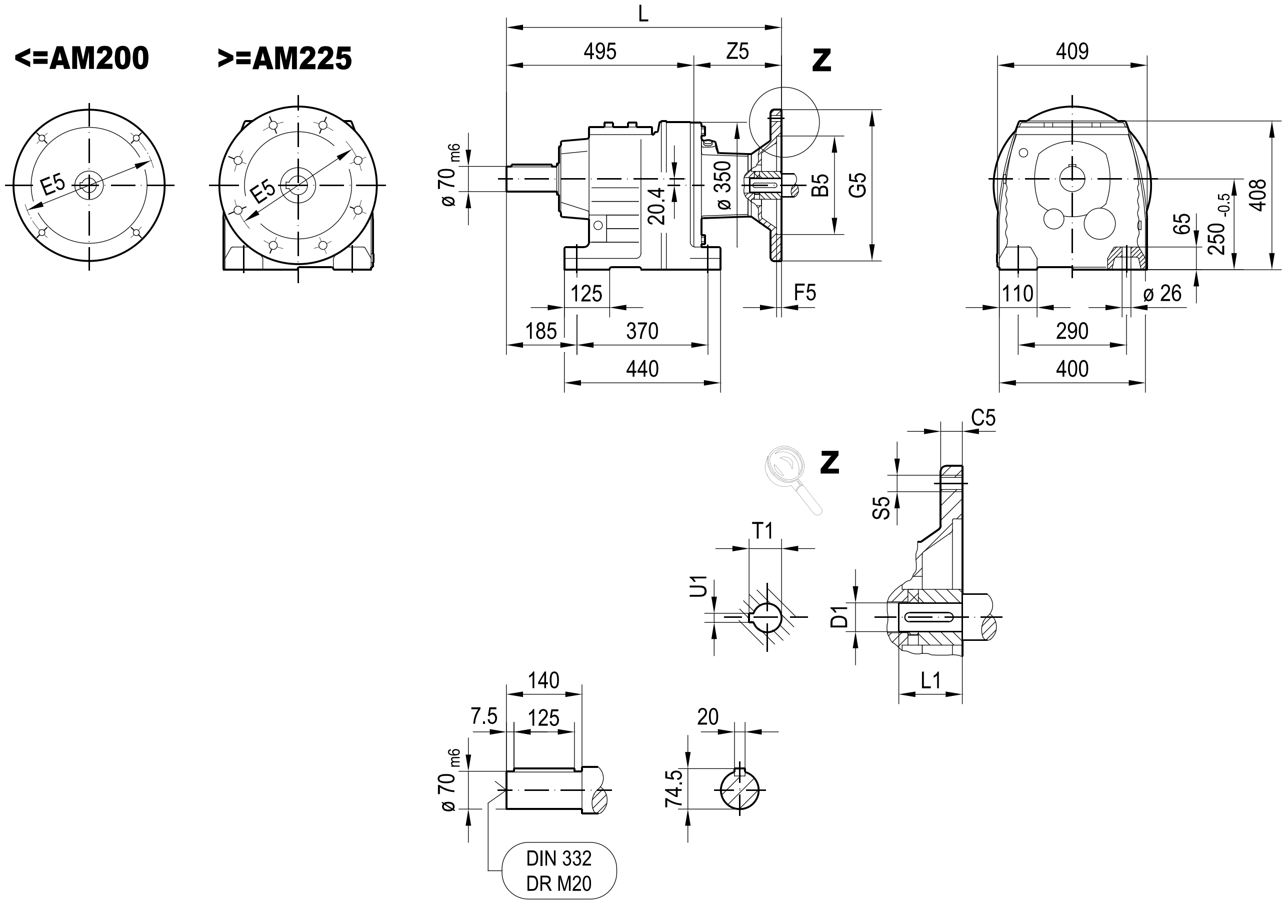
01 038 02 01

R107..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	605	M12	110	28	60	31.3	8
AM112	180	15	215	5	250	605	M12	110	28	60	31.3	8
AM132S/M	230	16	265	5	300	658	M12	163	38	80	41.3	10
AM132ML	230	16	265	5	300	658	M12	163	38	80	41.3	10
AM160	250	18	300	6	350	716	M16	221	42	110	45.3	12
AM180	250	18	300	6	350	716	M16	221	48	110	51.8	14
AM200	300	20	350	7	400	757	M16	262	55	110	59.3	16
AM225	350	22	400	7	450	772	M16	277	60	140	64.4	18

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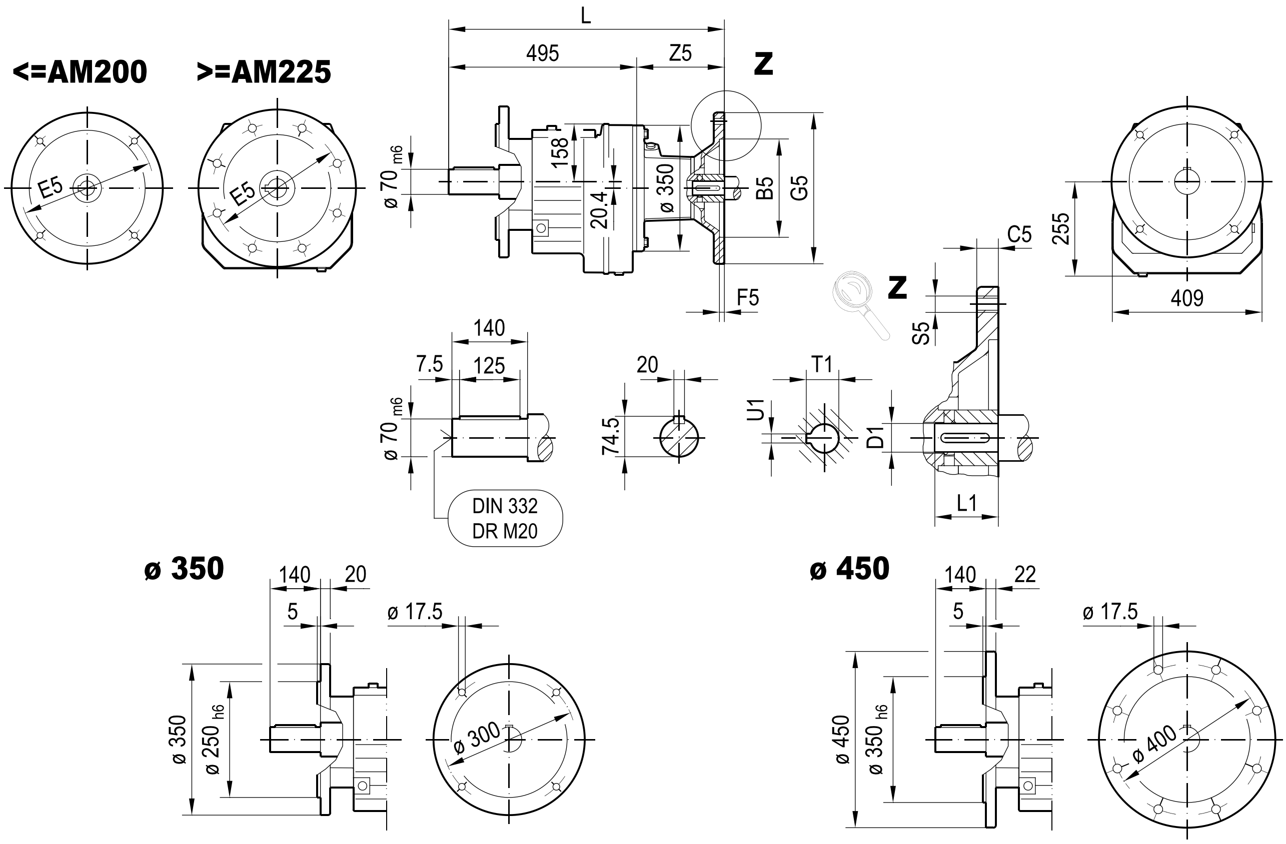
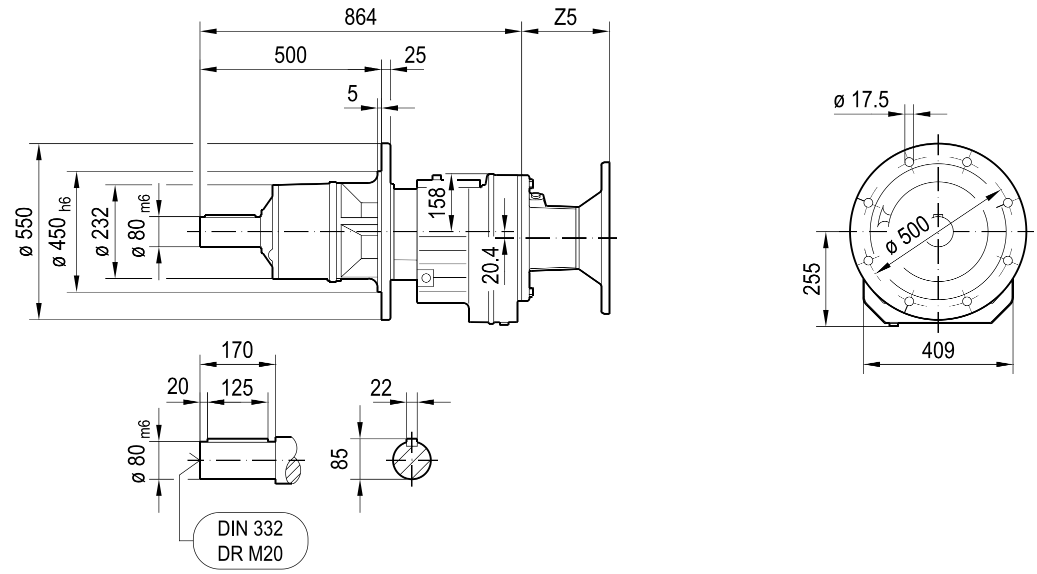
01 039 02 01

RF107..



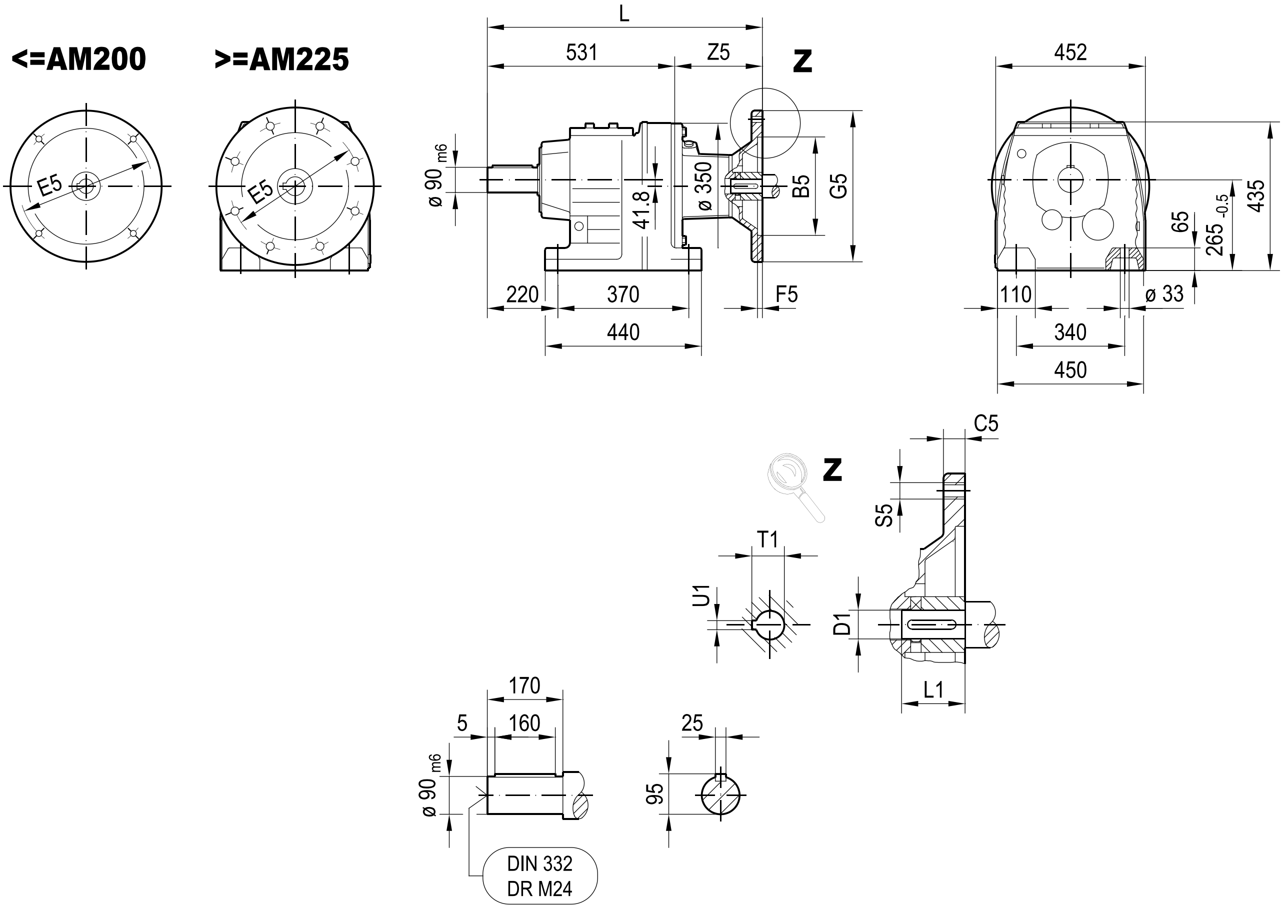
RM107..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	605	M12	110	28	60	31.3	8
AM112	180	15	215	5	250	605	M12	110	28	60	31.3	8
AM132S/M	230	16	265	5	300	658	M12	163	38	80	41.3	10
AM132ML	230	16	265	5	300	658	M12	163	38	80	41.3	10
AM160	250	18	300	6	350	716	M16	221	42	110	45.3	12
AM180	250	18	300	6	350	716	M16	221	48	110	51.8	14
AM200	300	20	350	7	400	757	M16	262	55	110	59.3	16
AM225	350	22	400	7	450	772	M16	277	60	140	64.4	18

01 149 01 15

R127..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	641	M12	110	28	60	31.3	8
AM112	180	15	215	5	250	641	M12	110	28	60	31.3	8
AM132S/M	230	16	265	5	300	694	M12	163	38	80	41.3	10
AM132ML	230	16	265	5	300	694	M12	163	38	80	41.3	10
AM160	250	18	300	6	350	752	M16	221	42	110	45.3	12
AM180	250	18	300	6	350	752	M16	221	48	110	51.8	14
AM200	300	20	350	7	400	793	M16	262	55	110	59.3	16
AM225	350	22	400	7	450	808	M16	277	60	140	64.4	18

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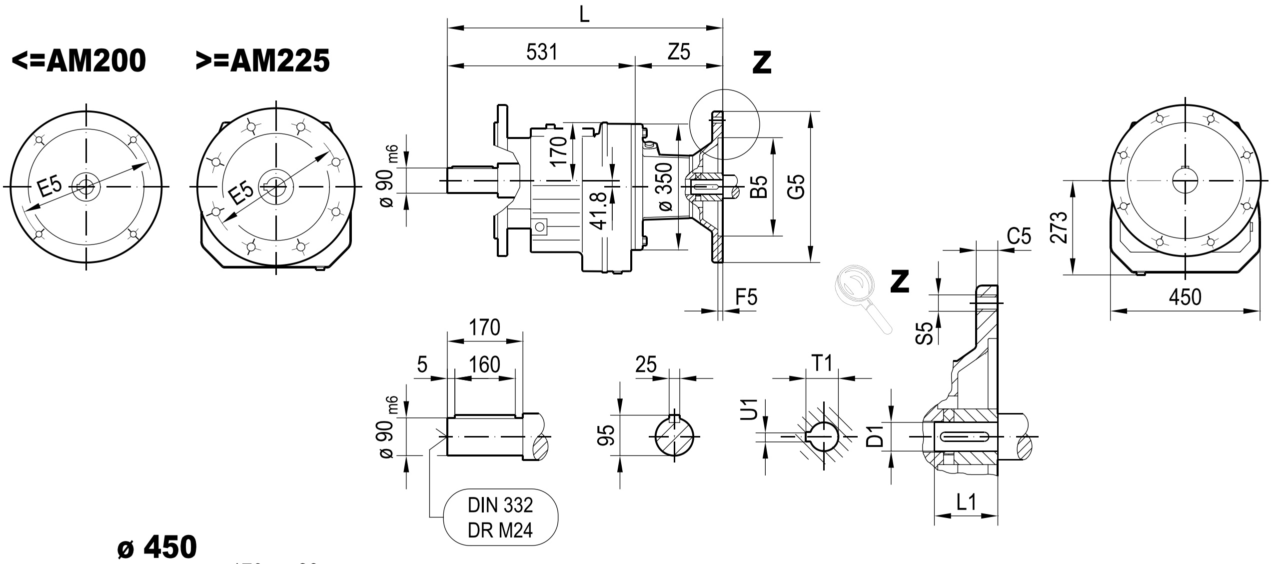
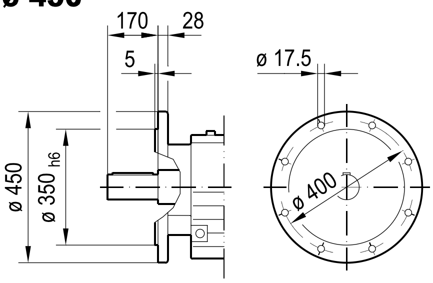
01 150 01 15

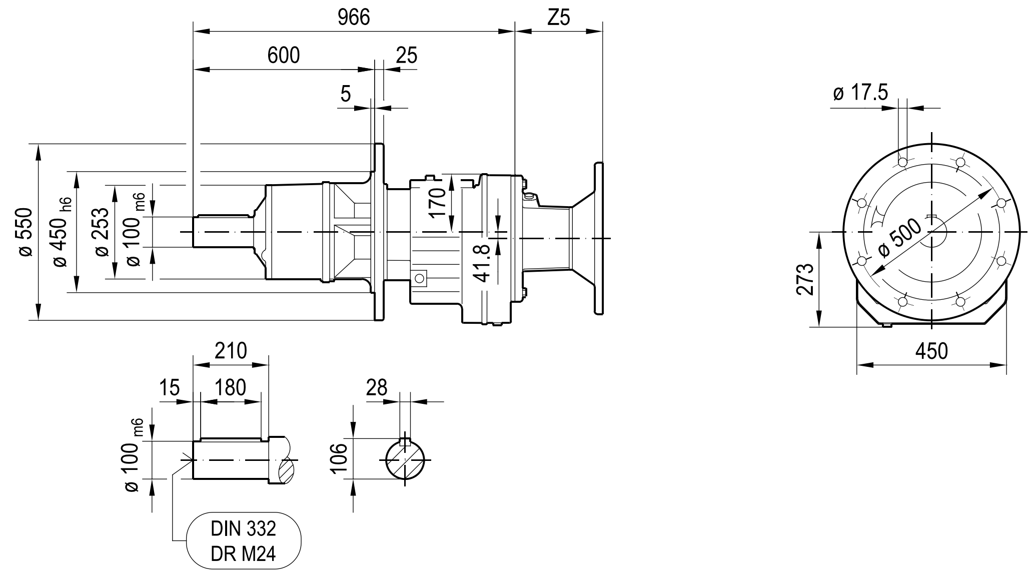
RF127..



ø 450



RM127..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	641	M12	110	28	60	31.3	8
AM112	180	15	215	5	250	641	M12	110	28	60	31.3	8
AM132S/M	230	16	265	5	300	694	M12	163	38	80	41.3	10
AM132ML	230	16	265	5	300	694	M12	163	38	80	41.3	10
AM160	250	18	300	6	350	752	M16	221	42	110	45.3	12
AM180	250	18	300	6	350	752	M16	221	48	110	51.8	14
AM200	300	20	350	7	400	793	M16	262	55	110	59.3	16
AM225	350	22	400	7	450	808	M16	277	60	140	64.4	18

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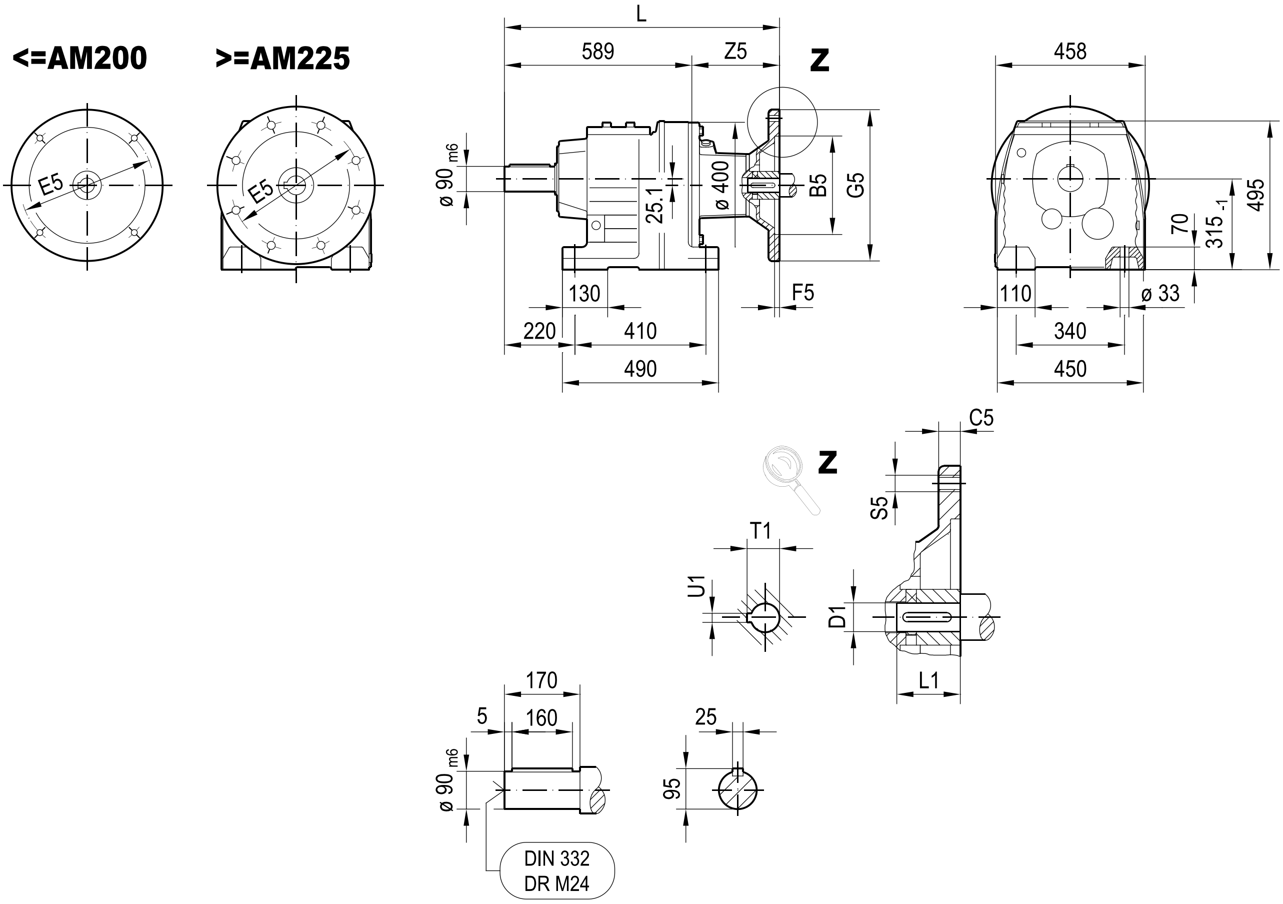
R137..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM132S/M	230	16	265	5	300	745	M12	156	38	80	41.3	10
AM132ML	230	16	265	5	300	745	M12	156	38	80	41.3	10
AM160	250	18	300	6	350	803	M16	214	42	110	45.3	12
AM180	250	18	300	6	350	803	M16	214	48	110	51.8	14
AM200	300	20	350	7	400	844	M16	255	55	110	59.3	16
AM225	350	22	400	7	450	859	M16	270	60	140	64.4	18

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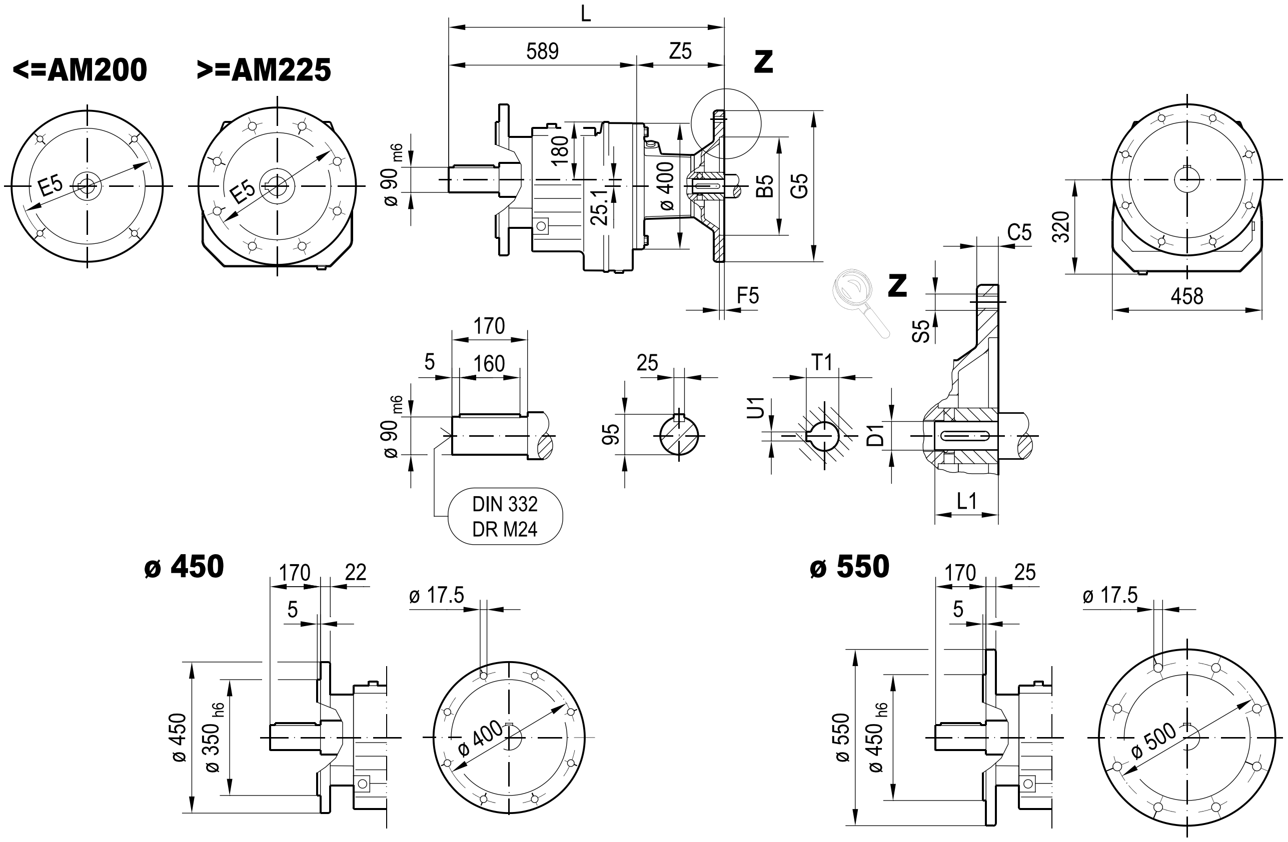
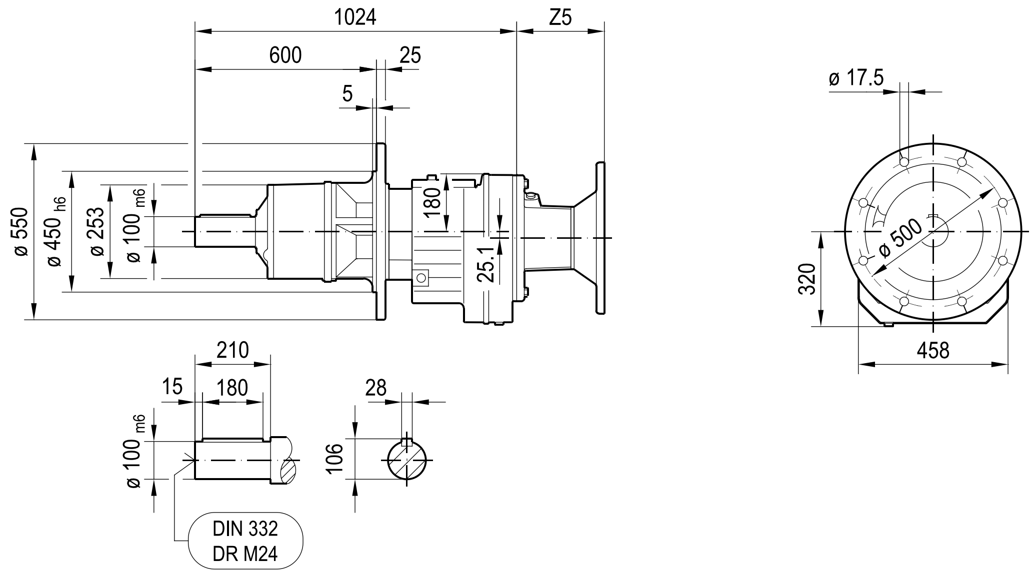
RF137..



RM137..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM132S/M	230	16	265	5	300	745	M12	156	38	80	41.3	10
AM132ML	230	16	265	5	300	745	M12	156	38	80	41.3	10
AM160	250	18	300	6	350	803	M16	214	42	110	45.3	12
AM180	250	18	300	6	350	803	M16	214	48	110	51.8	14
AM200	300	20	350	7	400	844	M16	255	55	110	59.3	16
AM225	350	22	400	7	450	859	M16	270	60	140	64.4	18

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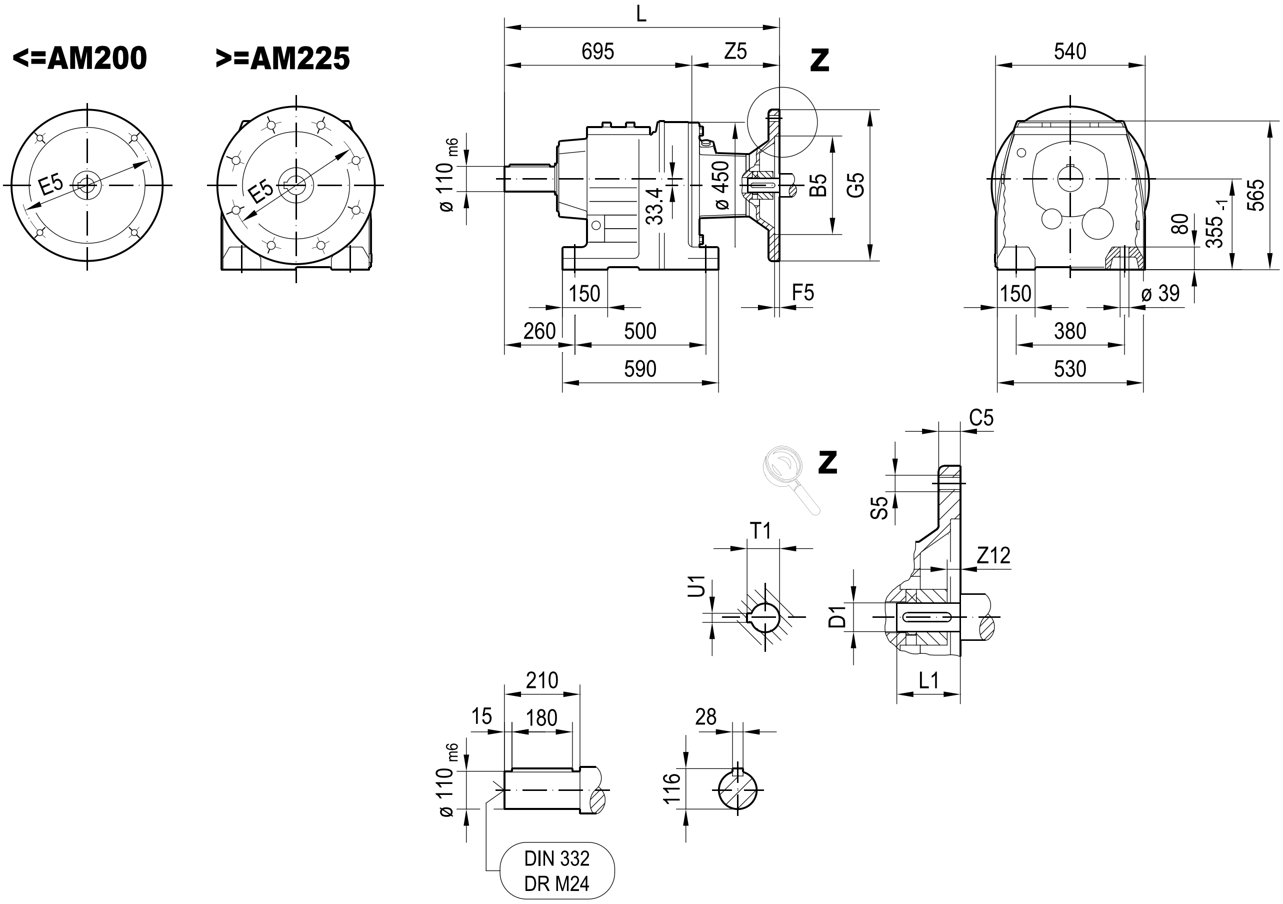
R147..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM132ML	230	16	265	5	300	843	M12	148	0	38	80	41.3	10
AM160	250	18	300	6	350	901	M16	206	0	42	110	45.3	12
AM180	250	18	300	6	350	901	M16	206	0	48	110	51.8	14
AM200	300	20	350	7	400	942	M16	247	0	55	110	59.3	16
AM225	350	22	400	7	450	957	M16	262	0	60	140	64.4	18
AM250	450	25	500	7	550	1031	M16	336	19	65	140	69.4	18
AM280	450	25	500	7	550	1031	M16	336	19	75	140	79.9	20

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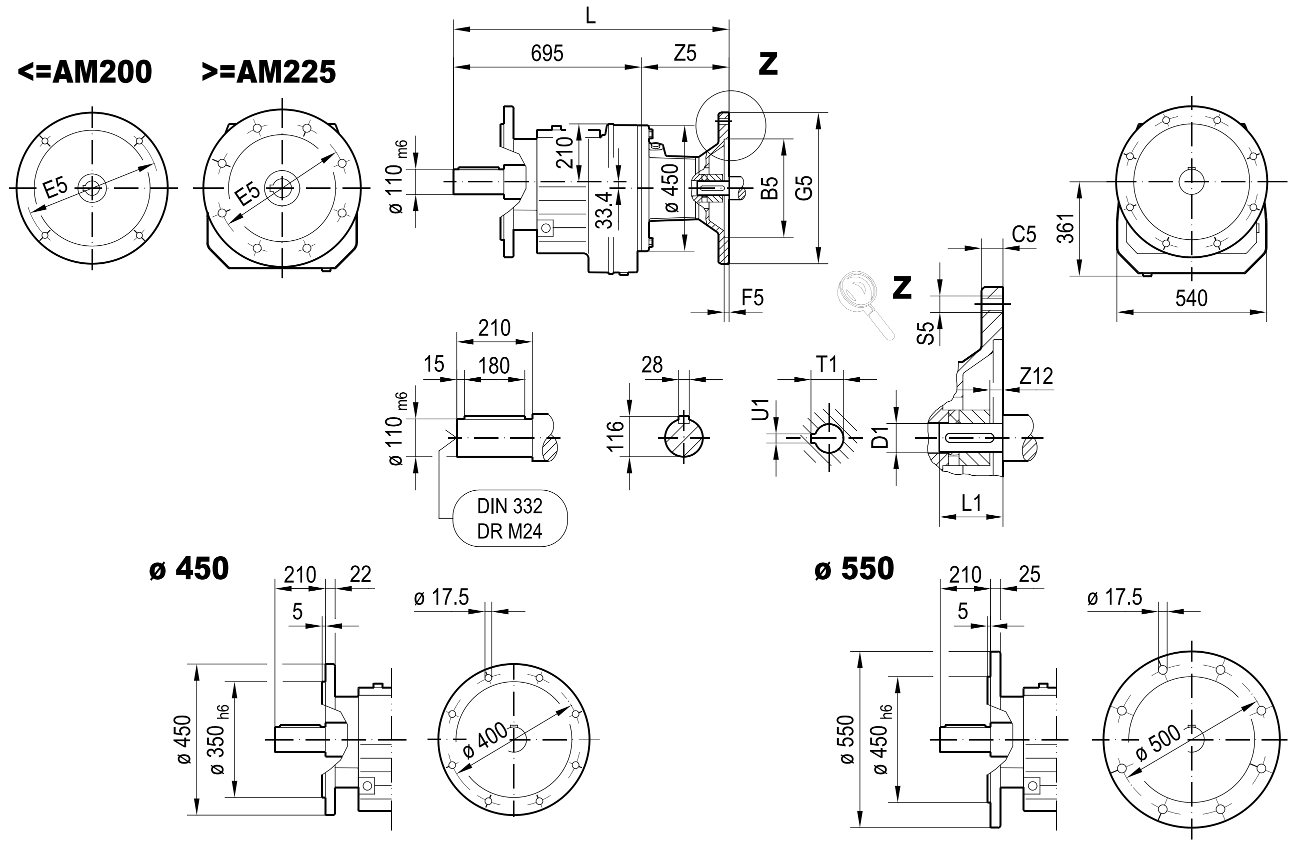
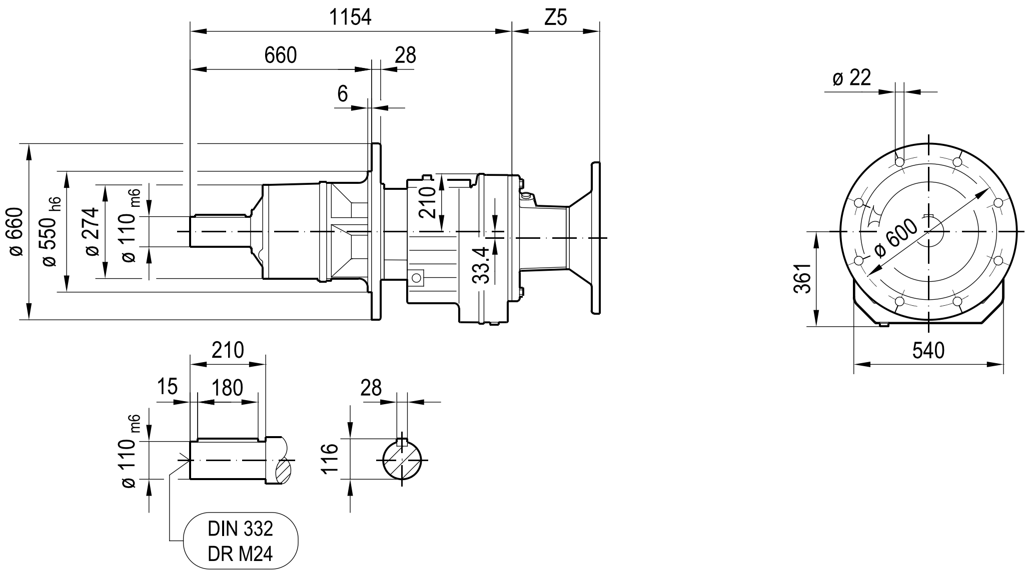
RF147..



RM147..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM132ML	230	16	265	5	300	843	M12	148	0	38	80	41.3	10
AM160	250	18	300	6	350	901	M16	206	0	42	110	45.3	12
AM180	250	18	300	6	350	901	M16	206	0	48	110	51.8	14
AM200	300	20	350	7	400	942	M16	247	0	55	110	59.3	16
AM225	350	22	400	7	450	957	M16	262	0	60	140	64.4	18
AM250	450	25	500	7	550	1031	M16	336	19	65	140	69.4	18
AM280	450	25	500	7	550	1031	M16	336	19	75	140	79.9	20

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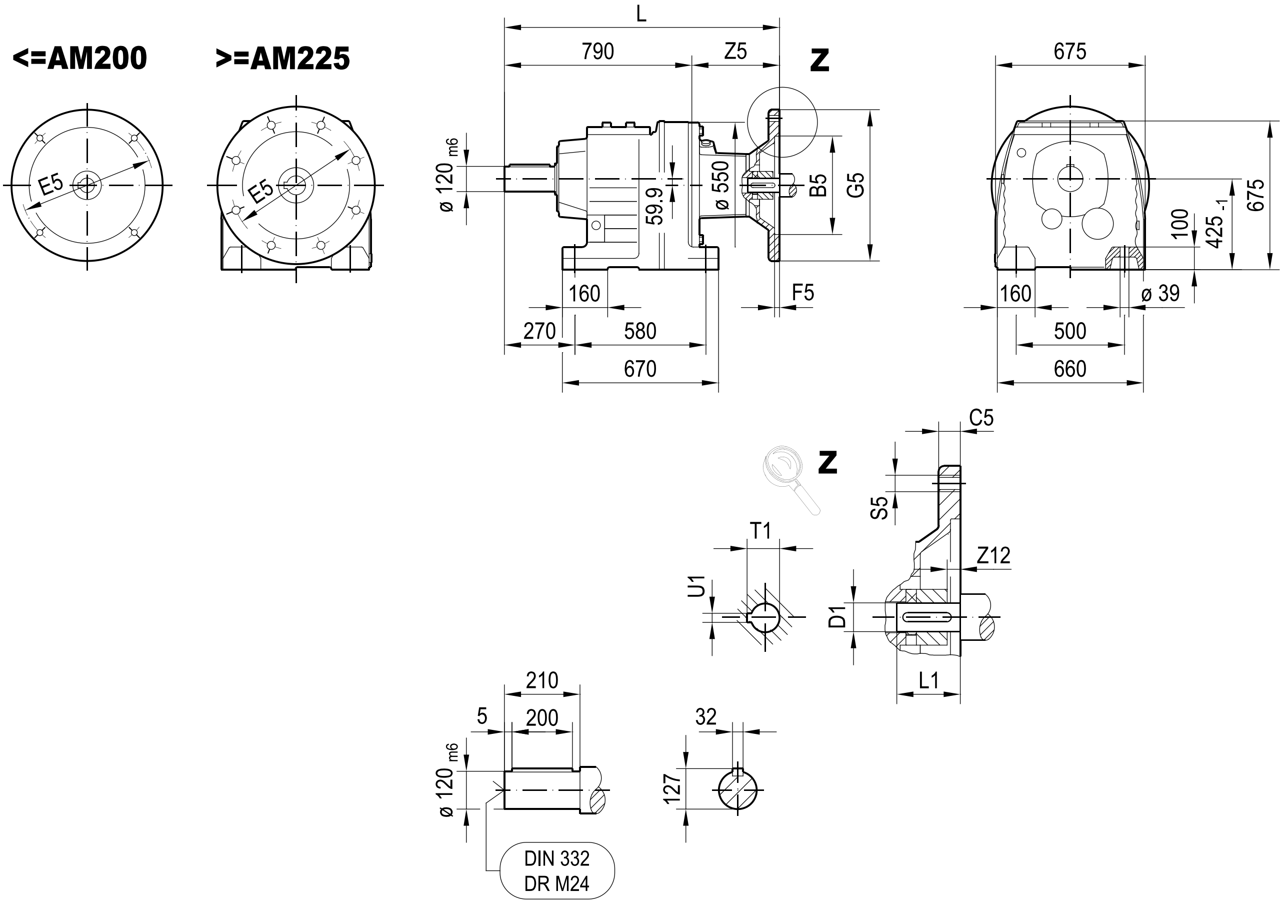
R167..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM160	250	18	300	6	350	988	M16	198	0	42	110	45.3	12
AM180	250	18	300	6	350	988	M16	198	0	48	110	51.8	14
AM200	300	20	350	7	400	1029	M16	239	0	55	110	59.3	16
AM225	350	22	400	7	450	1044	M16	254	0	60	140	64.4	18
AM250	450	25	500	7	550	1118	M16	328	19	65	140	69.4	18
AM280	450	25	500	7	550	1118	M16	328	19	75	140	79.9	20

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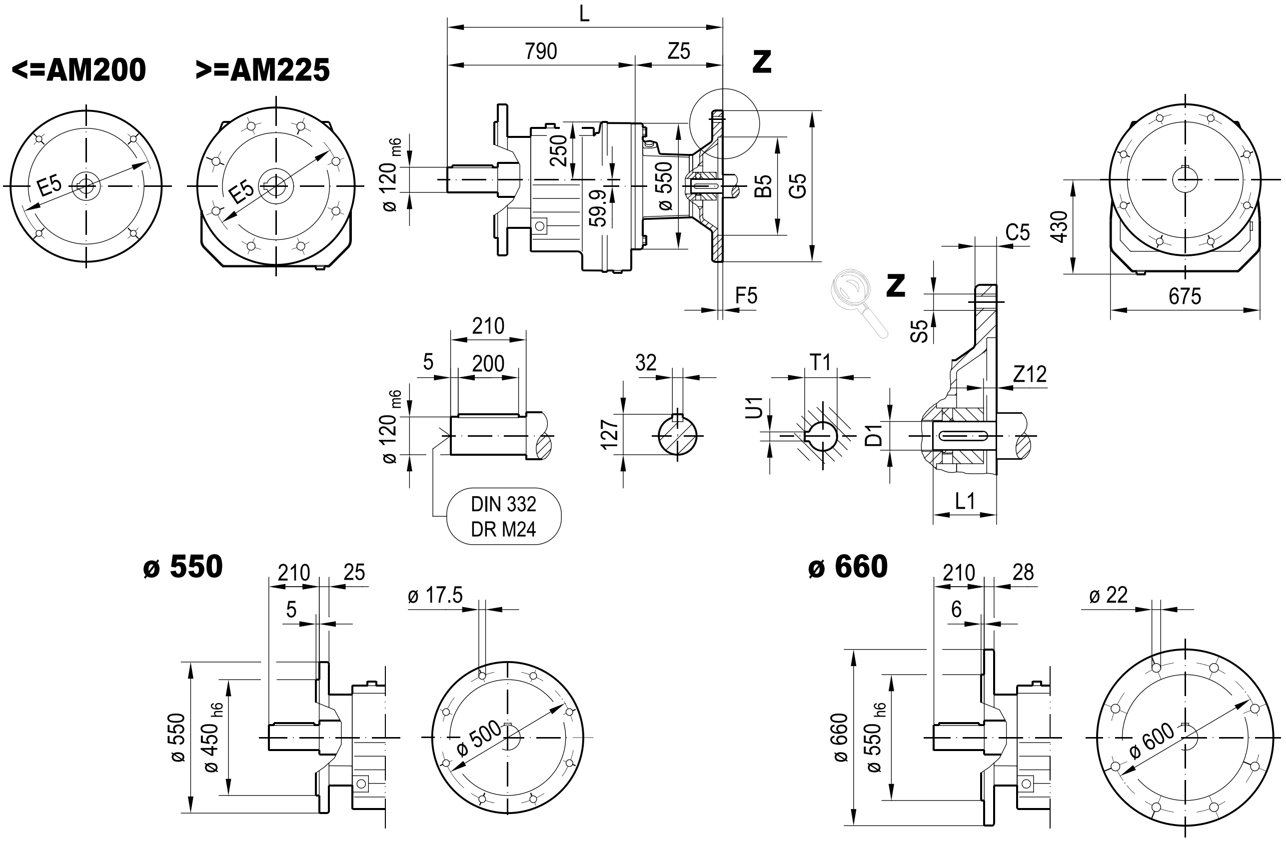
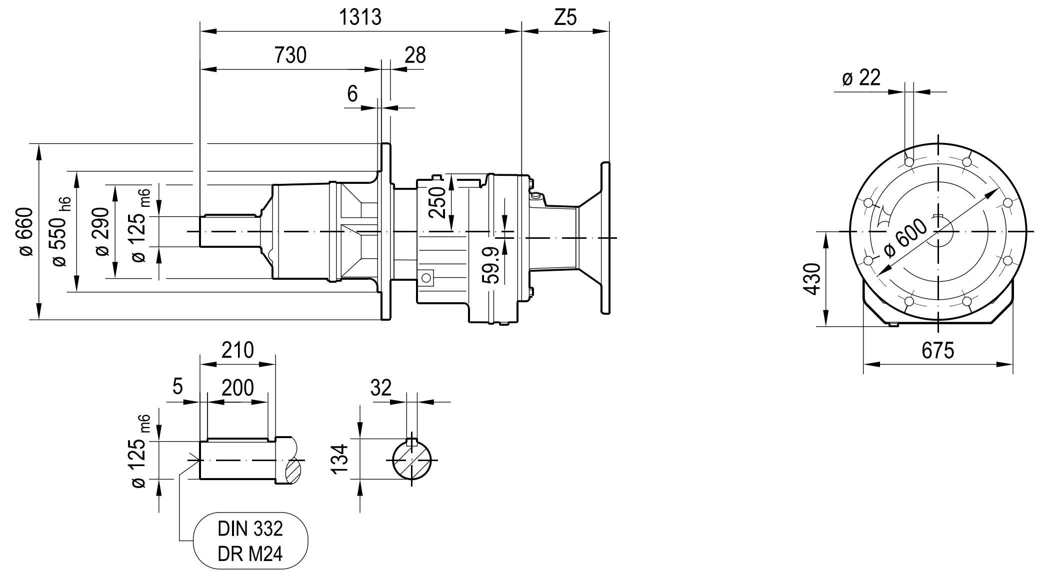
01 045 02 01

RF167..



RM167..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM160	250	18	300	6	350	988	M16	198	0	42	110	45.3	12
AM180	250	18	300	6	350	988	M16	198	0	48	110	51.8	14
AM200	300	20	350	7	400	1029	M16	239	0	55	110	59.3	16
AM225	350	22	400	7	450	1044	M16	254	0	60	140	64.4	18
AM250	450	25	500	7	550	1118	M16	328	19	65	140	69.4	18
AM280	450	25	500	7	550	1118	M16	328	19	75	140	79.9	20

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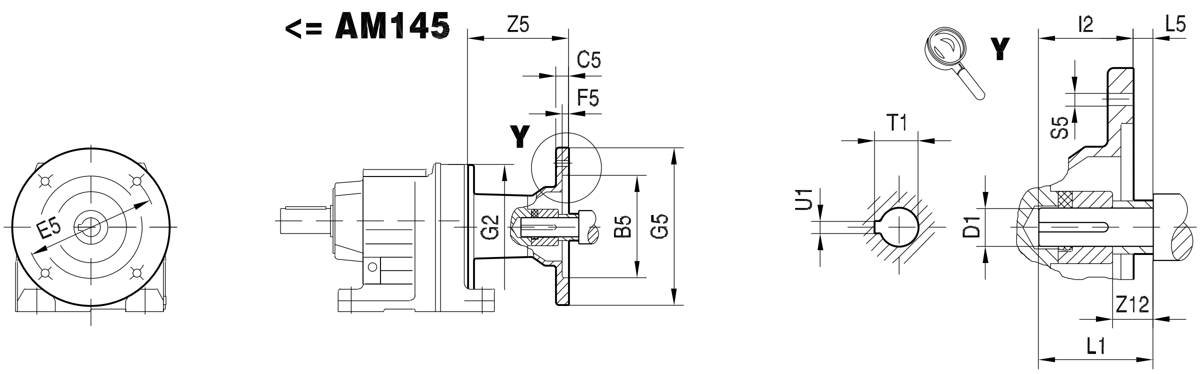
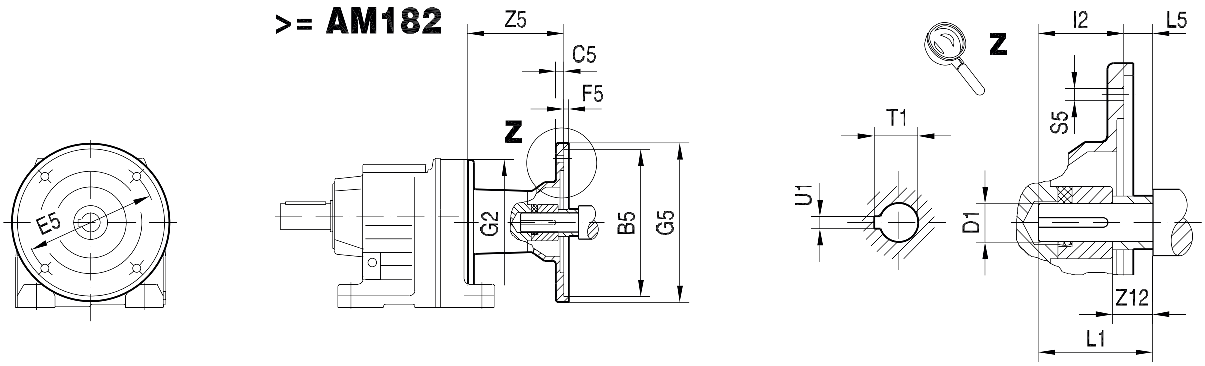
8.5 Dimension sheets for adapters for mounting NEMA motors (AM..)

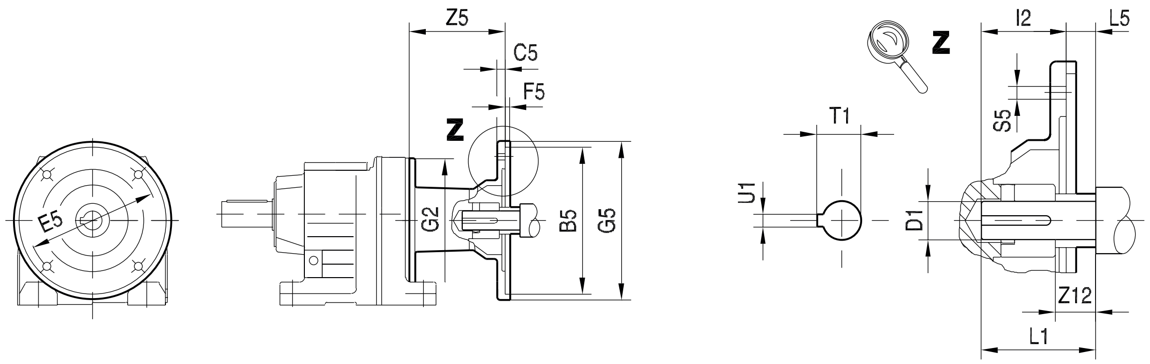
01 047 03 01





		B5	C5	E5	F5	G2	G5	I2	L5	S5	Z5	Z12	D1	L1	T1	U1
R..27 R..37	AM56	114.3	11	149.2	4.5	120	170	52.55	-4.8	10.5	93.5	16.5	15.875	47.75	18.1	4.76
	AM143	114.3	12	149.2	4.5	120	170	54.1	3.05	10.5	117	14.5	22.225	57.15	24.7	4.76
	AM145	114.3	12	149.2	4.5	120	170	54.1	3.05	10.5	117	14.5	22.225	57.15	24.7	4.76
R..47 R..57 R..67	AM56	114.3	11	149.2	4.5	160	170	52.55	-4.8	10.5	87	16.5	15.875	47.75	18.1	4.76
	AM143	114.3	12	149.2	4.5	160	170	54.1	3.05	10.5	110.5	14.5	22.225	57.15	24.7	4.76
	AM145	114.3	12	149.2	4.5	160	170	54.1	3.05	10.5	110.5	14.5	22.225	57.15	24.7	4.76
	AM182	215.9	10	184	5	160	228	66.675	3	15	147.5	16.5	28.575	69.85	31.7	6.35
	AM184	215.9	10	184	5	160	228	66.675	3	15	147.5	16.5	28.575	69.85	31.7	6.35
	AM213/215	215.9	11	184	5	160	228	79.55	6.3	15	200.5	15.8	34.925	85.85	38.7	7.94
R..77	AM56	114.3	11	149.2	4.5	200	170	52.55	-4.8	10.5	81	16.5	15.875	47.75	18.1	4.76
	AM143	114.3	12	149.2	4.5	200	170	54.1	3.05	10.5	103.5	14.5	22.225	57.15	24.7	4.76
	AM145	114.3	12	149.2	4.5	200	170	54.1	3.05	10.5	103.5	14.5	22.225	57.15	24.7	4.76
	AM182	215.9	10	184	5	200	228	66.675	3	15	139.5	16.5	28.575	69.85	31.7	6.35
	AM184	215.9	10	184	5	200	228	66.675	3	15	139.5	16.5	28.575	69.85	31.7	6.35
	AM213/215	215.9	11	184	5	200	228	79.55	6.3	15	188.5	15.8	34.925	85.85	38.7	7.94
R..87	AM143	114.3	12	149.2	4.5	250	170	54.1	3.05	10.5	98.5	14.5	22.225	57.15	24.7	4.76
	AM145	114.3	12	149.2	4.5	250	170	54.1	3.05	10.5	98.5	14.5	22.225	57.15	24.7	4.76
	AM182	215.9	10	184	5	250	228	66.675	3	15	134.5	16.5	28.575	69.85	31.7	6.35
	AM184	215.9	10	184	5	250	228	66.675	3	15	134.5	16.5	28.575	69.85	31.7	6.35
	AM213/215	215.9	11	184	5	250	228	79.55	6.3	15	183.5	15.8	34.925	85.85	38.7	7.94
	AM254/256	215.9	12	184	5	250	228	95.3	6.3	15	234	9	41.275	101.6	45.8	9.53
	AM284/286	266.7	15	228.6	5	250	286	111.05	6.3	15	241	15.8	47.625	117.35	53.4	12.7

01 048 03 01



		B5	C5	E5	F5	G2	G5	I2	L5	S5	Z5	Z12	D1	L1	T1	U1
R..97	**AM182**	215.9	10	184	5	300	228	66.675	3	15	129.5	16.5	28.575	69.85	31.7	6.35
	AM184	215.9	10	184	5	300	228	66.675	3	15	129.5	16.5	28.575	69.85	31.7	6.35
	AM213/215	215.9	11	184	5	300	228	79.55	6.3	15	178.5	15.8	34.925	85.85	38.7	7.94
	AM254/256	215.9	12	184	5	300	228	95.3	6.3	15	229	9	41.275	101.6	45.8	9.53
	AM284/286	266.7	15	228.6	5	300	286	111.05	6.3	15	236	15.8	47.625	117.35	53.4	12.7
	AM324/326	317.5	17	279.4	5	300	356	127.05	6	17.5	296	34.8	53.975	133.35	60	12.7
	AM364/365	317.5	17	279.4	5	300	356	143.05	6	17.5	296	34.8	60.325	149.35	67.6	15.875
R..107 R..127	**AM182**	215.9	10	184	5	350	228	66.675	3	15	123.5	16.5	28.575	69.85	31.7	6.35
	AM184	215.9	10	184	5	350	228	66.675	3	15	123.5	16.5	28.575	69.85	31.7	6.35
	AM213/215	215.9	11	184	5	350	228	79.55	6.3	15	172.5	15.8	34.925	85.85	38.7	7.94
	AM254/256	215.9	12	184	5	350	228	95.3	6.3	15	223	9	41.275	101.6	45.8	9.53
	AM284/286	266.7	15	228.6	5	350	286	111.05	6.3	15	230	15.8	47.625	117.35	53.4	12.7
	AM324/326	317.5	17	279.4	5	350	356	127.05	6.3	17.5	290	34.8	53.975	133.35	60	12.7
	AM364/365	317.5	17	279.4	5	350	356	143.05	6.3	17.5	290	34.8	60.325	149.35	67.6	15.875
R..137	**AM213/215**	215.9	11	184	5	400	228	79.55	6.3	15	165.5	15.8	34.925	85.85	38.7	7.94
	AM254/256	215.9	12	184	5	400	228	95.3	6.3	15	216	9	41.275	101.6	45.8	9.53
	AM284/286	266.7	15	228.6	5	400	286	111.05	6.3	15	223	15.8	47.625	117.35	53.4	12.7
	AM324/326	317.5	17	279.4	5	400	356	127.05	6.3	17.5	283	34.8	53.975	133.35	60	12.7
	AM364/365	317.5	17	279.4	5	400	356	143.05	6.3	17.5	283	34.8	60.325	149.35	67.6	15.875
R..147	**AM213/215**	215.9	11	184	5	450	228	79.55	6.3	15	157.5	15.8	34.925	85.85	38.7	7.94
	AM254/256	215.9	12	184	5	450	228	95.3	6.3	15	208	9	41.275	101.6	45.8	9.53
	AM284/286	266.7	15	228.6	5	450	286	111.05	6.3	15	215	15.8	47.625	117.35	53.4	12.7
	AM324/326	317.5	17	279.4	5	450	356	127.05	6.3	17.5	275	34.8	53.975	133.35	60	12.7
	AM364/365	317.5	17	279.4	5	450	356	143.05	6.3	17.5	275	34.8	60.325	149.35	67.6	15.875
R..167	**AM254/256**	215.9	12	184	5	550	228	95.3	6.3	15	200	9	41.275	101.6	45.8	9.53
	AM284/286	266.7	15	228.6	5	550	286	111.05	6.3	15	207	15.8	47.625	117.35	53.4	12.7
	AM324/326	317.5	17	279.4	5	550	356	127.05	6.3	17.5	267	34.8	53.975	133.35	60	12.7
	AM364/365	317.5	17	279.4	5	550	356	143.05	6.3	17.5	267	34.8	60.325	149.35	67.6	15.875

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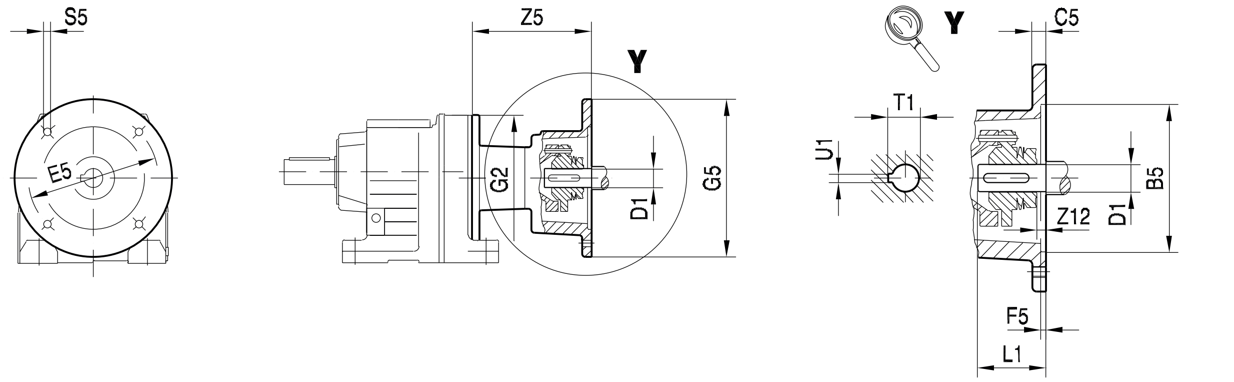
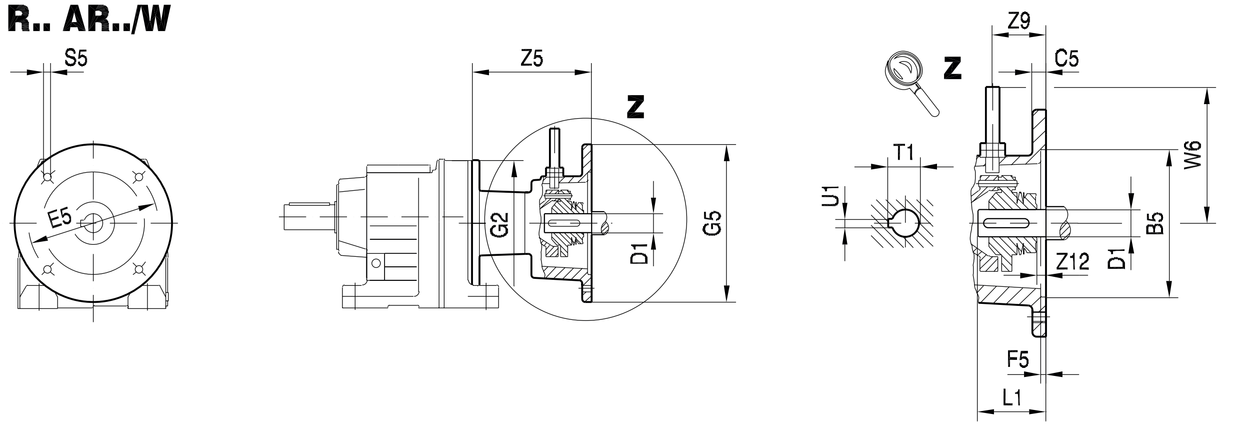
8.6 Dimension sheets for adapters with slip clutch (AR..)

R.. AR.. **01 052 02 01**



R.. AR../W



		B5	C5	E5	F5	G2	G5	S5	W6	Z5	Z9	Z12	D1	L1	T1	U1
R..27 R..37	AR71	110	10	130	3.5	120	160	M8	120	104	37	0	14	30	16.3	5
	AR80	130	12	165	4.5		200	M10		140.5			19	40	21.8	6
	AR90												24	50	27.3	8
R..47 R..57 R..67	AR71	110	10	130	3.5	160	160	M8	120	97.5	37	0	14	30	16.3	5
	AR80	130	12	165	4.5		200	M10		134			19	40	21.8	6
	AR90												24	50	27.3	8
	AR100	180	5	215	5		250	M12	130	174.5	52	5.5	28	60	31.3	8
	AR112															
R..77	AR71	110	10	130	3.5	200	160	M8	120	91.5	37	0	14	30	16.3	5
	AR80	130	12	165	4.5		200	M10		127			19	40	21.8	6
	AR90												24	50	27.3	8
	AR100	180	15	215			250	M12	130	166.5	52	5.5	28	60	31.3	8
	AR112															
	AR132S/M	230	16	265	5		300	M12	145	234	72	5	38	80	41.3	10
	AR132ML															
R..87	AR80	130	12	165	4.5	250	200	M10	120	122	37	0	19	40	21.8	6
	AR90												24	50	27.3	8
	AR100	180	15	215	5		250	M12	130	161.5	52	5.5	28	60	31.3	8
	AR112															
	AR132S/M	230	16	265	5		300	M12	145	229	72	5	38	80	41.3	10
	AR132ML															
	AR160	250	18	300	6		350	M16	165	306.5	105	35	42	110	45.3	12
	AR180												48	110	51.8	14

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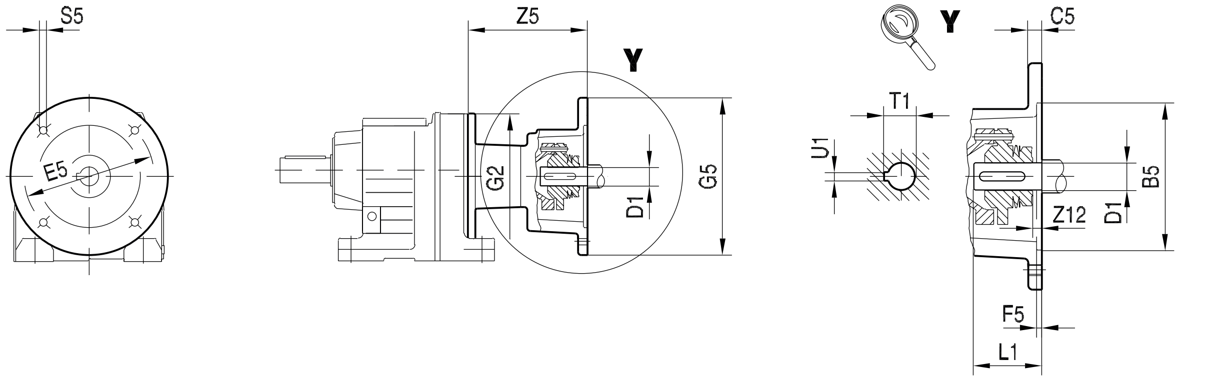
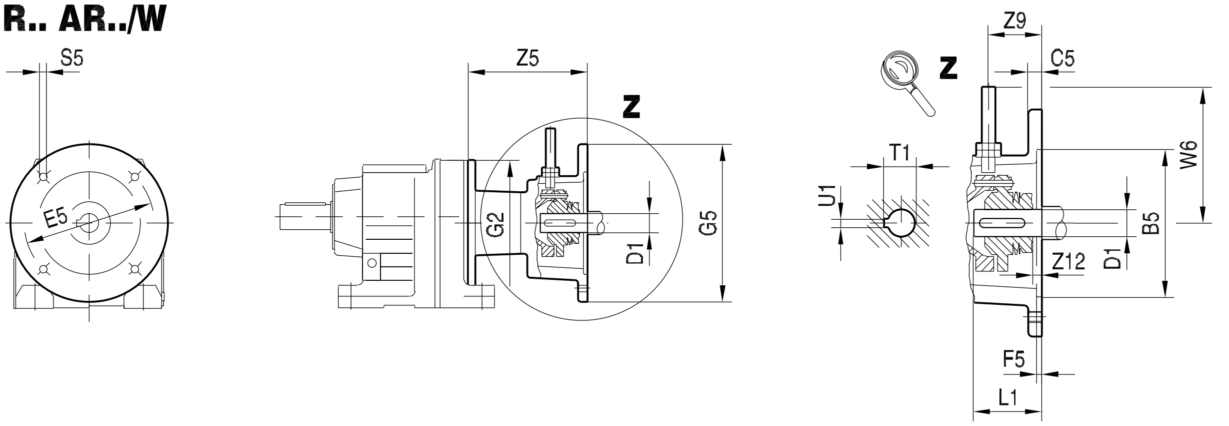
R.. AR..

01 053 03 01



R.. AR../W



		B5	C5	E5	F5	G2	G5	S5	W6	Z5	Z9	Z12	D1	L1	T1	U1
R..97	AR100	180	15	215	5	300	250	M12	130	156.5	52	5.5	28	60	31.3	8
	AR112															
	AR132S/M	230	16	265	5		300	M12	145	224	72	5	38	80	41.3	10
	AR132ML															
	AR160	250	18	300	6		350	M16	165	301.5	105	35	42	110	45.3	12
	AR180												48	110	51.8	14
R..107 R..127	AR100	180	15	215	5	350	250	M12	130	150.5	52	5.5	28	60	31.3	8
	AR112															
	AR132S/M	230	16	265	5		300	M12	145	218	72	5	38	80	41.3	10
	AR132ML															
	AR160	250	18	300	6		350	M16	165	295.5	105	35	42	110	45.3	12
	AR180												48	110	51.8	14
R..137	AR132S/M	230	16	265	5	400	300	M12	145	211	72	5	38	80	41.3	10
	AR132ML															
	AR160	250	18	300	6		350	M16	165	288.5	105	35	42	110	45.3	12
	AR180												48	110	51.8	14
R..147	AR132S/M	230	16	265	5	450	300	M12	145	203	72	5	38	80	41.3	10
	AR132ML															
	AR160	250	18	300	6		350	M16	165	280.5	105	35	42	110	45.3	12
	AR180												48	110	51.8	14
R..167	AR160	250	18	300	6	550	350	M16	165	272.5	105	35	42	110	45.3	12
	AR180												48	110	51.8	14

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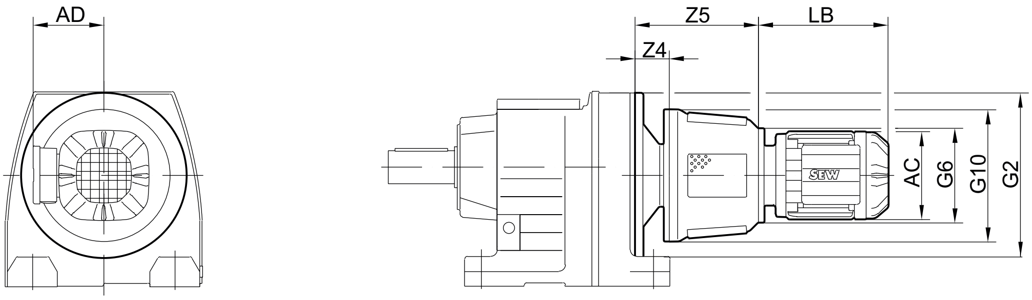
8.7 Dimension sheets for adapters with hydraulic start-up coupling (R..AT..)

25 001 04 01



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<tr><td rowspan="11">R..67</td><td rowspan="8">AT311
AT312</td><td>DRN71M</td><td>139</td><td>118</td><td rowspan="8">200</td><td rowspan="8">280</td><td>222</td><td rowspan="8">97</td><td rowspan="8">286</td><td rowspan="11">160</td></tr>
<tr><td>DRN80MK</td><td rowspan="3">156</td><td rowspan="3">128</td><td>241</td></tr>
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<tr><td>DRN80M</td><td>287</td></tr>
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<tr><td>DRN100LM</td><td>197</td><td>157</td><td>359</td></tr>
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<tr><td>DRN90S</td><td rowspan="2">179</td><td rowspan="2">140</td><td>281</td></tr>
<tr><td>DRM90L</td><td>313</td></tr>
<tr><td>DRN100LM</td><td>197</td><td>157</td><td>359</td></tr>
<tr><td>DRN112M</td><td>221</td><td>170</td><td>387</td></tr>
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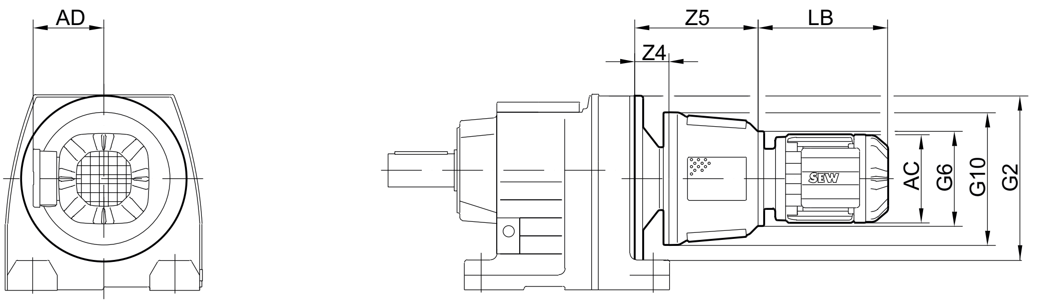
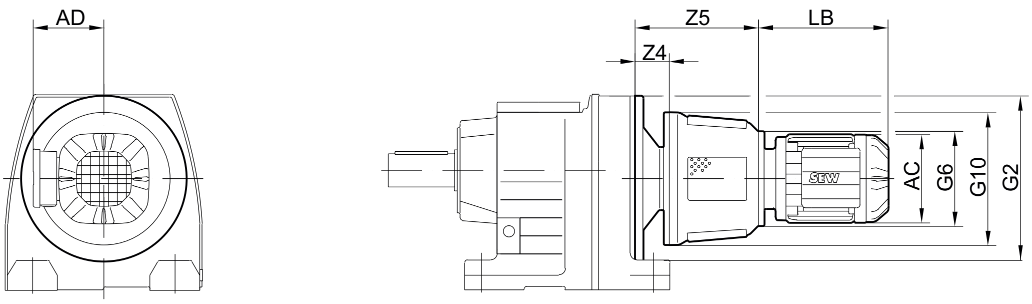
25 002 04 01



			AC	AD	G6	G10	LB	Z4	Z5	G2
R..97	**AT311 AT312**	DRN90S	179	140	200	280	281	79	268	300
		DRM90L					313			
		DRN100LM	197	157			359			
		DRN112M	221	170			387			
	AT321	DRN132S	221	170	250	350	437	79	315	
	AT421 AT422	DRN90L	179	140	250	350	313	123	358	
		DRN100LS	197	157			309			
		DRN100L					359			
		DRN112M	221	170			387			
	AT541 AT542	DRN132S	221	170	350	470	437	154	473	
		DRN132M	261	228			439			
		DRN132L					464			
		DRN160M	316	253			532			
		DRN160L					532			
		DRN180M	357	268			557			
		DRN180L					557			
R..107 R..127	**AT311 AT312**	DRN100LM	197	157	200	280	359	73	262	350
		DRN112M	221	170			387			
	AT321	DRN132S	221	170	250	350	437	73	309	
	AT421 AT422	DRN100LS	197	157	250	350	309	117	352	
		DRN100L					359			
		DRN112M	221	170			387			
		DRN132S					437			
	AT541 AT542	DRN132S	221	170	350	470	437	148	467	
		DRN132M	261	228			439			
		DRN132L					464			
		DRN160M	316	253			532			
		DRN160L					532			
		DRN180M	357	268			557			
		DRN180L					557			
R..137	**AT421 AT422**	DRN100LS	197	157	250	350	309	110	345	400
		DRN100L					359			
		DRN112M	221	170			387			
		DRN132S					437			
	AT541 AT542	DRN132S	221	170	350	470	437	141	460	
		DRN132M	261	228			439			
		DRN132L					464			
		DRN160M	316	253			532			
		DRN160L					532			
		DRN180M	357	268			557			
		DRN180L					557			

25 003 04 01



			AC	AD	G6	G10	LB	Z4	Z5	G2
R..147	**AT541** **AT542**	DRN132M	261	228	350	470	439	133	452	450
		DRN132L					464			
		DRN160M	316	253			532			
		DRN160L					532			
		DRN180M	357	268			557			
		DRN180L					557			
R..167	**AT541** **AT542**	DRN160M	316	253	350	470	532	125	444	550
		DRN160L					532			
		DRN180M	357	268			557			
		DRN180L					557			

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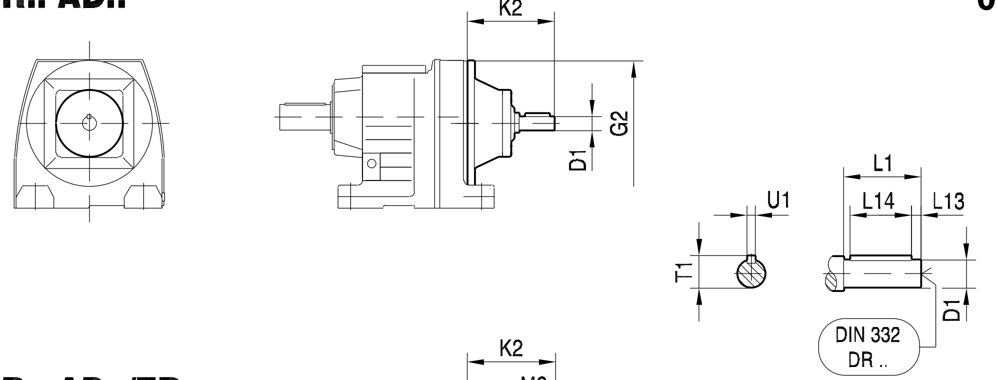
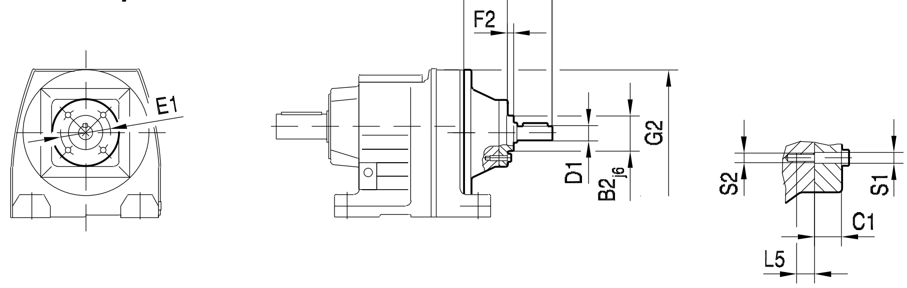
8.8 Dimension sheets for input shaft assembly (AD..)

R.. AD.. **01 054 02 01**



R.. AD../ZR



		B2	C1	E1	F2	G2	K2	L5	M2	S1	S2	D1	L1	L13	L14	T1	U1
R..27 R..37	AD1	-	-	-	-	120	102	-	-	-	-	16	40	4	32	18	5
	AD2, AD2/ZR	55	13.5	80	8		130	12	50	9	M8	19	40	4	32	21.5	6
R..47 R..57 R..67	AD2, AD2/ZR	55	13.5	80	8	160	123	12	50	9	M8	19	40	4	32	21.5	6
	AD3, AD3/ZR	70	15.5	105	8		159	16	60	11	M10	24	50	5	40	27	8
R..77	AD2, AD2/ZR	55	13.5	80	8	200	116	12	50	9	M8	19	40	4	32	21.5	6
	AD3, AD3/ZR	70	15.5	105	8		151	16	60	11	M10	24	50	5	40	27	8
	AD4, AD4/ZR	100	16	130	13		224	20	95.5	13.5	M12	38	80	5	70	41	10
R..87	AD2, AD2/ZR	55	13.5	80	8	250	111	12	50	9	M8	19	40	4	32	21.5	6
	AD3, AD3/ZR	70	15.5	105	8		156	16	70	11	M10	28	60	5	50	31	8
	AD4, AD4/ZR	100	16	130	13		219	20	95.5	13.5	M12	38	80	5	70	41	10
	AD5, AD5/ZR	120	24	180	11		292	20	126	13.5	M12	42	110	10	70	45	12
R..97	AD3, AD3/ZR	70	15.5	105	8	300	151	16	70	11	M10	28	60	5	50	31	8
	AD4, AD4/ZR	100	16	130	13		214	20	95.5	13.5	M12	38	80	5	70	41	10
	AD5, AD5/ZR	120	24	180	11		287	20	126	13.5	M12	42	110	10	70	45	12
	AD6, AD6/ZR	130	22.5	200	11		327	26	130.5	17.5	M16	48	110	10	80	51.5	14
R..107 R..127	AD3, AD3/ZR	70	15.5	105	8	350	145	16	70	11	M10	28	60	5	50	31	8
	AD4, AD4/ZR	100	16	130	13		208	20	95.5	13.5	M12	38	80	5	70	41	10
	AD5, AD5/ZR	120	24	180	11		281	20	126	13.5	M12	42	110	10	70	45	12
	AD6, AD6/ZR	130	22.5	200	11		321	26	130.5	17.5	M16	48	110	10	80	51.5	14
R..137	AD4, AD4/ZR	100	16	130	13	400	201	20	95.5	13.5	M12	38	80	5	70	41	10
	AD5, AD5/ZR	120	24	180	11		274	20	126	13.5	M12	42	110	10	70	45	12
	AD6, AD6/ZR	130	22.5	200	11		314	26	130.5	17.5	M16	48	110	10	80	51.5	14
	AD7, AD7/ZR	125	19	190	13		308	30	133	22	M20	55	110	10	90	59	16
R..147	AD4, AD4/ZR	100	16	130	13	450	193	20	95.5	13.5	M12	38	80	5	70	41	10
	AD5, AD5/ZR	120	24	180	11		266	20	126	13.5	M12	42	110	10	70	45	12
	AD6, AD6/ZR	130	22.5	200	11		306	26	130.5	17.5	M16	48	110	10	80	51.5	14
	AD7, AD7/ZR	125	19	190	13		300	30	133	22	M20	55	110	10	90	59	16
	AD8, AD8/ZR	120	22.5	210	5		383	19.5	155	13.5	M12	70	140	15	110	74.5	20

		B2	C1	E1	F2	G2	K2	L5	M2	S1	S2	D1	L1	L13	L14	T1	U1
R..167	AD5, AD5/ZR	120	24	180	11	550	258	20	126	13.5	M12	42	110	10	70	45	12
	AD6, AD6/ZR	130	22.5	200	11		298	26	130.5	17.5	M16	48	110	10	80	51.5	14
	AD7, AD7/ZR	125	19	190	13		292	30	133	22	M20	55	110	10	90	59	16
	AD8, AD8/ZR	120	22.5	210	5		374	19.5	155	13.5	M12	70	140	15	110	74.5	20

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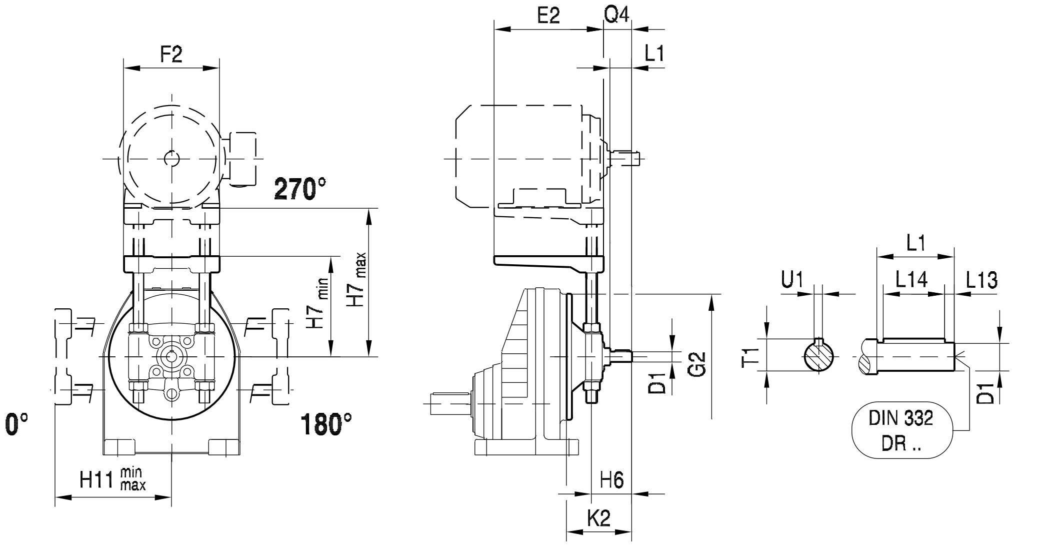
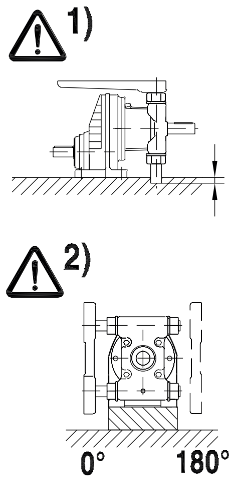
8.9 Dimension sheets for input shaft assembly with motor platform (AD../P)

01 055 01 01





		E2	F2	G2	H6	H7 min	H7 max	H11 min	H11 max	K2	Q4	D1	L1	L13	L14	T1	U1	⚠ (→ 🗎 71)
RX..57	AD2/P	195	180	160	65	110	165	115	165	123	43	19	40	4	32	21.5	6	
	AD3/P	230	240		80	110	175	120	175	159	54	24	50	5	40	27	8	1), 2)
RX..67	AD2/P	195	180	160	65	110	165	125	165	123	43	19	40	4	32	21.5	6	
	AD3/P	230	240		80	110	175	130	175	159	54	24	50	5	40	27	8	1)
RX..77	AD2/P	195	180	200	65	130	165	140	200	116	43	19	40	4	32	21.5	6	
	AD3/P	230	240		80	135	175	145	175	151	54	24	50	5	40	27	8	
	AD4/P	345	291		118	145	210	160	210	224	83	38	80	5	70	41	10	1), 2)
RX..87	AD2/P	195	180	250	65	160	200	170	200	111	43	19	40	4	32	21.5	6	
	AD3/P	230	240		90	165	230	175	230	156	64	28	60	5	50	31	8	
	AD4/P	345	291		118	170	210	195	280	219	83	38	80	5	70	41	10	
	AD5/P	430	355		153	175	250	200	250	292	113	42	110	10	70	45	12	1), 2)
RX..97	AD3/P	230	240	300	90	185	230	205	320	151	64	28	60	5	50	31	8	
	AD4/P	345	291		118	195	280	220	280	214	83	38	80	5	70	41	10	
	AD5/P	430	355		153	195	250	225	325	287	113	42	110	10	70	45	12	
RX..107	AD3/P	230	240	350	90	210	320	225	320	145	64	28	60	5	50	31	8	
	AD4/P	345	291		118	220	280	270	360	208	83	38	80	5	70	41	10	
	AD5/P	430	355		153	220	325	275	325	281	113	42	110	10	70	45	12	
	AD6/P	495	457		163	245	310	250	310	321	114	48	110	10	80	51.5	14	

For bore dimensions and weight of the motor platform, refer to the chapter "Bore dimensions and weight" (→ 🗎 70).

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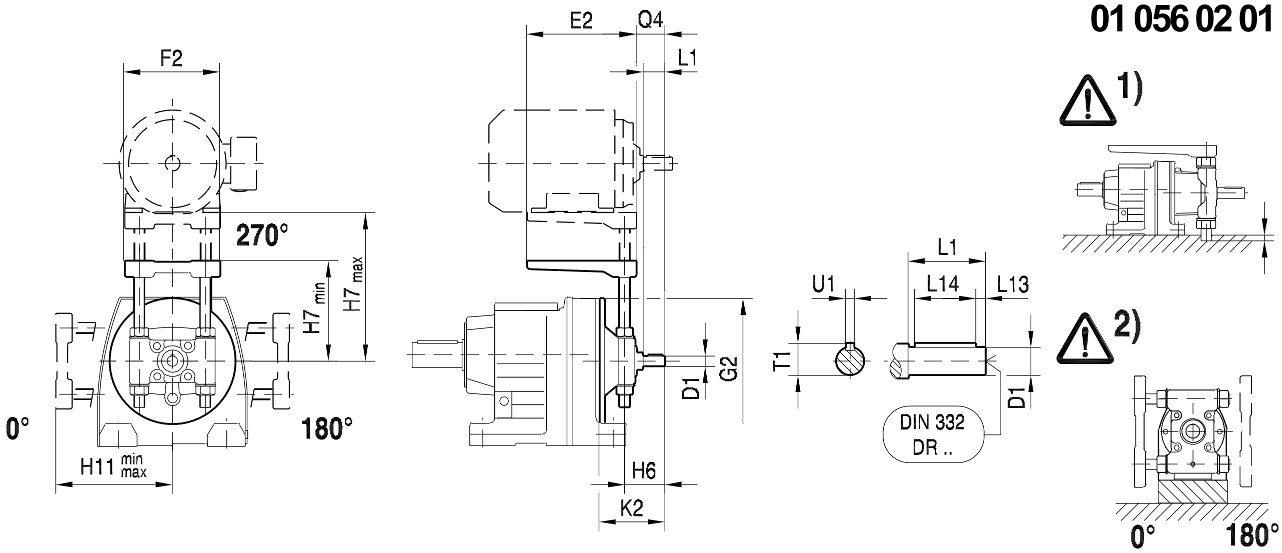

		E2	F2	G2	H6	H7 min	H7 max	H11 min	H11 max	K2	Q4	D1	L1	L13	L14	T1	U1	⚠ (→ 🗎 71)
R..27	AD2/P	195	180	120	65	100	165	120	165	130	43	19	40	4	32	21.5	6	1), 2)
R..37	AD2/P	195	180	120	65	110	165	120	165	130	43	19	40	4	32	21.5	6	1), 2)
R..47	AD2/P	195	180	160	65	125	165	135	165	123	43	19	40	4	32	21.5	6	
	AD3/P	230	240		80	130	175	140	175	159	54	24	50	5	40	27	8	1), 2)
R..57	AD2/P	195	180	160	65	125	165	145	200	123	43	19	40	4	32	21.5	6	
	AD3/P	230	240		80	130	175	155	230	159	54	24	50	5	40	27	8	1), 2)
R..67	AD2/P	195	180	160	65	125	165	155	200	123	43	19	40	4	32	21.5	6	
	AD3/P	230	240		80	130	175	160	230	159	54	24	50	5	40	27	8	1), 2)
R..77	AD2/P	195	180	200	65	135	200	165	200	116	43	19	40	4	32	21.5	6	1)
	AD3/P	230	240		80	145	175	170	230	151	54	24	50	5	40	27	8	
	AD4/P	345	291		118	150	210	175	210	224	83	38	80	5	70	41	10	1), 2)
R..87	AD2/P	195	180	250	65	155	200	195	260	111	43	19	40	4	32	21.5	6	
	AD3/P	230	240		90	165	230	185	230	156	64	28	60	5	50	31	8	
	AD4/P	345	291		118	165	210	205	280	219	83	38	80	5	70	41	10	
	AD5/P	430	355		153	210	250	215	250	292	113	42	110	10	70	45	12	1), 2)
R..97	AD3/P	230	240	300	90	180	230	235	320	151	64	28	60	5	50	31	8	
	AD4/P	345	291		118	190	280	240	280	214	83	38	80	5	70	41	10	
	AD5/P	430	355		153	190	250	245	325	287	113	42	110	10	70	45	12	
R..107 R..127	AD3/P	230	240	350	90	230	320	230	320	145	64	28	60	5	50	31	8	
	AD4/P	345	291		118	230	280	265	360	208	83	38	80	5	70	41	10	
	AD5/P	430	355		153	225	325	270	325	281	113	42	110	10	70	45	12	1)
	AD6/P	495	457		163	245	310	250	310	321	114	48	110	10	80	51.5	14	
R..137	AD4/P	345	291	400	118	245	280	280	360	201	83	38	80	5	70	41	10	
	AD5/P	430	355		153	245	325	285	325	274	113	42	110	10	70	45	12	1)
	AD6/P	495	457		163	270	335	275	335	314	114	48	110	10	80	51.5	14	
R..147	AD4/P	345	291	450	118	270	360	315	360	193	83	38	80	5	70	41	10	
	AD5/P	430	355		153	275	325	330	405	266	113	42	110	10	70	45	12	
	AD6/P	495	457		163	295	360	310	360	306	114	48	110	10	80	51.5	14	
	AD7/P	650	570		170	300	365	300	365	300	112	55	110	10	90	59	16	3)
R..167	AD5/P	430	355	550	153	345	405	385	495	258	113	42	110	10	70	45	12	
	AD6/P	495	457		163	375	475	375	475	298	114	48	110	10	80	51.5	14	
	AD7/P	650	570		170	375	475	380	475	292	112	55	110	10	90	59	16	

For bore dimensions and weight of the motor platform, refer to the chapter "Bore dimensions and weight" (→ 🗎 70).

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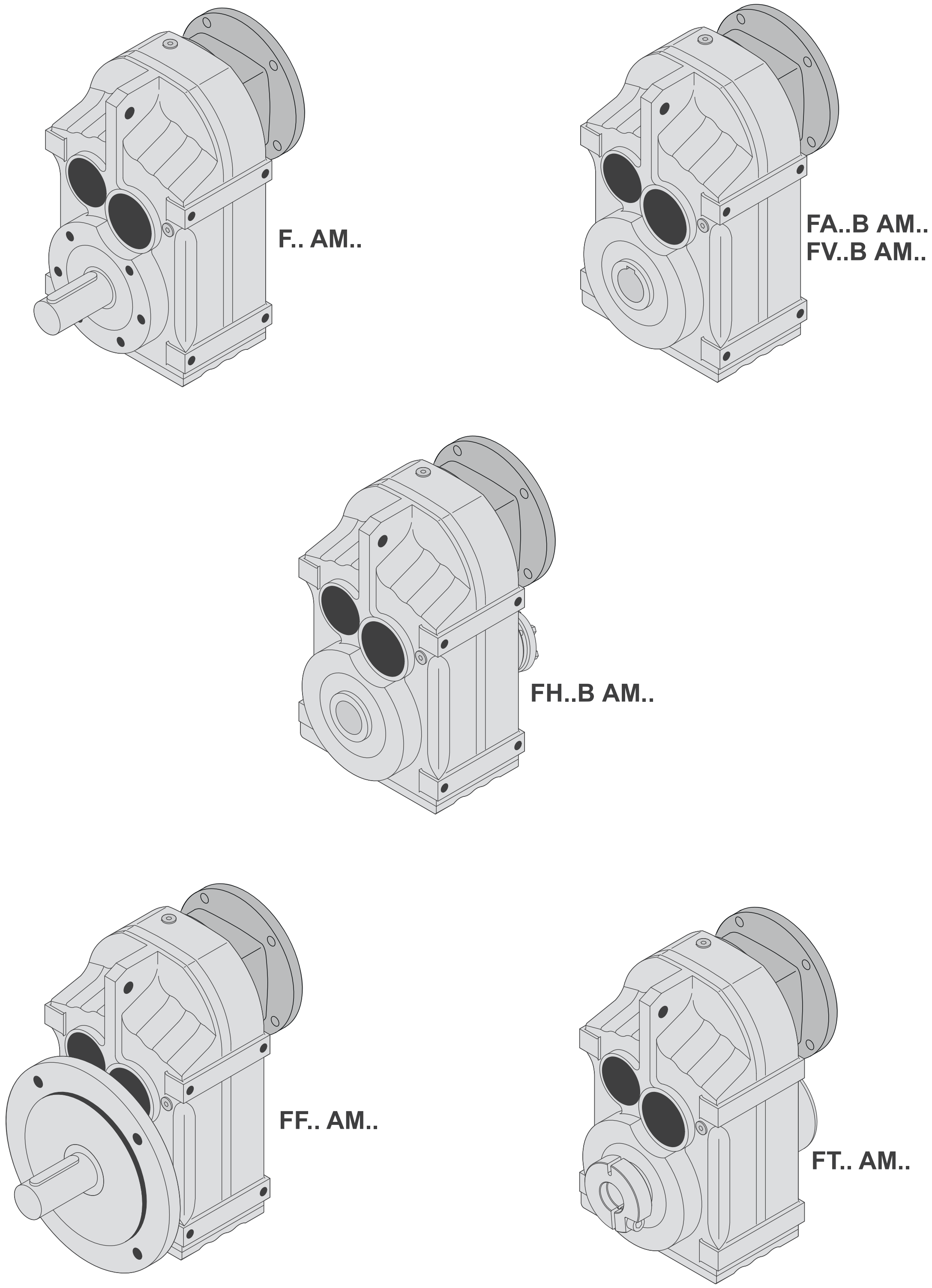
9 F.. parallel-shaft helical gear units

9.1 Selection tables for adapters for mounting IEC/NEMA motors (AM..)



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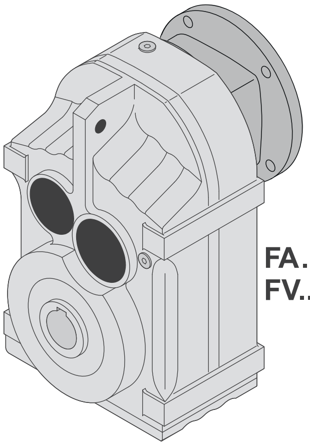
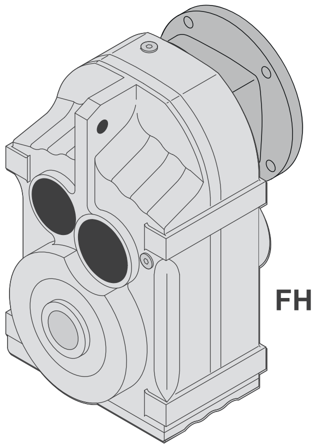
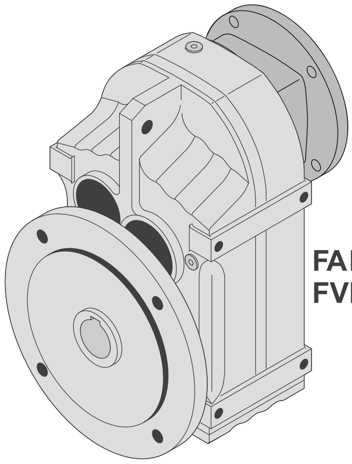


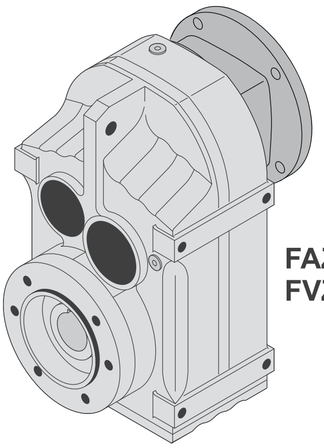
FA.. AM..
FV.. AM..



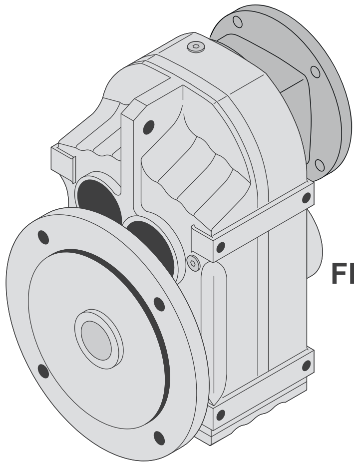
FH.. AM..



FAF.. AM..
FVF.. AM..



FAZ.. AM..
FVZ.. AM..



FHF.. AM..

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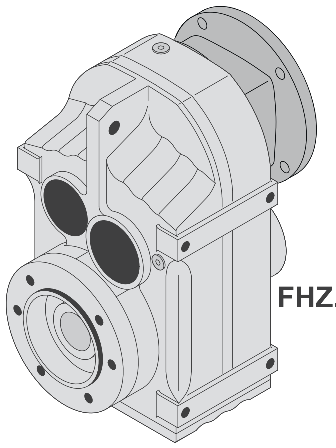
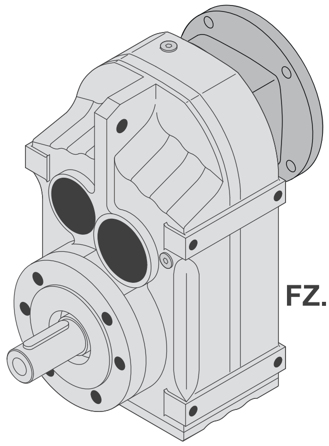
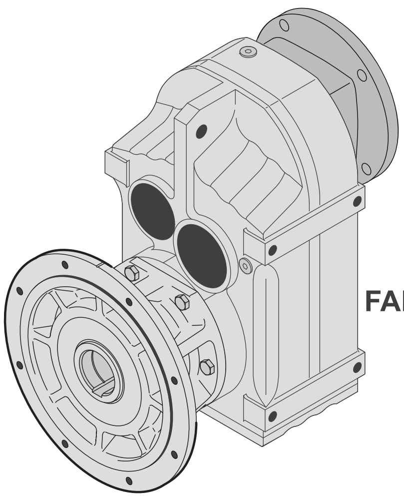


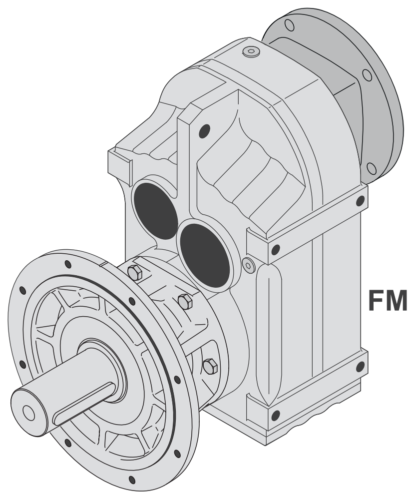
FHZ.. AM..



FZ.. AM..



FAM..AM..



FM..AM..

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F27, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm								130 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$φ_{(/R)}$	AM			
	min^{-1}	Nm	N	'	63	71	80	90
2								
4.16	337	87	1810	-	21	21	61	61
4.93	284	96	1860	-	25	25	73	73
5.27	266	100	1880	-	27	27	78	78
6.17	227	109	1940	-	31	31	91	91
6.91	203	114	2000	-	35	35	102	102
8.13	172	123	2080	-	41	41	121	121
9.40	149	130	2170	-	48	48	130	130
9.88	142	130	2400	-	50	50	130	130
10.55	133	130	2490	-	54	54	130	130
12.35	113	130	2700	-	63	63	130	130
13.84	101	130	2860	-	71	71	130	130
16.28	86	130	3110	-	83	83	130	130
18.84	74	130	3340	-	97	97	130	130
20.15	69	130	3450	-	103	103	130	130
23.25	60	130	3690	-	119	119	130	
27.18	52	130	3970	-	130	130		
29.56	47	130	4120	-	130	130		
3								
33.83	41	130	4380	-	130	130	130	130
38.33	37	130	4500	-	130	130	130	130
40.89	34	130	4500	-	130	130	130	130
46.78	30	130	4500	-	130	130	130	130
50.19	28	130	4500	-	130	130	130	130
56.62	25	130	4500	-	130	130	130	130
63.86	22	130	4500	-	130	130	130	130
72.37	19	130	4500	-	130	130	130	130
77.21	18	130	4500	-	130	130	130	130
88.32	16	130	4500	-	130	130	130	130
94.76	15	130	4500	-	130	130	130	130
109.90	13	130	4500	-	130	130	130	
129.09	11	130	4500	-	130	130		
140.74	9.9	130	4500	-	130	130		

F27, m /kg			AM			
	IEC	s	63	71	80	90
		2	7.9	8.1	10	11
		3	8.1	8.4	11	11
FA	NEMA	s	-	56	143	145
		2	-	8.5	10	11
		3	-	8.7	11	11
FAF: + 0.70 kg / F: + 0.50 kg / FF: + 1.3 kg						

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F37, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm								200 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM			
	min^{-1}	Nm	N	'	63	71	80	90
2								
3.77	371	105	2470	12	19	19	55	55
4.22	332	110	2550	11	21	21	62	62
4.90	286	120	2630	11	25	25	72	72
5.21	269	125	2660	10	26	26	77	77
6.05	231	135	2750	10	31	31	90	90
6.74	208	140	2850	10	34	34	100	100
7.44	188	145	2940	10	38	38	110	110
8.01	175	170	2960	7	40	40	119	119
8.97	156	175	3080	7	45	45	133	133
10.42	134	185	3230	7	53	53	155	155
11.08	126	190	3290	7	56	56	165	165
12.87	109	200	3450	7	66	66	191	191
14.33	98	200	3650	6	73	73	200	200
15.81	89	200	3840	6	81	81	200	200
17.03	82	200	3990	6	87	87	200	200
19.27	73	200	4250	6	99	99	200	200
20.57	68	200	4390	6	106	106	200	200
23.63	59	200	4690	6	121	121	200	
3								
23.88	59	200	4720	8	121	121	200	200
28.09	50	200	5090	8	142	142	200	200
31.69	44	200	5380	8	161	161	200	200
35.91	39	200	5700	8	182	182	200	200
38.31	37	200	5870	8	195	195	200	200
43.83	32	200	6240	8	200	200	200	200
47.02	30	200	6430	8	200	200	200	200
51.70	27	200	6710	7	200	200	200	200
54.54	26	200	6860	8	200	200	200	
58.32	24	200	7000	7	200	200	200	200
66.09	21	200	7000	7	200	200	200	200
70.50	20	200	7000	7	200	200	200	200
80.65	17	200	7000	7	200	200	200	200
86.53	16	200	7000	7	200	200	200	200
100.36	14	200	7000	7	200	200	200	
117.88	12	200	7000	7	200	200		
128.51	11	200	7000	7	200	200		

F37, m /kg			AM			
	IEC	s	63	71	80	90
		2	14	14	17	17
		3	14	14	17	17
FA	NEMA	s	-	56	143	145
		2	-	15	17	17
		3	-	15	17	17
FAF: + 1.5 kg / F: + 0.45 kg / FF: + 2.3 kg						

F47, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm								400 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$φ_{(/R)}$	AM			
	min^{-1}	Nm	N	'	63	71	80	90
2								
4.99	281	320	1160	9	25	25	73	73
5.76	243	340	1180	9	29	29	85	85
6.34	221	350	1230	8	32	32	94	94
7.44	188	380	1190	8	38	38	110	110
7.88	178	380	1280	8	40	40	117	117
8.96	156	330	1970	8	45	45	133	133
10.97	128	400	2060	6	55	55	162	162
12.66	111	400	2320	6	64	64	187	187
13.93	101	400	2510	6	71	71	205	205
16.36	86	400	2840	6	83	83	240	240
17.33	81	400	2960	6	88	88	255	255
19.70	71	400	3230	6	100	100	290	290
21.82	64	400	3460	6	111	111	320	320
25.72	54	400	3850	6	131	131	380	380
29.32	48	400	4170	6	150	150	400	400
30.86	45	400	4300	6	158	158	400	400
3								
28.88	48	400	4130	7	145	145	400	400
34.29	41	400	4580	7	173	173	400	400
36.61	38	400	4750	7	185	185	400	400
42.86	33	400	5190	7	215	215	400	400
48.00	29	400	5520	7	240	240	400	400
56.49	25	400	6020	7	285	285	400	400
65.36	21	400	6490	7	330	330	400	400
68.09	21	400	6620	6	340	340	400	400
79.72	18	400	7160	6	400	400	400	400
89.29	16	400	7570	6	400	400	400	400
105.09	13	400	8180	6	400	400	400	400
121.57	12	400	8760	6	400	400	400	400
130.07	11	400	9040	6	400	400	400	400
150.06	9.3	400	9640	6	400	400	400	
175.38	8.0	400	10000	6	400	400		
190.76	7.3	400	10000	6	400	400		

F47, m /kg			AM			
FA	IEC	s	63	71	80	90
		2	18	19	21	21
		3	19	19	22	22
	NEMA	s	-	56	143	145
		2	-	19	21	21
		3	-	20	22	22
FAF: + 2.7 kg / F: + 0.80 kg / FF: + 3.9 kg						

F57, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm											600 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM						
	min^{-1}	Nm	N	'	63	71	80	90	100	112	132S/M
2											
5.18	270	415	2020	9	26	26	76	76	210	210	415
5.98	234	420	2240	9	30	30	88	88	240	245	420
6.58	213	420	2430	8	33	33	97	97	255	270	420
7.73	181	420	2760	8	39	39	114	114	285	315	420
8.19	171	420	2880	8	41	41	121	121	295	335	405
9.31	150	420	3170	8	47	47	138	138	320	360	
10.64	132	600	2470	6	53	53	157	157	435	435	600
12.29	114	600	2810	6	62	62	182	182	495	500	600
13.52	104	600	3050	6	68	68	200	200	530	555	600
15.88	88	600	3470	6	80	80	235	235	590	600	600
16.81	83	600	3630	6	85	85	245	245	600	600	600
19.11	73	600	3980	6	97	97	280	280	600	600	
21.17	66	600	4280	6	107	107	310	310	600	600	
24.96	56	575	4970	6	127	127	370	370	575		
28.45	49	535	5690	6	144	144	390	390			
29.94	47	545	5790	6	152	152	395	395			
34.24	41	500	6580	6	174	174	400				
40.13	35	290	8750	6	200	200					
3											
30.15	46	590	5460	7	151	151	440	440	590	590	590
35.79	39	600	5980	7	180	180	525	525	600	600	600
38.21	37	600	6210	7	192	192	560	560	600	600	600
44.73	31	600	6790	7	225	225	600	600	600	600	
50.10	28	600	7230	7	250	250	600	600	600	600	
58.97	24	600	7890	7	295	295	600	600	600		
68.22	21	600	8510	6	340	340	600	600			
72.98	19	600	8810	6	365	365	600	600			
83.46	17	600	9420	6	420	420	600	600	600	600	
93.47	15	600	9960	6	470	470	600	600	600	600	
110.01	13	600	10800	6	550	550	600	600	600		
127.27	11	600	11500	6	600	600	600	600			
136.16	10	600	11500	6	600	600	600	600			
157.09	8.9	600	11500	6	600	600	600				
183.60	7.6	600	11500	6	600	600					
199.70	7.0	600	11500	6	600	600					

F57, m /kg			AM						
FA	IEC	s	63	71	80	90	100	112	132S/M
		2	26	26	29	29	33	33	40
		3	27	27	29	29	34	34	41
	NEMA	s	-	56	143	145	182	184	213/215
		2	-	27	29	29	32	32	38
		3	-	27	29	29	33	33	39
FAF: + 5.5 kg / F: + 0.20 kg / FF: + 6.6 kg									

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F67, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm											820 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM						
	min^{-1}	Nm	N	'	63	71	80	90	100	112	132S/M
2											
3.97	353	500	1220	10			58	58	162	162	355
4.66	300	560	1020	9			68	68	190	190	415
5.25	267	590	1010	9			77	77	215	215	470
5.95	235	610	1090	9	30	30	88	88	240	240	515
6.78	206	620	1280	9	34	34	100	100	275	275	550
7.53	186	610	1570	8	38	38	111	111	300	305	585
8.60	163	570	2180	8	43	43	127	127	330	350	540
9.08	154	530	2620	8	45	45	134	134	340	370	515
9.66	145	820	1580	6			141	141	395	395	820
11.31	124	820	1960	6			166	166	460	460	820
12.76	110	820	2260	6			188	188	520	520	820
14.46	97	820	2580	6	72	72	210	210	590	590	820
16.48	85	820	2940	6	83	83	240	240	675	675	820
18.29	77	820	3230	6	92	92	270	270	740	750	820
20.90	67	820	3620	5	105	105	305	305	800	820	820
22.05	63	820	3780	5	111	111	325	325	820	820	820
25.13	56	820	4190	5	127	127	370	370	820	820	
27.41	51	820	4470	5	138	138	405	405	820	820	
32.08	44	820	5000	5	162	162	475	475	800		
36.30	39	820	5440	5	183	183	510	510			
3											
34.01	41	740	5730	6	169	169	495	495	740	740	740
39.26	36	780	5980	6	196	196	570	570	780	780	780
43.20	32	820	6080	6	215	215	630	630	820	820	820
50.74	28	820	6710	6	250	250	740	740	820	820	820
53.73	26	820	6940	6	265	265	785	785	820	820	820
61.07	23	820	7480	6	305	305	820	820	820	820	
67.65	21	820	7930	6	335	335	820	820	820	820	
79.76	18	820	8680	6	395	395	820	820	820		
90.59	15	820	9290	6	450	450	820	820	820	820	820
95.94	15	820	9570	6	475	475	820	820	820	820	820
109.04	13	820	10200	6	545	545	820	820	820	820	
120.79	12	820	10800	6	600	600	820	820	820	820	
142.40	9.8	820	11700	6	710	710	820	820	820		
162.31	8.6	820	12400	6	810	810	820	820			
170.85	8.2	820	12700	6	820	820	820	820			
195.39	7.2	820	13000	6	820	820	820				
228.99	6.1	820	13000	6	820	820					

F67, m /kg			AM						
FA	IEC	s	63	71	80	90	100	112	132S/M
		2	30	30	32	32	37	37	44
		3	31	31	33	33	38	38	45
	NEMA	s	-	56	143	145	182	184	213/215
		2	-	30	32	32	36	36	41
		3	-	31	33	33	37	37	43
FAF: + 6.3 kg / F: + 2.8 kg / FF: + 8.9 kg									

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F77, n_e = 1400 min^{-1}, $M_{a\ max}$/Nm												1500 Nm
i	n_a	$M_{a\ max\ G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM							
	min^{-1}	Nm	N	'	63	71	80	90	100	112	132S/M	132ML
2												
4.28	327	1010	630	8					174	174	380	380
5.16	271	1080	640	8					210	210	460	460
5.76	243	1080	930	8			84	84	235	235	515	515
6.64	211	1080	1310	8			97	97	270	270	590	590
7.39	189	1080	1610	7			108	108	300	300	660	660
8.26	169	1080	1940	7	41	41	121	121	335	335	740	740
9.30	151	1080	2300	7	46	46	136	136	380	380	810	810
10.93	128	1500	2080	6					445	445	970	970
12.20	115	1500	2450	5			178	178	495	495	1090	1090
14.06	100	1500	2940	5			205	205	570	570	1250	1250
15.64	90	1500	3330	5			225	225	635	635	1400	1400
17.49	80	1500	3750	5	86	86	255	255	715	715	1500	1500
19.70	71	1500	4220	5	97	97	290	290	800	800	1500	1500
21.43	65	1500	4560	5	106	106	315	315	870	870	1500	
25.50	55	1500	5300	5	126	126	375	375	1010	1040	1500	
28.75	49	1430	6190	5	142	142	420	420	1080	1140		
31.51	44	1380	6870	5	156	156	460	460	1130	1160		
36.58	38	1110	8990	5	181	181	535	535	1040			
3												
25.54	55	1450	5560	6			365	365	1020	1020	1450	1450
29.91	47	1500	6010	6			430	430	1200	1200	1500	1500
33.74	41	1500	6580	6			485	485	1360	1360	1500	1500
38.23	37	1500	7190	6	187	187	555	555	1500	1500	1500	1500
43.58	32	1500	7850	6	210	210	630	630	1500	1500	1500	1500
48.37	29	1500	8410	6	235	235	700	700	1500	1500	1500	
55.27	25	1500	9140	6	270	270	800	800	1500	1500	1500	
58.32	24	1500	9450	6	285	285	840	840	1500	1500	1500	
66.46	21	1500	10200	6	325	325	960	960	1500	1500		
72.50	19	1500	10700	6	355	355	1050	1050	1500	1500		
75.02	19	1500	11000	6	365	365	1090	1090	1500	1500	1500	
85.52	16	1500	11800	6	420	420	1240	1240	1500	1500	1500	
94.93	15	1500	12500	5	465	465	1380	1380	1500	1500	1500	
108.46	13	1500	13400	5	530	530	1500	1500	1500	1500	1500	
114.45	12	1500	13800	5	560	560	1500	1500	1500	1500	1500	
130.42	11	1500	14800	5	640	640	1500	1500	1500	1500		
142.27	9.8	1500	15400	5	695	695	1500	1500	1500	1500		
166.47	8.4	1500	16700	5	810	810	1500	1500	1500			
188.40	7.4	1500	17700	5	920	920	1500	1500				
198.31	7.1	1500	18100	5	970	970	1500	1500				
225.79	6.2	1500	19300	5	1100	1100	1500					
262.93	5.3	1500	20000	5	1290	1290						
281.71	5.0	1500	20000	5	1380	1380						

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F77, m /kg			AM							
FA	**IEC**	**s**	**63**	**71**	**80**	**90**	**100**	**112**	**132S/M**	**132ML**
		2	52	52	55	55	59	59	66	66
		3	53	54	56	56	60	60	67	68
	NEMA	**s**	**-**	**56**	**143**	**145**	**182**	**184**	**213/215**	**-**
		2	-	53	55	55	58	58	64	-
		3	-	54	56	56	59	59	65	-
FAF: + 6.6 kg / F: + 3.8 kg / FF: + 14 kg										

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F87, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm												3000 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM							
	min^{-1}	Nm	N	'	80	90	100	112	132S/M	132ML	160	180
2												
4.12	340	1460	3020	7					365	365	755	900
4.92	285	1530	3310	7					435	435	900	1080
5.63	249	1530	3850	7			225	225	500	500	1030	1240
6.65	211	1530	4550	7			265	265	590	590	1220	1460
7.35	190	1530	5000	7	106	106	295	295	655	655	1350	1530
8.29	169	1530	5550	7	120	120	335	335	740	740	1530	1530
9.58	146	2880	275	7					850	850	1760	2100
11.46	122	3000	575	7					1020	1020	2110	2520
13.12	107	3000	1300	7			530	530	1160	1160	2410	2890
15.48	90	3000	2220	7			625	625	1380	1380	2850	3000
17.12	82	3000	2810	7	245	245	695	695	1530	1530	3000	3000
19.31	73	3000	3540	7	280	280	785	785	1720	1720	3000	3000
21.32	66	3000	4160	7	310	310	860	860	1900	1900	3000	3000
23.68	59	3000	4850	7	345	345	960	960	2120	2120	3000	
26.50	53	3000	5610	7	385	385	1080	1080	2320	2310	3000	
28.78	49	2450	8940	7	420	420	1170	1170	2370			
33.92	41	2610	9340	7	495	495	1370	1380	2440			
3												
29.20	48	2510	8740	8			1160	1160	2510	2510	2510	2510
35.19	40	2610	9610	8			1410	1410	2610	2610	2610	2610
39.30	36	2720	9910	8	560	560	1570	1570	2720	2720	2720	2720
45.28	31	2820	10500	8	645	645	1820	1820	2820	2820	2820	2820
50.36	28	2940	10800	7	725	725	2020	2020	2940	2940	2940	2940
56.75	25	3000	11600	7			2260	2260	3000	3000	3000	
68.40	20	3000	13300	7			2740	2740	3000	3000	3000	
76.39	18	3000	14300	7	1080	1080	3000	3000	3000	3000	3000	
88.01	16	3000	15800	7	1260	1260	3000	3000	3000	3000	3000	
97.89	14	3000	16900	7	1410	1410	3000	3000	3000	3000	3000	
109.49	13	3000	18100	7	1570	1570	3000	3000	3000	3000	3000	
123.29	11	3000	19400	7	1770	1770	3000	3000	3000	3000	3000	
134.16	10	3000	20400	7	1930	1930	3000	3000	3000			
159.61	8.8	3000	22500	7	2300	2300	3000	3000	3000			
179.97	7.8	3000	24100	7	2590	2590	3000	3000				
197.20	7.1	3000	25300	7	2840	2840	3000	3000				
228.93	6.1	3000	27300	7	3000	3000	3000					
255.37	5.5	3000	28900	7	3000	3000						
270.68	5.2	3000	29800	7	3000	3000						

F87, m /kg			AM							
	IEC	s	80	90	100	112	132S/M	132ML	160	180
		2	92	92	97	97	105	105	120	120
		3	95	95	100	100	105	105	125	125
FA	NEMA	s	143	145	182	184	213/215	-	254/256	284/286
		2	92	92	96	96	100	-	115	120
		3	95	95	99	99	105	-	120	120
FAF: + 13 kg / F: + 5.7 kg / FF: + 21 kg										

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F97, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm											4300 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM						
	min^{-1}	Nm	N	'	100	112	132S/M	132ML	160	180	200
						2					
3.87	362	1800	10300	9				340	705	840	1590
4.57	306	2050	10200	9			400	400	830	1000	1880
5.23	268	2150	10700	9			460	460	960	1150	2150
6.17	227	2250	11400	9			545	545	1130	1350	2250
7.07	198	2360	11900	9	280	280	625	625	1300	1550	2360
8.22	170	2360	13100	8	330	330	730	730	1510	1810	2360
9.06	155	2360	13900	9	365	365	800	800	1670	1980	2360
11.16	125	4100	9710	6			980	980	2040	2450	4100
12.77	110	4300	10100	6			1130	1130	2340	2800	4300
15.06	93	4300	11700	6			1330	1330	2760	3310	4300
17.25	81	4300	13100	6	690	690	1530	1530	3170	3790	4300
20.07	70	4300	14700	6	810	810	1780	1780	3690	4300	4300
22.11	63	4300	15700	6	890	890	1970	1970	4070	4300	4300
24.92	56	4300	17100	6	1010	1010	2220	2220	4300	4300	
27.44	51	4300	18200	6	1110	1110	2450	2450	4300	4300	
30.39	46	4300	19500	6	1230	1230	2710	2710	4300		
33.91	41	4300	20900	6	1370	1370	3000	2980	4300		
36.64	38	3070	27000	6	1480	1480	3050				
43.28	32	3070	29300	6	1750	1750	3070				
						3					
32.50	43	4300	20300	6			2840	2840	4300	4300	4300
38.86	36	4300	22700	6			3400	3400	4300	4300	4300
44.49	31	4300	24500	6	1770	1770	3910	3910	4300	4300	4300
52.49	27	4300	26900	6	2090	2090	4300	4300	4300	4300	4300
58.06	24	4300	28500	6	2320	2320	4300	4300	4300	4300	4300
65.47	21	4300	30400	6	2620	2620	4300	4300	4300	4300	
72.29	19	4300	32000	6	2890	2890	4300	4300	4300	4300	
75.63	19	4300	32800	6			4300	4300	4300	4300	4300
80.31	17	4300	33800	6	3220	3220	4300	4300	4300		
86.59	16	4300	35100	6	3440	3440	4300	4300	4300	4300	4300
89.85	16	4300	35700	6	3600	3600	4300	4300	4300		
97.58	14	4300	37200	6	3910	3910	4300				
102.16	14	4300	38100	6	4080	4080	4300	4300	4300	4300	4300
112.99	12	4300	40000	6	4300	4300	4300	4300	4300	4300	4300
127.42	11	4300	40000	6	4300	4300	4300	4300	4300	4300	
140.71	9.9	4300	40000	6	4300	4300	4300	4300	4300	4300	
156.30	9.0	4300	40000	6	4300	4300	4300	4300	4300		
174.87	8.0	4300	40000	6	4300	4300	4300	4300	4300		
189.92	7.4	4300	40000	6	4300	4300	4300				
223.88	6.3	4300	40000	6	4300	4300	4300				
253.41	5.5	4300	40000	6	4300	4300					
276.77	5.1	4300	40000	6	4300	4300					

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F97, m /kg			**AM**						
FA	**IEC**	**s**	**100**	**112**	**132S/M**	**132ML**	**160**	**180**	**200**
		2	160	160	165	165	185	185	200
		3	165	165	170	170	190	190	205
	NEMA	**s**	**182**	**184**	**213/215**	**-**	**254/256**	**284/286**	**324/326**
		2	160	160	165	-	180	180	195
		3	165	165	170	-	185	185	205
FAF: + 22 kg / F: + 7.5 kg / FF: + 40 kg									

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F107, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm												7840 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM							
	min^{-1}	Nm	N	'	100	112	132S/M	132ML	160	180	200	225
2												
5.03 2)	278	4600	4520	7						1090	2060	2060
6.22	225	4600	6920	7				540	1130	1350	2550	2550
7.40	189	4600	8400	7			645	645	1350	1620	3050	3050
8.37	167	4800	8720	7			735	735	1530	1830	3450	3450
9.69	144	4910	9670	7			850	850	1770	2120	3840	3840
9.96 2)	141	6500	6200	5						2160	4080	4080
12.33	114	7000	6580	5				1070	2240	2690	5070	5070
14.67	95	7680	6050	5			1280	1280	2670	3210	6040	6040
16.58	84	7840	6870	5			1450	1450	3030	3630	6830	6830
19.20	73	7840	8600	5			1690	1690	3520	4210	7600	7600
21.76	64	7840	10100	5	860	860	1920	1920	3990	4780	7840	7840
25.14	56	7840	12000	5	1000	1000	2230	2230	4620	5530	7840	7840
27.57	51	7840	13200	5	1100	1100	2450	2450	5070	6000	7840	7840
33.79	41	7400	17700	5	1360	1360	3010	3010	6220	6270		
3												
31.80	44	7680	15800	6				2730	5720	6850	7680	7680
37.61	37	7680	18300	6			3250	3250	6780	7680	7680	7680
43.03	33	7680	20300	6			3730	3730	7680	7680	7680	7680
50.73	28	7680	23000	6			4420	4420	7680	7680	7680	7680
58.12	24	7680	25300	6	2280	2280	5080	5080	7680	7680	7680	7680
67.62	21	7680	28000	6	2670	2670	5930	5930	7680	7680	7680	7680
74.52	19	7680	29900	6	2950	2950	6540	6540	7680	7680	7680	7680
83.99	17	7680	32200	6	3340	3340	7390	7390	7680	7680		
88.49	16	7680	33200	5			7680	7680	7680	7680	7680	7680
92.47	15	7680	34100	6	3690	3690	7680	7680	7680	7680		
101.38	14	7680	36000	5	3980	3980	7680	7680	7680	7680	7680	7680
117.94	12	7680	39300	5	4660	4660	7680	7680	7680	7680	7680	7680
129.97	11	7680	41400	5	5160	5160	7680	7680	7680	7680	7680	7680
146.49	9.6	7680	44200	5	5840	5840	7680	7680	7680	7680		
161.28	8.7	7680	46600	5	6430	6430	7680	7680	7680	7680		
178.64	7.8	7680	49100	5	7130	7130	7680	7680	7680			
199.31	7.0	7680	52000	5	7680	7680	7680	7680	7680			
215.37	6.5	7680	54000	5	7680	7680	7680					
254.40	5.5	7680	58600	5	7680	7680	7680					

F107, m /kg			AM							
FA	IEC	s	100	112	132S/M	132ML	160	180	200	225
		2	230	230	235	235	255	255	270	275
		3	240	240	245	245	260	265	280	285
	NEMA	s	182	184	213/215	-	254/256	284/286	324/326	364/365
		2	230	230	230	-	250	250	265	265
		3	240	240	240	-	255	260	275	275
FAF: + 21 kg / F: + 17 kg / FF: + 44 kg										

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F127, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm												12000 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM							
	min^{-1}	Nm	N	'	132S/M	132ML	160	180	200	225	250	280
2												
4.68	299	6000	5630	7					1910	1910	2990	2990
5.52	254	6000	7110	7				1190	2260	2260	3260	3530
6.80	206	7000	5670	7		585	1230	1470	2790	2790	3540	4350
7.88	178	6000	10600	6	685	685	1430	1720	3240	3240	3680	5060
8.86	158	7000	8410	6	770	770	1610	1930	3640	3640	5690	5690
10.19	137	9500	1090	5				2200	4170	4170	6010	6520
12.54	112	10000	2670	5		1080	2270	2720	5150	5150	6540	8040
14.55	96	11000	475	5	1260	1260	2640	3170	5980	5980	6790	9340
16.36	86	11000	3190	5	1420	1420	2980	3570	6730	6730	10500	10500
18.87	74	11000	6620	5	1650	1650	3450	4130	7650	7650	11000	11000
21.38	65	12000	4380	5	1880	1880	3910	4690	7890	7890	12000	12000
24.57	57	8500	18400	5	2170	2170	4510	5390	8160	8160		
26.86	52	8500	19800	5	2380	2380	4930	5900	8300	8300		
3												
25.30	55	12000	7720	5				5410	10200	10200	12000	12000
31.33	45	12000	11100	5		2660	5610	6730	12000	12000	12000	12000
37.28	38	12000	14000	5	3200	3200	6700	8030	12000	12000	12000	12000
42.15	33	12000	16200	5	3630	3630	7590	9100	12000	12000	12000	12000
48.80	29	12000	18900	5	4230	4230	8810	10500	12000	12000	12000	12000
55.31	25	12000	21400	5	4810	4810	10000	11900	12000	12000	12000	12000
63.91	22	12000	24300	5	5580	5580	11500	12000	12000	12000		
70.07	20	12000	26300	5	6130	6130	12000	12000	12000	12000		
75.41	19	12000	27900	5	6500	6500	12000	12000	12000	12000	12000	12000
87.31	16	12000	31200	5	7570	7570	12000	12000	12000	12000	12000	12000
98.95	14	12000	34100	5	8610	8610	12000	12000	12000	12000	12000	12000
114.34	12	12000	37700	5	9990	9990	12000	12000	12000	12000		
125.37	11	12000	40000	5	10900	10900	12000	12000	12000	12000		
153.67	9.1	12000	45500	5	12000	12000	12000	12000				
170.83	8.2	12000	48500	5	12000	12000	12000					

F127, m /kg			AM							
FA	IEC	s	132S/M	132ML	160	180	200	225	250	280
		2	385	385	400	400	410	415	450	450
		3	395	395	410	410	425	430	460	460
	NEMA	s	213/215	-	254/256	284/286	324/326	364/365	-	-
		2	380	-	395	395	410	410	-	-
		3	395	-	405	405	420	420	-	-
FAF: + 37 kg / F: + 36 kg / FF: + 81 kg										

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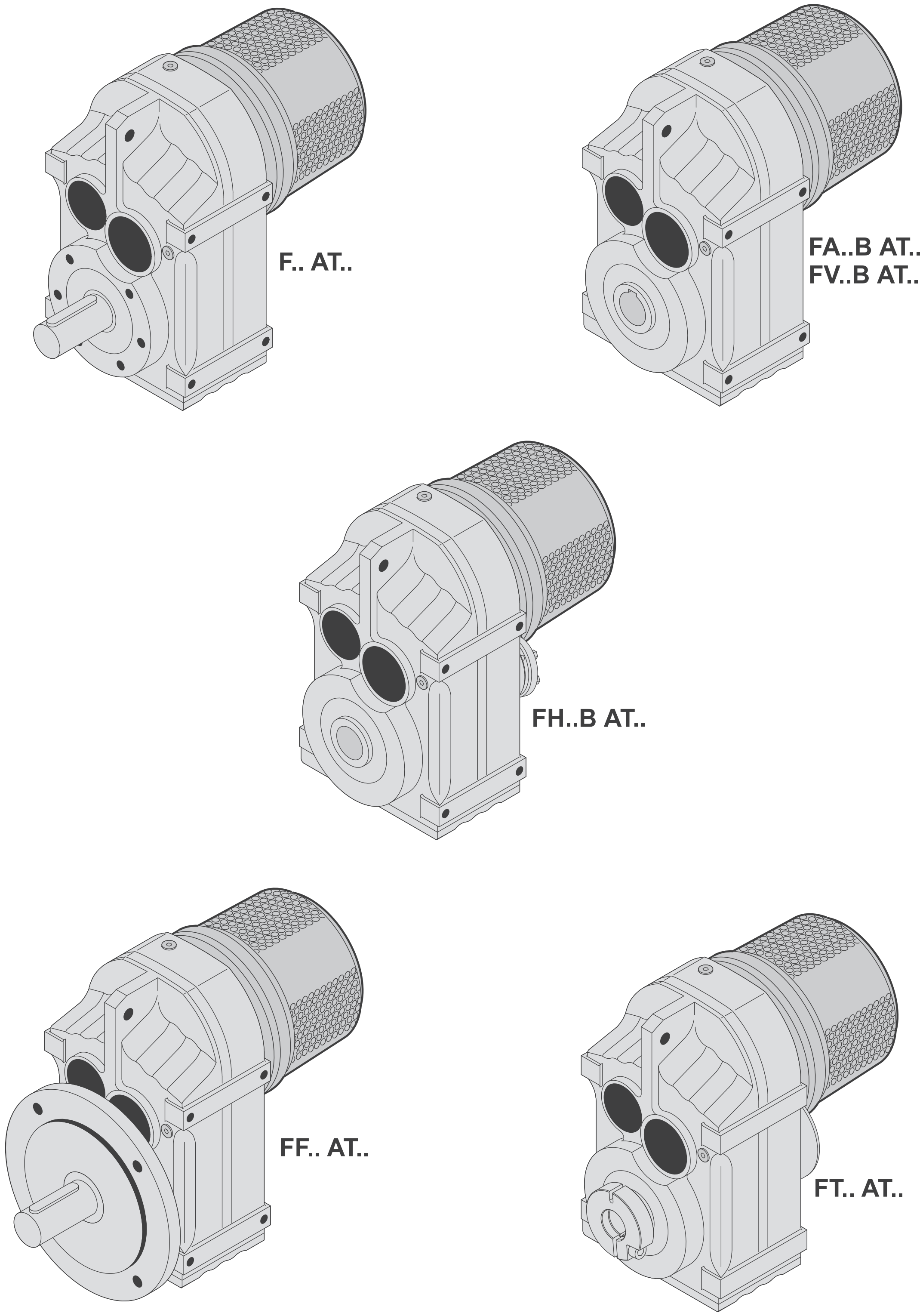
F157, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm										20000 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM					
	min^{-1}	Nm	N	'	160	180	200	225	250	280
2										
11.92	117	17300	48200	5			4860	4860	7610	7610
13.96	100	17900	51200	5		3010	5710	5710	8230	8930
16.85	83	18700	54700	5	3040	3650	6910	6910	8780	10700
19.77	71	19400	57900	4	3590	4300	8120	8120	9220	12600
22.16	63	19900	60400	4	4030	4830	9110	9110	14200	14200
25.43	55	20000	64800	4	4640	5560	10200	10200	16300	16300
28.60	49	19100	71100	4	5230	6270	10400	10400	18300	18300
35.75	39	13600	92900	4	6550	7850	10900	10900		
43.94	32	11900	105200	4	8060	8310				
53.55	26	11000	115600	4	8530					
3										
27.60	51	20000	67600	5			11100	11100	17400	17400
32.55	43	20000	73500	5		6940	13100	13100	18800	20000
40.06	35	20000	81400	5	7160	8590	16200	16200	20000	20000
46.48	30	20000	87400	5	8340	10000	18800	18800	20000	20000
52.24	27	20000	92300	5	9400	11200	20000	20000	20000	20000
60.25	23	20000	98500	5	10800	13000	20000	20000	20000	20000
68.28	21	20000	104200	5	12300	14700	20000	20000	20000	20000
78.46	18	20000	110700	5	14200	17000	20000	20000		
85.80	16	20000	115100	5	15500	18600	20000	20000		
96.53	15	20000	120000	5	17300	20000	20000	20000	20000	20000
108.49	13	20000	120000	5	19500	20000	20000	20000	20000	20000
125.14	11	20000	120000	5	20000	20000	20000	20000	20000	20000
141.80	9.9	20000	120000	5	20000	20000	20000	20000	20000	20000
162.96	8.6	20000	120000	5	20000	20000	20000	20000		
178.20	7.9	20000	120000	5	20000	20000	20000	20000		
217.62	6.4	20000	120000	5	20000	20000				
267.43	5.2	20000	120000	5	20000					

F157, m /kg			AM					
FA	IEC	s	160	180	200	225	250	280
		2	660	660	680	680	710	710
		3	670	670	690	690	720	720
	NEMA	s	254/256	284/286	324/326	364/365	-	-
		2	660	660	680	680	-	-
		3	660	660	680	680	-	-
FAF: + 59 kg / F: + 21 kg / FF: + 125 kg								

9.2 Selection tables for adapters with hydraulic start-up coupling (AT..)



21441523595

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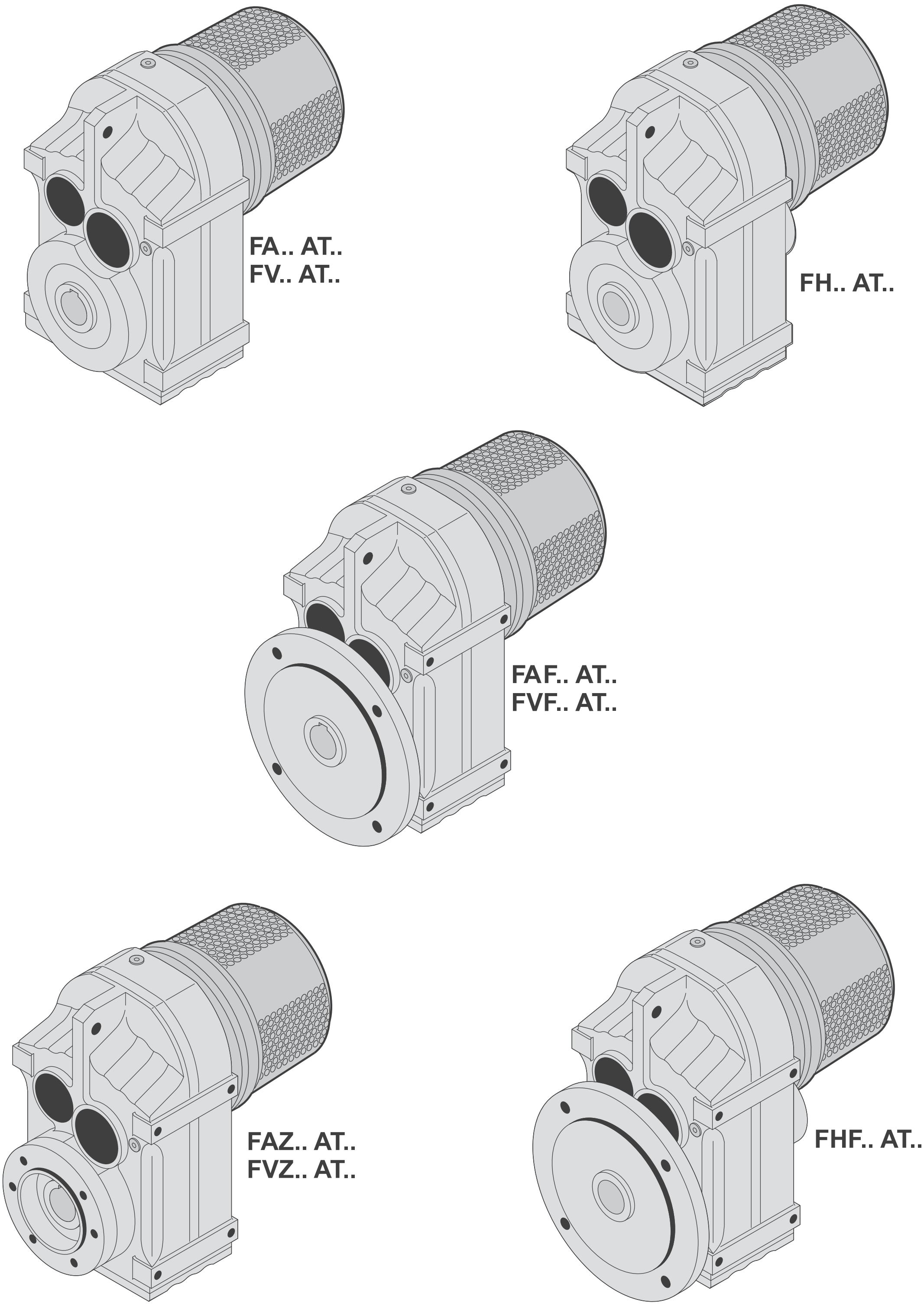

21441526027

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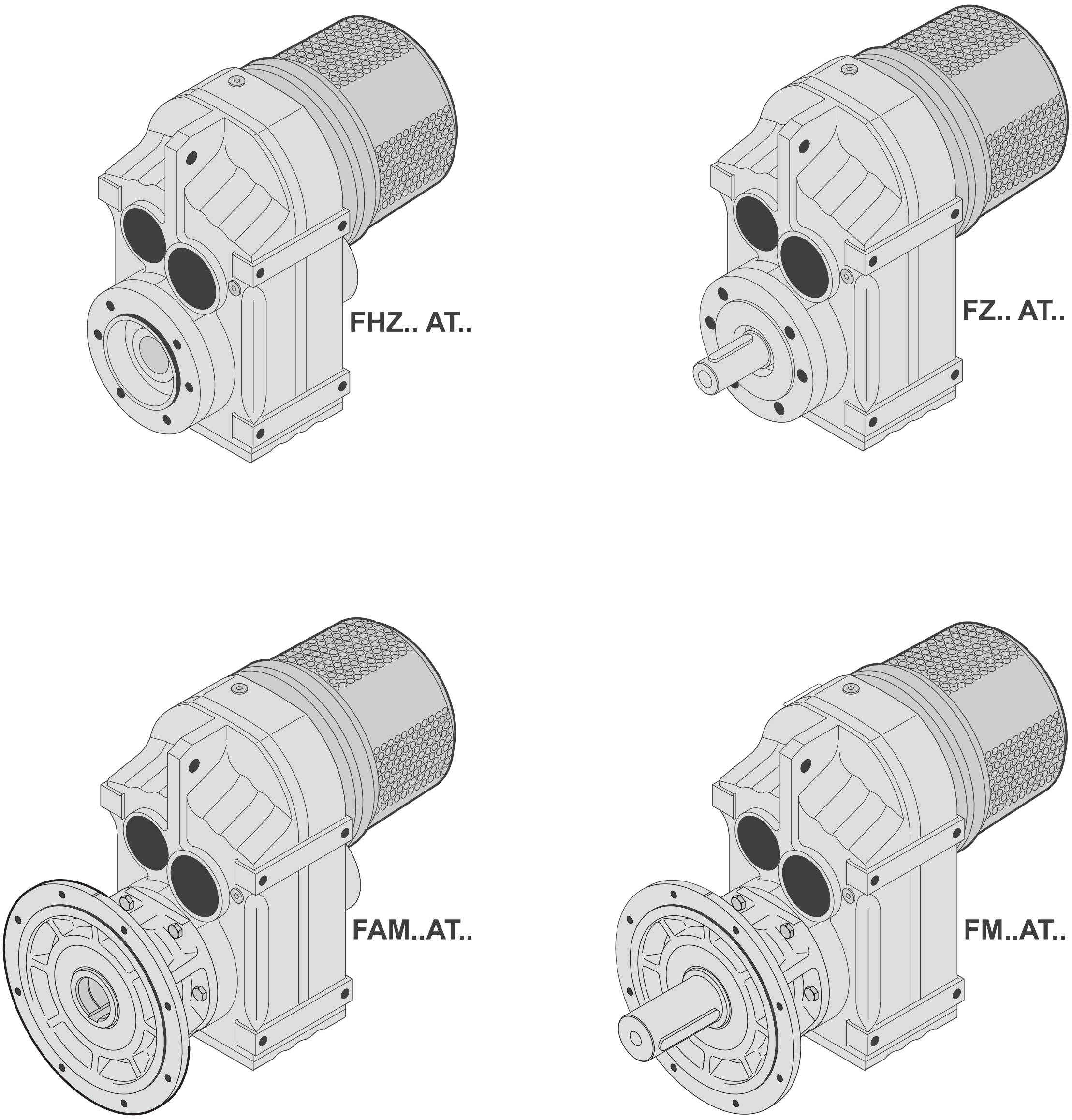

21441528459

9.2.1 F..AT/DRN..4

		P_{Mot} kW				Sn %	
F67	DRN71M4	0.37	AT311	T11	0.42	12	(→ 384)
	DRN80MK4	0.55	AT312	T11D	0.55	11	
	DRN80M4	0.75	AT312	T11D	0.7	11	
	DRN90S4	1.1	AT312	T11D	0.72	15	
	DRN90L4	1.5	AT321	T21	0.85	9	
	DRN100LS4	2.2	AT321	T21	0.9	13	
	DRN100L4	3	AT322	T21D	1.53	11	
F77	DRN71M4	0.37	AT311	T11	0.42	12	
	DRN80MK4	0.55	AT312	T11D	0.55	11	
	DRN80M4	0.75	AT312	T11D	0.7	11	
	DRN90S4	1.1	AT312	T11D	0.72	15	
	DRN90L4	1.5	AT421	T21	0.85	9	
	DRN100LS4	2.2	AT421	T21	0.9	13	
	DRN100L4	3	AT422	T21D	1.53	11	
	DRN112M4	4	AT422	T21D	1.6	12	
F87	DRN90S4	1.1	AT312	T11D	0.72	15	
	DRN90L4	1.5	AT421	T21	0.85	9	
	DRN100LS4	2.2	AT421	T21	0.9	13	
	DRN100L4	3	AT422	T21D	1.53	11	
	DRN112M4	4	AT422	T21D	1.6	12	
	DRN132S4	5.5	AT541	T41	2	6	
	DRN132M4	7.5	AT541	T41	2.4	8	
	DRN132L4	9.2	AT541	T41	2.5	10	
	DRN160M4	11	AT541	T41	2.5	13	
	DRN160L4	15	AT542	T41D	4.2	8	

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		P_{Mot} kW				Sn %	
F97	DRN90S4	1.1	AT312	T11D	0.72	15	(→ 384)
	DRN90L4	1.5	AT421	T21	0.85	9	
	DRN100LS4	2.2	AT421	T21	0.9	13	
	DRN100L4	3	AT422	T21D	1.53	11	
	DRN112M4	4	AT422	T21D	1.6	12	
	DRN132S4	5.5	AT541	T41	2	6	
	DRN132M4	7.5	AT541	T41	2.4	8	
	DRN132L4	9.2	AT541	T41	2.5	10	
	DRN160M4	11	AT541	T41	2.5	13	
	DRN160L4	15	AT542	T41D	4.2	8	
	DRN180M4	18.5	AT542	T41D	4.3	10	
	DRN180L4	22	AT542	T41D	4.3	14	
F107	DRN100LS4	2.2	AT421	T21	0.9	13	
	DRN100L4	3	AT422	T21D	1.53	11	
	DRN112M4	4	AT422	T21D	1.6	12	
	DRN132S4	5.5	AT541	T41	2	6	
	DRN132M4	7.5	AT541	T41	2.4	8	
	DRN132L4	9.2	AT541	T41	2.5	10	
	DRN160M4	11	AT541	T41	2.5	13	
	DRN160L4	15	AT542	T41D	4.2	8	
	DRN180M4	18.5	AT542	T41D	4.3	10	
	DRN180L4	22	AT542	T41D	4.3	14	
F127	DRN132M4	7.5	AT541	T41	2.4	8	
	DRN132L4	9.2	AT541	T41	2.5	10	
	DRN160M4	11	AT541	T41	2.5	13	
	DRN160L4	15	AT542	T41D	4.2	8	
	DRN180M4	18.5	AT542	T41D	4.3	10	
	DRN180L4	22	AT542	T41D	4.3	14	
F157	DRN160M4	11	AT541	T41	2.5	13	
	DRN160L4	15	AT542	T41D	4.2	8	
	DRN180M4	18.5	AT542	T41D	4.3	10	
	DRN180L4	22	AT542	T41D	4.3	14	

9.2.2 F..AT/DRN..2

		P_{Mot}				Sn	
F67	DRN71M2	0.55	AT311	T11	0.19	3	
	DRN80MS2	0.75	AT311	T11	0.22	4.5	
	DRN80M2	1.1	AT311	T11	0.27	6	
	DRN90S2	1.5	AT311	T11	0.29	8.5	
	DRN90L2	2.2	AT311	T11	0.31	11.5	
	DRN100LM2	3	AT311	T11	0.4	12	
	DRN112M2	4	AT312	T11D	0.52	10	
F77	DRN71M2	0.55	AT311	T11	0.19	3	
	DRN80MS2	0.75	AT311	T11	0.22	4.5	
	DRN80M2	1.1	AT311	T11	0.27	6	
	DRN90S2	1.5	AT311	T11	0.29	8.5	
	DRN90L2	2.2	AT311	T11	0.31	11.5	
	DRN100LM2	3	AT311	T11	0.4	12	
	DRN112M2	4	AT312	T11D	0.52	10	
	DRN132S2	5.5	AT321	T21	0.6	8	
	DRN132S2	5.5	AT421	T21	0.6	8	
F87	DRN90S2	1.5	AT311	T11	0.29	8.5	(→ 384)
	DRN90L2	2.2	AT311	T11	0.31	11.5	
	DRN100LM2	3	AT311	T11	0.4	12	
	DRN112M2	4	AT312	T11D	0.52	10	
	DRN132S2	5.5	AT321	T21	0.6	8	
	DRN132S2	5.5	AT421	T21	0.6	8	
F97	DRN90S2	1.5	AT311	T11	0.29	8.5	
	DRN90L2	2.2	AT311	T11	0.31	11.5	
	DRN100LM2	3	AT311	T11	0.4	12	
	DRN112M2	4	AT312	T11D	0.52	10	
	DRN132S2	5.5	AT321	T21	0.6	8	
	DRN132S2	5.5	AT421	T21	0.6	8	
F107	DRN100LM2	3	AT311	T11	0.4	12	
	DRN112M2	4	AT312	T11D	0.52	10	
	DRN132S2	5.5	AT321	T21	0.6	8	
	DRN132S2	5.5	AT421	T21	0.6	8	
F127	DRN132S2	5.5	AT421	T21	0.6	8	

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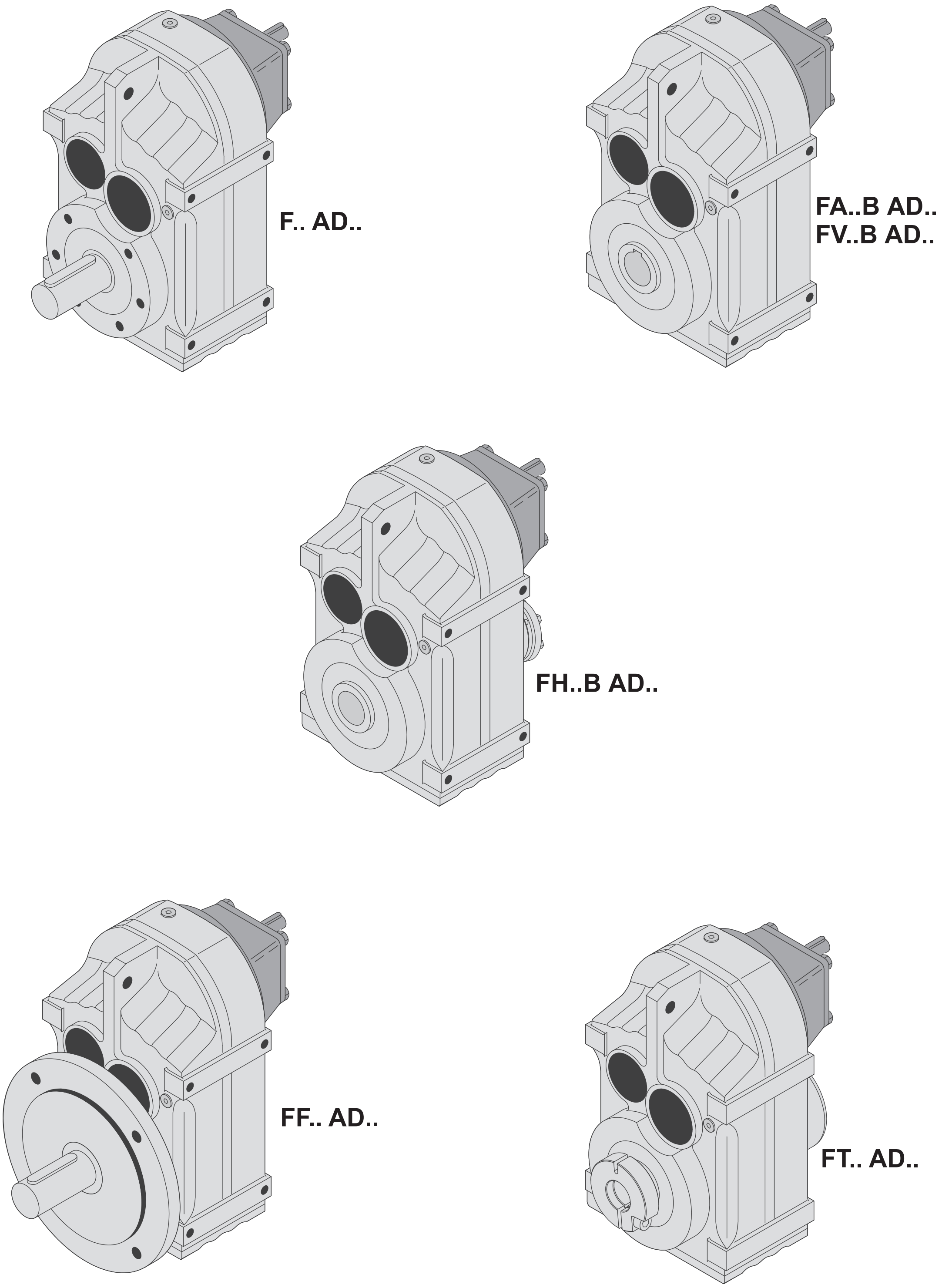
9.3 Selection tables for input shaft assembly (AD..)



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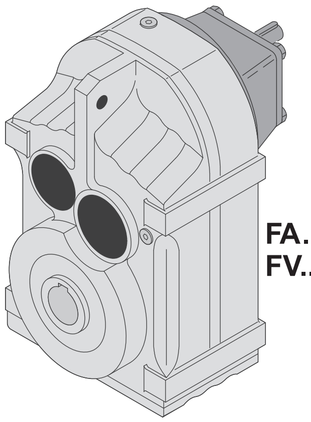
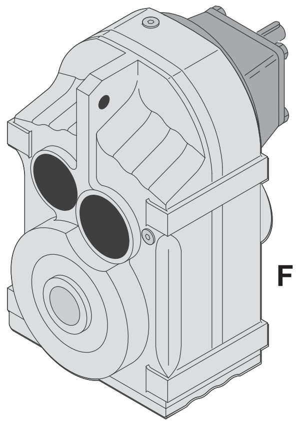
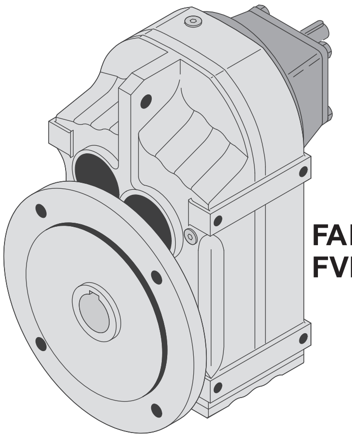


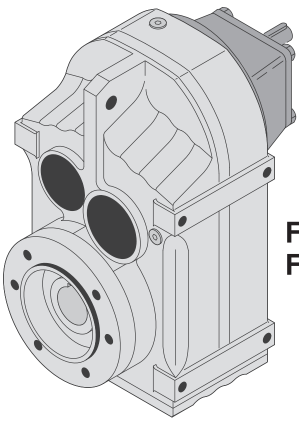
FA.. AD..
FV.. AD..



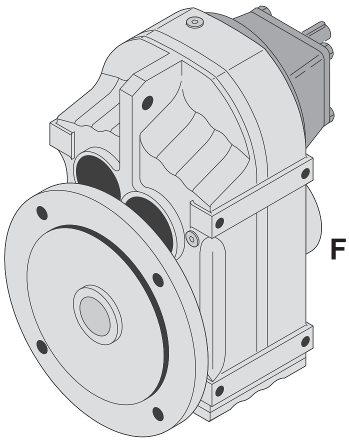
FH.. AD..



FAF.. AD..
FVF.. AD..

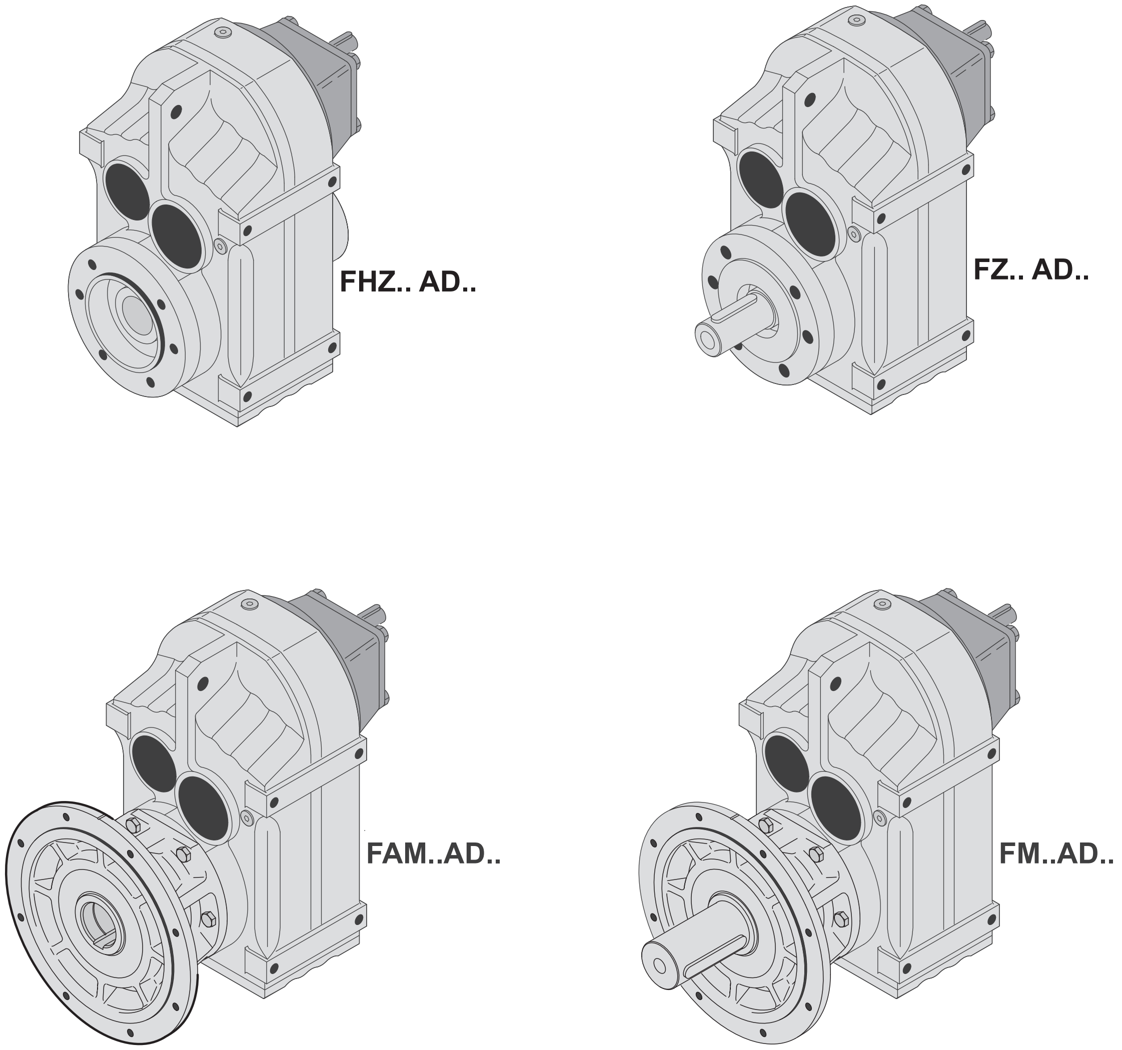


FAZ.. AD..
FVZ.. AD..



FHF.. AD..

9007220715398155



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FA27 AD.. , n_e = 1400 min^{-1} — **130 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
140.74	9.9	130	0.16	4500	755	-	-					
129.09	11	130	0.18	4500	755	-	-					
109.90	13	130	0.20	4500	755	-	-					
94.76	15	130	0.23	4500	750	-	-					
88.32	16	130	0.25	4500	750	-	-					
77.21	18	130	0.28	4500	745	-	-	**FA**	**27**	**AD1**	7.6	390
72.37	19	130	0.30	4500	745	-	-	**FAF**	**27**	**AD1**	8.3	390
63.86	22	130	0.33	4400	740	-	-	**F**	**27**	**AD1**	8.1	390
56.62	25	130	0.37	4180	735	-	-	**FF**	**27**	**AD1**	8.9	390
50.19	28	130	0.42	3980	580	-	-					
46.78	30	130	0.45	3860	570	-	-					
40.89	34	130	0.51	3640	555	-	-					
38.33	37	130	0.54	3530	545	-	-					
33.83	41	130	0.61	3340	525	-	-					
29.56	47	130	0.69	3140	1150	-	-					
27.18	52	130	0.75	3030	1130	-	-					
23.25	60	130	0.87	2820	1090	-	-					
20.15	69	130	1.0	2630	1040	-	-					
18.84	74	130	1.1	2550	1570	-	-					
16.28	86	130	1.2	2370	1550	-	-					
13.84	101	130	1.4	2180	1530	-	-	**FA**	**27**	**AD2**	8.5	390
12.35	113	130	1.6	2060	1520	-	-	**FAF**	**27**	**AD2**	9.2	390
10.55	133	130	1.9	1900	1490	-	-	**F**	**27**	**AD2**	9.0	390
9.88	142	130	2.0	1830	1480	-	-	**FF**	**27**	**AD2**	9.8	390
9.40	149	130	2.1	1660	1230	-	-					
8.13	172	123	2.3	1580	1230	-	-					
6.91	203	114	2.5	1530	1250	-	-					
6.17	227	109	2.7	1480	1250	-	-					
5.27	266	100	2.9	1440	1270	-	-					
4.93	284	96	3.0	1420	1270	-	-					
4.16	337	87	3.2	1380	1280	-	-					

FA37 AD.. , n_e = 1400 min^{-1} — **200 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
128.51	11	200	0.26	4290	655	7	-					
117.88	12	200	0.28	4290	650	7	-					
100.36	14	200	0.33	4290	640	7	-					
86.53	16	200	0.37	4290	625	7	-	**FA**	**37**	**AD1**	14	390
80.65	17	200	0.40	4290	615	7	-	**FAF**	**37**	**AD1**	15	390
70.50	20	200	0.45	4290	600	7	-	**F**	**37**	**AD1**	14	390
66.09	21	200	0.48	4290	595	7	-	**FF**	**37**	**AD1**	16	390
58.32	24	200	0.54	4290	575	7	-					
54.54	26	200	0.58	4290	335	8	-					
51.70	27	200	0.61	4290	555	7	-					
47.02	30	200	0.68	4290	1490	8	-					
43.83	32	200	0.72	4290	1480	8	-	**FA**	**37**	**AD2**	15	390
38.31	37	200	0.82	4290	1440	8	-	**FAF**	**37**	**AD2**	16	390
35.91	39	200	0.88	4290	1420	8	-	**F**	**37**	**AD2**	15	390
31.69	44	200	0.99	4290	1380	8	-	**FF**	**37**	**AD2**	17	390
28.09	50	200	1.1	4060	1640	8	-					
23.88	59	200	1.3	3760	1620	8	-					

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FA37 AD.. , n_e = 1400 min^{-1}													200 Nm
i	**n_a min^{-1}**	**M_{amax} Nm**	**P_e kW**	**F_{Ra} 1) N**	**F_{Re} N**	**$\varphi_{(/R)}$**	⚠					**m kg**	
23.63	59	200	1.3	3740	1420	6	-						
20.57	68	200	1.5	3500	1400	6	-						
19.27	73	200	1.6	3390	1390	6	-						
17.03	82	200	1.8	3180	1370	6	-						
15.81	89	200	1.9	3070	1360	6	-						
14.33	98	200	2.1	2910	1340	6	-						
12.87	109	200	2.4	2750	1320	7	-						
11.08	126	190	2.6	2620	1320	7	-	**FA**	**37**		**AD2**	15	390
10.42	134	185	2.7	2580	1320	7	-	**FAF**	**37**		**AD2**	16	390
8.97	156	175	3.0	2460	1320	7	-	**F**	**37**		**AD2**	15	390
8.01	175	170	3.2	2360	1300	7	-	**FF**	**37**		**AD2**	17	390
7.44	188	121	2.5	2560	1200	10	-						
6.74	208	140	3.1	2270	1070	10	-						
6.05	231	135	3.4	2190	1070	10	-						
5.21	269	125	3.6	2120	1090	10	-						
4.90	286	120	3.7	2100	1100	11	-						
4.22	332	110	4.0	2030	1120	11	-						
3.77	372	105	4.2	1970	1110	12	-						

FA47 AD.. , n_e = 1400 min^{-1}													400 Nm
i	**n_a min^{-1}**	**M_{amax} Nm**	**P_e kW**	**F_{Ra} 1) N**	**F_{Re} N**	**$\varphi_{(/R)}$**	⚠					**m kg**	
190.76	7.3	400	0.35	5920	545	6	-						
175.38	8.0	400	0.37	5920	535	6	-						
150.06	9.3	400	0.43	5920	525	6	-	**FA**	**47**		**AD1**	19	390
130.07	11	400	0.49	5920	510	6	-	**FAF**	**47**		**AD1**	21	390
121.57	12	400	0.53	5920	500	6	-	**F**	**47**		**AD1**	19	390
105.09	13	400	0.61	5920	475	6	-	**FF**	**47**		**AD1**	22	390
89.29	16	400	0.71	5920	455	6	-						
79.72	18	400	0.79	5920	430	6	-						
68.09	21	400	0.92	5920	400	6	-						
65.36	21	400	0.97	5920	1180	7	-						
56.49	25	400	1.1	5920	1600	7	-	**FA**	**47**		**AD2**	20	390
48.00*	29	400	1.3	5920	1580	7	-	**FAF**	**47**		**AD2**	22	390
42.86	33	400	1.4	5920	1570	7	-	**F**	**47**		**AD2**	20	390
36.61	38	400	1.7	5920	1550	7	-	**FF**	**47**		**AD2**	24	390
34.29	41	400	1.8	5920	1540	7	-						
28.88	48	400	2.1	5790	1510	7	-						
30.86	45	400	2.0	5920	1230	6	-						
29.32	48	400	2.1	5830	1220	6	-						
25.72	54	400	2.4	5460	1200	6	-						
21.82	64	400	2.8	5030	1170	6	-						
19.70	71	400	3.1	4770	1150	6	-						
17.33	81	400	3.5	4450	1120	6	-						
16.36	86	400	3.7	4320	1110	6	-	**FA**	**47**		**AD2**	19	390
13.93	100	400	4.3	3950	1040	6	-	**FAF**	**47**		**AD2**	22	390
12.66	111	400	4.8	3740	1010	6	-	**F**	**47**		**AD2**	20	390
10.97	128	380	5.2	3580	1000	6	-	**FF**	**47**		**AD2**	23	390
8.96	156	250	4.2	3860	860	8	-						
7.88	178	230	4.4	3770	910	8	-						
7.44*	188	225	4.6	3710	920	8	-						
6.34	221	200	4.8	3610	960	8	-						
5.76	243	191	5.0	3520	960	9	-						
4.99	281	173	5.2	3430	1000	9	-						

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FA57 AD.. , n_e = 1400 min^{-1} — **600 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$φ_{(/R)}$	⚠				m kg	
199.70	7.0	600	0.50	9200	1510	6	-					
183.60	7.6	600	0.54	9200	1500	6	-					
157.09	8.9	600	0.62	9200	1470	6	-					
136.16	10	600	0.71	9200	1440	6	-					
127.27	11	600	0.76	9200	1430	6	-					
110.01	13	600	0.87	9200	1380	6	-					
93.47	15	600	1.0	9200	1340	6	-	**FA**	**57**	**AD2**	27	390
83.46	17	600	1.1	9200	1640	6	-	**FAF**	**57**	**AD2**	33	390
72.98	19	600	1.3	9200	1480	6	-	**F**	**57**	**AD2**	27	390
68.22	21	600	1.4	9200	1470	6	-	**FF**	**57**	**AD2**	34	390
58.97	24	600	1.6	9200	1440	7	-					
50.10	28	600	1.9	9200	1420	7	-					
44.73	31	600	2.1	9160	1400	7	-					
38.21	37	600	2.4	8510	1370	7	-					
35.79	39	600	2.6	8250	1350	7	-					
30.15	46	590	3.0	7650	1320	7	-					
40.13	35	265	1.0	10700	605	6	-	**FA**	**57**	**AD2**	27	390
34.24	41	440	2.0	9020	1140	6	-	**FAF**	**57**	**AD2**	32	390
29.94	47	415	2.1	8660	1170	6	-	**F**	**57**	**AD2**	27	390
28.45	49	410	2.2	8500	1170	6	-	**FF**	**57**	**AD2**	33	390
24.96	56	575	3.5	7060	830	6	-					
21.17	66	600	4.3	6350	1760	6	-					
19.11	73	600	4.8	6020	1730	6	-					
16.81	83	600	5.4	5620	1700	6	-					
15.88	88	600	5.7	5450	1670	6	-					
13.52	104	600	6.7	4980	1580	6	-	**FA**	**57**	**AD3**	30	390
12.29	114	600	7.4	4710	1530	6	-	**FAF**	**57**	**AD3**	35	390
10.64	132	600	8.5	4320	1440	6	-	**F**	**57**	**AD3**	30	390
9.31	150	310	5.1	5490	1660	8	-	**FF**	**57**	**AD3**	36	390
8.19	171	400	7.4	4580	1250	8	-					
7.73	181	390	7.6	4510	1260	8	-					
6.58	213	355	8.2	4370	1300	8	-					
5.98	234	335	8.5	4290	1330	9	-					
5.18	270	305	8.9	4190	1380	9	-					

FA67 AD.. , n_e = 1400 min^{-1} — **820 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$φ_{(/R)}$	⚠				m kg	
228.99	6.1	820	0.59	10300	1420	6	-					
195.39	7.2	820	0.68	10300	1390	6	-					
170.85	8.2	820	0.77	10300	1360	6	-					
162.31	8.6	820	0.81	10300	1370	6	-					
142.40	9.8	820	0.92	10300	1320	6	-					
120.79	12	820	1.1	10300	1630	6	-					
109.04	13	820	1.2	10300	1620	6	-	**FA**	**67**	**AD2**	31	390
95.94	15	820	1.3	10300	1620	6	-	**FAF**	**67**	**AD2**	37	390
90.59	15	820	1.4	10300	1610	6	-	**F**	**67**	**AD2**	34	390
79.76	18	820	1.6	10300	1440	6	-	**FF**	**67**	**AD2**	40	390
67.65	21	820	1.9	10300	1420	6	-					
61.07	23	820	2.1	10300	1400	6	-					
53.73	26	820	2.4	10300	1390	6	-					
50.74	28	820	2.5	10300	1380	6	-					
43.20	32	820	2.9	10300	1340	6	-					
39.26	36	780	3.1	10700	1340	6	-					
34.01	41	740	3.4	11000	1340	6	-					
36.30	39	590	2.5	12000	1100	5	-	**FA**	**67**	**AD2**	30	390
								FAF	**67**	**AD2**	36	390
								F	**67**	**AD2**	33	390
								FF	**67**	**AD2**	39	390

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FA67 AD.. , n_e = 1400 min^{-1} — **820 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$					m kg	
32.08	44	820	3.9	10300	1760	5	-					
27.41	51	820	4.6	10300	1720	5	-					
25.13	56	820	5.0	10300	1700	5	-					
22.05	63	820	5.7	10300	1660	5	-					
20.90*	67	820	6.0	10300	1640	5	-					
18.29	77	820	6.8	10300	1590	6	-					
16.48	85	820	7.5	10300	1530	6	-					
14.46	97	820	8.6	10300	1460	6	-	**FA**	**67**	**AD3**	33	390
12.76	110	800	9.5	10500	1420	6	-	**FAF**	**67**	**AD3**	39	390
11.31	124	745	10.0	10900	1450	6	-	**F**	**67**	**AD3**	36	390
9.66	145	670	10.5	11500	1490	6	-	**FF**	**67**	**AD3**	42	390
9.08	154	450	7.5	11800	1230	8	-					
8.60	163	440	7.8	11700	1260	8	-					
7.53	186	410	8.2	11300	1310	8	-					
6.78	206	385	8.6	11000	1330	9	-					
5.95	235	355	9.0	10700	1380	9	-					
5.25	267	330	9.5	10300	1420	9	-					
4.66	301	305	9.9	10100	1450	9	-					
3.97	352	275	10.5	9680	1490	10	-					

FA77 AD.. , n_e = 1400 min^{-1} — **1500 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$					m kg	
281.71	5.0	1500	0.87	15700	880	5	-					
262.93	5.3	1500	0.93	15700	880	5	-					
225.79	6.2	1500	1.1	15700	1540	5	-					
198.31	7.1	1500	1.2	15700	1540	5	-					
188.40	7.4	1500	1.3	15700	1540	5	-					
166.47	8.4	1500	1.4	15700	1510	5	-					
142.27	9.8	1500	1.7	15700	1500	5	-					
130.42	11	1500	1.8	15700	1490	5	-	**FA**	**77**	**AD2**	54	390
114.45	12	1500	2.0	15700	1480	5	-	**FAF**	**77**	**AD2**	60	390
108.46*	13	1500	2.2	15700	1470	5	-	**F**	**77**	**AD2**	58	390
94.93	15	1500	2.5	15700	1450	5	-	**FF**	**77**	**AD2**	68	390
85.52	16	1500	2.7	15700	1430	6	-					
75.02	19	1500	3.1	15700	1400	6	-					
72.50	19	1500	3.2	15700	1110	6	-					
66.46	21	1500	3.5	15700	1100	6	-					
58.32	24	1500	4.0	15700	1070	6	-					
55.27	25	1500	4.2	15700	1060	6	-					
48.37	29	1500	4.8	15700	1020	6	-					
43.58	32	1500	5.3	15700	2010	6	-	**FA**	**77**	**AD3**	57	390
38.23	37	1500	6.0	15700	1970	6	-	**FAF**	**77**	**AD3**	64	390
33.74	42	1500	6.8	15700	1920	6	-	**F**	**77**	**AD3**	61	390
29.91	47	1500	7.7	15700	1860	6	-	**FF**	**77**	**AD3**	72	390
25.54	55	1450	8.7	16100	1820	6	-					
36.58	38	1110	4.6	17900	1580	5	-	**FA**	**77**	**AD3**	56	390
31.51	44	1110	5.4	17900	1540	5	-	**FAF**	**77**	**AD3**	63	390
28.75	49	1200	6.3	17400	1400	5	-	**F**	**77**	**AD3**	60	390
								FF	**77**	**AD3**	70	390
25.50*	55	1500	8.9	15700	3020	5	-					
21.43	65	1500	10.6	15700	2950	5	-					
19.70	71	1500	11.5	15700	2880	5	-					
17.49	80	1500	13.0	15700	2820	5	-					
15.64*	90	1500	14.5	15700	2750	5	-					
14.06	100	1500	16.1	15700	2680	5	-	**FA**	**77**	**AD4**	62	390
12.20	115	1500	18.6	14900	2560	5	-	**FAF**	**77**	**AD4**	69	390
10.93	128	1500	21	14200	2470	6	-	**F**	**77**	**AD4**	66	390
9.30	151	1080	17.6	13800	1300	7	-	**FF**	**77**	**AD4**	76	390
8.26	170	1080	19.8	13100	1110	7	-					
7.39	190	1080	22	12500	900	7	-					
6.64	211	1080	25	12000	690	8	-					
5.76	243	1060	28	11400	475	8	-					
5.16	271	940	27	11400	1000	8	-					
4.28	327	790	28	11200	1550	8	-					

FA87 AD.. , n_e = 1400 min^{-1} — **3000 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} [1)] N	F_{Re} N	$φ_{(/R)}$	⚠				m kg	
270.68	5.2	3000	1.8	19800	1350	7	-					
255.37	5.5	3000	1.9	19800	1350	7	-					
228.93	6.1	3000	2.1	19800	1330	7	-					
197.20	7.1	3000	2.4	19800	1310	7	-					
179.97	7.8	3000	2.6	19800	1300	7	-	**FA**	**87**	**AD2**	93	390
159.61	8.8	3000	2.9	19800	1290	7	-	**FAF**	**87**	**AD2**	105	390
134.16	10	3000	3.5	19800	1260	7	-	**F**	**87**	**AD2**	99	390
123.29	11	3000	3.8	19800	1240	7	-	**FF**	**87**	**AD2**	115	390
109.49	13	3000	4.2	19800	1220	7	-					
97.89	14	3000	4.7	19800	1190	7	-					
88.01	16	3000	5.3	19800	1160	7	-					
76.39	18	3000	6.1	19800	1110	7	-					
68.40	20	3000	6.8	19600	2020	7	-					
56.75	25	3000	8.2	17700	1940	7	-	**FA**	**87**	**AD3**	97	390
50.36	28	2940	9.0	16800	1540	7	-	**FAF**	**87**	**AD3**	110	390
45.28	31	2820	9.6	16200	1540	8	-	**F**	**87**	**AD3**	105	390
39.30	36	2720	10.6	15400	1510	8	-	**FF**	**87**	**AD3**	120	390
35.19	40	2610	11.4	14900	3530	8	-	**FA**	**87**	**AD4**	105	390
29.20	48	2510	13.2	13800	3470	8	-	**FAF**	**87**	**AD4**	115	390
								F	**87**	**AD4**	110	390
								FF	**87**	**AD4**	125	390
33.92	41	2560	11.5	14800	2540	7	-	**FA**	**87**	**AD4**	100	390
28.78	49	2390	12.6	14100	2610	7	-	**FAF**	**87**	**AD4**	115	390
								F	**87**	**AD4**	105	390
								FF	**87**	**AD4**	120	390
26.50	53	3000	17.2	11100	5210	7	-					
23.68	59	3000	19.2	10300	5140	7	-					
21.32*	66	3000	21	9520	5060	7	-					
19.31	73	3000	24	8840	4980	7	-					
17.12	82	3000	26	8040	4890	7	-					
15.48	90	3000	29	7390	4790	7	-					
13.12*	107	3000	35	6370	4580	7	-	**FA**	**87**	**AD5**	115	390
11.46	122	3000	40	5580	4420	7	-	**FAF**	**87**	**AD5**	130	390
9.58	146	2880	45	5050	4280	7	-	**F**	**87**	**AD5**	120	390
8.29	169	1530	28	8890	4450	7	-	**FF**	**87**	**AD5**	135	390
7.35	190	1530	31	8280	4340	7	-					
6.65	211	1530	35	7790	4220	7	-					
5.63	248	1530	41	7020	3980	7	-					
4.92	284	1510	46	6510	3760	7	-					
4.12	340	1260	46	6830	4210	7	-					

FA97 AD.. , n_e = 1400 min^{-1} — **4300 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} [1)] N	F_{Re} N	$φ_{(/R)}$	⚠				m kg	
276.77	5.1	4300	2.5	29900	2180	6	-					
253.41	5.5	4300	2.7	29900	2170	6	-					
223.88	6.2	4300	3.0	29900	2150	6	-					
189.92	7.4	4300	3.6	29900	2130	6	-					
174.87	8.0	4300	3.9	29900	2110	6	-					
156.30	9.0	4300	4.3	29900	2090	6	-					
140.71	9.9	4300	4.8	29900	2070	6	-	**FA**	**97**	**AD3**	160	390
127.42	11	4300	5.3	29900	2050	6	-	**FAF**	**97**	**AD3**	185	390
112.99	12	4300	5.9	29900	2020	6	-	**F**	**97**	**AD3**	170	390
102.16	14	4300	6.5	29900	1990	6	-	**FF**	**97**	**AD3**	200	390
97.58	14	4300	6.8	29900	1520	6	-					
89.85	16	4300	7.4	29900	1490	6	-					
86.59	16	4300	7.7	29900	1930	6	-					
80.31	17	4300	8.3	29900	1450	6	-					
75.63	19	4300	8.8	29900	1880	6	-					
72.29	19	4300	9.2	29900	1410	6	-					
65.47	21	4300	10.1	29000	3410	6	-					
58.06	24	4300	11.4	27200	3370	6	-	**FA**	**97**	**AD4**	165	390
52.49	27	4300	12.6	25800	3320	6	-	**FAF**	**97**	**AD4**	190	390
44.49	31	4300	14.9	23600	3220	6	-	**F**	**97**	**AD4**	175	390
38.86	36	4300	17.1	21900	3140	6	-	**FF**	**97**	**AD4**	205	390
32.50	43	4300	20	19800	3000	6	-					

FA97 AD.. , n_e = 1400 min^{-1} — **4300 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$φ_{(/R)}$	⚠				m kg	
43.28	32	3070	10.8	27600	2700	6	-	**FA**	**97**	**AD4**	160	390
36.64	38	3070	12.7	25500	2620	6	-	**FAF**	**97**	**AD4**	185	390
								F	**97**	**AD4**	170	390
								FF	**97**	**AD4**	200	390
33.91	41	4300	19.2	20300	4940	6	-					
30.39	46	4300	21	19000	4870	6	-					
27.44*	51	4300	24	17900	4750	6	-	**FA**	**97**	**AD5**	180	390
24.92	56	4300	26	16800	4670	6	-	**FAF**	**97**	**AD5**	200	390
22.11	63	4300	29	15600	4570	6	-	**F**	**97**	**AD5**	185	390
20.07	70	4300	32	14600	4470	6	-	**FF**	**97**	**AD5**	220	390
17.25*	81	4300	38	13200	4290	6	-					
15.06	93	4300	43	11900	4110	6	-					
12.77	110	4300	51	10500	6840	6	-					
11.16	125	4100	56	10000	6800	6	-					
9.06	154	2360	39	13400	6470	9	-	**FA**	**97**	**AD6**	190	390
8.22	170	2360	43	12600	6350	8	-	**FAF**	**97**	**AD6**	215	390
7.07	198	2360	50	11500	6130	9	-	**F**	**97**	**AD6**	200	390
6.17	227	2250	55	11100	6130	9	-	**FF**	**97**	**AD6**	230	390
5.23	268	1930	56	11300	6490	9	-					
4.57	306	1690	56	11400	6780	9	-					
3.87	362	1430	56	11400	7140	9	-					

FA107 AD.. , n_e = 1400 min^{-1} — **7840 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$φ_{(/R)}$	⚠				m kg	
254.40*	5.5	7680	4.8	49800	1850	5	-					
215.37	6.5	7680	5.6	49800	1820	5	-					
199.31	7.0	7680	6.0	49800	1800	5	-	**FA**	**107**	**AD3**	235	390
178.64	7.8	7680	6.7	49800	1780	5	-	**FAF**	**107**	**AD3**	260	390
161.28*	8.7	7680	7.4	49800	1720	5	-	**F**	**107**	**AD3**	255	390
146.49	9.6	7680	8.1	49800	1690	5	-	**FF**	**107**	**AD3**	280	390
129.97	11	7680	9.2	49800	1650	5	-					
117.94	12	7680	10.1	49800	1610	5	-					
101.38*	14	7680	11.8	49800	3570	5	-					
92.47*	15	7680	12.8	49800	3030	6	-					
88.49	16	7680	13.5	49800	3510	5	-	**FA**	**107**	**AD4**	245	390
83.99	17	7680	14.1	49800	2980	6	-	**FAF**	**107**	**AD4**	265	390
74.52	19	7680	15.9	49800	2920	6	-	**F**	**107**	**AD4**	260	390
67.62	21	7680	17.5	49800	2860	6	-	**FF**	**107**	**AD4**	290	390
58.12*	24	7680	20	47800	2760	6	-					
50.73	28	7680	23	45100	2650	6	-					
43.03	33	7680	28	42000	5730	6	-	**FA**	**107**	**AD5**	255	390
37.61	37	7680	31	39500	5600	6	-	**FAF**	**107**	**AD5**	280	390
31.80	44	7680	37	36500	5440	6	-	**F**	**107**	**AD5**	275	390
								FF	**107**	**AD5**	300	390
33.79*	41	7400	33	38300	6580	5	-					
27.57	51	7840	43	33300	5940	5	-					
25.14	56	7840	47	31500	5710	5	-					
21.76*	64	7840	54	28800	5270	5	-					
19.20*	73	7090	56	29600	6050	5	-					
16.58	84	6120	56	30600	6480	5	-	**FA**	**107**	**AD6**	260	390
14.67	95	5410	56	30800	6780	5	-	**FAF**	**107**	**AD6**	280	390
12.33	114	4540	56	30800	7140	5	M4	**F**	**107**	**AD6**	275	390
9.96	141	4000	61	29600	7220	5	M2,4-6	**FF**	**107**	**AD6**	305	390
9.69	144	3580	56	29300	6050	7	-					
8.37	167	3090	56	29100	6480	7	-					
7.40	189	2730	56	28800	6780	7	-					
6.22	225	2290	56	28200	7140	7	M4					
5.03	279	2020	61	26800	7220	7	-					

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FA127 AD.. , n_e = 1400 min^{-1} — **12000 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
170.83	8.2	12000	10.9	90000	3180	5	-					
153.67*	9.1	12000	12.1	90000	3140	5	-	**FA**	**127**	**AD4**	395	390
125.37	11	12000	14.8	90000	3010	5	-	**FAF**	**127**	**AD4**	430	390
114.34	12	12000	16.2	88000	2970	5	-	**F**	**127**	**AD4**	430	390
98.95	14	12000	18.8	83000	2880	5	-	**FF**	**127**	**AD4**	475	390
87.31*	16	12000	21	78900	2800	5	-					
75.41*	19	12000	25	74300	2690	5	-					
70.07	20	12000	26	72100	4930	5	-	**FA**	**127**	**AD5**	405	390
63.91	22	12000	29	69400	4850	5	-	**FAF**	**127**	**AD5**	440	390
55.31	25	12000	33	65200	4710	5	-	**F**	**127**	**AD5**	440	390
48.80	29	12000	38	61300	4590	5	M2	**FF**	**127**	**AD5**	485	390
42.15	33	12000	44	56800	4420	5	M1-6					
37.28	38	12000	50	53200	7220	5	M1-6	**FA**	**127**	**AD6**	415	390
								FAF	**127**	**AD6**	455	390
								F	**127**	**AD6**	455	390
								FF	**127**	**AD6**	495	390
31.33	45	12000	59	48300	17000	5	M1-6	**FA**	**127**	**AD7**	415	390
25.30	55	12000	73	42400	16600	5	M1-6	**FAF**	**127**	**AD7**	455	390
								F	**127**	**AD7**	450	390
								FF	**127**	**AD7**	495	390
26.86	52	8500	48	55300	4990	5	-	**FA**	**127**	**AD6**	405	390
24.57	57	8500	52	53300	4770	5	-	**FAF**	**127**	**AD6**	440	390
								F	**127**	**AD6**	440	390
								FF	**127**	**AD6**	485	390
21.38	65	12000	85	38000	23800	5	M1-6					
18.87	74	10800	86	39600	24200	5	M1-6					
16.36	86	11000	102	35400	23900	5	M1-6					
14.55	96	11000	114	32600	23600	5	M1-6	**FA**	**127**	**AD8**	425	390
12.54	112	10000	120	33300	23900	5	M1-6	**FAF**	**127**	**AD8**	465	390
10.19	137	9040	134	32700	23900	5	M1-6	**F**	**127**	**AD8**	460	390
8.86	158	7000	119	36400	22800	6	M1-6	**FF**	**127**	**AD8**	510	390
7.88	178	6000	115	37000	23500	6	M1-6					
6.80	206	6030	134	34700	23200	7	M1-6					
5.52	254	4900	134	34500	23900	7	M1-6					
4.68	299	4150	134	34100	24400	7	M1-6					

FA157 AD.. , n_e = 1400 min^{-1} — **20000 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
267.43	5.2	20000	11.7	93800	6140	5	-					
217.62*	6.4	20000	14.3	93800	6070	5	-					
178.20*	7.9	20000	17.4	93800	5960	5	-					
162.96	8.6	20000	19.0	93800	5920	5	-					
141.80*	9.9	20000	22	93800	5840	5	-	**FA**	**157**	**AD5**	660	391
125.14	11	20000	25	93800	5760	5	-	**FAF**	**157**	**AD5**	720	391
108.49	13	20000	29	93800	5660	5	-	**F**	**157**	**AD5**	680	391
96.53*	14	20000	32	93800	5560	5	-	**FF**	**157**	**AD5**	790	391
85.80*	16	20000	36	91800	3770	5	-					
78.46	18	20000	39	88300	3610	5	-					
68.28*	21	20000	45	83000	3300	5	-					
60.25	23	18200	46	82100	3850	5	-					
52.24	27	20000	59	73600	6370	5	M2,5-6	**FA**	**157**	**AD6**	680	391
								FAF	**157**	**AD6**	740	391
								F	**157**	**AD6**	700	391
								FF	**157**	**AD6**	810	391
46.48*	30	20000	66	69600	16200	5	M2-3,5-6	**FA**	**157**	**AD7**	670	391
40.06	35	20000	77	64900	15400	5	M1-6	**FAF**	**157**	**AD7**	730	391
32.55	43	20000	94	58500	13600	5	M1-6	**F**	**157**	**AD7**	690	391
								FF	**157**	**AD7**	800	391
27.60	51	20000	111	53800	25300	5	M1-6	**FA**	**157**	**AD8**	700	391
								FAF	**157**	**AD8**	750	391
								F	**157**	**AD8**	720	391
								FF	**157**	**AD8**	820	391

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FA157 AD.. , n_e = 1400 min⁻¹												20000 Nm
i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$					m kg	
53.55	26	9820	28	94700	3140	4	-	**FA**	**157**	**AD5**	650	391
								FAF	**157**	**AD5**	710	391
								F	**157**	**AD5**	680	391
								FF	**157**	**AD5**	780	391
43.94*	32	11500	40	84800	5220	4	-	**FA**	**157**	**AD6**	670	391
35.75*	39	13200	56	74900	2920	4	-	**FAF**	**157**	**AD6**	730	391
								F	**157**	**AD6**	690	391
								FF	**157**	**AD6**	800	391
28.60*	49	18300	97	58200	22900	4	-					
25.43	55	16300	97	58900	23500	4	M2,5-6	**FA**	**157**	**AD8**	690	391
22.16	63	19700	134	48400	21700	4	M1-6	**FAF**	**157**	**AD8**	750	391
19.77	71	18800	143	47300	21800	4	M1-6	**F**	**157**	**AD8**	710	391
16.85	83	18400	165	44100	21500	5	M1-6	**FF**	**157**	**AD8**	820	391
13.96	100	17700	191	41100	21200	5	M1-6					
11.92	117	17100	217	38700	20800	5	M1-6					

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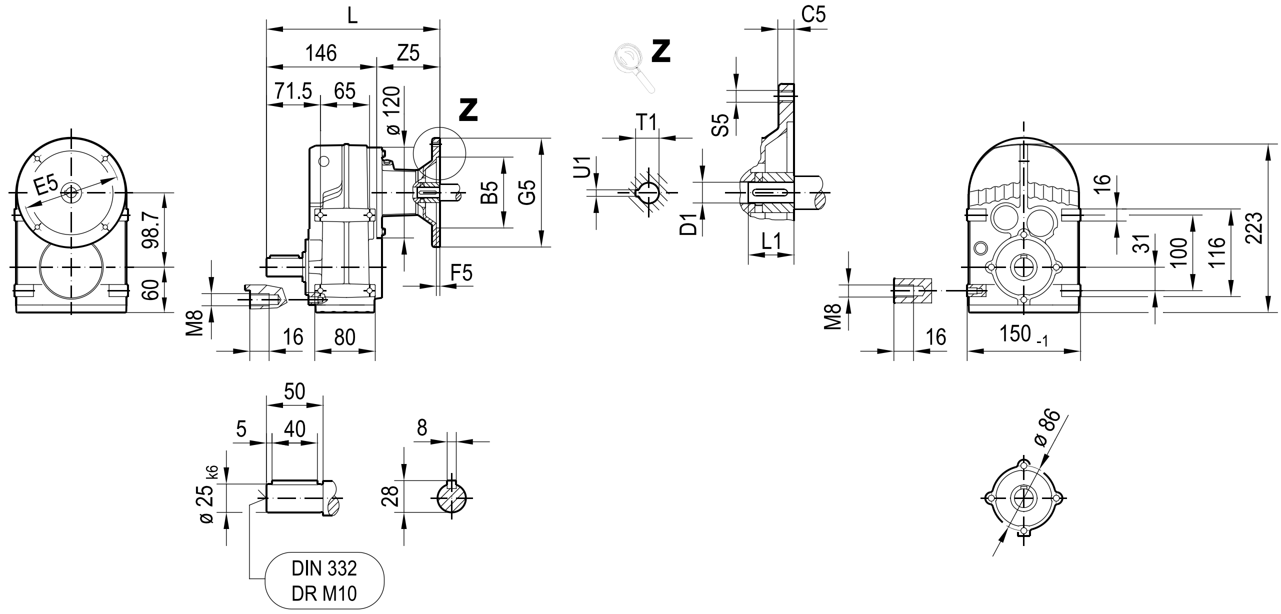
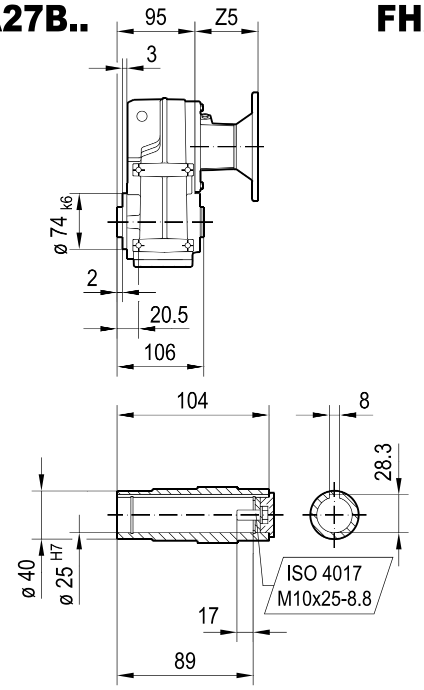
9.4 Dimension sheets for adapters for mounting IEC motors (AM..)

42 040 04 01

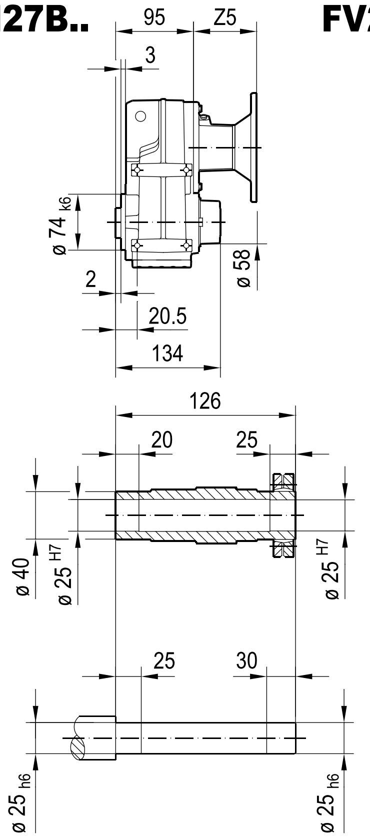
F27..



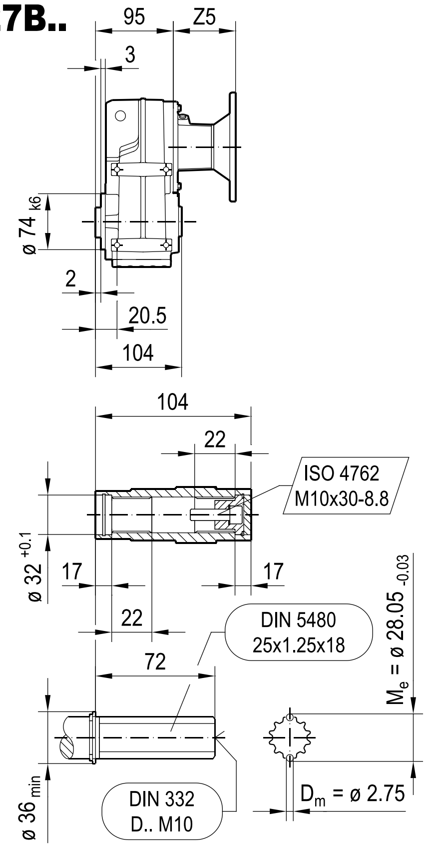
FA27B..



FH27B..



FV27B..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	218	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	218	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	252	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	252	M10	106	24	50	27.3	8

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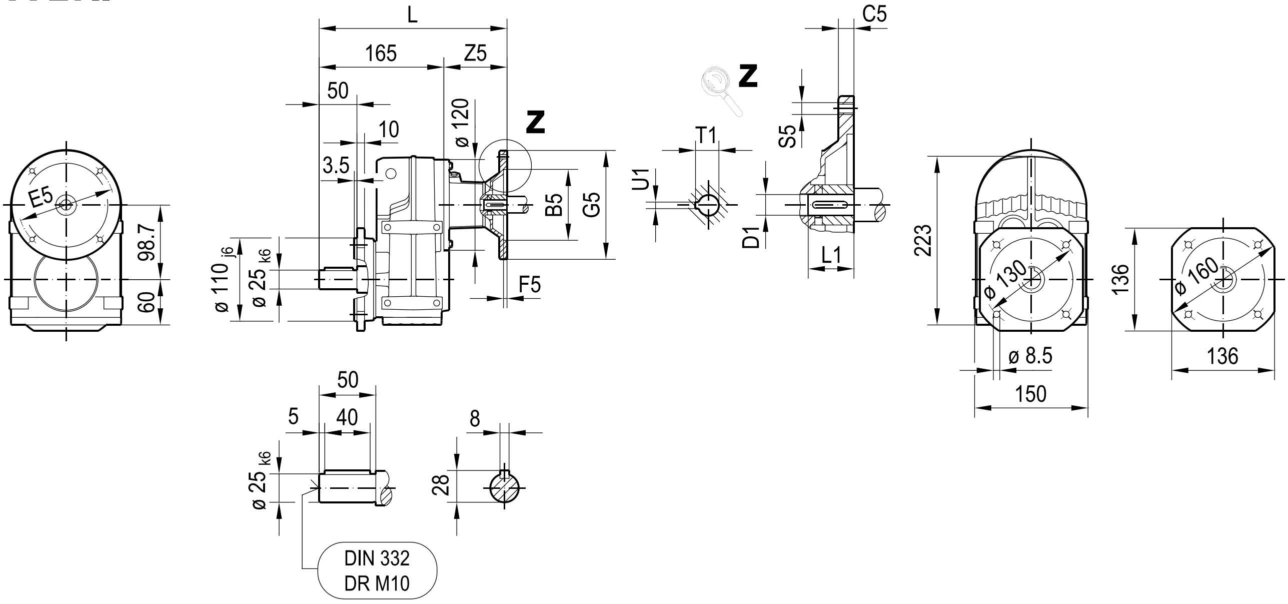
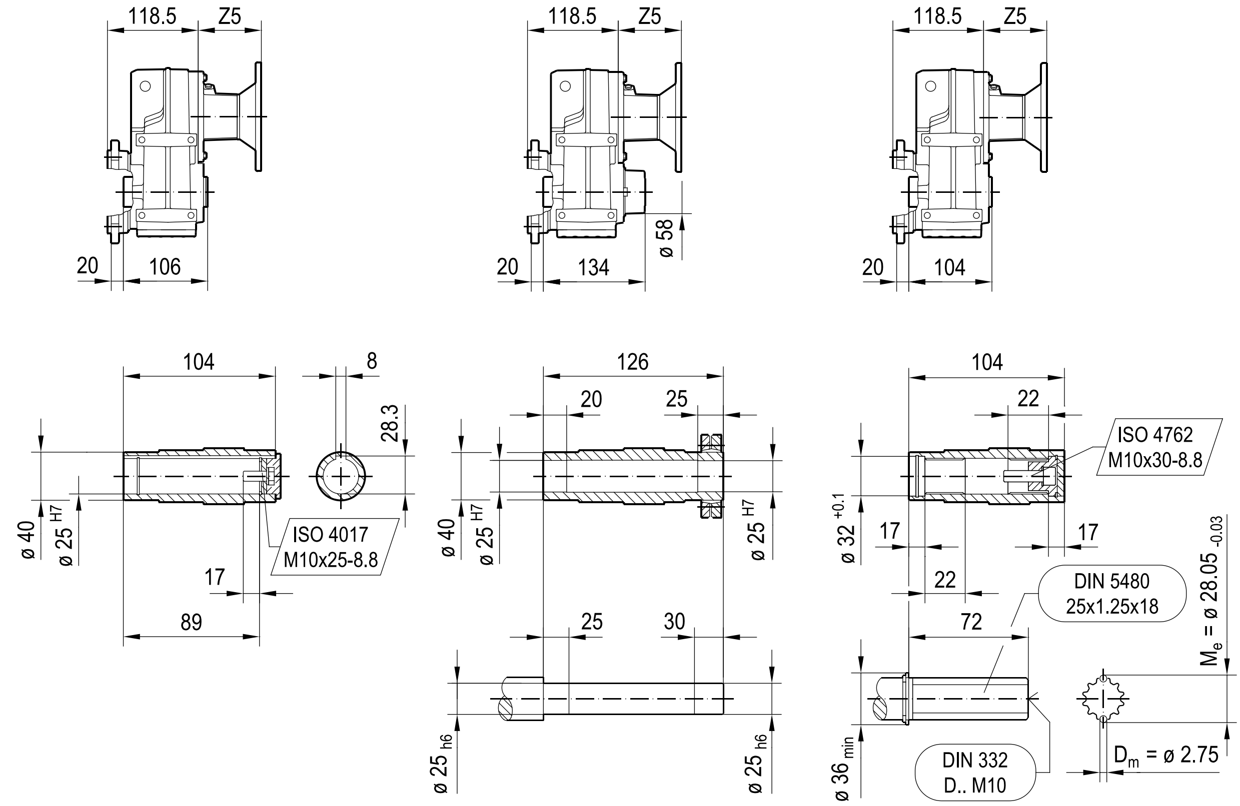
42 041 04 01

FF27..



FAF27..   FHF27..   FVF27..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	237	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	237	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	271	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	271	M10	106	24	50	27.3	8

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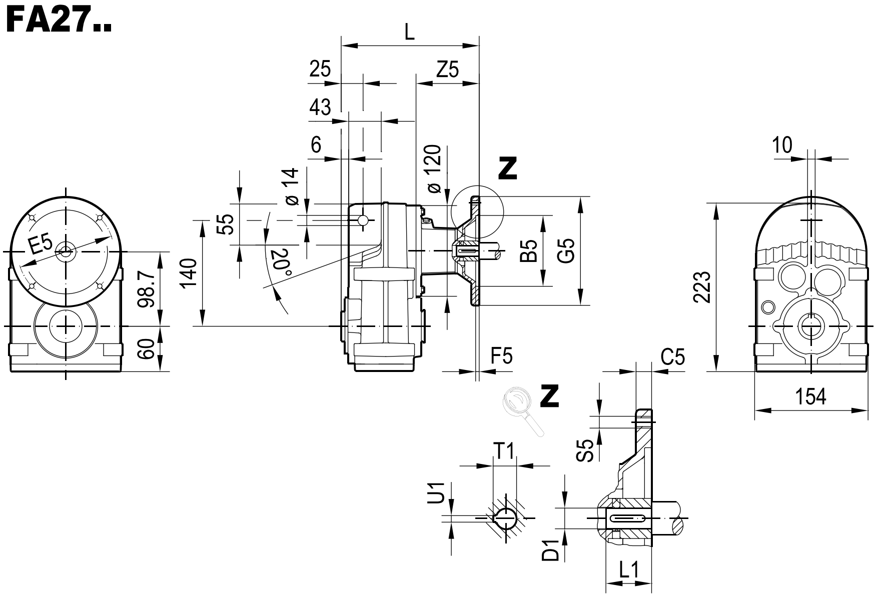
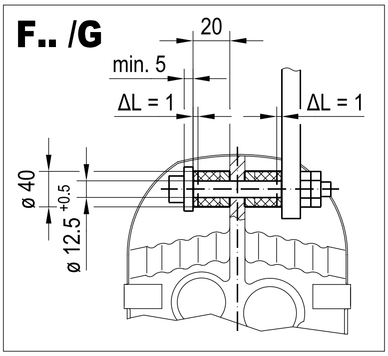
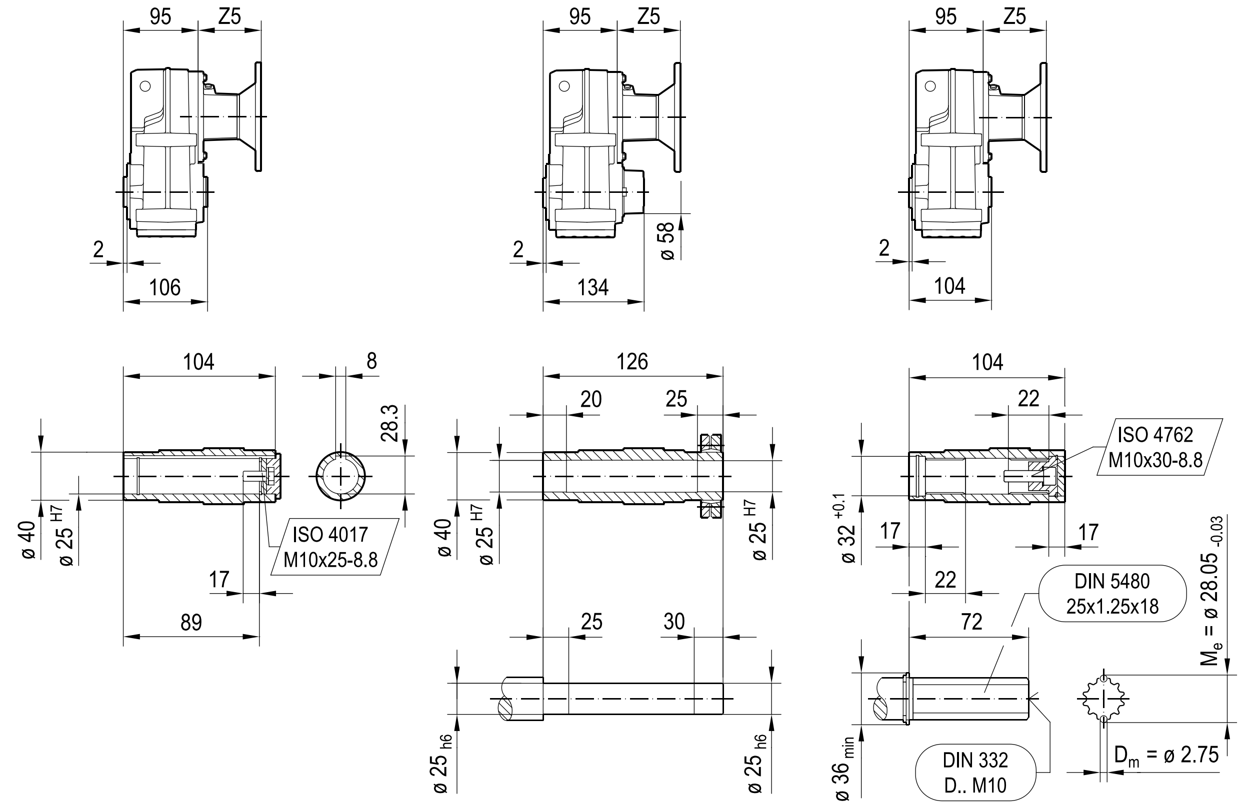
42 042 04 01

FA27..





FA27.. FH27.. FV27..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	167	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	167	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	201	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	201	M10	106	24	50	27.3	8

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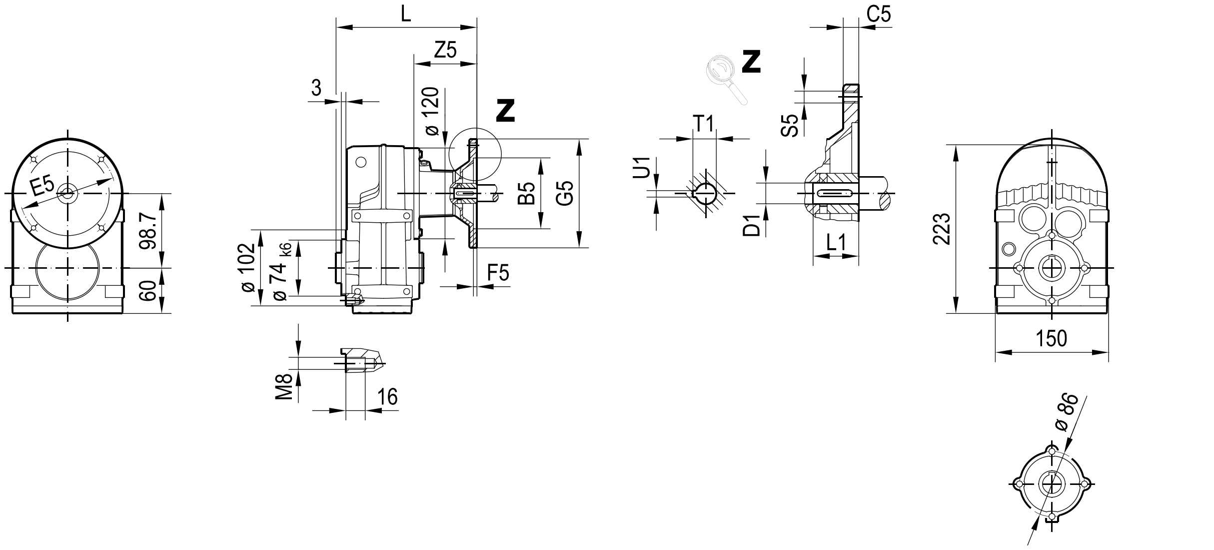
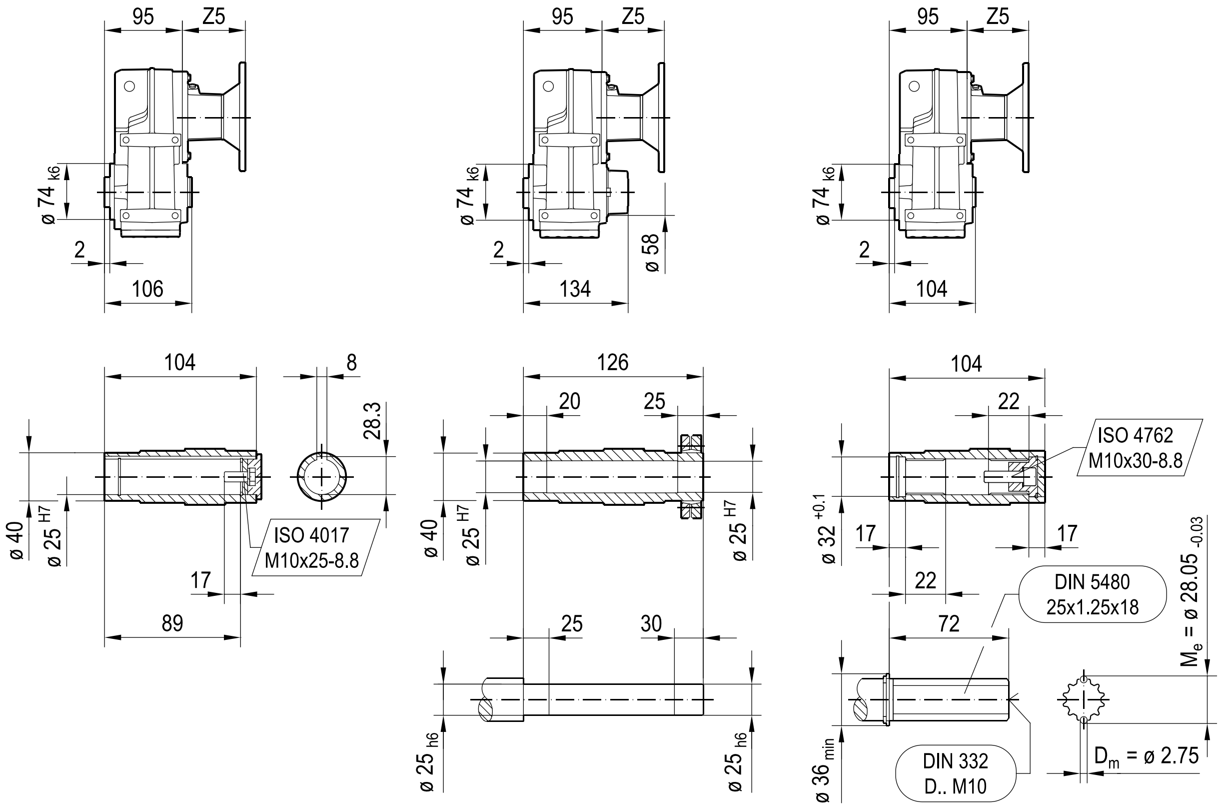
42 043 04 01

FAZ27..



FAZ27.. FHZ27.. FVZ27..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	167	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	167	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	201	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	201	M10	106	24	50	27.3	8

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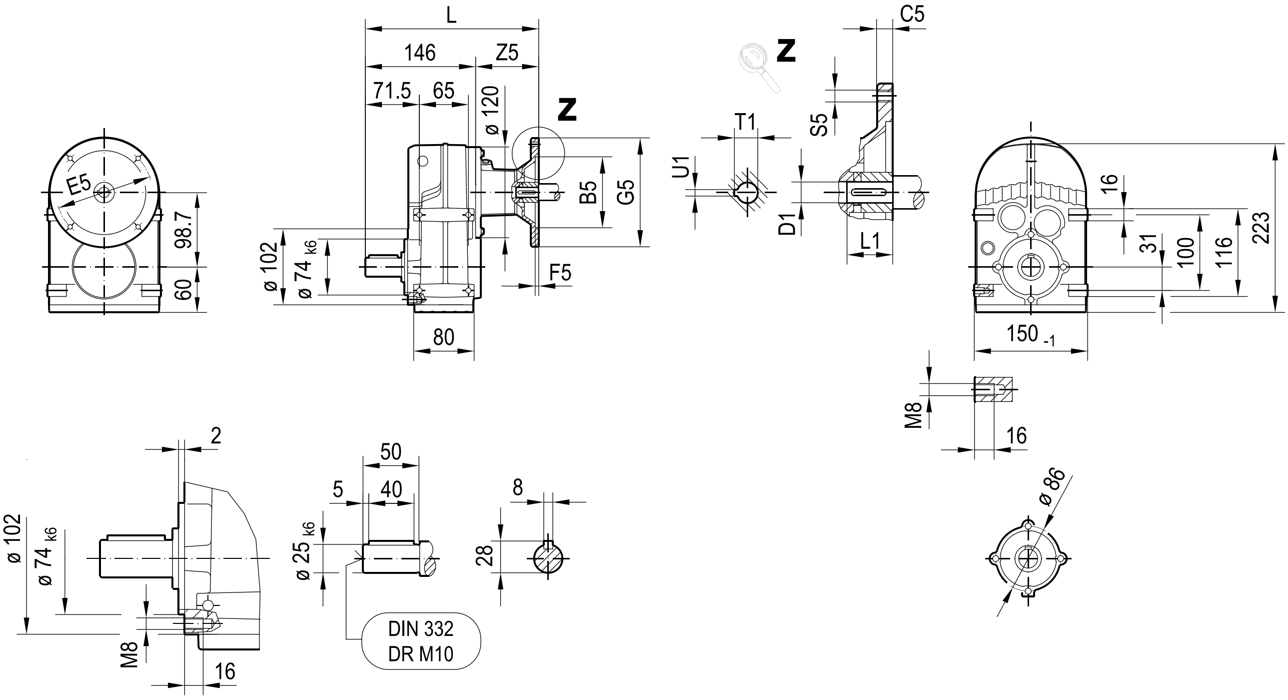
42 025 01 16

FZ27..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	218	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	218	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	252	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	252	M10	106	24	50	27.3	8

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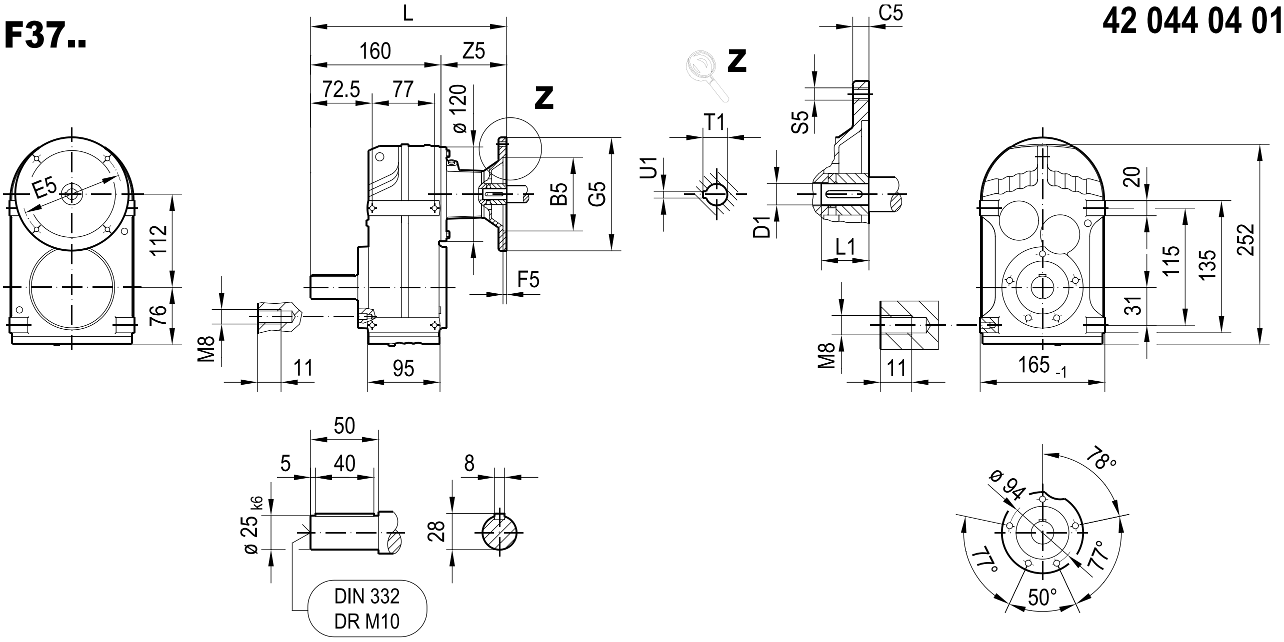
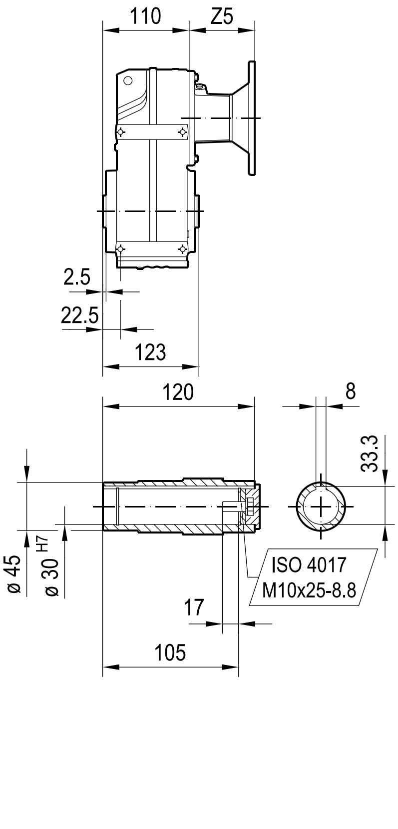
F37..

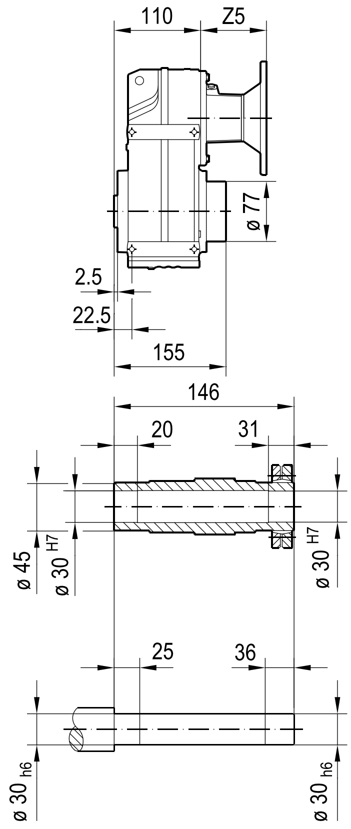
42 044 04 01



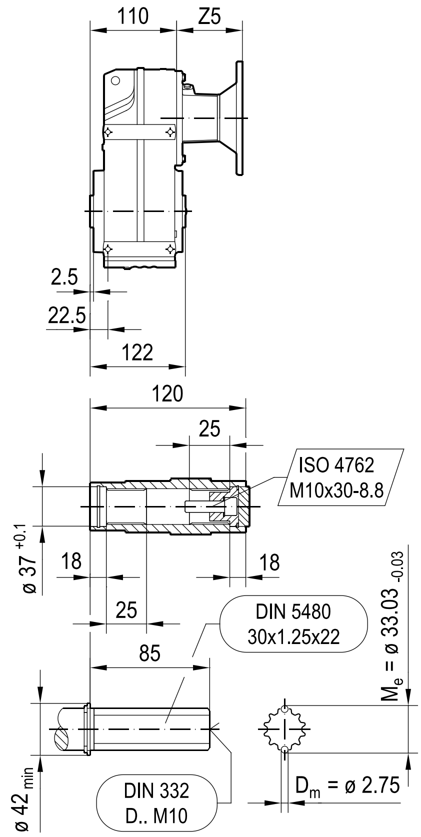
FA37B..



FH37B..



FV37B..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	232	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	232	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	266	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	266	M10	106	24	50	27.3	8

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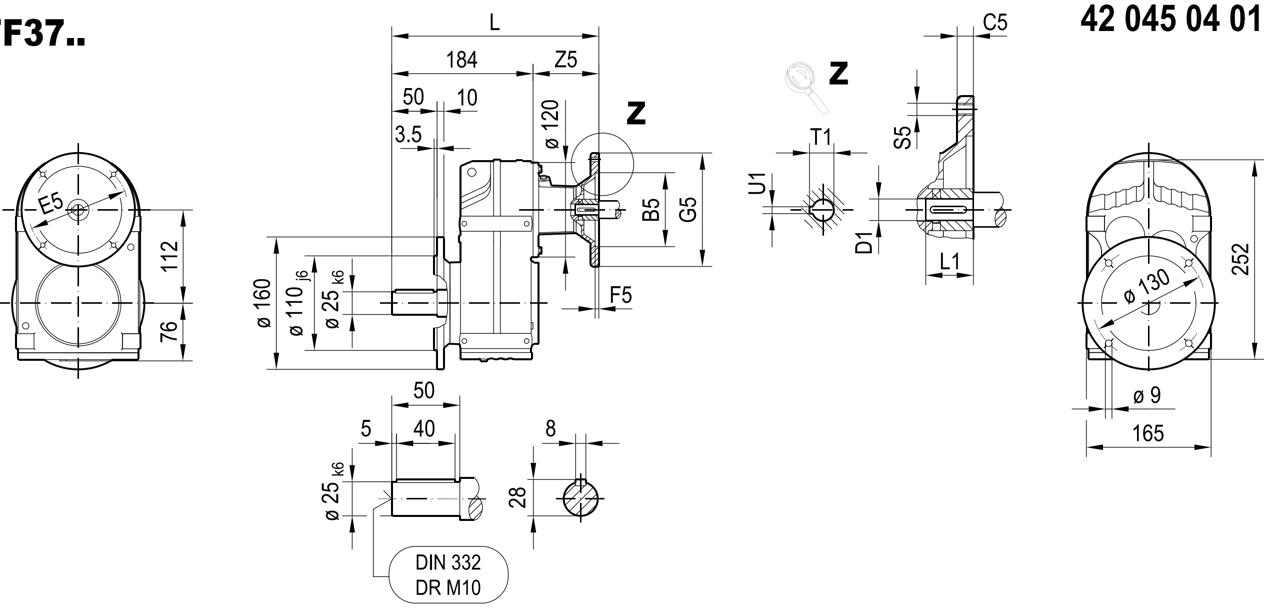
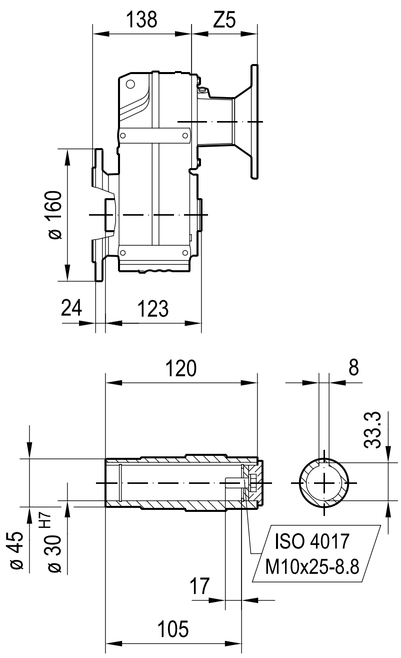
FF37..

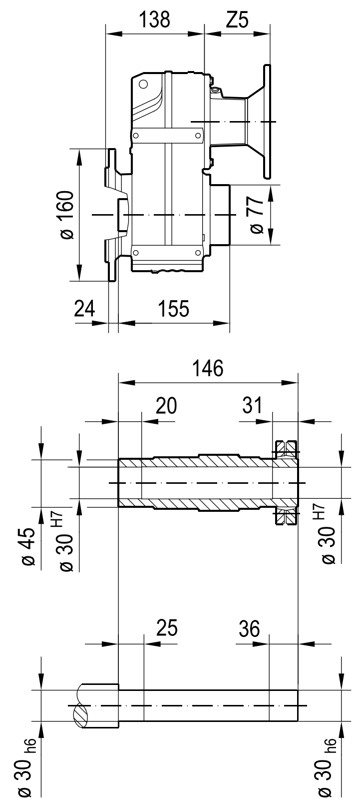
42 045 04 01



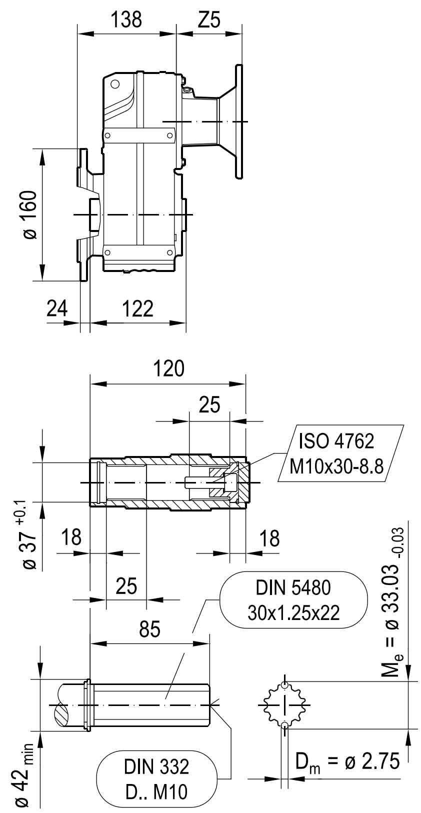
FAF37..



FHF37..



FVF37..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	256	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	256	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	290	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	290	M10	106	24	50	27.3	8

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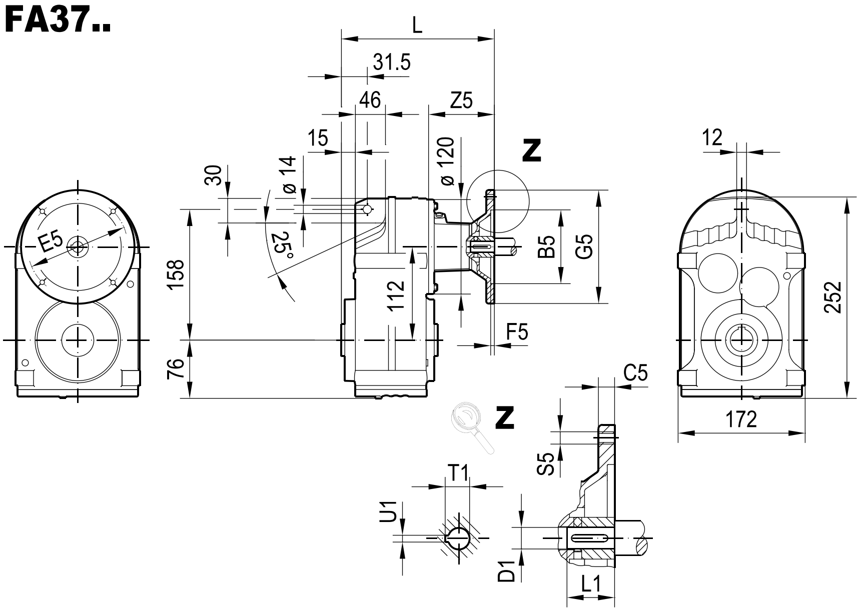
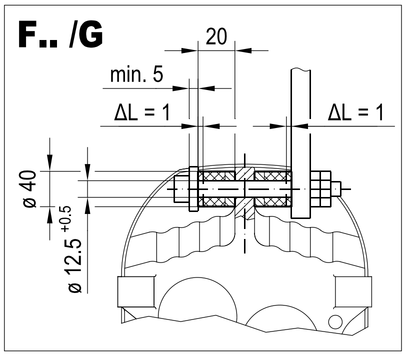
FA37..

42 046 04 01





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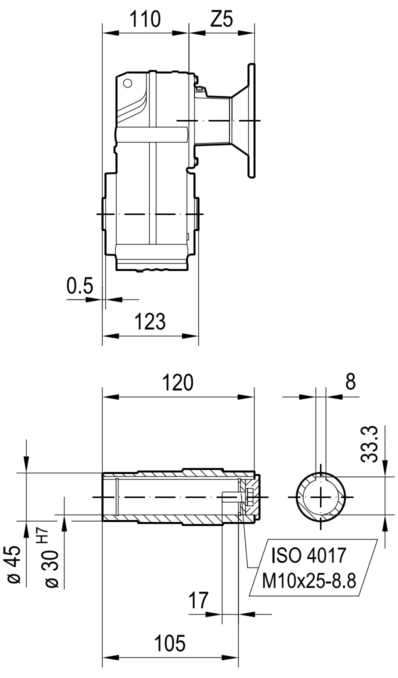

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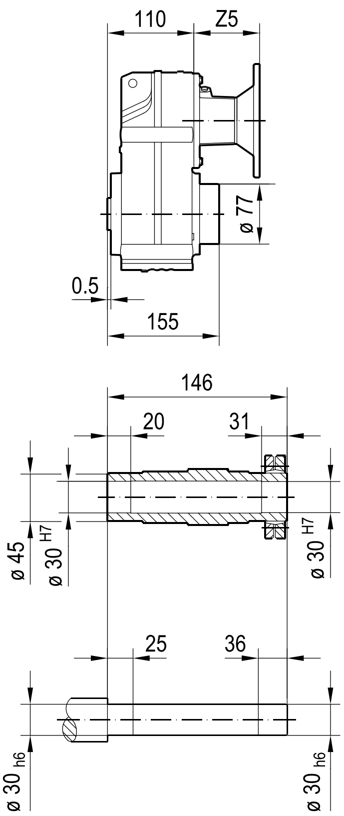

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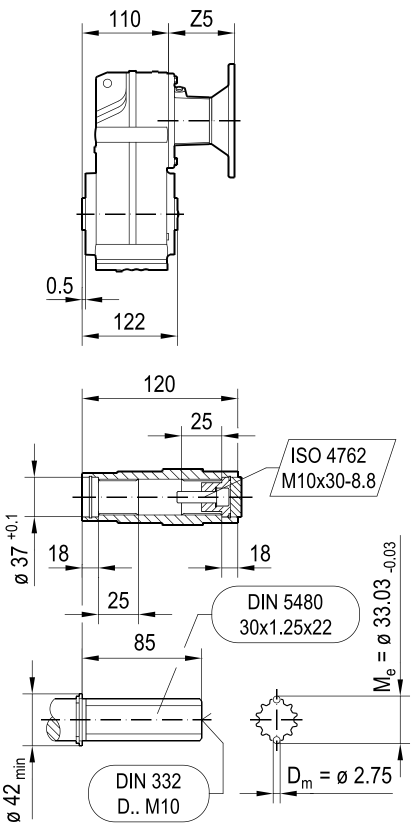

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	182	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	182	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	216	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	216	M10	106	24	50	27.3	8

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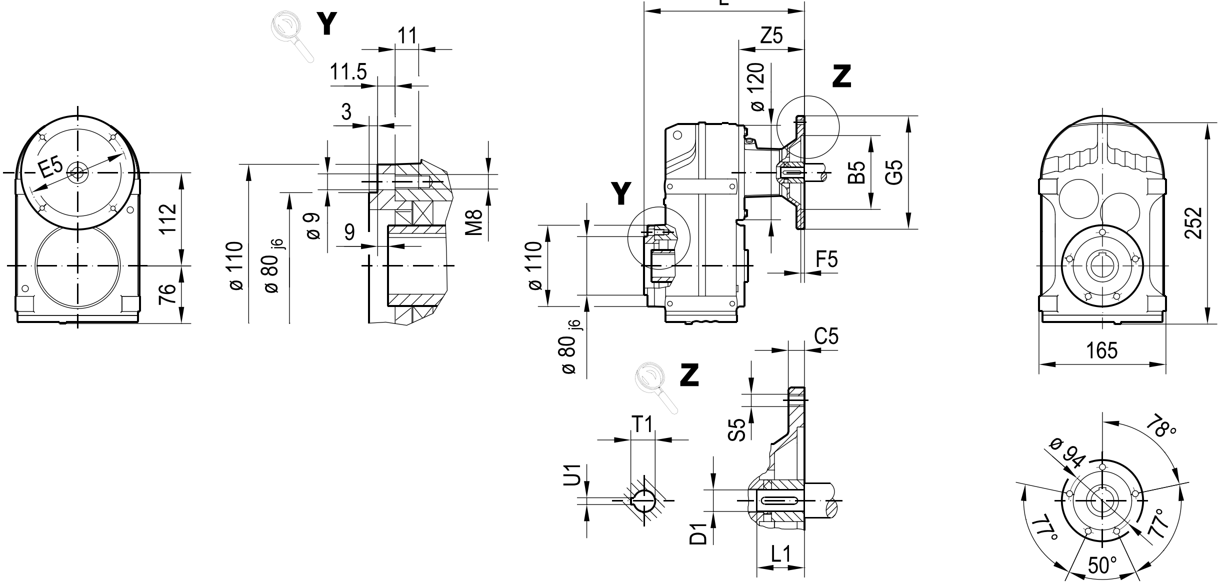
FAZ37..

42 047 04 01



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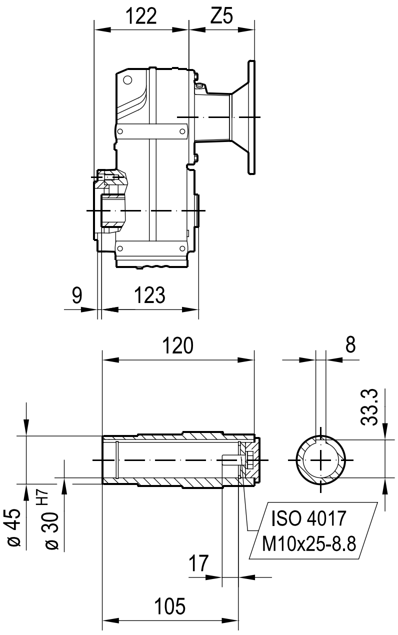

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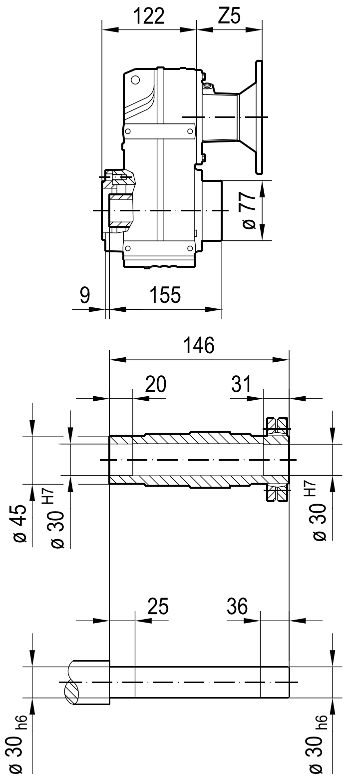

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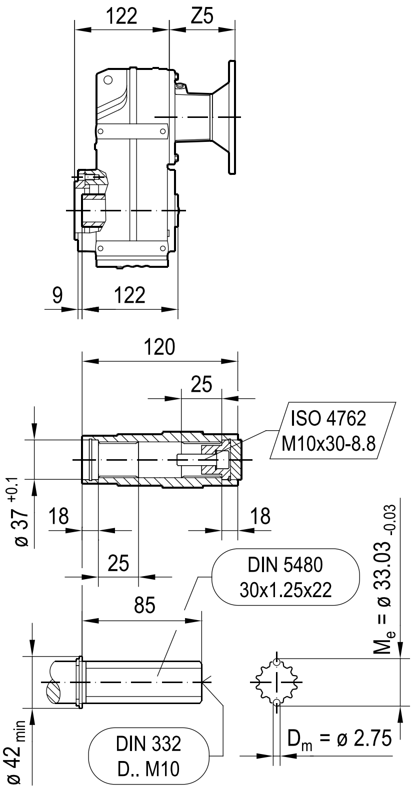

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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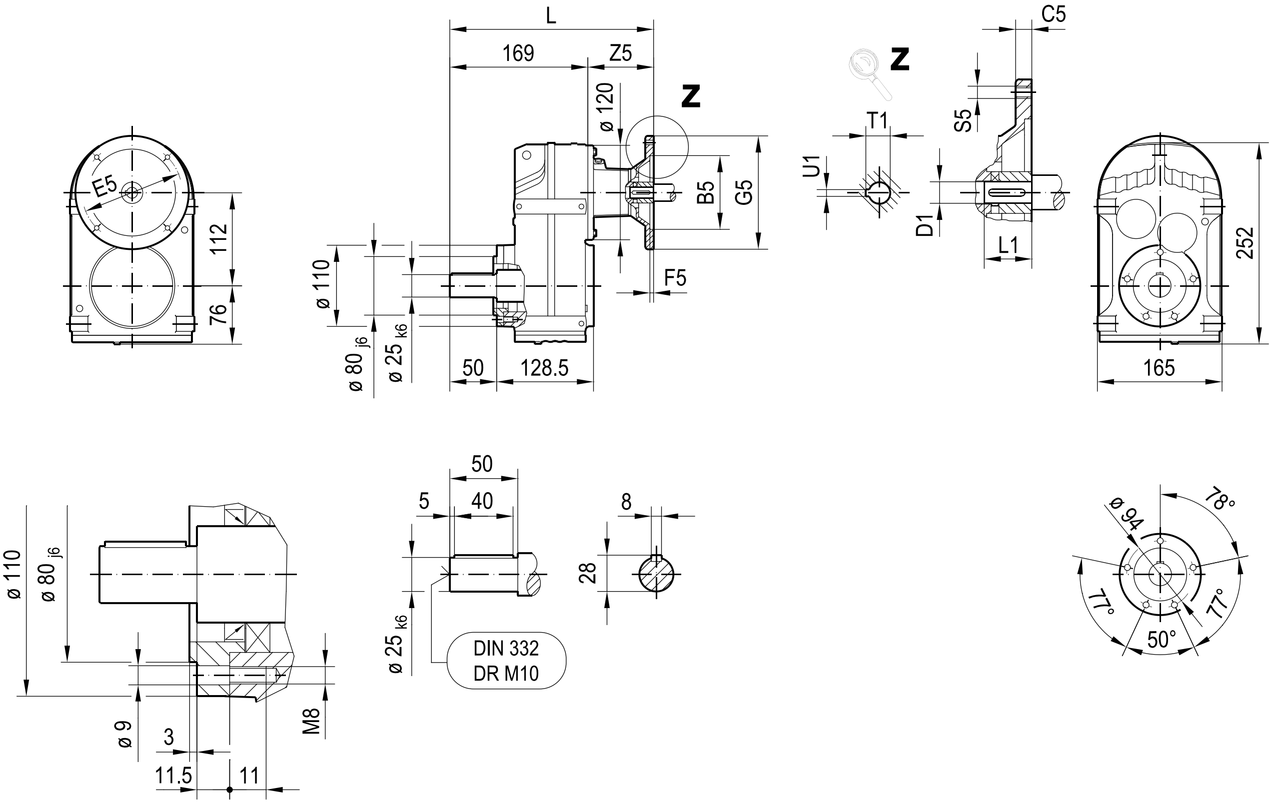
AM71	110	10	130	4	160	194	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	228	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	228	M10	106	24	50	27.3	8

FZ37..

42 026 00 16



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	241	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	275	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	275	M10	106	24	50	27.3	8

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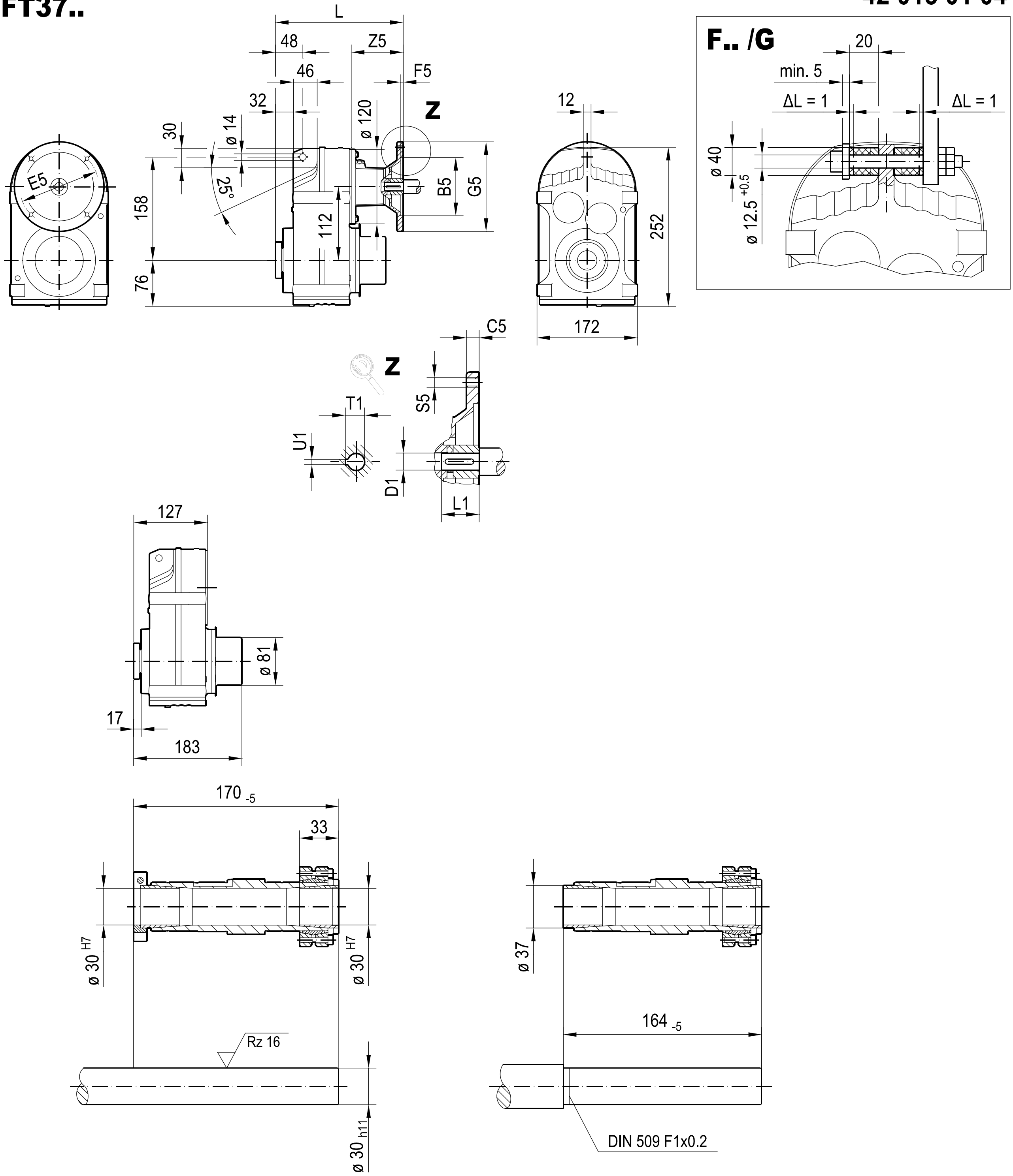
FT37..

42 013 01 04



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	199	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	199	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	233	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	233	M10	106	24	50	27.3	8

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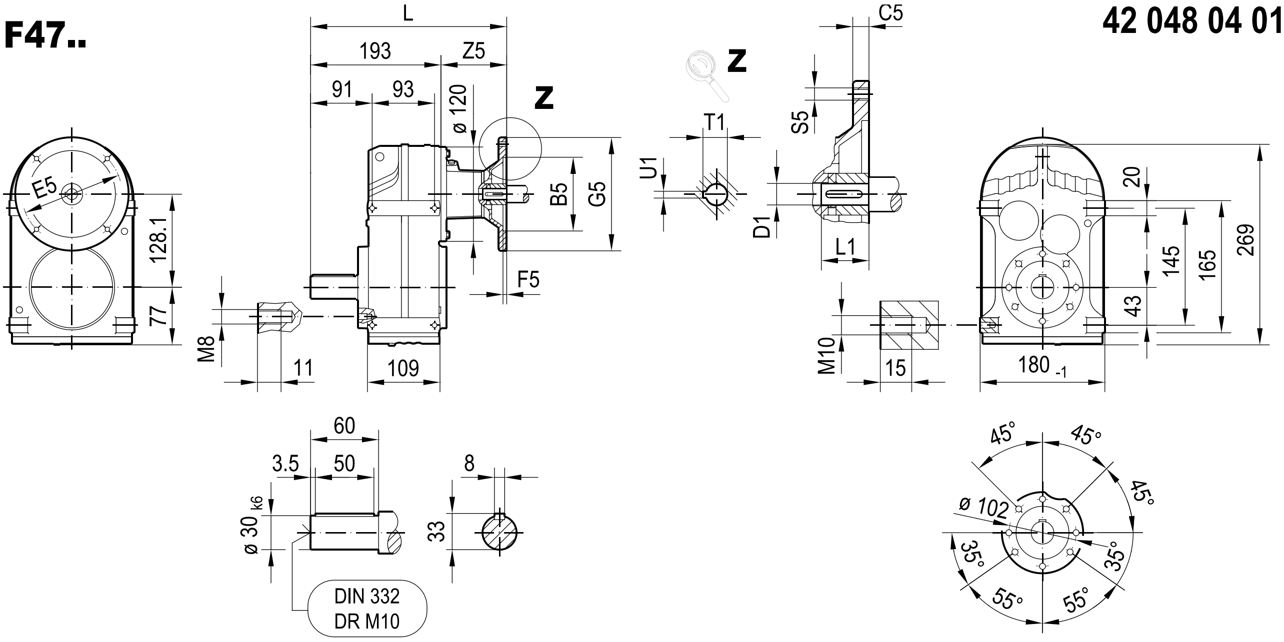
F47..

42 048 04 01



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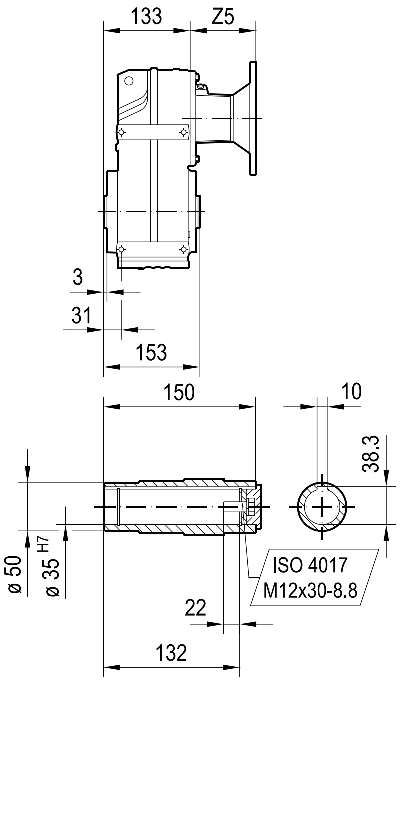

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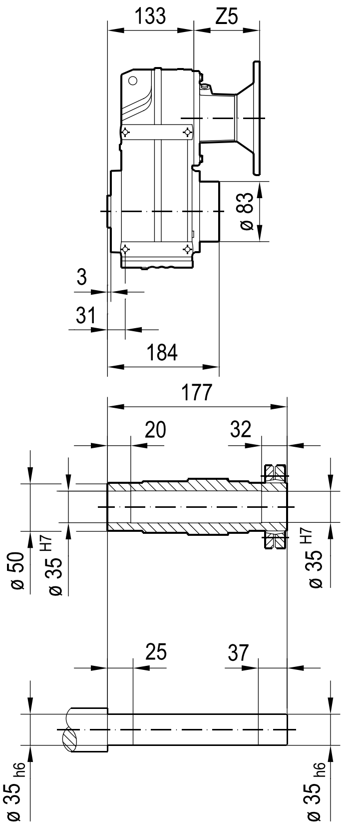

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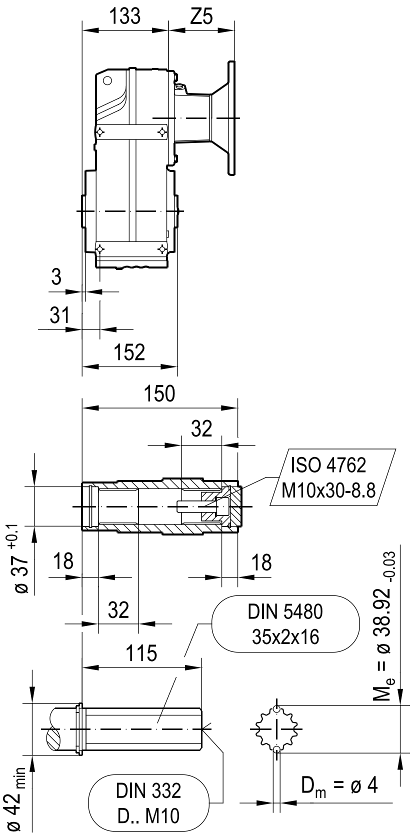

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	265	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	299	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	299	M10	106	24	50	27.3	8

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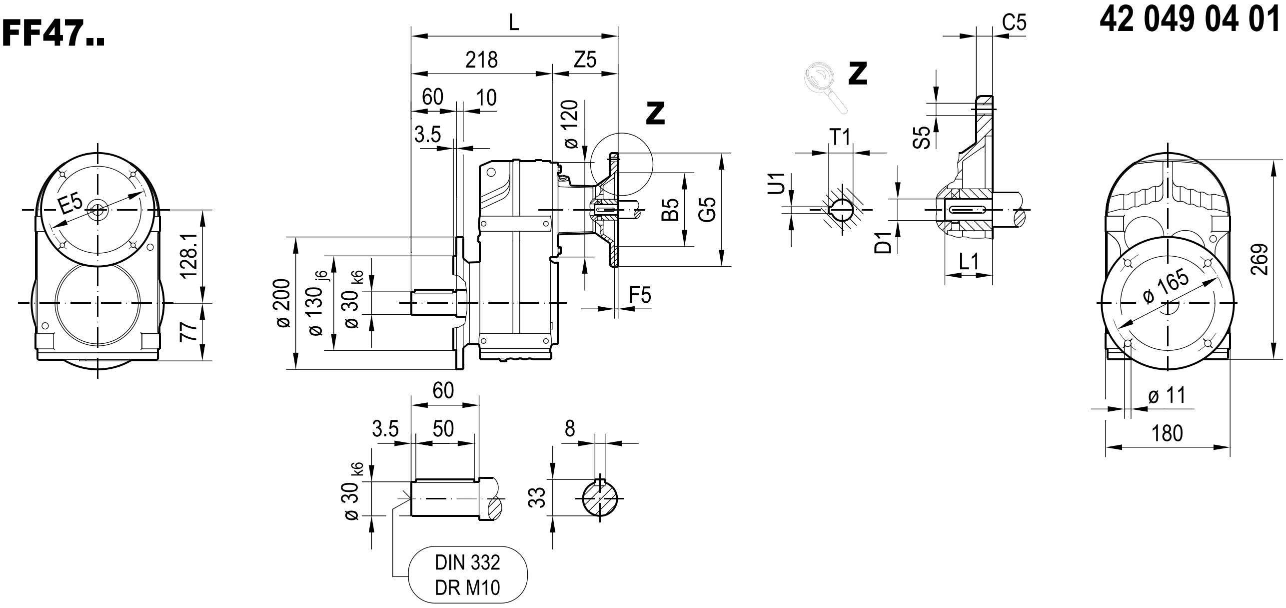
FF47..

42 049 04 01



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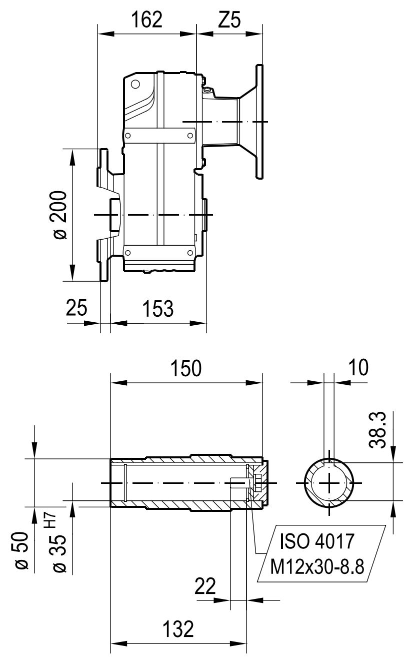

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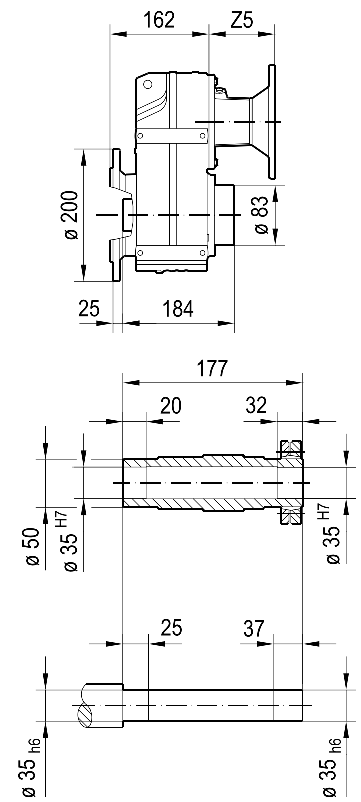

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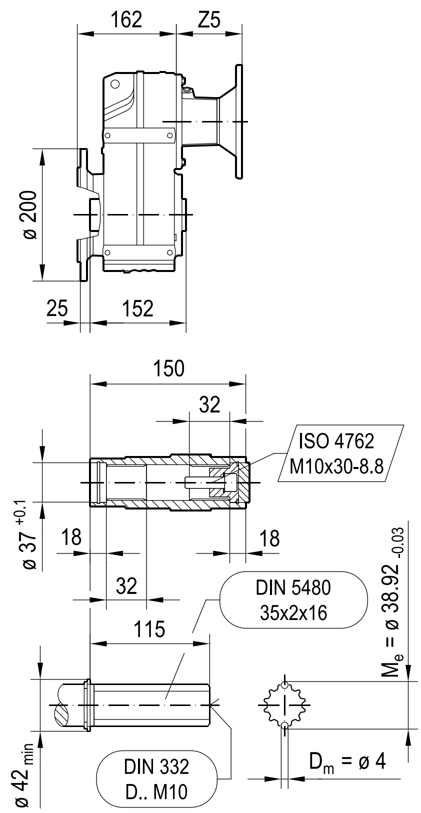

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	290	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	290	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	324	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	324	M10	106	24	50	27.3	8

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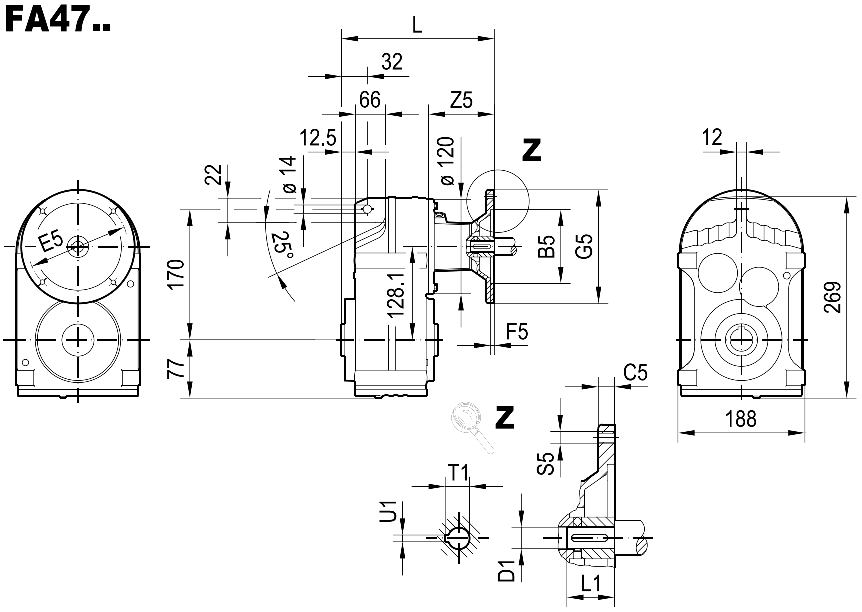
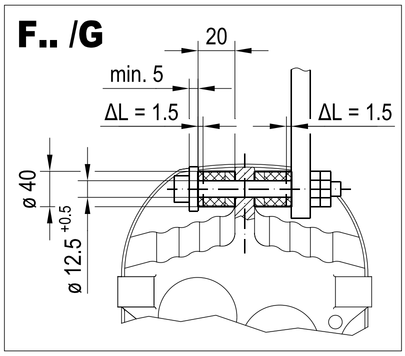
FA47..

42 050 04 01





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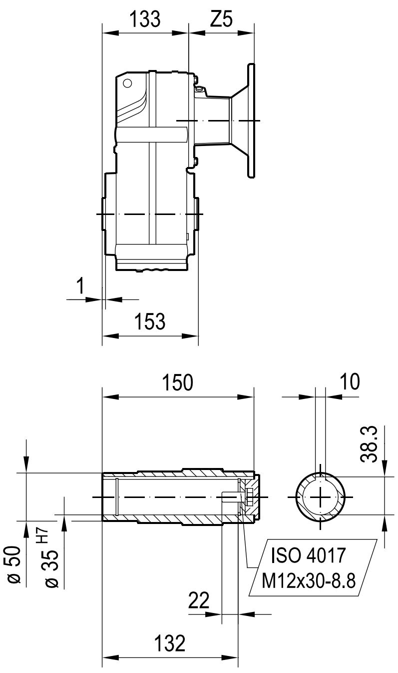

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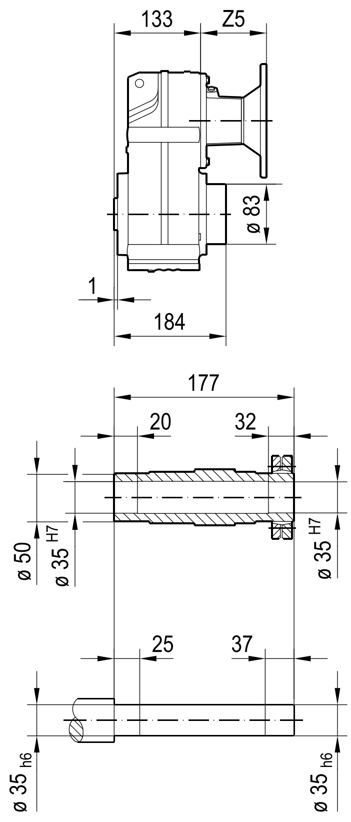

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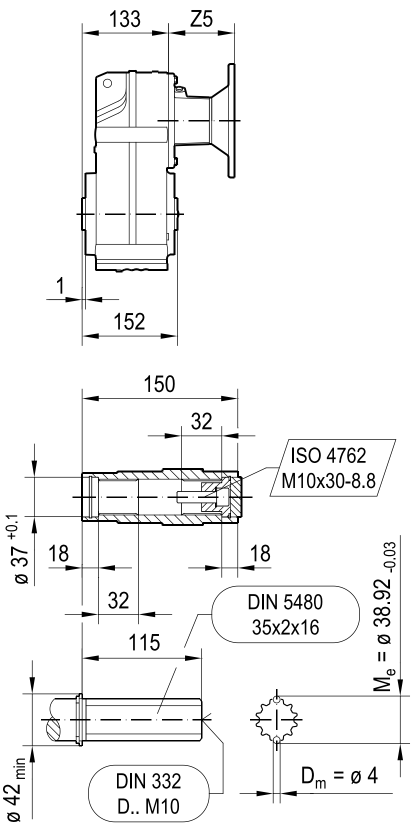

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	205	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	205	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	239	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	239	M10	106	24	50	27.3	8

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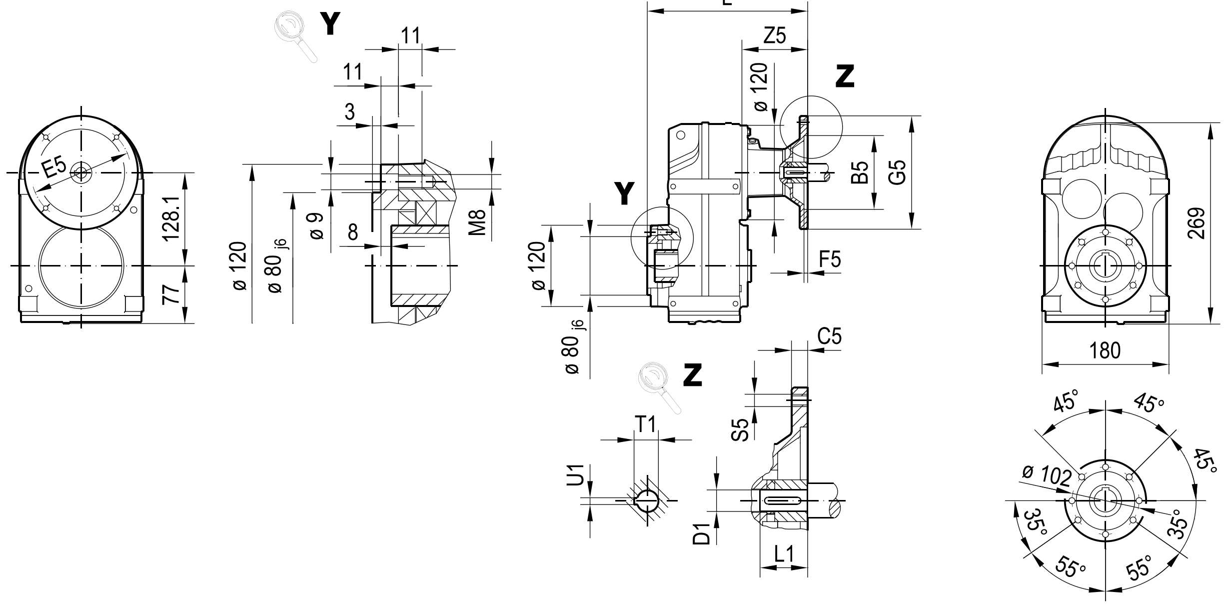
FAZ47..

42 051 03 01



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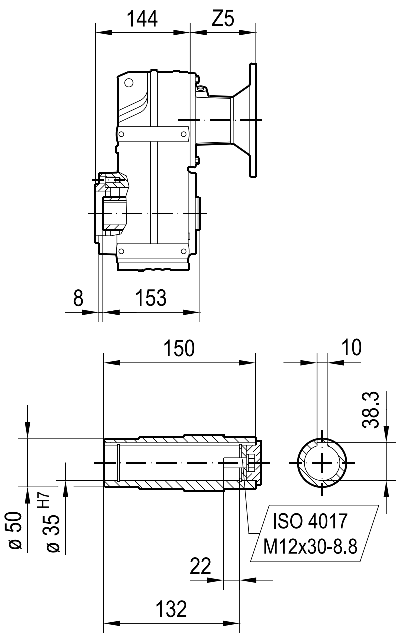

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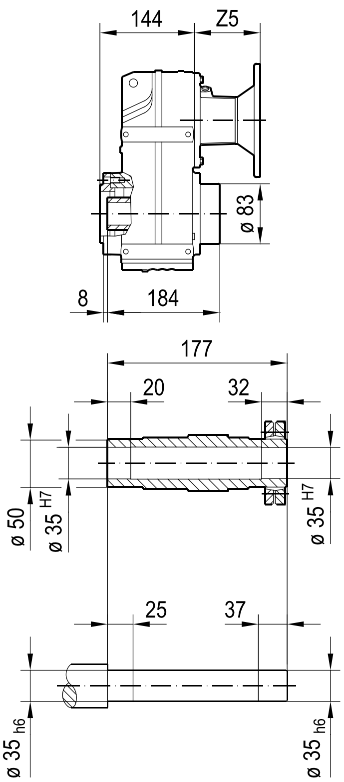

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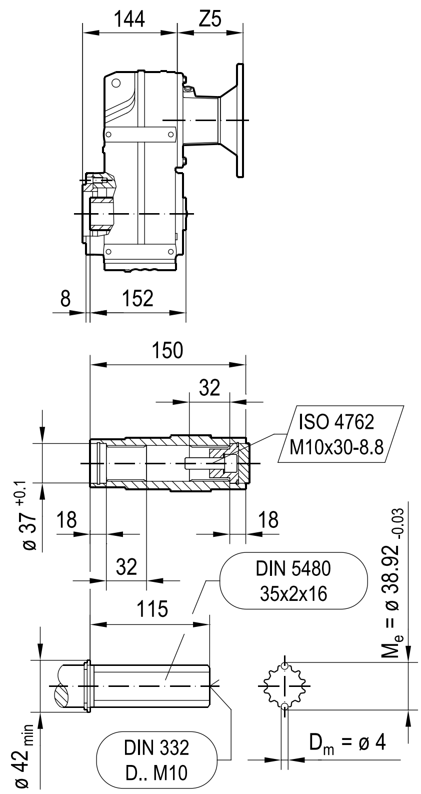

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	216	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	216	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	250	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	250	M10	106	24	50	27.3	8

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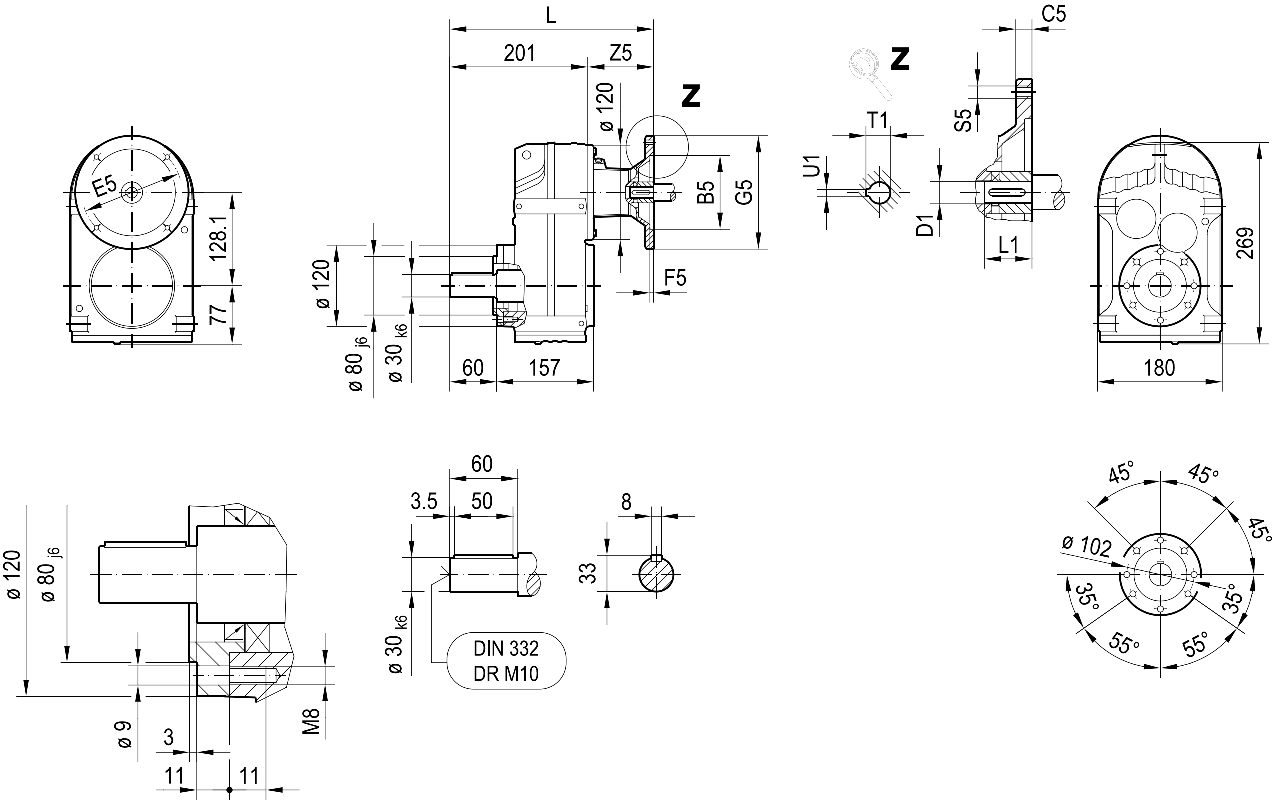
FZ47..

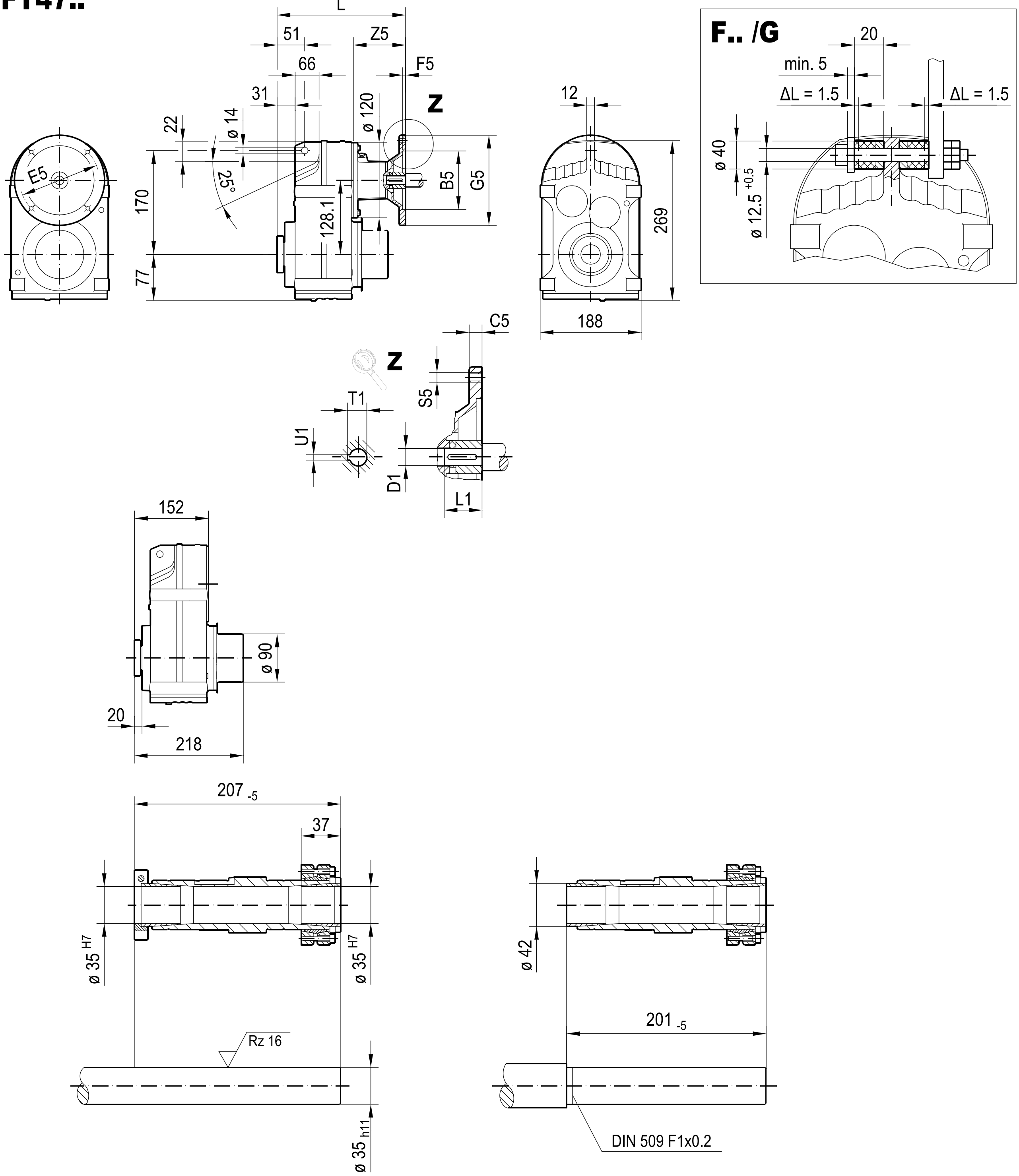
42 027 00 16



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	273	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	273	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	307	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	307	M10	106	24	50	27.3	8

FT47..

42 014 01 04



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	224	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	258	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	258	M10	106	24	50	27.3	8

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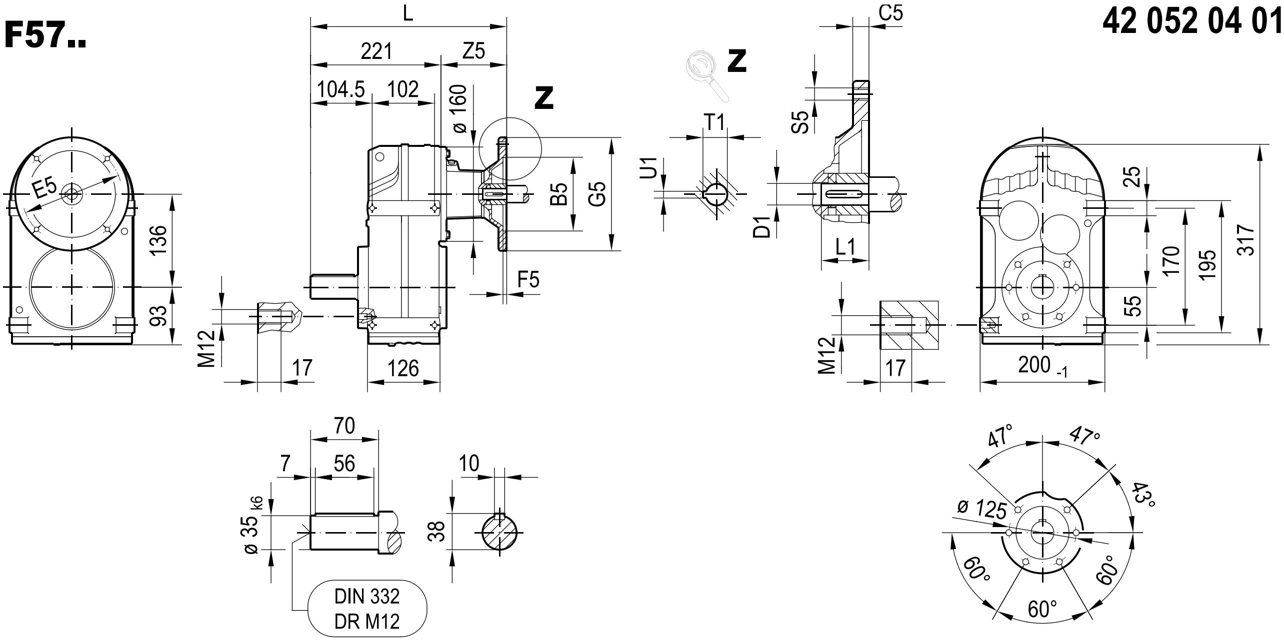
F57..

42 052 04 01



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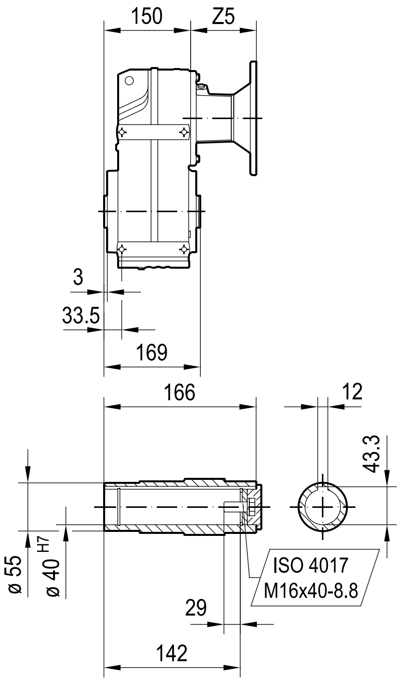

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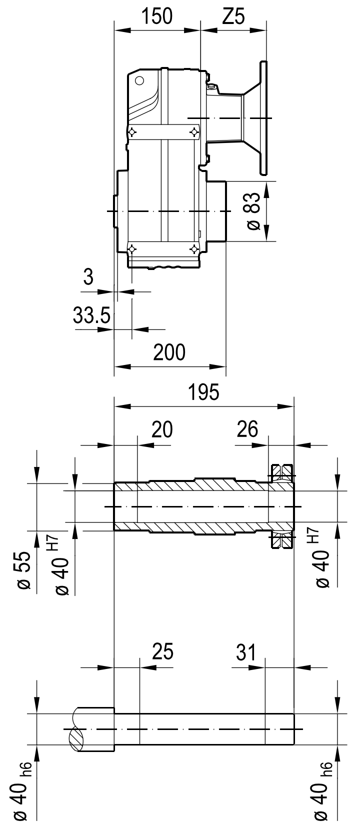

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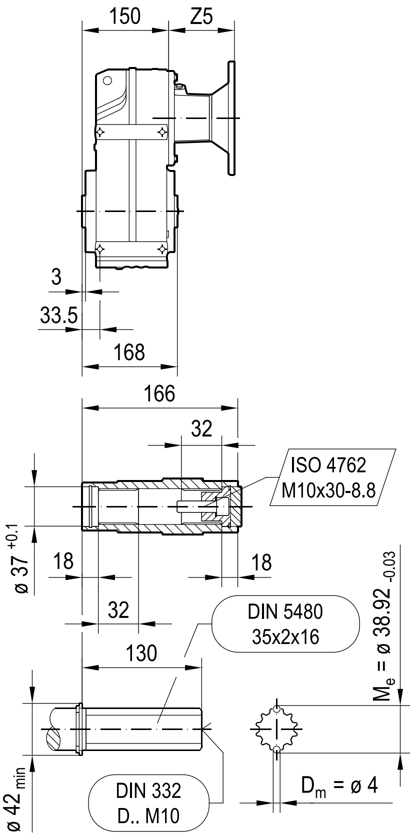

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	287	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	320	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	320	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	355	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	355	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	412	M12	191	38	80	41.3	10

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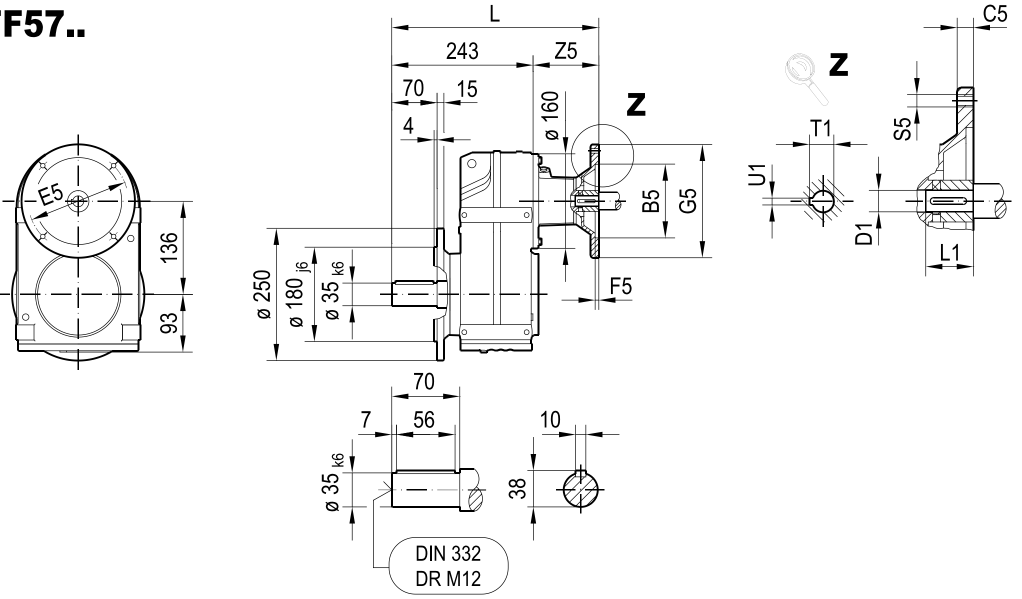
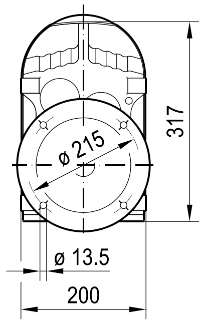
FF57..

42 053 04 01





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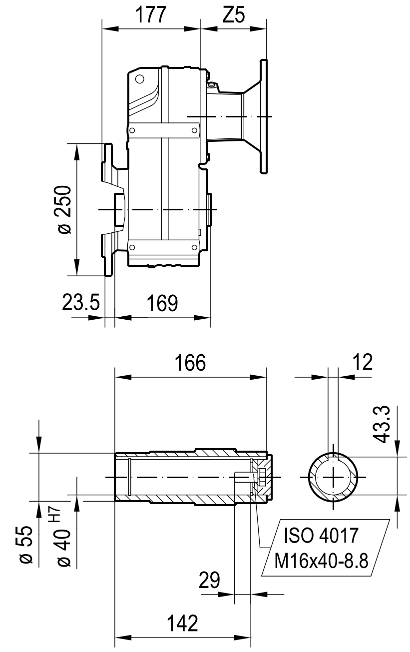

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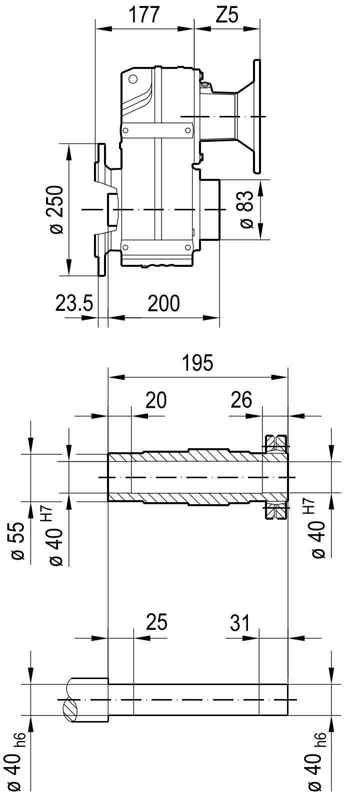

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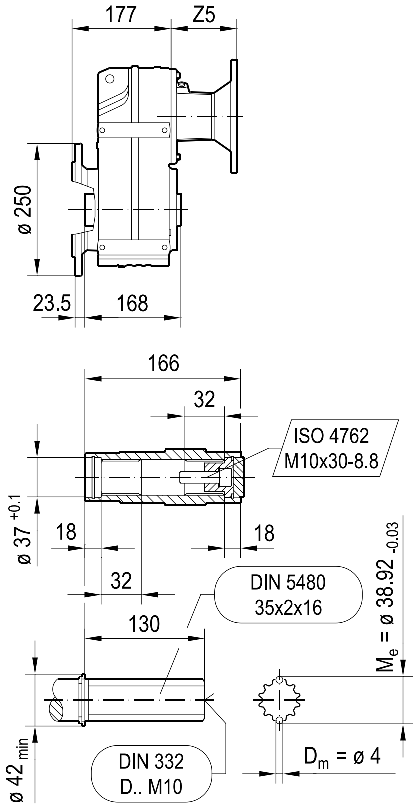

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	309	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	309	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	342	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	342	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	377	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	377	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	434	M12	191	38	80	41.3	10

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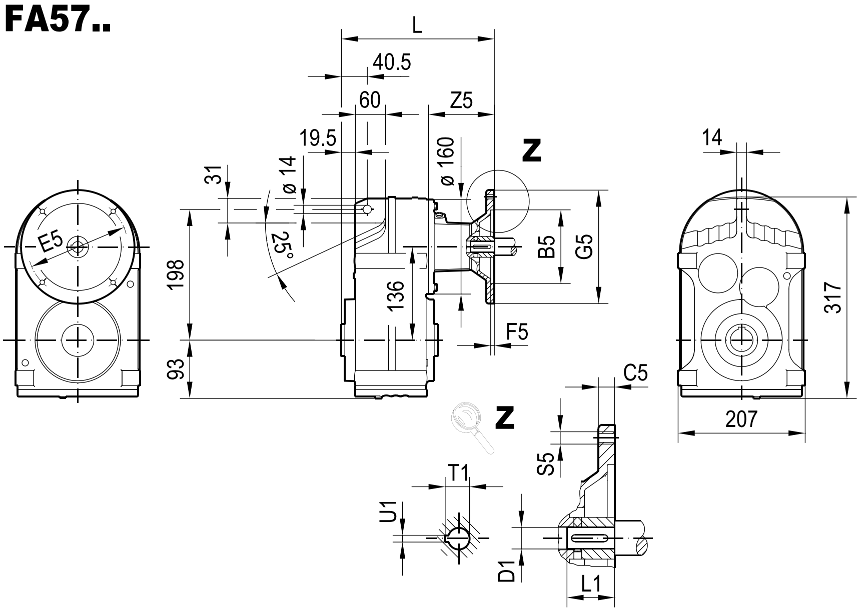
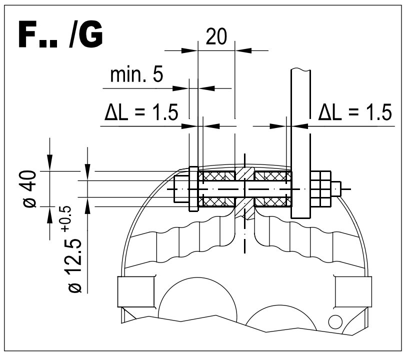
FA57..

42 054 04 01





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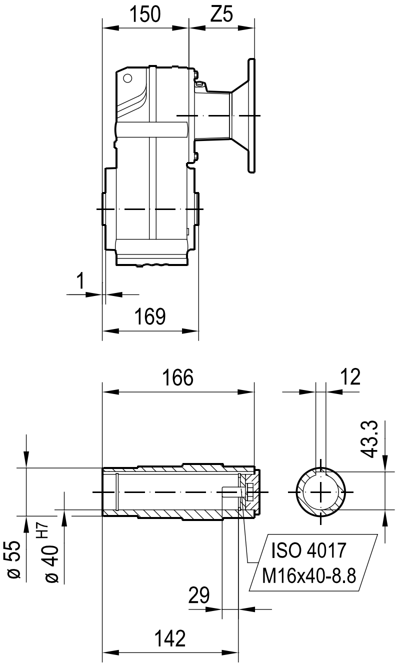

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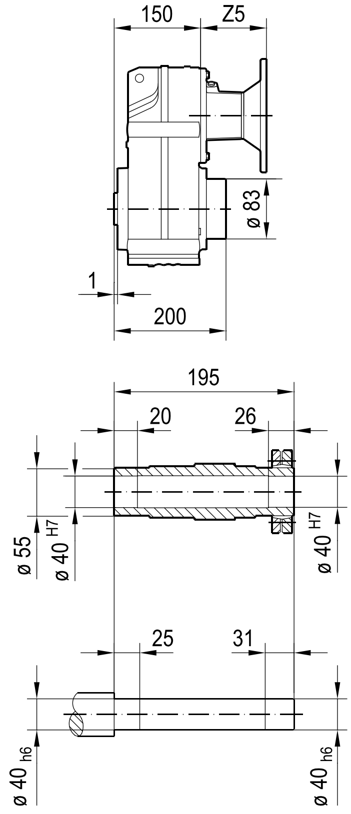

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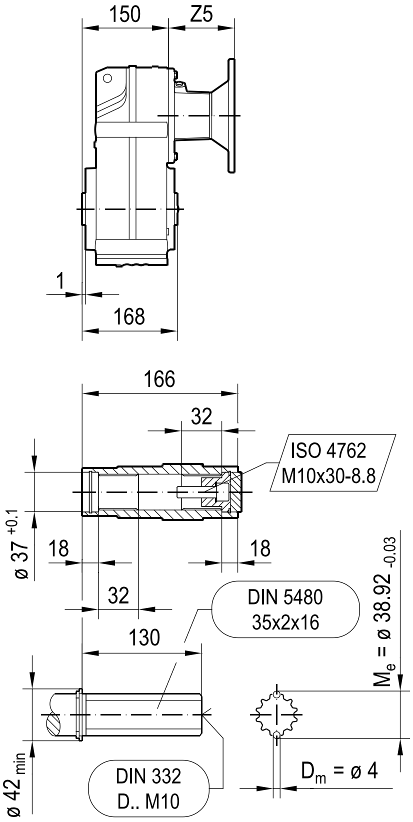

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	216	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	249	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	249	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	284	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	284	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	341	M12	191	38	80	41.3	10

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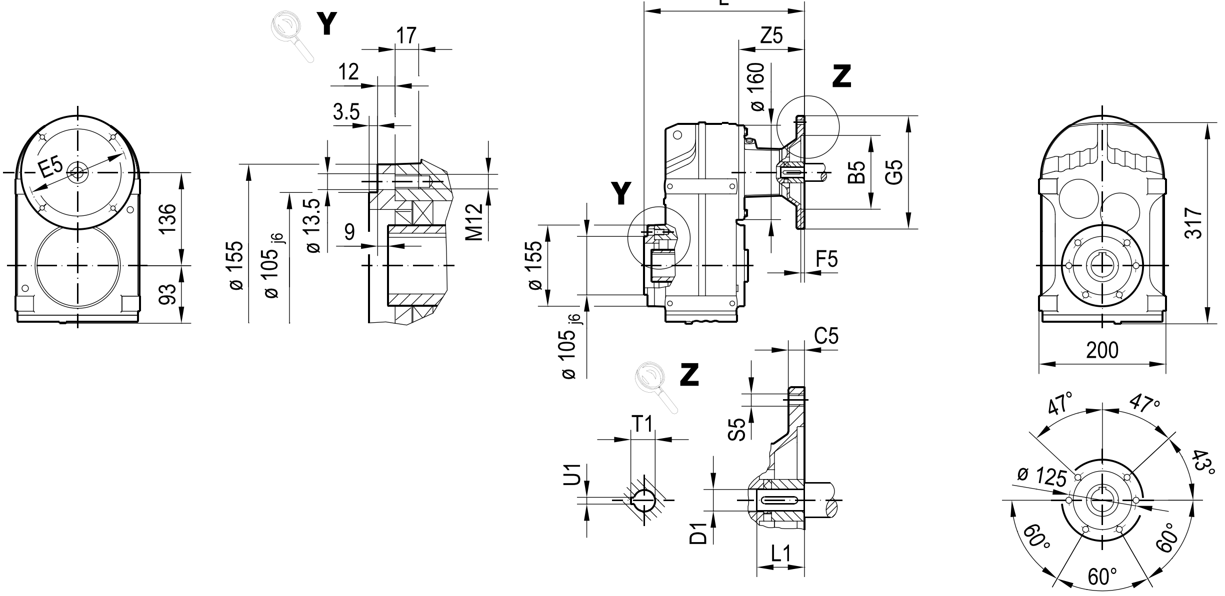
FAZ57..

42 055 04 01



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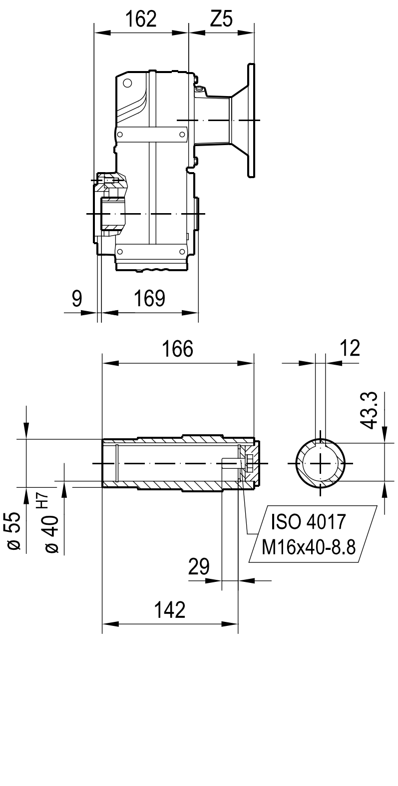

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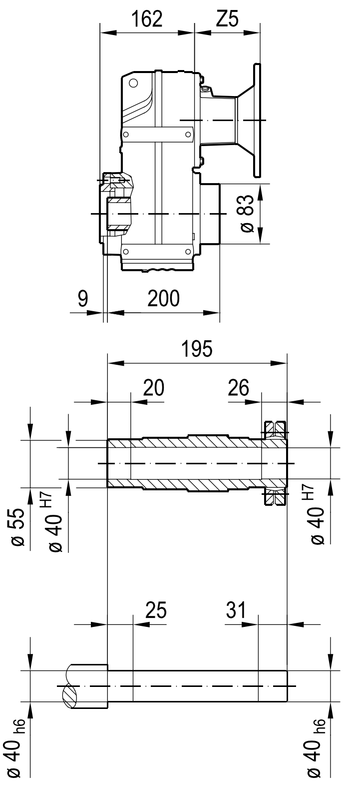
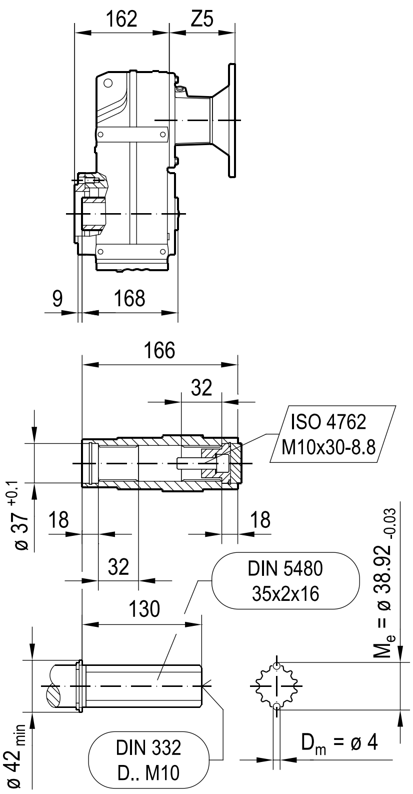


FVZ57..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	228	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	228	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	261	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	261	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	296	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	296	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	353	M12	191	38	80	41.3	10

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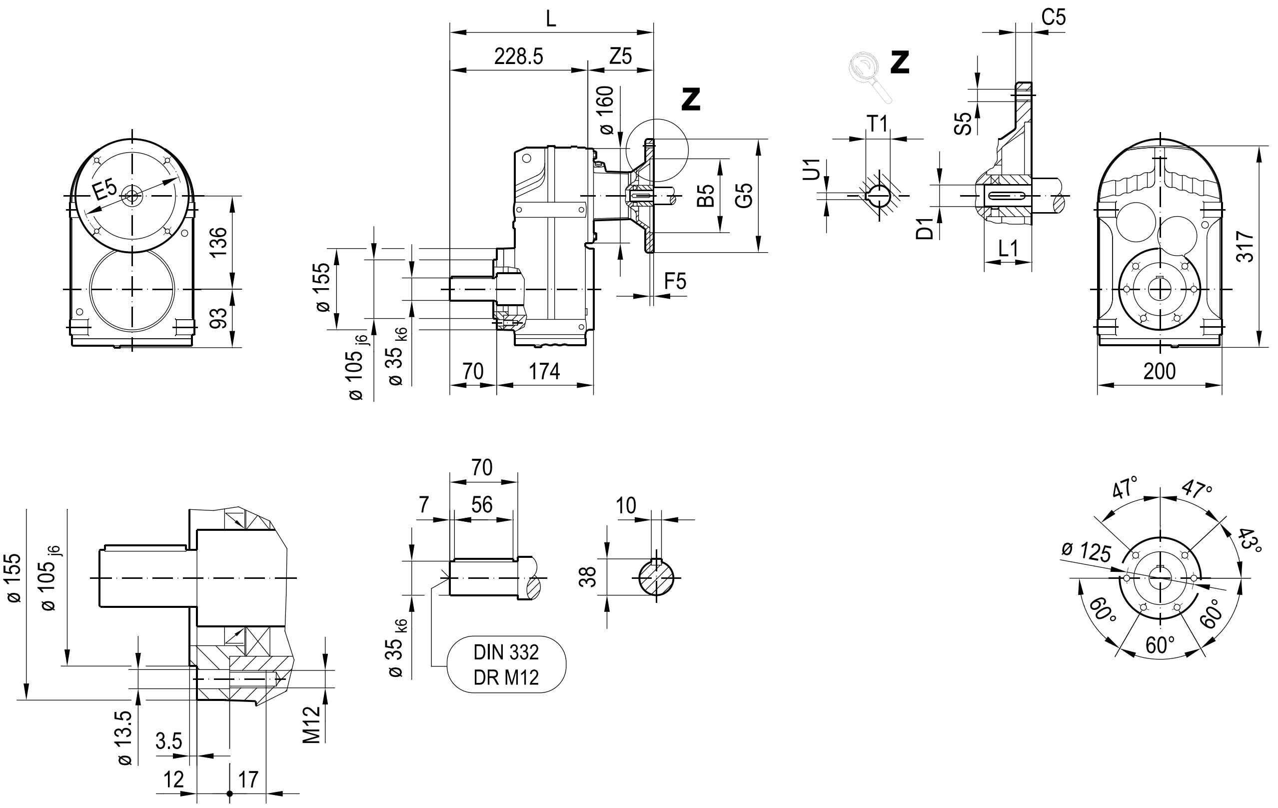
FZ57..

42 028 00 16



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	295	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	295	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	328	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	328	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	363	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	363	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	420	M12	191	38	80	41.3	10

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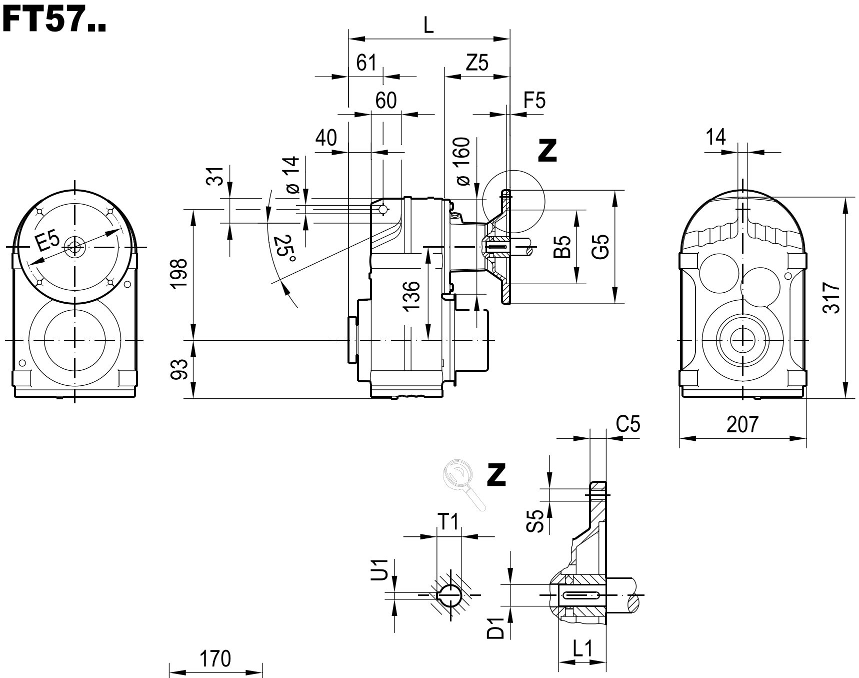
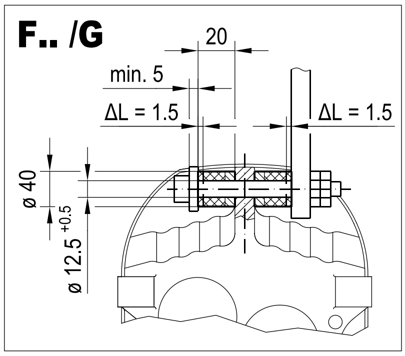
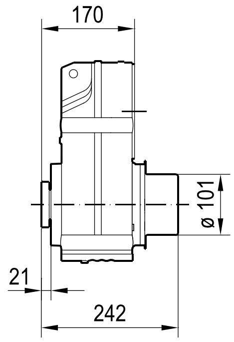
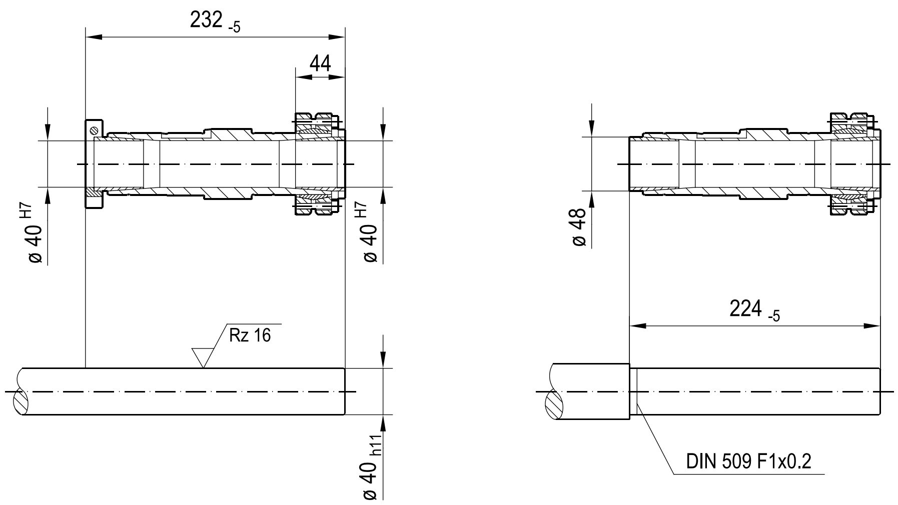
FT57..

42 015 01 04









(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	236	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	236	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	269	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	269	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	304	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	304	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	361	M12	191	38	80	41.3	10

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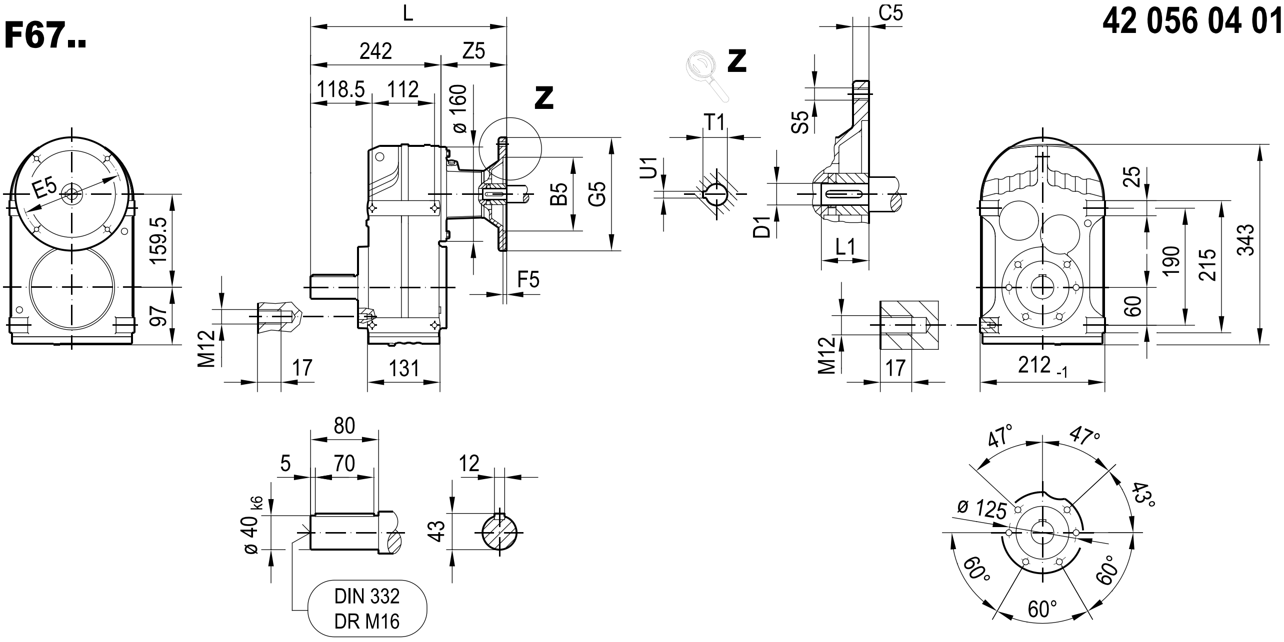
F67..

42 056 04 01



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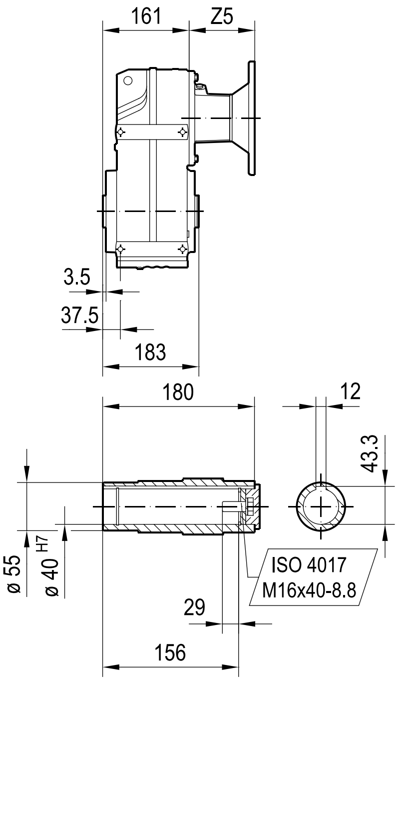

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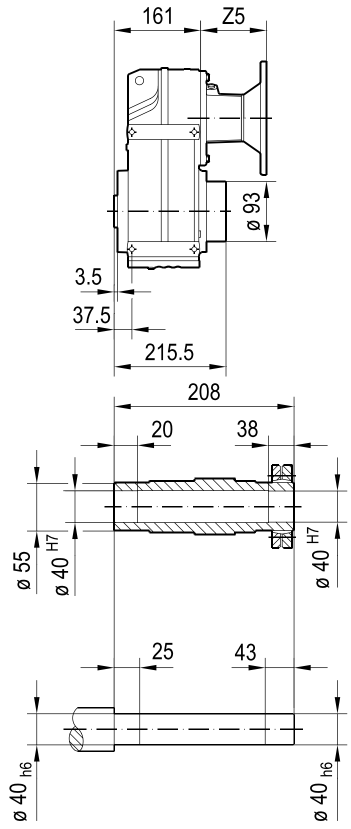

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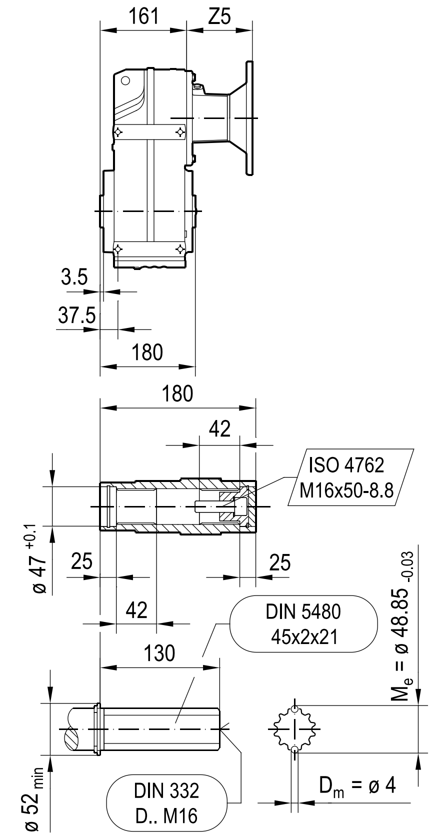

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	308	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	308	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	341	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	341	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	376	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	376	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	433	M12	191	38	80	41.3	10

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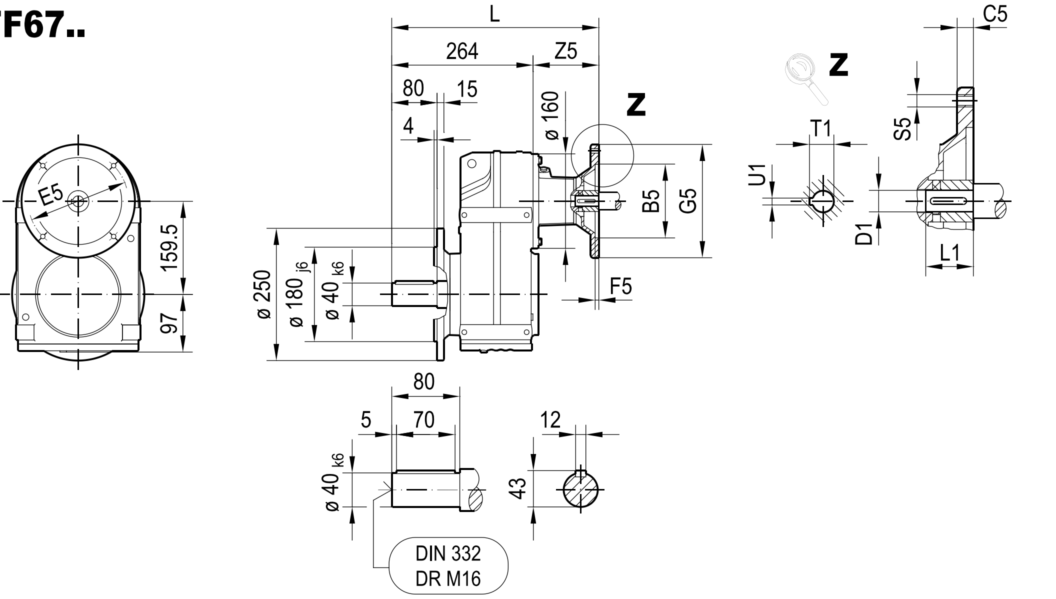
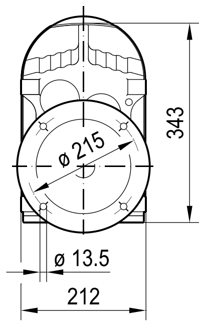
FF67..

42 057 04 01





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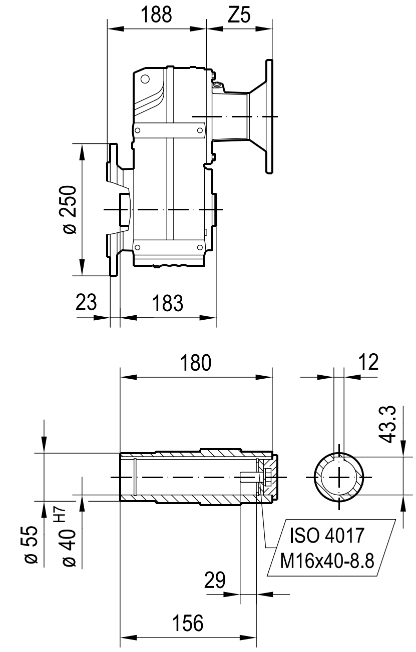

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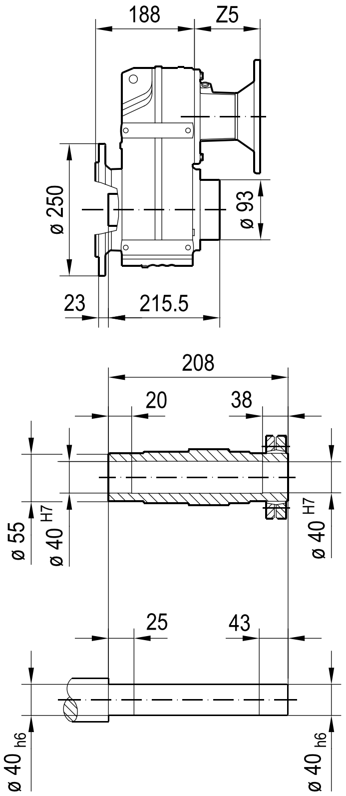

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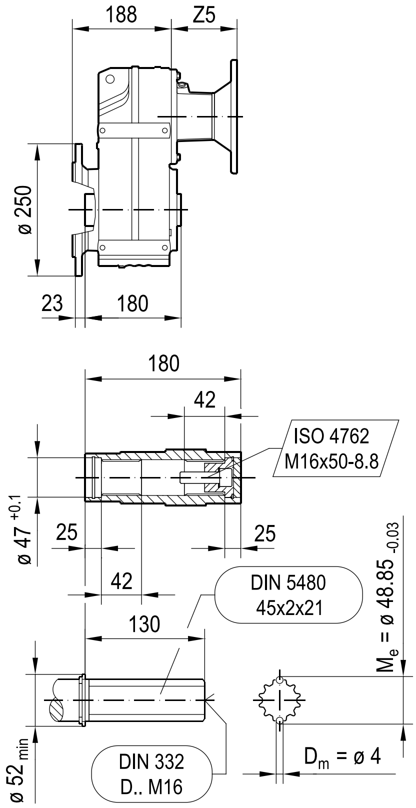

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	330	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	330	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	363	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	363	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	398	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	398	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	455	M12	191	38	80	41.3	10

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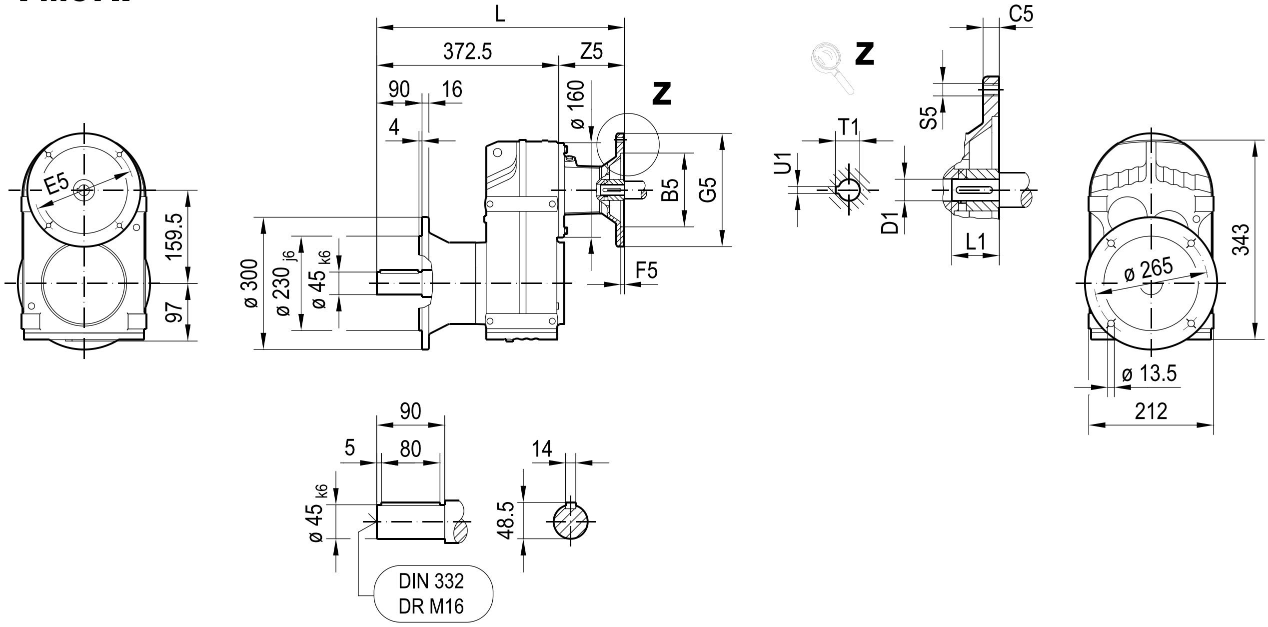
42 091 00 18

FM67..



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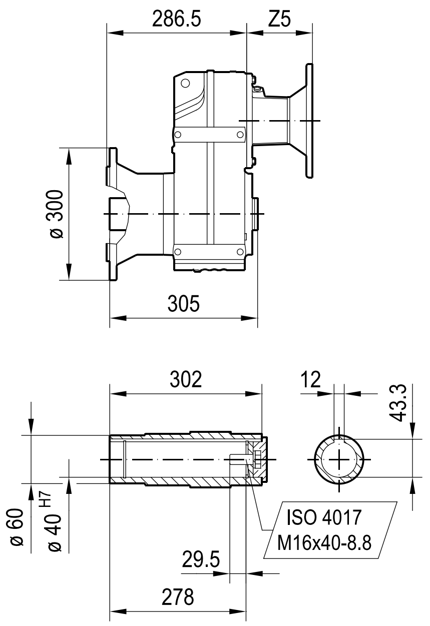

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	439	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	439	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	472	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	472	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	507	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	507	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	564	M12	191	38	80	41.3	10

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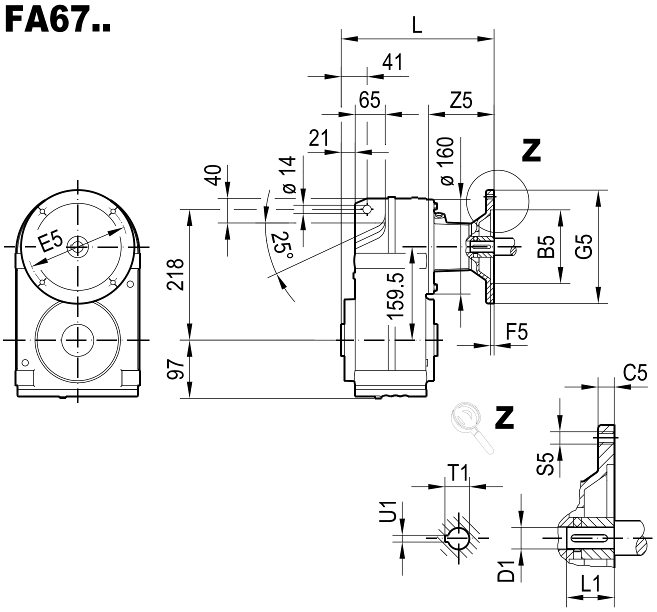
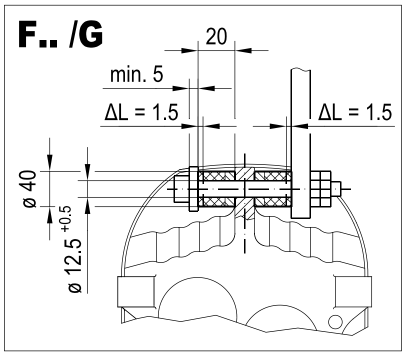
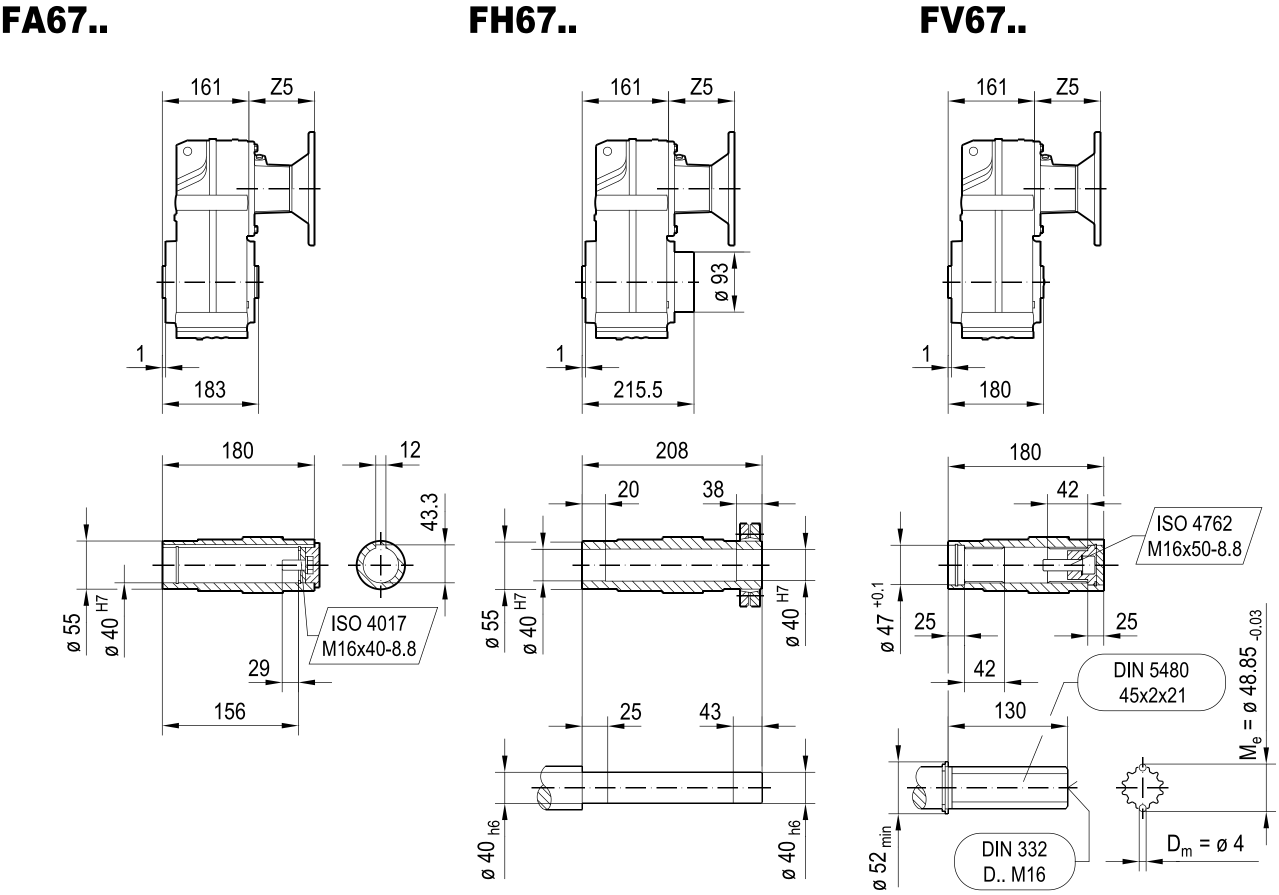
FA67..

42 058 04 01







(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	227	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	227	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	260	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	260	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	295	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	295	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	352	M12	191	38	80	41.3	10

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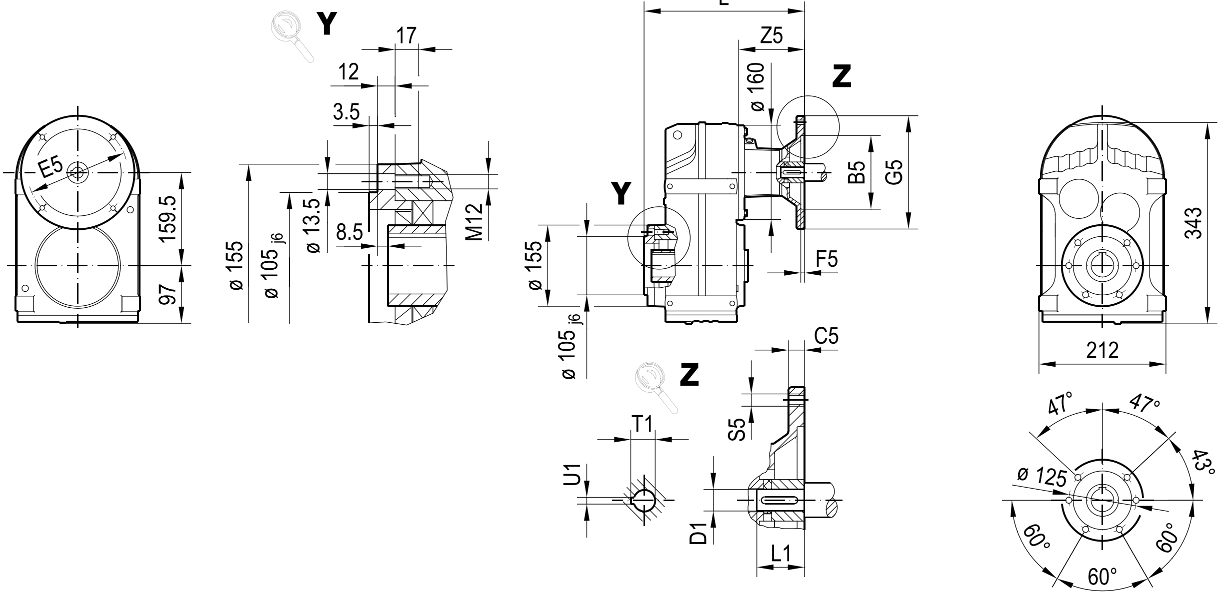
FAZ67..

42 059 04 01



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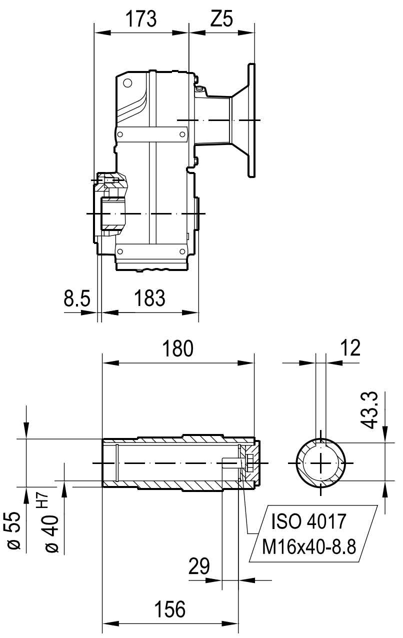

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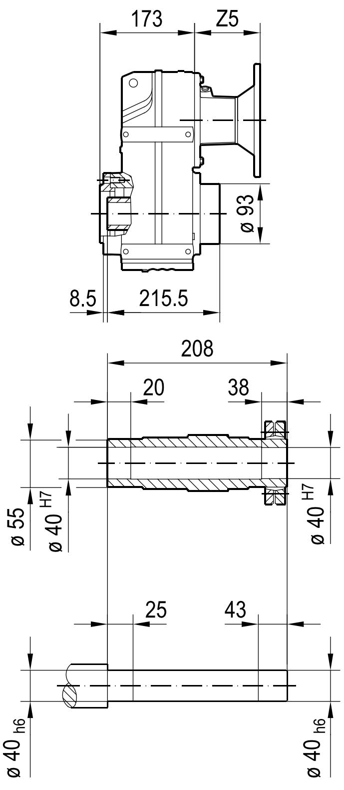

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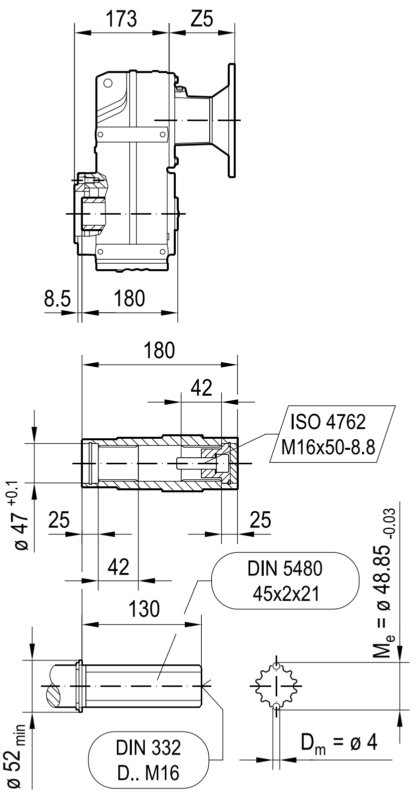

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	239	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	239	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	272	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	272	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	307	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	307	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	364	M12	191	38	80	41.3	10

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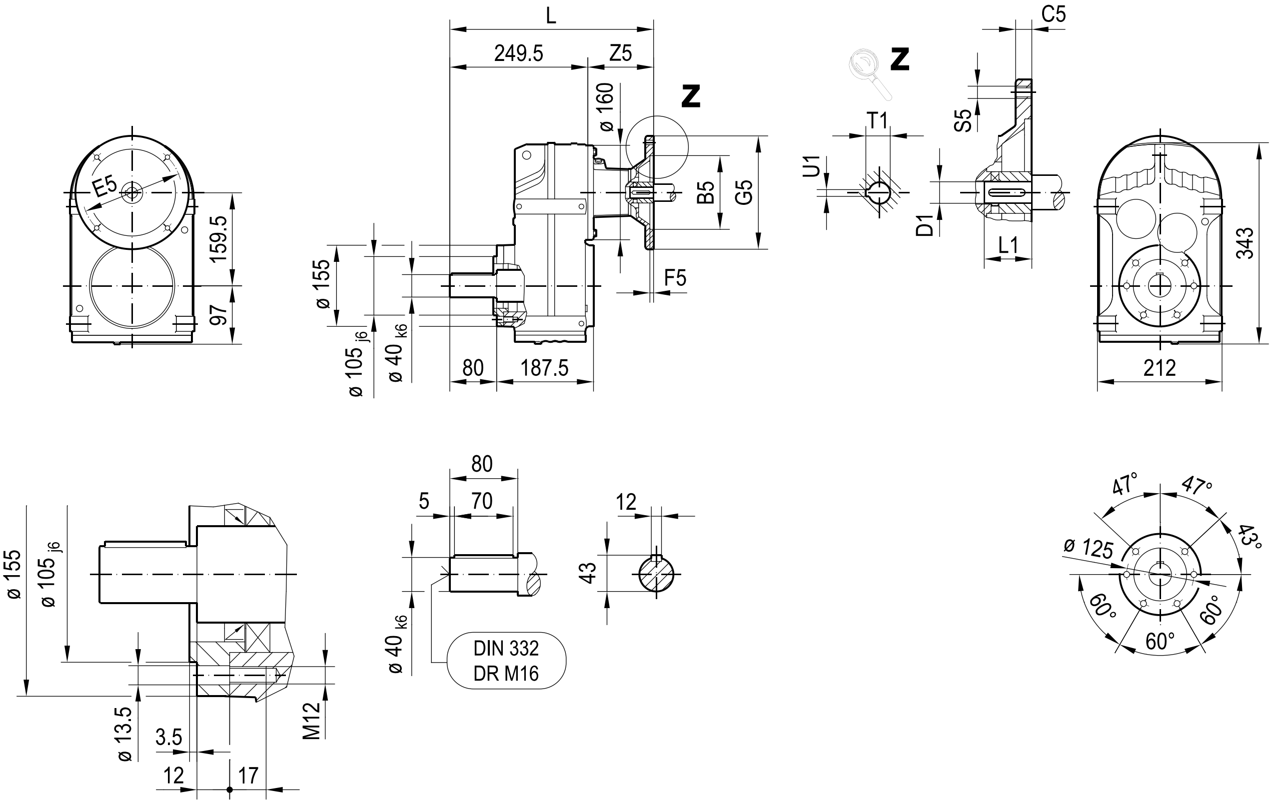
FZ67..

42 029 00 16



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	316	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	316	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	349	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	349	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	384	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	384	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	441	M12	191	38	80	41.3	10

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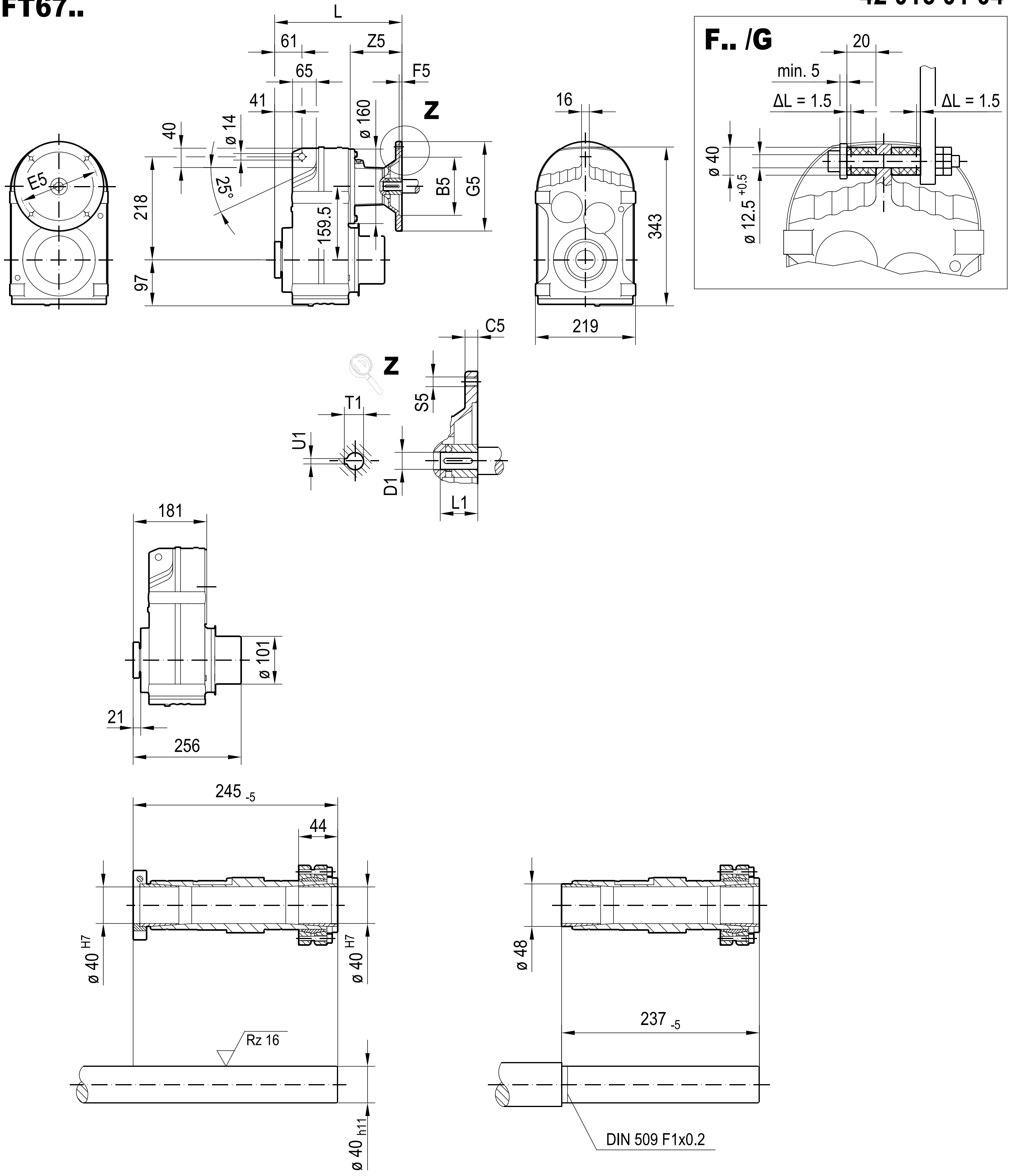
FT67..

42 016 01 04



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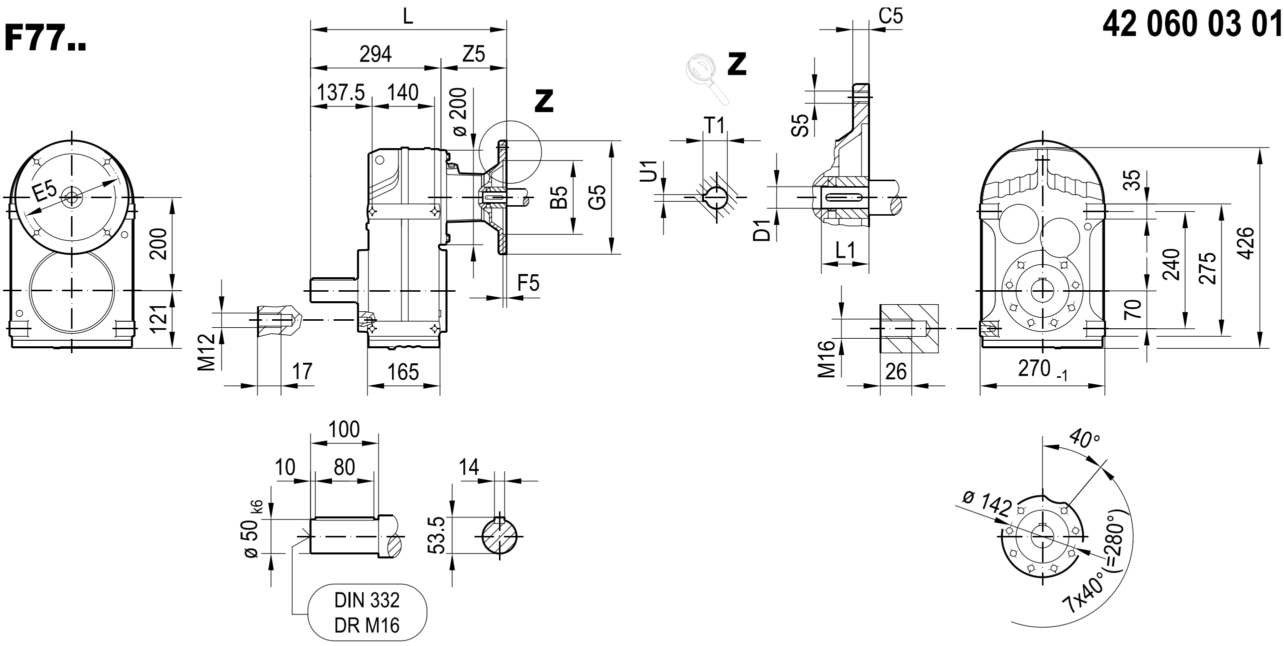
(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	247	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	247	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	280	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	280	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	315	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	315	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	372	M12	191	38	80	41.3	10

F77..

42 060 03 01



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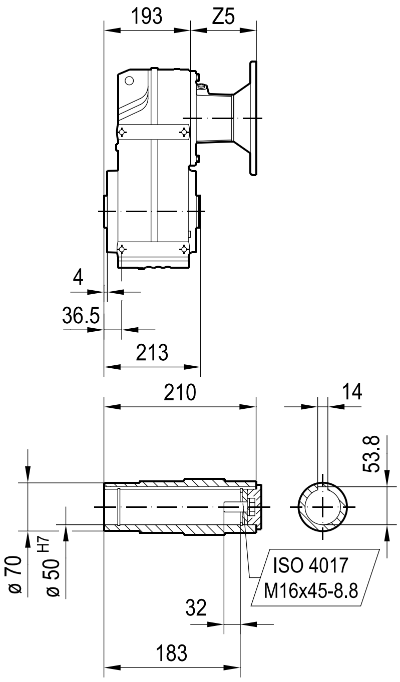

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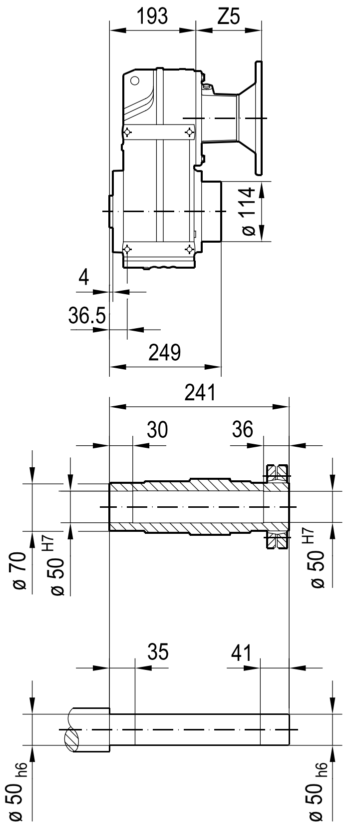

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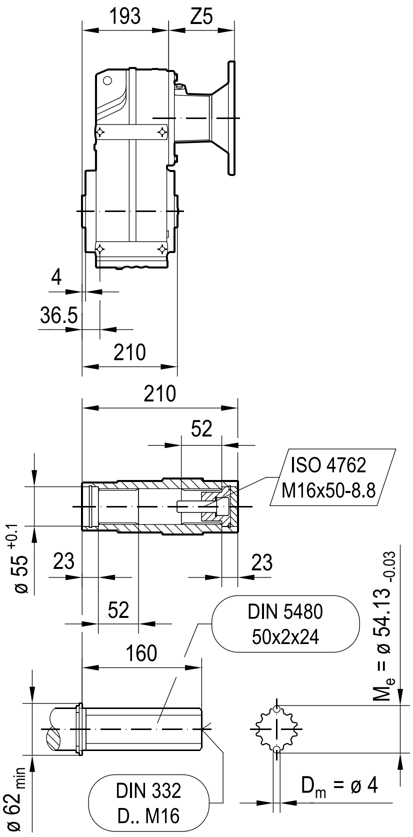

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	354	M8	60	11	23	12.8	4
AM71	110	10	130	4	160	354	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	386	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	386	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	420	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	420	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	473	M12	179	38	80	41.3	10
AM132ML	230	16	265	5	300	473	M12	179	38	80	41.3	10

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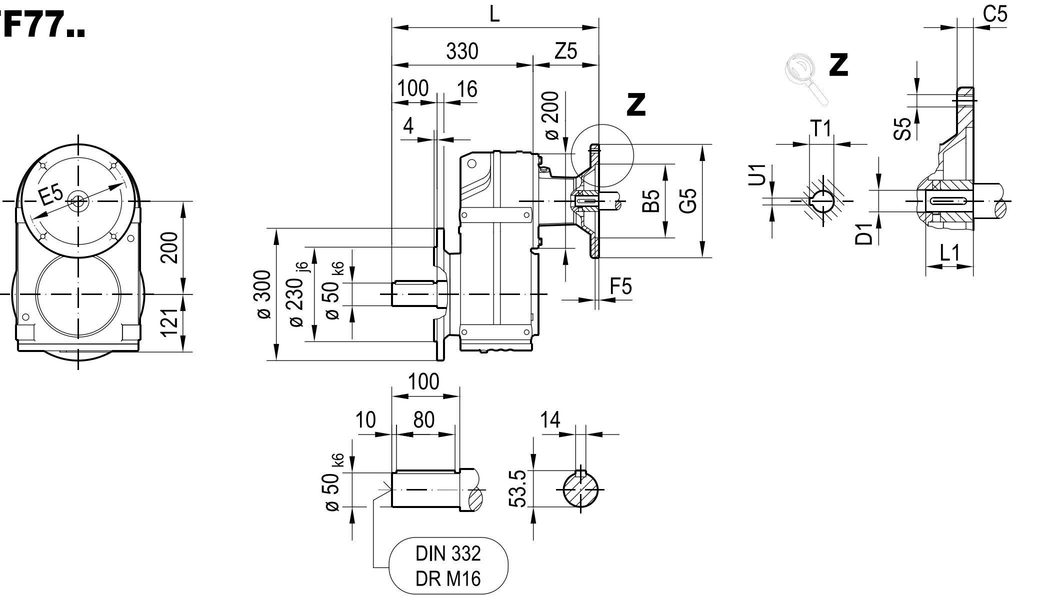
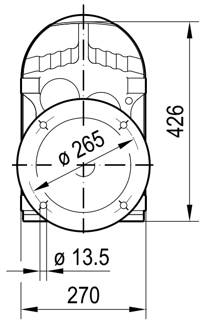
42 061 04 01





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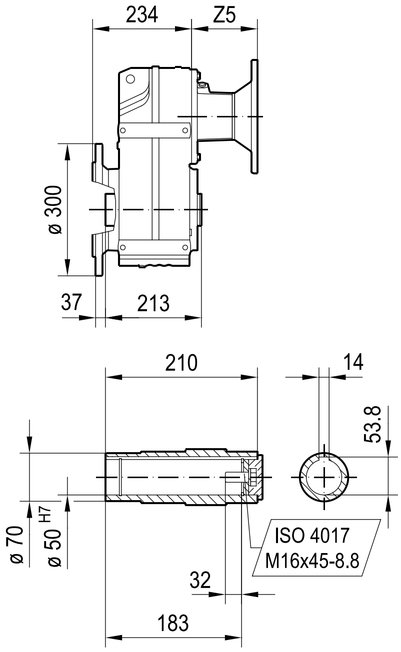

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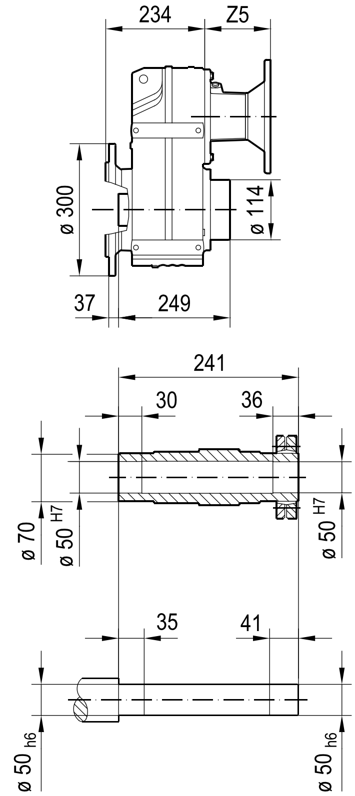

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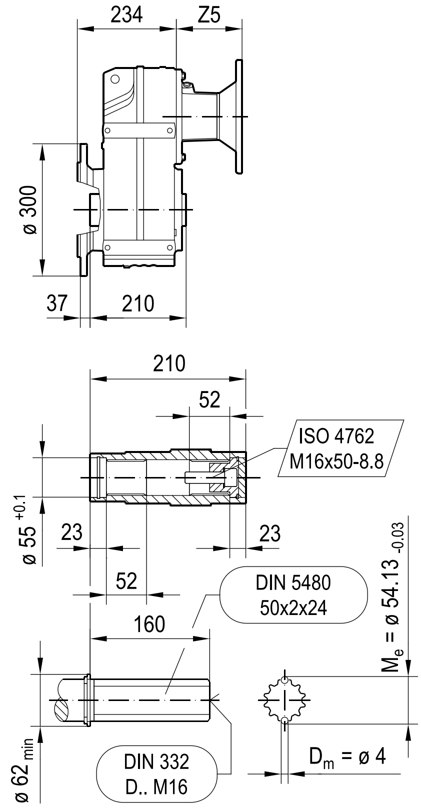

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	390	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	422	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	422	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	456	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	456	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	509	M12	179	38	80	41.3	10
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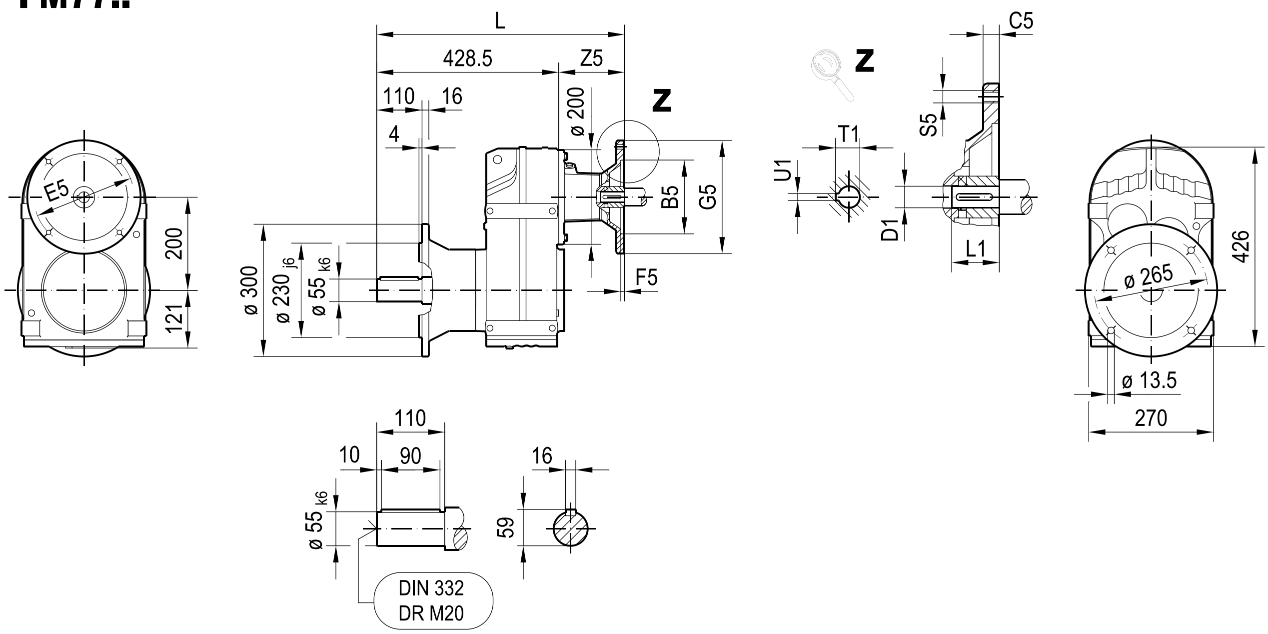
42 092 00 18

FM77..



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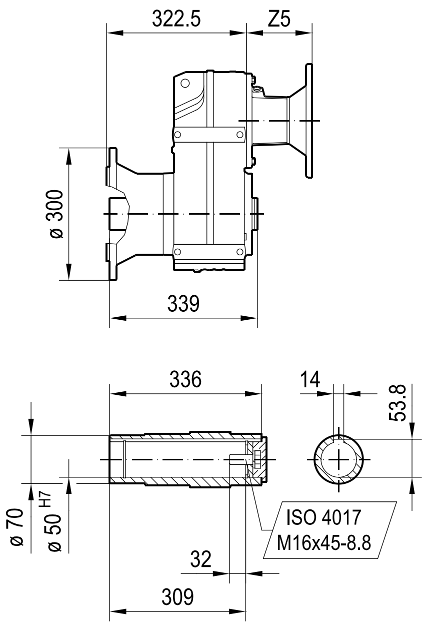
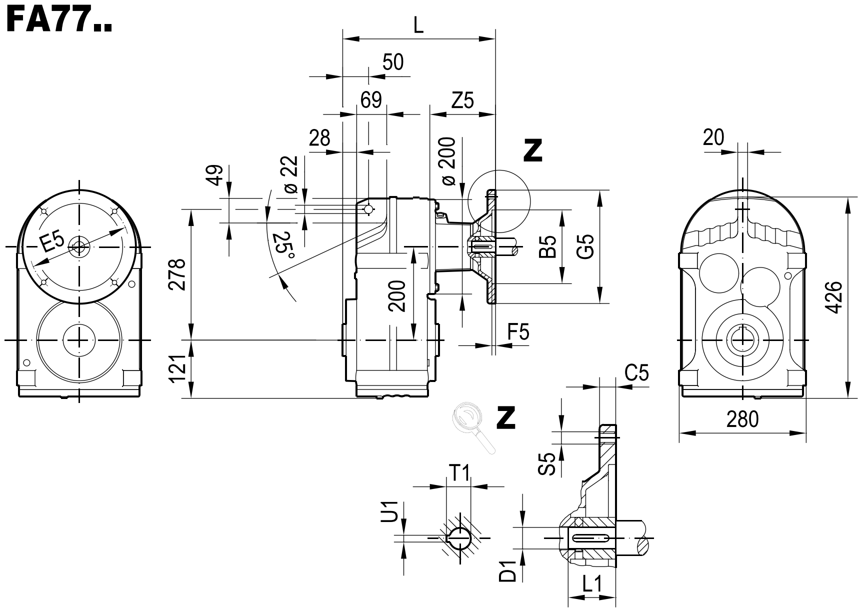
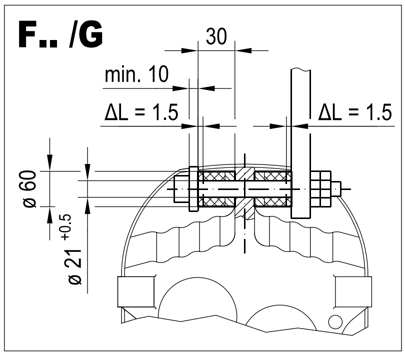


(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	489	M8	60	11	23	12.8	4
AM71	110	10	130	4	160	489	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	521	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	521	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	555	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	555	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	608	M12	179	38	80	41.3	10
AM132ML	230	16	265	5	300	608	M12	179	38	80	41.3	10

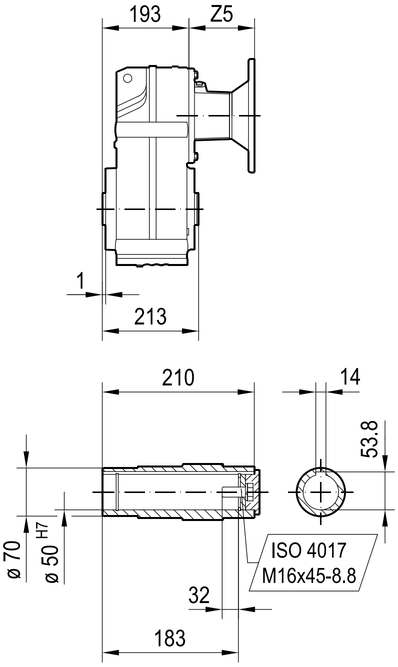
FA77..

42 062 04 01

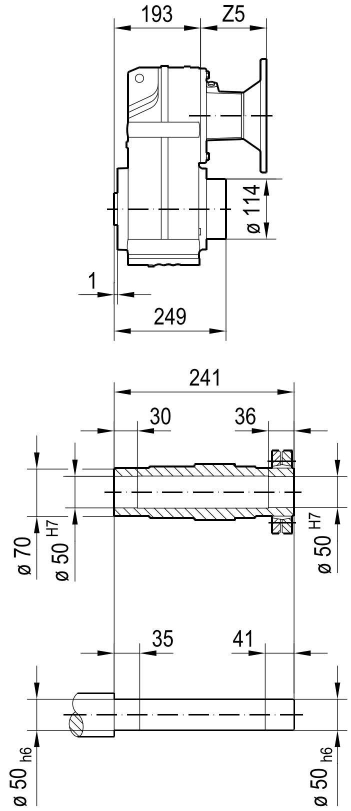




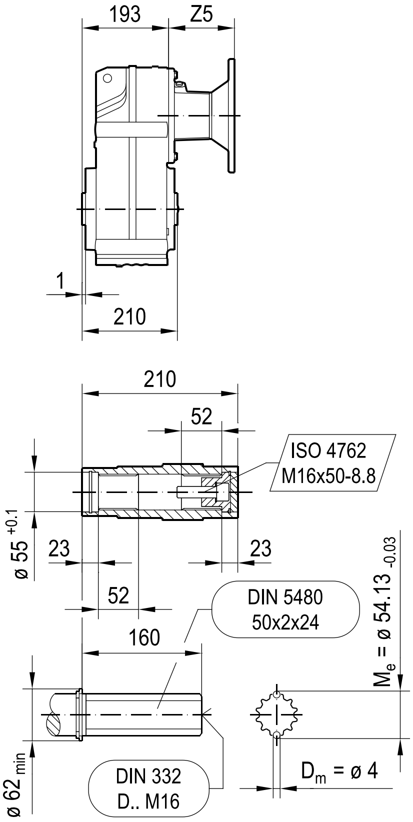
FA77..



FH77..



FV77..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	253	M8	60	11	23	12.8	4
AM71	110	10	130	4	160	253	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	285	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	285	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	319	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	319	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	372	M12	179	38	80	41.3	10
AM132ML	230	16	265	5	300	372	M12	179	38	80	41.3	10

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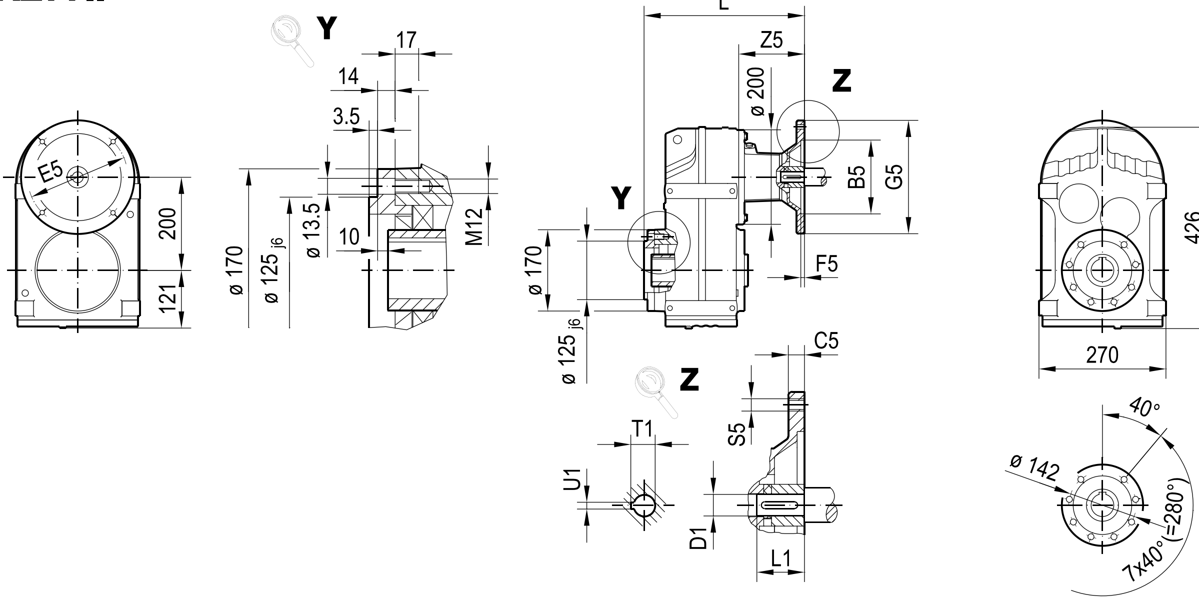
FAZ77..

42 063 03 01



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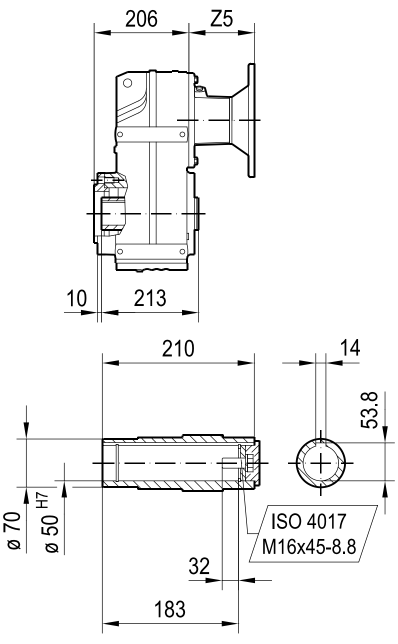

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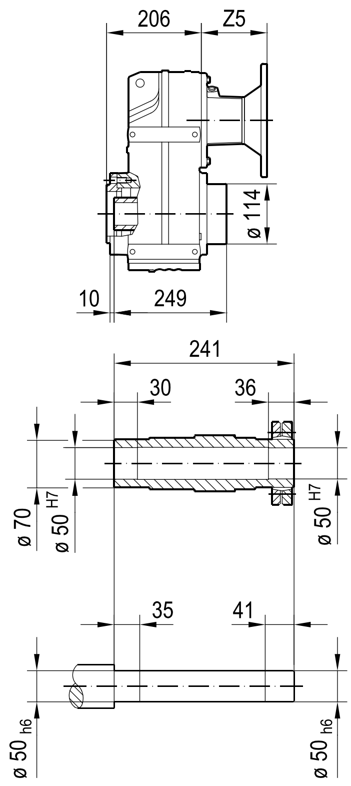
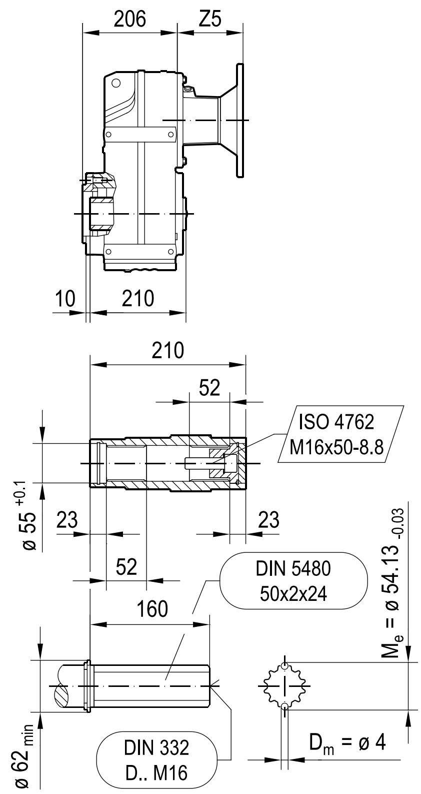


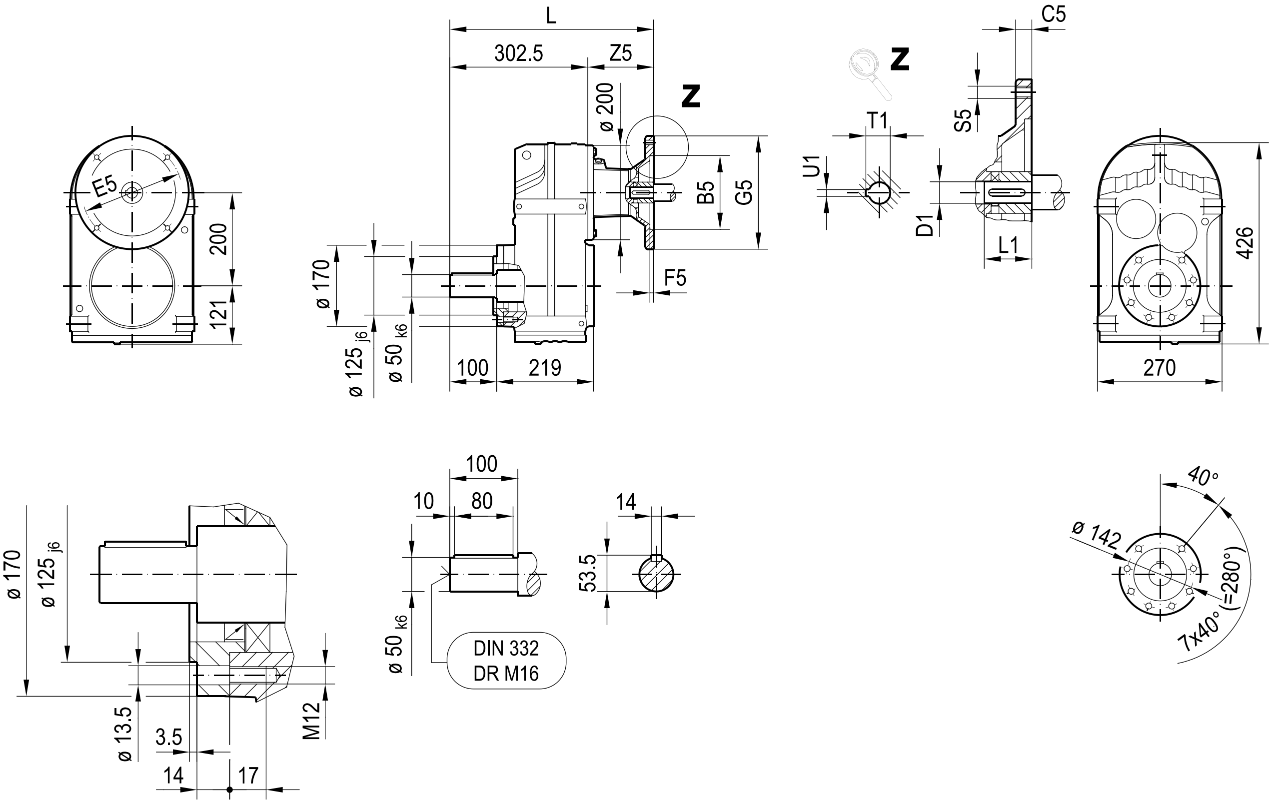
FVZ77..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	266	M8	60	11	23	12.8	4
AM71	110	10	130	4	160	266	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	298	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	298	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	332	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	332	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	385	M12	179	38	80	41.3	10
AM132ML	230	16	265	5	300	385	M12	179	38	80	41.3	10

FZ77..

42 030 00 16



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	363	M8	60	11	23	12.8	4
AM71	110	10	130	4	160	363	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	395	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	395	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	429	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	429	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	482	M12	179	38	80	41.3	10
AM132ML	230	16	265	5	300	482	M12	179	38	80	41.3	10

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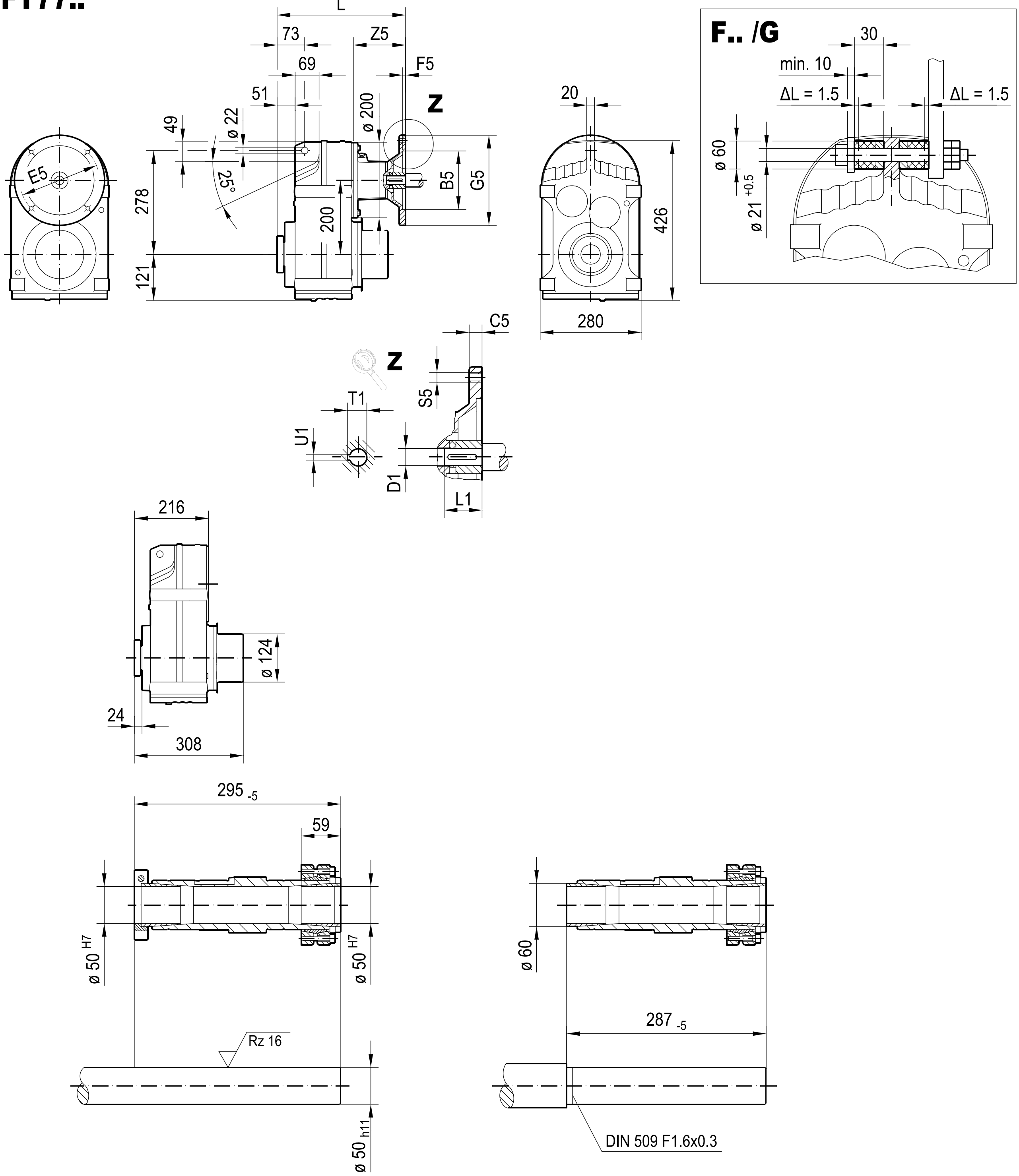
FT77..

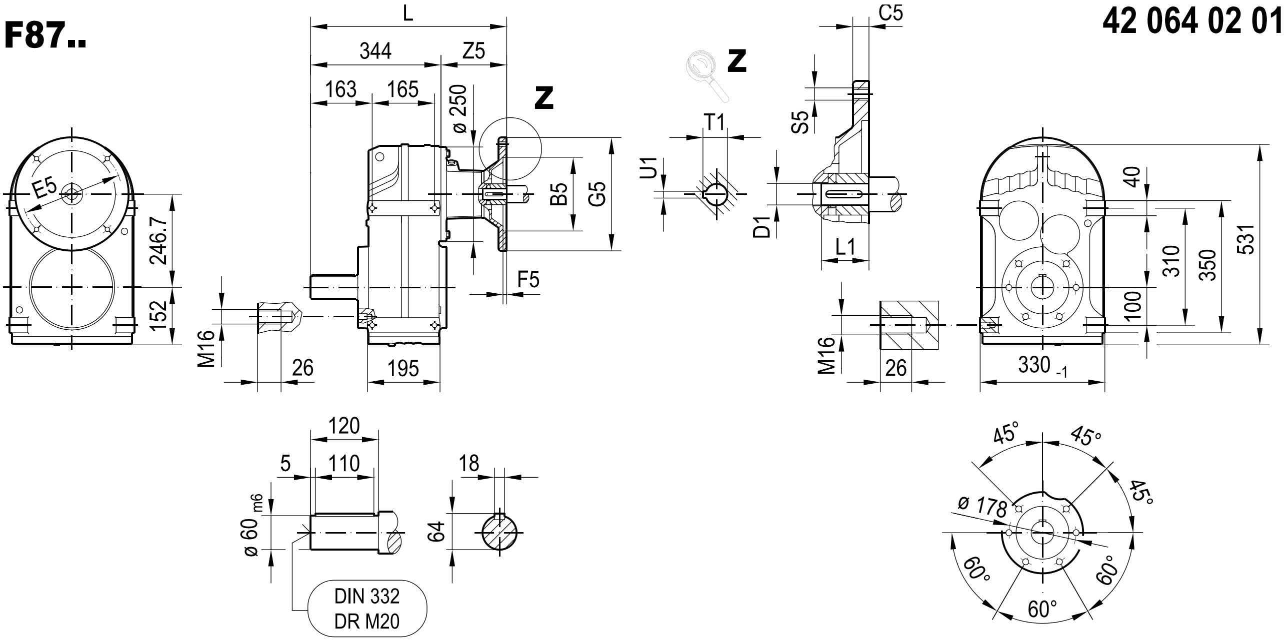
42 017 01 04



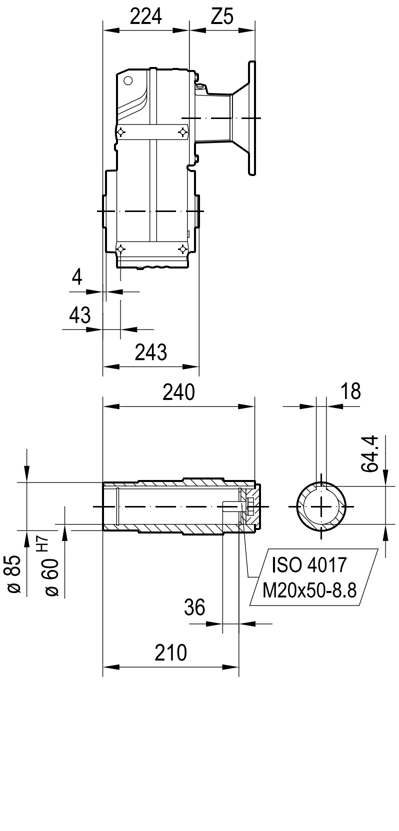
(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	276	M8	60	11	23	12.8	4
AM71	110	10	130	4	160	276	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	308	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	308	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	342	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	342	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	395	M12	179	38	80	41.3	10
AM132ML	230	16	265	5	300	395	M12	179	38	80	41.3	10

F87..

42 064 02 01

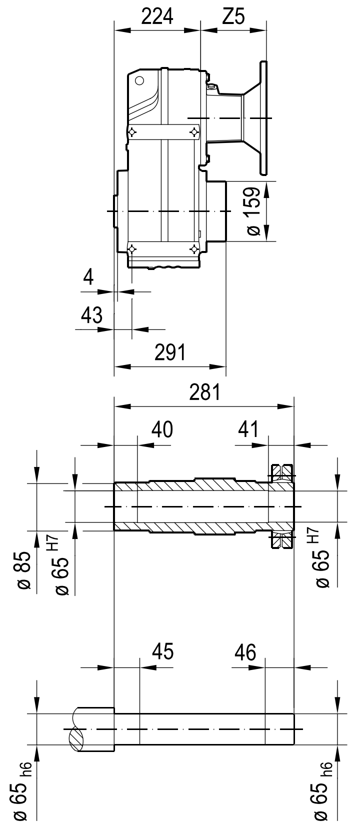


FA87B..

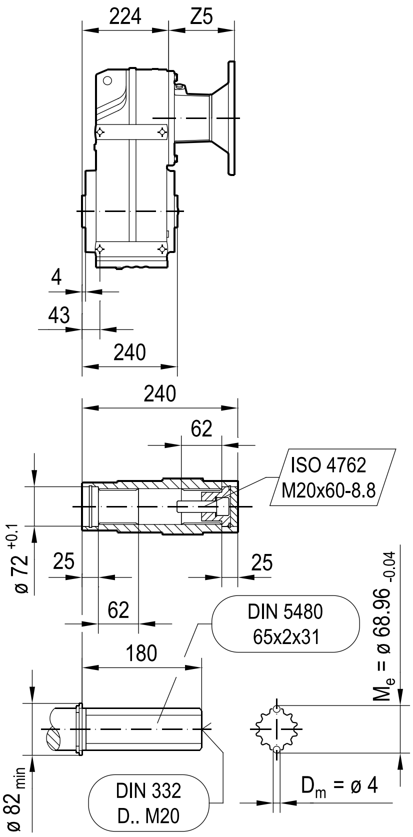


FH87B..

FH87B/R.. → 6.3



FV87B..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM80	130	12	165	4.5	200	431	M10	87	19	40	21.8	6
AM90	130	12	165	4.5	200	431	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	465	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	465	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	518	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	518	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	576	M16	232	42	110	45.3	12
AM180	250	18	300	6	350	576	M16	232	48	110	51.8	14

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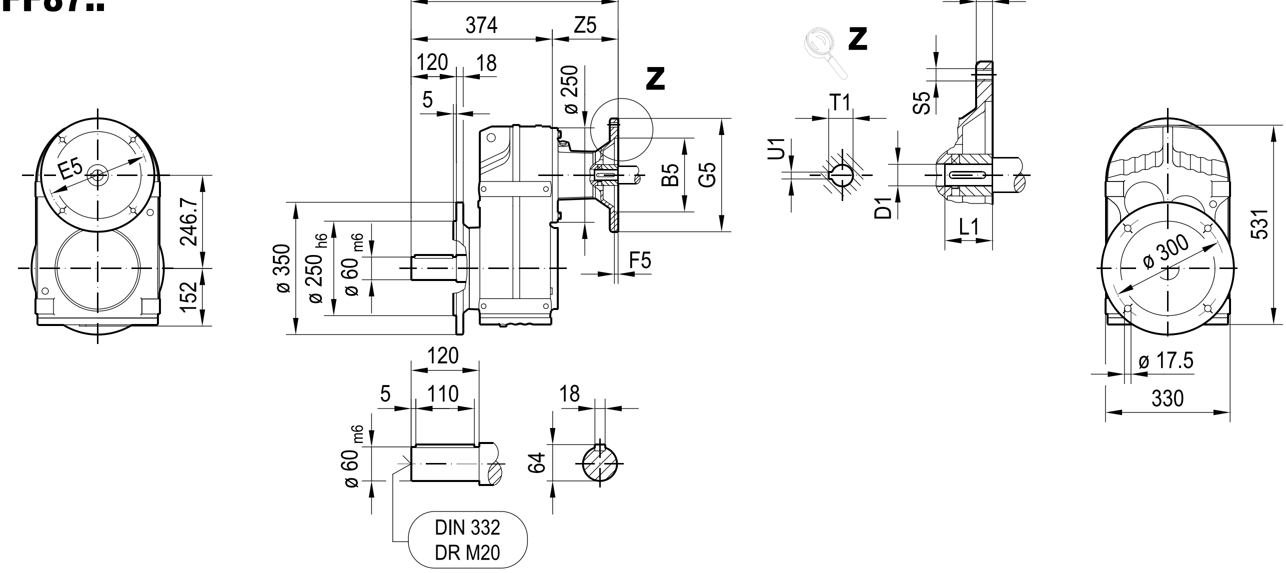
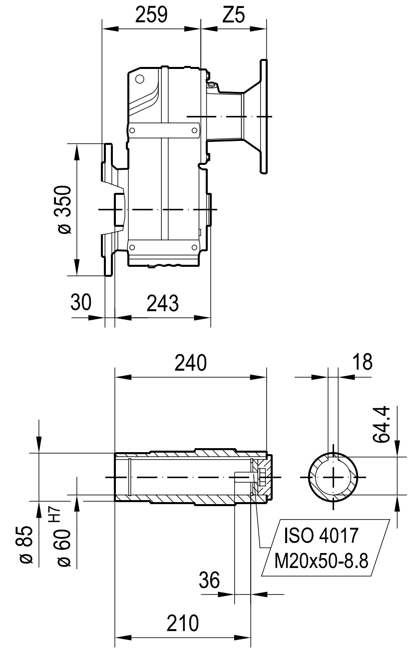
FF87..

42 065 02 01

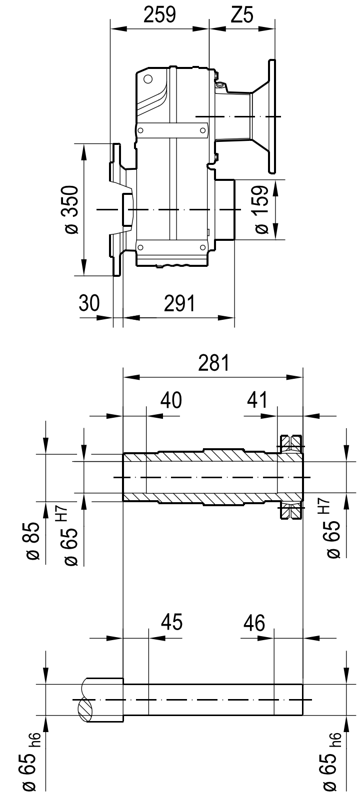


FAF87..

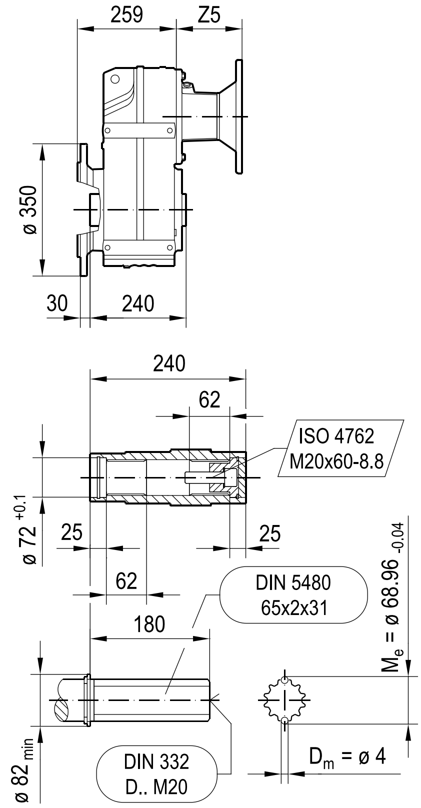


FHF87..

FHF87/R.. → 6.3



FVF87..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM80	130	12	165	4.5	200	461	M10	87	19	40	21.8	6
AM90	130	12	165	4.5	200	461	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	495	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	495	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	548	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	548	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	606	M16	232	42	110	45.3	12
AM180	250	18	300	6	350	606	M16	232	48	110	51.8	14

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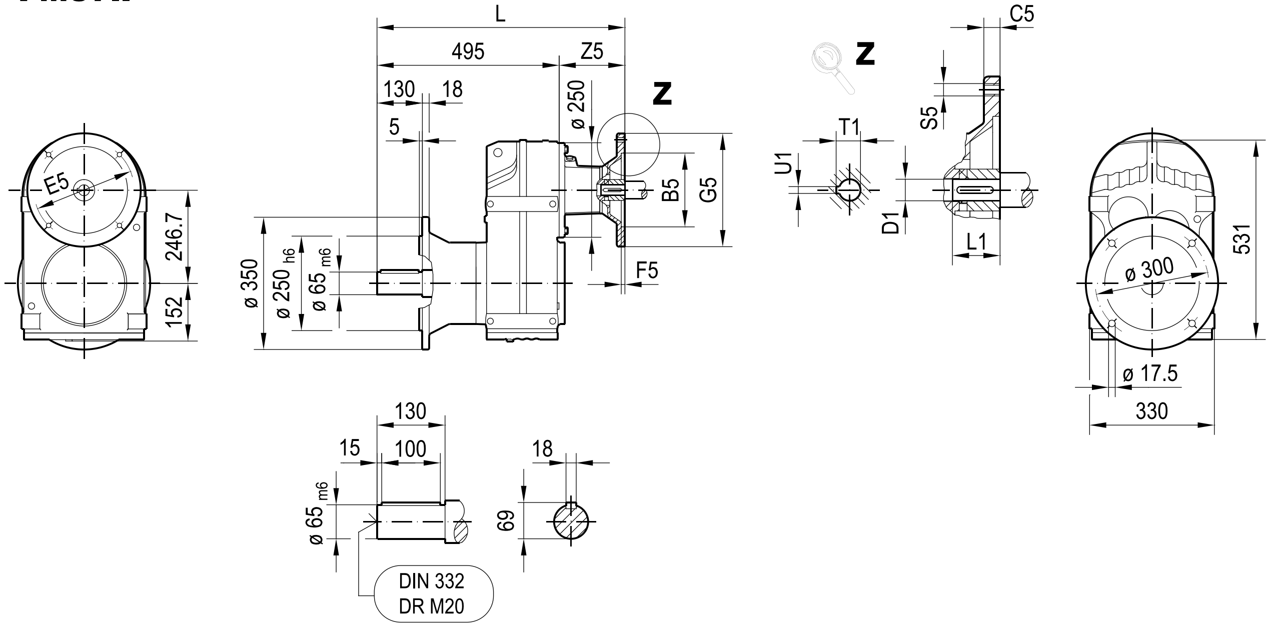
42 093 00 18

FM87..



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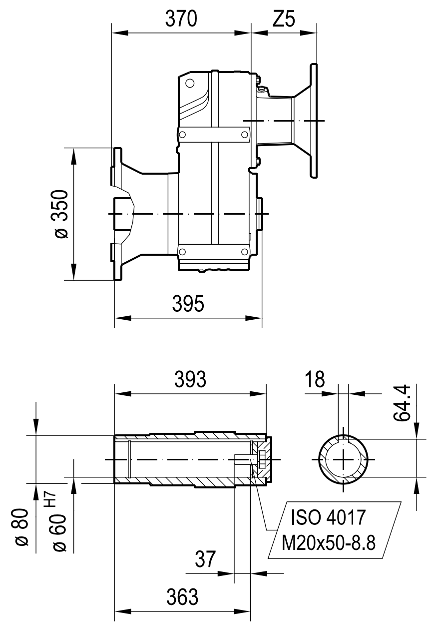

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM80	130	12	165	4.5	200	582	M10	87	19	40	21.8	6
AM90	130	12	165	4.5	200	582	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	616	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	616	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	669	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	669	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	727	M16	232	42	110	45.3	12
AM180	250	18	300	6	350	727	M16	232	48	110	51.8	14

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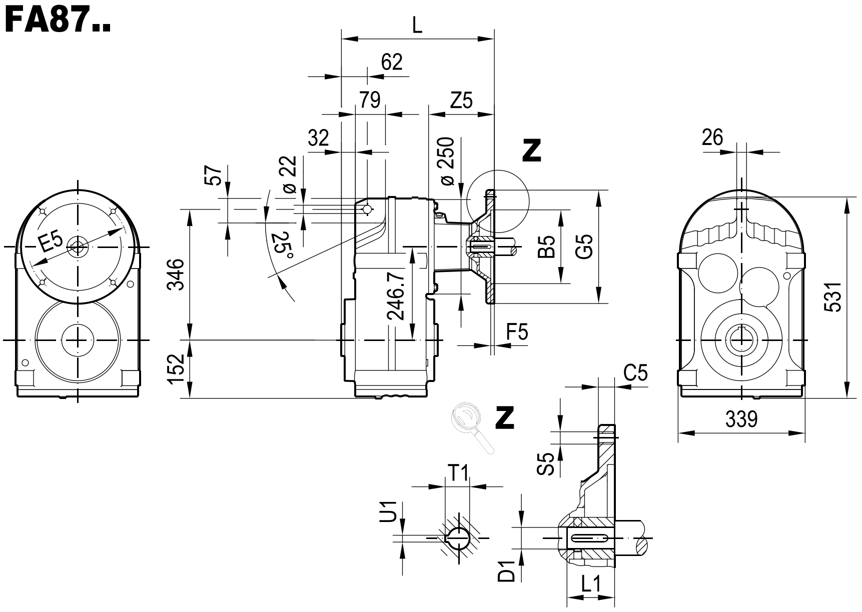
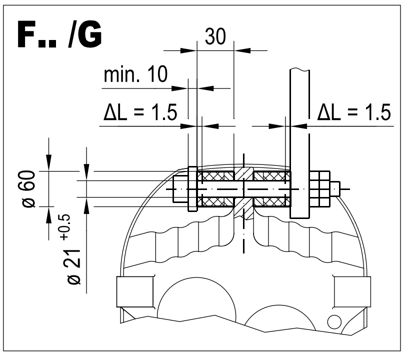
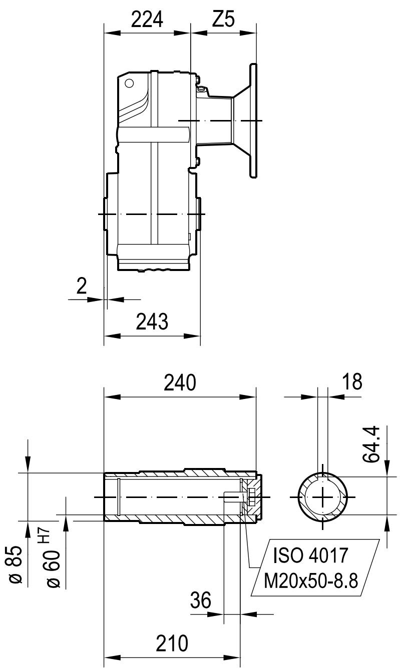
FA87..

42 066 03 01

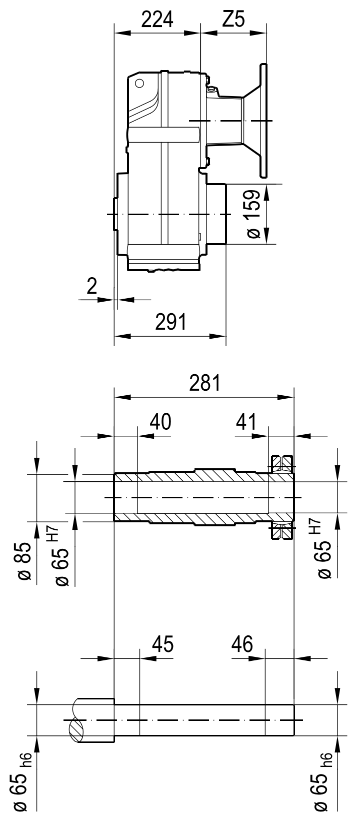




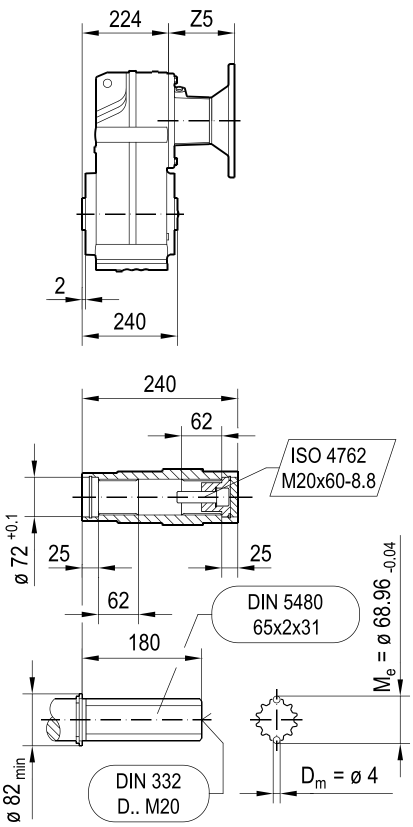
FA87..



FH87..
FH87/R.. → 6.3



FV87..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM80	130	12	165	4.5	200	311	M10	87	19	40	21.8	6
AM90	130	12	165	4.5	200	311	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	345	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	345	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	398	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	398	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	456	M16	232	42	110	45.3	12
AM180	250	18	300	6	350	456	M16	232	48	110	51.8	14

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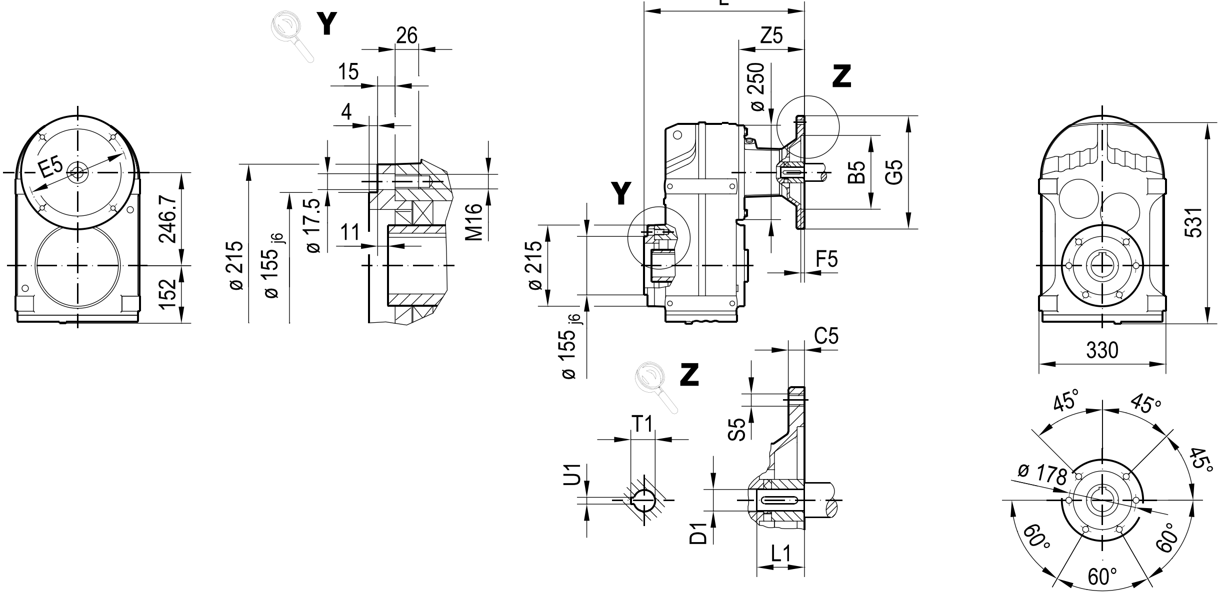
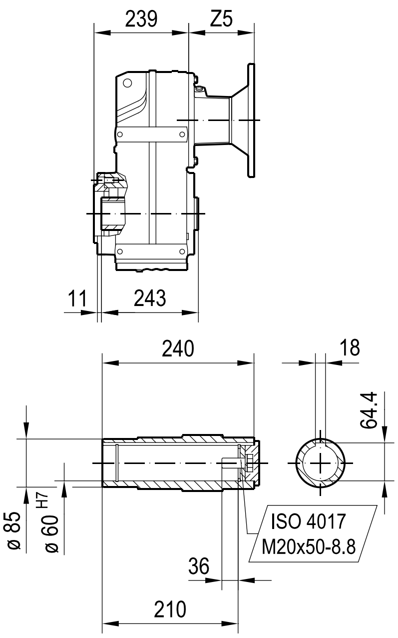
FAZ87..

42 067 02 01

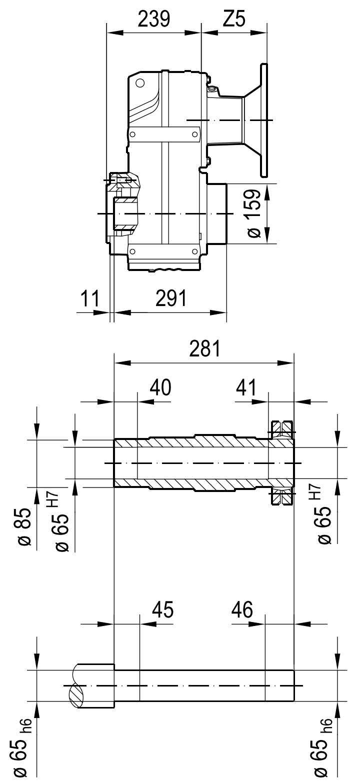


FAZ87..

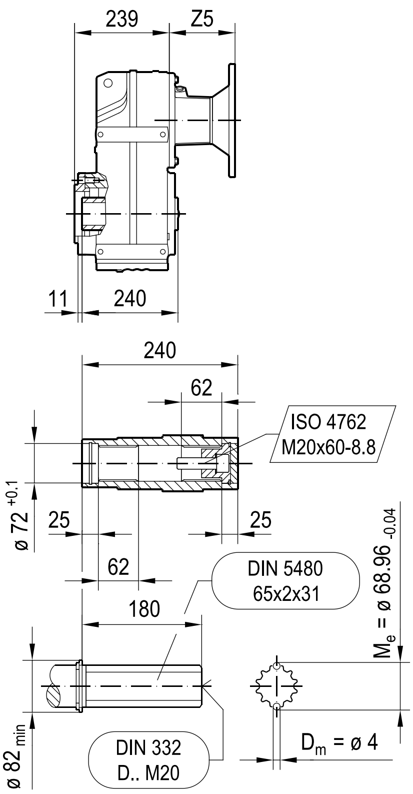


FHZ87..

FHZ87/R.. → 6.3



FVZ87..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM80	130	12	165	4.5	200	326	M10	87	19	40	21.8	6
AM90	130	12	165	4.5	200	326	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	360	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	360	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	413	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	413	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	471	M16	232	42	110	45.3	12
AM180	250	18	300	6	350	471	M16	232	48	110	51.8	14

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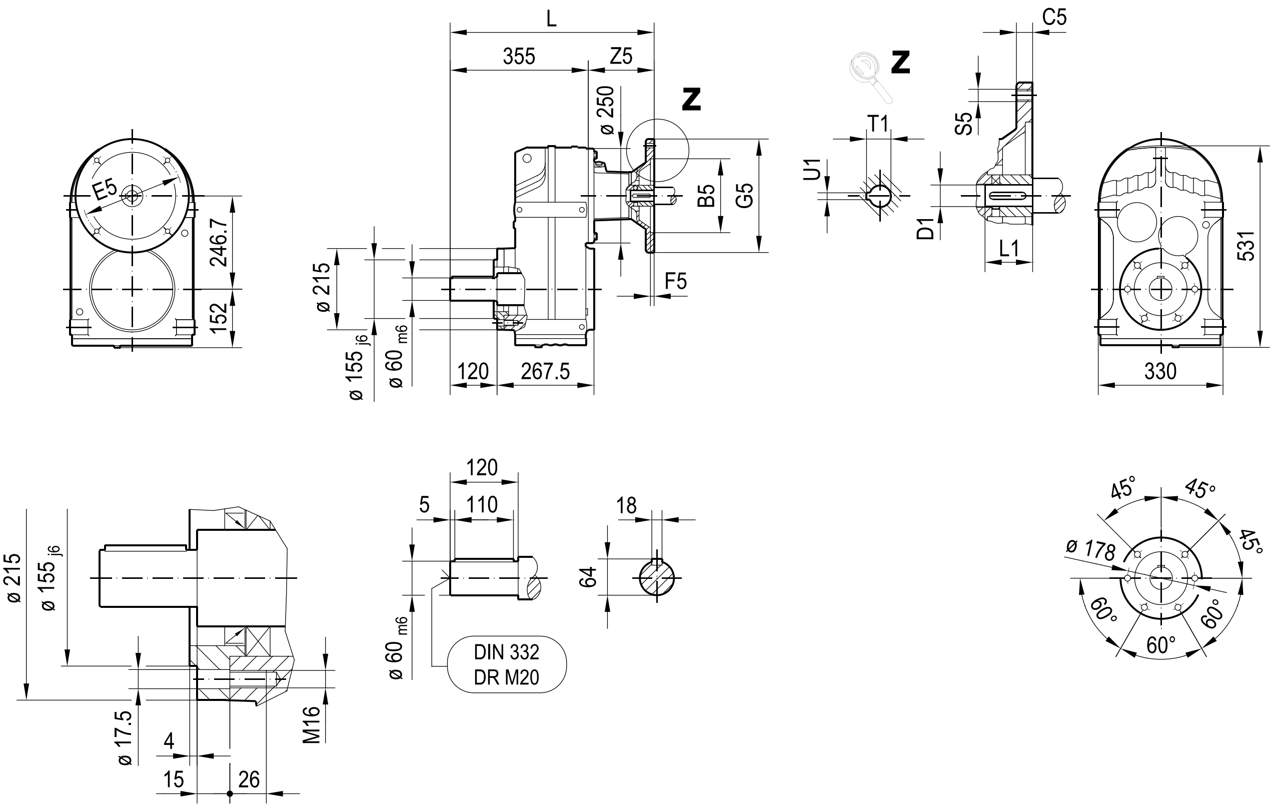
FZ87..

42 031 00 16



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM80	130	12	165	4.5	200	442	M10	87	19	40	21.8	6
AM90	130	12	165	4.5	200	442	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	476	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	476	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	529	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	529	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	587	M16	232	42	110	45.3	12
AM180	250	18	300	6	350	587	M16	232	48	110	51.8	14

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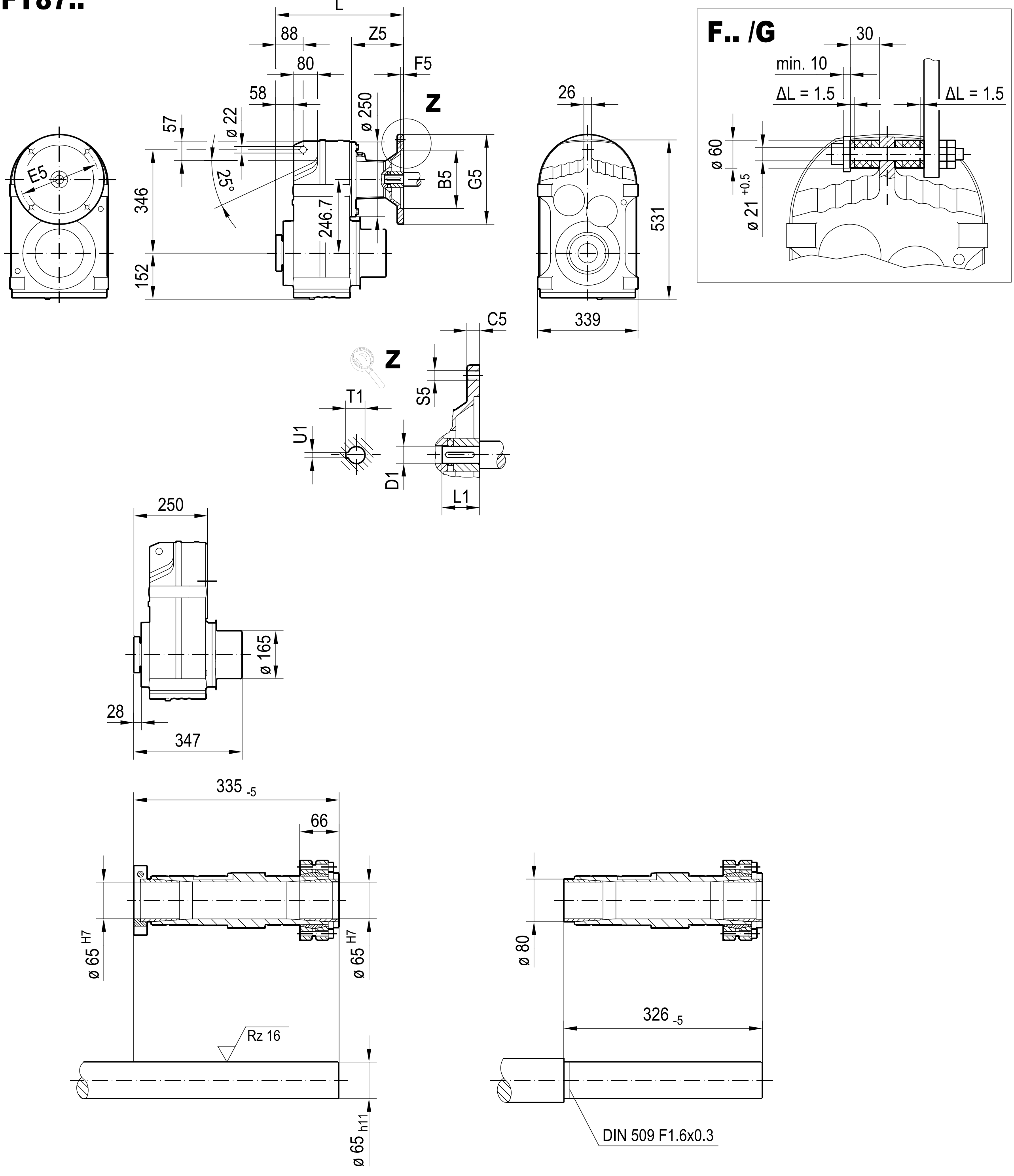
FT87..

42 018 01 04



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM80	130	12	165	4.5	200	337	M10	87	19	40	21.8	6
AM90	130	12	165	4.5	200	337	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	371	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	371	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	424	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	424	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	482	M16	232	42	110	45.3	12
AM180	250	18	300	6	350	482	M16	232	48	110	51.8	14

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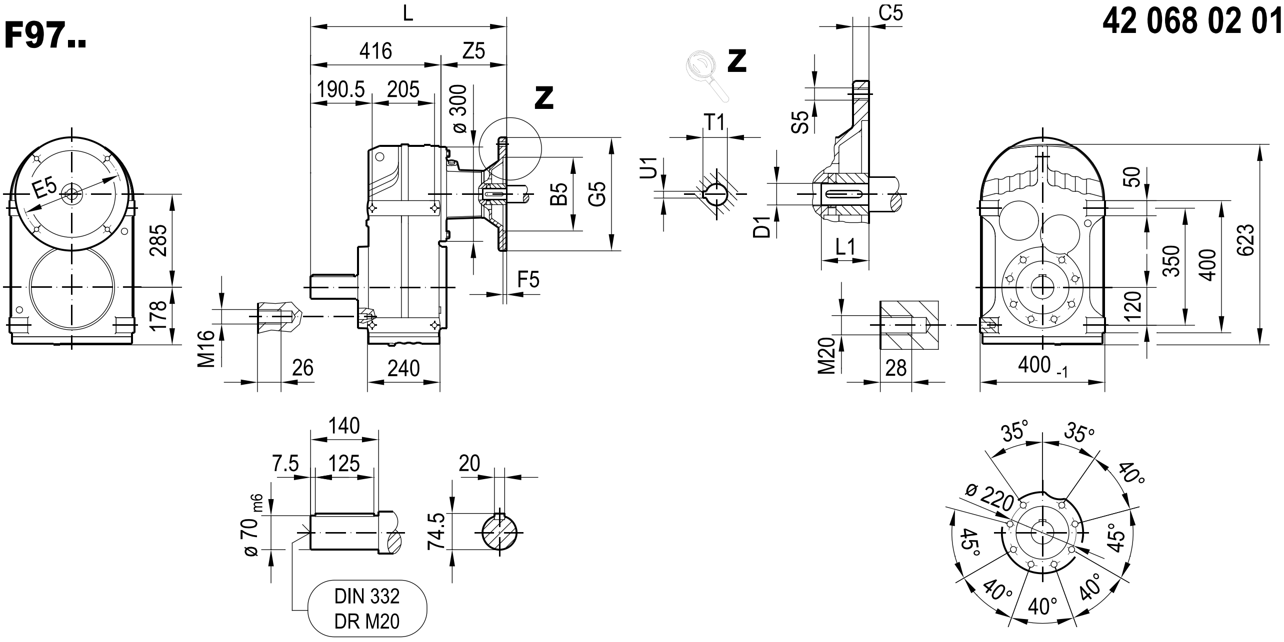
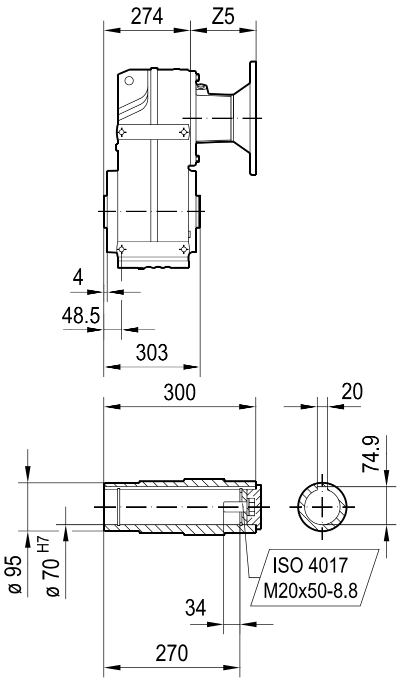
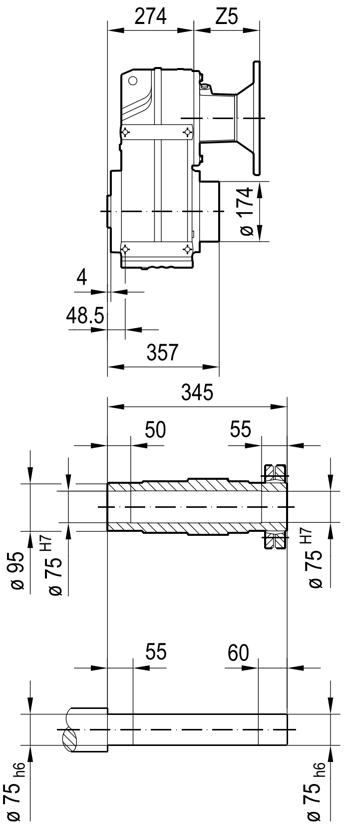
F97.. **42 068 02 01**



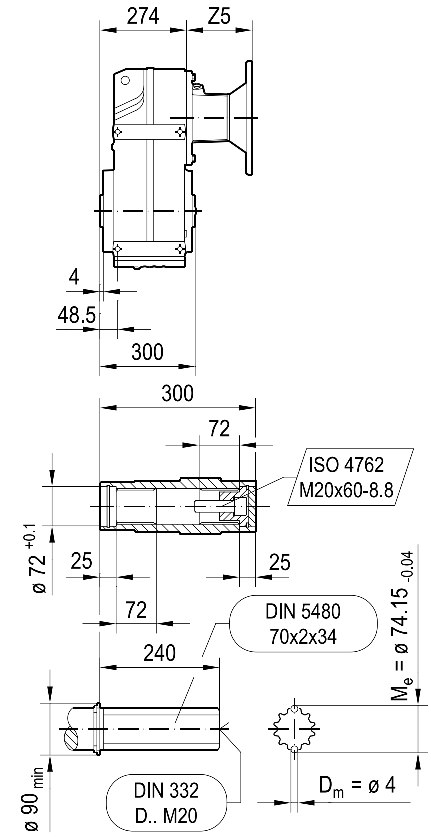
FA97B..



FH97B..
FH97B/R.. → 6.3



FV97B..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	532	M12	116	28	60	31.3	8
AM112	180	15	215	5	250	532	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	585	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	585	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	643	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	643	M16	227	48	110	51.8	14
AM200	300	20	350	7	400	684	M16	268	55	110	59.3	16

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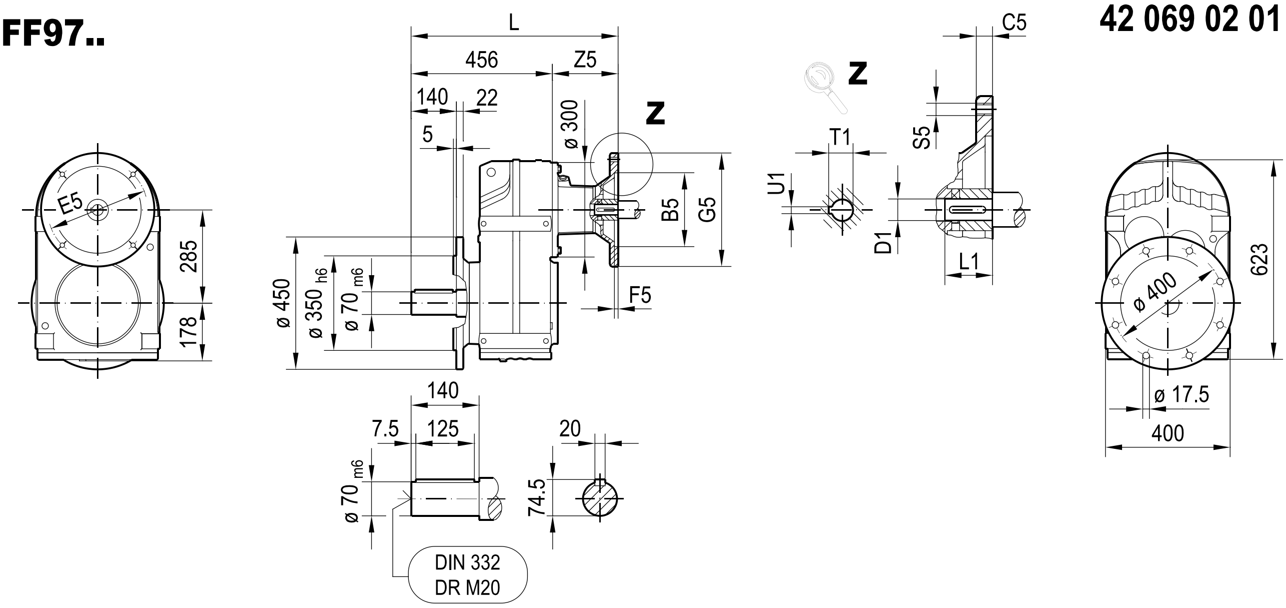
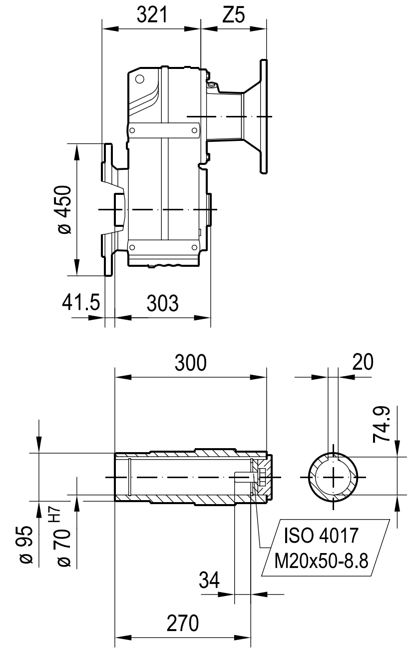
FF97..

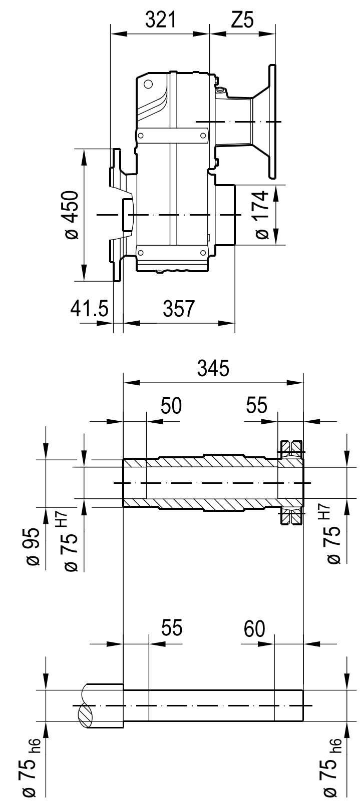
42 069 02 01



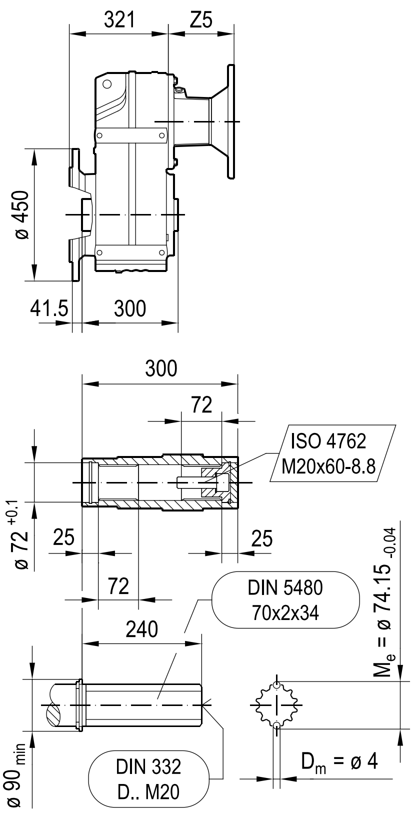
FAF97..



FHF97..
FHF97/R.. → 6.3



FVF97..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	572	M12	116	28	60	31.3	8
AM112	180	15	215	5	250	572	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	625	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	625	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	683	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	683	M16	227	48	110	51.8	14
AM200	300	20	350	7	400	724	M16	268	55	110	59.3	16

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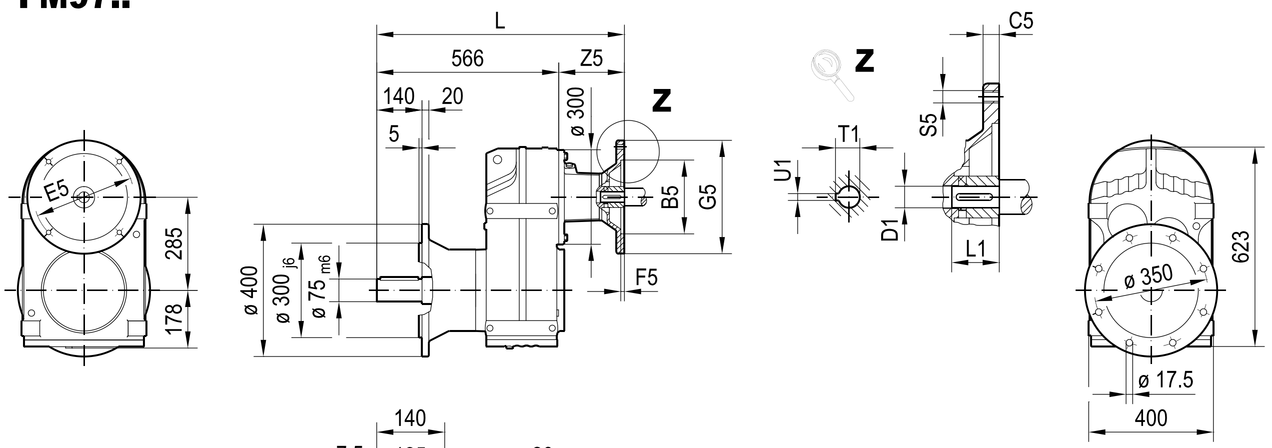
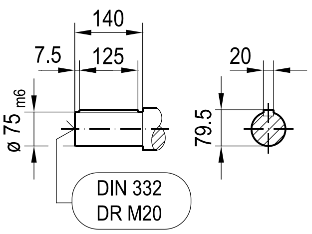
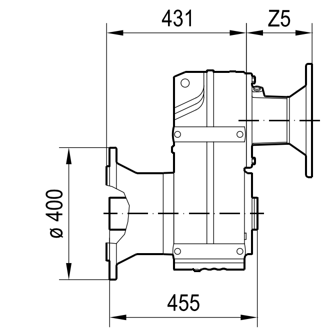
42 094 00 18

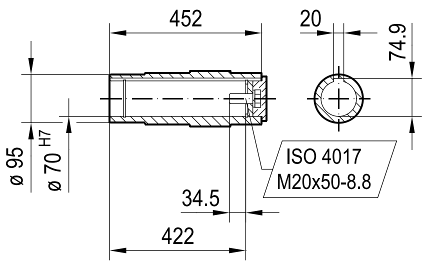
FM97..





FAM97..





(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	682	M12	116	28	60	31.3	8
AM112	180	15	215	5	250	682	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	735	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	735	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	793	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	793	M16	227	48	110	51.8	14
AM200	300	20	350	7	400	834	M16	268	55	110	59.3	16

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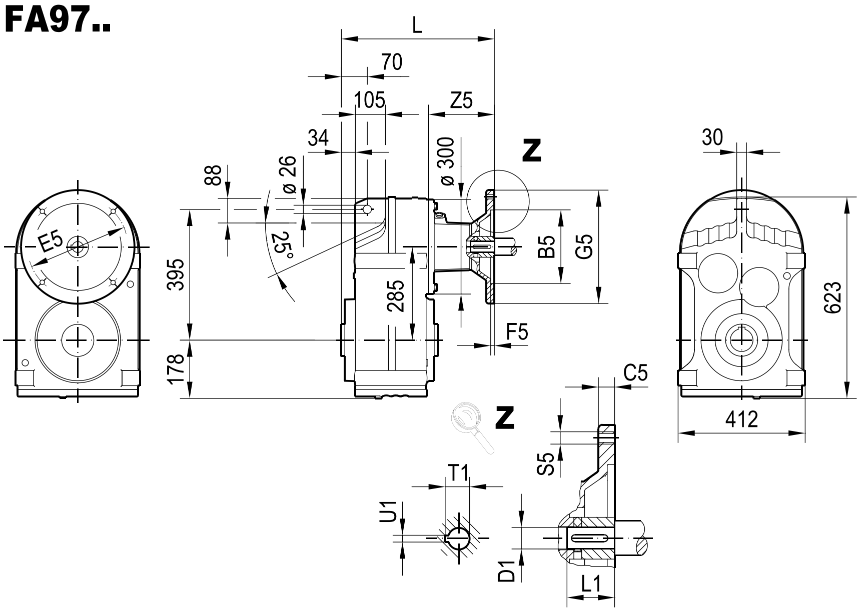
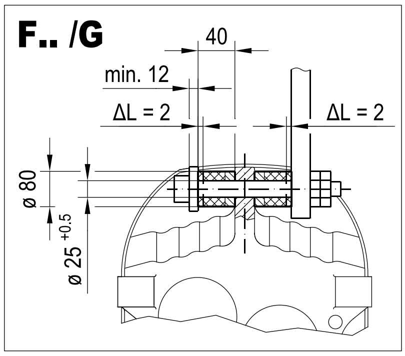
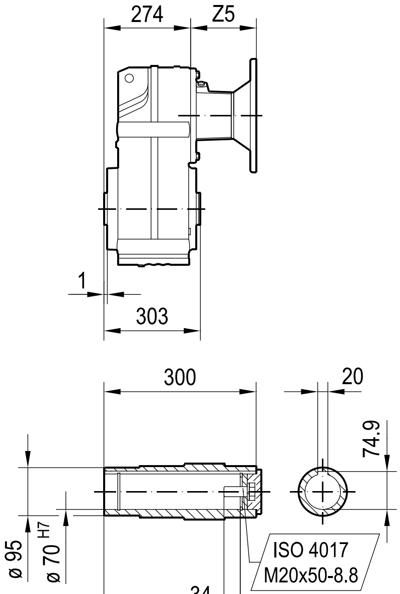
FA97..

42 070 03 01



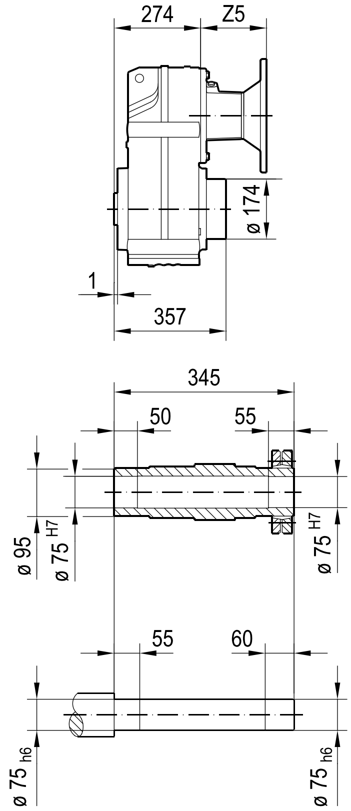


FA97..

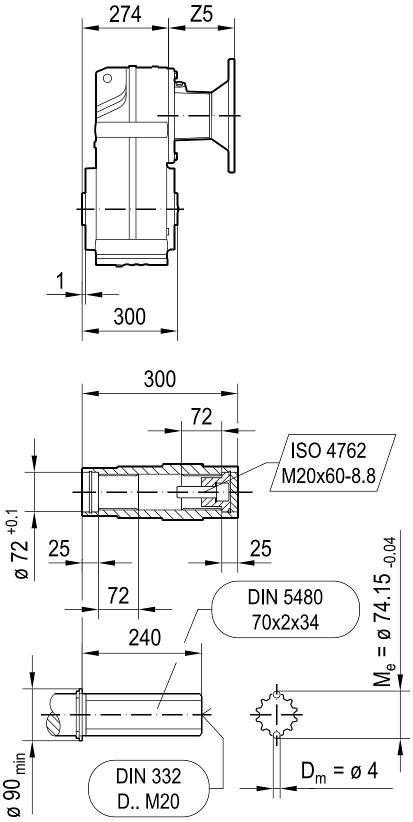


FH97..

FH97/R.. → 6.3



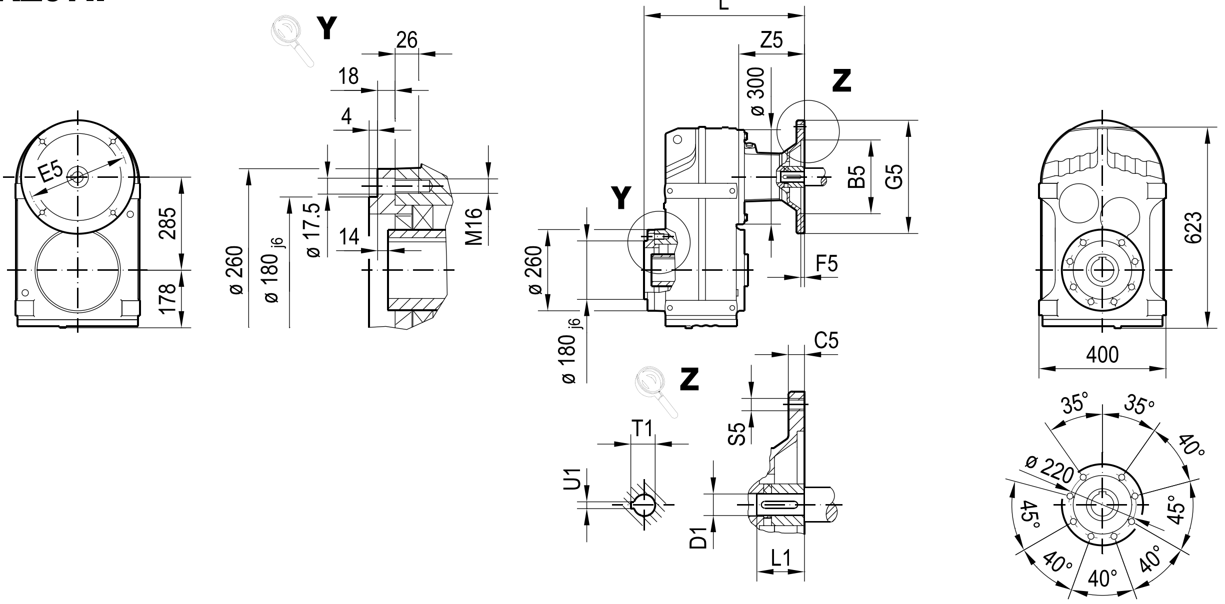
FV97..



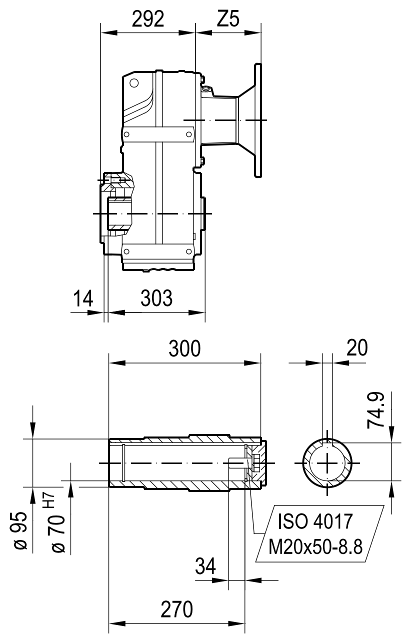
(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	390	M12	116	28	60	31.3	8
AM112	180	15	215	5	250	390	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	443	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	443	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	501	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	501	M16	227	48	110	51.8	14
AM200	300	20	350	7	400	542	M16	268	55	110	59.3	16

FAZ97..

42 071 02 01

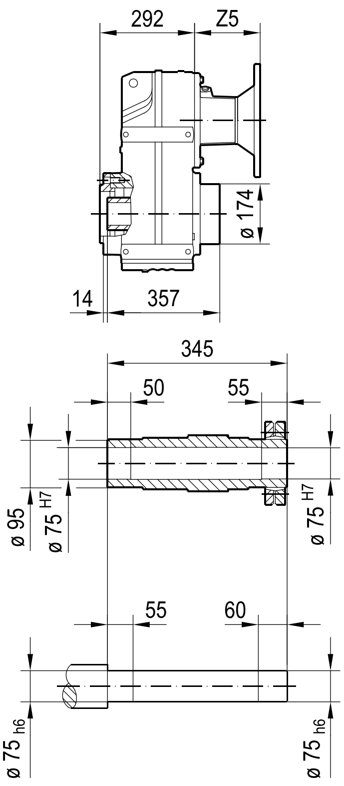


FAZ97..

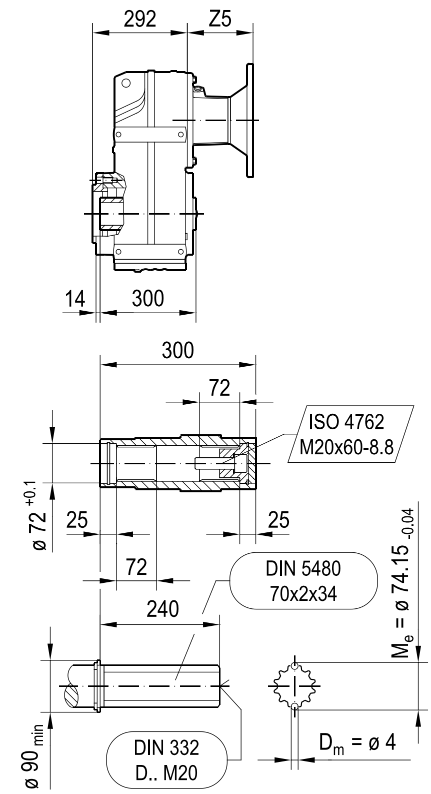


FHZ97..

FHZ97/R.. → 6.3



FVZ97..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	408	M12	116	28	60	31.3	8
AM112	180	15	215	5	250	408	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	461	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	461	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	519	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	519	M16	227	48	110	51.8	14
AM200	300	20	350	7	400	560	M16	268	55	110	59.3	16

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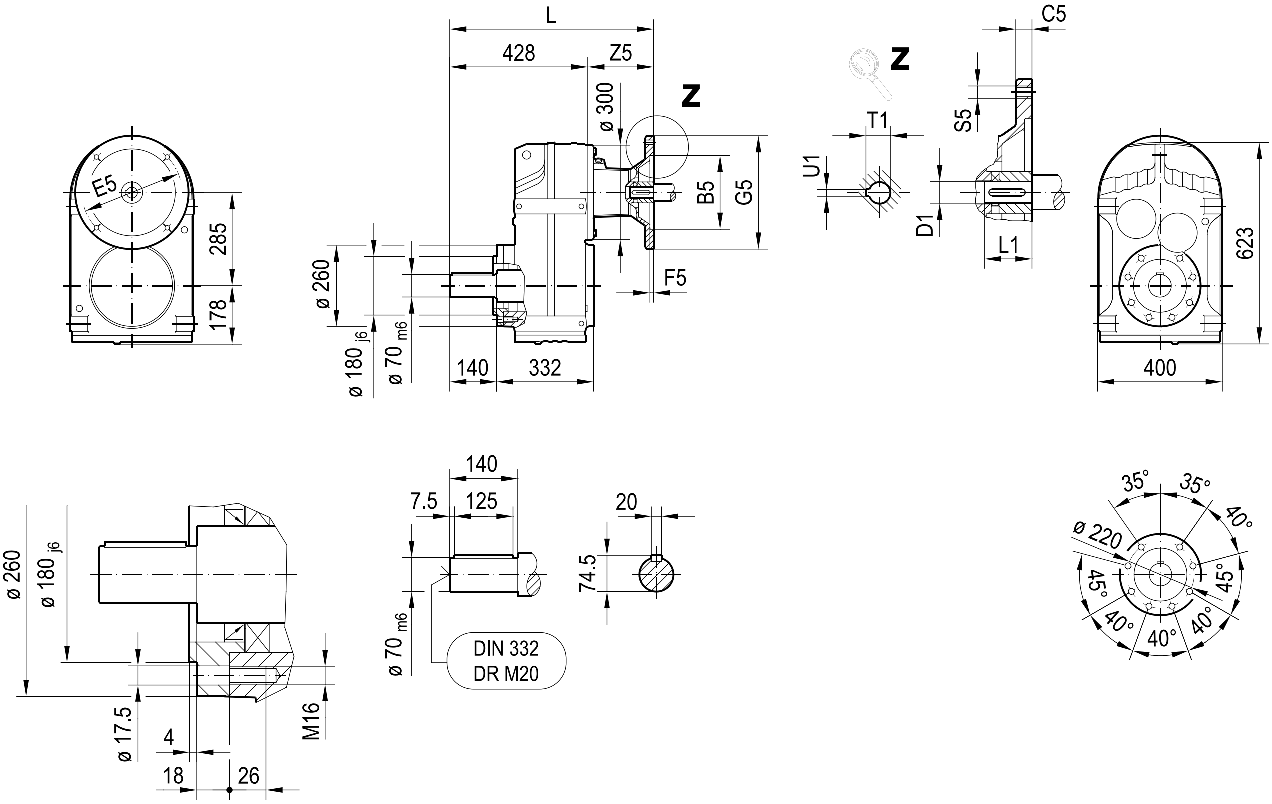
FZ97..

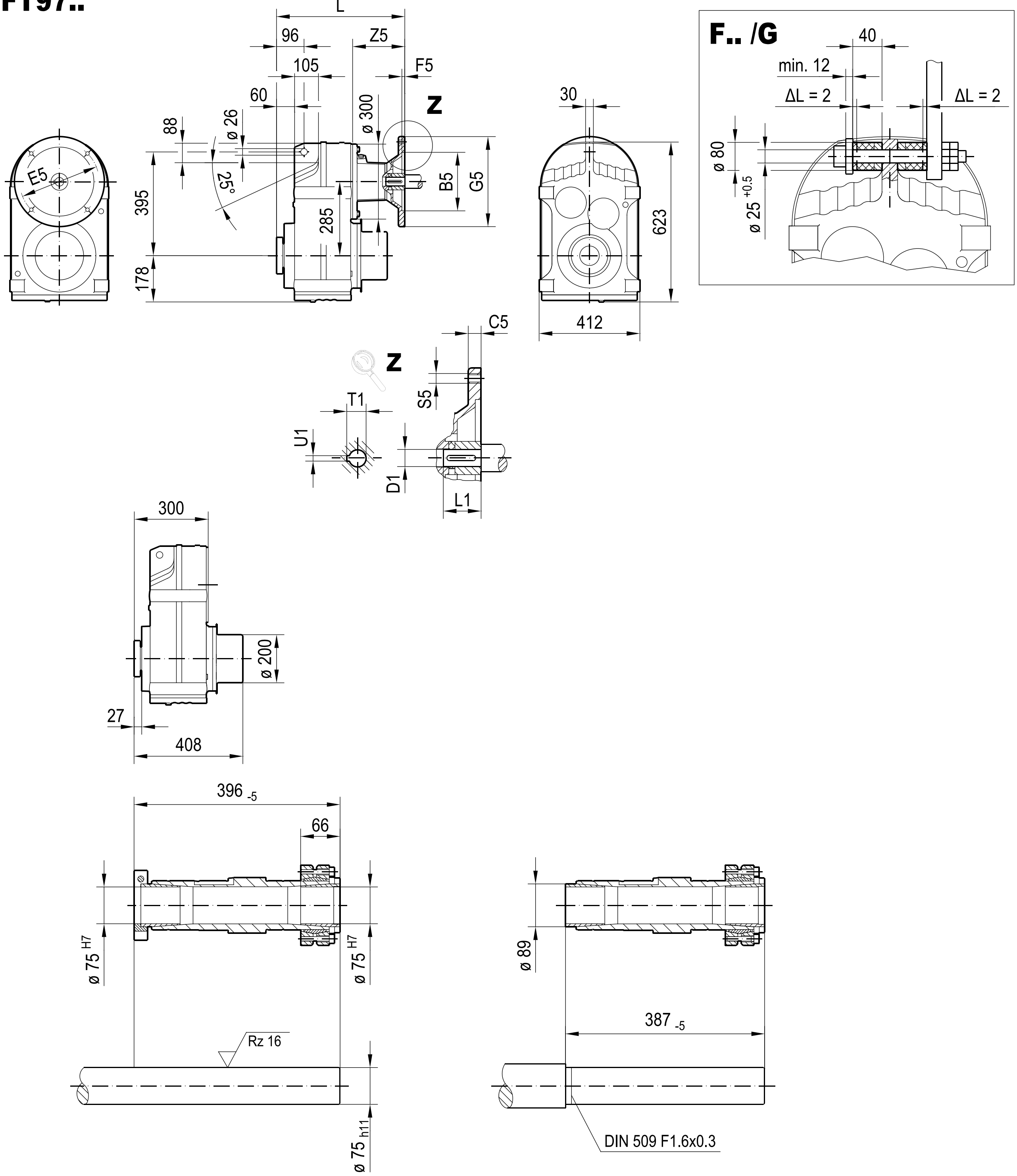
42 032 01 16



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	544	M12	116	28	60	31.3	8
AM112	180	15	215	5	250	544	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	597	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	597	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	655	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	655	M16	227	48	110	51.8	14
AM200	300	20	350	7	400	696	M16	268	55	110	59.3	16

FT97..

42 019 01 04



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	416	M12	116	28	60	31.3	8
AM112	180	15	215	5	250	416	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	469	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	469	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	527	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	527	M16	227	48	110	51.8	14
AM200	300	20	350	7	400	568	M16	268	55	110	59.3	16

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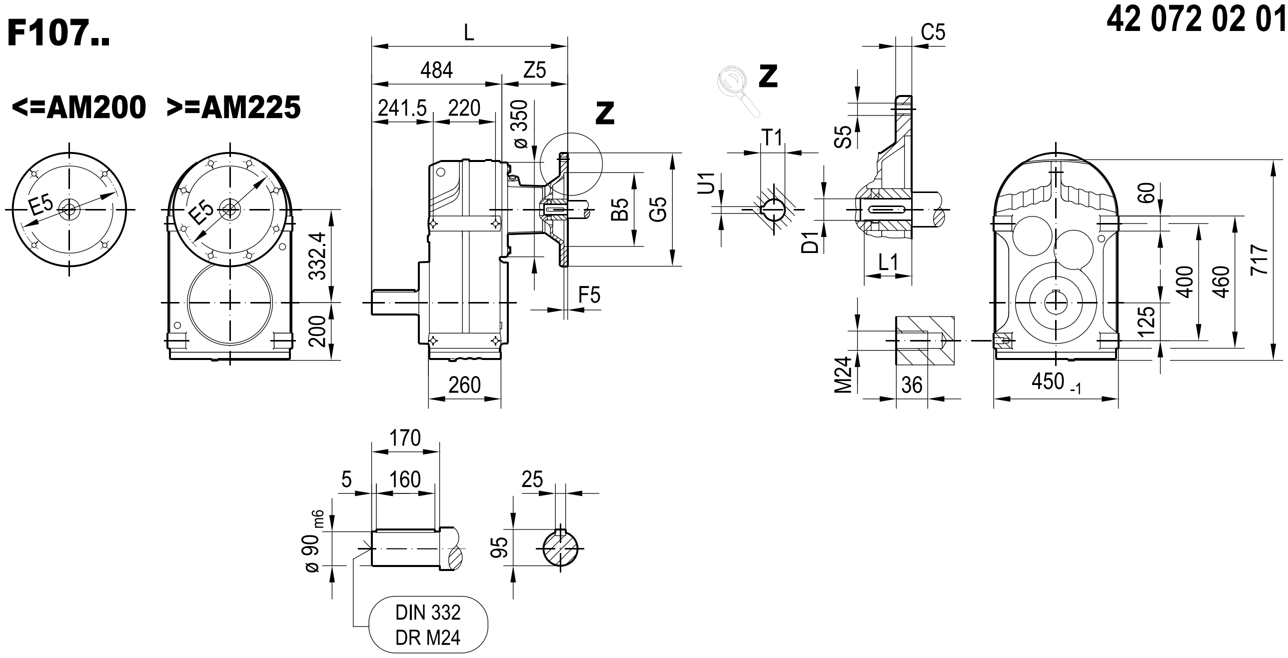
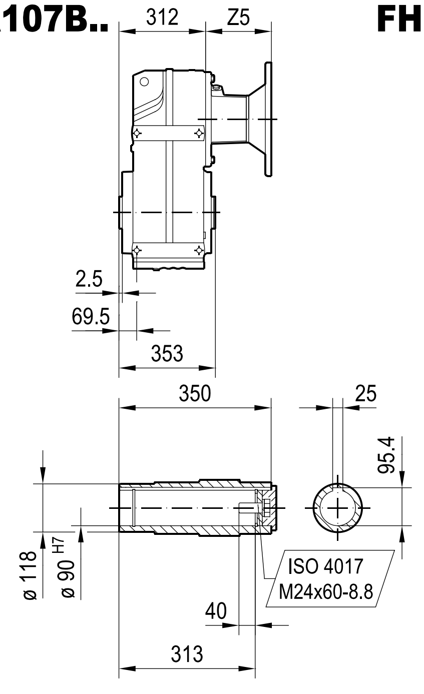
F107..

42 072 02 01

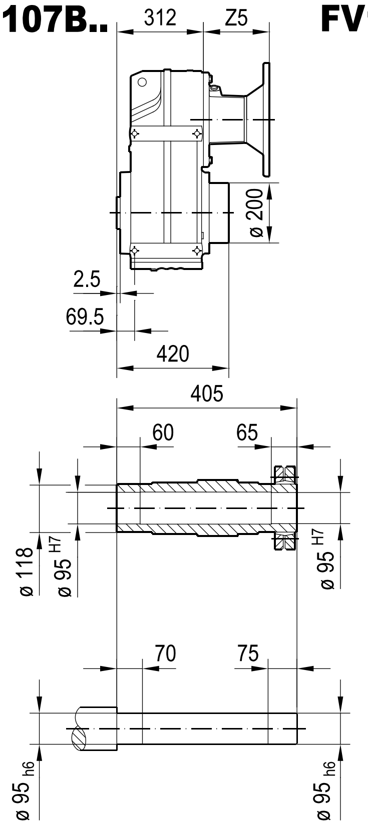
<=AM200 >=AM225



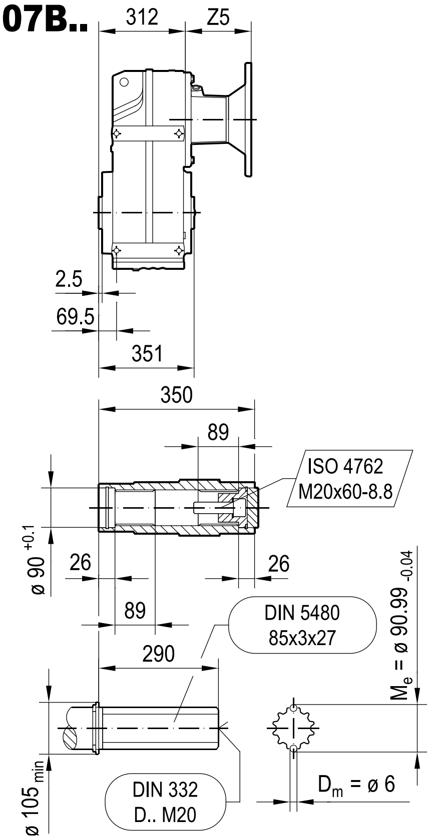
FA107B..



FH107B..



FV107B..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	594	M12	110	28	60	31.3	8
AM112	180	15	215	5	250	594	M12	110	28	60	31.3	8
AM132S/M	230	16	265	5	300	647	M12	163	38	80	41.3	10
AM132ML	230	16	265	5	300	647	M12	163	38	80	41.3	10
AM160	250	18	300	6	350	705	M16	221	42	110	45.3	12
AM180	250	18	300	6	350	705	M16	221	48	110	51.8	14
AM200	300	20	350	7	400	746	M16	262	55	110	59.3	16
AM225	350	22	400	7	450	761	M16	277	60	140	64.4	18

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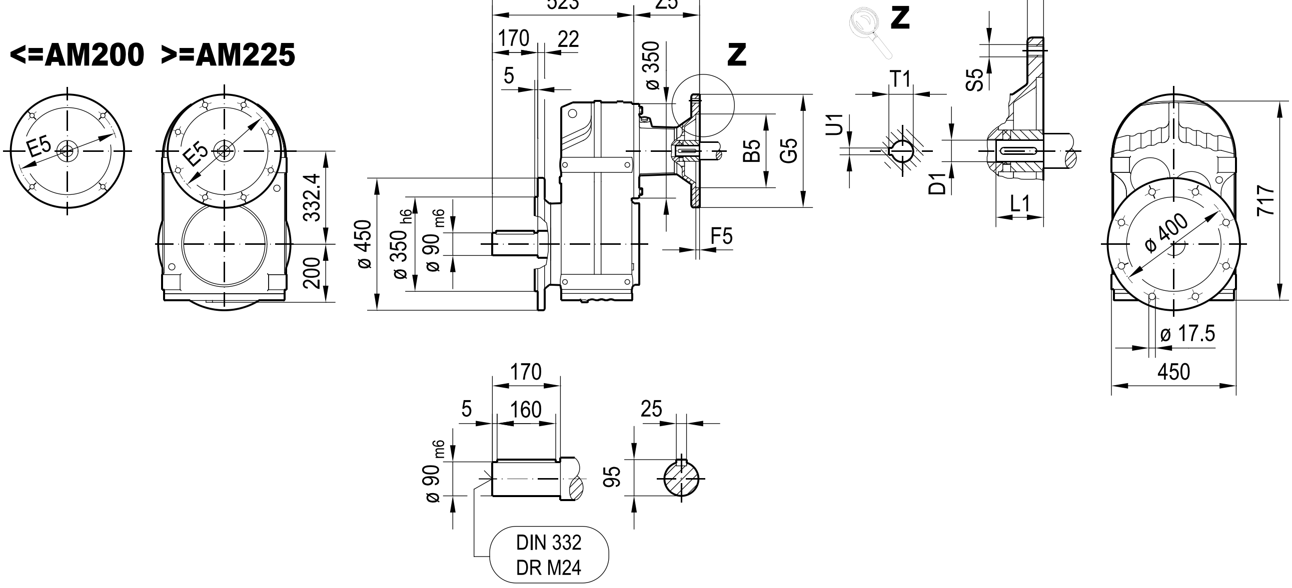
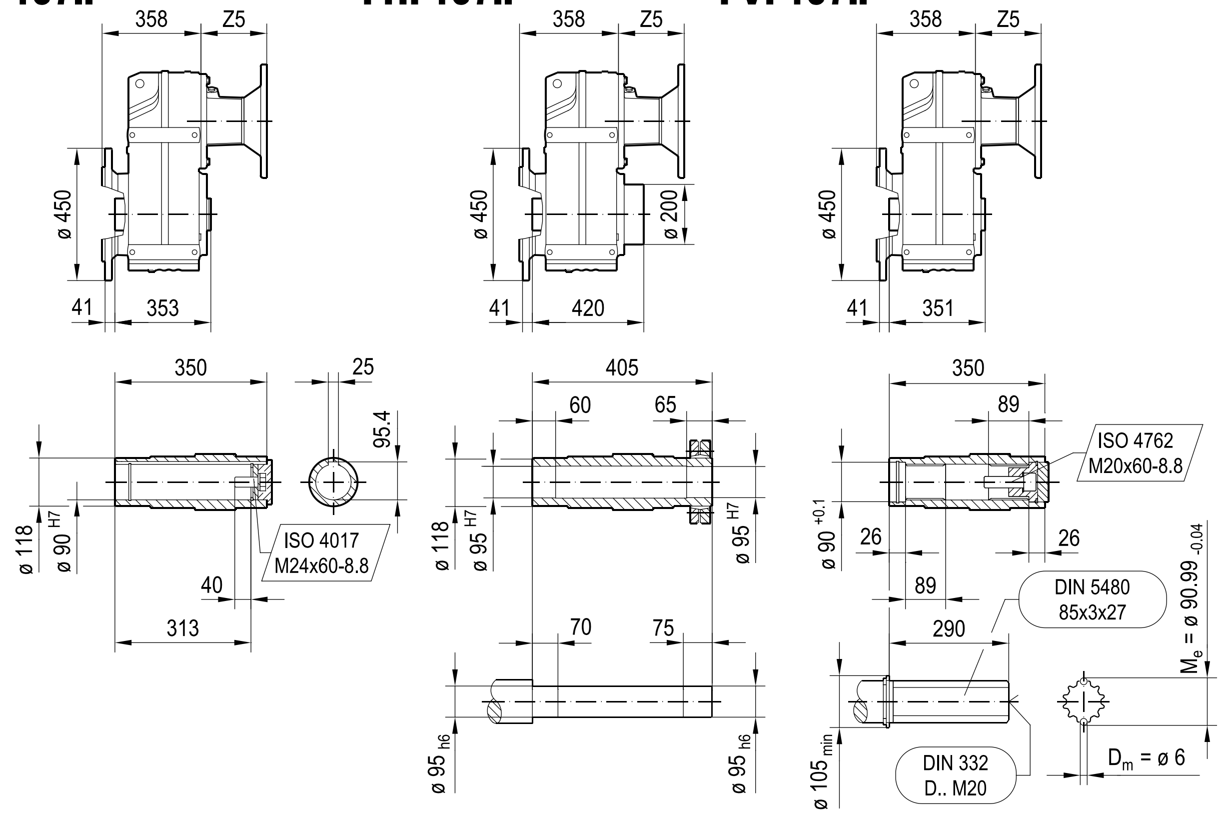
FF107..

42 073 02 01



FAF107.. FHF107.. FVF107..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	633	M12	110	28	60	31.3	8
AM112	180	15	215	5	250	633	M12	110	28	60	31.3	8
AM132S/M	230	16	265	5	300	686	M12	163	38	80	41.3	10
AM132ML	230	16	265	5	300	686	M12	163	38	80	41.3	10
AM160	250	18	300	6	350	744	M16	221	42	110	45.3	12
AM180	250	18	300	6	350	744	M16	221	48	110	51.8	14
AM200	300	20	350	7	400	785	M16	262	55	110	59.3	16
AM225	350	22	400	7	450	800	M16	277	60	140	64.4	18

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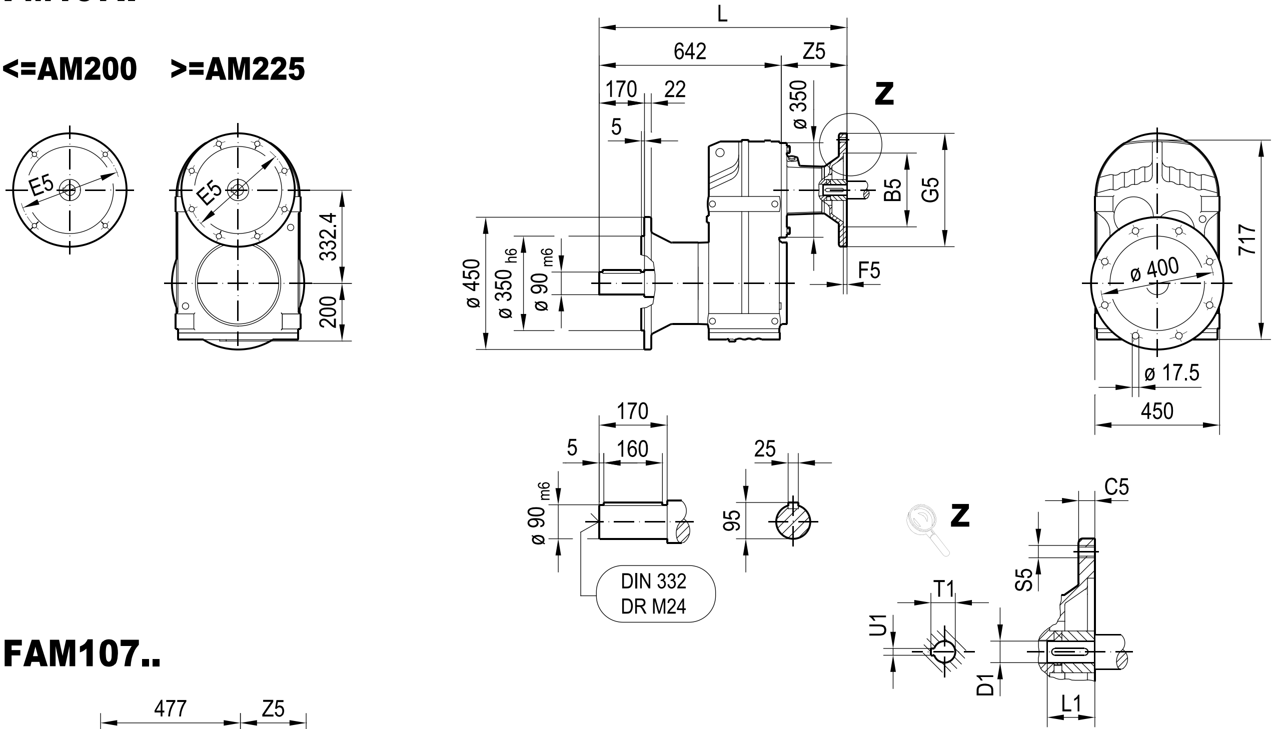
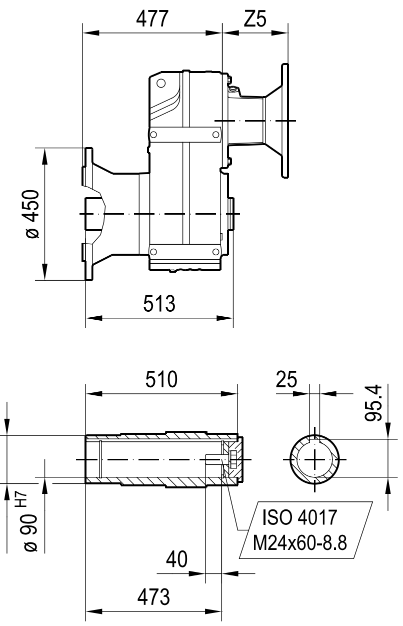
42 095 00 18

FM107..



FAM107..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	752	M12	110	28	60	31.3	8
AM112	180	15	215	5	250	752	M12	110	28	60	31.3	8
AM132S/M	230	16	265	5	300	805	M12	163	38	80	41.3	10
AM132ML	230	16	265	5	300	805	M12	163	38	80	41.3	10
AM160	250	18	300	6	350	863	M16	221	42	110	45.3	12
AM180	250	18	300	6	350	863	M16	221	48	110	51.8	14
AM200	300	20	350	7	400	904	M16	262	55	110	59.3	16
AM225	350	22	400	7	450	919	M16	277	60	140	64.4	18

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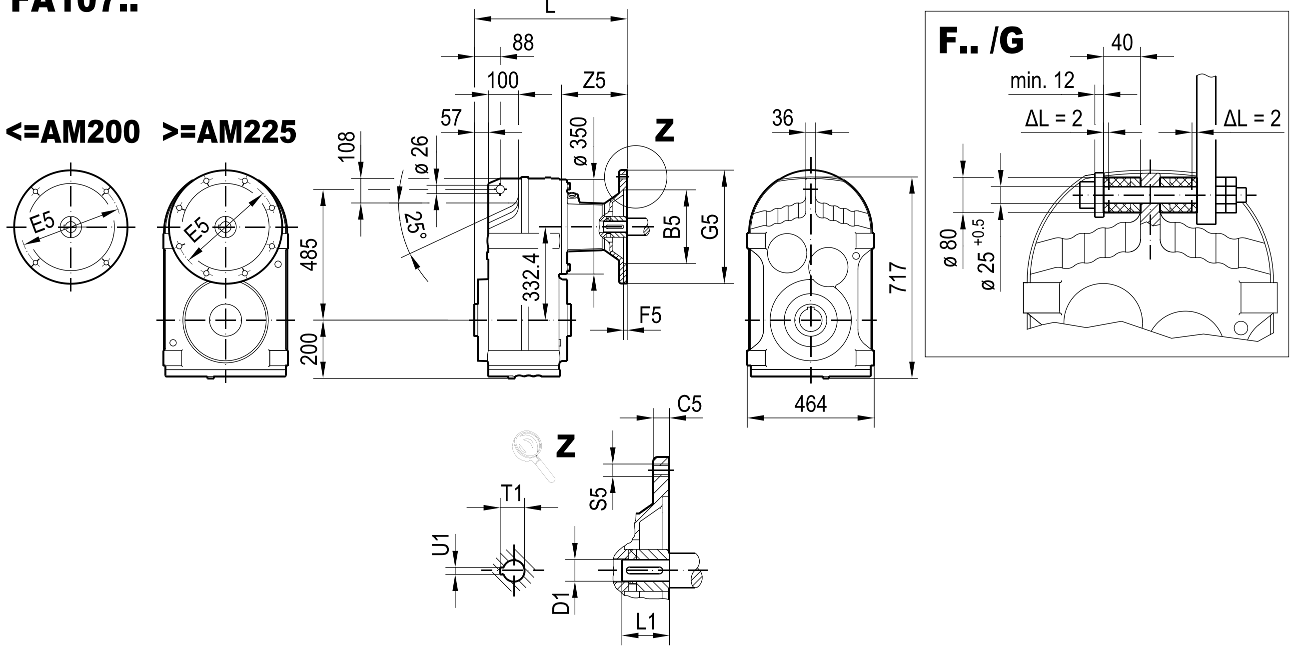
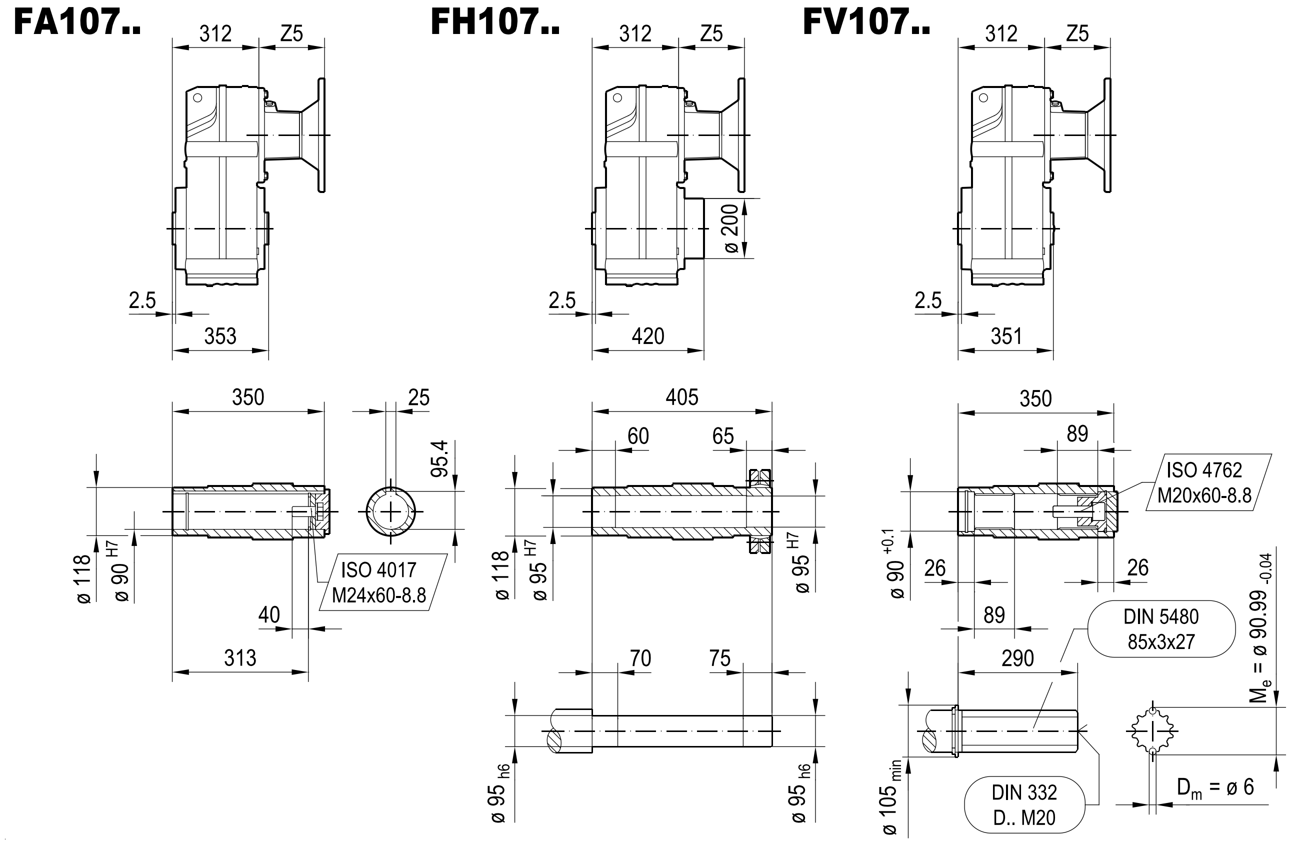
FA107..

42 074 02 01





(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	422	M12	110	28	60	31.3	8
AM112	180	15	215	5	250	422	M12	110	28	60	31.3	8
AM132S/M	230	16	265	5	300	475	M12	163	38	80	41.3	10
AM132ML	230	16	265	5	300	475	M12	163	38	80	41.3	10
AM160	250	18	300	6	350	533	M16	221	42	110	45.3	12
AM180	250	18	300	6	350	533	M16	221	48	110	51.8	14
AM200	300	20	350	7	400	574	M16	262	55	110	59.3	16
AM225	350	22	400	7	450	589	M16	277	60	140	64.4	18

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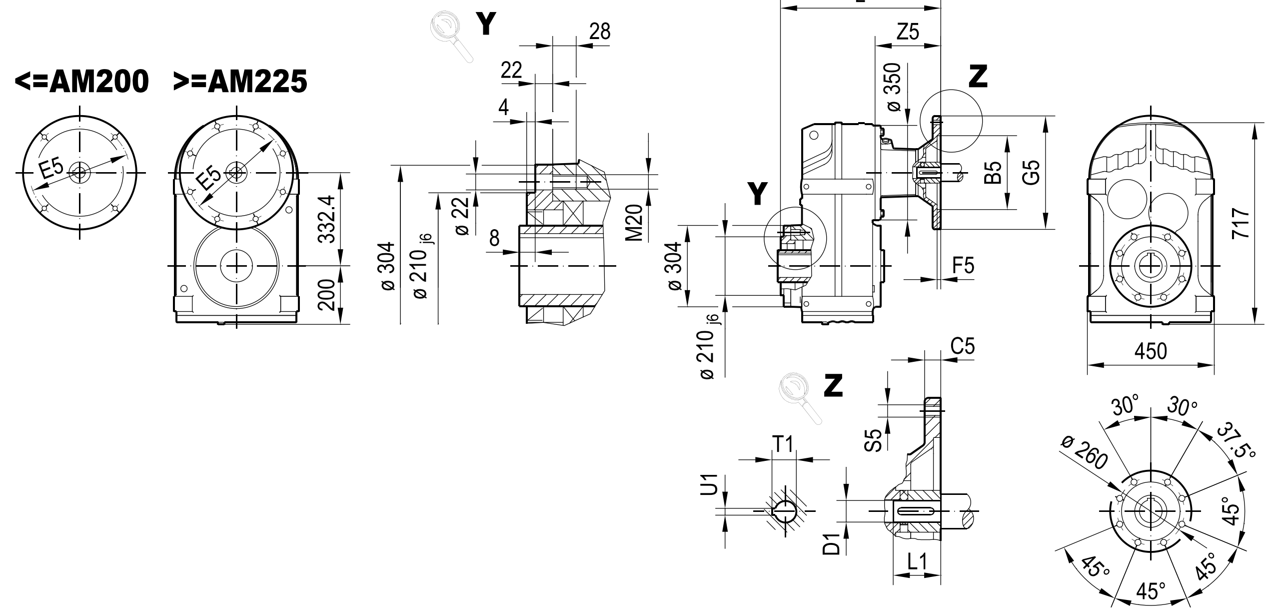
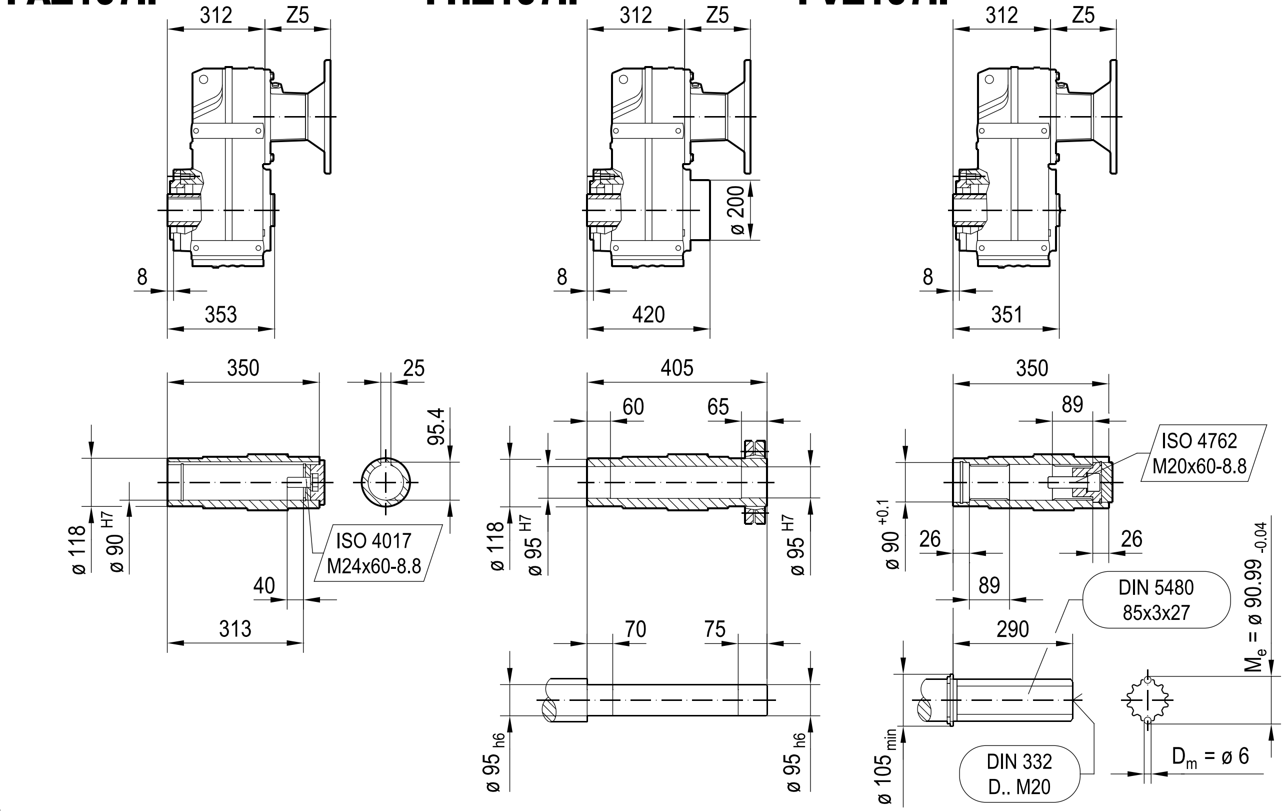
FAZ107..

42 075 02 01



FAZ107.. FHZ107.. FVZ107..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	422	M12	110	28	60	31.3	8
AM112	180	15	215	5	250	422	M12	110	28	60	31.3	8
AM132S/M	230	16	265	5	300	475	M12	163	38	80	41.3	10
AM132ML	230	16	265	5	300	475	M12	163	38	80	41.3	10
AM160	250	18	300	6	350	533	M16	221	42	110	45.3	12
AM180	250	18	300	6	350	533	M16	221	48	110	51.8	14
AM200	300	20	350	7	400	574	M16	262	55	110	59.3	16
AM225	350	22	400	7	450	589	M16	277	60	140	64.4	18

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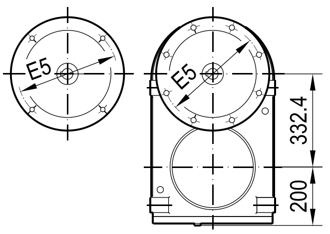
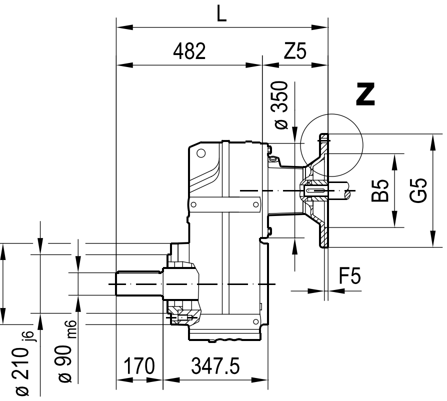
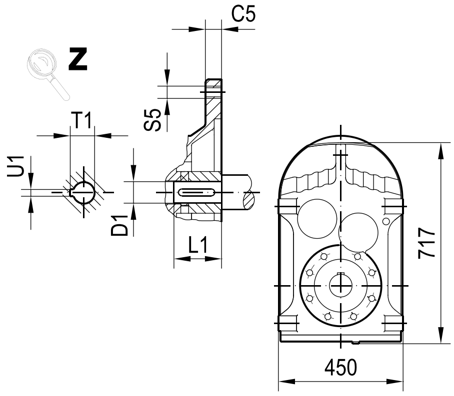
FZ107..

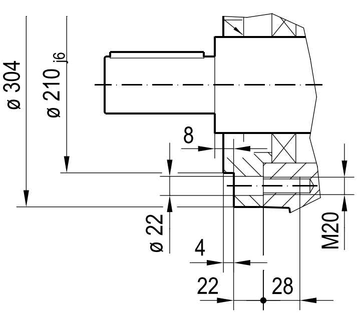
42 033 00 16

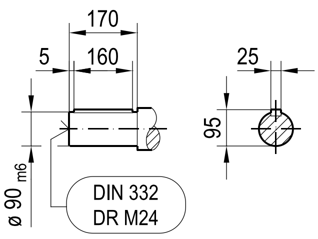
<=AM200 >=AM225

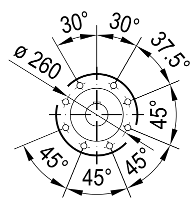












(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	592	M12	110	28	60	31.3	8
AM112	180	15	215	5	250	592	M12	110	28	60	31.3	8
AM132S/M	230	16	265	5	300	645	M12	163	38	80	41.3	10
AM132ML	230	16	265	5	300	645	M12	163	38	80	41.3	10
AM160	250	18	300	6	350	703	M16	221	42	110	45.3	12
AM180	250	18	300	6	350	703	M16	221	48	110	51.8	14
AM200	300	20	350	7	400	744	M16	262	55	110	59.3	16
AM225	350	22	400	7	450	759	M16	277	60	140	64.4	18

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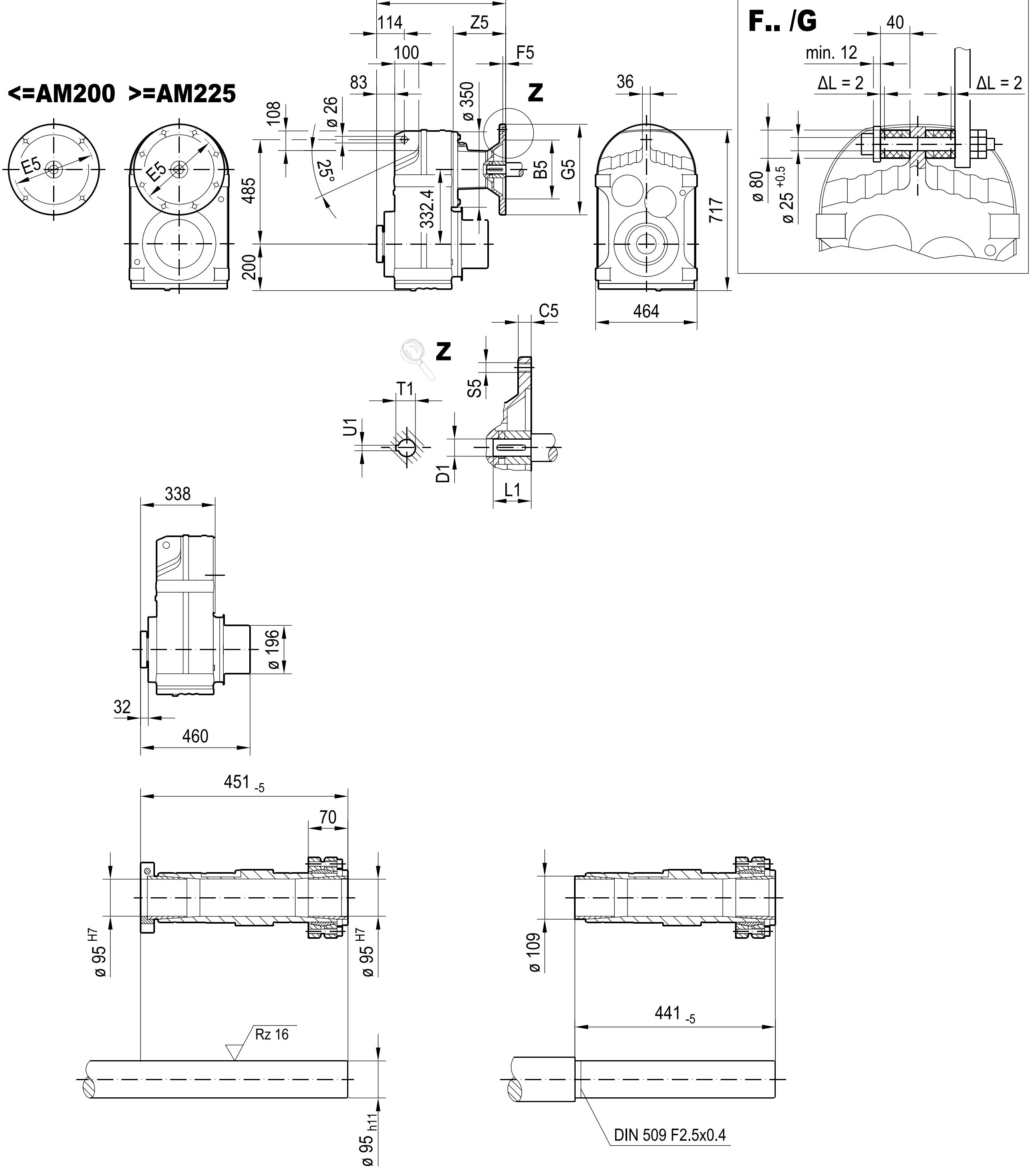
FT107..

42 003 01 07



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	448	M12	110	28	60	31.3	8
AM112	180	15	215	5	250	448	M12	110	28	60	31.3	8
AM132S/M	230	16	265	5	300	501	M12	163	38	80	41.3	10
AM132ML	230	16	265	5	300	501	M12	163	38	80	41.3	10
AM160	250	18	300	6	350	559	M16	221	42	110	45.3	12
AM180	250	18	300	6	350	559	M16	221	48	110	51.8	14
AM200	300	20	350	7	400	600	M16	262	55	110	59.3	16
AM225	350	22	400	7	450	615	M16	277	60	140	64.4	18

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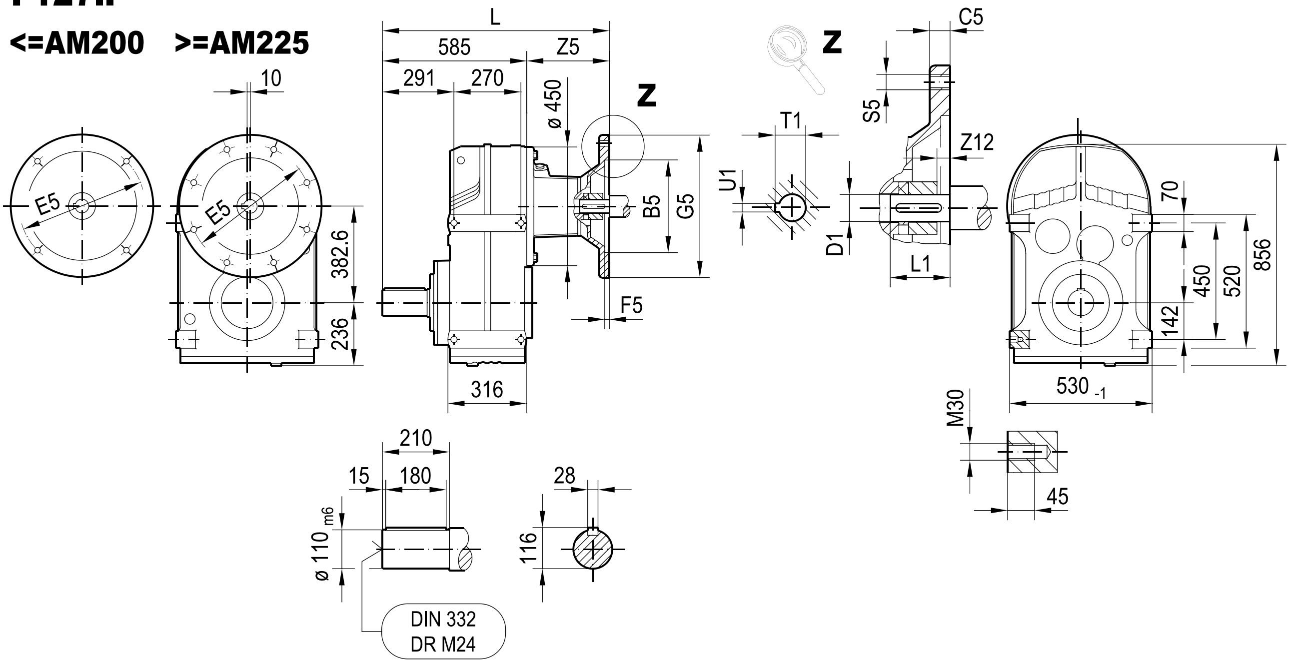
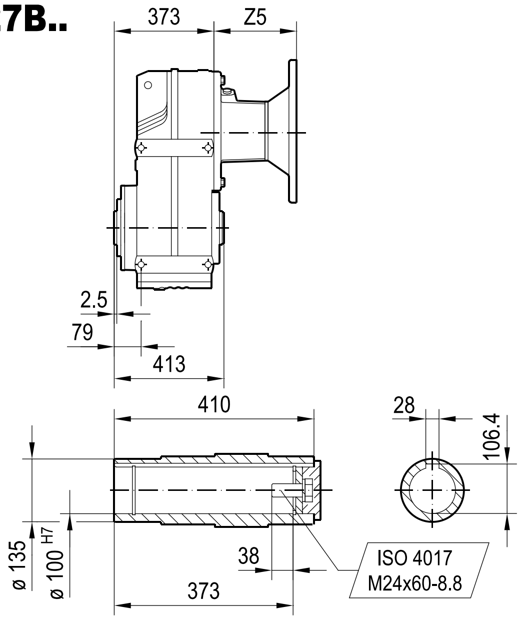
42 076 01 01

F127..

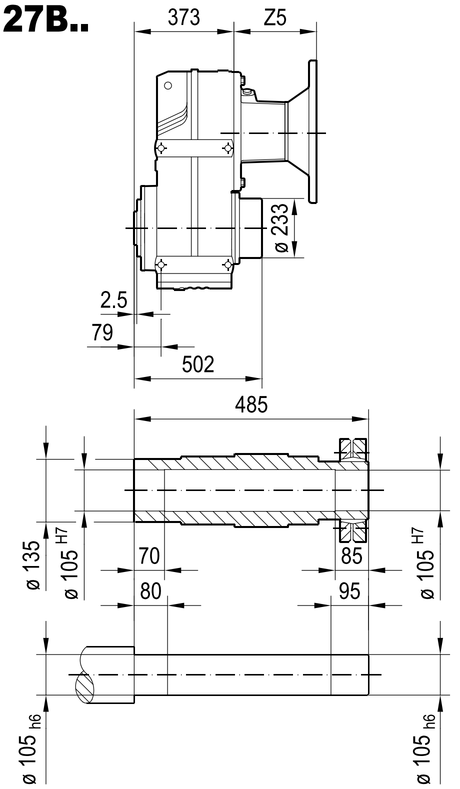
<=AM200 >=AM225



FA127B..



FH127B..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM132S/M	230	16	265	5	300	733	M12	148	0	38	80	41.3	10
AM132ML	230	16	265	5	300	733	M12	148	0	38	80	41.3	10
AM160	250	18	300	6	350	791	M16	206	0	42	110	45.3	12
AM180	250	18	300	6	350	791	M16	206	0	48	110	51.8	14
AM200	300	20	350	7	400	832	M16	247	0	55	110	59.3	16
AM225	350	22	400	7	450	847	M16	262	0	60	140	64.4	18
AM250	450	25	500	7	550	921	M16	336	19	65	140	69.4	18
AM280	450	25	500	7	550	921	M16	336	19	75	140	79.9	20

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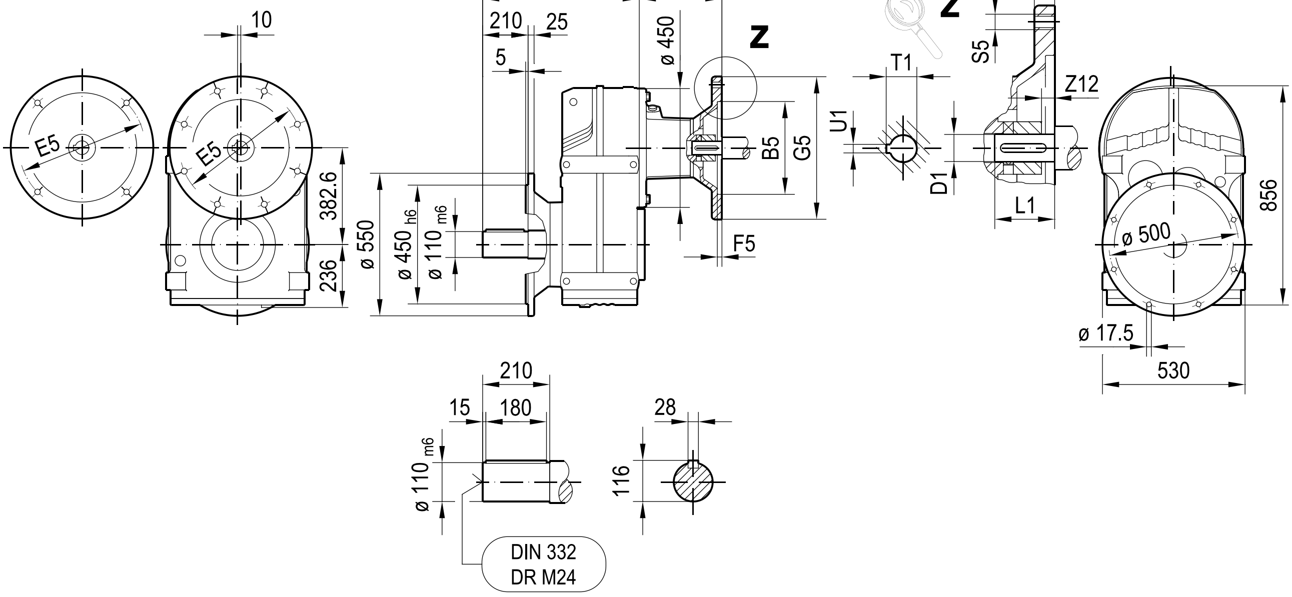
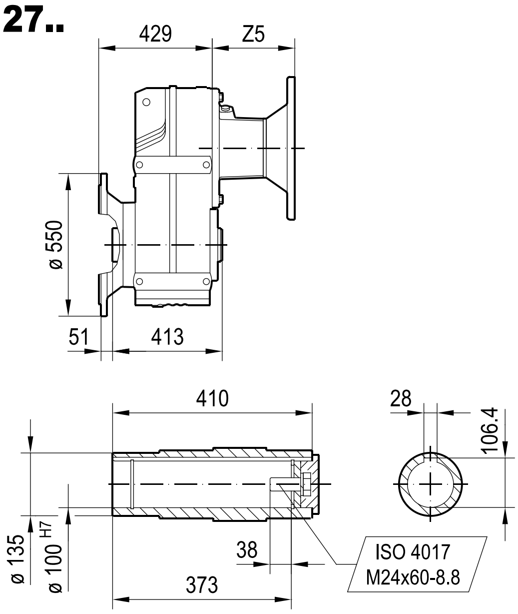
42 077 01 01

FF127..

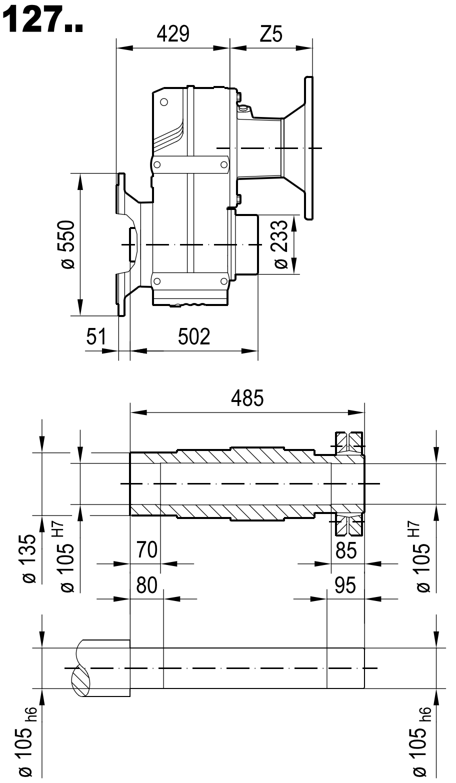
<=AM200 >=AM225



FAF127..



FHF127..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM132S/M	230	16	265	5	300	782	M12	148	0	38	80	41.3	10
AM132ML	230	16	265	5	300	782	M12	148	0	38	80	41.3	10
AM160	250	18	300	6	350	840	M16	206	0	42	110	45.3	12
AM180	250	18	300	6	350	840	M16	206	0	48	110	51.8	14
AM200	300	20	350	7	400	881	M16	247	0	55	110	59.3	16
AM225	350	22	400	7	450	896	M16	262	0	60	140	64.4	18
AM250	450	25	500	7	550	970	M16	336	19	65	140	69.4	18
AM280	450	25	500	7	550	970	M16	336	19	75	140	79.9	20

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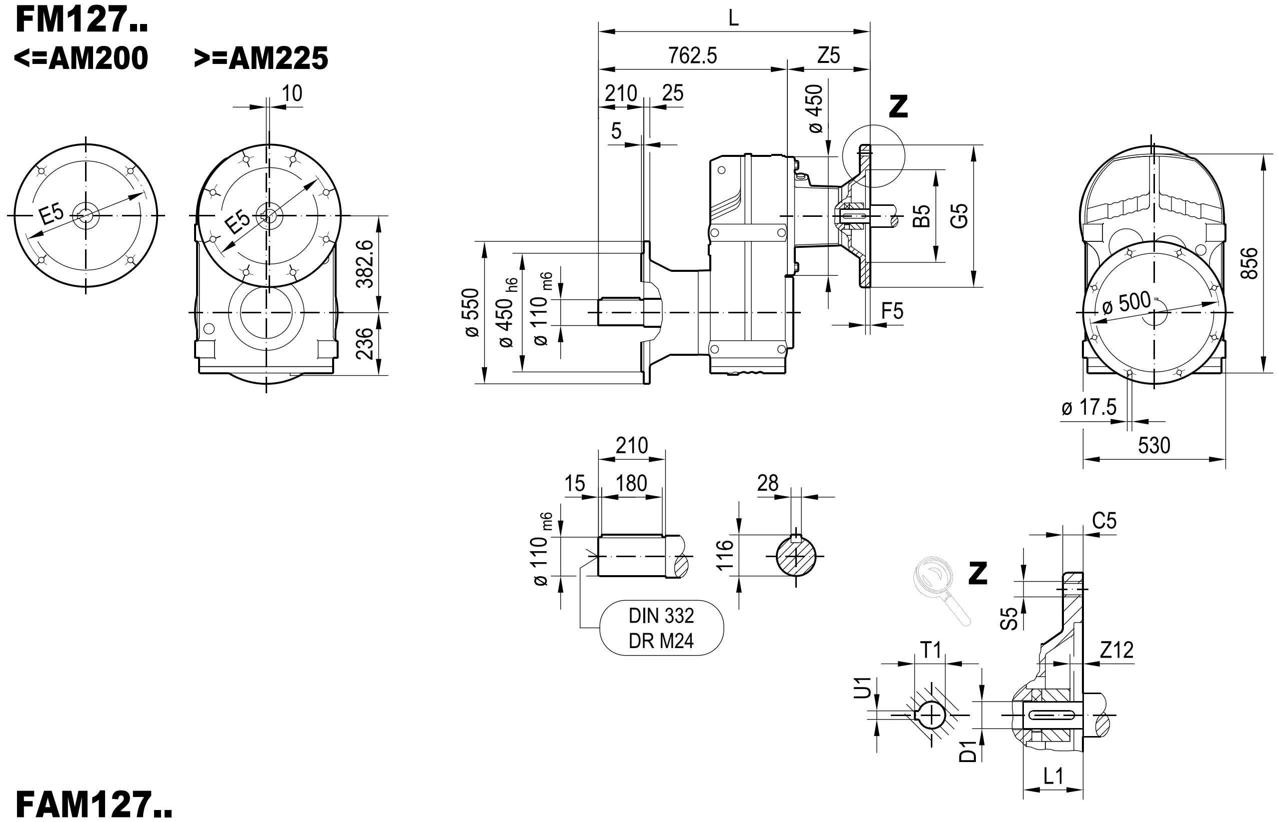
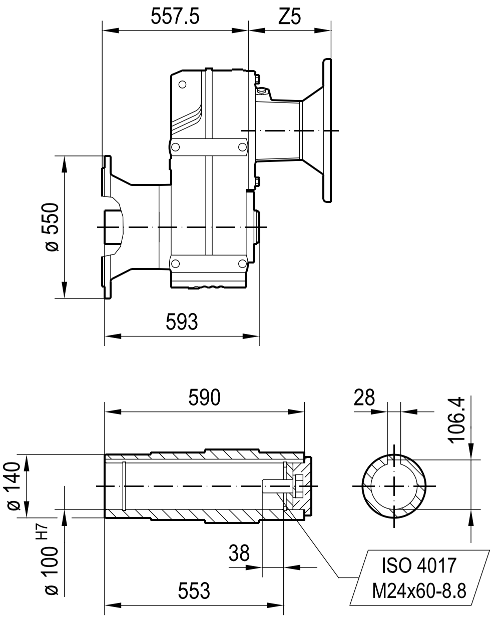
42 096 00 18

FM127..

<=AM200 >=AM225



FAM127..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM132S/M	230	16	265	5	300	911	M12	148	0	38	80	41.3	10
AM132ML	230	16	265	5	300	911	M12	148	0	38	80	41.3	10
AM160	250	18	300	6	350	969	M16	206	0	42	110	45.3	12
AM180	250	18	300	6	350	969	M16	206	0	48	110	51.8	14
AM200	300	20	350	7	400	1010	M16	247	0	55	110	59.3	16
AM225	350	22	400	7	450	1025	M16	262	0	60	140	64.4	18
AM250	450	25	500	7	550	1099	M16	336	19	65	140	69.4	18
AM280	450	25	500	7	550	1099	M16	336	19	75	140	79.9	20

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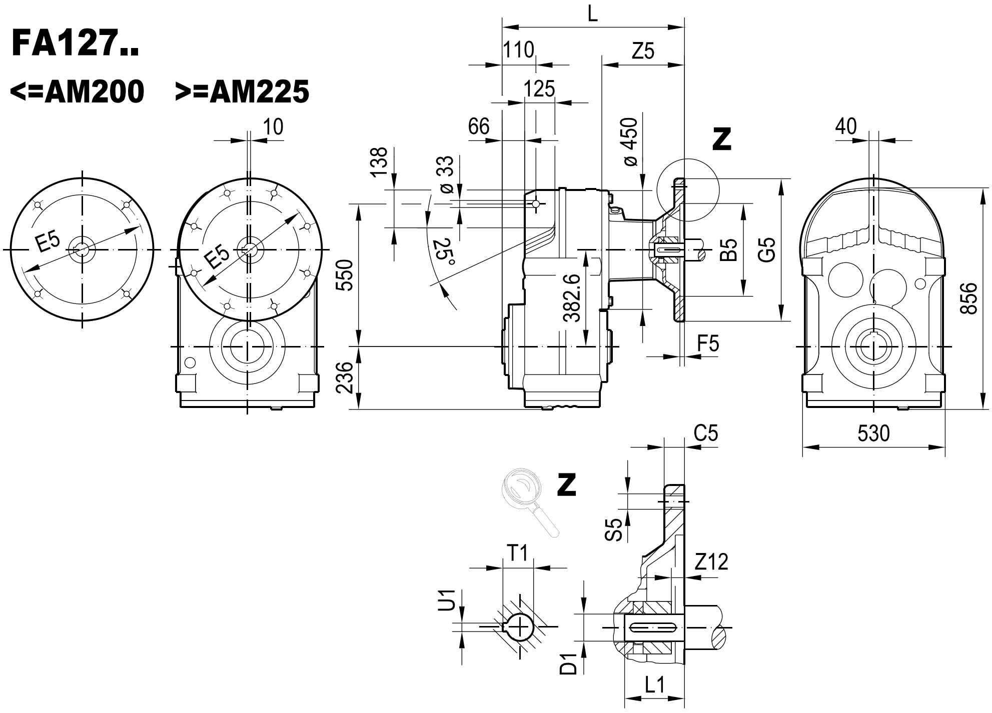
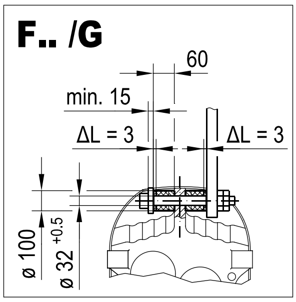
42 078 01 01

FA127..

<=AM200 >=AM225





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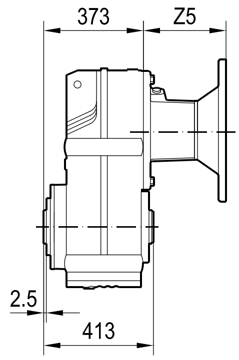

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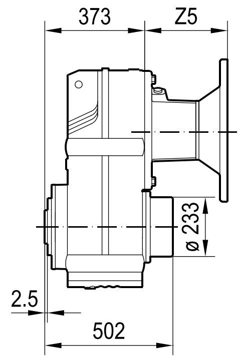

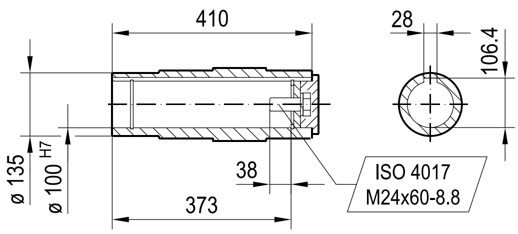

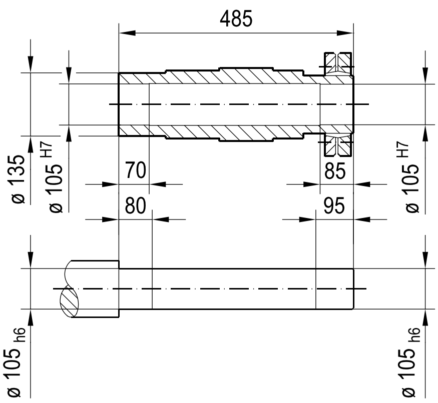

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM132S/M	230	16	265	5	300	521	M12	148	0	38	80	41.3	10
AM132ML	230	16	265	5	300	521	M12	148	0	38	80	41.3	10
AM160	250	18	300	6	350	579	M16	206	0	42	110	45.3	12
AM180	250	18	300	6	350	579	M16	206	0	48	110	51.8	14
AM200	300	20	350	7	400	620	M16	247	0	55	110	59.3	16
AM225	350	22	400	7	450	635	M16	262	0	60	140	64.4	18
AM250	450	25	500	7	550	709	M16	336	19	65	140	69.4	18
AM280	450	25	500	7	550	709	M16	336	19	75	140	79.9	20

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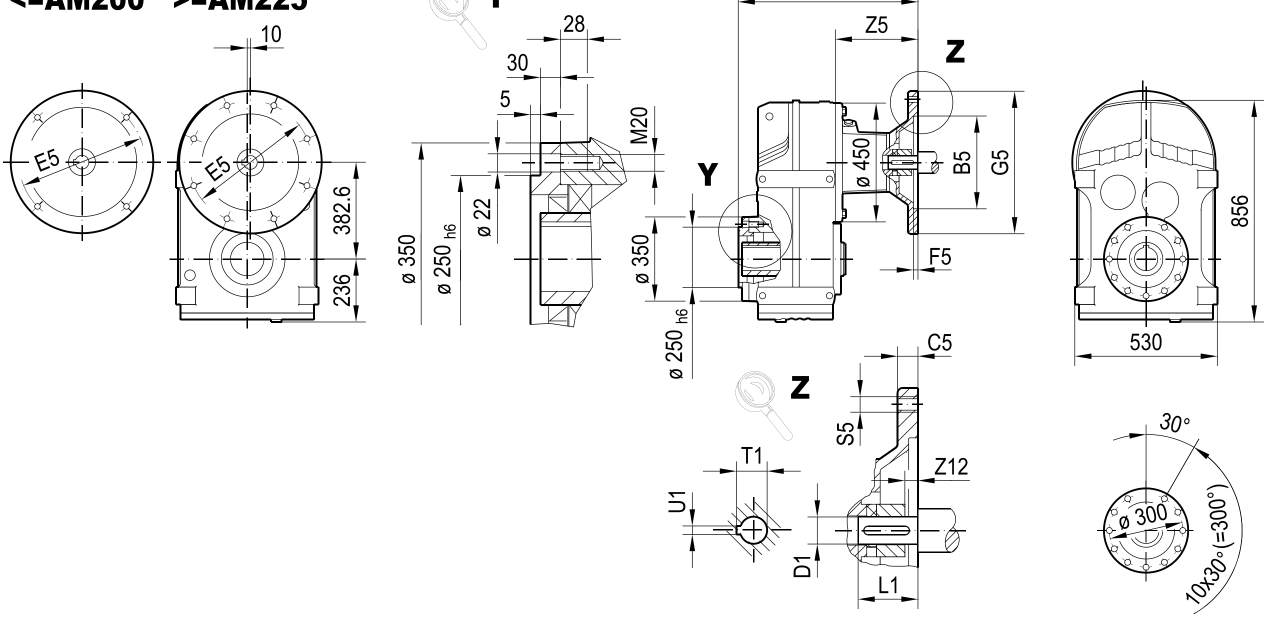
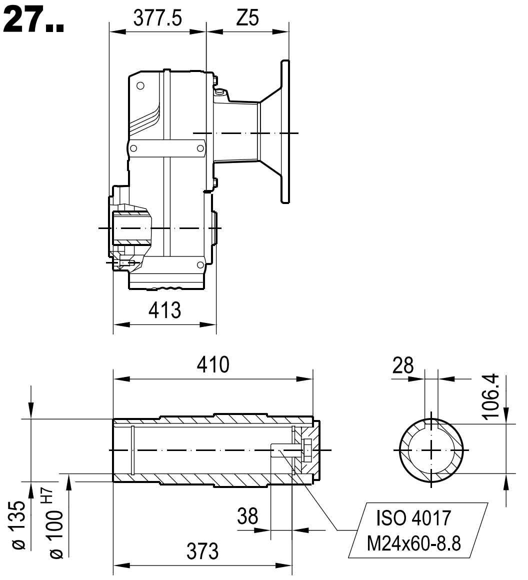
42 079 01 01

FAZ127..

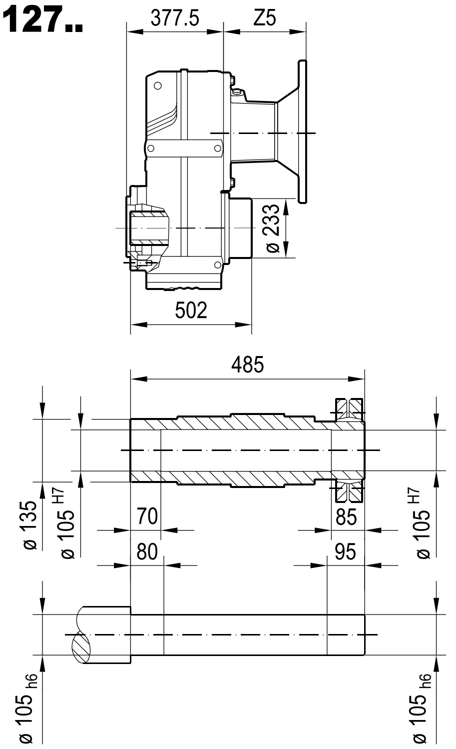
<=AM200 >=AM225



FAZ127..



FHZ127..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM132S/M	230	16	265	5	300	526	M12	148	0	38	80	41.3	10
AM132ML	230	16	265	5	300	526	M12	148	0	38	80	41.3	10
AM160	250	18	300	6	350	584	M16	206	0	42	110	45.3	12
AM180	250	18	300	6	350	584	M16	206	0	48	110	51.8	14
AM200	300	20	350	7	400	625	M16	247	0	55	110	59.3	16
AM225	350	22	400	7	450	640	M16	262	0	60	140	64.4	18
AM250	450	25	500	7	550	714	M16	336	19	65	140	69.4	18
AM280	450	25	500	7	550	714	M16	336	19	75	140	79.9	20

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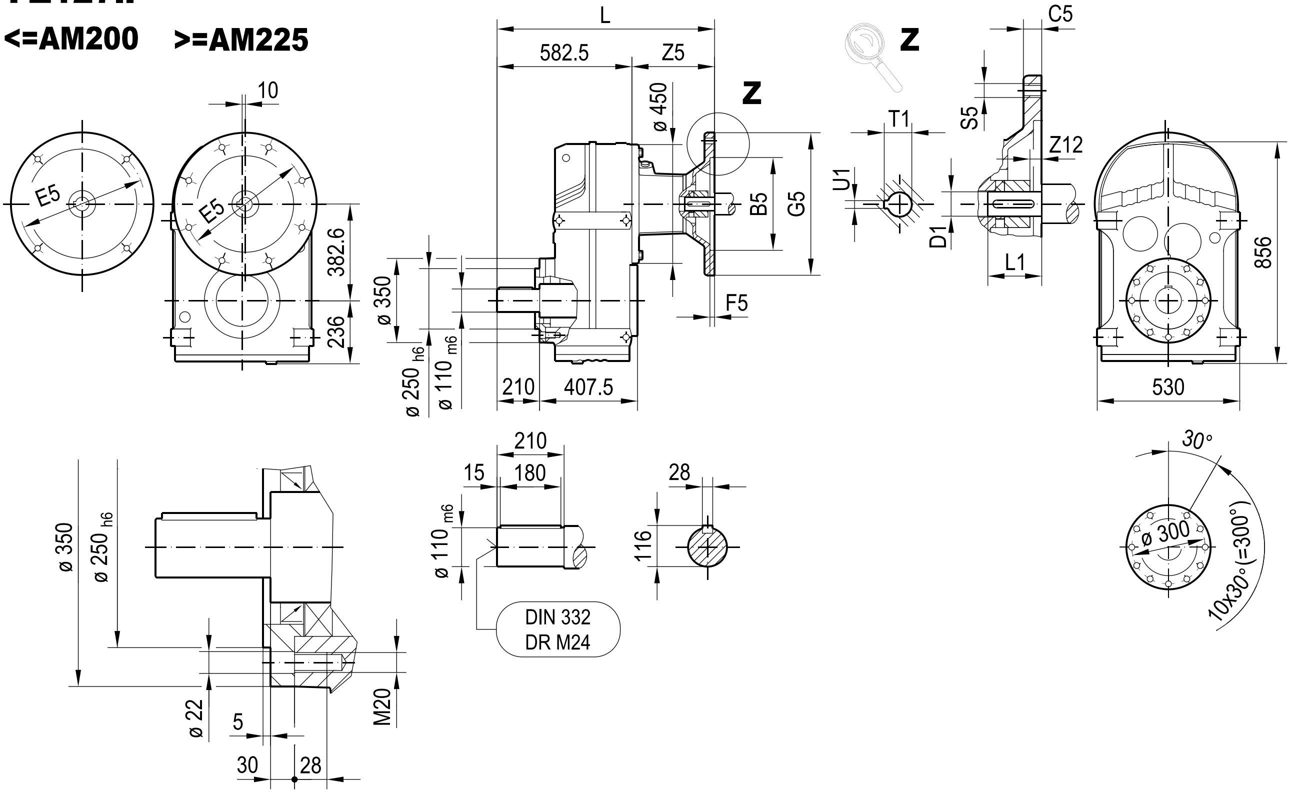
42 034 00 16

FZ127..



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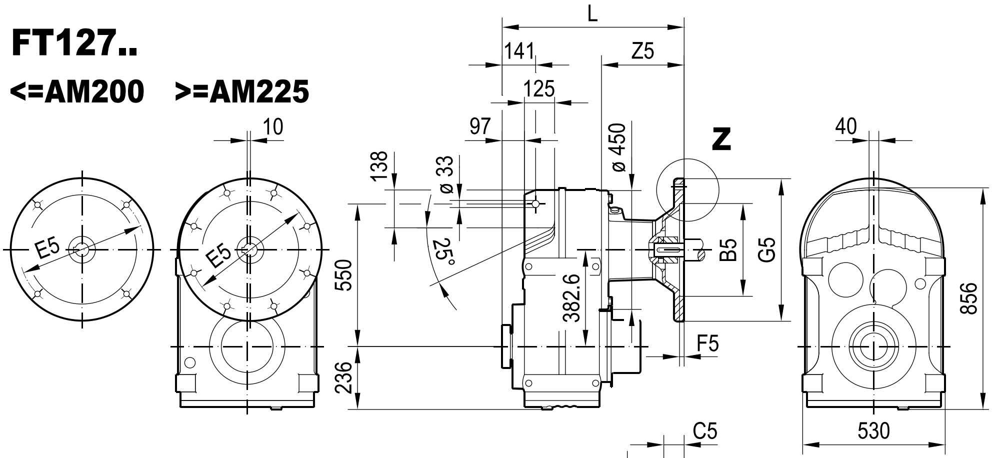
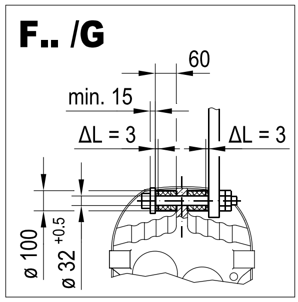
(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM132S/M	230	16	265	5	300	731	M12	148	0	38	80	41.3	10
AM132ML	230	16	265	5	300	731	M12	148	0	38	80	41.3	10
AM160	250	18	300	6	350	789	M16	206	0	42	110	45.3	12
AM180	250	18	300	6	350	789	M16	206	0	48	110	51.8	14
AM200	300	20	350	7	400	830	M16	247	0	55	110	59.3	16
AM225	350	22	400	7	450	845	M16	262	0	60	140	64.4	18
AM250	450	25	500	7	550	919	M16	336	19	65	140	69.4	18
AM280	450	25	500	7	550	919	M16	336	19	75	140	79.9	20

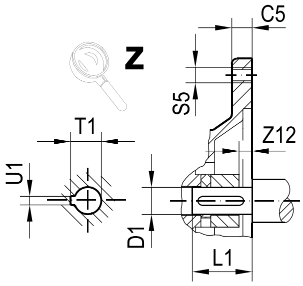
42 004 01 07

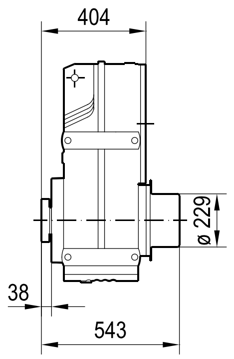
FT127..

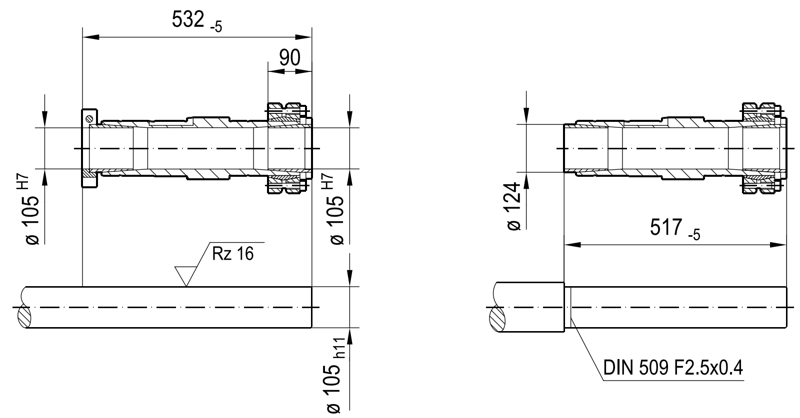
<=AM200 >=AM225











(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
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AM132ML	230	16	265	5	300	552	M12	148	0	38	80	41.3	10
AM160	250	18	300	6	350	610	M16	206	0	42	110	45.3	12
AM180	250	18	300	6	350	610	M16	206	0	48	110	51.8	14
AM200	300	20	350	7	400	651	M16	247	0	55	110	59.3	16
AM225	350	22	400	7	450	666	M16	262	0	60	140	64.4	18
AM250	450	25	500	7	550	740	M16	336	19	65	140	69.4	18
AM280	450	25	500	7	550	740	M16	336	19	75	140	79.9	20

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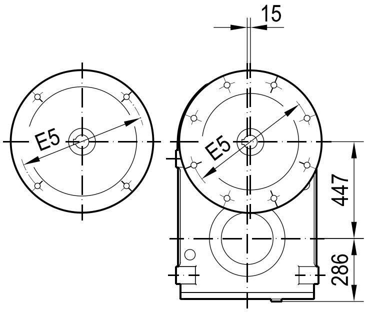
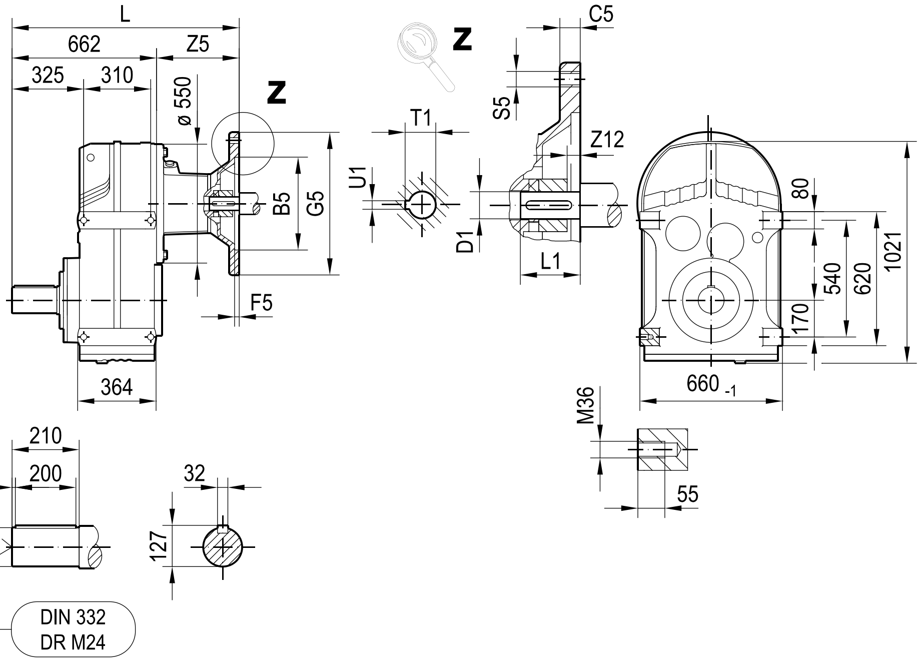
42 080 02 01

F157..

<=AM200 >=AM225





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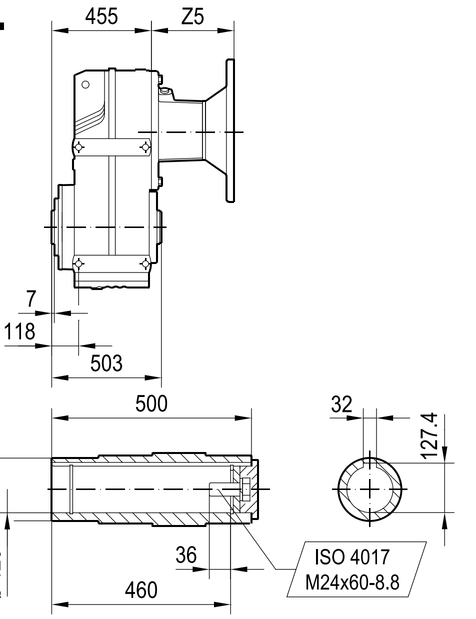
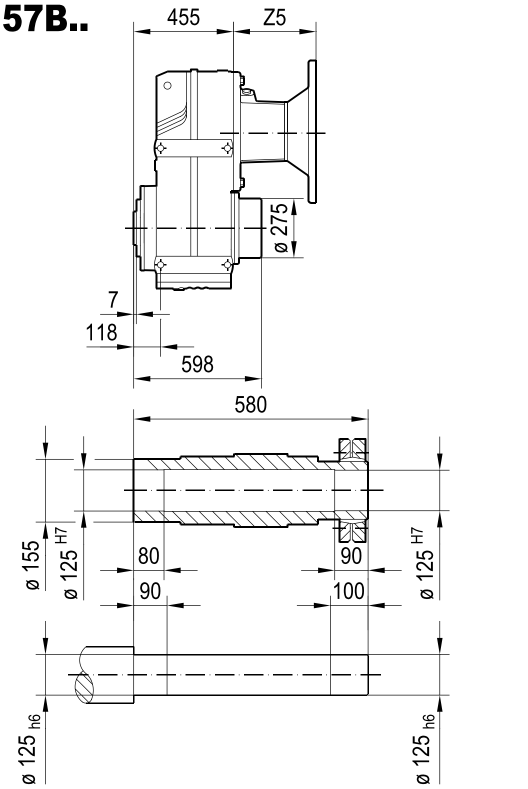


FH157B..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM160	250	18	300	6	350	860	M16	198	0	42	110	45.3	12
AM180	250	18	300	6	350	860	M16	198	0	48	110	51.8	14
AM200	300	20	350	7	400	901	M16	239	0	55	110	59.3	16
AM225	350	22	400	7	450	916	M16	254	0	60	140	64.4	18
AM250	450	25	500	7	550	990	M16	328	19	65	140	69.4	18
AM280	450	25	500	7	550	990	M16	328	19	75	140	79.9	20

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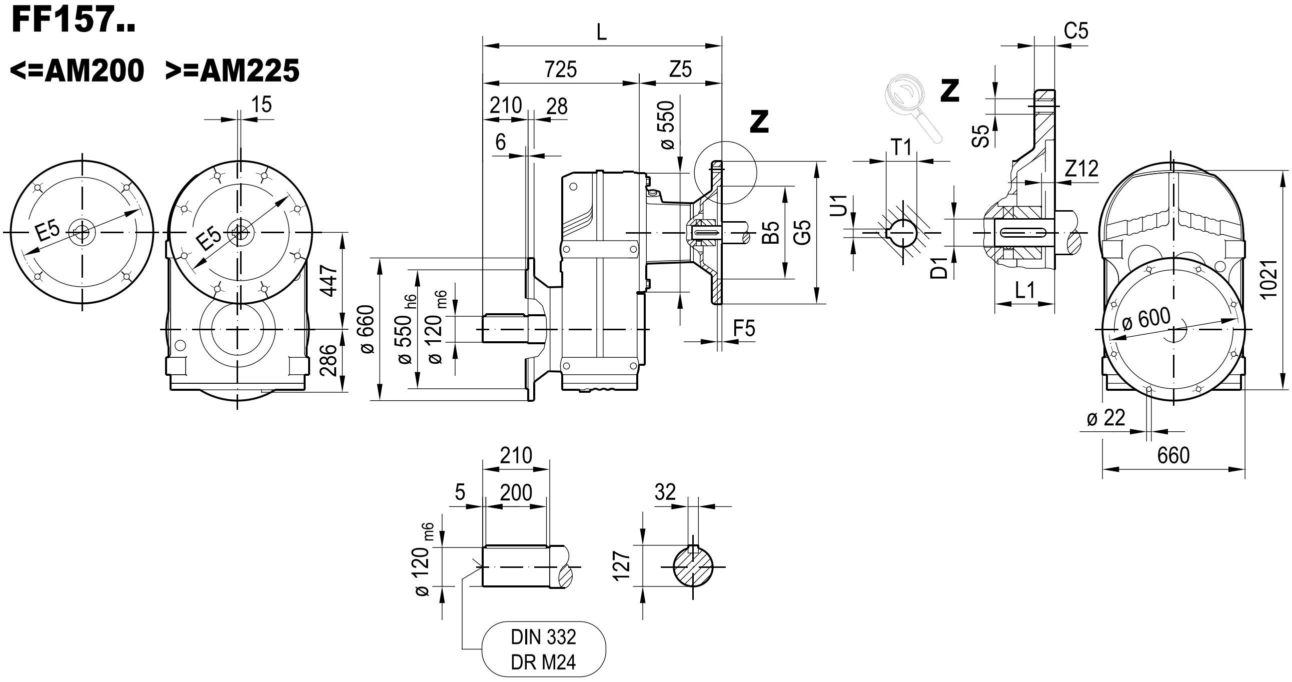
42 081 01 01

FF157..

<=AM200 >=AM225



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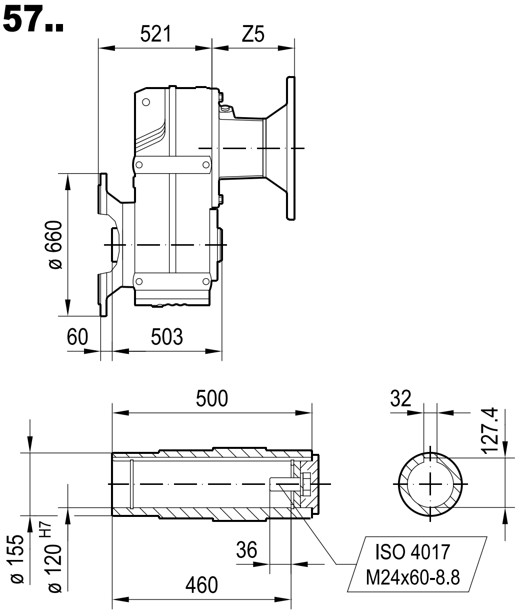
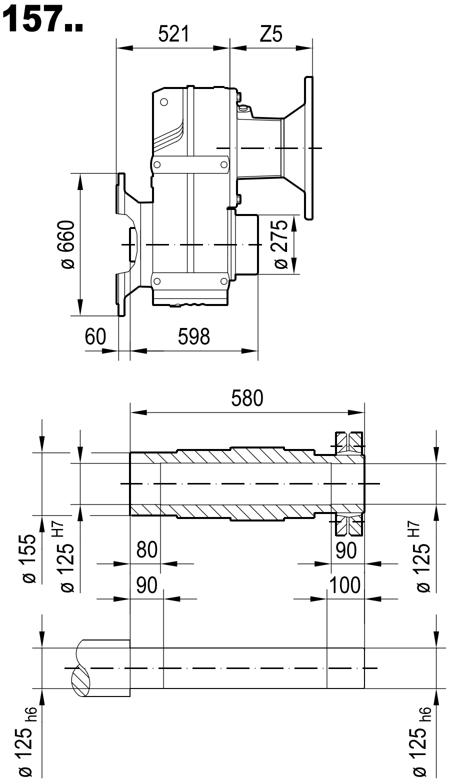


FHF157..

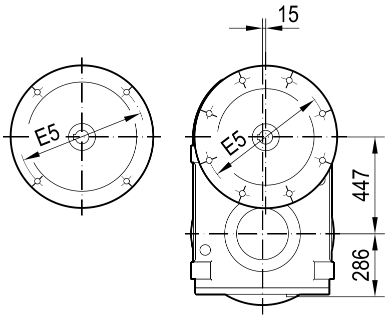


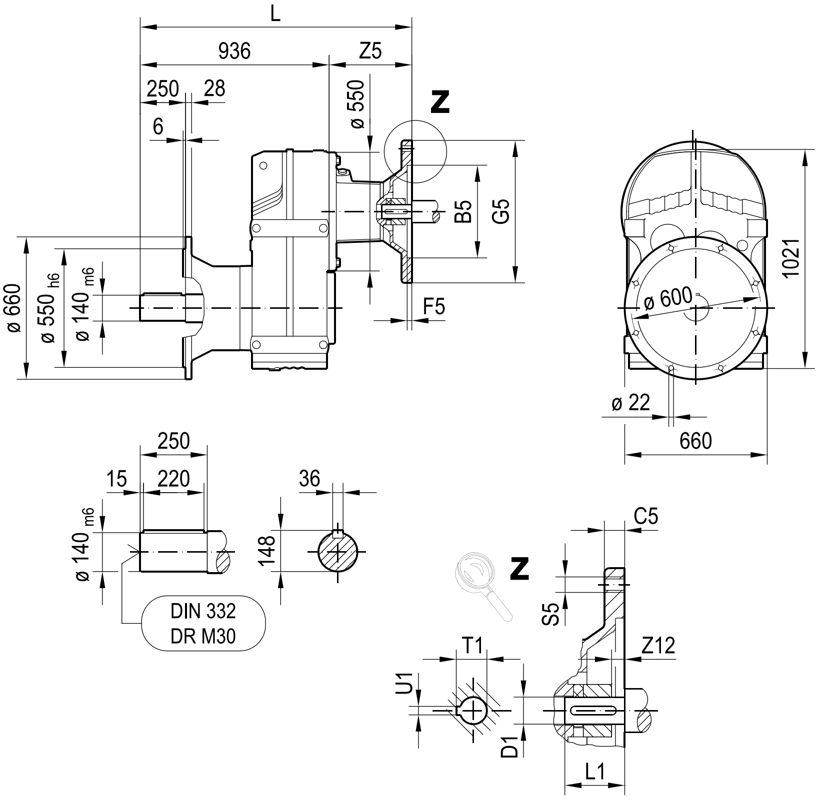
(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM160	250	18	300	6	350	923	M16	198	0	42	110	45.3	12
AM180	250	18	300	6	350	923	M16	198	0	48	110	51.8	14
AM200	300	20	350	7	400	964	M16	239	0	55	110	59.3	16
AM225	350	22	400	7	450	979	M16	254	0	60	140	64.4	18
AM250	450	25	500	7	550	1053	M16	328	19	65	140	69.4	18
AM280	450	25	500	7	550	1053	M16	328	19	75	140	79.9	20

42 097 00 18

FM157..

<=AM200 >=AM225





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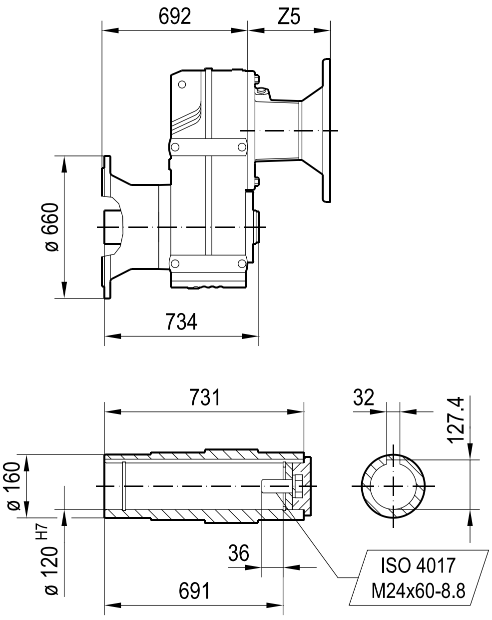

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM160	250	18	300	6	350	1134	M16	198	0	42	110	45.3	12
AM180	250	18	300	6	350	1134	M16	198	0	48	110	51.8	14
AM200	300	20	350	7	400	1175	M16	239	0	55	110	59.3	16
AM225	350	22	400	7	450	1190	M16	254	0	60	140	64.4	18
AM250	450	25	500	7	550	1264	M16	328	19	65	140	69.4	18
AM280	450	25	500	7	550	1264	M16	328	19	75	140	79.9	20

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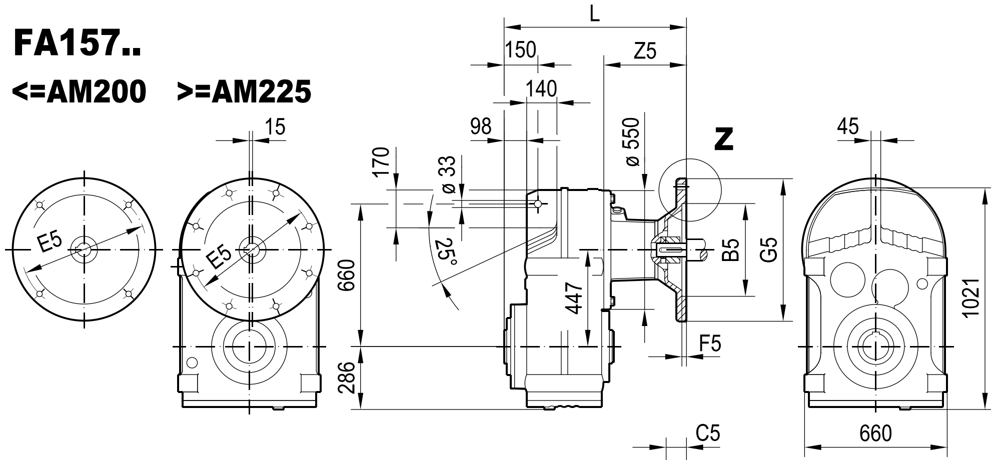
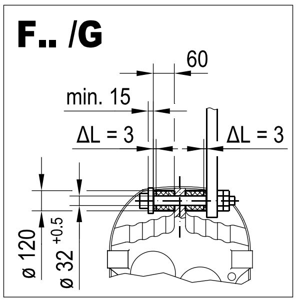
42 082 01 01

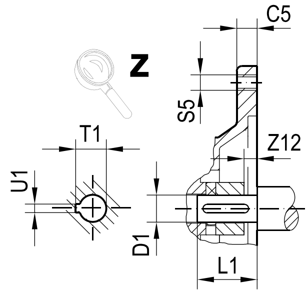
FA157..

<=AM200 >=AM225



F.. /G





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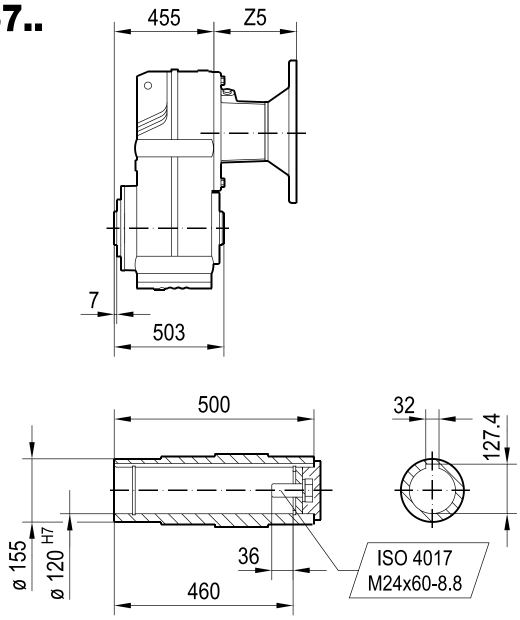
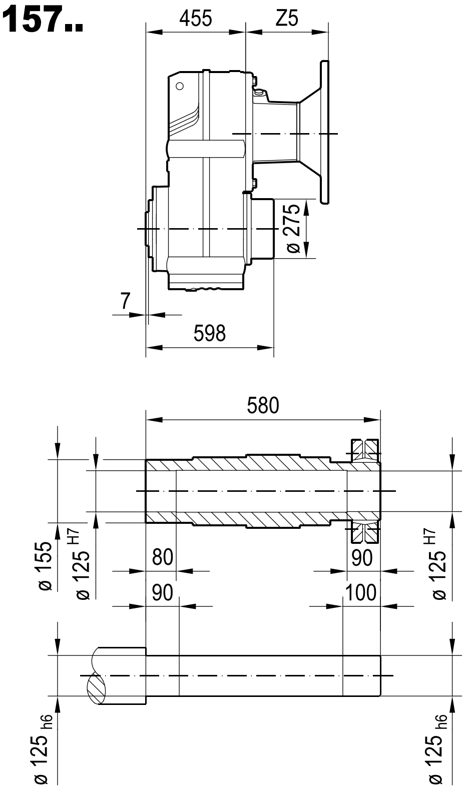


FH157..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM160	250	18	300	6	350	653	M16	198	0	42	110	45.3	12
AM180	250	18	300	6	350	653	M16	198	0	48	110	51.8	14
AM200	300	20	350	7	400	694	M16	239	0	55	110	59.3	16
AM225	350	22	400	7	450	709	M16	254	0	60	140	64.4	18
AM250	450	25	500	7	550	783	M16	328	19	65	140	69.4	18
AM280	450	25	500	7	550	783	M16	328	19	75	140	79.9	20

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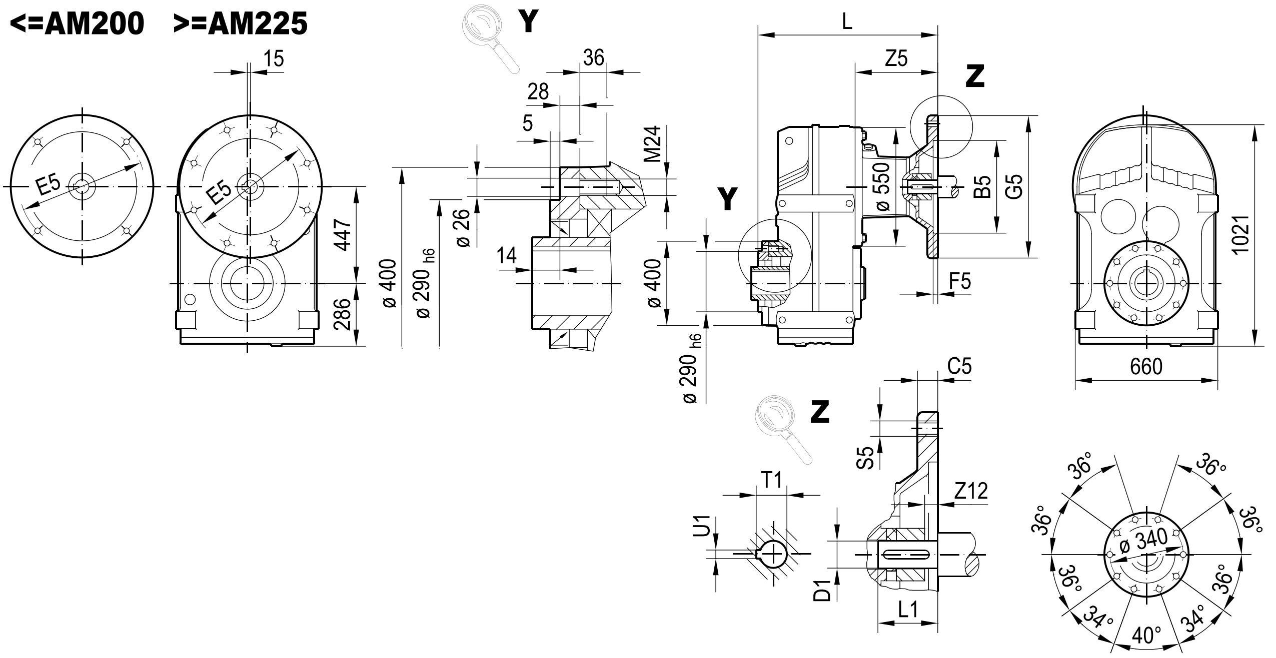
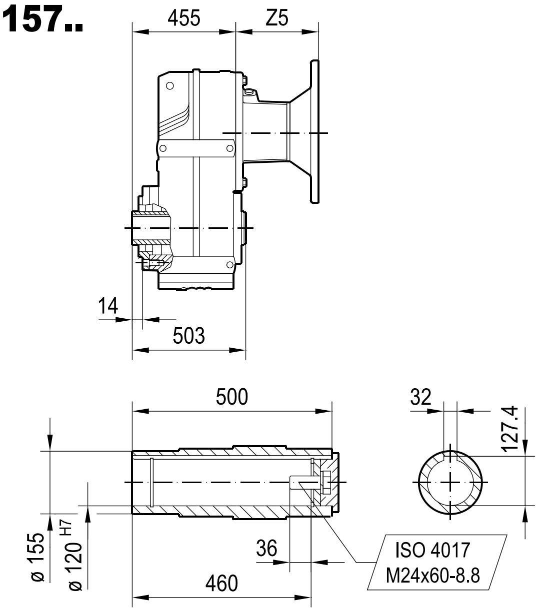
42 083 01 01

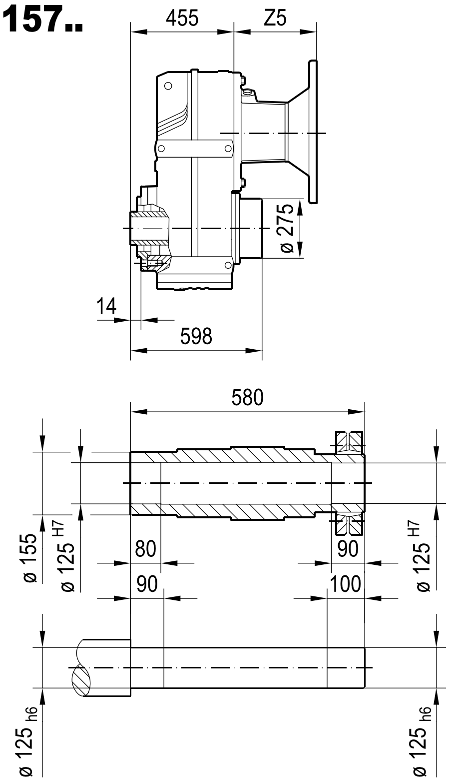
FAZ157..



FAZ157..



FHZ157..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM160	250	18	300	6	350	653	M16	198	0	42	110	45.3	12
AM180	250	18	300	6	350	653	M16	198	0	48	110	51.8	14
AM200	300	20	350	7	400	694	M16	239	0	55	110	59.3	16
AM225	350	22	400	7	450	709	M16	254	0	60	140	64.4	18
AM250	450	25	500	7	550	783	M16	328	19	65	140	69.4	18
AM280	450	25	500	7	550	783	M16	328	19	75	140	79.9	20

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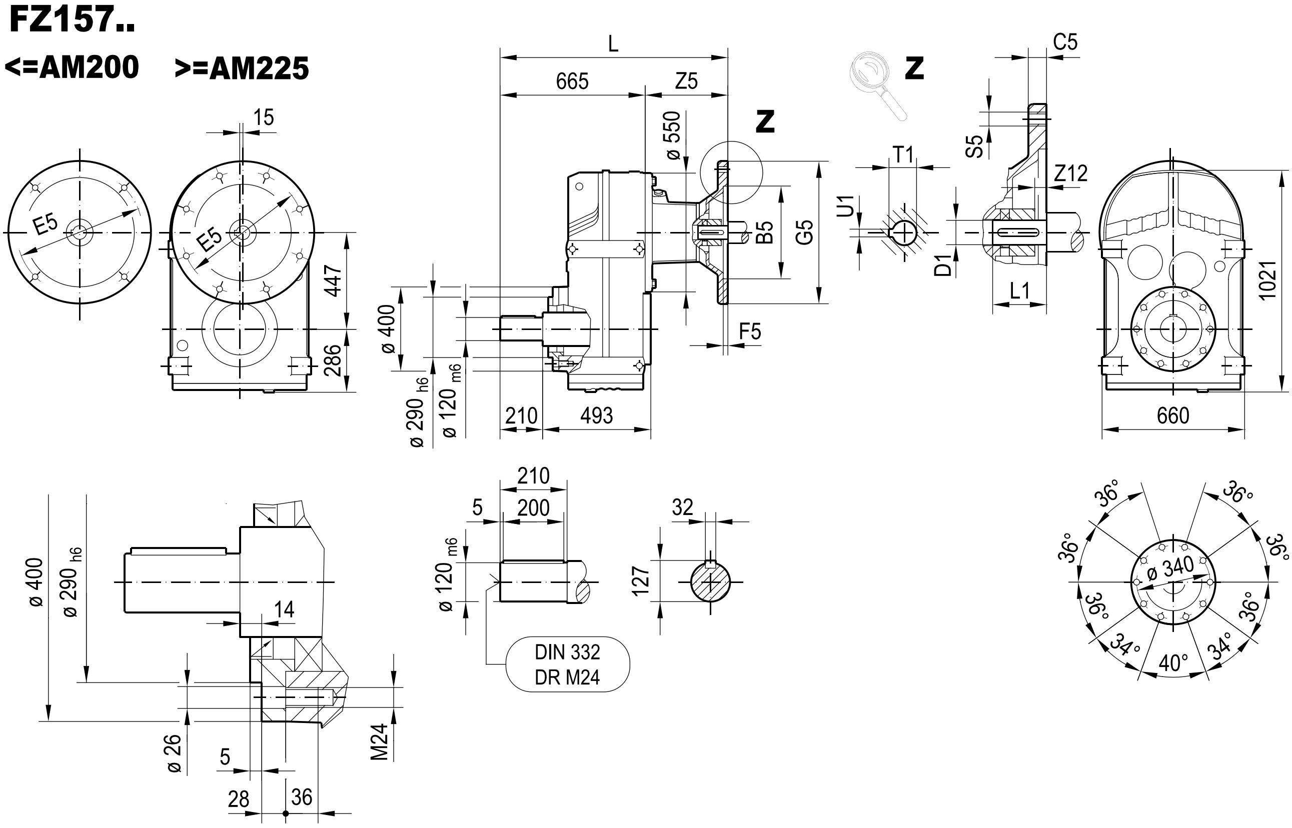
42 035 00 16

FZ157..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM160	250	18	300	6	350	863	M16	198	0	42	110	45.3	12
AM180	250	18	300	6	350	863	M16	198	0	48	110	51.8	14
AM200	300	20	350	7	400	904	M16	239	0	55	110	59.3	16
AM225	350	22	400	7	450	919	M16	254	0	60	140	64.4	18
AM250	450	25	500	7	550	993	M16	328	19	65	140	69.4	18
AM280	450	25	500	7	550	993	M16	328	19	75	140	79.9	20

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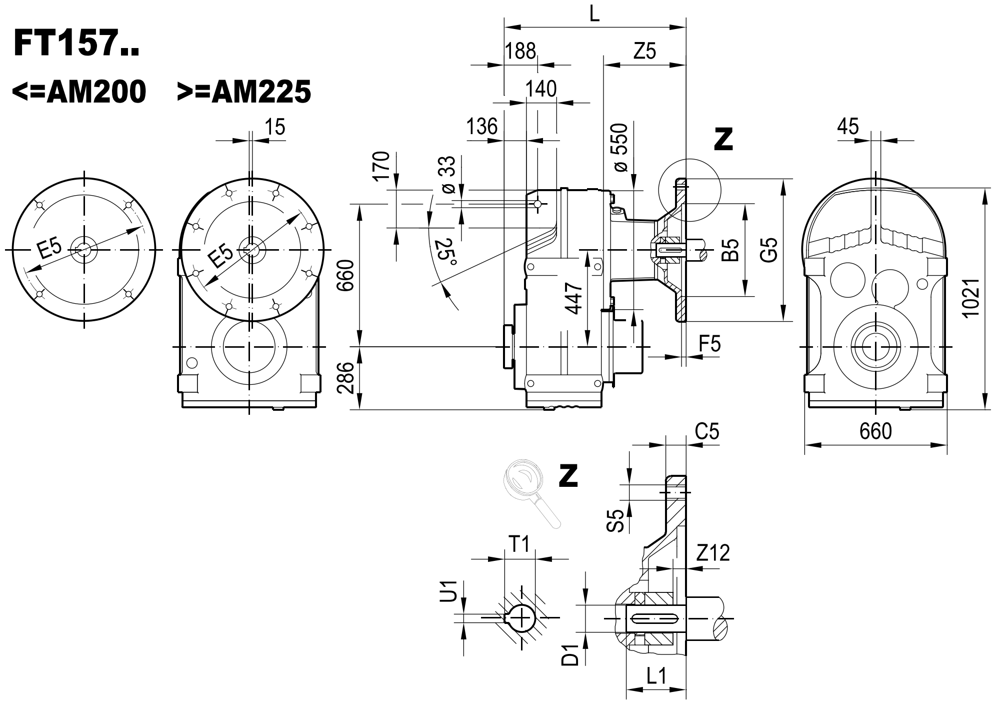
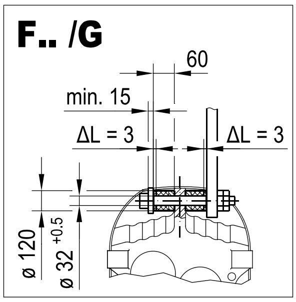
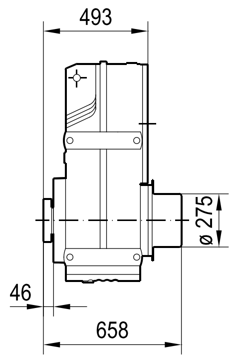
42 005 01 07

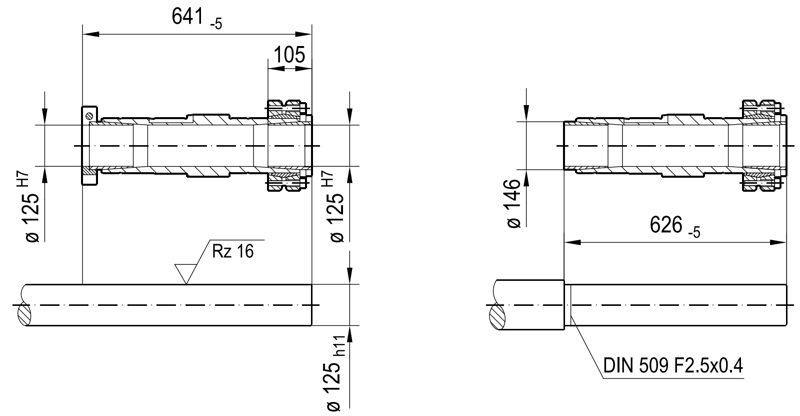
FT157..

<=AM200 >=AM225









(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM160	250	18	300	6	350	691	M16	198	0	42	110	45.3	12
AM180	250	18	300	6	350	691	M16	198	0	48	110	51.8	14
AM200	300	20	350	7	400	732	M16	239	0	55	110	59.3	16
AM225	350	22	400	7	450	747	M16	254	0	60	140	64.4	18
AM250	450	25	500	7	550	821	M16	328	19	65	140	69.4	18
AM280	450	25	500	7	550	821	M16	328	19	75	140	79.9	20

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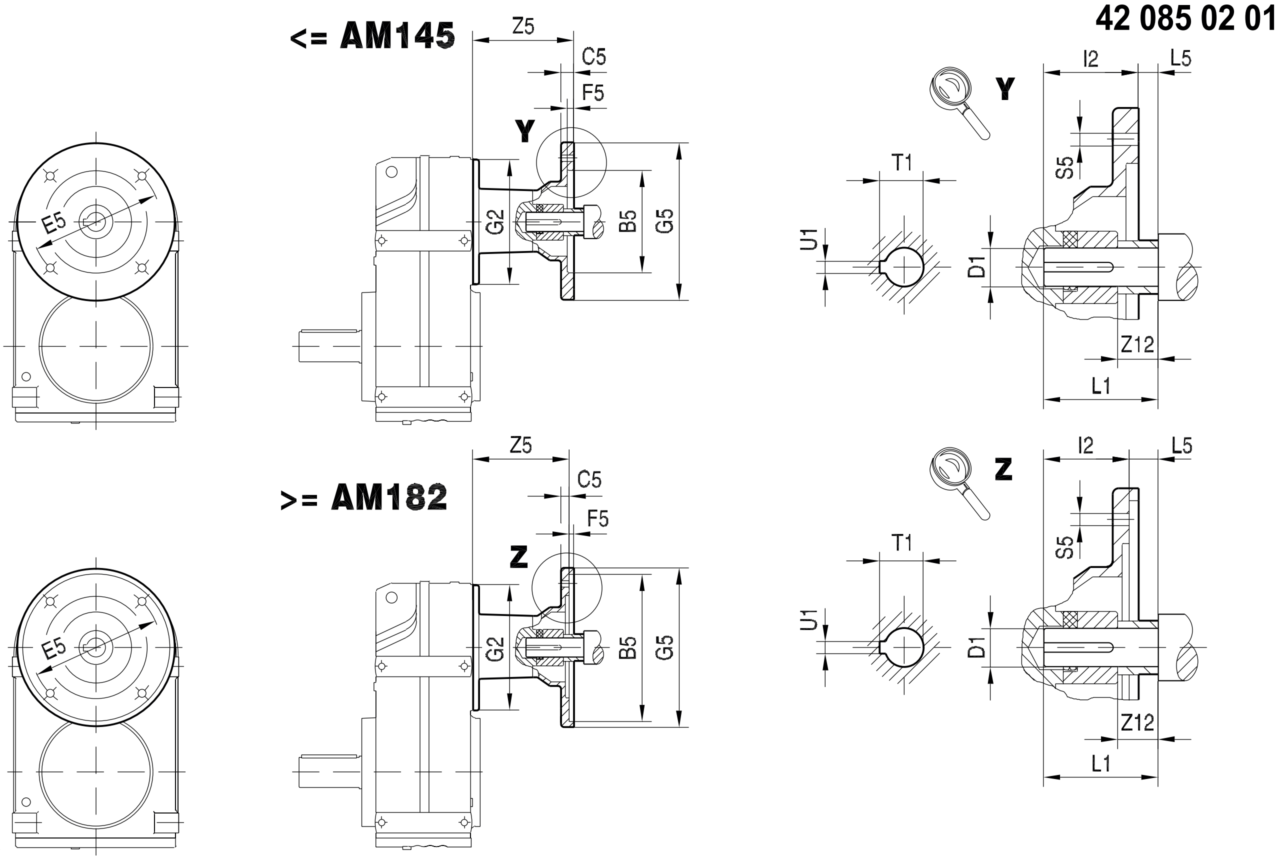
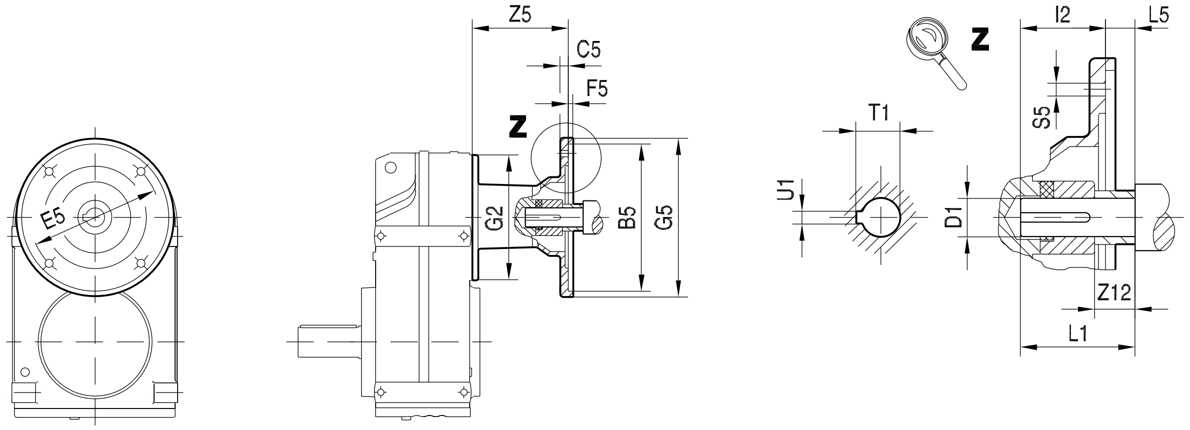
9.5 Dimension sheets for adapters for mounting NEMA motors (AM..)



		B5	C5	E5	F5	G2	G5	I2	L5	S5	Z5	Z12	D1	L1	T1	U1
F..27 F..37 F..47	AM56	114.3	11	149.2	4.5	120	170	52.55	-4.8	10.5	93.5	16.5	15.875	47.75	18.1	4.76
	AM143	114.3	12	149.2	4.5	120	170	54.1	3.05	10.5	117	14.5	22.225	57.15	24.7	4.76
	AM145	114.3	12	149.2	4.5	120	170	54.1	3.05	10.5	117	14.5	22.225	57.15	24.7	4.76
F..57 F..67	AM56	114.3	11	149.2	4.5	160	170	52.55	-4.8	10.5	87	16.5	15.875	47.75	18.1	4.76
	AM143	114.3	12	149.2	4.5	160	170	54.1	3.05	10.5	110.5	14.5	22.225	57.15	24.7	4.76
	AM145	114.3	12	149.2	4.5	160	170	54.1	3.05	10.5	110.5	14.5	22.225	57.15	24.7	4.76
	AM182	215.9	10	184	5	160	228	66.675	3	15	147.5	16.5	28.575	69.85	31.7	6.35
	AM184	215.9	10	184	5	160	228	66.675	3	15	147.5	16.5	28.575	69.85	31.7	6.35
	AM213/215	215.9	11	184	5	160	228	79.55	6.3	15	200.5	15.8	34.925	85.85	38.7	7.94
F..77	AM56	114.3	11	149.2	4.5	200	170	52.55	-4.8	10.5	81	16.5	15.875	47.75	18.1	4.76
	AM143	114.3	12	149.2	4.5	200	170	54.1	3.05	10.5	103.5	14.5	22.225	57.15	24.7	4.76
	AM145	114.3	12	149.2	4.5	200	170	54.1	3.05	10.5	103.5	14.5	22.225	57.15	24.7	4.76
	AM182	215.9	10	184	5	200	228	66.675	3	15	139.5	16.5	28.575	69.85	31.7	6.35
	AM184	215.9	10	184	5	200	228	66.675	3	15	139.5	16.5	28.575	69.85	31.7	6.35
	AM213/215	215.9	11	184	5	200	228	79.55	6.3	15	188.5	15.8	34.925	85.85	38.7	7.94
F..87	AM143	114.3	12	149.2	4.5	250	170	54.1	3.05	10.5	98.5	14.5	22.225	57.15	24.7	4.76
	AM145	114.3	12	149.2	4.5	250	170	54.1	3.05	10.5	98.5	14.5	22.225	57.15	24.7	4.76
	AM182	215.9	10	184	5	250	228	66.675	3	15	134.5	16.5	28.575	69.85	31.7	6.35
	AM184	215.9	10	184	5	250	228	66.675	3	15	134.5	16.5	28.575	69.85	31.7	6.35
	AM213/215	215.9	11	184	5	250	228	79.55	6.3	15	183.5	15.8	34.925	85.85	38.7	7.94
	AM254/256	215.9	12	184	5	250	228	95.3	6.3	15	234	9	41.275	101.6	45.8	9.53
	AM284/286	266.7	15	228.6	5	250	286	111.05	6.3	15	241	15.8	47.625	117.35	53.4	12.7

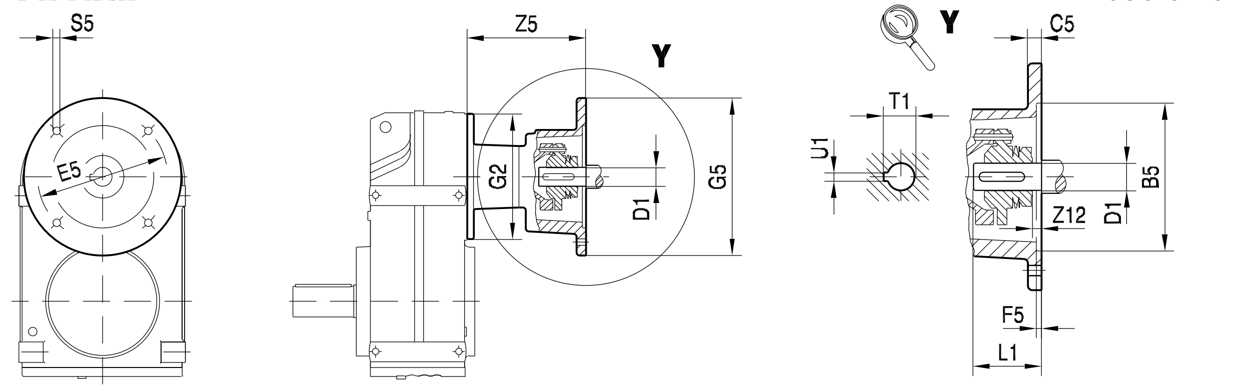
42 086 02 01



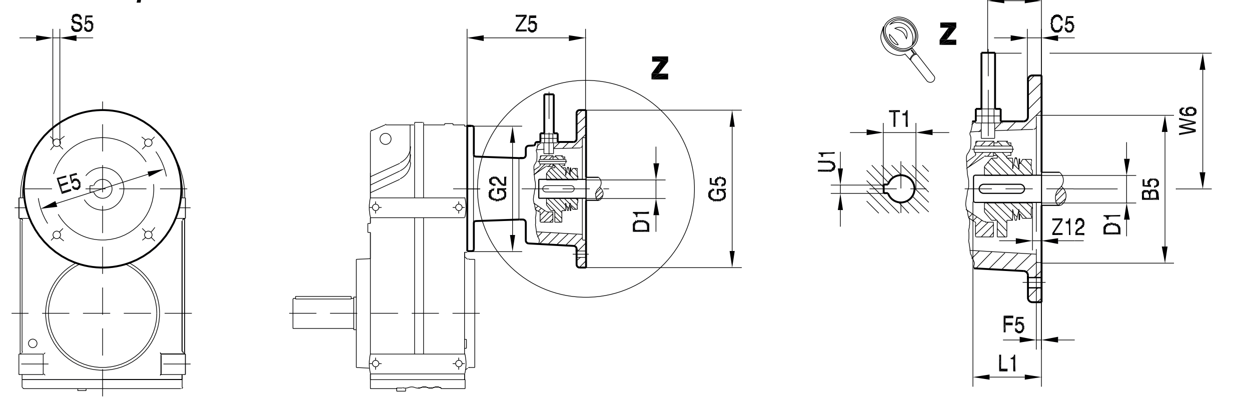
		B5	C5	E5	F5	G2	G5	I2	L5	S5	Z5	Z12	D1	L1	T1	U1
F..97	**AM182**	215.9	10	184	5	300	228	66.675	3	15	129.5	16.5	28.575	69.85	31.7	6.35
	AM184	215.9	10	184	5	300	228	66.675	3	15	129.5	16.5	28.575	69.85	31.7	6.35
	AM213/215	215.9	11	184	5	300	228	79.55	6.3	15	178.5	15.8	34.925	85.85	38.7	7.94
	AM254/256	215.9	12	184	5	300	228	95.3	6.3	15	229	9	41.275	101.6	45.8	9.53
	AM284/286	266.7	15	228.6	5	300	286	111.05	6.3	15	236	15.8	47.625	117.35	53.4	12.7
	AM324/326	317.5	17	279.4	5	300	356	127.05	6.3	17.5	296	34.8	53.975	133.35	60	12.7
	AM364/365	317.5	17	279.4	5	300	356	143.05	6.3	17.5	296	34.8	60.325	149.35	67.6	15.875
F..107	**AM182**	215.9	10	184	5	350	228	66.675	3	15	123.5	13.5	28.575	69.85	31.7	6.35
	AM184	215.9	10	184	5	350	228	66.675	3	15	123.5	13.5	28.575	69.85	31.7	6.35
	AM213/215	215.9	11	184	5	350	228	79.55	6.3	15	172.5	9.5	34.925	85.85	38.7	7.94
	AM254/256	215.9	12	184	5	350	228	95.3	6.3	15	223	2.5	41.275	101.6	45.8	9.53
	AM284/286	266.7	15	228.6	5	350	286	111.05	6.3	15	230	9.5	47.625	117.35	53.4	12.7
	AM324/326	317.5	17	279.4	5	350	356	127.05	6.3	17.5	290	28.5	53.975	133.35	60	12.7
	AM364/365	317.5	17	279.4	5	350	356	143.05	6.3	17.5	290	28.5	60.325	149.35	67.6	15.875
F..127	**AM213/215**	215.9	11	184	5	450	228	79.55	6.3	15	157.5	9.5	34.925	85.85	38.7	7.94
	AM254/256	215.9	12	184	5	450	228	95.3	6.3	15	208	2.5	41.275	101.6	45.8	9.53
	AM284/286	266.7	15	228.6	5	450	286	111.05	6.3	15	215	9.5	47.625	117.35	53.4	12.7
	AM324/326	317.5	17	279.4	5	450	356	127.05	6.3	17.5	275	28.5	53.975	133.35	60	12.7
	AM364/365	317.5	17	279.4	5	450	356	143.05	6.3	17.5	275	28.5	60.325	149.35	67.6	15.875
F..157	**AM254/256**	215.9	12	184	5	550	228	95.3	6.3	15	200	2.5	41.275	101.6	45.8	9.53
	AM284/286	266.7	15	228.6	5	550	286	111.05	6.3	15	207	9.5	47.625	117.35	53.4	12.7
	AM324/326	317.5	17	279.4	5	550	356	127.05	356	356	356	356	53.975	133.35	60	12.7
	AM364/365	317.5	17	279.4	5	550	356	143.05	356	356	356	356	60.325	149.35	67.6	15.875

9.6 Dimension sheets for adapters with slip clutch (AR..)

F.. AR.. **42 090 02 01**



F.. AR../W



		B5	C5	E5	F5	G2	G5	S5	W6	Z5	Z9	Z12	D1	L1	T1	U1
F..27 F..37 F..47	AR71	110	10	130	3.5	120	160	M8	120	104	37	0	14	30	16.3	5
	AR80	130	12	165	4.5		200	M10		140.5			19	40	21.8	6
	AR90												24	50	27.3	8
F..57 F..67	AR71	110	10	130	3.5	160	160	M8	120	97.5	37	0	14	30	16.3	5
	AR80	130	12	165	4.5		200	M10		134			19	40	21.8	6
	AR90												24	50	27.3	8
	AR100	180	15	215	5		250	M12	130	174.5	52	5.5	28	60	31.3	8
	AR112															
F..77	AR71	110	10	130	3.5	200	160	M8	120	91.5	37	0	14	30	16.3	5
	AR80	130	12	165	4.5		200	M10		127			19	40	21.8	6
	AR90												24	50	27.3	8
	AR100	180	15	215	5		250	M12	130	166.5	52	5.5	28	60	31.3	8
	AR112															
	AR132S/M	230	16	265	5		300	M12	145	234	72	5	38	80	41.3	10
	AR132ML															
F..87	AR80	130	12	165	4.5	250	200	M10	120	122	37	0	19	40	21.8	6
	AR90												24	50	27.3	8
	AR100	180	15	215	5		250	M12	130	161.5	52	5.5	28	60	31.3	8
	AR112															
	AR132S/M	230	16	265	5		300	M12	145	229	72	5	38	80	41.3	10
	AR132ML															
	AR160	250	18	300	6		350	M16	165	306.5	105	35	42	110	45.3	12
	AR180												48	110	51.8	14

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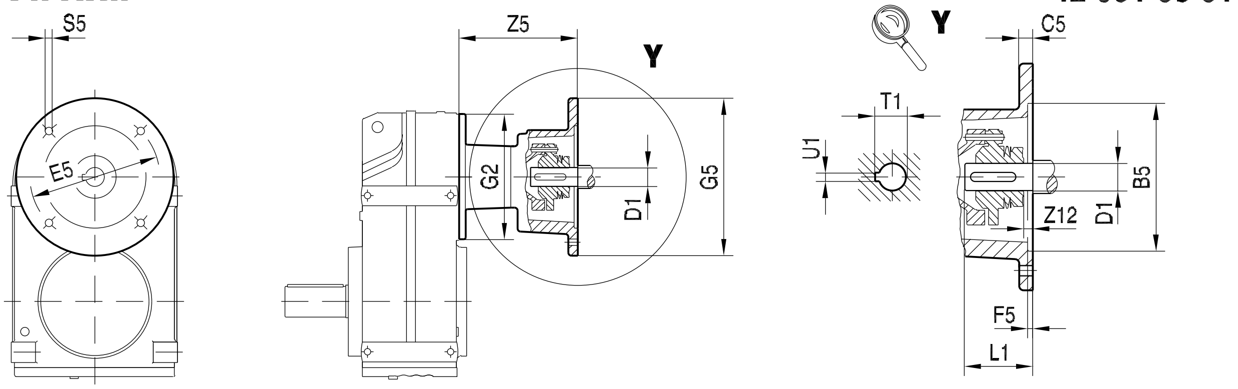
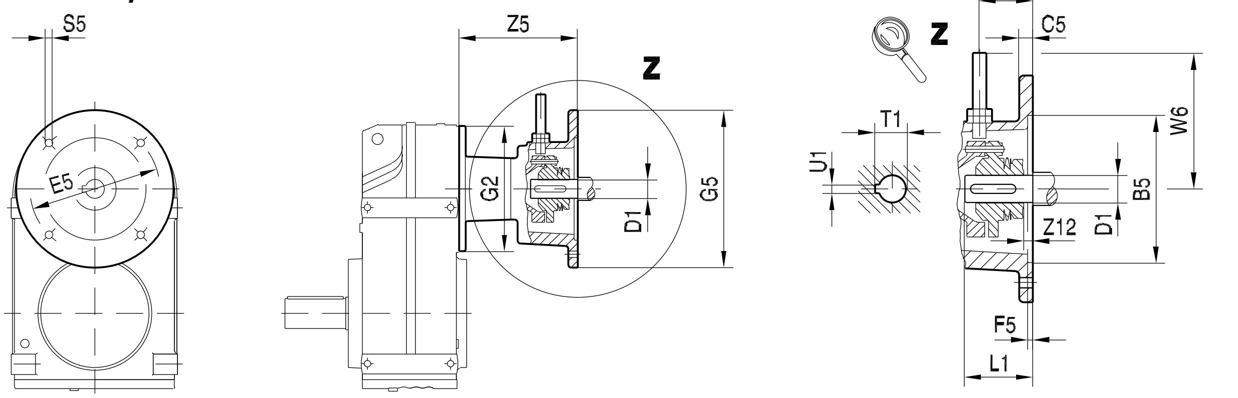
F.. AR..

42 091 03 01



F.. AR../W



		B5	C5	E5	F5	G2	G5	S5	W6	Z5	Z9	Z12	D1	L1	T1	U1
F..97	AR100	180	15	215	5	300	250	M12	130	156.5	52	5.5	28	60	31.3	8
	AR112															
	AR132S/M	230	16	265	5		300	M12	145	224	72	5	38	80	41.3	10
	AR132ML															
	AR160	250	18	300	6		350	M16	165	301.5	105	35	42	110	45.3	12
	AR180												48	110	51.8	14
F..107	AR100	180	15	215	5	350	250	M12	130	150.5	52	5.5	28	60	31.3	8
	AR112															
	AR132S/M	230	16	265	5		300	M12	145	218	72	5	38	80	41.3	10
	AR132ML															
	AR160	250	18	300	6		350	M16	165	295.5	105	35	42	110	45.3	12
	AR180												48	110	51.8	14
F..127	AR132S/M	230	16	265	5	450	300	M12	145	203	72	5	38	80	41.3	10
	AR132ML															
	AR160	250	18	300	6		350	M16	165	280.5	105	35	42	110	45.3	12
	AR180												48	110	51.8	14
F..157	AR160	250	18	300	6	550	350	M16	165	272.5	105	35	42	110	45.3	12
	AR180												48	110	51.8	14

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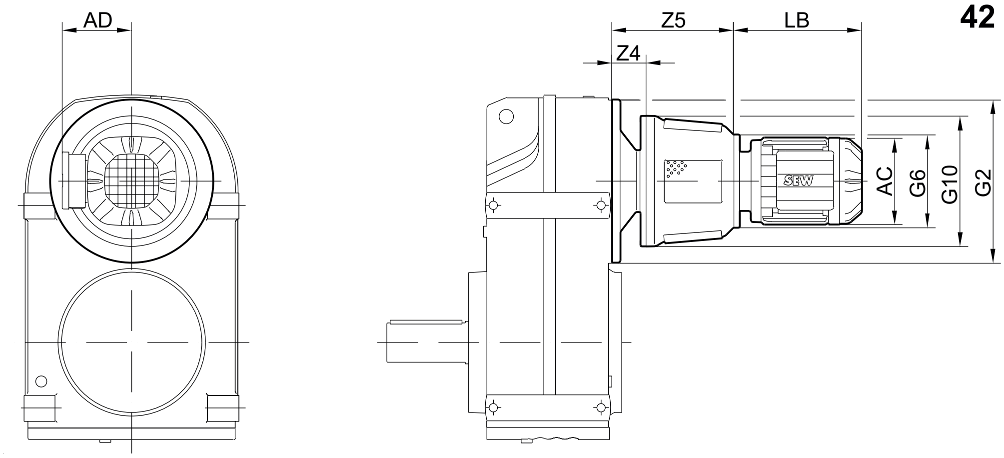
9.7 Dimension sheets for adapters with hydraulic start-up coupling (F..AT..)

42 092 04 01



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<tr><td rowspan="11">F67</td><td rowspan="8">AT311
AT312</td><td>DRN71M</td><td>139</td><td>118</td><td rowspan="8">200</td><td rowspan="8">280</td><td>222</td><td rowspan="8">97</td><td rowspan="8">286</td><td rowspan="11">160</td></tr>
<tr><td>DRN80MK</td><td rowspan="3">156</td><td rowspan="3">128</td><td>241</td></tr>
<tr><td>DRN80MS</td><td>259</td></tr>
<tr><td>DRN80M</td><td>287</td></tr>
<tr><td>DRN90S</td><td rowspan="2">179</td><td rowspan="2">140</td><td>281</td></tr>
<tr><td>DRN90L</td><td>313</td></tr>
<tr><td>DRN100LM</td><td>197</td><td>157</td><td>359</td></tr>
<tr><td>DRN112M</td><td>221</td><td>170</td><td>387</td></tr>
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<tr><td>DRN100L</td><td>359</td></tr>
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AT312</td><td>DRN71M</td><td>139</td><td>118</td><td rowspan="8">200</td><td rowspan="8">280</td><td>222</td><td rowspan="8">89</td><td rowspan="8">278</td><td rowspan="14">200</td></tr>
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<tr><td>DRM90L</td><td>313</td></tr>
<tr><td>DRN100LM</td><td>197</td><td>157</td><td>359</td></tr>
<tr><td>DRN112M</td><td>221</td><td>170</td><td>387</td></tr>
<tr><td>AT321</td><td>DRN132S</td><td>221</td><td>170</td><td>250</td><td>350</td><td>437</td><td>93</td><td>328</td></tr>
<tr><td rowspan="5">AT421
AT422</td><td>DRN90L</td><td>179</td><td>140</td><td rowspan="5">250</td><td rowspan="5">350</td><td>313</td><td rowspan="5">133</td><td rowspan="5">368</td></tr>
<tr><td>DRN100LS</td><td rowspan="2">197</td><td rowspan="2">157</td><td>309</td></tr>
<tr><td>DRN100L</td><td>359</td></tr>
<tr><td>DRN112M</td><td rowspan="2">221</td><td rowspan="2">170</td><td>387</td></tr>
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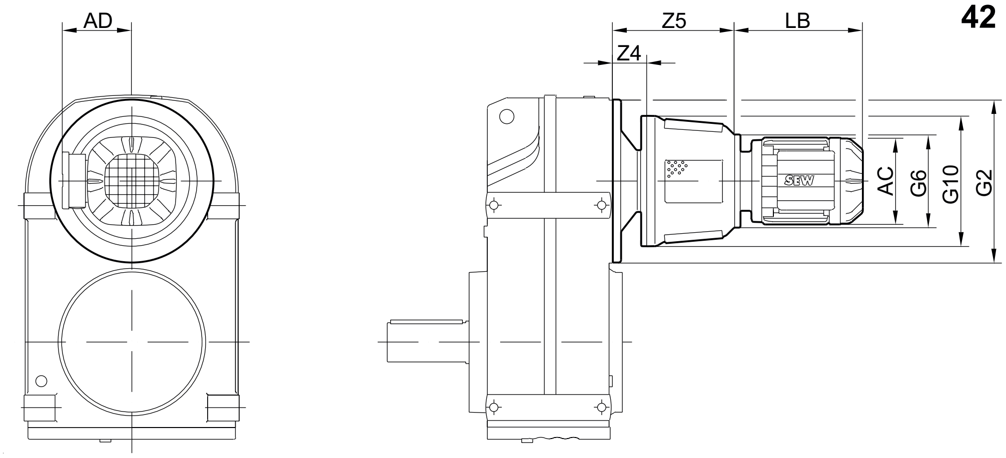
42 093 04 01



			AC	AD	G6	G10	LB	Z4	Z5	G2
F87	**AT311 AT312**	DRN90S	179	140	200	280	281	84	273	250
		DRM90L					313			
		DRN100LM	197	157			359			
		DRN112M	221	170			387			
	AT321	DRN132S	221	170	250	350	437	84	320	
	AT421 AT422	DRN90L	179	140	250	350	313	128	363	
		DRN100LS	197	157			309			
		DRN100L					359			
		DRN112M	221	170			387			
		DRN132S					437			
	AT541 AT542	DRN132S	221	170	350	470	437	159	478	
		DRN132M	261	228			439			
		DRN132L					464			
		DRN160M	316	253			532			
		DRN160L					532			
F97	**AT311 AT312**	DRN90S	179	140	200	280	281	79	268	300
		DRM90L					313			
		DRN100LM	197	157			359			
		DRN112M	221	170			387			
	AT321	DRN132S	221	170	250	350	437	79	315	
	AT421 AT422	DRN90L	179	140	250	350	313	123	358	
		DRN100LS	197	157			309			
		DRN100L					359			
		DRN112M	221	170			387			
	AT541 AT542	DRN132S	221	170	350	470	437	154	473	
		DRN132M	261	228			439			
		DRN132L					464			
		DRN160M	316	253			532			
		DRN160L					532			
		DRN180M	357	268			557			
		DRN180L					557			

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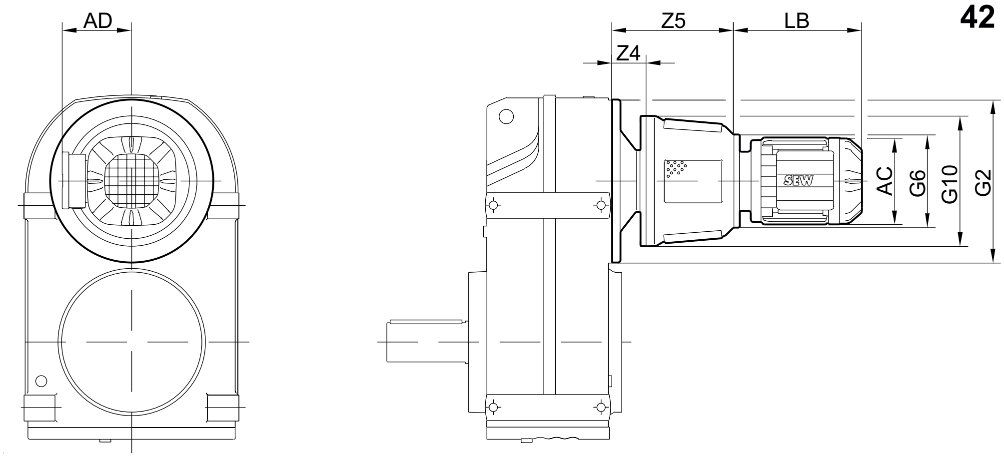
42 094 04 01



			AC	AD	G6	G10	LB	Z4	Z5	G2
F107	AT311 AT312	DRN100LM	197	157	200	280	359	73	262	350
		DRN112M	221	170			387			
	AT321	DRN132S	221	170	250	350	437	73	309	
	AT421 AT422	DRN100LS	197	157	250	350	309	117	352	
		DRN100L					359			
		DRN112M	221	170			387			
		DRN132S					437			
	AT541 AT542	DRN132M	261	228	350	470	439	148	467	
		DRN132L					464			
		DRN160M	316	253			532			
		DRN160L					532			
		DRN180M	357	268			557			
		DRN180L					557			
F127	AT421	DRN132S	221	170	250	350	437	102	337	450
	AT541 AT542	DRN132S	221	170	350	470	437	133	452	
		DRN132M	261	228			439			
		DRN132L					464			
		DRN160M	316	253			532			
		DRN160L					532			
		DRN180M	357	268			557			
		DRN180L					557			
F157	AT541 AT542	DRN160M	316	253	350	470	532	125	444	550
		DRN160L					532			
		DRN180M	357	268			557			
		DRN180L					557			

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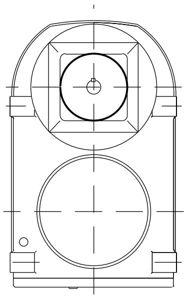
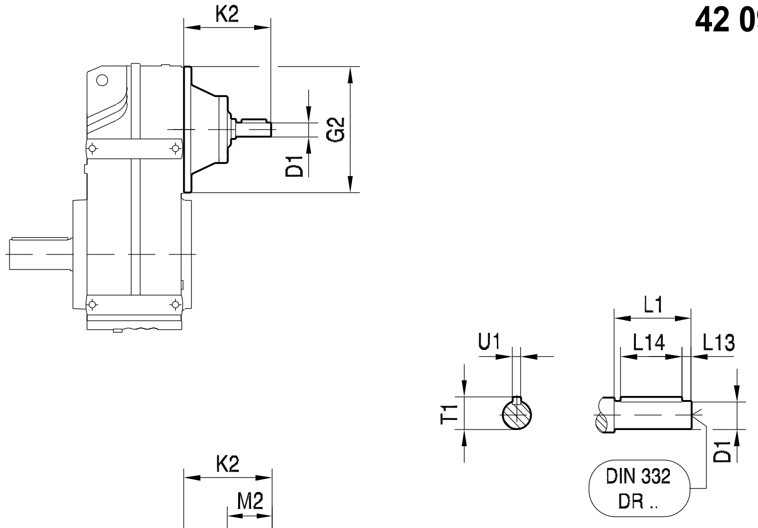
9.8 Dimension sheets for input shaft assembly (AD..)

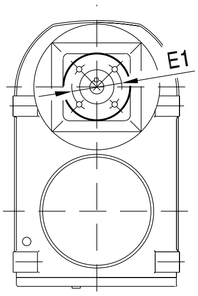
F.. AD..

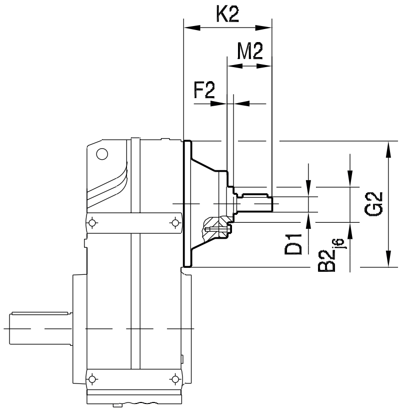
42 098 01 01

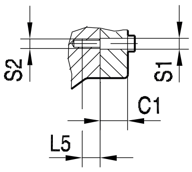




F.. AD../ZR







		B2	C1	E1	F2	G2	K2	L5	M2	S1	S2	D1	L1	L13	L14	T1	U1
F..27, F..37, F..47	AD1	-	-	-	-	120	102	-	-	-	-	16	40	4	32	18	5
	AD2, AD2/ZR	55	13.5	80	8		130	12	50	9	M8	19	40	4	32	21.5	6
F..57 F..67	AD2, AD2/ZR	55	13.5	80	8	160	123	12	50	9	M8	19	40	4	32	21.5	6
	AD3, AD3/ZR	70	15.5	105	8		159	16	60	11	M10	24	50	5	40	27	8
F..77	AD2, AD2/ZR	55	13.5	80	8	200	116	12	50	9	M8	19	40	4	32	21.5	6
	AD3, AD3/ZR	70	15.5	105	8		151	16	60	11	M10	24	50	5	40	27	8
	AD4, AD4/ZR	100	16	130	13		224	20	95.5	13.5	M12	38	80	5	70	41	10
F..87	AD2, AD2/ZR	55	13.5	80	8	250	111	12	50	9	M8	19	40	4	32	21.5	6
	AD3, AD3/ZR	70	15.5	105	8		156	16	70	11	M10	28	60	5	50	31	8
	AD4, AD4/ZR	100	16	130	13		219	20	95.5	13.5	M12	38	80	5	70	41	10
	AD5, AD5/ZR	120	24	180	11		292	20	126	13.5	M12	42	110	10	70	45	12
F..97	AD3, AD3/ZR	70	15.5	105	8	300	151	16	70	11	M10	28	60	5	50	31	8
	AD4, AD4/ZR	100	16	130	13		214	20	95.5	13.5	M12	38	80	5	70	41	10
	AD5, AD5/ZR	120	24	180	11		287	20	126	13.5	M12	42	110	10	70	45	12
	AD6, AD6/ZR	130	22.5	200	11		327	26	130.5	17.5	M16	48	110	10	80	51.5	14
F..107	AD3, AD3/ZR	70	15.5	105	8	350	145	16	70	11	M10	28	60	5	50	31	8
	AD4, AD4/ZR	100	16	130	13		208	20	95.5	13.5	M12	38	80	5	70	41	10
	AD5, AD5/ZR	120	24	180	11		281	20	126	13.5	M12	42	110	10	70	45	12
	AD6, AD6/ZR	130	22.5	200	11		321	26	130.5	17.5	M16	48	110	10	80	51.5	14
F..127	AD4, AD4/ZR	100	16	130	13	450	193	20	95.5	13.5	M12	38	80	5	70	41	10
	AD5, AD5/ZR	120	24	180	11		266	20	126	13.5	M12	42	110	10	70	45	12
	AD6, AD6/ZR	130	22.5	200	11		306	26	130.5	17.5	M16	48	110	10	80	51.5	14
	AD7, AD7/ZR	125	19	190	13		300	30	133	22	M20	55	110	10	90	59	16
	AD8, AD8/ZR	120	22.5	210	5		383	19.5	155	13.5	M12	70	140	15	110	74.5	20

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		B2	C1	E1	F2	G2	K2	L5	M2	S1	S2	D1	L1	L13	L14	T1	U1
F..157	**AD5, AD5/ZR**	120	24	180	11	550	258	20	126	13.5	M12	42	110	10	70	45	12
	AD6, AD6/ZR	130	22.5	200	11		298	26	130.5	17.5	M16	48	110	10	80	51.5	14
	AD7, AD7/ZR	125	19	190	13		292	30	133	22	M20	55	110	10	90	59	16
	AD8, AD8/ZR	120	22.5	210	5		374	19.5	155	13.5	M12	70	140	15	110	74.5	20

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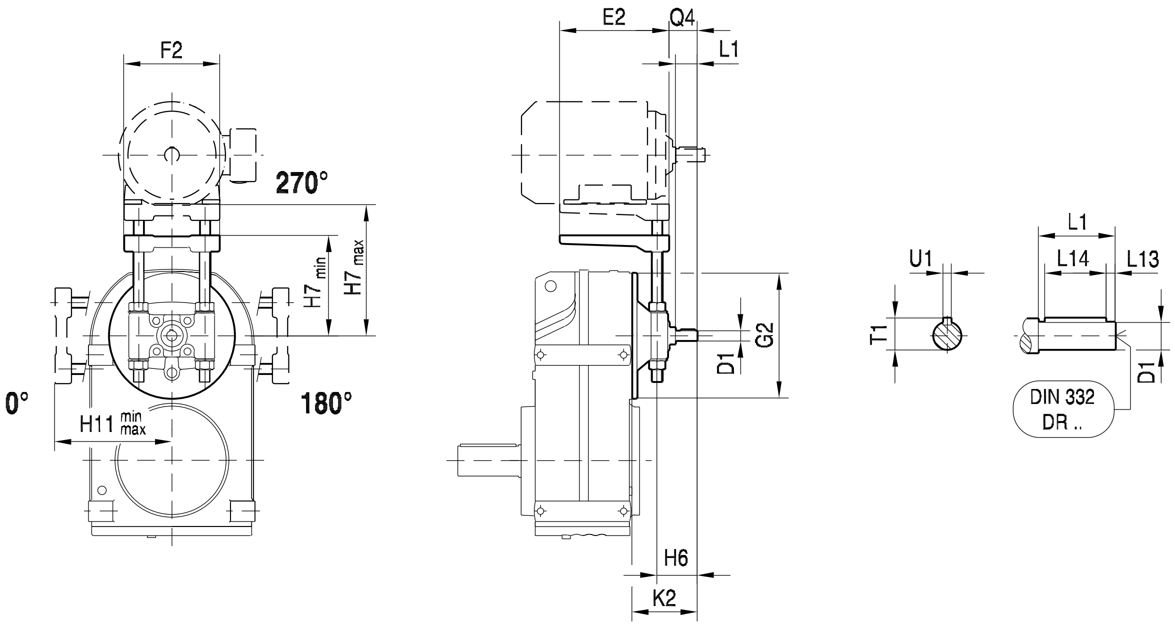
9.9 Dimension sheets for input shaft assembly with motor platform (AD../P)

42 099 01 01



		E2	F2	G2	H6	H7 min	H7 max	H11 min	H11 max	K2	Q4	D1	L1	L13	L14	T1	U1
F..27	**AD2/P**	195	180	120	65	100	165	125	165	130	43	19	40	4	32	21.5	6
F..37	**AD2/P**	195	180	120	65	100	165	125	165	130	43	19	40	4	32	21.5	6
F..47	**AD2/P**	195	180	120	65	105	165	125	165	130	43	19	40	4	32	21.5	6
F..57	**AD2/P**	195	180	160	65	125	165	140	200	123	43	19	40	4	32	21.5	6
	AD3/P	230	240		80	130	175	150	230	159	54	24	50	5	40	27	8
F..67	**AD2/P**	195	180	160	65	125	165	145	200	123	43	19	40	4	32	21.5	6
	AD3/P	230	240		80	130	175	155	230	159	54	24	50	5	40	27	8
F..77	**AD2/P**	195	180	200	65	145	200	170	200	116	43	19	40	4	32	21.5	6
	AD3/P	230	240		80	150	230	175	230	151	54	24	50	5	40	27	8
	AD4/P	345	291		118	155	210	185	210	224	83	38	80	5	70	41	10
F..87	**AD2/P**	195	180	250	65	170	260	205	260	111	43	19	40	4	32	21.5	6
	AD3/P	230	240		90	175	230	210	320	156	64	28	60	5	50	31	8
	AD4/P	345	291		118	180	280	215	280	219	83	38	80	5	70	41	10
	AD5/P	430	355		153	185	250	225	325	292	113	42	110	10	70	45	12
F..97	**AD3/P**	230	240	300	90	205	320	240	320	151	64	28	60	5	50	31	8
	AD4/P	345	291		118	210	280	245	280	214	83	38	80	5	70	41	10
	AD5/P	430	355		153	215	325	250	325	287	113	42	110	10	70	45	12
F..107	**AD3/P**	230	240	350	90	230	320	270	320	145	64	28	60	5	50	31	8
	AD4/P	345	291		118	240	280	275	360	208	83	38	80	5	70	41	10
	AD5/P	430	355		153	240	325	280	325	281	113	42	110	10	70	45	12
	AD6/P	495	457		163	245	310	285	310	321	114	48	110	10	80	51.5	14

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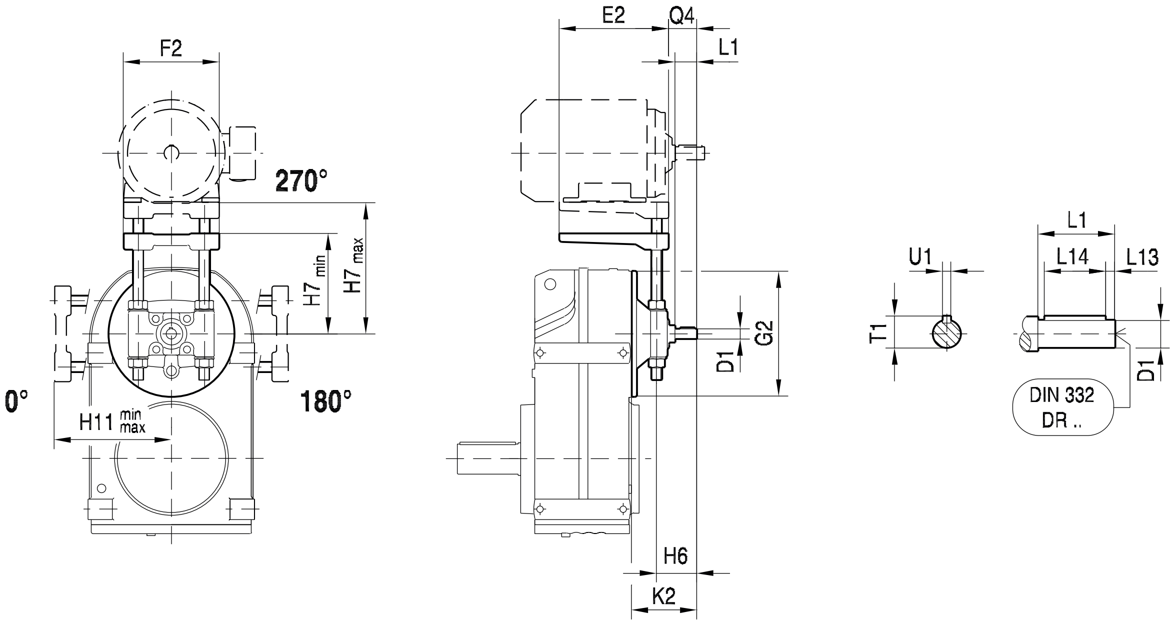
42 101 01 01

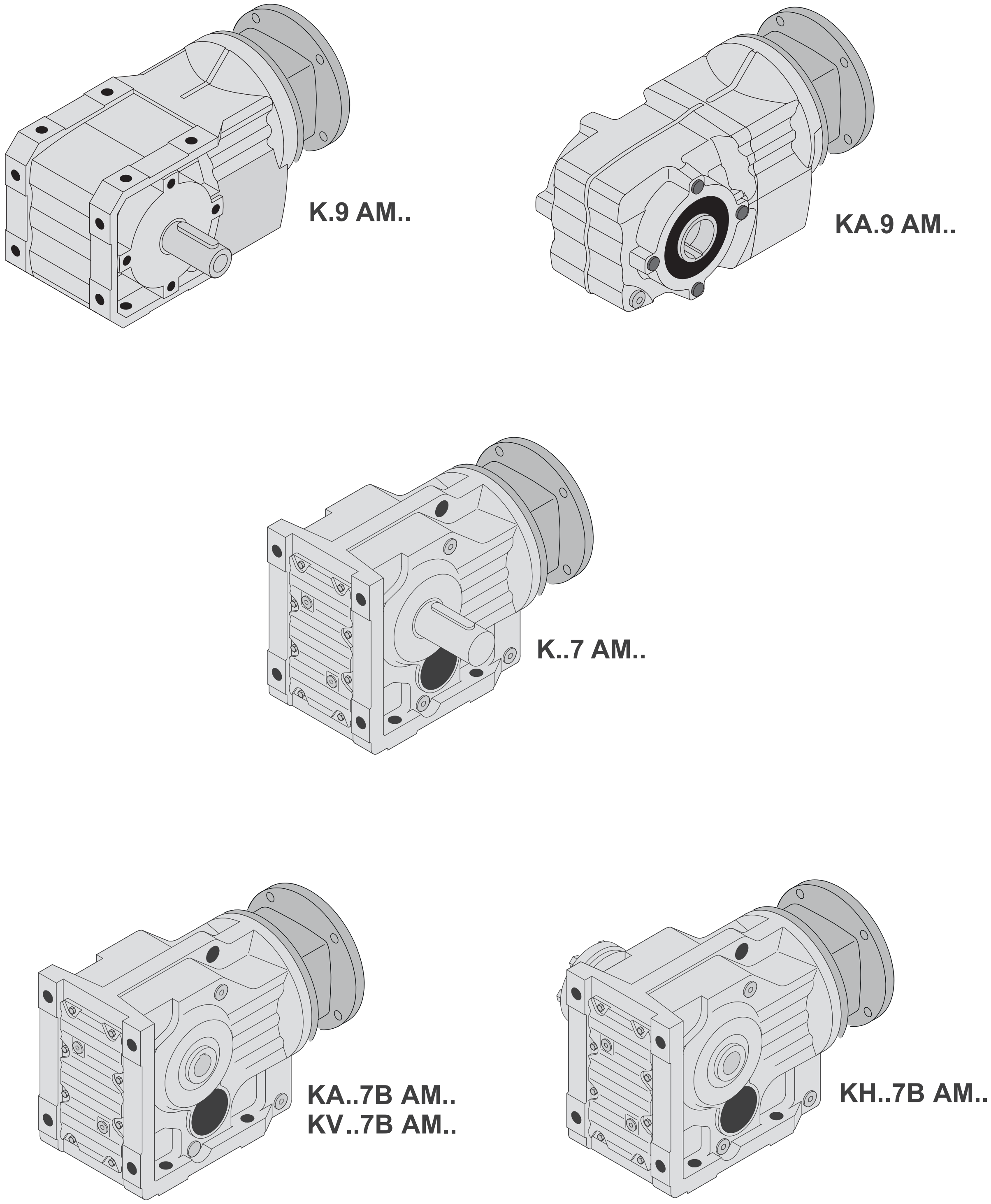


		E2	F2	G2	H6	H7 min	H7 max	H11 min	H11 max	K2	Q4	D1	L1	L13	L14	T1	U1
F..127	**AD4/P**	345	291	450	118	240	280	310	360	193	83	38	80	5	70	41	10
	AD5/P	430	355		153	295	405	320	405	266	113	42	110	10	70	45	12
	AD6/P	495	457		163	295	360	310	360	306	114	48	110	10	80	51.5	14
	AD7/P	650	570		170	300	365	310	365	300	112	55	110	10	90	59	16
F..157	**AD5/P**	430	355	550	153	345	405	370	405	258	113	42	110	10	70	45	12
	AD6/P	495	457		163	375	475	380	475	298	114	48	110	10	80	51.5	14
	AD7/P	650	570		170	375	475	385	475	292	112	55	110	10	90	59	16

For bore dimensions and weight of the motor platform, refer to the chapter "Bore dimensions and weight" (→ 🗎 70).

10 K.. helical-bevel gear units

10.1 Selection tables for adapters for mounting IEC/NEMA motors (AM..)



21441563403

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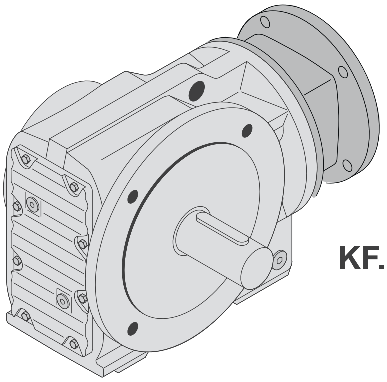
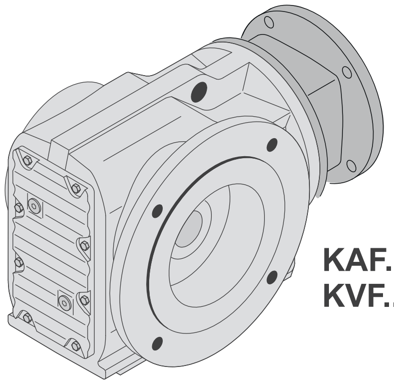
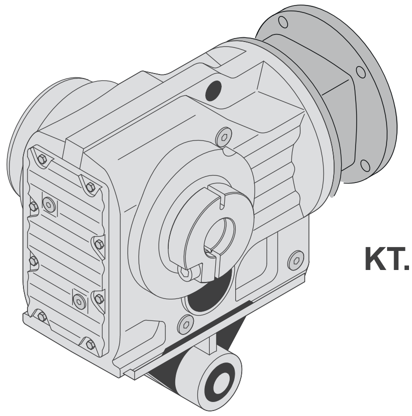


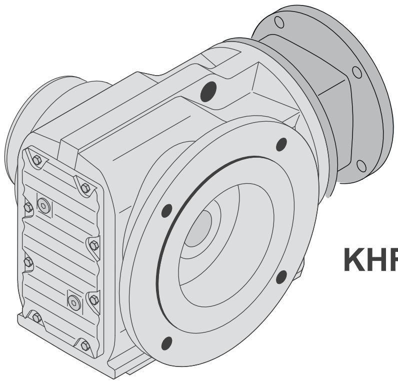
KF..7 AM..



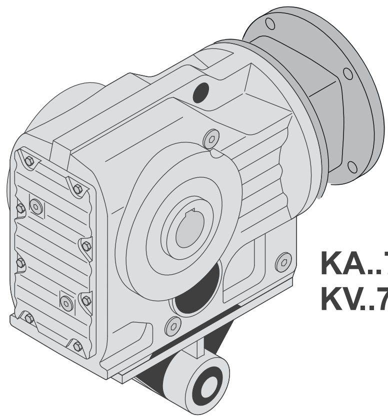
KAF..7 AM..
KVF..7 AM..



KT..7/T AM..

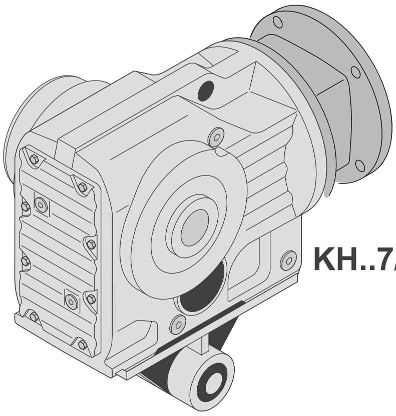


KHF..7 AM..

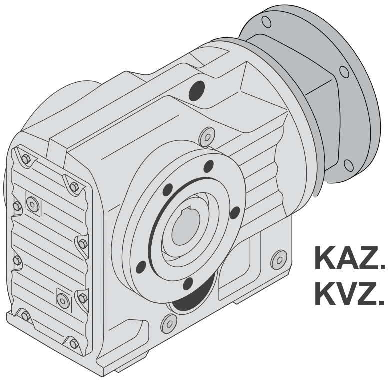


KA..7/T AM..
KV..7/T AM..

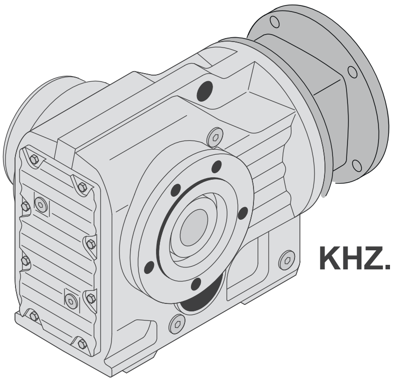
21441565835



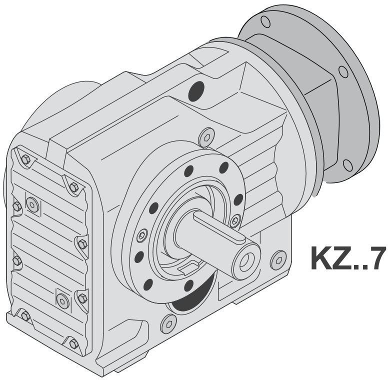
KH..7/T AM..



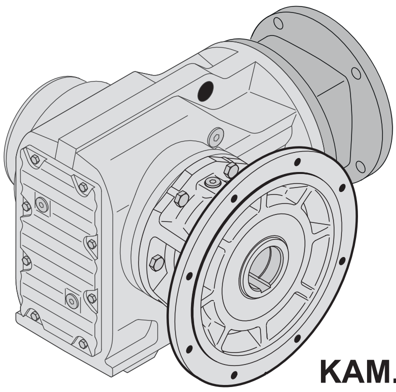
KAZ..7 AM..
KVZ..7 AM..



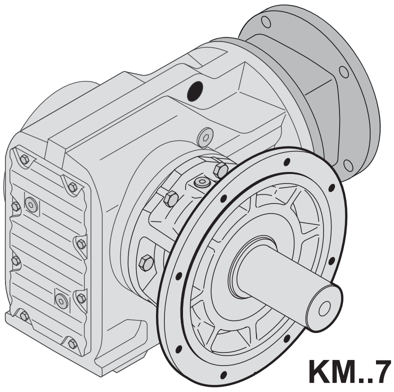
KHZ..7 AM..



KZ..7 AM..



KAM..7 AM..



KM..7 AM..

21441593867

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K19, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm								80 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM			
	min^{-1}	Nm	N	'	63	71	80	90
					2			
4.50	311	80	2010	-	23	23	67	67
5.16	271	80	2140	-	26	26	76	76
5.54	253	80	2200	-	28	28	80	80
6.41	218	80	2340	-	33	33	80	80
6.91	203	80	2420	-	35	35	80	80
8.09	173	80	2590	-	41	41	80	
9.58	146	63	2910	-	49	49		
10.32	136	76	2720	-	52	52	76	76
11.84	118	79	2850	-	60	60	79	79
12.70	110	80	2930	-	64	64	80	80
14.69	95	80	3110	-	75	75	80	80
15.84	88	80	3210	-	80	80	80	80
18.55	75	80	3430	-	80	80	80	
21.98	64	80	3680	-	80	80		
24.06	58	80	3820	-	80	80		
26.88	52	80	3990	-				
27.16	52	60	4090	-	60	60	60	60
29.14	48	80	4120	-				
29.29	48	61	4200	-	61	61	61	61
31.74	44	80	4260	-				
34.29	41	64	4370	-	64	64	64	
40.63	34	67	4350	-	67	67		
44.48	31	69	4340	-	69	69		
49.69	28	70	4330	-				
53.88	26	70	4330	-				
58.68	24	70	4330	-				

K19, m /kg			AM			
K	IEC	s	63	71	80	90
		2	6.7	6.9	9.3	9.4
	NEMA	s	-	56	143	145
		2	-	7.3	9.3	9.4
KF: + 0.30 kg / KA: + -0.45 kg / KAF: + -- kg						

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SEW EURODRIVE

K29, n_e = 1400 min^{-1}, $M_{a\ max}$/Nm								130 Nm
i	n_a	$M_{a\ max\ G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM			
	min^{-1}	Nm	N	'	63	71	80	90
					2			
3.19	439	110	1830	-	16	16	47	47
3.92	357	126	1910	-	19	19	58	58
5.10	275	110	2260	-	26	26	75	75
5.75	243	112	2370	-	29	29	85	85
6.95	201	112	2580	-	35	35	103	103
7.48	187	123	2300	-	37	37	109	109
8.53	164	122	2740	-	44	44	112	112
9.17	153	130	2470	-	46	46	130	130
9.90	141	110	3000	-	51	51	110	
11.94	117	130	2810	-	60	60	130	130
13.47	104	130	2970	-	68	68	130	130
16.29	86	130	3240	-	83	83	130	130
19.99	70	130	3550	-	102	102	130	130
22.08	63	105	3820	-	105	105	105	105
23.19	60	130	3790	-	118	118	130	
24.91	56	109	3980	-	109	109	109	109
27.23	51	130	4060	-	130	130		
29.69	47	130	4210	-	130	130		
30.11	46	115	4250	-	115	115	115	115
33.15	42	130	4410	-				
35.83	39	130	4560	-				
36.96	38	122	4560	-	122	122	122	122
38.90	36	130	4720	-				
42.87	33	128	4790	-	128	128	128	
50.35	28	130	4980	-	130	130		
54.89	26	130	4980	-	130	130		
61.28	23	130	4980	-				
66.25	21	130	4980	-				
71.93	19	130	4980	-				

K29, m /kg			AM			
K	IEC	s	63	71	80	90
		2	8.5	8.7	11	11
	NEMA	s	-	56	143	145
		2	-	9.1	11	11
KF: + 1.0 kg / KA: + -0.45 kg / KAF: + 0.35 kg						

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K37, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm								200 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM			
	min^{-1}	Nm	N	'	63	71	80	90
					3			
3.98	352	125	1660	13	19	19	58	58
5.36	261	140	1810	13	26	26	78	78
6.37	220	145	1950	13	32	32	93	93
6.80	206	150	1980	13	34	34	100	100
7.96	176	155	2110	13	40	40	117	117
8.91	157	160	2200	12	45	45	131	131
10.49	133	160	2410	12	53	53	154	154
12.14	115	160	2600	12	61	61	160	160
13.08	107	165	2650	9	66	66	165	165
15.31	91	175	2780	8	77	77	175	175
17.15	82	180	2900	8	87	87	180	180
20.19	69	185	3110	8	102	102	185	185
23.36	60	195	3260	8	119	119	195	195
24.99	56	200	3330	8	127	127	200	200
28.83	49	200	3580	8	147	147	200	
29.96	47	200	3650	7	149	149	200	200
35.57	39	200	3970	7	177	177	200	200
37.97	37	200	4100	7	190	190	200	200
44.46	31	200	4420	7	200	200	200	200
49.79	28	200	4660	7	200	200	200	200
58.60	24	200	5020	7	200	200	200	200
67.80	21	200	5360	7	200	200	200	200
72.54	19	200	5520	7	200	200	200	200
83.69	17	200	5640	7	200	200	200	
97.81	14	200	5640	7	200	200		
106.38	13	200	5640	7	200	200		

K37, m /kg			AM			
K	IEC	s	63	71	80	90
		3	14	14	17	17
	NEMA	s	-	56	143	145
		3	-	15	17	17
KF: + 2.3 kg / KA: + -0.25 kg / KAF: + 1.5 kg						

K39, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm										300 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM					
	min^{-1}	Nm	N	'	63	71	80	90	100	112
					2					
2.81	498	170	2870	-			40	40	112	112
3.94	355	215	3070	-			56	56	158	158
4.52	310	240	3130	-	21	21	65	65	182	182
5.22	268	260	3240	-	25	25	75	75	210	210
5.75	243	275	3300	-	27	27	83	83	230	230
6.75	207	300	3430	-	33	33	98	98	260	270
7.15	196	300	3530	-	35	35	104	104	270	285
8.12	172	300	3760	-	40	40	118	118	290	300
9.00	156	300	3950	-	44	44	131	131	300	300
10.61	132	285	4360	-	53	53	155	155	280	
12.09	116	255	4790	-	60	60	168	168		
12.73	110	250	4930	-	64	64	168	168		
13.44	104	270	4160	-			186	186	270	270
15.44	91	280	4380	-	71	71	210	210	280	280
17.83	79	290	4630	-	83	83	245	245	290	290
19.62	71	295	4820	-	92	92	270	270	295	295
23.04	61	300	5180	-	109	109	300	300	300	300
24.40	57	300	5330	-	115	115	300	300	300	300
27.73	50	300	5670	-	132	132	300	300	300	300
30.72	46	300	5960	-	147	147	300	300	300	300
36.22	39	300	6440	-	175	175	300	300	300	
41.28	34	300	6840	-	200	200	300	300		
43.45	32	300	7000	-	210	210	300	300		
49.69	28	300	7440	-	240	240	300			
58.24	24	300	7500	-	280	280				

K39, m /kg			AM					
K	IEC	s	63	71	80	90	100	112
		2	20	20	22	22	27	27
	NEMA	s	-	56	143	145	182	184
		2	-	20	22	22	26	26
KF: + 1.5 kg / KA: + -1.0 kg / KAF: + 0.50 kg								

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K47, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm										400 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM					
	min^{-1}	Nm	N	'	63	71	80	90	100	112
					3					
4.64	302	205	2980	12			67	67	187	187
5.81	241	230	3140	12	28	28	84	84	230	230
6.58	213	240	3270	12	32	32	96	96	240	240
7.36	190	250	3380	11	36	36	108	108	250	250
8.56	164	270	3500	11	43	43	125	125	270	270
9.10	154	280	3540	11	45	45	133	133	280	280
10.56	133	280	3830	11	53	53	155	155	280	280
11.77	119	280	4060	10	59	59	173	173	280	280
12.19	115	350	3720	8	60	60	178	178	350	350
13.65	103	360	3890	8	68	68	200	200	360	360
15.86	88	380	4080	8	79	79	230	230	380	380
16.86	83	380	4220	8	85	85	245	245	380	380
19.58	72	400	4440	8	99	99	285	285	400	400
21.81	64	400	4710	8	110	110	320	320	400	400
24.06	58	400	4970	8	121	121	350	350		
25.91	54	400	5170	8	131	131	380	380	400	
29.32	48	400	5520	8	148	148	400	400		
31.30	45	400	5700	7	158	158	400	400		
35.39	40	400	5920	7	174	174	400	400	400	400
39.61	35	400	5920	7	196	196	400	400	400	400
46.03	30	400	5920	7	225	225	400	400	400	400
48.95	29	400	5920	7	240	240	400	400	400	400
56.83	25	400	5920	7	285	285	400	400	400	400
63.30	22	400	5920	6	315	315	400	400	400	400
69.84	20	400	5920	6	350	350	400	400		
75.20	19	400	5920	6	375	375	400	400	400	
85.12	16	400	5920	6	400	400	400	400		
90.86	15	400	5920	6	400	400	400	400		
104.37	13	400	5920	6	400	400	400			
121.48	12	400	5920	6	400	400				
131.87	11	400	5920	6	400	400				

K47, m /kg			AM					
K	IEC	s	63	71	80	90	100	112
		3	21	21	23	24	28	28
	NEMA	s	-	56	143	145	182	184
		3	-	22	23	24	27	27
KF: + 3.2 kg / KA: + -0.85 kg / KAF: + 2.0 kg								

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K49, n_e = 1400 min^{-1}, $M_{a\ max}$/Nm											500 Nm
i	n_a	$M_{a\ max\ G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM						
	min^{-1}	Nm	N	'	63	71	80	90	100	112	132S/M
							2				
4.00	350	440	3110	-			56	56	160	160	350
4.69	299	465	3270	-			67	67	188	188	410
5.29	265	485	3400	-			76	76	210	210	465
5.99	234	500	3570	-	28	28	86	86	240	240	500
6.83	205	500	3840	-	33	33	99	99	275	275	500
7.58	185	500	4050	-	37	37	110	110	305	305	500
8.66	162	500	4340	-	42	42	126	126	350	350	500
9.14	153	500	4460	-	45	45	133	133	365	365	500
10.42	134	480	4860	-	52	52	152	152	400	415	
11.37	123	495	5000	-	56	56	166	166	420	420	
13.38	105	470	4320	-			183	183	470	470	470
15.67	89	490	4590	-			215	215	490	490	490
17.67	79	500	4860	-			245	245	500	500	500
20.03	70	500	5220	-	93	93	275	275	500	500	500
22.83	61	500	5610	-	107	107	315	315	500	500	500
25.34	55	500	5940	-	119	119	355	355	500	500	500
28.95	48	500	6370	-	138	138	405	405	500	500	500
30.55	46	500	6550	-	146	146	425	425	500	500	500
34.81	40	500	7000	-	167	167	490	490	500	500	
37.98	37	500	7310	-	183	183	500	500	500	500	
44.44	32	500	7900	-	210	210	500	500	500		
50.29	28	500	8380	-	240	240	500	500			
52.94	26	500	8590	-	255	255	500	500			
60.27	23	500	9000	-	290	290	500				
70.19	20	445	9000	-	335	335					
75.20	19	475	9000	-	360	360					

K49, m /kg			AM						
K	IEC	s	63	71	80	90	100	112	132S/M
		2	32	32	35	35	39	39	46
	NEMA	s	-	56	143	145	182	184	213/215
		2	-	33	35	35	38	38	44
KF: + 1.7 kg / KA: + -2.8 kg / KAF: + 2.1 kg									

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K57, n_e = 1400 min^{-1}, $M_{a\ max}$/Nm											600 Nm
i	n_a	$M_{a\ max\ G}$	F_{Ra} [1]	$\varphi_{(/R)}$	AM						
	min^{-1}	Nm	N	'	63	71	80	90	100	112	132S/M
3											
4.69	299	300	3800	11			67	67	189	189	300
6.57	213	345	4180	10			95	95	265	265	345
7.55	185	365	4360	10	36	36	109	109	305	305	365
8.71	161	390	4520	10	42	42	126	126	350	350	390
9.59	146	405	4650	10	47	47	139	139	385	385	405
11.26	124	415	4990	9	55	55	164	164	415	415	415
11.92	117	415	5150	9	59	59	174	174	415	415	415
13.25	106	510	5190	7			192	192	510	510	510
15.22	92	535	5430	7	74	74	220	220	535	535	535
17.57	80	555	5740	7	86	86	255	255	555	555	555
19.34	72	575	5910	7	95	95	280	280	575	575	575
22.71	62	600	6280	7	112	112	330	330	600	600	600
24.05	58	600	6480	7	119	119	350	350	600	600	600
27.34	51	600	6930	7	137	137	400	400	600	600	
30.28	46	600	7300	7	152	152	440	440	600	600	
35.70	39	600	7630	7	179	179	520	520	600		
38.49	36	600	7630	6	186	186	550	550	600	600	600
44.43	32	600	7630	6	215	215	600	600	600	600	600
48.89	29	600	7630	6	235	235	600	600	600	600	600
57.42	24	600	7630	6	280	280	600	600	600	600	600
60.81	23	600	7630	6	300	300	600	600	600	600	600
69.12	20	600	7630	6	340	340	600	600	600	600	
76.56	18	600	7630	6	380	380	600	600	600	600	
90.26	16	600	7630	6	450	450	600	600	600		
102.88	14	600	7630	6	510	510	600	600			
108.29	13	600	7630	6	540	540	600	600			
123.85	11	600	7630	6	600	600	600				
145.14	9.6	600	7630	6	600	600					

K57, m /kg			AM						
K	IEC	s	63	71	80	90	100	112	132S/M
		3	27	27	29	29	34	34	41
	NEMA	s	-	56	143	145	182	184	213/215
		3	-	27	29	29	33	33	39
KF: + 4.7 kg / KA: + -2.1 kg / KAF: + 3.6 kg									

K67, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm											820 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM						
	min^{-1}	Nm	N	'	63	71	80	90	100	112	132S/M
3											
5.20	269	350	9860	10			74	74	205	205	350
7.28	192	420	10700	9			105	105	290	290	420
8.37	167	440	11100	9	40	40	121	121	335	335	440
9.66	145	480	11500	9	47	47	140	140	390	390	480
10.63	132	500	11800	9	52	52	155	155	430	430	500
12.48	112	530	12300	9	62	62	182	182	505	505	530
13.22	106	670	11500	8			191	191	530	530	670
15.19	92	700	11300	8	74	74	220	220	610	610	700
17.54	80	740	11000	7	86	86	255	255	710	710	740
19.30	73	760	10800	7	95	95	280	280	760	760	760
22.66	62	780	10700	7	112	112	330	330	780	780	780
24.00	58	800	10500	7	119	119	350	350	800	800	800
27.28	51	820	10300	7	136	136	400	400	820	820	
30.22	46	820	10300	7	151	151	440	440	820	820	
35.62	39	820	10300	7	179	179	520	520	820		
38.39	36	800	10500	6	185	185	550	550	800	800	800
44.32	32	820	10300	6	215	215	635	635	820	820	820
48.77	29	820	10300	6	235	235	700	700	820	820	820
57.28	24	820	10300	6	280	280	820	820	820	820	820
60.66	23	820	10300	6	295	295	820	820	820	820	820
68.95	20	820	10300	6	340	340	820	820	820	820	
76.37	18	820	10300	6	380	380	820	820	820	820	
90.04	16	820	10300	6	445	445	820	820	820		
102.62	14	820	10300	6	510	510	820	820			
108.03	13	820	10300	6	535	535	820	820			
123.54	11	820	10300	6	615	615	820				
144.79	9.7	820	10300	6	720	720					

K67, m /kg			AM						
K	IEC	s	63	71	80	90	100	112	132S/M
		3	33	33	35	35	40	40	47
	NEMA	s	-	56	143	145	182	184	213/215
		3	-	33	35	35	39	39	45
KF: + 5.6 kg / KA: + -2.7 kg / KAF: + 3.0 kg									

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K77, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm												1550 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM							
	min^{-1}	Nm	N	'	63	71	80	90	100	112	132S/M	132ML
							3					
7.24	193	820	13100	8			103	103	290	290	640	640
8.48	165	890	13500	8			121	121	340	340	750	750
9.56	146	940	13900	8			137	137	385	385	840	840
10.84	129	990	14400	8	51	51	156	156	435	435	960	960
12.36	113	1000	15100	8	59	59	179	179	495	495	1000	1000
13.52	104	1340	14800	7			193	193	540	540	1190	1190
15.84	88	1400	15500	6			225	225	635	635	1400	1400
17.87	78	1450	16100	6			255	255	720	720	1450	1450
20.25	69	1500	15700	6	96	96	290	290	810	810	1500	1500
23.08	61	1550	15400	6	111	111	330	330	930	930	1550	1550
25.62	55	1550	15400	6	124	124	370	370	1030	1030	1550	
29.27	48	1550	15400	6	143	143	425	425	1180	1180	1550	
30.89	45	1550	15400	6	151	151	450	450	1250	1250	1550	
35.20	40	1550	15400	6	174	174	510	510	1420	1420		
38.39	36	1500	15700	6	190	190	560	560	1450	1450		
40.04	35	1550	15400	6			565	565	1550	1550	1550	1550
45.16	31	1550	15400	6			640	640	1550	1550	1550	1550
51.18	27	1550	15400	6	240	240	730	730	1550	1550	1550	1550
58.34	24	1550	15400	6	275	275	830	830	1550	1550	1550	1550
64.75	22	1550	15400	5	310	310	930	930	1550	1550	1550	
73.99	19	1550	15400	5	355	355	1060	1060	1550	1550	1550	
78.07	18	1550	15400	5	380	380	1120	1120	1550	1550	1550	
88.97	16	1550	15400	5	435	435	1280	1280	1550	1550		
97.05	14	1550	15400	5	475	475	1400	1400	1550	1550		
113.56	12	1550	15400	5	555	555	1550	1550	1550			
128.52	11	1550	15400	5	630	630	1550	1550				
135.28	10	1550	15400	5	665	665	1550	1550				
154.02	9.1	1550	15400	5	755	755	1550					
179.37	7.8	1450	16100	5	880	880						
192.18	7.3	1450	16100	5	940	940						

K77, m /kg			AM							
K	IEC	s	63	71	80	90	100	112	132S/M	132ML
		3	57	58	60	60	64	64	71	71
	NEMA	s	-	56	143	145	182	184	213/215	-
		3	-	58	60	60	63	63	69	-
KF: + 8.2 kg / KA: + -7.5 kg / KAF: + 0.40 kg										

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K87, n_e = 1400 min^{-1}, $M_{a\ max}$/Nm												2700 Nm
i	n_a	$M_{a\ max\ G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM							
	min^{-1}	Nm	N	'	80	90	100	112	132S/M	132ML	160	180
					3							
7.21	194	1300	13200	7					630	630	1300	1300
8.29	169	1400	13500	7			330	330	730	730	1400	1400
10.00	140	1500	14200	7			400	400	880	880	1500	1500
11.17	125	1500	14900	7	158	158	445	445	980	980	1500	1500
12.56	111	2000	14800	6					1100	1100	2000	2000
14.45	97	2100	15300	6			575	575	1270	1270	2100	2100
16.00	88	1800	16000	6	230	230	645	645	1410	1410	1800	
17.42	80	2200	16300	6			695	695	1530	1530	2200	2200
19.45	72	2300	16800	6	275	275	780	780	1710	1710	2300	2300
22.41	62	2300	17900	6	315	315	900	900	1980	1980	2300	2300
24.92	56	2500	18000	6	355	355	1000	1000	2200	2200	2500	2500
27.88	50	2600	18500	6	400	400	1120	1120	2460	2460	2600	
31.39	45	2700	19200	6	450	450	1260	1260	2700	2700	2700	
36.52	38	2500	21400	6			1440	1440	2500	2500	2500	2500
44.02	32	2600	22800	6			1740	1740	2600	2600	2600	2600
49.16	28	2700	23500	5	690	690	1950	1950	2700	2700	2700	2700
56.64	25	2700	25000	5	800	800	2250	2250	2700	2700	2700	2700
63.00	22	2700	26200	5	890	890	2510	2510	2700	2700	2700	2700
70.46	20	2700	27300	5	1000	1000	2700	2700	2700	2700	2700	
79.34	18	2700	27300	5	1130	1130	2700	2700	2700	2700	2700	
86.34	16	2700	27300	5	1230	1230	2700	2700	2700			
102.71	14	2700	27300	5	1480	1480	2700	2700	2700			
115.82	12	2700	27300	5	1670	1670	2700	2700				
126.91	11	2700	27300	5	1830	1830	2700	2700				
147.32	9.5	2700	27300	5	2120	2120	2700					
164.34	8.5	2700	27300	5	2350	2350						
174.19	8.0	2700	27300	5	2370	2370						
197.37	7.1	2700	27300	5	2410							

K87, m /kg			AM							
K	IEC	s	80	90	100	112	132S/M	132ML	160	180
		3	95	95	100	100	110	110	125	125
	NEMA	s	143	145	182	184	213/215	-	254/256	284/286
		3	95	95	100	100	105	-	120	120
KF: + 9.2 kg / KA: + -12 kg / KAF: + 1.1 kg										

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K97, n_e = 1400 min^{-1}, $M_{a\ max}$/Nm											4300 Nm
i	n_a	$M_{a\ max\ G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM						
	min^{-1}	Nm	N	'	100	112	132S/M	132ML	160	180	200
							3				
7.54 2)	186	2400	15700	10			640	640	1350	1620	2400
8.71 2)	161	2660	15800	10			745	745	1560	1880	2660
10.41	134	2870	16400	10			900	900	1880	2250	2870
11.99 2)	117	3890	16200	8			1020	1020	2150	2580	3890
13.85 2)	101	4300	16100	8			1190	1190	2490	2990	4300
16.56	85	4300	17800	8			1430	1430	2990	3580	4300
18.96	74	4300	19100	8	730	730	1640	1640	3430	4110	4300
22.37	63	4300	20900	8	870	870	1950	1950	4050	4300	4300
24.75	57	4300	22000	8	970	970	2160	2160	4300	4300	4300
27.91	50	4300	23300	8	1090	1090	2440	2440	4300	4300	
30.82	45	4300	24500	7	1210	1210	2700	2700	4300	4300	
34.23	41	4300	25700	7	1350	1350	3000	3000	4300		
38.30	37	4300	27100	7	1520	1520	3370	3360	4300		
41.87	33	4300	28300	7			3580	3580	4300	4300	4300
47.93	29	4300	30000	7	1830	1830	4120	4120	4300	4300	4300
56.55	25	4300	32300	7	2180	2180	4300	4300	4300	4300	4300
62.55	22	4300	33800	7	2420	2420	4300	4300	4300	4300	4300
70.54	20	4300	35600	7	2750	2750	4300	4300	4300	4300	
77.89	18	4300	37100	7	3050	3050	4300	4300	4300	4300	
86.52	16	4300	38800	7	3400	3400	4300	4300	4300		
96.80	14	4300	40000	7	3810	3810	4300	4300	4300		
105.13	13	4300	40000	7	4150	4150	4300				
123.93	11	4300	40000	7	4300	4300	4300				
140.28	10.0	4300	40000	7	4300	4300					
153.21	9.1	4300	40000	7	4300	4300					
176.05	8.0	4300	40000	7	4300						

K97, m /kg			AM						
K	IEC	s	100	112	132S/M	132ML	160	180	200
		3	160	160	165	165	185	185	200
	NEMA	s	182	184	213/215	-	254/256	284/286	324/326
		3	160	160	165	-	180	180	200
KF: + 20 kg / KA: + -18 kg / KAF: + 6.7 kg									

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K107, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm												8000 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} [1]	$\varphi_{(/R)}$	AM							
	min^{-1}	Nm	N	'	100	112	132S/M	132ML	160	180	200	225
3												
7.35[2]	190	3600	24400	9				615	1310	1570	2970	2970
8.69	161	4070	24600	9			735	735	1550	1860	3520	3520
9.94	141	4190	25800	9			850	850	1780	2140	4040	4040
11.73	119	4300	27500	9			1000	1000	2110	2530	4300	4300
13.43	104	4300	29200	9	510	510	1160	1160	2420	2900	4300	4300
14.64	96	6890	19500	7			1240	1240	2620	3140	5940	5940
16.75	84	7050	21000	7			1430	1430	3000	3600	6800	6800
19.74	71	7200	23200	6			1700	1700	3550	4260	7200	7200
22.62	62	7200	25800	6	860	860	1950	1950	4080	4890	7200	7200
26.32	53	7200	28800	6	1010	1010	2280	2280	4760	5700	7200	7200
29.00	48	7200	30700	6	1120	1120	2520	2520	5250	6230	7200	7200
31.28[2]	45	6800	34200	6				2600	5520	6630	6800	6800
32.69	43	7200	33200	6	1280	1280	2850	2850	5930	6400		
37.00	38	7200	35800	6			3110	3110	6560	7200	7200	7200
42.33	33	7360	37900	6			3580	3580	7360	7360	7360	7360
49.90	28	7840	39300	6			4250	4250	7840	7840	7840	7840
57.17	24	8000	41700	6	2170	2170	4890	4890	8000	8000	8000	8000
66.52	21	8000	45400	6	2550	2550	5720	5720	8000	8000	8000	8000
73.30	19	8000	47900	6	2820	2820	6320	6320	8000	8000	8000	8000
82.61	17	8000	50900	6	3200	3200	7150	7150	8000	8000		
90.96	15	8000	53500	6	3540	3540	7880	7880	8000	8000		
100.75	14	8000	56200	6	3940	3940	8000	8000	8000			
112.41	12	8000	59300	6	4410	4410	8000	8000	8000			
121.46	12	8000	61500	6	4780	4780	8000					
143.47	9.8	8000	65000	6	5670	5670	8000					

K107, m /kg			AM							
K	IEC	s	100	112	132S/M	132ML	160	180	200	225
		3	275	275	280	280	295	295	315	320
	NEMA	s	182	184	213/215	-	254/256	284/286	324/326	364/365
		3	275	275	275	-	290	295	310	310
KF: + 12 kg / KA: + -27 kg / KAF: + -3.2 kg										

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K127, n_e = 1400 min^{-1}, $M_{a\ max}$/Nm												13000 Nm
i	n_a	$M_{a\ max\ G}$	F_{Ra} 1)	$φ_{(/R)}$	AM							
	min^{-1}	Nm	N	'	132S/M	132ML	160	180	200	225	250	280
							3					
8.68	161	7230	32500	8				1830	3480	3480	4950	5470
10.74	130	8000	33900	8		880	1890	2280	4330	4330	5410	6790
12.79	109	8530	35400	8	1070	1070	2270	2730	5170	5170	5770	8090
14.35	98	12100	31000	6				3020	5760	5760	8190	9040
17.77	79	13000	32600	6		1460	3140	3770	7170	7170	8960	11200
21.15	66	13000	37200	6	1770	1770	3760	4510	8560	8560	9550	13000
23.91	59	13000	39800	6	2010	2010	4270	5120	9690	9690	13000	13000
27.68	51	13000	43000	6	2350	2350	4960	5950	10800	10800	13000	13000
31.37	45	13000	45900	6	2690	2690	5640	6760	11200	11200	13000	13000
36.25	39	13000	49400	6	3120	3120	6540	7830	11600	11600		
40.19	35	13000	52000	5		3280	7030	8450	13000	13000	13000	13000
47.82	29	13000	56500	5	3960	3960	8420	10100	13000	13000	13000	13000
54.07	26	13000	59800	5	4520	4520	9560	11400	13000	13000	13000	13000
62.60	22	13000	64000	5	5280	5280	11100	13000	13000	13000	13000	13000
70.95	20	13000	67700	5	6020	6020	12600	13000	13000	13000	13000	13000
81.98	17	13000	72100	5	7000	7000	13000	13000	13000	13000		
89.89	16	13000	75100	5	7700	7700	13000	13000	13000	13000		
110.18	13	13000	79200	5	9500	9500	13000	13000				
122.48	11	13000	79200	5	10500	10500	13000					
136.14	10	13000	79200	5	11700	11700	13000					
146.07	9.6	13000	79200	5	11800							

K127, m /kg			AM							
K	IEC	s	132S/M	132ML	160	180	200	225	250	280
		3	440	440	455	455	470	475	510	510
	NEMA	s	213/215	-	254/256	284/286	324/326	364/365	-	-
		3	440	-	450	450	465	465	-	-
KF: + 42 kg / KA: + -28 kg / KAF: + 9.2 kg										

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K157, n_e = 1400 min^{-1}, $M_{a\ max}$/Nm										20000 Nm
i	n_a	$M_{a\ max\ G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM					
	min^{-1}	Nm	N	'	160	180	200	225	250	280
					3					
12.65	111	18700	32900	6			5050	5050	7940	7940
14.92	94	20000	33800	6		3130	5990	5990	8700	9390
18.37	76	20000	38800	6	3230	3890	7400	7400	9470	11600
21.31	66	20000	42600	6	3780	4540	8620	8620	9840	13400
23.95	58	20000	45700	6	4270	5130	9700	9700	15100	15100
27.62	51	20000	49600	6	4950	5930	10900	10900	17500	17500
31.30	45	19000	55300	6	5620	6740	11300	11300	18300	18300
38.02	37	20000	59000	5		7910	15100	15100	20000	20000
46.79	30	20000	65600	5	8170	9820	18600	18600	20000	20000
54.29	26	20000	70600	5	9540	11400	20000	20000	20000	20000
61.02	23	20000	74600	5	10700	12900	20000	20000	20000	20000
70.38	20	20000	79800	5	12400	14900	20000	20000	20000	20000
79.75	18	20000	84500	5	14100	17000	20000	20000	20000	20000
91.65	15	20000	90000	5	16300	19600	20000	20000		
100.22	14	20000	93700	5	17900	20000	20000	20000		
122.39	11	20000	102100	5	20000	20000				
150.41	9.3	20000	111100	5	20000					

K157, m /kg			AM					
K	IEC	s	160	180	200	225	250	280
		3	690	690	710	710	740	740
	NEMA	s	254/256	284/286	324/326	364/365	-	-
		3	680	690	710	710	-	-
KF: + 78 kg / KA: + -37 kg / KAF: + 22 kg								

K167, n_e = 1400 min^{-1}, $M_{a\ max}$/Nm										35000 Nm
i	n_a	$M_{a\ max\ G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM					
	min^{-1}	Nm	N	'	160	180	200	225	250	280
					3					
17.34	81	35000	62400	5			6900	6900	10800	10800
20.32	69	35000	68500	5		4240	8120	8120	11500	12700
24.52	57	35000	76200	5	4290	5170	9860	9860	12300	15400
28.77	49	35000	83100	5	5080	6110	11600	11600	12900	18100
32.25	43	35000	88200	5	5720	6870	13000	13000	20400	20400
36.61	38	35000	94200	5			14400	14400	22600	22600
42.89	33	35000	101900	5		8860	16900	16900	24200	26600
51.77	27	35000	111500	5	8970	10800	20600	20600	25800	32300
60.74	23	35000	120100	5	10600	12700	24200	24200	27100	35000
68.07	21	35000	126500	5	11900	14300	27200	27200	35000	35000
78.14	18	35000	134600	5	13800	16500	30200	30200	35000	35000
87.86	16	35000	141700	5	15500	18600	30900	30900	35000	35000
109.83	13	35000	150000	5	19500	23300	32400	32400		
134.99	10	35000	150000	4	24100	24300				
164.50	8.5	33800	150000	4	25100					

K167, m /kg			AM					
K	IEC	s	160	180	200	225	250	280
		3	1080	1080	1100	1110	1130	1130
	NEMA	s	254/256	284/286	324/326	364/365	-	-
		3	1080	1080	1100	1100	-	-
KH: + -38 kg								

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K187, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm										53000 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} [1]	$\varphi_{(/R)}$	AM					
	min^{-1}	Nm	N	'	160	180	200	225	250	280
					3					
17.18	81	46400	67300	4			6690	6690	10600	10600
20.15	69	49700	69000	4			7920	7920	12500	12500
24.18	58	53000	72100	4			9580	9580	15100	15100
27.92	50	53000	78900	4		5790	11100	11100	16000	17500
33.23	42	53000	87500	4	5780	6970	13300	13300	16900	20900
38.57	36	53000	95300	4	6770	8160	15500	15500	17500	24300
42.51	33	53000	100500	4	7510	9030	17100	17100	26800	26800
45.50	31	53000	104300	4			17500	17500	27800	27800
53.36	26	53000	113400	4			20700	20700	32800	32800
64.04	22	53000	124400	4			25100	25100	39600	39600
73.96	19	53000	133500	4		15200	29200	29200	42100	45900
88.00	16	53000	145000	4	15100	18200	34900	34900	44300	53000
102.16	14	53000	155400	4	17700	21300	40700	40700	46100	53000
112.60	12	53000	162500	4	19600	23600	44900	44900	53000	53000
129.69	11	53000	173100	4	22800	27400	50600	50600	53000	53000
144.59	9.7	53000	181500	4	25500	30600	51400	51400	53000	53000
165.21	8.5	53000	190000	4	29300	35100	52800	52800		
179.86	7.8	53000	190000	4	31900	38300	53000	53000		

K187, m /kg			AM					
K	IEC	s	160	180	200	225	250	280
		3	1670	1670	1690	1690	1720	1720
	NEMA	s	254/256	284/286	324/326	364/365	-	-
		3	1660	1660	1680	1680	-	-
KH: + -67 kg								

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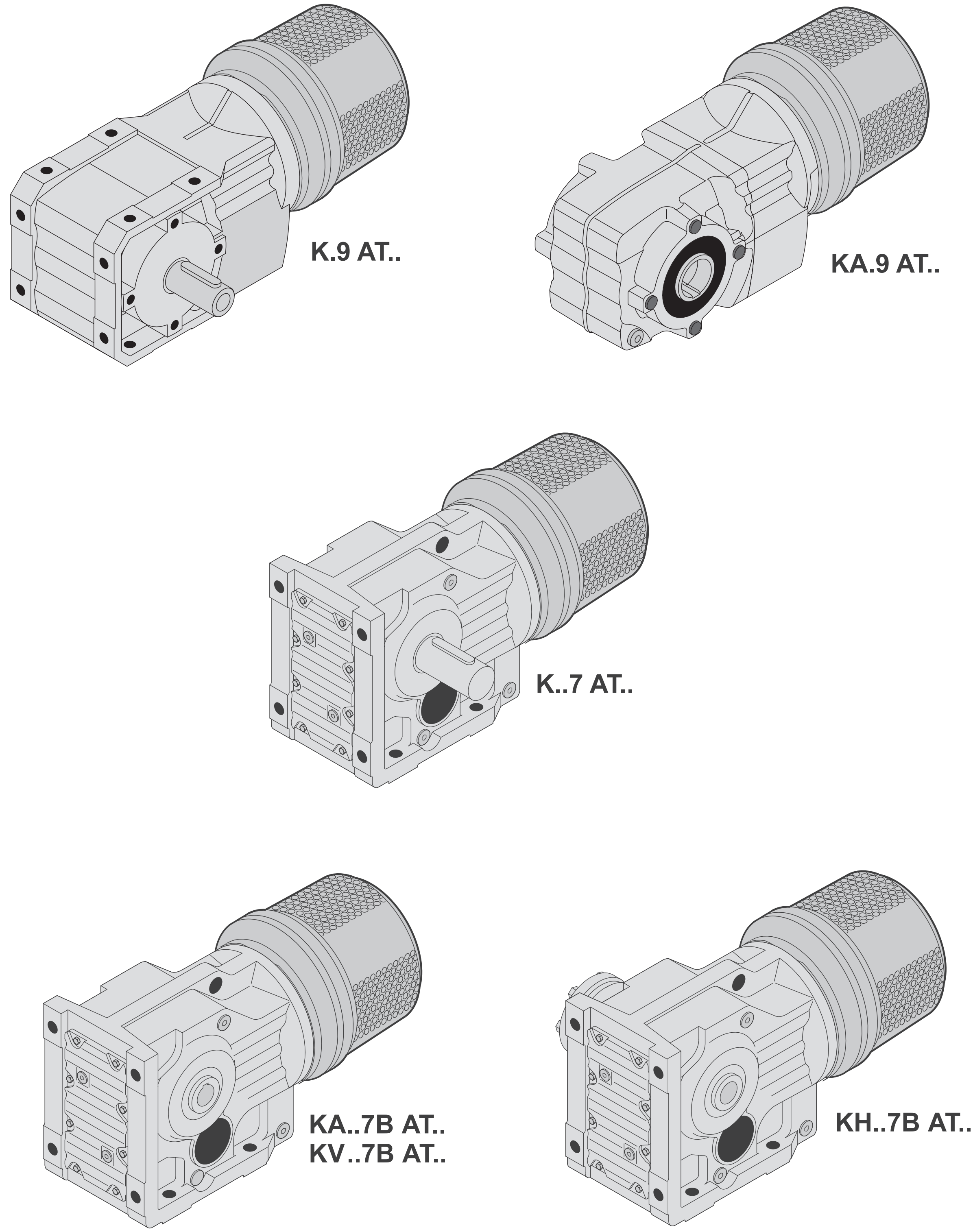
10.2 Selection tables for adapters with hydraulic start-up coupling (AT..)



21441530891

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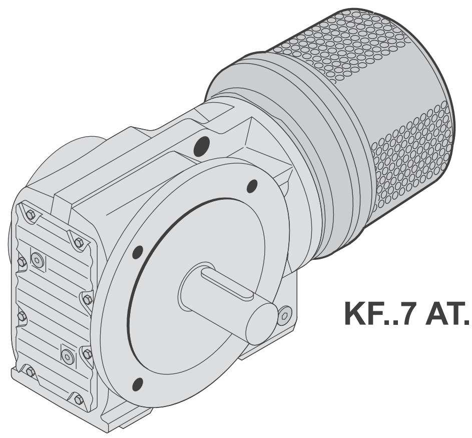
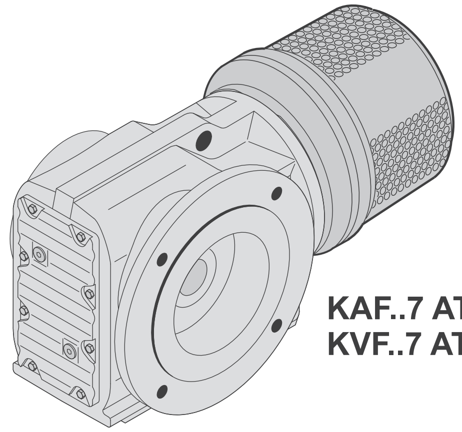
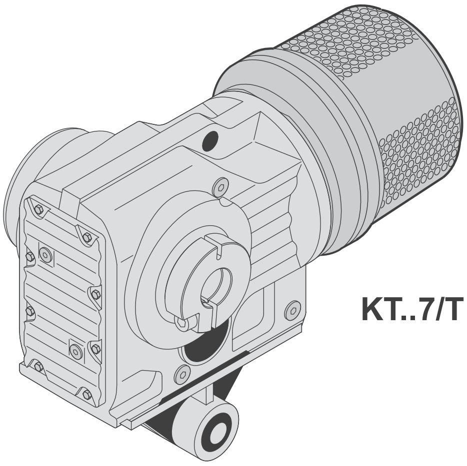


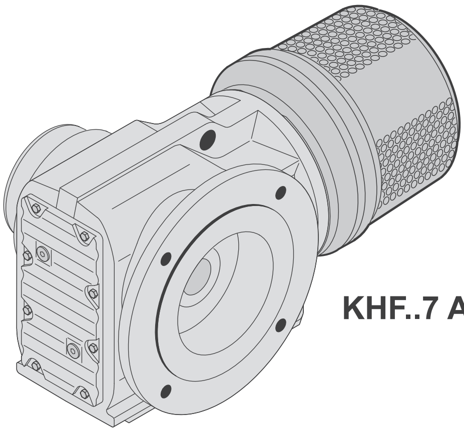
KF..7 AT..



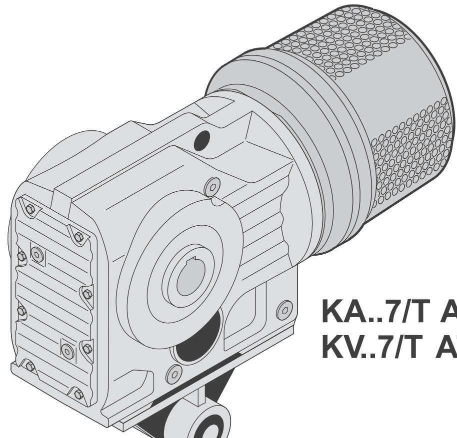
KAF..7 AT..
KVF..7 AT..



KT..7/T AT..



KHF..7 AT..



KA..7/T AT..
KV..7/T AT..

21441533323

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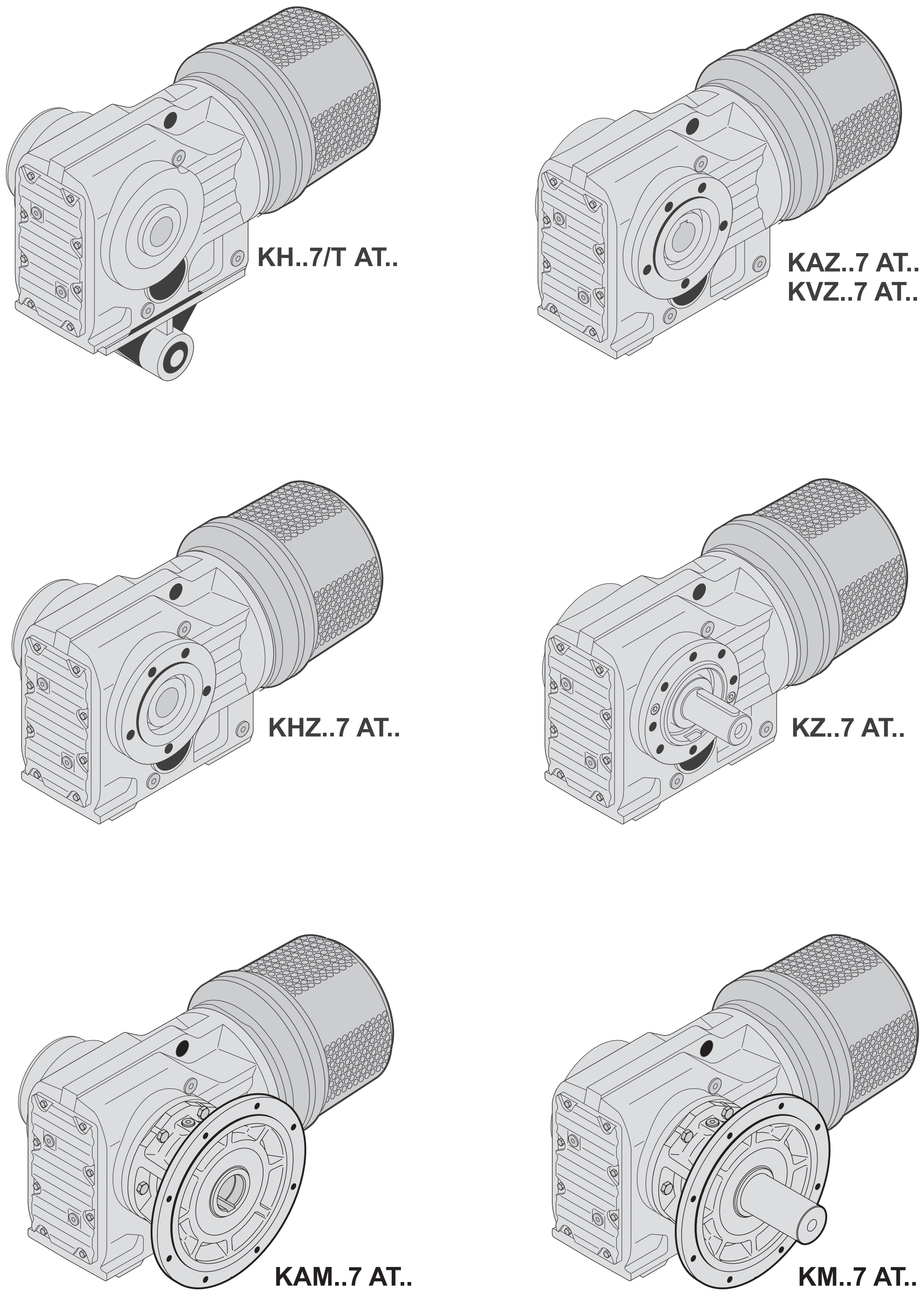

28210189835

10.2.1 K..AT/DRN..4

		P_{Mot} kW				Sn %	
K67	DRN71M4	0.37	AT311	T11	0.42	12	
	DRN80MK4	0.55	AT312	T11D	0.55	11	
	DRN80M4	0.75	AT312	T11D	0.7	11	
	DRN90S4	1.1	AT312	T11D	0.72	15	
	DRN90L4	1.5	AT321	T21	0.85	9	
	DRN100LS4	2.2	AT321	T21	0.9	13	
	DRN100L4	3	AT322	T21D	1.53	11	
K77	DRN71M4	0.37	AT311	T11	0.42	12	
	DRN80MK4	0.55	AT312	T11D	0.55	11	
	DRN80M4	0.75	AT312	T11D	0.7	11	
	DRN90S4	1.1	AT312	T11D	0.72	15	
	DRN90L4	1.5	AT421	T21	0.85	9	
	DRN100LS4	2.2	AT421	T21	0.9	13	(→ 🗎 523)
	DRN100L4	3	AT422	T21D	1.53	11	
	DRN112M4	4	AT422	T21D	1.6	12	
K87	DRN90S4	1.1	AT312	T11D	0.72	15	
	DRN90L4	1.5	AT421	T21	0.85	9	
	DRN100LS4	2.2	AT421	T21	0.9	13	
	DRN100L4	3	AT422	T21D	1.53	11	
	DRN112M4	4	AT422	T21D	1.6	12	
	DRN132S4	5.5	AT541	T41	2	6	
	DRN132M4	7.5	AT541	T41	2.4	8	
	DRN132L4	9.2	AT541	T41	2.5	10	
	DRN160M4	11	AT541	T41	2.5	13	
	DRN160L4	15	AT542	T41D	4.2	8	

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		P Mot kW				Sn %	
K97	DRN90S4	1.1	AT312	T11D	0.72	15	(→ 523)
	DRN90L4	1.5	AT421	T21	0.85	9	
	DRN100LS4	2.2	AT421	T21	0.9	13	
	DRN100L4	3	AT422	T21D	1.53	11	
	DRN112M4	4	v422	T21D	1.6	12	
	DRN132S4	5.5	AT541	T41	2	6	
	DRN132M4	7.5	AT541	T41	2.4	8	
	DRN132L4	9.2	AT541	T41	2.5	10	
	DRN160M4	11	AT541	T41	2.5	13	
	DRN160L4	15	v542	T41D	4.2	8	
	DRN180M4	18.5	AT542	T41D	4.3	10	
	DRN180L4	22	AT542	T41D	4.3	14	
K107	DRN100LS4	2.2	AT421	T21	0.9	13	
	DRN100L4	3	AT422	T21D	1.53	11	
	DRN112M4	4	AT422	T21D	1.6	12	
	DRN132S4	5.5	AT541	T41	2	6	
	DRN132M4	7.5	AT541	T41	2.4	8	
	DRN132L4	9.2	AT541	T41	2.5	10	
	DRN160M4	11	AT541	T41	2.5	13	
	DRN160L4	15	AT542	T41D	4.2	8	
	DRN180M4	18.5	AT542	T41D	4.3	10	
	DRN180L4	22	AT542	T41D	4.3	14	
K127	DRN132M4	7.5	AT541	T41	2.4	8	
	DRN132L4	9.2	AT541	T41	2.5	10	
	DRN160M4	11	AT541	T41	2.5	13	
	DRN160L4	15	AT542	T41D	4.2	8	
	DRN180M4	18.5	AT542	T41D	4.3	10	
	DRN180L4	22	AT542	T41D	4.3	14	
K157 K167 K187	DRN160M4	11	AT541	T41	2.5	13	
	DRN160L4	15	AT542	T41D	4.2	8	
	DRN180M4	18.5	AT542	T41D	4.3	10	
	DRN180L4	22	AT542	T41D	4.3	14	

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10.2.2 K..AT/DRN..2

		P_{Mot}				Sn	
K67	DRN71M2	0.55	AT311	T11	0.19	3	(→ 523)
	DRN80MS2	0.75	AT311	T11	0.22	4.5	
	DRN80M2	1.1	AT311	T11	0.27	6	
	DRN90S2	1.5	AT311	T11	0.29	8.5	
	DRN90L2	2.2	AT311	T11	0.31	11.5	
	DRN100LM2	3	AT311	T11	0.4	12	
	DRN112M2	4	AT312	T11D	0.52	10	
K77	DRN71M2	0.55	AT311	T11	0.19	3	
	DRN80MS2	0.75	AT311	T11	0.22	4.5	
	DRN80M2	1.1	AT311	T11	0.27	6	
	DRN90S2	1.5	AT311	T11	0.29	8.5	
	DRN90L2	2.2	AT311	T11	0.31	11.5	
	DRN100LM2	3	AT311	T11	0.4	12	
	DRN112M2	4	AT312	T11D	0.52	10	
	DRN132S2	5.5	AT321	T21	0.6	8	
	DRN132S2	5.5	AT421	T21	0.6	8	
K87	DRN90S2	1.5	AT311	T11	0.29	8.5	
	DRN90L2	2.2	AT311	T11	0.31	11.5	
	DRN100LM2	3	AT311	T11	0.4	12	
	DRN112M2	4	AT312	T11D	0.52	10	
	DRN132S2	5.5	AT321	T21	0.6	8	
	DRN132S2	5.5	AT421	T21	0.6	8	
K97	DRN90S2	1.5	AT311	T11	0.29	8.5	
	DRN90L2	2.2	AT311	T11	0.31	11.5	
	DRN100LM2	3	AT311	T11	0.4	12	
	DRN112M2	4	AT312	T11D	0.52	10	
	DRN132S2	5.5	AT321	T21	0.6	8	
	DRN132S2	5.5	AT421	T21	0.6	8	
K107	DRN100LM2	3	AT311	T11	0.4	12	
	DRN112M2	4	AT312	T11D	0.52	10	
	DRN132S2	5.5	AT321	T21	0.6	8	
	DRN132S2	5.5	AT421	T21	0.6	8	
K127	DRN132S2	5.5	AT421	T21	0.6	8	

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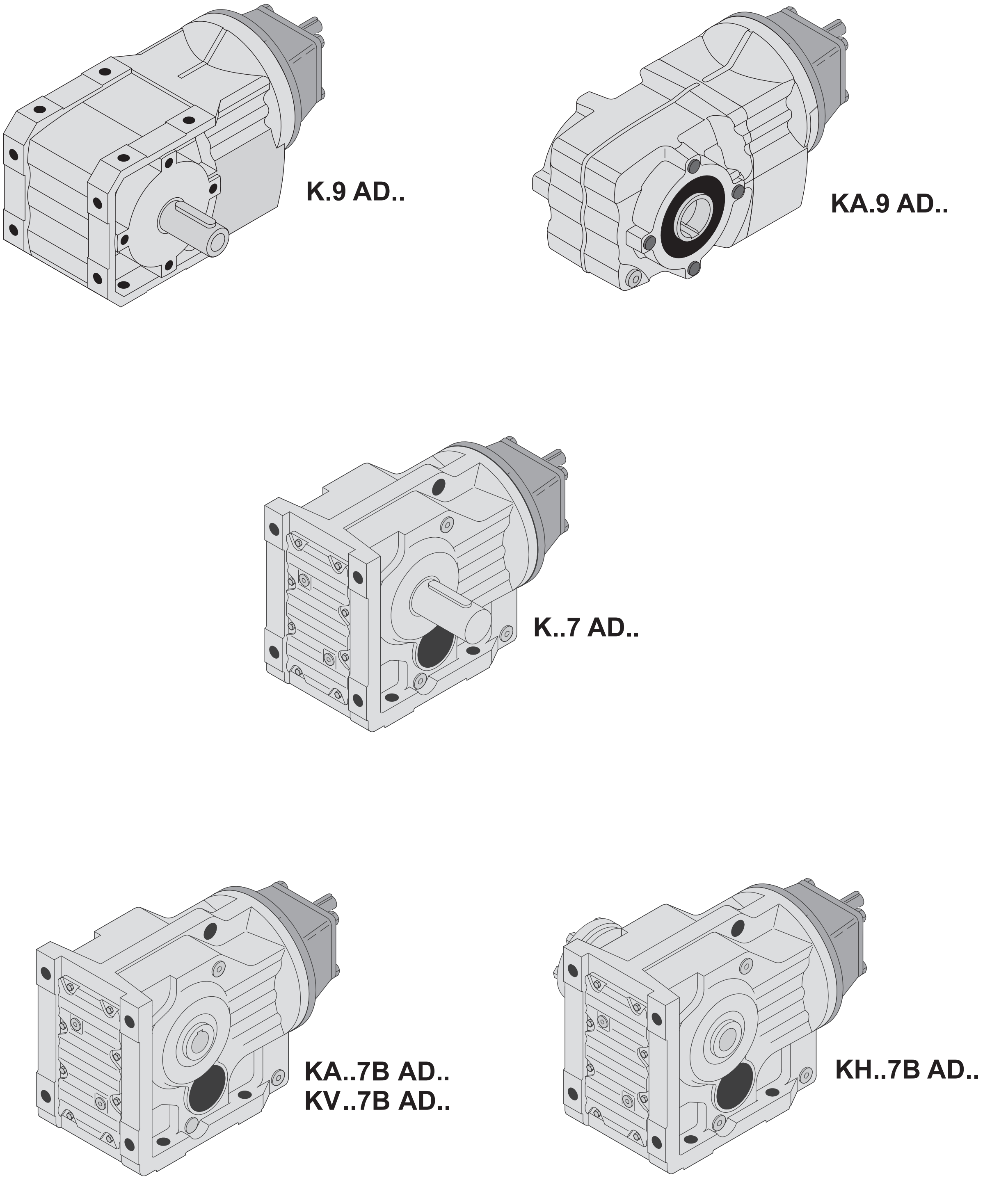
10.3 Selection tables for input shaft assembly (AD..)



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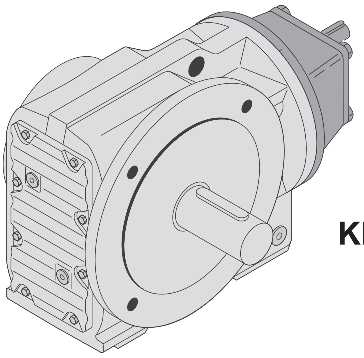
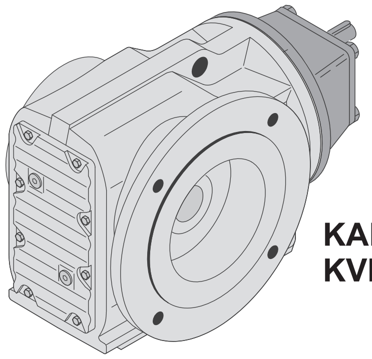
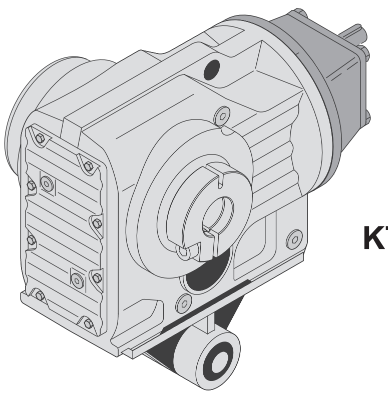


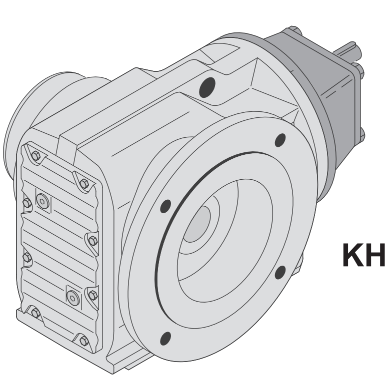
KF..7 AD..



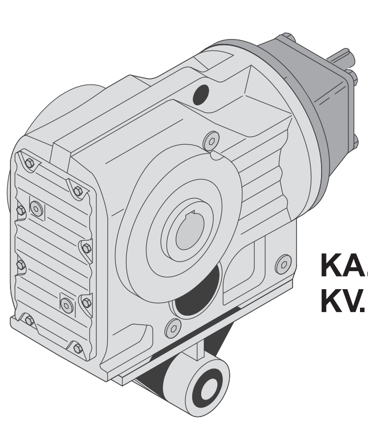
KAF..7 AD..
KVF..7 AD..



KT..7/T AD..



KHF..7 AD..



KA..7/T AD..
KV..7/T AD..

21460664459

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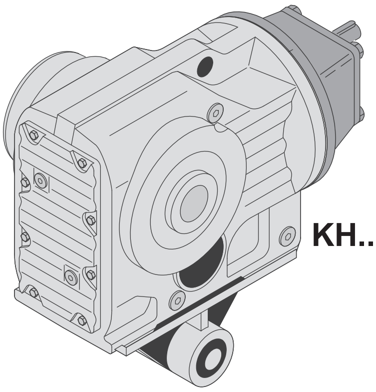
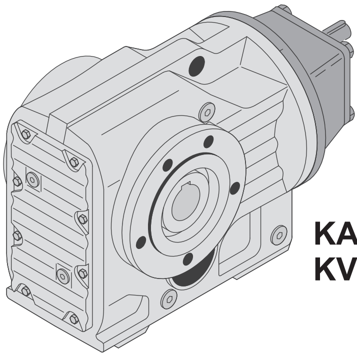
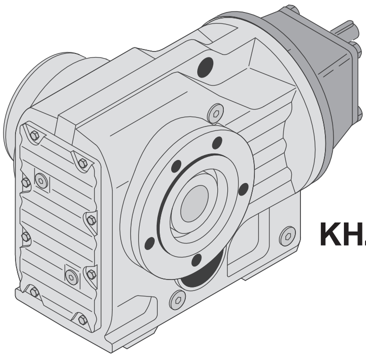


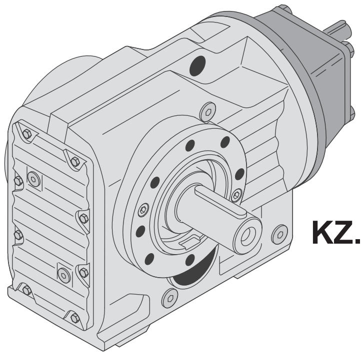
KH..7/T AD..



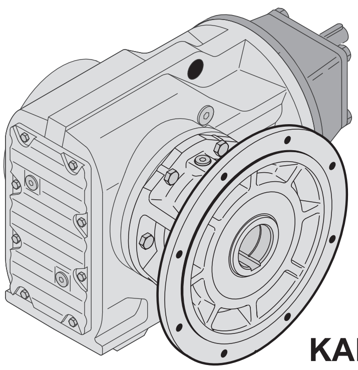
KAZ..7 AD..
KVZ..7 AD..



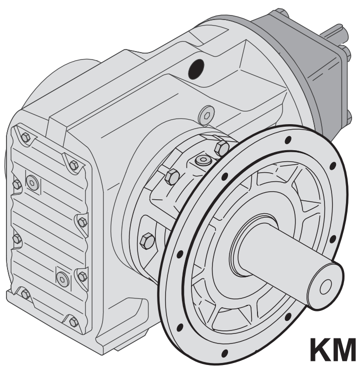
KHZ..7 AD..



KZ..7 AD..



KAM..7 AD..



KM..7 AD..

21460884491

K19 AD.. , n_e = 1400 min^{-1} — **80 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
44.48	31	69	0.28	4340	615	-	-					
40.63	34	67	0.30	4350	615	-	-					
34.29	41	64	0.34	4370	610	-	-					
29.29	48	61	0.38	4200	610	-	-					
27.16	52	60	0.40	4090	605	-	-	**K**	**19**	**AD1**	6.2	528
24.06	58	80	0.54	3820	230	-	-	**KF**	**19**	**AD1**	6.5	528
21.98	64	80	0.59	3680	215	-	-	**KA**	**19**	**AD1**	5.8	528
18.55	75	80	0.70	3430	174	-	-	**KAF**	**19**	**AD1**	6.2	528
15.84	88	80	0.82	3210	131	-	-					
14.69	95	80	0.88	3110	108	-	-					
12.70	110	80	1.0	2930	58	-	-					
11.84	118	79	1.1	2850	1600	-	-					
10.32	136	76	1.2	2720	1590	-	-					
9.58	146	63	1.0	2910	600	-	-	**K**	**19**	**AD2**	7.3	528
8.09	173	80	1.5	2590	1310	-	-	**KF**	**19**	**AD2**	7.7	528
6.91	203	80	1.8	2420	1280	-	-	**KA**	**19**	**AD2**	6.9	528
6.41	219	80	2.0	2340	1260	-	-	**KAF**	**19**	**AD2**	7.3	528
5.54	253	80	2.3	2200	1230	-	-					
5.16	271	80	2.4	2140	1210	-	-					
4.50	311	73	2.5	2070	1230	-	-					

K29 AD.. , n_e = 1400 min^{-1} — **130 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
54.89	26	130	0.41	4980	425	-	-					
50.35	28	130	0.44	4980	415	-	-					
42.87	33	128	0.51	4790	400	-	-					
36.96	38	122	0.56	4560	400	-	-	**K**	**29**	**AD1**	8.0	528
30.11	46	115	0.65	4250	395	-	-	**KF**	**29**	**AD1**	9.0	528
29.69	47	128	0.69	4230	-	-	-	**KA**	**29**	**AD1**	7.5	528
27.23	51	125	0.74	4100	6	-	-	**KAF**	**29**	**AD1**	8.4	528
24.91	56	109	0.75	3980	385	-	-					
23.19	60	120	0.83	3880	6	-	-					
22.08	63	105	0.81	3820	380	-	-					
19.99	70	130	1.0	3550	1540	-	-					
16.29	86	130	1.3	3240	1520	-	-					
13.47	104	130	1.5	2970	1490	-	-					
11.94	117	130	1.7	2810	1470	-	-					
9.90	141	110	1.7	3000	1240	-	-	**K**	**29**	**AD2**	9.1	528
9.17	153	130	2.3	2470	1400	-	-	**KF**	**29**	**AD2**	10	528
8.53	164	113	2.0	2800	1190	-	-	**KA**	**29**	**AD2**	8.7	528
7.48	187	123	2.6	2300	1370	-	-	**KAF**	**29**	**AD2**	9.5	528
6.95	201	110	2.4	2590	1160	-	-					
5.75	243	112	3.0	2370	1090	-	-					
5.10	275	110	3.3	2260	1060	-	-					
3.92	358	126	4.9	1910	800	-	-					
3.19	439	110	5.3	1830	820	-	-					

K37 AD.. , n_e = 1400 min^{-1} — **200 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
106.38	13	200	0.31	5640	590	7	-					
97.81	14	200	0.34	5640	585	7	-					
83.69	17	200	0.39	5640	575	7	-					
72.54	19	200	0.45	5520	560	7	-	**K**	**37**	**AD1**	14	528
67.80	21	200	0.47	5360	550	7	-	**KF**	**37**	**AD1**	16	528
58.60	24	200	0.55	5020	530	7	-	**KA**	**37**	**AD1**	13	528
49.79	28	200	0.64	4660	505	7	-	**KAF**	**37**	**AD1**	15	528
44.46	31	200	0.72	4420	485	7	-					
37.97	37	200	0.84	4100	455	7	-					
35.57	39	200	0.89	3970	440	7	-					

K37 AD.. , n_e = 1400 min^{-1}												200 Nm
i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$φ_{(/R)}$	⚠				m kg	
29.96	47	200	1.1	3650	1710	7	-					
28.83	49	200	1.1	3580	1520	8	-					
24.99	56	200	1.2	3330	1510	8	-					
23.36	60	195	1.3	3260	1510	8	-					
20.19	69	185	1.4	3110	1510	8	-					
17.15	82	180	1.6	2900	1500	8	-					
15.31	91	175	1.8	2780	1500	8	-	**K**	**37**	**AD2**	15	528
13.08	107	165	1.9	2650	1490	9	-	**KF**	**37**	**AD2**	17	528
12.14	115	160	2.0	2600	1280	12	-	**KA**	**37**	**AD2**	15	528
10.49	133	160	2.3	2410	1240	12	-	**KAF**	**37**	**AD2**	16	528
8.91	157	160	2.8	2200	1210	12	-					
7.96	176	155	3.0	2110	1210	13	-					
6.80	206	150	3.4	1980	1180	13	-					
6.37	220	145	3.5	1950	1190	13	-					
5.36	261	140	4.0	1810	1150	13	-					
3.98	352	125	4.8	1660	1110	13	-					

K39 AD.. , n_e = 1400 min^{-1}												300 Nm
i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$φ_{(/R)}$	⚠				m kg	
58.24	24	300	0.85	7500	960	-	-					
49.69	28	300	0.99	7440	1540	-	-					
43.45	32	300	1.1	7000	1530	-	-					
41.28	34	300	1.2	6840	1530	-	-					
36.22	39	300	1.4	6440	1510	-	-					
30.72	46	300	1.6	5960	1490	-	-					
27.73	50	300	1.8	5670	1480	-	-					
24.40	57	300	2.0	5330	1460	-	-					
23.04	61	300	2.1	5180	1450	-	-					
19.62	71	295	2.4	4820	1430	-	-					
17.83	79	290	2.6	4630	1420	-	-					
17.06	82	114	1.0	6360	635	-	-					
15.44	91	280	2.9	4380	1400	-	-	**K**	**39**	**AD2**	20	528
14.56	96	190	2.0	5570	1160	-	-	**KF**	**39**	**AD2**	22	528
13.44	104	270	3.2	4160	1380	-	-	**KA**	**39**	**AD2**	19	528
12.73	110	192	2.3	5260	1130	-	-	**KAF**	**39**	**AD2**	21	528
12.09	116	187	2.4	5180	1140	-	-					
10.61	132	285	4.1	4360	600	-	-					
9.60	146	250	4.2	3640	1320	-	-					
9.00	156	300	5.1	3950	360	-	-					
8.12	172	285	5.3	3840	420	-	-					
7.15	196	265	5.6	3730	535	-	-					
6.75	207	255	5.7	3690	585	-	-					
5.75	244	225	5.9	3590	725	-	-					
5.22	268	210	6.1	3520	760	-	-					
4.52	309	191	6.4	3410	795	-	-					
3.94	356	171	6.6	3320	840	-	-					
2.81	498	128	6.9	3110	940	-	-					

K47 AD.. , n_e = 1400 min^{-1} — **400 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} [1)] N	F_{Re} N	$\varphi_{(/R)}$					m kg	
131.87*	11	400	0.50	5920	1540	6	-					
121.48*	12	400	0.54	5920	1530	6	-					
104.37	13	400	0.62	5920	1500	6	-					
90.86	15	400	0.71	5920	1480	6	-					
85.12*	16	400	0.76	5920	1470	6	-					
75.20*	19	400	0.85	5920	1440	6	-					
69.84	20	400	0.91	5920	1410	6	-					
63.30*	22	400	1.0	5920	1390	6	-					
56.83	25	400	1.1	5920	1660	7	-					
48.95*	29	400	1.3	5920	1640	7	-					
46.03*	30	400	1.4	5920	1640	7	-					
39.61	35	400	1.6	5920	1620	7	-	**K**	**47**	**AD2**	21	528
35.39	40	400	1.8	5920	1600	7	-	**KF**	**47**	**AD2**	25	528
31.30	45	400	2.0	5700	1290	7	-	**KA**	**47**	**AD2**	21	528
29.32	48	400	2.1	5520	1280	8	-	**KAF**	**47**	**AD2**	23	528
25.91	54	400	2.4	5170	1260	8	-					
24.06	58	400	2.6	4970	1240	8	-					
21.81	64	400	2.8	4710	1220	8	-					
19.58	72	400	3.1	4440	1200	8	-					
16.86	83	380	3.5	4220	1190	8	-					
15.86	88	380	3.7	4080	1180	8	-					
13.65	103	360	4.0	3890	1170	8	-					
12.19	115	350	4.4	3720	1150	8	-					
11.77	119	280	3.6	4060	1020	10	-					
10.56	133	280	4.1	3830	980	11	-					
9.10	154	280	4.7	3540	930	11	-					
8.56	164	270	4.8	3500	1960	11	-	**K**	**47**	**AD3**	25	528
7.36	190	250	5.2	3380	1980	11	-	**KF**	**47**	**AD3**	28	528
6.58	213	240	5.6	3270	1960	12	-	**KA**	**47**	**AD3**	24	528
5.81	241	230	6.1	3140	1960	12	-	**KAF**	**47**	**AD3**	27	528
4.64	302	205	6.8	2980	1920	12	-					

K49 AD.. , n_e = 1400 min^{-1} — **500 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} [1)] N	F_{Re} N	$\varphi_{(/R)}$					m kg	
75.20	19	475	1.0	9000	545	-	-					
70.19	20	445	1.0	9000	660	-	-					
60.27	23	500	1.4	9000	1420	-	-					
52.94	26	500	1.5	8590	1410	-	-					
50.29	28	500	1.6	8380	1410	-	-					
44.44	32	500	1.8	7900	1380	-	-					
42.10	32	500	1.8	7860	1370	-	-					
37.98	37	500	2.1	7310	1360	-	-					
34.81	40	500	2.3	7000	1350	-	-					
30.55	46	500	2.6	6550	1330	-	-					
28.95	48	500	2.8	6370	1320	-	-					
25.34	55	500	3.2	5940	1290	-	-	**K**	**49**	**AD2**	33	528
22.83	61	500	3.5	5610	1260	-	-	**KF**	**49**	**AD2**	34	528
22.50	62	150	1.0	8470	555	-	-	**KA**	**49**	**AD2**	30	528
21.00	67	140	1.0	8310	675	-	-	**KAF**	**49**	**AD2**	35	528
20.03	70	500	4.0	5220	1220	-	-					
18.04	78	260	2.2	7300	1110	-	-					
17.67	79	500	4.6	4860	1190	-	-					
15.84	88	260	2.5	6940	1090	-	-					
15.67	89	490	5.0	4590	1160	-	-					
15.05	93	255	2.6	6830	1110	-	-					
13.38	105	470	5.7	4320	1130	-	-					
13.30	105	420	4.8	5740	142	-	-					
12.60	106	420	4.9	5710	86	-	-					
11.75	126	450	6.5	4000	1060	-	-					

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K49 AD.. , n_e = 1400 min^{-1} — **500 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$φ_{(/R)}$	⚠				m kg	
11.37	123	415	5.6	5370	1520	-	-					
10.42	134	395	5.8	5250	1560	-	-					
9.14	153	500	8.3	4460	940	-	-					
8.66	162	500	8.8	4340	880	-	-					
7.58	185	500	10.0	4050	735	-	-	**K**	**49**	**AD3**	36	528
6.83	205	500	11.1	3840	560	-	-	**KF**	**49**	**AD3**	38	528
5.99	234	500	12.7	3570	380	-	-	**KA**	**49**	**AD3**	33	528
5.29	265	485	13.9	3400	310	-	-	**KAF**	**49**	**AD3**	38	528
4.69	299	465	15.1	3270	285	-	-					
4.00	350	435	16.5	3130	275	-	-					
3.52	422	365	16.7	3140	505	-	-					

K57 AD.. , n_e = 1400 min^{-1} — **600 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$φ_{(/R)}$	⚠				m kg	
145.14*	9.7	600	0.67	7630	1280	6	-					
123.85	11	600	0.78	7630	1240	6	-					
108.29	13	600	0.89	7630	1220	6	-					
102.88*	14	600	0.93	7630	1210	6	-					
90.26*	16	600	1.1	7630	1610	6	-					
76.56*	18	600	1.2	7630	1590	6	-					
69.12	20	600	1.4	7630	1580	6	-					
60.81*	23	600	1.6	7630	1570	6	-					
57.42*	24	600	1.6	7630	1560	6	-	**K**	**57**	**AD2**	27	528
48.89	29	600	1.9	7630	1540	6	-	**KF**	**57**	**AD2**	32	528
44.43	32	600	2.1	7630	1520	6	-	**KA**	**57**	**AD2**	25	528
38.49	36	600	2.5	7630	1500	6	-	**KAF**	**57**	**AD2**	31	528
35.70	39	600	2.6	7630	1160	7	-					
30.28	46	600	3.0	7300	1120	7	-					
27.34	51	600	3.4	6930	1100	7	-					
24.05	58	600	3.8	6480	1070	7	-					
22.71	62	600	4.1	6280	1050	7	-					
19.34	72	575	4.6	5910	1030	7	-					
17.57	80	555	4.8	5740	1020	7	-					
15.22	92	535	5.4	5430	2030	7	-					
13.25	106	510	5.9	5190	2010	7	-					
11.92	117	415	5.3	5150	1770	9	-					
11.26	124	415	5.7	4990	1750	9	-	**K**	**57**	**AD3**	30	528
9.59	146	405	6.5	4650	1690	10	-	**KF**	**57**	**AD3**	35	528
8.71	161	390	6.9	4520	1690	10	-	**KA**	**57**	**AD3**	28	528
7.55	186	365	7.4	4360	1700	10	-	**KAF**	**57**	**AD3**	34	528
6.57	213	345	8.1	4180	1690	10	-					
4.69	298	300	9.8	3800	1630	11	-					

K67 AD.. , n_e = 1400 min^{-1} — **820 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$φ_{(/R)}$	⚠				m kg	
144.79*	9.7	820	0.91	10300	880	6	-					
123.54	11	820	1.1	10300	1530	6	-					
108.03	13	820	1.2	10300	1520	6	-					
102.62	14	820	1.3	10300	1520	6	-					
90.04	16	820	1.4	10300	1500	6	-					
76.37	18	820	1.7	10300	1480	6	-	**K**	**67**	**AD2**	33	528
68.95	20	820	1.9	10300	1460	6	-	**KF**	**67**	**AD2**	39	528
60.66	23	820	2.1	10300	1450	6	-	**KA**	**67**	**AD2**	30	528
57.28	24	820	2.2	10300	1440	6	-	**KAF**	**67**	**AD2**	36	528
48.77	29	820	2.6	10300	1400	6	-					
44.32	32	820	2.9	10300	1380	6	-					
38.39	36	800	3.3	10500	1360	6	-					
35.62	39	820	3.5	10300	880	7	-					

K67 AD.. , n_e = 1400 min^{-1} — **820 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
30.22	46	820	4.2	10300	1860	7	-					
27.28	51	820	4.6	10300	1820	7	-					
24.00	58	800	5.1	10500	1820	7	-					
22.66	62	780	5.3	10700	1820	7	-					
19.30	73	760	6.0	10800	1780	7	-					
17.54	80	740	6.5	11000	1760	7	-	**K**	**67**	**AD3**	36	528
15.19	92	700	7.1	11300	1750	8	-	**KF**	**67**	**AD3**	42	528
13.22	106	670	7.8	11500	1730	8	-	**KA**	**67**	**AD3**	34	528
12.48	112	530	6.5	12300	1570	9	-	**KAF**	**67**	**AD3**	39	528
10.63	132	500	7.2	11800	1560	9	-					
9.66	145	480	7.6	11500	1560	9	-					
8.37	167	440	8.1	11100	1590	9	-					
7.28	192	420	8.8	10700	1570	9	-					
5.20	269	350	10.3	9860	1560	10	-					

K77 AD.. , n_e = 1400 min^{-1} — **1550 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
192.18	7.3	1240	1.0	17200	570	5	-					
179.37	7.8	1160	1.0	17600	685	5	-					
154.02	9.1	1550	1.6	15400	1360	5	-					
135.28	10	1550	1.8	15400	1350	5	-					
128.52	11	1550	1.9	15400	1350	5	-					
113.56	12	1550	2.1	15400	1310	5	-	**K**	**77**	**AD2**	58	528
97.05	14	1550	2.5	15400	1290	5	-	**KF**	**77**	**AD2**	66	528
88.97	16	1550	2.7	15400	1280	5	-	**KA**	**77**	**AD2**	50	528
78.07	18	1550	3.1	15400	1250	5	-	**KAF**	**77**	**AD2**	58	528
73.99	19	1550	3.3	15400	1240	5	-					
64.75	22	1550	3.7	15400	1210	5	-					
58.34	24	1550	4.1	15400	1180	6	-					
51.18	27	1550	4.7	15400	1140	6	-					
45.16	31	1550	5.3	15400	1100	6	-					
40.04	35	1550	6.0	15400	2090	6	-	**K**	**77**	**AD3**	61	528
38.39	36	1490	6.0	15800	1470	6	-	**KF**	**77**	**AD3**	70	528
35.20	40	1410	6.2	16300	1530	6	-	**KA**	**77**	**AD3**	54	528
30.89	45	1550	7.7	15400	1280	6	-	**KAF**	**77**	**AD3**	62	528
29.27	48	1550	8.2	15400	3310	6	-					
25.62	55	1550	9.3	15400	3250	6	-					
23.08	61	1550	10.3	15400	3170	6	-					
20.25	69	1500	11.4	15700	3140	6	-					
17.87	78	1450	12.4	16100	3120	6	-	**K**	**77**	**AD4**	67	528
15.84	88	1400	13.6	15500	3090	6	-	**KF**	**77**	**AD4**	76	528
13.52	104	1340	15.2	14800	3050	7	-	**KA**	**77**	**AD4**	60	528
12.36	113	1000	12.4	15100	2860	8	-	**KAF**	**77**	**AD4**	68	528
10.84	129	990	14.0	14400	2790	8	-					
9.56	146	940	15.1	13900	2790	8	-					
8.48	165	890	16.1	13500	2800	8	-					
7.24	193	820	17.3	13100	2810	8	-					

K87 AD.. , n_e = 1400 min^{-1} — **2700 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
197.37	7.1	2700	2.1	27300	1170	5	-					
174.19	8.0	2700	2.4	27300	1150	5	-					
164.34*	8.5	2700	2.6	27300	1150	5	-	**K**	**87**	**AD2**	93	528
147.32*	9.5	2700	2.9	27300	1120	5	-	**KF**	**87**	**AD2**	105	528
126.91*	11	2700	3.3	27300	1100	5	-	**KA**	**87**	**AD2**	81	528
115.82	12	2700	3.6	27300	1080	5	-	**KAF**	**87**	**AD2**	94	528
102.71*	14	2700	4.1	27300	1060	5	-					
86.34	16	2700	4.9	27300	1020	5	-					

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K87 AD.. , n_e = 1400 min^{-1} **2700 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$φ_{(/R)}$	⚠				m kg	
79.34	18	2700	5.3	27300	1940	5	-					
70.46	20	2700	6.0	27300	1910	5	-	**K**	**87**	**AD3**	98	528
63.00*	22	2700	6.7	26200	1870	5	-	**KF**	**87**	**AD3**	105	528
56.64	25	2700	7.4	25000	1840	5	-	**KA**	**87**	**AD3**	85	528
49.16	28	2700	8.6	23500	1780	5	-	**KAF**	**87**	**AD3**	99	528
44.02	32	2600	9.2	22800	1760	6	-					
36.52*	38	2500	10.7	21400	1700	6	-					
31.39	45	2700	13.2	19200	2770	6	-					
27.88	50	2600	14.3	18500	2770	6	-					
24.92	56	2500	15.4	18000	2780	6	-					
22.41	62	2300	15.7	17900	2860	6	-	**K**	**87**	**AD4**	105	528
19.45	72	2300	18.1	16800	2760	6	-	**KF**	**87**	**AD4**	115	528
17.42	80	2200	19.4	16300	2750	6	-	**KA**	**87**	**AD4**	92	528
16.00	88	1800	17.2	16000	2090	6	-	**KAF**	**87**	**AD4**	105	528
14.45	97	2100	22	15300	2660	6	-					
12.56	111	2000	24	14800	2640	6	-					
11.17	125	1500	21	14900	2440	7	-					
10.00	140	1500	23	14200	5590	7	-	**K**	**87**	**AD5**	120	528
8.29	169	1400	26	13500	5550	7	-	**KF**	**87**	**AD5**	130	528
7.21	194	1300	28	13200	5590	7	-	**KA**	**87**	**AD5**	105	528
								KAF	**87**	**AD5**	120	528

K97 AD.. , n_e = 1400 min^{-1} **4300 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$φ_{(/R)}$	⚠				m kg	
176.05*	8.0	4300	3.9	40000	1780	7	-					
153.21*	9.1	4300	4.4	40000	1760	7	-					
140.28	10.0	4300	4.8	40000	1740	7	-	**K**	**97**	**AD3**	160	528
123.93*	11	4300	5.5	40000	1710	7	-	**KF**	**97**	**AD3**	180	528
105.13	13	4300	6.4	40000	1670	7	-	**KA**	**97**	**AD3**	140	528
96.80	14	4300	7.0	40000	1640	7	-	**KAF**	**97**	**AD3**	165	528
86.52	16	4300	7.8	38800	1600	7	-					
77.89*	18	4300	8.7	37100	1570	7	-					
70.54	20	4300	9.6	35600	1520	7	-					
62.55	22	4300	10.8	33800	3510	7	-	**K**	**97**	**AD4**	165	528
56.55	25	4300	12.0	32300	3460	7	-	**KF**	**97**	**AD4**	185	528
47.93*	29	4300	14.1	30000	3380	7	-	**KA**	**97**	**AD4**	145	528
41.87	33	4300	16.2	28300	3300	7	-	**KAF**	**97**	**AD4**	170	528
38.30	37	4300	17.3	27100	5300	7	-					
34.23	41	4300	19.3	25700	5220	7	-					
30.82	45	4300	21	24500	5150	7	-	**K**	**97**	**AD5**	180	528
27.91	50	4300	24	23300	5070	8	-	**KF**	**97**	**AD5**	200	528
24.75	57	4300	27	22000	4980	8	-	**KA**	**97**	**AD5**	160	528
22.37	63	4300	30	20900	4880	8	-	**KAF**	**97**	**AD5**	185	528
18.96	74	4300	35	19100	4680	8	-					
16.56	85	4300	40	17800	4520	8	-					
13.85	101	4300	48	16100	7200	8	-	**K**	**97**	**AD6**	195	528
11.99	117	3890	50	16200	7300	8	M2,4-6	**KF**	**97**	**AD6**	215	528
								KA	**97**	**AD6**	175	528
								KAF	**97**	**AD6**	200	528
10.41	134	2870	42	16400	4320	10	-	**K**	**97**	**AD5**	180	528
								KF	**97**	**AD5**	200	528
								KA	**97**	**AD5**	160	528
								KAF	**97**	**AD5**	185	528
8.71	161	2660	47	15800	7250	10	-	**K**	**97**	**AD6**	195	528
7.54	186	2400	49	15700	7360	10	-	**KF**	**97**	**AD6**	215	528
								KA	**97**	**AD6**	175	528
								KAF	**97**	**AD6**	200	528

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K107 AD.. , n_e = 1400 min^{-1} — **8000 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} [1] N	F_{Re} N	$\varphi_{(/R)}$					m kg	
143.47*	9.8	8000	8.7	65000	3090	6	-					
121.46	12	8000	10.3	61500	3030	6	-					
112.41*	12	8000	11.1	59300	2980	6	-					
100.75	14	8000	12.4	56200	2930	6	-	**K**	**107**	**AD4**	280	528
90.96*	15	8000	13.8	53500	2850	6	-	**KF**	**107**	**AD4**	290	528
82.61	17	8000	15.2	50900	2800	6	-	**KA**	**107**	**AD4**	250	528
73.30	19	8000	17.1	47900	2730	6	-	**KAF**	**107**	**AD4**	275	528
66.52*	21	8000	18.8	45400	2670	6	-					
57.17*	24	8000	22	41700	2550	6	-					
49.90	28	7840	25	39300	2480	6	-					
42.33*	33	7360	27	37900	5700	6	-	**K**	**107**	**AD5**	290	528
37.00*	38	7200	31	35800	5620	6	-	**KF**	**107**	**AD5**	305	528
32.69	43	7200	34	33200	3360	6	-	**KA**	**107**	**AD5**	265	528
31.28*	45	6800	34	34200	5590	6	-	**KAF**	**107**	**AD5**	290	528
29.00	48	7200	38	30700	6610	6	-					
26.32	53	7200	42	28800	6500	6	-					
22.62	62	7200	49	25800	6280	6	-					
19.74	71	7170	56	23400	6090	6	-					
16.75	84	6080	56	26200	6500	7	-	**K**	**107**	**AD6**	305	528
14.64	96	5310	56	27800	6790	7	-	**KF**	**107**	**AD6**	320	528
13.43	104	4300	49	29200	6260	9	-	**KA**	**107**	**AD6**	280	528
11.73	119	4260	56	27600	6090	9	-	**KAF**	**107**	**AD6**	300	528
9.94	141	3610	56	27800	6500	9	-					
8.69	161	3150	56	27800	6800	9	-					
7.35	191	2660	56	27600	7150	9	-					

K127 AD.. , n_e = 1400 min^{-1} — **13000 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} [1] N	F_{Re} N	$\varphi_{(/R)}$					m kg	
146.07	9.6	13000	13.9	79200	2390	5	-	**K**	**127**	**AD4**	435	528
136.14	10	13000	14.9	79200	2340	5	-	**KF**	**127**	**AD4**	480	528
122.48	11	13000	16.6	79200	2240	5	-	**KA**	**127**	**AD4**	410	528
110.18	13	13000	18.4	79200	2100	5	-	**KAF**	**127**	**AD4**	445	528
89.89	16	13000	23	75100	5360	5	-					
81.98	17	13000	25	72100	5300	5	-	**K**	**127**	**AD5**	450	528
70.95*	20	13000	29	67700	5180	5	M2-6	**KF**	**127**	**AD5**	490	528
62.60	22	13000	32	64000	5080	5	M1-6	**KA**	**127**	**AD5**	420	528
54.07	26	13000	38	59800	4930	5	M1-6	**KAF**	**127**	**AD5**	460	528
47.82	29	13000	43	56500	4790	5	M1-6					
40.19	35	13000	51	52000	7500	5	M1-6	**K**	**127**	**AD6**	460	528
								KF	**127**	**AD6**	500	528
								KA	**127**	**AD6**	430	528
								KAF	**127**	**AD6**	470	528
36.25	39	13000	55	49400	11400	6	M1-6	**K**	**127**	**AD7**	460	528
31.37	45	13000	63	45900	10500	6	M1-6	**KF**	**127**	**AD7**	500	528
27.68	51	13000	72	43000	9650	6	M1-6	**KA**	**127**	**AD7**	430	528
23.91	59	13000	83	39800	8490	6	M1-6	**KAF**	**127**	**AD7**	470	528
21.15	66	13000	94	37200	24500	6	M1-6					
17.77	79	13000	112	32600	24100	6	M1-6	**K**	**127**	**AD8**	480	528
14.35	98	12100	129	31000	23900	6	M1-6	**KF**	**127**	**AD8**	520	528
12.79	110	8530	102	35400	24100	8	M1-6	**KA**	**127**	**AD8**	455	528
10.74	130	8000	114	33900	24000	8	M1-6	**KAF**	**127**	**AD8**	490	528
8.68	161	7230	128	32500	24000	8	M1-6					

K157 AD.. , n_e = 1400 min^{-1} — **20000 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} [1] N	F_{Re} N	$\varphi_{(/R)}$					m kg	
150.41	9.3	20000	21	111100	4900	5	-					
122.39	11	20000	25	102100	4760	5	-	**K**	**157**	**AD5**	680	529
100.22	14	20000	31	93700	4560	5	-	**KF**	**157**	**AD5**	760	529
91.65	15	20000	34	90000	4480	5	-	**KA**	**157**	**AD5**	650	529
79.75	18	20000	39	84500	4340	5	-	**KAF**	**157**	**AD5**	710	529
70.38	20	20000	44	79800	4200	5	M2-6					
61.02	23	18100	46	78800	4380	5	M1-6					

K157 AD.. , n_e = 1400 min^{-1}												20000 Nm
i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$					m kg	
54.29	26	20000	57	70600	6840	5	M1-6	**K**	**157**	**AD6**	700	529
								KF	**157**	**AD6**	780	529
								KA	**157**	**AD6**	660	529
								KAF	**157**	**AD6**	720	529
46.79	30	20000	67	65600	16700	5	M1-6	**K**	**157**	**AD7**	700	529
38.02	37	20000	82	59000	16400	5	M1-6	**KF**	**157**	**AD7**	770	529
								KA	**157**	**AD7**	660	529
								KAF	**157**	**AD7**	720	529
31.30	45	18300	89	56900	23500	6	M1-6					
27.62	51	17500	97	55100	23500	6	M1-6	**K**	**157**	**AD8**	720	529
23.95	58	20000	128	45700	22200	6	M1-6	**KF**	**157**	**AD8**	800	529
21.31	66	20000	143	42600	21900	6	M1-6	**KA**	**157**	**AD8**	680	529
18.37	76	20000	166	38800	21500	6	M1-6	**KAF**	**157**	**AD8**	740	529
14.92	94	19700	202	34500	20800	6	M1-6					
12.65	111	18300	221	33800	20700	6	M1-6					

K167 AD.. , n_e = 1400 min^{-1}												35000 Nm
i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$					m kg	
164.50	8.5	29500	28	150000	2960	4	-	**K**	**167**	**AD5**	1080	529
								KH	**167**	**AD5**	1040	529
134.99	10	34600	40	150000	5000	4	-	**K**	**167**	**AD6**	1100	529
109.83	13	35000	49	150000	4360	5	-	**KH**	**167**	**AD6**	1060	529
87.86	16	35000	62	141700	11000	5	M2-6					
78.14	18	35000	69	134600	10500	5	M1-6	**K**	**167**	**AD7**	1090	529
68.07	21	35000	80	126500	9560	5	M1-6	**KH**	**167**	**AD7**	1050	529
60.74	23	35000	89	120100	8700	5	M1-6					
51.77	27	35000	105	111500	24500	5	M1-6					
42.89	33	35000	127	101900	24000	5	M1-6					
36.61	38	35000	149	94200	23600	5	M1-6					
32.25	43	30300	144	96900	20800	5	M1-6	**K**	**167**	**AD8**	1110	529
28.77	49	27000	144	97800	21500	5	M1-6	**KH**	**167**	**AD8**	1070	529
24.52	57	35000	218	76200	18300	5	M1-6					
20.32	69	35000	263	68500	16400	5	M1-6					
17.34	81	31400	277	69000	17800	5	M1-6					

K187 AD.. , n_e = 1400 min^{-1}												53000 Nm
i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$					m kg	
179.86	7.8	53000	46	190000	5390	4	-	**K**	**187**	**AD6**	1680	529
165.21	8.5	53000	50	190000	5230	4	-	**KH**	**187**	**AD6**	1610	529
144.59	9.7	53000	57	181500	4900	4	-					
129.69	11	53000	64	173100	12900	4	-	**K**	**187**	**AD7**	1670	529
112.60	12	53000	73	162500	12100	4	M2-6	**KH**	**187**	**AD7**	1600	529
102.16	14	53000	81	155400	11700	4	M1-6					
88.00	16	53000	94	145000	25200	4	M1-6					
73.96	19	53000	112	133500	24800	4	M1-6					
64.04	22	53000	129	124400	24500	4	M1-6					
53.36	26	53000	155	113400	24000	4	M1-6					
45.50*	31	52300	179	105400	23600	4	M1-6					
42.51	33	39900	144	120800	21000	4	M1-6	**K**	**187**	**AD8**	1690	529
38.57	36	36100	143	121400	21700	4	M1-6	**KH**	**187**	**AD8**	1630	529
33.23	42	51700	238	89500	15100	4	M1-6					
27.92	50	49600	271	84200	14600	4	M1-6					
24.18	58	43800	277	86300	18000	4	M1-6					
20.15	69	36400	277	89600	19100	4	M1-6					
17.18	82	31000	277	91100	20000	4	M1-6					

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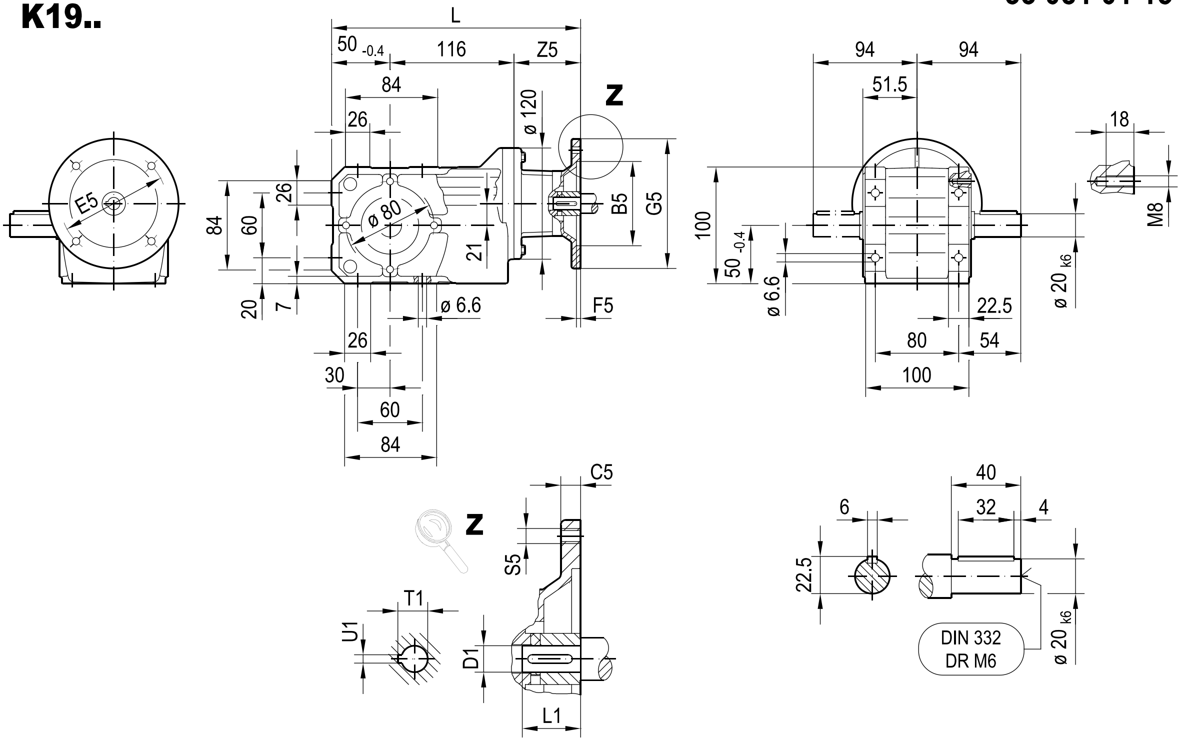
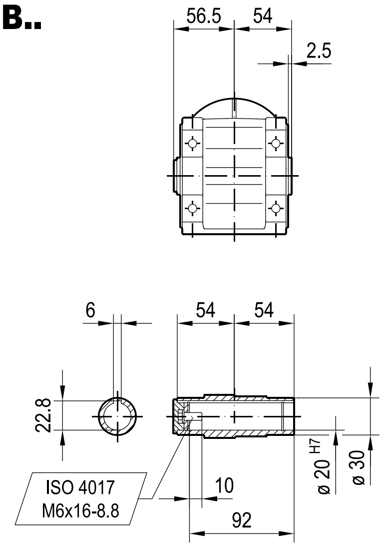
10.4 Dimension sheets for adapters for mounting IEC motors (AM..)

33 081 01 15

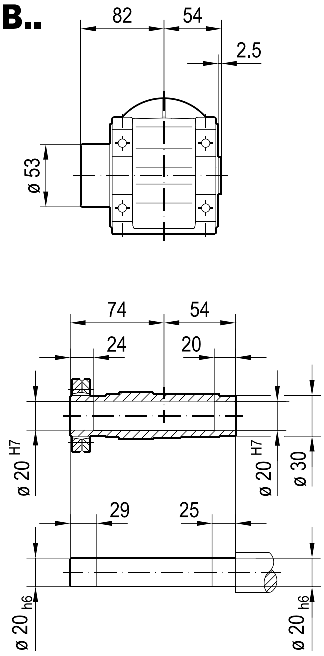
K19..



KA19B..



KH19B..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	238	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	238	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	272	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	272	M10	106	24	50	27.3	8

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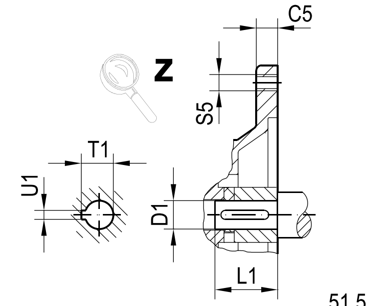
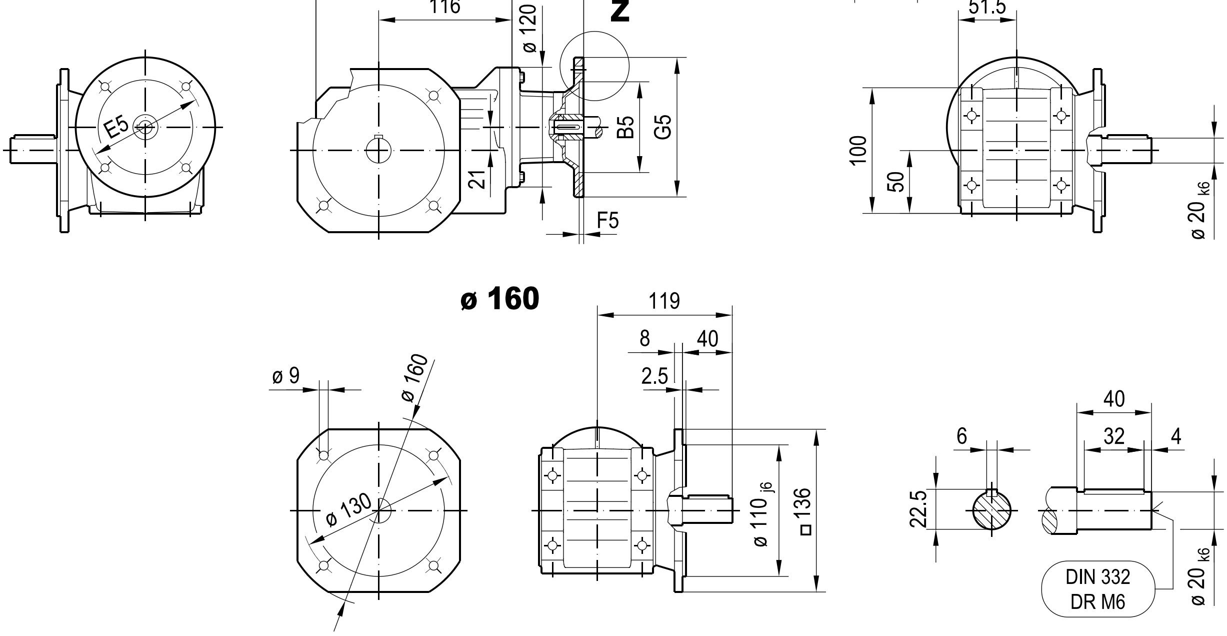
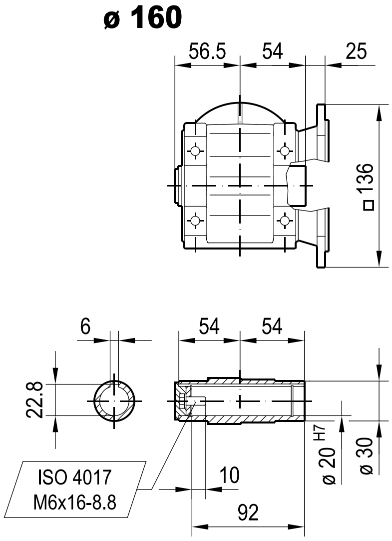
33 082 00 15

KF19B..





KAF19B..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	238	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	238	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	272	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	272	M10	106	24	50	27.3	8

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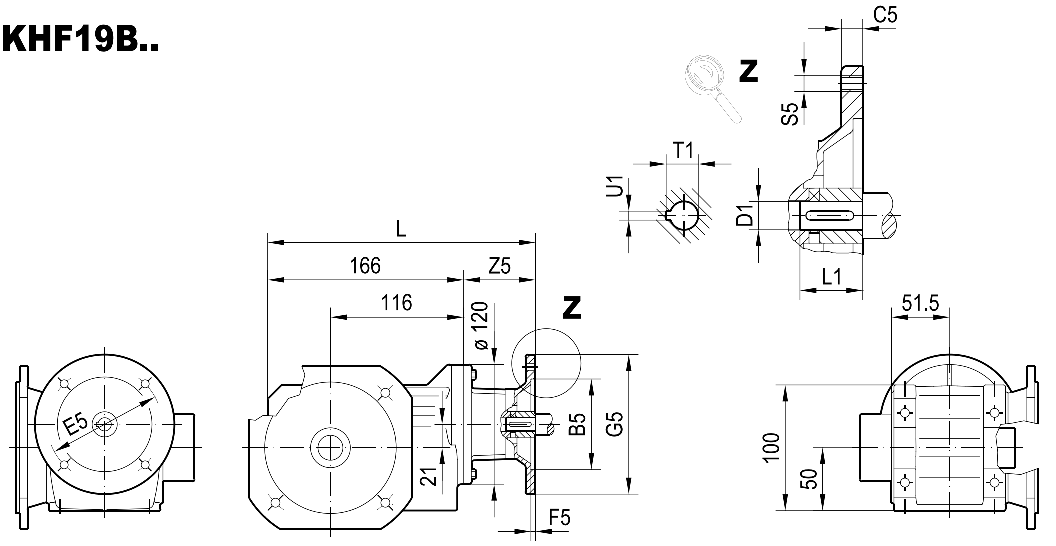
KHF19B..

33 083 01 15



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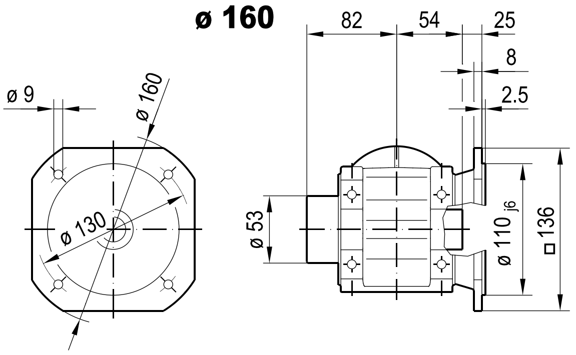

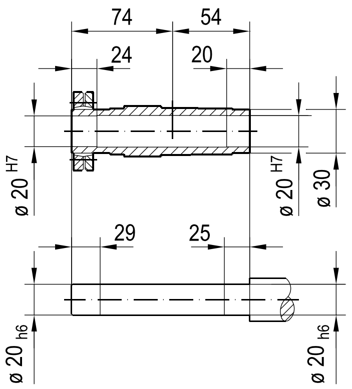

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	238	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	238	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	272	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	272	M10	106	24	50	27.3	8

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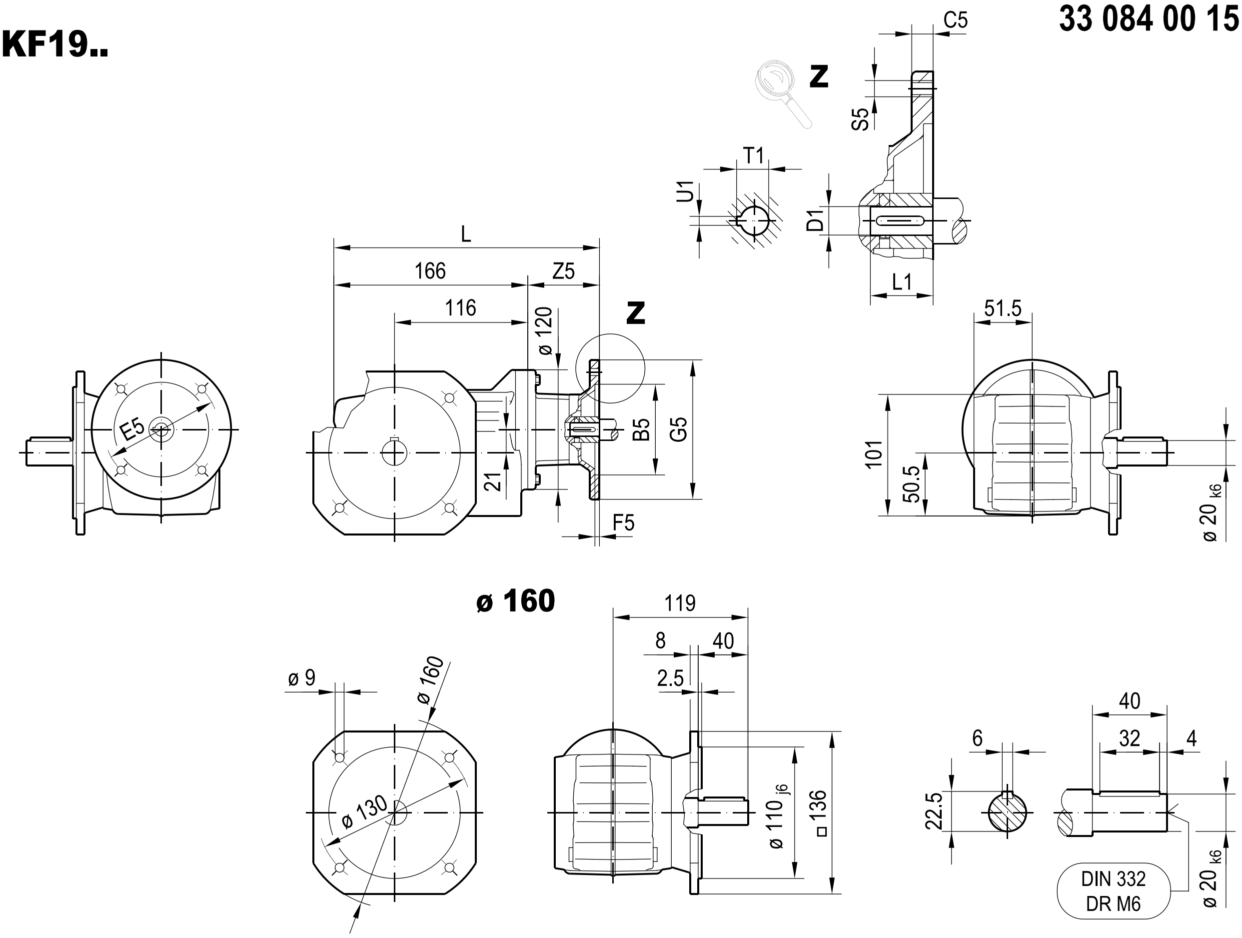
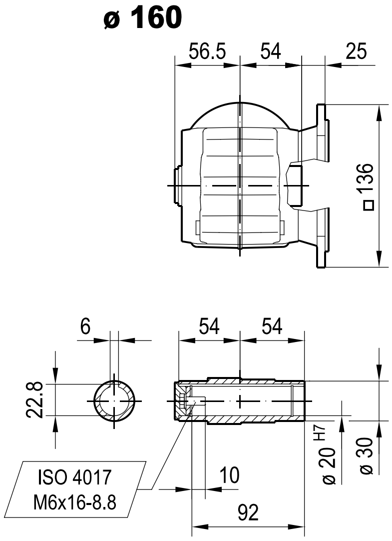
33 084 00 15

KF19..



KAF19..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	238	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	238	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	272	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	272	M10	106	24	50	27.3	8

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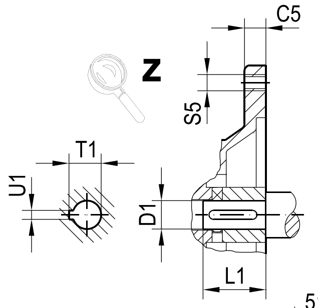
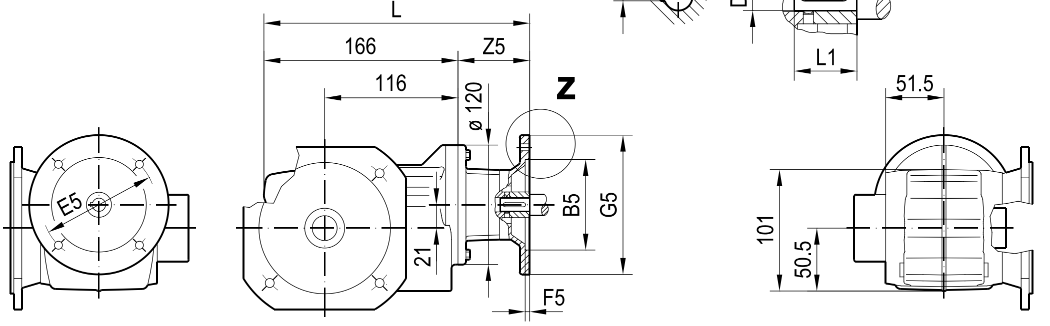
KHF19..

33 085 01 15





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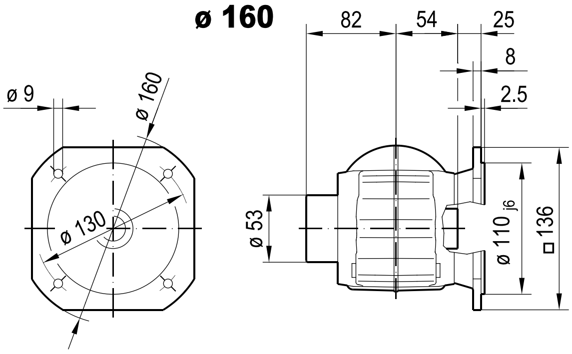

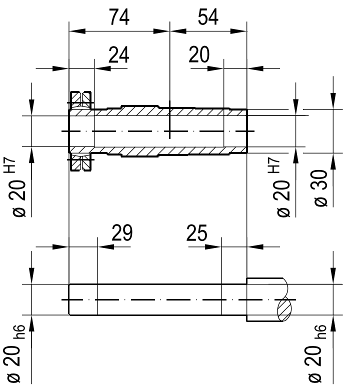

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	238	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	272	M10	106	19	40	21.8	6
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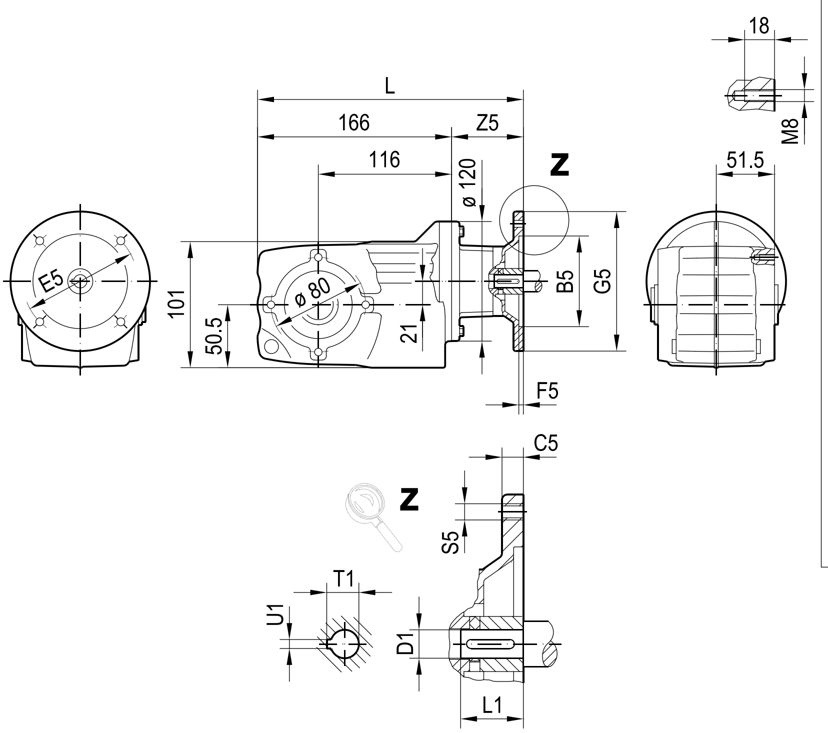
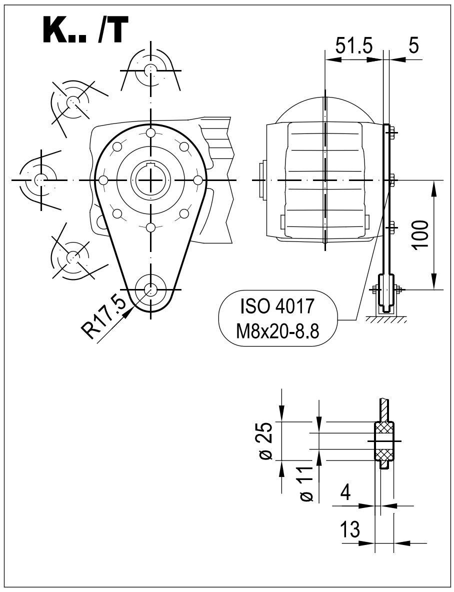
33 086 01 15

KA19..





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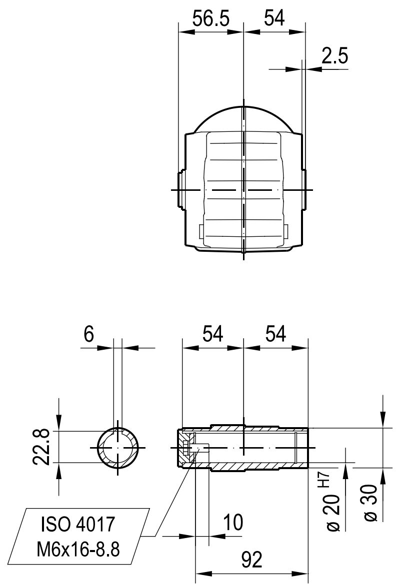

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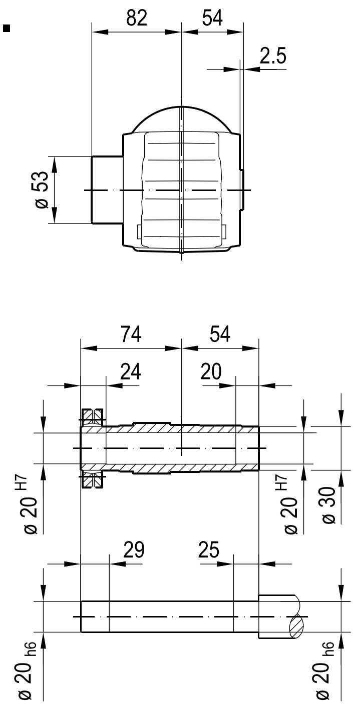

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AM71	110	10	130	4	160	238	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	272	M10	106	19	40	21.8	6
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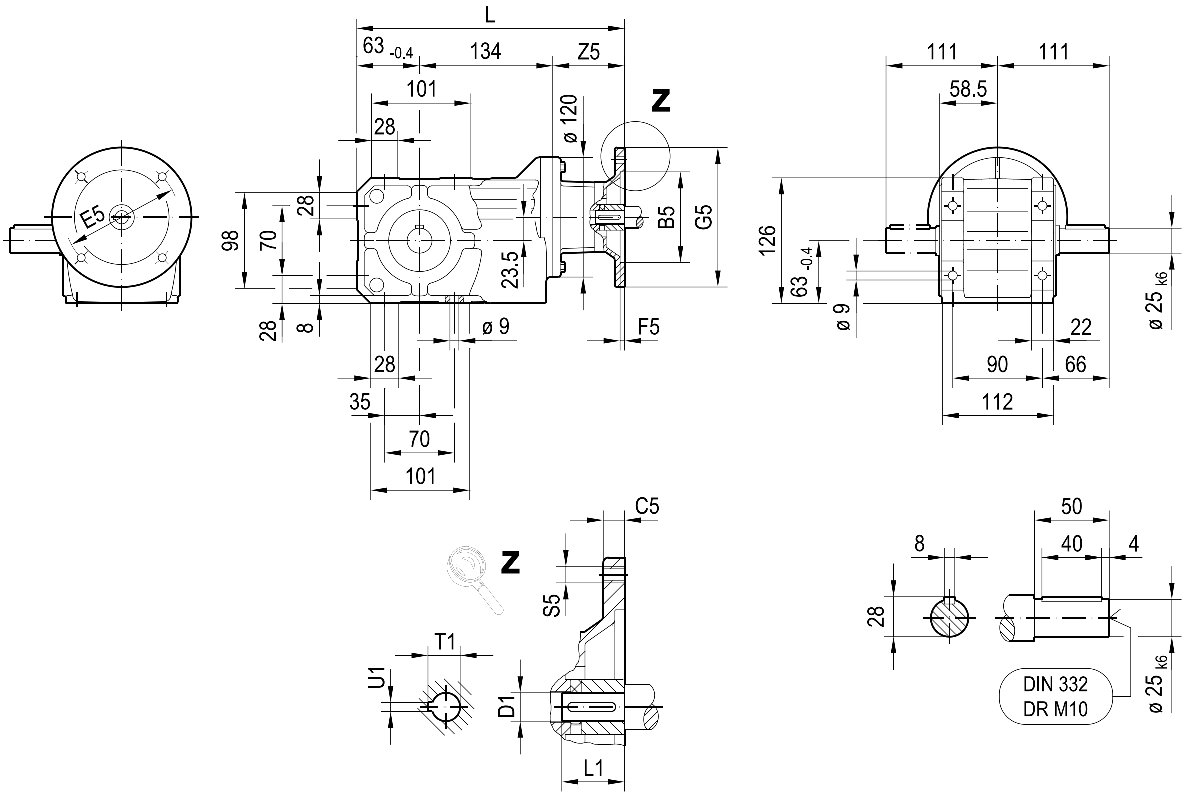
33 087 01 15

K29..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	269	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	303	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	303	M10	106	24	50	27.3	8

33 363 01 15

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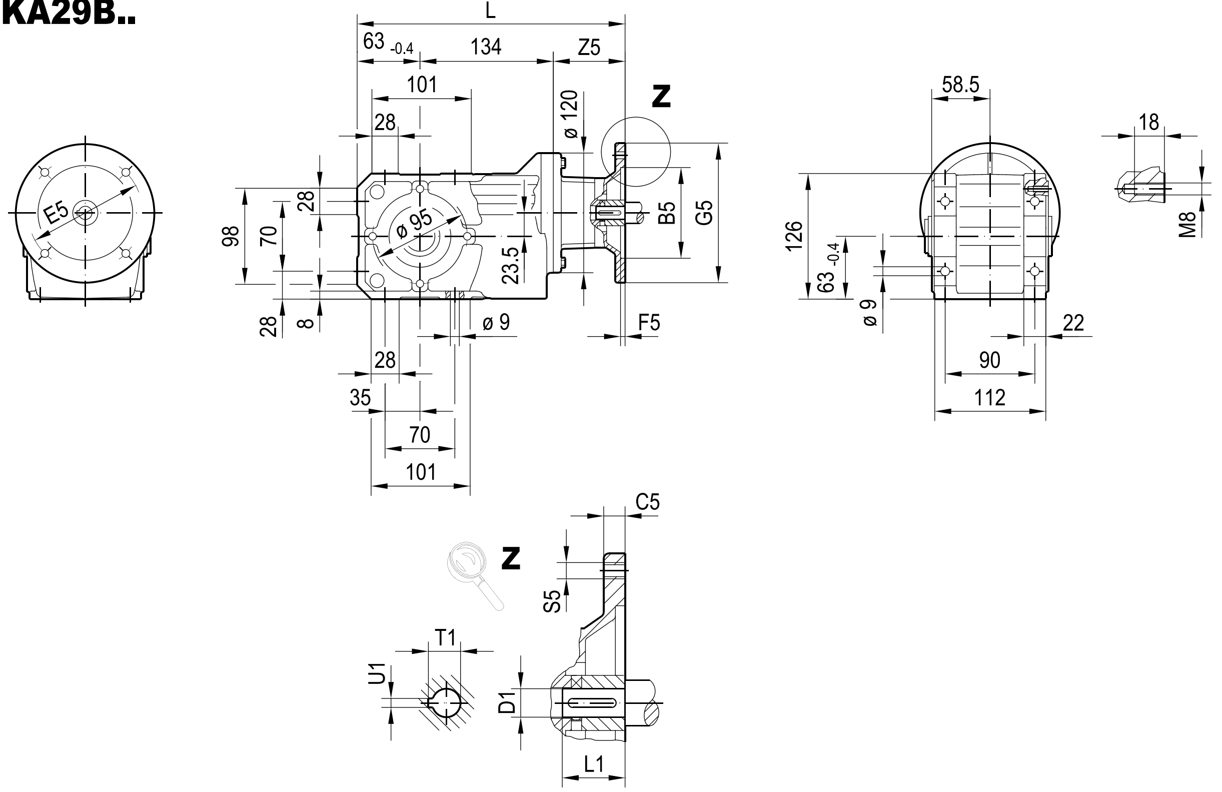

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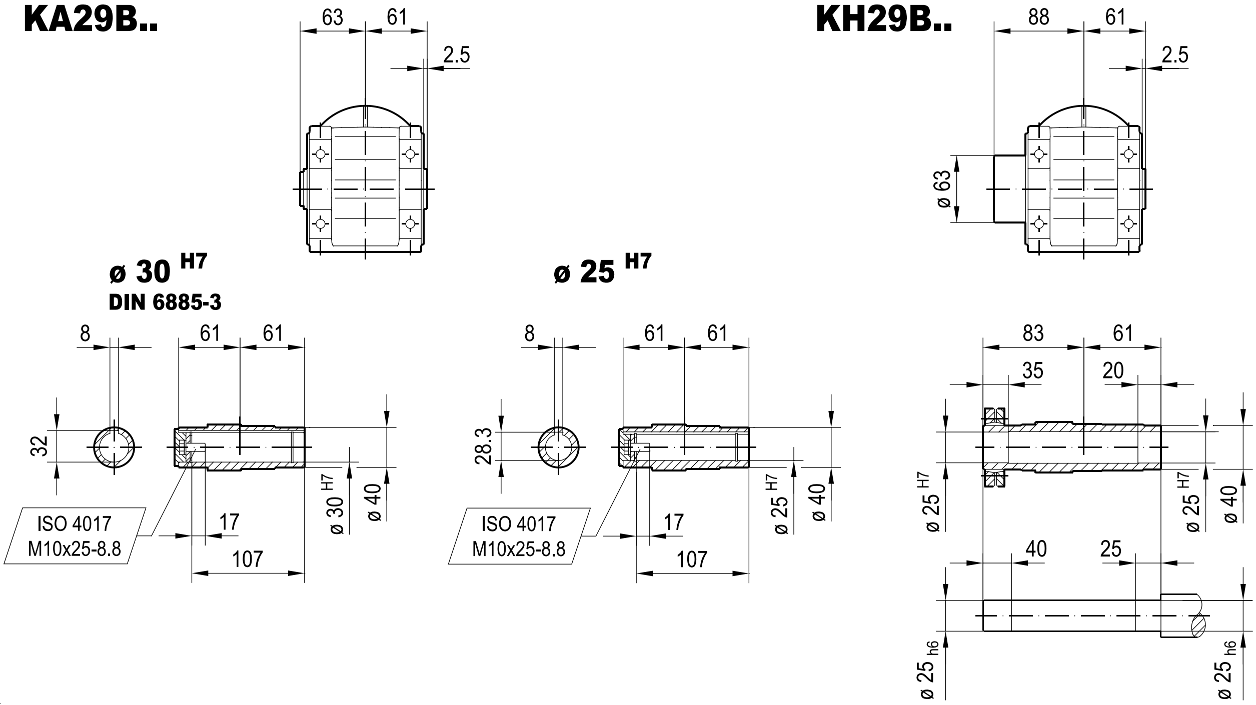
ø 30 H7
DIN 6885-3

ø 25 H7



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM80	130	12	165	4.5	200	303	M10	106	19	40	21.8	6
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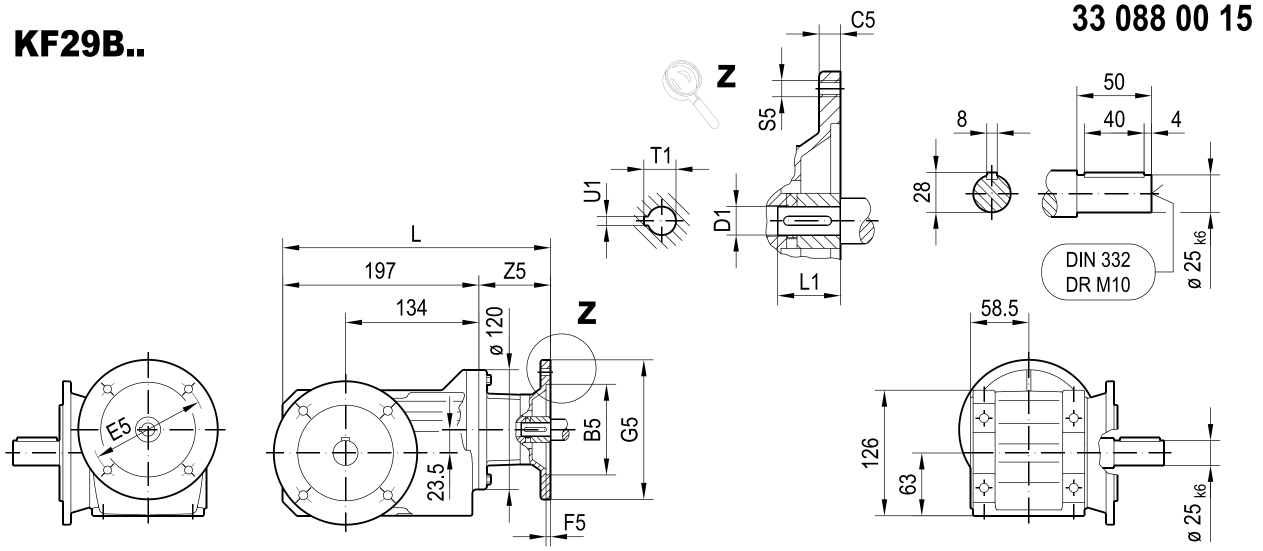
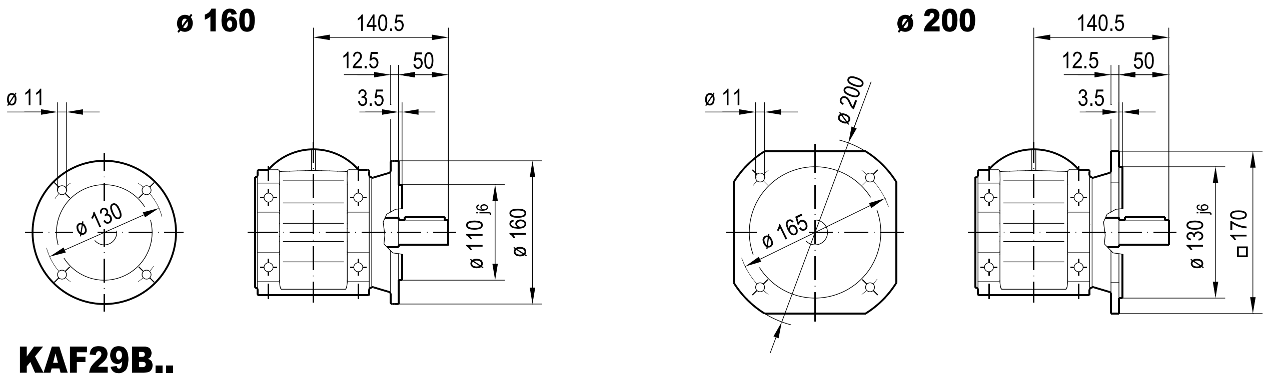
33 088 00 15





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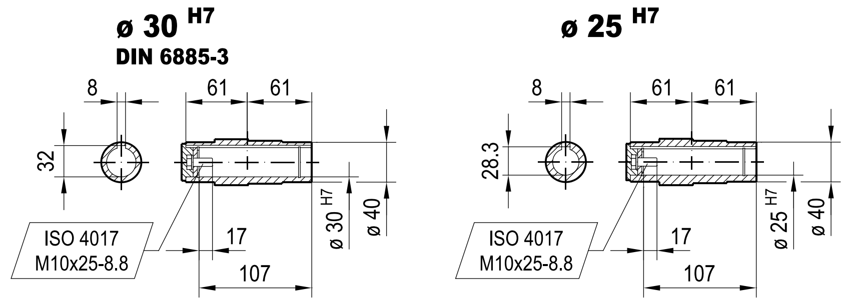

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AM71	110	10	130	4	160	269	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	303	M10	106	19	40	21.8	6
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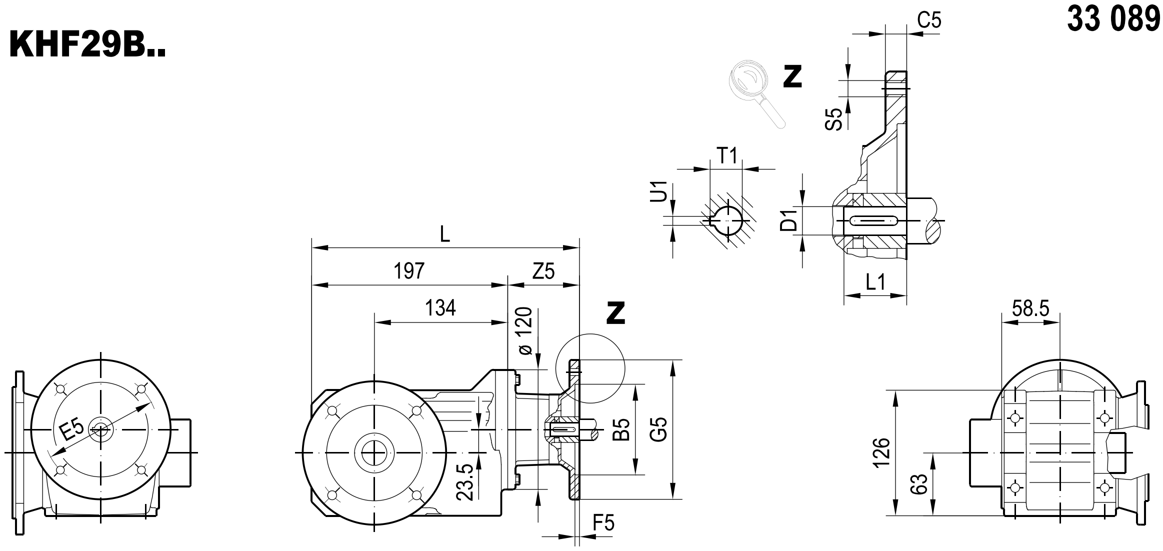
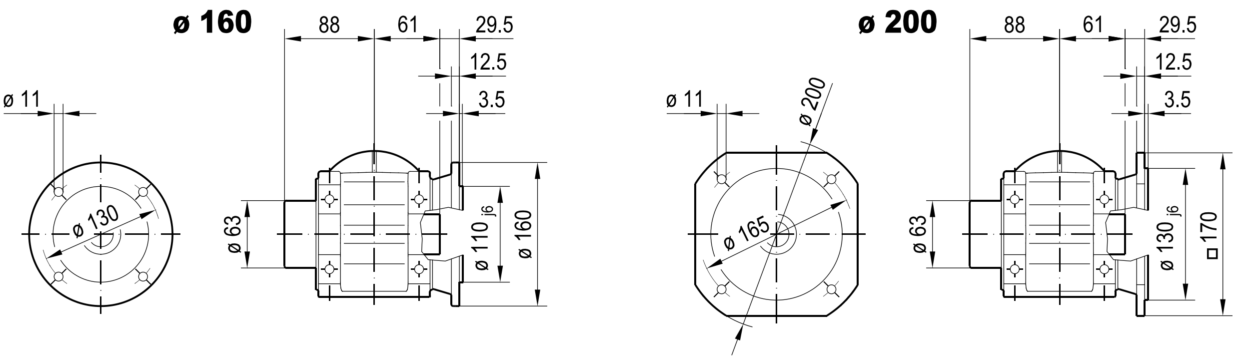
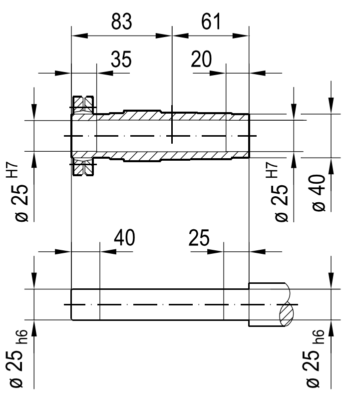
33 089 01 15







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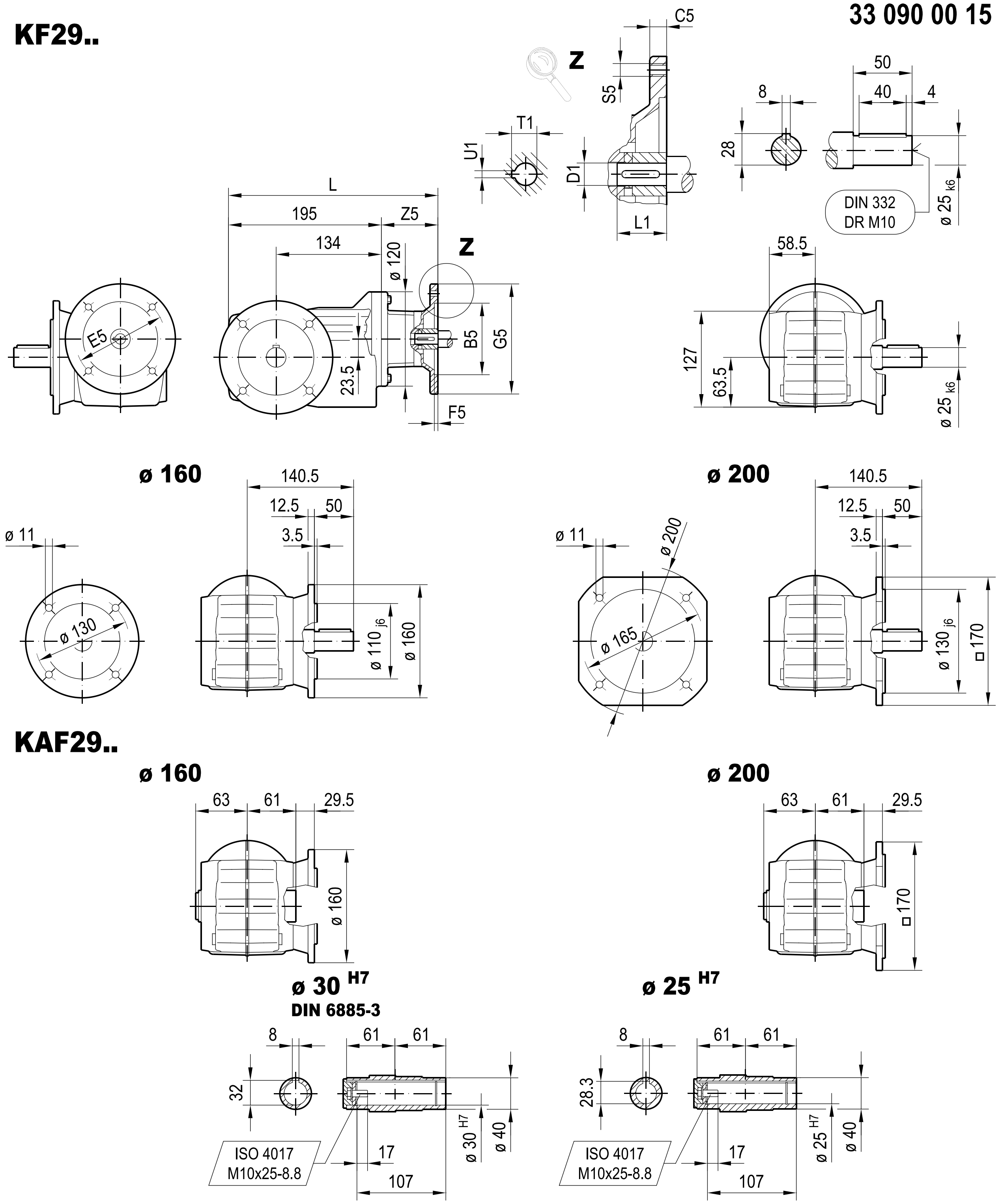

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	267	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	301	M10	106	19	40	21.8	6
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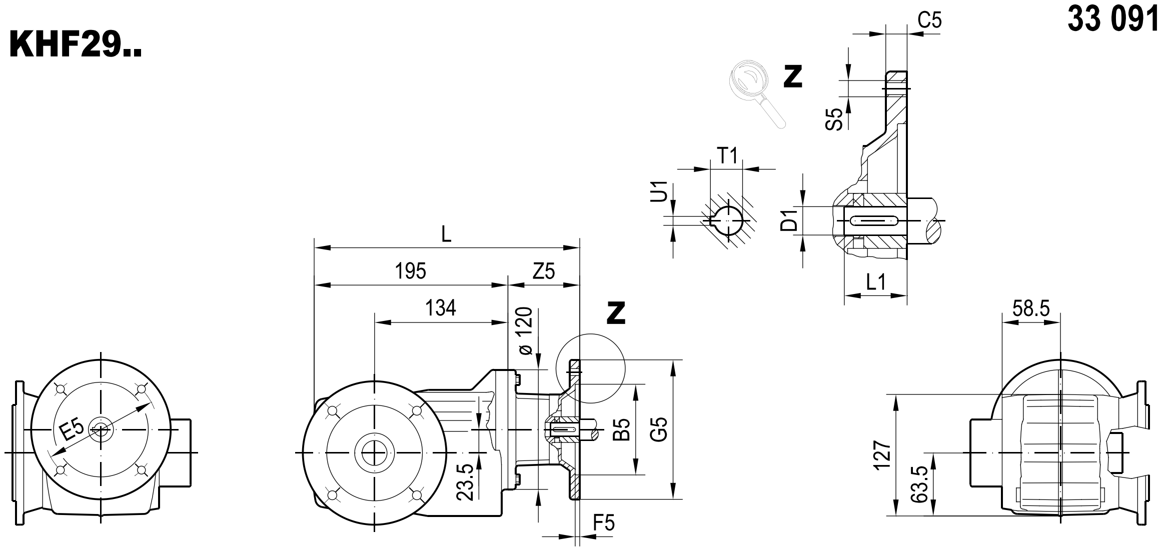
33 091 01 15

KHF29..



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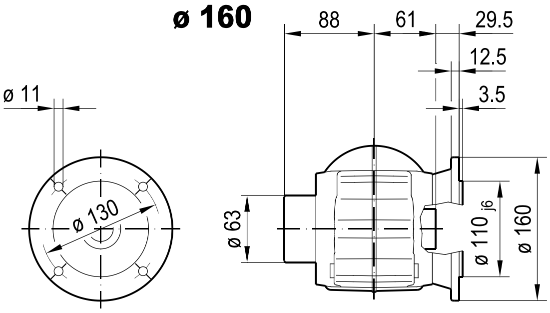

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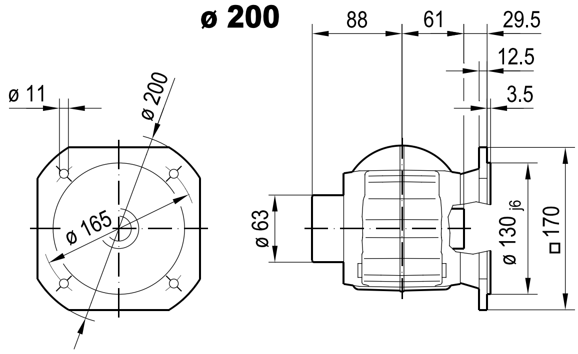

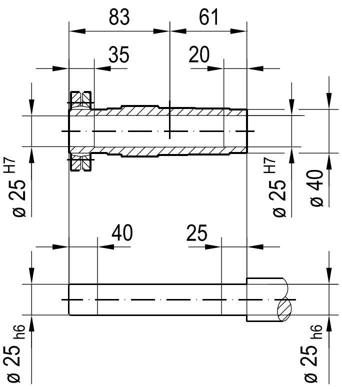

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	267	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	301	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	301	M10	106	24	50	27.3	8

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33 092 01 15

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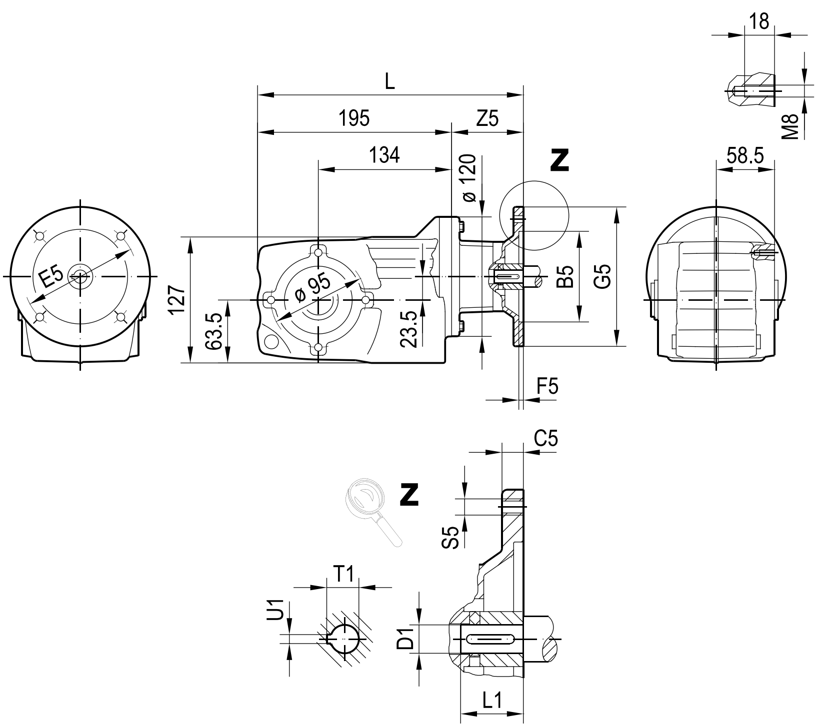

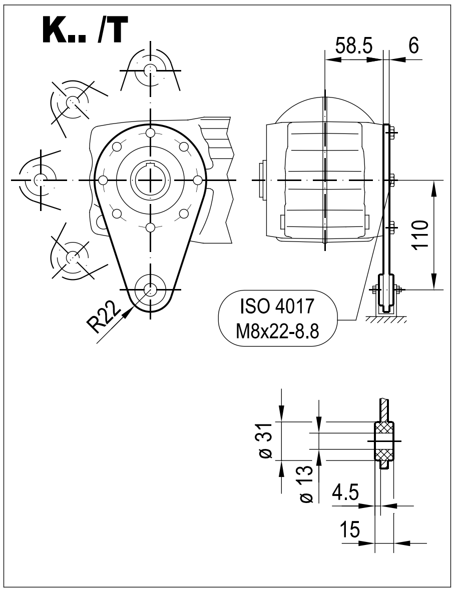

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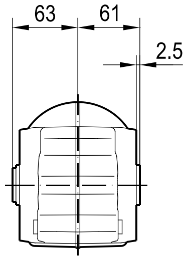

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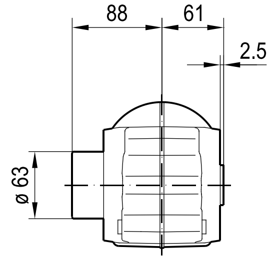
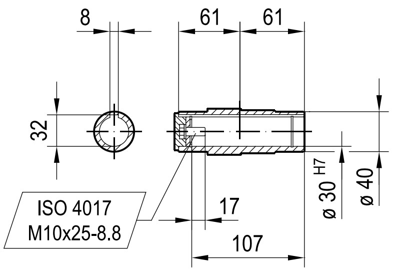


ø 30 H7
DIN 6885-3



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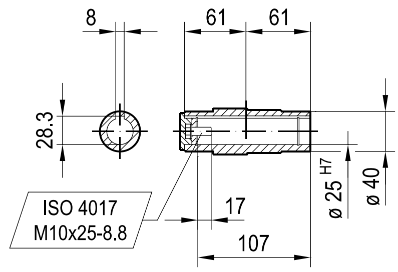

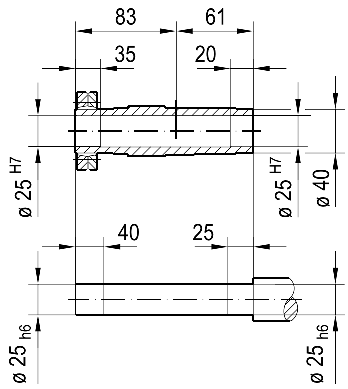

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	267	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	301	M10	106	19	40	21.8	6
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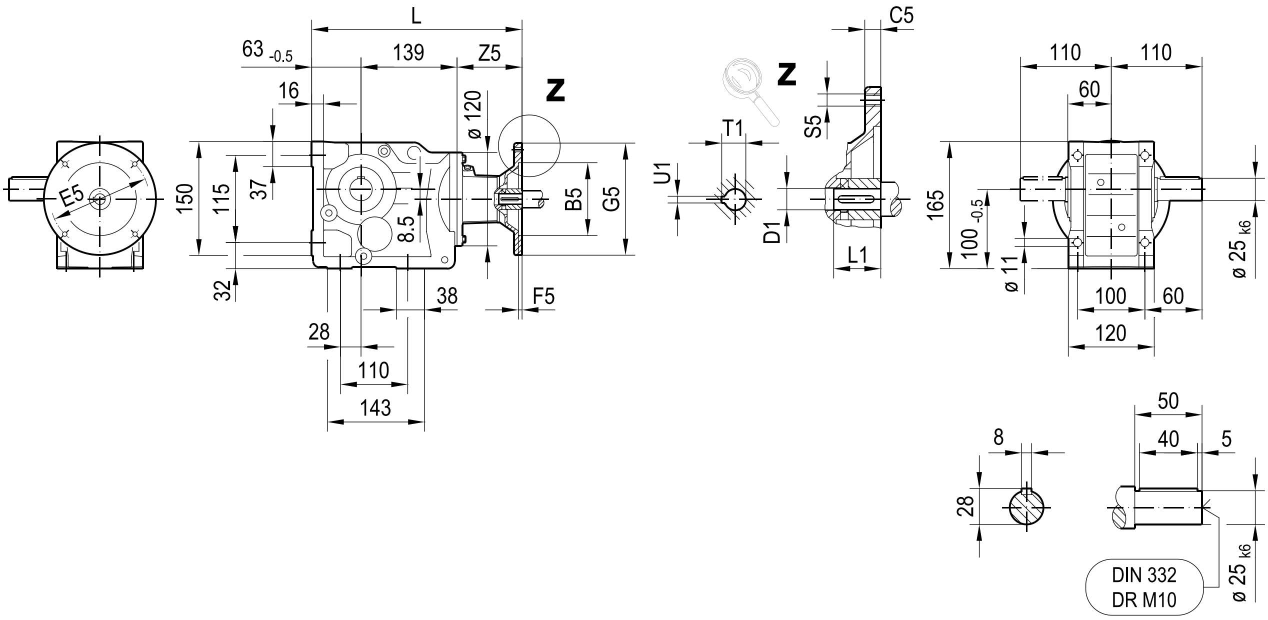
33 010 02 01

K37..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	274	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	308	M10	106	19	40	21.8	6
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33 011 04 01

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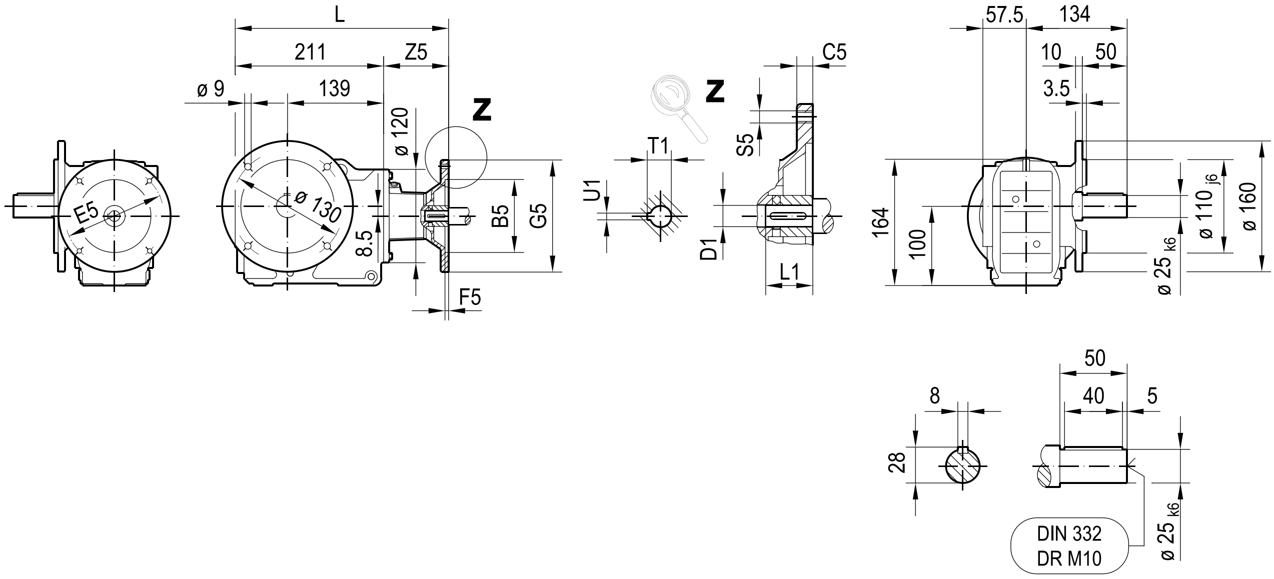

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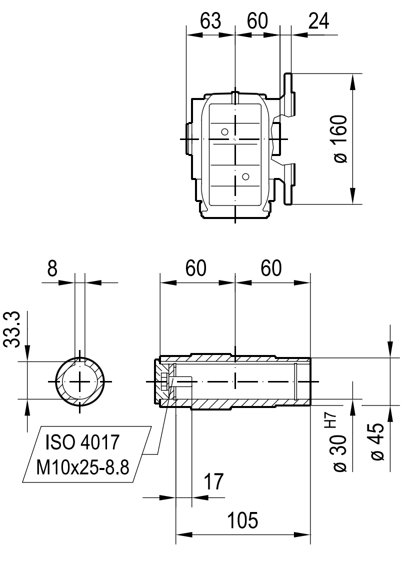

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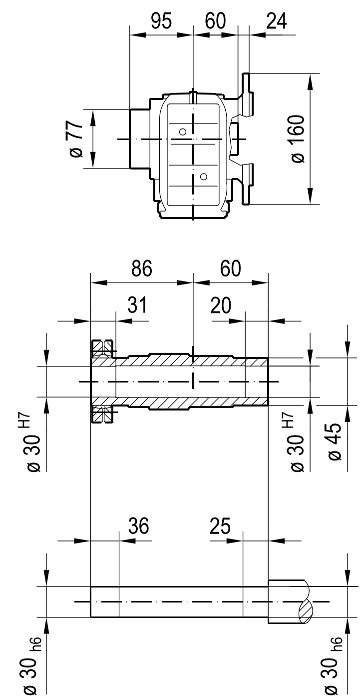

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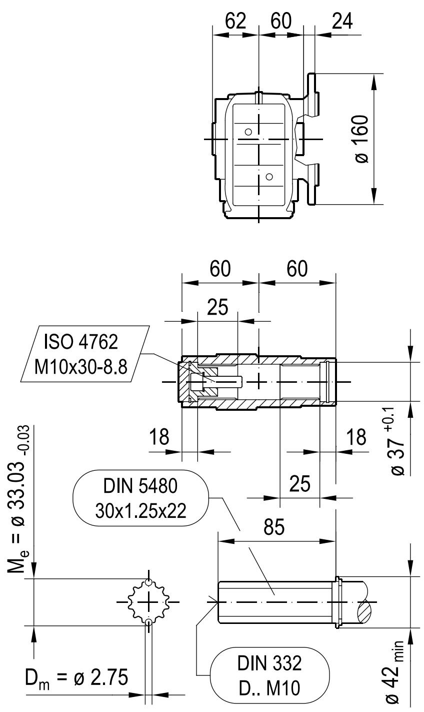

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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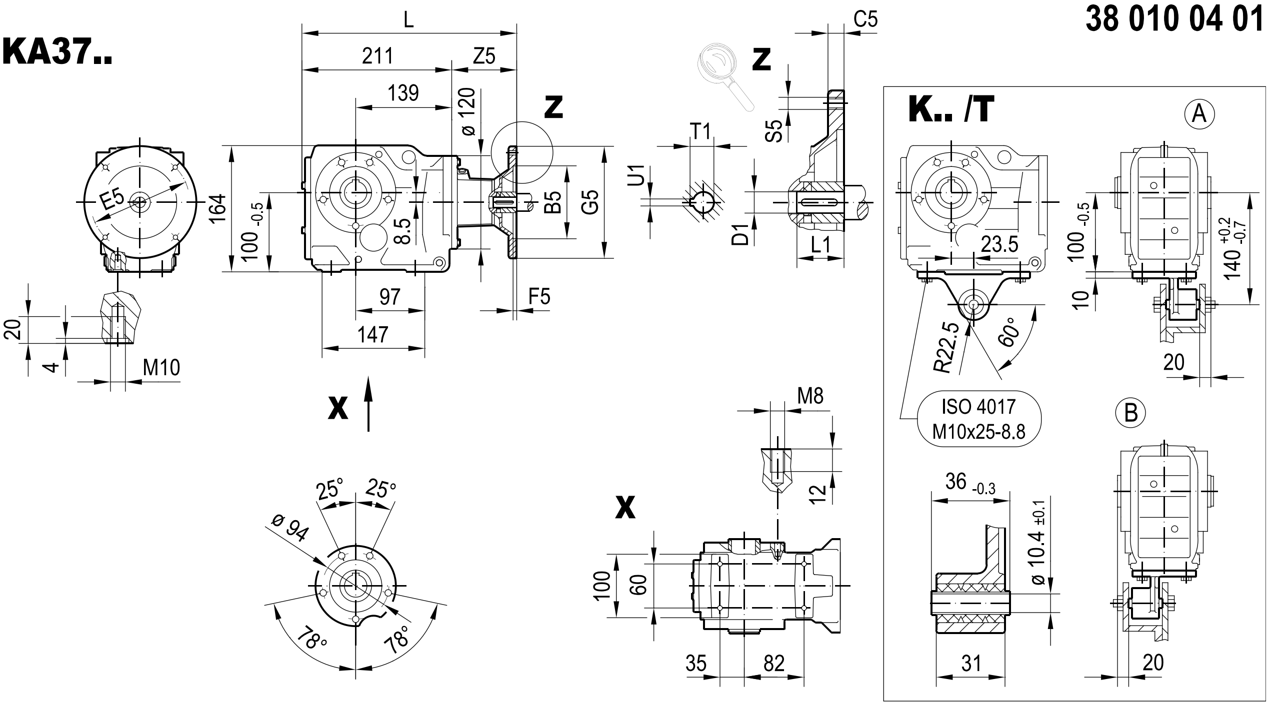
KA37..

38 010 04 01



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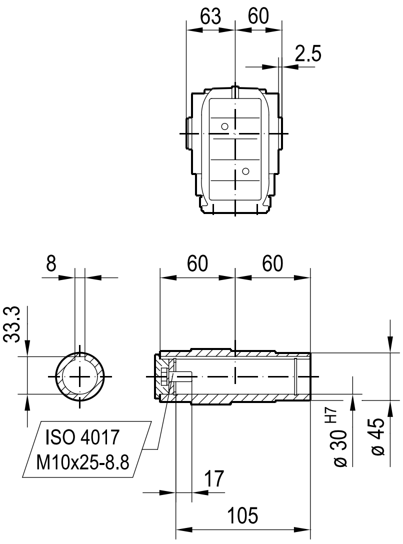

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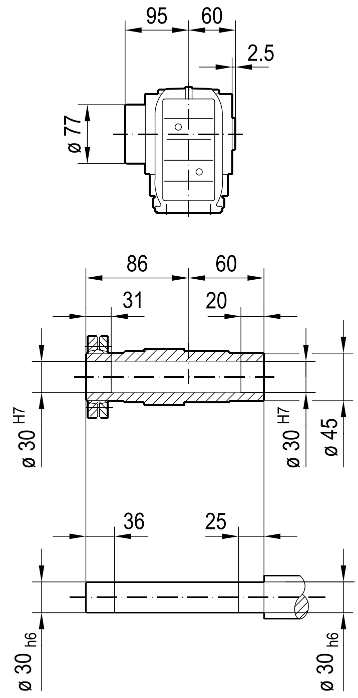

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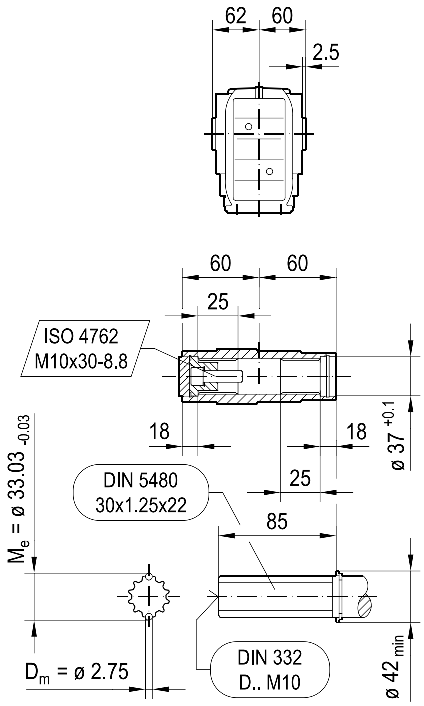

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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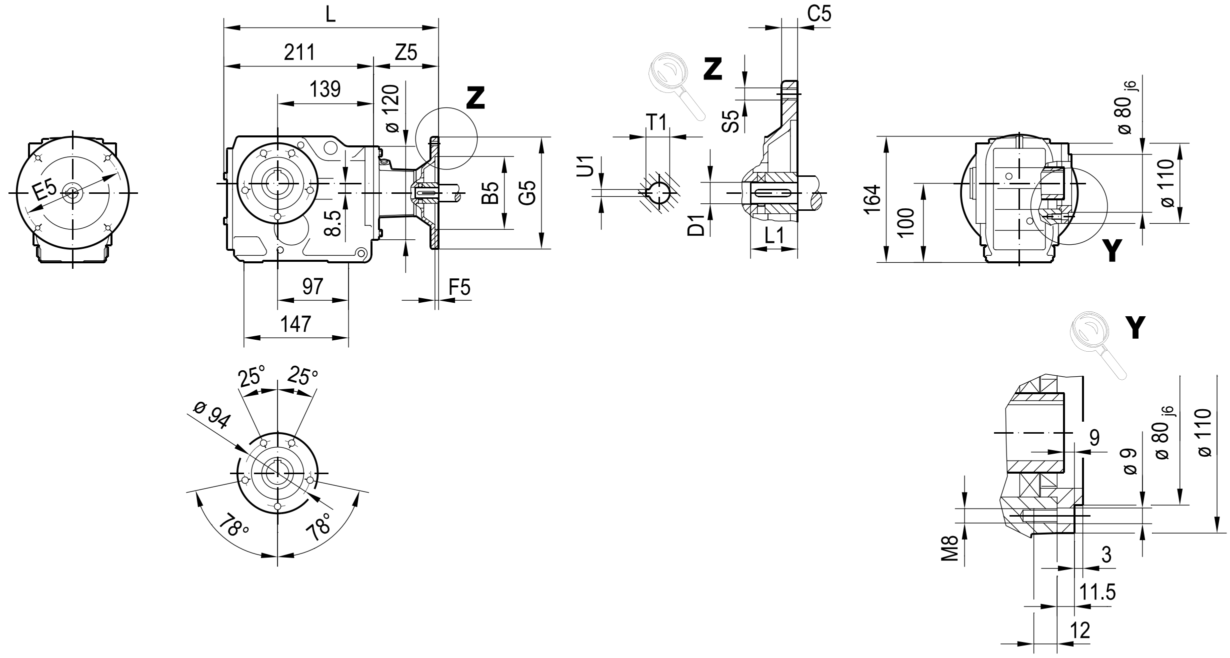
38 011 04 01

KAZ37..



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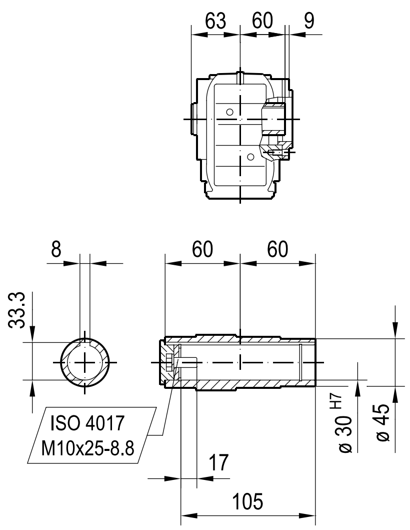

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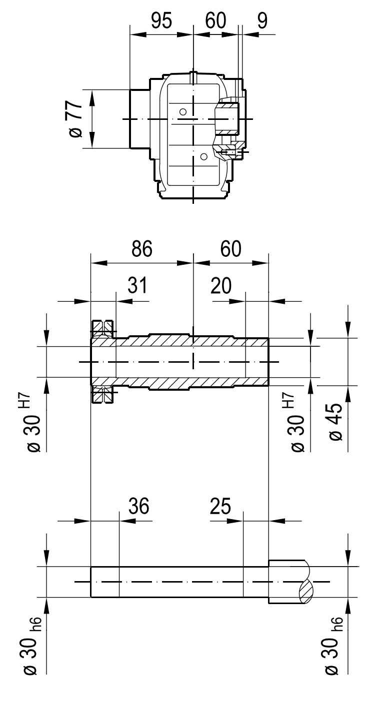

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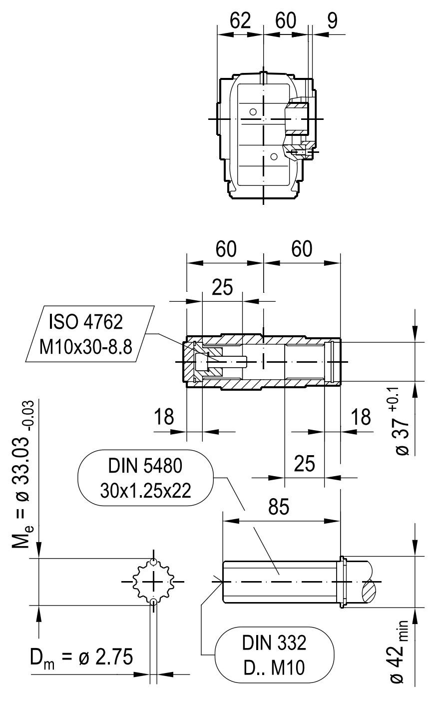

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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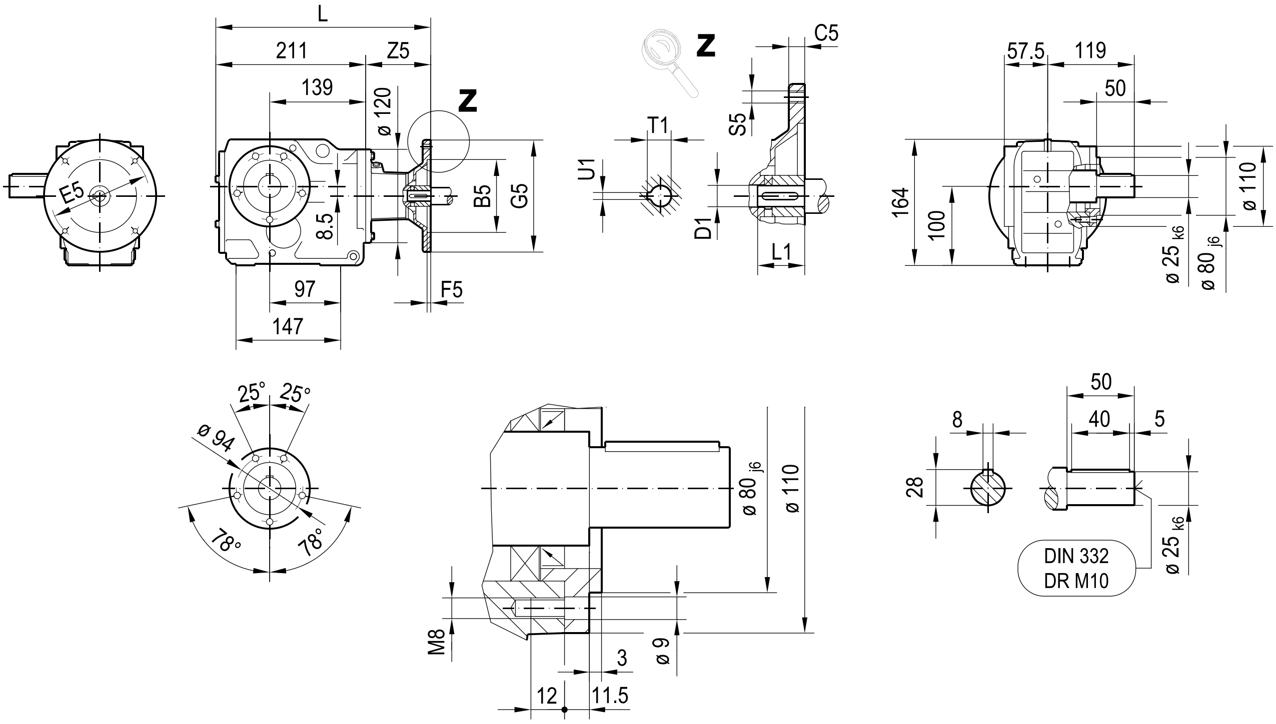
33 031 00 16

KZ37..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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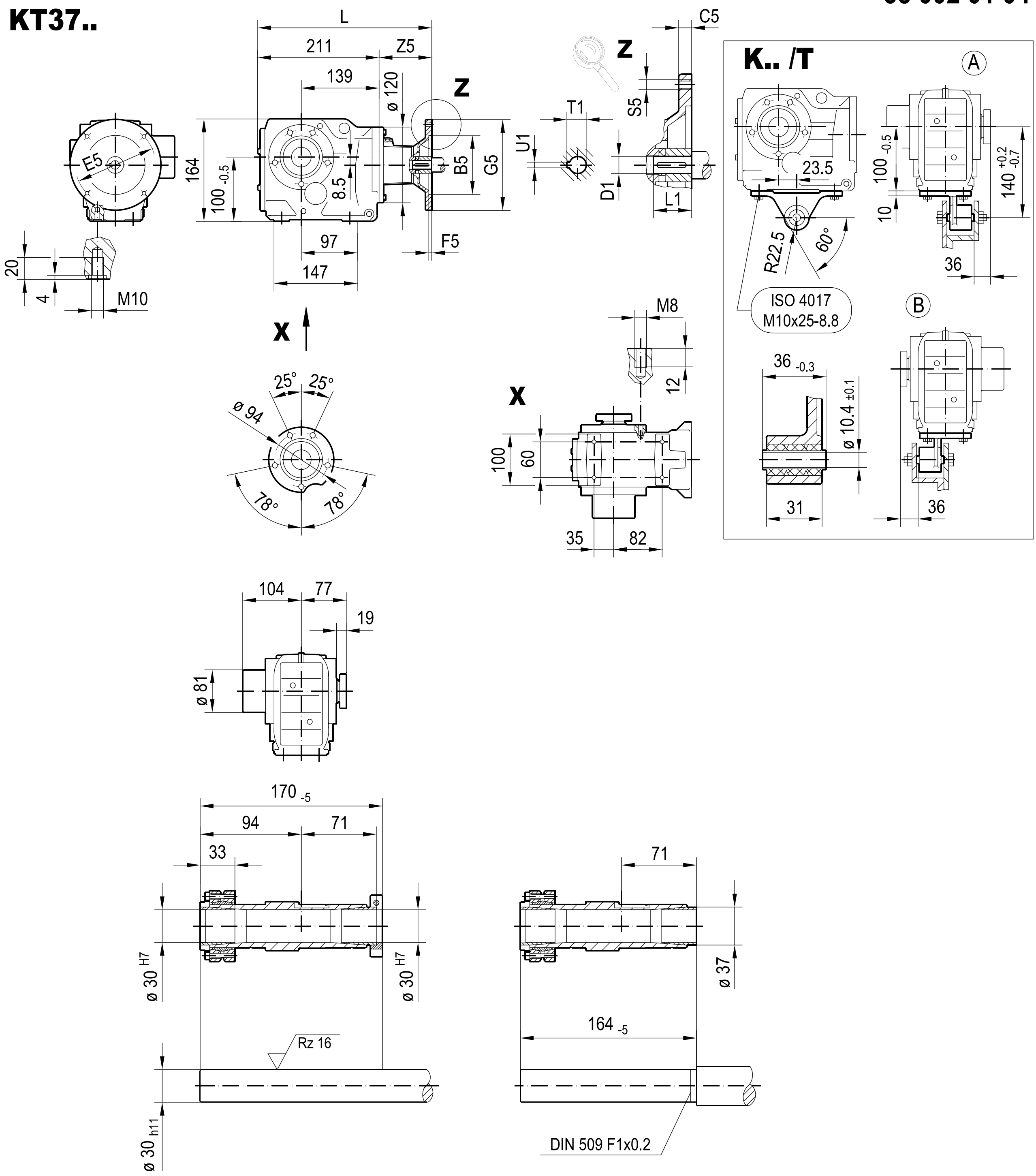
38 002 01 04

KT37..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM80	130	12	165	4.5	200	317	M10	106	19	40	21.8	6
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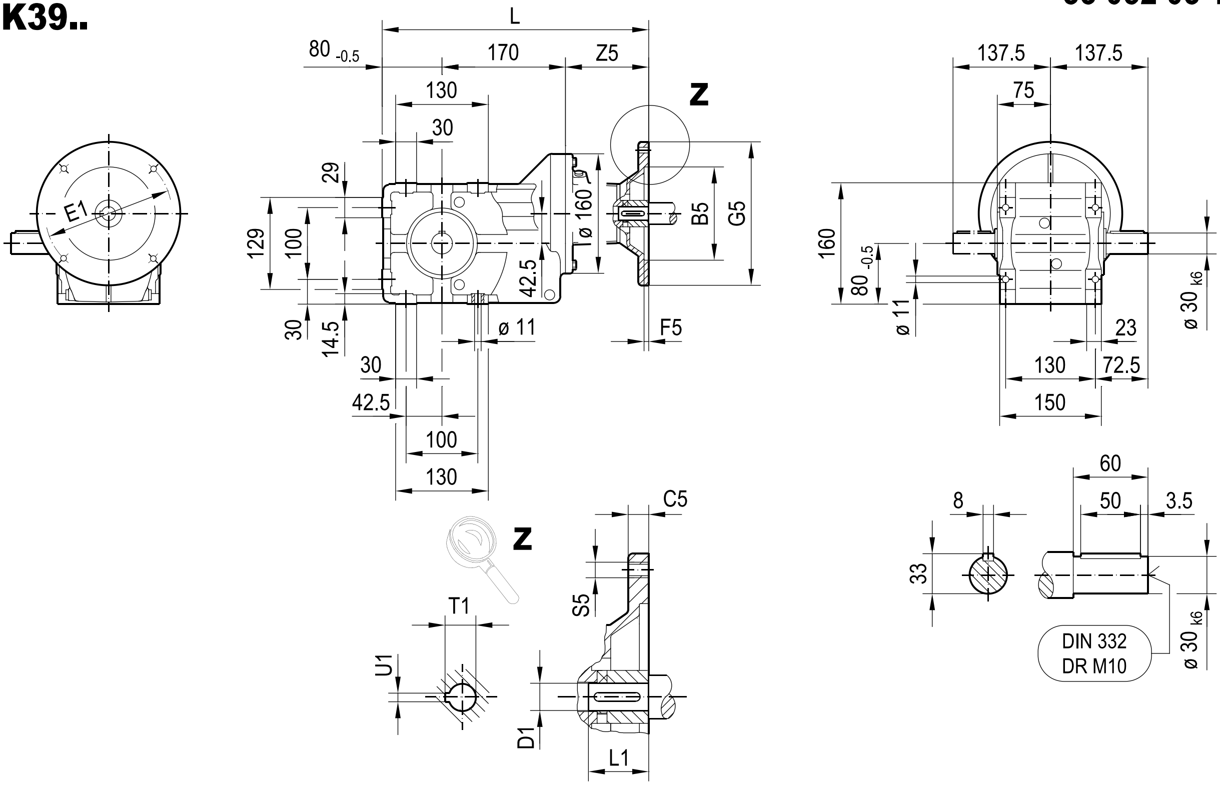
33 052 03 15

K39..



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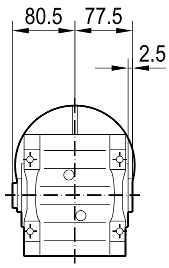

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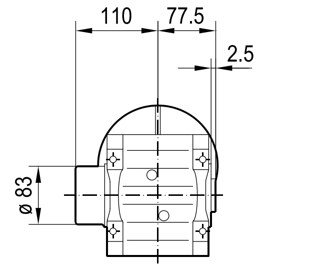

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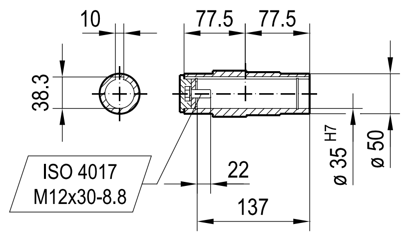
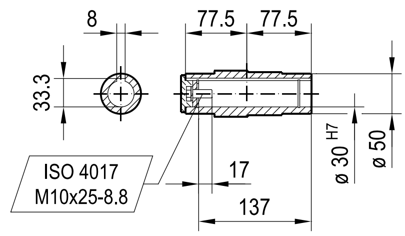
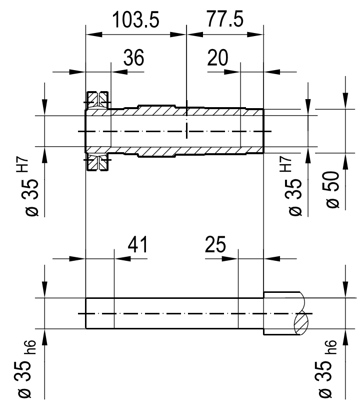


ø 30 H7





(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	316	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	349	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	349	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	384	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	384	M12	134	28	60	31.3	8

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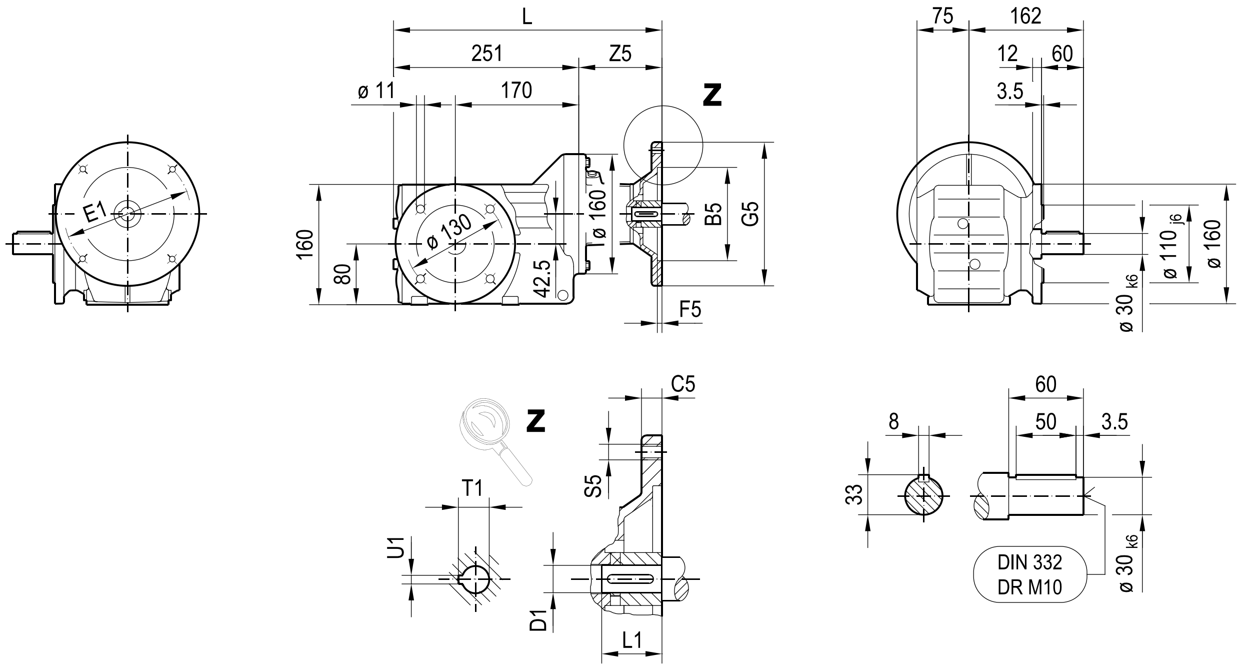
KF39..



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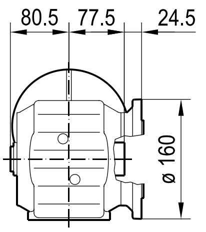

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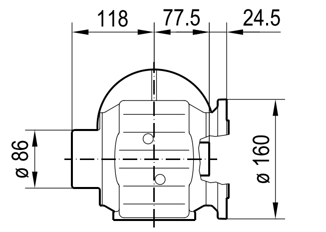

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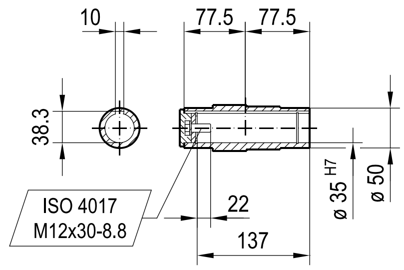

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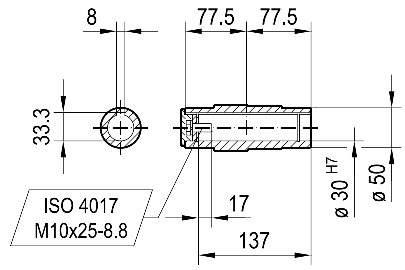

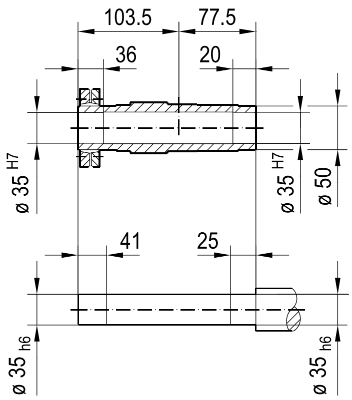

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	317	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	350	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	350	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	385	M12	134	28	60	31.3	8
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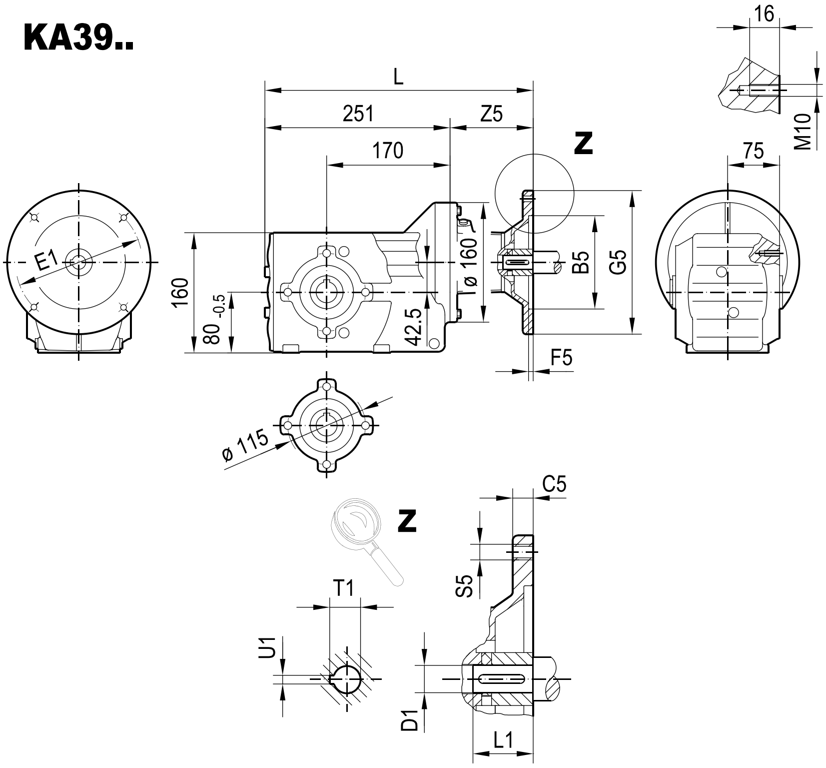
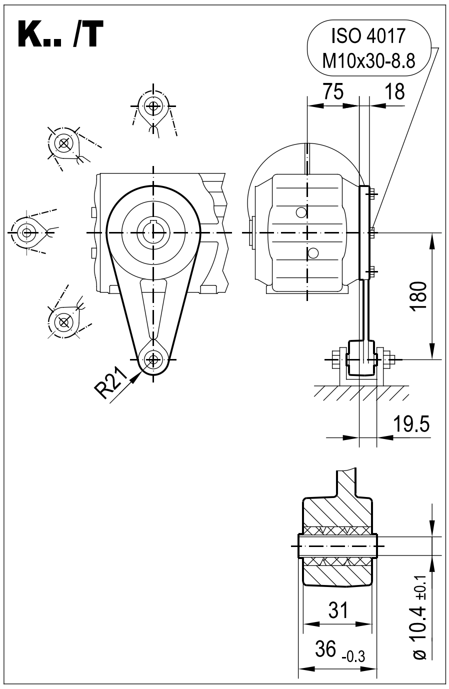
KA39..





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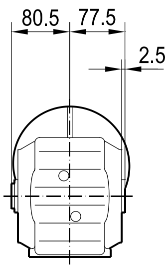

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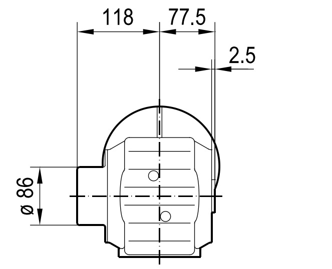

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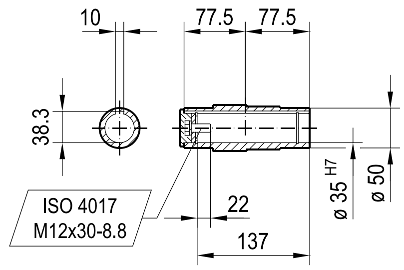

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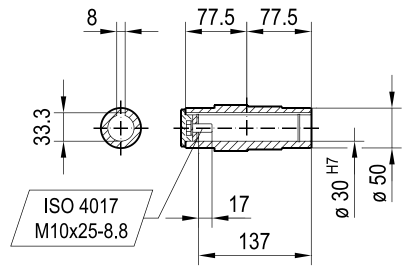

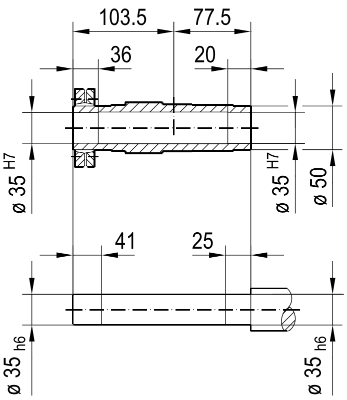

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	317	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	350	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	350	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	385	M12	134	28	60	31.3	8
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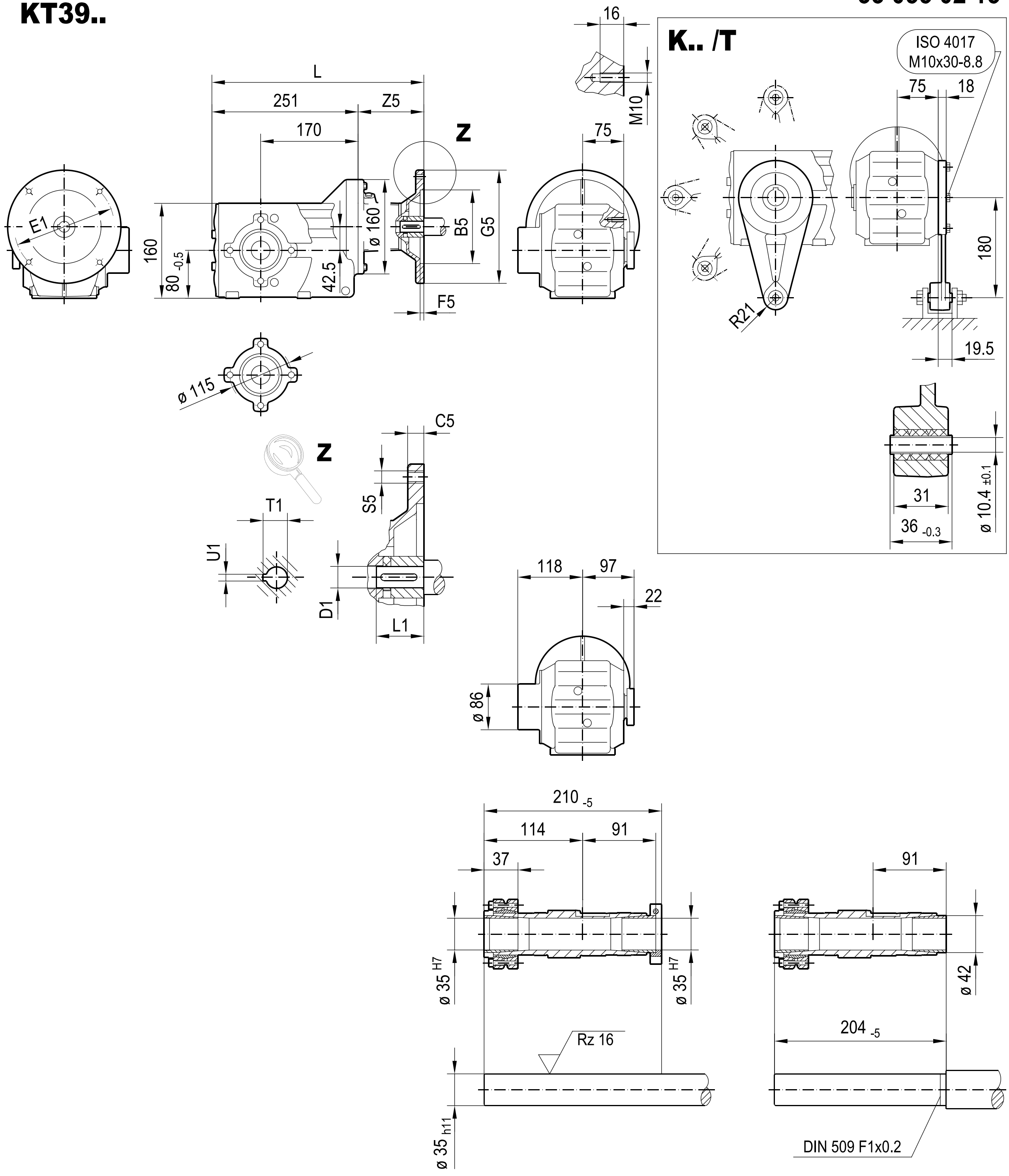

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	317	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	350	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	350	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	385	M12	134	28	60	31.3	8
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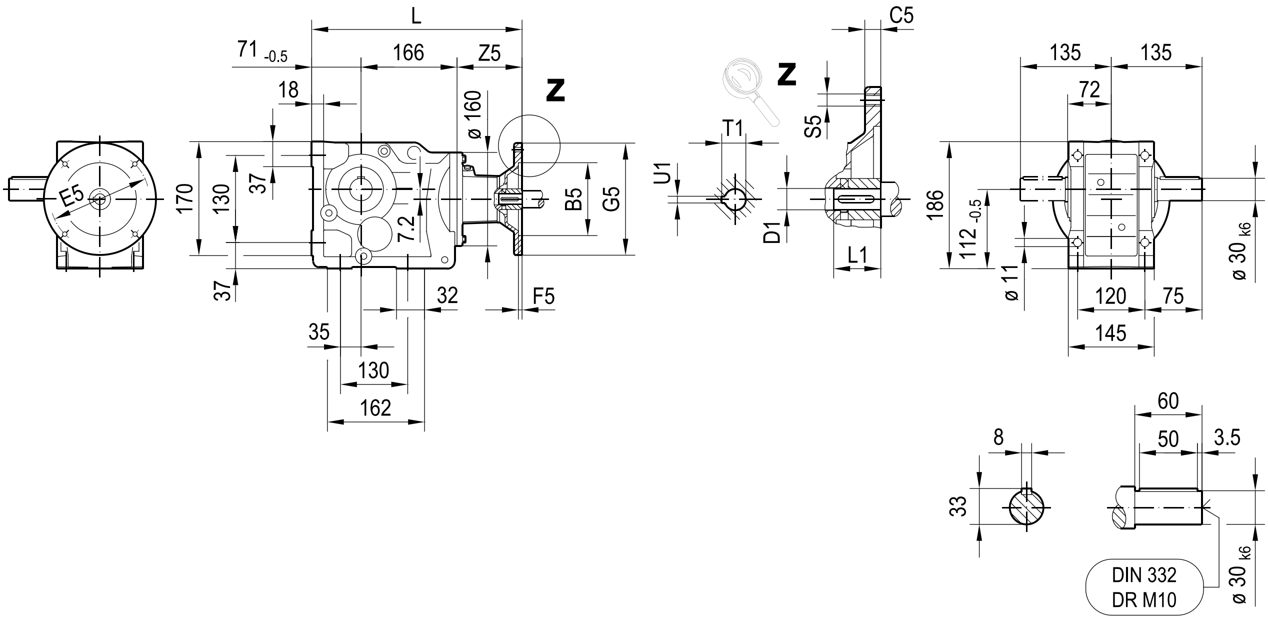
K47..



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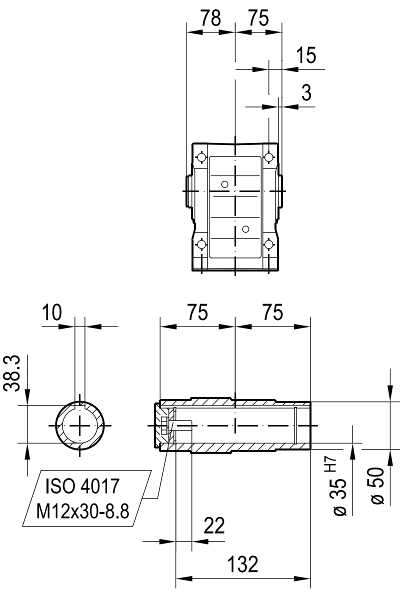

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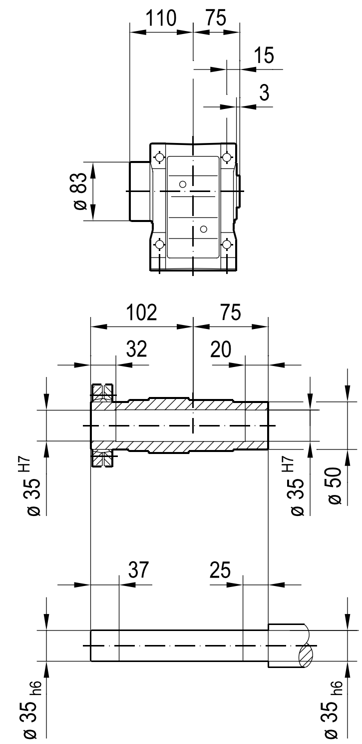

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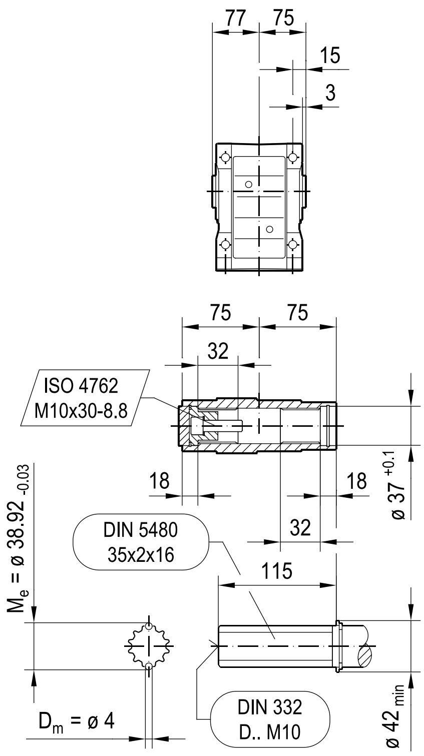

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	303	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	336	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	336	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	371	M12	134	28	60	31.3	8
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33 013 03 01

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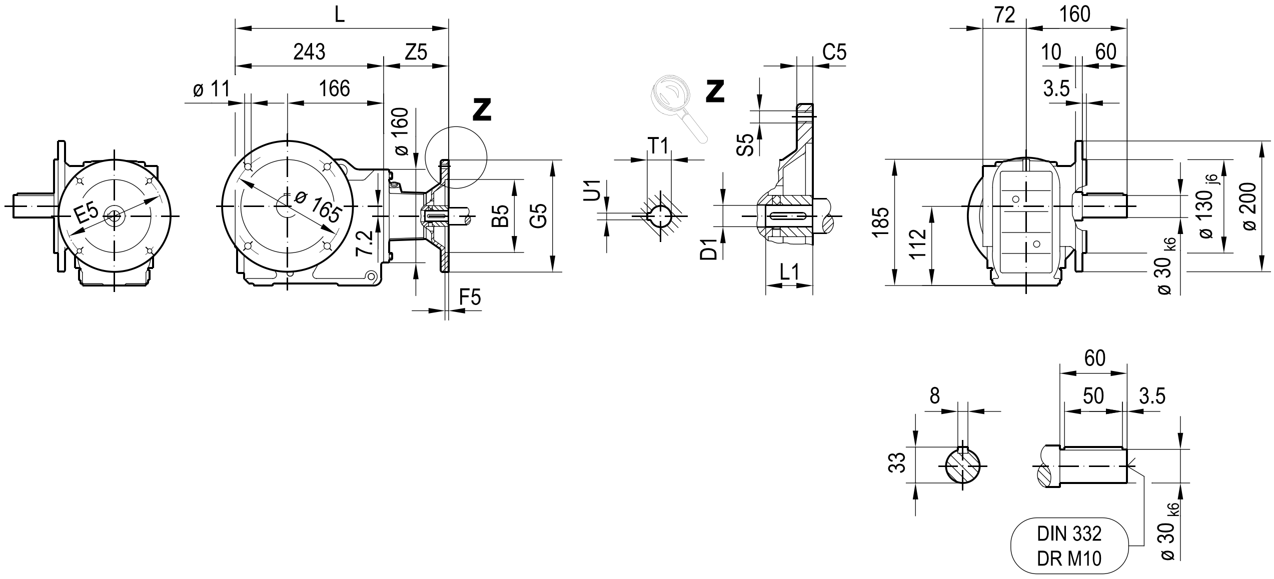

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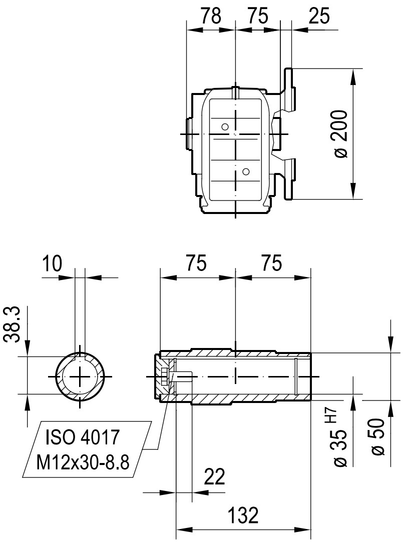

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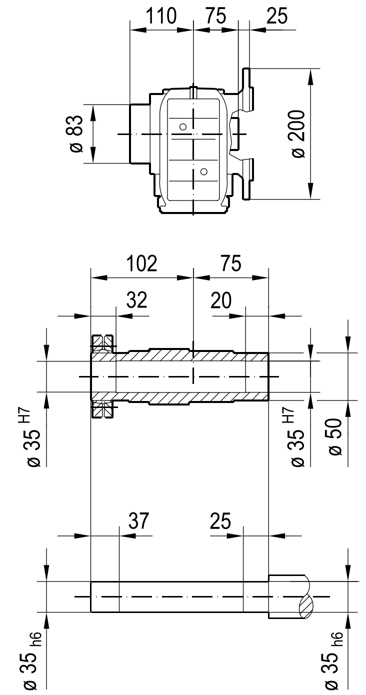

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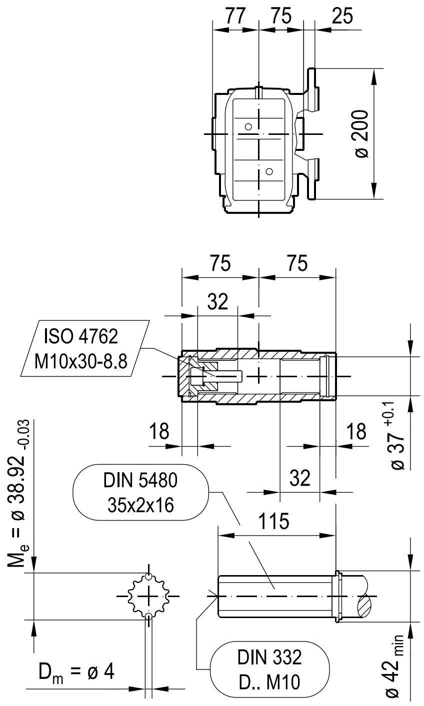

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	309	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	342	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	342	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	377	M12	134	28	60	31.3	8
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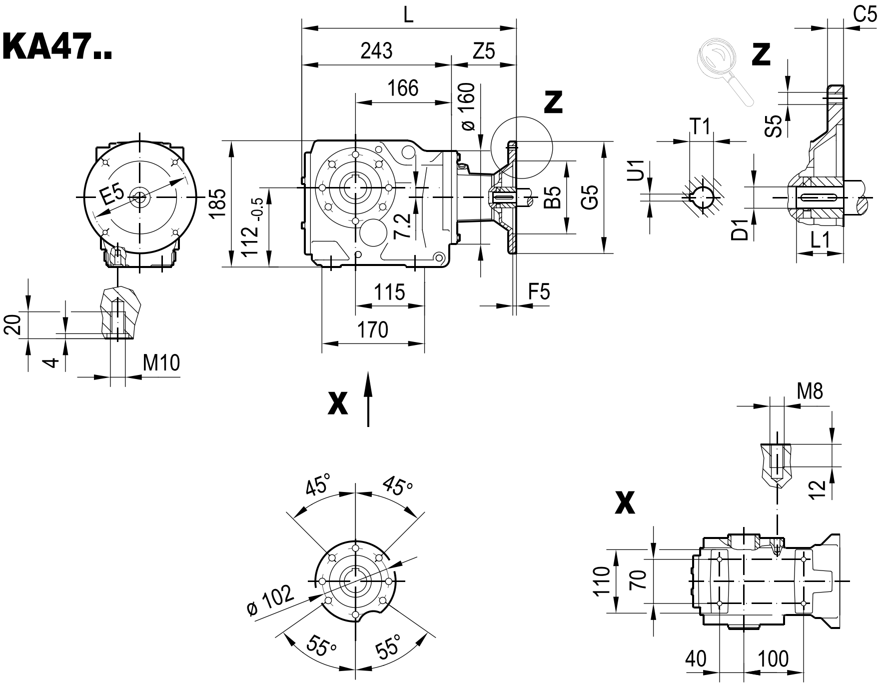
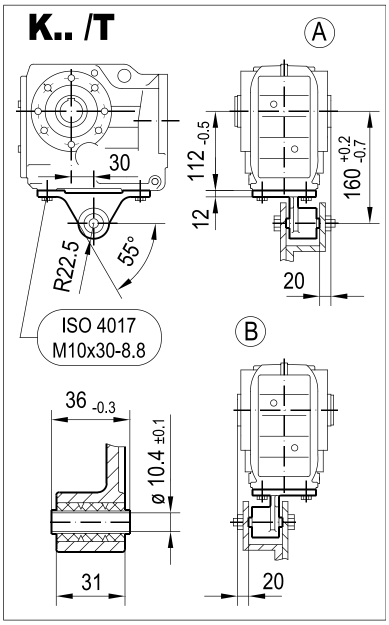
KA47..





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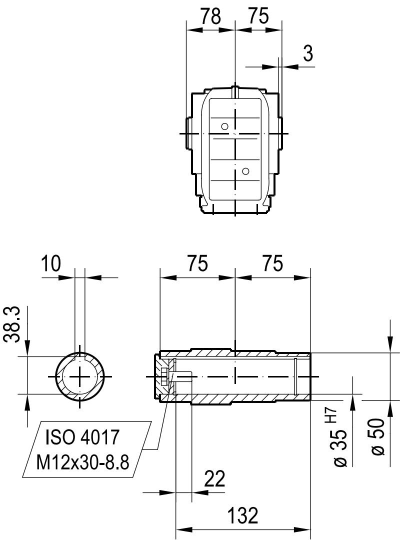

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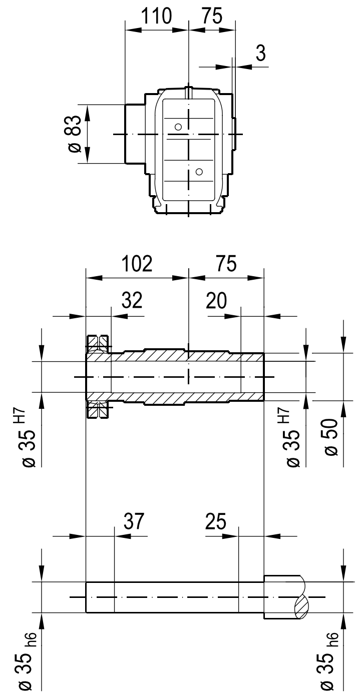

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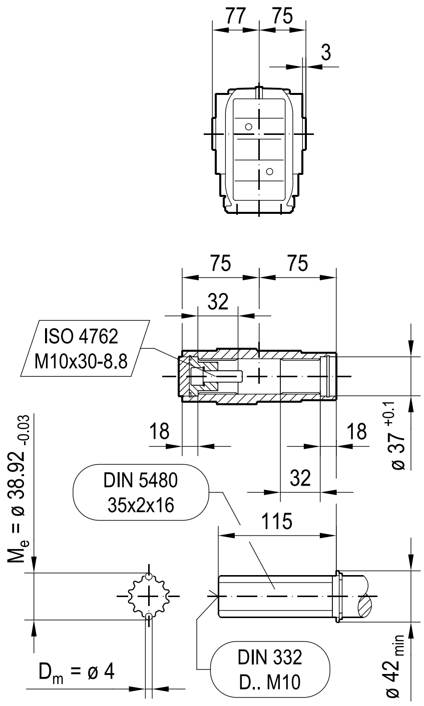

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM90	130	12	165	4.5	200	342	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	377	M12	134	28	60	31.3	8
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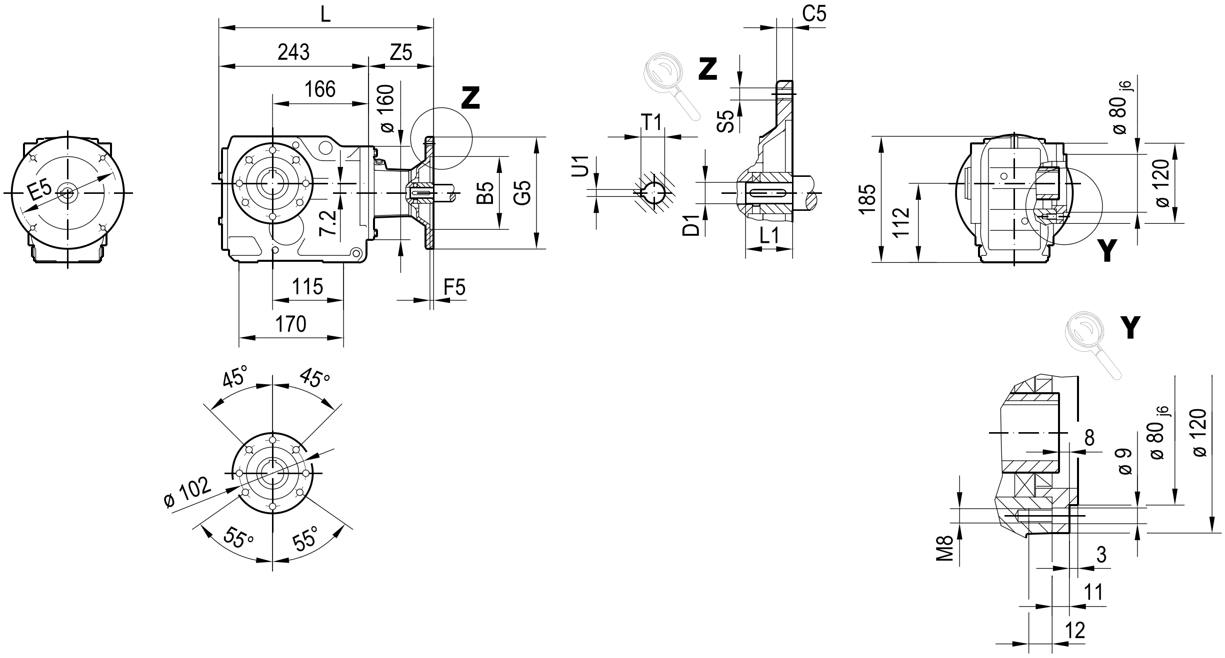

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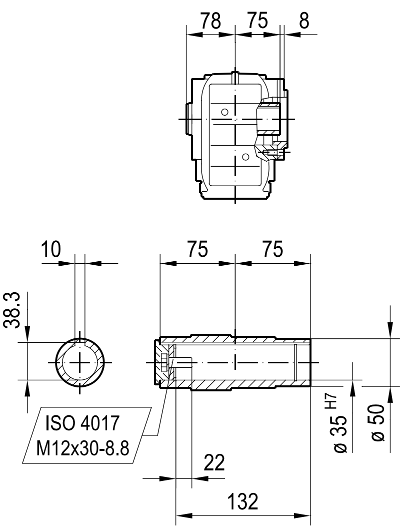

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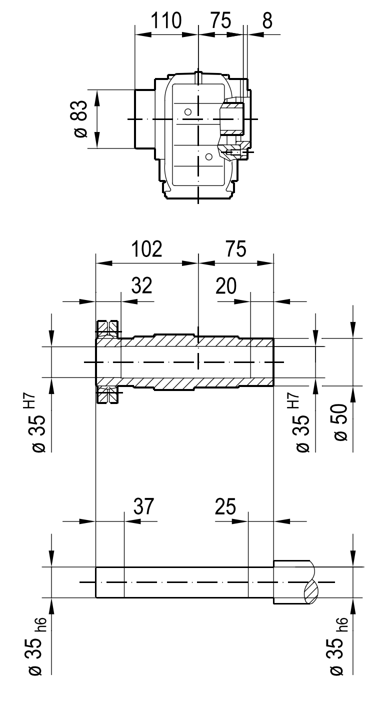

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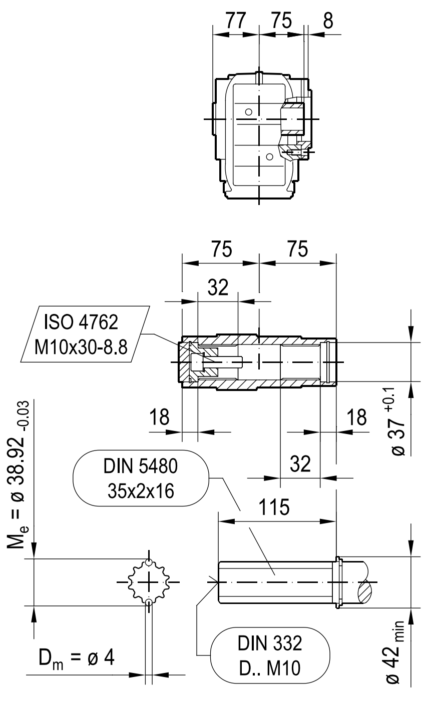

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM90	130	12	165	4.5	200	342	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	377	M12	134	28	60	31.3	8
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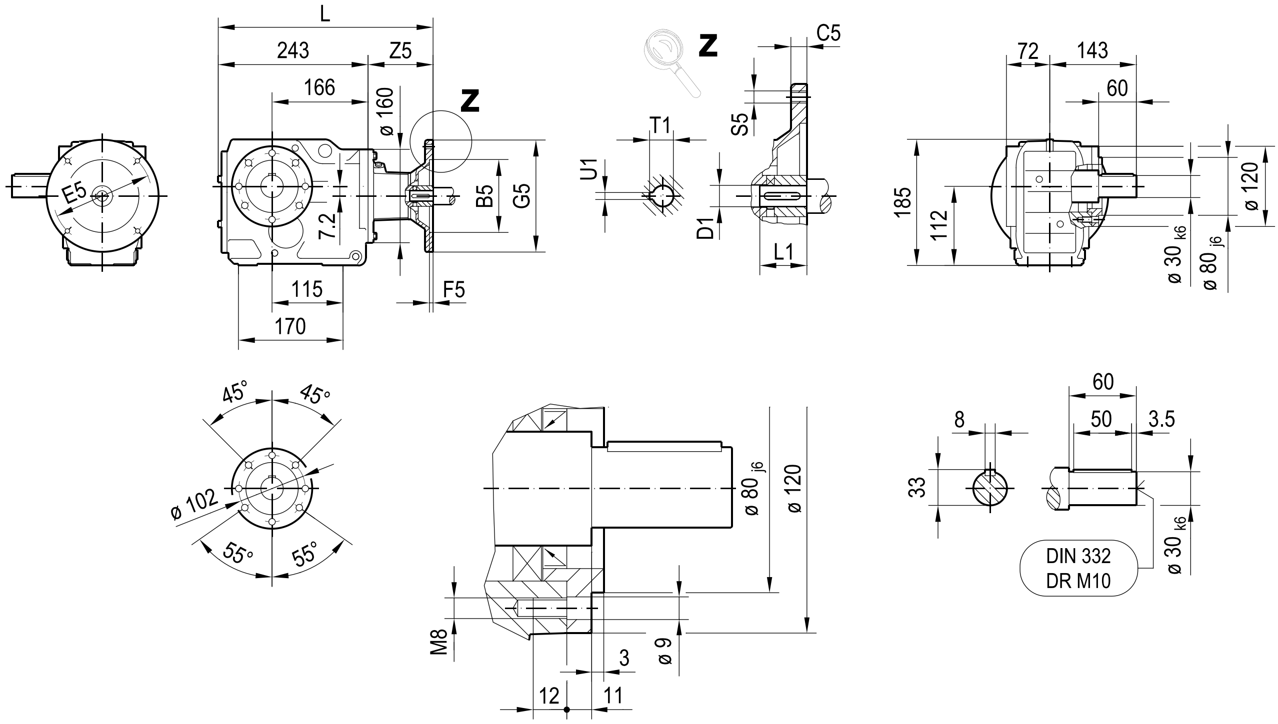

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	309	M8	66	14	30	16.3	5
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AM90	130	12	165	4.5	200	342	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	377	M12	134	28	60	31.3	8
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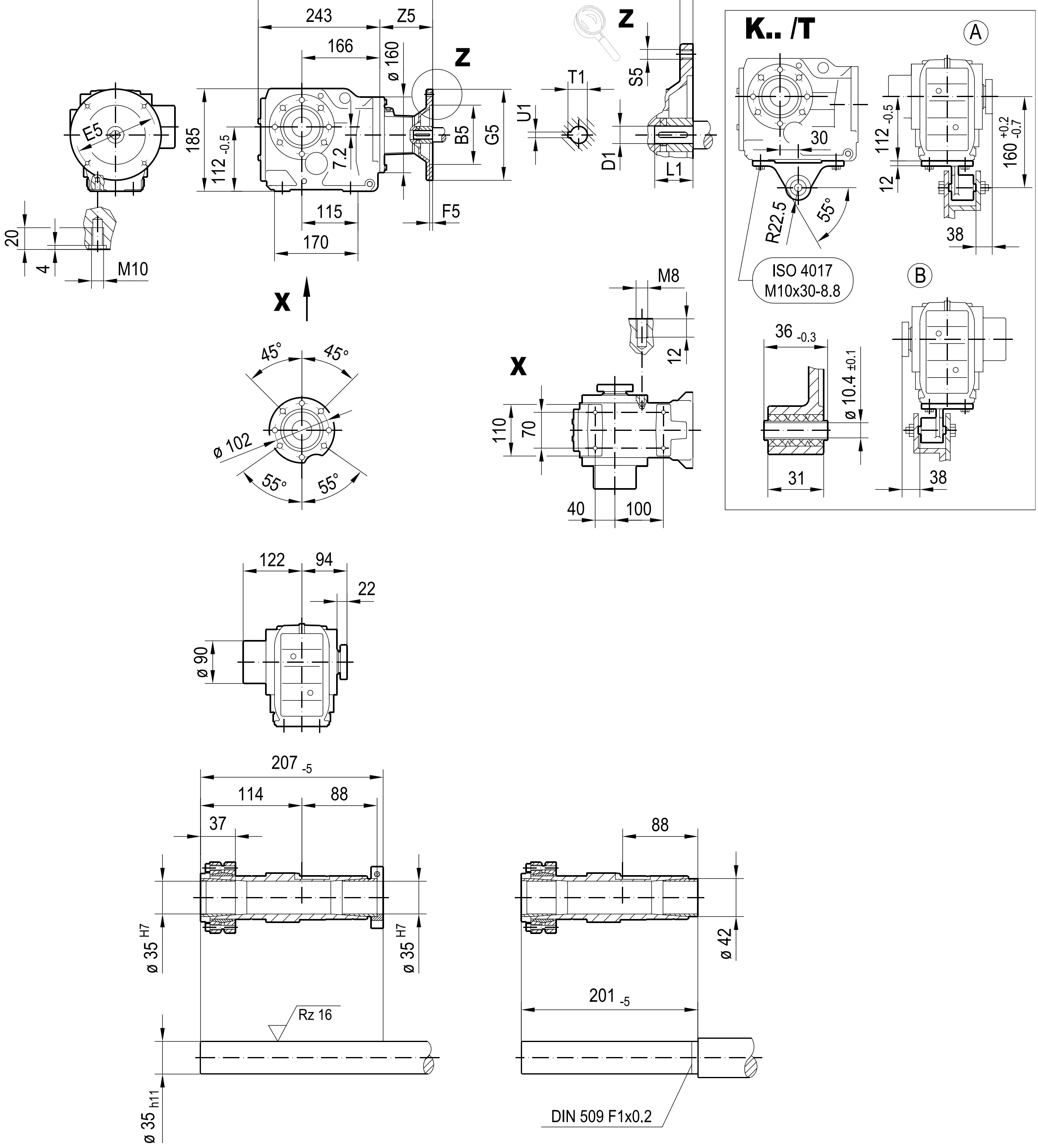
KT47..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	309	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	342	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	342	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	377	M12	134	28	60	31.3	8
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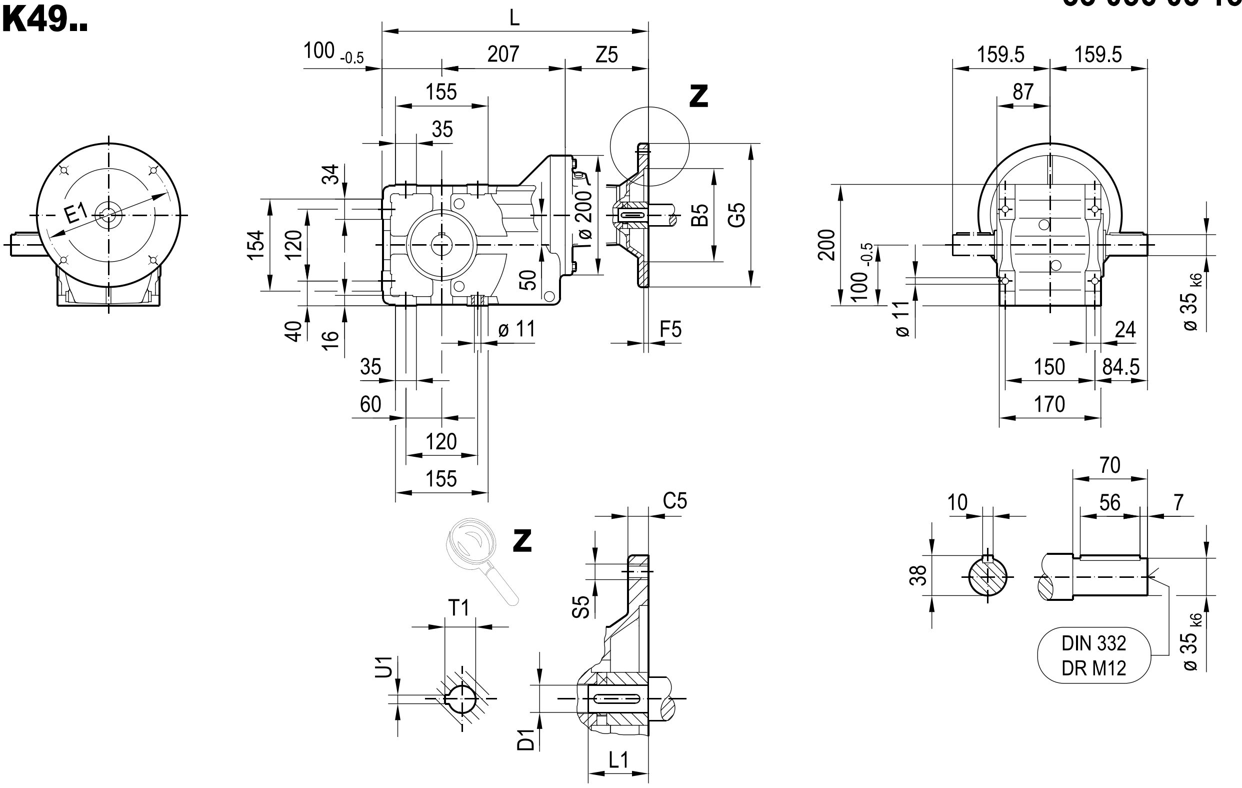
33 056 03 15

K49..



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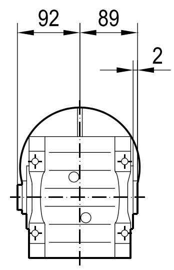

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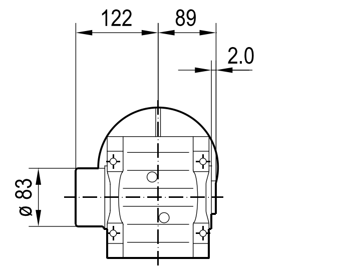

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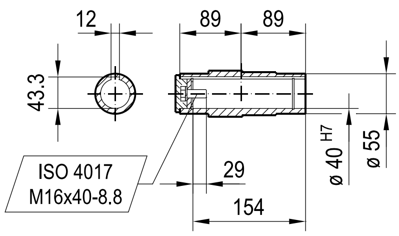

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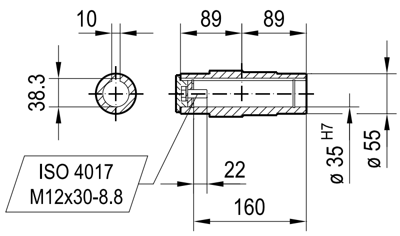

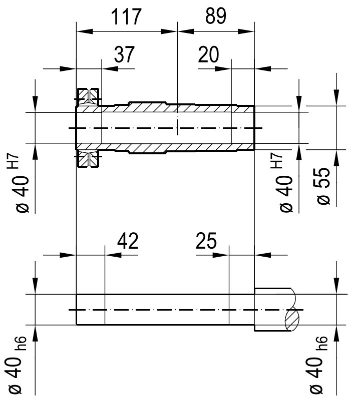

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	367	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	399	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	399	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	433	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	433	M12	126	28	60	31.3	8
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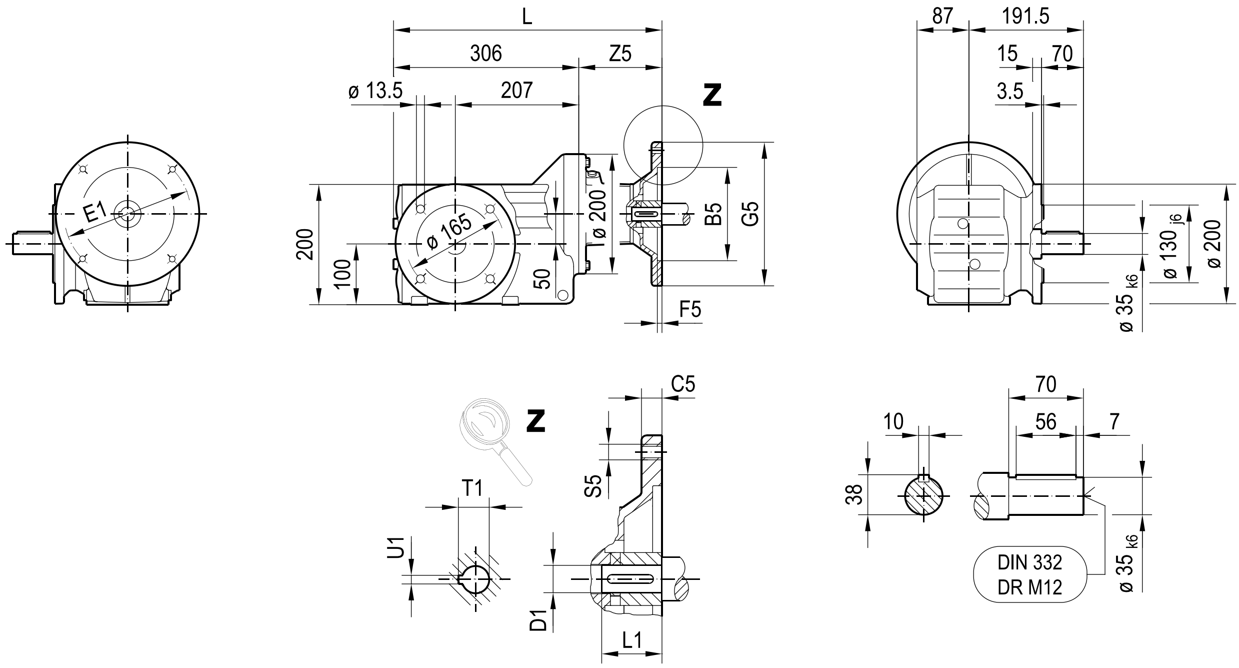
KF49..



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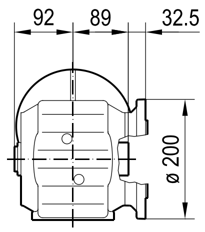

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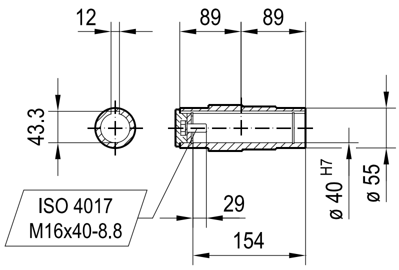

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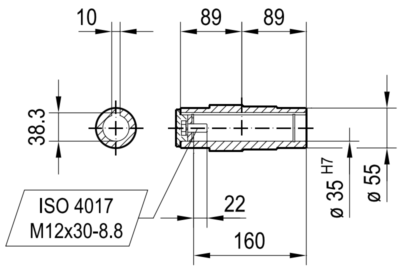

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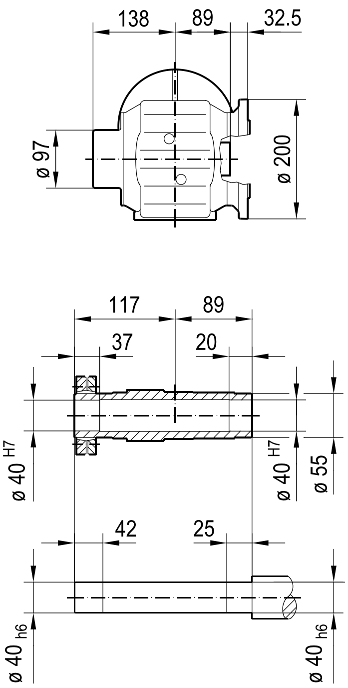

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	366	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	398	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	398	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	432	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	432	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	485	M12	179	38	80	41.3	10

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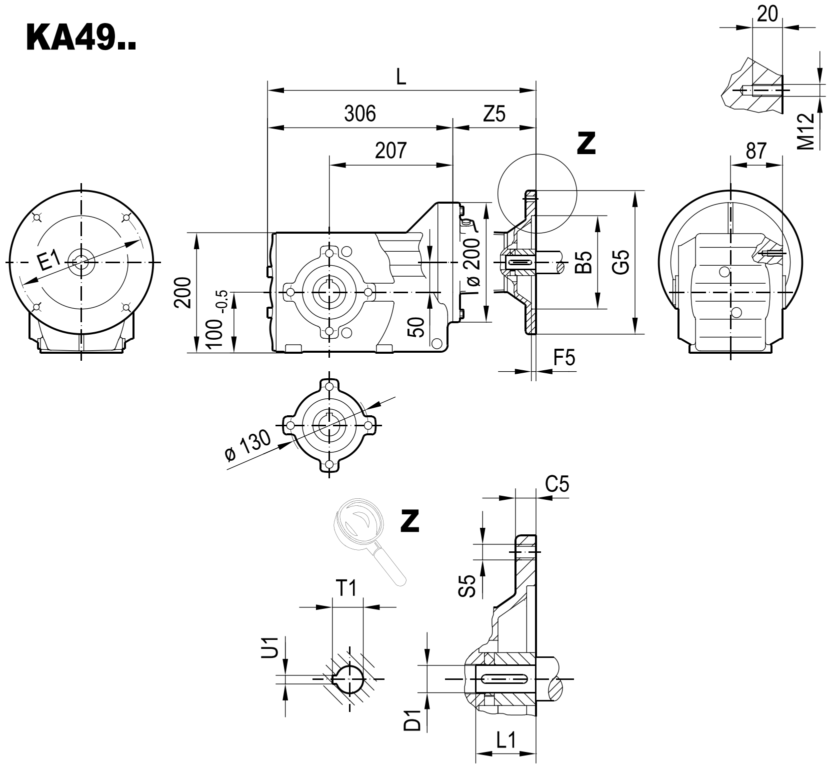
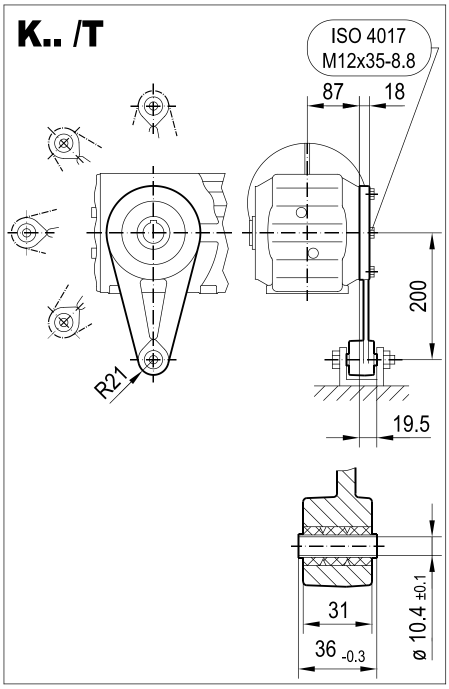
KA49..





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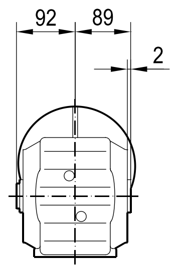

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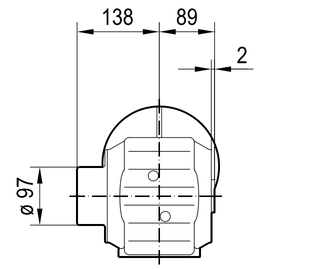

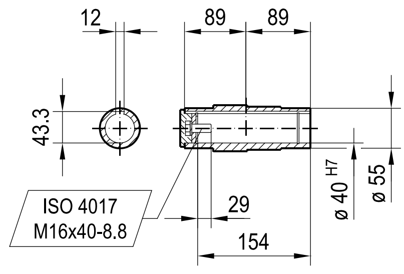

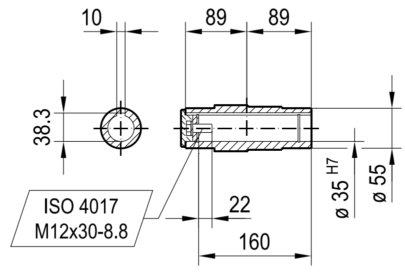

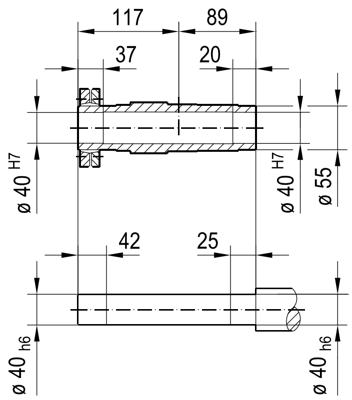

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	366	M8	60	11	23	12.8	4
AM71	110	10	130	4	160	366	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	398	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	398	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	432	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	432	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	485	M12	179	38	80	41.3	10

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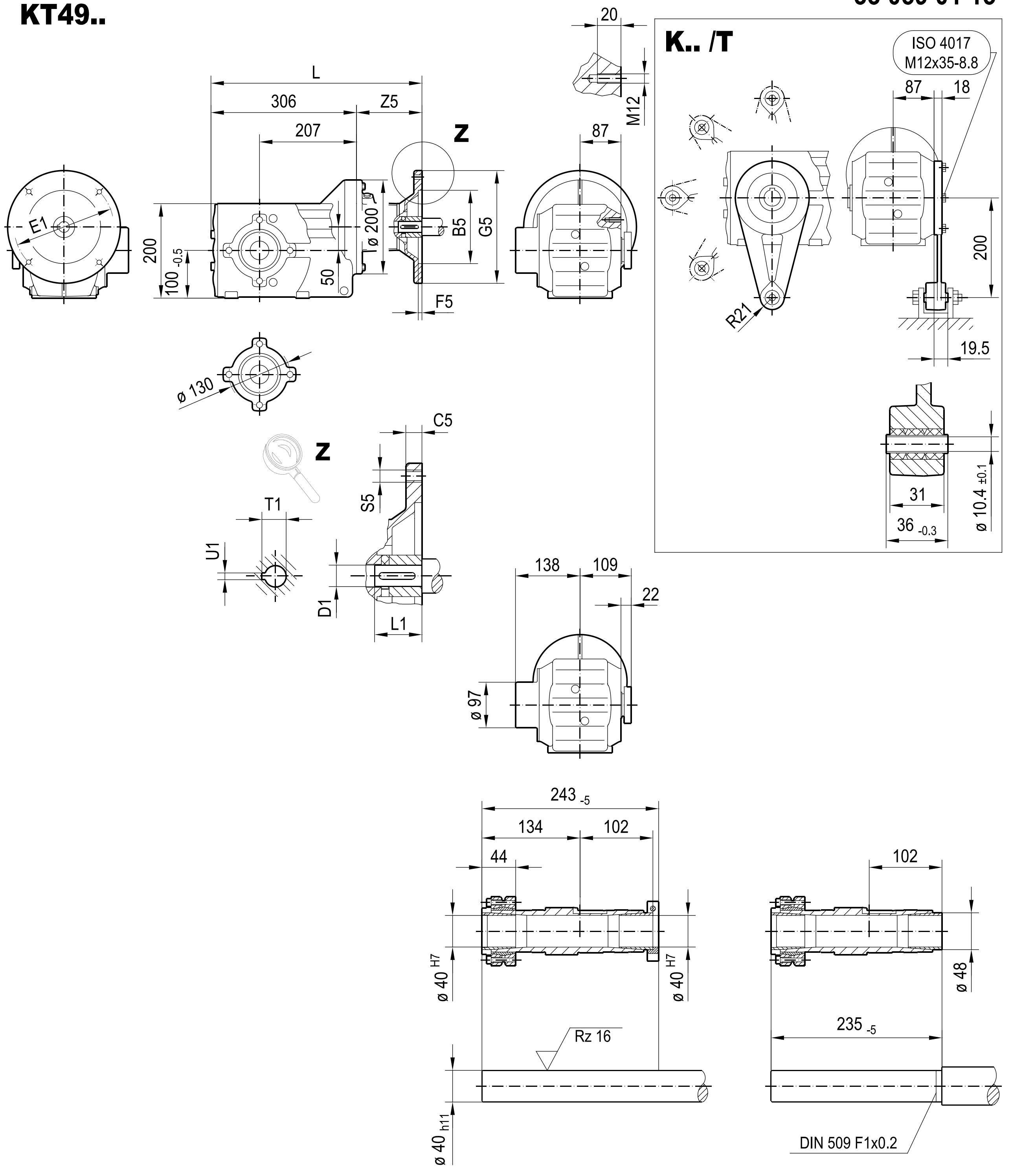
KT49..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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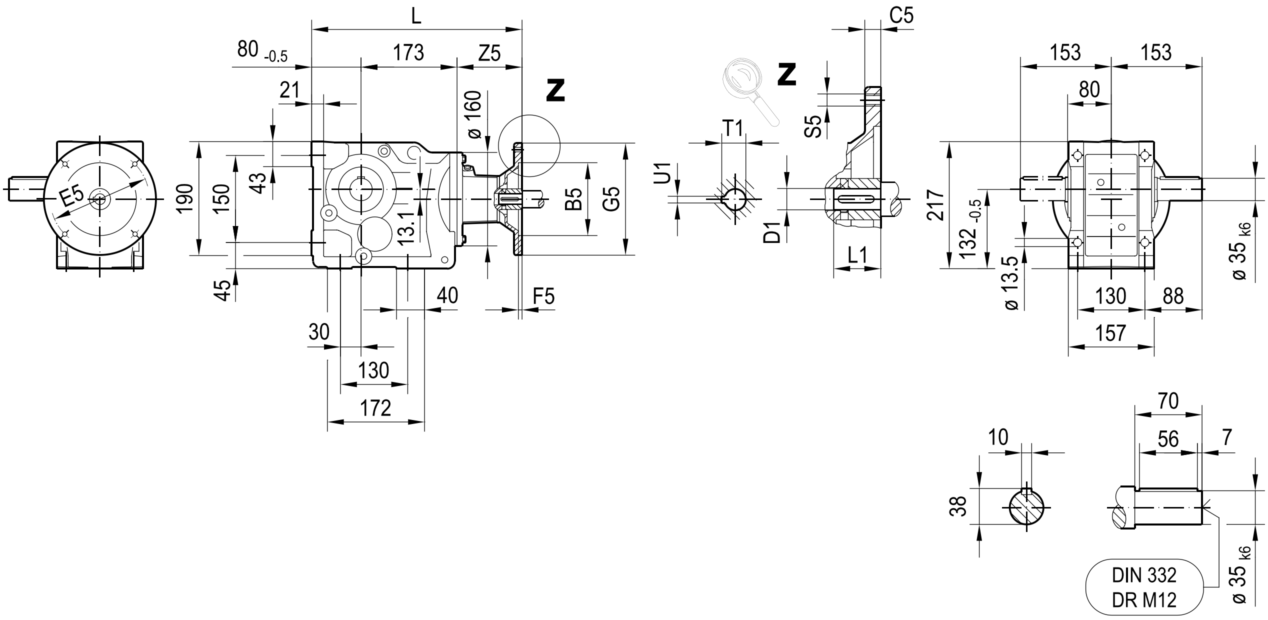
AM71	110	10	130	4	160	366	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	398	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	398	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	432	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	432	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	485	M12	179	38	80	41.3	10

33 014 03 01

K57..



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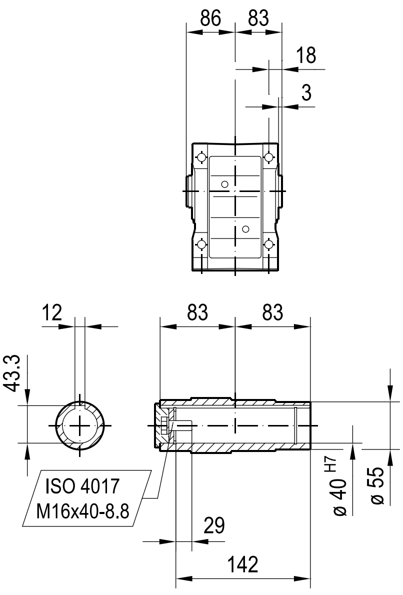

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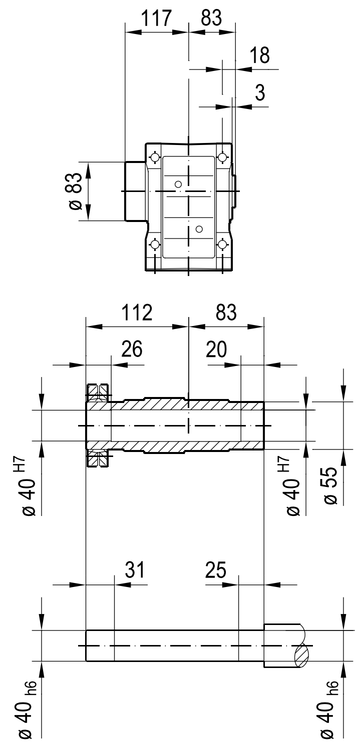

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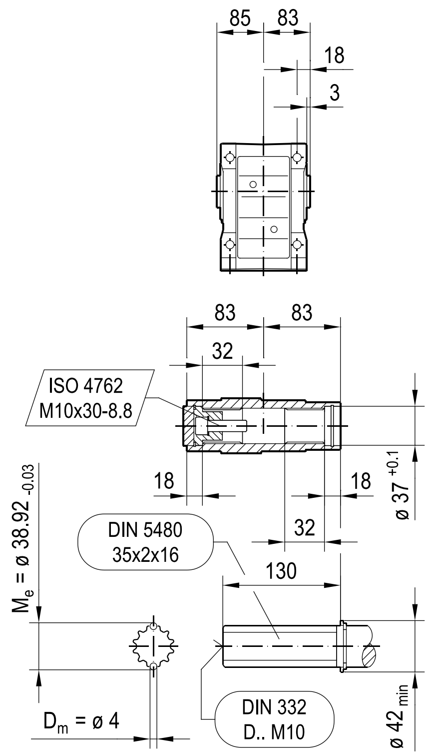

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	319	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	352	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	352	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	387	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	387	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	444	M12	191	38	80	41.3	10

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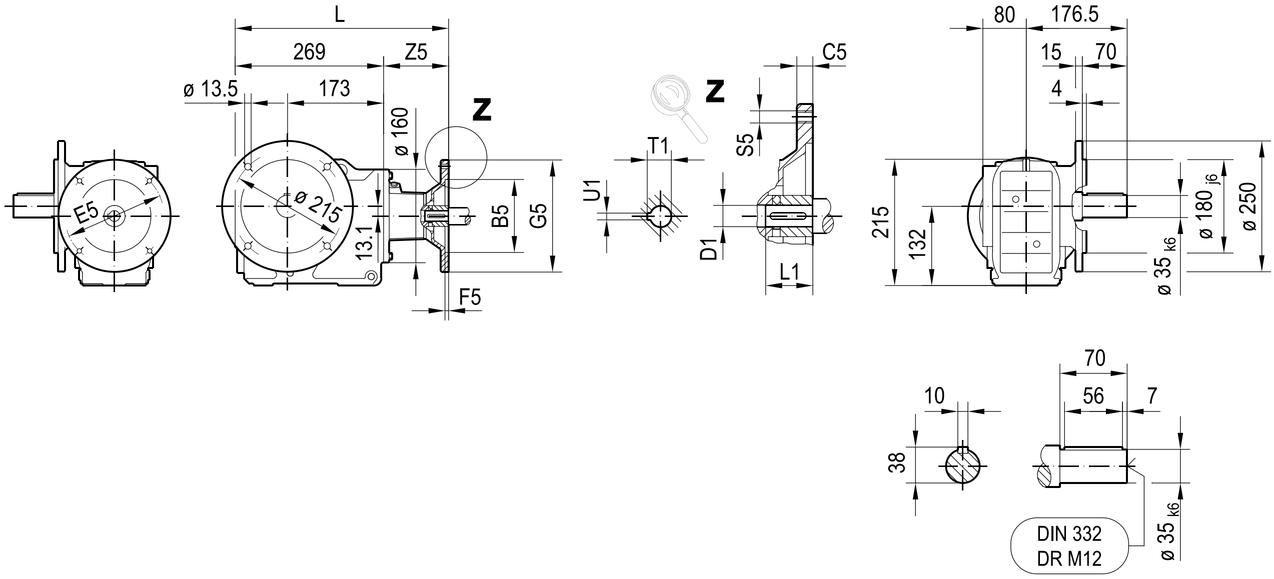
KF57..



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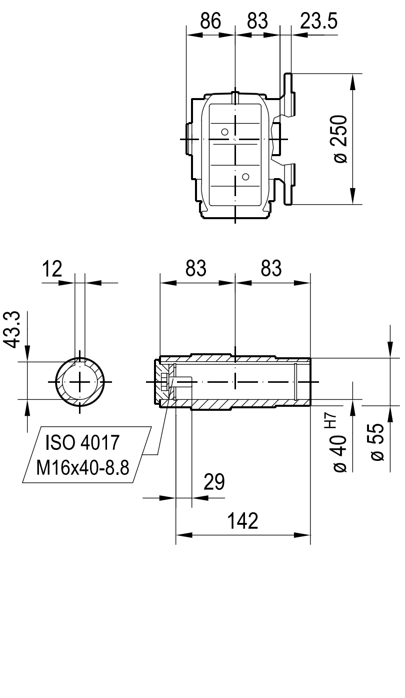

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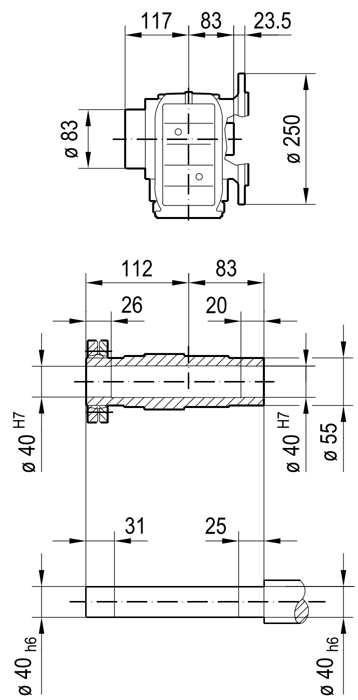

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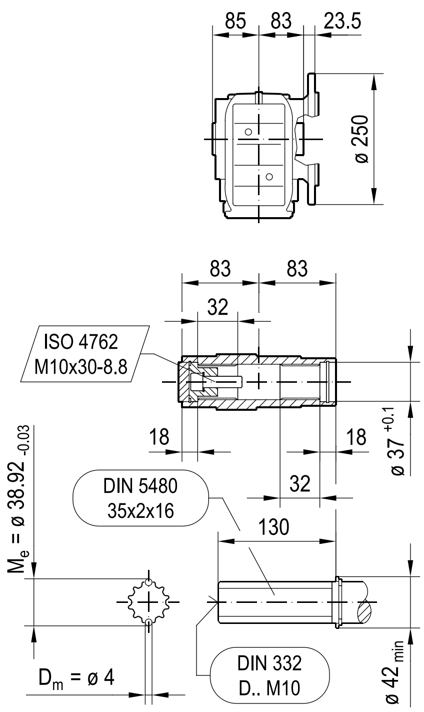

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	335	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	335	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	368	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	368	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	403	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	403	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	460	M12	191	38	80	41.3	10

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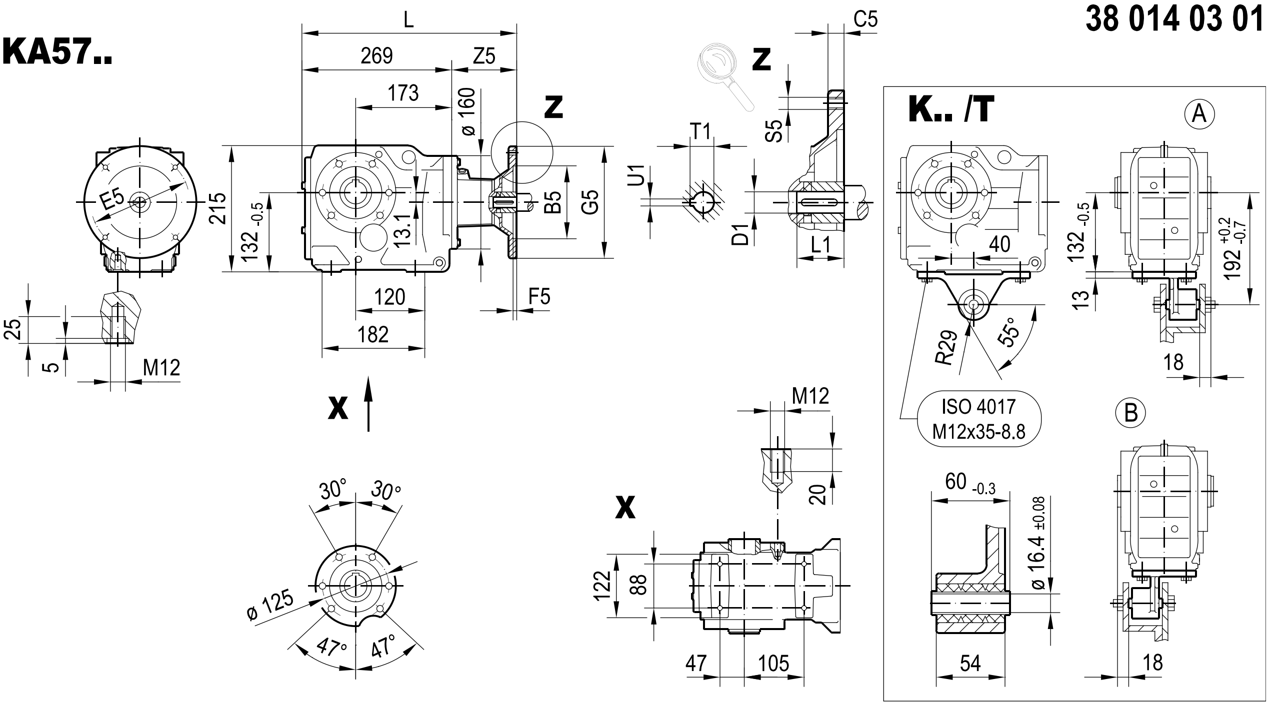
KA57..



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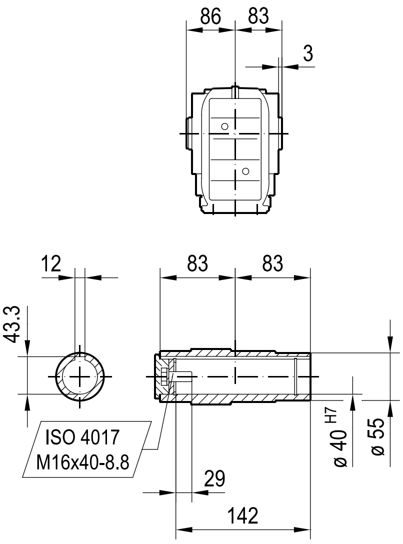

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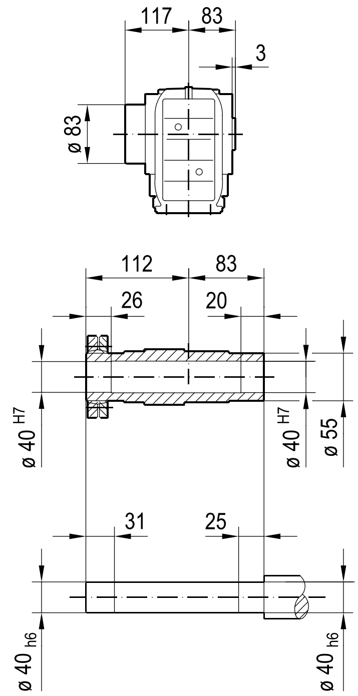

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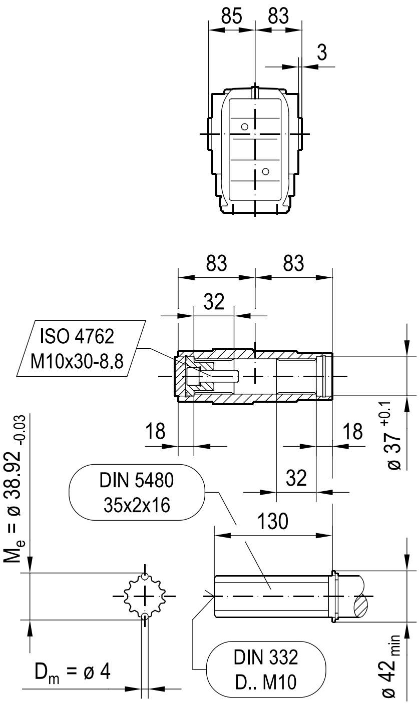

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	335	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	368	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	368	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	403	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	403	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	460	M12	191	38	80	41.3	10

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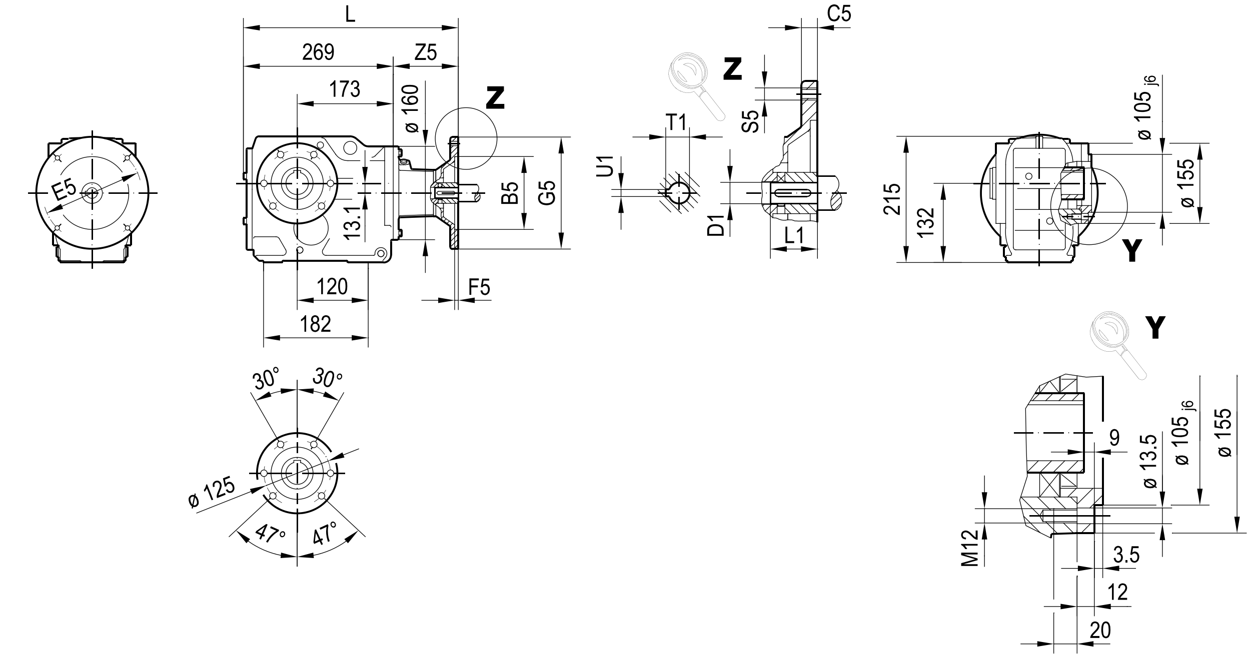

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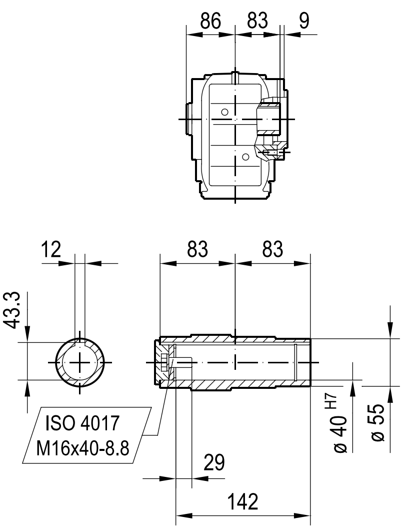

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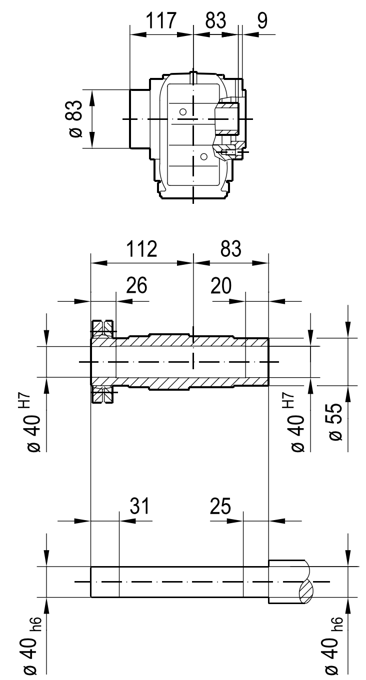

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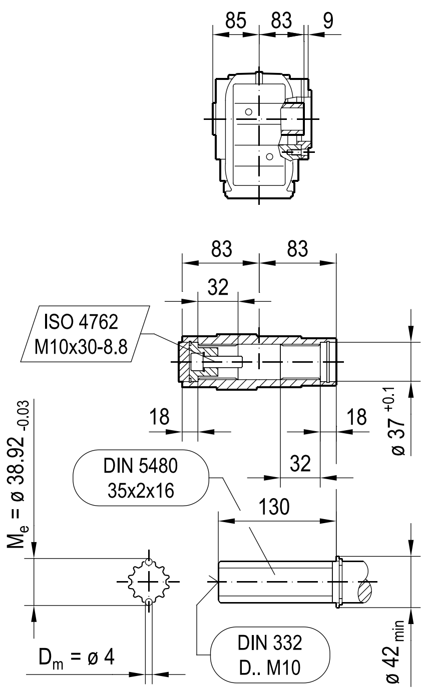

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	335	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	368	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	368	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	403	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	403	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	460	M12	191	38	80	41.3	10

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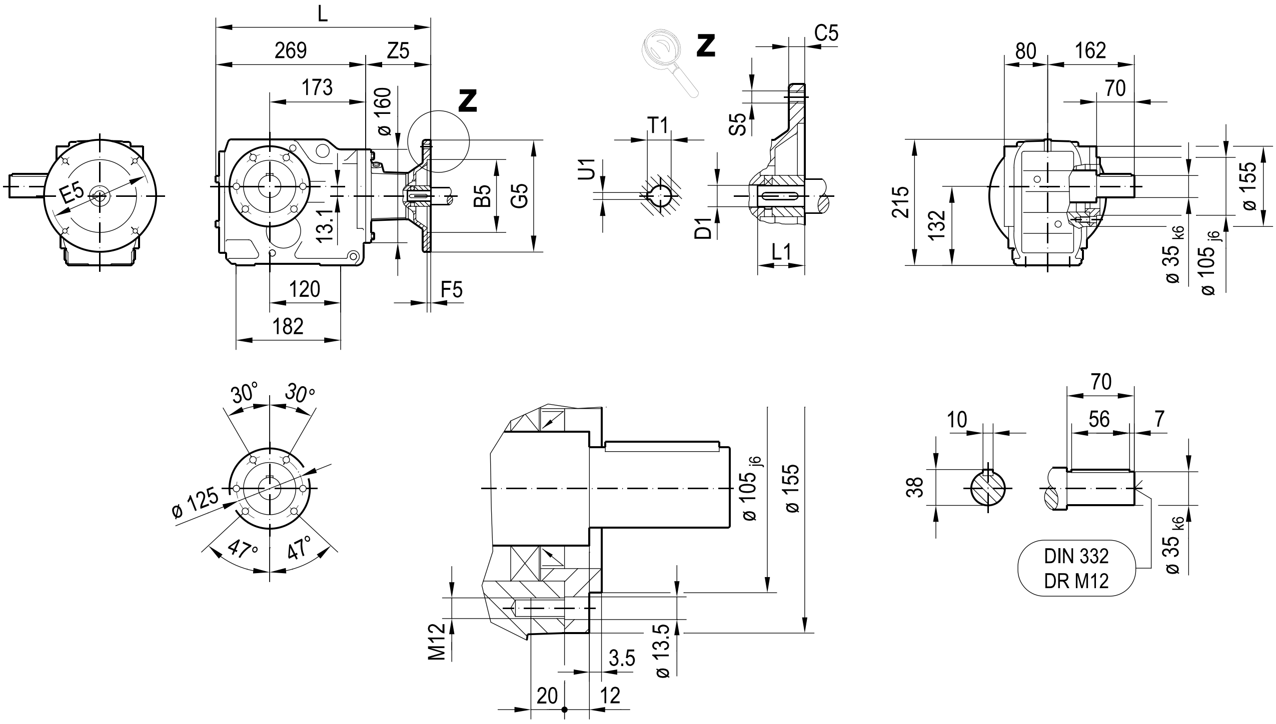
KZ57..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	335	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	335	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	368	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	368	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	403	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	403	M12	134	28	60	31.3	8
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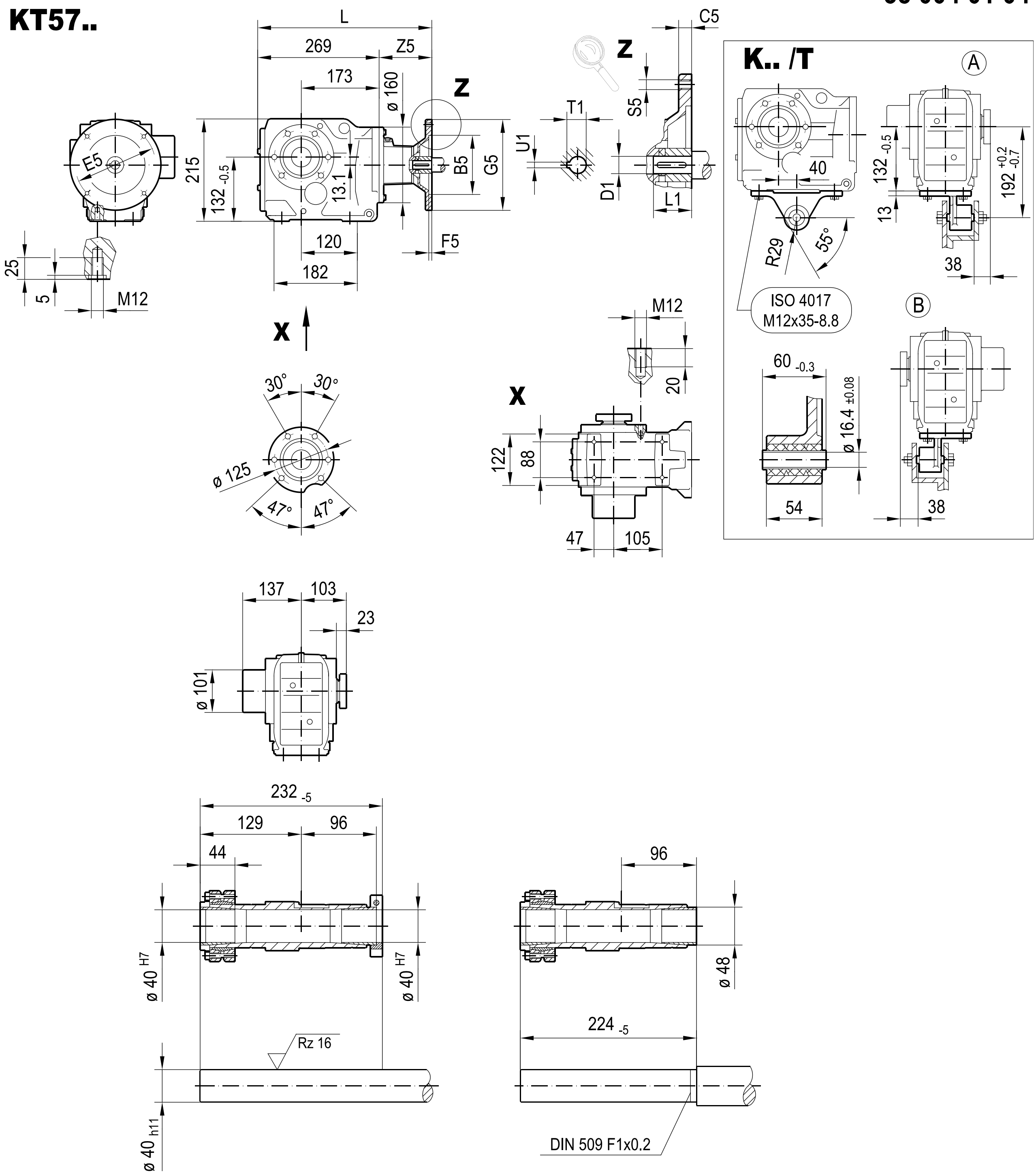

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	335	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	368	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	368	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	403	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	403	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	460	M12	191	38	80	41.3	10

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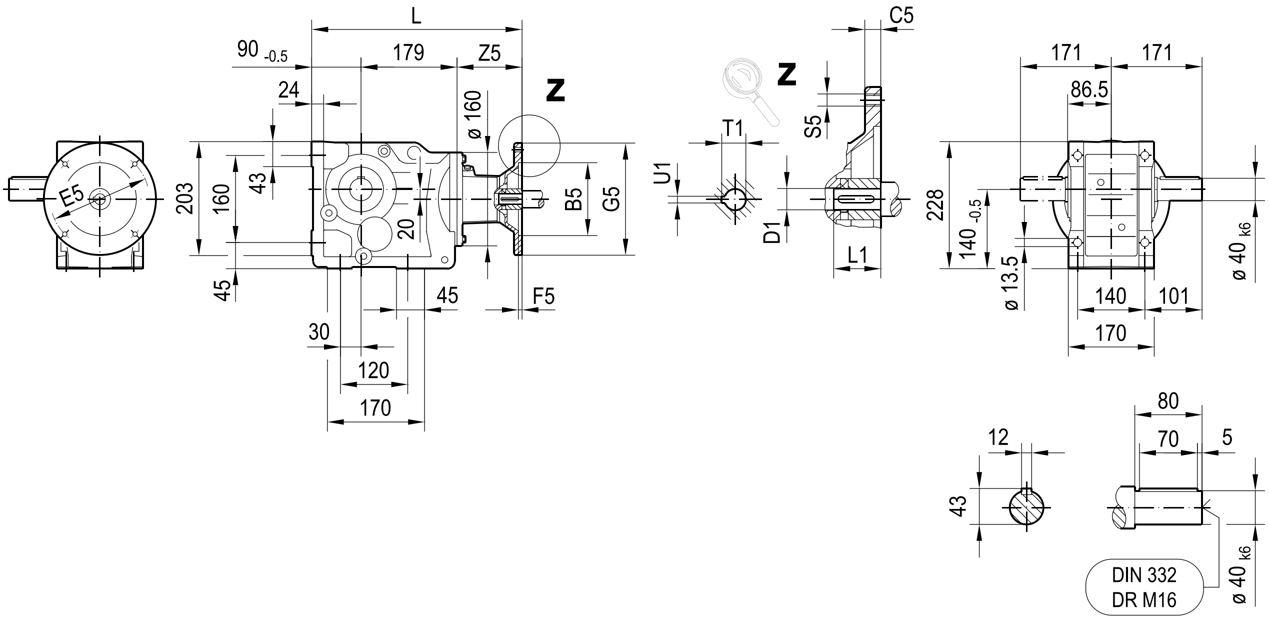
K67..



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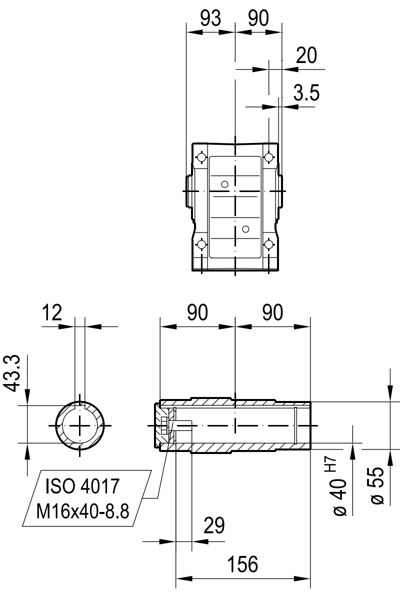

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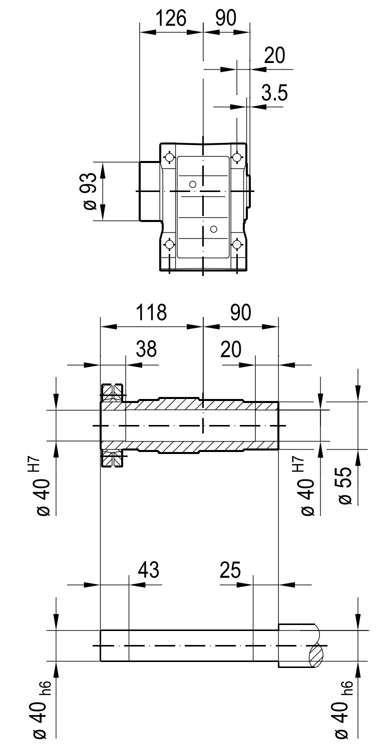

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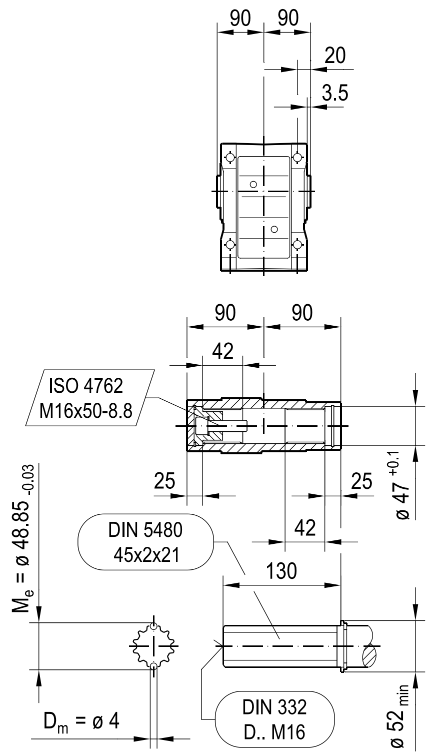

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	335	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	368	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	368	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	403	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	403	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	460	M12	191	38	80	41.3	10

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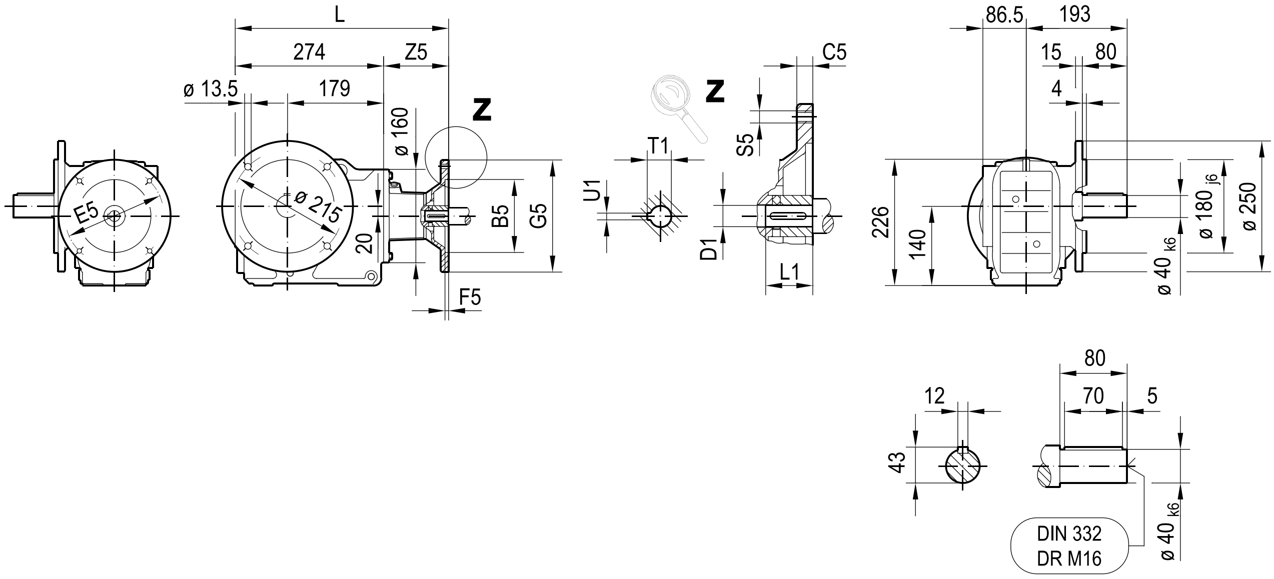

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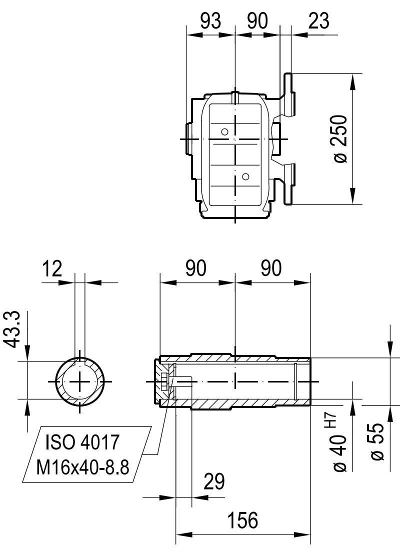

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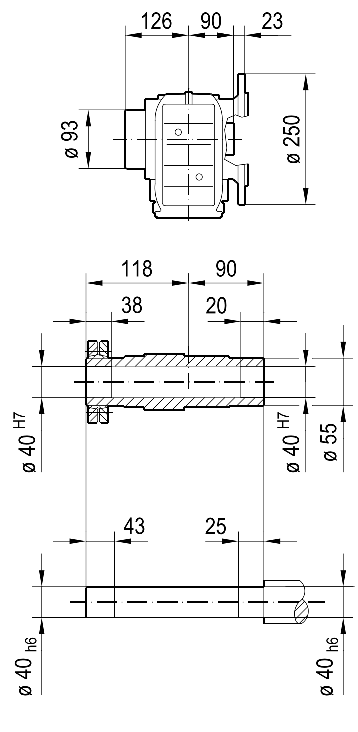

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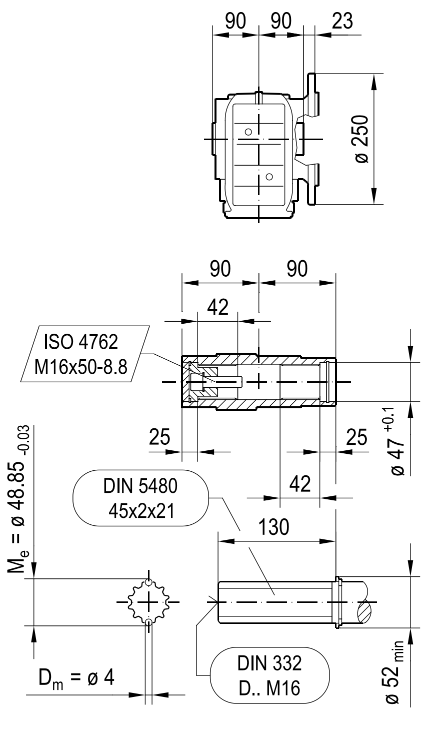

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	340	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	373	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	373	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	408	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	408	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	465	M12	191	38	80	41.3	10

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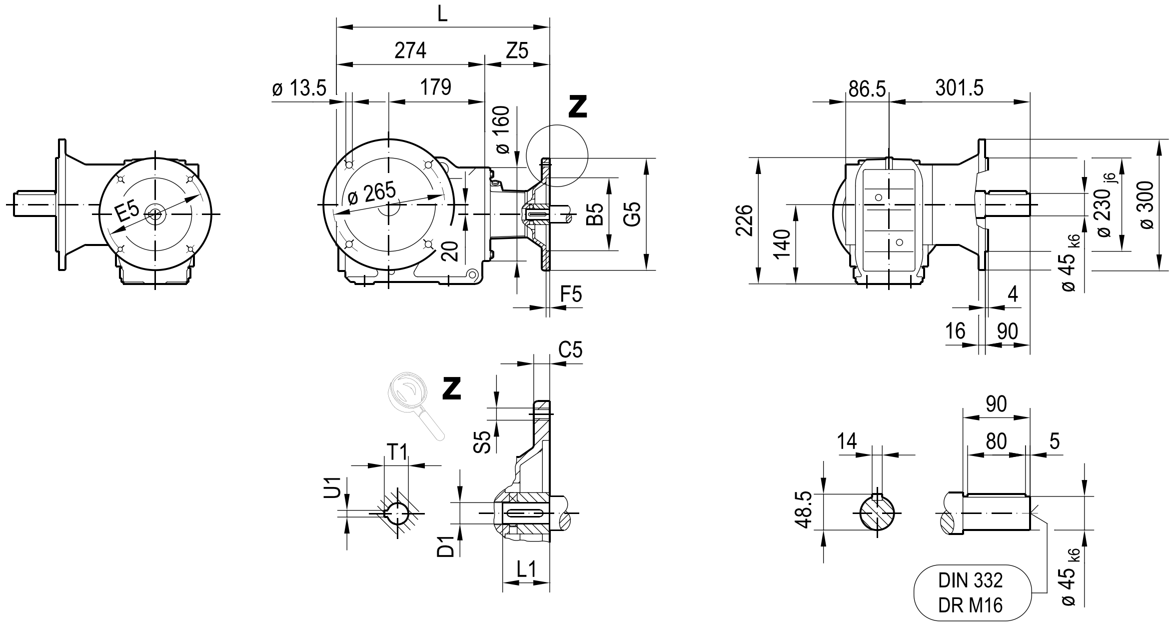
KM67..



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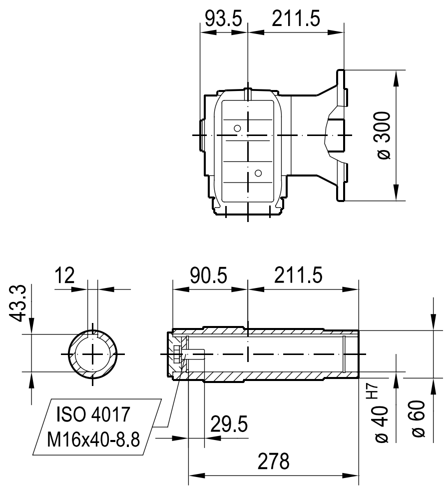

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	340	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	340	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	373	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	373	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	408	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	408	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	465	M12	191	38	80	41.3	10

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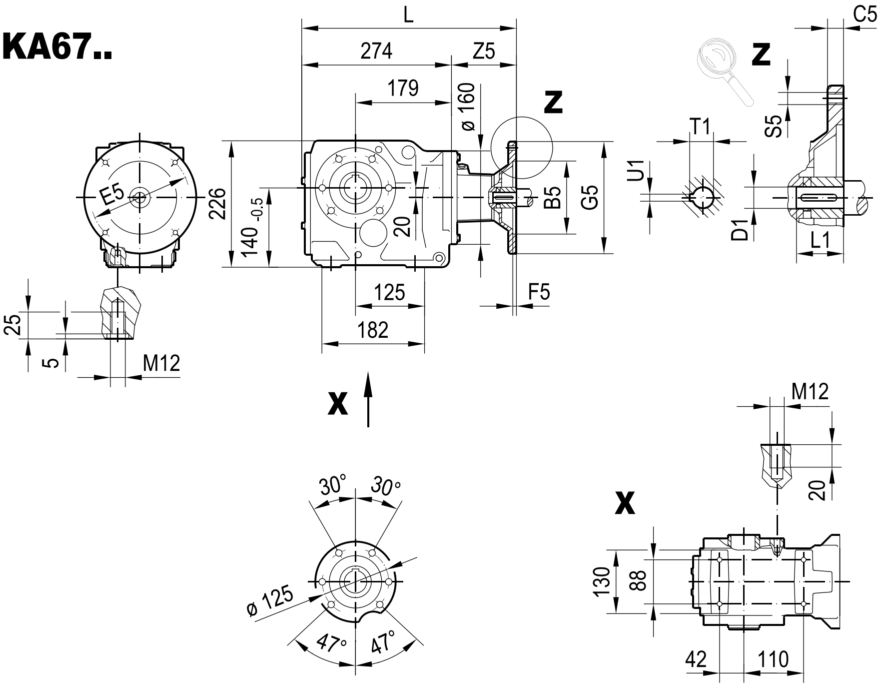
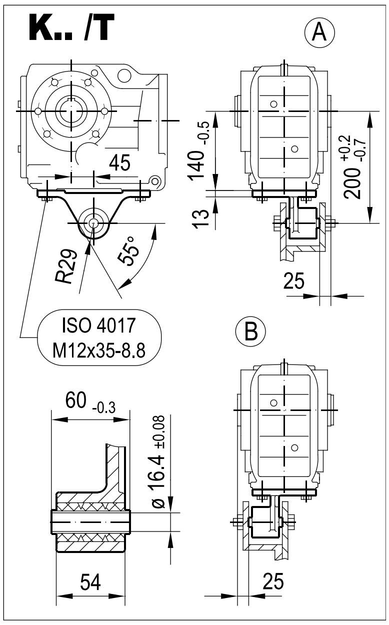
KA67..





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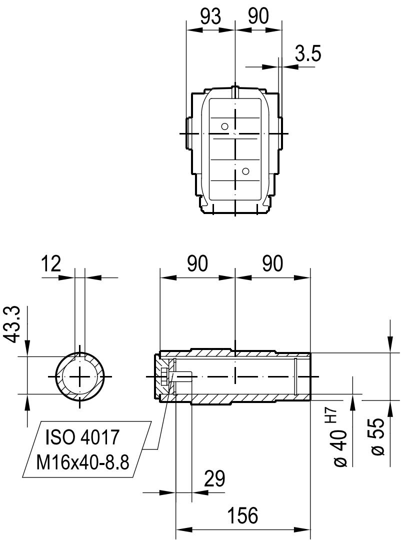

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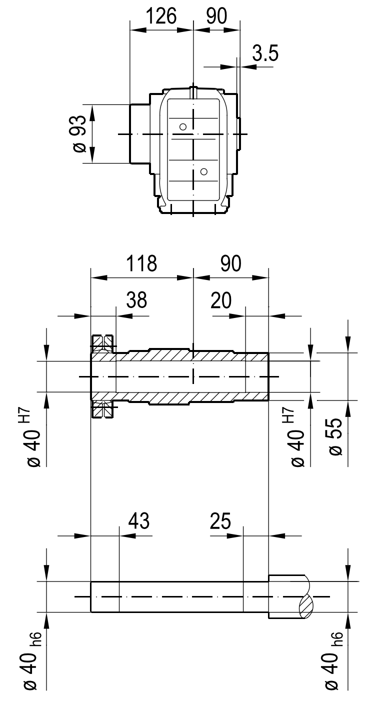

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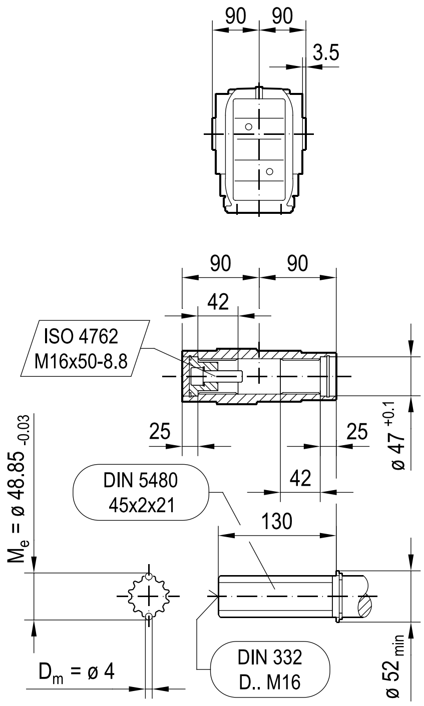

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	340	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	373	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	373	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	408	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	408	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	465	M12	191	38	80	41.3	10

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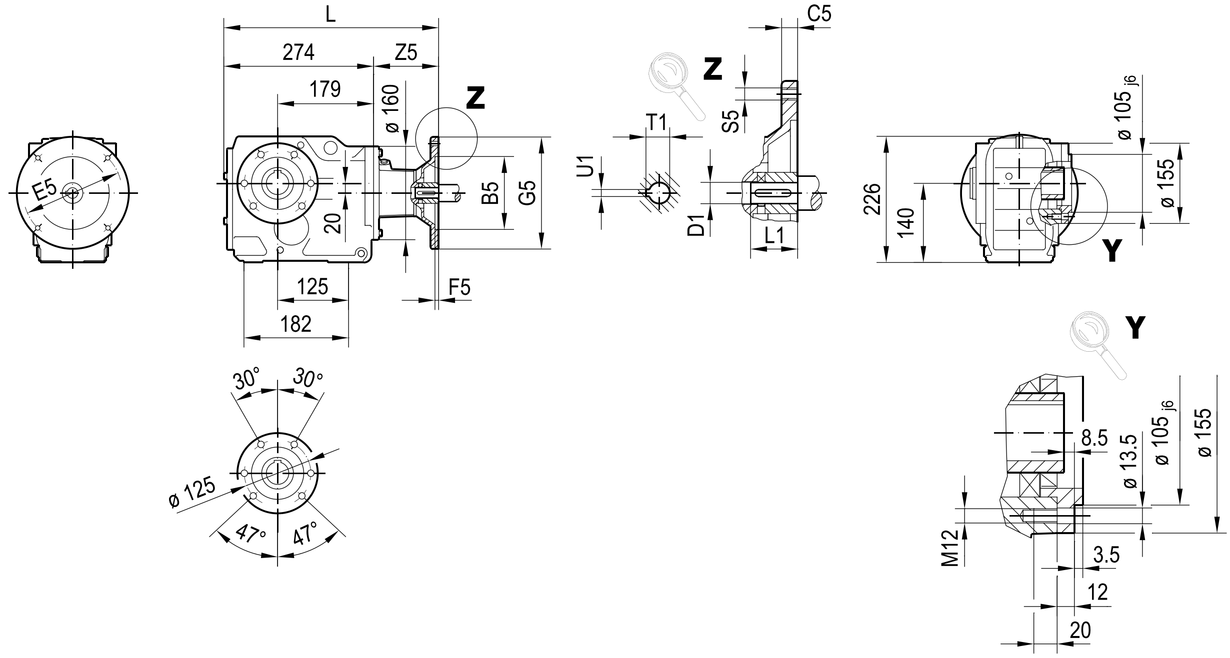

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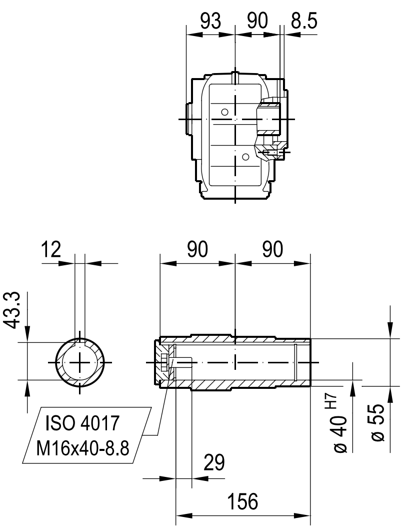

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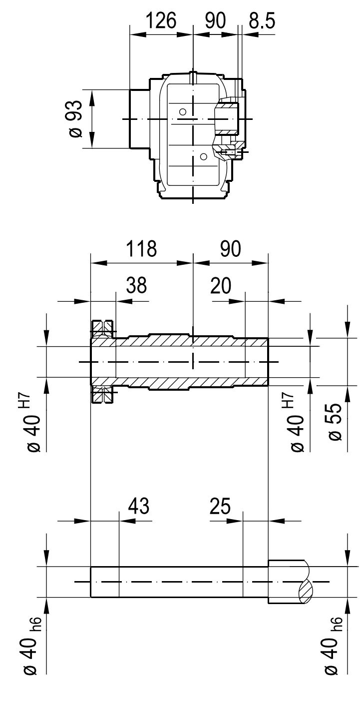

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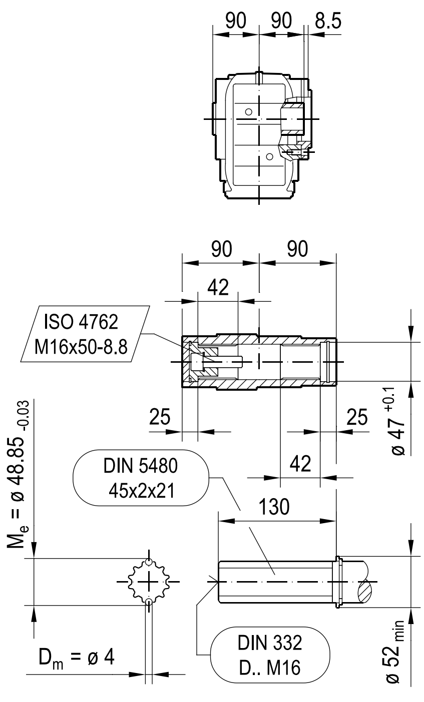

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	340	M8	66	11	23	12.8	4
AM71	110	10	130	4	160	340	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	373	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	373	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	408	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	408	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	465	M12	191	38	80	41.3	10

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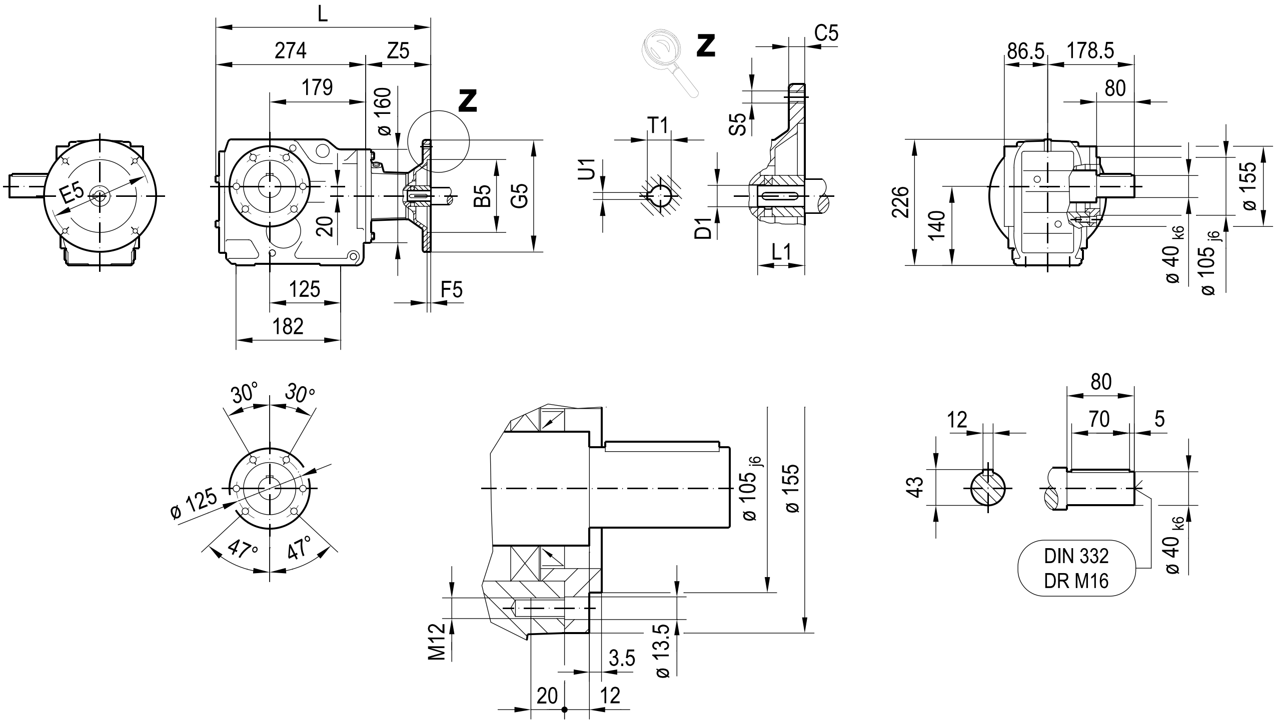

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	340	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	373	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	373	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	408	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	408	M12	134	28	60	31.3	8
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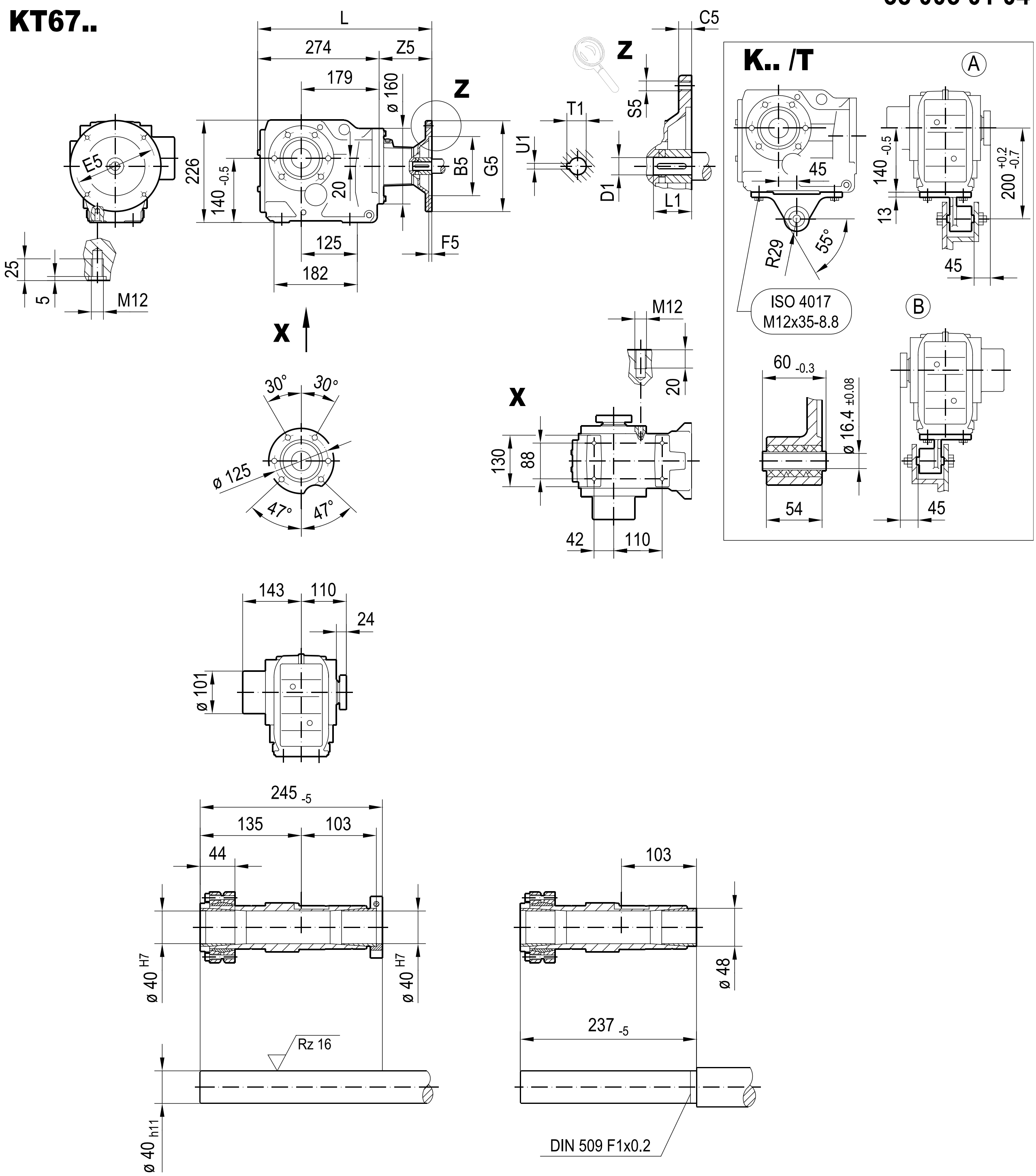

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	340	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	373	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	373	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	408	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	408	M12	134	28	60	31.3	8
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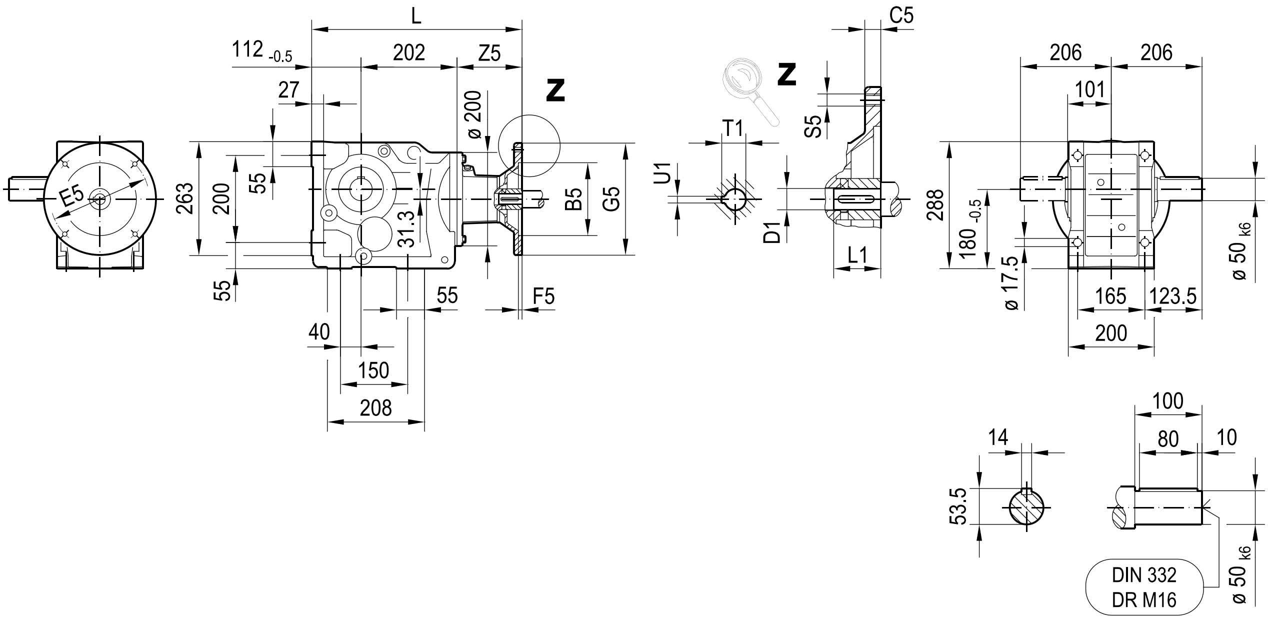

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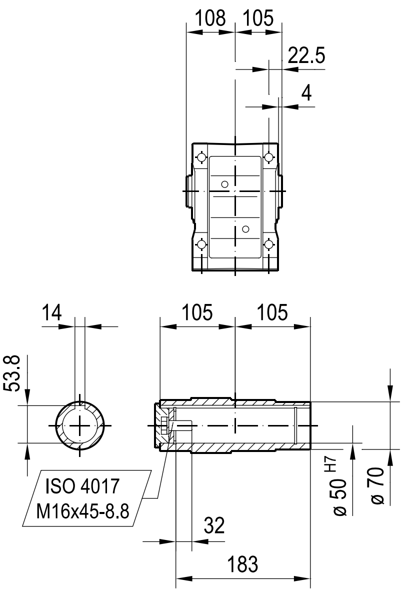

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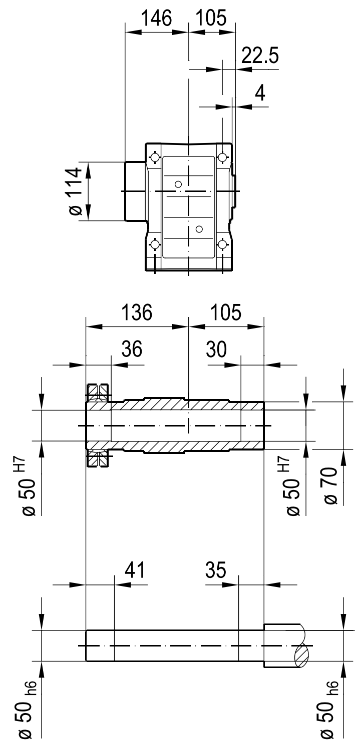

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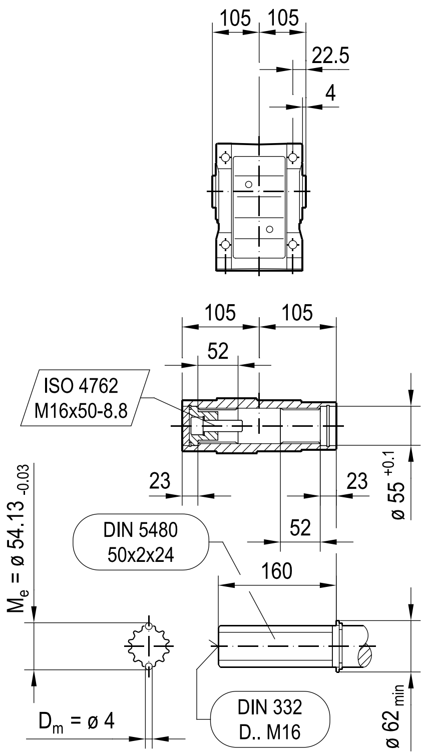

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AM71	110	10	130	4	160	374	M8	60	14	30	16.3	5
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AM90	130	12	165	4.5	200	406	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	440	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	440	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	493	M12	179	38	80	41.3	10
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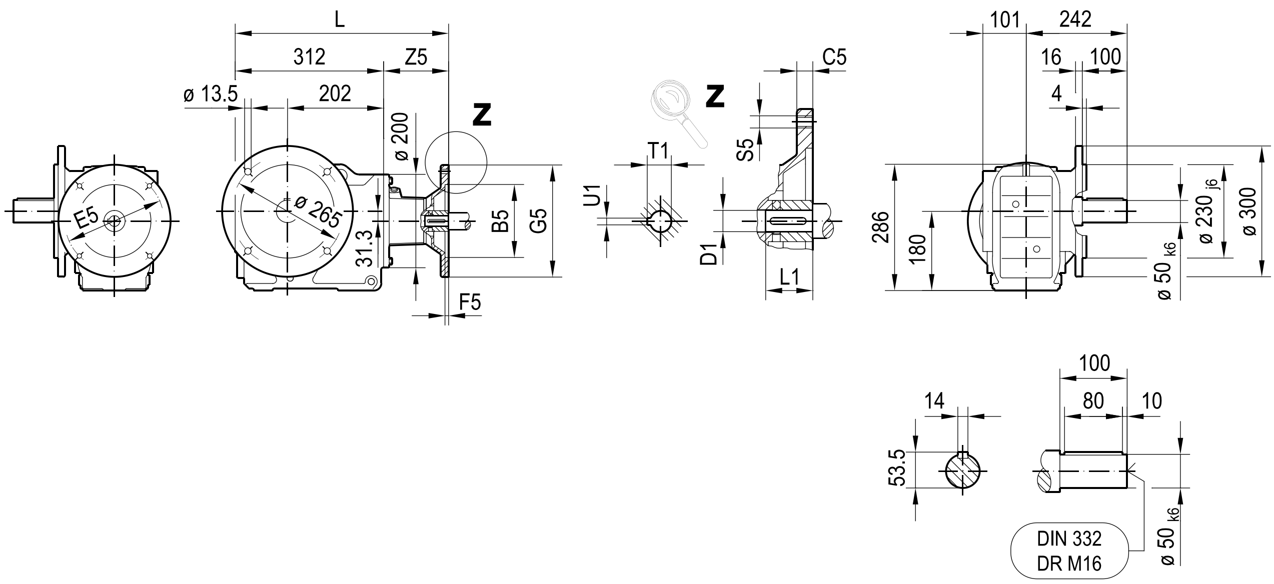

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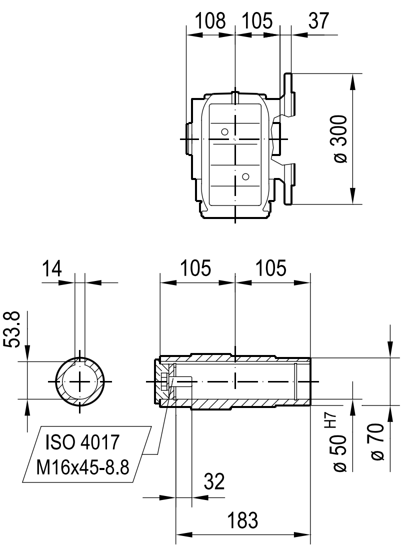

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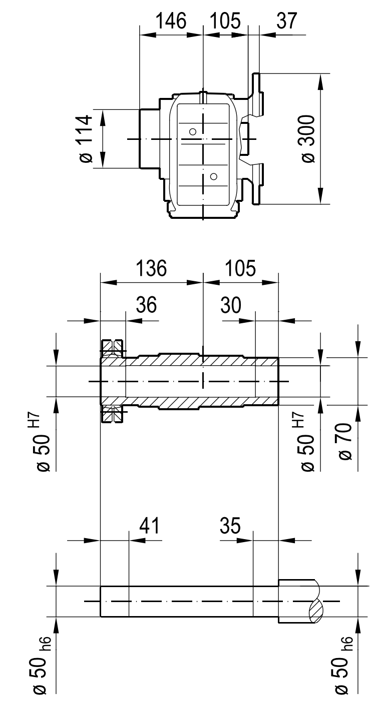

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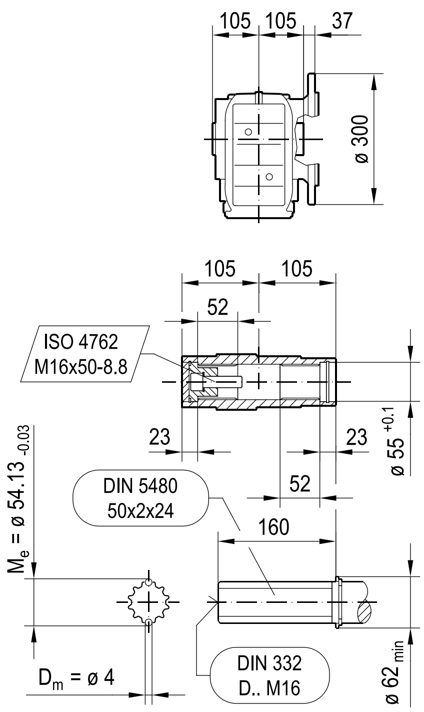

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	372	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	404	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	404	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	438	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	438	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	491	M12	179	38	80	41.3	10
AM132ML	230	16	265	5	300	491	M12	179	38	80	41.3	10

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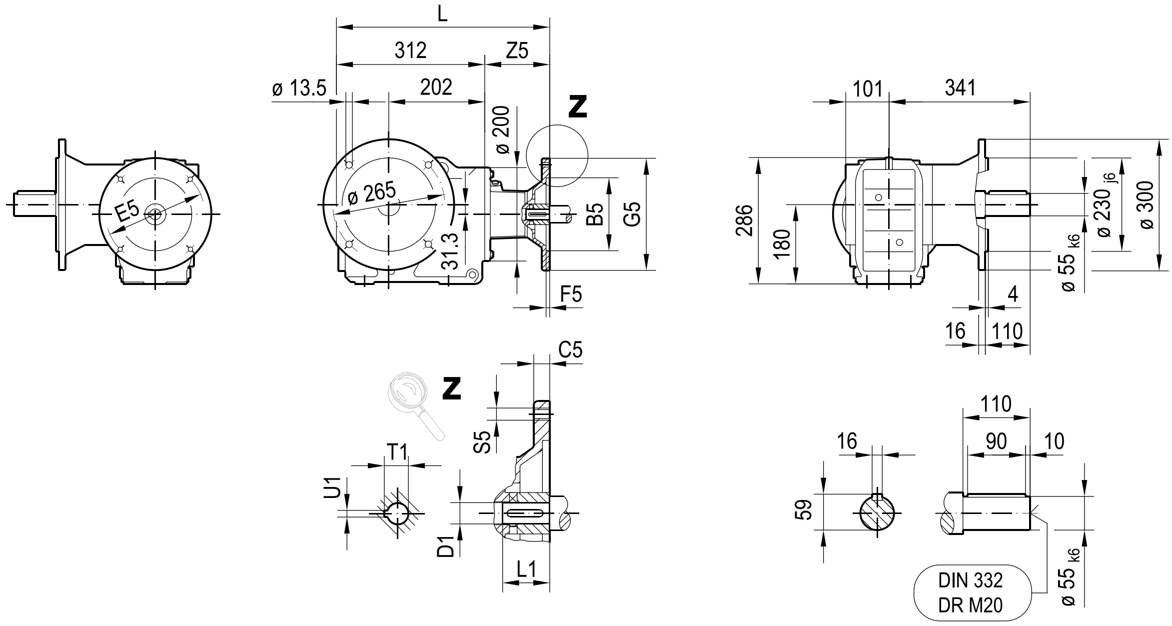
KM77..



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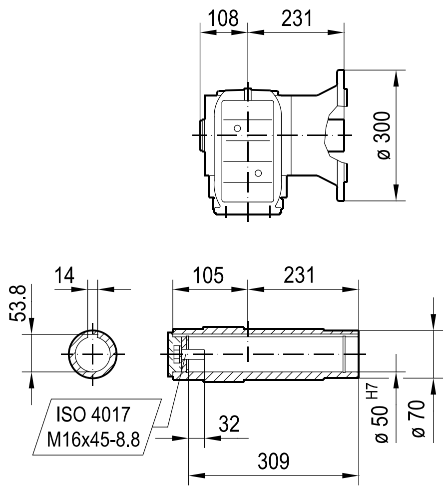

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	372	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	404	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	404	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	438	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	438	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	491	M12	179	38	80	41.3	10
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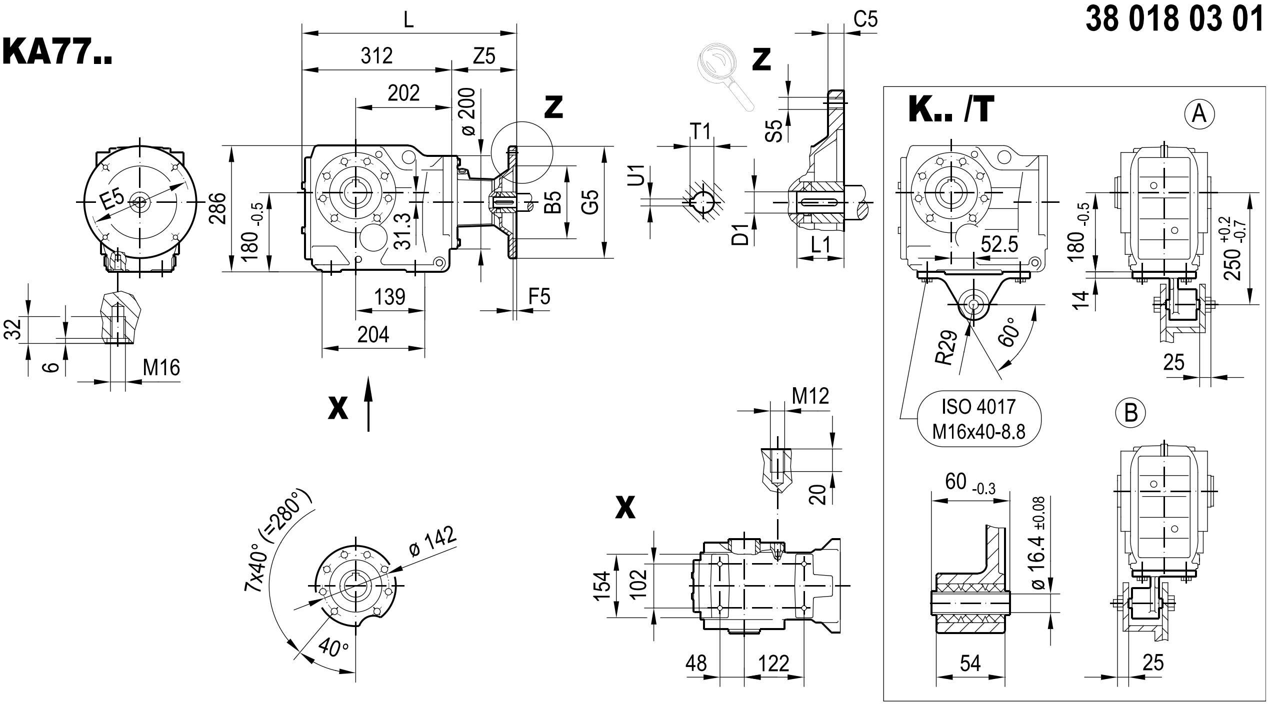
KA77..



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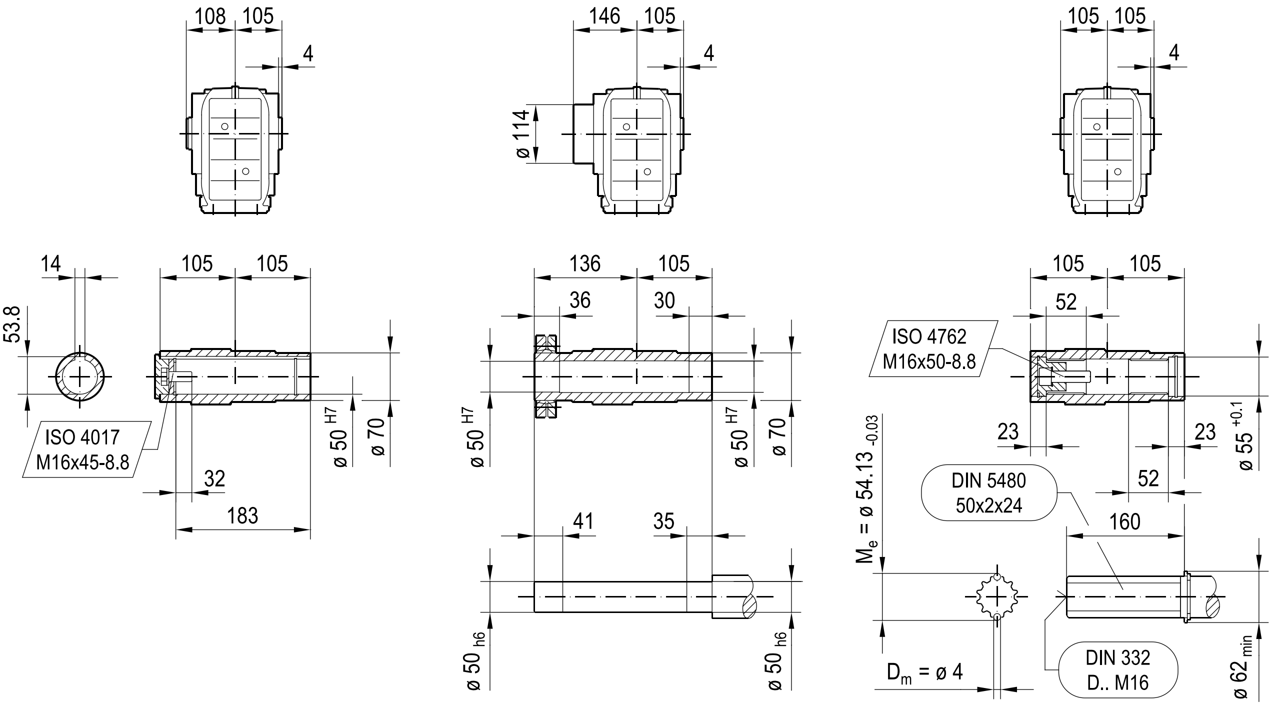

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	372	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	404	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	404	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	438	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	438	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	491	M12	179	38	80	41.3	10
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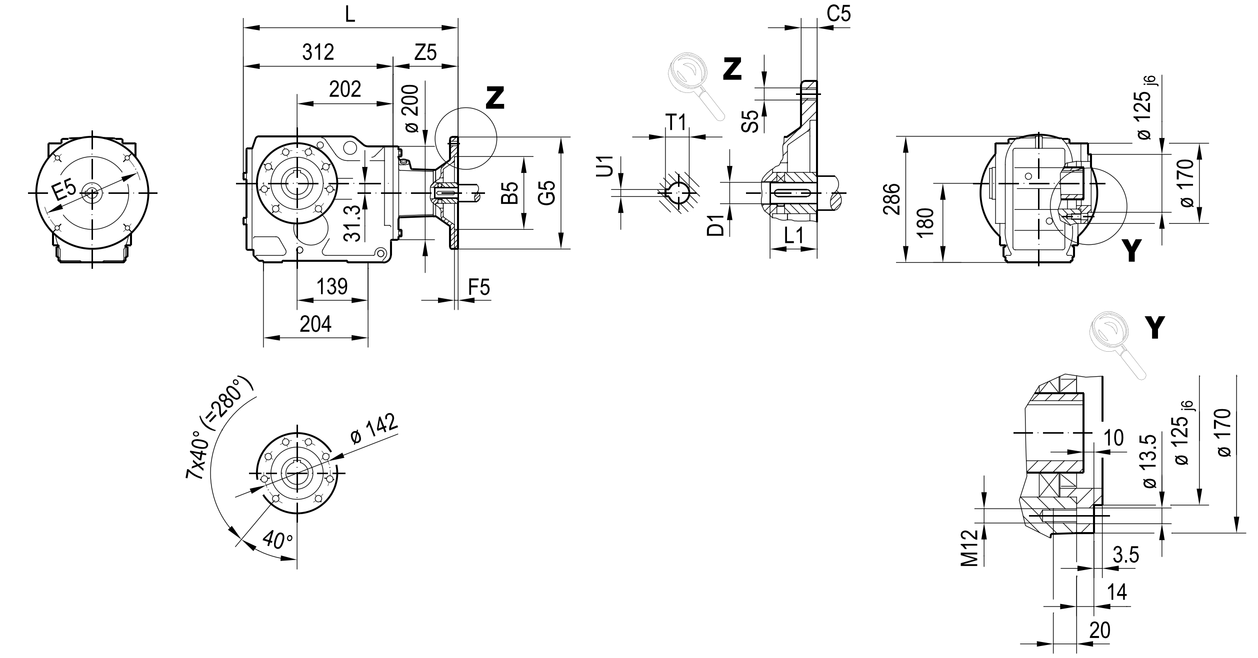

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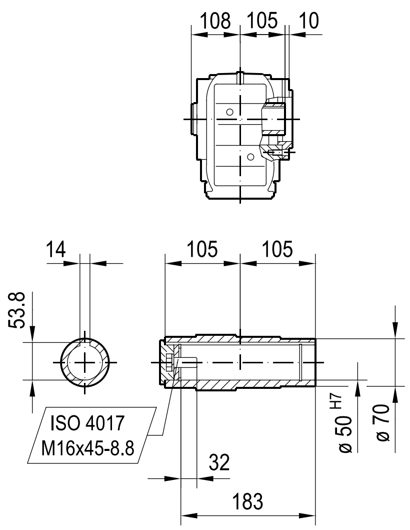

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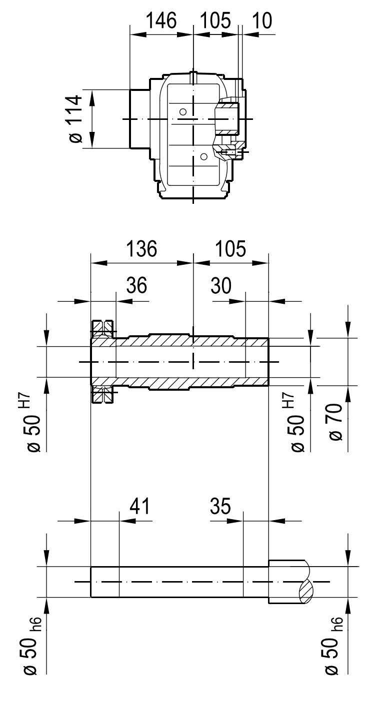

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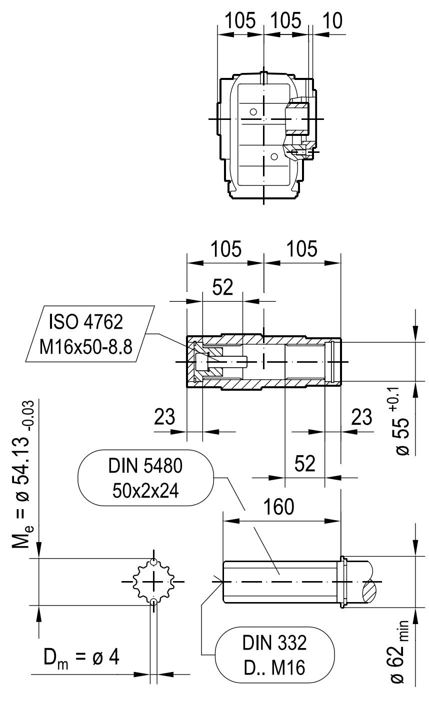

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	372	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	404	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	404	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	438	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	438	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	491	M12	179	38	80	41.3	10
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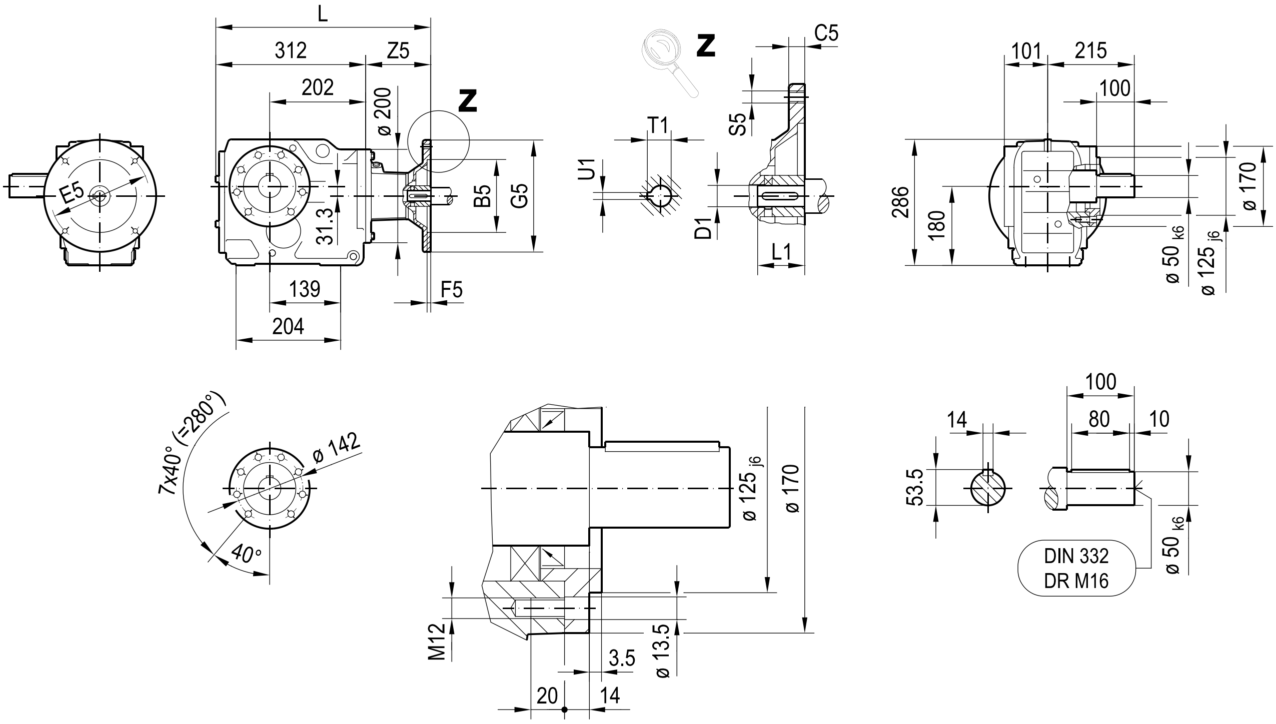
KZ77..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	372	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	404	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	404	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	438	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	438	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	491	M12	179	38	80	41.3	10
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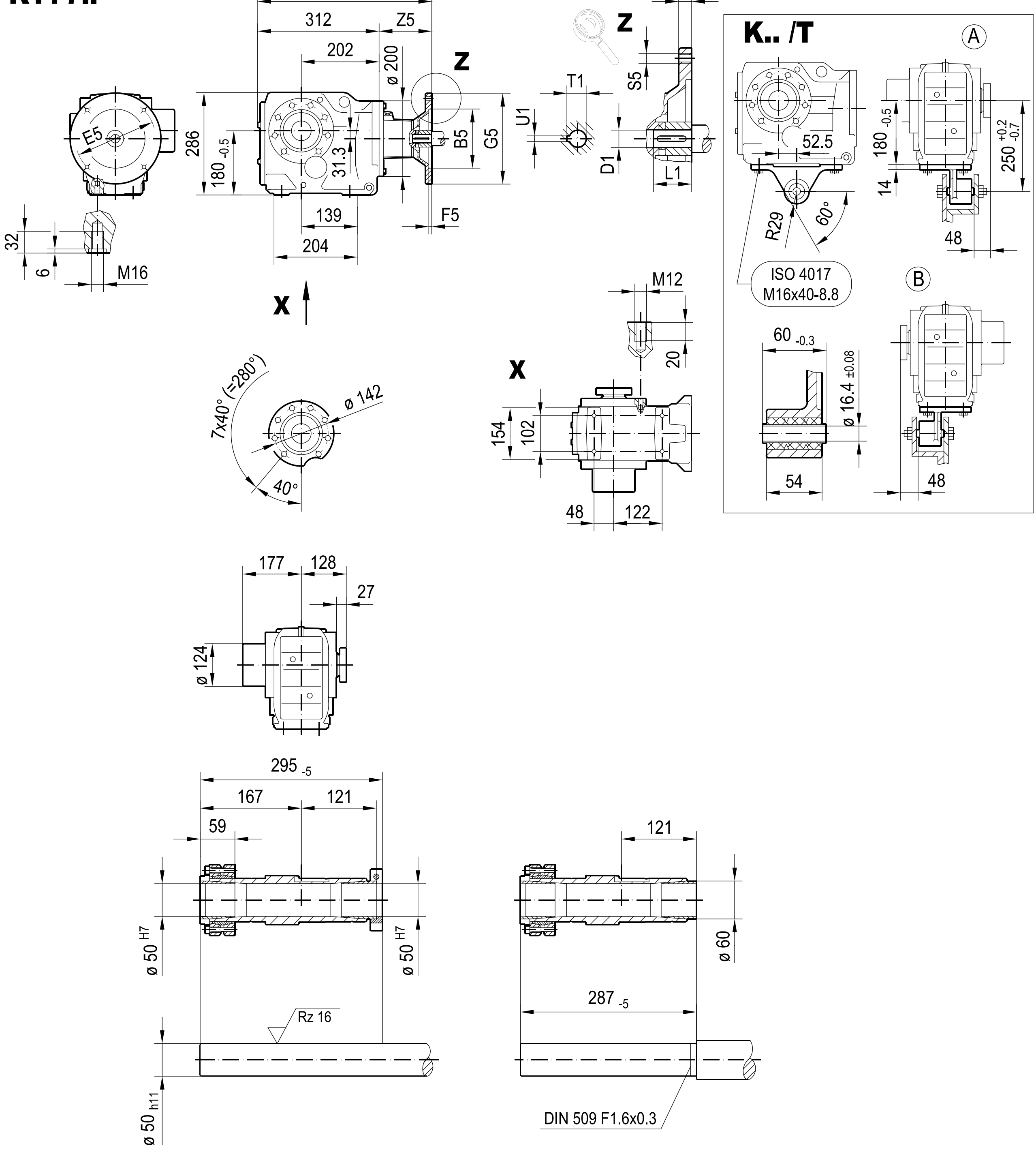

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	372	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	404	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	404	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	438	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	438	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	491	M12	179	38	80	41.3	10
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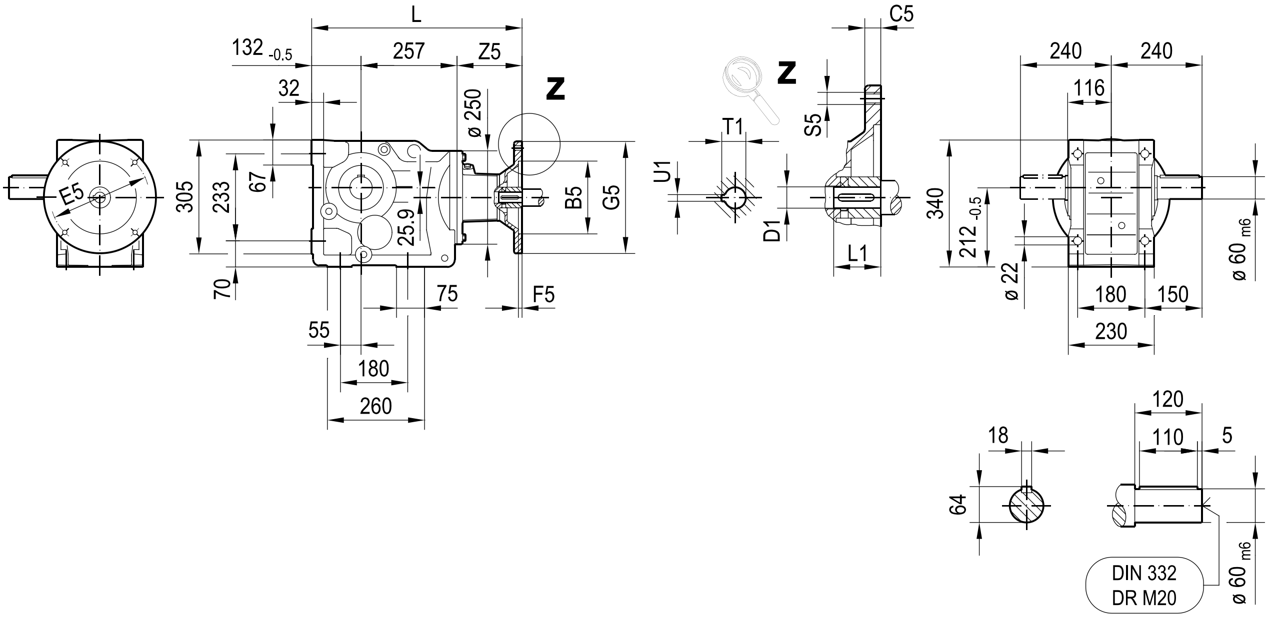

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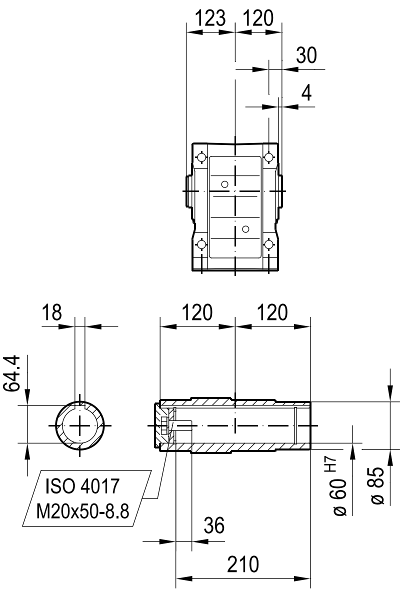

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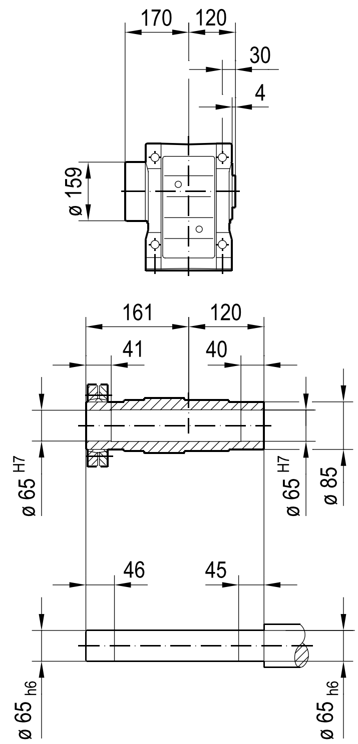

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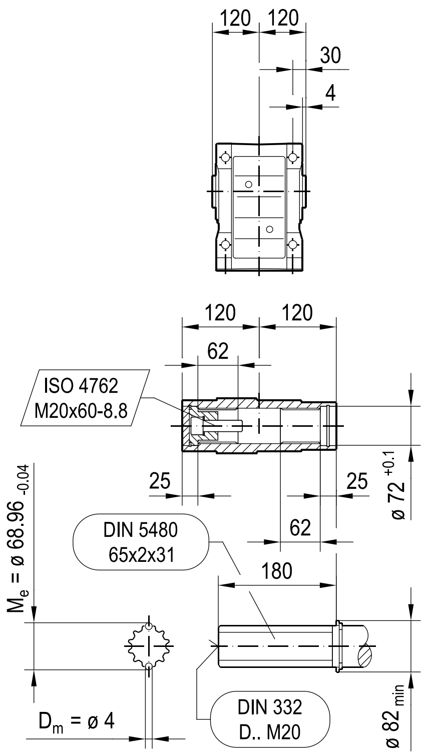

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM90	130	12	165	4.5	200	476	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	510	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	510	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	563	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	563	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	621	M16	232	42	110	45.3	12
AM180	250	18	300	6	350	621	M16	232	48	110	51.8	14

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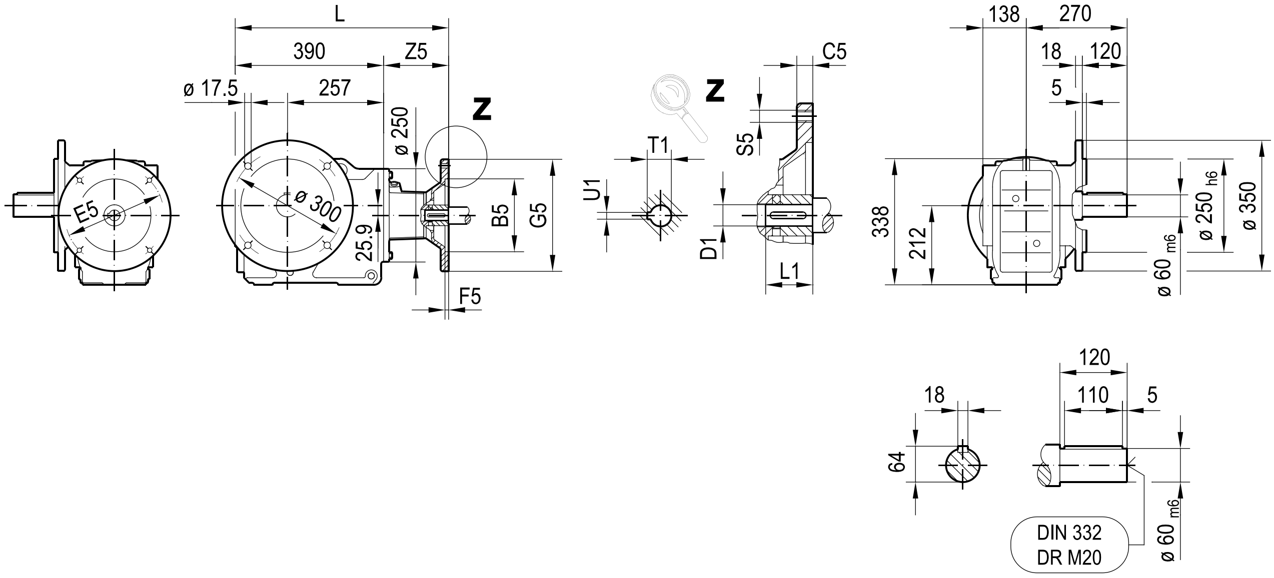

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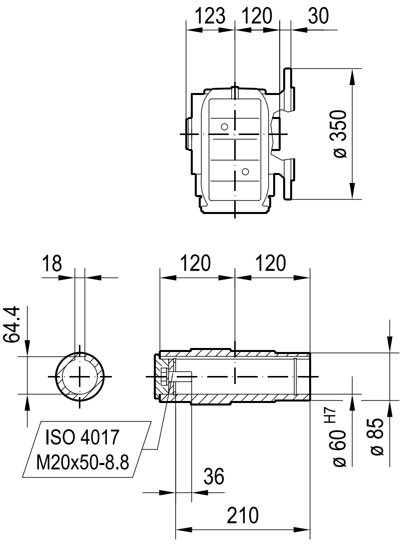

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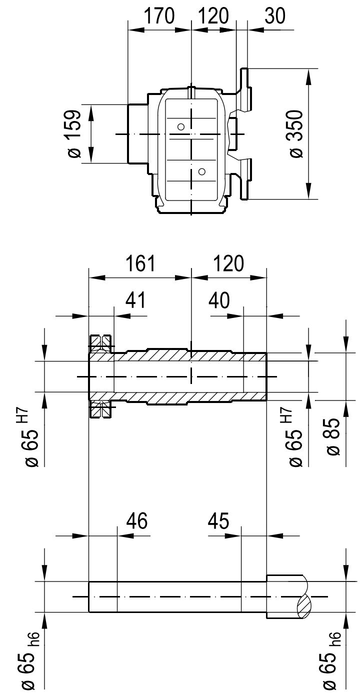

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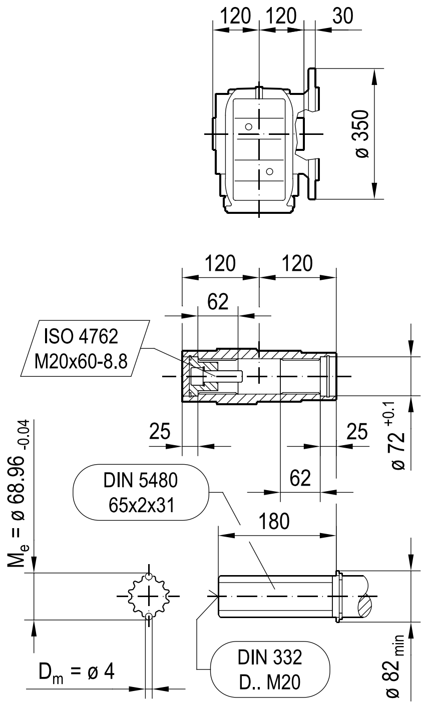

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM90	130	12	165	4.5	200	477	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	511	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	511	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	564	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	564	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	622	M16	232	42	110	45.3	12
AM180	250	18	300	6	350	622	M16	232	48	110	51.8	14

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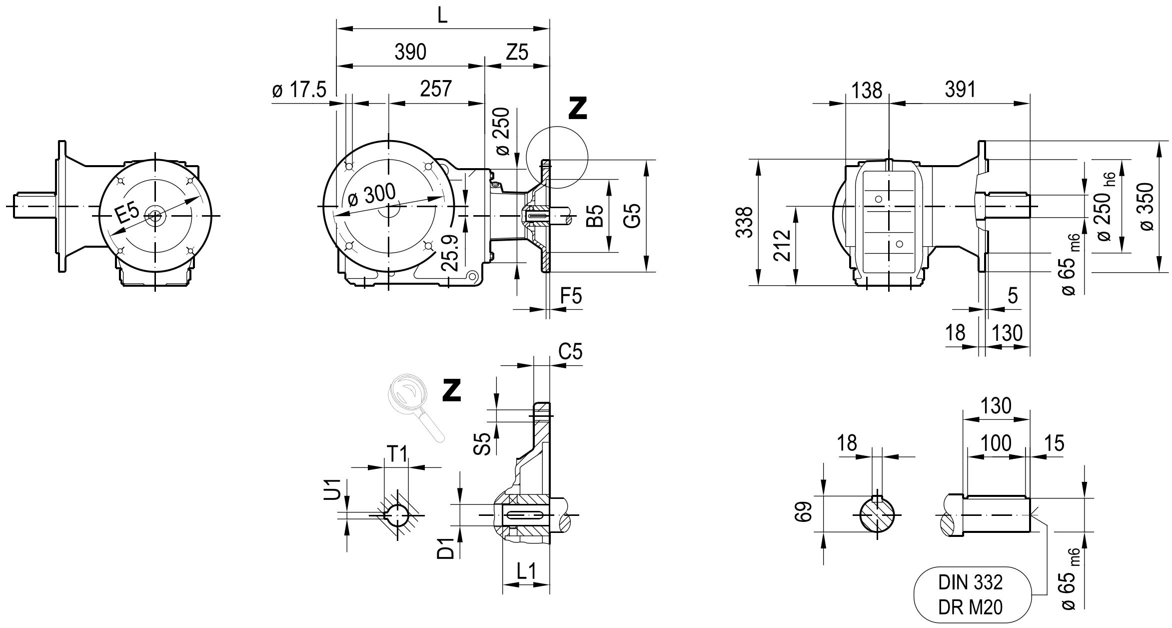
KM87..



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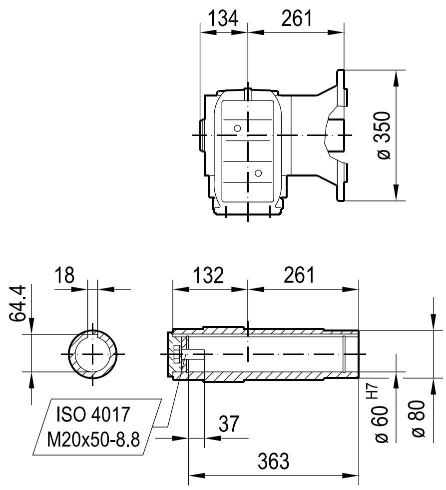

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM90	130	12	165	4.5	200	477	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	511	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	511	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	564	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	564	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	622	M16	232	42	110	45.3	12
AM180	250	18	300	6	350	622	M16	232	48	110	51.8	14

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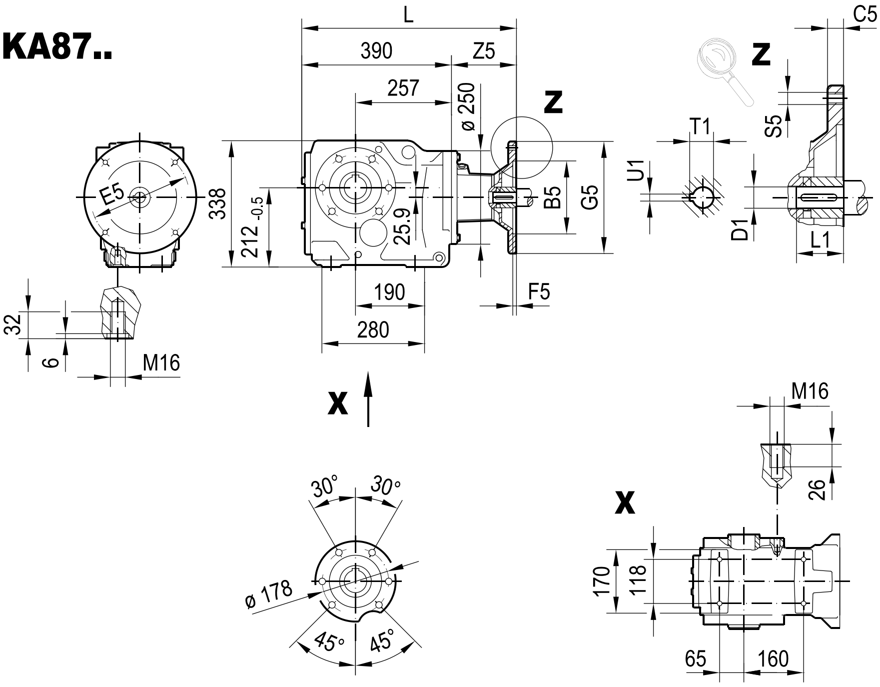

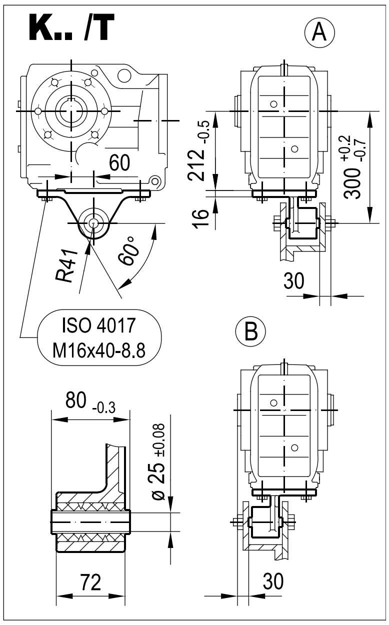

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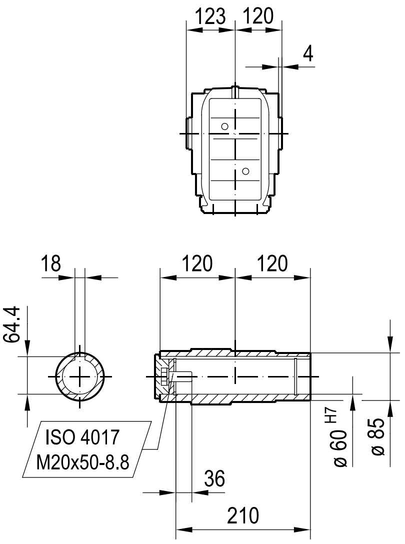

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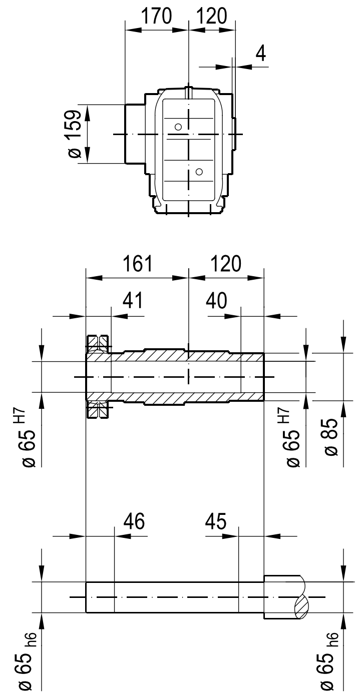

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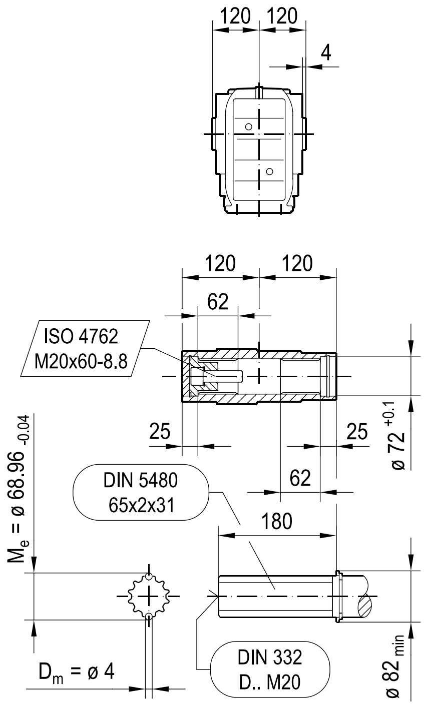

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM80	130	12	165	4.5	200	477	M10	87	19	40	21.8	6
AM90	130	12	165	4.5	200	477	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	511	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	511	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	564	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	564	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	622	M16	232	42	110	45.3	12
AM180	250	18	300	6	350	622	M16	232	48	110	51.8	14

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38 021 02 01

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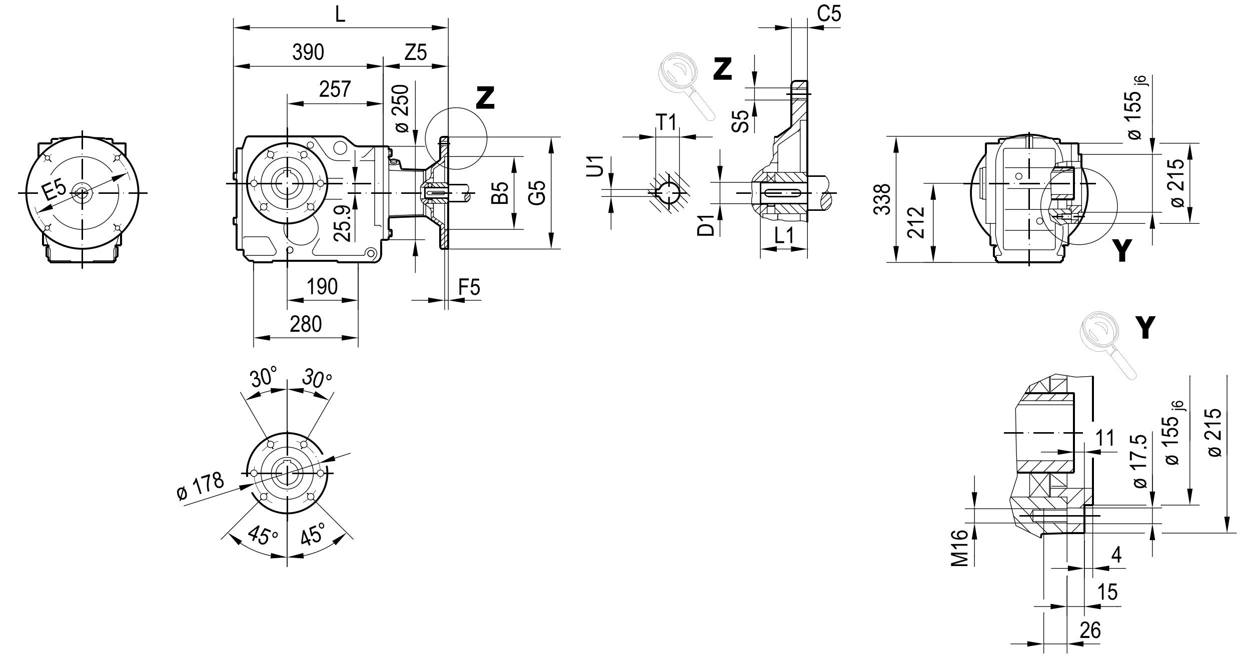

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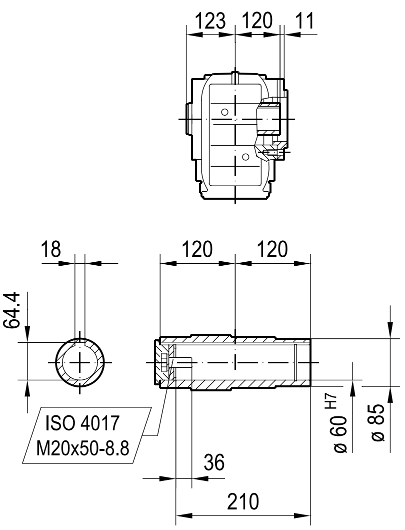

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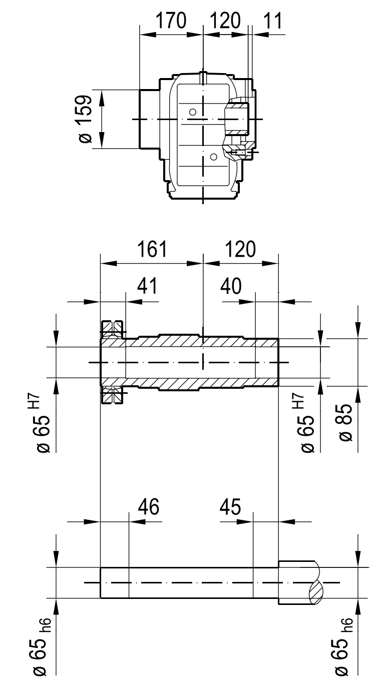

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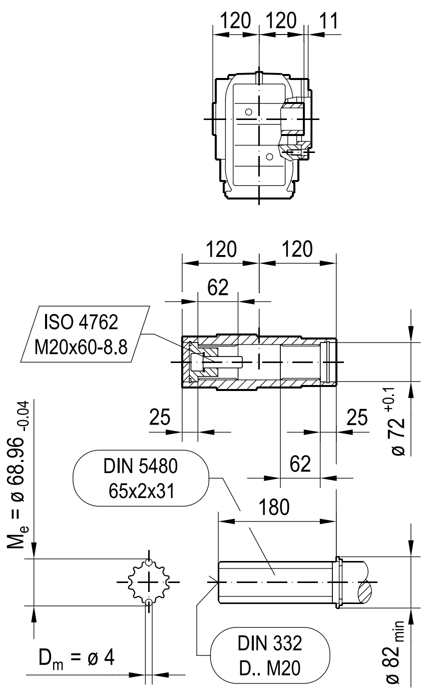

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM80	130	12	165	4.5	200	477	M10	87	19	40	21.8	6
AM90	130	12	165	4.5	200	477	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	511	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	511	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	564	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	564	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	622	M16	232	42	110	45.3	12
AM180	250	18	300	6	350	622	M16	232	48	110	51.8	14

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33 036 00 16

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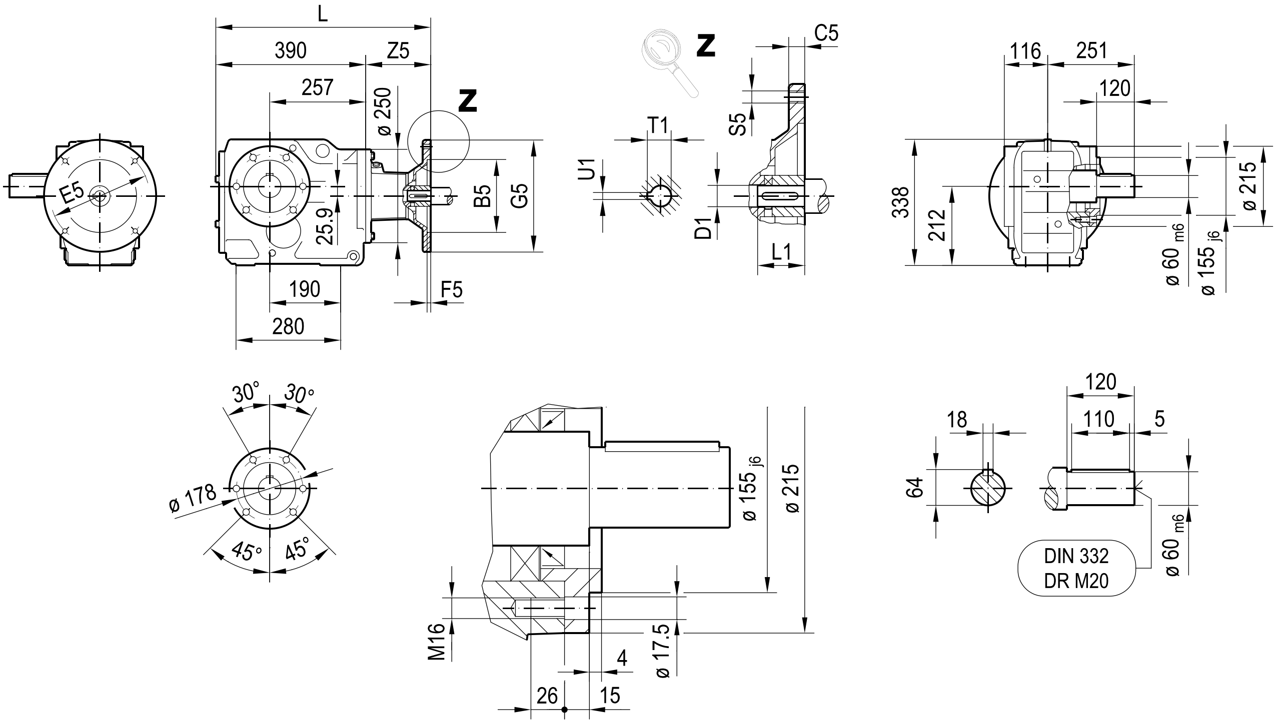

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM80	130	12	165	4.5	200	477	M10	87	19	40	21.8	6
AM90	130	12	165	4.5	200	477	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	511	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	511	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	564	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	564	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	622	M16	232	42	110	45.3	12
AM180	250	18	300	6	350	622	M16	232	48	110	51.8	14

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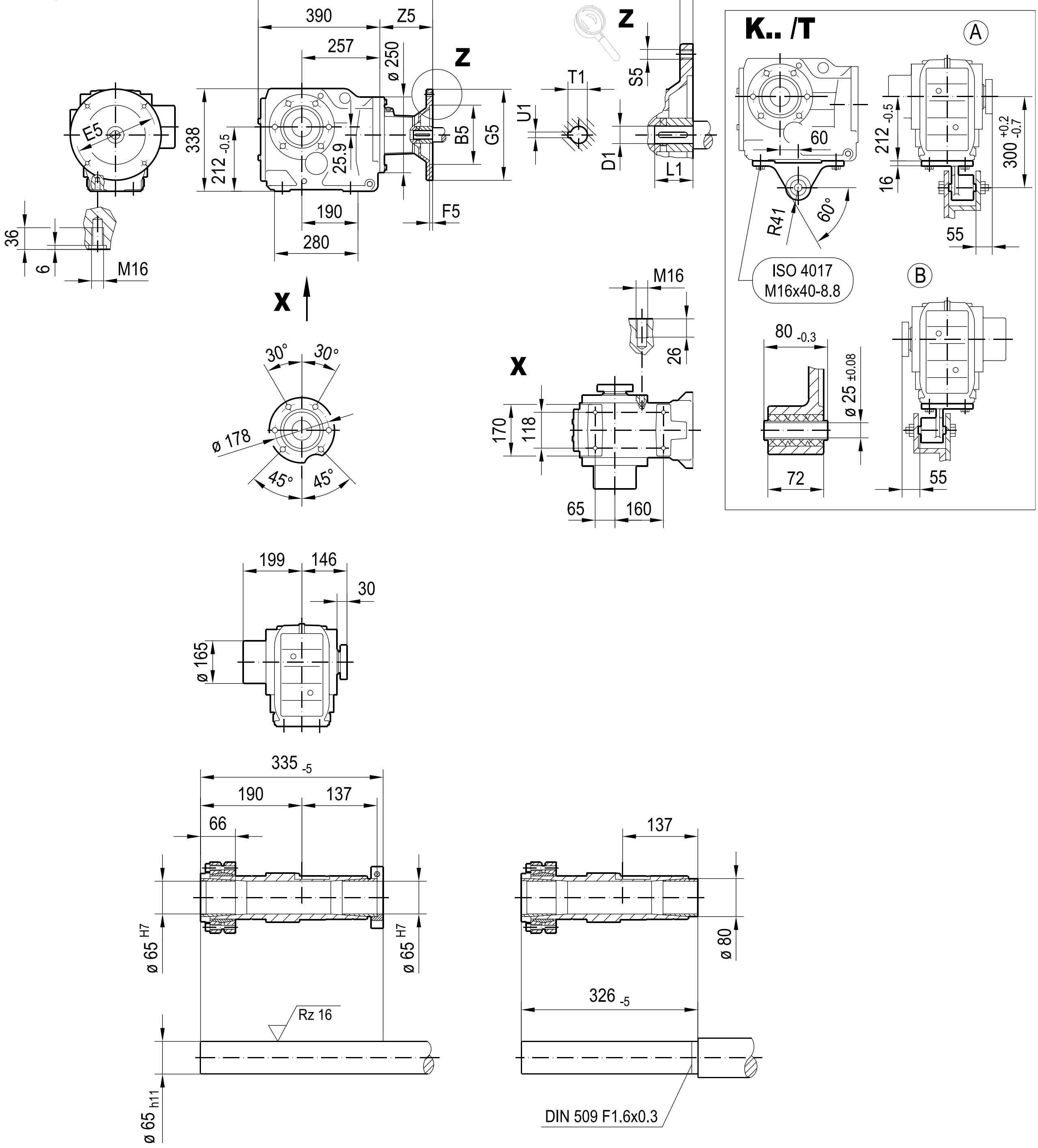
38 007 01 04

KT87..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM80	130	12	165	4.5	200	477	M10	87	19	40	21.8	6
AM90	130	12	165	4.5	200	477	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	511	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	511	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	564	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	564	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	622	M16	232	42	110	45.3	12
AM180	250	18	300	6	350	622	M16	232	48	110	51.8	14

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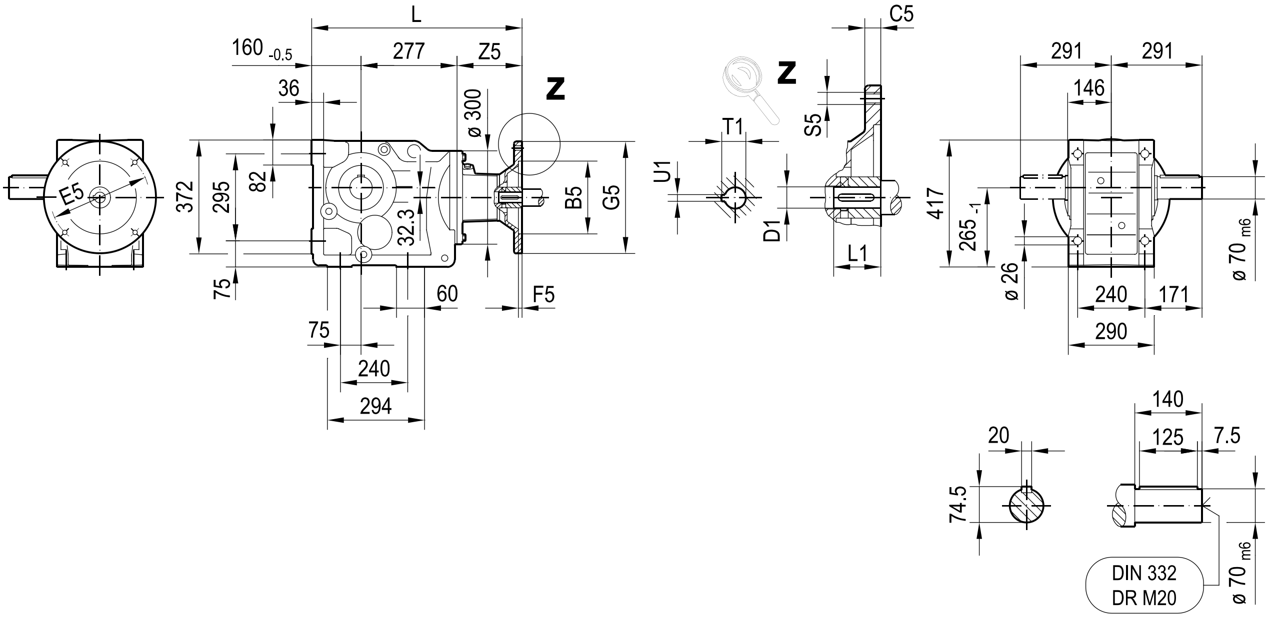
33 022 02 01

K97..



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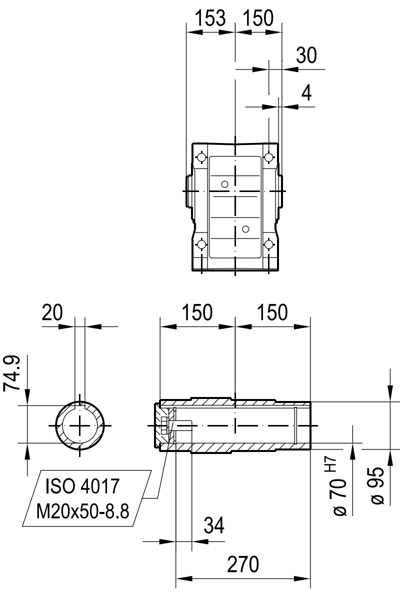

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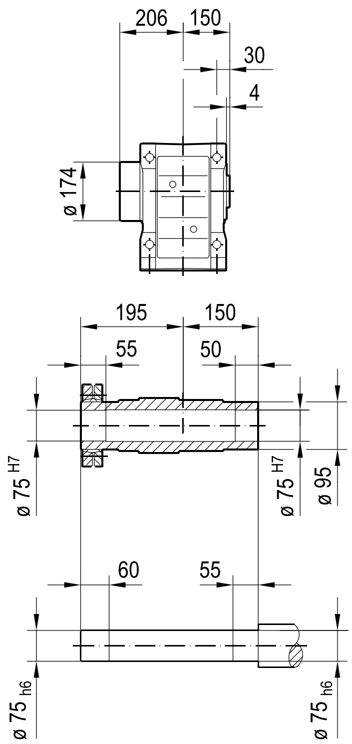

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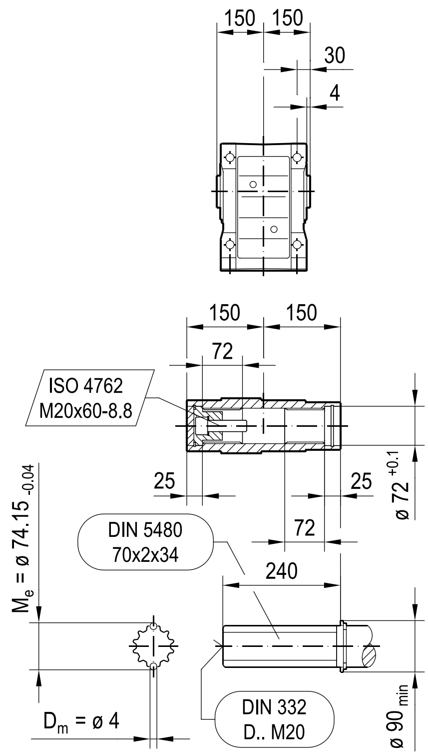

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AM100	180	15	215	5	250	553	M12	116	28	60	31.3	8
AM112	180	15	215	5	250	553	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	606	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	606	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	664	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	664	M16	227	48	110	51.8	14
AM200	300	20	350	7	400	705	M16	268	55	110	59.3	16

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33 023 02 01

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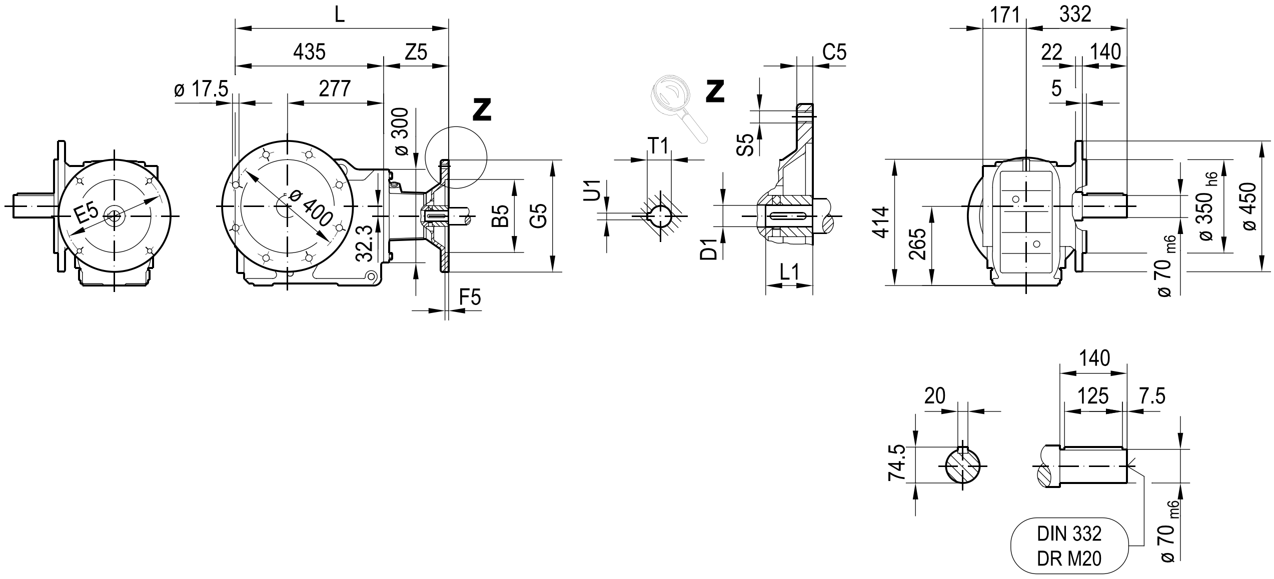

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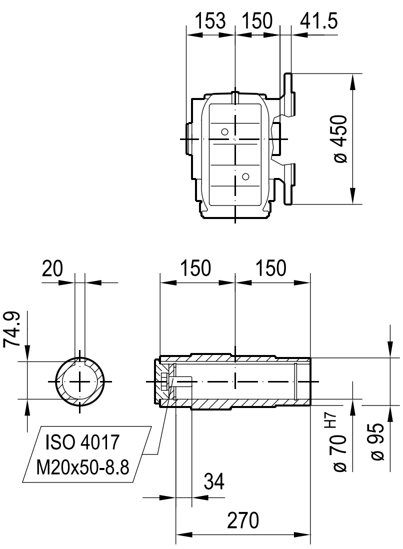

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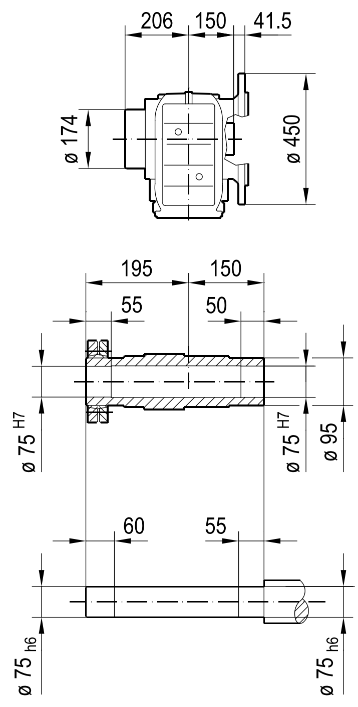

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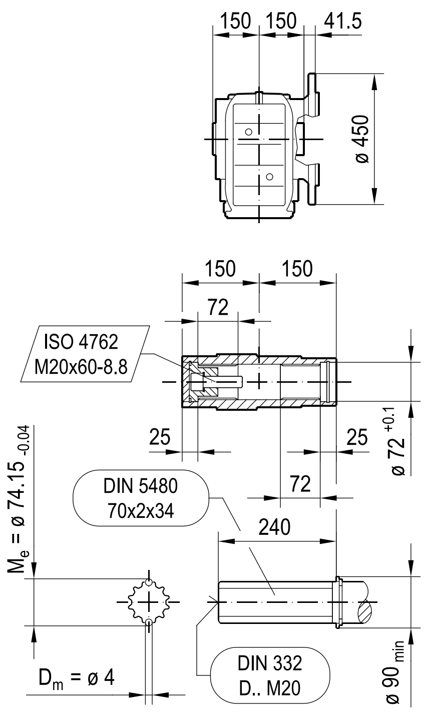

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM112	180	15	215	5	250	551	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	604	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	604	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	662	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	662	M16	227	48	110	51.8	14
AM200	300	20	350	7	400	703	M16	268	55	110	59.3	16

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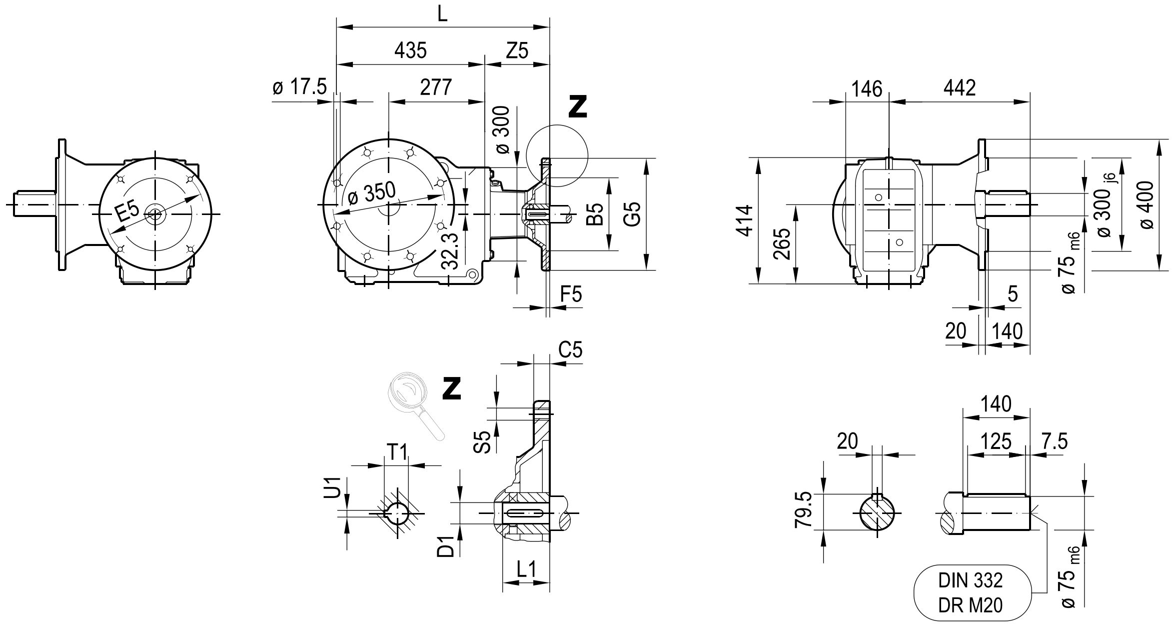
33 122 00 18

KM97..



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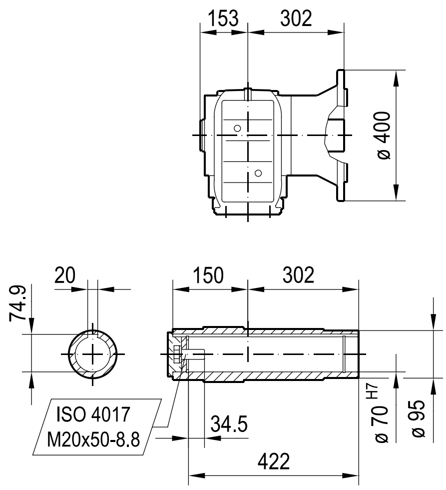

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	551	M12	116	28	60	31.3	8
AM112	180	15	215	5	250	551	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	604	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	604	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	662	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	662	M16	227	48	110	51.8	14
AM200	300	20	350	7	400	703	M16	268	55	110	59.3	16

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38 022 02 01

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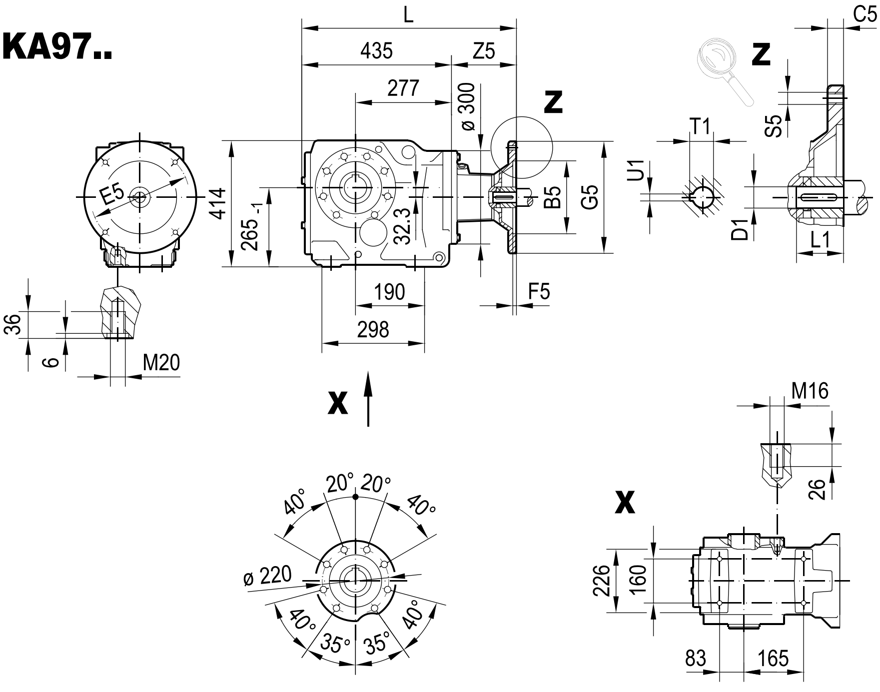

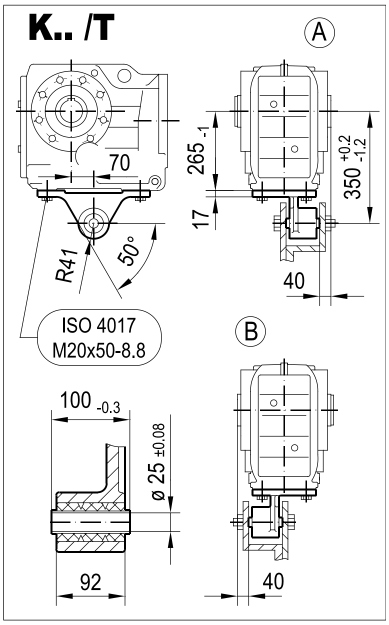

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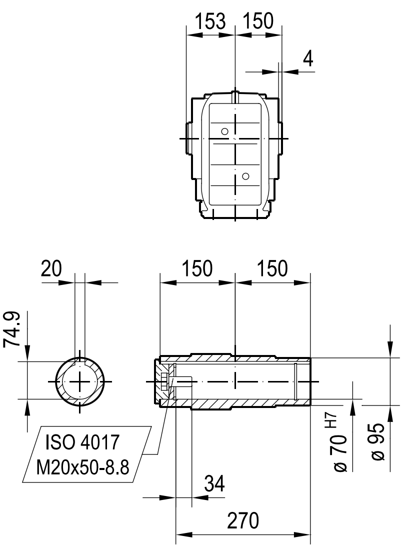

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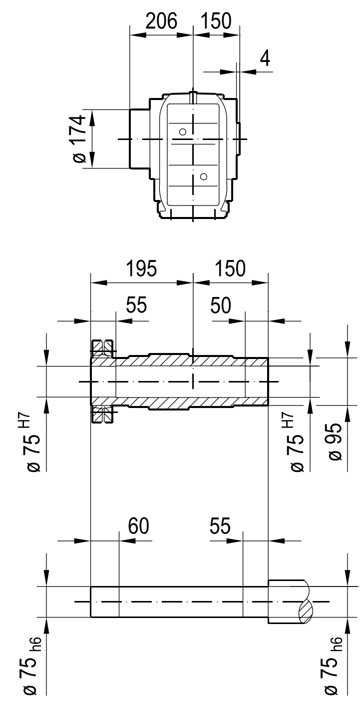

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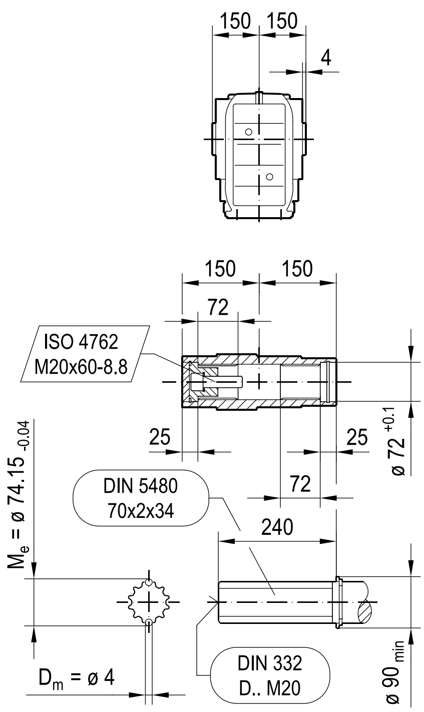

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	551	M12	116	28	60	31.3	8
AM112	180	15	215	5	250	551	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	604	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	604	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	662	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	662	M16	227	48	110	51.8	14
AM200	300	20	350	7	400	703	M16	268	55	110	59.3	16

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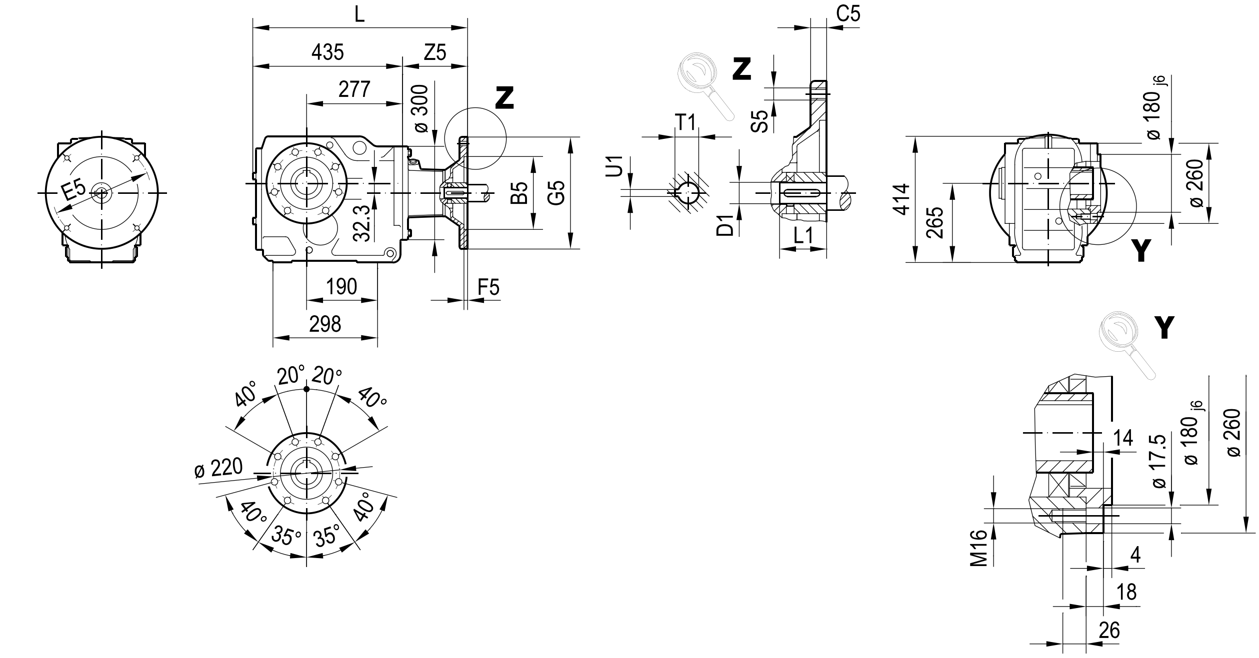
38 023 02 01

KAZ97..



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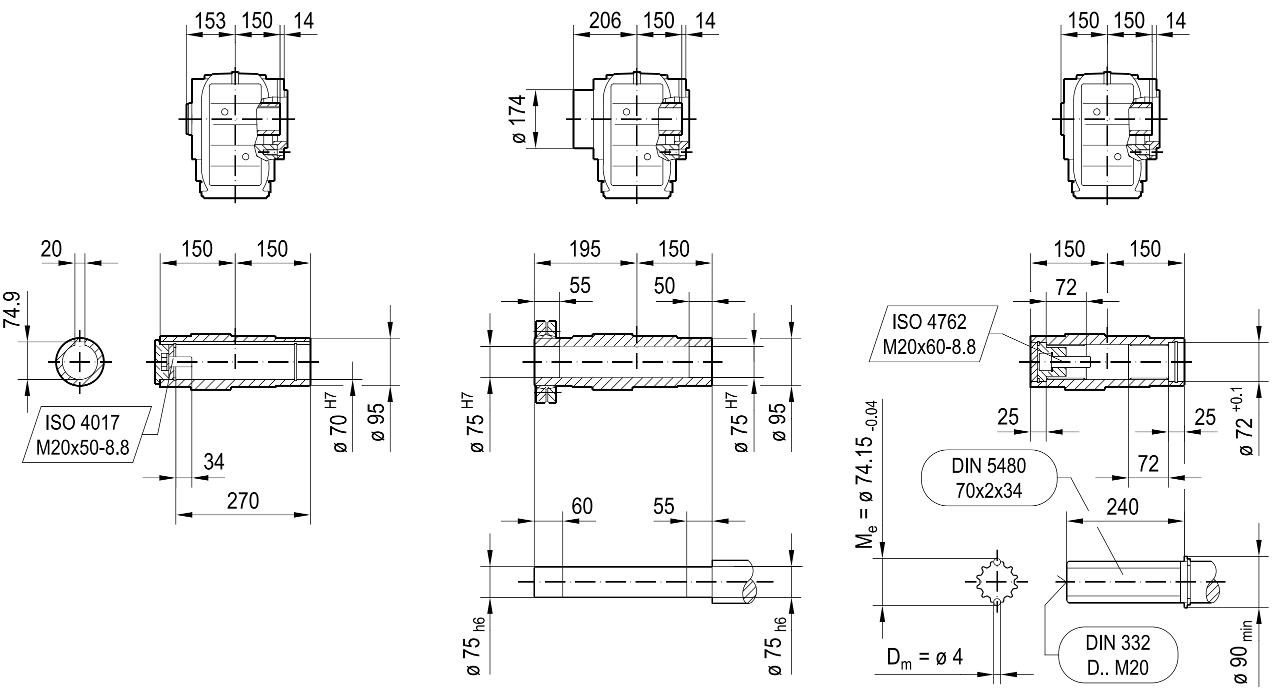

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(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM112	180	15	215	5	250	551	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	604	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	604	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	662	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	662	M16	227	48	110	51.8	14
AM200	300	20	350	7	400	703	M16	268	55	110	59.3	16

33 037 00 16

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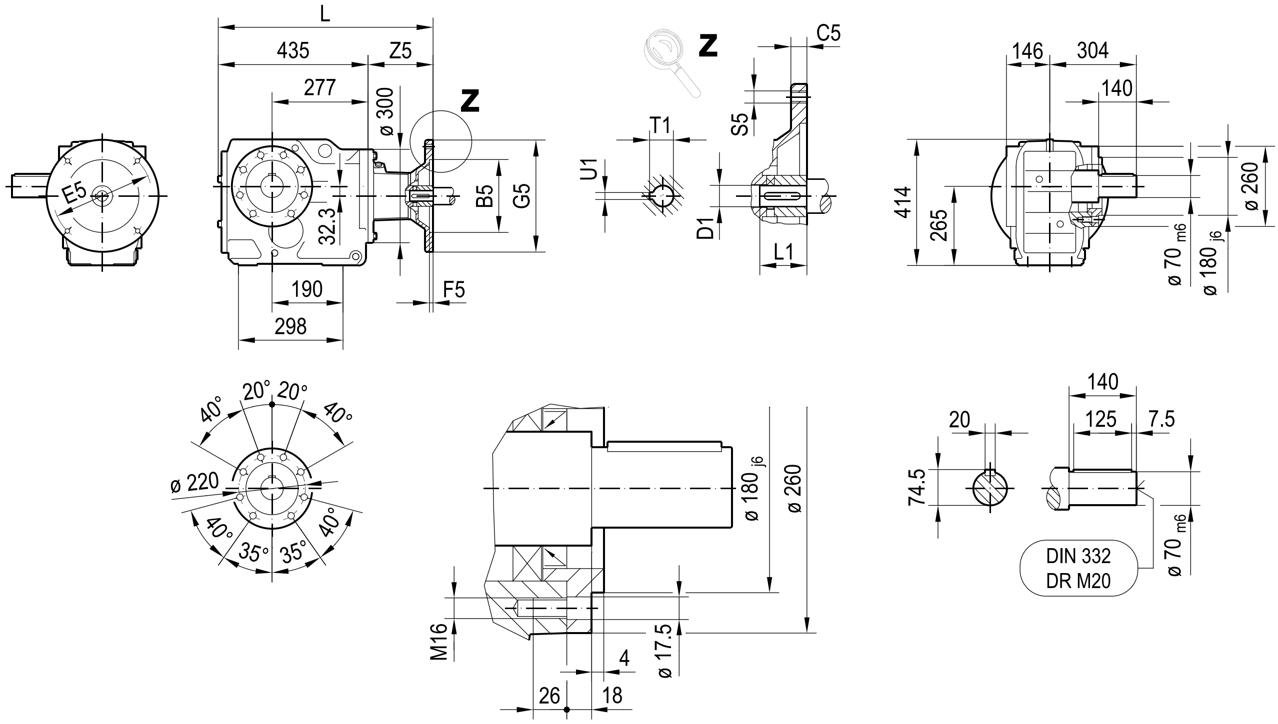

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	551	M12	116	28	60	31.3	8
AM112	180	15	215	5	250	551	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	604	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	604	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	662	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	662	M16	227	48	110	51.8	14
AM200	300	20	350	7	400	703	M16	268	55	110	59.3	16

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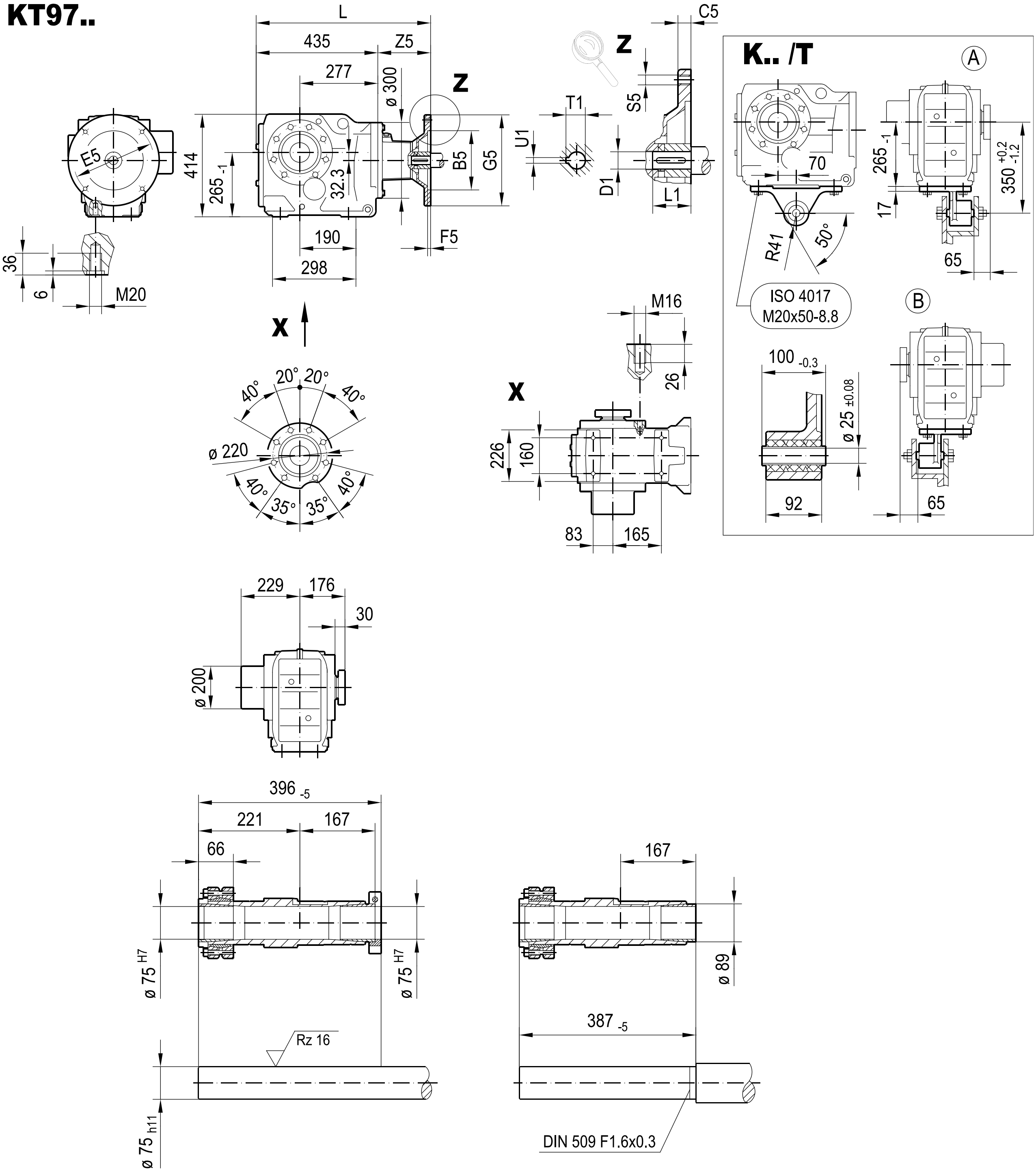
38 008 01 04

KT97..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	551	M12	116	28	60	31.3	8
AM112	180	15	215	5	250	551	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	604	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	604	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	662	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	662	M16	227	48	110	51.8	14
AM200	300	20	350	7	400	703	M16	268	55	110	59.3	16

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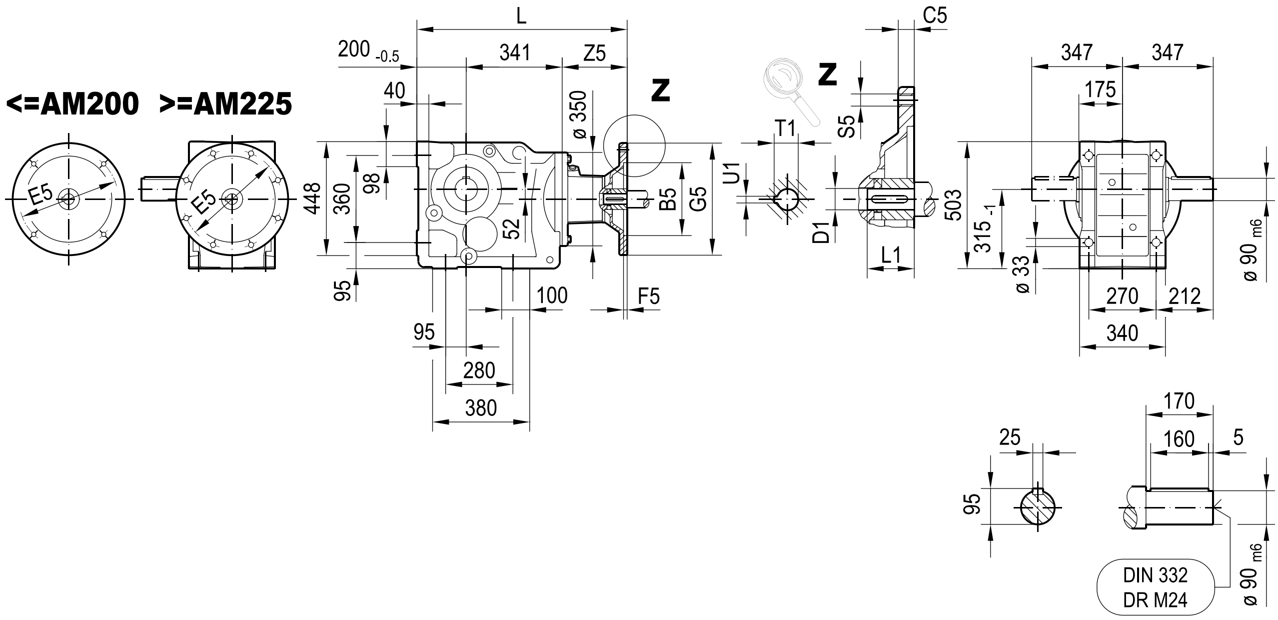
33 024 02 01

K107..



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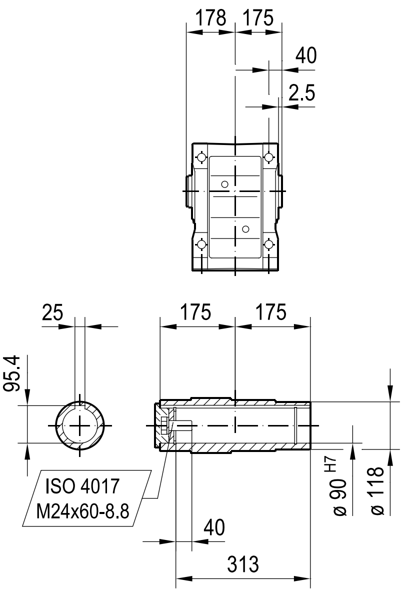

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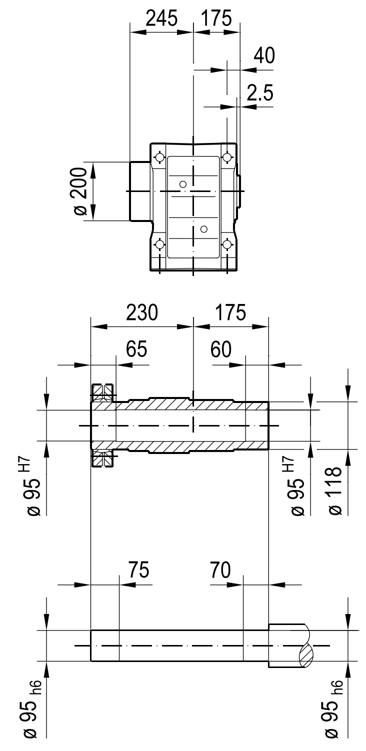

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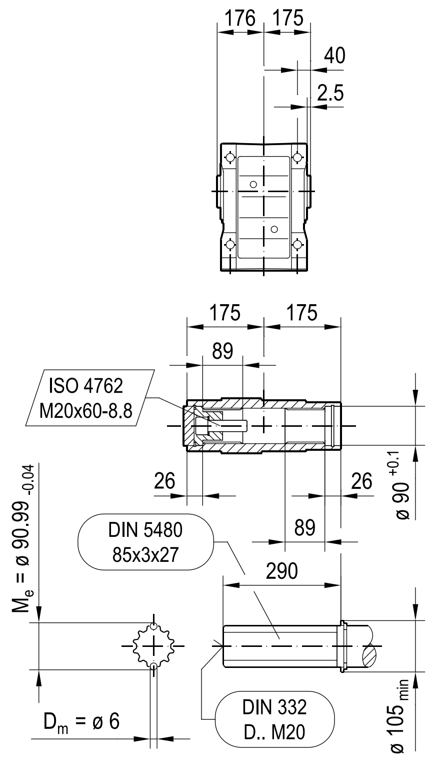

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM112	180	15	215	5	250	651	M12	110	28	60	31.3	8
AM132S/M	230	16	265	5	300	704	M12	163	38	80	41.3	10
AM132ML	230	16	265	5	300	704	M12	163	38	80	41.3	10
AM160	250	18	300	6	350	762	M16	221	42	110	45.3	12
AM180	250	18	300	6	350	762	M16	221	48	110	51.8	14
AM200	300	20	350	7	400	803	M16	262	55	110	59.3	16
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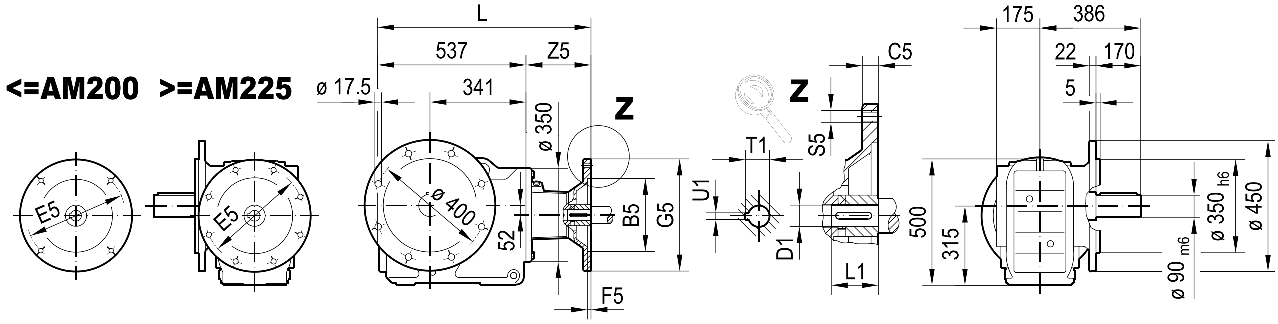
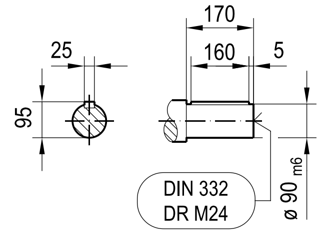
33 025 02 01

KF107..





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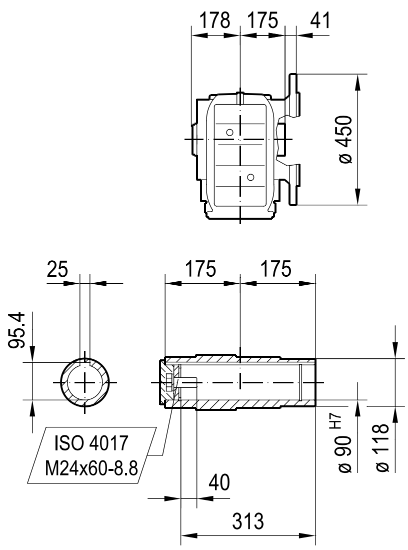

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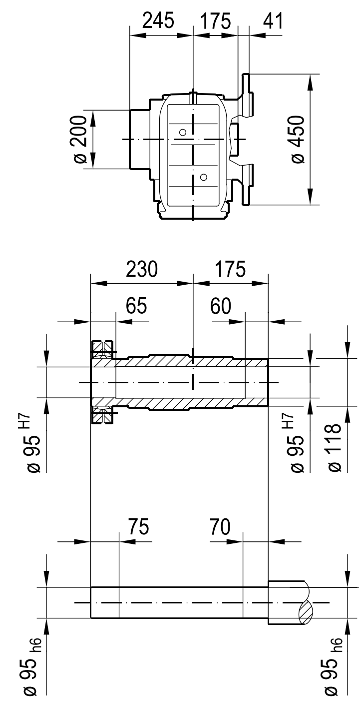

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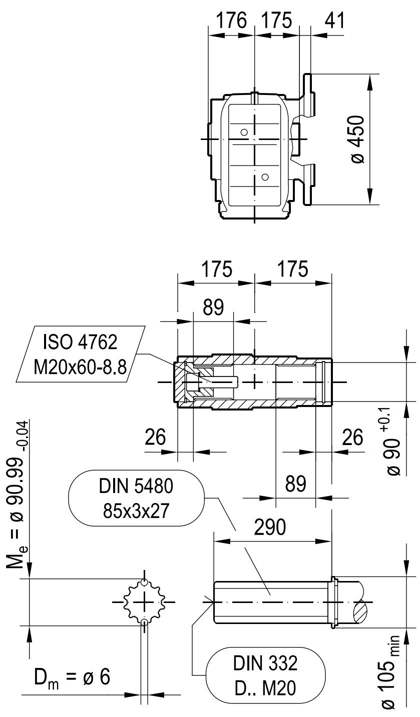

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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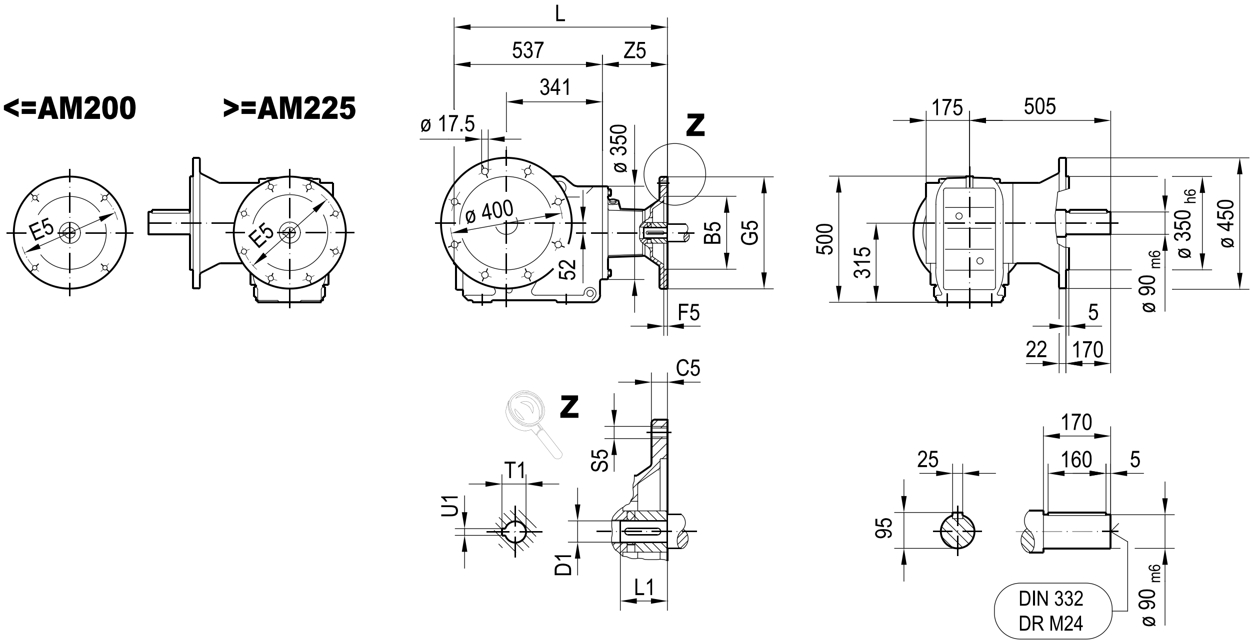
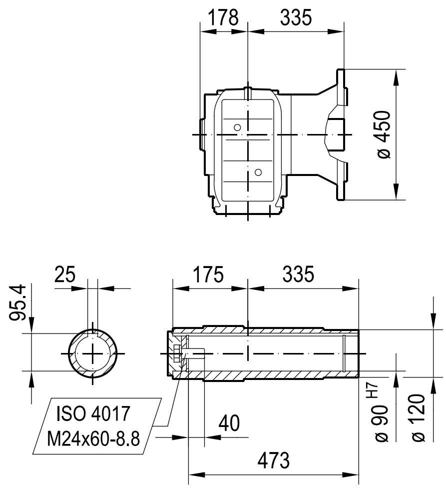
AM112	180	15	215	5	250	647	M12	110	28	60	31.3	8
AM132S/M	230	16	265	5	300	700	M12	163	38	80	41.3	10
AM132ML	230	16	265	5	300	700	M12	163	38	80	41.3	10
AM160	250	18	300	6	350	758	M16	221	42	110	45.3	12
AM180	250	18	300	6	350	758	M16	221	48	110	51.8	14
AM200	300	20	350	7	400	799	M16	262	55	110	59.3	16
AM225	350	22	400	7	450	814	M16	277	60	140	64.4	18

33 123 00 18

KM107..



KAM107..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	647	M12	110	28	60	31.3	8
AM112	180	15	215	5	250	647	M12	110	28	60	31.3	8
AM132S/M	230	16	265	5	300	700	M12	163	38	80	41.3	10
AM132ML	230	16	265	5	300	700	M12	163	38	80	41.3	10
AM160	250	18	300	6	350	758	M16	221	42	110	45.3	12
AM180	250	18	300	6	350	758	M16	221	48	110	51.8	14
AM200	300	20	350	7	400	799	M16	262	55	110	59.3	16
AM225	350	22	400	7	450	814	M16	277	60	140	64.4	18

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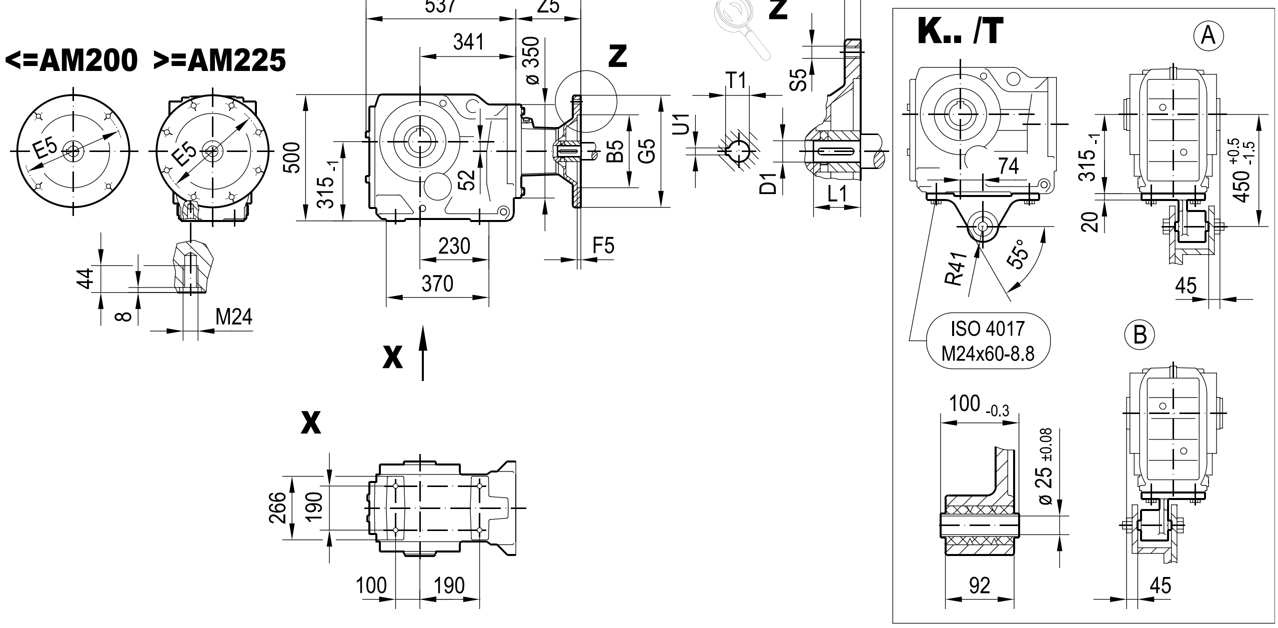
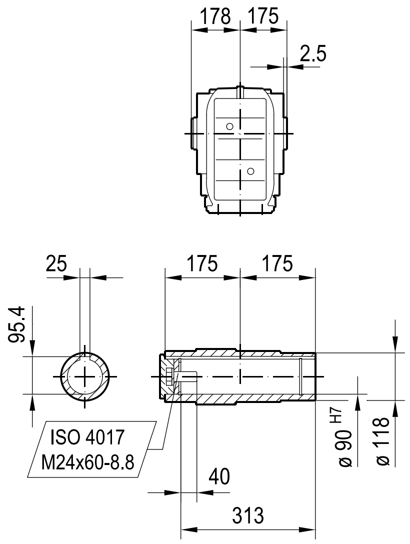
38 024 02 01

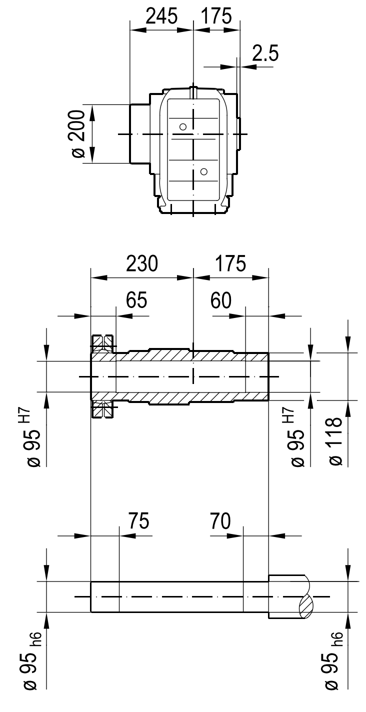
KA107..



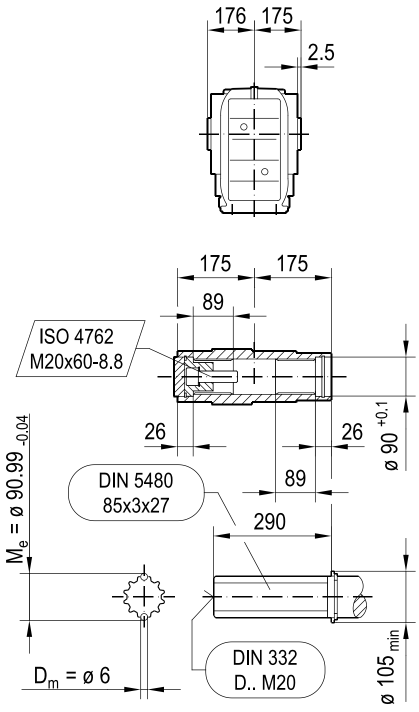
KA107..



KH107..



KV107..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	647	M12	110	28	60	31.3	8
AM112	180	15	215	5	250	647	M12	110	28	60	31.3	8
AM132S/M	230	16	265	5	300	700	M12	163	38	80	41.3	10
AM132ML	230	16	265	5	300	700	M12	163	38	80	41.3	10
AM160	250	18	300	6	350	758	M16	221	42	110	45.3	12
AM180	250	18	300	6	350	758	M16	221	48	110	51.8	14
AM200	300	20	350	7	400	799	M16	262	55	110	59.3	16
AM225	350	22	400	7	450	814	M16	277	60	140	64.4	18

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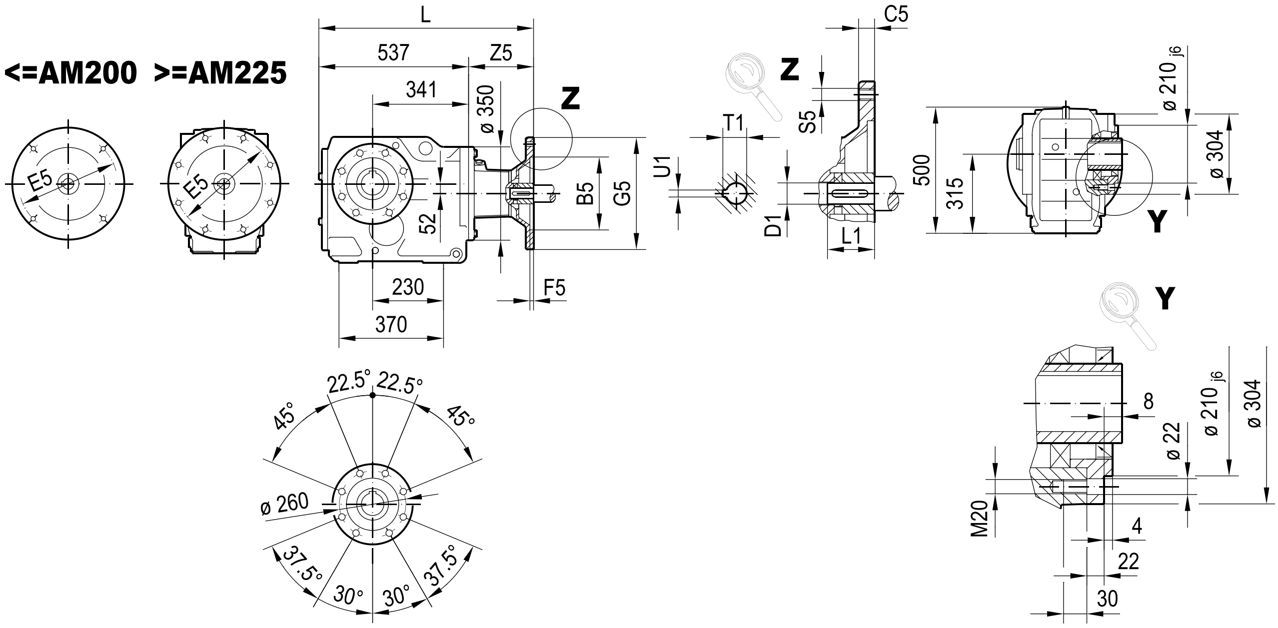
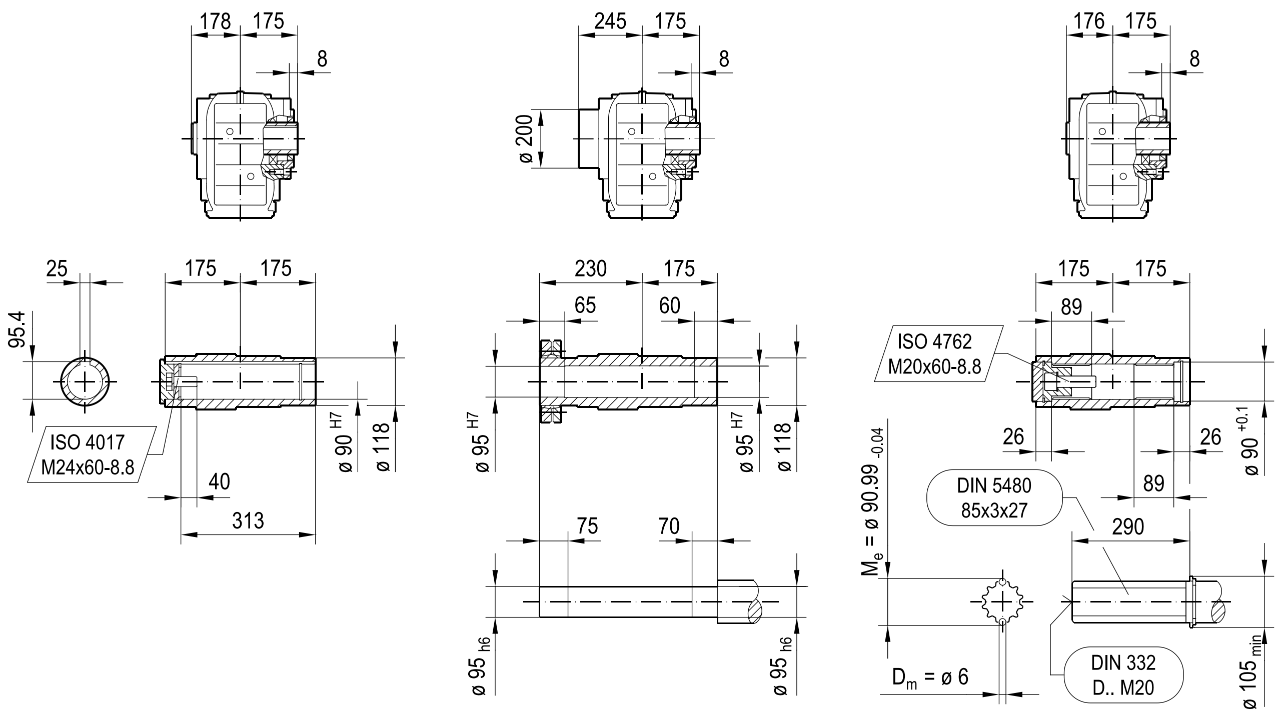
38 025 02 01

KAZ107..



KAZ107.. KHZ107.. KVZ107..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	647	M12	110	28	60	31.3	8
AM112	180	15	215	5	250	647	M12	110	28	60	31.3	8
AM132S/M	230	16	265	5	300	700	M12	163	38	80	41.3	10
AM132ML	230	16	265	5	300	700	M12	163	38	80	41.3	10
AM160	250	18	300	6	350	758	M16	221	42	110	45.3	12
AM180	250	18	300	6	350	758	M16	221	48	110	51.8	14
AM200	300	20	350	7	400	799	M16	262	55	110	59.3	16
AM225	350	22	400	7	450	814	M16	277	60	140	64.4	18

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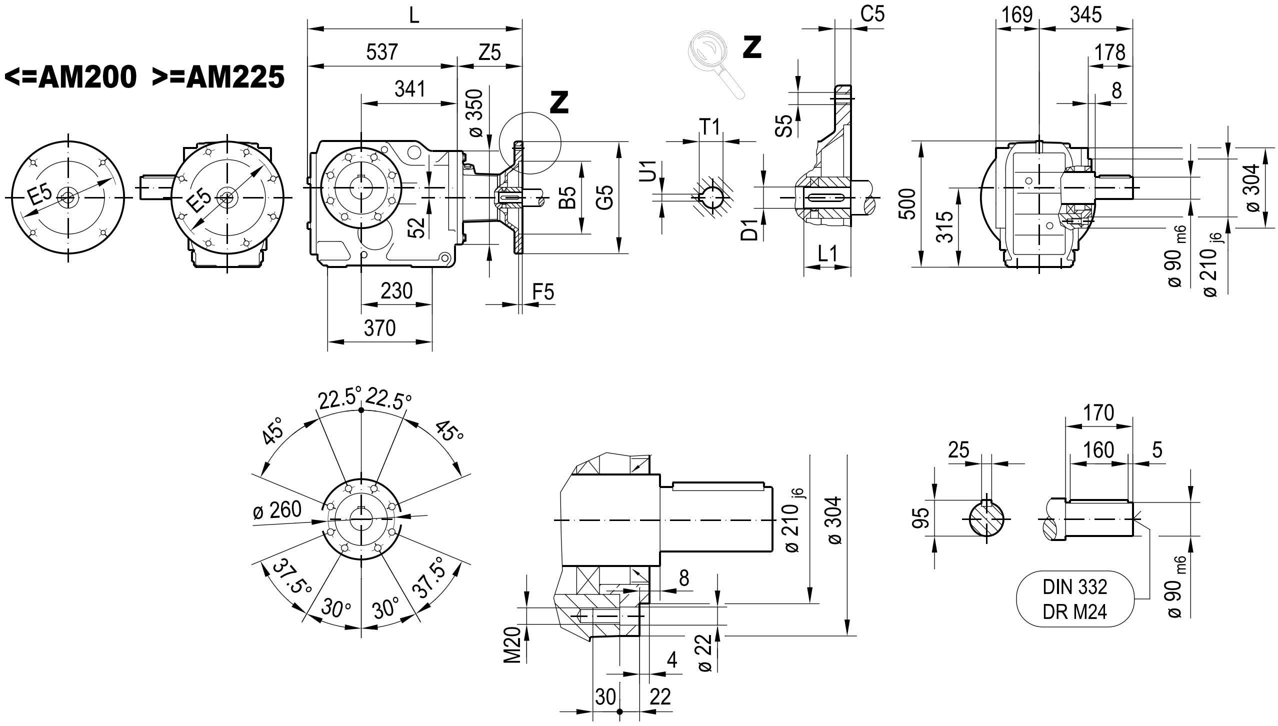
KZ107..

33 038 00 16



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	647	M12	110	28	60	31.3	8
AM112	180	15	215	5	250	647	M12	110	28	60	31.3	8
AM132S/M	230	16	265	5	300	700	M12	163	38	80	41.3	10
AM132ML	230	16	265	5	300	700	M12	163	38	80	41.3	10
AM160	250	18	300	6	350	758	M16	221	42	110	45.3	12
AM180	250	18	300	6	350	758	M16	221	48	110	51.8	14
AM200	300	20	350	7	400	799	M16	262	55	110	59.3	16
AM225	350	22	400	7	450	814	M16	277	60	140	64.4	18

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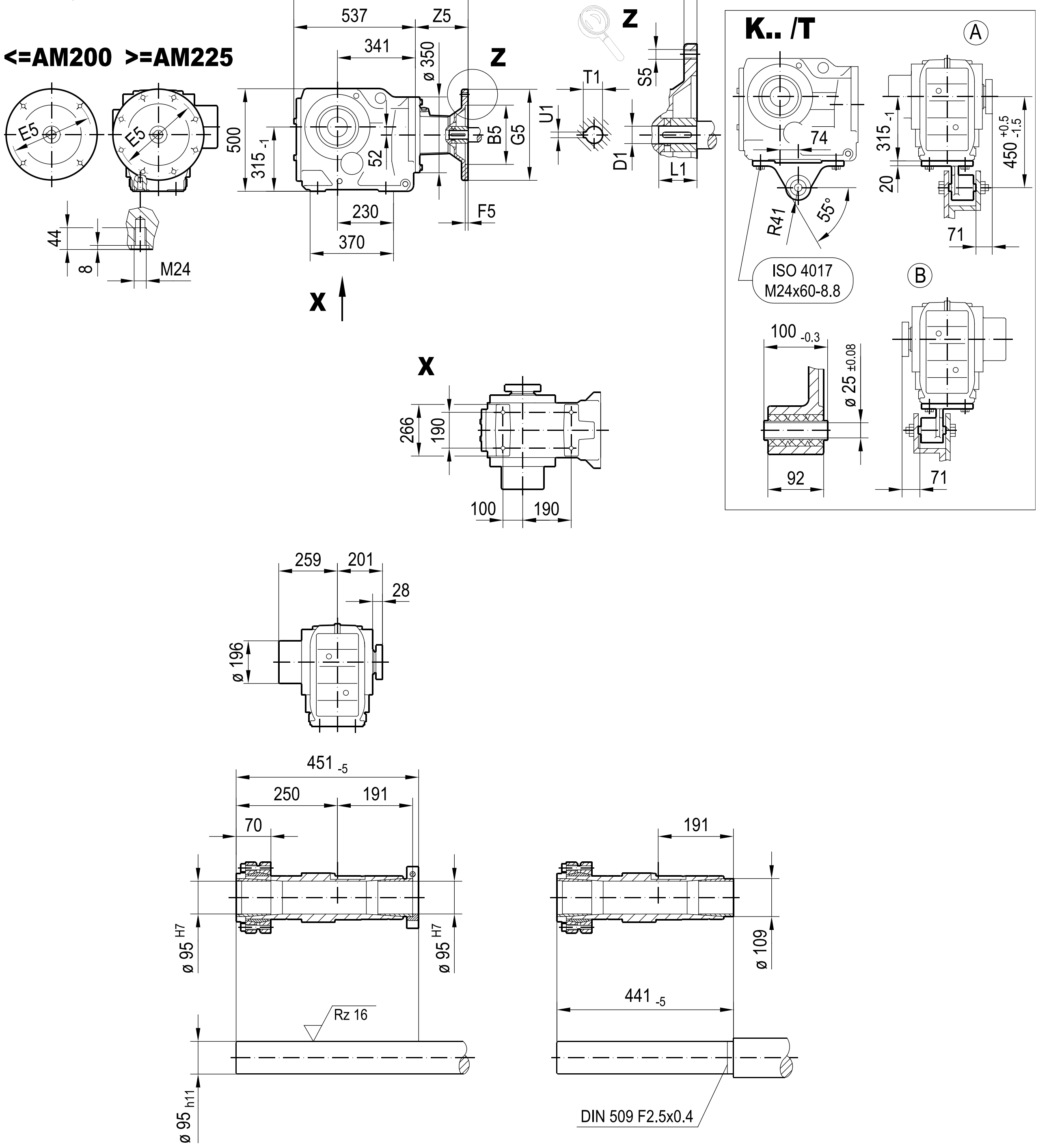
33 004 01 07

KT107..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	647	M12	110	28	60	31.3	8
AM112	180	15	215	5	250	647	M12	110	28	60	31.3	8
AM132S/M	230	16	265	5	300	700	M12	163	38	80	41.3	10
AM132ML	230	16	265	5	300	700	M12	163	38	80	41.3	10
AM160	250	18	300	6	350	758	M16	221	42	110	45.3	12
AM180	250	18	300	6	350	758	M16	221	48	110	51.8	14
AM200	300	20	350	7	400	799	M16	262	55	110	59.3	16
AM225	350	22	400	7	450	814	M16	277	60	140	64.4	18

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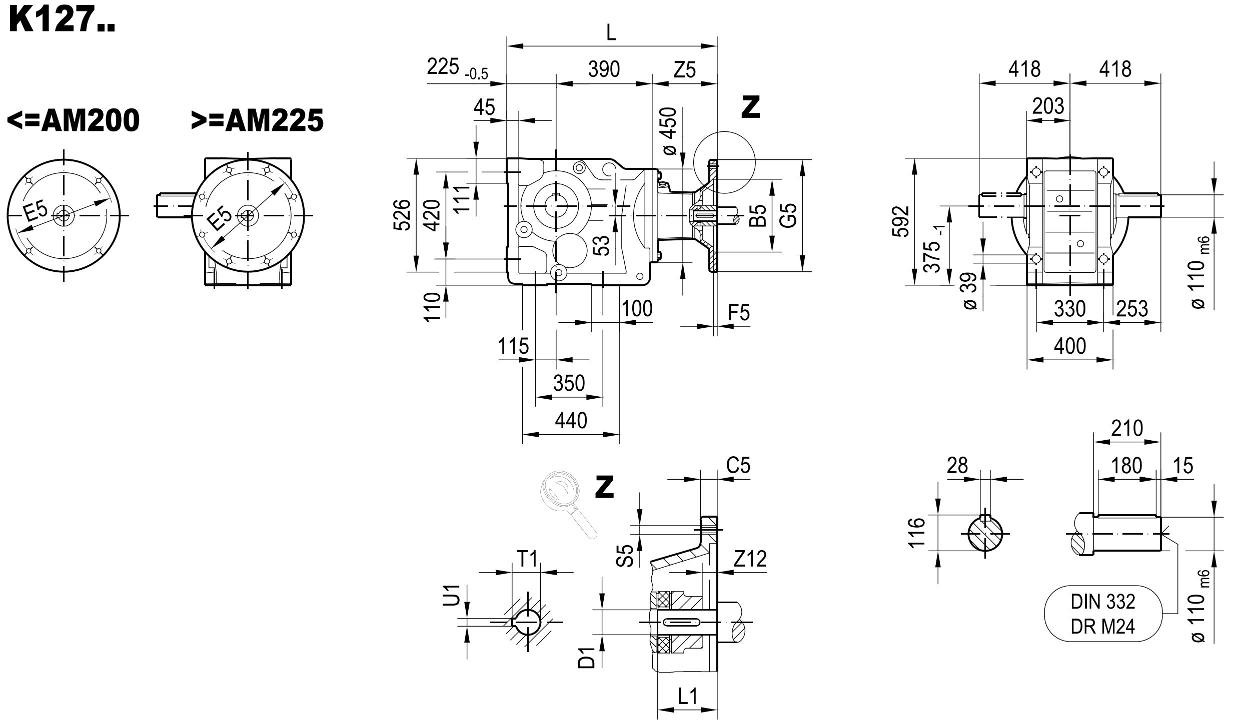
33 026 02 01

K127..



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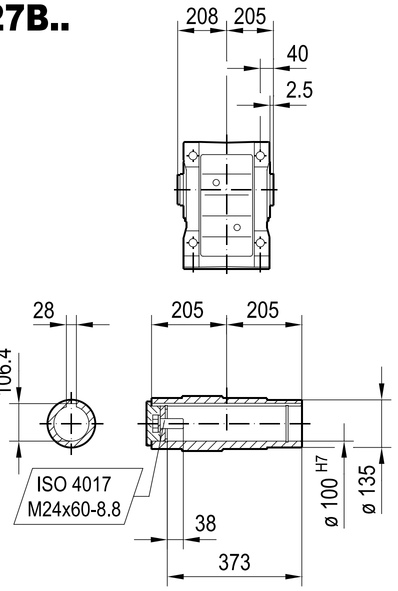
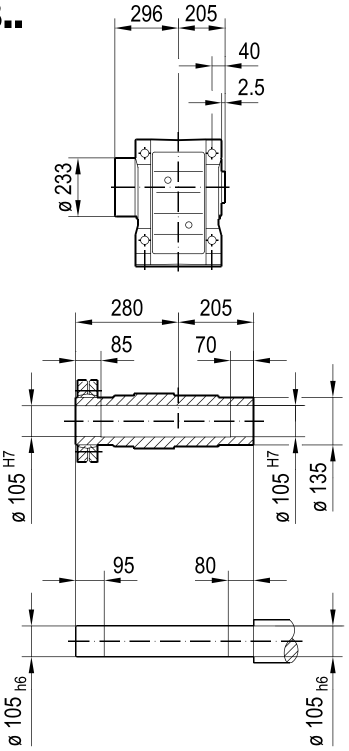


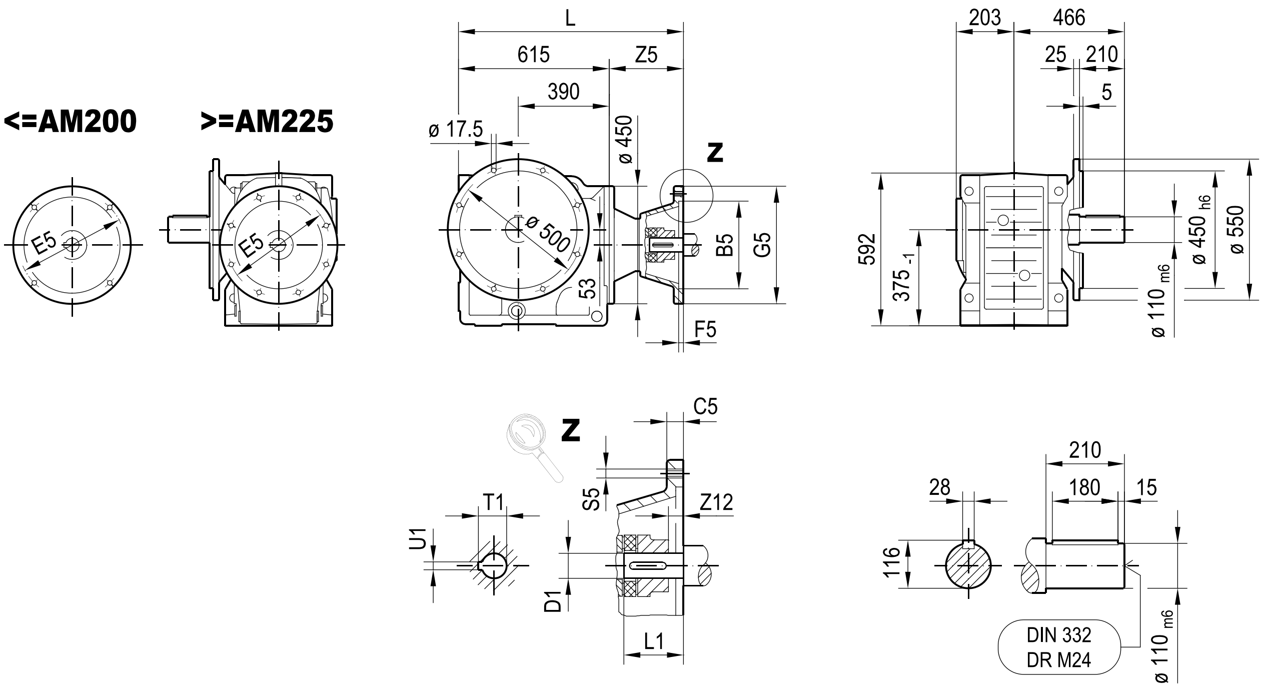
KH127B..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM132S/M	230	16	265	5	300	763	M12	148	0	38	80	41.3	10
AM132ML	230	16	265	5	300	763	M12	148	0	38	80	41.3	10
AM160	250	18	300	6	350	821	M16	206	0	42	110	45.3	12
AM180	250	18	300	6	350	821	M16	206	0	48	110	51.8	14
AM200	300	20	350	7	400	862	M16	247	0	55	110	59.3	16
AM225	350	22	400	7	450	877	M16	262	0	60	140	64.4	18
AM250	450	25	500	7	550	951	M16	336	19	65	140	69.4	18
AM280	450	25	500	7	550	951	M16	336	19	75	140	79.9	20

33 027 01 01

KF127..



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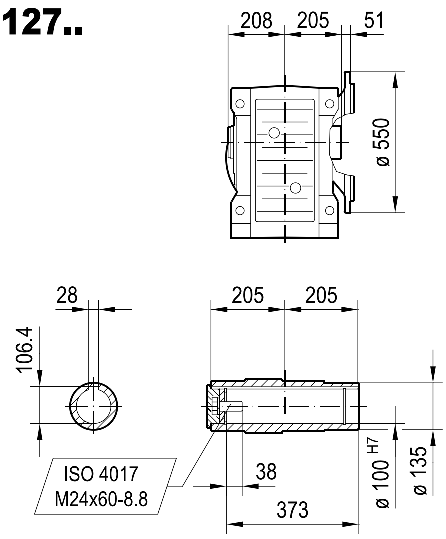

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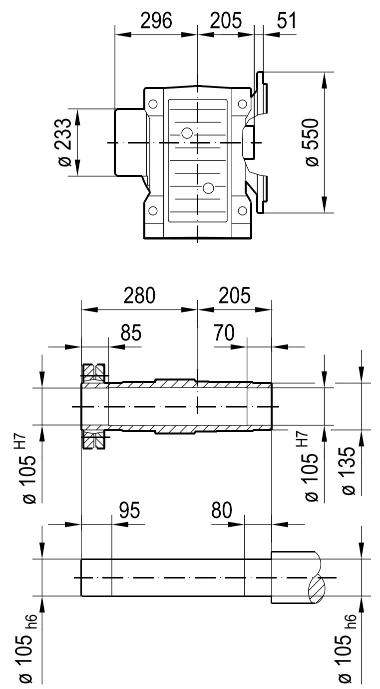

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM132S/M	230	16	265	5	300	763	M12	148	0	38	80	41.3	10
AM132ML	230	16	265	5	300	763	M12	148	0	38	80	41.3	10
AM160	250	18	300	6	350	821	M16	206	0	42	110	45.3	12
AM180	250	18	300	6	350	821	M16	206	0	48	110	51.8	14
AM200	300	20	350	7	400	862	M16	247	0	55	110	59.3	16
AM225	350	22	400	7	450	877	M16	262	0	60	140	64.4	18
AM250	450	25	500	7	550	951	M16	336	19	65	140	69.4	18
AM280	450	25	500	7	550	951	M16	336	19	75	140	79.9	20

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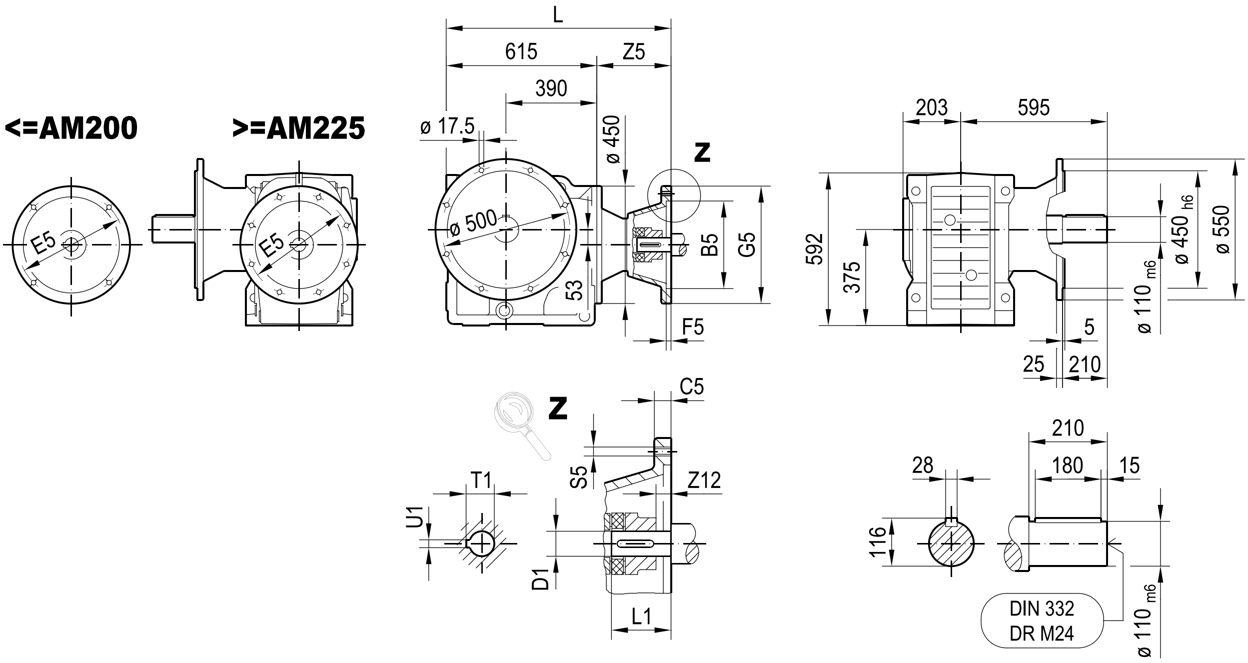
33 124 00 18

KM127..



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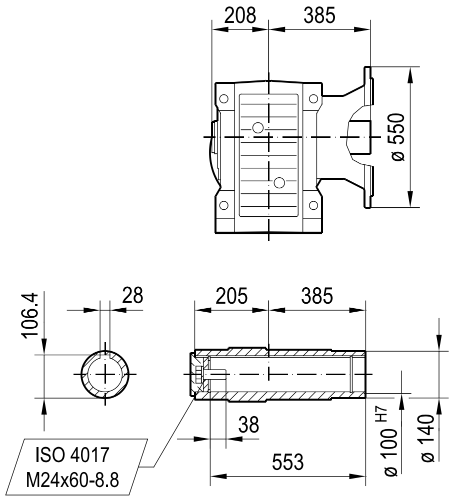

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM132S/M	230	16	265	5	300	763	M12	148	0	38	80	41.3	10
AM132ML	230	16	265	5	300	763	M12	148	0	38	80	41.3	10
AM160	250	18	300	6	350	821	M16	206	0	42	110	45.3	12
AM180	250	18	300	6	350	821	M16	206	0	48	110	51.8	14
AM200	300	20	350	7	400	862	M16	247	0	55	110	59.3	16
AM225	350	22	400	7	450	877	M16	262	0	60	140	64.4	18
AM250	450	25	500	7	550	951	M16	336	19	65	140	69.4	18
AM280	450	25	500	7	550	951	M16	336	19	75	140	79.9	20

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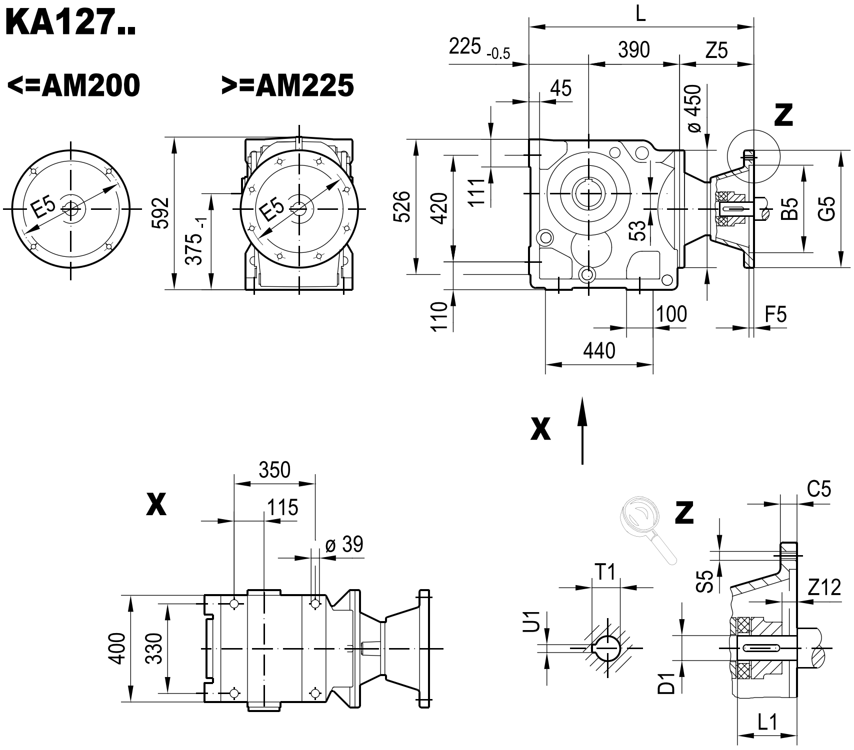
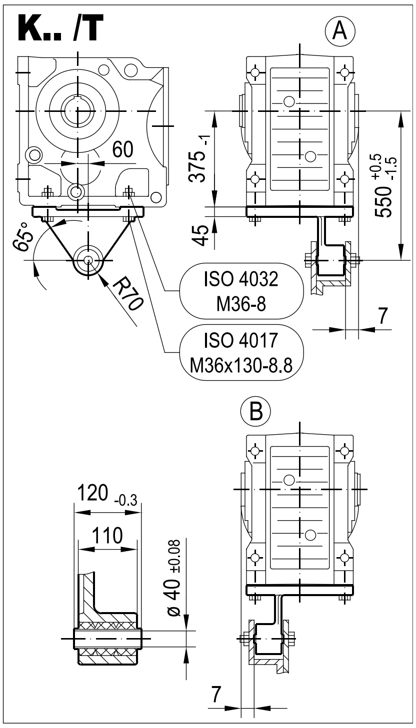
38 026 02 01

KA127..

<=AM200 >=AM225



K.. /T



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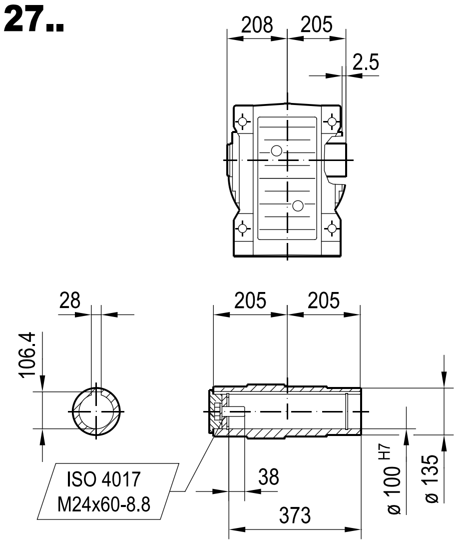
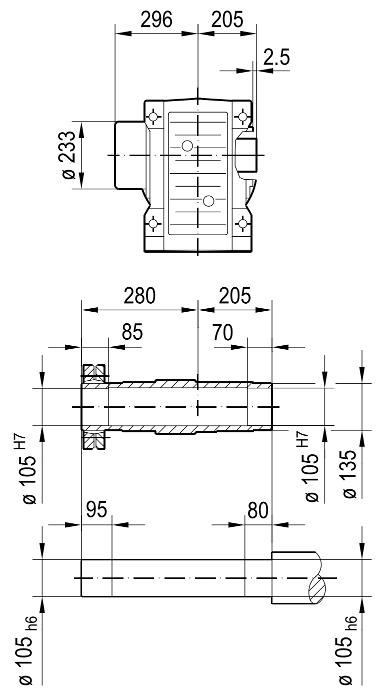


KH127..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM132S/M	230	16	265	5	300	763	M12	148	0	38	80	41.3	10
AM132ML	230	16	265	5	300	763	M12	148	0	38	80	41.3	10
AM160	250	18	300	6	350	821	M16	206	0	42	110	45.3	12
AM180	250	18	300	6	350	821	M16	206	0	48	110	51.8	14
AM200	300	20	350	7	400	862	M16	247	0	55	110	59.3	16
AM225	350	22	400	7	450	877	M16	262	0	60	140	64.4	18
AM250	450	25	500	7	550	951	M16	336	19	65	140	69.4	18
AM280	450	25	500	7	550	951	M16	336	19	75	140	79.9	20

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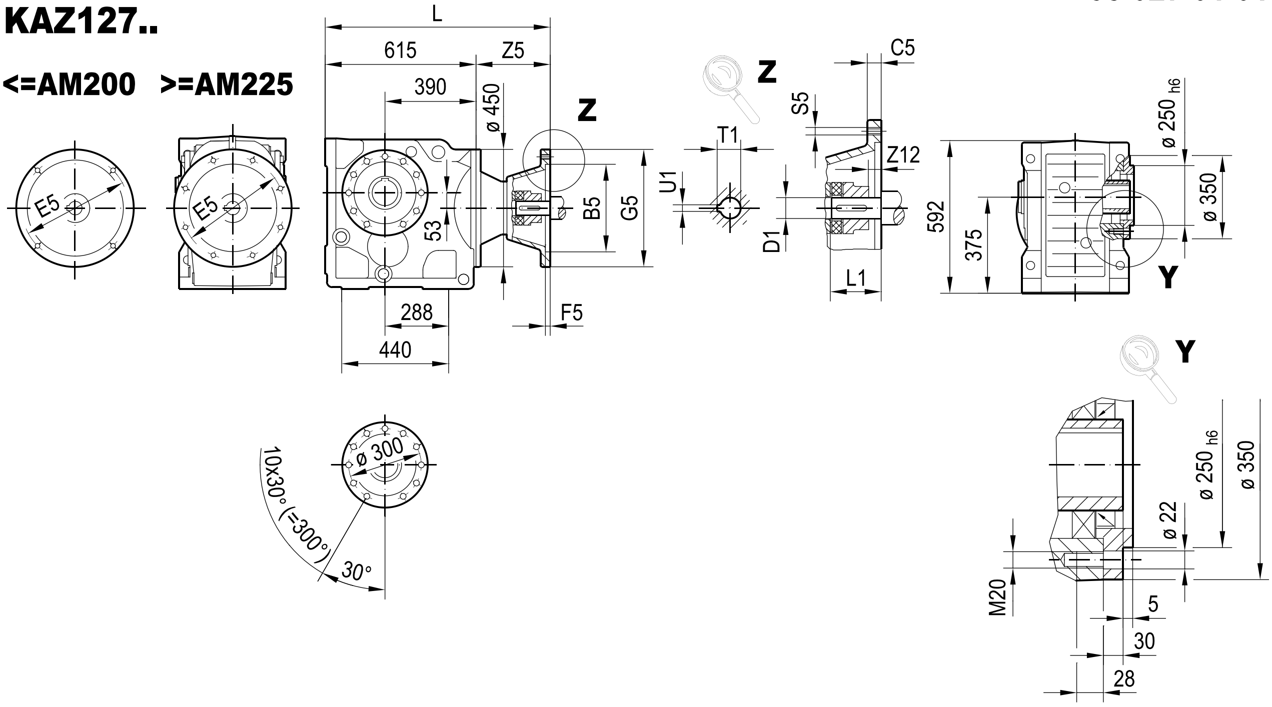
38 027 01 01

KAZ127..

<=AM200 >=AM225



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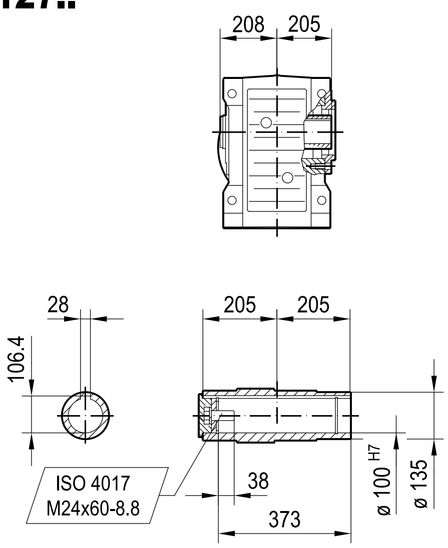

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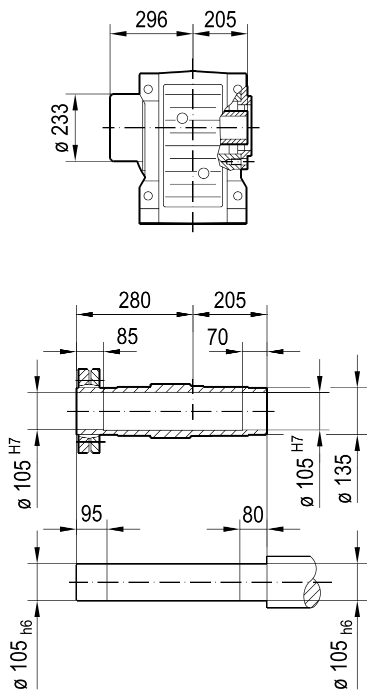
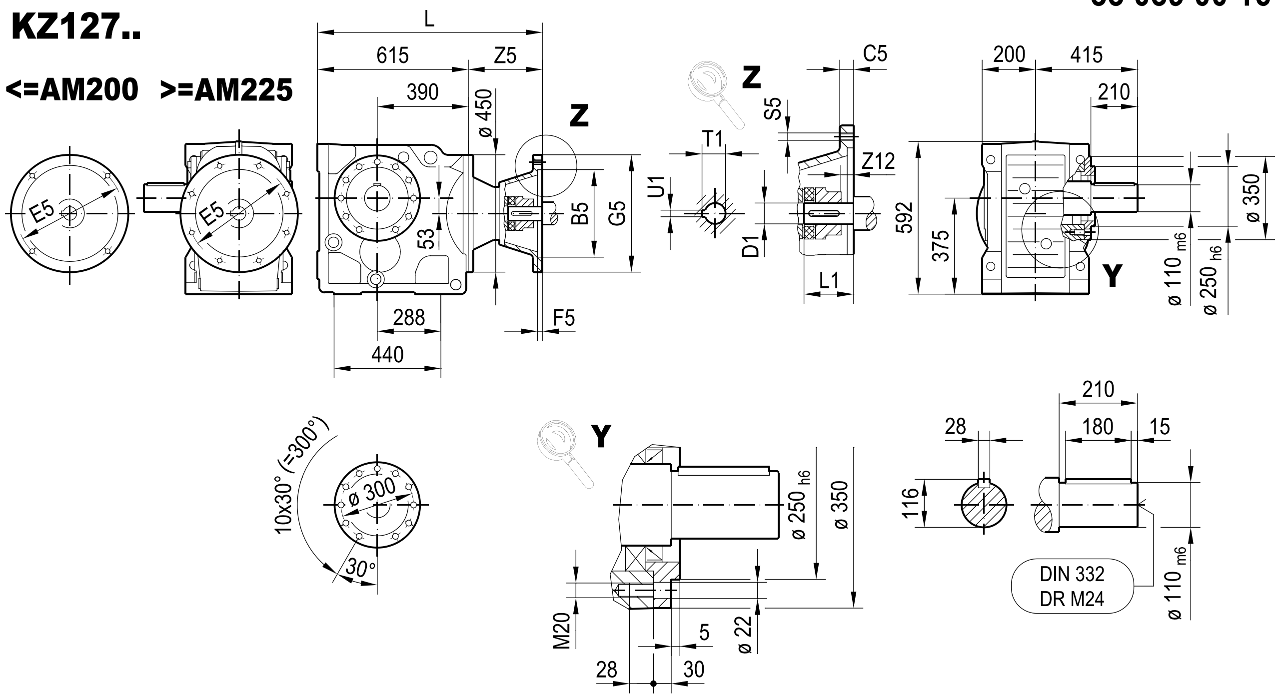


(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM132S/M	230	16	265	5	300	763	M12	148	0	38	80	41.3	10
AM132ML	230	16	265	5	300	763	M12	148	0	38	80	41.3	10
AM160	250	18	300	6	350	821	M16	206	0	42	110	45.3	12
AM180	250	18	300	6	350	821	M16	206	0	48	110	51.8	14
AM200	300	20	350	7	400	862	M16	247	0	55	110	59.3	16
AM225	350	22	400	7	450	877	M16	262	0	60	140	64.4	18
AM250	450	25	500	7	550	951	M16	336	19	65	140	69.4	18
AM280	450	25	500	7	550	951	M16	336	19	75	140	79.9	20

33 039 00 16

KZ127..

<=AM200 >=AM225



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM132S/M	230	16	265	5	300	763	M12	148	0	38	80	41.3	10
AM132ML	230	16	265	5	300	763	M12	148	0	38	80	41.3	10
AM160	250	18	300	6	350	821	M16	206	0	42	110	45.3	12
AM180	250	18	300	6	350	821	M16	206	0	48	110	51.8	14
AM200	300	20	350	7	400	862	M16	247	0	55	110	59.3	16
AM225	350	22	400	7	450	877	M16	262	0	60	140	64.4	18
AM250	450	25	500	7	550	951	M16	336	19	65	140	69.4	18
AM280	450	25	500	7	550	951	M16	336	19	75	140	79.9	20

33 005 01 07

KT127..

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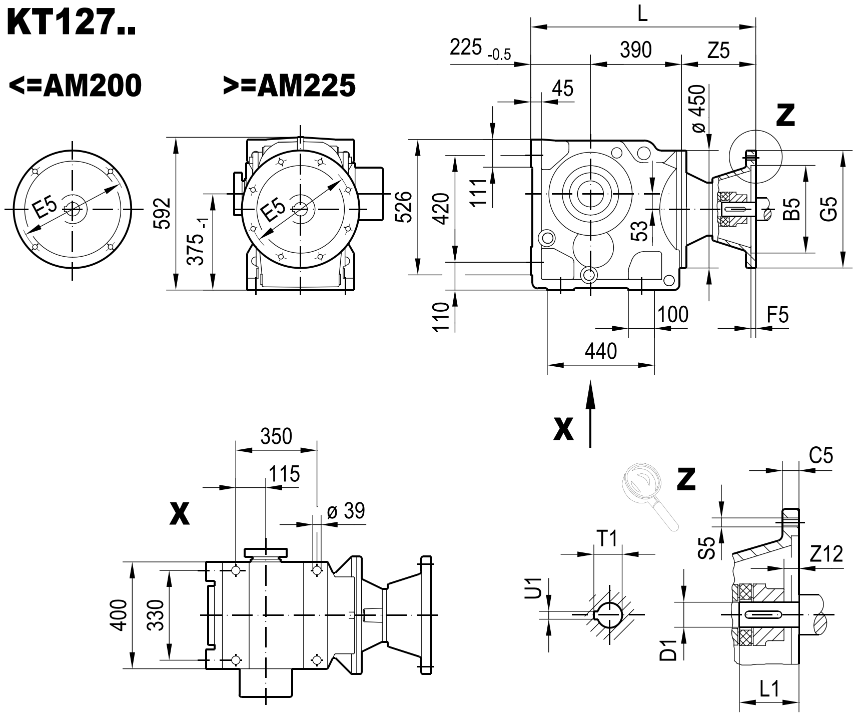

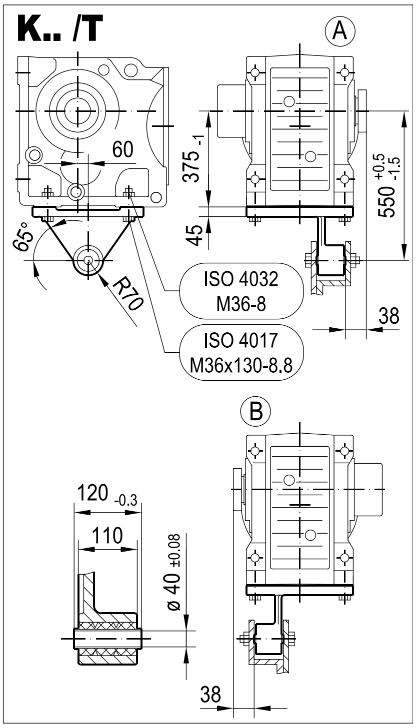

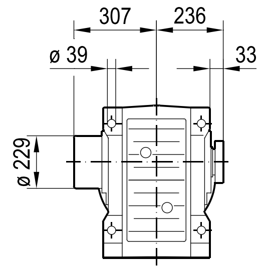

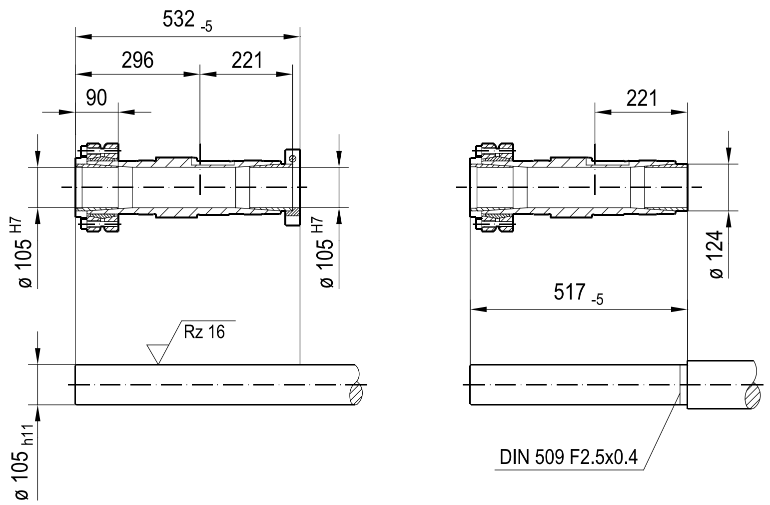

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM132S/M	230	16	265	5	300	763	M12	148	0	38	80	41.3	10
AM132ML	230	16	265	5	300	763	M12	148	0	38	80	41.3	10
AM160	250	18	300	6	350	821	M16	206	0	42	110	45.3	12
AM180	250	18	300	6	350	821	M16	206	0	48	110	51.8	14
AM200	300	20	350	7	400	862	M16	247	0	55	110	59.3	16
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AM250	450	25	500	7	550	951	M16	336	19	65	140	69.4	18
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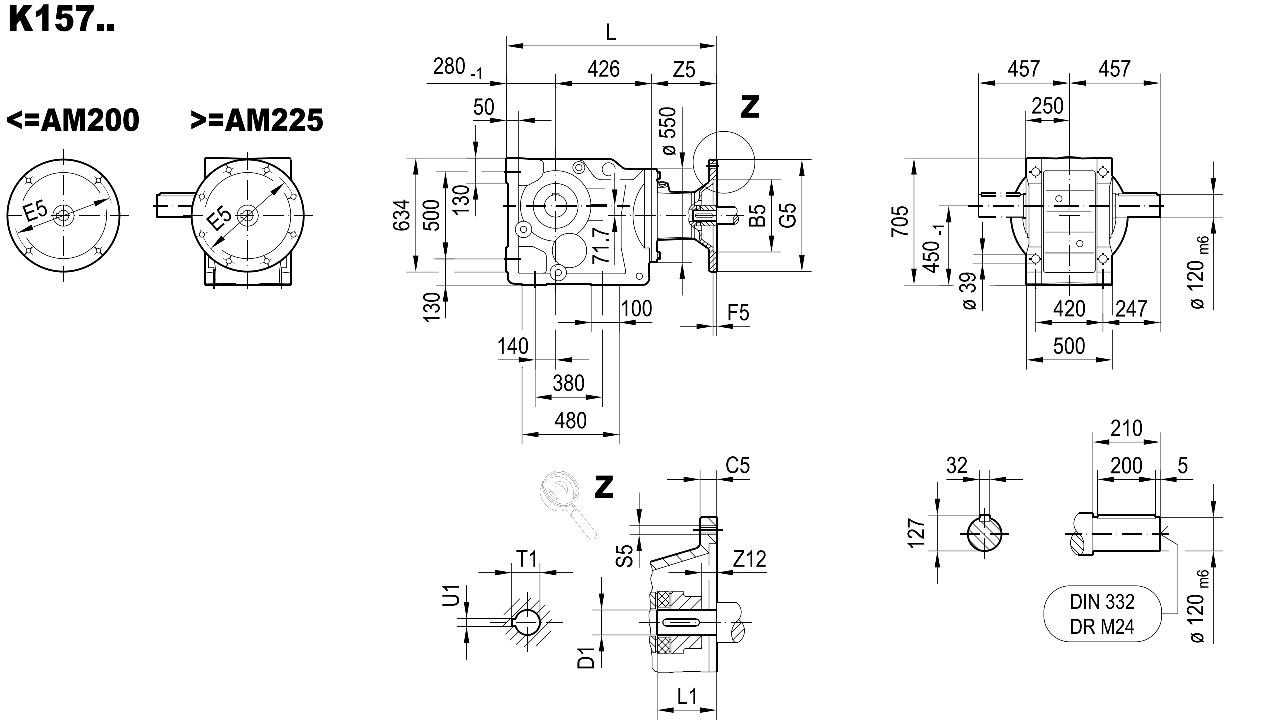
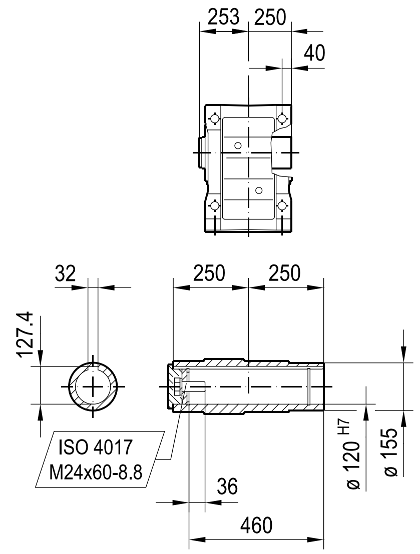
33 028 02 01

K157..



KA157B..



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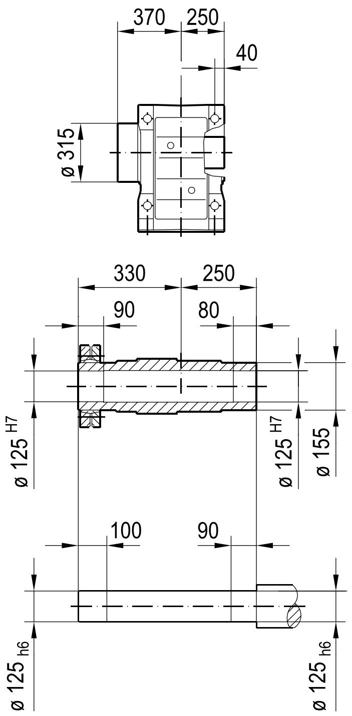

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
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AM180	250	18	300	6	350	904	M16	198	0	48	110	51.8	14
AM200	300	20	350	7	400	945	M16	239	0	55	110	59.3	16
AM225	350	22	400	7	450	960	M16	254	0	60	140	64.4	18
AM250	450	25	500	7	550	1034	M16	328	19	65	140	69.4	18
AM280	450	25	500	7	550	1034	M16	328	19	75	140	79.9	20

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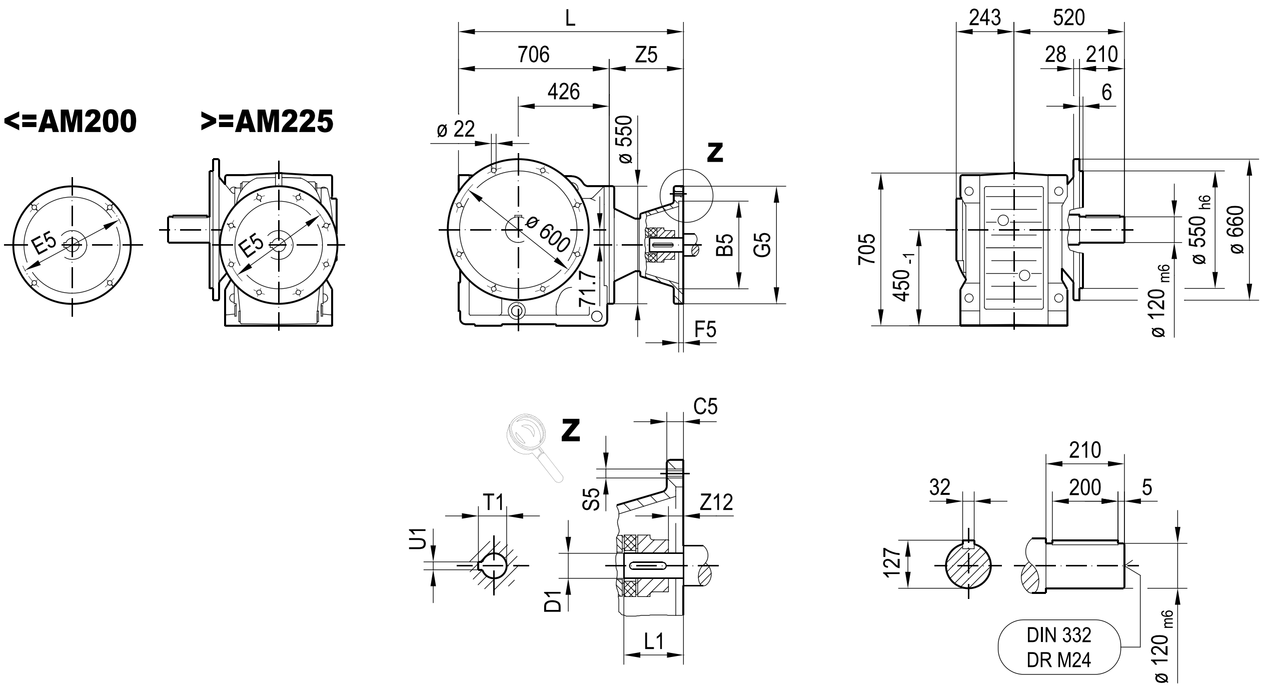
33 029 01 01

KF157..



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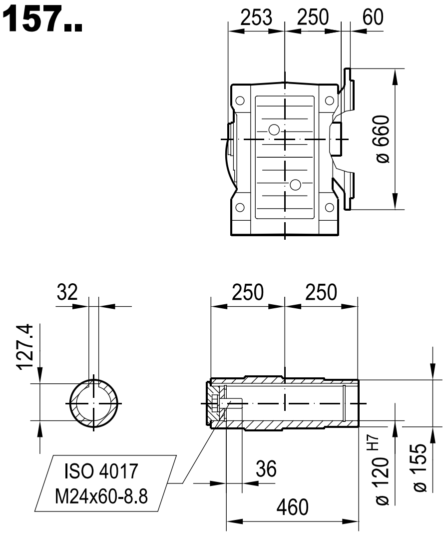
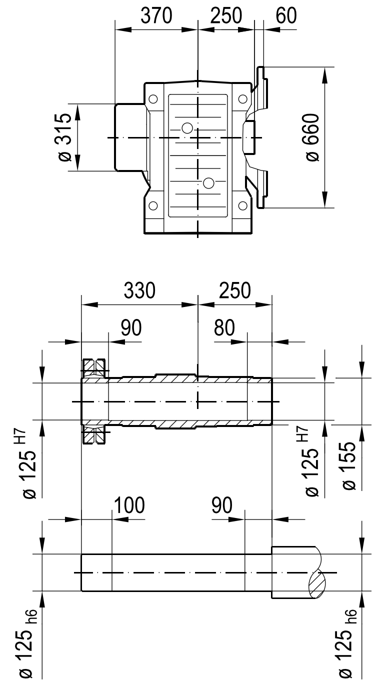


KHF157..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM160	250	18	300	6	350	904	M16	198	0	42	110	45.3	12
AM180	250	18	300	6	350	904	M16	198	0	48	110	51.8	14
AM200	300	20	350	7	400	945	M16	239	0	55	110	59.3	16
AM225	350	22	400	7	450	960	M16	254	0	60	140	64.4	18
AM250	450	25	500	7	550	1034	M16	328	19	65	140	69.4	18
AM280	450	25	500	7	550	1034	M16	328	19	75	140	79.9	20

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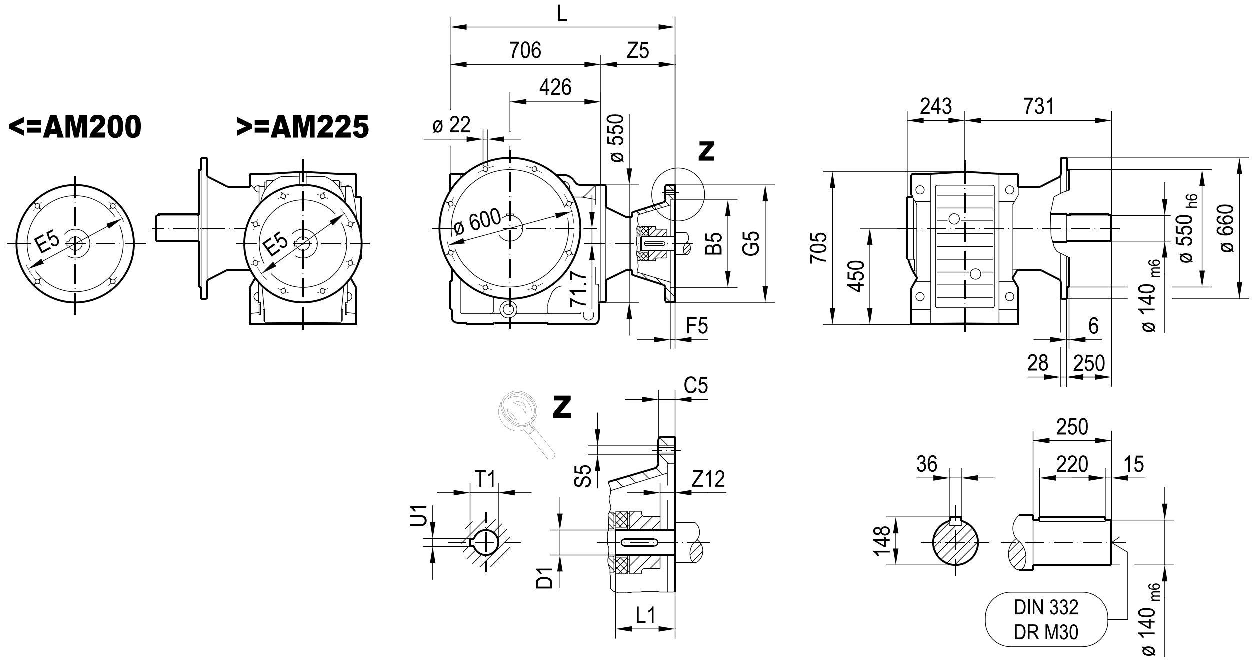
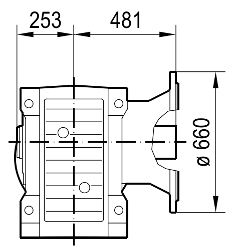
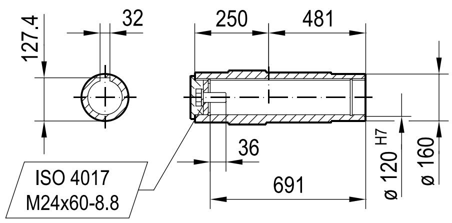
33 125 00 18

KM157..



KAM157..

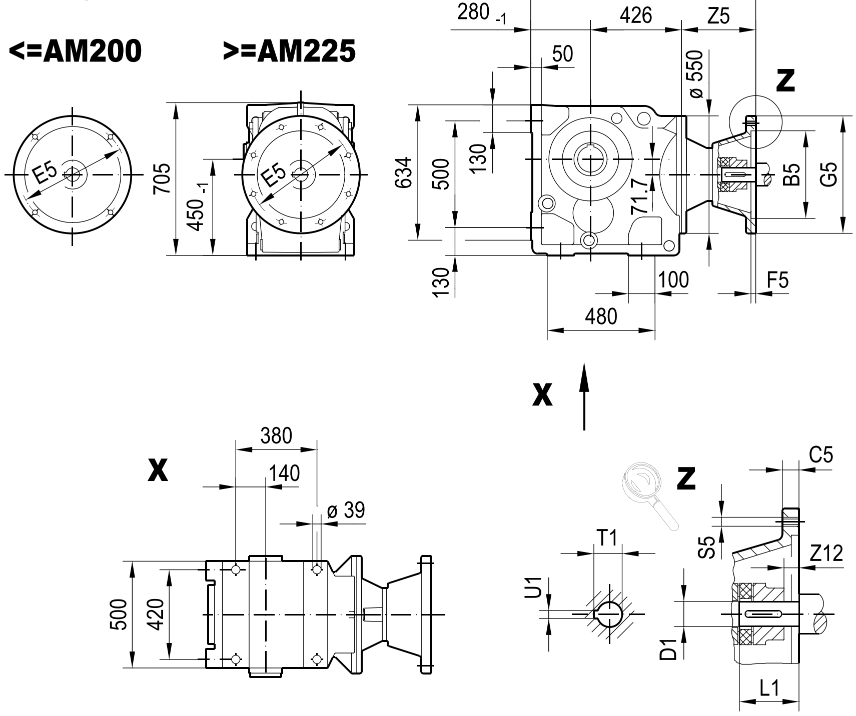


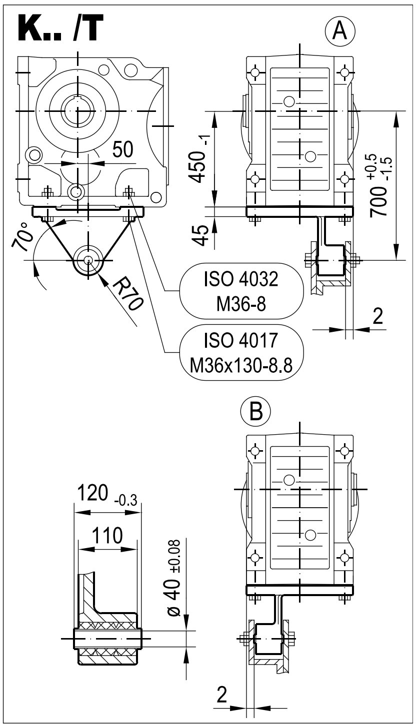


(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM160	250	18	300	6	350	904	M16	198	0	42	110	45.3	12
AM180	250	18	300	6	350	904	M16	198	0	48	110	51.8	14
AM200	300	20	350	7	400	945	M16	239	0	55	110	59.3	16
AM225	350	22	400	7	450	960	M16	254	0	60	140	64.4	18
AM250	450	25	500	7	550	1034	M16	328	19	65	140	69.4	18
AM280	450	25	500	7	550	1034	M16	328	19	75	140	79.9	20

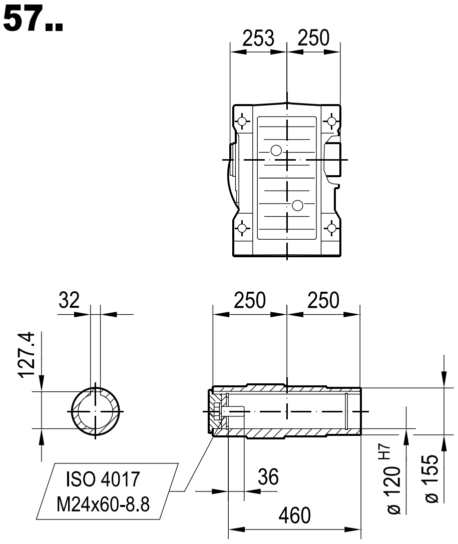
38 028 01 01

KA157..

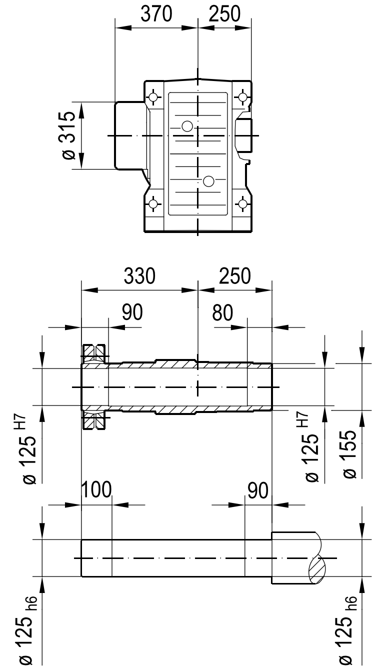




KA157..



KH157..

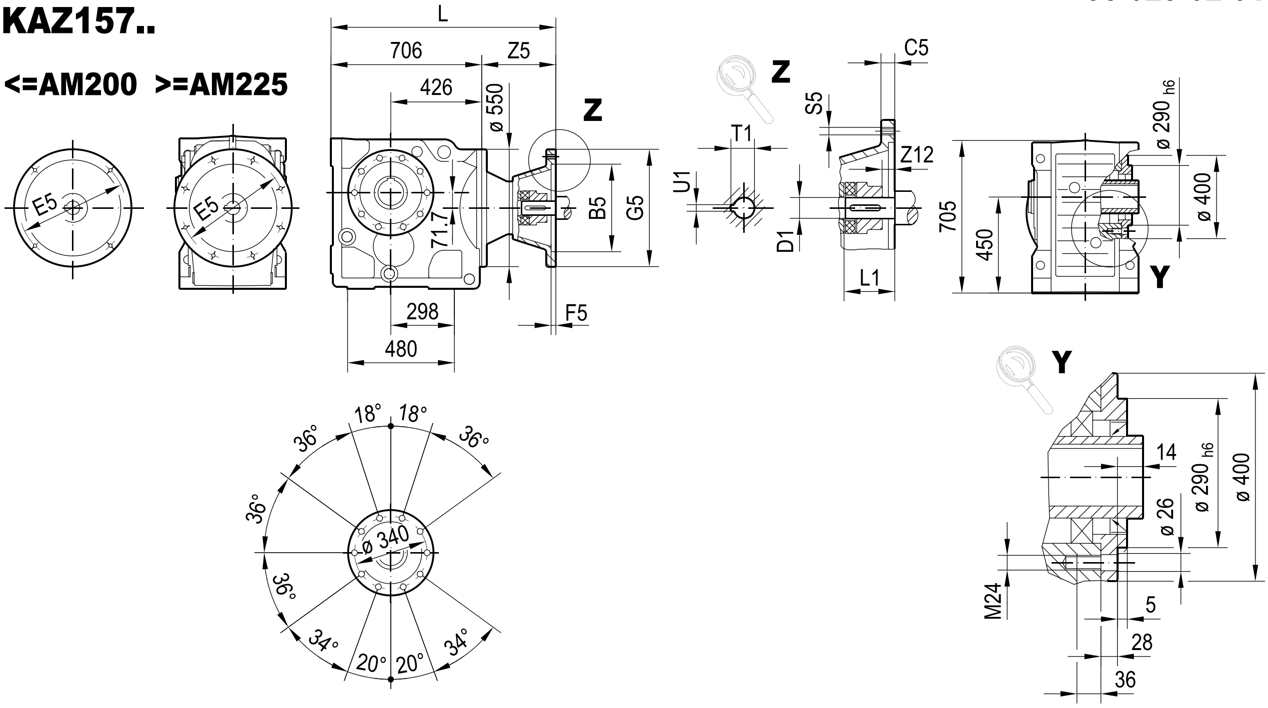


(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM160	250	18	300	6	350	904	M16	198	0	42	110	45.3	12
AM180	250	18	300	6	350	904	M16	198	0	48	110	51.8	14
AM200	300	20	350	7	400	945	M16	239	0	55	110	59.3	16
AM225	350	22	400	7	450	960	M16	254	0	60	140	64.4	18
AM250	450	25	500	7	550	1034	M16	328	19	65	140	69.4	18
AM280	450	25	500	7	550	1034	M16	328	19	75	140	79.9	20

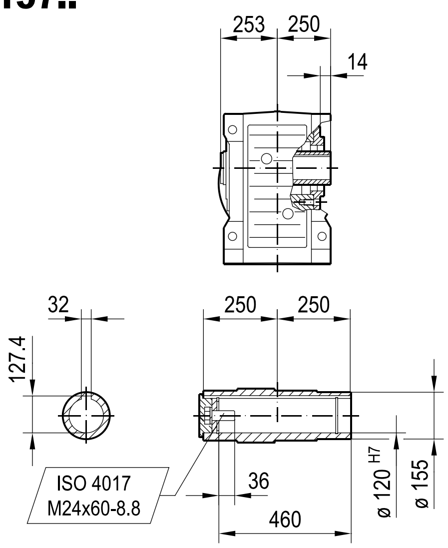
38 029 02 01

KAZ157..

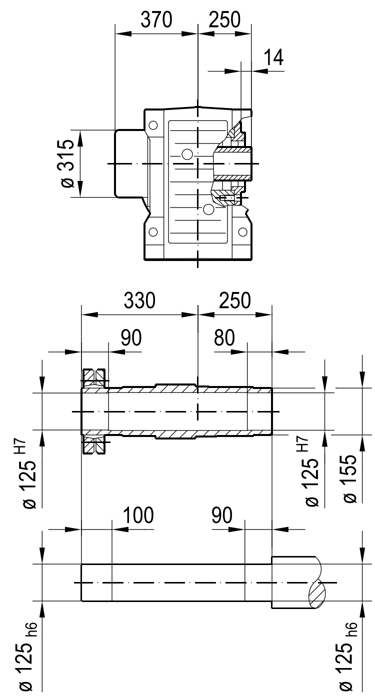
<=AM200 >=AM225



KAZ157..



KHZ157..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM160	250	18	300	6	350	904	M16	198	0	42	110	45.3	12
AM180	250	18	300	6	350	904	M16	198	0	48	110	51.8	14
AM200	300	20	350	7	400	945	M16	239	0	55	110	59.3	16
AM225	350	22	400	7	450	960	M16	254	0	60	140	64.4	18
AM250	450	25	500	7	550	1034	M16	328	19	65	140	69.4	18
AM280	450	25	500	7	550	1034	M16	328	19	75	140	79.9	20

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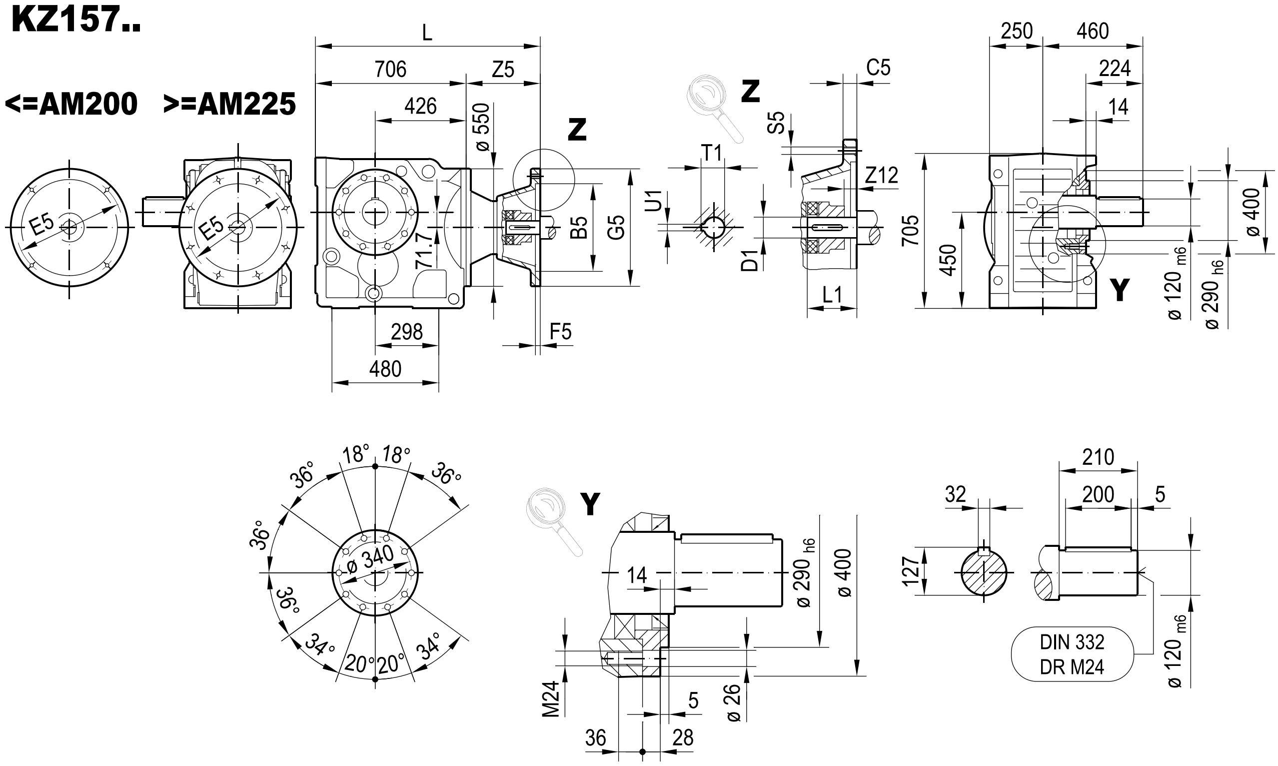
33 040 00 16

KZ157..

<=AM200 >=AM225



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM160	250	18	300	6	350	904	M16	198	0	42	110	45.3	12
AM180	250	18	300	6	350	904	M16	198	0	48	110	51.8	14
AM200	300	20	350	7	400	945	M16	239	0	55	110	59.3	16
AM225	350	22	400	7	450	960	M16	254	0	60	140	64.4	18
AM250	450	25	500	7	550	1034	M16	328	19	65	140	69.4	18
AM280	450	25	500	7	550	1034	M16	328	19	75	140	79.9	20

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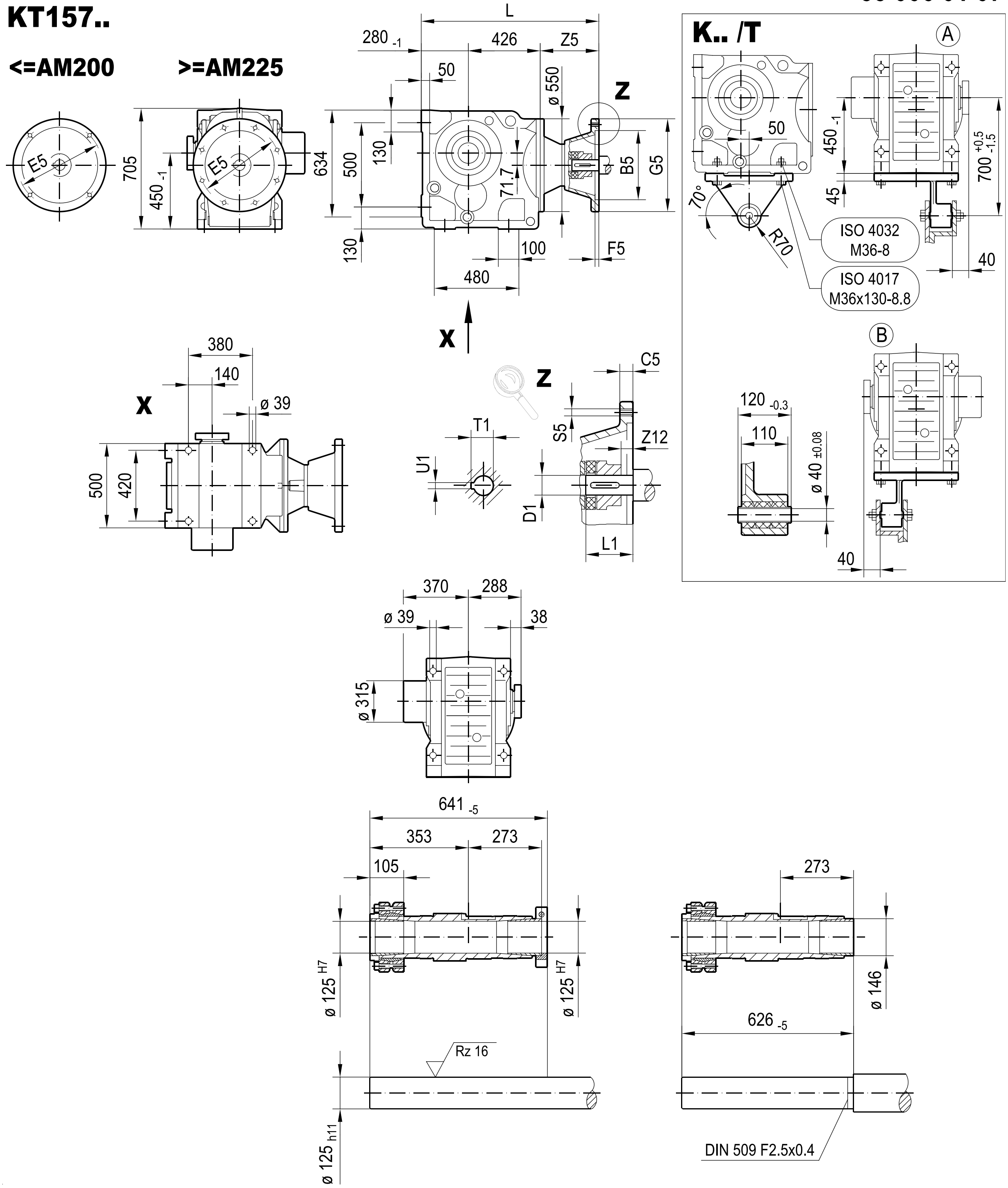
33 006 01 07

KT157..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM160	250	18	300	6	350	904	M16	198	0	42	110	45.3	12
AM180	250	18	300	6	350	904	M16	198	0	48	110	51.8	14
AM200	300	20	350	7	400	945	M16	239	0	55	110	59.3	16
AM225	350	22	400	7	450	960	M16	254	0	60	140	64.4	18
AM250	450	25	500	7	550	1034	M16	328	19	65	140	69.4	18
AM280	450	25	500	7	550	1034	M16	328	19	75	140	79.9	20

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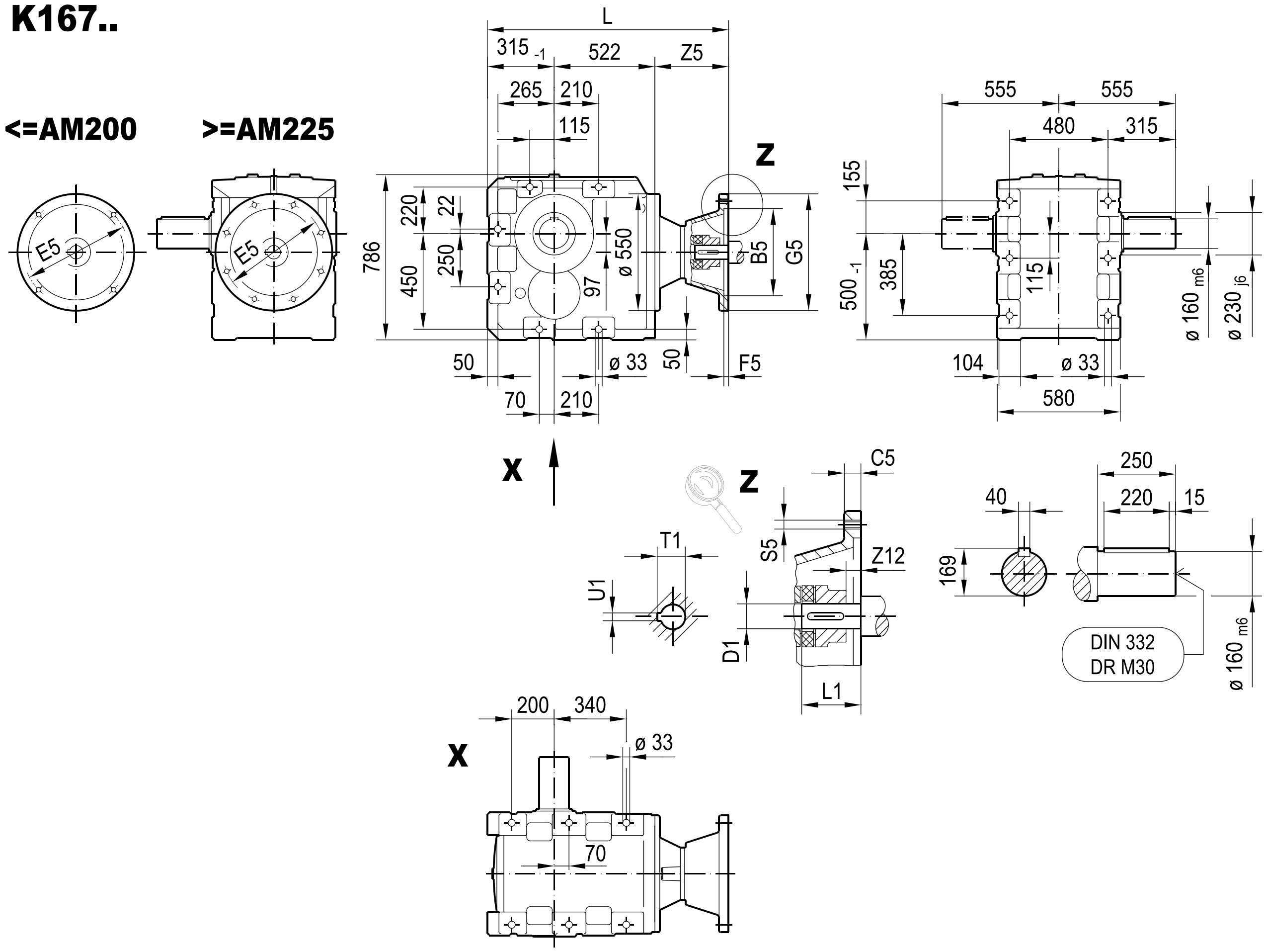
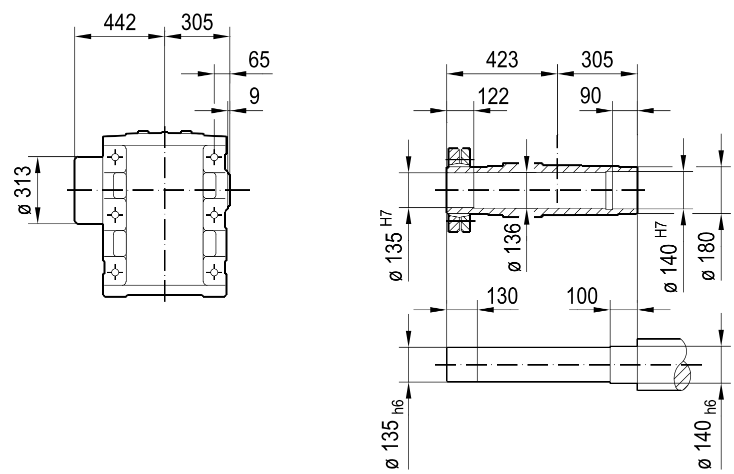
33 030 01 01

K167..



KH167B..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM160	250	18	300	6	350	1035	M16	198	0	42	110	45.3	12
AM180	250	18	300	6	350	1035	M16	198	0	48	110	51.8	14
AM200	300	20	350	7	400	1076	M16	239	0	55	110	59.3	16
AM225	350	22	400	7	450	1091	M16	254	0	60	140	64.4	18
AM250	450	25	500	7	550	1165	M16	328	19	65	140	69.4	18
AM280	450	25	500	7	550	1165	M16	328	19	75	140	79.9	20

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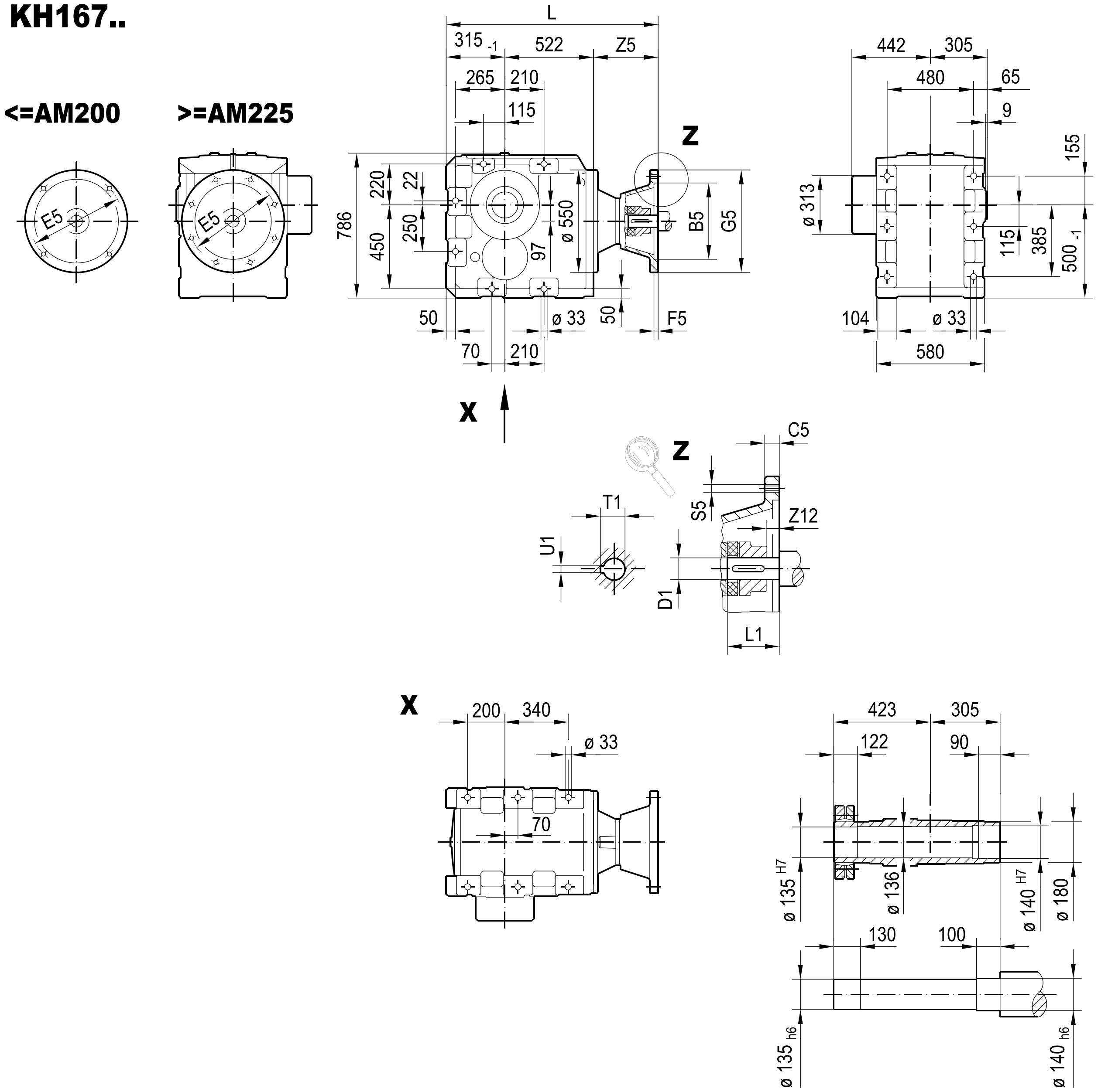
38 030 01 01

KH167..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM160	250	18	300	6	350	1035	M16	198	0	42	110	45.3	12
AM180	250	18	300	6	350	1035	M16	198	0	48	110	51.8	14
AM200	300	20	350	7	400	1076	M16	239	0	55	110	59.3	16
AM225	350	22	400	7	450	1091	M16	254	0	60	140	64.4	18
AM250	450	25	500	7	550	1165	M16	328	19	65	140	69.4	18
AM280	450	25	500	7	550	1165	M16	328	19	75	140	79.9	20

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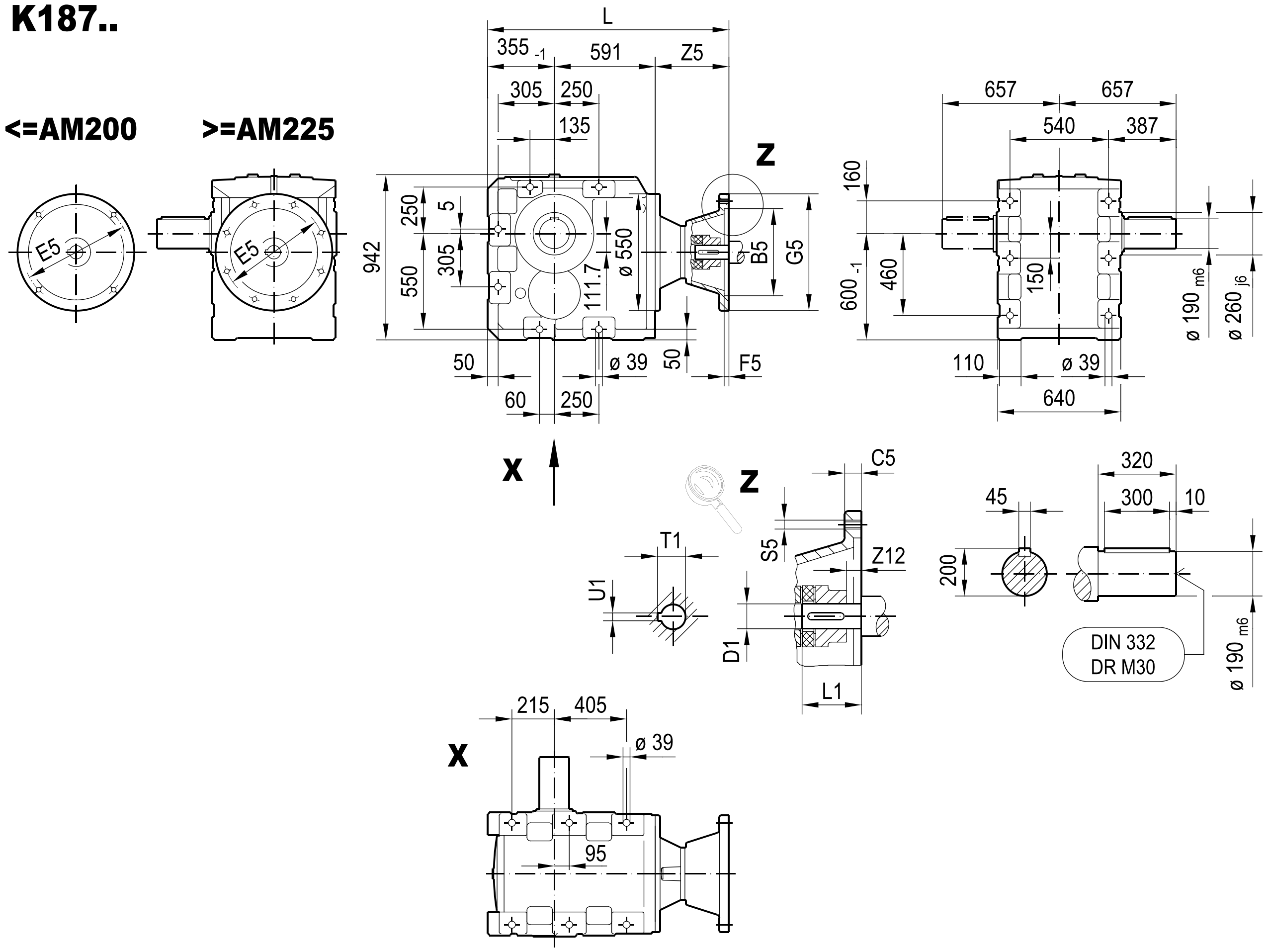
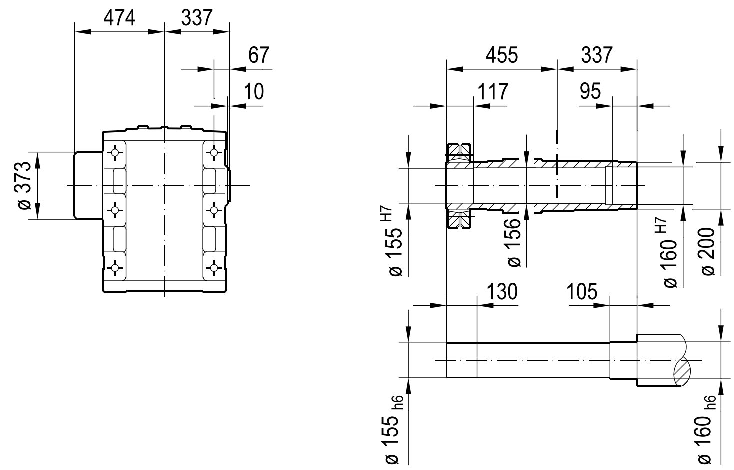
33 031 01 01

K187..



KH187B..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM160	250	18	300	6	350	1144	M16	198	0	42	110	45.3	12
AM180	250	18	300	6	350	1144	M16	198	0	48	110	51.8	14
AM200	300	20	350	7	400	1185	M16	239	0	55	110	59.3	16
AM225	350	22	400	7	450	1200	M16	254	0	60	140	64.4	18
AM250	450	25	500	7	550	1274	M16	328	19	65	140	69.4	18
AM280	450	25	500	7	550	1274	M16	328	19	75	140	79.9	20

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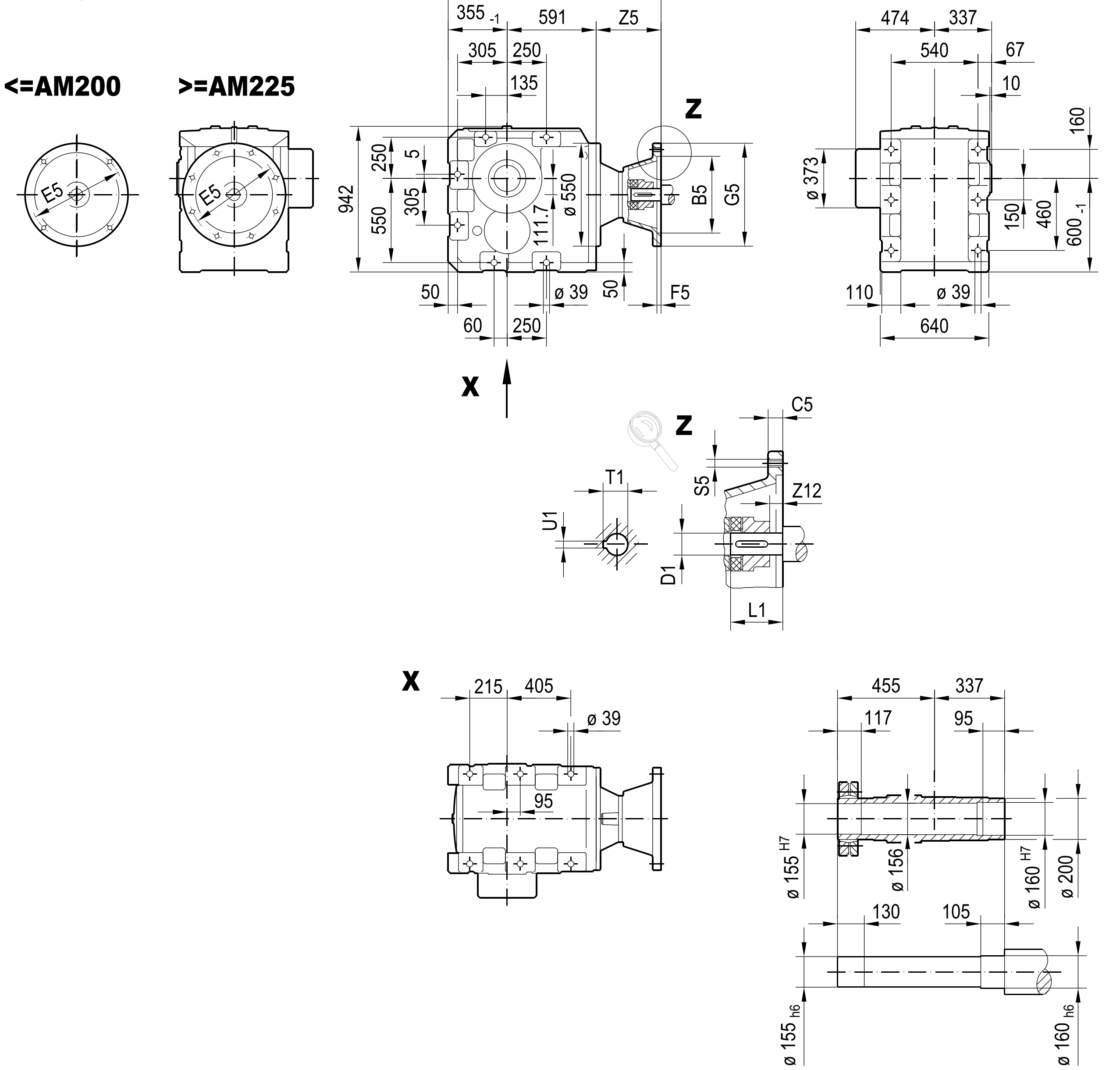
38 031 01 01

KH187..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	Z12	D1	L1	T1	U1
AM160	250	18	300	6	350	1144	M16	198	0	42	110	45.3	12
AM180	250	18	300	6	350	1144	M16	198	0	48	110	51.8	14
AM200	300	20	350	7	400	1185	M16	239	0	55	110	59.3	16
AM225	350	22	400	7	450	1200	M16	254	0	60	140	64.4	18
AM250	450	25	500	7	550	1274	M16	328	19	65	140	69.4	18
AM280	450	25	500	7	550	1274	M16	328	19	75	140	79.9	20

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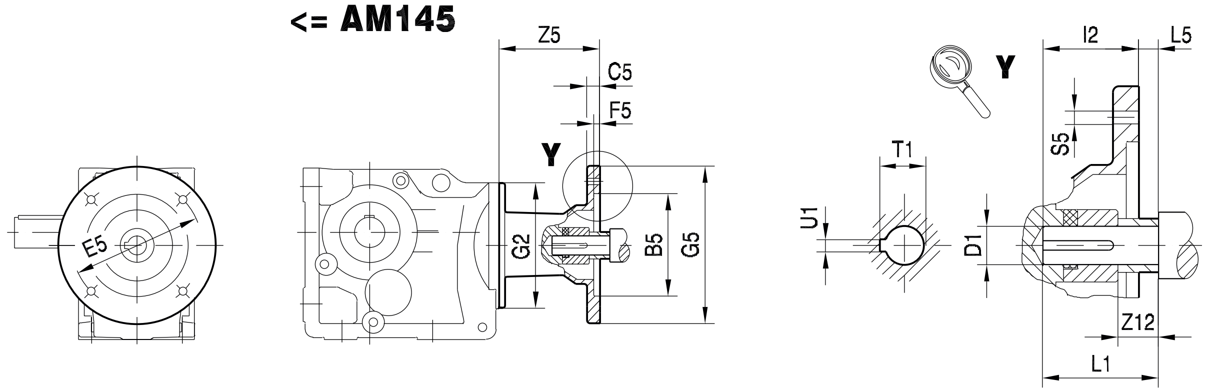
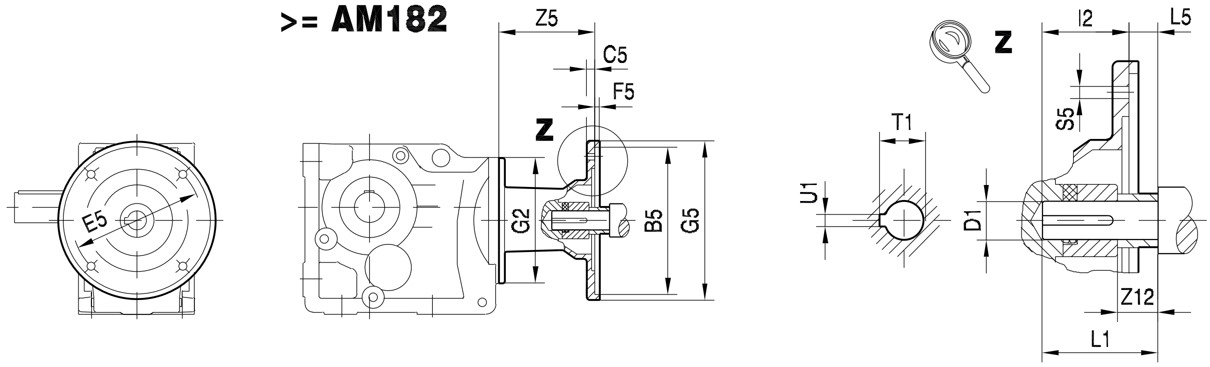
10.5 Dimension sheets for adapters for mounting NEMA motors (AM..)

33 032 03 01





		B5	C5	E5	F5	G2	G5	I2	L5	S5	Z5	Z12	D1	L1	T1	U1
K..19 K..29 K..37	AM56	114.3	11	149.2	4.5	120	170	52.55	-4.8	10.5	93.5	16.5	15.875	47.75	18.1	4.76
	AM143	114.3	12	149.2	4.5	120	170	54.1	3.05	10.5	117	14.5	22.225	57.15	24.7	4.76
	AM145	114.3	12	149.2	4.5	120	170	54.1	3.05	10.5	117	14.5	22.225	57.15	24.7	4.76
K..39 K..47	AM56	114.3	11	149.2	4.5	160	170	52.55	-4.8	10.5	87	16.5	15.875	47.75	18.1	4.76
	AM143	114.3	12	149.2	4.5	160	170	54.1	3.05	10.5	110.5	14.5	22.225	57.15	24.7	4.76
	AM145	114.3	12	149.2	4.5	160	170	54.1	3.05	10.5	110.5	14.5	22.225	57.15	24.7	4.76
	AM182	215.9	10	184	5	160	228	66.675	3	15	147.5	16.5	28.575	69.85	31.7	6.35
	AM184	215.9	10	184	5	160	228	66.675	3	15	147.5	16.5	28.575	69.85	31.7	6.35
K..57 K..67	AM56	114.3	11	149.2	4.5	160	170	52.55	-4.8	10.5	87	16.5	15.875	47.75	18.1	4.76
	AM143	114.3	12	149.2	4.5	160	170	54.1	3.05	10.5	110.5	14.5	22.225	57.15	24.7	4.76
	AM145	114.3	12	149.2	4.5	160	170	54.1	3.05	10.5	110.5	14.5	22.225	57.15	24.7	4.76
	AM182	215.9	10	184	5	160	228	66.675	3	15	147.5	16.5	28.575	69.85	31.7	6.35
	AM184	215.9	10	184	5	160	228	66.675	3	15	147.5	16.5	28.575	69.85	31.7	6.35
	AM213/215	215.9	11	184	5	160	228	79.55	6.3	15	200.5	15.8	34.925	85.85	38.7	7.94
K..49 K..77	AM56	114.3	11	149.2	4.5	200	170	52.55	-4.8	10.5	81	16.5	15.875	47.75	18.1	4.76
	AM143	114.3	12	149.2	4.5	200	170	54.1	3.05	10.5	103.5	14.5	22.225	57.15	24.7	4.76
	AM145	114.3	12	149.2	4.5	200	170	54.1	3.05	10.5	103.5	14.5	22.225	57.15	24.7	4.76
	AM182	215.9	10	184	5	200	228	66.675	3	15	139.5	16.5	28.575	69.85	31.7	6.35
	AM184	215.9	10	184	5	200	228	66.675	3	15	139.5	16.5	28.575	69.85	31.7	6.35
	AM213/215	215.9	11	184	5	200	228	79.55	6.3	15	188.5	15.8	34.925	85.85	38.7	7.94

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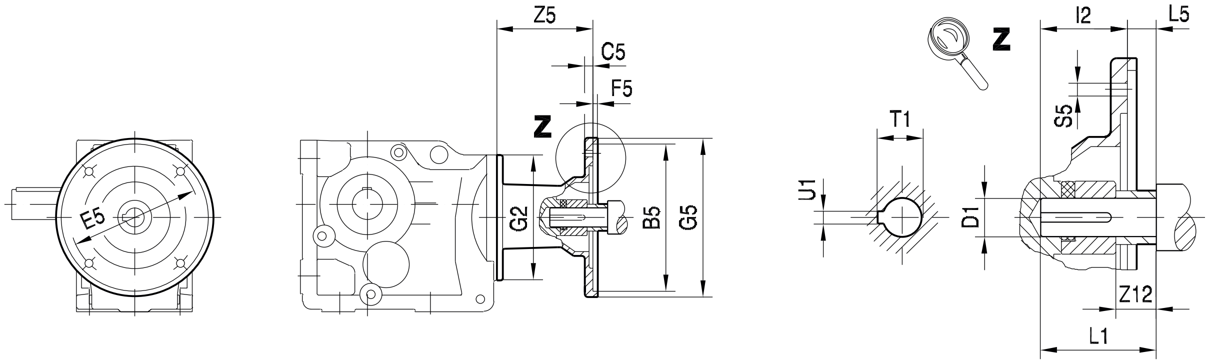
33 033 03 01



		B5	C5	E5	F5	G2	G5	I2	L5	S5	Z5	Z12	D1	L1	T1	U1
K..87	AM143	114.3	12	149.2	4.5	250	170	54.1	3.05	10.5	98.5	14.5	22.225	57.15	24.7	4.76
	AM145	114.3	12	149.2	4.5	250	170	54.1	3.05	10.5	98.5	14.5	22.225	57.15	24.7	4.76
	AM182	215.9	10	184	5	250	228	66.675	3	15	134.5	16.5	28.575	69.85	31.7	6.35
	AM184	215.9	10	184	5	250	228	66.675	3	15	134.5	16.5	28.575	69.85	31.7	6.35
	AM213/215	215.9	11	184	5	250	228	79.55	6.3	15	183.5	15.8	34.925	85.85	38.7	7.94
	AM254/256	215.9	12	184	5	250	228	95.3	6.3	15	234	9	41.275	101.6	45.8	9.53
	AM284/286	266.7	15	228.6	5	250	286	111.05	6.3	15	241	15.8	47.625	117.35	53.4	12.7
K..97	AM182	215.9	10	184	5	300	228	66.675	3	15	129.5	16.5	28.575	69.85	31.7	6.35
	AM184	215.9	10	184	5	300	228	66.675	3	15	129.5	16.5	28.575	69.85	31.7	6.35
	AM213/215	215.9	11	184	5	300	228	79.55	6.3	15	178.5	15.8	34.925	85.85	38.7	7.94
	AM254/256	215.9	12	184	5	300	228	95.3	6.3	15	229	9	41.275	101.6	45.8	9.53
	AM284/286	266.7	15	228.6	5	300	286	111.05	6.3	15	236	15.8	47.625	117.35	53.4	12.7
	AM324/326	317.5	17	279.4	5	300	356	127.05	6.3	17.5	296	34.8	53.975	133.35	60	12.7
	AM364/365	317.5	17	279.4	5	300	356	143.05	6.3	17.5	296	34.8	60.325	149.35	67.6	15.875
K..107	AM182	215.9	10	184	5	350	228	66.85	3	15	123.5	16.5	28.575	69.85	31.7	6.35
	AM184	215.9	10	184	5	350	228	66.85	3	15	123.5	16.5	28.575	69.85	31.7	6.35
	AM213/215	215.9	11	184	5	350	228	79.55	6.3	15	172.5	15.8	34.925	85.85	38.7	7.94
	AM254/256	215.9	12	184	5	350	228	95.3	6.3	15	223	9	41.275	101.6	45.8	9.53
	AM284/286	266.7	15	228.6	5	350	286	111.05	6.3	15	230	15.8	47.625	117.35	53.4	12.7
	AM324/326	317.5	17	279.4	5	350	356	127.05	6.3	17.5	290	34.8	53.975	133.35	60	12.7
	AM364/365	317.5	17	279.4	5	350	356	143.05	6.3	17.5	290	34.8	60.325	149.35	67.6	15.875
K..127	AM213/215	215.9	11	184	5	450	228	79.55	6.3	15	157.5	15.8	34.925	85.85	38.7	7.94
	AM254/256	215.9	12	184	5	450	228	95.3	6.3	15	208	9	41.275	101.6	45.8	9.53
	AM284/286	266.7	15	228.6	5	450	286	111.05	6.3	15	215	15.8	47.625	117.35	53.4	12.7
	AM324/326	317.5	17	279.4	5	450	356	127.05	6.3	17.5	275	34.8	53.975	133.35	60	12.7
	AM364/365	317.5	17	279.4	5	450	356	143.05	6.3	17.5	275	34.8	60.325	149.35	67.6	15.875
K..157 K..167 K..187	AM254/256	215.9	12	184	5	550	228	95.3	6.3	15	200	9	41.275	101.6	45.8	9.53
	AM284/286	266.7	15	228.6	5	550	286	111.05	6.3	15	207	15.8	47.625	117.35	53.4	12.7
	AM324/326	317.5	17	279.4	5	550	356	127.05	6.3	17.5	267	34.8	53.975	133.35	60	12.7
	AM364/365	317.5	17	279.4	5	550	356	143.05	6.3	17.5	267	34.8	60.325	149.35	67.6	15.875

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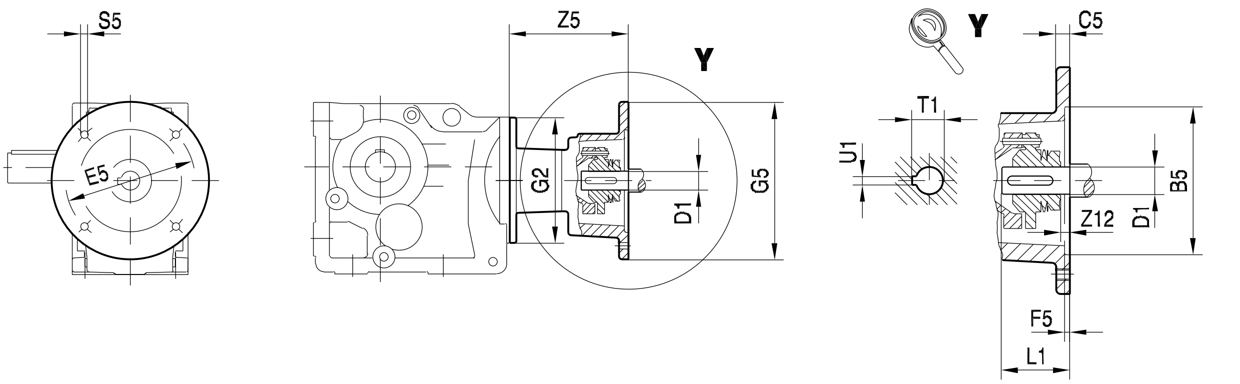
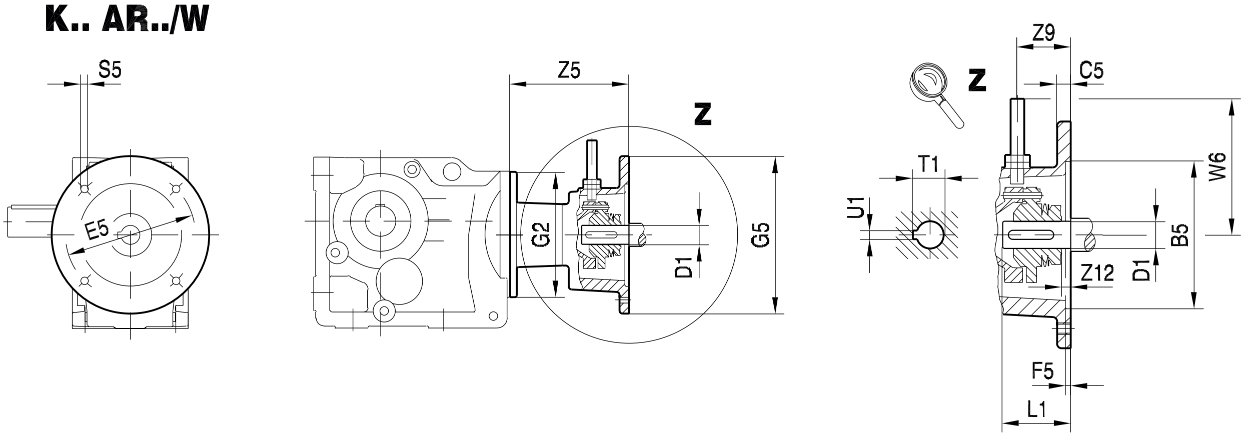
10.6 Dimension sheets for adapters with slip clutch (AR..)

K.. AR..

33 037 03 01



K.. AR../W



		B5	C5	E5	F5	G2	G5	S5	W6	Z5	Z9	Z12	D1	L1	T1	U1
K..19 K..29 K..37	AR71	110	10	130	3.5	120	160	M8	120	104	37	0	14	30	16.3	5
	AR80	130	12	165	4.5		200	M10		140.5			19	40	21.8	6
	AR90												24	50	27.3	8
K..39 K..47 K..57 K..67	AR71	110	10	130	3.5	160	160	M8	120	97.5	37	0	14	30	16.3	5
	AR80	130	12	165	4.5		200	M10		134			19	40	21.8	6
	AR90												24	50	27.3	8
	AR100	180	15	215	5		250	M12	130	174.5	52	5.5	28	60	31.3	8
	AR112															
K..49 K..77	AR71	110	10	130	3.5	200	160	M8	120	91.5	37	0	14	30	16.3	5
	AR80	130	12	165	4.5		200	M10		127			19	40	21.8	6
	AR90												24	50	27.3	8
	AR100	180	15	215	5		250	M12	130	166.5	52	5.5	28	60	31.3	8
	AR112															
	AR132S/M	230	16	265	5		300	M12	145	234	72	5	38	80	41.3	10
	AR132ML															
K..87	AR80	130	12	165	4.5	250	200	M10	120	122	37	0	19	40	21.8	6
	AR90												24	50	27.3	8
	AR100	180	15	215	5		250	M12	130	161.5	52	5.5	28	60	31.3	8
	AR112															
	AR132S/M	230	16	265	5		300	M12	145	229	72	5	38	80	41.3	10
	AR132ML															
	AR160	250	18	300	6		350	M16	165	306.5	105	35	42	110	45.3	12
	AR180												48	110	51.8	14

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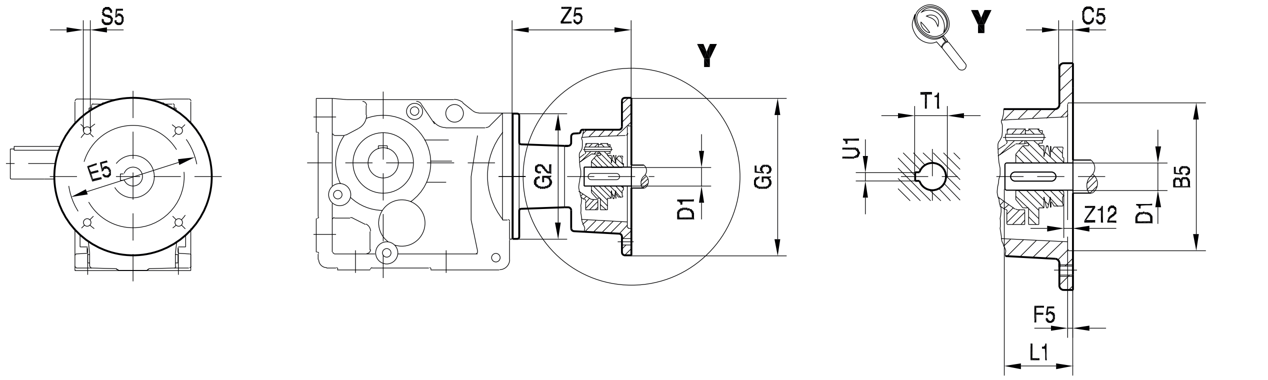
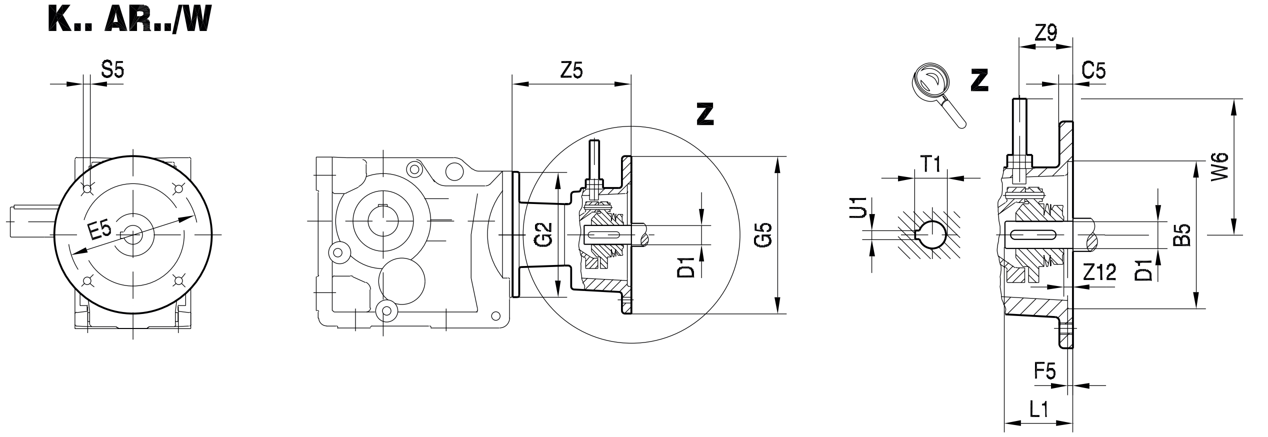
K.. AR..

33 038 02 01



K.. AR../W



		B5	C5	E5	F5	G2	G5	S5	W6	Z5	Z9	Z12	D1	L1	T1	U1
K..97	**AR100**	180	15	215	5	300	250	M12	130	156.5	52	5.5	28	60	31.3	8
	AR112															
	AR132S/M	230	16	265	5		300	M12	145	224	72	5	38	80	41.3	10
	AR132ML															
	AR160	250	18	300	6		350	M16	165	301.5	105	35	42	110	45.3	12
	AR180												48	110	51.8	14
K..107	**AR100**	180	15	215	5	350	250	M12	130	150.5	52	5.5	28	60	31.3	8
	AR112															
	AR132S/M	230	16	265	5		300	M12	145	218	72	5	38	80	41.3	10
	AR132ML															
	AR160	250	18	300	6		350	M16	165	295.5	105	35	42	110	45.3	12
	AR180												48	110	51.8	14
K..127	**AR132S/M**	230	16	265	5	450	300	M12	145	203	72	5	38	80	41.3	10
	AR132ML															
	AR160	250	18	300	6		350	M16	165	280.5	105	35	42	110	45.3	12
	AR180												48	110	51.8	14
K..157 **K..167** **K..187**	**AR160**	250	18	300	6	550	350	M16	165	272.5	105	35	42	110	45.3	12
	AR180												48	110	51.8	14

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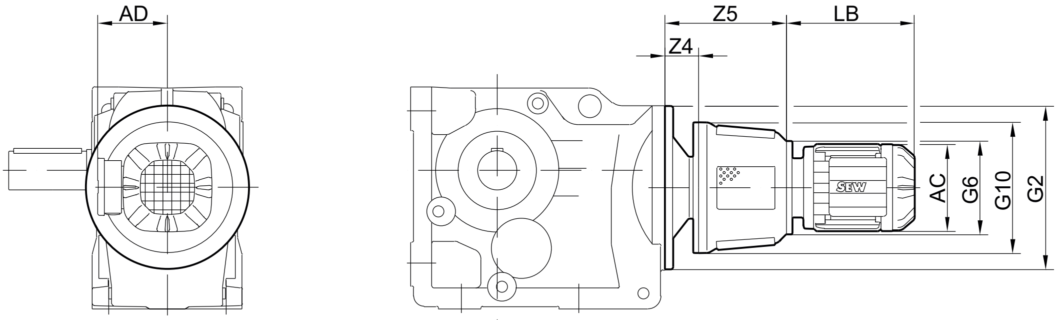
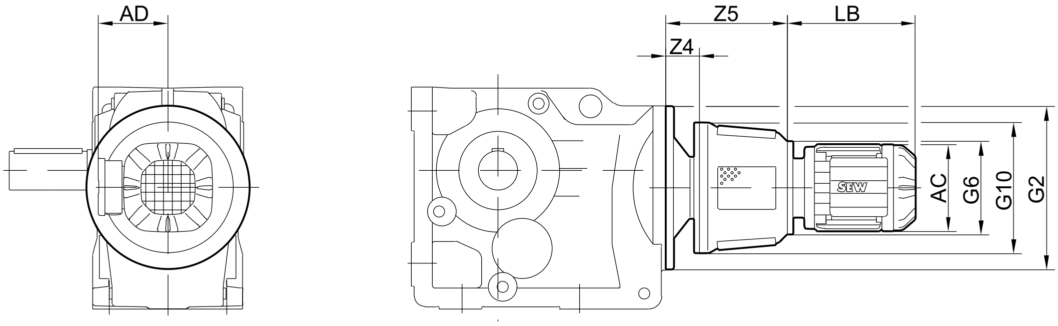
10.7 Dimension sheets for adapters with hydraulic start-up coupling (K..AT..)

36 001 04 01



			AC	AD	G6	G10	LB	Z4	Z5	G2
K67	**AT311 AT312**	DRN71M	139	118	200	280	222	97	286	160
		DRN80MK	156	128			241			
		DRN80MS					259			
		DRN80M					287			
		DRN90S	179	140			281			
		DRN90L					313			
		DRN100LM	197	157			359			
		DRN112M	221	170			387			
	AT321 AT322	DRN90L	179	140	250	350	313	97	333	
		DRN100LS	197	157			309			
		DRN100L					359			
K77	**AT311 AT312**	DRN71M	139	118	200	280	222	89	278	200
		DRN80MK	156	128			241			
		DRN80MS					259			
		DRN80M					287			
		DRN90S	179	140			281			
		DRM90L					313			
		DRN100LM	197	157			359			
		DRN112M	221	170			387			
	AT321	DRN132S	221	170	250	350	437	93	328	
	AT421 AT422	DRN90L	179	140	250	350	313	133	368	
		DRN100LS	197	157			309			
		DRN100L					359			
		DRN112M	221	170			387			
		DRN132S	221	170			437			
K87	**AT311 AT312**	DRN90S	179	140	200	280	281	84	273	250
		DRM90L					313			
		DRN100LM	197	157			359			
		DRN112M	221	170			387			
	AT321	DRN132S	221	170	250	350	437	84	320	
	AT421 AT422	DRN90L	179	140	250	350	313	128	363	
		DRN100LS	197	157			309			
		DRN100L					359			
		DRN112M	221	170			387			
		DRN132S					437			
	AT541 AT542	DRN132S	221	170	350	470	437	159	478	
		DRN132M	261	228			439			
		DRN132L					464			
		DRN160M	316	253			532			
		DRN160L					532			



36 002 04 01

			AC	AD	G6	G10	LB	Z4	Z5	G2
K97	AT311 AT312	DRN90S	179	140	200	280	281	79	268	300
		DRM90L					313			
		DRN100LM	197	157			359			
		DRN112M	221	170			387			
	AT321	DRN132S	221	170	250	350	437	79	315	
	AT421 AT422	DRN90L	179	140	250	350	313	123	358	
		DRN100LS	197	157			309			
		DRN100L					359			
		DRN112M	221	170			387			
		DRN132S					437			
	AT541 AT542	DRN132S	221	170	350	470	437	154	473	
		DRN132M	261	228			439			
		DRN132L					464			
		DRN160M	316	253			532			
		DRN160L					532			
		DRN180M	357	268			557			
		DRN180L					557			
K107	AT311 AT312	DRN100LM	197	157	200	280	359	73	262	350
		DRN112M	221	170			387			
	AT321	DRN132S	221	170	250	350	437	73	309	
	AT421 AT422	DRN100LS	197	157	250	350	309	117	352	
		DRN100L					359			
		DRN112M	221	170			387			
		DRN132S					437			
	AT541 AT542	DRN132S	221	170	350	470	437	148	467	
		DRN132M	261	228			439			
		DRN132L					464			
		DRN160M	316	253			532			
		DRN160L					532			
		DRN180M	357	268			557			
		DRN180L					557			
K127	AT421	DRN132S	221	170	250	350	437	102	337	450
	AT541 AT542	DRN132M	261	228	350	470	439	133	452	
		DRN132L					464			
		DRN160M	316	253			532			
		DRN160L					532			
		DRN180M	357	268			557			
		DRN180L					557			
K157 K167 K187	AT541 AT542	DRN160M	316	253	350	470	532	125	444	550
		DRN160L					532			
		DRN180M	357	268			557			
		DRN180L					557			

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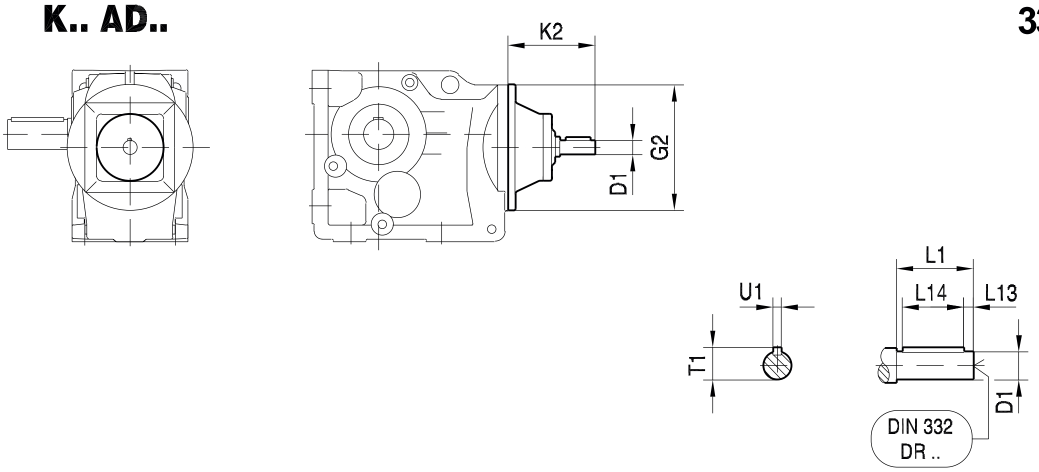
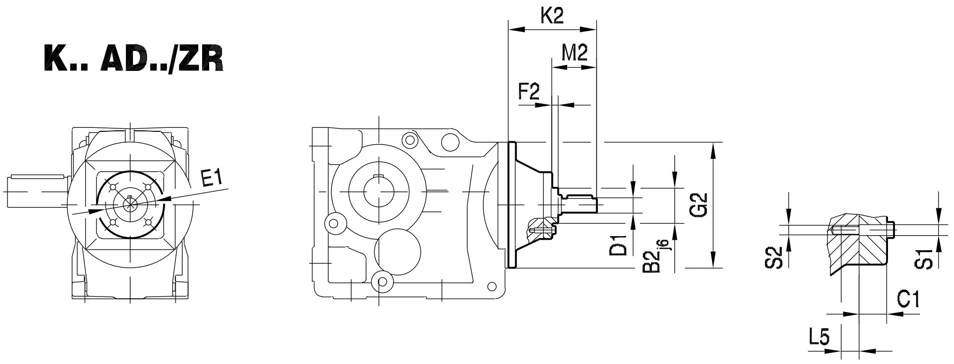
10.8 Dimension sheets for input shaft assembly (AD..)

K.. AD..

33 039 03 01



K.. AD../ZR



		B2	C1	E1	F2	G2	K2	L5	M2	S1	S2	D1	L1	L13	L14	T1	U1
K..19 K..29 K..37	AD1	-	-	-	-	120	102	-	-	-	-	16	40	4	32	18	5
	AD2, AD2/ZR	55	13.5	80	8		130	12	50	9	M8	19	40	4	32	21.5	6
K..39 K..47 K..57 K..67	AD2, AD2/ZR	55	13.5	80	8	160	123	12	50	9	M8	19	40	4	32	21.5	6
	AD3, AD3/ZR	70	15.5	105	8		159	16	60	11	M10	24	50	5	40	27	8
K..49 K..77	AD2, AD2/ZR	55	13.5	80	8	200	116	12	50	9	M8	19	40	4	32	21.5	6
	AD3, AD3/ZR	70	15.5	105	8		151	16	60	11	M10	24	50	5	40	27	8
	AD4, AD4/ZR	100	16	130	13		224	20	95.5	13.5	M12	38	80	5	70	41	10
K..87	AD2, AD2/ZR	55	13.5	80	8	250	111	12	50	9	M8	19	40	4	32	21.5	6
	AD3, AD3/ZR	70	15.5	105	8		156	16	70	11	M10	28	60	5	50	31	8
	AD4, AD4/ZR	100	16	130	13		219	20	95.5	13.5	M12	38	80	5	70	41	10
	AD5, AD5/ZR	120	24	180	11		292	20	126	13.5	M12	42	110	10	70	45	12
K..97	AD3, AD3/ZR	70	15.5	105	8	300	151	16	70	11	M10	28	60	5	50	31	8
	AD4, AD4/ZR	100	16	130	13		214	20	95.5	13.5	M12	38	80	5	70	41	10
	AD5, AD5/ZR	120	24	180	11		287	20	126	13.5	M12	42	110	10	70	45	12
	AD6, AD6/ZR	130	22.5	200	11		327	26	130.5	17.5	M16	48	110	10	80	51.5	14
K..107	AD3, AD3/ZR	70	15.5	105	8	350	145	16	70	11	M10	28	60	5	50	31	8
	AD4, AD4/ZR	100	16	130	13		208	20	95.5	13.5	M12	38	80	5	70	41	10
	AD5, AD5/ZR	120	24	180	11		281	20	126	13.5	M12	42	110	10	70	45	12
	AD6, AD6/ZR	130	22.5	200	11		321	26	130.5	17.5	M16	48	110	10	80	51.5	14
K..127	AD4, AD4/ZR	100	16	130	13	450	193	20	95.5	13.5	M12	38	80	5	70	41	10
	AD5, AD5/ZR	120	24	180	11		266	20	126	13.5	M12	42	110	10	70	45	12
	AD6, AD6/ZR	130	22.5	200	11		306	26	130.5	17.5	M16	48	110	10	80	51.5	14
	AD7, AD7/ZR	125	19	190	13		300	30	133	22	M20	55	110	10	90	59	16
	AD8, AD8/ZR	120	22.5	210	5		383	19.5	155	13.5	M12	70	140	15	110	74.5	20

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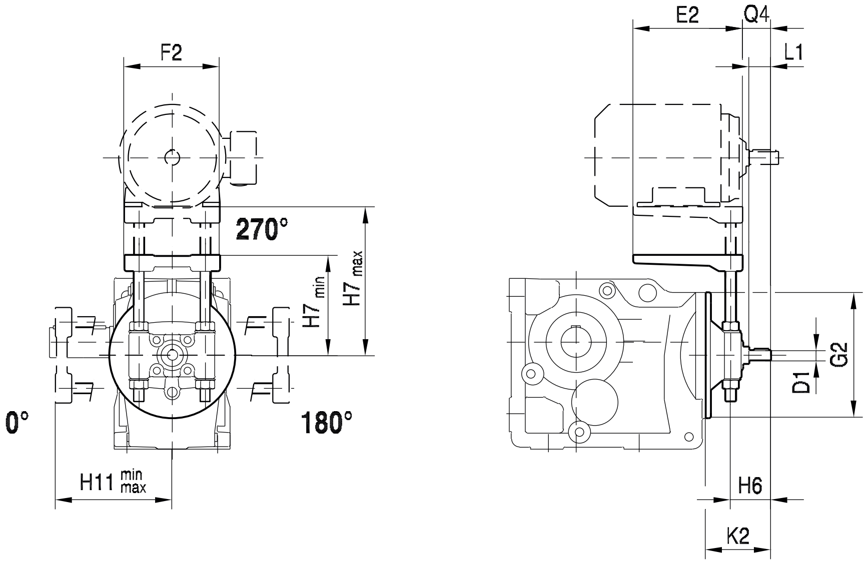
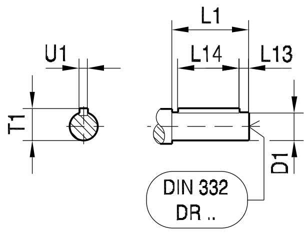
		B2	C1	E1	F2	G2	K2	L5	M2	S1	S2	D1	L1	L13	L14	T1	U1
K..157 K..167 K..187	**AD5, AD5/ZR**	120	24	180	11	550	258	20	126	13.5	M12	42	110	10	70	45	12
	AD6, AD6/ZR	130	22.5	200	11		298	26	130.5	17.5	M16	48	110	10	80	51.5	14
	AD7, AD7/ZR	125	19	190	13		292	30	133	22	M20	55	110	10	90	59	16
	AD8, AD8/ZR	120	22.5	210	5		374	19.5	155	13.5	M12	70	140	15	110	74.5	20

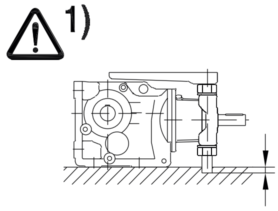
10.9 Dimension sheets for input shaft assembly with motor platform (AD../P)

33 040 03 01

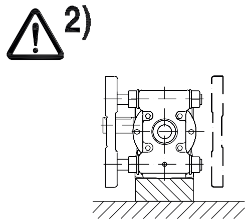




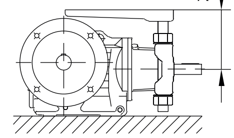
1)



2)



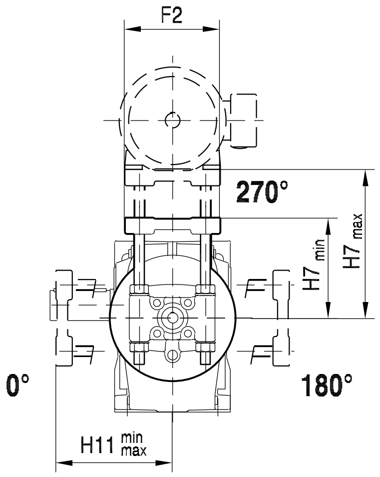
3) KF..
KAF..

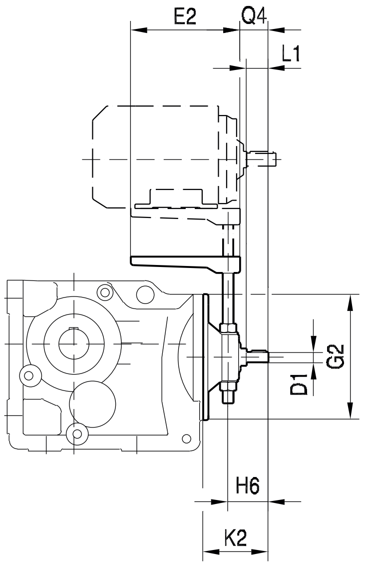


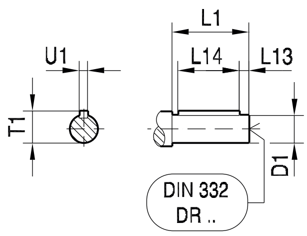
		E2	F2	G2	H6	H7 min	H7 max	H11 min	H11 max	K2	Q4	D1	L1	L13	L14	T1	U1	⚠ (→ 71)
K..19 K..29 K..37	AD2/P	195	180	120	65	100	165	95	165	130	43	19	40	4	32	21.5	6	1)
K..39 K..47	AD2/P	195	180	160	65	110	165	110	165	123	43	19	40	4	32	21.5	6	1)
	AD3/P	230	240		80	125	175	125	175	159	54	24	50	5	40	27	8	1), 2)
K..57	AD2/P	195	180	160	65	120	165	120	165	123	43	19	40	4	32	21.5	6	
	AD3/P	230	240		80	130	175	130	175	159	54	24	50	5	40	27	8	1), 2), 3)
K..67	AD2/P	195	180	160	65	130	200	125	165	123	43	19	40	4	32	21.5	6	1)
	AD3/P	230	240		80	135	175	130	175	159	54	24	50	5	40	27	8	3)
K..49 K..77	AD2/P	195	180	200	65	160	260	140	260	116	43	19	40	4	32	21.5	6	1)
	AD3/P	230	240		80	160	230	145	175	151	54	24	50	5	40	27	8	1)
	AD4/P	345	291		118	170	210	150	210	224	83	38	80	5	70	41	10	3)
K..87	AD2/P	195	180	250	65	180	260	170	200	111	43	19	40	4	32	21.5	6	
	AD3/P	230	240		90	180	230	175	230	156	64	28	60	5	50	31	8	
	AD4/P	345	291		118	190	280	180	210	219	83	38	80	5	70	41	10	1)
	AD5/P	430	355		153	190	250	185	250	292	113	42	110	10	70	45	12	1), 3)
K..97	AD3/P	230	240	300	90	210	320	210	320	151	64	28	60	5	50	31	8	
	AD4/P	345	291		118	215	280	215	280	214	83	38	80	5	70	41	10	
	AD5/P	430	355		153	225	325	215	250	287	113	42	110	10	70	45	12	1), 3)
K..107	AD3/P	230	240	350	90	260	320	220	320	145	64	28	60	5	50	31	8	
	AD4/P	345	291		118	265	360	220	280	208	83	38	80	5	70	41	10	
	AD5/P	430	355		153	270	325	225	325	281	113	42	110	10	70	45	12	
	AD6/P	495	457		163	270	310	250	310	321	114	48	110	10	80	51.5	14	3)

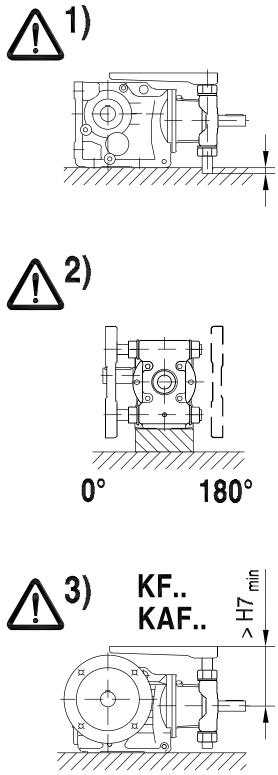
For bore dimensions and weight of the motor platform, refer to the chapter "Bore dimensions and weight" (→ 🗎 70).

33 042 02 01









		E2	F2	G2	H6	H7 min	H7 max	H11 min	H11 max	K2	Q4	D1	L1	L13	L14	T1	U1	⚠ (→ 🗎 71)
K..127	AD4/P	345	291	450	118	305	360	245	280	193	83	38	80	5	70	41	10	
	AD5/P	430	355		153	310	405	255	325	266	113	42	110	10	70	45	12	
	AD6/P	495	457		163	305	360	300	360	306	114	48	110	10	80	51.5	14	3)
	AD7/P	650	570		170	305	365	305	365	300	112	55	110	10	90	59	16	3)
K..157	AD5/P	430	355	550	153	360	405	295	325	258	113	42	110	10	70	45	12	
	AD6/P	495	457		163	375	475	375	475	298	114	48	110	10	80	51.5	14	3)
	AD7/P	650	570		170	375	475	375	475	292	112	55	110	10	90	59	16	3)
K..167	AD5/P	430	355	550	153	415	495	350	405	258	113	42	110	10	70	45	12	
	AD6/P	495	457		163	420	475	375	475	298	114	48	110	10	80	51.5	14	
	AD7/P	650	570		170	420	475	375	475	292	112	55	110	10	90	59	16	
K..187	AD5/P	430	355	550	153	480	545	380	495	258	113	42	110	10	70	45	12	
	AD6/P	495	457		163	485	525	380	475	298	114	48	110	10	80	51.5	14	
	AD7/P	650	570		170	485	525	380	475	292	112	55	110	10	90	59	16	

For bore dimensions and weight of the motor platform, refer to the chapter "Bore dimensions and weight" (→ 🗎 70).

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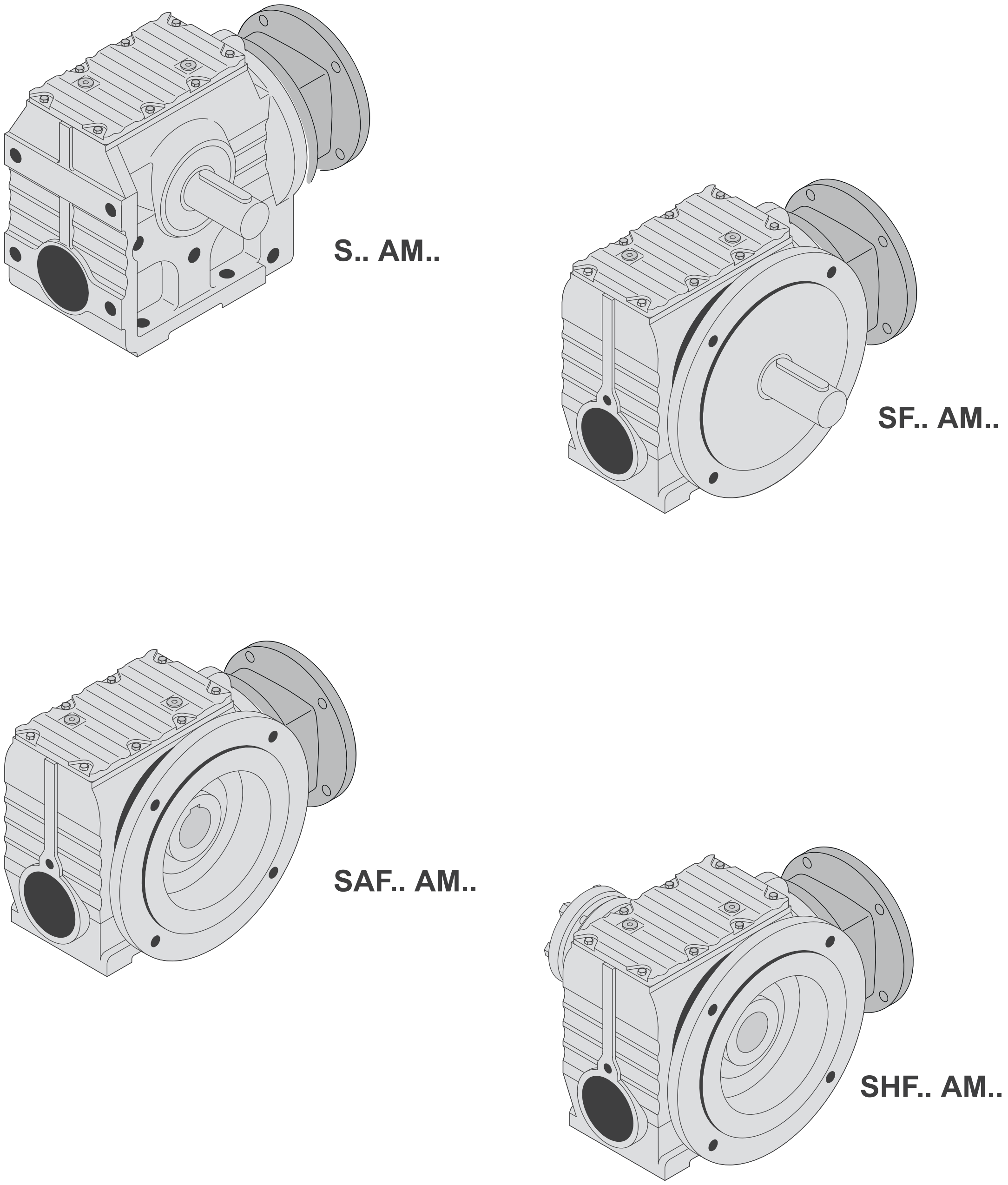
11 S.. helical-worm gear units

11.1 Selection tables for adapters for mounting IEC/NEMA motors (AM..)



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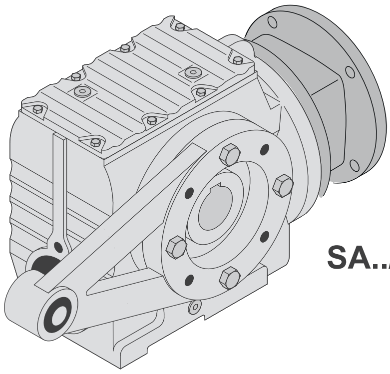
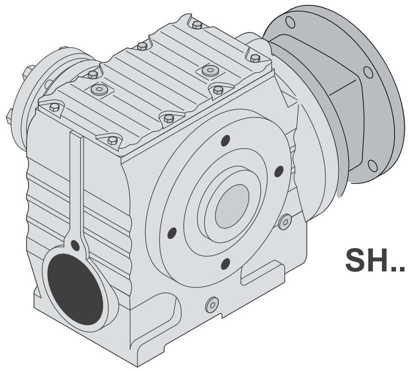
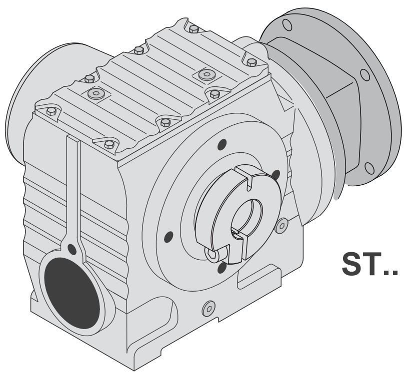


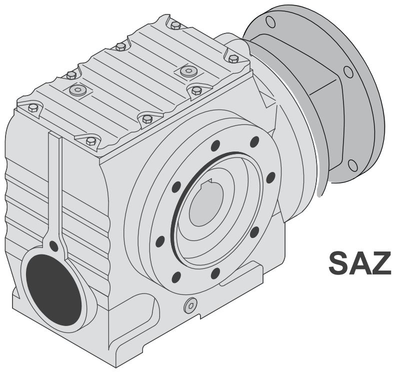
SA../T AM..



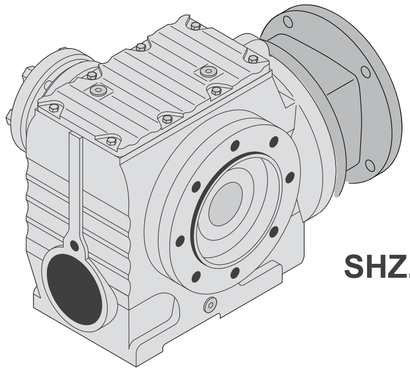
SH.. AM..



ST.. AM..



SAZ.. AM..



SHZ.. AM..

21441603595

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S37, n_e = 1400 min^{-1}, $M_{a\ max}$/Nm								92 Nm
i	n_a	$M_{a\ max\ G}$	F_{Ra} [1)]	$\varphi_{(/R)}$	AM			
	min^{-1}	Nm	N	'	63	71	80	90
					2			
3.97[2)]	353	32	1400	-	18	18	32	32
4.86[2)]	288	33	1520	-	22	22	33	33
5.38[2)]	260	34	1570	-	24	24	34	34
6.33[2)]	221	35	1670	-	29	29	35	35
6.80[2)]	206	43	1630	-	31	31	43	43
8.00[2)]	175	45	1730	-	36	36	45	45
9.02[2)]	155	46	1810	-	41	41	46	46
10.23[2)]	137	47	1900	-	46	46	47	47
10.91[2)]	128	48	1940	-	48	48	48	48
12.48[2)]	112	48	2060	-	48	48	48	48
13.39[2)]	105	49	2110	-	49	49	49	49
15.53	90	50	2240	-	50	50	50	
18.24	77	52	2380	-	52	52		
19.13[2)]	73	71	2380	-	71	71	71	71
19.89	70	52	2470	-	52	52		
22.50[2)]	62	73	2530	-	73	73	73	73
25.38[2)]	55	74	2660	-	74	74	74	74
28.76[2)]	49	75	2800	-	75	75	75	75
30.68[2)]	46	76	2860	-	76	76	76	76
35.10[2)]	40	78	3000	-	78	78	78	78
37.66[2)]	37	79	3000	-	79	79	79	79
43.68	32	81	3000	-	81	81	81	
51.30	27	81	3000	-	81	81		
53.83[2)]	26	80	3000	-	80	80	80	80
55.93	25	81	3000	-	81	81		
63.33[2)]	22	82	3000	-	82	82	82	82
71.44[2)]	20	84	3000	-	84	84	84	84
80.96[2)]	17	85	3000	-	85	85	85	85
86.36[2)]	16	86	3000	-	86	86	86	86
98.80[2)]	14	87	3000	-	87	87	87	87
106.00[2)]	13	88	3000	-	88	88	88	88
122.94[2)]	11	91	3000	-	91	91	91	
144.40	9.7	92	3000	-	92	92		
157.43	8.9	92	3000	-	92	92		

S37, m /kg			AM			
S	IEC	s	63	71	80	90
		2	8.8	9.0	11	11
	NEMA	s	-	56	143	145
		2	-	9.4	11	11
SF: + 1.3 kg / SA: + -0.25 kg / SAF: + 1.3 kg						

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S47, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm								170 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} [1]	$\varphi_{(/R)}$	AM			
	min^{-1}	Nm	N	'	63	71	80	90
					2			
4.00[2]	350	61	1980	-	18	18	54	54
4.76[2]	294	72	2010	-	21	21	65	65
5.39[2]	260	74	2110	-	24	24	73	73
6.40[2]	219	76	2260	-	29	29	76	76
6.83[2]	205	78	2300	-	31	31	78	78
7.28[2]	192	103	2110	-	32	32	98	98
8.64[2]	162	109	2230	-	39	39	109	109
9.23[2]	152	109	2310	-	41	41	109	109
10.80[2]	130	109	2500	-	49	49	109	109
12.10[2]	116	109	2650	-	54	54	109	109
14.24[2]	98	110	2850	-	64	64	110	110
16.47	85	110	3060	-	74	74	110	110
17.62	79	110	3160	-	79	79	110	110
19.54[2]	72	144	3370	-			144	144
20.33	69	110	3370	-	91	91	110	
23.20[2]	60	152	3570	-	95	95	152	152
24.77[2]	57	155	3650	-	102	102	155	155
29.00[2]	48	155	3920	-	119	119	155	155
32.48[2]	43	155	4120	-	133	133	155	155
38.23[2]	37	155	4420	-	155	155	155	155
44.22[2]	32	155	4710	-	155	155	155	155
47.32[2]	30	155	4850	-	155	155	155	155
54.59	26	155	5150	-	155	155	155	
56.61[2]	25	165	5320	-			165	165
63.80	22	155	5370	-	155	155		
67.20[2]	21	167	5360	-	167	167	167	167
69.39	20	155	5370	-	155	155		
71.75[2]	20	167	5360	-	167	167	167	167
84.00[2]	17	167	5360	-	167	167	167	167
94.08[2]	15	168	5350	-	168	168	168	168
110.73[2]	13	168	5350	-	168	168	168	168
128.10[2]	11	168	5350	-	168	168	168	168
137.05[2]	10	168	5350	-	168	168	168	168
158.12[2]	8.9	170	5340	-	170	170	170	
184.80	7.6	170	5340	-	170	170		
201.00	7.0	170	5340	-	170	170		

S47, m /kg			AM			
	IEC	s	63	71	80	90
S		2	12	12	14	14
	NEMA	s	-	56	143	145
		2	-	12	14	14
SF: + 3.6 kg / SA: + 1.1 kg / SAF: + 2.8 kg						

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S57, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm								295 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} [1]	$\varphi_{(/R)}$	AM			
	min^{-1}	Nm	N	'	63	71	80	90
					2			
4.00[2]	350	88	3380	-	18	18	54	54
4.76[2]	294	93	3590	-	21	21	65	65
5.39[2]	260	95	3760	-	24	24	73	73
6.40[2]	219	98	4010	-	29	29	87	87
6.83[2]	205	100	4100	-	31	31	93	93
7.28[2]	192	146	3790	-	33	33	98	98
8.64[2]	162	166	3900	-	39	39	116	116
9.23[2]	152	169	3990	-	41	41	124	124
10.80[2]	130	169	4290	-	49	49	145	145
12.10[2]	116	169	4520	-	55	55	162	162
14.24	98	169	4860	-	64	64	169	169
16.47	85	168	5200	-	74	74	168	168
17.62	79	168	5350	-	80	80	168	168
19.54[2]	72	215	5720	-			215	215
20.33	69	168	5690	-	92	92	168	
23.20[2]	60	245	5930	-	96	96	245	245
24.77[2]	57	245	6100	-	103	103	245	245
29.00[2]	48	245	6520	-	120	120	245	245
32.48[2]	43	245	6840	-	135	135	245	245
38.23[2]	37	245	7320	-	158	158	245	245
44.22[2]	32	245	7520	-	182	182	245	245
47.32[2]	30	245	7520	-	194	194	245	245
54.59	26	245	7520	-	220	220	245	
56.61[2]	25	265	7370	-			265	265
63.80	22	245	7520	-	245	245		
67.20[2]	21	285	7220	-	225	225	285	285
69.39	20	245	7520	-	245	245		
71.75[2]	20	290	7170	-	240	240	290	290
84.00[2]	17	295	7130	-	275	275	295	295
94.08[2]	15	295	7130	-	295	295	295	295
110.73[2]	13	295	7130	-	295	295	295	295
128.10[2]	11	295	7130	-	295	295	295	295
137.05[2]	10	295	7130	-	295	295	295	295
158.12	8.9	295	7130	-	295	295	295	
184.80	7.6	295	7130	-	295	295		
201.00	7.0	295	7130	-	295	295		

S57, m /kg			AM			
S	IEC	s	63	71	80	90
		2	16	16	18	18
	NEMA	s	-	56	143	145
		2	-	16	18	18
SF: + 3.8 kg / SA: + -0.30 kg / SAF: + 2.6 kg						

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S67, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm											520 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM						
	min^{-1}	Nm	N	'	63	71	80	90	100	112	132S/M
					2						
7.56 2)	185	295	3220	-			100	100	285	285	295
8.69 2)	161	335	2860	-	37	37	116	116	325	325	335
10.03 2)	140	340	3290	-	43	43	134	134	340	340	340
11.03 2)	127	340	3660	-	48	48	147	147	340	340	340
12.96 2)	108	340	4310	-	56	56	173	173	340	340	340
13.73 2)	102	340	4510	-	60	60	183	183	340	340	340
15.60	90	340	4820	-	69	69	205	205	340	340	
17.28	81	340	5080	-	76	76	230	230	340	340	
20.30 2)	69	425	5760	-						425	425
20.37	69	340	5520	-	91	91	270	270	340		
23.22	60	340	5890	-	104	104	295	295			
23.33 2)	60	480	5810	-					480	480	480
24.44	57	340	6040	-	109	109	295	295			
26.93 2)	52	480	6240	-	107	107	330	330	480	480	480
29.63 2)	47	480	6540	-	118	118	365	365	480	480	480
34.80 2)	40	480	7060	-	140	140	425	425	480	480	480
36.85 2)	38	480	7250	-	148	148	450	450	480	480	480
41.89 2)	33	480	7690	-	169	169	480	480	480	480	
46.40 2)	30	480	8060	-	188	188	480	480	480	480	
54.70	26	480	8670	-	220	220	480	480	480		
58.80 2)	24	500	8850	-						500	500
62.35	22	480	9020	-	250	250	480	480			
65.63	21	480	9020	-	265	265	480	480			
67.57 2)	21	520	8680	-					520	520	520
75.06	19	480	9020	-	300	300	480				
78.00 2)	18	520	8680	-			520	520	520	520	520
85.83 2)	16	520	8680	-	280	280	520	520	520	520	520
100.80 2)	14	520	8680	-	325	325	520	520	520	520	520
106.75 2)	13	520	8680	-	345	345	520	520	520	520	520
121.33 2)	12	520	8680	-	390	390	520	520	520	520	
134.40 2)	10	520	8680	-	435	435	520	520	520	520	
158.45 2)	8.8	520	8680	-	505	505	520	520	520		
180.60 2)	7.8	520	8680	-	520	520	520	520			
190.11 2)	7.4	520	8680	-	520	520	520	520			
217.41	6.4	520	8680	-	520	520	520				

S67, m /kg			AM						
S	IEC	s	63	71	80	90	100	112	132S/M
		2	27	27	29	29	34	34	41
	NEMA	s	-	56	143	145	182	184	213/215
		2	-	27	29	29	33	33	39
SF: + 6.5 kg / SA: + 1.0 kg / SAF: + 5.5 kg									

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S77, n_e = 1400 min^{-1}, $M_{a\ max}$/Nm												1270 Nm
i	n_a	$M_{a\ max\ G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM							
	min^{-1}	Nm	N	'	63	71	80	90	100	112	132S/M	132ML
							2					
8.06 2)	174	680	440	-			105	105	305	305	675	675
9.44 2)	148	725	415	-			123	123	355	355	725	725
10.65 2)	131	720	1130	-			140	140	400	400	720	720
12.07 2)	116	720	1800	-	49	49	159	159	455	455	720	720
13.76 2)	102	710	2710	-	56	56	182	182	520	520	710	710
15.28	92	710	3320	-	63	63	200	200	575	575	710	
17.45	80	710	4120	-	74	74	230	230	655	655	710	
18.42	76	705	4550	-	78	78	245	245	695	695	705	
18.97 2)	74	930	6390	-							930	930
20.99	67	705	5380	-	90	90	280	280	705	705		
22.22 2)	63	980	6740	-							980	980
22.89	61	705	5960	-	99	99	305	305	705	705		
25.07 2)	56	1020	7010	-			315	315	900	900	1020	1020
28.41 2)	49	1050	7370	-	110	110	355	355	1020	1020	1050	1050
32.38 2)	43	1090	7720	-	127	127	405	405	1090	1090	1090	1090
35.94 2)	39	1100	8140	-	142	142	450	450	1100	1100	1100	
41.07 2)	34	1100	8750	-	165	165	515	515	1100	1100	1100	
43.33 2)	32	1100	9010	-	175	175	545	545	1100	1100	1100	
49.38	28	1100	9650	-	200	200	620	620	1100	1100		
53.87	26	1100	10100	-	220	220	680	680	1100	1100		
56.92 2)	25	990	11600	-			600	600	990	990	990	990
63.03	22	1100	10900	-	260	260	790	790	1100			
66.67 2)	21	1040	12300	-			700	700	1040	1040	1040	1040
71.33	20	1100	11600	-	295	295	890	890				
75.09	19	1100	11900	-	310	310	880	880				
75.20 2)	19	1070	12800	-					1070	1070	1070	1070
85.22 2)	16	1100	13100	-	275	275	890	890	1100	1100	1100	1100
97.14 2)	14	1140	12800	-	315	315	1010	1010	1140	1140	1140	1140
107.83 2)	13	1170	12600	-	350	350	1120	1120	1170	1170	1170	
123.20 2)	11	1200	12300	-	405	405	1200	1200	1200	1200	1200	
130.00 2)	11	1210	12200	-	430	430	1210	1210	1210	1210	1210	
148.15 2)	9.4	1240	12000	-	490	490	1240	1240	1240	1240		
161.60 2)	8.7	1260	11800	-	535	535	1260	1260	1260	1260		
189.09 2)	7.4	1270	11700	-	630	630	1270	1270	1270			
214.00	6.5	1270	11700	-	710	710	1270	1270				
225.26	6.2	1270	11700	-	745	745	1270	1270				
256.47	5.5	1270	11700	-	840	840	1270					

S77, m /kg			AM							
S	IEC	s	63	71	80	90	100	112	132S/M	132ML
		2	47	47	49	49	54	54	61	61
	NEMA	s	-	56	143	145	182	184	213/215	-
		2	-	47	49	49	53	53	59	-
SF: + 9.7 kg / SA: + -0.55 kg / SAF: + 6.2 kg										

S87, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm											2280 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM						
	min^{-1}	Nm	N	'	80	90	100	112	132S/M	132ML	160
						2					
7.88[2)]	178	1010	15700	-					660	660	1010
9.07[2)]	154	1140	15900	-			335	335	760	760	1140
10.93[2)]	128	1240	16400	-			410	410	910	910	1240
12.21[2)]	115	1240	17400	-	155	155	455	455	1020	1020	1240
14.06[2)]	100	1240	18500	-	181	181	530	530	1170	1170	1240
15.64[2)]	90	1240	19300	-	200	200	590	590	1240	1240	1240
17.49	80	1240	20200	-	225	225	660	660	1240	1240	1240
19.70	71	1240	21100	-	255	255	740	740	1240	1240	1240
20.27[2)]	69	1600	22100	-						1600	1600
21.43	65	1240	21800	-	280	280	810	810	1240		
24.43[2)]	57	1600	23700	-						1600	1600
25.50	55	1240	23400	-	335	335	960	960	1240		
27.28[2)]	51	1600	24700	-	335	335	980	980	1600	1600	1600
31.43[2)]	45	1600	26000	-	385	385	1130	1130	1600	1600	1600
34.96[2)]	40	1600	27100	-	435	435	1260	1260	1600	1600	1600
39.10[2)]	36	1600	28200	-	485	485	1410	1410	1600	1600	1600
44.03[2)]	32	1600	29000	-	550	550	1590	1590	1600	1600	1600
47.91	29	1600	29000	-	600	600	1600	1600	1600		
57.00	25	1600	29000	-	720	720	1600	1600	1600		
64.00[2)]	22	1700	28900	-					1700	1700	1700
64.27	22	1600	29000	-	810	810	1600	1600			
70.43	20	1600	29000	-	890	890	1600	1600			
77.14[2)]	18	1820	28700	-			1820	1820	1820	1820	1820
81.76	17	1600	29000	-	1030	1030	1600				
86.15[2)]	16	1880	28600	-	900	900	1880	1880	1880	1880	1880
91.20	15	1510	29100	-	1150	1150					
99.26[2)]	14	1960	28500	-	1040	1040	1960	1960	1960	1960	1960
110.40[2)]	13	2000	28400	-	1160	1160	2000	2000	2000	2000	2000
123.48[2)]	11	2060	28300	-	1300	1300	2060	2060	2060	2060	2060
139.05[2)]	10	2100	28300	-	1460	1460	2100	2100	2100	2100	2100
151.30[2)]	9.3	2150	28200	-	1590	1590	2150	2150	2150		
180.00[2)]	7.8	2210	28100	-	1880	1880	2210	2210	2210		
202.96	6.9	2260	28000	-	2120	2120	2260	2260			
222.40	6.3	2280	27900	-	2280	2280	2280	2280			
258.18	5.4	2280	27900	-	2280	2280	2280				
288.00	4.9	2280	27900	-	2280	2280					

S87, m /kg			AM						
S	IEC	s	80	90	100	112	132S/M	132ML	160
		2	85	85	90	90	97	97	115
	NEMA	s	143	145	182	184	213/215	-	254/256
		2	85	85	89	89	95	-	110
SF: + 22 kg / SA: + -2.4 kg / SAF: + 14 kg									

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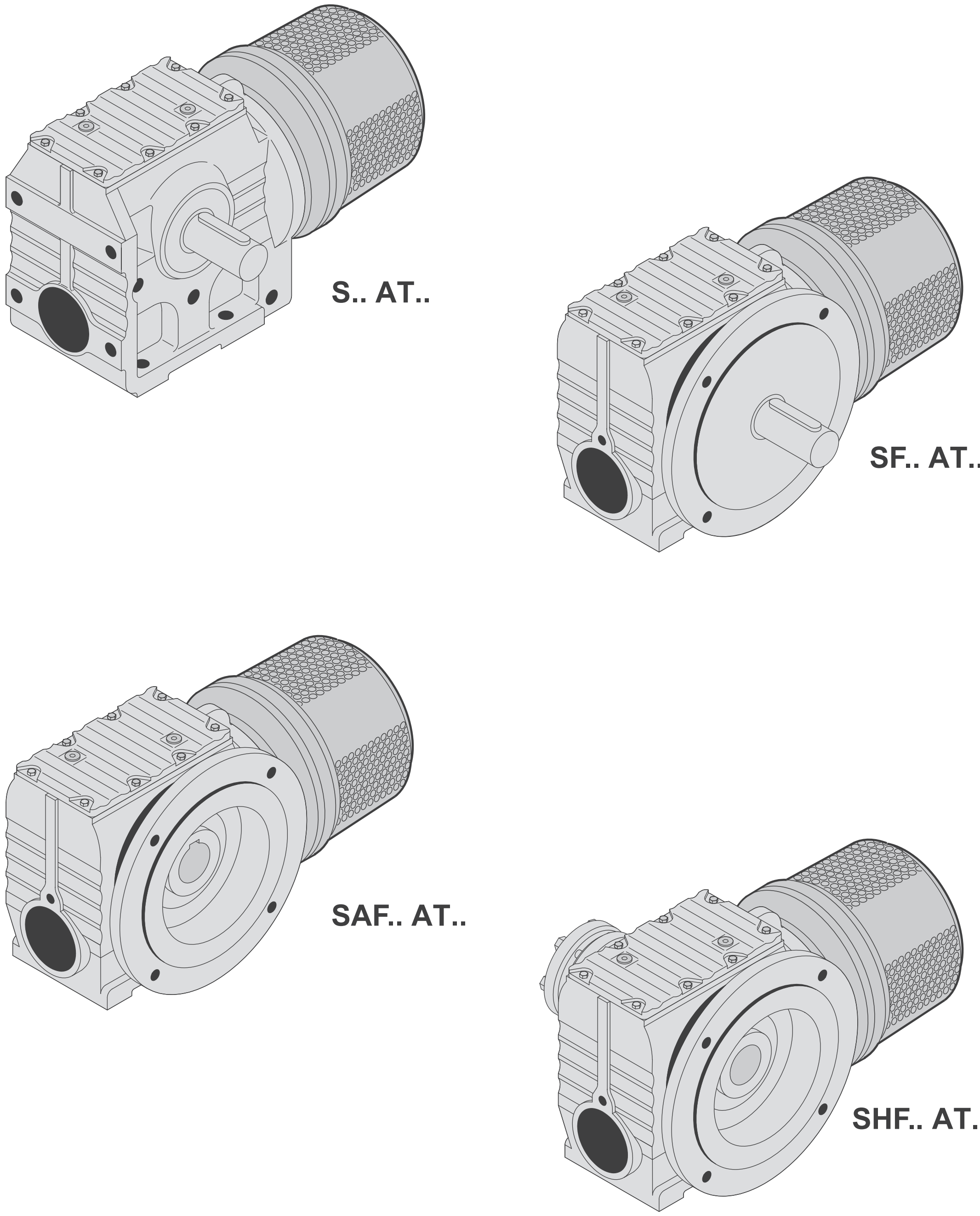
S97, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm										4000 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} [1)]	$\varphi_{(/R)}$	AM					
	min^{-1}	Nm	N	'	100	112	132S/M	132ML	160	180
						2				
8.26[2)]	169	1770	18800	-			690	690	1440	1730
9.55[2)]	147	2040	18200	-			795	795	1670	2000
11.41[2)]	123	2210	18400	-			950	950	2000	2210
13.07[2)]	107	2330	18800	-	485	485	1090	1090	2290	2330
15.42[2)]	91	2470	19400	-	575	575	1290	1290	2470	2470
17.05[2)]	82	2570	19700	-	640	640	1430	1430	2570	2570
19.23	73	2600	21200	-	725	725	1620	1620	2600	2600
21.23	66	2600	22800	-	800	800	1790	1790	2600	2600
23.59	59	2600	24500	-	890	890	1980	1980	2600	
24.13[2)]	58	2870	28000	-						2870
26.39	53	2600	26100	-	1000	1000	2220	2220	2600	
27.63[2)]	51	3010	29000	-						3010
32.60[2)]	43	3200	30400	-	1170	1170	2640	2640	3200	3200
36.05[2)]	39	3300	31300	-	1300	1300	2920	2920	3300	3300
40.65[2)]	34	3300	32800	-	1470	1470	3290	3290	3300	3300
44.89[2)]	31	3300	34100	-	1630	1630	3300	3300	3300	3300
49.87	28	3300	34500	-	1810	1810	3300	3300	3300	
55.79	25	3300	34500	-	2030	2030	3300	3300	3300	
60.59	23	3300	34500	-	2200	2200	3300			
65.45[2)]	21	2900	35100	-			2900	2900	2900	2900
71.43	20	3300	34500	-	2590	2590	3300			
78.26[2)]	18	3080	34800	-			3080	3080	3080	3080
80.85	17	3230	34600	-	2930	2930				
89.60[2)]	16	3240	34600	-	2790	2790	3240	3240	3240	3240
105.71[2)]	13	3440	34300	-	3280	3280	3440	3440	3440	3440
116.92[2)]	12	3510	34100	-	3510	3510	3510	3510	3510	3510
131.85[2)]	11	3650	33900	-	3650	3650	3650	3650	3650	3650
145.60[2)]	9.6	3730	33700	-	3730	3730	3730	3730	3730	3730
161.74[2)]	8.7	3840	33500	-	3840	3840	3840	3840	3840	
180.95[2)]	7.7	3920	33400	-	3920	3920	3920	3920	3920	
196.52[2)]	7.1	4000	33200	-	4000	4000	4000			
231.67[2)]	6.0	4000	33200	-	4000	4000	4000			
262.22	5.3	4000	33200	-	4000	4000				
286.40	4.9	4000	33200	-	4000	4000				

S97, m /kg			AM					
S	IEC	s	100	112	132S/M	132ML	160	180
		2	150	150	155	155	175	175
	NEMA	s	182	184	213/215	-	254/256	284/286
		2	150	150	155	-	170	170
SF: + 33 kg / SA: + -5.4 kg / SAF: + 21 kg								

11.2 Selection tables for adapters with hydraulic start-up coupling (AT..)



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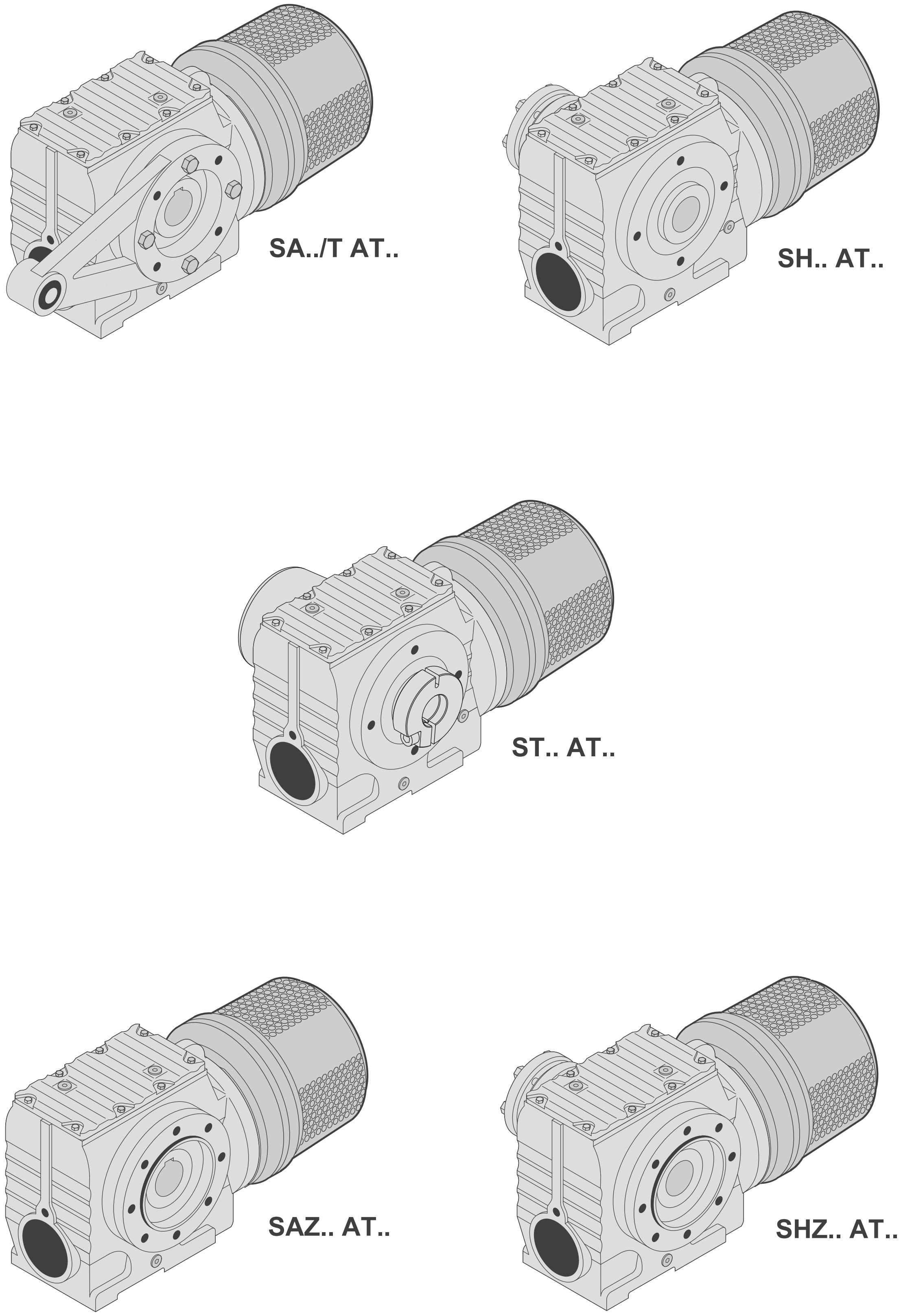

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11.2.1 S..AT/DRN..4

		P_{Mot} kW				Sn %	
S67	DRN71M4	0.37	AT311	T11	0.42	12	
	DRN80MK4	0.55	AT312	T11D	0.55	11	
	DRN80M4	0.75	AT312	T11D	0.7	11	
	DRN90S4	1.1	AT312	T11D	0.72	15	
	DRN90L4	1.5	AT321	T21	0.85	9	
	DRN100LS4	2.2	AT321	T21	0.9	13	
	DRN100L4	3	AT322	T21D	1.53	11	
S77	DRN71M4	0.37	AT311	T11	0.42	12	
	DRN80MK4	0.55	AT312	T11D	0.55	11	
	DRN80M4	0.75	AT312	T11D	0.7	11	
	DRN90S4	1.1	AT312	T11D	0.72	15	
	DRN90L4	1.5	AT421	T21	0.85	9	
	DRN100LS4	2.2	AT421	T21	0.9	13	(→ 🗎 588)
	DRN100L4	3	AT422	T21D	1.53	11	
	DRN112M4	4	AT422	T21D	1.6	12	
S87	DRN90S4	1.1	AT312	T11D	0.72	15	
	DRN90L4	1.5	AT421	T21	0.85	9	
	DRN100LS4	2.2	AT421	T21	0.9	13	
	DRN100L4	3	AT422	T21D	1.53	11	
	DRN112M4	4	AT422	T21D	1.6	12	
	DRN132S4	5.5	AT541	T41	2	6	
	DRN132M4	7.5	AT541	T41	2.4	8	
	DRN132L4	9.2	AT541	T41	2.5	10	
	DRN160M4	11	AT541	T41	2.5	13	
	DRN160L4	15	AT542	T41D	4.2	8	

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		P_{Mot} kW				Sn %	
S97	DRN90S4	1.1	AT312	T11D	0.72	15	(→ 588)
	DRN90L4	1.5	AT421	T21	0.85	9	
	DRN100LS4	2.2	AT421	T21	0.9	13	
	DRN100L4	3	AT422	T21D	1.53	11	
	DRN112M4	4	AT422	T21D	1.6	12	
	DRN132S4	5.5	AT541	T41	2	6	
	DRN132M4	7.5	AT541	T41	2.4	8	
	DRN132L4	9.2	AT541	T41	2.5	10	
	DRN160M4	11	AT541	T41	2.5	13	
	DRN160L4	15	AT542	T41D	4.2	8	
	DRN180M4	18.5	AT542	T41D	4.3	10	
	DRN180L4	22	AT542	T41D	4.3	14	

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11.2.2 S..AT/DRN..2

		P_{Mot}				Sn	
S67	DRN71M2	0.55	AT311	T11	0.19	3	(→ 588)
	DRN80MS2	0.75	AT311	T11	0.22	4.5	
	DRN80M2	1.1	AT311	T11	0.27	6	
	DRN90S2	1.5	AT311	T11	0.29	8.5	
	DRN90L2	2.2	AT311	T11	0.31	11.5	
	DRN100LM2	3	AT311	T11	0.4	12	
	DRN112M2	4	AT312	T11D	0.52	10	
S77	DRN71M2	0.55	AT311	T11	0.19	3	
	DRN80MS2	0.75	AT311	T11	0.22	4.5	
	DRN80M2	1.1	AT311	T11	0.27	6	
	DRN90S2	1.5	AT311	T11	0.29	8.5	
	DRN90L2	2.2	AT311	T11	0.31	11.5	
	DRN100LM2	3	AT311	T11	0.4	12	
	DRN112M2	4	AT312	T11D	0.52	10	
	DRN132S2	5.5	AT321	T21	0.6	8	
	DRN132S2	5.5	AT421	T21	0.6	8	
S87	DRN90S2	1.5	AT311	T11	0.29	8.5	
	DRN90L2	2.2	AT311	T11	0.31	11.5	
	DRN100LM2	3	AT311	T11	0.4	12	
	DRN112M2	4	AT312	T11D	0.52	10	
	DRN132S2	5.5	AT321	T21	0.6	8	
	DRN132S2	5.5	AT421	T21	0.6	8	
S97	DRN90S2	1.5	AT311	T11	0.29	8.5	
	DRN90L2	2.2	AT311	T11	0.31	11.5	
	DRN100LM2	3	AT311	T11	0.4	12	
	DRN112M2	4	AT312	T11D	0.52	10	
	DRN132S2	5.5	AT321	T21	0.6	8	
	DRN132S2	5.5	AT421	T21	0.6	8	

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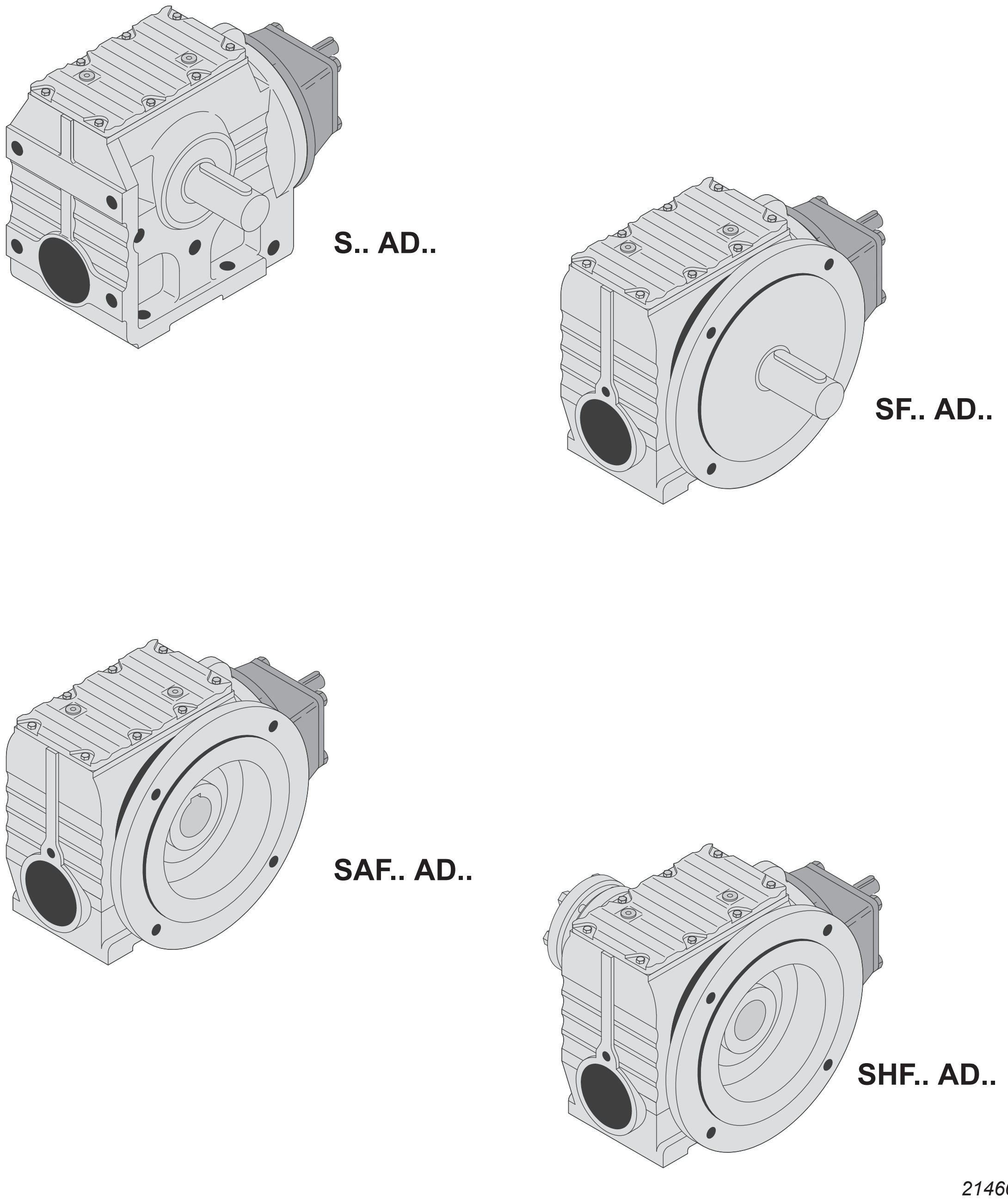
11.3 Selection tables for input shaft assembly (AD..)



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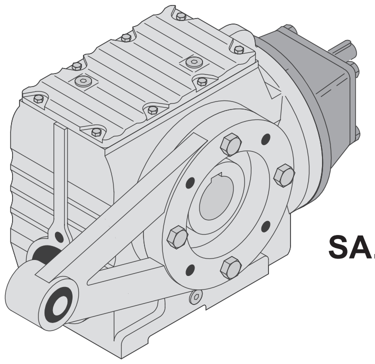
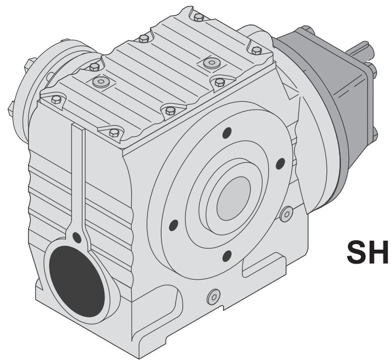
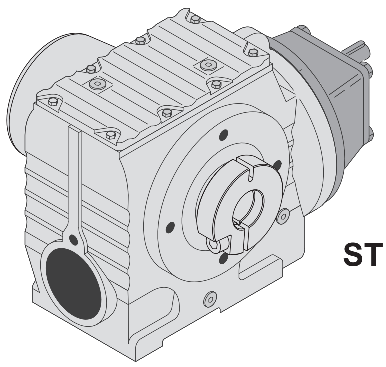


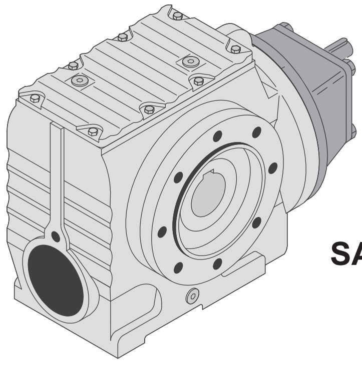
SA../T AD..



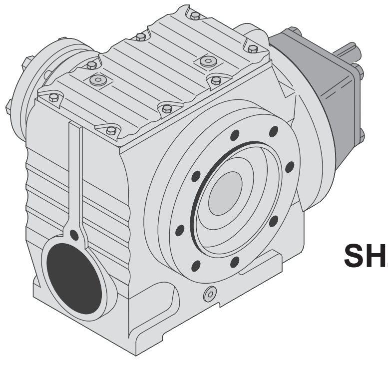
SH.. AD..



ST.. AD..



SAZ.. AD..



SHZ.. AD..

21460894219

S37 AD.. , n_e = 1400 min^{-1} — **92 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$φ_{(/R)}$	⚠				m kg	
157.43	8.9	92	0.18	3000	745	-	-					
144.40*	9.7	92	0.19	3000	745	-	-					
122.94	11	91	0.22	3000	740	-	-					
106.00*	13	88	0.24	3000	745	-	-	**S**	**37**	**AD1**	8.3	593
98.80*	14	87	0.25	3000	745	-	-	**SF**	**37**	**AD1**	9.6	593
86.36	16	86	0.27	3000	740	-	-	**SA**	**37**	**AD1**	8.0	593
80.96	17	85	0.29	3000	740	-	-	**SAF**	**37**	**AD1**	9.5	593
71.44*	20	84	0.31	3000	740	-	-					
63.33	22	82	0.34	3000	740	-	-					
55.93	25	81	0.31	3000	575	-	-					
53.83	26	80	0.39	3000	1820	-	-	**S**	**37**	**AD2**	9.4	593
								SF	**37**	**AD2**	11	593
								SA	**37**	**AD2**	9.1	593
								SAF	**37**	**AD2**	11	593
51.30*	27	81	0.33	3000	565	-	-					
43.68	32	81	0.38	3000	555	-	-					
37.66	37	79	0.43	3000	555	-	-					
35.10*	40	78	0.45	3000	550	-	-	**S**	**37**	**AD1**	8.3	593
30.68	46	76	0.49	2860	550	-	-	**SF**	**37**	**AD1**	9.6	593
28.76	49	75	0.52	2800	545	-	-	**SA**	**37**	**AD1**	8.0	593
25.38*	55	74	0.57	2660	535	-	-	**SAF**	**37**	**AD1**	9.5	593
22.50*	62	73	0.63	2530	520	-	-					
19.89	70	52	0.47	2470	330	-	-					
19.13*	73	71	0.72	2380	1740	-	-	**S**	**37**	**AD2**	9.4	593
								SF	**37**	**AD2**	11	593
								SA	**37**	**AD2**	9.1	593
								SAF	**37**	**AD2**	11	593
18.24*	77	52	0.51	2380	320	-	-	**S**	**37**	**AD1**	8.3	593
15.53	90	50	0.57	2240	320	-	-	**SF**	**37**	**AD1**	9.6	593
								SA	**37**	**AD1**	8.0	593
								SAF	**37**	**AD1**	9.5	593
13.39	105	49	0.65	2110	1500	-	-					
12.48*	112	48	0.68	2060	1500	-	-					
10.91	128	48	0.78	1940	1470	-	-					
10.23	137	47	0.81	1900	1470	-	-					
9.02*	155	46	0.89	1810	1460	-	-	**S**	**37**	**AD2**	9.4	593
8.00*	175	45	0.98	1730	1440	-	-	**SF**	**37**	**AD2**	11	593
6.80*	206	43	1.1	1630	1660	-	-	**SA**	**37**	**AD2**	9.1	593
6.33	221	35	0.95	1670	1670	-	-	**SAF**	**37**	**AD2**	11	593
5.38	260	34	1.1	1570	1660	-	-					
4.86*	288	33	1.1	1520	1650	-	-					
3.97	353	32	1.4	1400	1630	-	-					

S47 AD.. , n_e = 1400 min^{-1} — **170 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$φ_{(/R)}$	⚠				m kg	
201.00*	7.0	170	0.25	5340	680	-	-					
184.80*	7.6	170	0.27	5340	680	-	-					
158.12	8.8	170	0.30	5340	670	-	-					
137.05	10	168	0.34	5350	670	-	-					
128.10*	11	168	0.36	5350	665	-	-	**S**	**47**	**AD1**	11	593
110.73	13	168	0.40	5350	655	-	-	**SF**	**47**	**AD1**	15	593
94.08*	15	168	0.46	5350	645	-	-	**SA**	**47**	**AD1**	12	598
84.00*	17	167	0.51	5360	640	-	-	**SAF**	**47**	**AD1**	14	593
71.75*	20	167	0.58	5360	625	-	-					
69.39	20	155	0.46	5370	385	-	-					
67.20*	21	167	0.62	5360	615	-	-					
63.80*	22	155	0.50	5370	380	-	-					
56.61	25	165	0.72	5320	1780	-	-	**S**	**47**	**AD2**	12	593
								SF	**47**	**AD2**	16	593
								SA	**47**	**AD2**	14	598
								SAF	**47**	**AD2**	15	593

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S47 AD.., n_e = 1400 min^{-1} **170 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$					m kg	
54.59	26	155	0.57	5150	360	-	-	**S**	**47**	**AD1**	11	593
47.32	30	155	0.65	4850	345	-	-	**SF**	**47**	**AD1**	15	593
44.22*	32	155	0.69	4710	335	-	-	**SA**	**47**	**AD1**	12	598
								SAF	**47**	**AD1**	14	593
38.23	37	155	0.80	4420	1480	-	-					
32.48*	43	155	0.93	4120	1460	-	-					
29.00*	48	155	1.0	3920	1430	-	-					
24.77	57	155	1.2	3650	1660	-	-					
23.20*	60	152	1.2	3570	1660	-	-					
20.33	69	110	0.95	3370	990	-	-					
19.54	72	144	1.4	3370	1650	-	-					
17.62	79	110	1.1	3160	1560	-	-					
16.47*	85	110	1.2	3060	1550	-	-	**S**	**47**	**AD2**	12	593
14.24	98	110	1.3	2850	1530	-	-	**SF**	**47**	**AD2**	16	593
12.10*	116	109	1.6	2650	1520	-	M1-6	**SA**	**47**	**AD2**	14	598
10.80*	130	109	1.7	2500	1510	-	M1-6	**SAF**	**47**	**AD2**	15	593
9.23*	152	109	2.0	2310	1480	-	M1-6					
8.64*	162	109	2.1	2230	1470	-	M1-6					
7.28	192	103	2.4	2110	1460	-	M1-6					
6.83	205	78	1.9	2300	1500	-	M1-6					
6.40*	219	76	2.0	2260	1500	-	M1-6					
5.39	260	74	2.3	2110	1480	-	M1-6					
4.76	294	72	2.5	2010	1460	-	M1-6					
4.00*	350	61	2.5	1980	1500	-	M1-6					

S57 AD.., n_e = 1400 min^{-1} **295 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$					m kg	
201.00*	7.0	295	0.40	7130	455	-	-					
184.80*	7.6	295	0.43	7130	455	-	-					
158.12	8.8	295	0.49	7130	450	-	-	**S**	**57**	**AD1**	15	593
137.05	10	295	0.55	7130	440	-	-	**SF**	**57**	**AD1**	19	593
128.10*	11	295	0.58	7130	435	-	-	**SA**	**57**	**AD1**	15	593
110.73	13	295	0.66	7130	410	-	-	**SAF**	**57**	**AD1**	18	593
94.08*	15	295	0.76	7130	395	-	-					
84.00*	17	295	0.84	7130	380	-	-					
71.75*	20	290	0.96	7170	1570	-	-					
69.39	20	245	0.71	7520	1120	-	-					
67.20*	21	285	1.0	7220	1570	-	-					
63.80*	22	245	0.77	7520	1100	-	-					
56.61	25	265	1.1	7370	1700	-	-					
54.59	26	245	0.88	7520	1080	-	-					
47.32	30	245	1.0	7520	1050	-	-					
44.22*	32	245	1.1	7520	1570	-	-					
38.23	37	245	1.2	7320	1560	-	-					
32.48*	43	245	1.4	6840	1540	-	-					
29.00*	48	245	1.6	6520	1530	-	-					
24.77	57	245	1.8	6100	1510	-	-					
23.20*	60	245	1.9	5930	1500	-	-	**S**	**57**	**AD2**	16	593
20.33	69	168	1.4	5690	1380	-	-	**SF**	**57**	**AD2**	20	593
19.54	72	215	2.0	5720	1520	-	-	**SA**	**57**	**AD2**	16	593
17.62	79	168	1.6	5350	1360	-	-	**SAF**	**57**	**AD2**	19	593
16.47*	85	168	1.8	5200	1350	-	-					
14.24	98	169	2.0	4860	1320	-	-					
12.10*	116	169	2.4	4520	1300	-	-					
10.80*	130	169	2.6	4290	1270	-	-					
9.23*	152	169	3.1	3990	1230	-	M1-6					
8.64*	162	166	3.2	3900	1230	-	M1-6					
7.28	192	146	3.3	3790	1260	-	M1-6					
6.83	205	100	2.4	4100	1380	-	M1-6					
6.40*	219	98	2.5	4010	1370	-	M1-6					
5.39	260	95	2.9	3760	1340	-	M1-6					
4.76	294	93	3.2	3590	1320	-	M1-6					
4.00*	350	88	3.6	3380	1300	-	M1-6					

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S67 AD.. , n_e = 1400 min^{-1} — **520 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$φ_{(/R)}$	⚠				m kg	
217.41	6.4	520	0.62	8680	1480	-	-					
190.11	7.4	520	0.70	8680	1470	-	-					
180.60*	7.8	520	0.73	8680	1470	-	-					
158.45	8.8	520	0.82	8680	1440	-	-					
134.40*	10	520	0.95	8680	1420	-	-					
121.33	12	520	1.0	8680	1400	-	-	**S**	**67**	**AD2**	27	593
106.75*	13	520	1.2	8680	1660	-	-	**SF**	**67**	**AD2**	34	593
100.80*	14	520	1.2	8680	1650	-	-	**SA**	**67**	**AD2**	28	593
85.83	16	520	1.4	8680	1640	-	-	**SAF**	**67**	**AD2**	33	593
78.00*	18	520	1.5	8680	1630	-	-					
75.06	19	480	1.2	9020	1460	-	-					
67.57	21	520	1.7	8680	1620	-	-					
65.63	21	480	1.4	9020	1450	-	-					
62.35*	22	480	1.5	9020	1450	-	-					
58.80*	24	500	1.9	8850	2620	-	-	**S**	**67**	**AD3**	30	593
								SF	**67**	**AD3**	37	593
								SA	**67**	**AD3**	32	593
								SAF	**67**	**AD3**	36	593
54.70	26	480	1.7	8670	1420	-	-					
46.40*	30	480	1.9	8060	1410	-	-					
41.89	33	480	2.1	7690	1390	-	-					
36.85	38	480	2.4	7250	1380	-	-	**S**	**67**	**AD2**	27	593
34.80*	40	480	2.5	7060	1370	-	-	**SF**	**67**	**AD2**	34	593
29.63	47	480	3.0	6540	1330	-	-	**SA**	**67**	**AD2**	28	593
26.93	52	480	3.2	6240	1310	-	-	**SAF**	**67**	**AD2**	33	593
24.44	57	340	2.4	6040	1120	-	-					
23.33	60	480	3.7	5810	1280	-	-					
23.22*	60	340	2.5	5890	1120	-	-					
20.37	69	340	2.8	5520	1080	-	-					
20.30*	69	425	3.8	5760	2340	-	-	**S**	**67**	**AD3**	30	593
								SF	**67**	**AD3**	37	593
								SA	**67**	**AD3**	32	593
								SAF	**67**	**AD3**	36	593
17.28*	81	340	3.3	5080	1050	-	-	**S**	**67**	**AD2**	27	593
15.60*	90	340	3.6	4820	1020	-	-	**SF**	**67**	**AD2**	34	593
13.73*	102	340	4.1	4510	1000	-	-	**SA**	**67**	**AD2**	28	593
12.96*	108	340	4.4	4310	980	-	-	**SAF**	**67**	**AD2**	33	593
11.03	127	340	5.1	3660	1940	-	-	**S**	**67**	**AD3**	30	593
10.03	140	340	5.6	3290	1910	-	M1-6	**SF**	**67**	**AD3**	37	593
8.69	161	335	6.4	2860	1860	-	M1-6	**SA**	**67**	**AD3**	32	593
7.56*	185	295	6.4	3220	1930	-	M1-6	**SAF**	**67**	**AD3**	36	593

S77 AD.. , n_e = 1400 min^{-1} — **1270 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$φ_{(/R)}$	⚠				m kg	
256.47	5.5	1270	1.2	11700	1510	-	-					
225.26	6.2	1270	1.3	11700	1500	-	-					
214.00*	6.5	1270	1.4	11700	1510	-	-					
189.09	7.4	1270	1.5	11700	1480	-	-					
161.60*	8.7	1260	1.8	11800	1480	-	-					
148.15	9.4	1240	1.9	12000	1480	-	-					
130.00*	11	1210	2.0	12200	1480	-	-					
123.20*	11	1200	2.1	12300	1480	-	-					
107.83	13	1170	2.4	12600	1470	-	-					
97.14	14	1140	2.5	12800	1460	-	-	**S**	**77**	**AD2**	47	593
85.22	16	1100	2.8	13100	1460	-	-	**SF**	**77**	**AD2**	57	593
75.20*	19	1070	3.0	12800	1450	-	-	**SA**	**77**	**AD2**	47	593
75.09	19	1100	2.6	11900	1090	-	-	**SAF**	**77**	**AD2**	53	593
71.33	20	1100	2.8	11600	1090	-	-					
66.67	21	1040	3.3	12300	1440	-	-					
63.03	22	1100	3.1	10900	1040	-	-					
56.92	25	990	3.6	11600	1430	-	-					
53.87	26	1100	3.6	10100	1010	-	-					
49.38	28	1100	3.9	9650	1000	-	-					
43.33	32	1100	4.4	9010	970	-	-					
41.07	34	1100	4.7	8750	950	-	-					

S77 AD.. , n_e = 1400 min⁻¹ — **1270 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
35.94	39	1100	5.3	8140	1950	-	-					
32.38	43	1090	5.8	7720	1920	-	-					
28.41	49	1050	6.4	7370	1910	-	-					
25.07	56	1020	7.0	7010	1890	-	-					
22.89	61	705	5.1	5960	1680	-	-					
22.22	63	980	7.5	6740	1880	-	-	**S**	**77**	**AD3**	50	593
20.99	67	705	5.6	5380	1660	-	-	**SF**	**77**	**AD3**	60	593
18.97	74	930	8.3	6390	1860	-	-	**SA**	**77**	**AD3**	50	593
18.42	76	705	6.3	4550	1620	-	-	**SAF**	**77**	**AD3**	57	593
17.45	80	710	6.7	4120	1590	-	-					
15.28	92	710	7.6	3320	1540	-	-					
13.76	102	710	8.4	2710	1480	-	-					
12.07	116	720	9.7	1800	1390	-	M1-6					
10.65	131	720	11.0	1130	3300	-	M1-6	**S**	**77**	**AD4**	57	593
9.44	148	725	12.4	415	3220	-	M1-6	**SF**	**77**	**AD4**	66	593
8.06	174	680	13.6	440	3210	-	M1-6	**SA**	**77**	**AD4**	56	593
								SAF	**77**	**AD4**	63	593

S87 AD.. , n_e = 1400 min⁻¹ — **2280 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$\varphi_{(/R)}$	⚠				m kg	
288.00*	4.9	2280	1.8	27900	1390	-	-					
258.18	5.4	2280	1.9	27900	1380	-	-					
222.40*	6.3	2280	2.2	27900	1370	-	-					
202.96	6.9	2260	2.4	28000	1370	-	-					
180.00*	7.8	2210	2.6	28100	1370	-	-					
151.30	9.2	2150	3.0	28200	1360	-	-					
139.05	10	2100	3.2	28300	1360	-	-	**S**	**87**	**AD2**	83	593
123.48	11	2060	3.5	28300	1360	-	-	**SF**	**87**	**AD2**	105	593
110.40*	13	2000	3.8	28400	1350	-	-	**SA**	**87**	**AD2**	80	593
99.26	14	1960	4.1	28500	1340	-	-	**SAF**	**87**	**AD2**	97	593
91.20*	15	1510	2.9	29100	1040	-	-					
86.15	16	1880	4.5	28600	1340	-	-					
81.76	17	1600	3.4	29000	970	-	-					
77.14	18	1820	4.8	28700	1330	-	-					
70.43	20	1600	4.0	29000	950	-	-					
64.27	22	1600	4.3	29000	930	-	-					
64.00*	22	1700	5.3	28900	2250	-	-	**S**	**87**	**AD3**	87	593
								SF	**87**	**AD3**	110	593
								SA	**87**	**AD3**	85	593
								SAF	**87**	**AD3**	100	593
57.00*	25	1600	4.9	29000	910	-	-	**S**	**87**	**AD2**	83	593
								SF	**87**	**AD2**	105	593
								SA	**87**	**AD2**	80	593
								SAF	**87**	**AD2**	97	593
47.91	29	1600	5.8	29000	1820	-	-					
44.03	32	1600	6.2	29000	1800	-	-	**S**	**87**	**AD3**	87	593
39.10	36	1600	7.0	28200	1760	-	-	**SF**	**87**	**AD3**	110	593
34.96*	40	1600	7.8	27100	1720	-	-	**SA**	**87**	**AD3**	85	593
31.43	45	1600	8.6	26000	1680	-	-	**SAF**	**87**	**AD3**	100	593
27.28	51	1600	9.9	24700	1620	-	-					
25.50*	55	1240	8.0	23400	3310	-	-					
24.43	57	1600	11.1	23700	3590	-	-					
21.43	65	1240	9.5	21800	3260	-	-					
20.27	69	1600	13.2	22100	3490	-	-					
19.70	71	1240	10.3	21100	3200	-	-	**S**	**87**	**AD4**	93	593
17.49	80	1240	11.5	20200	3150	-	-	**SF**	**87**	**AD4**	115	593
15.64*	90	1240	12.8	19300	3100	-	-	**SA**	**87**	**AD4**	91	593
14.06	100	1240	14.3	18500	3040	-	-	**SAF**	**87**	**AD4**	105	593
12.21	115	1240	16.4	17400	2950	-	M1-6					
10.93	128	1240	18.2	16400	2870	-	M1-6					
9.07	154	1140	20	15900	2860	-	M1-6					
7.88	178	1010	21	15700	2980	-	M1-6					

S97 AD.., n_e = 1400 min^{-1} — **4000 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$φ_{(/R)}$					m kg	
286.40*	4.9	4000	3.0	33200	2100	-	-					
262.22	5.3	4000	3.2	33200	2100	-	-					
231.67	6.0	4000	3.6	33200	2080	-	-					
196.52	7.1	4000	4.2	33200	2060	-	-					
180.95	7.7	3920	4.5	33400	2060	-	-	**S**	**97**	**AD3**	145	593
161.74	8.7	3840	4.8	33500	2060	-	-	**SF**	**97**	**AD3**	180	593
145.60*	9.6	3730	5.2	33700	2060	-	-	**SA**	**97**	**AD3**	140	593
131.85	11	3650	5.6	33900	2060	-	-	**SAF**	**97**	**AD3**	165	593
116.92	12	3510	6.0	34100	2060	-	-					
105.71	13	3440	6.5	34300	2060	-	-					
89.60*	16	3240	7.2	34600	2050	-	-					
80.85	17	3230	6.8	34600	1280	-	-					
78.26	18	3080	7.8	34800	2050	-	-					
71.43	20	3300	7.9	34500	3300	-	-	**S**	**97**	**AD4**	150	593
								SF	**97**	**AD4**	185	593
								SA	**97**	**AD4**	145	593
								SAF	**97**	**AD4**	170	593
65.45	21	2900	8.7	35100	2030	-	-	**S**	**97**	**AD3**	145	593
								SF	**97**	**AD3**	180	593
								SA	**97**	**AD3**	140	593
								SAF	**97**	**AD3**	165	593
60.59	23	3300	9.2	34500	3260	-	-					
55.79	25	3300	10.0	34500	3210	-	-	**S**	**97**	**AD4**	150	593
49.87	28	3300	11.1	34500	3180	-	-	**SF**	**97**	**AD4**	185	593
44.89	31	3300	12.3	34100	3130	-	-	**SA**	**97**	**AD4**	145	593
40.65	34	3300	13.6	32800	3090	-	-	**SAF**	**97**	**AD4**	170	593
36.05	39	3300	15.3	31300	3040	-	-					
32.60	43	3200	16.3	30400	3030	-	-					
27.63	51	3010	18.1	29000	6220	-	-	**S**	**97**	**AD5**	170	593
								SF	**97**	**AD5**	200	593
								SA	**97**	**AD5**	165	593
								SAF	**97**	**AD5**	190	593
26.39	53	2600	15.8	26100	2040	-	-	**S**	**97**	**AD4**	150	593
								SF	**97**	**AD4**	185	593
								SA	**97**	**AD4**	145	593
								SAF	**97**	**AD4**	170	593
24.13	58	2870	19.7	28000	6220	-	-					
23.59	59	2600	17.7	24500	5470	-	-					
21.23	66	2600	19.6	22800	5410	-	-					
19.23	73	2600	22	21200	5350	-	-	**S**	**97**	**AD5**	170	593
17.05	82	2570	24	19700	5300	-	M1-6	**SF**	**97**	**AD5**	200	593
15.42	91	2470	26	19400	5320	-	M1-6	**SA**	**97**	**AD5**	165	593
13.07	107	2330	28	18800	5300	-	M1-6	**SAF**	**97**	**AD5**	190	593
11.41	123	2210	31	18400	5310	-	M1-6					
9.55	147	2040	34	18200	5310	-	M1-6					
8.26	169	1770	34	18800	5480	-	M1-6					

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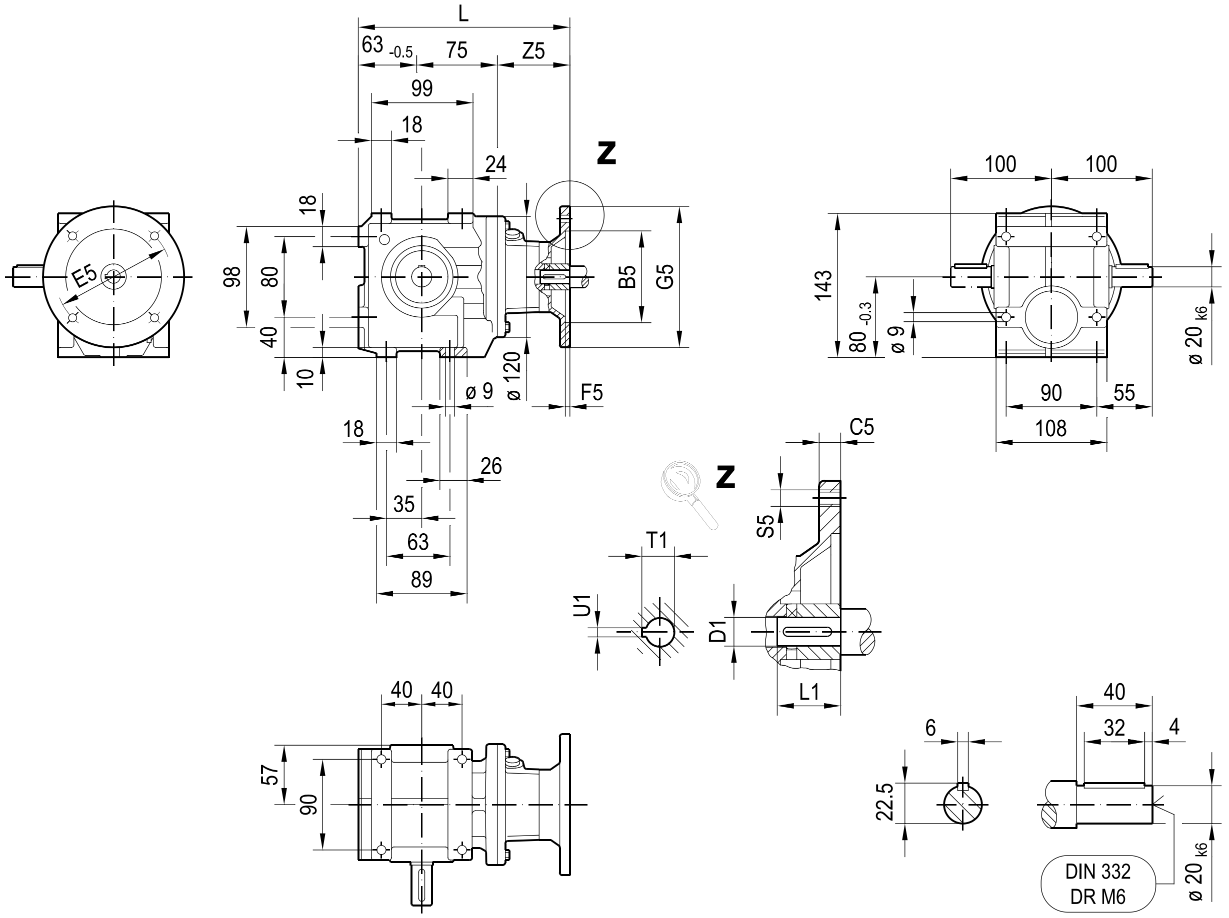
11.4 Dimension sheets for adapters for mounting IEC motors (AM..)

02 060 00 17

S37..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	210	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	210	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	244	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	244	M10	106	24	50	27.3	8

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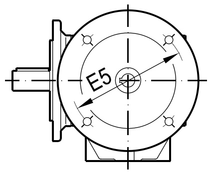
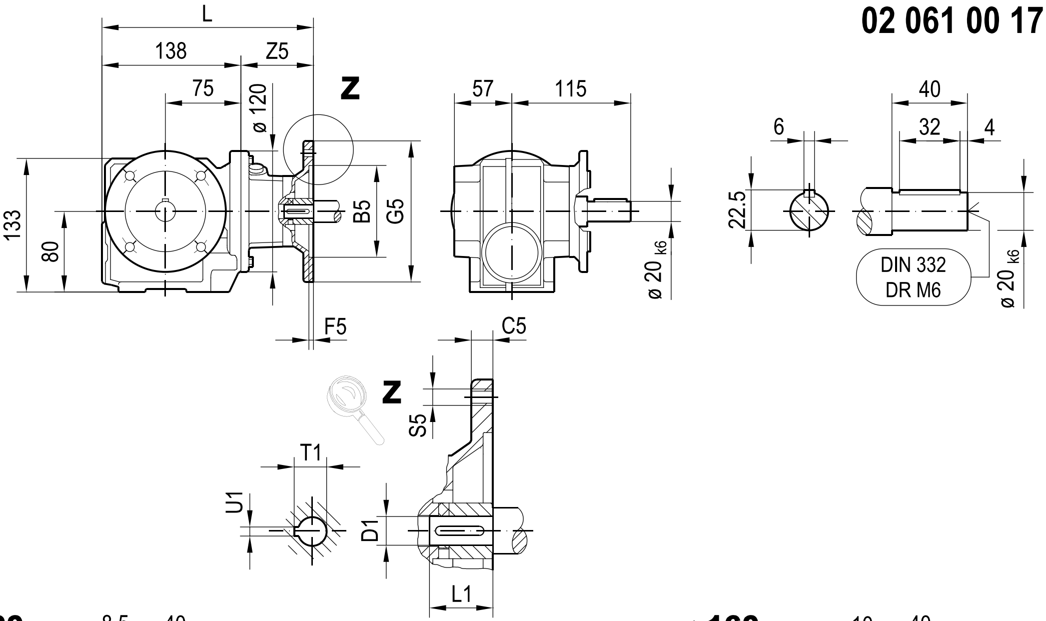
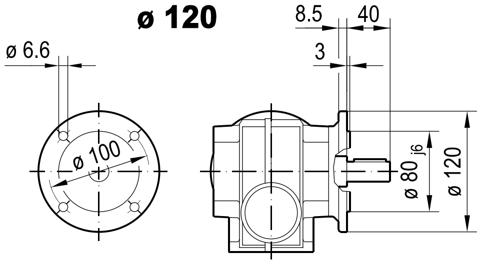
02 061 00 17

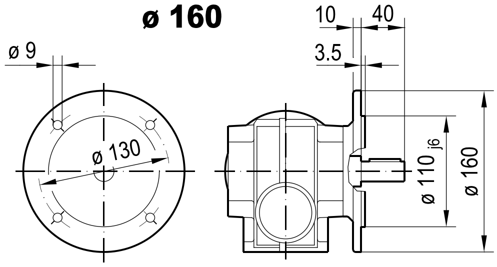
SF37..

ø 120



ø 160



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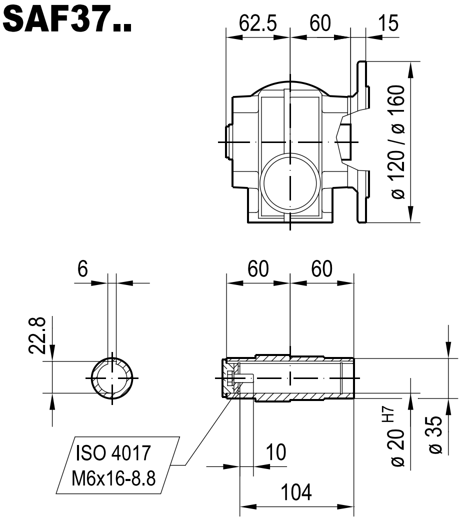
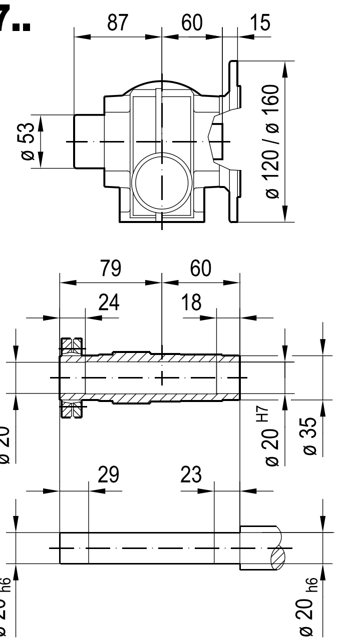


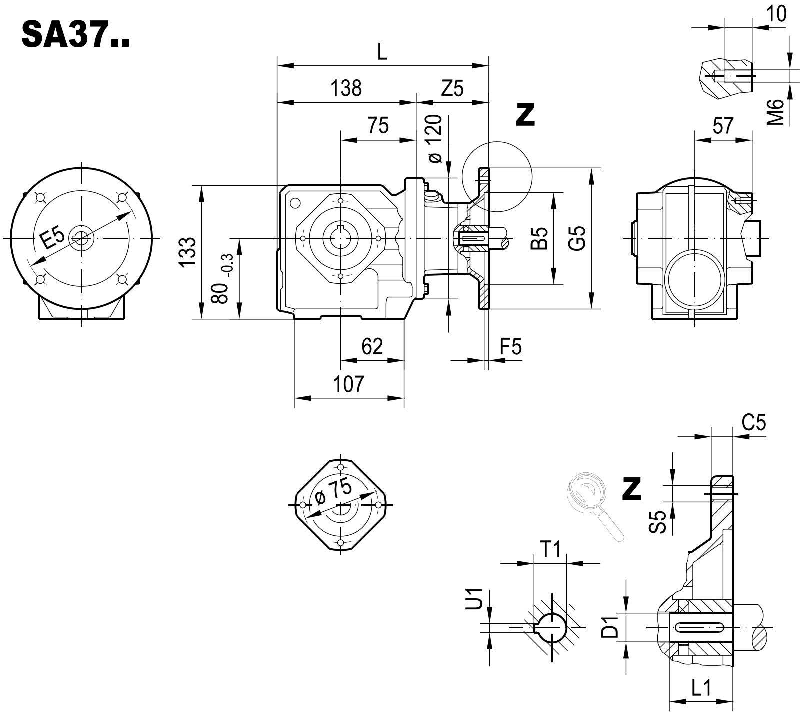
SHF37..

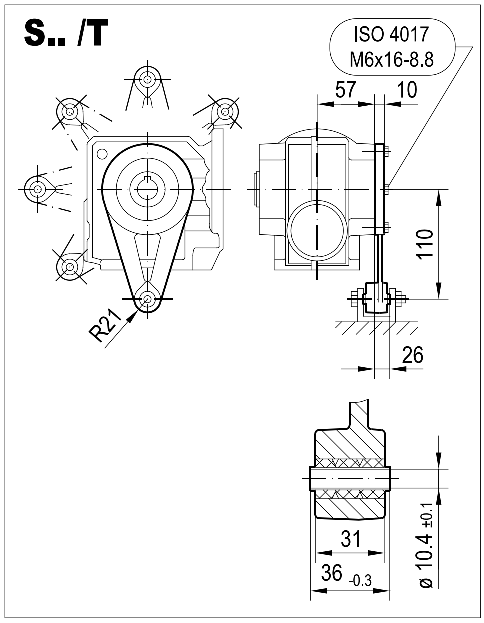


(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	210	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	210	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	244	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	244	M10	106	24	50	27.3	8

02 062 00 17

SA37..





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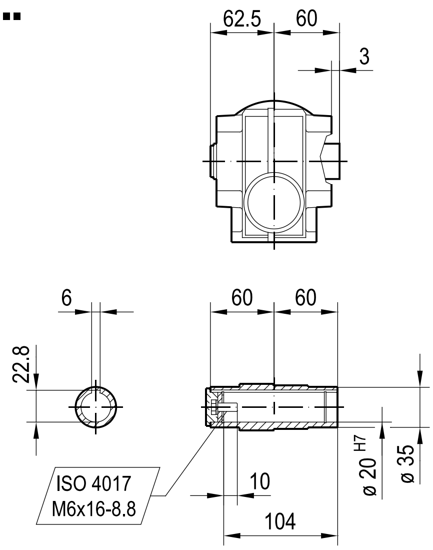
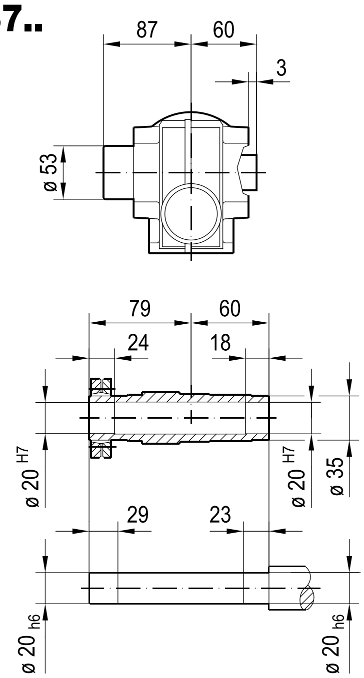


SH37..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	210	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	210	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	244	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	244	M10	106	24	50	27.3	8

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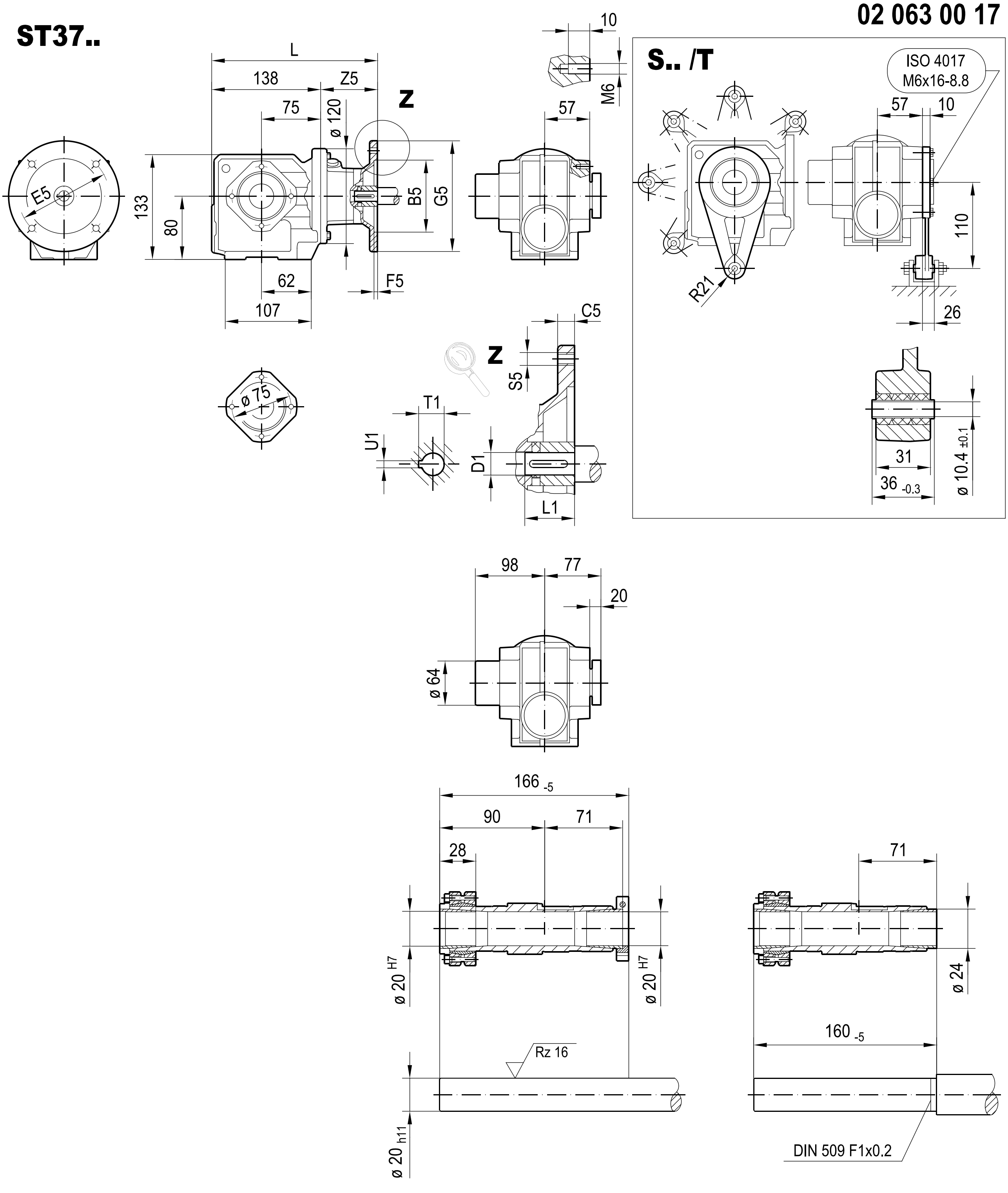
ST37..

02 063 00 17



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	210	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	210	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	244	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	244	M10	106	24	50	27.3	8

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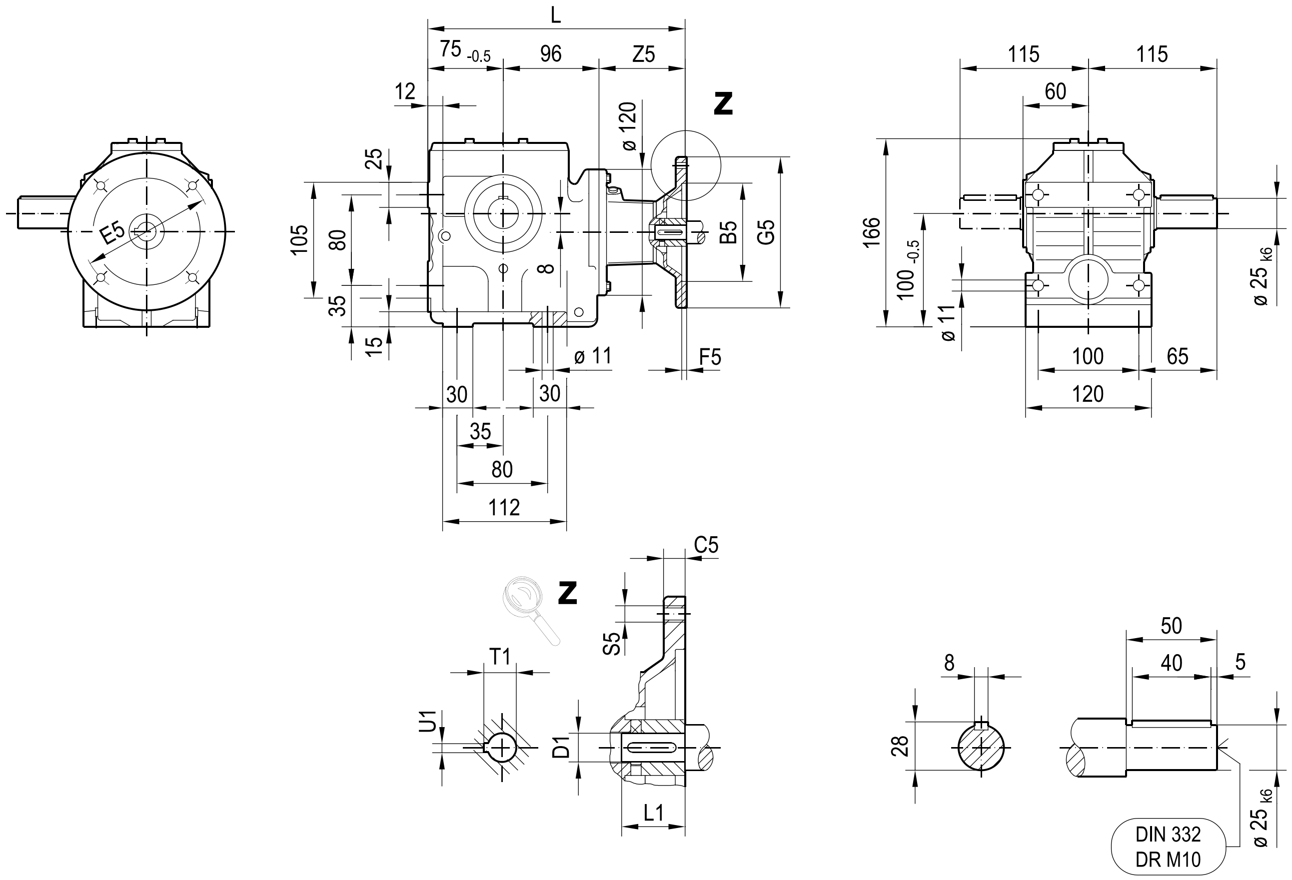
02 012 03 01

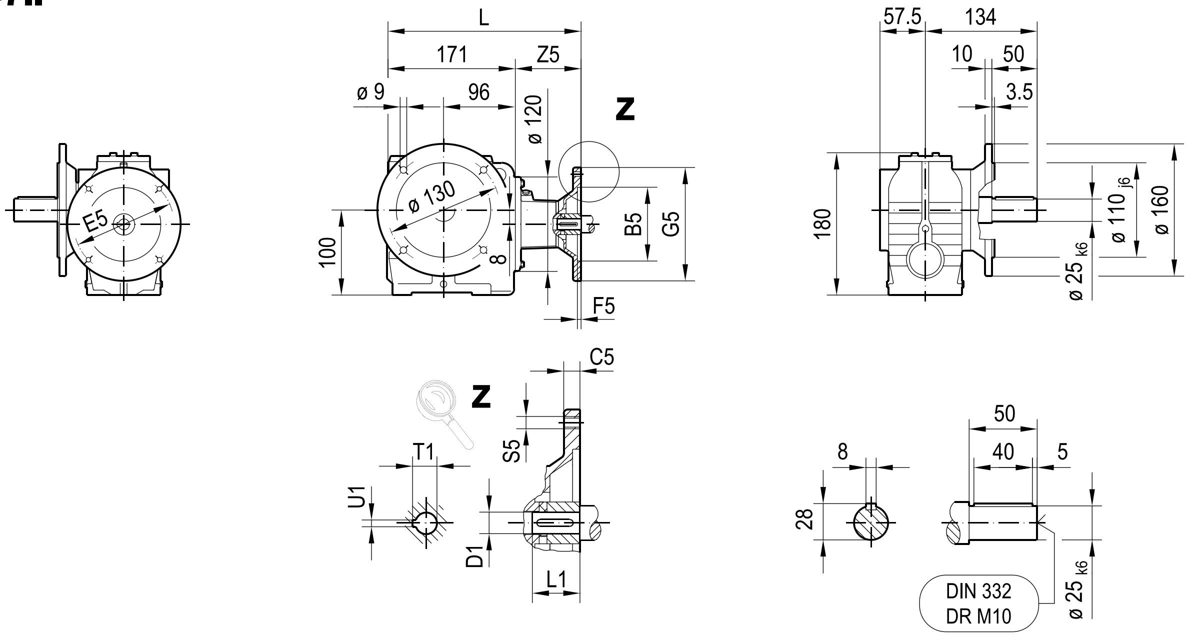
S47..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	243	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	243	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	277	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	277	M10	106	24	50	27.3	8

02 013 03 01

SF47..



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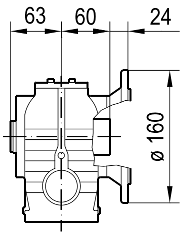

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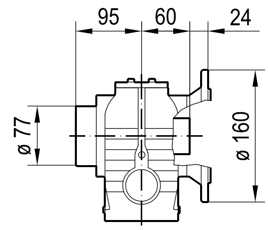
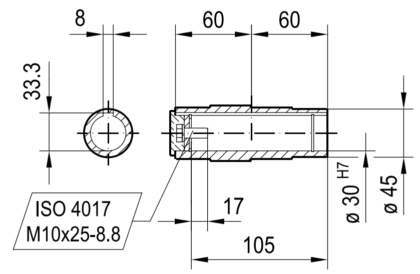


ø 30 H7



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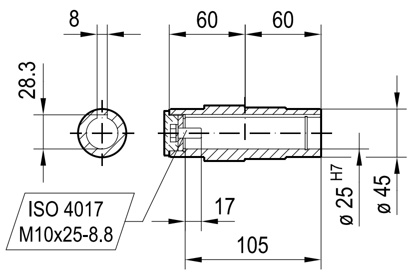

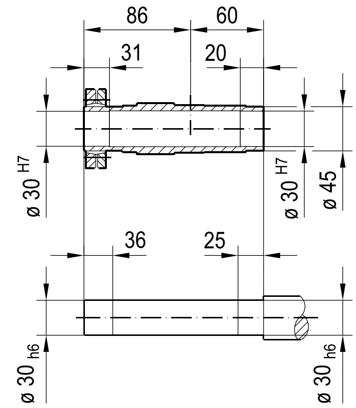

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	243	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	243	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	277	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	277	M10	106	24	50	27.3	8

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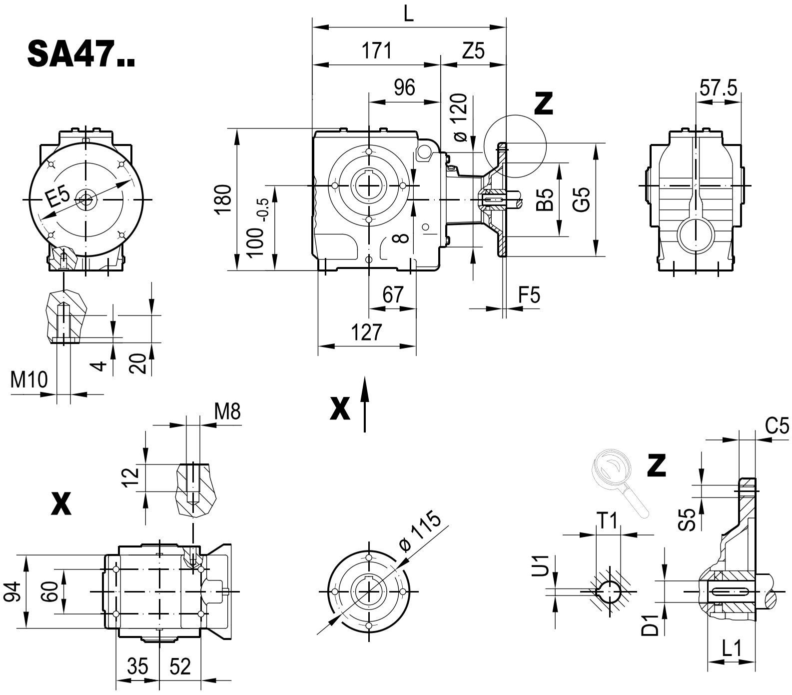
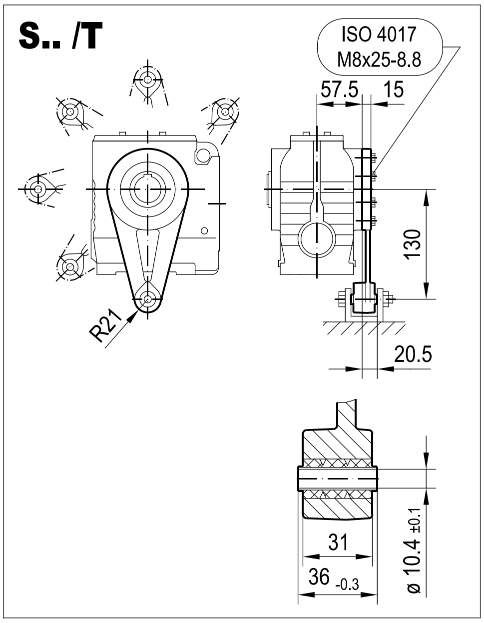
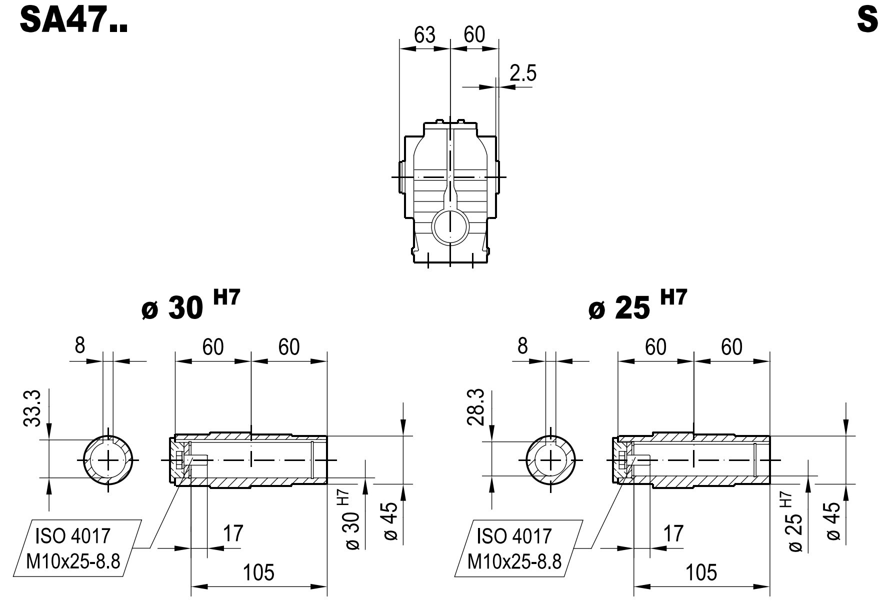
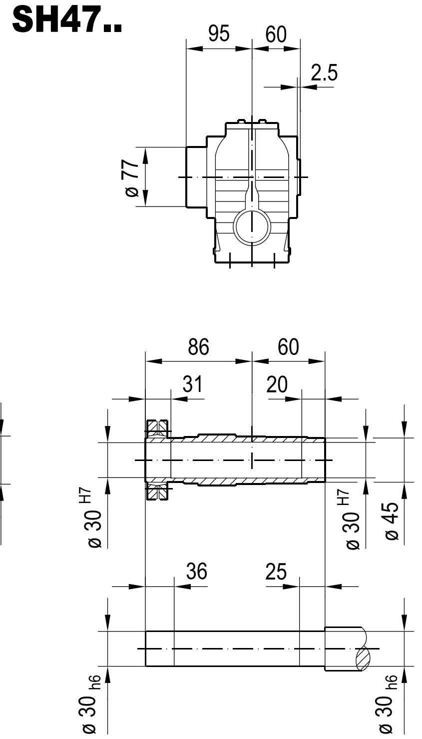
27 002 03 01









(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	243	M8	72	11	23	12.8	4
AM71	110	10	130	4	160	243	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	277	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	277	M10	106	24	50	27.3	8

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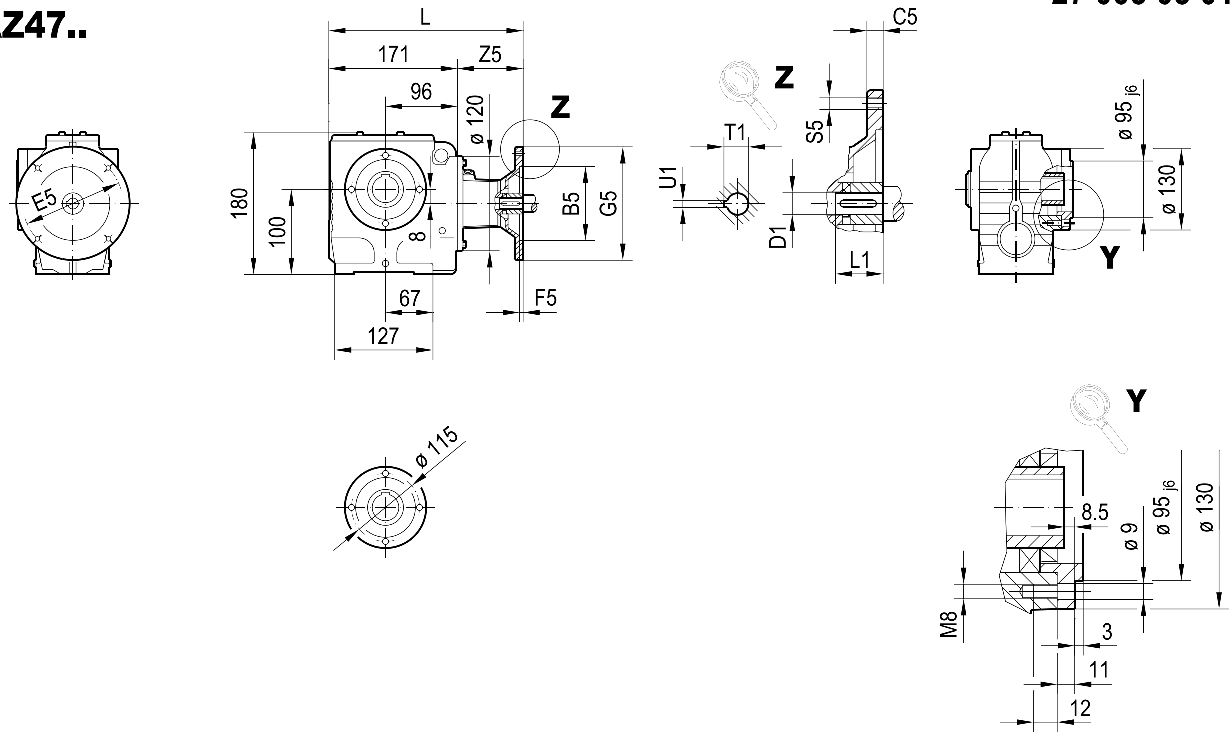

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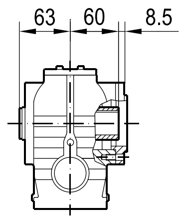

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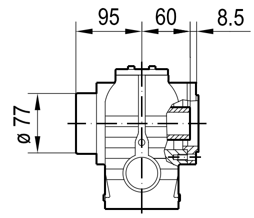
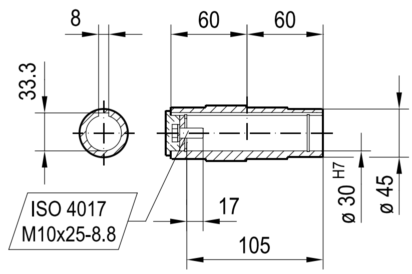


ø 30 H7



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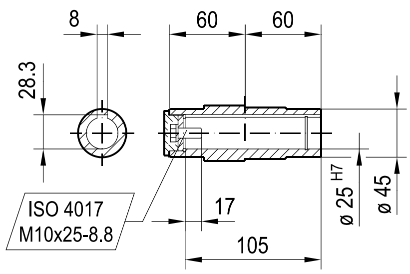

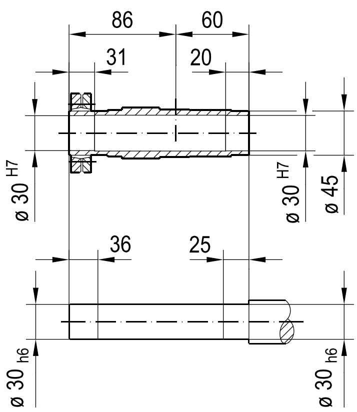

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	243	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	277	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	277	M10	106	24	50	27.3	8

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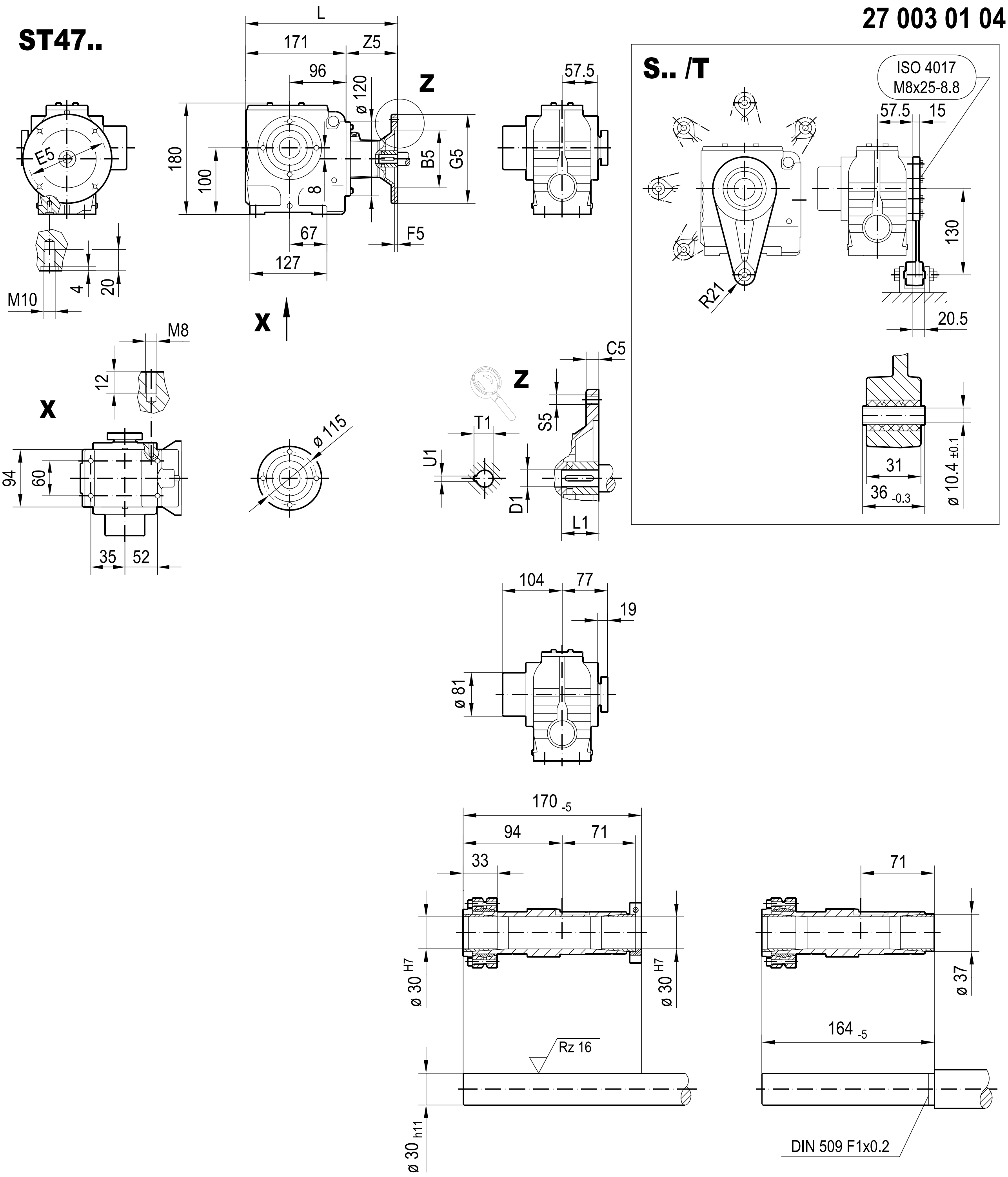
27 003 01 04



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	243	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	277	M10	106	19	40	21.8	6
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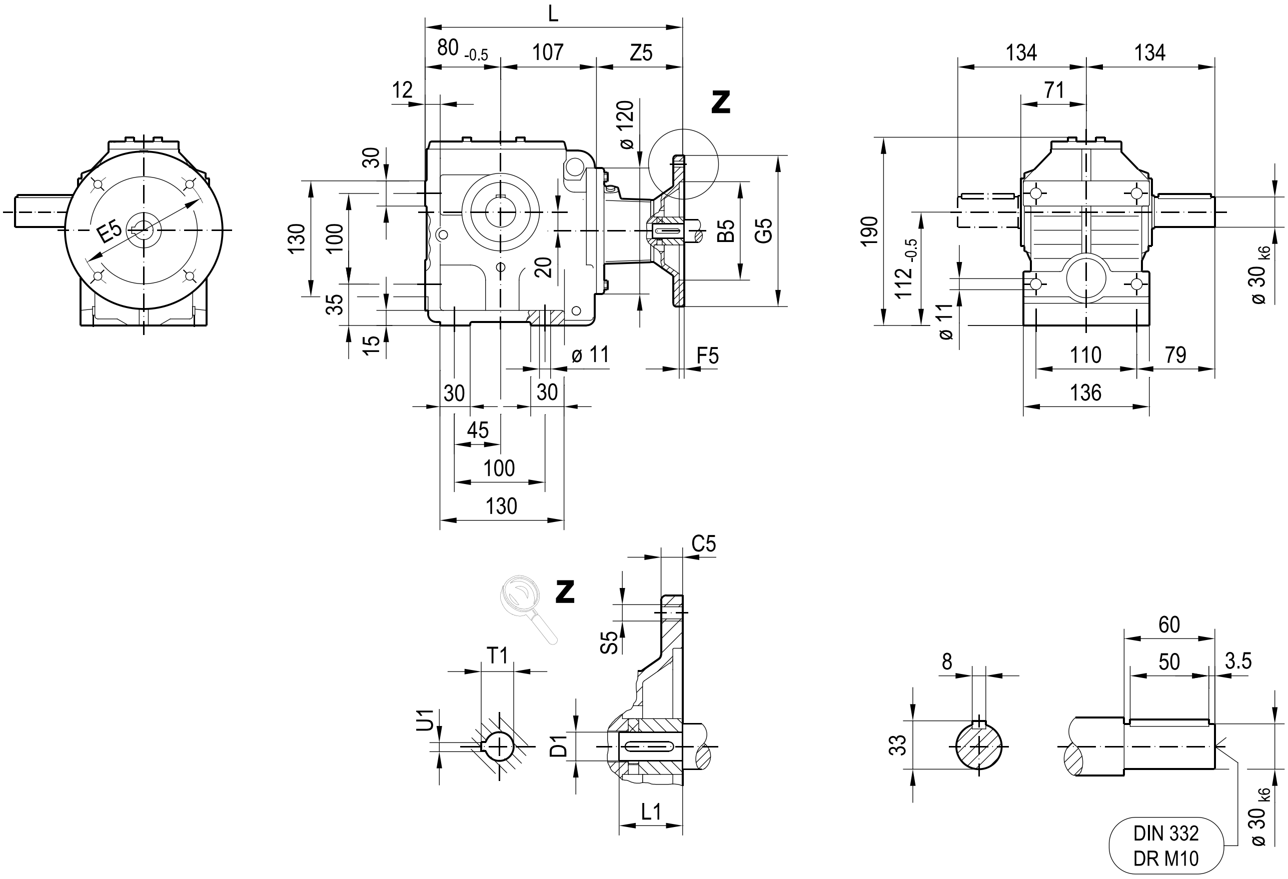
S57..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	259	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	293	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	293	M10	106	24	50	27.3	8

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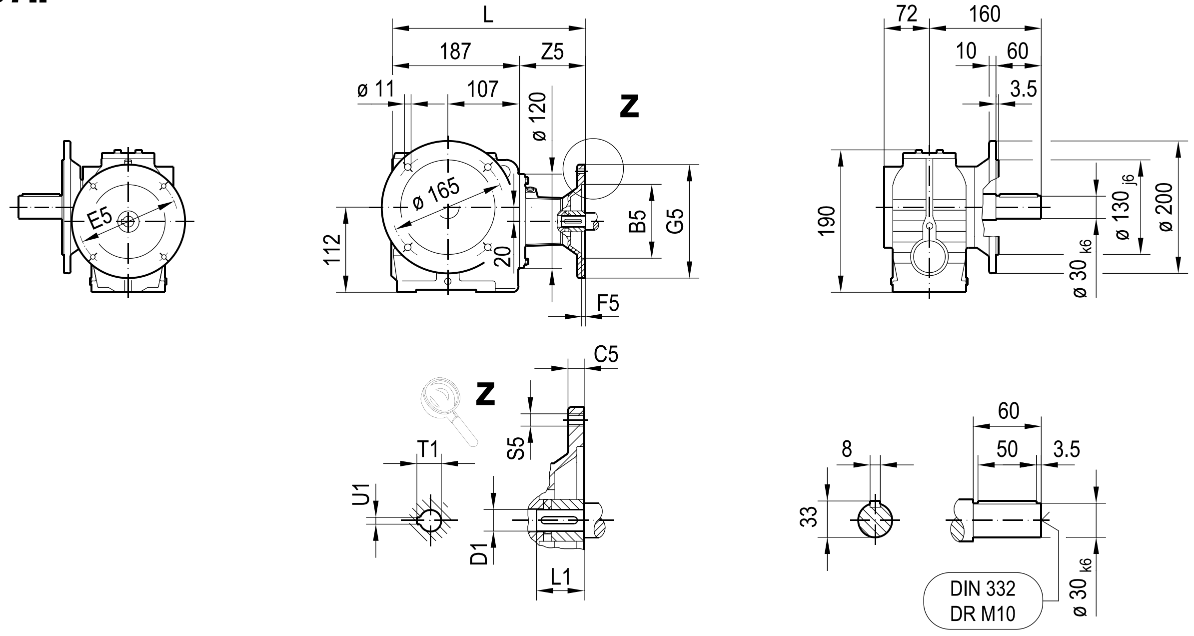
SF57..



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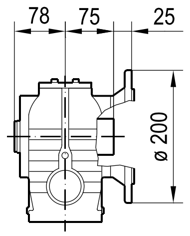

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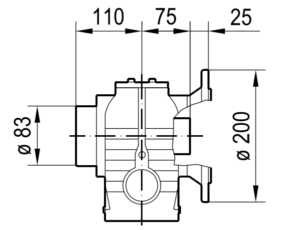

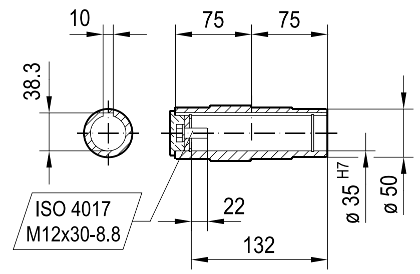

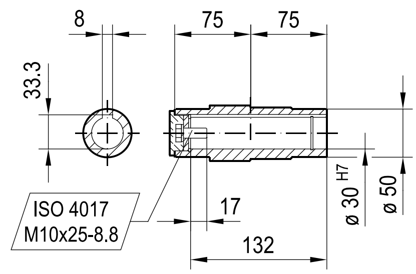

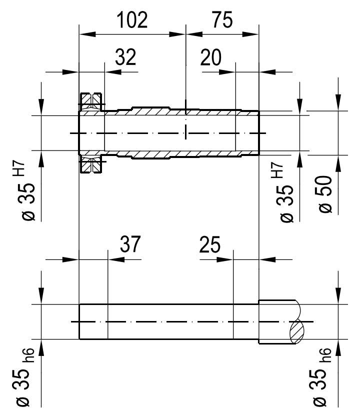

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	259	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	293	M10	106	19	40	21.8	6
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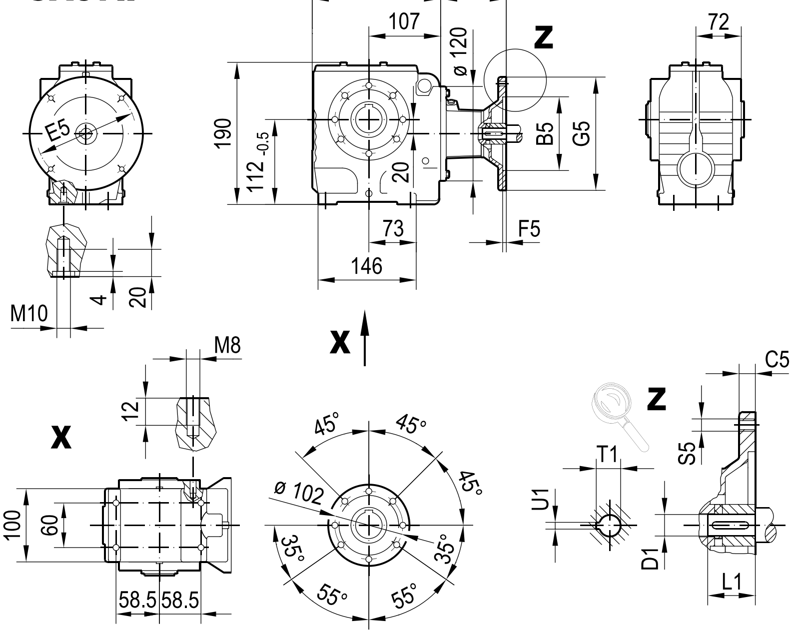
SA57..



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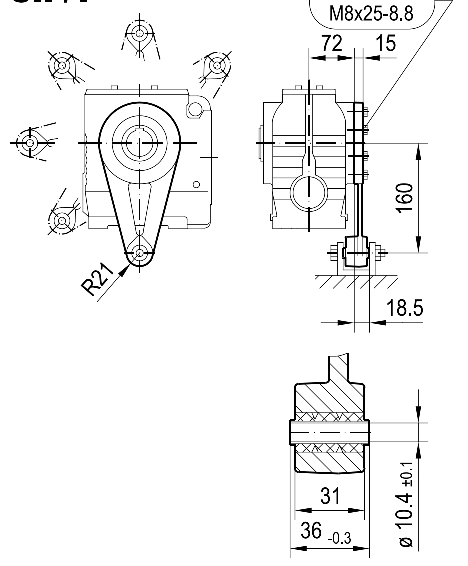

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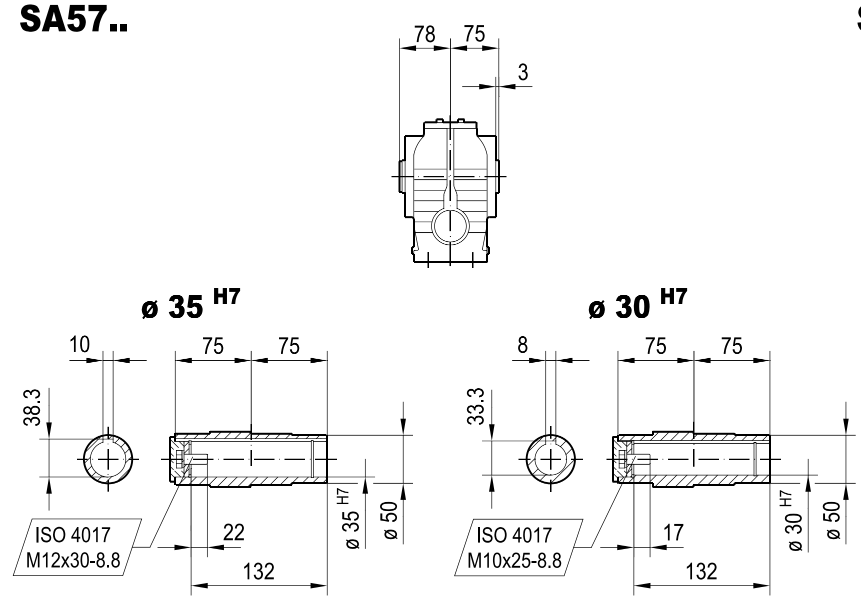

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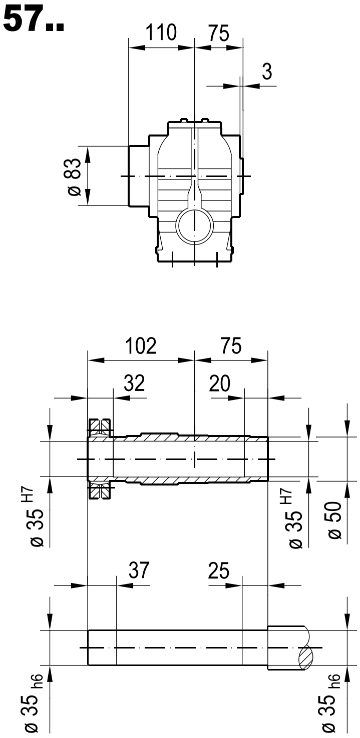

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	259	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	293	M10	106	19	40	21.8	6
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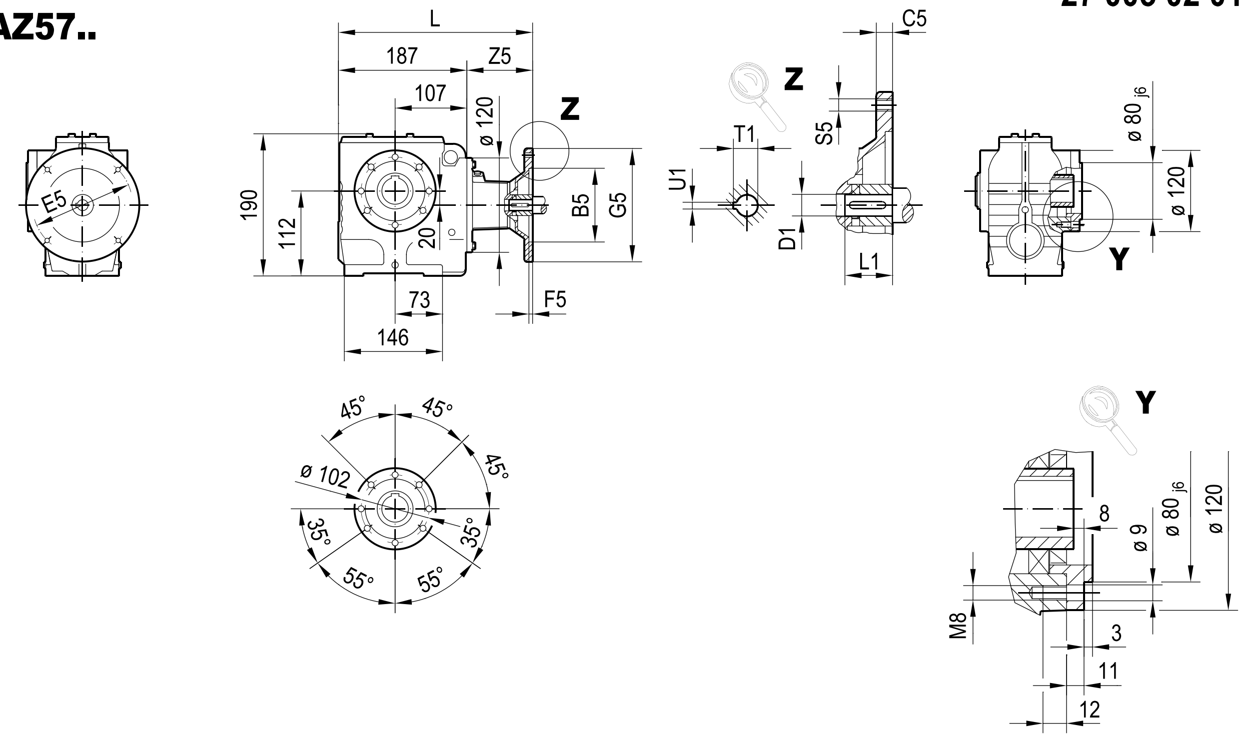
SAZ57..



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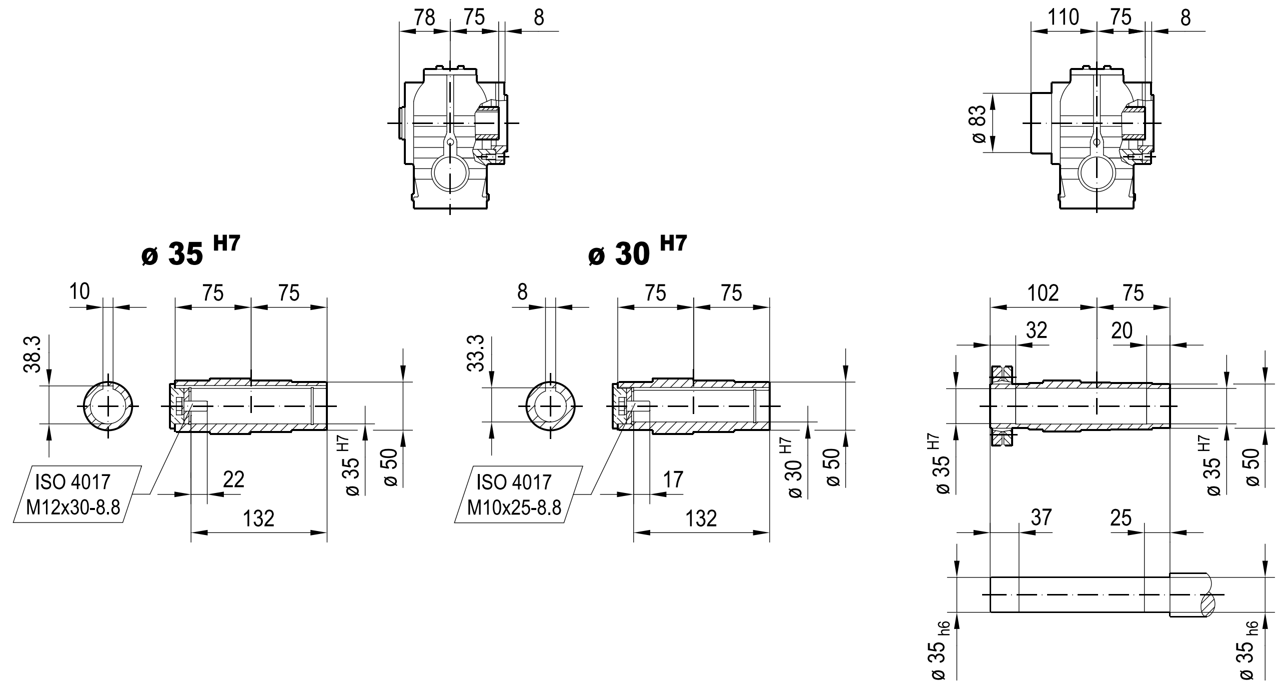

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	259	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	293	M10	106	19	40	21.8	6
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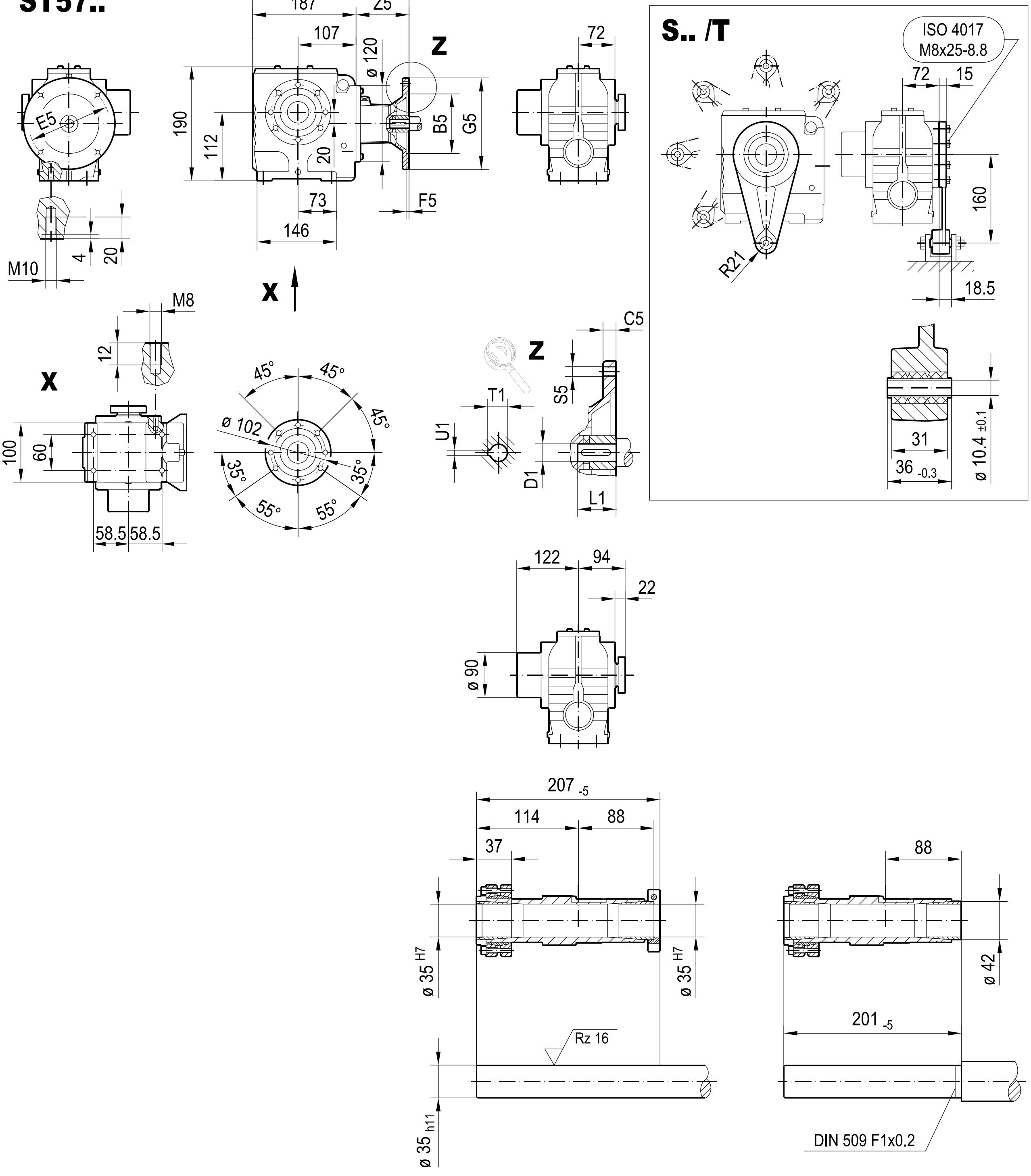
ST57..



(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	259	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	293	M10	106	19	40	21.8	6
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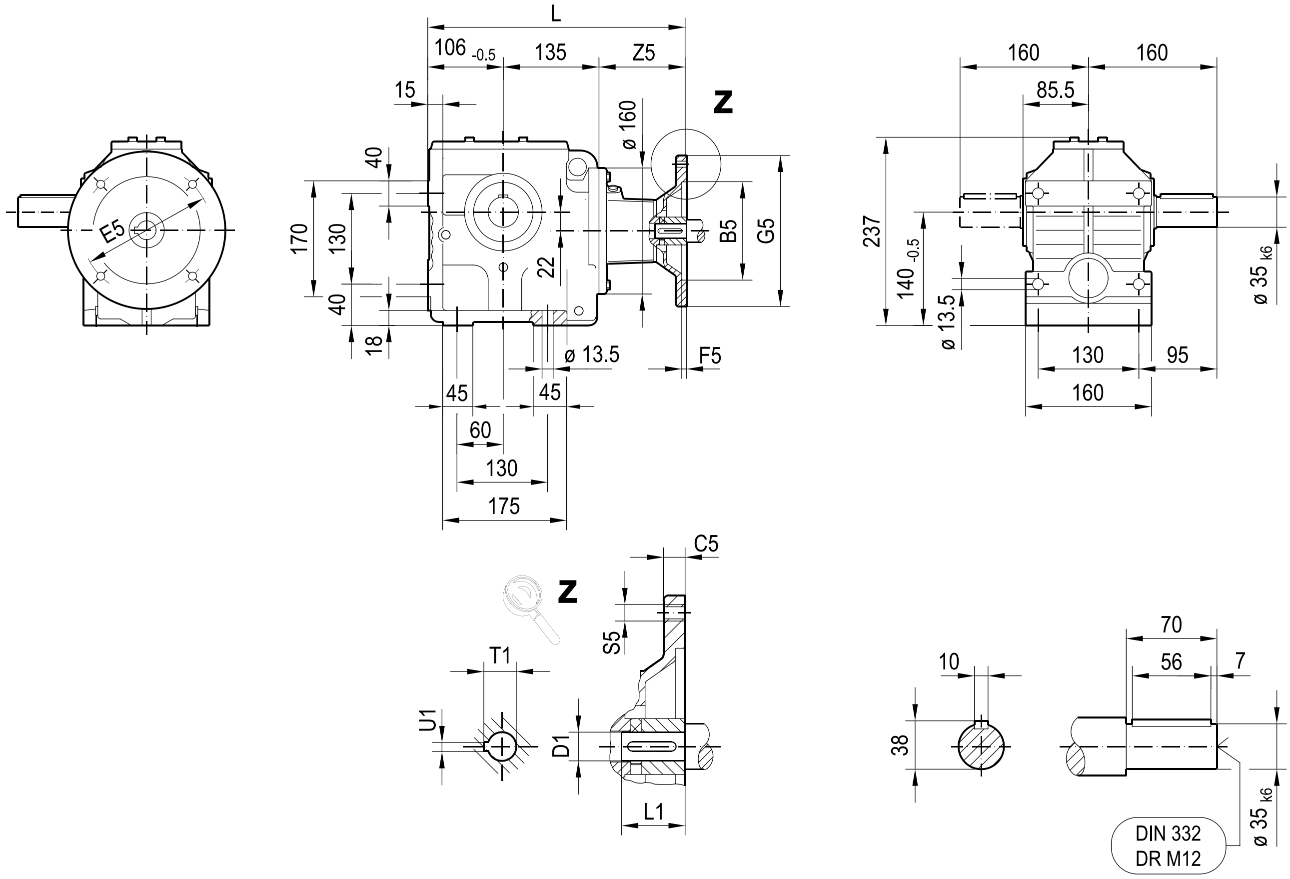
S67..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	307	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	340	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	340	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	375	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	375	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	432	M12	191	38	80	41.3	10

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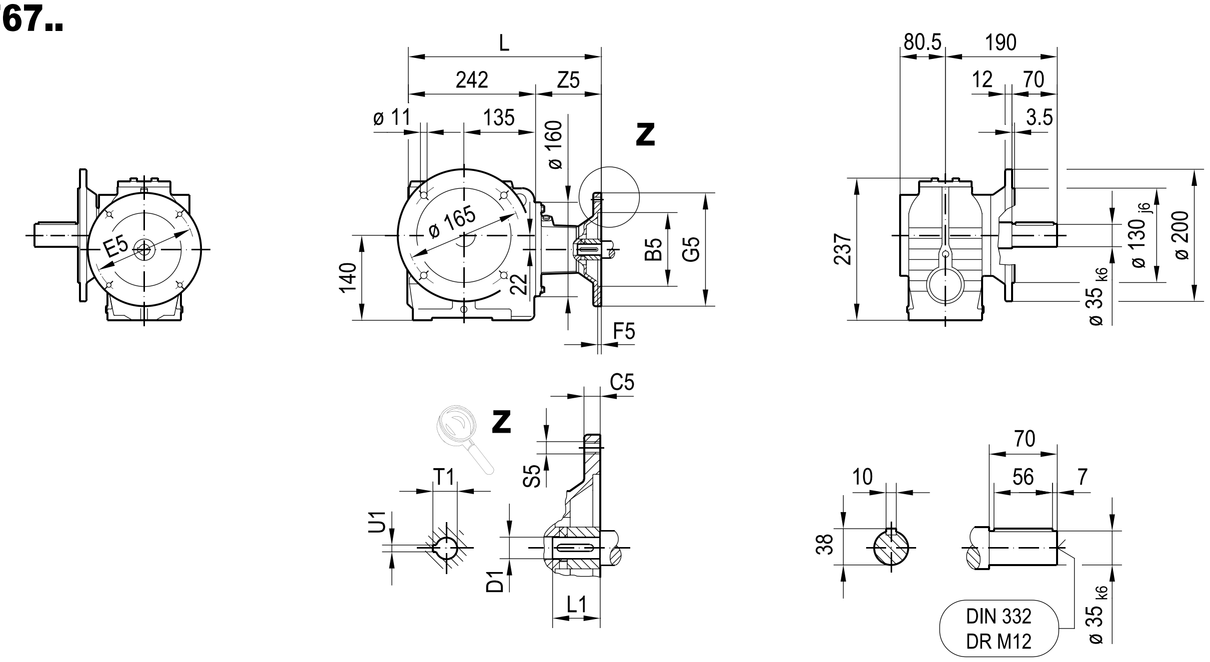
SF67..



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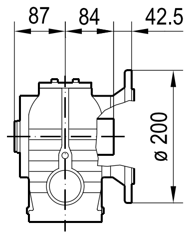

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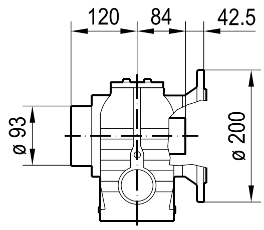

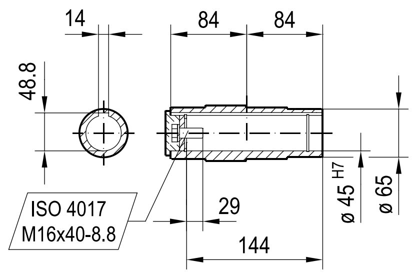

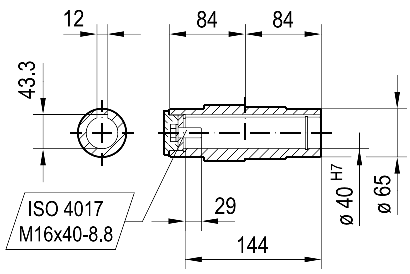

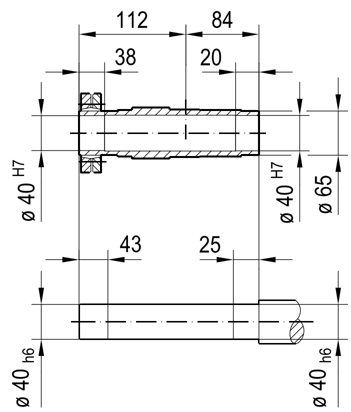

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	308	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	341	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	341	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	376	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	376	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	433	M12	191	38	80	41.3	10

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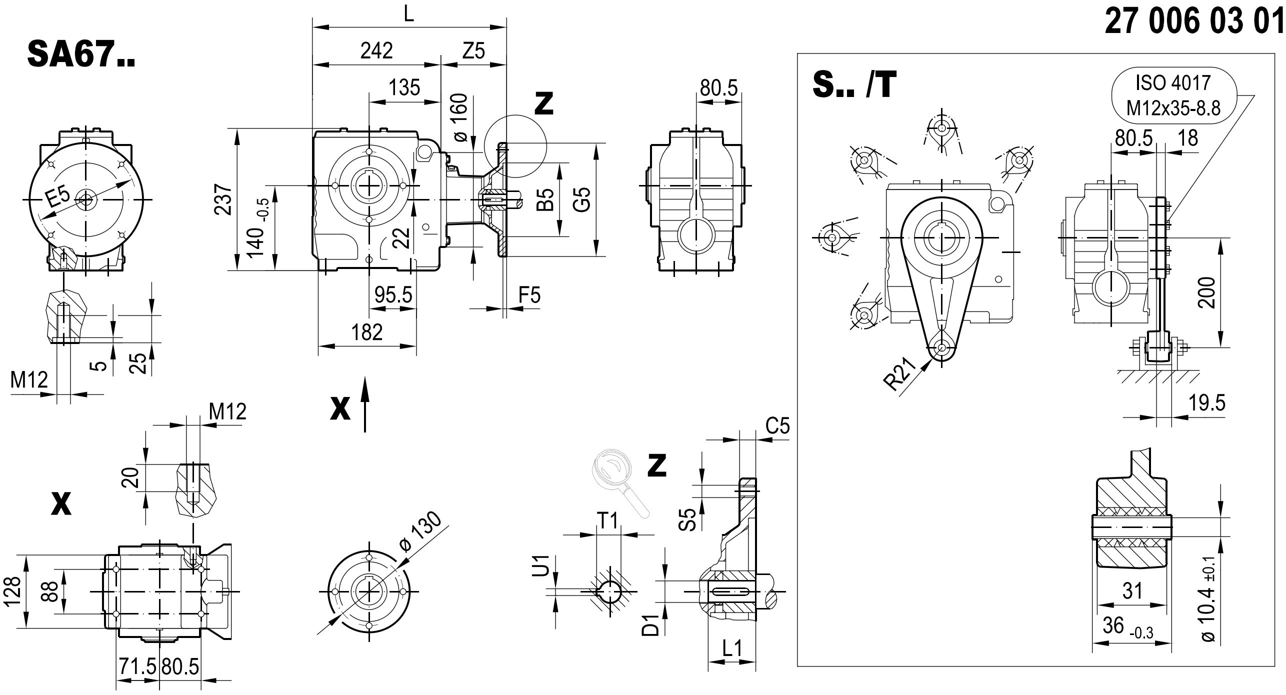

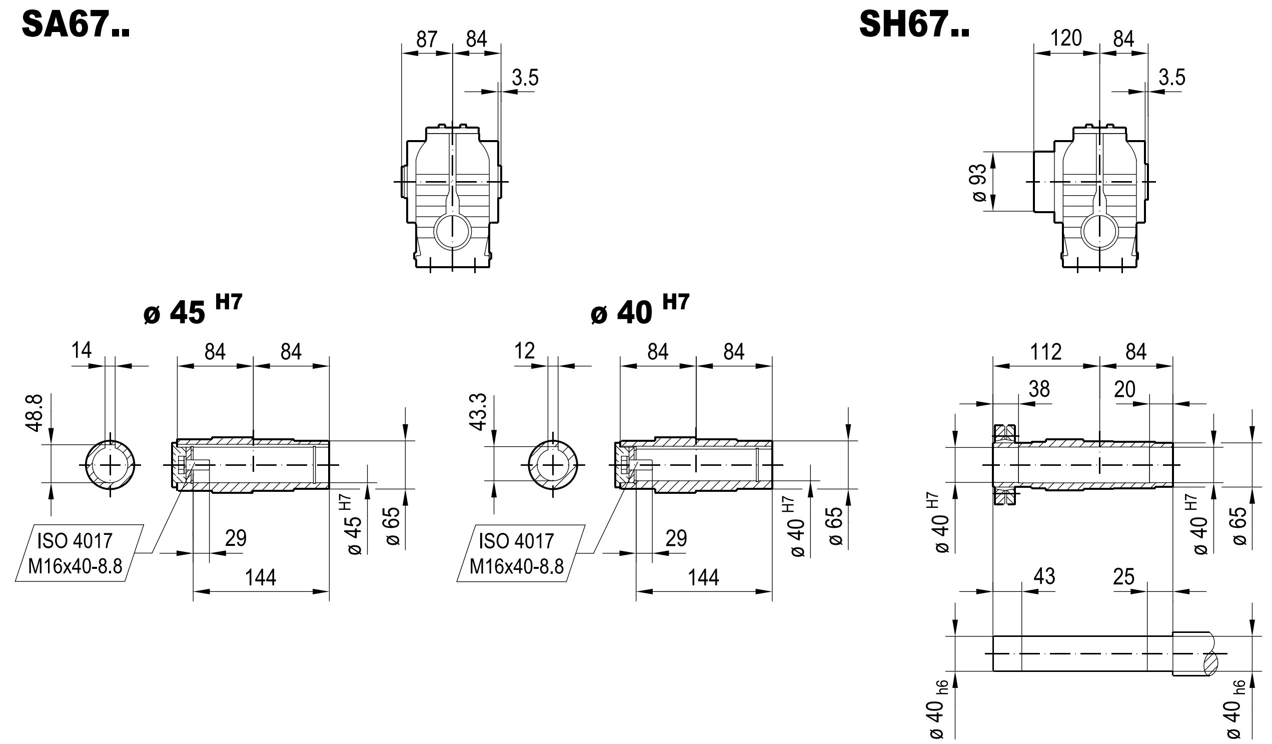

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM90	130	12	165	4.5	200	341	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	376	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	376	M12	134	28	60	31.3	8
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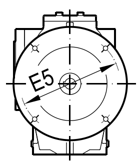

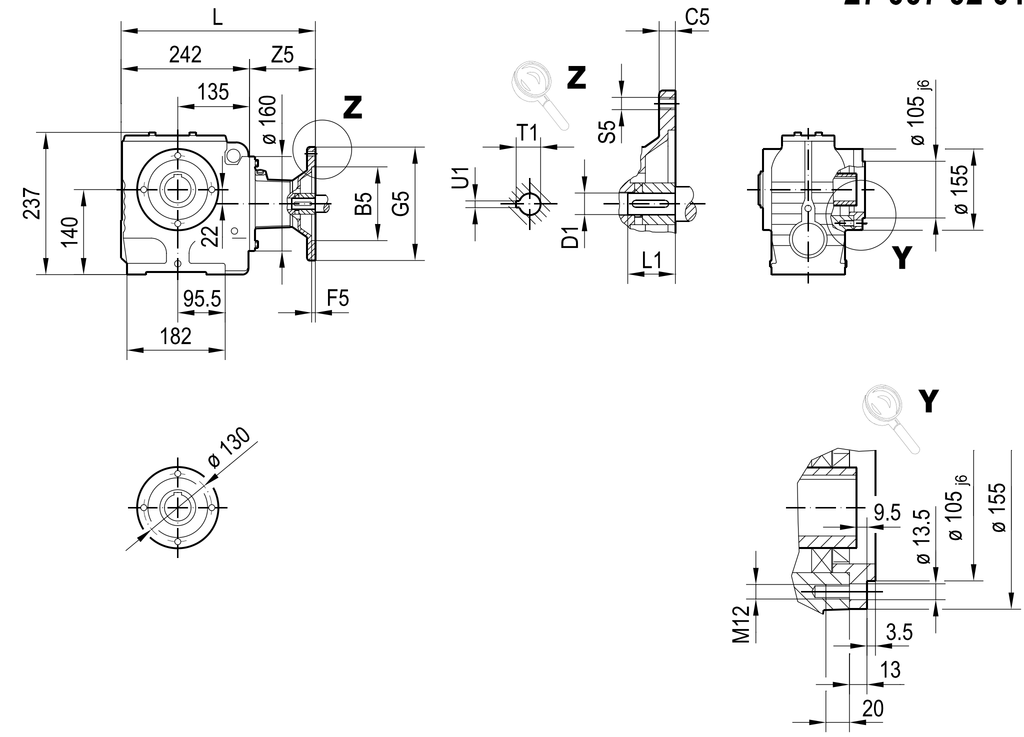

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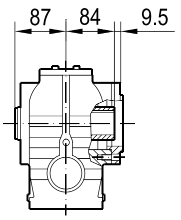

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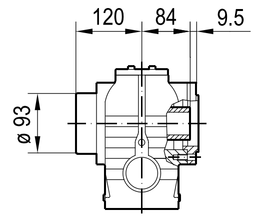

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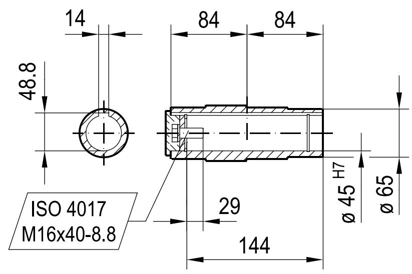

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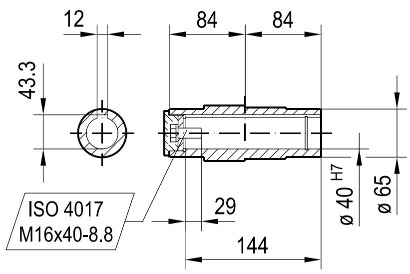

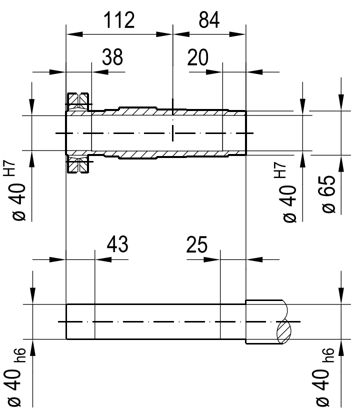

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	308	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	341	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	341	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	376	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	376	M12	134	28	60	31.3	8
AM132S/M	230	16	265	5	300	433	M12	191	38	80	41.3	10

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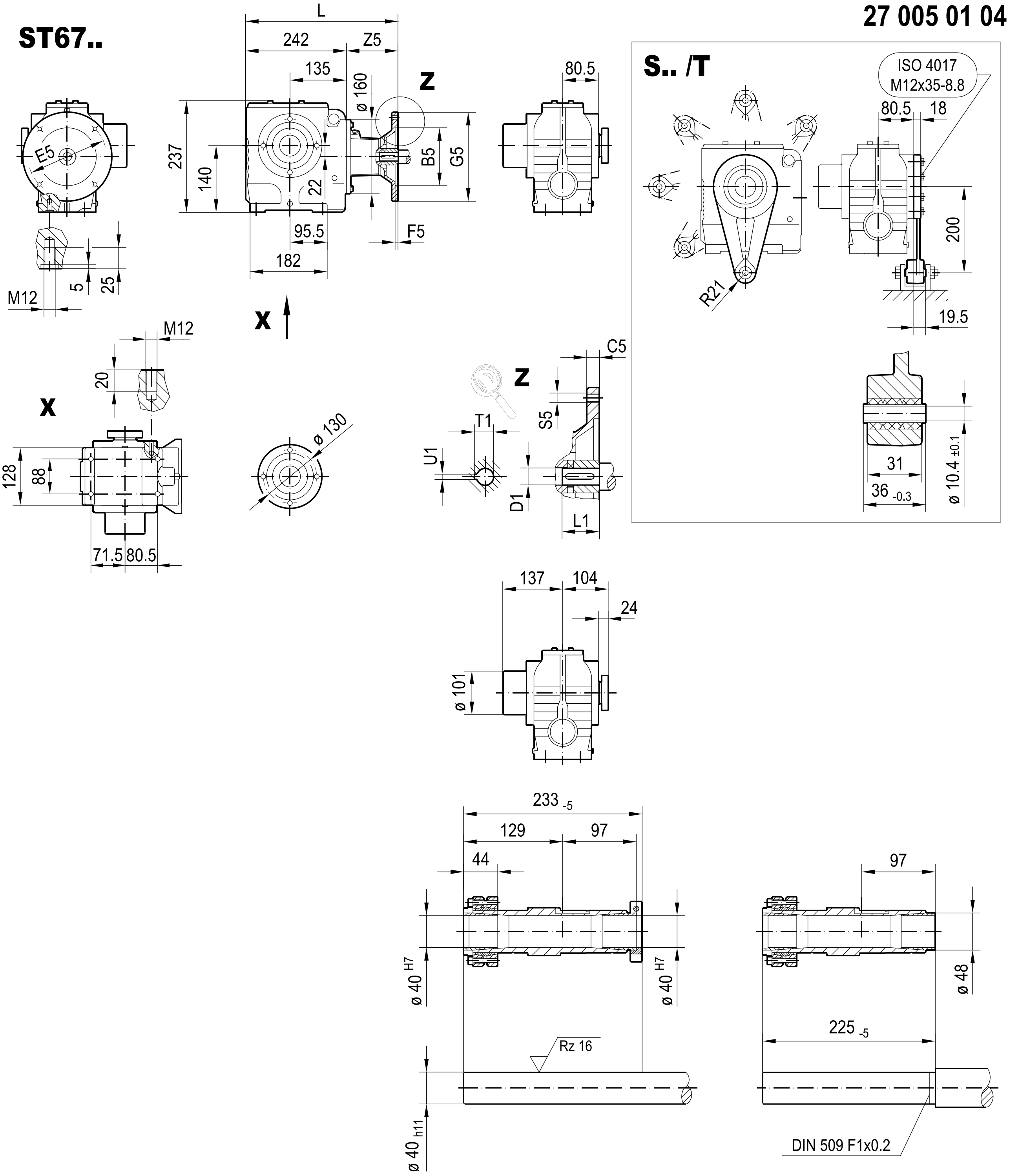

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM80	130	12	165	4.5	200	341	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	341	M10	99	24	50	27.3	8
AM100	180	15	215	5	250	376	M12	134	28	60	31.3	8
AM112	180	15	215	5	250	376	M12	134	28	60	31.3	8
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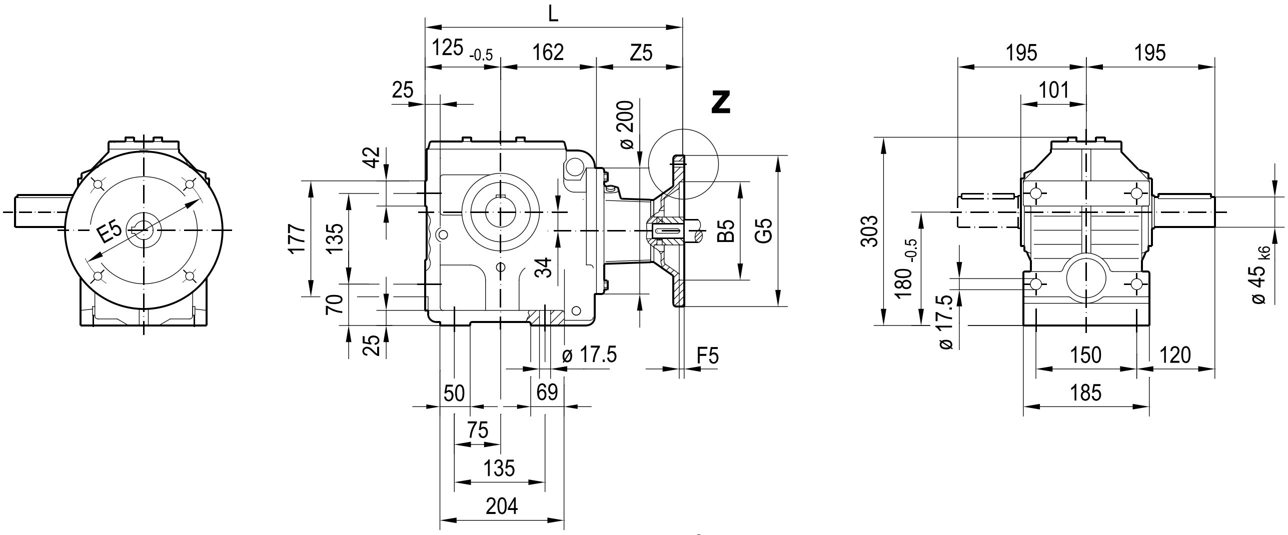
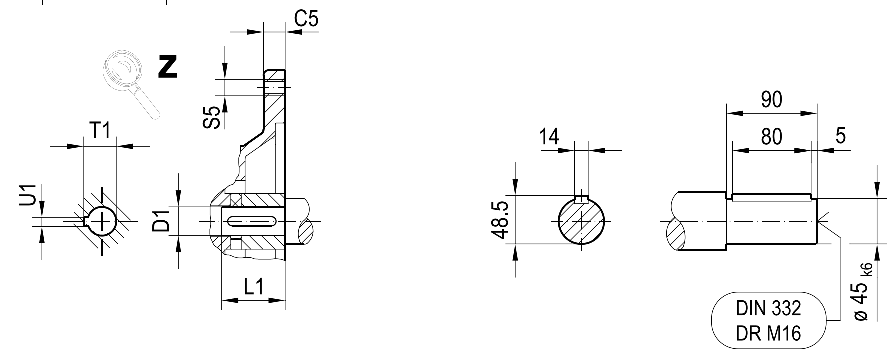
S77..





(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	347	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	379	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	379	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	413	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	413	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	466	M12	179	38	80	41.3	10
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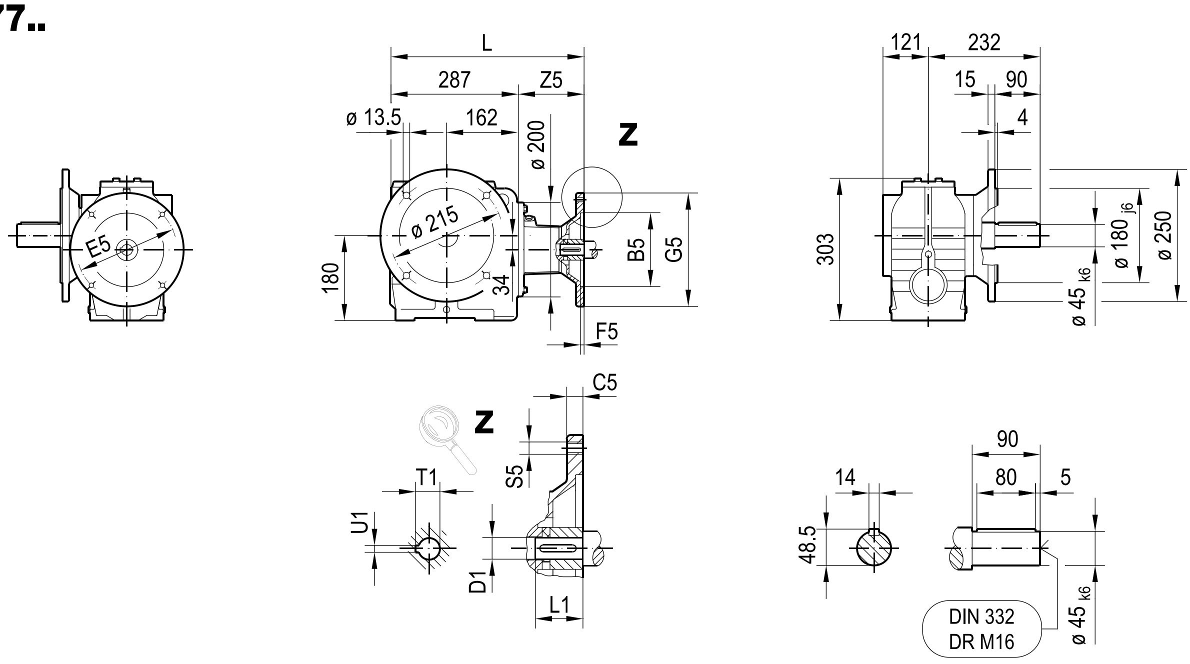
SF77..



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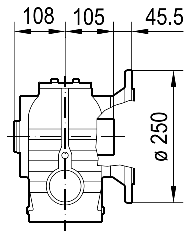

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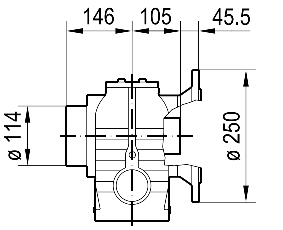

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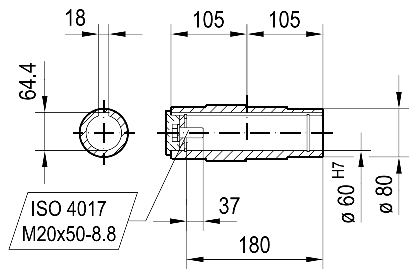

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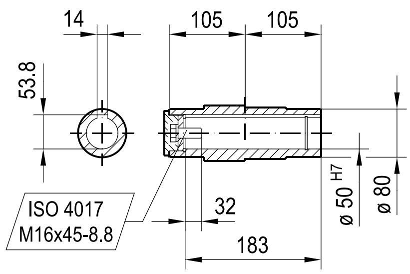

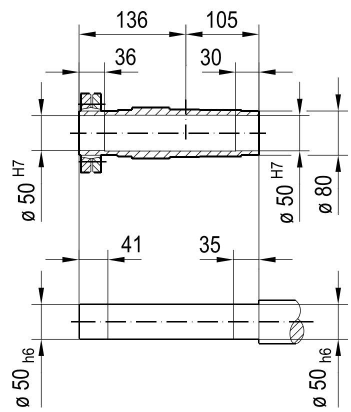

(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	347	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	379	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	379	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	413	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	413	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	466	M12	179	38	80	41.3	10
AM132ML	230	16	265	5	300	466	M12	179	38	80	41.3	10

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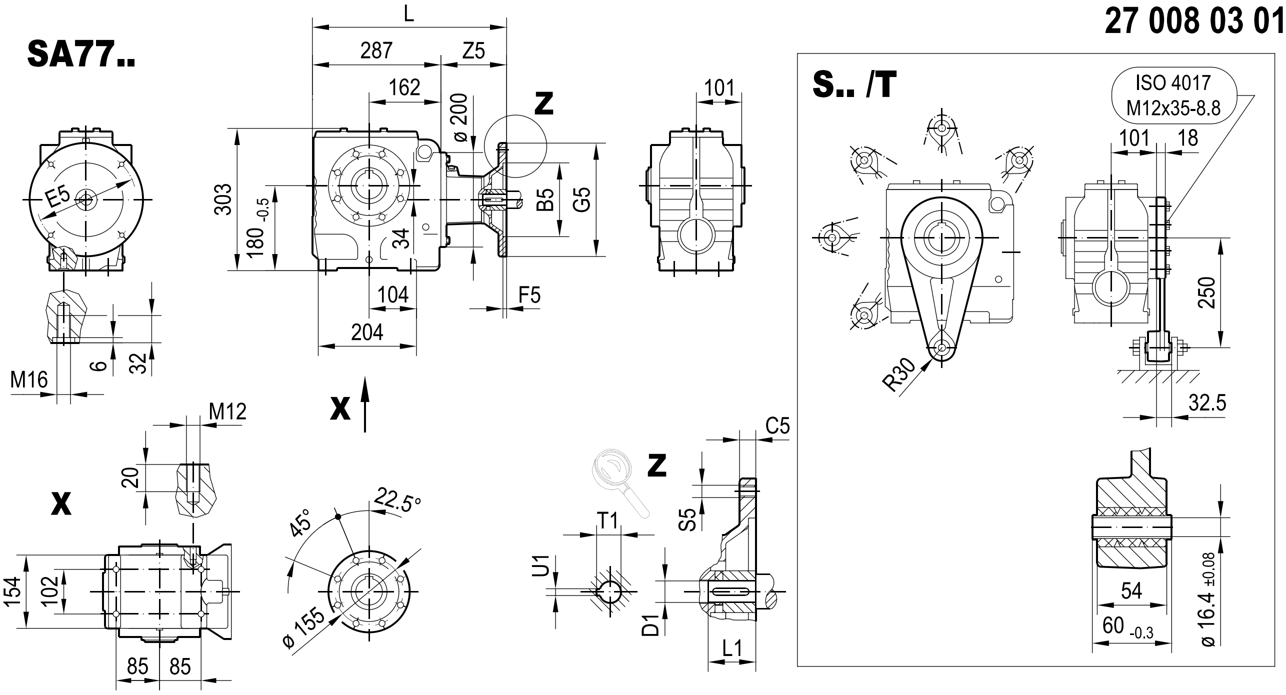
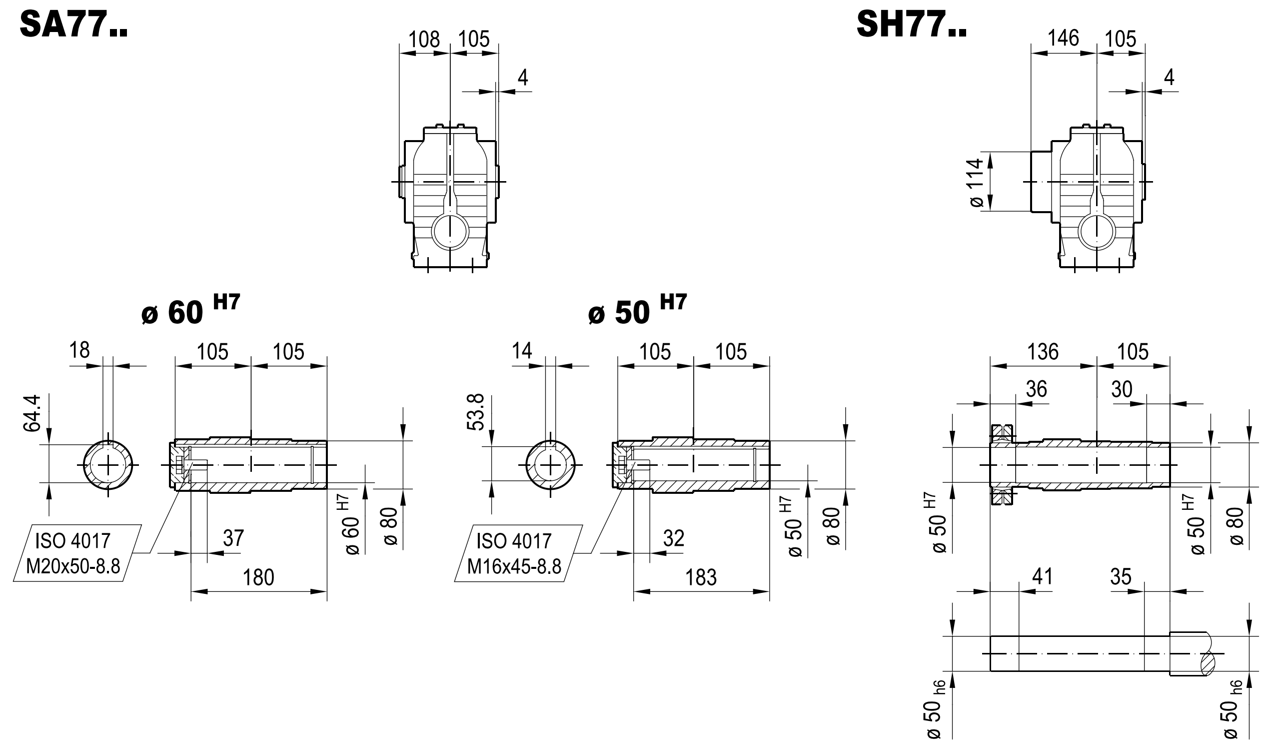
27 008 03 01





(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4	160	347	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	379	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	379	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	413	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	413	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	466	M12	179	38	80	41.3	10
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27 009 02 01

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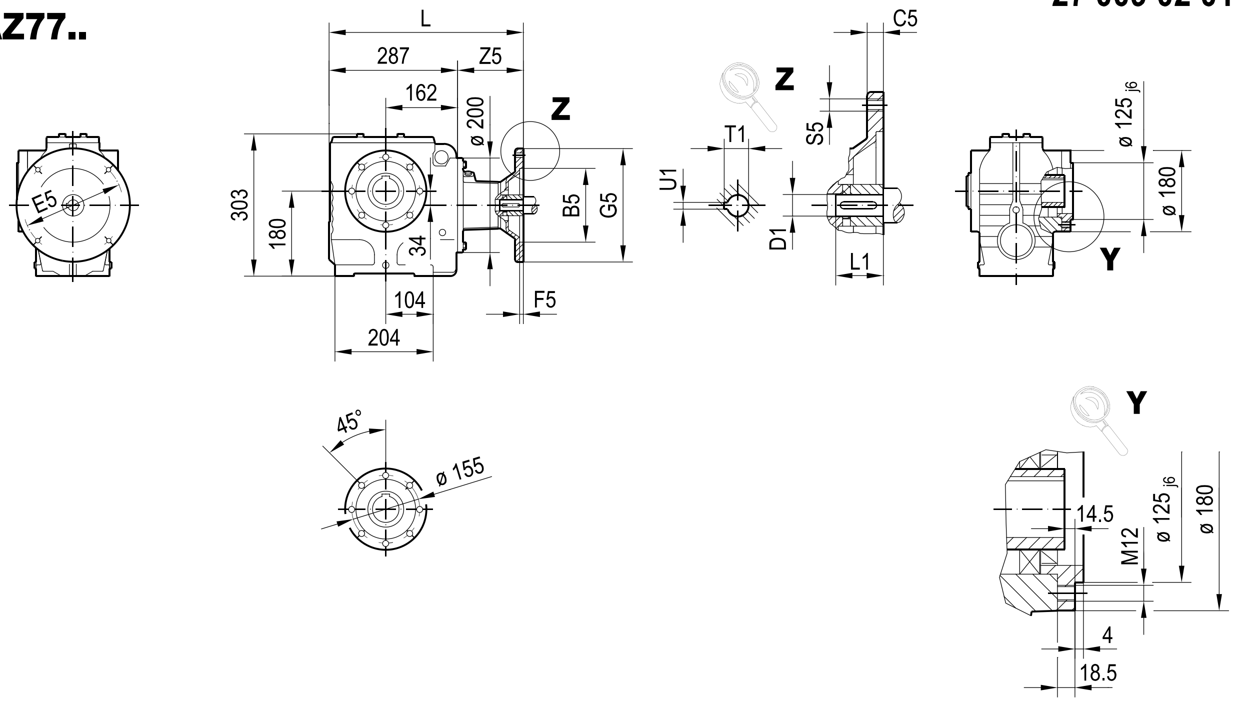

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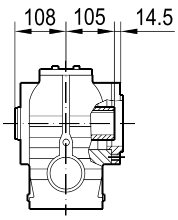

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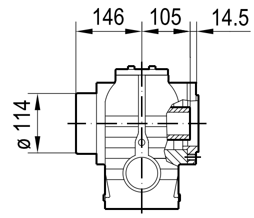

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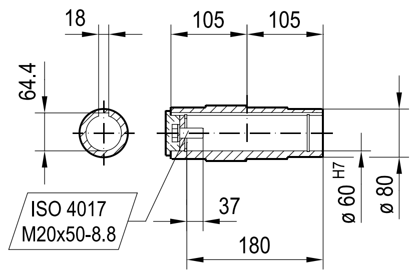

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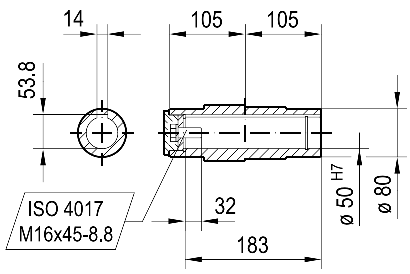

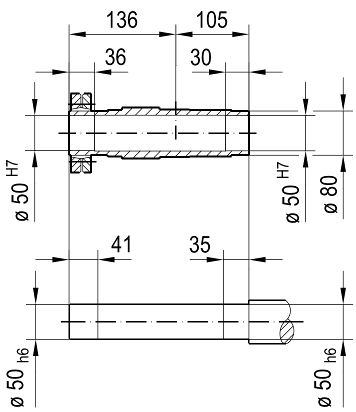

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	347	M8	60	11	23	12.8	4
AM71	110	10	130	4	160	347	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	379	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	379	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	413	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	413	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	466	M12	179	38	80	41.3	10
AM132ML	230	16	265	5	300	466	M12	179	38	80	41.3	10

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27 006 01 04

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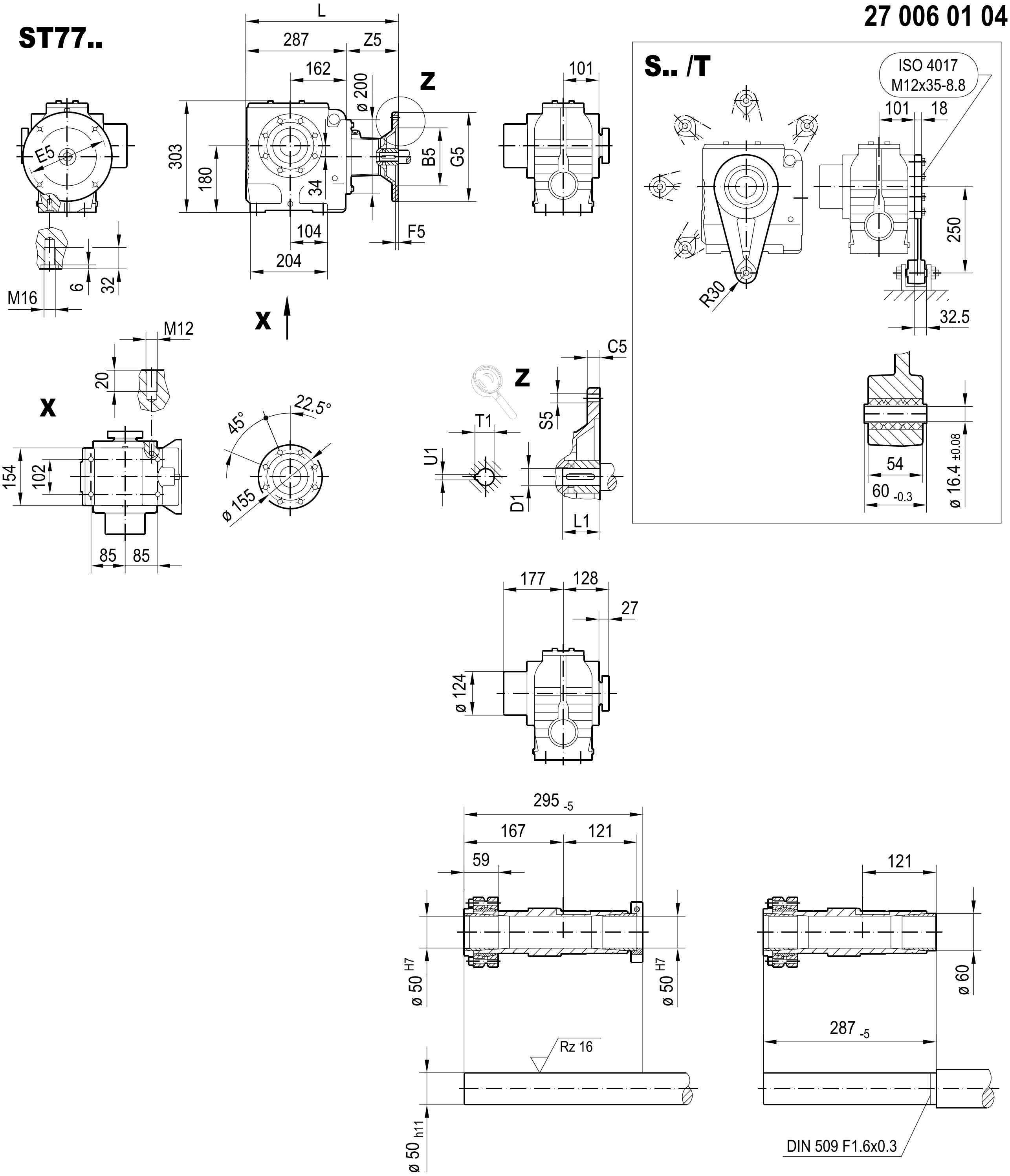
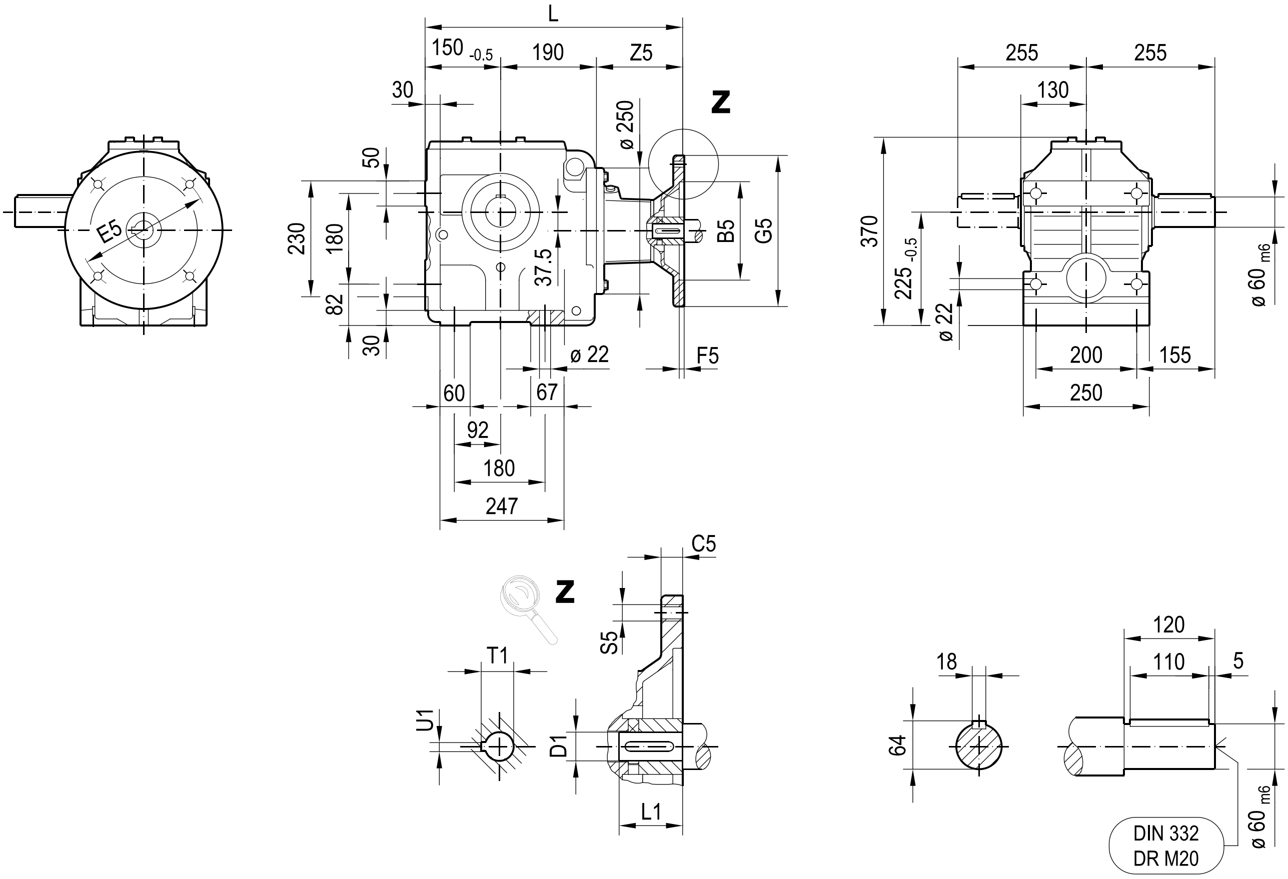


(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	347	M8	60	11	23	12.8	4
AM71	110	10	130	4	160	347	M8	60	14	30	16.3	5
AM80	130	12	165	4.5	200	379	M10	92	19	40	21.8	6
AM90	130	12	165	4.5	200	379	M10	92	24	50	27.3	8
AM100	180	15	215	5	250	413	M12	126	28	60	31.3	8
AM112	180	15	215	5	250	413	M12	126	28	60	31.3	8
AM132S/M	230	16	265	5	300	466	M12	179	38	80	41.3	10
AM132ML	230	16	265	5	300	466	M12	179	38	80	41.3	10

02 020 01 01

S87..



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM80	130	12	165	4.5	200	427	M10	87	19	40	21.8	6
AM90	130	12	165	4.5	200	427	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	461	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	461	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	514	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	514	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	572	M16	232	42	110	45.3	12

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02 021 01 01

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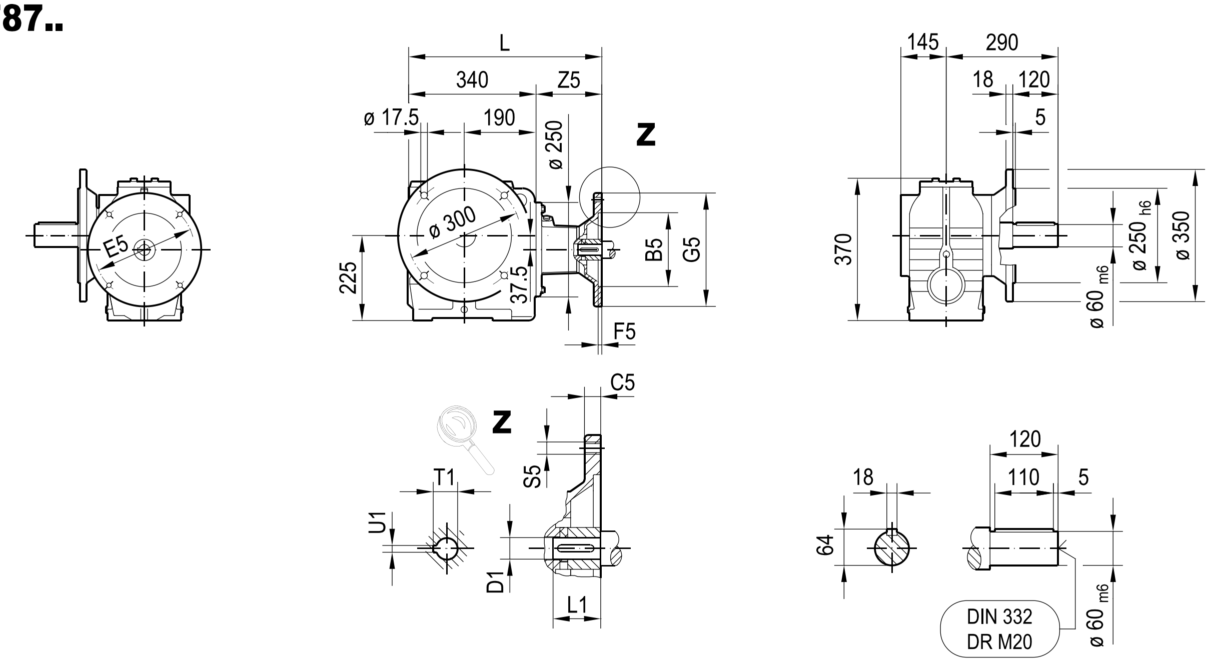

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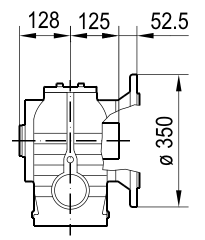

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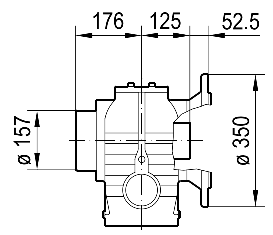

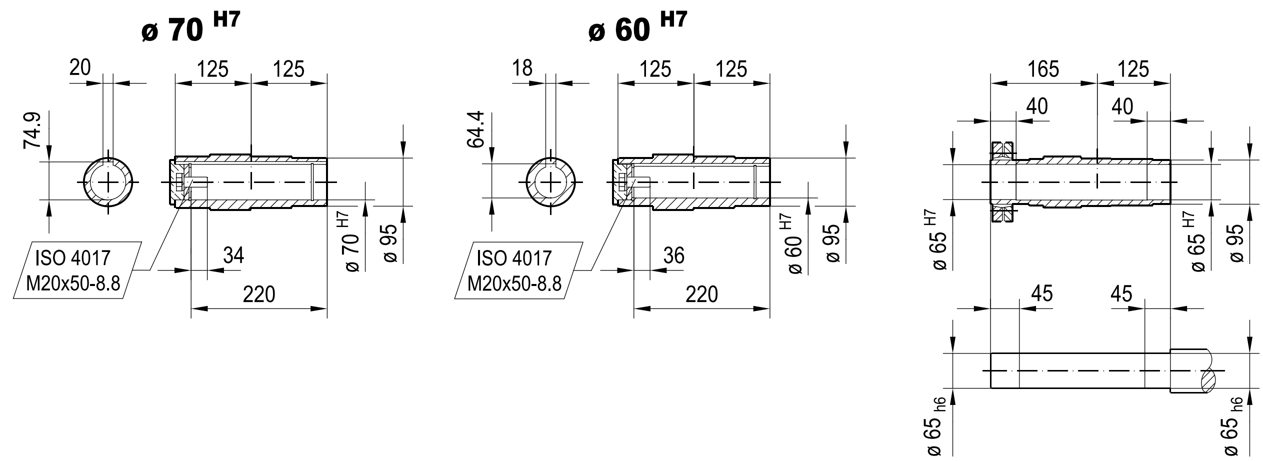

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM80	130	12	165	4.5	200	427	M10	87	19	40	21.8	6
AM90	130	12	165	4.5	200	427	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	461	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	461	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	514	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	514	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	572	M16	232	42	110	45.3	12

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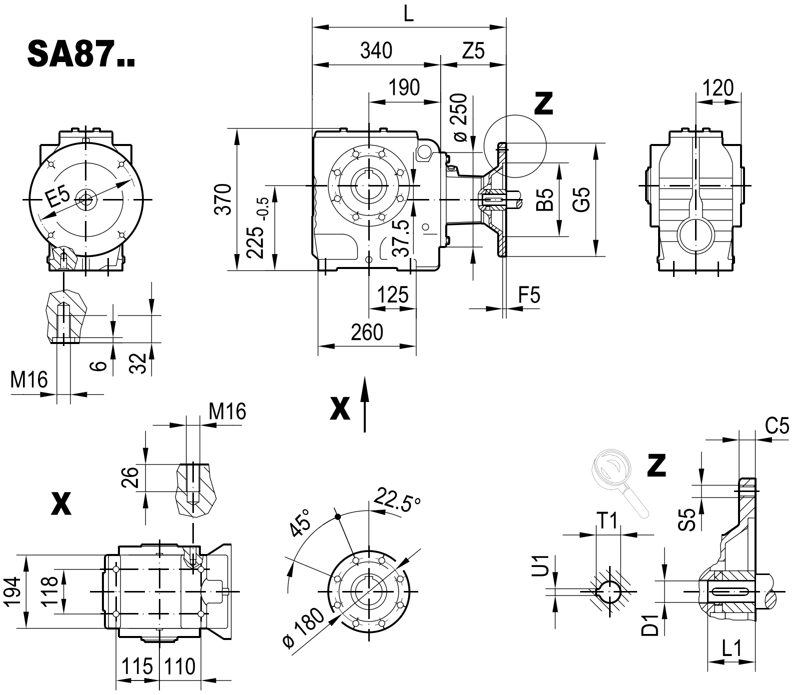
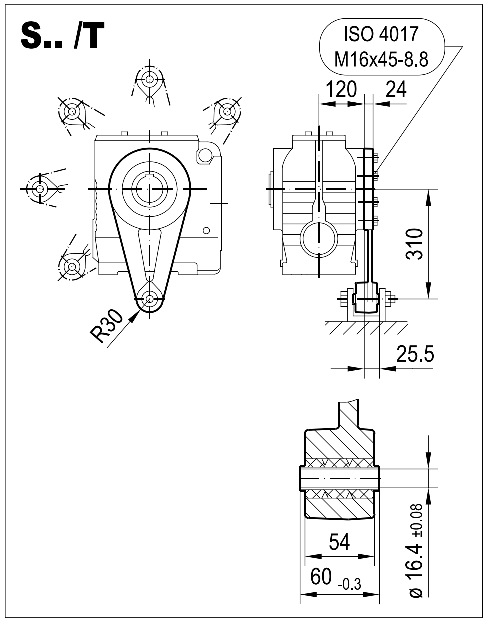
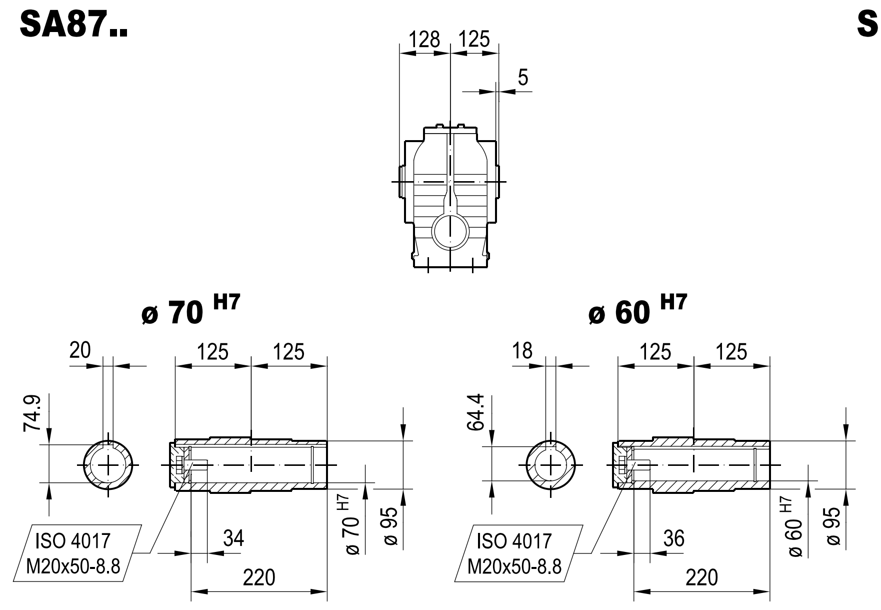
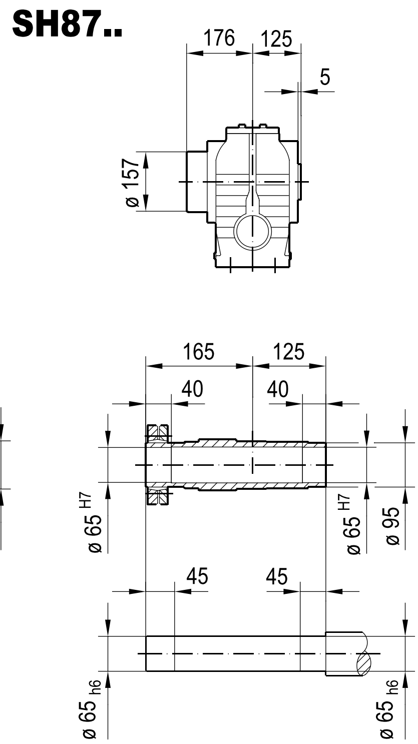
27 010 02 01









(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM80	130	12	165	4.5	200	427	M10	87	19	40	21.8	6
AM90	130	12	165	4.5	200	427	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	461	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	461	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	514	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	514	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	572	M16	232	42	110	45.3	12

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27 011 01 01

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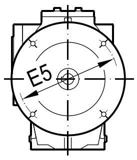
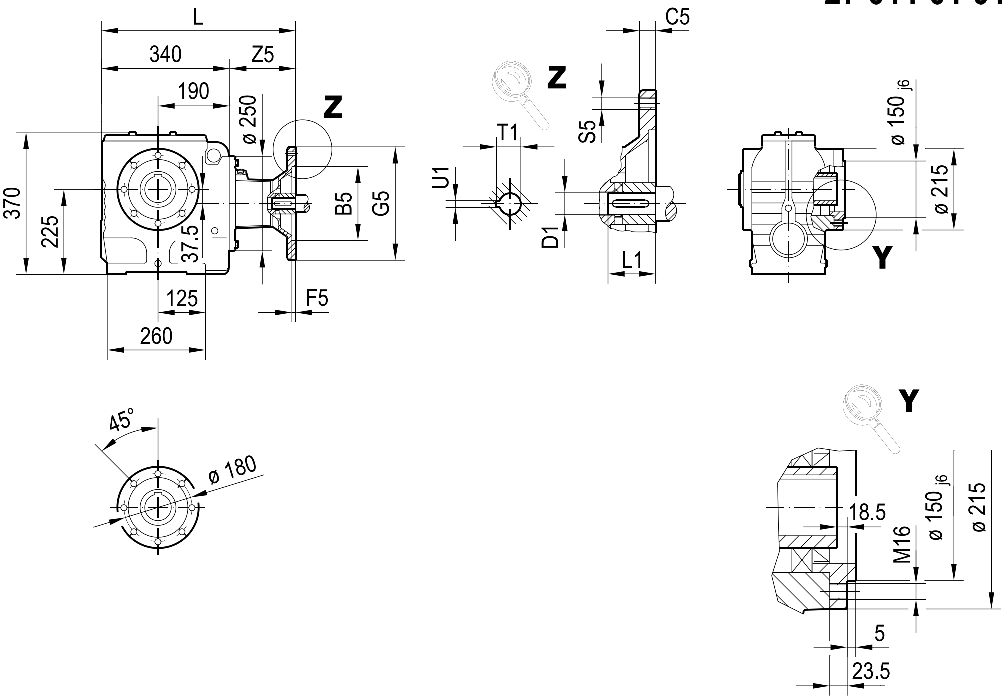

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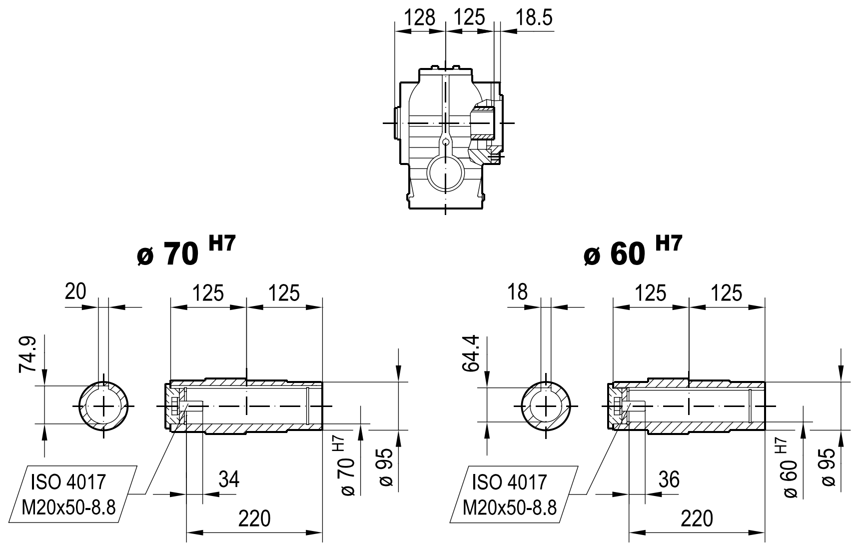

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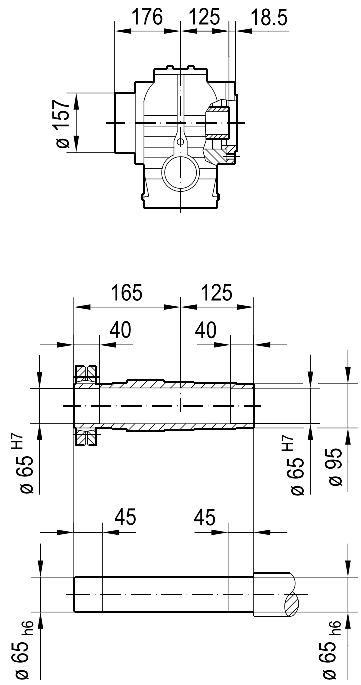

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM80	130	12	165	4.5	200	427	M10	87	19	40	21.8	6
AM90	130	12	165	4.5	200	427	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	461	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	461	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	514	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	514	M12	174	38	80	41.3	10
AM160	250	18	300	6	350	572	M16	232	42	110	45.3	12

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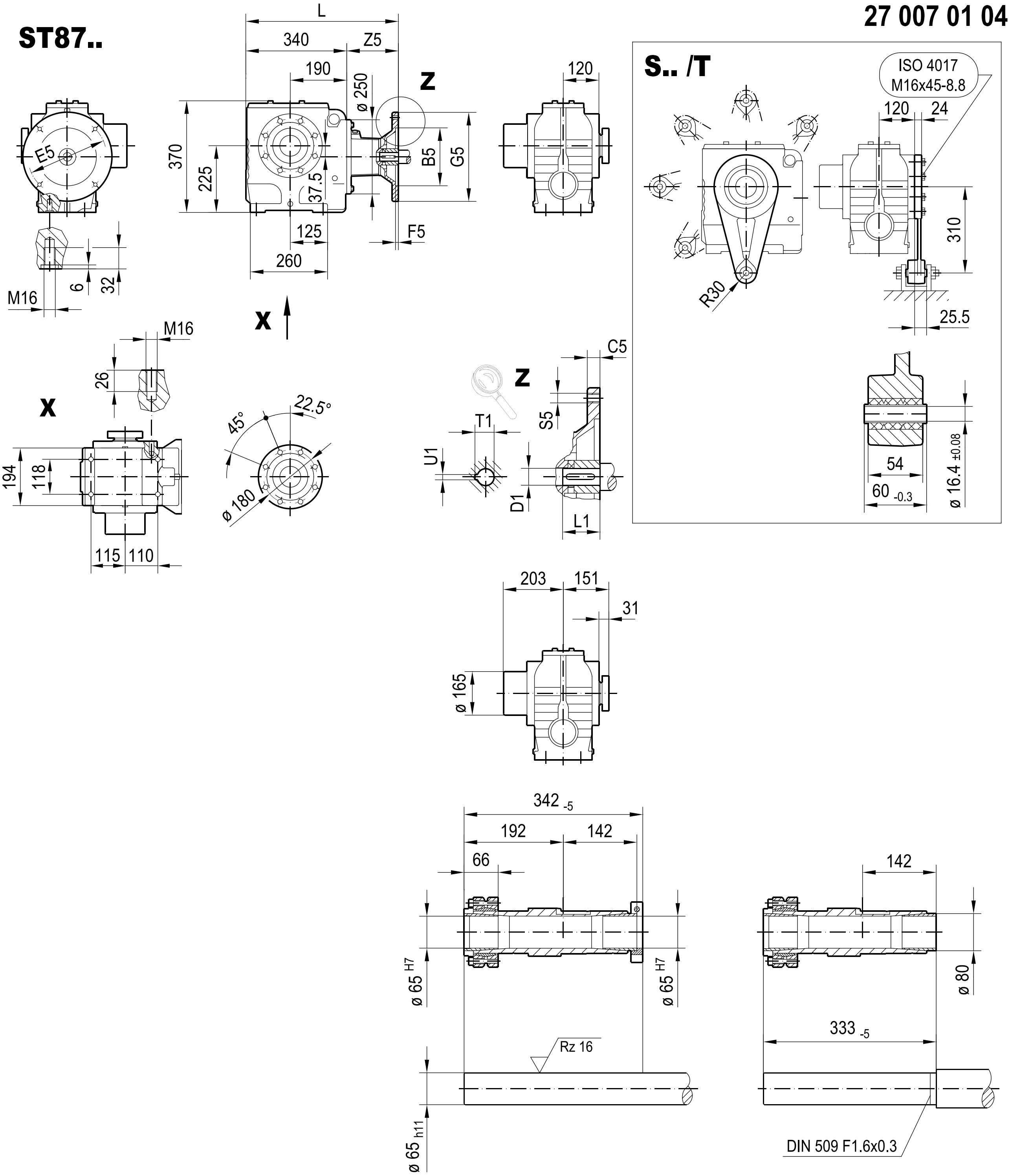

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM80	130	12	165	4.5	200	427	M10	87	19	40	21.8	6
AM90	130	12	165	4.5	200	427	M10	87	24	50	27.3	8
AM100	180	15	215	5	250	461	M12	121	28	60	31.3	8
AM112	180	15	215	5	250	461	M12	121	28	60	31.3	8
AM132S/M	230	16	265	5	300	514	M12	174	38	80	41.3	10
AM132ML	230	16	265	5	300	514	M12	174	38	80	41.3	10
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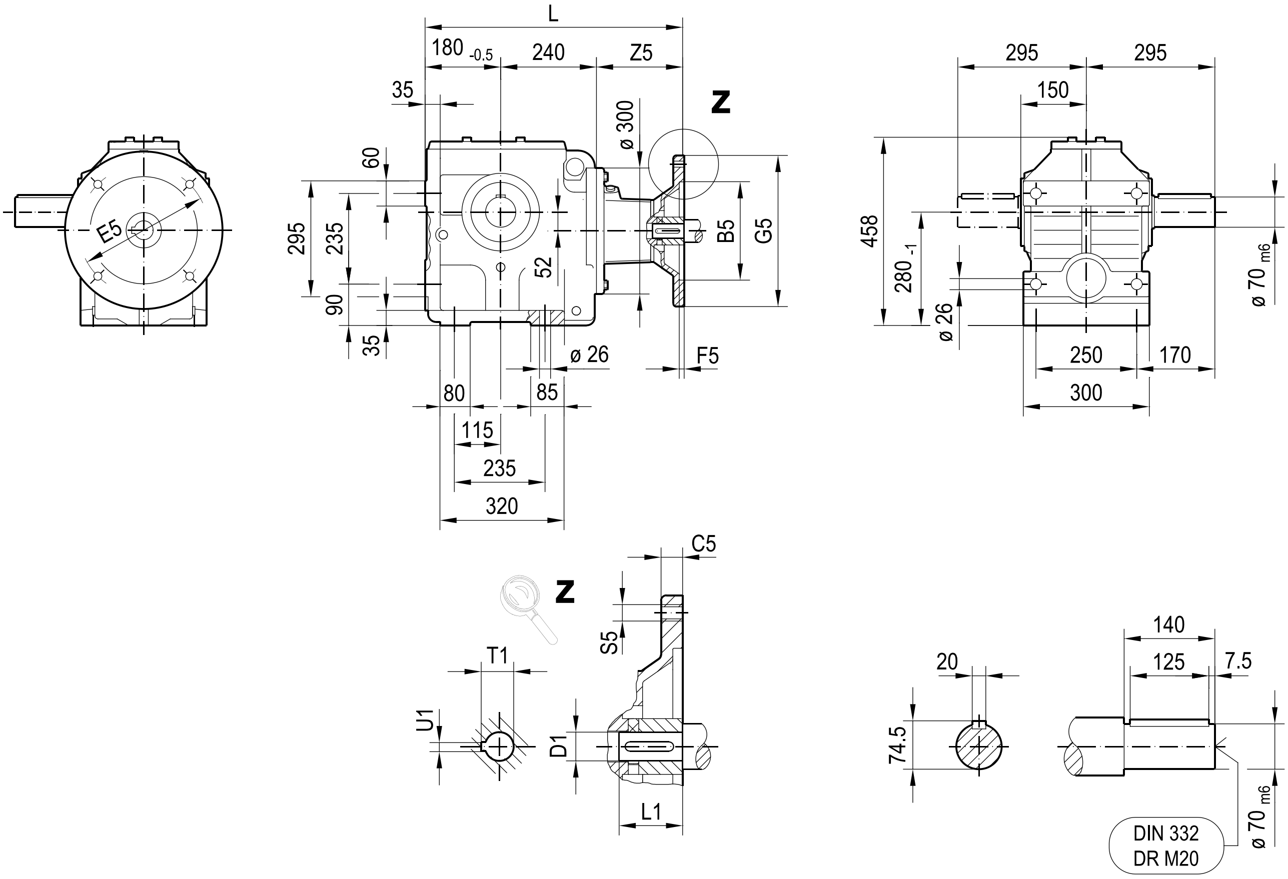

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	536	M12	116	28	60	31.3	8
AM112	180	15	215	5	250	536	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	589	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	589	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	647	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	647	M16	227	48	110	51.8	14

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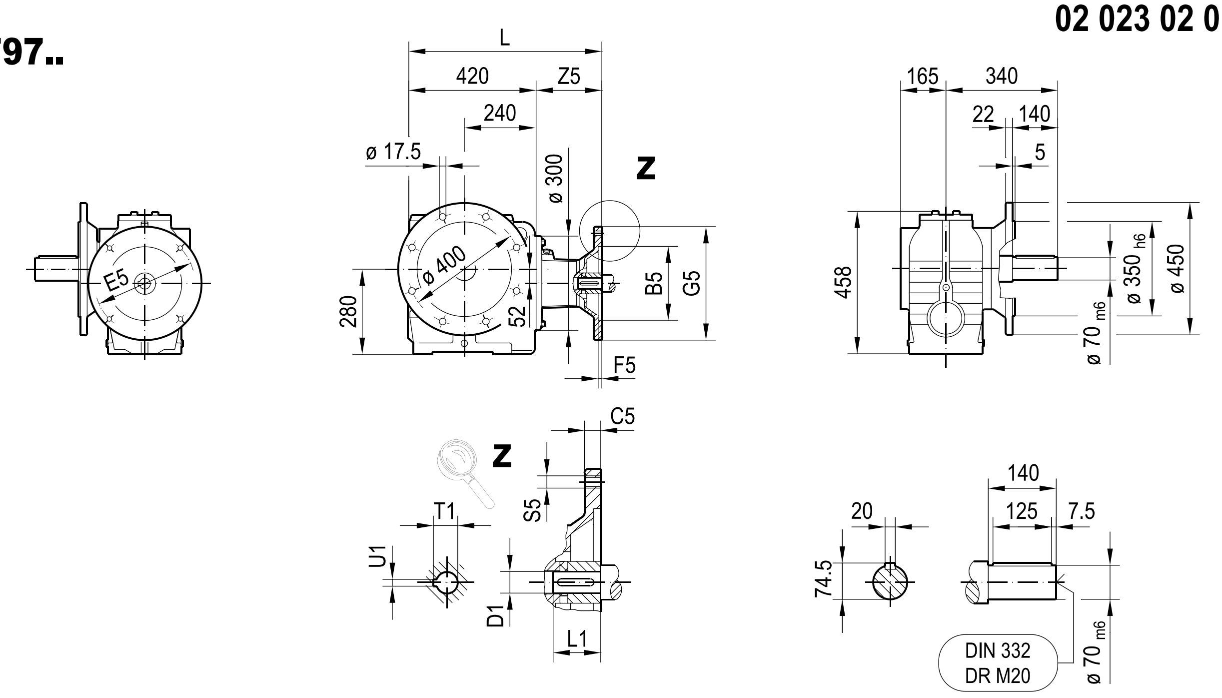
02 023 02 01

SF97..



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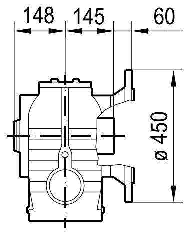

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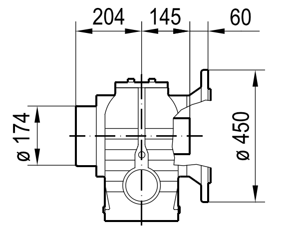

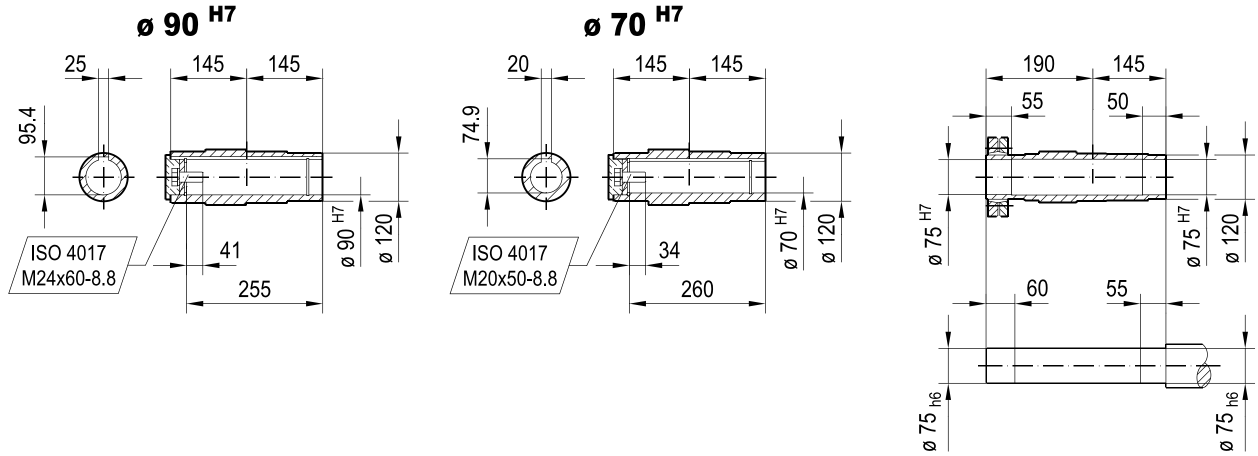

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	536	M12	116	28	60	31.3	8
AM112	180	15	215	5	250	536	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	589	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	589	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	647	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	647	M16	227	48	110	51.8	14

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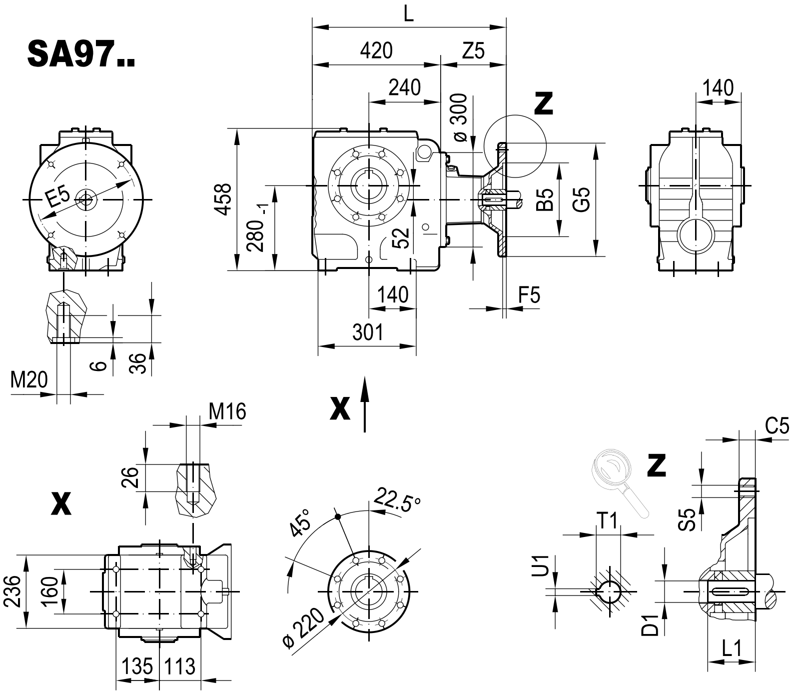
27 012 02 01

SA97..



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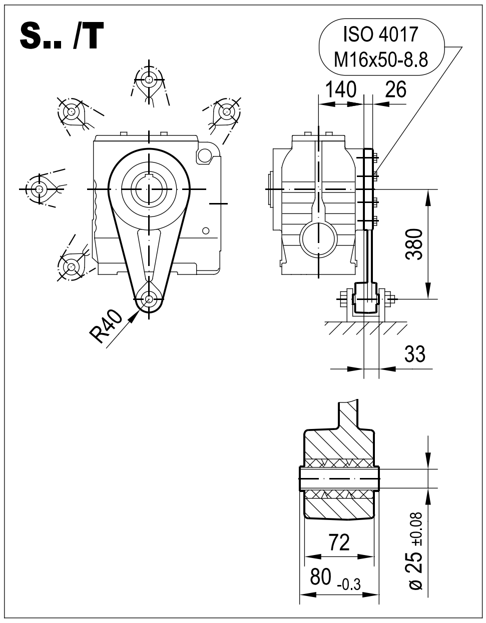

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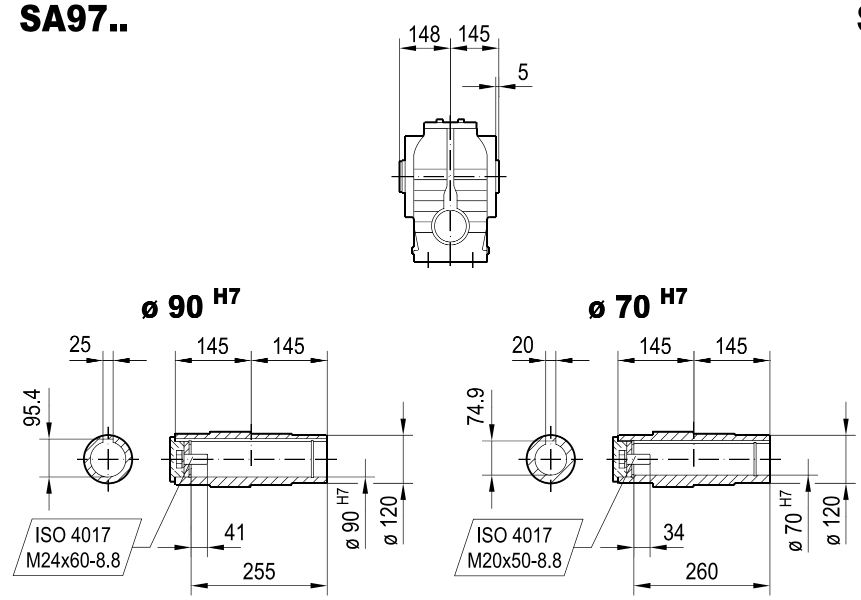

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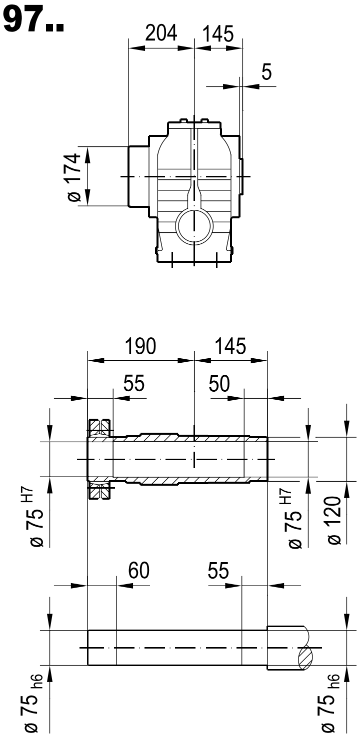

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	536	M12	116	28	60	31.3	8
AM112	180	15	215	5	250	536	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	589	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	589	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	647	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	647	M16	227	48	110	51.8	14

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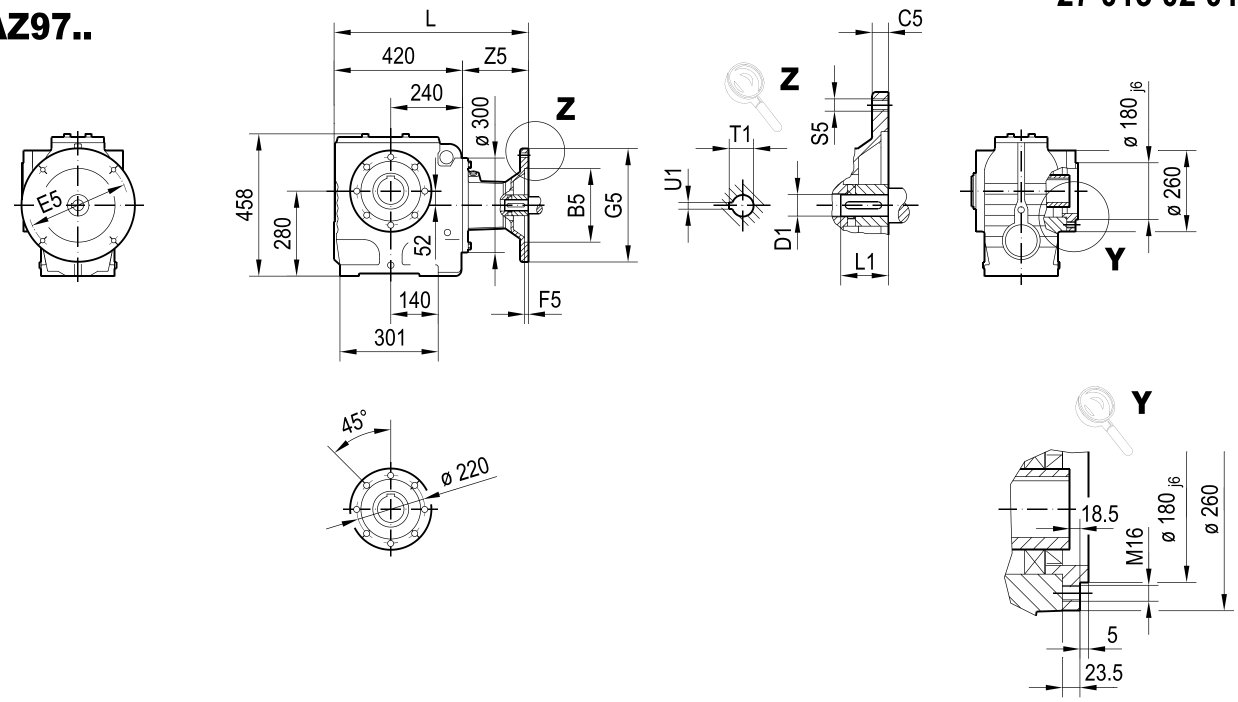
27 013 02 01

SAZ97..



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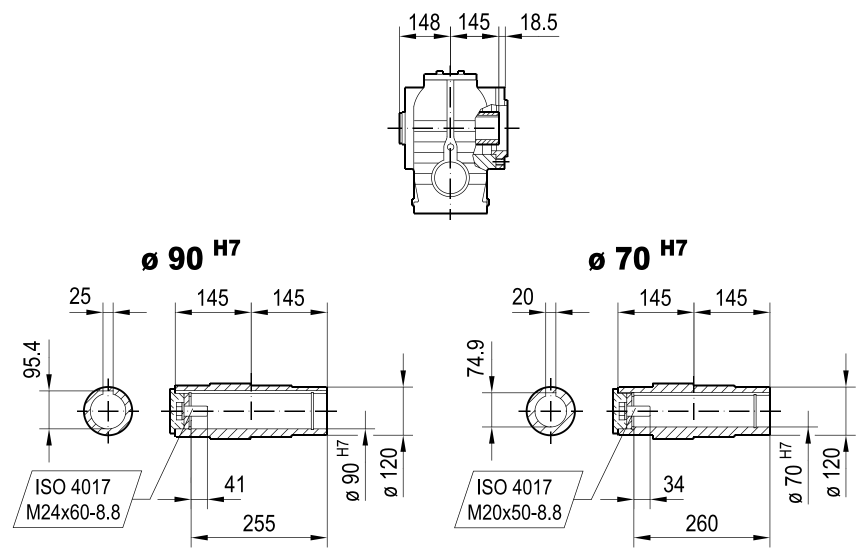

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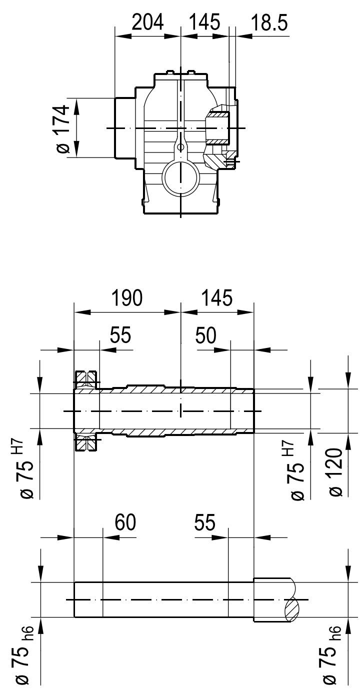

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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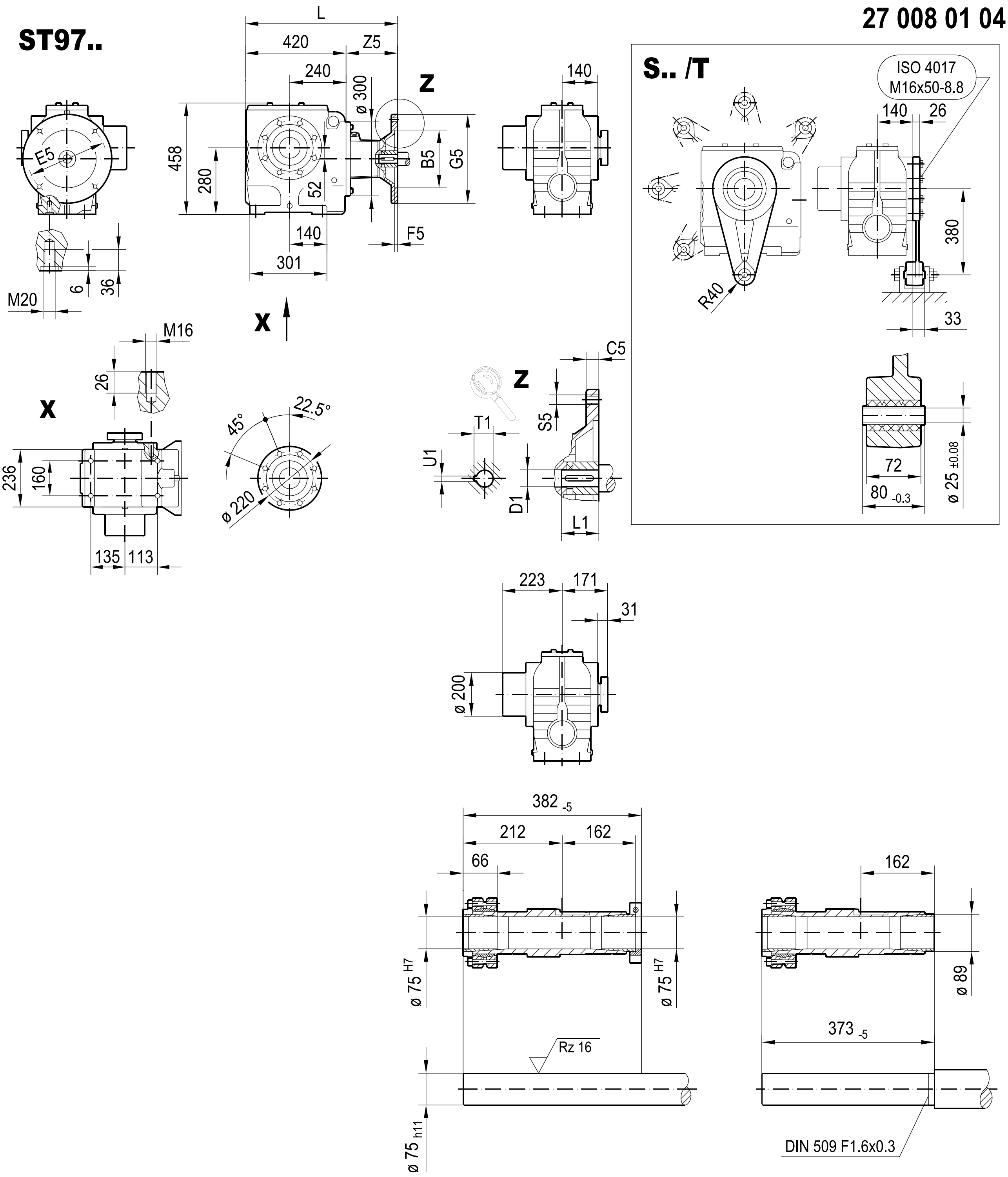
AM112	180	15	215	5	250	536	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	589	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	589	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	647	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	647	M16	227	48	110	51.8	14



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM100	180	15	215	5	250	536	M12	116	28	60	31.3	8
AM112	180	15	215	5	250	536	M12	116	28	60	31.3	8
AM132S/M	230	16	265	5	300	589	M12	169	38	80	41.3	10
AM132ML	230	16	265	5	300	589	M12	169	38	80	41.3	10
AM160	250	18	300	6	350	647	M16	227	42	110	45.3	12
AM180	250	18	300	6	350	647	M16	227	48	110	51.8	14

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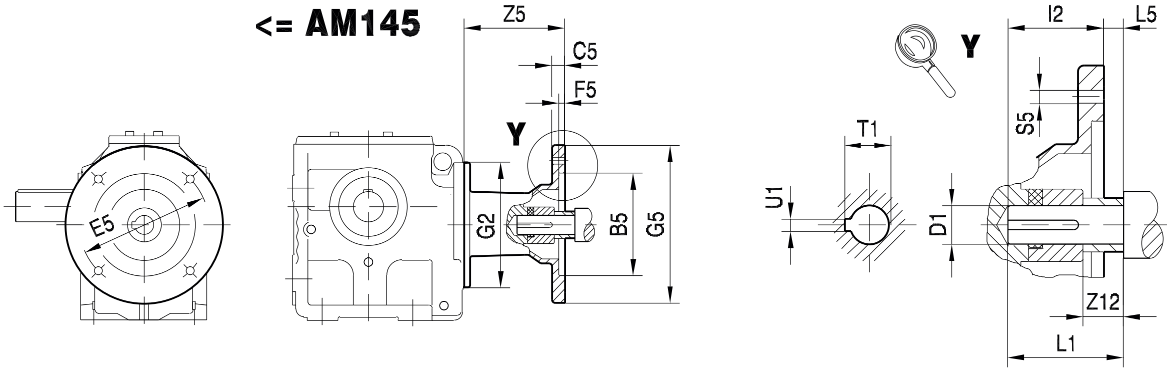
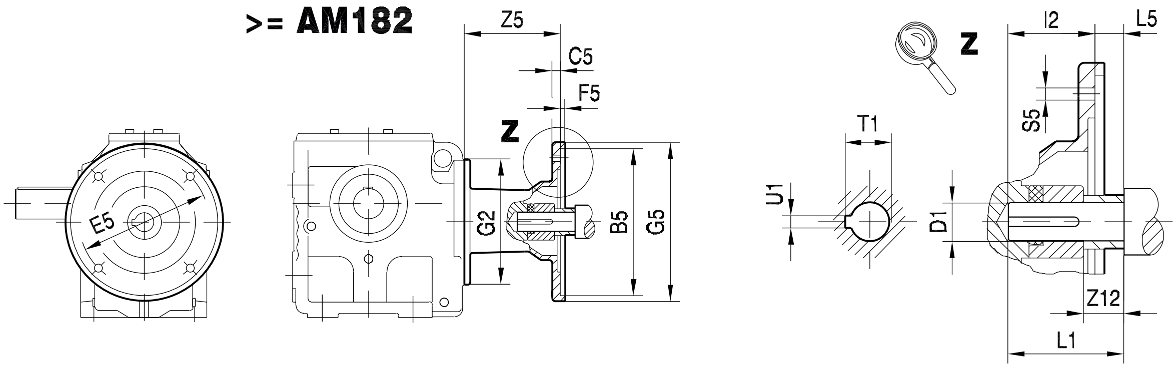
11.5 Dimension sheets for adapters for mounting NEMA motors (AM..)

02 024 03 01





		B5	C5	E5	F5	G2	G5	I2	L5	S5	Z5	Z12	D1	L1	T1	U1
S..37	AM56	114.3	11	149.2	4.5	120	170	52.55	-4.8	10.5	93.5	16.5	15.875	47.75	18.1	4.76
S..47	AM143	114.3	12	149.2	4.5	120	170	54.1	3.05	10.5	117	14.5	22.225	57.15	24.7	4.76
S..57	AM145	114.3		149.2	4.5	120	170	54.1	3.05	10.5	117	14.5	22.225	57.15	24.7	4.76
S..67	AM56	114.3	11	149.2	4.5	160	170	52.55	-4.8	10.5	87	16.5	15.875	47.75	18.1	4.76
	AM143	114.3	12	149.2	4.5	160	170	54.1	3.05	10.5	110.5	14.5	22.225	57.15	24.7	4.76
	AM145	114.3	12	149.2	4.5	160	170	54.1	3.05	10.5	110.5	14.5	22.225	57.15	24.7	4.76
	AM182	215.9	10	184	5	160	228	66.675	3	15	147.5	16.5	28.575	69.85	31.7	6.35
	AM184	215.9	10	184	5	160	228	66.675	3	15	147.5	16.5	28.575	69.85	31.7	6.35
	AM213/215	215.9	11	184	5	160	228	79.55	6.3	15	200.5	15.8	34.925	85.85	38.7	7.94
S..77	AM56	114.3	11	149.2	4.5	200	170	52.55	-4.8	10.5	81	16.5	15.875	47.75	18.1	4.76
	AM143	114.3	12	149.2	4.5	200	170	54.1	3.05	10.5	103.5	14.5	22.225	57.15	24.7	4.76
	AM145	114.3	12	149.2	4.5	200	170	54.1	3.05	10.5	103.5	14.5	22.225	57.15	24.7	4.76
	AM182	215.9	10	184	5	200	228	66.675	3	15	139.5	16.5	28.575	69.85	31.7	6.35
	AM184	215.9	10	184	5	200	228	66.675	3	15	139.5	16.5	28.575	69.85	31.7	6.35
	AM213/215	215.9	11	184	5	200	228	79.55	6.3	15	188.5	15.8	34.925	85.85	38.7	7.94
S..87	AM143	114.3	12	149.2	4.5	250	170	54.1	3.05	10.5	98.5	14.5	22.225	57.15	24.7	4.76
	AM145	114.3	12	149.2	4.5	250	170	54.1	3.05	10.5	98.5	14.5	22.225	57.15	24.7	4.76
	AM182	215.9	10	184	5	250	228	66.675	3	15	134.5	16.5	28.575	69.85	31.7	6.35
	AM184	215.9	10	184	5	250	228	66.675	3	15	134.5	16.5	28.575	69.85	31.7	6.35
	AM213/215	215.9	11	184	5	250	228	79.55	6.3	15	183.5	15.8	34.925	85.85	38.7	7.94
	AM254/256	215.9	12	184	5	250	228	95.3	6.3	15	234	9	41.275	101.6	45.8	9.53
	AM284/286	266.7	15	228.6	5	250	286	111.05	6.3	15	241	15.8	47.625	117.35	53.4	12.7

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		B5	C5	E5	F5	G2	G5	I2	L5	S5	Z5	Z12	D1	L1	T1	U1
S..97	**AM182**	215.9	10	184	5	300	228	66.675	3	15	129.5	16.5	28.575	69.85	31.7	6.35
	AM184	215.9	10	184	5	300	228	66.675	3	15	129.5	16.5	28.575	69.85	31.7	6.35
	AM213/215	215.9	11	184	5	300	228	79.55	6.3	15	178.5	15.8	34.925	85.85	38.7	7.94
	AM254/256	215.9	12	184	5	300	228	95.3	6.3	15	229	9	41.275	101.6	45.8	9.53
	AM284/286	266.7	15	228.6	5	300	286	111.05	6.3	15	236	15.8	47.625	117.35	53.4	12.7
	AM324/326	317.5	17	279.4	5	300	356	127.05	6.3	17.5	296	34.8	53.975	133.35	60	12.7
	AM364/365	317.5	17	279.4	5	300	356	143.05	6.3	17.5	296	34.8	60.325	149.35	67.6	15.875

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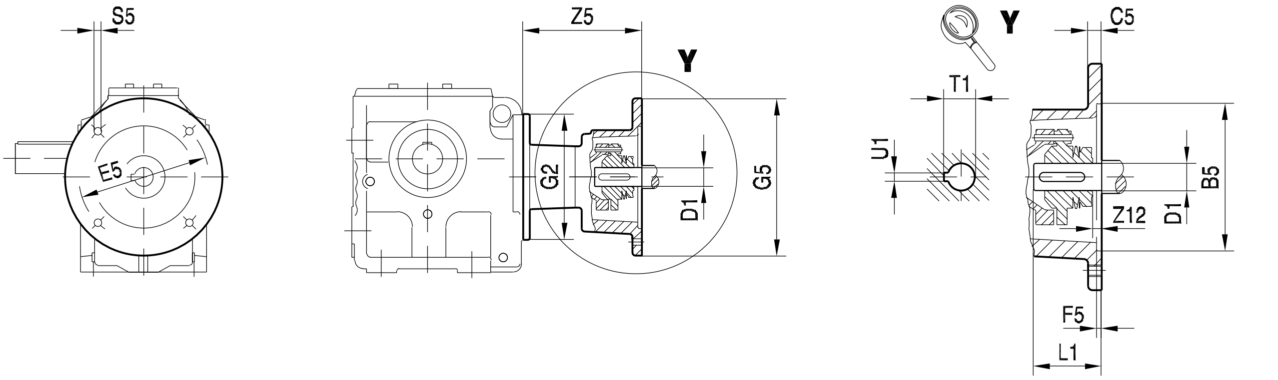
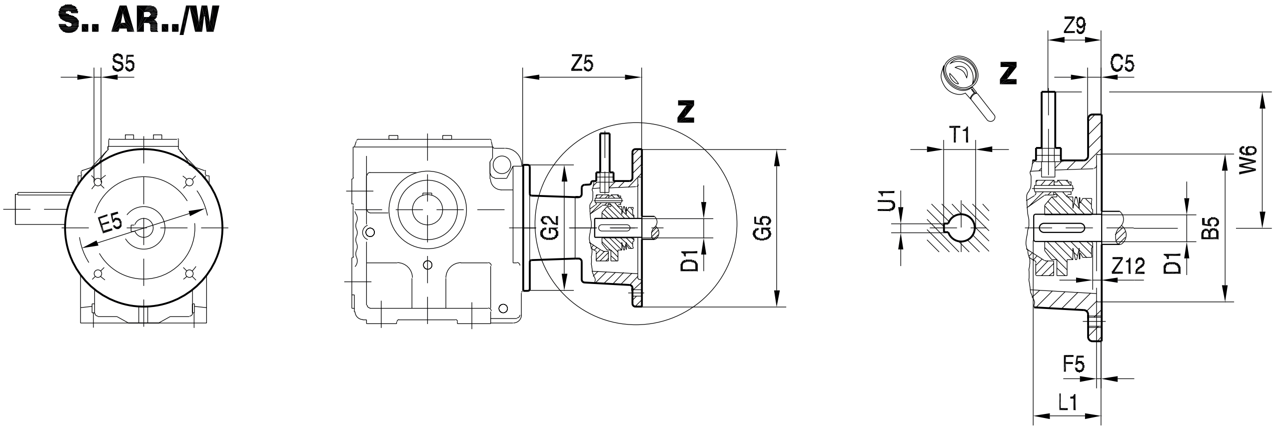
11.6 Dimension sheets for adapters with slip clutch (AR..)

S.. AR..

02 028 02 01



S.. AR../W



		B5	C5	E5	F5	G2	G5	S5	W6	Z5	Z9	Z12	D1	L1	T1	U1
S..37 S..47 S..57	AR71	110	10	130	3.5	120	160	M8	120	104	37	0	14	30	16.3	5
	AR80	130	12	165	4.5		200	M10		140.5			19	40	21.8	6
	AR90												24	50	27.3	8
S..67	AR71	110	10	130	3.5	160	160	M8	120	97.5	37	0	14	30	16.3	5
	AR80	130	12	165	4.5		200	M10		134			19	40	21.8	6
	AR90												24	50	27.3	8
	AR100	180	15	215	5		250	M12	130	174.5	52	5.5	28	60	31.3	8
	AR112															
S..77	AR71	110	10	130	3.5	200	160	M8	120	91.5	37	0	14	30	16.3	5
	AR80	130	12	165	4.5		200	M10		127			19	40	21.8	6
	AR90												24	50	27.3	8
	AR100	180	15	215	5		250	M12	130	166.5	52	5.5	28	60	31.3	8
	AR112															
	AR132S/M	230	16	265	5		300	M12	145	234	72	5	38	80	41.3	10
	AR132ML															
S..87	AR80	130	12	165	4.5	250	200	M10	120	122	37	0	19	40	21.8	6
	AR90												24	50	27.3	8
	AR100	180	15	215	5		250	M12	130	161.5	52	5.5	28	60	31.3	8
	AR112															
	AR132S/M	230	16	265	5		300	M12	145	229	72	5	38	80	41.3	10
	AR132ML															
	AR160	250	18	300	6		350	M16	165	306.5	105	35	42	110	45.3	12
	AR180												48	110	51.8	14

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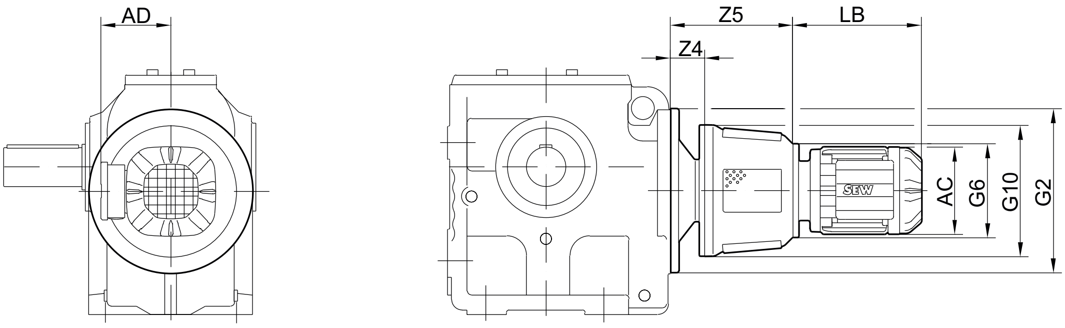
		B5	C5	E5	F5	G2	G5	S5	W6	Z5	Z9	Z12	D1	L1	T1	U1
S..97	**AR100**	180	15	215	5	300	250	M12	130	156.5	52	5.5	28	60	31.3	8
	AR112															
	AR132S/M	230	16	265	5		300	M12	145	224	72	5	38	80	41.3	10
	AR132ML															
	AR160	250	18	300	6		350	M16	165	301.5	105	35	42	110	45.3	12
	AR180												48	110	51.8	14

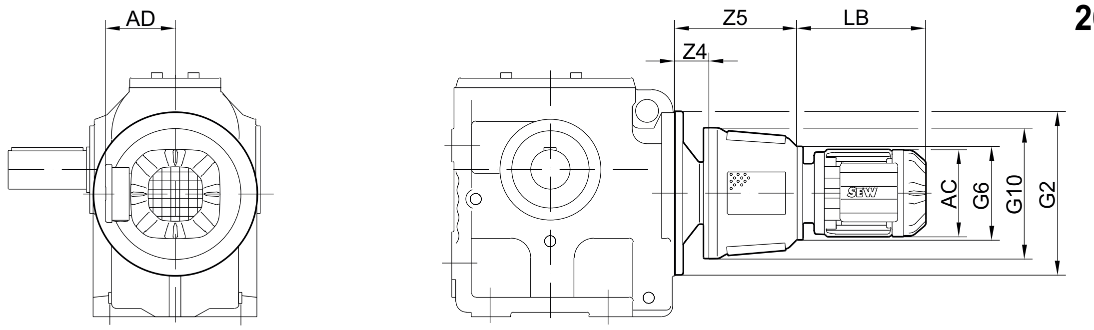
11.7 Dimension sheets for adapters with hydraulic start-up coupling (S..AT..)

26 001 04 01



			AC	AD	G6	G10	LB	Z4	Z5	G2
S67	**AT311 AT312**	DRN71M	139	118	200	280	222	97	286	160
		DRN80MK	156	128			241			
		DRN80MS					259			
		DRN80M					287			
		DRN90S	179	140			281			
		DRN90L					313			
		DRN100LM	197	157			359			
		DRN112M	221	170			387			
	AT321 AT322	DRN90L	179	140	250	350	313	97	333	
		DRN100LS	197	157			309			
		DRN100L					359			
S77	**AT311 AT312**	DRN71M	139	118	200	280	222	89	278	200
		DRN80MK	156	128			241			
		DRN80MS					259			
		DRN80M					287			
		DRN90S	179	140			281			
		DRM90L					313			
		DRN100LM	197	157			359			
		DRN112M	221	170			387			
	AT321	DRN132S	221	170	250	350	437	93	328	
	AT421 AT422	DRN90L	179	140	250	350	313	133	368	
		DRN100LS	197	157			309			
		DRN100L					359			
		DRN112M	221	170			387			
		DRN132S					437			
S87	**AT311 AT312**	DRN90S	179	140	200	280	281	84	273	250
		DRM90L					313			
		DRN100LM	197	157			359			
		DRN112M	221	170			387			
	AT321	DRN132S	221	170	250	350	437	84	320	
	AT421 AT422	DRN90L	179	140	250	350	313	128	363	
		DRN100LS	197	157			309			
		DRN100L					359			
		DRN112M	221	170			387			
		DRN132S					437			
	AT541 AT542	DRN132S	221	170	350	470	437	159	478	
		DRN132M	261	228			439			
		DRN132L					464			
		DRN160M	316	253			532			
		DRN160L					532			

26 002 04 01



			AC	AD	G6	G10	LB	Z4	Z5	G2
S97	**AT311 AT312**	DRN90S	179	140	200	280	281	79	268	300
		DRM90L					313			
		DRN100LM	197	157			359			
		DRN112M	221	170			387			
	AT321	DRN132S	221	170	250	350	437	79	315	
	AT421 AT422	DRN90L	179	140	250	350	313	123	358	
		DRN100LS	197	157			309			
		DRN100L					359			
		DRN112M	221	170			387			
		DRN132S					437			
	AT541 AT542	DRN132S	221	170	350	470	437	154	473	
		DRN132M	261	228			439			
		DRN132L					464			
		DRN160M	316	253			532			
		DRN160L					532			
		DRN180M	357	268			557			
		DRN180L					557			

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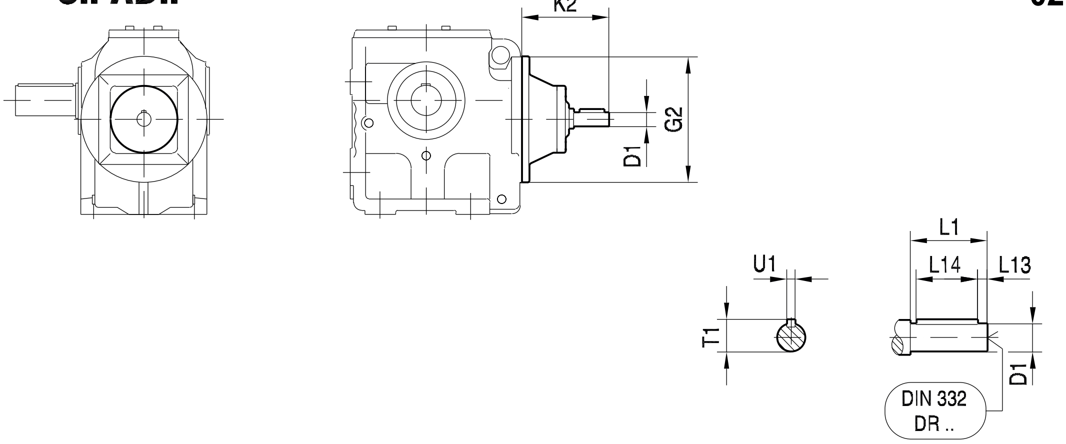
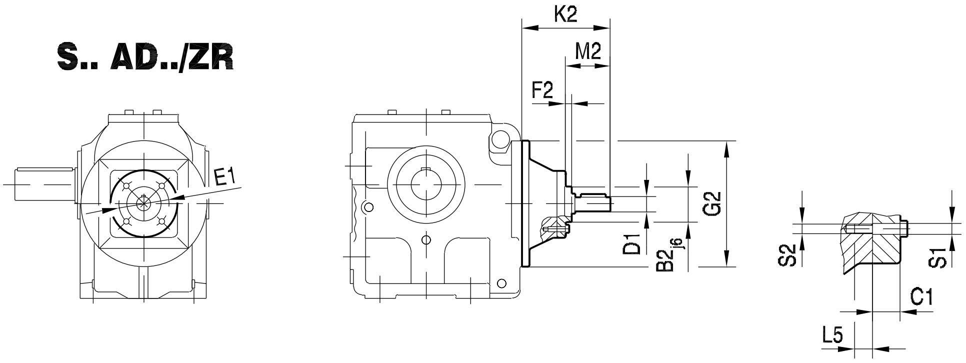
11.8 Dimension sheets for input shaft assembly (AD..)

S.. AD..

02 029 02 01



S.. AD../ZR



		B2	C1	E1	F2	G2	K2	L5	M2	S1	S2	D1	L1	L13	L14	T1	U1
S..37 S..47 S..57	AD1	-	-	-	-	120	102	-	-	-	-	16	40	4	32	18	5
	AD2, AD2/ZR	55	13.5	80	8		130	12	50	9	M8	19	40	4	32	21.5	6
S..67	AD2, AD2/ZR	55	13.5	80	8	160	123	12	50	9	M8	19	40	4	32	21.5	6
	AD3, AD3/ZR	70	15.5	105	8		159	16	60	11	M10	24	50	5	40	27	8
S..77	AD2, AD2/ZR	55	13.5	80	8	200	116	12	50	9	M8	19	40	4	32	21.5	6
	AD3, AD3/ZR	70	15.5	105	8		151	16	60	11	M10	24	50	5	40	27	8
	AD4, AD4/ZR	100	16	130	13		224	20	95.5	13.5	M12	38	80	5	70	41	10
S..87	AD2, AD2/ZR	55	13.5	80	8	250	111	12	50	9	M8	19	40	4	32	21.5	6
	AD3, AD3/ZR	70	15.5	105	8		156	16	70	11	M10	28	60	5	50	31	8
	AD4, AD4/ZR	100	16	130	13		219	20	95.5	13.5	M12	38	80	5	70	41	10
	AD5, AD5/ZR	120	24	180	11		292	20	126	13.5	M12	42	110	10	70	45	12
S..97	AD3, AD3/ZR	70	15.5	105	8	300	151	16	70	11	M10	28	60	5	50	31	8
	AD4, AD4/ZR	100	16	130	13		214	20	95.5	13.5	M12	38	80	5	70	41	10
	AD5, AD5/ZR	120	24	180	11		287	20	126	13.5	M12	42	110	10	70	45	12
	AD6, AD6/ZR	130	22.5	200	11		327	26	130.5	17.5	M16	48	110	10	80	51.5	14

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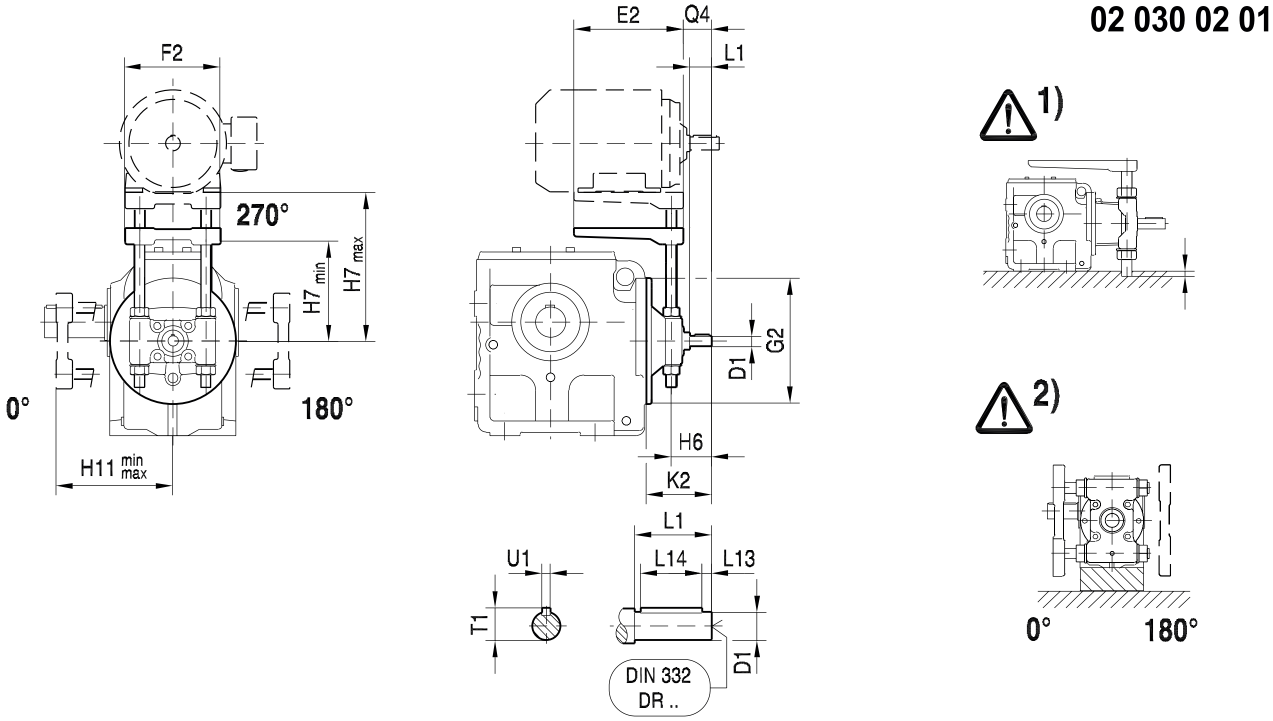
11.9 Dimension sheets for input shaft assembly with motor platform (AD../P)



		E2	F2	G2	H6	H7 min	H7 max	H11 min	H11 max	K2	Q4	D1	L1	L13	L14	T1	U1	⚠ (→ 🗎 71)
S..37 S..47	AD2/P	195	180	120	65	110	165	95	165	130	43	19	40	4	32	21.5	6	1), 2)
S..57	AD2/P	195	180	120	65	140	200	110	165	130	43	19	40	4	32	21.5	6	1)
S..67	AD2/P	195	180	160	65	140	200	125	165	123	43	19	40	4	32	21.5	6	1)
	AD3/P	230	240		80	145	175	130	175	159	54	24	50	5	40	27	8	2)
S..77	AD2/P	195	180	200	65	175	260	145	200	116	43	19	40	4	32	21.5	6	
	AD3/P	230	240		80	180	230	150	230	151	54	24	50	5	40	27	8	
	AD4/P	345	291		118	190	280	150	210	224	83	38	80	5	70	41	10	1)
S..87	AD2/P	195	180	250	65	215	260	165	200	111	43	19	40	4	32	21.5	6	
	AD3/P	230	240		90	230	320	170	230	156	64	28	60	5	50	31	8	
	AD4/P	345	291		118	250	360	170	210	219	83	38	80	5	70	41	10	1)
	AD5/P	430	355		153	260	325	185	250	292	113	42	110	10	70	45	12	1), 2)
S..97	AD3/P	230	240	300	90	275	320	190	230	151	64	28	60	5	50	31	8	
	AD4/P	345	291		118	305	360	190	280	214	83	38	80	5	70	41	10	
	AD5/P	430	355		153	315	405	200	250	287	113	42	110	10	70	45	12	

For bore dimensions and weight of the motor platform, refer to the chapter "Bore dimensions and weight" (→ 🗎 70).

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11.10 Technical data of 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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
157.43	38/1	21	78	0.31	56	20	80	0.30	56	17	82	0.28	56
144.40		23	76	0.33	57	22	78	0.32	56	19	80	0.29	56
122.94		27	74	0.37	57	26	75	0.36	57	22	78	0.33	57
106.00		32	71	0.41	58	30	72	0.39	58	26	76	0.36	58
98.80		34	70	0.43	58	32	72	0.42	58	28	75	0.38	58
86.36		39	68	0.48	59	37	69	0.45	59	32	72	0.42	59
80.96		41	66	0.49	59	39	68	0.48	59	34	72	0.44	59
71.44		47	55	0.47	59	44	64	0.50	60	39	70	0.48	60
63.33		53	37	0.37	56	50	51	0.46	59	44	67	0.52	60
53.83		63	29	0.35	54	59	32	0.36	55	52	53	0.49	60
55.93	27/2	60	70	0.59	76	57	71	0.56	76	50	72	0.50	75
51.30		66	68	0.62	76	62	70	0.60	76	54	72	0.55	76
43.68		77	66	0.70	77	73	67	0.67	76	64	70	0.62	76
37.66		90	64	0.78	77	84	65	0.75	77	74	68	0.69	77
35.10		96	62	0.81	77	91	64	0.79	77	79	66	0.72	77
30.68		110	61	0.91	78	104	62	0.87	78	91	64	0.79	77
28.76		118	58	0.92	78	111	61	0.91	78	97	64	0.84	78
25.38		133	47	0.85	77	126	53	0.90	78	110	62	0.92	78
22.50		151	31	0.65	75	142	43	0.83	77	124	57	0.95	78
19.13		177	24	0.61	74	167	27	0.63	75	146	44	0.87	78
19.89	24/5	170	42	0.88	85	160	43	0.85	85	140	44	0.76	85
18.24		186	41	0.93	86	175	42	0.90	86	153	44	0.83	85
15.53		218	39	1.0	86	206	40	1.0	86	180	42	0.93	86
13.39		253	37	1.1	86	238	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		311	35	1.3*	86	293	36	1.3*	86	256	39	1.2*	86
10.23		332	35	1.4*	86	312	36	1.4*	86	273	38	1.3*	86
9.02		376	31	1.4*	85	354	34	1.5*	86	310	36	1.4*	86
8.00		425	20	1.0	85	400	29	1.4*	85	350	35	1.5*	86
6.80		500	16	1.0	84	470	18	1.0	85	411	29	1.5*	85
6.33	19/5	537	24	1.5*	87	505	27	1.6*	88	442	32	1.7*	88
5.38		631	20	1.5*	87	594	22	1.6*	87	520	26	1.6*	88
4.86		699	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_{Mot_max} = 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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
157.43	38/1	13	87	0.23	54	10	91	0.19	53	8.8	92	0.16	52
144.40		15	86	0.25	55	11	90	0.21	54	9.6	92	0.18	53
122.94		17	83	0.28	56	13	87	0.23	55	11	91	0.20	54
106.00		20	81	0.31	57	16	86	0.26	56	13	88	0.22	55
98.80		22	80	0.33	57	17	85	0.27	56	14	87	0.23	55
86.36		25	78	0.36	58	19	82	0.30	57	16	86	0.26	56
80.96		27	77	0.38	58	20	82	0.31	57	17	85	0.27	56
71.44		30	75	0.41	59	23	80	0.34	58	19	84	0.30	57
63.33		34	73	0.44	60	26	79	0.38	59	22	82	0.33	58
53.83		40	69	0.49	60	31	76	0.42	60	26	80	0.37	59
55.93	27/2	39	77	0.43	74	30	81	0.35	73	25	81	0.29	73
51.30		42	76	0.46	75	33	80	0.38	74	27	81	0.32	73
43.68		50	74	0.52	76	38	78	0.43	75	32	81	0.37	74
37.66		58	72	0.58	76	45	76	0.48	75	37	79	0.41	75
35.10		62	71	0.61	76	48	75	0.50	76	39	78	0.43	75
30.68		71	70	0.68	77	55	73	0.56	76	45	76	0.48	76
28.76		76	68	0.71	77	59	73	0.59	77	48	75	0.50	76
25.38		86	67	0.78	78	66	71	0.65	77	55	74	0.56	76
22.50		97	66	0.86	78	75	70	0.71	78	62	73	0.62	77
19.13		115	63	0.96	79	88	68	0.81	78	73	71	0.70	78
19.89	24/5	110	48	0.66	85	85	50	0.53	84	70	52	0.46	84
18.24		120	47	0.70	85	93	49	0.57	84	76	52	0.50	84
15.53		141	45	0.78	85	109	48	0.65	85	90	50	0.56	84
13.39		164	44	0.88	86	126	47	0.73	85	104	49	0.63	85
12.48		176	43	0.92	86	136	46	0.77	86	112	48	0.66	85
10.91		201	42	1.0	86	155	45	0.85	86	128	48	0.75	86
10.23		215	41	1.1	86	166	45	0.91	86	136	47	0.79	86
9.02		243	40	1.2*	87	188	43	0.98	86	155	46	0.87	86
8.00		275	39	1.3*	86	212	43	1.1	87	175	45	0.95	86
6.80		323	37	1.5*	86	250	41	1.2*	87	205	43	1.1	87
6.33	19/5	347	35	1.4*	88	268	35	1.1	88	221	35	0.93	87
5.38		408	34	1.6*	88	315	34	1.3*	88	260	34	1.1	88
4.86		452	32	1.7*	89	349	33	1.4*	88	288	33	1.1	88
3.97		554	26	1.7*	88	428	32	1.6*	89	352	32	1.3*	88

* P_{Mot_max} = 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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
157.43	38/1	6.9	92	0.13	51	5.7	92	0.11	50	4.4	92	0.09	48
144.40		7.6	92	0.14	51	6.2	92	0.12	50	4.8	92	0.10	49
122.94		8.9	92	0.17	52	7.3	92	0.14	51	5.6	92	0.11	50
106.00		10	92	0.19	53	8.4	92	0.16	52	6.6	92	0.13	51
98.80		11	92	0.20	54	9.1	92	0.17	53	7	92	0.13	51
86.36		12	90	0.22	55	10	92	0.19	54	8.1	92	0.15	52
80.96		13	89	0.23	55	11	92	0.20	54	8.6	92	0.16	53
71.44		15	87	0.25	56	12	91	0.22	55	9.7	92	0.18	53
63.33		17	86	0.28	57	14	89	0.24	56	11	92	0.20	54
53.83		20	84	0.31	58	16	87	0.27	57	13	91	0.22	56
55.93	27/2	19	87	0.25	72	16	91	0.22	71	12	92	0.17	69
51.30		21	87	0.27	72	17	90	0.23	71	13	92	0.19	70
43.68		25	84	0.30	73	20	87	0.26	72	16	92	0.22	71
37.66		29	82	0.34	74	23	86	0.30	73	18	89	0.24	72
35.10		31	82	0.36	74	25	84	0.31	73	19	88	0.26	72
30.68		35	80	0.40	75	29	82	0.34	74	22	87	0.29	73
28.76		38	79	0.42	75	31	82	0.36	74	24	86	0.30	73
25.38		43	78	0.47	76	35	81	0.40	75	27	84	0.33	74
22.50		48	77	0.52	76	40	79	0.44	75	31	82	0.36	74
19.13		57	75	0.59	77	47	78	0.50	76	36	81	0.41	75
19.89	24/5	55	55	0.38	83	45	58	0.33	82	35	60	0.27	81
18.24		60	54	0.41	83	49	56	0.35	83	38	60	0.30	82
15.53		70	53	0.47	84	57	55	0.40	83	45	58	0.33	82
13.39		82	52	0.53	84	67	54	0.45	84	52	56	0.37	83
12.48		88	51	0.56	85	72	53	0.48	84	56	55	0.39	83
10.91		100	50	0.62	85	82	52	0.53	84	64	54	0.43	84
10.23		107	49	0.65	85	87	51	0.56	85	68	54	0.46	84
9.02		121	48	0.72	86	99	50	0.61	85	77	53	0.51	84
8.00		137	47	0.79	86	112	49	0.68	85	87	52	0.56	85
6.80		161	46	0.90	86	132	48	0.77	86	102	51	0.64	85
6.33	19/5	173	45	0.94	87	142	45	0.77	87	110	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	226	40	1.1	88	176	40	0.84	88

* P_{Mot_max} = 1.1 kW

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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
157.43	38/1	3.1	92	0.07	47	1.5	92	<0.05	46	0.06	92	<0.05	46
144.40		3.4	92	0.07	47	1.7	92	<0.05	46	0.06	92	<0.05	46
122.94		4	92	0.08	48	2	92	<0.05	46	0.08	92	<0.05	46
106.00		4.7	92	0.09	49	2.3	92	<0.05	46	0.09	92	<0.05	47
98.80		5	92	0.10	49	2.5	92	0.05	46	0.1	92	<0.05	47
86.36		5.7	92	0.11	50	2.8	92	0.06	47	0.11	92	<0.05	47
80.96		6.1	92	0.12	50	3	92	0.06	47	0.12	92	<0.05	47
71.44		6.9	92	0.13	51	3.4	92	0.07	48	0.13	92	<0.05	47
63.33		7.8	92	0.15	52	3.9	92	0.08	48	0.15	92	<0.05	47
53.83		9.2	92	0.17	53	4.6	92	0.09	49	0.18	92	<0.05	47
55.93	27/2	8.9	92	0.13	68	4.4	92	0.06	67	0.17	92	<0.05	67
51.30		9.7	92	0.14	68	4.8	92	0.07	67	0.19	92	<0.05	67
43.68		11	92	0.16	69	5.7	92	0.08	67	0.22	92	<0.05	67
37.66		13	92	0.18	70	6.6	92	0.10	67	0.26	92	<0.05	67
35.10		14	92	0.20	70	7.1	92	0.10	67	0.28	92	<0.05	67
30.68		16	92	0.22	71	8.1	92	0.12	68	0.32	92	<0.05	67
28.76		17	91	0.23	71	8.6	92	0.12	68	0.34	92	<0.05	67
25.38		19	89	0.25	72	9.8	92	0.14	69	0.39	92	<0.05	67
22.50		22	87	0.28	73	11	92	0.15	69	0.44	92	<0.05	67
19.13		26	85	0.32	74	13	92	0.18	70	0.52	92	<0.05	67
19.89	24/5	25	68	0.22	80	12	72	0.12	79	0.5	72	<0.05	79
18.24		27	66	0.23	81	13	72	0.13	79	0.54	72	<0.05	79
15.53		32	63	0.26	81	16	72	0.15	79	0.64	72	<0.05	79
13.39		37	61	0.29	82	18	72	0.18	80	0.74	72	<0.05	79
12.48		40	59	0.30	82	20	72	0.19	80	0.8	72	<0.05	79
10.91		45	58	0.34	83	22	71	0.21	80	0.91	71	<0.05	79
10.23		48	57	0.35	83	24	70	0.22	81	0.97	70	<0.05	79
9.02		55	56	0.39	83	27	66	0.24	81	1.1	66	<0.05	79
8.00		62	55	0.43	84	31	63	0.25	81	1.2	63	<0.05	79
6.80		73	54	0.49	84	36	61	0.29	82	1.4	61	<0.05	79
6.33	19/5	78	45	0.44	85	39	45	0.23	83	1.5	45	<0.05	80
5.38		92	43	0.49	86	46	43	0.25	83	1.8	43	<0.05	80
4.86		102	42	0.53	86	51	42	0.27	84	2	42	<0.05	80
3.97		125	40	0.61	87	62	40	0.31	84	0.06	92	<0.05	46

11.11 Technical data of 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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
201.00	42/1	16	150	0.46	57	15	150	0.44	57	13	150	0.39	56
184.80		18	150	0.50	58	17	150	0.47	58	15	150	0.42	57
158.12		21	150	0.58	59	20	150	0.54	58	17	150	0.48	58
137.05		24	150	0.65	60	23	150	0.62	59	20	150	0.55	59
128.10		26	150	0.69	60	24	150	0.66	60	21	150	0.58	59
110.73		30	138	0.73	60	28	148	0.74	61	25	150	0.66	60
94.08		36	113	0.71	60	34	123	0.73	60	29	146	0.75	61
84.00		40	95	0.68	59	38	107	0.71	60	33	130	0.75	61
71.75		47	58	0.52	56	44	82	0.65	59	39	107	0.72	61
67.20		50	53	0.51	55	47	68	0.59	58	41	99	0.72	60
56.61		60	40	0.48	53	56	46	0.50	54	49	75	0.66	59
69.39	29/2	48	140	0.94	77	46	140	0.88	77	40	140	0.78	76
63.80		53	140	1.0	77	50	140	0.96	77	43	140	0.84	76
54.59		62	140	1.2	78	58	140	1.1	78	51	140	0.98	77
47.32		71	139	1.3	78	67	140	1.3	78	59	140	1.1	78
44.22		76	129	1.3	78	72	139	1.3	78	63	140	1.2	78
38.23		88	112	1.3	78	83	120	1.3	79	73	139	1.4	79
32.48		104	91	1.3	78	98	100	1.3	78	86	117	1.3	79
29.00		117	76	1.2	77	110	86	1.3	78	96	104	1.3	79
24.77		137	47	0.91	75	129	66	1.2	77	113	87	1.3	78
23.20		146	42	0.87	74	137	54	1.0	76	120	79	1.3	78
19.54		174	32	0.81	72	163	37	0.86	74	143	59	1.1	77
20.33	27/5	167	100	2.0*	86	157	100	1.9*	86	137	100	1.7*	86
17.62		192	97	2.3*	86	181	100	2.2*	86	158	100	1.9*	86
16.47		206	90	2.3*	86	194	97	2.3*	86	170	100	2.1*	86
14.24		238	78	2.3*	86	224	83	2.3*	86	196	97	2.3*	86
12.10		280	63	2.2*	86	264	69	2.2*	86	231	82	2.3*	86
10.80		314	53	2.1*	85	296	60	2.2*	85	259	72	2.3*	86
9.23		368	32	1.5	85	346	45	1.9*	85	303	60	2.2*	86
8.64		393	29	1.4	84	370	37	1.7*	85	324	55	2.2*	86
7.28		467	22	1.3	83	439	25	1.4	84	384	41	1.9*	85
6.83	20/5	497	34	2.0*	87	468	37	2.1*	88	409	45	2.2*	88
6.4		531	31	2.0*	87	500	34	2.0*	87	437	42	2.2*	88
5.39		630	24	1.8*	86	593	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_{Mot_max} = 1.5 kW

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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
201.00	42/1	10	167	0.35	55	8.4	170	0.28	54	6.9	170	0.23	53
184.80		11	167	0.37	56	9.1	168	0.30	55	7.5	170	0.25	53
158.12		13	167	0.43	57	10	168	0.34	56	8.8	170	0.29	54
137.05		16	165	0.48	58	12	167	0.38	57	10	168	0.32	55
128.10		17	165	0.51	58	13	167	0.41	57	10	168	0.34	56
110.73		19	165	0.58	59	15	167	0.46	58	12	168	0.39	57
94.08		23	165	0.67	60	18	167	0.53	59	14	168	0.45	58
84.00		26	162	0.73	61	20	167	0.59	60	16	167	0.50	59
71.75		30	145	0.76	62	23	167	0.68	61	19	167	0.57	60
67.20		32	137	0.76	62	25	164	0.71	61	20	167	0.60	60
56.61		38	115	0.76	62	30	152	0.77	62	24	165	0.69	62
69.39	29/2	31	155	0.68	75	24	155	0.54	74	20	155	0.45	73
63.80		34	155	0.74	76	26	155	0.58	75	21	155	0.48	74
54.59		40	155	0.86	77	31	155	0.67	75	25	155	0.56	75
47.32		46	155	0.98	77	35	155	0.77	76	29	155	0.64	75
44.22		49	155	1.0	78	38	155	0.82	77	31	155	0.68	76
38.23		57	154	1.2	78	44	155	0.93	77	36	155	0.78	77
32.48		67	146	1.3	79	52	155	1.1	78	43	155	0.91	77
29.00		75	137	1.4	79	58	154	1.2	79	48	155	1.0	78
24.77		88	117	1.4	79	68	145	1.3	79	56	155	1.2	79
23.20		94	111	1.4	79	73	142	1.4	79	60	152	1.2	79
19.54		112	92	1.4	79	87	123	1.4	80	71	144	1.4	79
20.33	27/5	108	109	1.4	86	83	110	1.1	86	68	110	0.93	85
17.62		124	108	1.6*	87	96	109	1.3	86	79	110	1.1	86
16.47		133	108	1.7*	87	103	109	1.4	86	85	110	1.1	86
14.24		154	108	2.0*	87	119	109	1.6*	87	98	110	1.3	86
12.10		181	105	2.3*	87	140	109	1.8*	87	115	109	1.5	87
10.80		203	95	2.3*	87	157	108	2.1*	87	129	109	1.7*	87
9.23		238	82	2.4*	87	184	105	2.3*	87	151	109	2.0*	87
8.64		254	77	2.4*	86	196	100	2.4*	87	162	109	2.1*	87
7.28		302	64	2.3*	86	233	86	2.4*	87	192	103	2.4*	87
6.83	20/5	322	62	2.4*	89	248	78	2.3*	89	204	78	1.9*	89
6.4		343	58	2.3*	89	265	76	2.4*	89	218	76	2.0*	89
5.39		408	48	2.3*	89	315	65	2.4*	89	259	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_{Mot_max} = 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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
201.00	42/1	5.4	176	0.20	52	4.4	180	0.17	50	3.4	185	0.14	49
184.80		5.9	174	0.21	52	4.8	178	0.18	51	3.7	183	0.15	50
158.12		6.9	172	0.24	53	5.6	176	0.20	52	4.4	180	0.17	51
137.05		8	171	0.27	54	6.5	172	0.22	53	5.1	178	0.19	51
128.10		8.5	171	0.28	55	7	172	0.24	53	5.4	176	0.19	52
110.73		9.9	169	0.32	56	8.1	171	0.27	54	6.3	174	0.22	53
94.08		11	169	0.37	57	9.5	171	0.31	55	7.4	172	0.25	54
84.00		13	169	0.40	58	10	169	0.34	56	8.3	171	0.27	55
71.75		15	169	0.46	59	12	169	0.39	57	9.7	171	0.31	56
67.20		16	169	0.49	59	13	169	0.41	58	10	171	0.33	56
56.61		19	169	0.57	60	15	169	0.48	59	12	171	0.38	58
69.39	29/2	15	173	0.40	72	12	176	0.33	71	10	180	0.27	70
63.80		17	173	0.43	73	14	175	0.36	72	10	180	0.29	71
54.59		20	171	0.49	74	16	173	0.41	73	12	176	0.33	72
47.32		23	171	0.56	74	19	173	0.47	74	14	175	0.38	72
44.22		24	171	0.60	75	20	171	0.49	74	15	175	0.40	73
38.23		28	169	0.67	76	23	171	0.56	75	18	173	0.45	73
32.48		33	169	0.78	76	27	171	0.66	76	21	171	0.52	74
29.00		37	170	0.88	77	31	171	0.73	76	24	171	0.58	75
24.77		44	169	1.0	78	36	170	0.84	77	28	171	0.67	76
23.20		47	164	1.0	78	38	170	0.89	77	30	171	0.71	76
19.54		56	154	1.2	79	46	165	1.0	78	35	170	0.83	77
20.33	27/5	54	112	0.75	84	44	114	0.63	84	34	116	0.51	83
17.62		62	112	0.86	85	51	113	0.72	84	39	115	0.57	83
16.47		66	112	0.92	85	54	113	0.77	84	42	114	0.61	84
14.24		77	111	1.1	86	63	112	0.87	85	49	113	0.69	84
12.10		90	111	1.2	86	74	111	1.0	86	57	113	0.81	85
10.80		101	111	1.4	86	83	111	1.1	86	64	112	0.89	85
9.23		119	110	1.6*	87	97	111	1.3	86	75	112	1.0	86
8.64		127	109	1.7*	87	104	111	1.4	87	81	112	1.1	86
7.28		151	109	2.0*	87	123	111	1.6*	87	96	111	1.3	87
6.83	20/5	161	95	1.8*	89	131	95	1.5*	88	102	95	1.2	88
6.4		171	93	1.9*	89	140	93	1.6*	88	109	93	1.2	88
5.39		204	89	2.1*	89	166	89	1.8*	89	129	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_{Mot_max} = 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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
201.00	42/1	2.4	185	0.10	47	1.2	185	0.05	47	0.04	185	<0.05	47
184.80		2.7	185	0.11	48	1.3	185	0.06	47	0.05	185	<0.05	47
158.12		3.1	185	0.13	49	1.5	185	0.07	47	0.06	185	<0.05	47
137.05		3.6	185	0.14	50	1.8	185	0.08	47	0.07	185	<0.05	47
128.10		3.9	183	0.15	50	1.9	185	0.08	47	0.07	185	<0.05	47
110.73		4.5	181	0.17	51	2.2	185	0.09	47	0.09	185	<0.05	48
94.08		5.3	178	0.19	52	2.6	185	0.11	48	0.1	185	<0.05	48
84.00		5.9	176	0.21	53	2.9	185	0.12	49	0.11	185	<0.05	48
71.75		6.9	174	0.24	54	3.4	185	0.14	50	0.13	185	<0.05	48
67.20		7.4	172	0.25	54	3.7	185	0.14	50	0.14	185	<0.05	48
56.61		8.8	172	0.29	56	4.4	181	0.16	51	0.17	181	<0.05	48
69.39	29/2	7.2	185	0.20	69	3.6	185	0.10	67	0.14	185	<0.05	67
63.80		7.8	185	0.22	69	3.9	185	0.11	67	0.15	185	<0.05	67
54.59		9.1	185	0.25	70	4.5	185	0.13	67	0.18	185	<0.05	67
47.32		10	181	0.28	71	5.2	185	0.15	68	0.21	185	<0.05	68
44.22		11	180	0.30	71	5.6	185	0.16	68	0.22	185	<0.05	68
38.23		13	178	0.34	72	6.5	185	0.18	69	0.26	185	<0.05	68
32.48		15	174	0.39	73	7.6	185	0.22	69	0.3	185	<0.05	68
29.00		17	174	0.43	73	8.6	185	0.24	70	0.34	185	<0.05	68
24.77		20	172	0.49	74	10	183	0.27	71	0.4	183	<0.05	68
23.20		21	172	0.52	75	10	181	0.29	71	0.43	181	<0.05	68
19.54		25	172	0.61	76	12	178	0.33	72	0.51	178	<0.05	68
20.33	27/5	24	124	0.39	82	12	157	0.25	80	0.49	157	<0.05	79
17.62		28	120	0.43	82	14	149	0.28	80	0.56	149	<0.05	80
16.47		30	118	0.46	82	15	145	0.29	80	0.6	145	<0.05	80
14.24		35	116	0.51	83	17	138	0.31	81	0.7	138	<0.05	80
12.10		41	115	0.60	84	20	131	0.35	81	0.82	131	<0.05	80
10.80		46	114	0.66	84	23	127	0.38	82	0.92	127	<0.05	80
9.23		54	113	0.76	85	27	121	0.42	82	1	121	<0.05	80
8.64		57	113	0.81	85	28	120	0.44	83	1.1	120	<0.05	80
7.28		68	112	0.94	86	34	117	0.51	83	1.3	117	<0.05	80
6.83	20/5	73	95	0.84	87	36	95	0.43	84	1.4	95	<0.05	81
6.4		78	93	0.88	87	39	93	0.45	85	1.5	93	<0.05	81
5.39		92	89	0.99	87	46	89	0.51	85	1.8	89	<0.05	81
4.76		105	87	1.1	88	52	87	0.56	86	2.1	87	<0.05	81
4		125	84	1.2	88	62	84	0.64	86	2.5	84	<0.05	81

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11.12 Technical data of 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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
201.00	42/1	16	270	0.78	61	15	270	0.74	61	13	270	0.66	60
184.80		18	270	0.84	62	17	270	0.79	62	15	270	0.70	61
158.12		21	270	0.97	63	20	270	0.92	63	17	270	0.81	62
137.05		24	255	1.0	64	23	270	1.0	63	20	270	0.92	63
128.10		26	245	1.1	64	24	255	1.0	64	21	270	0.98	63
110.73		30	215	1.1	64	28	230	1.1	64	25	255	1.1	64
94.08		36	184	1.1	64	34	196	1.1	64	29	225	1.1	64
84.00		40	165	1.1	64	38	175	1.1	64	33	200	1.1	64
71.75		47	139	1.1	64	44	149	1.1	64	39	174	1.1	65
67.20		50	128	1.1	64	47	139	1.1	64	41	164	1.1	65
56.61		60	103	1.0	63	56	114	1.1	64	49	138	1.1	65
69.39	29/2	48	220	1.4	79	46	220	1.4	79	40	220	1.2	78
63.80		53	220	1.5	79	50	220	1.5	79	43	220	1.3	79
54.59		62	220	1.8	80	58	220	1.7	80	51	220	1.5	79
47.32		71	210	2.0	80	67	220	1.9	80	59	220	1.7	80
44.22		76	197	2.0	80	72	205	1.9	80	63	220	1.8	80
38.23		88	174	2.0	81	83	184	2.0	81	73	205	2.0	81
32.48		104	148	2.0	81	98	157	2.0	81	86	180	2.0	81
29.00		117	131	2.0	81	110	141	2.0	81	96	162	2.0	81
24.77		137	111	2.0	80	129	120	2.0	81	113	139	2.0	81
23.20		146	102	2.0	80	137	111	2.0	81	120	131	2.0	81
19.54		174	81	1.9	80	163	90	1.9	80	143	109	2.0	81
20.33	27/5	167	160	3.2*	88	157	160	3.0	88	137	160	2.6	88
17.62		192	140	3.2*	88	181	149	3.2*	88	158	160	3.0	88
16.47		206	132	3.2*	88	194	140	3.2*	88	170	158	3.2*	88
14.24		238	116	3.3*	88	224	123	3.3*	88	196	139	3.2*	88
12.10		280	99	3.3*	88	264	105	3.3*	88	231	121	3.3*	88
10.80		314	88	3.3*	88	296	94	3.3*	88	259	108	3.3*	88
9.23		368	73	3.2*	88	346	79	3.3*	88	303	93	3.3*	88
8.64		393	68	3.2*	88	370	74	3.3*	88	324	87	3.3*	88
7.28		467	54	3.0	88	439	60	3.1*	88	384	72	3.3*	88
6.8	20/5	497	54	3.2*	89	468	58	3.2*	89	409	69	3.3*	90
6.4		531	50	3.1*	89	500	54	3.2*	89	437	64	3.3*	89
5.4		630	41	3.1*	89	593	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_{Mot_max} = 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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
201.00	42/1	10	295	0.58	59	8.4	295	0.46	57	6.9	295	0.39	56
184.80		11	295	0.62	60	9.1	295	0.49	58	7.5	295	0.41	56
158.12		13	295	0.71	61	10	295	0.56	59	8.8	295	0.47	58
137.05		16	295	0.80	62	12	295	0.64	60	10	295	0.54	59
128.10		17	295	0.85	62	13	295	0.68	61	10	295	0.57	59
110.73		19	290	0.96	63	15	295	0.77	62	12	295	0.65	60
94.08		23	275	1.1	64	18	300	0.91	63	14	295	0.75	62
84.00		26	250	1.1	64	20	285	0.95	63	16	295	0.83	62
71.75		30	220	1.1	65	23	275	1.1	64	19	290	0.94	63
67.20		32	210	1.1	65	25	260	1.1	64	20	285	0.98	64
56.61		38	179	1.1	65	30	225	1.1	65	24	265	1.1	65
69.39	29/2	31	245	1.1	77	24	245	0.83	76	20	245	0.69	75
63.80		34	245	1.1	78	26	245	0.89	77	21	245	0.74	76
54.59		40	245	1.3	79	31	245	1.0	78	25	245	0.86	77
47.32		46	245	1.5	79	35	245	1.2	78	29	245	0.98	77
44.22		49	245	1.6	80	38	245	1.3	79	31	245	1.0	78
38.23		57	245	1.8	80	44	245	1.4	79	36	245	1.2	78
32.48		67	225	2.0	81	52	245	1.7	80	43	245	1.4	79
29.00		75	200	2.0	81	58	245	1.9	80	48	245	1.6	80
24.77		88	177	2.0	81	68	220	2.0	81	56	245	1.8	80
23.20		94	167	2.0	81	73	210	2.0	81	60	245	1.9	81
19.54		112	143	2.1	81	87	183	2.1	81	71	215	2.0	81
20.33	27/5	108	168	2.2	87	83	168	1.7	87	68	168	1.4	86
17.62		124	168	2.5	88	96	168	2.0	87	79	168	1.6	86
16.47		133	169	2.7	88	103	168	2.1	87	85	168	1.7	87
14.24		154	169	3.1*	88	119	169	2.4	88	98	169	2.0	87
12.10		181	150	3.2*	88	140	169	2.8	88	115	169	2.3	88
10.80		203	136	3.3*	88	157	169	3.2*	88	129	169	2.6	88
9.23		238	119	3.4*	88	184	149	3.3*	88	151	169	3.0	88
8.64		254	112	3.4*	89	196	141	3.3*	89	162	166	3.2*	88
7.28		302	96	3.4*	89	233	122	3.4*	89	192	146	3.3*	89
6.8	20/5	322	91	3.4*	90	248	100	2.9	90	204	100	2.4	89
6.4		343	85	3.4*	90	265	98	3.0	90	218	98	2.5	89
5.4		408	72	3.4*	90	315	95	3.5*	90	259	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_{Mot_max} = 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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
201.00	42/1	5.4	295	0.31	54	4.4	300	0.27	53	3.4	310	0.22	51
184.80		5.9	295	0.34	55	4.8	300	0.29	54	3.7	305	0.23	52
158.12		6.9	295	0.38	56	5.6	295	0.32	55	4.4	300	0.26	53
137.05		8	295	0.43	57	6.5	295	0.36	56	5.1	300	0.29	54
128.10		8.5	295	0.46	58	7	295	0.38	57	5.4	295	0.31	55
110.73		9.9	295	0.52	59	8.1	295	0.44	58	6.3	295	0.35	56
94.08		11	295	0.60	60	9.5	295	0.50	59	7.4	295	0.40	57
84.00		13	295	0.67	61	10	295	0.56	60	8.3	295	0.44	58
71.75		15	295	0.77	62	12	295	0.64	61	9.7	295	0.51	59
67.20		16	300	0.82	62	13	295	0.68	61	10	295	0.54	60
56.61		19	290	0.93	64	15	300	0.80	62	12	295	0.63	61
69.39	29/2	15	270	0.61	74	12	270	0.50	73	10	270	0.40	72
63.80		17	270	0.65	75	14	270	0.54	74	10	270	0.43	72
54.59		20	270	0.75	76	16	270	0.62	75	12	270	0.50	73
47.32		23	270	0.86	76	19	270	0.71	75	14	270	0.56	74
44.22		24	270	0.92	77	20	270	0.76	76	15	270	0.60	75
38.23		28	270	1.0	78	23	270	0.87	77	18	270	0.69	75
32.48		33	270	1.2	78	27	270	1.0	77	21	270	0.80	76
29.00		37	270	1.4	79	31	270	1.1	78	24	270	0.89	77
24.77		44	270	1.6	80	36	270	1.3	79	28	270	1.0	78
23.20		47	270	1.7	80	38	270	1.4	79	30	270	1.1	78
19.54		56	250	1.8	81	46	270	1.6	80	35	270	1.3	79
20.33	27/5	54	168	1.1	85	44	170	0.93	84	34	172	0.74	84
17.62		62	169	1.3	86	51	169	1.1	85	39	170	0.84	84
16.47		66	168	1.4	86	54	168	1.1	85	42	170	0.90	84
14.24		77	168	1.6	86	63	168	1.3	86	49	170	1.0	85
12.10		90	169	1.9	87	74	169	1.5	86	57	169	1.2	86
10.80		101	169	2.1	87	83	169	1.7	87	64	169	1.3	86
9.23		119	170	2.4	88	97	168	2.0	87	75	168	1.5	87
8.64		127	170	2.6	88	104	169	2.1	87	81	168	1.6	87
7.28		151	170	3.0	88	123	170	2.5	88	96	170	2.0	87
6.8	20/5	161	120	2.3	89	131	120	1.9	89	102	120	1.5	88
6.4		171	117	2.4	89	140	117	1.9	89	109	117	1.5	88
5.4		204	111	2.6	90	166	111	2.2	89	129	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_{Mot_max} = 3.0 kW

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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
201.00	42/1	2.4	330	0.17	50	1.2	330	0.09	48	0.04	330	<0.05	48
184.80		2.7	330	0.19	50	1.3	330	0.10	48	0.05	330	<0.05	48
158.12		3.1	315	0.20	51	1.5	330	0.11	48	0.06	330	<0.05	48
137.05		3.6	310	0.23	52	1.8	330	0.13	49	0.07	330	<0.05	48
128.10		3.9	305	0.24	53	1.9	330	0.14	49	0.07	330	<0.05	49
110.73		4.5	300	0.26	54	2.2	330	0.16	50	0.09	330	<0.05	49
94.08		5.3	300	0.30	55	2.6	330	0.18	51	0.1	330	<0.05	49
84.00		5.9	295	0.33	56	2.9	325	0.20	51	0.11	325	<0.05	49
71.75		6.9	295	0.38	57	3.4	310	0.22	52	0.13	310	<0.05	49
67.20		7.4	295	0.40	57	3.7	310	0.23	53	0.14	310	<0.05	49
56.61		8.8	295	0.47	59	4.4	300	0.26	54	0.17	300	<0.05	49
69.39	29/2	7.2	300	0.32	70	3.6	300	0.17	68	0.14	300	<0.05	68
63.80		7.8	300	0.35	71	3.9	300	0.18	68	0.15	300	<0.05	68
54.59		9.1	300	0.40	72	4.5	300	0.21	68	0.18	300	<0.05	68
47.32		10	300	0.46	73	5.2	300	0.24	69	0.21	300	<0.05	68
44.22		11	300	0.49	73	5.6	300	0.26	69	0.22	300	<0.05	68
38.23		13	295	0.55	74	6.5	300	0.29	70	0.26	300	<0.05	68
32.48		15	295	0.64	75	7.6	300	0.34	71	0.3	300	<0.05	68
29.00		17	295	0.71	75	8.6	300	0.38	72	0.34	300	<0.05	68
24.77		20	295	0.82	76	10	300	0.44	73	0.4	300	<0.05	68
23.20		21	295	0.87	76	10	300	0.46	73	0.43	300	<0.05	68
19.54		25	295	1.0	77	12	295	0.54	74	0.51	295	<0.05	68
20.33	27/5	24	181	0.57	82	12	215	0.35	80	0.49	215	<0.05	79
17.62		28	175	0.63	83	14	210	0.39	80	0.56	210	<0.05	79
16.47		30	174	0.66	83	15	205	0.40	81	0.6	205	<0.05	79
14.24		35	172	0.75	84	17	198	0.45	81	0.7	198	<0.05	79
12.10		41	170	0.87	84	20	188	0.50	82	0.82	188	<0.05	79
10.80		46	170	0.97	85	23	184	0.54	82	0.92	184	<0.05	79
9.23		54	170	1.1	85	27	177	0.61	83	1	177	<0.05	79
8.64		57	170	1.2	86	28	175	0.64	83	1.1	175	<0.05	79
7.28		68	170	1.4	86	34	172	0.74	84	1.3	172	<0.05	79
6.8	20/5	73	120	1.1	87	36	120	0.54	85	1.4	120	<0.05	81
6.4		78	117	1.1	87	39	117	0.56	85	1.5	117	<0.05	81
5.4		92	111	1.2	88	46	111	0.63	86	1.8	111	<0.05	81
4.8		105	108	1.3	88	52	108	0.69	86	2.1	108	<0.05	81
4		125	103	1.5	89	62	103	0.78	87	2.5	103	<0.05	81

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11.13 Technical data of 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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
217.41	42/1	15	465	1.2	63	14	465	1.2	62	12	465	1.0	62
190.11		17	465	1.4	63	16	465	1.3	63	14	465	1.2	62
180.60		18	465	1.4	63	17	465	1.4	63	15	465	1.2	63
158.45		21	465	1.6	64	20	465	1.5	64	17	465	1.4	63
134.40		25	465	1.9	65	23	465	1.8	65	20	465	1.6	64
121.33		28	455	2.0	65	26	465	2.0	65	23	465	1.7	65
106.75		31	405	2.1	65	29	430	2.1	66	26	465	2.0	65
100.80		33	380	2.1	65	31	410	2.1	66	27	465	2.1	66
85.83		39	320	2.0	65	37	345	2.1	65	32	400	2.1	66
78.00		43	285	2.0	65	41	310	2.0	65	35	365	2.1	66
67.57		50	235	1.9	64	47	260	2.0	65	41	315	2.1	66
58.80		57	184	1.8	62	54	215	1.9	64	47	270	2.1	65
75.06	29/2	45	435	2.6	80	42	435	2.4	80	37	435	2.1	79
65.63		51	435	2.9	80	48	435	2.8	80	42	435	2.4	80
62.35		54	435	3.1	81	51	435	2.9	80	44	435	2.6	80
54.70		62	435	3.5	81	58	435	3.3	81	51	435	2.9	81
46.40		73	395	3.7	81	68	415	3.7	81	60	435	3.4	81
41.89		81	355	3.7	81	76	380	3.7	81	66	430	3.7	81
36.85		92	310	3.7	81	86	335	3.8	81	75	380	3.7	81
34.80		97	295	3.7	81	91	315	3.7	81	80	365	3.8	81
29.63		114	250	3.7	81	107	270	3.8	81	94	310	3.8	81
26.93		126	220	3.6	80	118	240	3.7	81	103	280	3.7	81
23.33		145	182	3.5	80	137	200	3.6	80	120	245	3.8	81
20.30		167	141	3.1	79	157	164	3.4	80	137	205	3.7	81
24.44	27/5	139	315	5.2	89	130	315	4.9	89	114	315	4.3	88
23.22		146	315	5.4	89	137	315	5.1	89	120	315	4.5	89
20.37		166	315	6.2*	89	157	315	5.8*	89	137	315	5.1	89
17.28		196	270	6.3*	89	185	290	6.3*	89	162	315	6.0*	89
15.60		217	245	6.3*	89	205	260	6.3*	89	179	295	6.2*	89
13.73		247	215	6.3*	89	233	230	6.3*	89	203	265	6.4*	89
12.96		262	200	6.2*	89	246	215	6.3*	89	216	250	6.4*	89
11.03		308	169	6.2*	88	290	183	6.3*	89	253	215	6.4*	89
10.03		338	151	6.1*	88	319	164	6.2*	88	279	194	6.4*	89
8.69		391	124	5.8*	88	368	137	6.0*	88	322	166	6.3*	89
7.56		449	95	5.1	87	423	112	5.7*	88	370	141	6.2*	88

* P_{Mot_max} = 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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
217.41	42/1	10	520	0.91	61	7.8	520	0.72	59	6.4	520	0.60	58
190.11		11	520	1.0	62	8.9	520	0.81	60	7.3	520	0.68	59
180.60		12	520	1.1	62	9.4	520	0.85	61	7.7	520	0.71	59
158.45		13	520	1.2	63	10	520	0.95	61	8.8	520	0.80	60
134.40		16	520	1.4	64	12	520	1.1	62	10	520	0.93	61
121.33		18	520	1.5	64	14	520	1.2	63	11	520	1.0	62
106.75		20	520	1.7	65	15	520	1.4	64	13	520	1.1	63
100.80		21	510	1.8	65	16	520	1.4	64	13	520	1.2	63
85.83		25	490	2.0	66	19	520	1.7	65	16	520	1.4	64
78.00		28	465	2.1	66	21	510	1.8	66	17	520	1.5	65
67.57		32	410	2.1	67	25	495	2.0	66	20	520	1.7	66
58.80		37	360	2.1	67	28	460	2.1	67	23	500	1.9	66
75.06	29/2	29	480	1.9	79	22	480	1.5	78	18	480	1.2	77
65.63		33	480	2.1	79	25	480	1.7	78	21	480	1.4	78
62.35		35	480	2.2	80	27	480	1.7	79	22	480	1.5	78
54.70		40	480	2.5	80	31	480	2.0	79	25	480	1.6	78
46.40		47	480	3.0	81	36	480	2.3	80	30	480	1.9	79
41.89		52	480	3.3	81	40	480	2.5	80	33	480	2.1	80
36.85		59	475	3.6	81	46	480	2.9	81	37	480	2.4	80
34.80		63	450	3.7	82	48	480	3.0	81	40	480	2.5	80
29.63		74	395	3.8	82	57	480	3.5	82	47	480	2.9	81
26.93		81	360	3.8	82	63	455	3.7	82	51	480	3.2	81
23.33		94	320	3.9	82	72	405	3.8	82	60	480	3.7	82
20.30		108	280	3.9	82	83	360	3.8	82	68	425	3.7	82
24.44	27/5	90	340	3.6	88	69	340	2.8	87	57	340	2.3	87
23.22		94	340	3.8	88	73	340	3.0	88	60	340	2.5	87
20.37		108	340	4.3	88	83	340	3.4	88	68	340	2.8	87
17.28		127	340	5.1	89	98	340	4.0	88	81	340	3.3	88
15.60		141	340	5.6*	89	108	340	4.4	89	89	340	3.6	88
13.73		160	330	6.2*	89	123	340	5.0	89	101	340	4.1	89
12.96		169	315	6.3*	89	131	340	5.2	89	108	340	4.3	89
11.03		199	275	6.4*	89	154	340	6.2*	89	126	340	5.1	89
10.03		219	250	6.4*	89	169	315	6.3*	89	139	340	5.6*	89
8.69		253	220	6.6*	89	195	280	6.4*	89	161	335	6.3*	89
7.56		291	192	6.6*	89	224	250	6.6*	89	185	295	6.4*	89

* P_{Mot_max} = 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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
217.41	42/1	5	555	0.52	57	4.1	560	0.44	56	3.2	570	0.35	54
190.11		5.7	555	0.58	58	4.7	560	0.49	57	3.6	565	0.40	55
180.60		6	555	0.61	58	4.9	555	0.51	57	3.8	565	0.41	55
158.45		6.9	550	0.68	59	5.6	555	0.57	58	4.4	560	0.46	56
134.40		8.1	550	0.78	60	6.6	550	0.65	59	5.2	555	0.53	57
121.33		9	550	0.86	61	7.4	550	0.72	60	5.7	555	0.58	58
106.75		10	550	0.96	62	8.4	550	0.80	61	6.5	555	0.65	59
100.80		10	550	1.0	62	8.9	550	0.84	61	6.9	555	0.68	59
85.83		12	550	1.2	63	10	550	0.97	62	8.1	550	0.78	61
78.00		14	550	1.3	64	11	550	1.1	63	8.9	550	0.84	61
67.57		16	550	1.4	65	13	550	1.2	64	10	550	0.96	62
58.80		18	530	1.6	66	15	550	1.4	65	11	550	1.1	63
75.06	29/2	14	525	1.1	76	11	525	0.88	75	9.3	525	0.69	74
65.63		16	525	1.2	77	13	525	1.00	76	10	525	0.79	75
62.35		17	525	1.3	77	14	525	1.0	76	11	525	0.83	75
54.70		20	525	1.4	78	16	525	1.2	77	12	525	0.93	75
46.40		23	525	1.7	78	19	525	1.4	78	15	525	1.1	76
41.89		26	525	1.8	79	21	525	1.5	78	16	525	1.2	77
36.85		29	525	2.1	79	24	525	1.7	79	18	525	1.3	78
34.80		31	525	2.2	80	25	525	1.8	79	20	525	1.4	78
29.63		37	525	2.5	80	30	525	2.1	80	23	525	1.7	79
26.93		40	525	2.8	81	33	525	2.3	80	25	525	1.8	79
23.33		47	525	3.2	81	38	525	2.6	81	30	525	2.1	80
20.30		54	520	3.6	82	44	525	3.0	81	34	525	2.4	80
24.44	27/5	45	355	1.9	86	36	360	1.6	86	28	365	1.3	85
23.22		47	355	2.0	86	38	360	1.7	86	30	365	1.4	85
20.37		54	355	2.3	87	44	355	1.9	86	34	365	1.5	86
17.28		63	355	2.7	87	52	355	2.2	87	40	360	1.8	86
15.60		70	350	3.0	88	57	355	2.5	87	44	355	1.9	86
13.73		80	350	3.3	88	65	355	2.8	88	50	355	2.2	87
12.96		84	350	3.5	88	69	350	2.9	88	54	355	2.3	87
11.03		99	350	4.1	89	81	350	3.4	88	63	355	2.7	88
10.03		109	345	4.5	89	89	350	3.7	88	69	355	3.0	88
8.69		126	345	5.1	89	103	350	4.3	89	80	350	3.3	88
7.56		145	345	5.9*	89	119	345	4.8	89	92	350	3.8	89

* P_{Mot_max} = 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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
217.41	42/1	2.2	570	0.26	52	1.1	570	0.14	50	0.04	570	<0.05	51
190.11		2.6	570	0.30	53	1.3	570	0.16	50	0.05	570	<0.05	51
180.60		2.7	570	0.31	53	1.3	570	0.17	50	0.05	570	<0.05	51
158.45		3.1	570	0.35	54	1.5	570	0.19	51	0.06	570	<0.05	51
134.40		3.7	565	0.40	55	1.8	570	0.22	52	0.07	570	<0.05	51
121.33		4.1	560	0.43	56	2	570	0.24	52	0.08	570	<0.05	51
106.75		4.6	560	0.48	57	2.3	570	0.27	53	0.09	570	<0.05	51
100.80		4.9	560	0.51	57	2.4	570	0.28	53	0.09	570	<0.05	51
85.83		5.8	555	0.58	58	2.9	570	0.32	54	0.11	570	<0.05	51
78.00		6.4	555	0.63	59	3.2	570	0.35	55	0.12	570	<0.05	51
67.57		7.3	555	0.71	60	3.6	565	0.39	56	0.14	565	<0.05	51
58.80		8.5	550	0.80	61	4.2	560	0.44	57	0.17	560	<0.05	51
75.06	29/2	6.6	570	0.55	72	3.3	570	0.29	69	0.13	570	<0.05	70
65.63		7.6	570	0.62	73	3.8	570	0.33	70	0.15	570	<0.05	70
62.35		8	570	0.65	73	4	570	0.34	70	0.16	570	<0.05	70
54.70		9.1	570	0.74	74	4.5	570	0.39	71	0.18	570	<0.05	70
46.40		10	570	0.86	75	5.3	570	0.45	71	0.21	570	<0.05	70
41.89		11	570	0.95	75	5.9	570	0.50	72	0.23	570	<0.05	70
36.85		13	570	1.1	76	6.7	570	0.56	73	0.27	570	<0.05	70
34.80		14	570	1.1	76	7.1	570	0.59	73	0.28	570	<0.05	70
29.63		16	565	1.3	77	8.4	570	0.68	74	0.33	570	<0.05	70
26.93		18	565	1.4	78	9.2	570	0.75	74	0.37	570	<0.05	70
23.33		21	565	1.6	78	10	570	0.85	75	0.42	570	<0.05	70
20.30		24	565	1.8	79	12	570	0.97	76	0.49	570	<0.05	70
24.44	27/5	20	365	0.93	84	10	355	0.47	82	0.4	355	<0.05	81
23.22		21	365	0.98	84	10	355	0.49	82	0.43	355	<0.05	81
20.37		24	380	1.2	85	12	365	0.57	82	0.49	365	<0.05	81
17.28		28	365	1.3	85	14	435	0.80	83	0.57	435	<0.05	81
15.60		32	365	1.4	85	16	430	0.87	83	0.64	430	<0.05	81
13.73		36	365	1.6	86	18	415	0.95	84	0.72	415	<0.05	81
12.96		38	360	1.7	86	19	410	0.99	84	0.77	410	<0.05	81
11.03		45	355	1.9	87	22	390	1.1	84	0.9	390	<0.05	81
10.03		49	355	2.1	87	24	380	1.2	85	0.99	380	<0.05	81
8.69		57	355	2.4	87	28	370	1.3	85	1.1	370	0.06	81
7.56		66	355	2.8	88	33	365	1.5	86	1.3	365	0.06	81

11.14 Technical data of 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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
256.47	40/1	13	1160	2.4	68	12	1160	2.2	67	10	1160	2.0	67
225.26		15	1130	2.6	68	14	1150	2.5	68	12	1160	2.2	68
214.00		15	1110	2.7	68	14	1140	2.6	68	13	1160	2.3	68
189.09		17	1080	3.0	69	16	1100	2.8	69	14	1140	2.6	68
161.60		21	1040	3.3	69	19	1050	3.1	69	17	1090	2.9	69
148.15		22	1010	3.5	70	21	1030	3.4	70	18	1070	3.1	69
130.00		26	970	3.8	70	24	990	3.7	70	21	1030	3.3	70
123.20		27	950	3.9	70	25	970	3.8	70	22	1010	3.4	70
107.83		31	900	4.2	70	29	920	4.1	70	25	970	3.8	70
97.14		35	860	4.5	71	32	880	4.3	71	28	930	4.0	71
85.22		39	770	4.6	71	37	820	4.6	71	32	880	4.3	71
75.20		45	675	4.5	70	42	725	4.6	71	37	830	4.6	71
66.67		50	585	4.5	70	47	635	4.5	70	41	745	4.6	71
56.92		59	485	4.4	69	56	530	4.5	70	49	635	4.6	71
75.09	40/3	45	1020	5.7	85	42	1020	5.4	85	37	1020	4.7	84
71.33		47	1020	6.0	85	44	1020	5.7	85	39	1020	5.0	84
63.03		53	1020	6.8	85	50	1020	6.4	85	44	1020	5.6	85
53.87		63	980	7.6	86	59	1000	7.3	85	51	1020	6.5	85
49.38		68	950	8.0	86	64	970	7.7	86	56	1010	7.0	85
43.33		78	910	8.7	86	73	930	8.4	86	64	970	7.7	86
41.07		82	900	9.1	86	77	910	8.7	86	68	950	7.9	86
35.94		94	800	9.2	86	89	850	9.2	86	77	910	8.6	86
32.38		105	725	9.3*	86	98	770	9.3*	86	86	880	9.3	86
28.41		119	635	9.3*	86	112	680	9.3*	86	98	780	9.3	86
25.07		135	560	9.3*	86	127	600	9.3*	86	111	695	9.4	86
22.22		153	485	9.1	85	144	525	9.2	86	126	615	9.4	86
18.97		179	395	8.7	85	168	440	9.1	85	147	520	9.4	86
22.89	34/6	148	590	10.*2	90	139	590	9.6*	90	122	590	8.4	90
20.99		161	590	11.1*	90	152	590	10.5*	90	133	590	9.1	90
18.42		184	590	12.7*	90	173	590	11.9*	90	152	590	10.4	90
17.45		194	590	13.4*	90	183	590	12.6*	90	160	590	11.0	90
15.28		222	530	13.8*	90	209	560	13.7*	90	183	590	12.6	90
13.76		247	480	13.9*	90	232	505	13.7*	90	203	585	13.9*	90
12.07		281	415	13.7*	89	265	445	13.8*	89	231	515	13.9*	90
10.65		319	365	13.7*	89	300	390	13.8*	89	262	455	14.0*	90
9.44		360	315	13.4*	89	338	345	13.8*	89	296	405	14.1*	89
8.06		421	260	13.0*	88	397	285	13.4*	89	347	340	13.9*	89

* P_{Mot_max} = 9.2 kW

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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
256.47	40/1	8.5	1260	1.7	66	6.6	1270	1.4	64	5.4	1270	1.1	63
225.26		9.7	1230	1.9	67	7.5	1270	1.5	65	6.2	1270	1.3	64
214.00		10	1220	2.0	67	7.9	1270	1.6	66	6.5	1270	1.4	64
189.09		11	1200	2.2	67	8.9	1240	1.8	66	7.4	1270	1.5	65
161.60		13	1160	2.4	68	10	1220	2.0	67	8.6	1260	1.7	66
148.15		14	1140	2.6	69	11	1200	2.1	68	9.4	1240	1.8	67
130.00		16	1100	2.8	69	13	1170	2.4	68	10	1210	2.0	67
123.20		17	1080	2.9	69	13	1150	2.4	68	11	1200	2.1	68
107.83		20	1040	3.2	70	15	1110	2.7	69	12	1170	2.3	68
97.14		22	1010	3.4	70	17	1090	2.9	70	14	1140	2.5	69
85.22		25	970	3.7	71	19	1050	3.1	70	16	1100	2.7	69
75.20		29	920	4.0	71	22	1010	3.4	71	18	1070	3.0	70
66.67		32	880	4.3	71	25	970	3.6	71	20	1040	3.2	71
56.92		38	830	4.7	72	29	920	4.0	72	24	990	3.6	71
75.09	40/3	29	1100	4.0	84	22	1100	3.1	83	18	1100	2.6	82
71.33		30	1100	4.2	84	23	1100	3.3	83	19	1100	2.7	82
63.03		34	1100	4.8	84	26	1100	3.7	84	22	1100	3.1	83
53.87		40	1100	5.5	85	31	1100	4.3	84	25	1100	3.6	83
49.38		44	1080	5.9	85	34	1100	4.7	84	28	1100	3.9	84
43.33		50	1050	6.5	85	39	1100	5.3	85	32	1100	4.4	84
41.07		53	1030	6.8	85	41	1100	5.6	85	34	1100	4.7	84
35.94		61	980	7.3	86	47	1060	6.2	85	38	1100	5.3	85
32.38		67	960	8.0	86	52	1040	6.7	86	43	1090	5.8	85
28.41		77	920	8.7	86	59	990	7.2	86	49	1050	6.3	86
25.07		87	870	9.3*	86	67	960	7.9	86	55	1020	7.0	86
22.22		99	790	9.5*	86	76	920	8.5	86	63	980	7.5	86
18.97		115	680	9.6*	86	89	860	9.3*	87	73	930	8.3	86
22.89	34/6	96	710	7.9	90	74	705	6.1	89	61	705	5.1	89
20.99		104	710	8.7	90	80	705	6.7	90	66	705	5.5	89
18.42		119	720	10.0*	90	92	710	7.6	90	76	705	6.3	90
17.45		126	720	10.5*	90	97	710	8.0	90	80	710	6.7	90
15.28		143	720	12.0*	90	111	720	9.3*	90	91	710	7.6	90
13.76		159	725	13.5*	90	123	720	10.3*	90	101	710	8.4	90
12.07		182	650	13.8*	90	140	725	11.8*	90	115	720	9.7*	90
10.65		206	580	13.9*	90	159	725	13.4*	90	131	720	11.0*	91
9.44		233	520	14.1*	90	180	655	13.7*	90	148	725	12.4*	91
8.06		272	445	14.1*	90	210	575	14.1*	90	173	680	13.7*	91

* P_{Mot_max} = 9.2 kW

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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
256.47	40/1	4.2	1270	0.92	62	3.5	1270	0.77	61	2.7	1270	0.61	59
225.26		4.8	1270	1.0	63	3.9	1270	0.86	62	3.1	1270	0.69	60
214.00		5.1	1270	1.1	63	4.2	1270	0.90	62	3.2	1270	0.72	60
189.09		5.8	1270	1.2	64	4.7	1270	1.0	63	3.7	1270	0.81	61
161.60		6.8	1270	1.4	65	5.5	1270	1.2	64	4.3	1270	0.93	62
148.15		7.4	1270	1.5	65	6	1270	1.3	64	4.7	1270	1.0	63
130.00		8.4	1260	1.7	66	6.9	1270	1.4	65	5.3	1270	1.1	64
123.20		8.9	1250	1.8	67	7.3	1270	1.5	65	5.6	1270	1.2	64
107.83		10	1220	1.9	67	8.3	1260	1.7	66	6.4	1270	1.3	65
97.14		11	1200	2.1	68	9.2	1250	1.8	67	7.2	1270	1.5	66
85.22		12	1170	2.3	69	10	1220	2.0	68	8.2	1270	1.6	66
75.20		14	1140	2.5	69	11	1190	2.2	68	9.3	1250	1.8	67
66.67		16	1110	2.7	70	13	1160	2.4	69	10	1220	2.0	68
56.92		19	1060	3.0	71	15	1120	2.7	70	12	1190	2.2	69
75.09	40/3	14	1120	2.1	81	11	1130	1.8	81	9.3	1170	1.4	80
71.33		15	1120	2.2	82	12	1130	1.9	81	9.8	1120	1.4	80
63.03		17	1120	2.5	82	14	1120	2.1	81	11	1130	1.6	80
53.87		20	1120	2.9	83	16	1120	2.4	82	12	1120	1.9	81
49.38		22	1120	3.1	83	18	1120	2.6	82	14	1120	2.0	81
43.33		25	1130	3.6	84	20	1120	2.9	83	16	1120	2.3	82
41.07		26	1130	3.8	84	21	1120	3.1	83	17	1120	2.4	82
35.94		30	1150	4.4	84	25	1130	3.5	84	19	1120	2.8	83
32.38		33	1130	4.8	85	27	1130	3.9	84	21	1120	3.1	83
28.41		38	1110	5.3	85	31	1150	4.5	84	24	1130	3.5	84
25.07		43	1080	5.8	85	35	1120	5.0	85	27	1130	3.9	84
22.22		49	1050	6.4	86	40	1100	5.5	85	31	1150	4.5	85
18.97		57	1010	7.1	86	47	1060	6.1	86	36	1120	5.1	85
22.89	34/6	48	695	4.0	89	39	695	3.3	88	30	705	2.6	87
20.99		52	705	4.4	89	42	695	3.5	88	33	705	2.8	88
18.42		59	700	4.9	89	48	700	4.0	89	38	700	3.2	88
17.45		63	700	5.2	89	51	700	4.3	89	40	700	3.3	88
15.28		71	710	6.0	90	58	700	4.8	89	45	700	3.8	89
13.76		79	710	6.6	90	65	700	5.4	89	50	700	4.2	89
12.07		91	710	7.5	90	74	710	6.2	90	57	700	4.8	89
10.65		103	715	8.6	90	84	710	7.0	90	65	710	5.5	90
9.44		116	720	9.7*	91	95	715	7.9	90	74	710	6.1	90
8.06		136	725	11.4*	91	111	720	9.3*	91	86	710	7.2	90

* P_{Mot_max} = 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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
256.47	40/1	1.9	1270	0.45	57	0.97	1270	0.24	55	0.03	1270	<0.05	55
225.26		2.2	1270	0.51	58	1.1	1270	0.27	55	0.04	1270	<0.05	55
214.00		2.3	1270	0.53	58	1.1	1270	0.28	55	0.04	1270	<0.05	55
189.09		2.6	1270	0.59	59	1.3	1270	0.32	55	0.05	1270	<0.05	55
161.60		3	1270	0.68	60	1.5	1270	0.37	56	0.06	1270	<0.05	55
148.15		3.3	1270	0.74	61	1.6	1270	0.40	57	0.06	1270	<0.05	55
130.00		3.8	1270	0.83	62	1.9	1270	0.45	57	0.07	1270	<0.05	55
123.20		4	1270	0.87	62	2	1270	0.47	58	0.08	1270	<0.05	55
107.83		4.6	1270	0.98	63	2.3	1270	0.53	59	0.09	1270	<0.05	55
97.14		5.1	1270	1.1	64	2.5	1270	0.58	59	0.1	1270	<0.05	55
85.22		5.8	1270	1.2	64	2.9	1270	0.65	60	0.11	1270	<0.05	55
75.20		6.6	1270	1.4	65	3.3	1270	0.73	61	0.13	1270	<0.05	55
66.67		7.4	1270	1.5	66	3.7	1270	0.81	62	0.14	1270	<0.05	55
56.92		8.7	1260	1.7	67	4.3	1270	0.93	63	0.17	1270	<0.05	55
75.09	40/3	6.6	1160	1.0	78	3.3	1120	0.52	76	0.13	1120	<0.05	76
71.33		7	1110	1.0	78	3.5	1060	0.51	76	0.14	1060	<0.05	76
63.03		7.9	1230	1.3	79	3.9	1200	0.65	76	0.15	1200	<0.05	76
53.87		9.2	1180	1.4	80	4.6	1240	0.78	77	0.18	1240	<0.05	76
49.38		10	1160	1.5	80	5	1240	0.85	77	0.2	1240	<0.05	76
43.33		11	1120	1.7	81	5.7	1240	0.96	78	0.23	1240	<0.05	76
41.07		12	1120	1.8	81	6	1240	1.0	78	0.24	1240	<0.05	76
35.94		13	1120	2.0	81	6.9	1240	1.1	79	0.27	1240	<0.05	76
32.38		15	1120	2.2	82	7.7	1240	1.3	79	0.3	1240	0.05	76
28.41		17	1120	2.5	82	8.7	1190	1.4	80	0.35	1190	0.06	76
25.07		19	1120	2.8	83	9.9	1170	1.5	80	0.39	1170	0.06	76
22.22		22	1130	3.2	83	11	1130	1.6	81	0.45	1130	0.07	76
18.97		26	1130	3.7	84	13	1120	1.9	81	0.52	1120	0.08	76
22.89	34/6	21	690	1.8	86	10	675	0.92	84	0.43	675	<0.05	83
20.99		23	725	2.1	87	11	740	1.1	85	0.47	740	<0.05	83
18.42		27	705	2.3	87	13	830	1.4	85	0.54	830	0.06	83
17.45		28	705	2.4	87	14	810	1.4	85	0.57	810	0.06	83
15.28		32	705	2.8	88	16	785	1.6	86	0.65	785	0.06	83
13.76		36	695	3.0	88	18	770	1.7	86	0.72	770	0.07	83
12.07		41	695	3.4	88	20	750	1.9	86	0.82	750	0.08	83
10.65		46	695	3.9	89	23	725	2.1	87	0.93	725	0.09	83
9.44		52	705	4.4	89	26	705	2.2	87	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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11.15 Technical data of S.., SF.., SA.., SAF 87

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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
288.00	40/1	11	2030	3.6	70	11	2070	3.4	70	9.7	2070	3.0	70
258.18		13	1990	3.9	71	12	2010	3.7	71	10	2070	3.4	70
222.40		15	1910	4.3	71	14	1950	4.1	71	12	2010	3.8	71
202.96		16	1850	4.6	71	15	1890	4.4	71	13	1970	4.0	71
180.00		18	1800	5.0	72	17	1830	4.8	72	15	1910	4.4	71
151.30		22	1690	5.5	72	21	1730	5.3	72	18	1800	4.9	72
139.05		24	1630	5.8	72	23	1680	5.6	72	20	1760	5.2	72
123.48		27	1570	6.3	72	25	1600	6.0	72	22	1690	5.6	72
110.40		30	1430	6.4	72	28	1540	6.4	73	25	1620	5.9	73
99.26		34	1260	6.3	72	32	1380	6.4	72	28	1550	6.3	73
86.15		39	1030	6.0	71	37	1150	6.2	72	32	1390	6.5	73
77.14		44	830	5.5	70	41	970	5.9	71	36	1220	6.4	72
64.00		53	500	4.3	65	50	620	4.8	68	43	960	6.2	72
91.20	38/3	37	1470	6.7	86	35	1470	6.3	86	30	1470	5.5	85
81.76		41	1470	7.5	86	39	1470	7.0	86	34	1470	6.2	86
70.43		48	1470	8.6	86	45	1470	8.1	86	39	1470	7.1	86
64.27		52	1470	9.4	86	49	1470	8.9	86	43	1470	7.8	86
57.00		59	1470	10.6	87	56	1470	10.0	87	49	1470	8.8	86
47.91		70	1470	12.6	87	66	1470	11.8	87	58	1470	10.4	87
44.03		77	1470	13.6	87	72	1470	12.8	87	63	1470	11.3	87
39.10		86	1300	13.6	87	81	1400	13.8	87	71	1470	12.6	87
34.96		97	1140	13.4	87	91	1240	13.6	87	80	1440	13.8	87
31.43		108	1000	13.1	87	101	1090	13.4	87	89	1290	13.8	87
27.28		124	810	12.3	86	117	910	12.9	87	102	1110	13.7	87
24.43		139	660	11.3	85	130	775	12.4	86	114	960	13.3	87
20.27		167	395	8.4	83	157	490	9.6	84	138	755	12.7	86
25.50	34/6	133	990	15.2*	91	125	990	14.3	91	109	990	12.6	91
21.43		158	990	18.1*	91	149	990	17.0*	91	130	990	14.9	91
19.70		172	990	20*	91	162	990	19*	91	142	990	16.2*	91
17.49		194	870	20*	90	182	930	20*	91	160	990	18.3*	91
15.64		217	760	19*	90	204	830	20*	90	179	960	20*	91
14.06		241	660	19*	90	227	725	19*	90	199	860	20*	91
12.21		278	540	17.6*	90	262	605	18.5*	90	229	730	19*	90
10.93		311	440	16.0*	89	292	510	17.4*	90	256	645	19*	90
9.07		374	255	11.5	87	352	325	13.5	89	308	500	18.0*	90
7.88		431	200	10.5	86	406	230	11.2	87	355	375	15.6*	89

* P_{Mot_max} =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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
288.00	40/1	7.6	2210	2.6	69	5.9	2280	2.1	67	4.8	2280	1.7	66
258.18		8.5	2170	2.8	69	6.5	2260	2.3	68	5.4	2280	1.9	67
222.40		9.8	2130	3.2	70	7.6	2210	2.6	69	6.2	2280	2.2	68
202.96		10	2080	3.4	70	8.3	2190	2.8	69	6.8	2260	2.4	68
180.00		12	2020	3.7	71	9.4	2130	3.0	70	7.7	2210	2.6	69
151.30		14	1940	4.1	71	11	2060	3.4	71	9.2	2150	3.0	70
139.05		15	1880	4.4	72	12	2020	3.6	71	10	2100	3.2	70
123.48		17	1820	4.7	72	13	1960	4.0	71	11	2060	3.5	71
110.40		19	1770	5.1	72	15	1900	4.3	72	12	2000	3.7	71
99.26		22	1700	5.4	73	17	1840	4.6	72	14	1960	4.0	72
86.15		25	1620	5.9	73	19	1770	5.0	73	16	1880	4.4	72
77.14		28	1540	6.3	73	22	1700	5.4	73	18	1820	4.8	73
64.00		34	1360	6.7	73	26	1580	6.0	74	21	1700	5.3	73
91.20	38/3	24	1540	4.6	85	18	1520	3.5	84	15	1510	2.9	83
81.76		26	1600	5.3	85	20	1600	4.1	84	17	1600	3.4	84
70.43		31	1600	6.1	86	24	1600	4.8	85	19	1600	3.9	84
64.27		34	1600	6.7	86	26	1600	5.2	85	21	1600	4.3	85
57.00		38	1600	7.5	86	29	1600	5.8	86	24	1600	4.8	85
47.91		45	1600	8.9	87	35	1600	6.9	86	29	1600	5.7	86
44.03		49	1600	9.7	87	38	1600	7.5	86	31	1600	6.2	86
39.10		56	1600	10.8	87	43	1600	8.4	87	35	1600	7.0	86
34.96		62	1600	12.1	87	48	1600	9.4	87	40	1600	7.8	87
31.43		69	1600	13.4	88	54	1600	10.4	87	44	1600	8.6	87
27.28		80	1450	14.0	88	62	1600	11.9	88	51	1600	9.9	87
24.43		90	1310	14.1	88	69	1600	13.3	88	57	1600	11.0	87
20.27		108	1080	14.0	88	83	1420	14.2	88	69	1600	13.2	88
25.50	34/6	86	1240	12.4	91	66	1240	9.6	90	54	1240	7.9	90
21.43		102	1240	14.6	91	79	1240	11.4	91	65	1240	9.4	90
19.70		111	1240	15.9*	91	86	1240	12.3	91	71	1240	10.2	91
17.49		125	1240	17.9*	91	97	1240	13.9	91	80	1240	11.4	91
15.64		140	1230	20*	91	108	1240	15.5*	91	89	1240	12.8	91
14.06		156	1110	20*	91	120	1240	17.2*	91	99	1240	14.2	91
12.21		180	970	20*	91	139	1240	20*	91	114	1240	16.3*	91
10.93		201	870	20*	91	155	1130	20*	91	128	1240	18.2*	91
9.07		242	720	20*	91	187	950	20*	91	154	1140	20*	91
7.88		279	605	20*	90	215	830	21*	91	177	1010	21*	91

* P_{Mot_max} = 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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
288.00	40/1	3.8	2400	1.5	65	3.1	2450	1.3	64	2.4	2480	1.0	63
258.18		4.2	2380	1.6	66	3.4	2430	1.4	65	2.7	2470	1.1	63
222.40		4.9	2350	1.8	67	4	2400	1.6	66	3.1	2450	1.3	64
202.96		5.4	2330	2.0	67	4.4	2380	1.7	66	3.4	2430	1.4	65
180.00		6.1	2280	2.2	68	5	2350	1.8	67	3.8	2400	1.5	65
151.30		7.2	2240	2.5	69	5.9	2310	2.1	68	4.6	2350	1.7	67
139.05		7.9	2190	2.6	69	6.4	2260	2.2	68	5	2330	1.8	67
123.48		8.9	2150	2.9	70	7.2	2240	2.5	69	5.6	2310	2.0	68
110.40		9.9	2110	3.1	70	8.1	2190	2.7	70	6.3	2280	2.2	68
99.26		11	2070	3.4	71	9	2150	2.9	70	7	2240	2.4	69
86.15		12	2000	3.7	72	10	2090	3.2	71	8.1	2190	2.7	70
77.14		14	1940	4.0	72	11	2040	3.5	71	9	2150	2.9	70
64.00		17	1840	4.5	73	14	1960	4.0	72	10	2070	3.3	71
91.20	38/3	12	1490	2.3	83	9.8	1480	1.9	82	7.6	1460	1.4	81
81.76		13	1760	3.0	83	11	1760	2.5	83	8.5	1760	1.9	82
70.43		15	1760	3.4	84	12	1760	2.8	83	9.9	1760	2.2	82
64.27		17	1760	3.8	84	14	1760	3.1	84	10	1760	2.4	83
57.00		19	1760	4.2	85	15	1760	3.5	84	12	1760	2.7	83
47.91		22	1760	5.0	85	18	1760	4.1	85	14	1760	3.2	84
44.03		24	1760	5.4	85	20	1760	4.4	85	15	1760	3.5	84
39.10		28	1760	6.0	86	23	1760	5.0	85	17	1760	3.9	85
34.96		31	1760	6.7	86	25	1760	5.5	86	20	1760	4.3	85
31.43		34	1760	7.5	86	28	1760	6.1	86	22	1760	4.8	85
27.28		40	1760	8.6	87	32	1760	7.0	86	25	1760	5.5	86
24.43		45	1760	9.5	87	36	1760	7.8	87	28	1760	6.1	86
20.27		54	1760	11.4	88	44	1760	9.4	87	34	1760	7.3	87
25.50	34/6	43	1340	6.7	90	35	1340	5.6	89	27	1340	4.3	89
21.43		51	1340	8.0	90	41	1340	6.6	90	32	1340	5.1	89
19.70		55	1340	8.7	90	45	1340	7.1	90	35	1340	5.6	89
17.49		62	1340	9.8	91	51	1340	8.0	90	40	1340	6.3	90
15.64		70	1340	10.9	91	57	1340	8.9	90	44	1340	7.0	90
14.06		78	1340	12.1	91	64	1340	9.9	91	49	1340	7.8	90
12.21		90	1340	13.9	91	73	1340	11.4	91	57	1340	8.9	90
10.93		100	1340	15.5*	91	82	1340	12.7	91	64	1340	9.9	91
9.07		121	1340	19*	91	99	1340	15.2*	91	77	1340	11.9	91
7.88		139	1260	20*	92	114	1340	17.5*	92	88	1340	13.7	91

* P_{Mot_max} = 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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
288.00	40/1	1.7	2500	0.75	61	0.86	2500	0.39	58	0.03	2500	<0.05	58
258.18		1.9	2500	0.83	61	0.96	2500	0.44	58	0.03	2500	<0.05	58
222.40		2.2	2500	0.95	62	1.1	2500	0.50	59	0.04	2500	<0.05	58
202.96		2.4	2480	1.0	63	1.2	2500	0.55	59	0.04	2500	<0.05	58
180.00		2.7	2480	1.1	64	1.3	2500	0.61	60	0.05	2500	<0.05	58
151.30		3.3	2430	1.3	65	1.6	2500	0.71	61	0.06	2500	<0.05	58
139.05		3.5	2430	1.4	65	1.7	2500	0.77	61	0.07	2500	<0.05	58
123.48		4	2400	1.5	66	2	2500	0.86	62	0.08	2500	<0.05	58
110.40		4.5	2380	1.7	67	2.2	2500	0.95	63	0.09	2500	<0.05	58
99.26		5	2330	1.8	67	2.5	2470	1.0	63	0.1	2470	<0.05	58
86.15		5.8	2310	2.1	68	2.9	2450	1.2	64	0.11	2450	0.05	59
77.14		6.4	2260	2.2	69	3.2	2430	1.3	65	0.12	2430	0.06	59
64.00		7.8	2220	2.6	70	3.9	2400	1.5	66	0.15	2400	0.07	59
91.20	38/3	5.4	1450	1.0	80	2.7	1390	0.51	78	0.1	1390	<0.05	78
81.76		6.1	1960	1.6	81	3	1880	0.77	78	0.12	1880	<0.05	78
70.43		7	1980	1.8	81	3.5	1980	0.93	79	0.14	1980	<0.05	78
64.27		7.7	1980	2.0	82	3.8	1980	1.0	79	0.15	1980	<0.05	78
57.00		8.7	1980	2.2	82	4.3	1980	1.1	80	0.17	1980	<0.05	78
47.91		10	1980	2.6	83	5.2	1980	1.3	80	0.2	1980	0.06	78
44.03		11	1980	2.8	83	5.6	1980	1.5	81	0.22	1980	0.06	78
39.10		12	1980	3.2	84	6.3	1980	1.6	81	0.25	1980	0.07	79
34.96		14	1980	3.5	84	7.1	1980	1.8	82	0.28	1980	0.08	79
31.43		15	1980	3.9	84	7.9	1980	2.0	82	0.31	1980	0.08	79
27.28		18	1980	4.5	85	9.1	1980	2.3	83	0.36	1980	0.10	79
24.43		20	1980	5.0	85	10	1980	2.6	83	0.4	1980	0.11	79
20.27		24	1980	5.9	86	12	1980	3.1	84	0.49	1980	0.13	79
25.50	34/6	19	1430	3.3	88	9.8	1390	1.7	86	0.39	1390	0.07	85
21.43		23	1420	3.9	88	11	1510	2.1	87	0.46	1510	0.09	85
19.70		25	1410	4.2	89	12	1570	2.4	87	0.5	1570	0.10	85
17.49		28	1390	4.7	89	14	1570	2.7	87	0.57	1570	0.11	85
15.64		31	1390	5.2	89	15	1540	2.9	87	0.63	1540	0.12	85
14.06		35	1390	5.8	90	17	1510	3.2	88	0.71	1510	0.13	85
12.21		40	1390	6.6	90	20	1460	3.5	88	0.81	1460	0.15	85
10.93		45	1390	7.4	90	22	1430	3.9	89	0.91	1430	0.16	85
9.07		55	1410	9.0	91	27	1390	4.5	89	1.1	1390	0.19	85
7.88		63	1410	10.3	91	31	1390	5.2	89	1.2	1390	0.22	85

11.16 Technical data of S.., SF.., SA.., SAF 97

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_{a_max} Nm	P_{Mot} kW	η %	n_a min-1	M_{a_max} Nm	P_{Mot} kW	η %	n_a min-1	M_{a_max} Nm	P_{Mot} kW	η %
286.40	40/1	11	3520	6.0	73	11	3590	5.8	73	9.7	3700	5.2	72
262.22		12	3450	6.4	73	12	3520	6.2	73	10	3630	5.6	73
231.67		14	3310	6.9	73	13	3380	6.7	73	12	3520	6.1	73
196.52		17	3120	7.7	74	16	3210	7.4	74	14	3350	6.8	73
180.95		18	3030	8.1	74	17	3120	7.8	74	15	3250	7.2	74
161.74		21	2910	8.7	74	19	2970	8.3	74	17	3120	7.7	74
145.60		23	2760	9.1	74	21	2850	8.9	74	19	3000	8.2	74
131.85		25	2660	9.7	74	24	2740	9.4	74	21	2880	8.6	74
116.92		29	2320	9.6	74	27	2550	9.8	74	23	2740	9.2	74
105.71		32	1980	9.1	73	30	2210	9.5	74	26	2630	9.8	74
89.60		37	1280	7.3	70	35	1670	8.6	72	31	2210	9.8	74
78.26		43	920	6.2	67	40	1040	6.5	69	35	1770	9.1	73
65.45		51	675	5.7	64	48	775	6.0	66	42	1030	6.7	69
80.85	37/3	42	3150	15.7	88	39	3150	14.8	88	34	3150	13.0	88
71.43		47	3090	17.4	88	44	3150	16.8	88	39	3150	14.7	88
60.59		56	2910	19	88	52	2970	19	88	46	3120	17.1	88
55.79		60	2820	20	89	57	2880	20	89	50	3030	18.0	88
49.87		68	2710	22	89	64	2760	21	89	56	2910	19	89
44.89		75	2430	22	89	71	2630	22	89	62	2790	21	89
40.65		83	2170	22	88	78	2350	22	89	68	2680	22	89
36.05		94	1830	21	88	88	2020	21	88	77	2400	22	89
32.60		104	1560	19	88	98	1760	21	88	85	2150	22	89
27.63		123	1010	15.2	86	115	1320	18.4	87	101	1740	21	88
24.13		140	725	12.7	84	132	820	13.4	85	116	1390	19	88
26.39	35/6	128	1750	26*	92	121	1750	24*	92	106	1750	21	92
23.59		144	1750	29*	92	135	1750	27*	92	118	1750	24*	92
21.23		160	1750	32*	91	150	1750	30*	92	131	1750	26*	92
19.23		176	1550	31*	91	166	1680	32*	91	145	1750	29*	92
17.05		199	1320	30*	91	187	1450	31*	91	164	1730	33*	92
15.42		220	1110	28*	91	207	1260	30*	91	181	1540	32*	91
13.07		260	725	22	90	244	940	27*	91	214	1240	31*	91
11.41		297	515	18.1	89	280	585	19	90	245	1000	28*	91
9.55		356	375	16.0	87	335	435	17.3	88	293	580	20	90
8.26		411	290	14.6	86	387	335	15.6	87	338	455	18.1	89

* P_{Mot_max} = 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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
286.40	40/1	7.6	3920	4.4	72	5.9	4000	3.5	70	4.8	4000	3.0	69
262.22		8.3	3840	4.7	72	6.4	4000	3.8	71	5.3	4000	3.2	70
231.67		9.4	3770	5.2	72	7.3	3960	4.3	72	6	4000	3.6	71
196.52		11	3580	5.8	73	8.6	3840	4.8	72	7.1	4000	4.2	71
180.95		12	3510	6.1	73	9.3	3770	5.1	73	7.7	3920	4.4	72
161.74		13	3410	6.6	74	10	3650	5.5	73	8.6	3840	4.8	72
145.60		15	3270	7.0	74	11	3550	5.9	73	9.6	3730	5.2	73
131.85		16	3170	7.5	74	12	3440	6.3	74	10	3650	5.6	73
116.92		18	3020	8.0	74	14	3340	6.9	74	11	3510	6.0	74
105.71		20	2930	8.6	75	16	3210	7.3	74	13	3440	6.5	74
89.60		24	2730	9.4	75	18	3020	8.0	75	15	3240	7.1	74
78.26		28	2540	10.0	75	21	2870	8.7	75	17	3080	7.7	75
65.45		33	2120	10.0	75	25	2650	9.6	75	21	2900	8.6	75
80.85	37/3	27	3300	10.8	87	21	3270	8.3	87	17	3230	6.8	86
71.43		30	3300	12.1	88	23	3300	9.4	87	19	3300	7.8	87
60.59		36	3300	14.3	88	28	3300	11.1	88	23	3300	9.2	87
55.79		39	3270	15.3	88	30	3300	12.0	88	25	3300	9.9	87
49.87		44	3170	16.6	88	34	3300	13.4	88	28	3300	11.1	88
44.89		49	3050	17.7	89	37	3300	14.8	88	31	3300	12.3	88
40.65		54	2950	19	89	41	3230	16.0	88	34	3300	13.5	88
36.05		61	2810	20	89	47	3110	17.3	89	38	3300	15.2	88
32.60		67	2700	21	89	52	2980	18.3	89	42	3200	16.3	89
27.63		79	2390	22	89	61	2810	20	89	50	3010	18.0	89
24.13		91	2060	22	89	70	2670	22	89	58	2870	20	89
26.39	35/6	83	2550	24*	92	64	2600	19	92	53	2600	15.8	92
23.59		93	2450	26*	92	72	2600	21	92	59	2600	17.6	92
21.23		103	2380	28*	92	80	2570	23*	92	65	2600	20	92
19.23		114	2280	30*	92	88	2500	25*	92	72	2600	21	92
17.05		129	2170	32*	92	99	2400	27*	92	82	2570	24*	92
15.42		142	2040	33*	92	110	2300	29*	92	90	2470	25*	92
13.07		168	1720	33*	92	130	2170	32*	92	107	2330	28*	92
11.41		192	1480	33*	92	148	2000	34*	92	122	2210	31*	92
9.55		230	1200	32*	91	178	1670	34*	92	146	2040	34*	92
8.26		266	980	30*	91	205	1440	34*	92	169	1770	34*	92

* P_{Mot_max} = 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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
286.40	40/1	3.8	4200	2.5	68	3.1	4200	2.1	67	2.4	4200	1.6	66
262.22		4.1	4200	2.7	69	3.4	4200	2.2	68	2.6	4200	1.8	66
231.67		4.7	4200	3.0	70	3.8	4200	2.5	68	3	4200	2.0	67
196.52		5.5	4160	3.5	70	4.5	4200	2.9	69	3.5	4200	2.3	68
180.95		6	4120	3.7	71	4.9	4200	3.1	70	3.8	4200	2.5	69
161.74		6.8	4030	4.0	71	5.5	4160	3.4	71	4.3	4200	2.8	69
145.60		7.5	3950	4.3	72	6.1	4080	3.7	71	4.8	4200	3.0	70
131.85		8.3	3880	4.7	72	6.8	4030	4.0	72	5.3	4200	3.3	70
116.92		9.4	3760	5.1	73	7.6	3910	4.4	72	5.9	4120	3.6	71
105.71		10	3650	5.4	73	8.5	3840	4.7	73	6.6	4030	3.9	72
89.60		12	3500	6.1	74	10	3690	5.3	73	7.8	3910	4.4	72
78.26		14	3370	6.7	74	11	3580	5.8	74	8.9	3800	4.9	73
65.45		16	3170	7.4	75	13	3400	6.6	75	10	3650	5.5	74
80.85	37/3	13	3230	5.4	86	11	3200	4.4	85	8.6	3170	3.4	84
71.43		15	3600	6.7	86	12	3600	5.5	86	9.7	3600	4.4	85
60.59		18	3600	7.9	87	14	3600	6.5	86	11	3600	5.1	85
55.79		19	3600	8.6	87	16	3600	7.0	86	12	3600	5.5	86
49.87		22	3600	9.5	87	18	3600	7.8	87	14	3600	6.2	86
44.89		24	3600	10.6	88	20	3600	8.7	87	15	3600	6.8	86
40.65		27	3600	11.6	88	22	3600	9.6	87	17	3600	7.5	87
36.05		30	3530	12.8	88	24	3600	10.7	88	19	3600	8.4	87
32.60		33	3420	13.7	88	27	3600	11.8	88	21	3600	9.3	87
27.63		39	3260	15.4	89	32	3460	13.4	88	25	3600	10.9	88
24.13		45	3130	16.8	89	37	3320	14.7	89	29	3560	12.3	88
26.39	35/6	41	2650	12.7	91	34	2620	10.3	91	26	2620	8.0	91
23.59		46	2650	14.1	92	38	2650	11.6	91	29	2620	9.0	91
21.23		51	2650	15.7	92	42	2650	12.9	91	32	2620	9.9	91
19.23		57	2650	17.3	92	46	2650	14.2	92	36	2620	11.0	91
17.05		64	2670	20	92	52	2650	16.0	92	41	2650	12.5	91
15.42		71	2670	22*	92	58	2650	17.6	92	45	2650	13.8	92
13.07		84	2540	24*	92	68	2670	21	92	53	2650	16.2	92
11.41		96	2420	26*	92	78	2590	23*	92	61	2650	18.5	92
9.55		115	2280	30*	92	94	2440	26*	93	73	2650	22	92
8.26		133	2140	32*	92	108	2320	29*	93	84	2540	24*	93

* P_{Mot_max} = 22 kW

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_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %	n_a min^{-1}	M_{a_max} Nm	P_{Mot} kW	η %
286.40	40/1	1.7	4200	1.2	64	0.87	4200	0.64	60	0.03	4200	<0.05	60
262.22		1.9	4200	1.3	64	0.95	4200	0.69	61	0.03	4200	<0.05	60
231.67		2.1	4200	1.5	65	1	4200	0.77	61	0.04	4200	<0.05	60
196.52		2.5	4200	1.7	66	1.2	4200	0.90	62	0.05	4200	<0.05	60
180.95		2.7	4200	1.8	67	1.3	4200	0.97	63	0.05	4200	<0.05	60
161.74		3	4200	2.0	67	1.5	4200	1.1	63	0.06	4200	<0.05	60
145.60		3.4	4200	2.2	68	1.7	4200	1.2	64	0.06	4200	0.05	60
131.85		3.7	4200	2.4	69	1.8	4200	1.3	65	0.07	4200	0.06	60
116.92		4.2	4200	2.7	69	2.1	4200	1.4	65	0.08	4200	0.06	60
105.71		4.7	4200	3.0	70	2.3	4200	1.6	66	0.09	4200	0.07	60
89.60		5.5	4160	3.4	71	2.7	4200	1.8	67	0.11	4200	0.08	60
78.26		6.3	4080	3.8	72	3.1	4200	2.1	68	0.12	4200	0.09	60
65.45		7.6	3910	4.3	73	3.8	4200	2.4	69	0.15	4200	0.11	60
80.85	37/3	6.1	3110	2.4	83	3	3010	1.2	81	0.12	3010	<0.05	80
71.43		6.9	4200	3.7	84	3.4	4160	1.9	82	0.13	4160	0.08	80
60.59		8.2	4200	4.3	84	4.1	4080	2.1	82	0.16	4080	0.09	80
55.79		8.9	4200	4.7	85	4.4	4200	2.4	82	0.17	4200	0.10	80
49.87		10	4200	5.2	85	5	4200	2.7	83	0.2	4200	0.11	80
44.89		11	4160	5.7	86	5.5	4200	2.9	83	0.22	4200	0.12	80
40.65		12	4120	6.2	86	6.1	4200	3.2	84	0.24	4200	0.13	80
36.05		13	4080	6.9	86	6.9	4200	3.6	84	0.27	4200	0.15	80
32.60		15	3990	7.4	87	7.6	4200	4.0	84	0.3	4200	0.17	80
27.63		18	3910	8.5	87	9	4200	4.7	85	0.36	4200	0.20	80
24.13		20	3800	9.4	87	10	4200	5.3	85	0.41	4200	0.23	80
26.39	35/6	18	2590	5.7	90	9.4	2540	2.9	88	0.37	2540	0.12	86
23.59		21	2590	6.4	90	10	2540	3.2	88	0.42	2540	0.13	86
21.23		23	2590	7.1	90	11	2570	3.6	89	0.47	2570	0.15	86
19.23		26	2620	7.9	91	13	2570	3.9	89	0.52	2570	0.16	86
17.05		29	2620	8.9	91	14	2570	4.4	89	0.58	2570	0.18	86
15.42		32	2620	9.8	91	16	2570	4.9	90	0.64	2570	0.20	86
13.07		38	2650	11.6	91	19	2590	5.8	90	0.76	2590	0.24	86
11.41		43	2650	13.3	92	21	2590	6.6	90	0.87	2590	0.27	87
9.55		52	2650	15.8	92	26	2620	7.9	91	1	2620	0.33	87
8.26		60	2650	18.2	92	30	2620	9.1	91	1.2	2620	0.38	87

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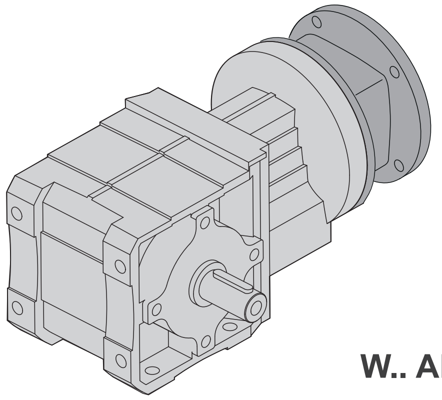
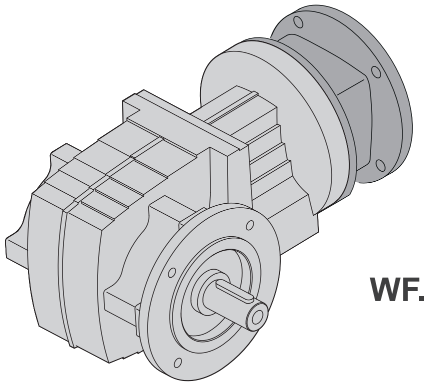
12 SPIROPLAN® W.. gear units

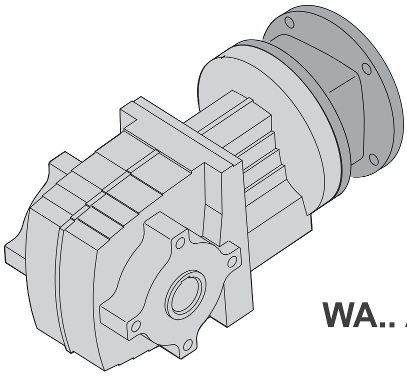
12.1 Selection tables for adapters for mounting IEC/NEMA motors (AM..)



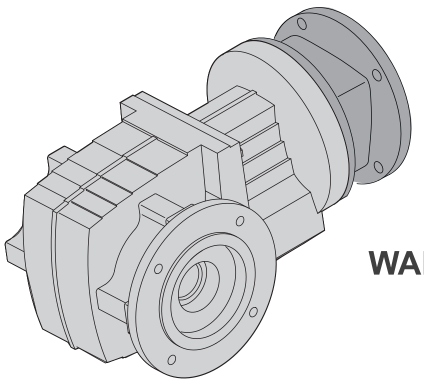
W.. AM..



WF.. AM..

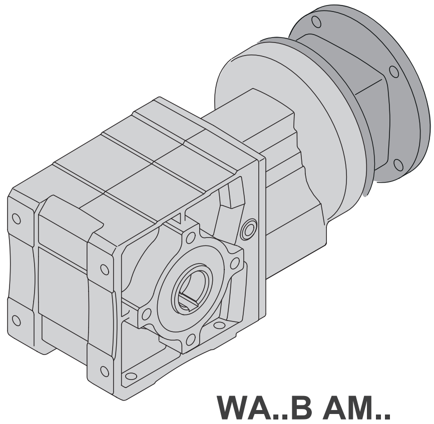


WA.. AM..

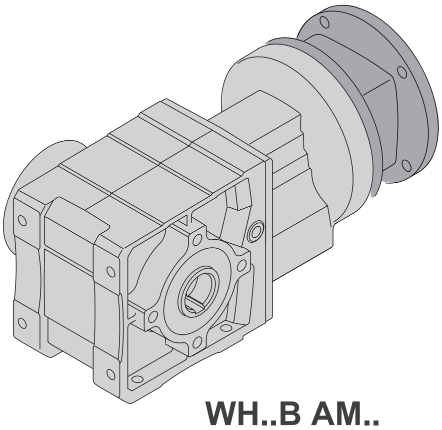


WAF.. AM..

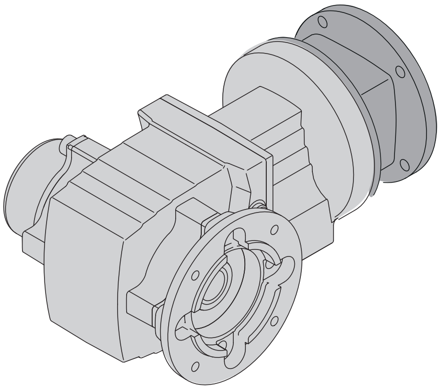
9007220696347019



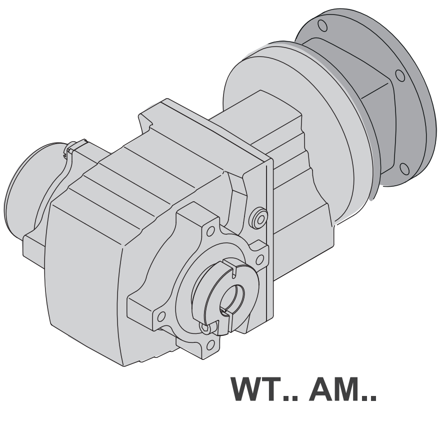
WA..B AM..



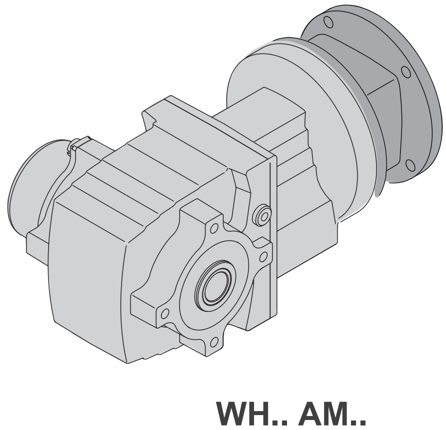
WH..B AM..



WHF.. AM..



WT.. AM..



WH.. AM..

9007220696349451

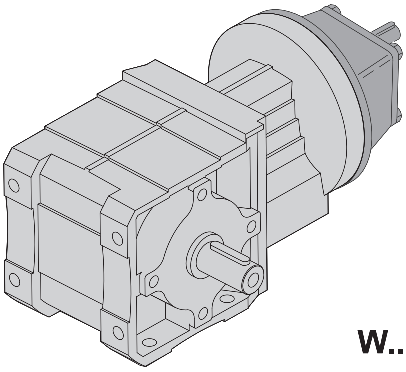
W37, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm								110 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM			
	min^{-1}	Nm	N	'	63	71	80	90
					2			
3.20	438	70	2220	-	14	14	44	44
3.93	356	70	2410	-	18	18	55	55
5.11	274	70	2680	-	24	24	70	70
5.77	243	70	2810	-	27	27	70	70
6.97	201	70	3020	-	33	33	70	70
8.55	164	70	3270	-	41	41	70	70
9.92	141	70	3460	-	47	47	70	
10.67	131	90	2880	-	46	46	90	90
11.65	120	70	3680	-	56	56		
12.70	110	70	3800	-	60	60		
13.89	101	90	3250	-	60	60	90	90
15.67	89	90	3430	-	68	68	90	90
18.94	74	90	3610	-	82	82	90	90
21.33	66	110	3320	-	81	81	110	110
23.25	60	90	3610	-	90	90	90	90
26.96	52	90	3610	-	90	90	90	
27.78	50	110	3320	-	104	104	110	110
31.33	45	110	3320	-	110	110	110	110
31.67	44	90	3610	-	90	90		
34.52	41	90	3610	-	90	90		
37.88	37	110	3320	-	110	110	110	110
46.49	30	110	3320	-	110	110	110	110
53.92	26	110	3320	-	110	110	110	
63.33	22	110	3320	-	110	110		
69.05	20	110	3320	-	110	110		

W37, m /kg			AM			
W	IEC	s	63	71	80	90
		2	8.2	8.5	11	11
	NEMA	s	-	56	143	145
		2	-	8.8	11	11
WF: + - kg / WA: + - kg / WAF: + - kg						

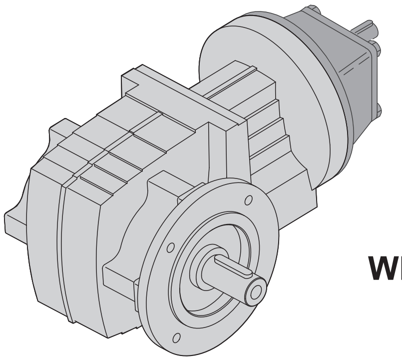
W47, n_e = 1400 min^{-1}, $M_{a\,max}$/Nm								180 Nm
i	n_a	$M_{a\,max\,G}$	F_{Ra} 1)	$\varphi_{(/R)}$	AM			
	min^{-1}	Nm	N	'	63	71	80	90
					2			
3.27	428	110	2660	-	15	15	46	46
3.89	360	110	2860	-	18	18	55	55
4.40	318	110	3020	-	20	20	62	62
5.23	268	110	3240	-	24	24	74	74
5.58	251	110	3320	-	26	26	79	79
6.53	214	110	3540	-	31	31	93	93
7.32	191	110	3710	-	35	35	104	104
8.61	163	110	3960	-	41	41	110	110
9.96	141	110	4190	-	48	48	110	110
10.66	131	110	4300	-	51	51	110	110
11.32	124	160	3460	-	49	49	149	149
12.30	114	110	4550	-	59	59	110	
13.44	104	160	3760	-	59	59	160	160
14.35	98	160	3880	-	63	63	160	160
16.80	83	160	4180	-	74	74	160	160
18.82	74	160	4410	-	83	83	160	160
22.15	63	160	4750	-	97	97	160	160
25.07	56	180	4430	-	99	99	180	180
25.62	55	160	5070	-	112	112	160	160
26.76	52	180	4580	-	106	106	180	180
27.41	51	160	5220	-	120	120	160	160
31.33	45	180	4950	-	123	123	180	180
31.62	44	160	5560	-	138	138	160	
35.09	40	180	5230	-	138	138	180	180
41.30	34	180	5650	-	161	161	180	180
47.78	29	180	6040	-	180	180	180	180
51.12	27	180	6230	-	180	180	180	180
58.98	24	180	6400	-	180	180	180	
68.93	20	180	6400	-	180	180		
74.98	19	180	6400	-	180	180		

W47, m /kg			AM			
	IEC	s	63	71	80	90
		2	14	15	17	17
W	NEMA	s	-	56	143	145
		2	-	15	17	17
WF: + 0.50 kg / WA: + -1.5 kg / WAF: + -0.70 kg						

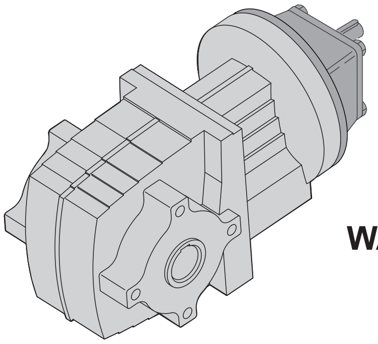
12.2 Selection tables for input shaft assembly (AD..)



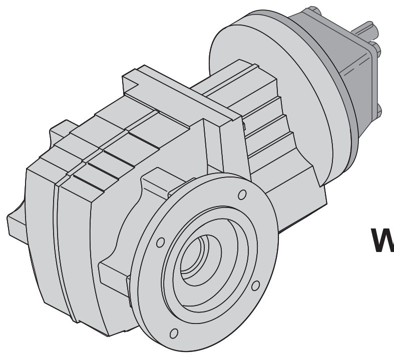
W.. AD..



WF.. AD..

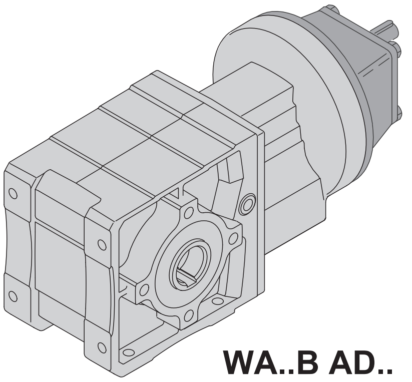


WA.. AD..

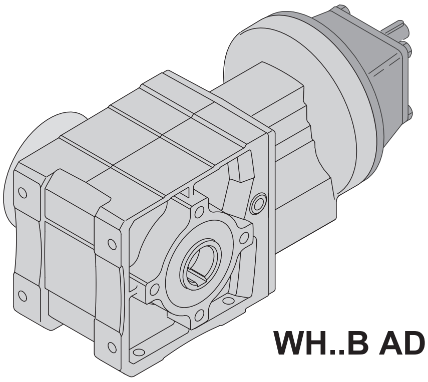


WAF.. AD..

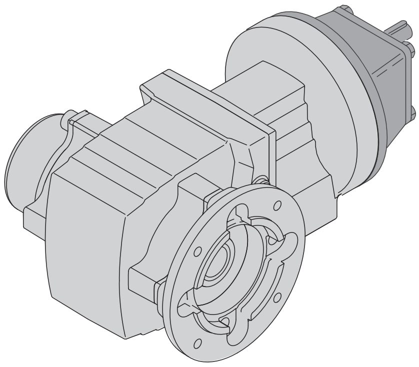
18014419970378635



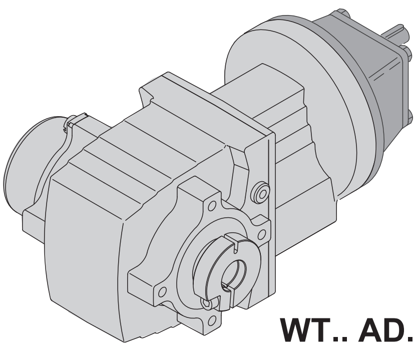
WA..B AD..



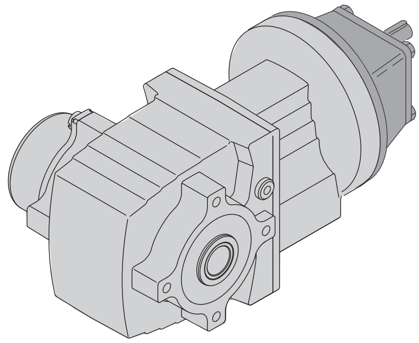
WH..B AD..



WHF.. AD..



WT.. AD..



WH.. AD..

9007220715640075

W37 AD.. , n_e = 1400 min^{-1} — **110 Nm**

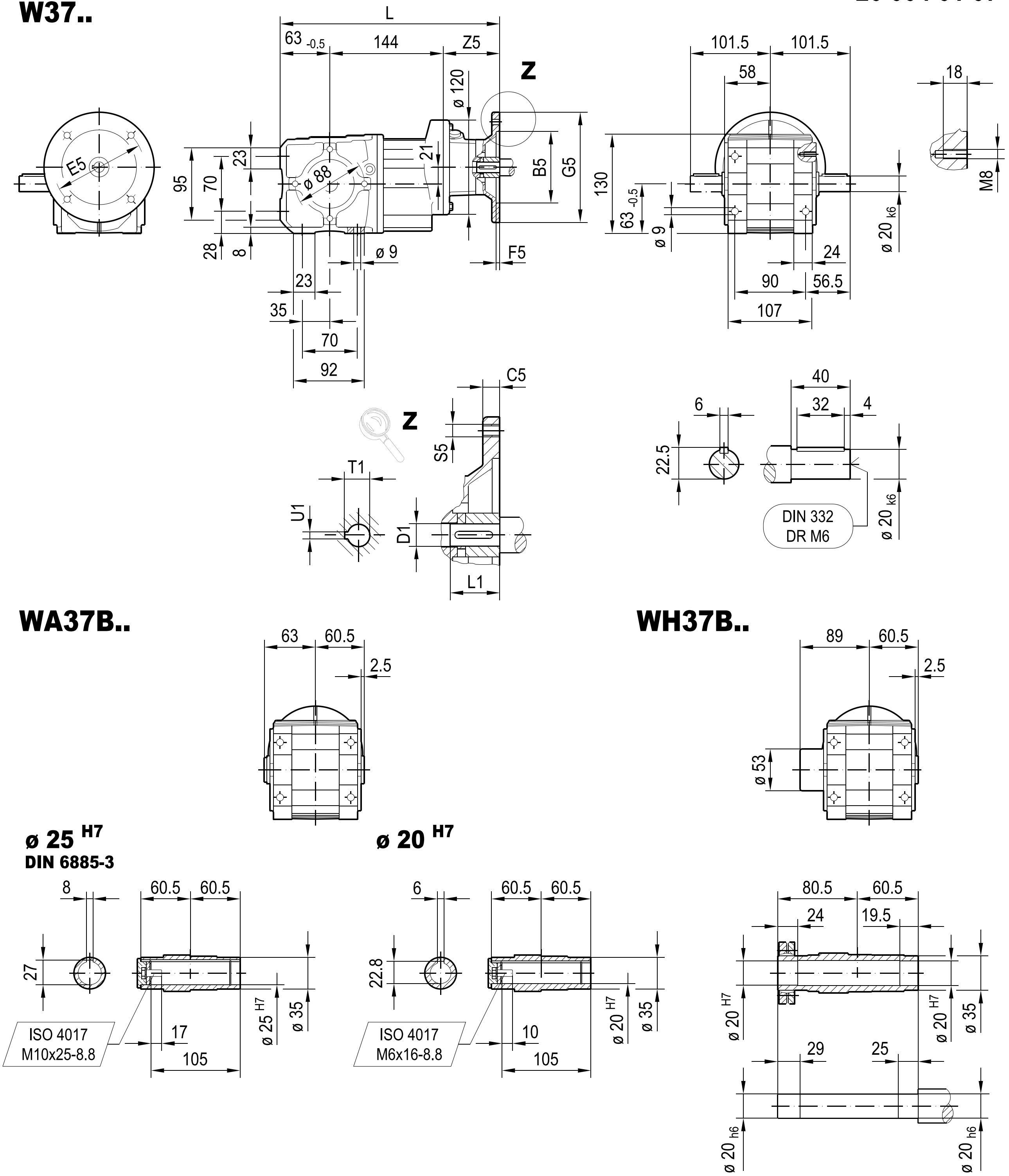
i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$φ_{(/R)}$	⚠				m kg	
69.05	20	110	0.36	3320	555	-	-					
63.33	22	110	0.39	3320	550	-	-					
53.92	26	110	0.45	3320	545	-	-					
46.49	30	110	0.51	3320	540	-	-					
37.88	37	110	0.61	3320	525	-	-					
34.52	41	90	0.48	3610	400	-	-					
31.67	44	90	0.52	3610	395	-	-	**W**	**37**	**AD1**	7.7	641
31.33	45	110	0.72	3320	505	-	-	**WF**	**37**	**AD1**	7.7	641
27.78	50	110	0.80	3320	490	-	-	**WA**	**37**	**AD1**	7.7	641
26.96	52	90	0.60	3610	380	-	-	**WAF**	**37**	**AD1**	7.7	641
23.25	60	90	0.69	3610	365	-	-					
21.33	66	110	1.0	3320	445	-	-					
18.94	74	90	0.84	3610	335	-	-					
15.67	89	90	1.0	3430	305	-	-					
13.89	101	90	1.1	3250	280	-	-					
12.70	110	70	0.91	3800	860	-	-					
11.65	120	70	0.99	3680	830	-	-					
10.67	131	90	1.4	2880	1670	-	-					
9.92	141	70	1.2	3460	1540	-	-	**W**	**37**	**AD2**	8.9	641
8.55	164	70	1.3	3270	1530	-	-	**WF**	**37**	**AD2**	8.9	641
6.97	201	70	1.6	3020	1510	-	-	**WA**	**37**	**AD2**	8.9	641
5.77	243	70	2.0	2810	1490	-	-	**WAF**	**37**	**AD2**	8.9	641
5.11	274	70	2.2	2680	1480	-	-					
3.93	357	70	2.9	2410	1430	-	-					
3.20*	438	70	3.5	2220	1380	-	-					

W47 AD.. , n_e = 1400 min^{-1} — **180 Nm**

i	n_a min^{-1}	M_{amax} Nm	P_e kW	F_{Ra} 1) N	F_{Re} N	$φ_{(/R)}$	⚠				m kg	
74.98	19	180	0.52	6400	1490	-	-					
68.93	20	180	0.56	6400	1480	-	-					
58.98	24	180	0.63	6400	1690	-	-					
51.12	27	180	0.72	6230	1680	-	-					
47.78	29	180	0.76	6040	1680	-	-					
41.30	34	180	0.87	5650	1680	-	-					
35.09	40	180	1.0	5230	1670	-	-					
31.62	44	160	0.91	5560	1590	-	-					
31.33	45	180	1.1	4950	1670	-	-					
27.41	51	160	1.0	5220	1580	-	-					
26.76	52	180	1.3	4580	1660	-	-					
25.62	55	160	1.1	5070	1580	-	-					
25.07	56	180	1.4	4430	1650	-	-					
22.15	63	160	1.3	4750	1560	-	-	**W**	**47**	**AD2**	15	641
18.82	74	160	1.5	4410	1560	-	-	**WF**	**47**	**AD2**	15	641
16.80	83	160	1.6	4180	1550	-	-	**WA**	**47**	**AD2**	13	641
14.35	98	160	1.9	3880	1530	-	-	**WAF**	**47**	**AD2**	14	641
13.44	104	160	2.0	3760	1530	-	-					
12.30	114	110	1.4	4550	1400	-	-					
11.32	124	160	2.4	3460	1500	-	-					
10.66	131	110	1.6	4300	1390	-	-					
9.96	141	110	1.8	4190	1380	-	-					
8.61	163	110	2.0	3960	1360	-	-					
7.32	191	110	2.4	3710	1340	-	-					
6.53	214	110	2.6	3540	1320	-	-					
5.58	251	110	3.1	3320	1300	-	-					
5.23	268	110	3.3	3240	1280	-	-					
4.40	318	110	3.9	3020	1240	-	-					
3.89	360	110	4.4	2860	1200	-	-					
3.27	429	110	5.2	2660	1140	-	-					

12.3 Dimension sheets for adapters for mounting IEC motors (AM..)

20 004 01 07



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	279	M8	72	11	23	12.8	4
AM71	110	10	130	4.0	160	279	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	313	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	313	M10	106	24	50	27.3	8

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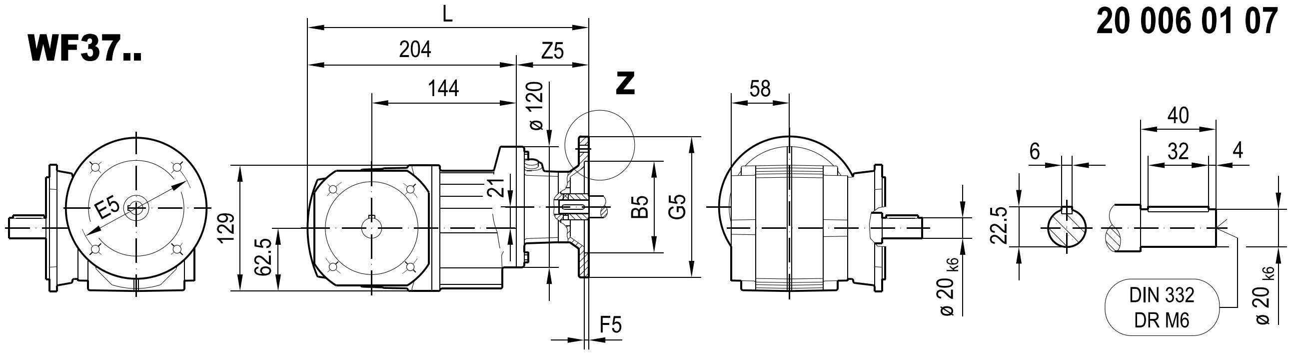
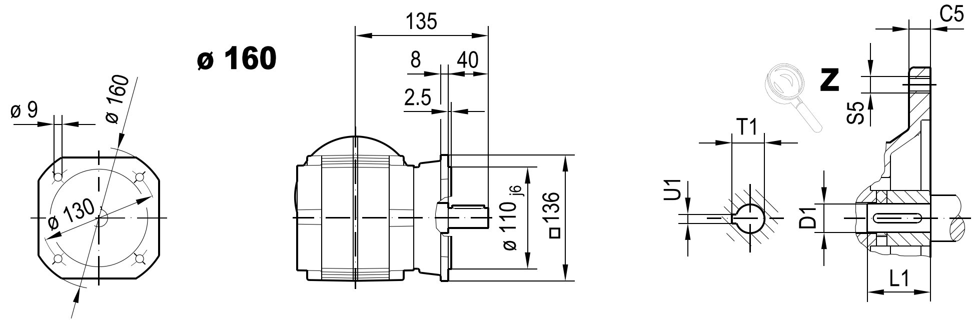
20 006 01 07

WF37..

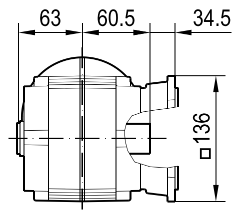


ø 160

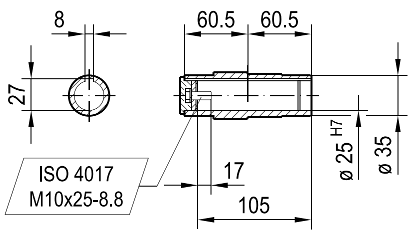


WAF37..

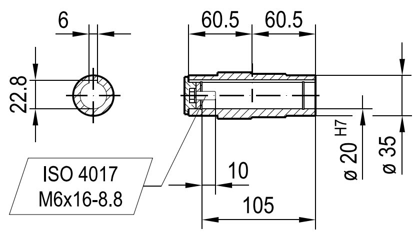
ø 160



ø 25 H7
DIN 6885-3



ø 20 H7



(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	276	M8	72	11	23	12.8	4
AM71	110	10	130	4.0	160	276	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	310	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	310	M10	106	24	50	27.3	8

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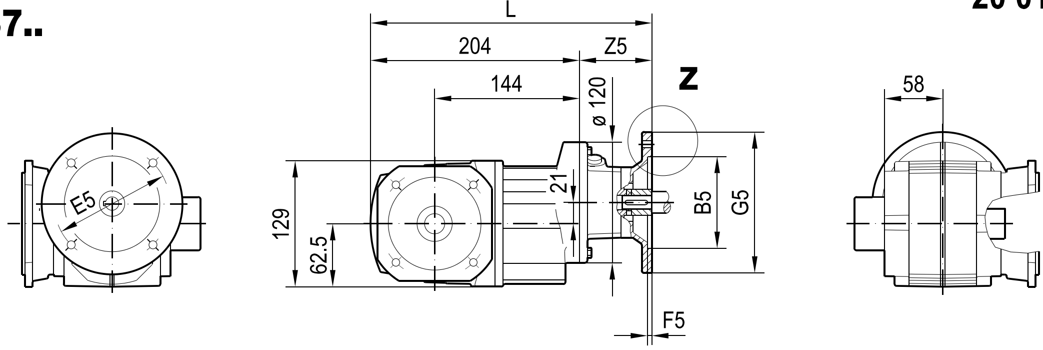
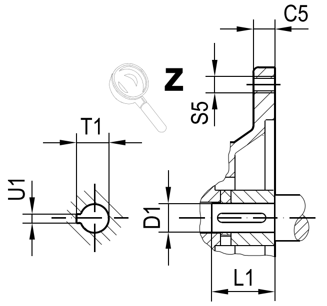
20 019 01 07

WHF37..





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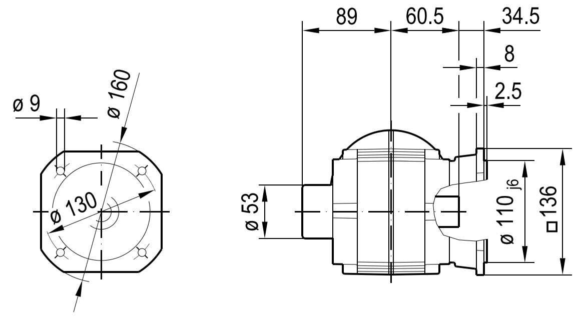

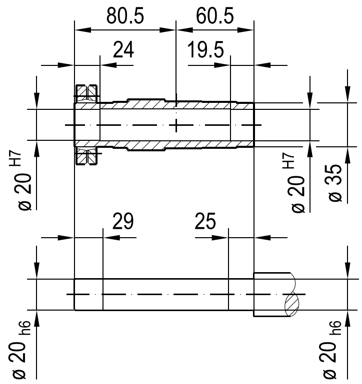

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	276	M8	72	11	23	12.8	4
AM71	110	10	130	4.0	160	276	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	310	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	310	M10	106	24	50	27.3	8

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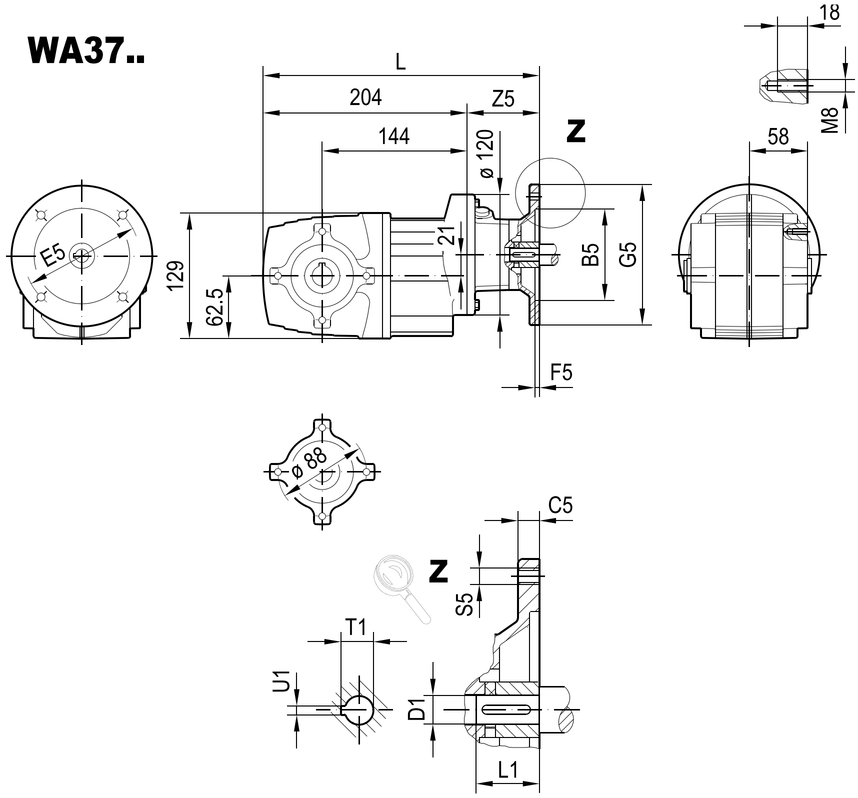
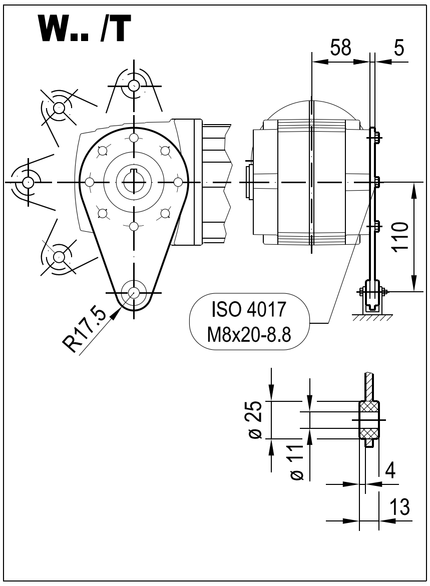
20 005 01 07

WA37..



W.. /T



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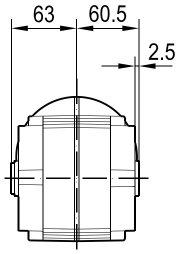

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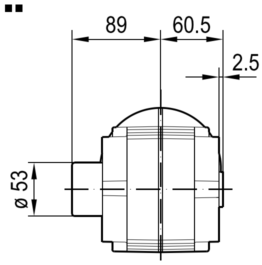
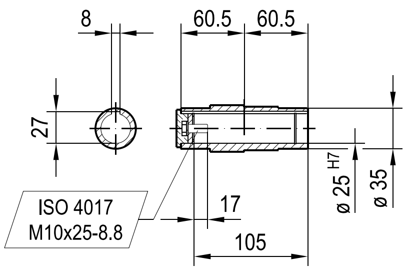


ø 25 H7
DIN 6885-3



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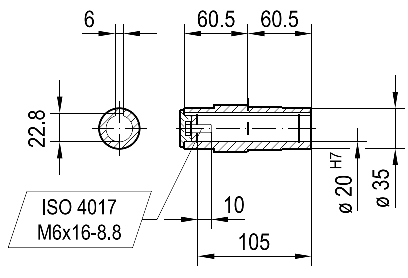

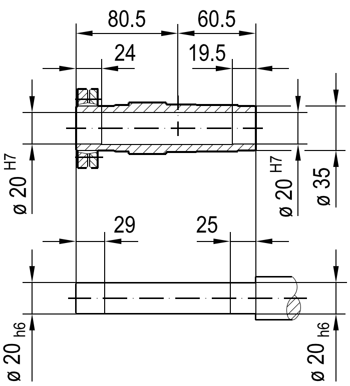

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4.0	160	276	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	310	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	310	M10	106	24	50	27.3	8

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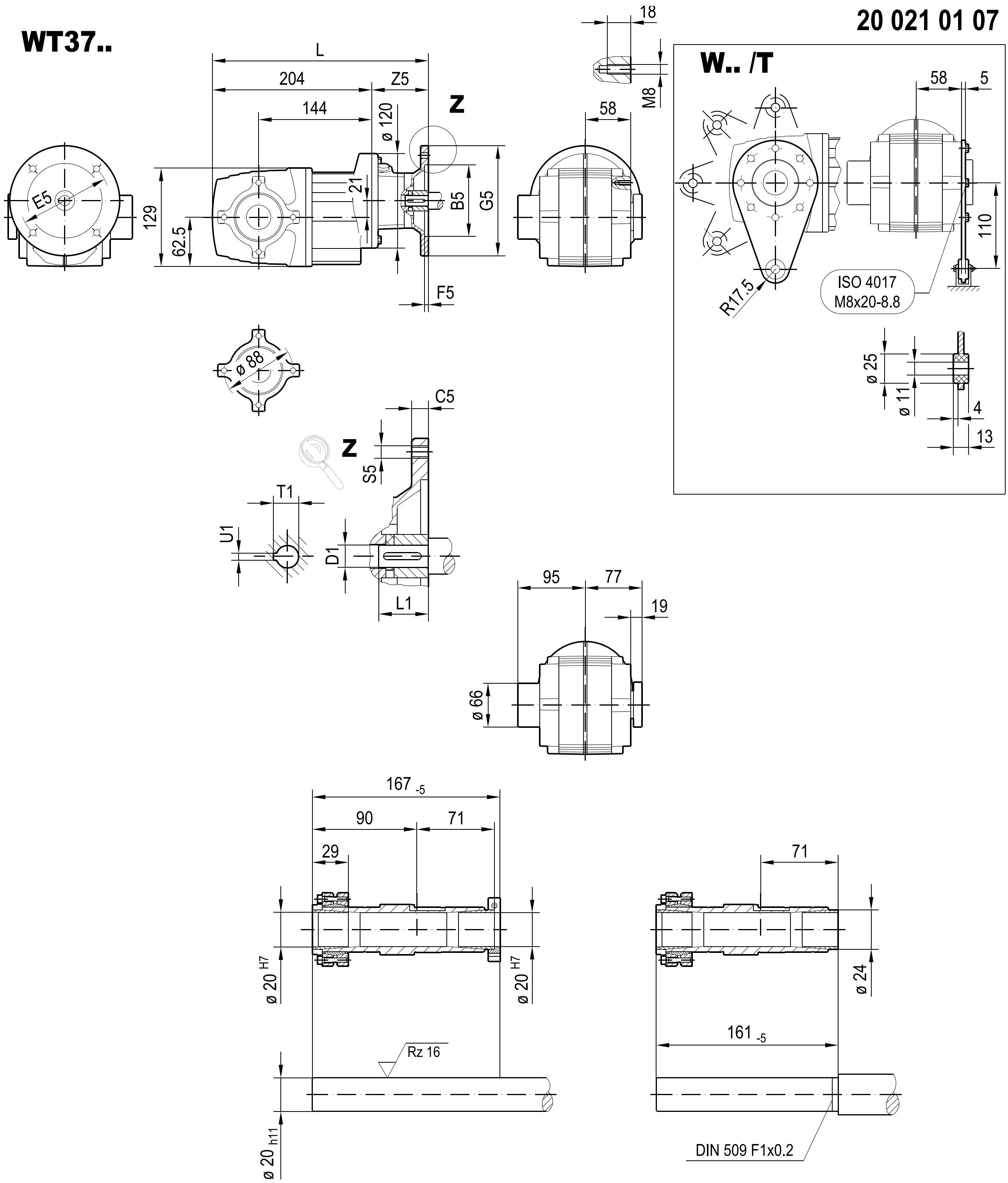

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
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AM71	110	10	130	4.0	160	276	M8	72	14	30	16.3	5
AM80	130	12	165	4.5	200	310	M10	106	19	40	21.8	6
AM90	130	12	165	4.5	200	310	M10	106	24	50	27.3	8

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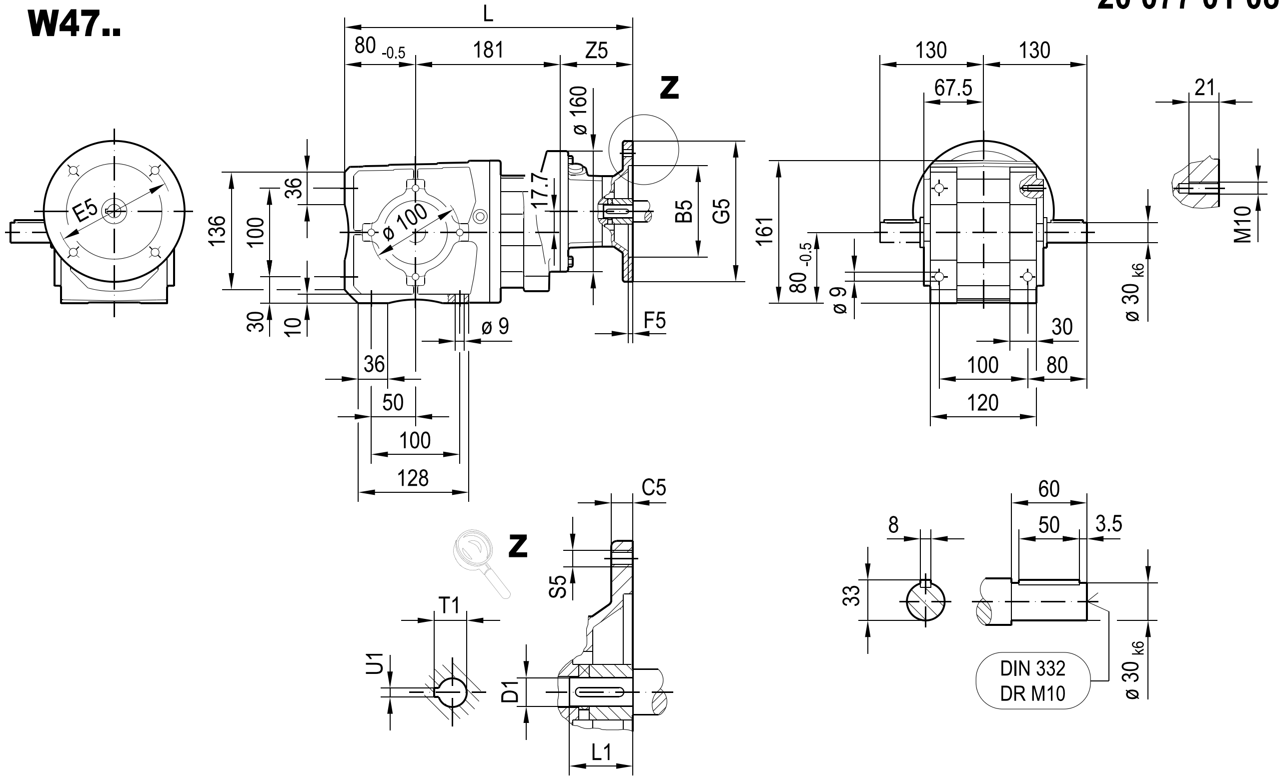
20 077 01 08

W47..



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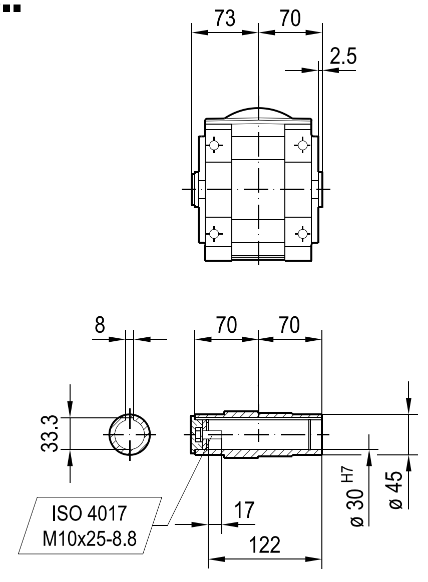

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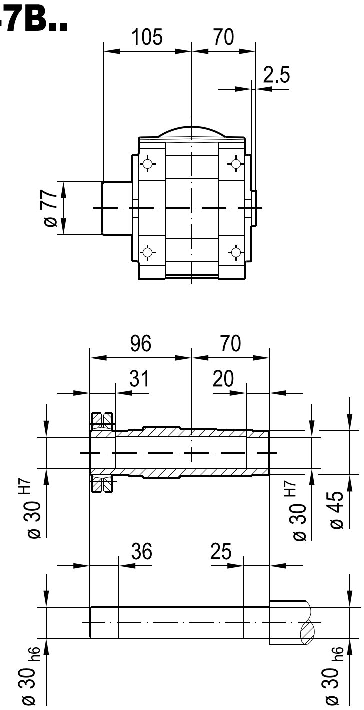

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AM71	110	10	130	4.0	160	327	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	360	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	360	M10	99	24	50	27.3	8

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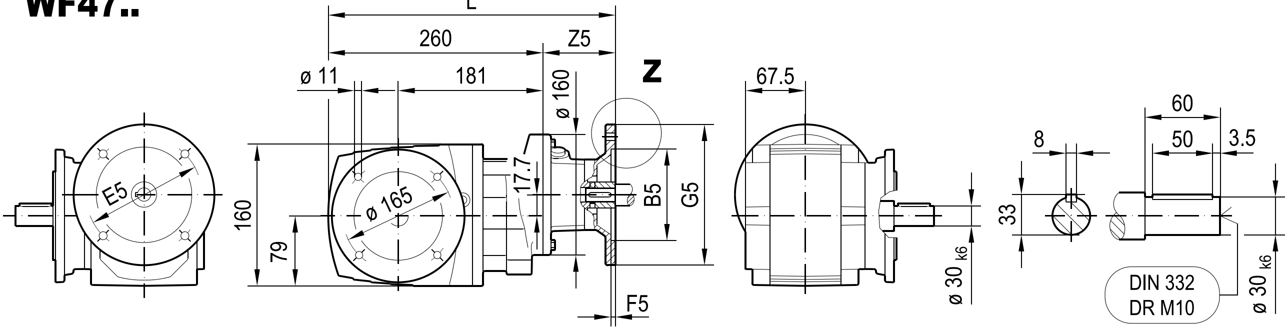
20 078 01 08

WF47..



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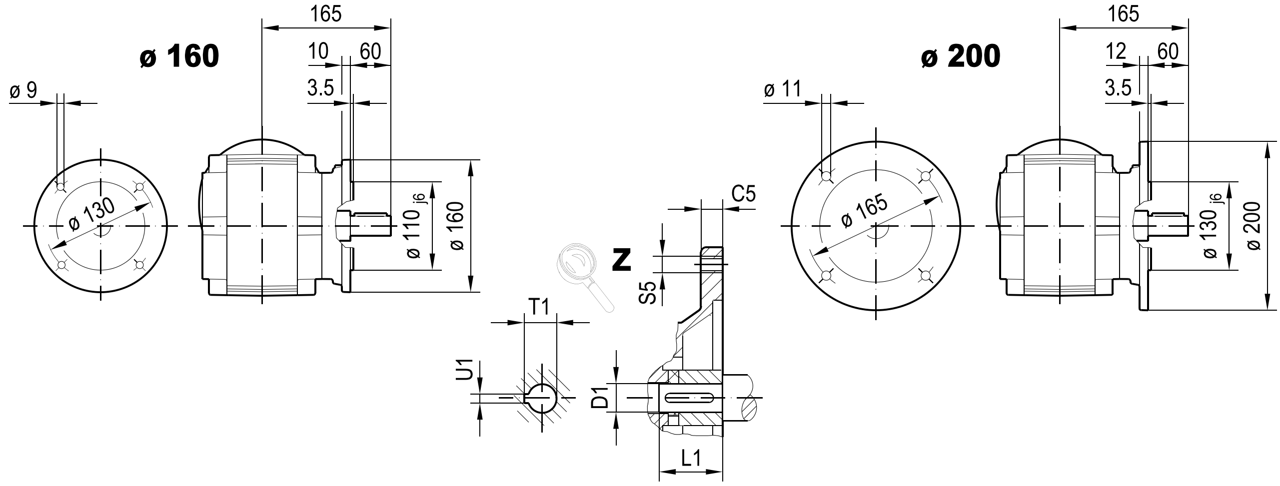

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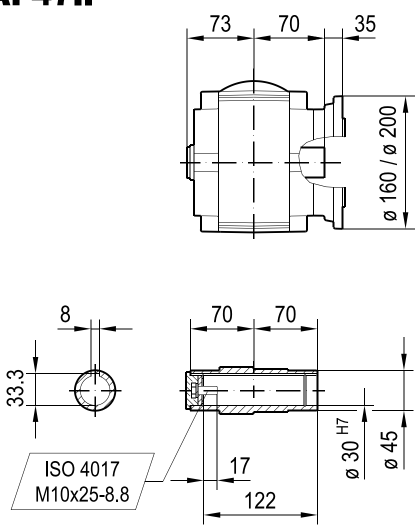

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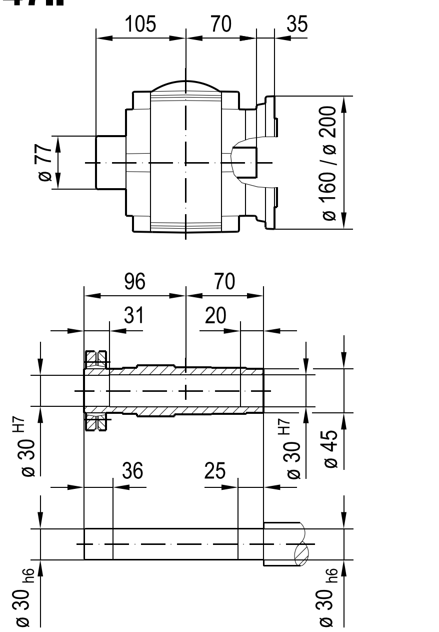

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AM71	110	10	130	4.0	160	326	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	359	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	359	M10	99	24	50	27.3	8

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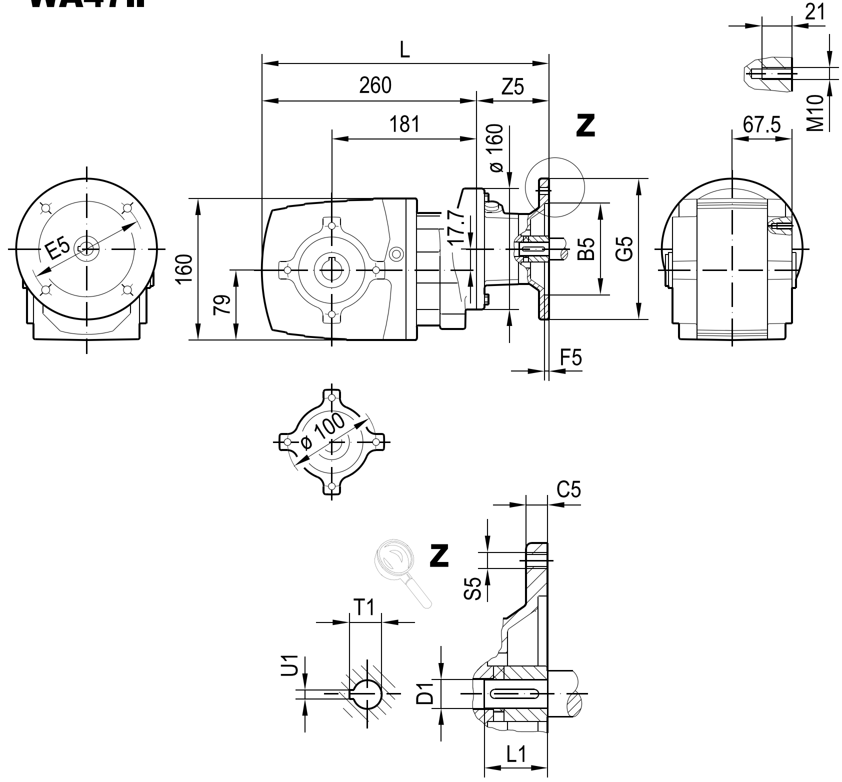
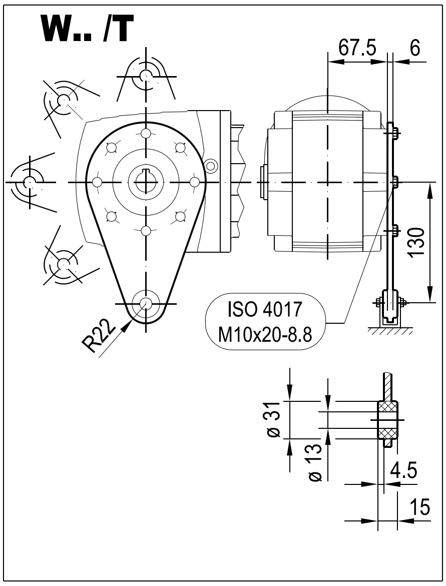
20 079 01 08

WA47..





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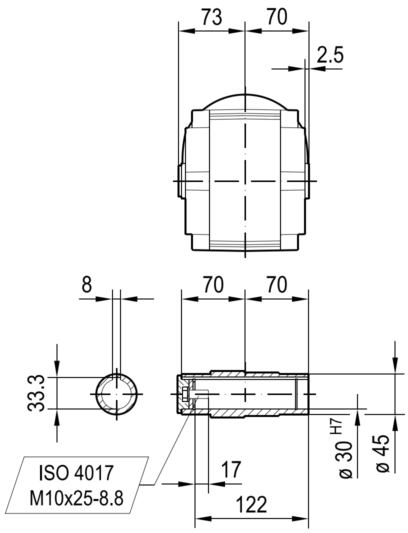

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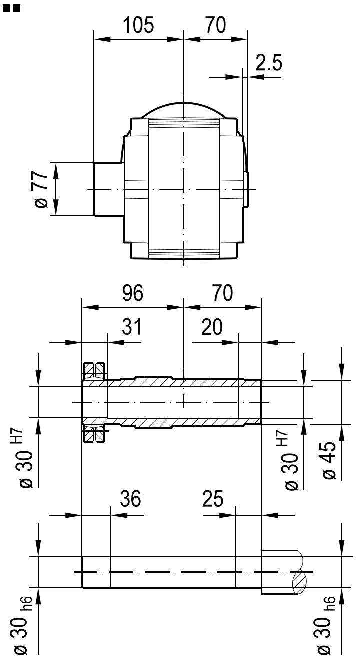

(→ 📖 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	326	M8	66	11	23	12.8	4
AM71	110	10	130	4.0	160	326	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	359	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	359	M10	99	24	50	27.3	8

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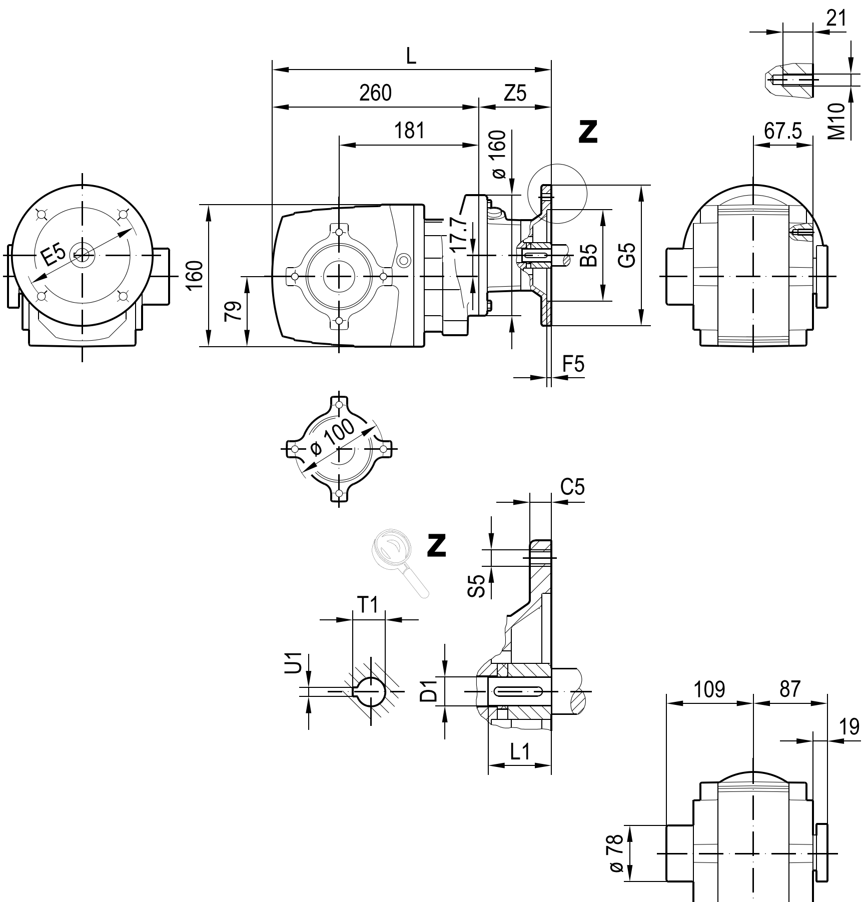
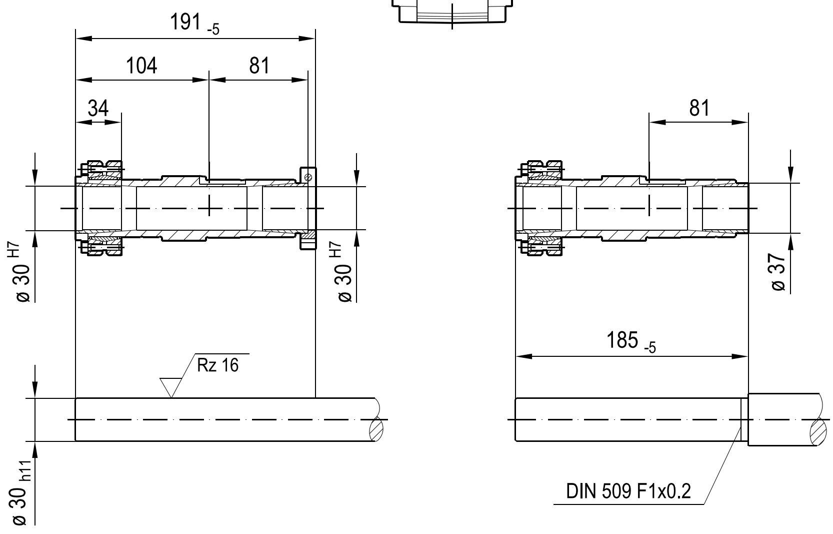
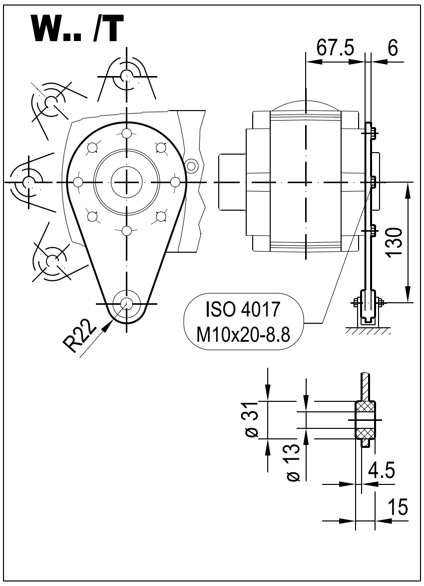
20 080 01 08

WT47..







(→ 7.2.10)	B5	C5	E5	F5	G5	L	S5	Z5	D1	L1	T1	U1
AM63	95	10	115	3.5	140	326	M8	66	11	23	12.8	4
AM71	110	10	130	4.0	160	326	M8	66	14	30	16.3	5
AM80	130	12	165	4.5	200	359	M10	99	19	40	21.8	6
AM90	130	12	165	4.5	200	359	M10	99	24	50	27.3	8

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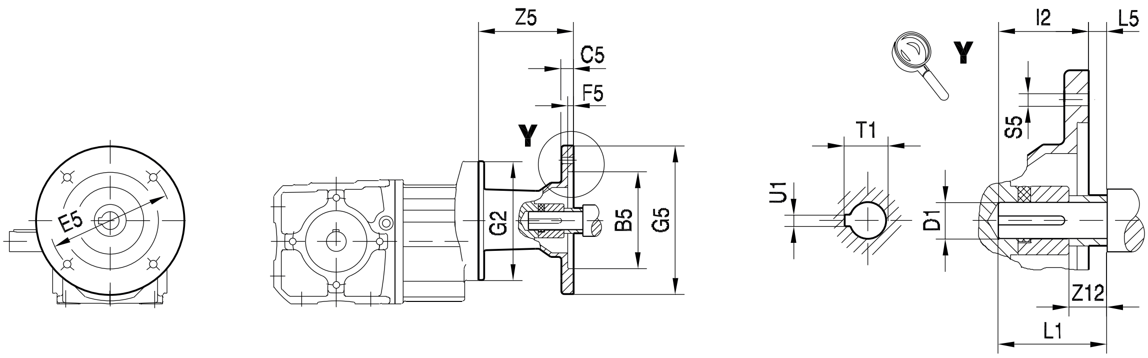
12.4 Dimension sheets for adapters for mounting NEMA motors (AM..)

20 007 00 07



		B5	C5	E5	F5	G2	G5	I2	L5	S5	Z5	Z12	D1	L1	T1	U1
W..37	**AM56**	114.3	11	149.2	4.5	120	170	52.55	-4.8	10.5	93.5	16.5	15.875	47.75	18.1	4.76
	AM143	114.3	12	149.2	4.5	120	170	54.1	3.05	10.5	117	14.5	22.225	57.15	24.7	4.76
	AM145	114.3	12	149.2	4.5	120	170	54.1	3.05	10.5	117	14.5	22.225	57.15	24.7	4.76
W..47	**AM56**	114.3	11	149.2	4.5	160	170	52.55	-4.8	10.5	87	16.5	15.875	47.75	18.1	4.76
	AM143	114.3	12	149.2	4.5	160	170	54.1	3.05	10.5	110.5	14.5	22.225	57.15	24.7	4.76
	AM145	114.3	12	149.2	4.5	160	170	54.1	3.05	10.5	110.5	14.5	22.225	57.15	24.7	4.76

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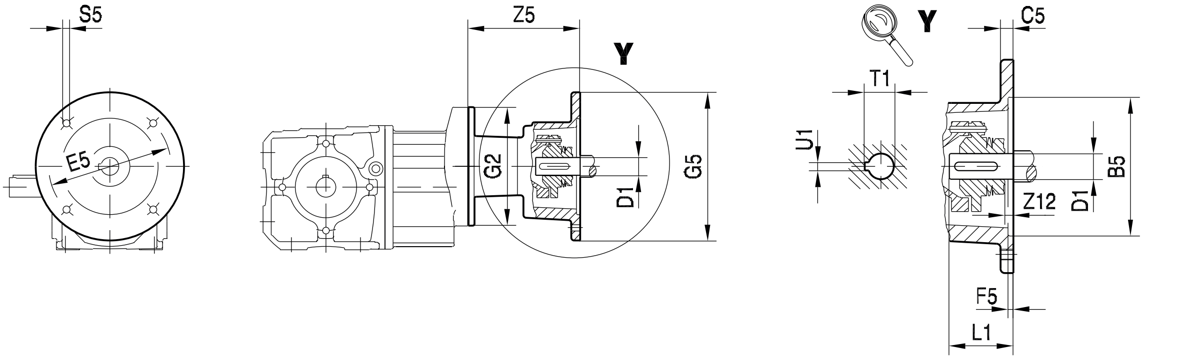
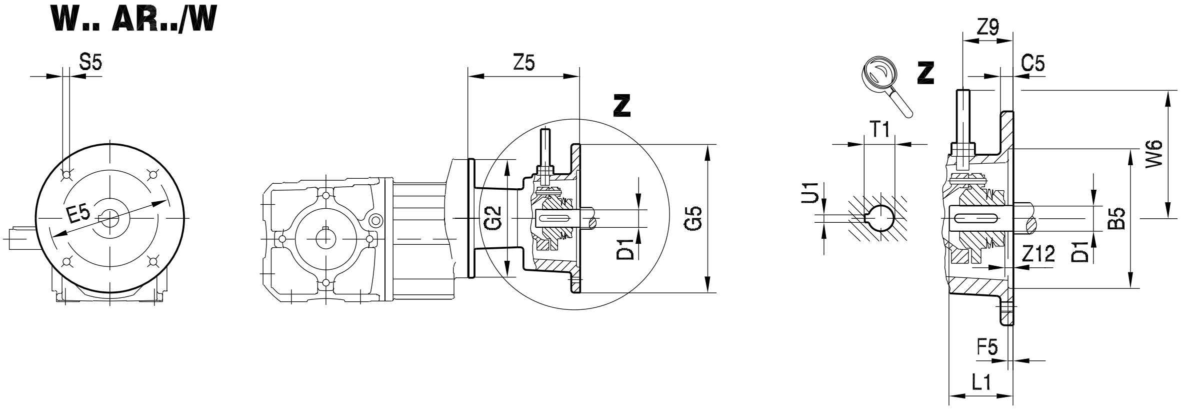
12.5 Dimension sheets for adapters with slip clutch (AR..)

W.. AR..

20 009 00 07



W.. AR../W



<table>
<tr><th></th><th></th><th>B5</th><th>C5</th><th>E5</th><th>F5</th><th>G2</th><th>G5</th><th>S5</th><th>W6</th><th>Z5</th><th>Z9</th><th>Z12</th><th>D1</th><th>L1</th><th>T1</th><th>U1</th></tr>
<tr><td rowspan="3">W..37</td><td>AR71</td><td>110</td><td>10</td><td>130</td><td>3.5</td><td rowspan="3">120</td><td>160</td><td>M8</td><td rowspan="3">120</td><td>104</td><td rowspan="3">37</td><td rowspan="3">0</td><td>14</td><td>30</td><td>16.3</td><td>5</td></tr>
<tr><td>AR80</td><td rowspan="2">130</td><td rowspan="2">12</td><td rowspan="2">165</td><td rowspan="2">4.5</td><td rowspan="2">200</td><td rowspan="2">M10</td><td rowspan="2">140.5</td><td>19</td><td>40</td><td>21.8</td><td>6</td></tr>
<tr><td>AR90</td><td>24</td><td>50</td><td>27.3</td><td>8</td></tr>
<tr><td rowspan="3">W..47</td><td>AR71</td><td>110</td><td>10</td><td>130</td><td>3.5</td><td rowspan="3">160</td><td>160</td><td>M8</td><td rowspan="3">120</td><td>104</td><td rowspan="3">37</td><td rowspan="3">0</td><td>14</td><td>30</td><td>16.3</td><td>5</td></tr>
<tr><td>AR80</td><td rowspan="2">130</td><td rowspan="2">12</td><td rowspan="2">165</td><td rowspan="2">4.5</td><td rowspan="2">200</td><td rowspan="2">M10</td><td rowspan="2">134</td><td>19</td><td>40</td><td>21.8</td><td>6</td></tr>
<tr><td>AR90</td><td>24</td><td>50</td><td>27.3</td><td>8</td></tr>
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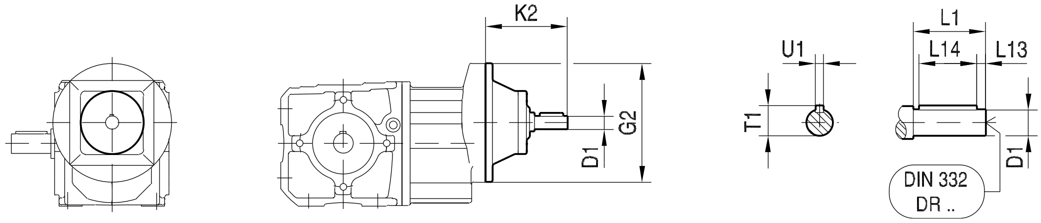
12.6 Dimension sheets for input shaft assembly (AD..)

20 010 01 07

W.. AD..



		G2	K2	D1	L1	L13	L14	T1	U1
W..37	**AD1**	120	102	16	40	4	32	18	5
	AD2		130	19	40	4	32	21.5	6
W..47	**AD2**	160	123	19	40	4	32	21.5	6

For bore dimensions and weight of the motor platform, refer to the chapter "Bore dimensions and weight" (→ 🗎 70).

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13 Address directory SEW-EURODRIVE

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
Australia			
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
Technical Offices	Linz	SEW-EURODRIVE Ges.m.b.H. Jaxstraße 2-4 4020 Linz	Tel. +43 732 655 109-0 Fax +43 732 655 109-20 tb-linz@sew-eurodrive.at
	Graz	SEW-EURODRIVE Ges.m.b.H. Hagenbuchstraße 1 8054 Seiersberg-Pirka	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 du Parc Industriel, 31 6900 Marche-en-Famenne	Tel. +32 84 219-878 Fax +32 84 219-879 http://www.sew-eurodrive.be info@sew.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. Jvl / Ind 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 sew@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. 2001 Ch. de l'Aviation Dorval Quebec H9P 2X6	Tel. +1 514 367-1124 Fax +1 514 367-3677 n.paradis@sew-eurodrive.ca
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

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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 Develop- ment 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
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

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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
Service	Vejle	SEW-EURODRIVE A/S Bødkervej 2 7100 Vejle	Tel. +45 43 9585 00 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 Loomäe tee 1, Lehmja küla 75306 Rae vald Harjumaa	Tel. +372 6593230 Fax +372 6593231 http://www.alas-kuul.ee info@alas-kuul.ee
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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
	Tornio	SEW-EURODRIVE Oy Lossirannankatu 5 95420 Tornio	Tel. +358 201 589 300 Fax +358 3 780 6211 http://www.sew-eurodrive.fi sew@sew.fi
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	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

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	Electronics	SEW-EURODRIVE GmbH & Co KG Christian-Pähr-Straße 12 76646 Bruchsal	Tel. +49 7251 75-1780 Fax +49 7251 75-1769 scc-elektronik@sew-eurodrive.de
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Drive Technology Center	North	SEW-EURODRIVE GmbH & Co KG Alte Ricklinger Straße 43 30823 Garbsen (Hannover)	Tel. +49 5137 8798-30 Fax +49 5137 8798-55 dtc-nord@sew-eurodrive.de
	East	SEW-EURODRIVE GmbH & Co KG Dänkritzer Weg 1 08393 Meerane (Zwickau)	Tel. +49 3764 7606-0 Fax +49 3764 7606-20 dtc-ost@sew-eurodrive.de
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	Ludwigshafen	SEW-EURODRIVE GmbH & Co KG c/o BASF SE c/o BASF SE Gebäude W130 67056 Ludwigshafen	Tel. +49 7251 75 3759 Fax +49 7251 75 503759 dc-ludwigshafen@sew-eurodrive.de
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	München	SEW-EURODRIVE GmbH & Co KG Domagkstraße 5 85551 Kirchheim	Tel. +49 89 90955-110 Fax +49 89 90955-150 tb-muenchen@sew-eurodrive.de
	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
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	Scotland	SEW-EURODRIVE Ltd. No 37 Enterprise House Springkerse Business Park Stirling FK7 7UF	Tel. +44 17 8647-8730 Fax +44 17 8645-0223
	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

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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 https://vov.is/ vov@vov.is
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	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
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Indonesia			
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	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

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	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
Ireland			
Sales Service	Dublin	Alperton Engineering Ltd. 48 Moyle Road Dublin Industrial Estate Glasnevin, Dublin 11	Tel. +353 1 830-6277 Fax +353 1 830-6458 http://www.alperton.ie info@alperton.ie
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
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Drive Center	Bologna	SEW-EURODRIVE S.a.s. di SEW S.r.l. & Co. 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 S.a.s. di SEW S.r.l. & Co. 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 S.a.s. di SEW S.r.l. & Co. 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
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	Aktobe	SEW-EURODRIVE LLP 52/1 Marat Ospanov str., office 11 030000, Aktobe	Tel. +7 (771) 993 0915 aktobe@sew-eurodrive.kz
	Pavlodar	SEW-EURODRIVE LLP 6/2, Lunacharsky str., office 46 140000, Pavlodar	Tel. +7 (771) 993 09 16 pavlodar@sew-eurodrive.kz
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Lebanon			
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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			
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Luxembourg			
Representation: Belgium			
Macedonia			
Sales	Skopje	Boznos DOOEL Dime Anicin 2A/7A 1000 Skopje	Tel. +389 23256553 Fax +389 23256554 http://www.boznos.mk

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	Kota Kinabalu	SEW-EURODRIVE SDN BHD East Malaysia	Tel. +60 19 7539395 sales@sew-eurodrive.com.my
	Ipoh	SEW-EURODRIVE SDN BHD West Malaysia	Tel. +60 19 7177366 sewsa@sew-eurodrive.com.my
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Namibia			
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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

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	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
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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 sales@greenpegltd.com
Norway			
Assembly Sales Service	Moss	SEW-EURODRIVE A/S Solgaard skog 71 1599 Moss	Tel. +47 69 24 10 20 Fax +47 69 24 10 40 http://www.sew-eurodrive.no sew@sew-eurodrive.no
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			
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Philippines			
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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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	Gdansk	SEW-EURODRIVE Polska Sp.z.o.o. ul. Galaktyczna 30A 80-299 Gdańsk	Tel. +48 58 762 70 00 Fax +48 58 762 70 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 / +351 939 598 717 Fax +351 21 958-0245 esc.lisboa@sew-eurodrive.pt
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Romania			
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Russia			
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Slovakia			
Sales	Bernolákovo	SEW-Eurodrive SK s.r.o. Priemyselná ulica 6267/7 900 27 Bernolákovo	Tel.+421 2 33595 202, 217, 201 Fax +421 2 33595 200 http://www.sew-eurodrive.sk sew@sew-eurodrive.sk
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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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Technical Offices	Barcelona	SEW-EURODRIVE ESPAÑA, S.L. Avda. Francesc Macià, 60 – Planta 16, porta 1 Eix Macià – “Torre Milenium” 08208 Sabadell (Barcelona)	Tel. +34 93 7162200
	Madrid	SEW-EURODRIVE ESPAÑA, S.L. Gran Via. 48-2° A-D 28220 Majadahonda (Madrid)	Tel. +34 91 6342250
Sri Lanka			
Sales	Colombo	SM International (Pte) Ltd 254, Galle Raod Colombo 4, Sri Lanka	Tel. +94 1 2584887 Fax +94 1 2582981
Swaziland			
Sales	Manzini	C G Trading Co. (Pty) Ltd Simunye street Matsapha, Manzini	Tel. +268 7602 0790 Fax +268 2 518 5033 charles@cgtrading.co.sz www.cgtradingswaziland.com
Sweden			
Assembly Sales Service	Jönköping	SEW-EURODRIVE AB Gnejsvägen 6-8 553 03 Jönköping Box 3100 S-550 03 Jönköping	Tel. +46 36 34 42 00 Fax +46 36 34 42 80 http://www.sew-eurodrive.se jonkoping@sew.se
Sales	Gothemburg	SEW-EURODRIVE AB Gustaf Werners gata 8 421 32 Västra Frölunda	Tel. +46 31 709 68 80 Fax +46 31 709 68 93 goteborg@sew.se
	Stockholm	SEW-EURODRIVE AB Björkholmsvägen 10 141 46 Huddinge	Tel. +46 8 449 86 80 Fax +46 8 449 86 93 stockholm@sew.se
	Malmö	SEW-EURODRIVE AB Borrgatan 5 211 24 Malmö	Tel. +46 40 680 64 80 Fax +46 40 680 64 93 malmo@sew.se
	Skellefteå	SEW-EURODRIVE AB Trädgårdsgatan 8 931 31 Skellefteå	Tel. +46 910 71 53 80 Fax +46 910 71 53 93 skelleftea@sew.se
Switzerland			
Assembly Sales Service	Basel	Alfred Imhof A.G. Jurastrasse 10 4142 Münchenstein bei Basel	Tel. +41 61 417 1717 Fax +41 61 417 1700 http://www.imhof-sew.ch info@imhof-sew.ch
Technical Offices	Rhaetian Switzerland	Ivan Grumelli Z.I. Moulin du choc C 1122 Romanel-sur-Morges, VD	Tel. +41 79 725 4499 Fax +41 61 417 1700

	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
Taiwan			
Sales	Taipei	Ting Shou Trading Co., Ltd. 6F-3, No. 267, Sec. 2 Tung Huw S. Road Taipei	Tel. +886 2 27383535 Fax +886 2 27368268 Telex 27 245 sewtwn@ms63.hinet.net http://www.tingshou.com.tw
	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
Thailand			
Assembly Sales Service	Chonburi	SEW-EURODRIVE (Thailand) Ltd. 700/456, Moo.7, Donhuaroh Muang Chonburi 20000	Tel. +66 38 454281 Fax +66 38 454288 sewthailand@sew-eurodrive.com
Technical Offices	Bangkok	SEW-EURODRIVE (Thailand) Ltd. 6th floor, TPS Building 1023, Phattanakarn Road Suanluang Bangkok,10250	Tel. +66 2 7178149 Fax +66 2 7178152 sewthailand@sew-eurodrive.com
	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			
Sales	Tunis	T. M.S. Technic Marketing Service Zone Industrielle Mghira 2 Lot No. 39 2082 Fouchana	Tel. +216 79 40 88 77 Fax +216 79 40 88 66 http://www.tms.com.tn tms@tms.com.tn
Turkey			
Assembly Sales Service	Kocaeli-Gebze	SEW-EURODRIVE Ana Merkez 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
Technical Offices		SEW-EURODRIVE Home Ofis	Tel. +90 533 491 81 77 / +90 542 660 34 89
	Ankara	SEW-EURODRIVE Ankara Ofis 1368.Cadde Eminel İş Merkezi No: 18/68 İvedik OSB/Yenimahalle/Ankara	Tel. +90 312 385 33 90

	Bursa	SEW-EURODRIVE Bursa Ofis Beşevler Mah. Yıldırım Cd. No: 254 Karya Güçlü İş Merkezi B Blok Kat:5 No: 28 Nilüfer/Bursa	Tel. +90 224 443 45 60
	Istanbul	SEW-EURODRIVE İstanbul Ofis Yakuplu Merkez Mh. Hürriyet Bulvarı Skyport Residence No:1 D:66 Beylikdüzü/ISTANBUL	Tel. +90 212 438 41 62-63
	Izmir	SEW-EURODRIVE İzmir Ofis IAOSB Küçük Parseller Grubu Sosyal Tesis merkezi 1030 Sokak No: 16 / 110 Kara Hasan Atlı İş Merkezi Kat:6 Çiğli/İzmir	Tel. +90 232 469 62 64
United Arab Emirates			
Drive Technology Center	Dubai	SEW-EURODRIVE FZE PO Box 263835 Jebel Ali Free Zone – South, P.O. Box Dubai, United Arab Emirates	Tel. +971 (0)4 8806461 Fax +971 (0)4 8806464 info@sew-eurodrive.ae
Ukraine			
Assembly Sales Service	Dnipropetrovsk	SEW-EURODRIVE, LLC Robochya str., bld. 23-B, office 409 49008 Dnipro	Tel. +380 56 370 3211 Fax +380 56 372 2078 http://www.sew-eurodrive.ua sew@sew-eurodrive.ua
Sales	Kiev	SEW-EURODRIVE, LLC S. Oleynika str, bld. 21 02068 Kiev	Tel. +380 44 503 95 77 Fax +380 44 503 95 78 kso@sew-eurodrive.ua
	Ivano-Frankivsk	SEW-EURODRIVE, LLC Nezavisimosty str, bld. 4, office 303 76000 Ivano-Frankovsk	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
USA			
Production Assembly Sales Service	Southeast Region	SEW-EURODRIVE INC. 1295 Old Spartanburg Highway P.O. Box 518 Lyman, S.C. 29365	Tel. +1 864 439-7537 Fax Sales +1 864 439-7830 Fax Production +1 864 439-9948 Fax Assembly +1 864 439-0566 Fax Confidential/HR +1 864 949-5557 http://www.seweurodrive.com cslyman@seweurodrive.com
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	Tel. +1 864 439-7537 Fax +1 864 661 1167 IGOrders@seweurodrive.com

Additional addresses for service provided on request!

Vietnam			
Sales	Ho Chi Minh City	SEW-EURODRIVE PTE. LTD. RO at Hochiminh City Floor 8, KV I, Loyal building, 151-151 Bis Vo Thi Sau street, ward 6, District 3, Ho Chi Minh City, Vietnam	Tel. +84 937 299 700 huytam.phan@sew-eurodrive.com
	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

29154650/EN – 03/2020

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Inquiry/order

SEW EURODRIVE

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:** ____________

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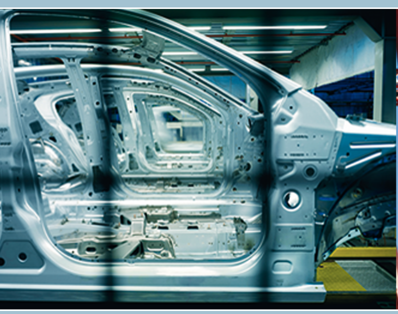
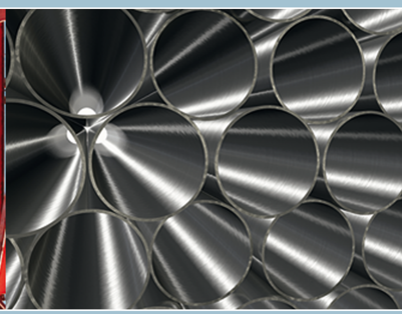
www.sew-eurodrive.com / sew@sew-eurodrive.com







SEW-EURODRIVE
Driving the world

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