SEW EURODRIVE

Catalog



Servo Gear Units

R.., F.., K.., S.., W..9 Gear Units with AQS.. Adapter, W.0 Gear Units with EWH.. Adapter, BS.F.., PS.F.., PS.C.. Gear Units with E.H.. Adapter

Edition 02/2024

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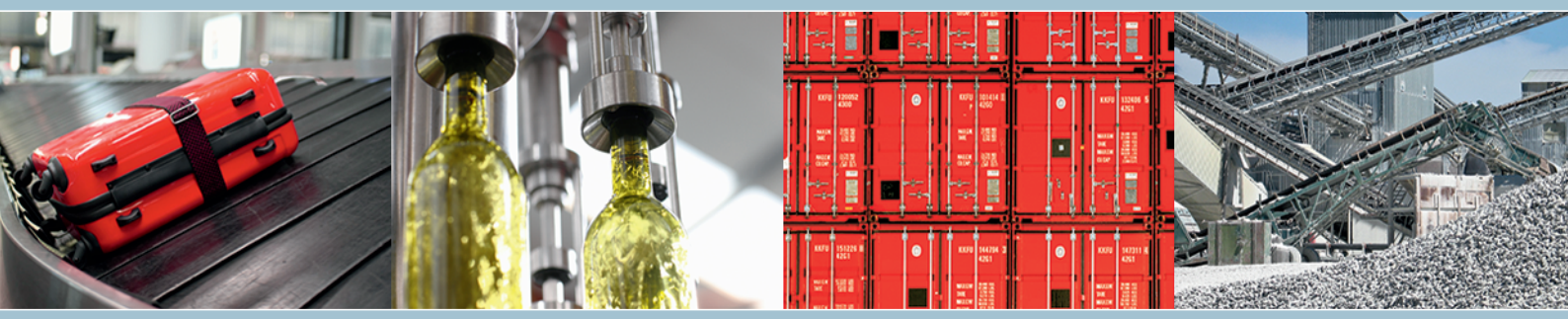


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1 Introduction

1.1 What do we stand for?

For a reliable partnership!

Humanity and partnership, solutions and services, responsibility and quality, tradition and innovation: SEW-EURODRIVE, the owner-managed family business, has stood for all this and much more for more than 90 years.

As a market leader in drive and automation technology, we don't just power countless applications in virtually every industry. With over 22000 employees, we are also playing a key role in shaping the future of drive technology. For you. Ensuring you, your systems and machines are always at the cutting edge. Not just now, but in the future as well. We want you to succeed together with us.

1.2 Where can you find us?

We are always nearby!

Our 17 production plants and 92 Drive Technology Centers in 56 countries mean we are at your service on every continent and in every corner of the world, always working with you as an equal partner and ensuring everything runs smoothly.

What makes us truly stand out from other manufacturers? With our broad customer support and service network worldwide, you never have to wait long for spare parts, repairs or professional advice.



56
Countries



17
Production plants



92
Drive Technology Centers



> 22000
employees



Global service



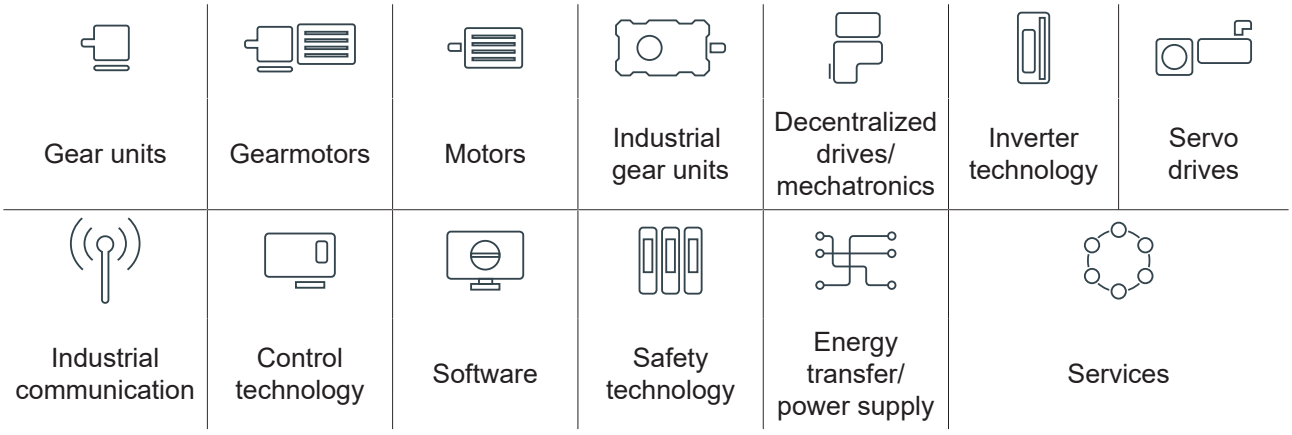
Countless industries

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1.3 What do we offer?

State-of-the-art drive technology and automation solutions from a single source!

Looking to modernize your processes or to construct a new system? We offer you one of the most extensive ranges of drive technology products, solutions, and services on the market. A single contact person for everything: that sounds good, doesn't it?



From the very outset, our customers have been able to rely on our high quality, committed advice and support, and fast delivery times. We offer a portfolio of modular solutions that are comprehensive and unique and meet every possible need.

- Perfect combination options and solutions for every application
- Energy efficiency up to IE5
- Quick and easy selection process and project planning
- Comprehensive portfolio – from drives and motors for continuous operation to high-precision servo drives
- Special designs in stainless steel, with explosion protection, or for electrified monorail systems
- Ideal solutions for every application
- Complete automation solutions for your machine or factory and many other areas

Independent of the project scope and the complexity of your requirements: We rise to the challenge, working with you to develop the perfect solution for you – including an all-round service package throughout your entire system life cycle on request.

Predictive maintenance is just one of the service trend topics no. 1. Early diagnosis and end-to-end condition monitoring have been an essential part of our offering for many years. That's because one thing in particular matters to us – the satisfaction and trust of our customers. from planning and the operation phase all the way to modernization. Where necessary, we also take care of drives from other manufacturers.

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1.4 What are the goals we want to reach with you?

We want to take you to the top!

Nothing excites us more than the future of production. We are already using Industry 4.0 principles to transform our manufacturing operations. As far as we are concerned, Industry 4.0 ceased to be a distant vision long ago – it is already a successful reality thanks to our smart factory. As a result, we have become one of the world's pioneers in this field.

Yet we do not just focus on increasing our performance to ever greater levels. We also pass on to you the expertise, experience and technical solutions we have gathered in implementing Industry 4.0 in our production halls. Why not find out more?

No matter how large or small your project may be, no matter how high or complex your requirements may be: We rise to the challenge, working with you to develop the perfect solution for you – including an all-round service package throughout your entire system life cycle on request. Right now, predictive maintenance is one of the top service trends. Early diagnosis and end-to-end condition monitoring have been an essential part of our offering for many years. The only thing that counts is your satisfaction and driving forward your processes – from planning and the operation phase all the way to modernization. Where necessary, we also take care of drives from other manufacturers.

1.5 Why should you choose SEW-EURODRIVE?

Because these ten reasons speak for themselves:



1. **You will be more flexible**

   However much the requirements for your processes and production systems increase, we're there for you every step of the way. With rapid conversions, short delivery times, enhanced capacity and faster format changeovers, we're at your side – from evaluating your needs and implementing an appropriate solution all the way to Life Cycle Services.



2. **You will be more satisfied**

   Our name stands for the best quality. But we do not rest on our laurels. Quite the contrary, in fact. To ensure we meet all standards – both ours and yours – we undergo annual testing, including certification processes. That's because only one thing matters to us – the satisfaction and trust of our customers.



3. **You will know more**

   We're happy to share with you the industry and application expertise we have gained over decades and extending far beyond drive technology areas. We work with you to plan and put into practice your tailored solutions in a process where you constantly evolve in tandem with us.

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4. **You will be more sustainable**

   We take responsibility for our employees, customers and business partners but also the environment in which we live and work. As a family business, we think in generations and always look beyond today and tomorrow. With us, you too can drive the future.



5. **You will be more successful**

   Like you, we cannot afford to stand still. We provide continuous training for our employees and customers. We constantly expand our horizons and enhance our products, solutions and services, and thus your processes. You can only continue to be successful in the future with optimized workflows.



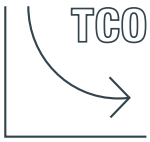
6. **You will be more energy efficient**

   We go out of our way to find new approaches and make our drives more efficient while always staying well ahead of international regulations. And, if you wish, we work with you to plan your systems and machines so that you can make the best possible use of energy recovery.



7. **You will be more innovative**

   What's the point of innovations if they remain out of your reach? We listen to you, which makes us fully aware of your future challenges, and we respond accordingly. With our approximately 800 researchers, we drive forward innovative technologies and help bring your processes up to date.



8. **You will save more money**

   With us, you can lower your overall operating costs. After all, it isn't just a matter of procurement expenses. Your TCO is significantly determined by the subsequent utilization and service life of your drive technology. We provide you with comprehensive advice on how to reduce your costs through sustainable operations.



9. **You will be close to us**

   Wherever in the world your system is running, our comprehensive service network and experts mean we're always ready to provide advice and practical assistance when you need it. All-in-one, on-site service that knows no bounds and significantly reduces or even eliminates downtimes.



10. **You will be faster**

    Throughout the world, our service staff ensure spare parts get to you fast, and faulty drives – including third-party products – are collected and repaired quickly. Software tools make engineering and startup easier for you. Services covering your entire system life cycle help make you faster and more efficient.

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1.6 Documentation

1.6.1 Content of this documentation

This "Servo Gear Units" catalog provides a detailed description of the following product groups from SEW-EURODRIVE:

- Gear units R.., F.., K.., S.. and W..9 in combination with adapter AQS..
- Gear unit W.0 in combination with adapter EWH..
- Gear unit BS.F.. in combination with adapter EBH..
- Gear unit PS.F.. in combination with adapter EPH..
- Gear unit PS.C.. in combination with adapters ECH.. or EPH..

For information on the options of gear units R.., F.., K.., S.. and W.., adapters AMS.., AT.., and AR.. as well as information on the input shaft assembly AD.., refer to the "Gear Units" catalog.

1.6.2 Additional documentation

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

Catalogs

- CM3C60 – CM3C100 Synchronous Servomotors
- CMP40 – CMP112, CMPZ71 – CMPZ100 Synchronous Servomotors
- CM3C63 – CM3C100 Synchronous Servo Gearmotors
- CMP40 – CMP112, CMPZ71 – CMPZ100 Synchronous Servo Gearmotors

Drive Engineering – Practical Implementation

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

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

1.7 Recycling, reprocessing, reuse

SEW-EURODRIVE GmbH & Co KG strives to use as few new natural resources as possible in the production of its products. An important aspect of this is the circular economy with the recycling of materials as well as the inspection and/or reprocessing of returned components and their reuse in new products. SEW-EURODRIVE GmbH & Co KG only uses these processes if the resulting materials and components are of the same quality as new parts.

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1.8 Decimal separator in numerical values

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

Example: 30.5 kg

1.9 Product names and trademarks

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

1.10 Copyright notice

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2 Product description

2.1 General information

2.1.1 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 specified in the catalog applies to an installation altitude of maximum 1000 m above sea level. Installation altitudes > 1000 m above sea level must be taken into account for project planning of gear units and gearmotors.

2.1.2 Speeds

The specified output speeds of the gearmotors are guide values. You can calculate the rated output speed based on the rated motor speed and the gear unit ratio. Note that the actual output speed depends on the motor load and the supply system conditions.

2.1.3 Noise

The sound power levels of the gear units, gearmotors, and motors correspond to ISO 8579-1 for gear units and gearmotors and comply with the limit values of IEC/EN 60034-9 for motors.

2.1.4 Painting

The servo gear units from SEW-EURODRIVE will be painted as follows:

Type	Painting
BS.F../PS.F../PS.C.. gear units with EBH.., EPH or ECH.. adapter	Black RAL9005
R..-, F..-, K..-, S..-, W.. gear units with AQS.. or EWH.. adapter	Black RAL9005

Alternative RAL colors or special paint options are available on request.

2.1.5 Power and torque

The listed torque ratings refer to mounting position M1 and similar mounting positions in which the input gear 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.

2.1.6 Heat dissipation and accessibility

Servo gearmotors and brakes can reach surface temperatures > 100 °C during operation. Make sure to maintain adequate distance from heat-sensitive components when installing gearmotors/geared brakemotors to the driven machine.

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2.1.7 Note on weight information

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 the exact weight, refer to the quotation or the order confirmation.

2.1.8 Multi-stage gearmotors

Particularly low output speeds are achieved with compound gear units or compound gearmotors. A helical gear unit is mounted on the input side as a second gear unit. If desired, helical-bevel gear units can also be implemented as input gear units. Consult SEW-EURODRIVE in such cases.

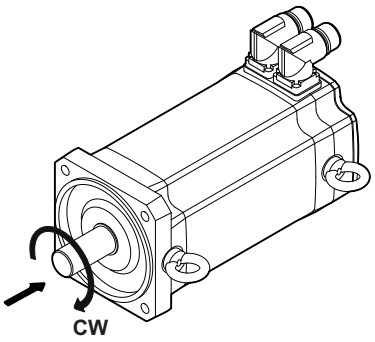
For compound gear units, the maximum motor torque must be limited according to the maximum permitted output torque of the gear unit.

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2.1.9 Directions of rotation

Direction of rotation of the motor shaft

Clockwise (CW) direction of rotation when looking onto the motor shaft.



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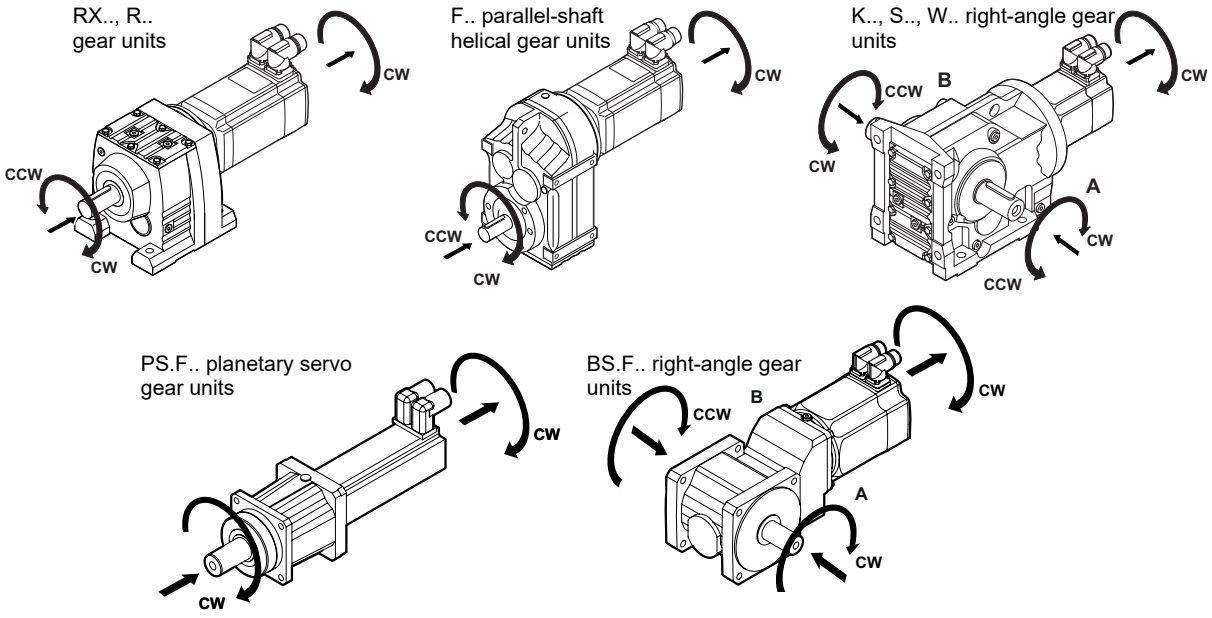
Direction of rotation of the output shaft

Standard direction of rotation when looking onto the output shaft of the gear unit:

- CW (clockwise)

  Clockwise direction of rotation
- CCW (counterclockwise)

  Counterclockwise direction of rotation



Direction of rotation of the gear unit

Shaft position A, B, or AB (shaft output at both ends) is possible for K.. helical-bevel gear units, S.. helical-worm gear units, and SPIROPLAN® W.. right-angle gear units. The direction of rotation is indicated according to the shaft position when looking onto the output end A or B or onto A and B respectively.

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The following table specifies the standard direction of rotation for the CW direction of rotation of the motor.

Series	Size	Gear unit stages	Shaft position	Standard direction of rotation when looking onto the output shaft[1)]
RX	57 – 107	1		CCW
R	07 – 147	2		CW
		3		CCW
F	27 – 127	2		CW
		3		CCW
PS.C	221 – 622	1		CW
		2		CW
PS.F	121 – 922	1		CW
		2		CW

1) CW = clockwise; CCW = counterclockwise.

Series	Size	Gear unit stages	Shaft position	Standard direction of rotation when looking onto the output shaft[1)]	
				View of output end A	View of output end B
K	19 – 49	2	A	CW	
			AB	CW	CCW
			B		CCW
K	37 – 127	3	A	CCW	
			AB	CCW	CW
			B		CCW
S	37 – 67	2	A	CW	
			AB	CW	CCW
			B		CCW
W	10 – 30	1	A	CCW	
			AB	CCW	CW
			B		CW
W	19 – 59	2	A	CW	
			AB	CW	CCW
			B		CCW
		3	A	CCW	
			AB	CCW	CW
			B		CW

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Series	Size	Gear unit stages	Shaft position	Standard direction of rotation when looking onto the output shaft[1)]	
				View of output end A	View of output end B
BS.F	202 – 802	2	A	CW	
			AB	CW	CCW
			B		CCW

1) CW = clockwise; CCW = counterclockwise.

2.1.10 Corrosion and surface protection

General information

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

- KS corrosion protection for motors
- OS surface protection 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.

KS corrosion protection

KS corrosion protection for motors comprises the following measures:

- All retaining screws that are loosened during operation are made of stainless steel.
- The nameplates are made of stainless steel.
- Various motor parts have a surface coating.
- The flange contact surfaces and shaft ends are treated with a temporary rust preventive.
- For brakemotors, additional measures are performed.

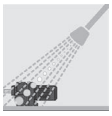
A sticker labeled "KORROSIONSSCHUTZ" (corrosion protection) on the fan guard indicates that special treatment has been applied.

The /VR forced cooling fan motor option cannot be delivered with KS corrosion protection.

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OS surface protection

As an option for standard surface protection, motors and gear units are also available with OS1 to OS4 surface protection. The special measure "Z" is also available. 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 indoor spaces with neutral atmospheres. According to corrosivity category:[3)] • C1 (negligible)	• Machinery and systems in the automotive industry • Transport systems in the logistics area • 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		Suited 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. Occasionally 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
OS4		Suitable for environments with permanent humidity and severe atmospheric or chemical contamination. Regular acidic and caustic wet cleaning, also with chemical cleaning agents. Based on corrosivity category[3)]: • C5 (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 for motors.
3) According to ISO 12944-2 classification of the ambient conditions.

Special protection measures

Output shafts for gear units and gearmotors can be treated with special optional protective measures for operation subject to severe environmental pollution or in particularly demanding applications.

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Gear unit type	Measure	Protection principle	Suitable for
R, F, K, S, W, BS.F202 – 602[1)]	FKM oil seal	High-quality material	Chemically and thermally stressed drives
R, F, K, S, W	Stainless steel output shaft	Surface protection with high-quality material	Particularly demanding applications in terms of corrosion

1) For PS.F, PS.C and BS.F802 gear units, FKM oil seals are used as standard.

NOCO-Paste

As standard, SEW-EURODRIVE supplies the corrosion protection and lubricant fluid NOCO-Paste with every hollow shaft gear unit. Use NOCO-Paste when installing gear units with hollow shaft. You thereby reduce any fretting corrosion that occurs and make subsequent disassembly easier. NOCO-Paste is also suitable for protecting machined metal surfaces that do not have corrosion protection. These include parts of shaft ends or flanges, for example. You can also order NOCO-Paste in larger quantities from SEW-EURODRIVE.

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

NOCO-Paste H1 E1

Batch size	Packaging type	Part number
5.5 g	Sachet	03054667
50 g	Tube	03054675
1 kg	Can	03054683

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2.1.11 Sealing systems

SEW-EURODRIVE offers sealing systems suitable for different ambient conditions and applications:

Input seals

Sealing system	Recommended use	Sealing system design	Recommended maintenance interval	Material
NBR Standard sealing system	• Speeds up to 1800 min^{-1} • Permitted temperature range -40 °C to +80 °C	Oil seal according to Fig. 1	≈ 10000 h	High-quality NBR (acrylonitrile butadiene rubber)[1)]
FKM Sealing system for increased rotational speeds and/or increased temperatures	• Speeds up to 4500 min^{-1} • Permitted temperature range -25 °C to +115 °C • S3 operation (high switching frequencies)	Oil seal with optimization based on Fig. 1	≈ 10000 h	High-quality FKM (fluorocarbon rubber mixture)[1]
Premium Sine Seal[2)] Premium sealing system for longer service life	• Speeds up to 4500 min^{-1} • Permitted temperature range -25 °C to +115 °C • S3 operation (high switching frequencies) • Extended maintenance interval • Especially recommended with CLP PG NSF H1 lubricants • Especially recommended with GearOil by SEW-EURODRIVE	Premium Sine Seal according to Fig. 2	≈ 20000 h	High-quality FKM (fluorocarbon rubber mixture)[1]
Premium Sine Seal conductive[2)] Premium sealing system for longer service life with electrically conductive fleece to suppress bearing currents	• Speeds up to 4500 min^{-1} • Permitted temperature range -25 °C to +115 °C • S3 operation (high switching frequencies) • Current passage in the motor bearings • Especially recommended with GearOil by SEW-EURODRIVE	Premium Sine Seal with electrically conductive properties based on Fig. 3	≈ 10000 h	High-quality FKM (fluorocarbon rubber)[1)], fleece with electrically conductive properties

1) Nitrile butadiene rubber, fluorocarbon rubber according to SEW-EURODRIVE specification 97 118_15.

2) Premium Sine Seal is designated only for the A-side of the motor. An FKM oil seal is used on the B-side.

= Oil side

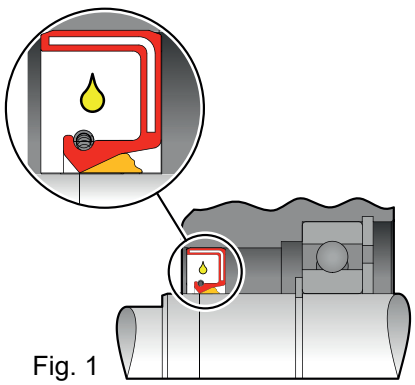


Fig. 1

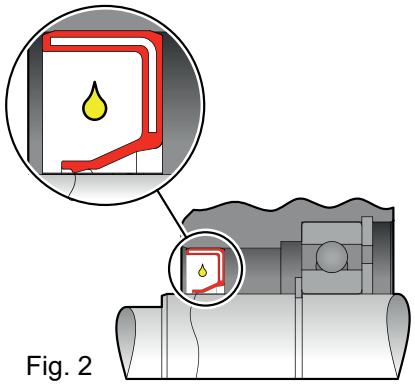


Fig. 2

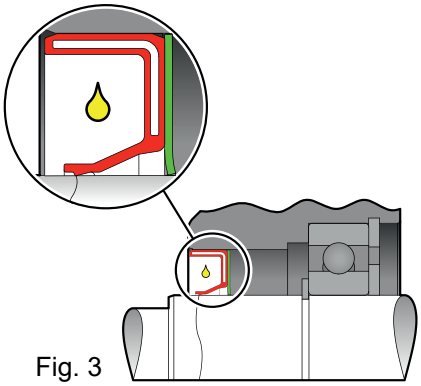


Fig. 3

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Output seals

Sealing system	Recommended use	Sealing system design	Recommended maintenance interval	Material
NBR Standard sealing system	• Temperature range from -40 °C to +80 °C • Moderate ambient conditions	Oil seal with dust lip according to Fig. 4	≈ 10000 h	High-quality NBR (Nitrile butadiene rubber)[1)]
FKM Sealing system for elevated temperatures	• Permitted temperature range -25 °C to +115 °C • S3 operation (high switching frequencies) • Moderate ambient conditions	Oil seal with dust lip according to Fig. 4	≈ 10000 h	High-quality FKM (fluorocarbon rubber mixture)[1]
NBR/FKM Combination seal – premium sealing system for longer service life, especially at low temperatures	• Permitted temperature range -40 °C to +80 °C • Moderate ambient conditions • Extended maintenance interval • Especially recommended with GearOil by SEW-EURODRIVE	Combination seal comprising NBR oil seal with dust lip and FKM sine seal according to Fig. 5	≈ 20000 h	High-quality NBR in combination with high-quality FKM (fluorocarbon rubber mixture)[1)]
FKM/FKM Combination seal – premium sealing system for longer service life at elevated temperatures	• Permitted temperature range -25 °C to +115 °C • S3 operation (high switching frequencies) • Moderate ambient conditions • Extended maintenance interval • Especially recommended with CLP PG NSF H1 lubricants • Especially recommended with GearOil by SEW-EURODRIVE	Combination seal comprising FKM oil seal with dust lip and FKM sine seal according to Fig. 5	≈ 20000 h	High-quality FKM (fluorocarbon rubber mixture)[1]
FKM + fleece On request: Sealing system for very demanding ambient conditions	• Permitted temperature range -25 °C to +115 °C • S3 operation (high switching frequencies) • Abrasive and damp ambient conditions	Oil seal with dust lip and fleece disk based on Fig. 6	≈ 10000 h	High-quality FKM (fluorocarbon rubber mixture)[1] +special fleece

1) Nitrile butadiene rubber, fluorocarbon rubber according to SEW-EURODRIVE specification 97 118_15.

= Oil side

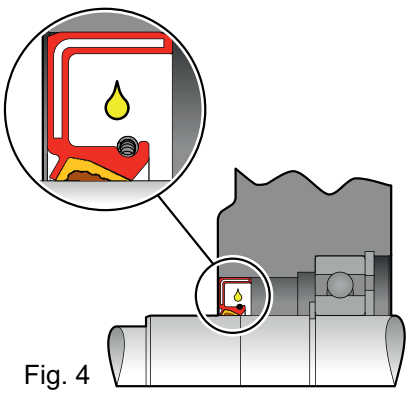


Fig. 4

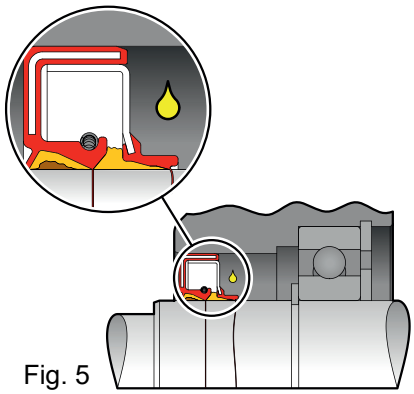


Fig. 5

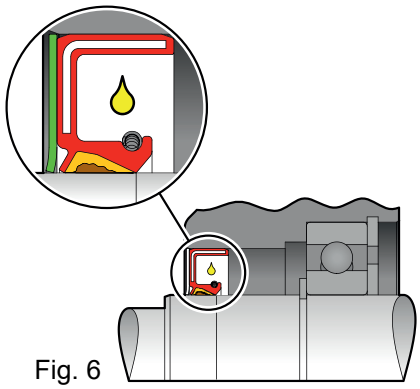


Fig. 6

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2.1.12 Extended storage

Design

SEW-EURODRIVE recommends the "extended storage" gear unit design for storage periods longer than 9 months. A VCI anti-corrosion agent (**v**olatile **c**orrosion **i**nhibitors) is added to the lubricant of these gear units. 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.

The gear units come with the oil fill according to the specified mounting position (M1 – M6). To prevent the VCI anti-corrosion agent from evaporating, the gear units in "extended storage" design must remain tightly sealed until startup.

For W.0- and PS.C.. gear units, the extended storage option is not available. Contact SEW-EURODRIVE for issues relating to extended storage for PS.F gear units.

Long-term storage in combination with food-grade lubricants (NSF-H1) is not permitted.

Storage conditions for long-term storage

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

Climate zone	Packaging[1)]	Storage[2)]	Storage period
Temperate (Europe, USA, Canada, China and Russia except for tropical areas)	• Packed in containers • With desiccant and moisture indicator sealed in the plastic wrap	• Roofed • Protected against rain and snow • Vibration-free	Up to 4 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 cleanliness and mechanical damage during the inspection • Check corrosion protection for intactness.

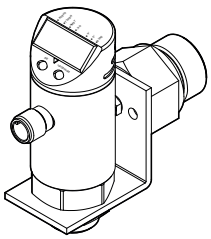
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Climate zone	Packaging[1)]	Storage[2)]	Storage period
Tropical (Asia, Africa, Central and South America, Australia, New Zealand with the exception of temperate regions)	• Packed in containers • With desiccant and moisture indicator sealed in the plastic wrap • Protected against insect damage and mildew by chemical treatment	• Roofed • Protected against rain and snow • Vibration-free	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 • Protected against insect damage	2 years or more with regular inspections • Check for cleanliness and mechanical damage during the inspection • Check corrosion protection for intactness

1) Packaging must be carried out by an experienced company using packaging material specifically suited for the application.
2) SEW-EURODRIVE recommends storing the gear units according to the mounting position.

2.1.13 Condition monitoring

Oil aging sensor /DUO10A



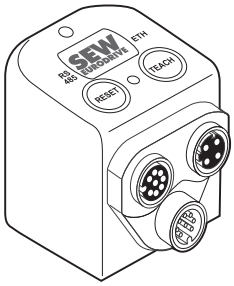
The DUO10A diagnostic unit consists of a temperature sensor and the actual evaluation unit. The service life curves of the oil grades common in SEW-EURODRIVE gear units are stored in the evaluation unit. SEW-EURODRIVE can customize any oil grade in the diagnostic unit. The remaining service life is displayed directly on the evaluation unit. During operation, the evaluation unit uses the oil temperature to continuously calculate the remaining service life in days until the next oil change. The remaining service life is displayed directly on the evaluation unit. When the service life has 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 advantages result in a reduction in maintenance and maintenance costs and an increase in system availability.

For technical data and part numbers of DUO10A oil aging sensors, refer to chapter "Information on oil aging sensor /DUO10A" (→ 🗎 191).

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Vibration monitoring system /DUV40A



The DUV40A vibration monitoring system is used to detect damage of gear units and gearmotors at an early stage (e.g. bearing damage or imbalances). Permanent broadband frequency-selective monitoring of the gearmotor is used for this purpose. 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 alarm state using LEDs.

The SmartWeb software is used to configure and visualize the DUV40A system. If you use several DUV40A systems, you can control them via the SmartUtility Light software centrally from one PC (this software is included in the scope of delivery).

If you purchase the full version of the SmartUtility, 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 numbers and technical data, refer to chapter "Information on the /DUV40A vibration monitoring system" (→ 🗎 192).

2.1.14 Explosion protection according to ATEX

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.

Available designs according to ATEX

SEW-EURODRIVE supplies explosion-protected 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 design types are available:

- Gear units with adapter AQSA.., EBH.. and EPH.. in version II2GD
- Gearmotors and motors in designs 2G, 2D and 2GD
- Gear units and gearmotors in designs 3G, 3D and 3GD

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.

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2.2 Product description – R, F, K, S, W gear units

2.2.1 Operating temperatures

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

Gear units

When filling the gear units in accordance with the lubricant table, the following standard temperature ranges are permitted:

Gear unit	Filling with	Permitted standard temperature range
K..19 – K..49	CLP PG VG460	-20 °C to +40 °C
K..37 – K..127 **RX.57 – RX.107** **R.07 – R.147** **F..27 – F..127**	CLP(CC) VG220	-15 °C to +40 °C
S..37 – S..67	CLP(CC) VG680	0 °C to +40 °C
S..37p – S..67p	CLP PG VG460	-20 °C to +40 °C
W..10 – W..30	CLP PG VG460	-20 °C to +40 °C
W..19 – W..59	CLP PG VG220	-25 °C to +40 °C

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

Gear units from SEW-EURODRIVE can be operated outside the standard temperature range if project planning is adapted to ambient temperatures from as low as up to -40 °C in the intensive cooling range 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.

2.2.2 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 significantly smaller than that of the standard designs which means that positioning tasks can be solved with great precision. The rotational clearance is specified in angular minutes in the selection tables. The rotational clearance $\varphi_{(/R)}$ for the output shaft is specified without load (max. 1% of the rated output torque) with blocked gear unit input side. The specified values have a tolerance of ±2 angular minutes. For further information, refer to chapter "Dimension sheet information" (→ 🗎 201).

K..9 helical-bevel gear units, SPIROPLAN® W..9 right-angle gear units and PS.C.. planetary gear units are not available with reduced backlash.

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2.2.3 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 agitating, mixing, blending or kneading application from a wide range of industries is covered by one of the agitator designs of the gear unit.

For project planning, contact SEW-EURODRIVE.

Advantages of agitator gear units:

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

	Helical gear units RM.. series (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	67 / 77 / 87 / 97 / 107 / 127	67 / 77 / 87 / 97 / 107 / 127
Gear unit 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 end for additional protection against leakage
- Grease nipple for relubrication of output shaft bearings
- The gear units use series housings and series gearing components. The special flange is bolted to the output end of the standard gear unit.
- Energy efficiency classes IE1 – IE4 for gearmotors
- Motor power range of 0.12 to 200 kW.
- AMS.. motor adapter for mounting IEC and NEMA motors

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

- Reinforced bearings also opposite the output end. 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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2.2.4 SPIROPLAN® right-angle gearmotors

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

Thanks to the particularly short design and aluminum housing, very compact and lightweight drive solutions can be realized.

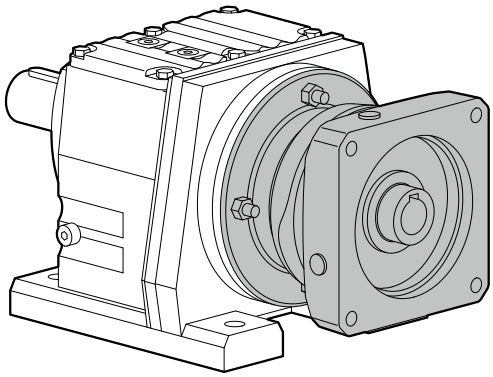
The wear-free gearing and the lubrication for life facilitate long periods of maintenance-free operation. The identical hole spacing in the foot and face as well as the same shaft height to both makes for a number of mounting options.

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

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2.2.5 Adapter AQS.. for servomotors

The following figure shows a helical gear unit with adapter AQS..:



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An adapter with square flange is used for mounting servomotors to R, F, K, S, and W.9 gear units.

The torque is transmitted via a claw coupling. Possible vibrations and shocks occurring during operation are effectively attenuated and dissipated by an inserted polyurethane girth gear.

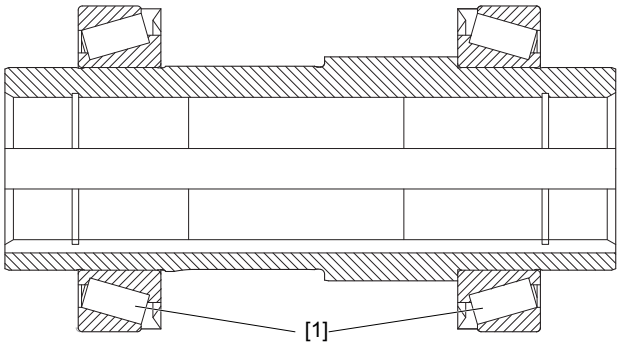
Design variants

The coupling half on the motor side can be designed either with a clamping ring hub (non-positive, for smooth motor shafts) or with a keyway (positive).

Designation	
AQSA..	With keyway
AQSH..	With clamping ring hub

2.2.6 Reinforced hollow shaft bearing

With the reinforced hollow shaft bearing, the standard deep groove ball bearings are replaced with tapered roller bearings. This measure enables considerably higher overhung and axial loads and at the same time an increased service life of the bearings. Contact SEW-EURODRIVE for additional information.



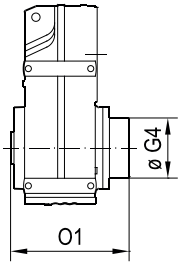
[1] Tapered roller bearings

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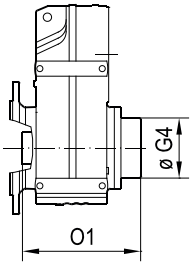
Gear unit dimensions with reinforced bearings

With the exception of the FA./FH.87 and FA./FH.97 gear units, the dimensions of the gear units with reinforced bearings are identical to those of the gear units with standard bearings. The following dimension drawings show the differing dimensions of FA./FH.87 and FA./FH.97 gear units with reinforced bearings:

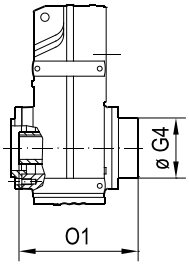
FH..
FH..B

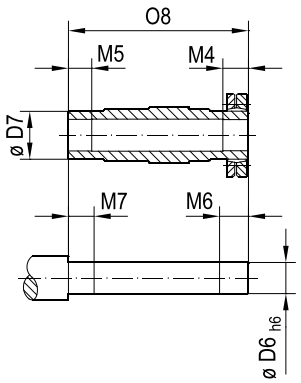


FHF..



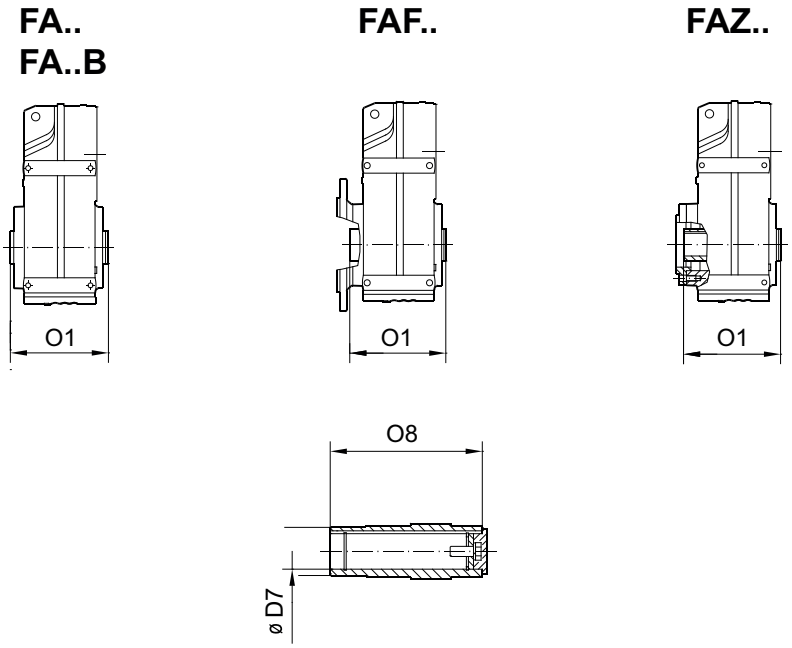
FHZ..





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

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Type	Dimensions in mm		
	D7	O1	O8
FA.87	Ø 60 H7	256.5	244
FA.97	Ø 70 H7	318	303.5

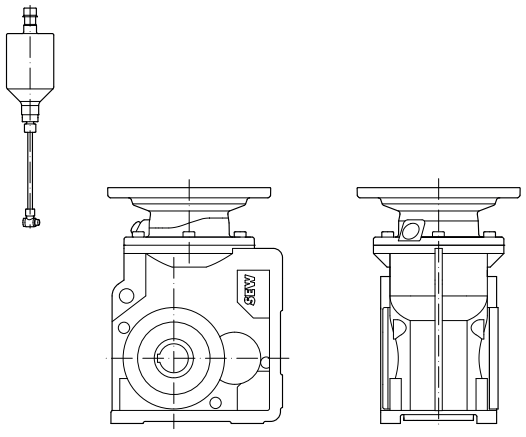
2.2.7 Oil expansion tank

The oil fill level for gear units in mounting position M4 is set due to 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 prevent oil from leaking. The oil expansion tank provides additional space for the lubricant to expand.

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 to 97 and input speeds > 1800 min^{-1}
- For gear units and gearmotors from size 107

The following figure shows the oil expansion tank mounted to a gear unit.



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The oil expansion tank is supplied as an assembly kit. Direct mounting to the drive is not possible with every servo gearmotor, depending on the respective motor option. Contact SEW-EURODRIVE. If space is limited, the oil expansion tank must be attached to nearby system components.

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

For more information, contact your SEW-EURODRIVE sales consultant.

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2.3 Product description – BS.F, PS.F, PS.C gear units

2.3.1 Operating temperatures

Servo gear units can be operated at ambient temperatures between -20 °C and +40 °C. For ambient temperatures outside the specified temperature range, contact SEW-EURODRIVE.

For information on churning losses and thermal rating, refer to chapter "Churning losses and thermal rating" (→ 🗎 62).

2.3.2 Direct motor mounting

The servo gearmotors from SEW-EURODRIVE make it possible to mount servo gear units directly to the synchronous servomotors from SEW-EURODRIVE without an adapter or coupling. These integrated servo gearmotors provide shaft-hub connections that are all positive and free from backlash.

For information on the direct motor mounting, refer to the Servo Gearmotors catalog.

2.3.3 Motor mounting with adapter

The modular motor adapters EPH.., EBH.. and ECH.. can be used to mount nearly all other commercially available servomotors on SEW-EURODRIVE gear units in a straightforward and time-saving manner.

2.3.4 Low backlash and positioning accuracy

BS.F and PS.F gear units ensure a low rotational clearance even in the standard versions. The rotational clearance can be further reduced (/R) for all types and can even be minimized (/M) for PS.F gear units.

Rotational clearance will remain constantly low for the entire gear unit life due to the wear-free operating performance and high-endurance design of the running gears.

The rotational clearance is specified in angular minutes in the technical data. The rotational clearance is specified for the output shaft (max. 3% of the rated output torque) with blocked gear unit input side.

2.3.5 Extensive ratio range with fine graduation

All ratios from I = 3 to I = 100 are integers and finely stepped in a mathematically accurate manner. This means that the gear units are especially suitable for use with controllers that require integer resolution ratios.

2.3.6 Reliability, long service life and low maintenance

The high reliability of servo gear units from SEW-EURODRIVE in the system is ensured by the use of high-strength materials, high-quality rolling bearings, long-lasting oil seals and synthetic lubricants.

2.3.7 High overload capacity

Exactly matched components as well as backlash-free and positively connected drive elements ensure that highest torques can be transferred and that large axial and radial forces can be absorbed.

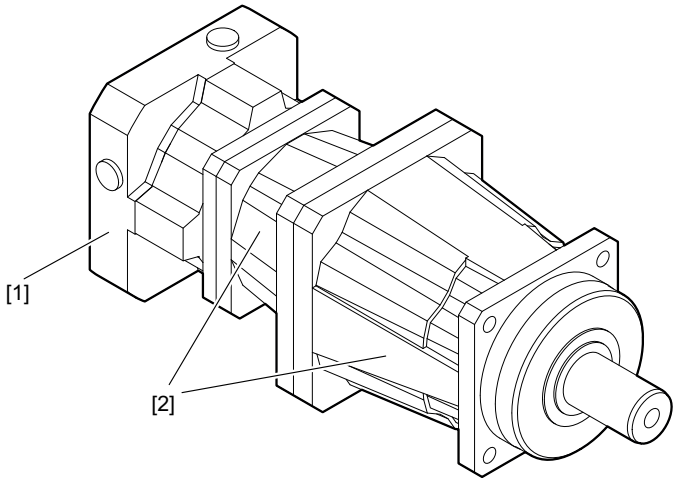
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2.3.8 Torsionally rigid

The special design of SEW-EURODRIVE servo gear units in conjunction with large shaft diameters ensure high torsional rigidity.

2.3.9 EPH.., EBH.., ECH.. adapters for servomotors

The following figure shows a planetary gear unit with EPH.. adapter:



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[1] EPH.. adapters
[2] PS.F gear unit (2 stages)

Adapters with square flange are used for mounting servomotors to the PS.F.., BS.F.., and PS.C.. gear units.

The coupling of the adapters on the motor side is designed with clamping ring hub (non-positive, for smooth motor shafts).

Designation	
EPH..	With clamping ring hub
EBH..	
ECH..	

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3 Overview of types and type designation

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

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

3.1.1 Helical gear units

Designation	Description
RX..	Single-stage foot-mounted design, 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

3.1.2 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

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3.1.3 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 according 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

3.1.4 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

3.1.5 SPIROPLAN® right-angle gear unit

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
WHF..	B5 flange-mounted design and hollow shaft with shrink disk
WH..	Hollow shaft with shrink disk
WT..	Hollow shaft with TorqLOC® hollow shaft mounting system

3.1.6 Options

R.., F.., and K..7 gear units:

Designation	Description
/R	Reduced backlash

K.., S.., and W.. gear units:

Designation	Description
/T	With torque arm

F.. gear units:

Designation	Description
/G	With rubber buffer

3.1.7 Condition monitoring

Designation	Description
/DUO	Diagnostic Unit Oil = Oil aging sensor
/DUV40A	Diagnostic Unit Vibration = Vibration sensor

3.1.8 Adapters

Designation	Description
AQSA..	With keyway
AQSH..	With clamping ring hub
EWH..	With clamping ring hub

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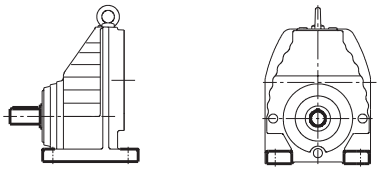
3.2 Design types of gear units – R, F, K, S, W gear units

INFORMATION

The designs described in this chapter refer to gearmotors from SEW-EURODRIVE. They also apply to gear units with motors.

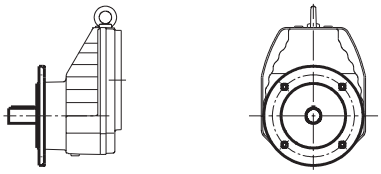
3.2.1 Helical gear units

The following design types of helical gear units are available:



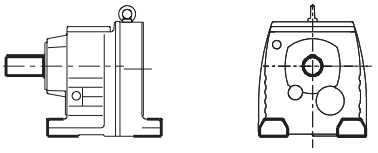
RX..

Single-stage helical gear units in foot-mounted design



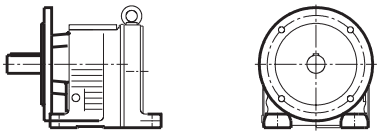
RXF..

Single-stage helical gear units in B5 flange-mounted design



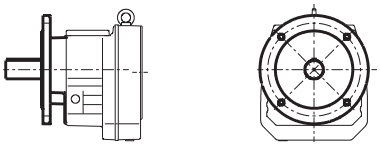
R..

Helical gear units in foot-mounted design



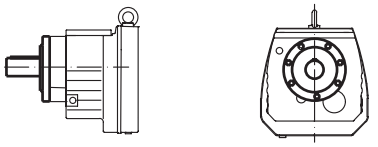
R..F

Helical gear units in foot and B5 flange-mounted design



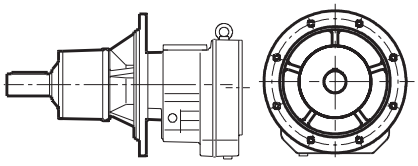
RF..

Helical gear units in B5 flange-mounted design



RZ..

Helical gear units in B14 flange-mounted design



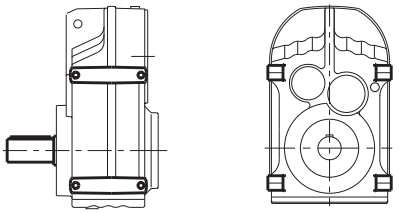
RM..

Helical gear units in B5 flange-mounted design with extended bearing hub

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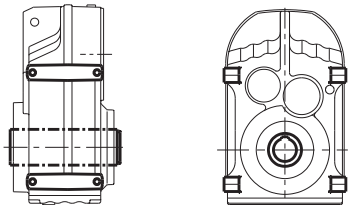
3.2.2 Parallel-shaft helical gear units

The following designs of parallel-shaft helical gear units are available:



F..

Parallel-shaft helical gear units in foot-mounted design

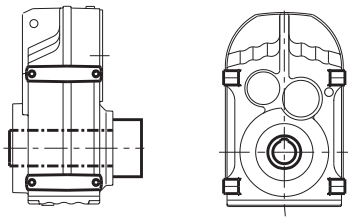


FA..B

Parallel-shaft helical gear units in foot-mounted design with hollow shaft

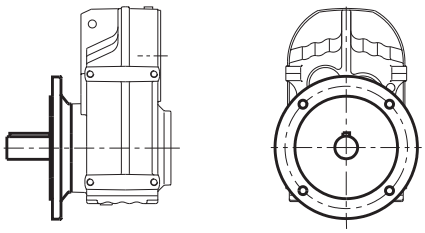
FV..B

Parallel-shaft helical gear units in foot-mounted design with splined hollow shaft according to DIN 5480



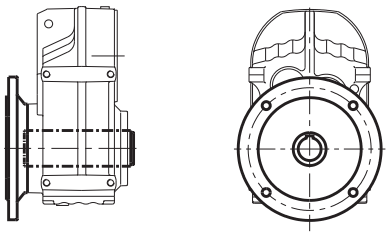
FH..B

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



FF..

Parallel-shaft helical gear units in B5 flange-mounted design

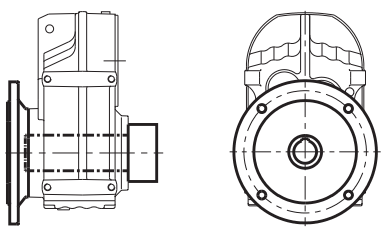


FAF..

Parallel-shaft helical gear units in B5 flange-mounted design with
hollow shaft

FVF..

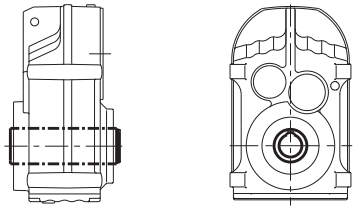
Parallel-shaft helical gear units in B5 flange-mounted design with
splined hollow shaft according to DIN 5480



FHF..

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

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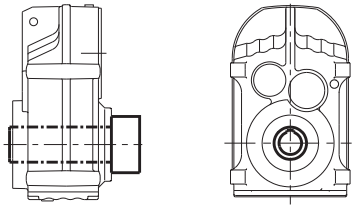


FA..

Parallel-shaft helical gear units with hollow shaft

FV..

Parallel-shaft helical gear units with splined hollow shaft according to DIN 5480

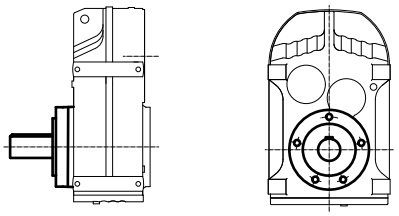


FH..

Parallel-shaft helical gear units with hollow shaft and shrink disk

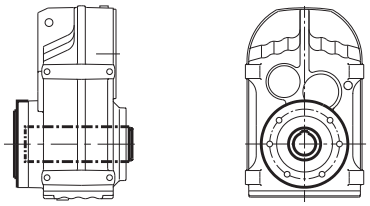
FT..

Parallel-shaft helical gear units with hollow shaft and TorqLOC® hollow shaft mounting system



FZ..

Parallel-shaft helical gear units in B14 flange-mounted design

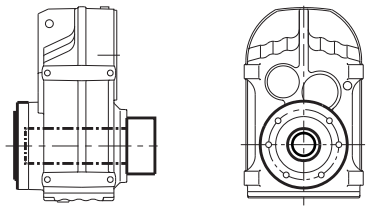


FAZ..

Parallel-shaft helical gear units in B14 flange-mounted design with hollow shaft

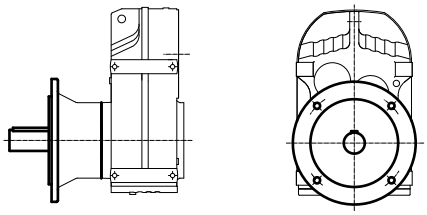
FVZ..

Parallel-shaft helical gear units in B14 flange-mounted design with splined hollow shaft according to DIN 5480



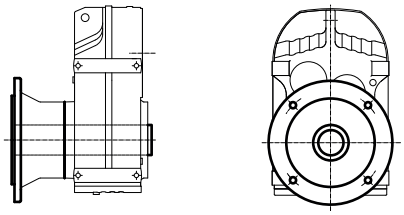
FHZ..

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



FM..

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



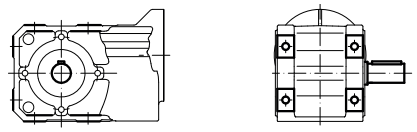
FAM..

Parallel-shaft helical gear units in B5 flange-mounted design with extended bearing hub with hollow shaft

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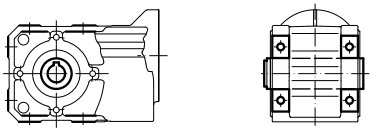
3.2.3 Helical-bevel gear units, gear unit sizes K..19 and K..29

The following designs of helical-bevel gear unit sizes K..19 and K..29 are available:



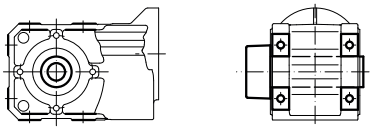
K19, K29

Helical-bevel gear units in foot-mounted design



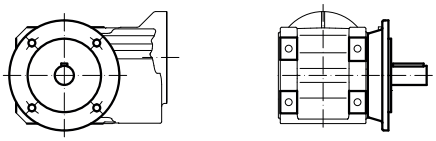
KA19B, KA29B

Helical-bevel gear units in foot-mounted design with hollow shaft in foot-mounted design



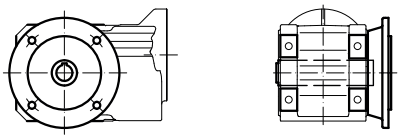
KH19B, KH29B

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



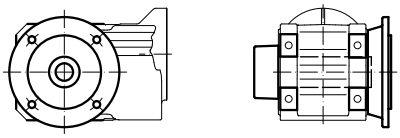
KF19B, KF29B

Helical-bevel gear units in B5 flange-mounted design in foot-mounted design



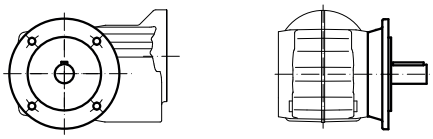
KAF19B, KAF29B

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



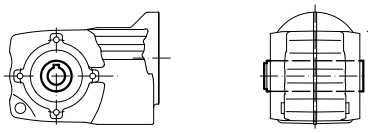
KHF19B, KHF29B

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



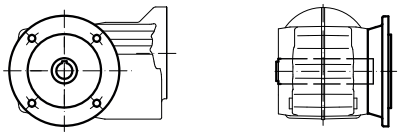
KF19, KF29

Helical-bevel gear units in B5 flange-mounted design



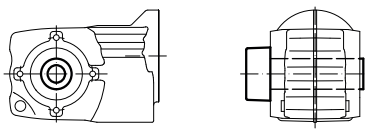
KA19, KA29

Helical-bevel gear units with hollow shaft



KAF19, KAF29

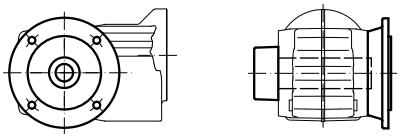
Helical-bevel gear units in B5 flange-mounted design with hollow shaft



KH19, KH29

Helical-bevel gear units with hollow shaft and shrink disk

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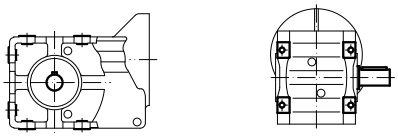


KHF19, KHF29

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

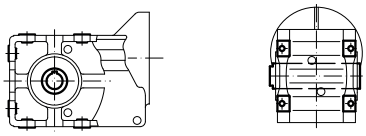
3.2.4 Helical-bevel gear units, gear unit sizes K..39 and K..49

The following designs of helical-bevel gear unit sizes K..9 are available:



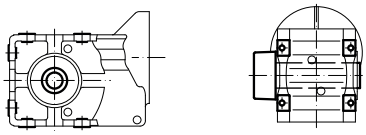
K39, K49

Helical-bevel gear units in foot-mounted design



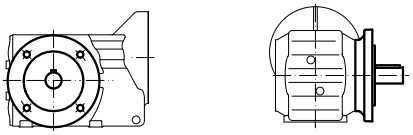
KA39B, KA49B

Helical-bevel gear units in foot-mounted design with hollow shaft



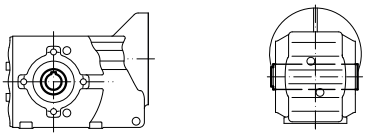
KH39B, KH49B

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



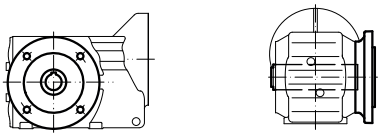
KF39, KF49

Helical-bevel gear units in B5 flange-mounted design



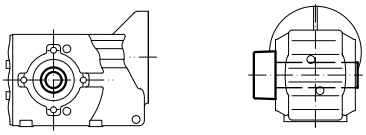
KA39, KA49

Helical-bevel gear units with hollow shaft



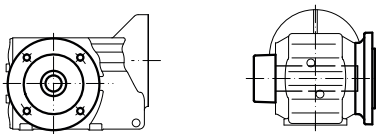
KAF39, KAF49

Helical-bevel gear units in B5 flange-mounted design with hollow shaft



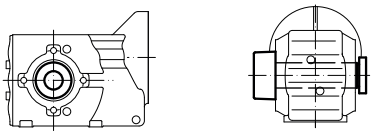
KH39, KH49

Helical-bevel gear units with hollow shaft and shrink disk



KHF39, KHF49

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



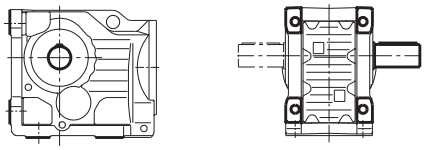
KT39, KT49

Helical-bevel gear units with hollow shaft and TorqLOC® hollow shaft mounting system

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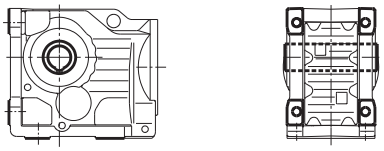
3.2.5 Helical-bevel gear units, gear unit sizes K..7

The following designs of helical-bevel gear unit sizes K..7 are available:



K..7

Helical-bevel gear units in foot-mounted design

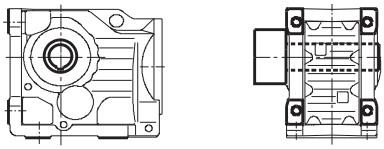


KA..7B

Helical-bevel gear units in foot-mounted design with hollow shaft

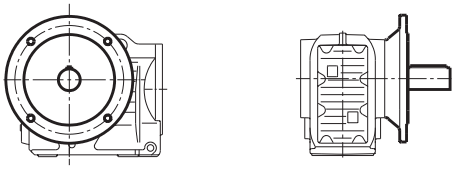
KV..7B

Helical-bevel gear units in foot-mounted design with splined hollow shaft according to DIN 5480



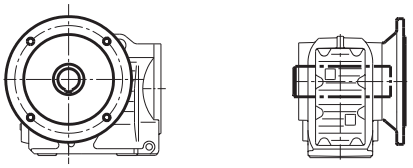
KH..7B

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



KF..7

Helical-bevel gear units in B5 flange-mounted design

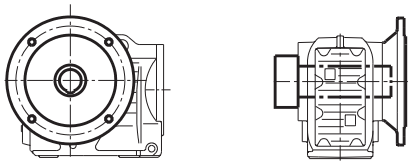


KAF..7

Helical-bevel gear units in B5 flange-mounted design with hollow shaft

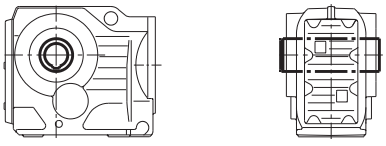
KVF..7

Helical-bevel gear units in B5 flange-mounted design with splined hollow shaft according to DIN 5480



KHF..7

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



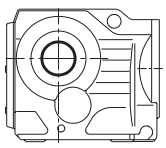
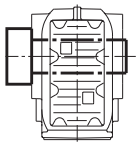
KA..7

Helical-bevel gear units with hollow shaft

KV..7

Helical-bevel gear units with splined hollow shaft according to DIN 5480

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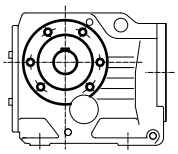
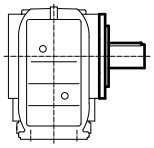



KH..7

Helical-bevel gear units with hollow shaft and shrink disk

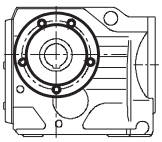
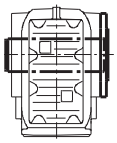
KT..7

Helical-bevel gear units with hollow shaft and TorqLOC® hollow shaft mounting system

KZ..7

Helical-bevel gear units in B14 flange-mounted design.

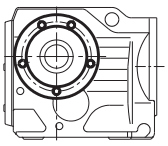
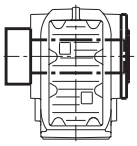



KAZ..7

Helical-bevel gear units in B14 flange-mounted design with hollow shaft

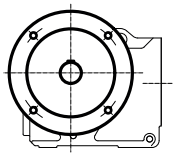
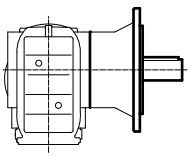
KVZ..7

Helical-bevel gear units in B14 flange-mounted design with splined hollow shaft according to DIN 5480

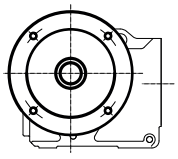
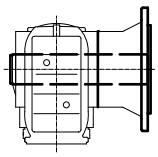
KHZ..7

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

KM..7

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

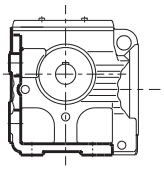
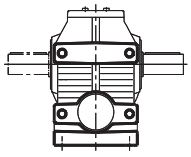



KAM..7

Helical-bevel gear units in B5 flange-mounted design with extended bearing hub with hollow shaft

3.2.6 Helical-worm gear units

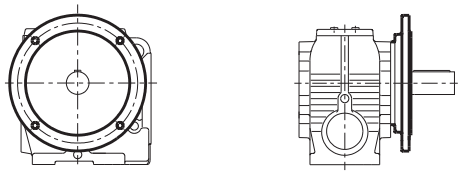
The following designs of helical-worm gear units are available:

S..

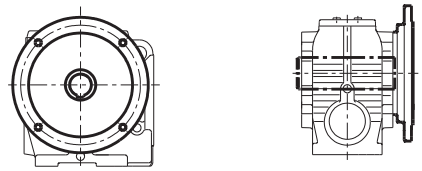
Helical-worm gear units in foot-mounted design

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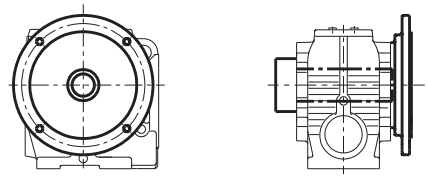
SF..

Helical-worm gear units in B5 flange-mounted design



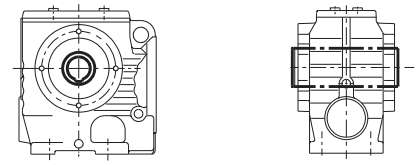
SAF..

Helical-worm gear units in B5 flange-mounted design with hollow shaft



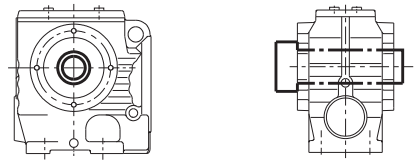
SHF..

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



SA..

Helical-worm gear units with hollow shaft

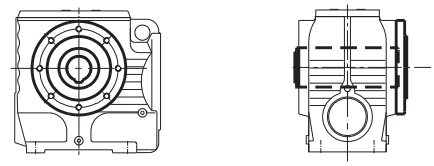


SH...

Helical-worm gear units with hollow shaft and shrink disk

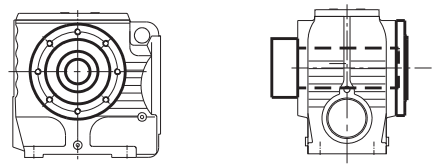
ST..

Helical-worm gear units with hollow shaft and TorqLOC® hollow shaft mounting system



SAZ..

Helical-worm gear units in B14 flange-mounted design with hollow shaft



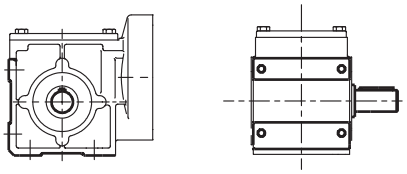
SHZ..

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

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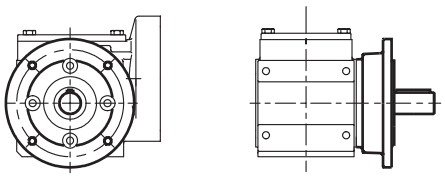
3.2.7 SPIROPLAN® right-angle gear units, gear unit sizes W..10, W..20, W..30

The following designs of SPIROPLAN® right-angle gear unit sizes W..10, W..20, and W..30 are available:



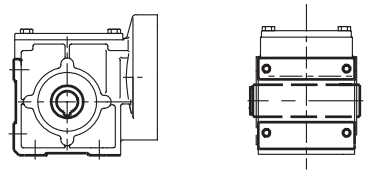
W10, W20, W30

SPIROPLAN® right-angle gear unit in foot-mounted design



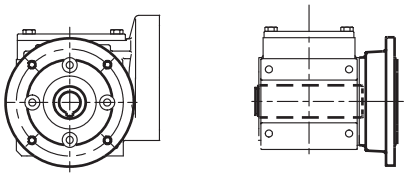
WF10, WF20, WF30

SPIROPLAN® right-angle gear unit in flange-mounted design



WA10, WA20, WA30

SPIROPLAN® right-angle gear unit with hollow shaft

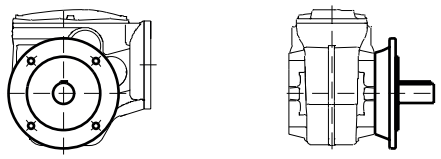


WAF10, WAF20, WAF30

SPIROPLAN® right-angle gear unit gear units in flange-mounted design with hollow shaft

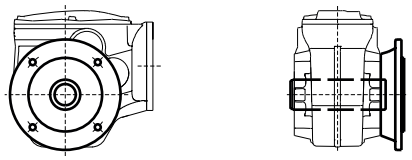
3.2.8 Spiroplan® right-angle gear unit, gear unit size W..9

The following designs of SPIROPLAN® right-angle gear units in gear unit size W..9 are available:



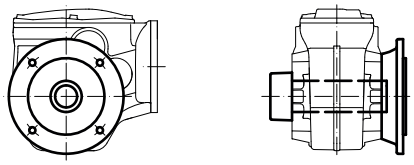
WF.9

SPIROPLAN® right-angle gear unit in B5 flange-mounted design



WAF.9

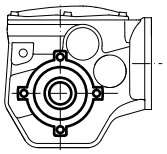
SPIROPLAN® right-angle gear unit gear units in B5 flange-mounted design with hollow shaft

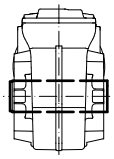


WHF.9

SPIROPLAN® right-angle gear unit in B5 flange-mounted design with hollow shaft and shrink disk

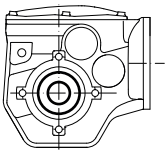
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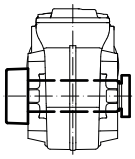




WA.9

SPIROPLAN® right-angle gear unit with hollow shaft





WH.9

SPIROPLAN® right-angle gear unit with hollow shaft and shrink disk

WT.9

SPIROPLAN® right-angle gear unit with hollow shaft and TorqLOC® hollow shaft mounting system

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3.3 Designs and options – BS.F.., PS.F.. and PS.C.. gear units

3.3.1 BS.F helical-bevel gear unit

Designation	Description
BSF..	Solid shaft without key (smooth)
BSKF..	Solid shaft with key
BSBF..	Solid shaft with flange block shaft
BSHF..	Hollow shaft with shrink disk
BSAF..	Hollow shaft with keyway
BSF..B	Solid shaft without key (smooth) and foot/front-end mounting
BSKF..B	Solid shaft with key and foot/front-end mounting
BSBF..B	Solid shaft with flange block shaft and foot/front-end mounting
BSHF..B	Hollow shaft with shrink disk and foot/front-end mounting
BSAF..B	Hollow shaft with keyway and foot/front-end mounting

3.3.2 PS.F planetary gear unit

Designation	Description
PSF..	Solid shaft without key (smooth)
PSKF..	Solid shaft with key
PSBF..	Solid shaft with flange block shaft

3.3.3 PS.C planetary gear unit

Designation	Designation
PSC..	Solid shaft without key (smooth)
PSKC..	B5 output flange, solid shaft with key
PSCZ..	B14 output flange, solid shaft
PSKCZ..	B14 output flange, solid shaft with key

3.3.4 BS.F.. gear unit options

Designation	Description
../R	Reduced backlash
../T	Torque arm
../I	Hollow shaft and shrink disk on the output end

3.3.5 PS.F.. gear unit options

Designation	Description
../R	Reduced backlash

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Designation	Description
../M	Minimized backlash

3.3.6 Adapters

Designation	Description
EPH..	With clamping ring hub
EBH..	With clamping ring hub
ECH..	With clamping ring hub

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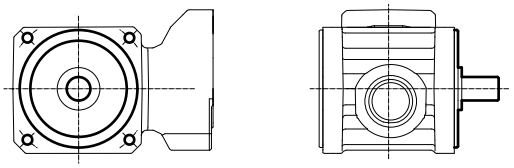
3.4 Design types of gear units – BS.F, PS.F, PS.C gear units

INFORMATION

The designs described in this chapter refer to gearmotors from SEW-EURODRIVE. They also apply to gear units with motors.

3.4.1 Helical-bevel gear units BS.F..

The following designs of helical-bevel gear units BS.F are available:

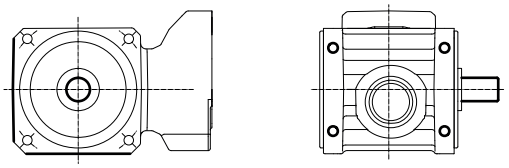


BSF..

Gear units with solid shaft (smooth), B5 output flange

BSKF..

Gear units with solid shaft and key, B5 output flange

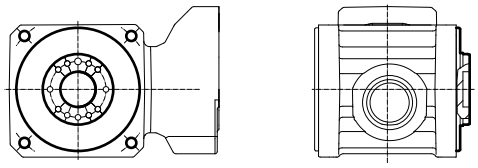


BSF..B

Gear units with solid shaft and front-end mounting

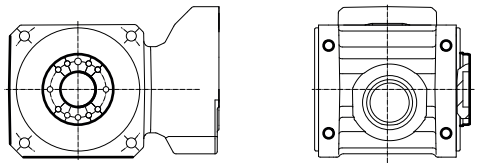
BSKF..B

Gear units with solid shaft, key and front-end mounting



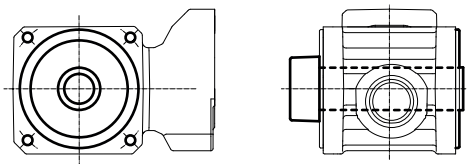
BSBF..

Gear units with flange block shaft, B5 output flange



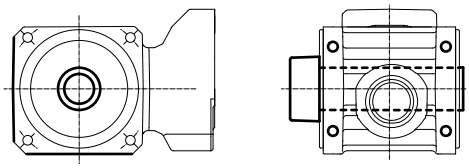
BSBF..B

Gear units with flange block shaft and front-end mounting



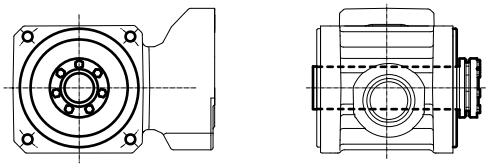
BSHF..

Gear units with hollow shaft and shrink disk, B5 output flange



BSHF..B

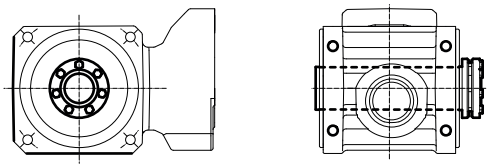
Gear units with hollow shaft, shrink disk and front-end mounting



BSHF../I

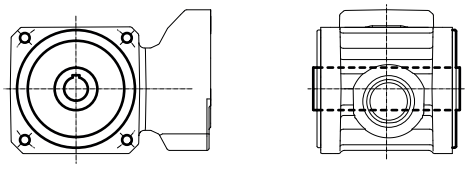
Gear units with hollow shaft and shrink disk at the output end

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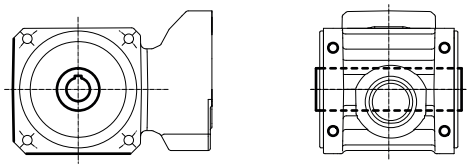
BSHF..B /I

Gear units with hollow shaft and shrink disk at the output end and front-end mounting



BSAF..

Gear units with hollow shaft and keyway, B5 output flange

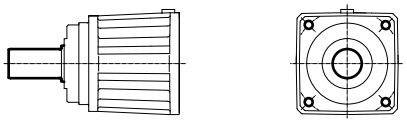


BSAF..B

Gear units with hollow shaft and keyway, B5 output flange and front-end mounting

3.4.2 Planetary gear units PS.F..

The following designs of planetary gear units are available:

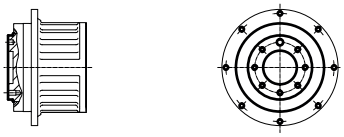


PSF..

Gear units with solid shaft (smooth), B5 output flange

PSKF..

Gear units with solid shaft and key, B5 output flange

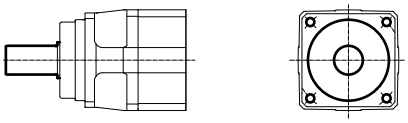


PSBF..

Gear units with flange block shaft, B5 output flange

3.4.3 Planetary gear units PS.C

The following designs of planetary gear units are available:

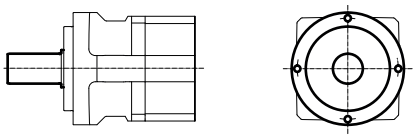


PSC..

Gear units with solid shaft (smooth), B5 output flange

PSKC..

Gear units with solid shaft and key, B5 output flange



PSCZ..

Gear units with solid shaft (smooth), B14 output flange

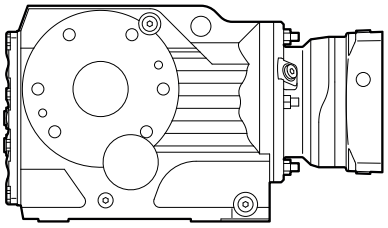
PSKCZ..

Gear units with solid shaft and key, B14 output flange

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3.5 Type designation of a gear unit

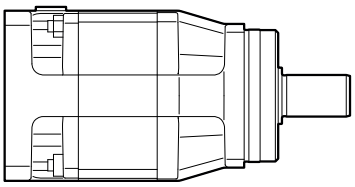
3.5.1 Example of type designation gear unit K..



9007234382458763

KA57 AQSH140/1	
K	Gear unit type
A	Design types
57	Gear unit size
AQS..	Adapter for mounting (non-SEW-EURODRIVE) motors to R.., F.., K.., S.., W..9 gear units
H	Coupling variant
140	Adapter size
/1	Motor flange mounting geometry

3.5.2 Example type designation gear unit PSC..



9007234382461195

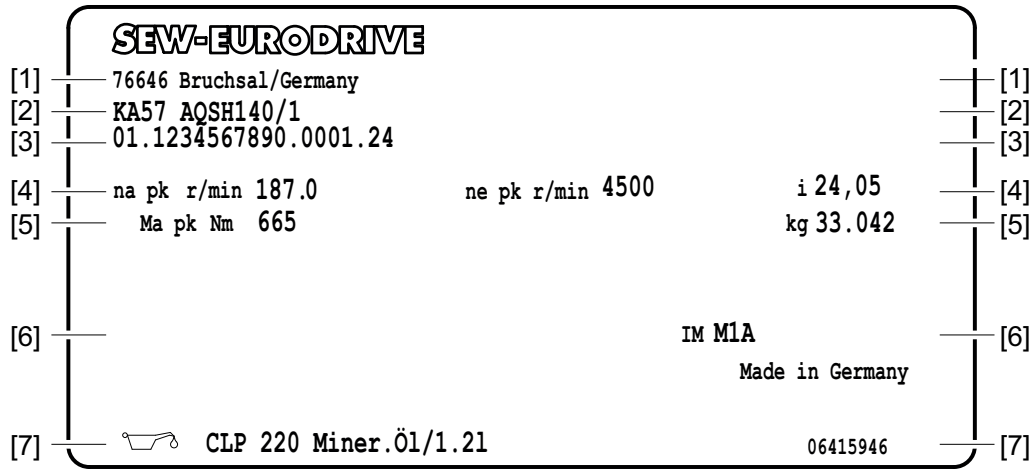
Example: PSC321 ECH03/13/04	
PSC	Gear unit type
321	Gear unit size
ECH..	Adapter for mounting (non-SEW-EURODRIVE) motors on servo gear units
03	Performance class key figure
/13	Flange geometry key figure (centering, hole circle)
/04	Coupling bore key figure

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3.6 Nameplates

3.6.1 Sample nameplates for helical-bevel gear units K.. with adapter AQS..

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



9007229676460427

[1]	• Manufacturer, address
[2]	• Type designation
[3]	• Serial number
[4]	• Maximum permitted output speed for short-time duty • Maximum permitted input speed for short-time duty • Gear ratio
[5]	• Maximum permitted output torque of the gear unit/adapter combination for short-time duty • Weight
[6]	• Mounting position
[7]	• Oil type and oil fill volume

The following figure shows an example of the 2nd nameplate:

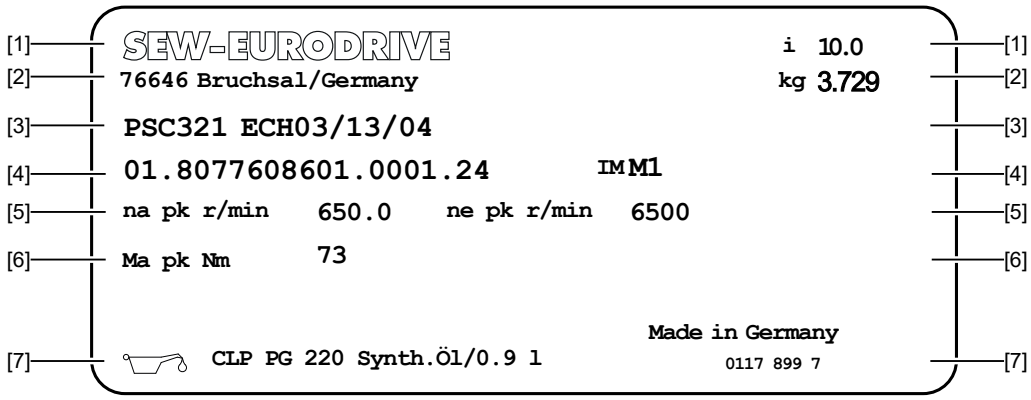


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	Product label with QR code. The QR code on the product can be scanned. You will be redirected to the Digital Services of SEW-EURODRIVE. There, you have access to product-specific data, documents, and further services. **In the "Documentation" > "Data and documents" area, the product manual of the device with further information is available.**

3.6.2 Sample nameplates for planetary gear units PSC.. with adapter ECH..

The following figure shows an example of a 1st nameplate for a PSC.. planetary gear unit with ECH adapter:



27021626777966859

Line	Information
[1]	• Manufacturer • Gear ratio
[2]	• Address • Weight
[3]	• Type designation
[4]	• Serial number • Mounting position
[5]	• Maximum permitted output speed for short-time duty • Maximum permitted input speed for short-time duty
[6]	• Maximum permitted output torque of the gear unit/adapter combination for short-time duty
[7]	• Oil type and oil fill volume

The following figure shows an example of a 2nd Nameplate:



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	Product label with QR code. The QR code on the product can be scanned. You will be redirected to the Digital Services of SEW-EURODRIVE. There, you have access to product-specific data, documents, and further services. **In the "Documentation" > "Data and documents" area, the product manual of the device with further information is available.**

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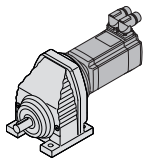
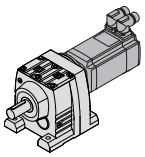
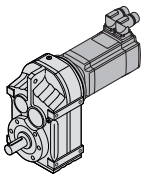
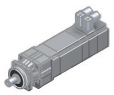
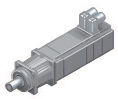
3.6.3 Explanation of the serial number

01.	0123456789.	0001.	24
Sales organization	Order number	Item number	Year of manufacture

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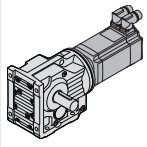
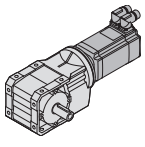
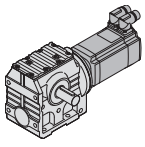
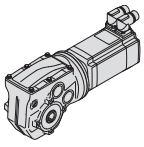
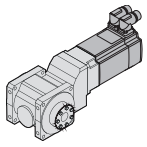
3.7 Overview of servo gearmotors

3.7.1 Axially parallel gear units

Gear unit type			RX.. (→ 🗎 209)	R.. (→ 🗎 209)	F.. (→ 🗎 331)	PS.C.. (→ 🗎 820)	PS.F.. (→ 🗎 745)
Technical data:							
Figure							
Peak torque	M_{apk}	Nm	54 – 1150	46 – 7000	130 – 8860	37 – 427	26 – 4200
Max. continuous torque	M_{amax}	Nm	69 – 830	50 – 20000	130 – 20000	29 – 347	20 – 3000
Max. input speed	n_{epk}	min^{-1}	Up to 4500	Up to 4500	Up to 4500	Up to 7000	Up to 8000
Peak overhung load	F_{rapk}	N	3970 – 30000	1220 – 43000	4500 – 65000	2000 – 11000	1900 – 83000
Gear ratio range	i		1.3 – 8.65	3.21 – 289.74	3.77 – 281.71	3 – 100	3 – 100
Reduced backlash option	/R		–	X	X	–	X
Option minimized backlash	/M		–	–	–	–	X
Mechanical data:							
Hollow shaft			–	–	X	–	–
Foot mounting			X	X	X	–	–
Flange block			–	–	–	–	X
B5 flange			X	X	X	X	X
B14 flange			–	X	X	X	–

X = available, – = not available

3.7.2 Right-angle gear unit

Gear unit type			K..7 (→ 🗎 444)	K..9 (→ 🗎 444)	S../S..p (→ 🗎 585)	W..0/W..9 (→ 🗎 637)	BS.F.. (→ 🗎 694)
Technical data:							
Figure							
Peak torque	M_{apk}	Nm	240 – 9090	88 – 605	104 – 740	25 – 720	60 – 1910
Max. continuous torque	M_{amax}	Nm	200 – 53000	80 – 500	92 – 720	25 – 600	40 – 1500
Max. input speed	n_{epk}	min^{-1}	4500	4500	4500	4500	4500

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Gear unit type			K..7 (→ 🗎 444)	K..9 (→ 🗎 444)	S../S..p (→ 🗎 585)	W..0/W..9 (→ 🗎 637)	BS.F.. (→ 🗎 694)
Peak overhung load	F_{Rapk}	N	7000 – 65000	4500 – 9000	3000 – 12000	1800 – 8000	4200 – 36000
Gear ratio range	i		3.98 – 197.37	2.81 – 75.20	3.97 – 75.06	4.68 – 213.21	3 – 40
Reduced backlash option	/R		X	–	–	–	X
Option minimized backlash	/M		–	–	–	–	–
Mechanical data:							
Hollow shaft			X	X	X	X	X
Foot mounting			X	X	X	X[1)]	X
Flange block			–	–	–	–	X
B5 flange			X	X	X	X	X
B14 flange			X	–	X	–	–

1) Only available for W.0.

X = available, – = not available

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4 Project planning of servo gear units

4.1 Additional documentation on project planning

For more detailed information about the project planning for drives, refer to the SEW-EURODRIVE website where you can order or download the following publications:

Technical data of motors and gear units

- "CM3C63 – CM3C100 Synchronous Servomotors" catalog
- "CMP40 – CMP112, CMPZ71 –CMPZ100 Synchronous Servomotors" catalog
- "Project Planning for BK.., BP.., BR.., BY.., BZ. Brakes" manual
- “Gear Units” (GK) catalog

Electronics documentation

- "MOVIDRIVE® MDX60/61B" (MDX) system manual
- “Multi-Axis Servo Inverter MOVIAXIS® MX” (MX) system manual
- "MOVITRAC® B" (MC) system manual

4.2 Required motor data

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

- Shaft diameter and shaft length
- Flange dimensions (edge length, diameter, centering shoulder and hole circle)
- Maximum torque
- Mass and center of mass

4.3 Drive and gear unit selection data

Application data

For the project planning of a drive, the data of the application must be known or are based on the customer's specifications.

For a summary of the abbreviations used in project planning, refer to the following table:

Designation	Meaning	Unit
C_{TG}	Torsional rigidity of the gear unit in Nm per angular minute	Nm/ ’
φ	Rotational clearance in angular minutes	’
η	Gear unit efficiency with M_{apk}	
η_L	Efficiency of the application	
F_A	Axial force (tension and pressure) on the output shaft	N
F_R	Overhung load acting on the output shaft	N
F_{Rapk}	Maximum permitted overhung load at the output shaft for short-time duty (load application point is the middle of the shaft end)	N
F_{Ramax}	Maximum permitted overhung load at the output shaft for continuous duty (load application point is the middle of the shaft end)	N

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Designation	Meaning	Unit
F_{Repk}	Maximum permitted overhung load at the input shaft for short-time duty (load application point is the middle of the shaft end)	N
F_{Remax}	Maximum permitted overhung load at the input shaft for continuous duty (load application point is the middle of the shaft end)	N
F_{Rakub}	Cubic overhung load at cubic torque M_{akub}	N
F_Z	Transmission element factor for overhung load	
h	Installation altitude	m asl
i	Gear unit ratio	
J_G	Mass moment of inertia of the gear unit	kgm^2
J_{ext}	Mass moment of inertia (extern) reduced to the motor shaft	kgm^2
J_{Mot}	Mass moment of inertia of the motor	kgm^2
J_L	Mass moment of inertia of the load	kgm^2
M_0	Standstill torque (thermal continuous torque at low speeds)	Nm
M_{aDyn}	Dynamic output torque assumed for the drive in project planning	Nm
M_{aeff}	Effective torque for component testing calculated in project planning	Nm
M_{akub}	Effective torque for bearing testing calculated in project planning	Nm
M_{amax}	Maximum permitted output torque for continuous duty	Nm
M_{apk}	Maximum permitted torque for short-time duty	Nm
$M_{aEmergOff}$	Emergency stop torque of the application	Nm
$M_{aNotaus}$	Maximum permitted emergency stop torque, max. 1000 emergency stops	Nm
M_{ath}	Effective torque for thermal testing calculated in project planning	Nm
M_B	Nominal torque brake	Nm
M_{pk}	Dynamic limit torque of the servomotor	Nm
M_{eff}	Effective torque requirement (in relation to the motor)	Nm
M_{max}	Maximum occurring torque of the application	Nm
n_{apk}	Maximum permitted output speed for short-time duty	min^{-1}
n_{epk}	Maximum permitted input speed for short-time duty	min^{-1}
n_{em}	Mean input speed	min^{-1}
n_{am}	Mean output speed	min^{-1}
n_{ak}	Breakpoint speed output	min^{-1}
n_{max}	Maximum occurring speed of the application	min^{-1}
n_N	Rated speed	min^{-1}
P_B	Braking power	W
P_{Bpk}	Peak braking power	W
P_{Beff}	Effective braking power	W
P_{B_tn}	Braking power in section t_n	W
S.., ..% cdf	Duty type and relative cyclic duration factor cdf, the exact load cycle can be entered instead	

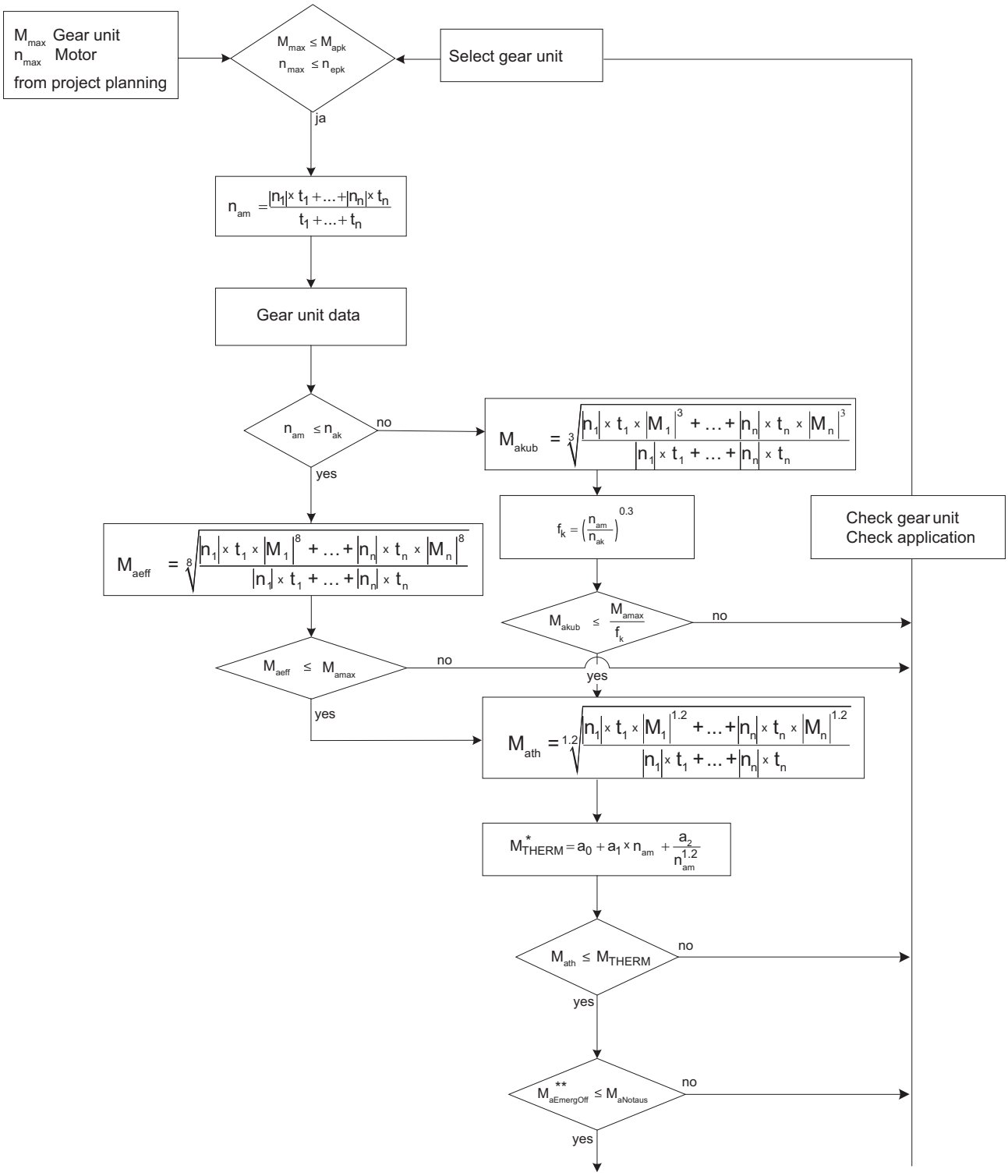
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Designation	Meaning	Unit
T_{amb}	Ambient temperature	°C
V_{sys}	System voltage, voltage of the supplying inverter	V
V_B	Operating voltage of the brake	V

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4.4 Project planning procedure for servo gear units

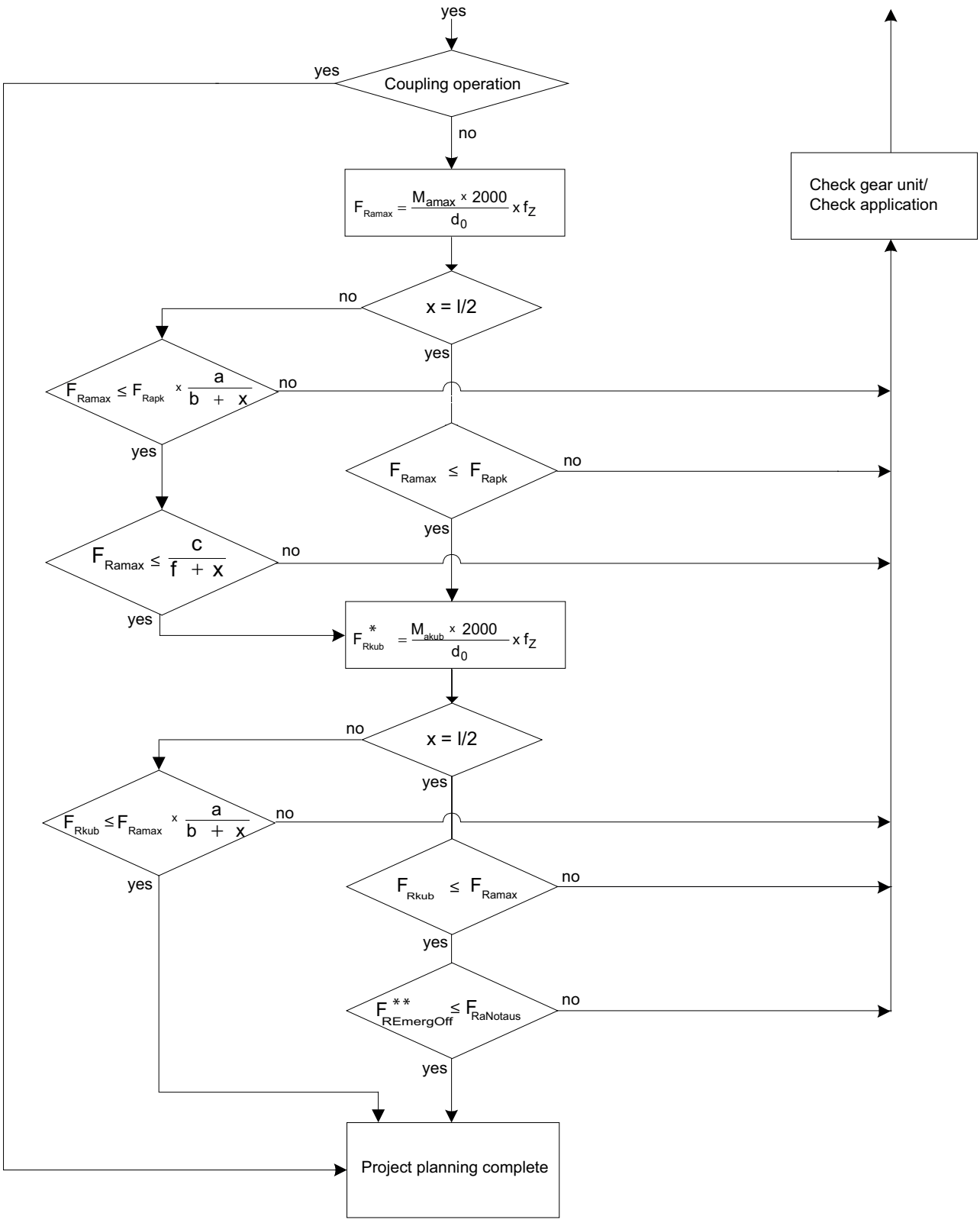
For more information on the individual formula symbol curves, refer to chapter "Drive and gear unit selection data" (→ 🗎 56).



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

** For determination, see the BK.., BP.., BR.., BY.., BZ.. Brake Project Planning manual by SEW-EURODRIVE.

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* For drive types with pretension (toothed belts, flat belts, narrow belts, and pinion/gear rack), the cubic overhung load (F_{RKub}) is equal to the maximum overhung load (F_{Rmax}).

** For determination, see BE.. Brake Project Planning manual by SEW-EURODRIVE.

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

4.5.1 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 is particularly pronounced with SPIROPLAN® right-angle gear units of the W..0 series and with helical-worm gear units.

For information on churning losses and thermal rating, refer to chapter "Churning losses and thermal rating" (→ 🗎 62).

R, F, K gear units

The gearing efficiency of helical, parallel-shaft and helical-bevel gear units varies with the number of gear stages, between 96% (3-stage), 97% (2-stage) and 98% (1-stage).

S and W gear units

The gearing in S and W..0 gear units produces a high proportion of sliding friction. This is the reason why these gear units have higher tooth friction losses and lower efficiencies than R, F, K or W..9 gear units.

Other factors influencing the efficiency:

- Gear ratio of the helical-worm gear stage
- Input speed
- Ambient temperature

Helical-worm gear units from SEW-EURODRIVE are helical gear/worm combinations that are significantly more efficient than plain helical-worm gear units.

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

Self-locking

With regenerative torques on helical-worm gear units, the efficiency $\eta' = 2 - 1/\eta$ applies, which is significantly less favorable than the forward efficiency η. The helical-worm gear unit is statically self-locking if the forward efficiency is $\eta \leq 0.5$. If the braking effect of self-locking is to be used technically, contact SEW-EURODRIVE.

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

Run-in phase

The tooth flanks of new helical-worm and SPIROPLAN® right-angle gear units of the W..0 series 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 ratio.

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

	Helical-worm gear units	
	i range	**η reduction**
1-speed	Approx. 50 – 280	Approx. 12%

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	Helical-worm gear units	
	i range	η reduction
2-speed	Approx. 20 – 75	Approx. 6%
3-speed	Approx. 20 – 90	Approx. 3%
5-speed	Approx. 6 – 25	Approx. 3%
6-speed	Approx. 7 – 25	Approx. 2%

	SPIROPLAN® right-angle gear units W..10 to W..30
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%

The run-in phase usually lasts 48 hours. 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.

4.5.2 Churning losses and thermal rating

* (→ 🗎 X)

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

- A mounting position where the first gear unit stage is completely immersed in the lubricant. The corresponding mounting positions of the gear units are marked with an * in chapter "Mounting position sheets" (→ 🗎 82).
- A high mean input speed and consequently a high circumferential speed of the gear wheels of the input gear stage. The corresponding gear unit ratios are indicated with footnote [1)] in the selection tables (see also chapter "Information on the selection tables for R.., F.., K.., S.., W.. gear units" (→ 🗎 198)).

If one or both conditions apply, determine the requirements from the application and the corresponding operating conditions (see chapter "Data for calculating the thermal rating" (→ 🗎 62)) 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 measures, such as by using a synthetic lubricant with higher thermal endurance properties.

To keep churning losses to a minimum, use the gear unit preferably in mounting position M1.

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 n_{em} or mean output speed n_{am} each in min^{-1}

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- Effective motor torque M_{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 situation:

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

4.5.3 Overhung and axial loads of R.., F.., K.., S.., W.. gear units

Determining the overhung load

When determining the resulting overhung load, the type of transmission element mounted on the shaft end must be considered. The following transmission element factors f_Z 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:

$$F_R = \frac{M_{max} \times 2000}{d_0} \times f_Z \times f_{Z1}$$

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F_R = Overhung load [F_R] = N
M_{max} = Torque [M_{max}] = Nm
f_Z = Transmission element factor
f_{Z1} = Transmission element factor f_{Z1} = 1.2 for ambient temperatures < -30 °C.
For ambient temperatures ≥ -30 °C, f_{Z1} = 1
d_0 = Overhung load determined by diameter of installed transmission element [d] = mm

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Permitted overhung load F_{Ra}

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

F_{Ra} 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_{Ra} listed in the catalog are based on the least favorable conditions.

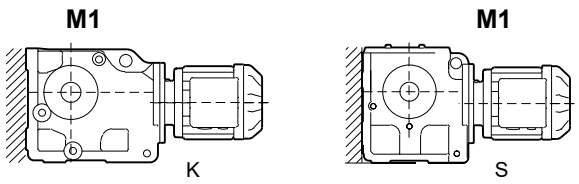
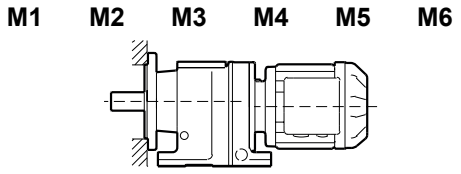
The permitted overhung loads F_{Ra} for the output shafts of foot-mounted gear units with a solid shaft are listed in the selection tables for gearmotors. For other designs, contact SEW-EURODRIVE.

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 shows the cases in which the overhung load must be limited:

Mounting surface	Gear unit	Mounting position	Limitation
	K37 – K127 S37 – S67 S37p – S67p	M1	Maximally 50% of the overhung load F_{Ra} specified in the selection tables is permitted in the case of mounting at the front-end (shaded areas).
	R07F – R87F	M1 – M6	For all foot-mounted/flange-mounted gear units (R..F..) with torque transmission via the flange connection, a maximum of 50% of the overhung load F_{Ra} specified in the selection tables is permitted.

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.

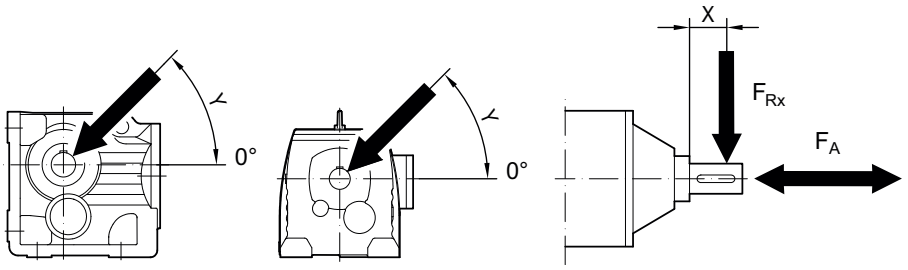
Furthermore, higher output shaft loads are permitted if heavy duty bearings are installed, especially with R, F and K gear units.

Contact SEW-EURODRIVE in such cases.

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Definition of the force application

Force application is defined according to the following figure:



γ	=	Force application angle	[γ] = °
F_{Rx}	=	Permitted overhung load at distance x	[F_{Rx}] = N
F_A	=	Permitted axial force	[F_A] = N

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
- Flat and helical-bevel gearmotors with solid shaft with the exception of F97..
- Helical-worm gearmotors with solid shaft

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.

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

For project planning for gear units with input shaft assembly and off-center force application, contact SEW-EURODRIVE.

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_{Rb} (according to bearing service life) and F_{Rw} (according to shaft strength) is the permitted value for the overhung load at distance X. Note that the calculations apply to M_{amax}. The permitted overhung load values F_{Ramax} specified in the data tables apply to force application at 0.5 × L (solid shaft).

The following conditions must be met:

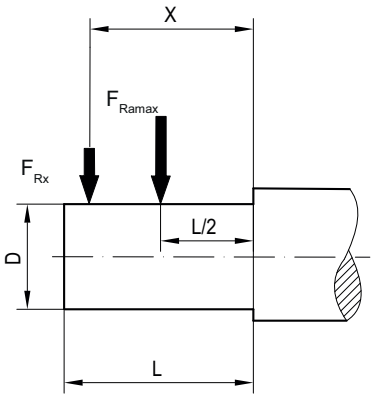
F_{Rb} according to bearing service life: $$F_{Rb} = F_{Ramax} \times \frac{a}{b + x}$$

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

F_{Rx}	Permitted overhung load at distance x	[F_{Rx}] = N
F_{Ramax}	Permitted overhung load	[F_{Ramax}] = N
x	Distance from the shaft shoulder to the force application point	[x] = mm

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a, b, f	Gear unit constants for overhung load conversion	[a, b, f] = mm
c	Gear unit constant for overhung load conversion	[c] = Nmm



Gear unit constants for overhung load conversion

Gear unit type	a mm	b mm	c Nmm	f mm	d mm	l mm
RX57	43.5	23.5	1.51×10^5	34.2	20	40
RX67	52.5	27.5	2.42×10^5	39.7	25	50
RX77	60.5	30.5	1.95×10^5	0	30	60
RX87	73.5	33.5	7.69×10^5	48.9	40	80
RX97	86.5	36.5	1.43×10^6	53.9	50	100
RX107	102.5	42.5	2.47×10^6	62.3	60	120
R07	72.0	52.0	4.67×10^4	11	20	40
R17	88.5	68.5	6.53×10^4	17	20	40
R27	106.5	81.5	1.56×10^5	11.8	25	50
R37	118	93	1.24×10^5	0	25	50
R47	137	107	2.44×10^5	15	30	60
R57	147.5	112.5	3.77×10^5	18	35	70
R67	168.5	133.5	2.65×10^5	0	35	70
R77	173.7	133.7	3.97×10^5	0	40	80
R87	216.7	166.7	8.47×10^5	0	50	100
R97	255.5	195.5	1.06×10^6	0	60	120
R107	285.5	215.5	2.06×10^6	0	70	140
R127	311	226	4.93×10^6	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
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

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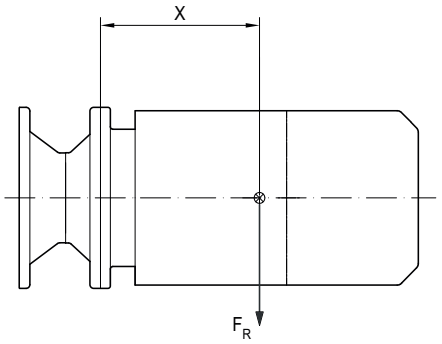
Gear unit type	a mm	b mm	c Nmm	f mm	d mm	l mm
F57	170.7	135.7	2.70×10^5	0	35	70
F67	181.3	141.3	4.12×10^5	0	40	80
F77	215.8	165.8	7.87×10^5	0	50	100
F87	263	203	1.06×10^6	0	60	120
F97	350	280	2.09×10^6	0	70	140
F127	442.5	337.5	9.45×10^6	0	110	210
K19	103.7	83.7	8.66×10^4	0	20	40
K29	124.5	99.5	1.26×10^5	0	25	50
K37	123.5	98.5	1.30×10^5	0	25	50
K39	155.5	125.5	2.25×10^5	0	30	60
K47	153.5	123.5	1.40×10^5	0	30	60
K49	183.5	148.5	2.63×10^5	0	35	70
K57	169.7	134.7	2.70×10^5	0	35	70
K67	181.3	141.3	4.12×10^5	0	40	80
K77	215.8	165.8	7.69×10^5	0	50	100
K87	252	192	1.64×10^6	0	60	120
K97	319	249	2.80×10^6	0	70	140
K107	373.5	288.5	5.53×10^6	0	90	170
K127	443.5	338.5	8.31×10^6	0	110	210
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
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

The values for the design not listed here are available on request.

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4.5.4 Permitted motor weight with adapter AQS.., EWH..

The following diagram shows the permitted distance x from the motor center of mass to the adapter flange depending on the permitted motor weight:



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⊗ Motor center of gravity
x Distance between adapter flange and motor center of gravity
F_R Overhung load

Permitted loads for gear unit model series R..7, F..7, K..7, K..9, S..7, S..7p and W..9:

Adapter	x[1)] mm	Gear unit input end flange diameter mm	F_R[1)] N
AQS50	45	≥ 105	200
AQS80	77	105	200
		≥ 120	370
AQS100	113	105	200
		≥ 120	350
AQS115	113	≥ 120	300
AQS140	144	120	300
		≥ 160	1550
AQS160	144	≥ 160	1450
AQS190	186	160	1250
		≥ 200	3750

Permitted loads for gear unit series W..0:

Adapter type EWH..	x[1)] mm	F_R[1)] N
EWH01	113	40
EWH02	120	56
EWH03	120	56

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1) Maximum load values for connection screws of strength class 8.8. If the center of gravity distance x increases, the maximum permitted weight F_R of the attached motor must be reduced linearly. If the center of gravity distance x decreases, the maximum permitted weight F_R must not be increased.

4.6 Project planning notes – BS.F.., PS.F.., PS.C.. gear units

4.6.1 Efficiency of the servo gear units

General

The efficiency of the gear units is mainly determined by the gearing and bearing friction. Keep in mind that the starting efficiency of a gear unit is always less than its efficiency at operating speed.

BS.F gear units

The maximum efficiency of BS.F gear units is approx. 94% (2-stage).

PS.F, PS.C gear units

The maximum efficiency of planetary gear units varies with the number of gear stages, between 98% (2-stage) and 99% (1-stage).

If PS.F gear units with rotational clearance option "M" should be used in duty type S1, please contact SEW-EURODRIVE.

For information on churning losses and thermal rating, refer to chapter "Churning losses and thermal rating" (→ 🗎 62).

4.6.2 Overhung loads and axial loads – BS.F, PS.F and PS.C gear units

Determining the overhung load

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

Transmission element	Transmission element factor f_z	Comments
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 pretension force
Flat belt pulleys	2.50	Consider influence of pretension force
Toothed belt pulleys	1.50	Consider influence of pretension force
Gear rack pinion, pretensioned	2.00	Consider influence of pretension force
Gear rack pinion, not pretensioned	1.15	< 17 teeth

Permitted overhung load

The permitted overhung loads are determined taking into account the rolling bearing calculation of the nominal bearing service life L_{H10} (according to ISO 281).

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For special operating conditions, the permitted overhung loads can be determined with regard to the modified bearing service life L_{na} on request.

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

Reduced overhung load

Only 50% of the F_{Ramax} and F_{Rapk} values specified in the selection tables are permitted in mounting positions M1 and M3 with wall attachment on the front face (/B) for BS.F gear units.

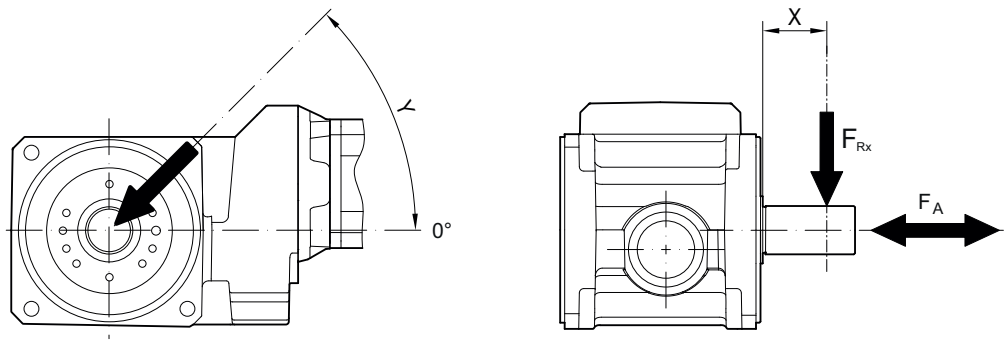
Higher permitted overhung loads

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.

Contact SEW-EURODRIVE in such cases.

Definition of the force application

The force application is defined according to the following figure:



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Permitted axial forces

If no overhung load is present, 50% of the overhung load according to the selection tables is permitted as axial force F_A (tension or compression).

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

In case of force application outside the center of the shaft end, the permitted overhung loads must be calculated according to the selection tables using the following formulas. The smaller of the two values F_{Rxb} (according to bearing service life) and F_{Rxw} (according to shaft strength) is the permitted value for the overhung load at distance x. Note that the calculations apply to M_{amax}. The permitted overhung load values F_{Ramax} and F_{Rapk} specified in the data tables apply to force application at 0.5 × l (solid shaft) or force application at the shaft end face (front end surface of the hollow shaft or front end of the flange block shaft with BSBF and PSBF gear units).

The following conditions must be met:

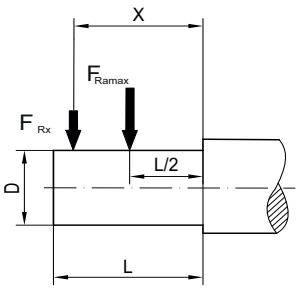
F_{Rb} according to bearing service life: $$F_{Rb} = F_{R\text{amax}} \times \frac{a}{b + x}$$

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

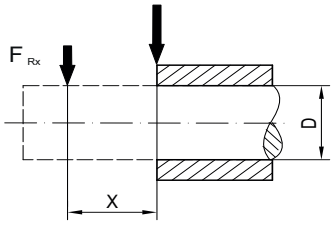
F_{Rx} Permitted overhung load at distance x $[F_{Rx}] = N$

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F_{Ramax}	Permitted overhung load	$[F_{Ramax}]$ = N
x	Distance from the shaft shoulder to the force application point	[x] = mm
a, b, f	Gear unit constants for overhung load conversion	[a, b, f] = mm
c	Gear unit constant for overhung load conversion	[c] = Nmm

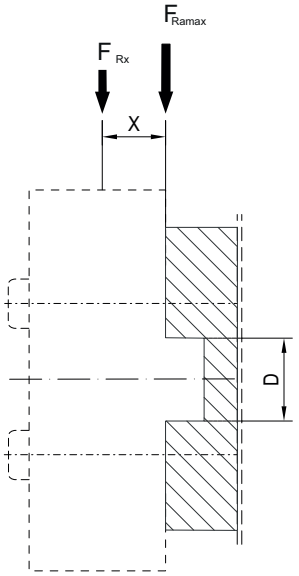


Solid shaft



Hollow shaft

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Flange block shaft

Gear unit constants for overhung load conversion

BSF/BS.F gear units	Size	a mm	b mm	c Nmm	f mm	d mm	l mm
BSF/BSKF	202	113.1	95.6	7.35×10^4	0	20	35
BSHF/BSAF		116.6	116.6	-	-	-	-
BSBF		101.5	101.5	-	-	-	-
BSF/BSKF	302	122.6	104.6	8.61×10^4	0	22	36
BSHF/BSAF		126.6	126.6	-	-	-	-
BSBF		111.0	111.0	-	-	-	-

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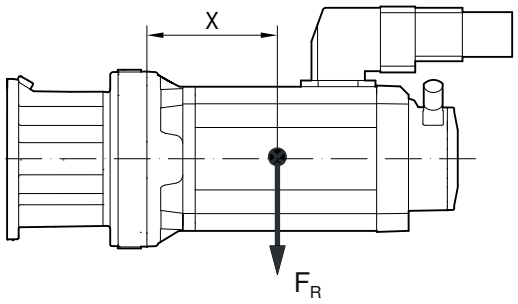
BSF/BS.F gear units	Size	a mm	b mm	c Nmm	f mm	d mm	l mm
BSF/BSKF	402	152.2	123.2	2.56×10^5	0	32	58
BSHF/BSAF		143.7	143.7	-	-	-	-
BSBF		132.0	132.0	-	-	-	-
BSF/BSKF	502	175.4	134.4	4.92×10^5	0	40	82
BSHF/BSAF		162.4	162.4	-	-	-	-
BSBF		145.3	145.3	-	-	-	-
BSF/BSKF	602	195.9	154.9	9.84×10^5	0	55	82
BSHF/BSAF		189.9	189.9	-	-	-	-
BSBF		170.8	170.8	-	-	-	-
BSF/BSKF	802	242.7	190.2	1.89×10^6	0	75	105
BSHF/BSAF		243.2	243.2	-	-	-	-
BSBF		206.0	206.0	-	-	-	-
PSF/PSKF	121/122	47.6	36.6	2.08×10^4	0	14	22
PSF/PSKF	221/222	53.6	39.6	2.41×10^4	0	16	28
PSBF	221/222	64.1	64.1	-	-	-	-
PSF/PSKF	321/322	65.0	47.0	7.97×10^4	0	22	36
PSBF	321/322	72.5	72.5	-	-	-	-
PSF/PSKF	521/522	83.1	54.1	2.52×10^5	0	32	58
PSBF	521/522	87.5	87.5	-	-	-	-
PSF/PSKF	621/622	113.6	72.3	5.48×10^5	0	40	82
PSBF	621/622	105.0	105.0	-	-	-	-
PSF/PSKF	721/722	126.6	85.6	1.42×10^6	0	55	82
PSBF	721/722	138.5	138.5	-	-	-	-
PSF/PSKF	821/822	153.2	100.7	3.21×10^6	0	75	105
PSBF	821/822	156.0	156.0	-	-	-	-
PSF/PSKF	921/922	170.7	105.7	5.30×10^6	0	85	130
PS.C	221/222	57	43	3.41×10^4	0	16	28
	321/322	63.5	45.5	7.55×10^4	0	22	36
	521/522	95.5	66.5	2.13×10^5	0	32	58
	621/622	107.5	66.5	3.68×10^5	0	40	82

The values for the design not listed here are available on request.

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4.6.3 Permitted motor weight with adapter EBH.., EPH.., ECH...

The following diagram shows the permitted distance x from the motor center of mass to the adapter flange depending on the permitted motor weight:



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⊗ Motor center of mass
x Distance between adapter flange and motor center of mass
F_R Permitted overhung load

BSF.. EBH..

Adapter type EBH..	x[1)] mm	F_R[1)] N
EBH03/01-14	182	157
EBH04/12-15	182	157
EBH05/14-20 EBH05/26	220	273
EBH06/19	290	312
EBH07/20-22 EBH07/27-28	290	312
EBH08/21-22	351	600
EBH09/22-25	400	680
EBH10/22-25	400	680

PSF.. EPH..

Adapter type EPH..	x[1)] mm	F_R[1)] N
EPH01/01-03	100	120
EPH02/04-13	120	150
EPH03/01-14	182	157
EPH04/01-15	182	157
EPH05/14-20 EPH05/26	220	273
EPH06/19	290	312
EPH07/20-22 EPH07/27-28	290	312
EPH08/21-22	351	600
EPH09/22-25	400	680

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Adapter type EPH..	x[1] mm	F_R[1] N
EPH10/22-25	400	680

PS.C.. ECH..

Adapter type ECH..	x[1] mm	F_R[1] N
ECH02/01	90	40
ECH02/08	130	94
ECH03/08	130	94
ECH03/13	155	170
ECH05/13	155	170
ECH05/14	200	306
ECH06/14	200	306
ECH06/20	235	530

PS.C.. EPH..

Adapter type EPH..	x[1] mm	F_R[1] N
EPH01/01-03	100	120
EPH02/04-08	120	150
EPH03/01-14	182	157
EPH04/01-15	182	157
EPH05/14-20 EPH05/26	220	273
EPH06/19	290	312
EPH07/20-22 EPH07/27-28	290	312
EPH08/21-22	351	600

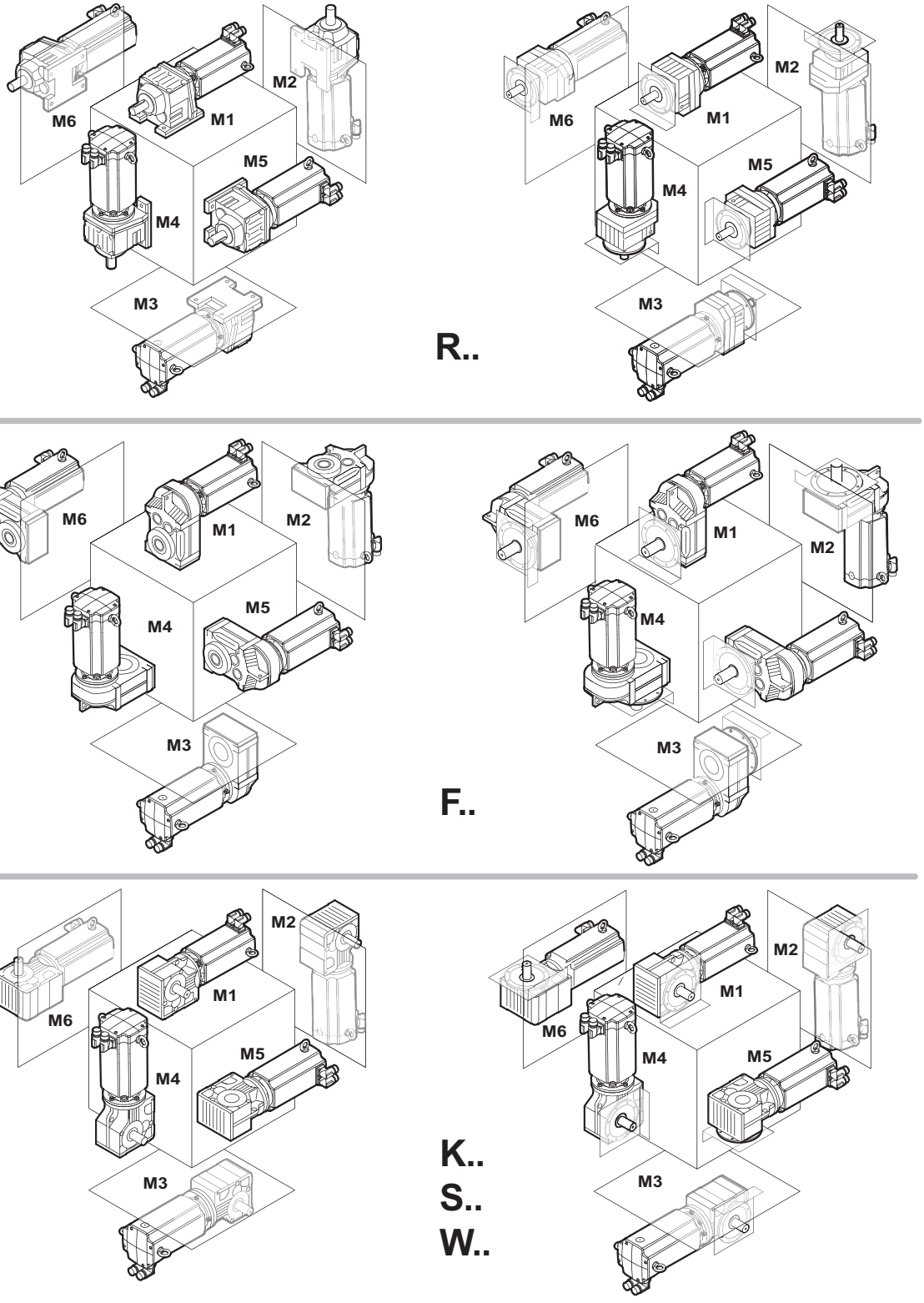
1) Maximum load values for connection screws of strength class 8.8. If the center of gravity distance x increases, the maximum permitted weight F_R of the attached motor must be reduced linearly. If the center of gravity distance x decreases, the maximum permitted weight F_R must not be increased.

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5 Mounting position of the gearmotors 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 to M6:



5.1.1 Change of mounting position

Observe the following information when operating the gearmotor in a mounting position other than the one indicated in the order:

- Adjust the lubricant fill quantity to the changed mounting position.
- Adjust the position of the breather valve.
- When changing the mounting position to M4: Contact SEW-EURODRIVE. Depending on the drives operating mode, an oil expansion tank might be necessary (see chapter "Oil expansion tank" (→ 🗎 29)).
- If you change the mounting position to a mounting position that requires more oil, SEW-EURODRIVE recommends performing a thermal check/doing the project planning again.

5.1.2 Gear units in pivoted mounting position (dynamic)

The dynamic pivoted mounting position is available on request for gear units of the types R..7, F..7, K..7, K..9, S..7, and SPIROPLAN® W..9.

In the pivoted mounting position, the gear units are delivered with the maximum required oil fill quantity and sealed with oil screw plugs. The gear unit can be pivoted during operation to the mounting positions required by the customer.

5.1.3 Gear unit in pivoted mounting position (stationary)

The stationary pivoted mounting position is available for all gear units of the type R..7, F..7, K..7, K..9, S..7 and SPIROPLAN® W..9.

In the stationary pivoted mounting position, the gear units are delivered with the oil fill quantity required for this pivoted mounting position and sealed with oil screw plugs. For gear units with stationary pivoted mounting position, replace the highest screw plug with the supplied breather valve before startup.

5.1.4 Mounting position MX

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

Before startup, make adjustments dependent on the mounting position for gear units in mounting position MX.

In the mounting position MX, the gear units are delivered with the maximum required oil fill quantity and sealed with oil screw plugs. A breather valve is included with each drive. The oil fill volume must be adapted according to the mounting position of the gear unit (see chapter "Lubricant fill quantities" (→ 🗎 143)). Customers will also have to mount the enclosed breather valve at the proper location depending on the mounting position, see chapter "Mounting position sheets" (→ 🗎 82).

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.

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5.1.5 Universal mounting position M0

SPIROPLAN® W..10 to W..30 gear units are available in the universal mounting position M0. Due to their small size they are completely enclosed and do not have a breather valve. You can use them in any mounting position from M1 to M6 without needing to make any adjustments to the gear unit.

All W..10 to W..30 gear units of a particular size have the same oil fill quantity.

5.1.6 Variable mounting position

The variable mounting position is available on request for gear units of the types R..7, F..7, K..7, K..9, S..7 and SPIROPLAN® W..9.

For gear units with variable mounting position, you must perform mounting position-dependent adjustments before startup. Adjustment of the oil fill quantity is not required.

With the variable mounting position, the gear units are delivered with the maximum required oil fill quantity of the mentioned mounting positions and sealed with oil screw plugs. A breather valve is included if necessary.

The enclosed breather valve must be mounted in the proper location depending on the mounting position, see chapter "Mounting position sheets" (→ 🗎 82).

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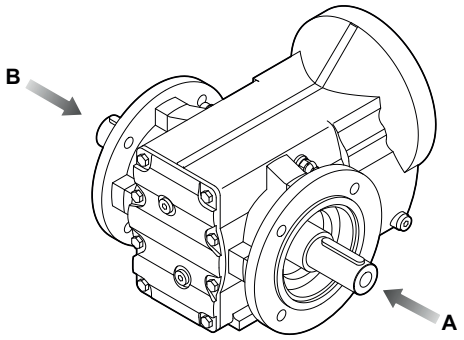
5.2 Order information for servo gear units – R.., F.., K.., S.., W.. gear units

The following order information is required for gear units or gearmotors in addition to the mounting position for an accurate configuration of the drive. This information is also required for gearmotors that do not depend on a particular mounting position.

5.2.1 Position of the output shaft and the output flange

For right-angle gear units, you must also specify the position of the output shaft and the output flange:

- A or B or AB

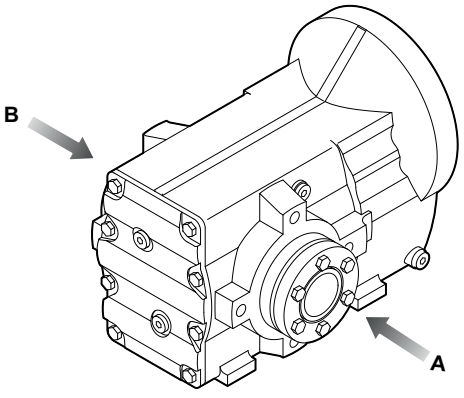


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5.2.2 Position of the output end in right-angle gear units

For shaft-mounted right-angle gear units with shrink disk, you must also specify whether the A- or B-side is the output side. In the following figure, the B-side is the output end. The shrink disk is located on the A-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.



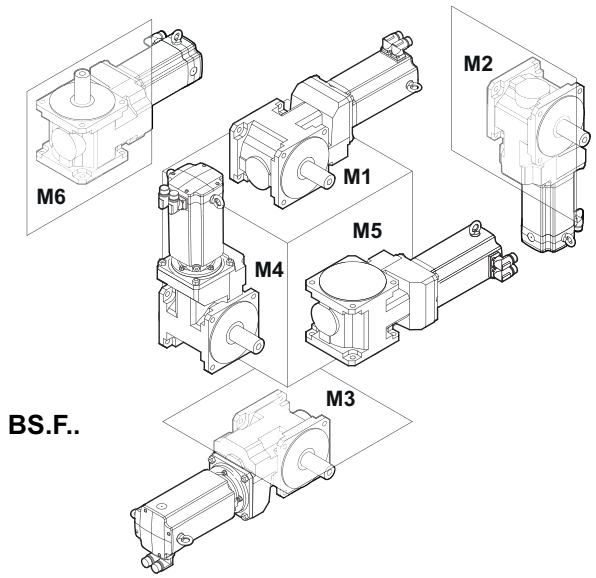
9007234444030475

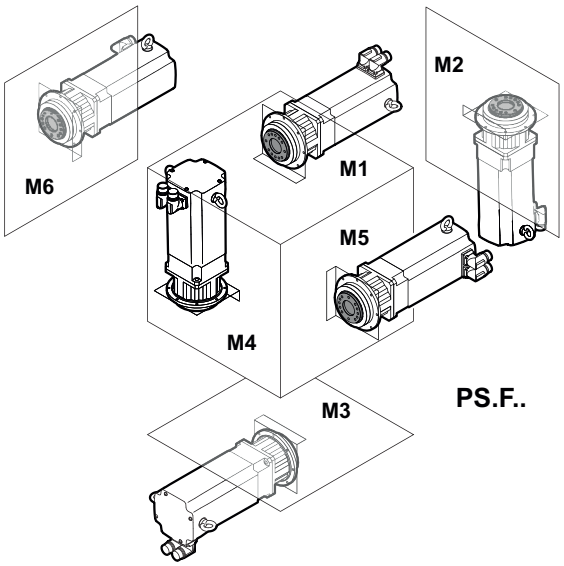
For the permitted mounting surfaces (= hatched area), refer to the mounting position sheets (→ 🗎 82).

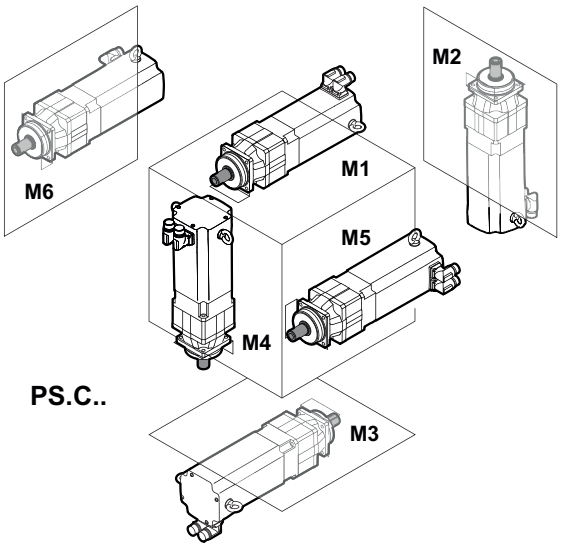
27788644/EN – 02/2024

5.3 General information on the mounting positions – BS.F, PS.F, PS.C gear units

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







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5.3.1 Universal mounting position M0

The servo gear units PS.F.. and PS.C.. can be ordered in the universal mounting position M0. The gear units are entirely enclosed and have no breather valve (with the exception of PS(K)F722 with direct motor mounting).

The gear units in mounting position M0 are filled with the oil quantity for mounting position M2 or M4 (M2: output shaft vertically upwards; M4: output shaft vertically downwards). For this reason, gear unit thermal project planning must be carried out for the mounting position with the largest oil fill volume, see chapter "Lubricant fill quantities" (→ 🗎 143).

5.4 Order information for servo gear units – BS.F, PS.F, PS.C gear units

The following order information is required for gear units or gearmotors in addition to the mounting position for an accurate configuration of the drive. This information is also required for gearmotors that do not depend on a particular mounting position.

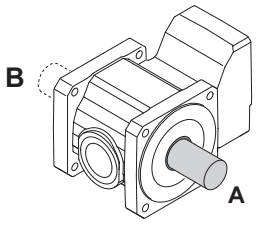
5.4.1 Definition of A and B-sides of output shafts

When installing the gear unit via one of the output flanges, the gear unit must be attached to the shaft output side via the B5 output flange.

Gear unit type	Output end/position of the output shaft	Shrink disk position	Mounting
BSF../BSKF../BSBF	A-side	–	Mounting via B5 flange on the A end
	B-side	–	Mounting via B5 flange on the B end
BSHF..	A-side	B-side	Mounting via B5 flange on the A end
	B-side	A-side	Mounting via B5 flange on the B end
BSHF.. /I	A-side	A-side	Mounting via B5 flange on the A end
	B-side	B-side	Mounting via B5 flange on the B end
BSAF..	A-side	–	Mounting via B5 flange on the A end
	B-side	–	Mounting via B5 flange on the B end
BSF../BSKF..	AB	–	Mounting via B5 flange on the A- and/or B-side

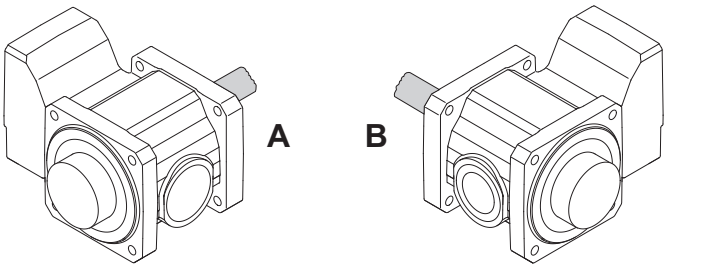
For BS.F.. helical-bevel gear units, the position of the output shaft A, B or AB (see the following figure) must be specified.

BSF../BSKF../ BSBF../BSAF..



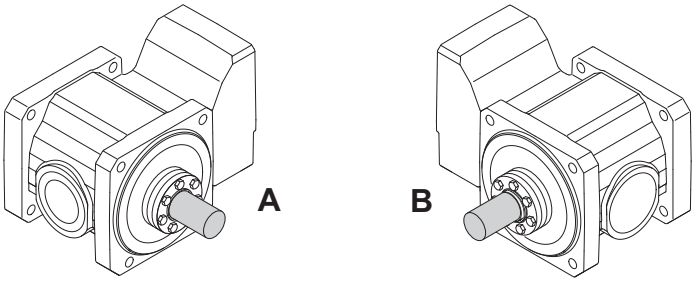
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BSHF



15455375499

BSHF../I



15455377931

27788644/EN – 02/2024

5.5 Mounting position sheets

5.5.1 Dimension sheet information

Position of the valves and screws

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.

Representation of the shaft

For gear units with solid shaft, the shaft shown is always on the A-side. For shaft-mounted gear units, the customer shaft is shown as a dashed line. The output end (position of the output shaft) is always shown on the A-side.

W..0 gear units

SPIROPLAN® right-angle gearmotors W..10, W..20, and W..30 are independent of the mounting position. No breather valves, oil level plugs or oil drain plugs can be installed. Mounting positions M1 to M6 are also displayed for these SPIROPLAN® right-angle gearmotors for better orientation.

Mounting position M0

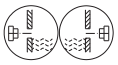
Some gear units can be supplied in mounting position M0. In this case, the gear unit is delivered in a universal mounting position and can be adjusted to various mounting positions by the customer. It may be necessary to contact SEW-EURODRIVE.

Gear units W..9 in mounting position M4 or M2

SPIROPLAN® right-angle gearmotors W..9 are equipped with breather valves in mounting position M4 and with an oil drain plug in mounting position M2.

5.5.2 Symbols used

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

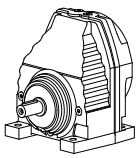
Symbol	Meaning
	Breather valve
	Oil level plug
	Oil drain plug

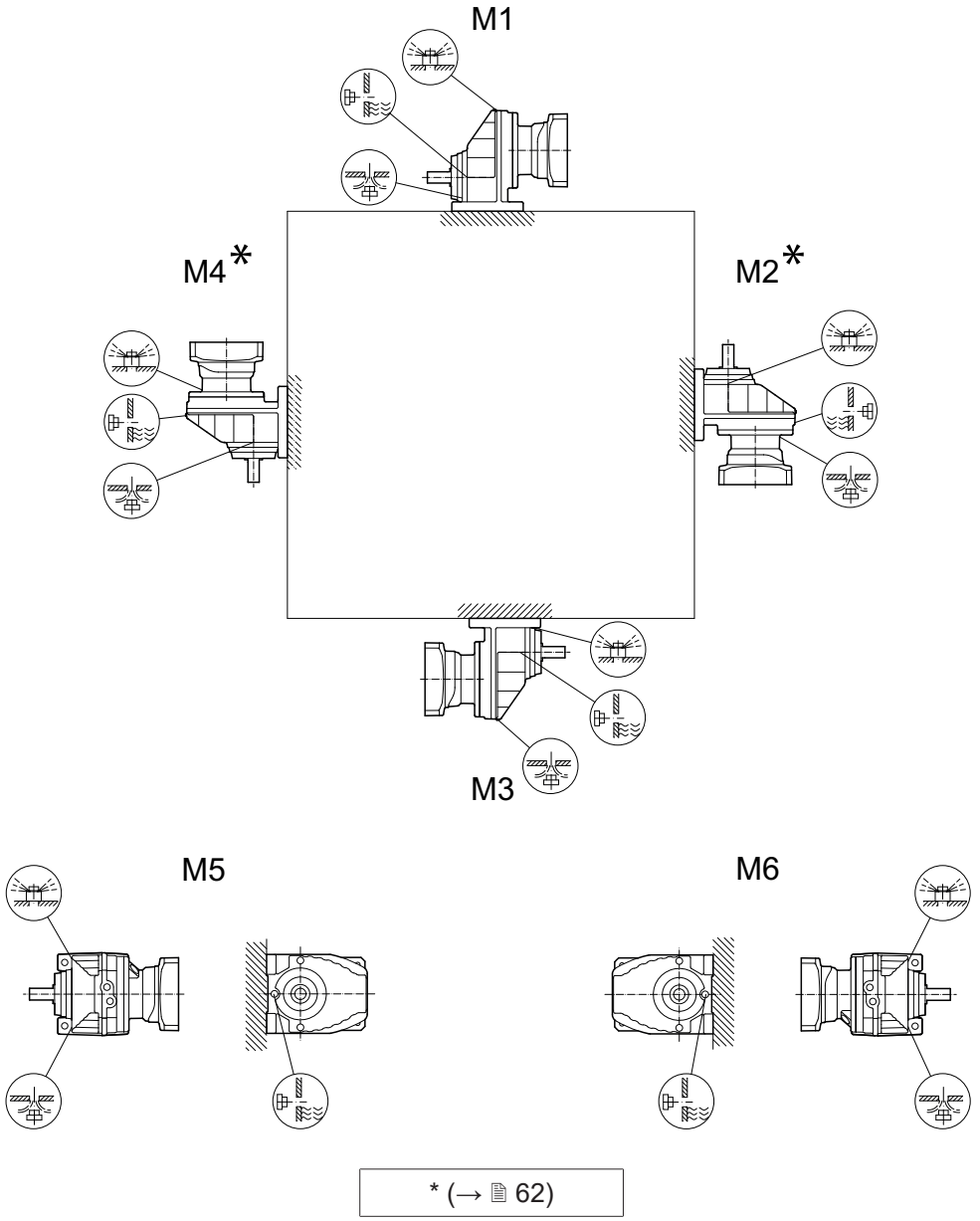
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5.5.3 Mounting positions of helical gear units

RX57 – RX107

01 008 00 21



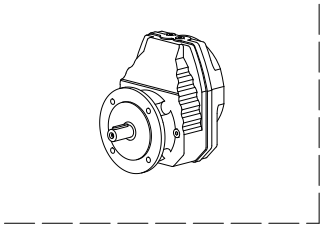


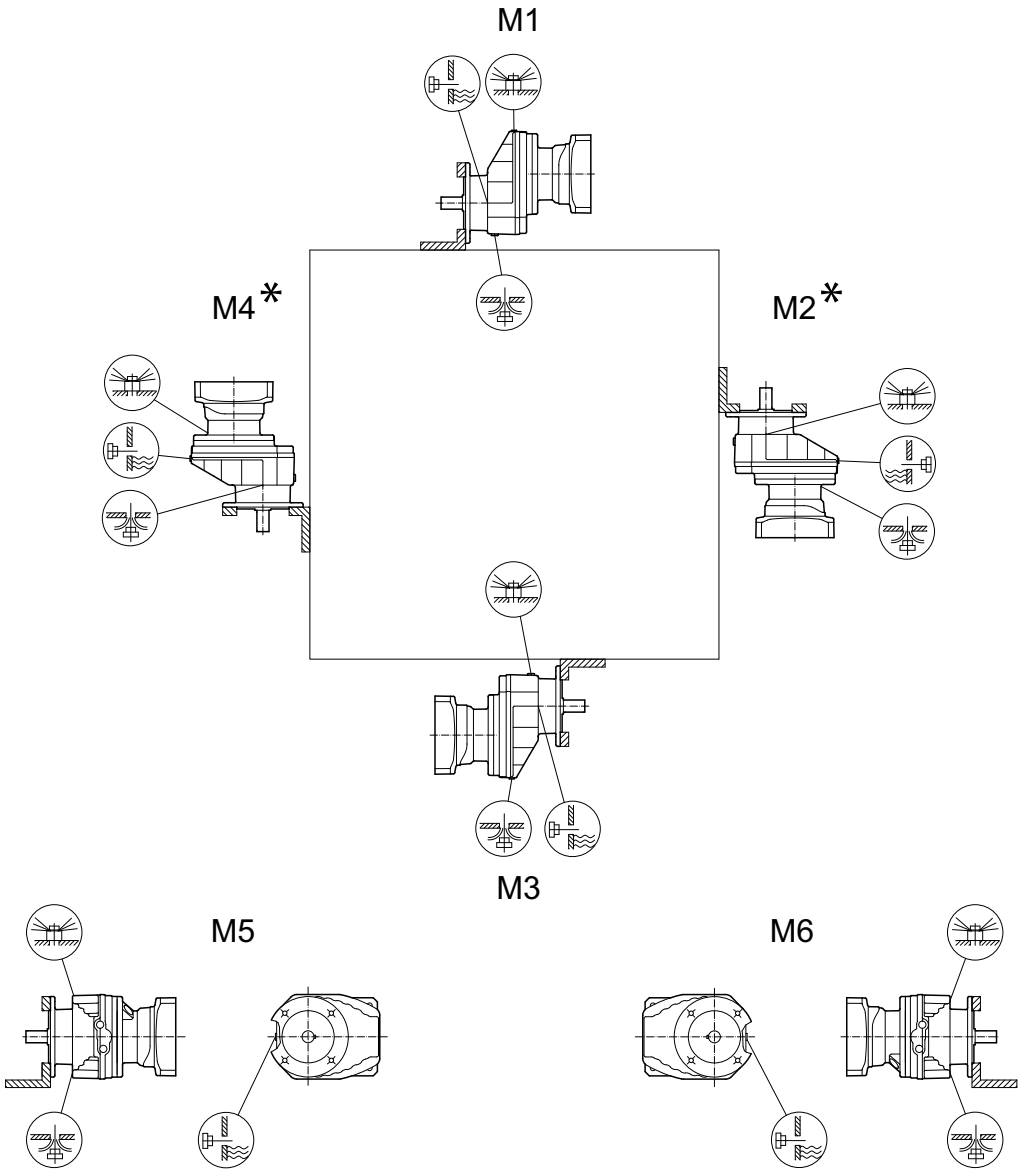
* (→ 🗎 62)

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RXF57 – RXF107

01 009 00 21



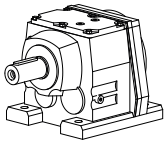


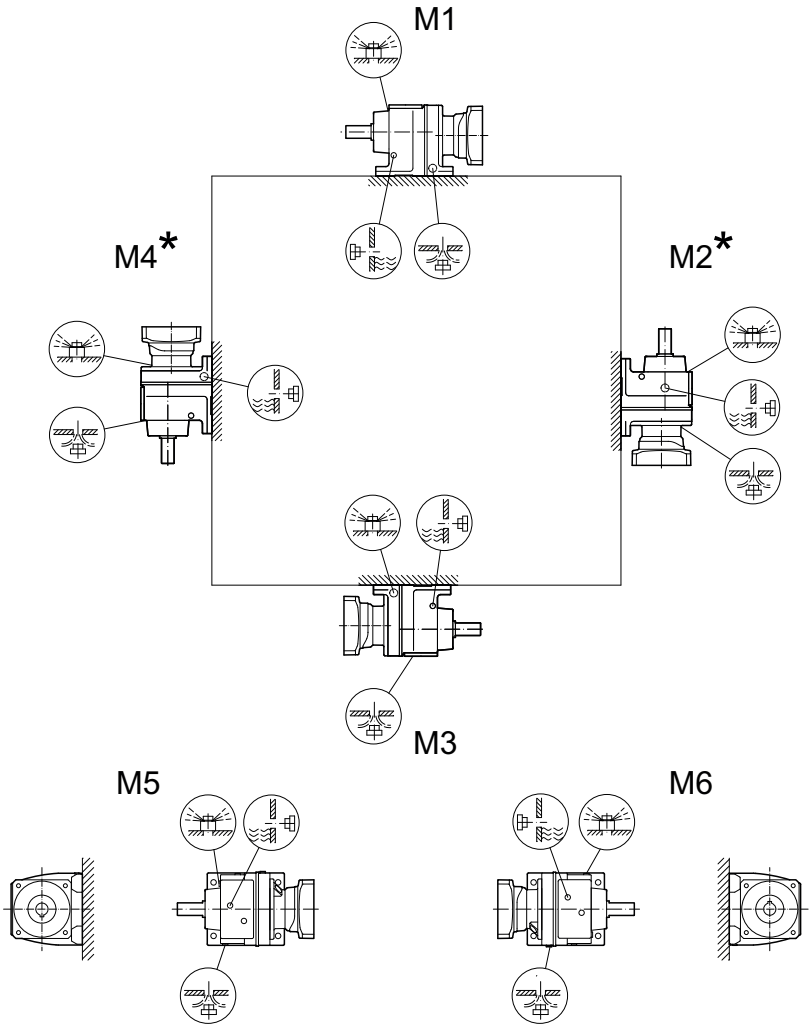
* (→ 🗎 62)

27788644/EN – 02/2024

R07 – R147

01 010 00 21





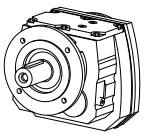
R27	⊗	M1, M3 , M5 , M6
R27	⊗ ⊗	
R47, R57	⊗	M5

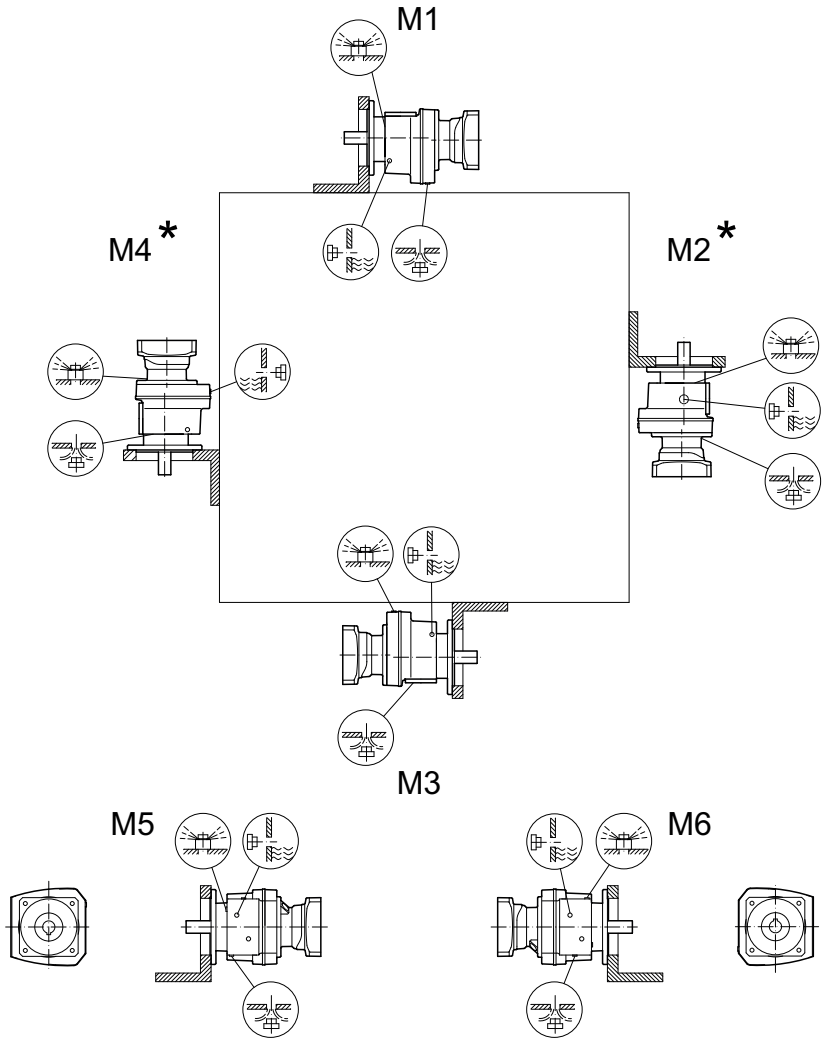
* (→ 🗎 62)

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RF07 – RF107, RZ07 – RZ87, RM57 – RM147

01 011 00 21





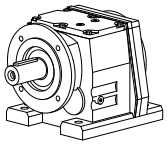
RF/RZ27		M1, M3 , M5 , M6
RF/RZ27		
RF/RZ47, 57		M5

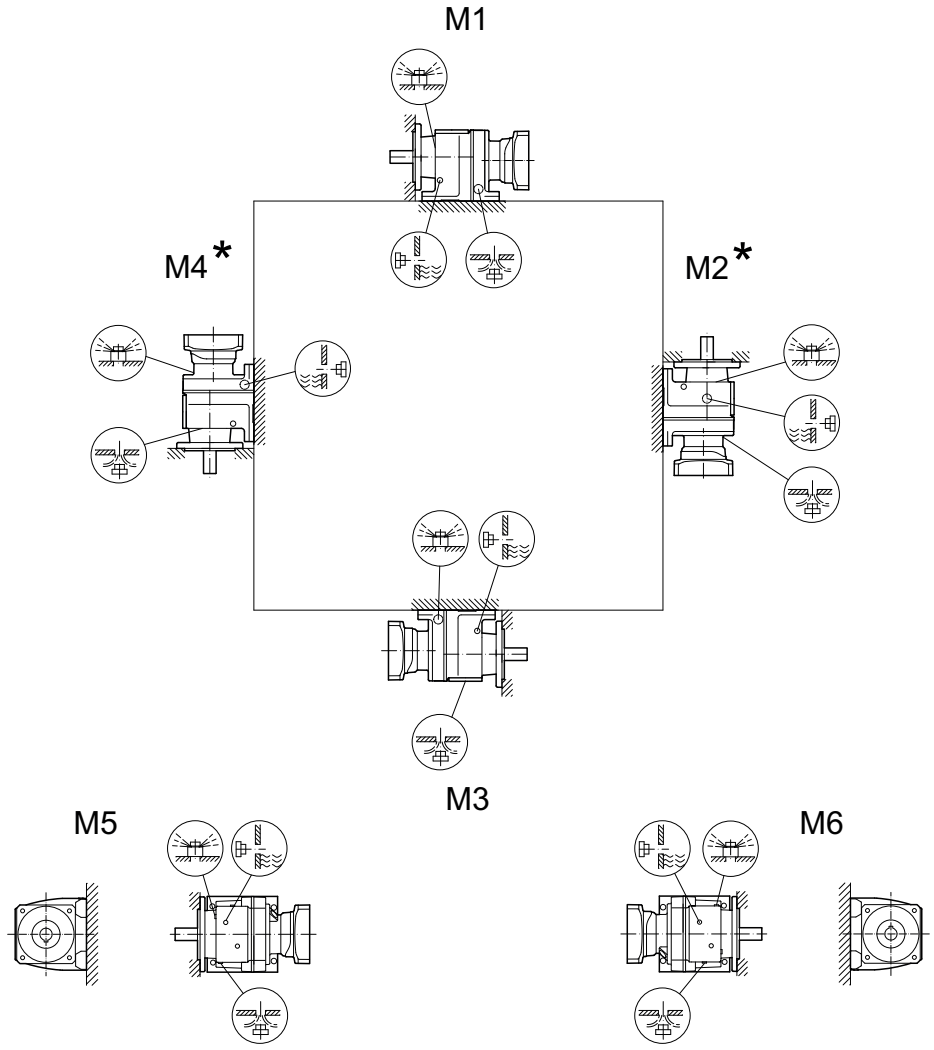
* (→ 🗎 62)

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R07F – R87F

01 012 00 21





R27F		M1, M3 , M5 , M6
R27F		
R47F, R57F		M5

* (→ 🗎 62)

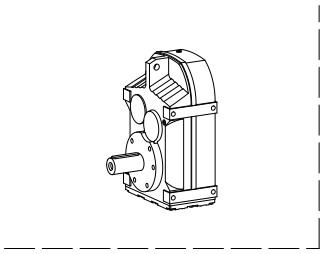
Observe the notes in chapter "Overhung and axial loads of R.., F.., K.., S.., W.. gear units" (→ 🗎 63).

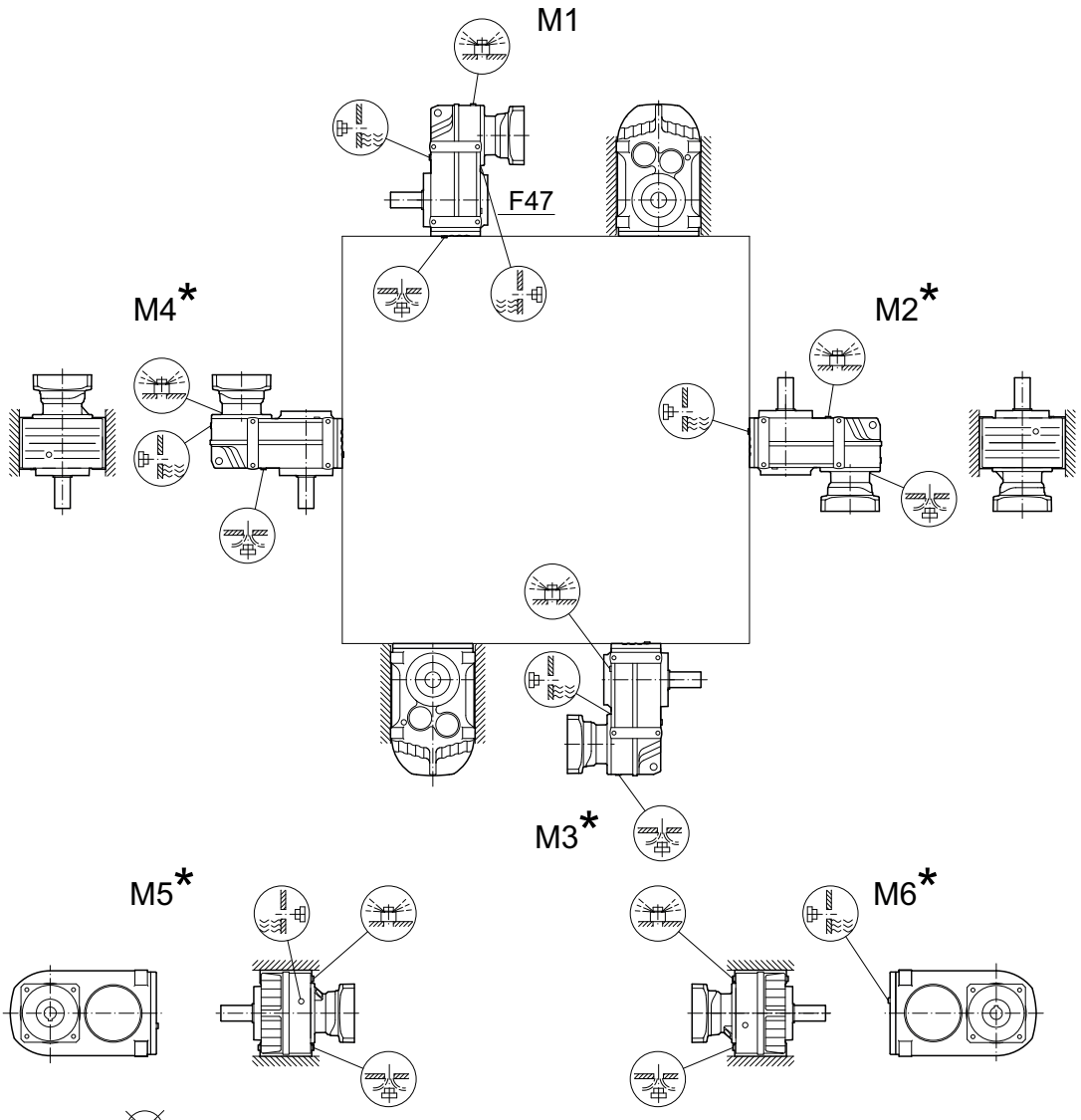
27788644/EN – 02/2024

5.5.4 Mounting positions of parallel-shaft helical gear units

F/FA..B/FH27B – 127B, FV27B – 107B

42 002 00 21





F..27 M1, M3, M5, M6

F..27 M1 - M6

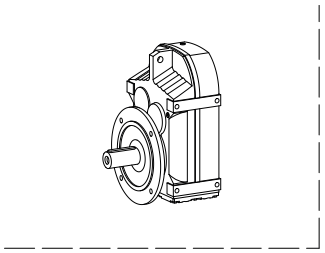
F..27 M1, M3, M5, M6

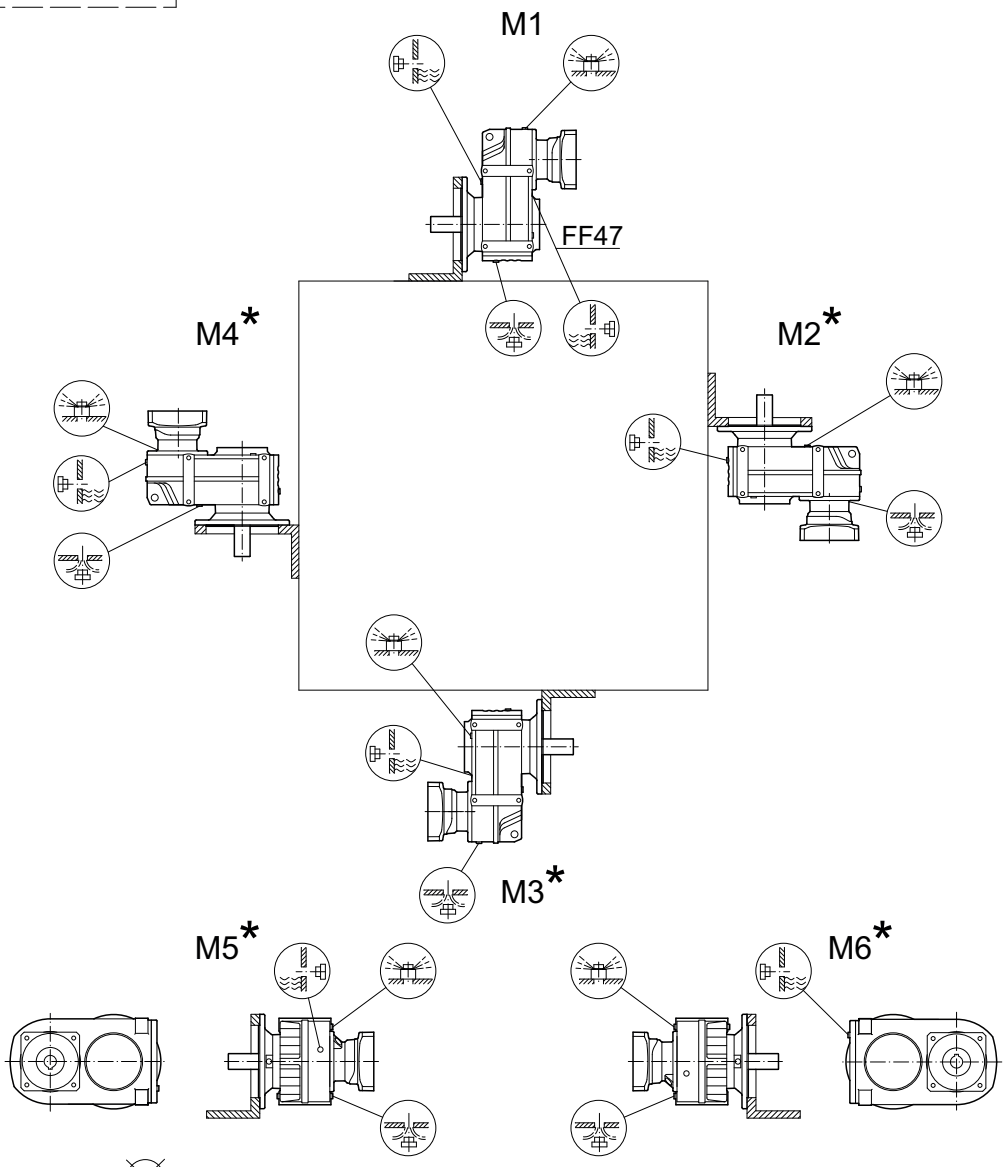
* (→ 62)

27788644/EN – 02/2024

FF/FAF/FHF/FAZ/FHZ27 – 127, FVF/FVZ27 – 107, FAM67 – 127

42 003 00 21





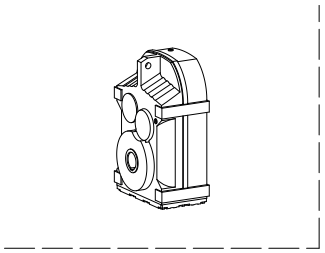
F..27		M1, M3, M5, M6
F..27		M1 - M6
F..27		M1, M3, M5, M6

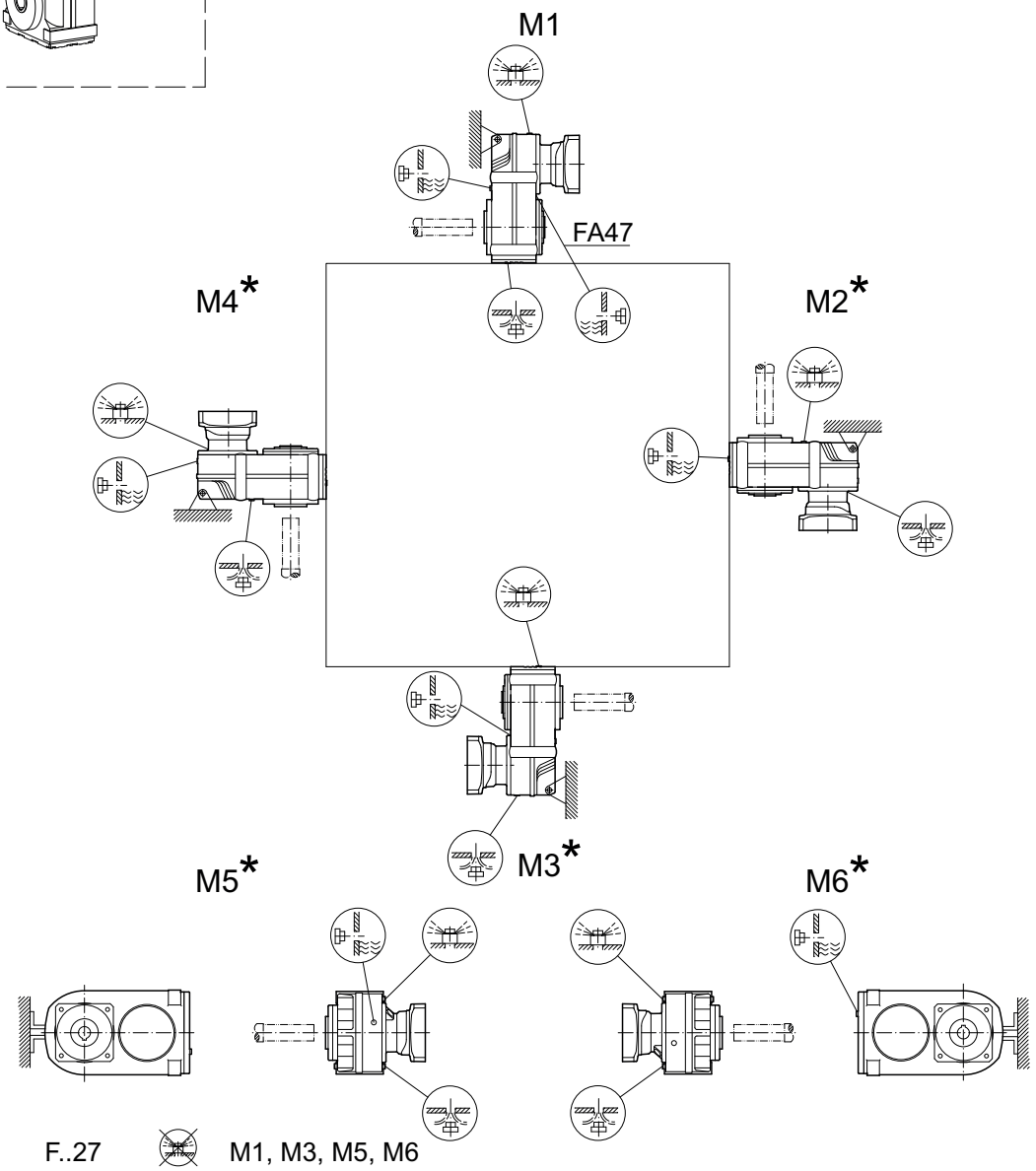
* (→ 62)

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FA/FH27 – 127, FV27 – 107, FT37 – 127

42 004 00 21





F..27 M1, M3, M5, M6

F..27 M1 - M6

F..27 M1, M3, M5, M6

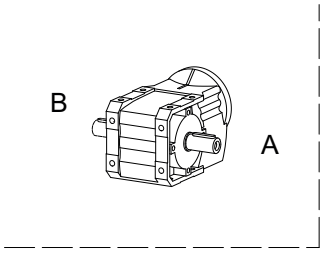
* (→ 🗎 62)

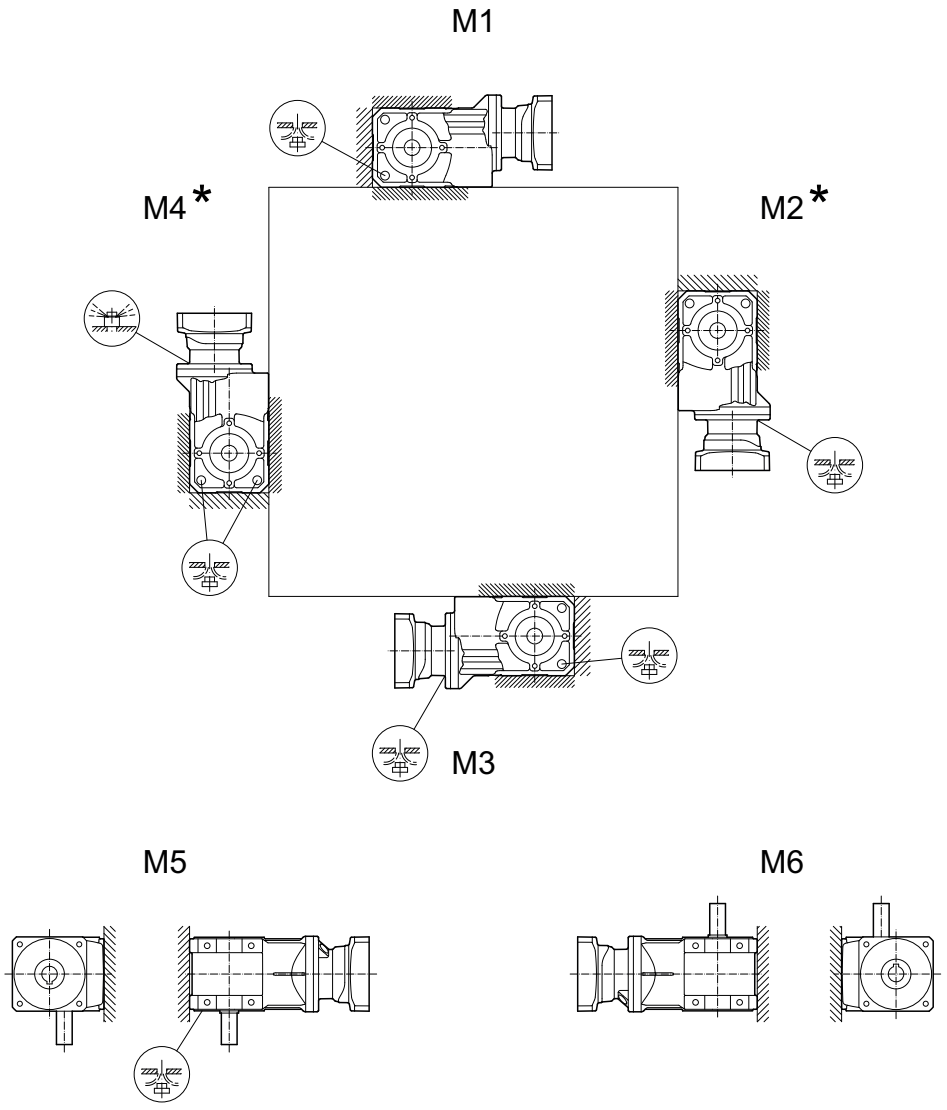
27788644/EN – 02/2024

5.5.5 Mounting positions of helical-bevel gear units

K/KA..B/KH19B – 29B

33 002 00 21



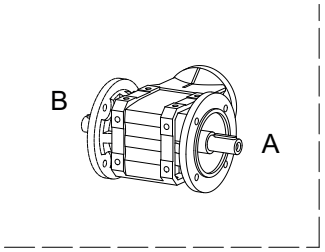


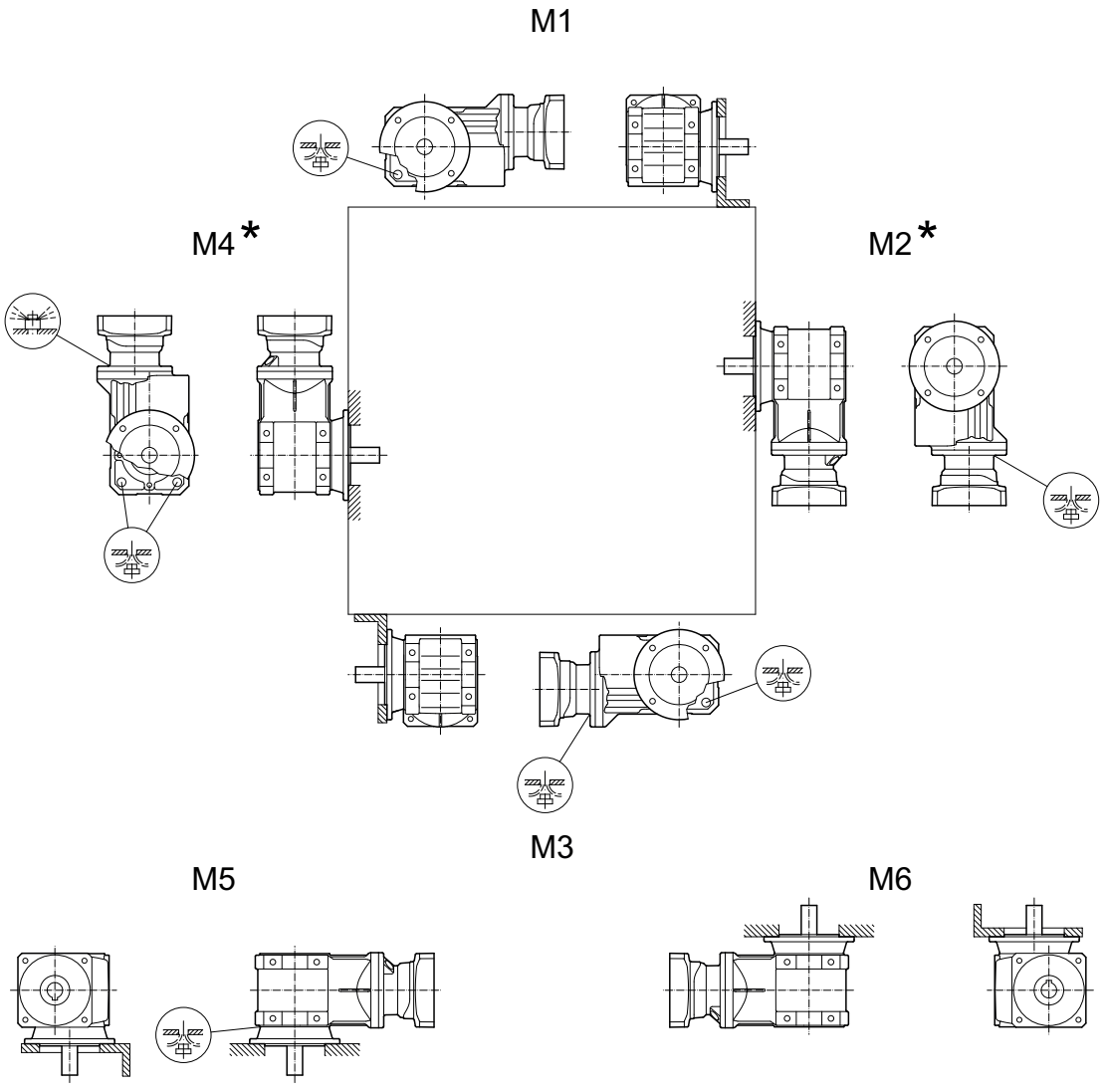
* (→ 🗎 62)

Observe the notes in chapter "Overhung and axial loads of R.., F.., K.., S.., W.. gear units" (→ 🗎 63).

KF..B/KAF..B/KHF19B – 29B

33 003 00 21





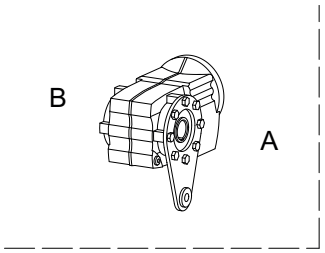
* (→ 🗎 62)

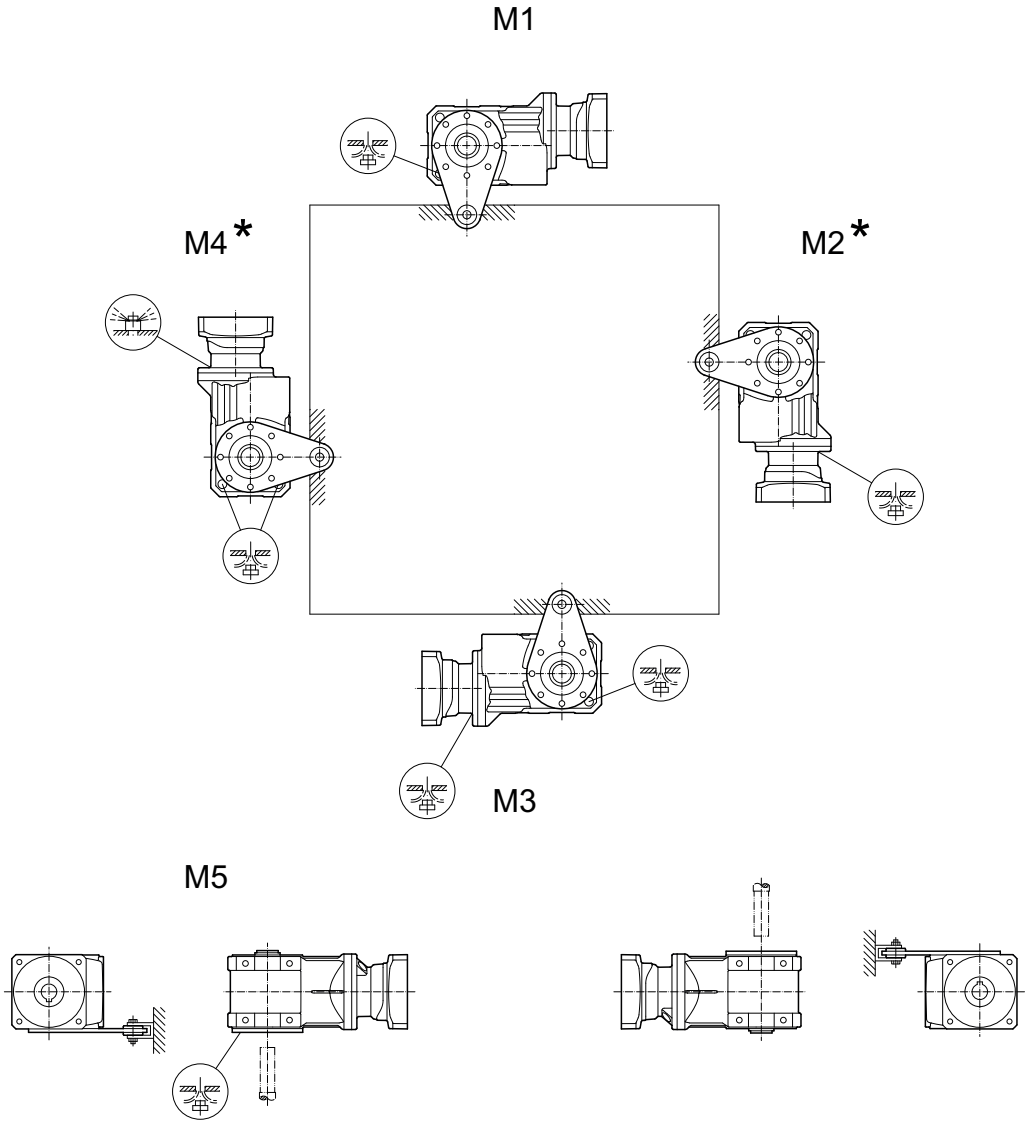
Observe the notes in chapter "Overhung and axial loads of R.., F.., K.., S.., W.. gear units" (→ 🗎 63).

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KA..B/KH19B – 29B

33 004 00 21





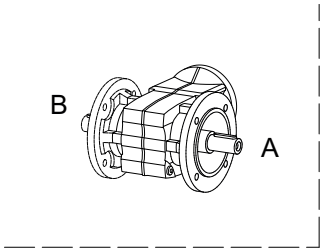
* (→ 🗎 62)

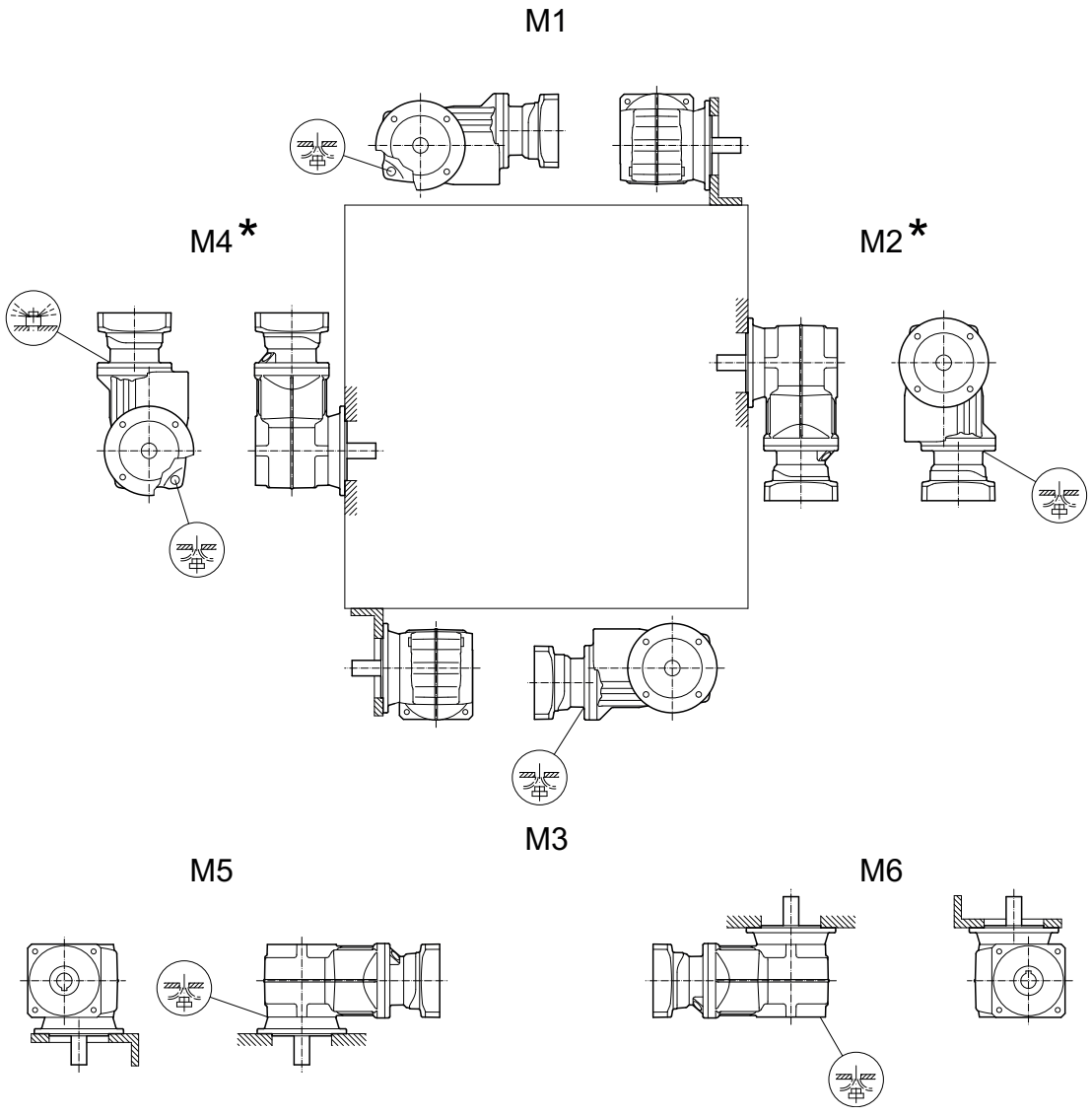
Observe the notes in chapter "Overhung and axial loads of R.., F.., K.., S.., W.. gear units" (→ 🗎 63).

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KF/KAF/KHF19 – 29

33 005 00 21





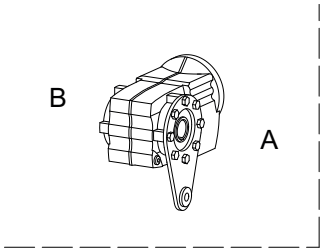
* (→ 🗎 62)

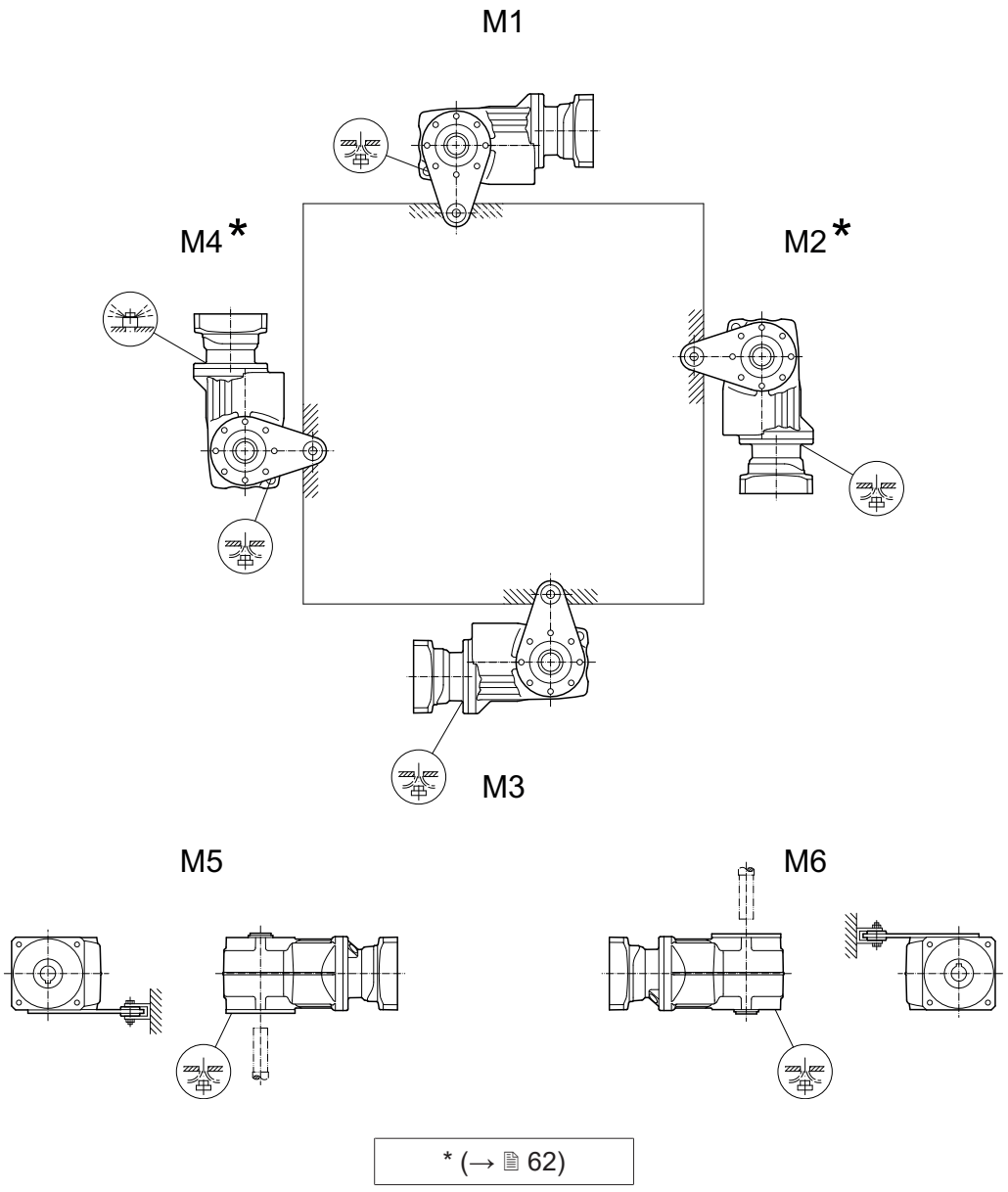
Observe the notes in chapter "Overhung and axial loads of R.., F.., K.., S.., W.. gear units" (→ 🗎 63).

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KA/KH19 – 29

33 006 00 21

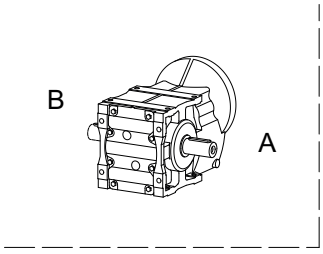


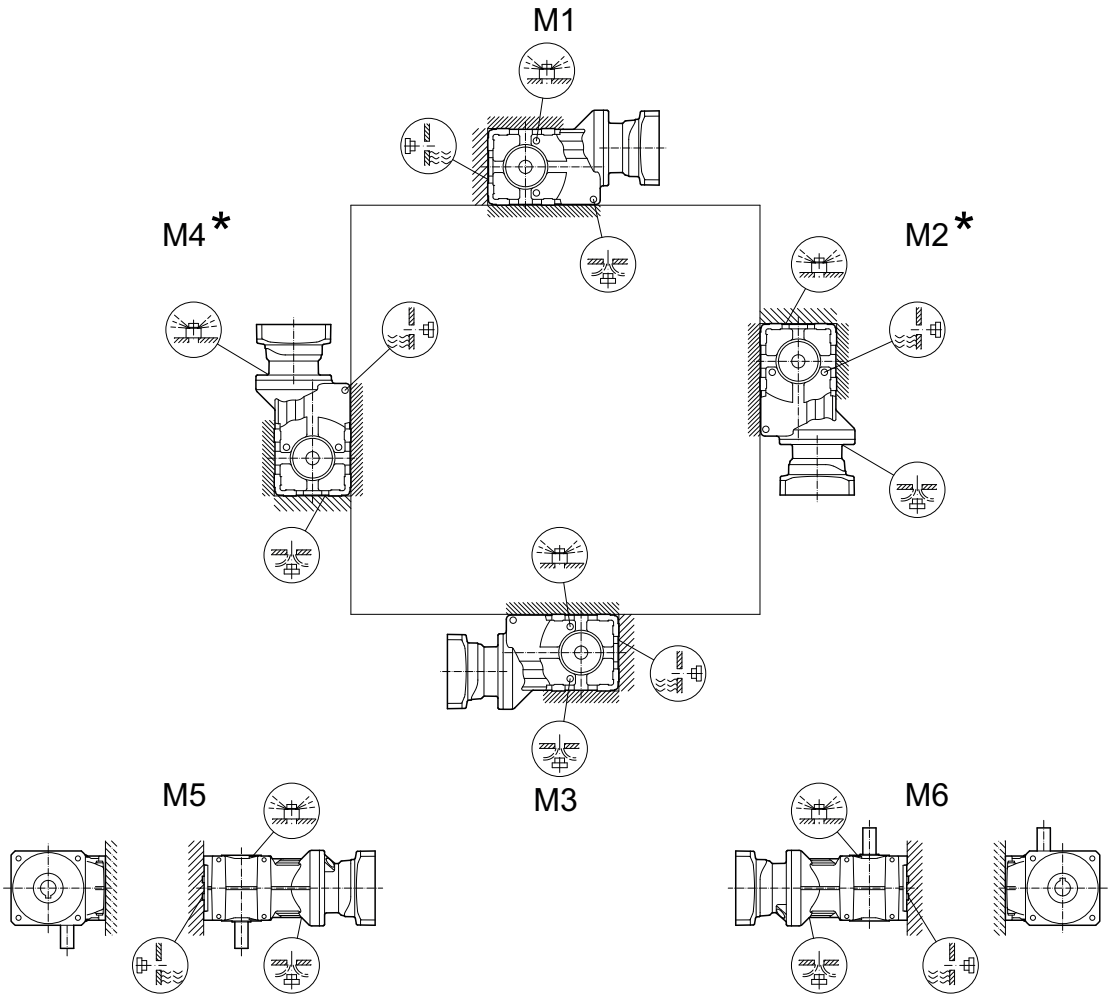


* (→ 🗎 62)

K/KA..B/KH..B39 – 49B

33 007 00 21



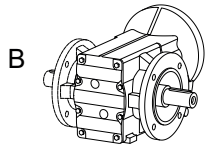


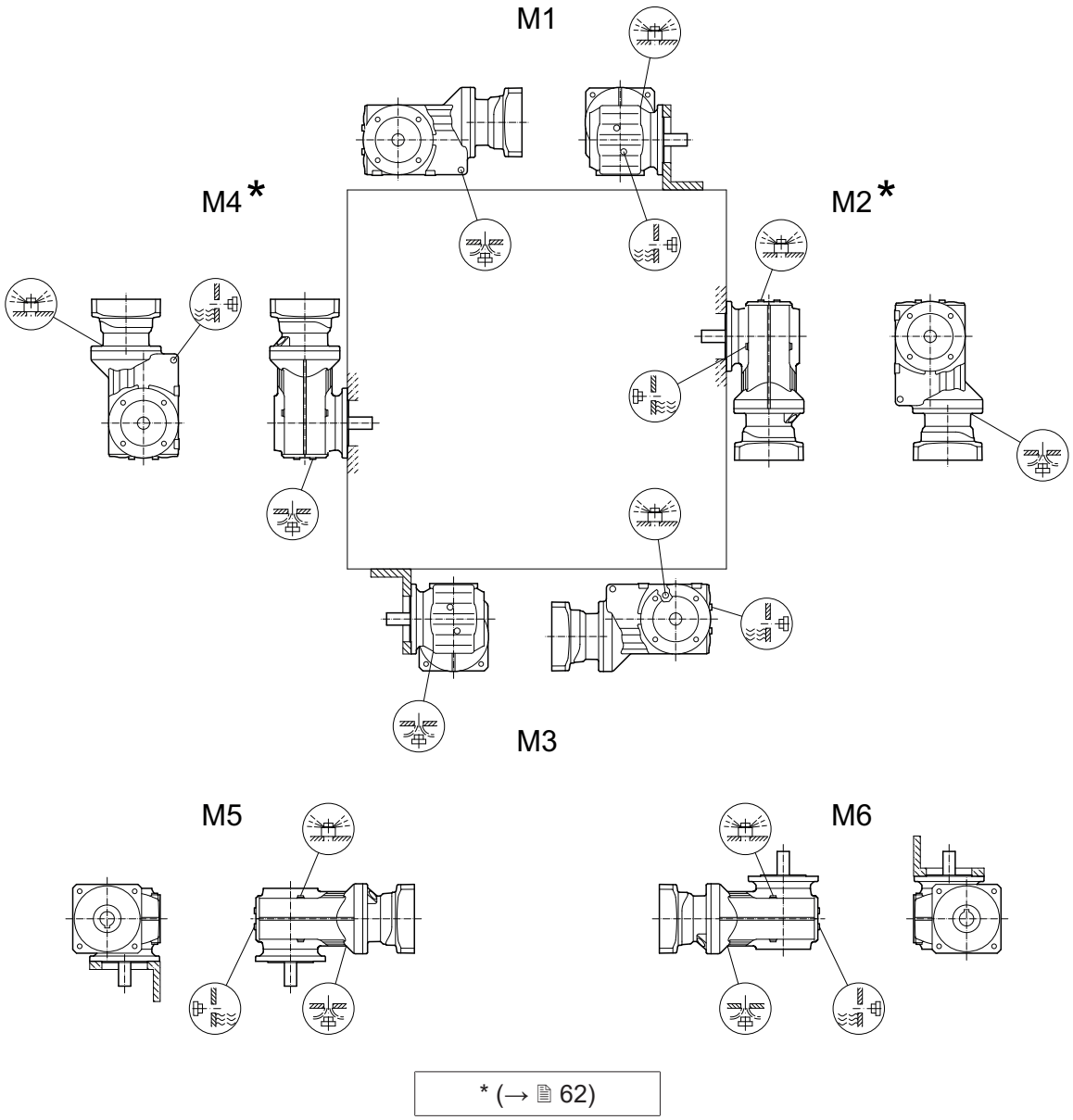
* (→ 🗎 62)

27788644/EN – 02/2024

KF/KAF/KHF39 – 49

33 008 00 21



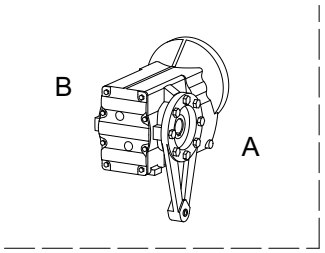


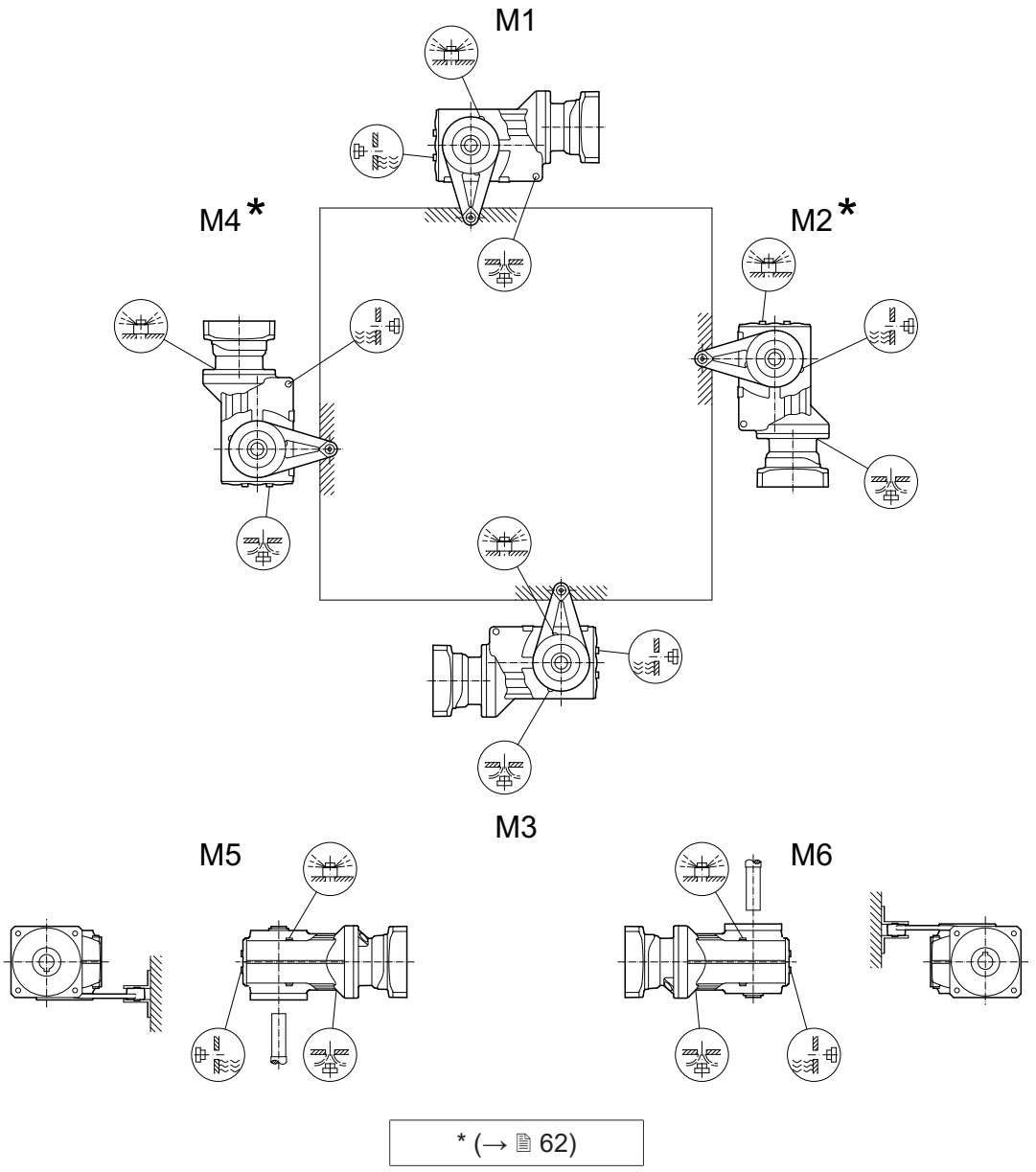
* (→ 🗎 62)

27788644/EN – 02/2024

KA/KH/KT39 – 49

33 009 00 21



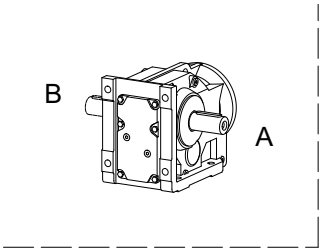


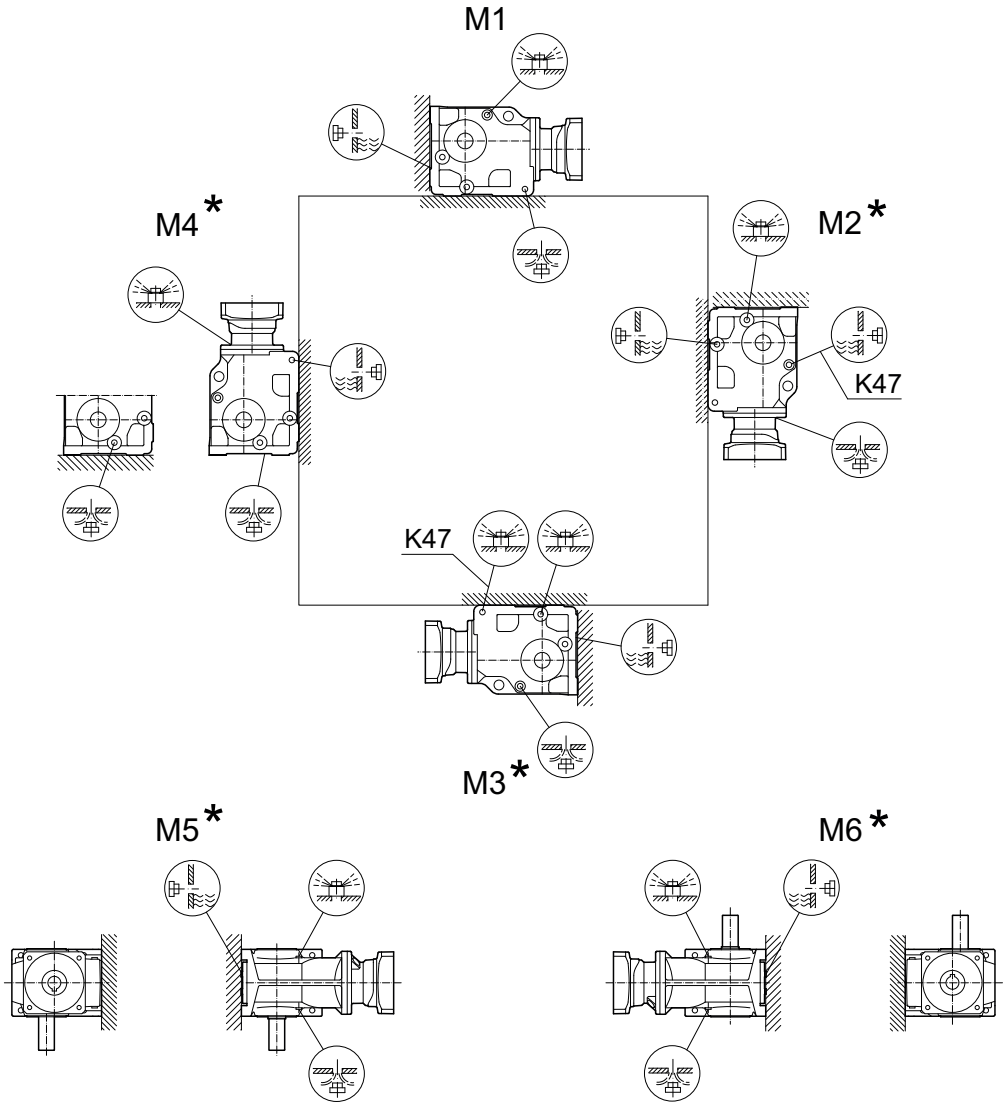
* (→ 🗎 62)

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K/KA..B/KH37B – 127B, KV37B – 107B

33 010 00 21





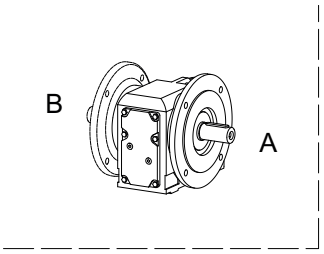
* (→ 🗎 62)

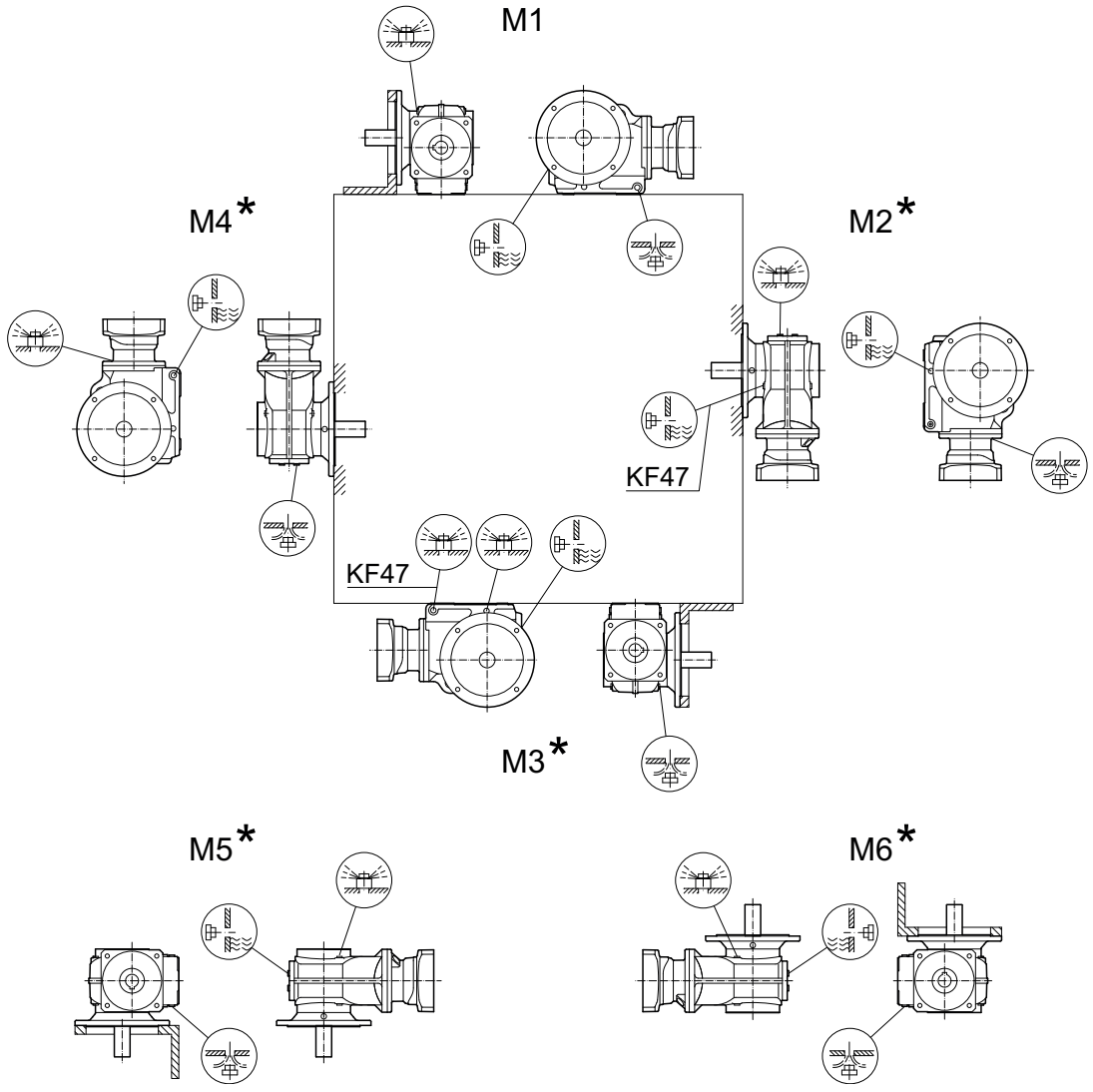
Observe the notes in chapter "Overhung and axial loads of R.., F.., K.., S.., W.. gear units" (→ 🗎 63).

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KF/KAF/KHFKZ/KAZ/KHZ37 – 127, KVF/KVZ37 – 107, KM/KAM67 – 127

33 011 00 21



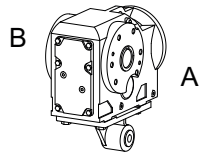


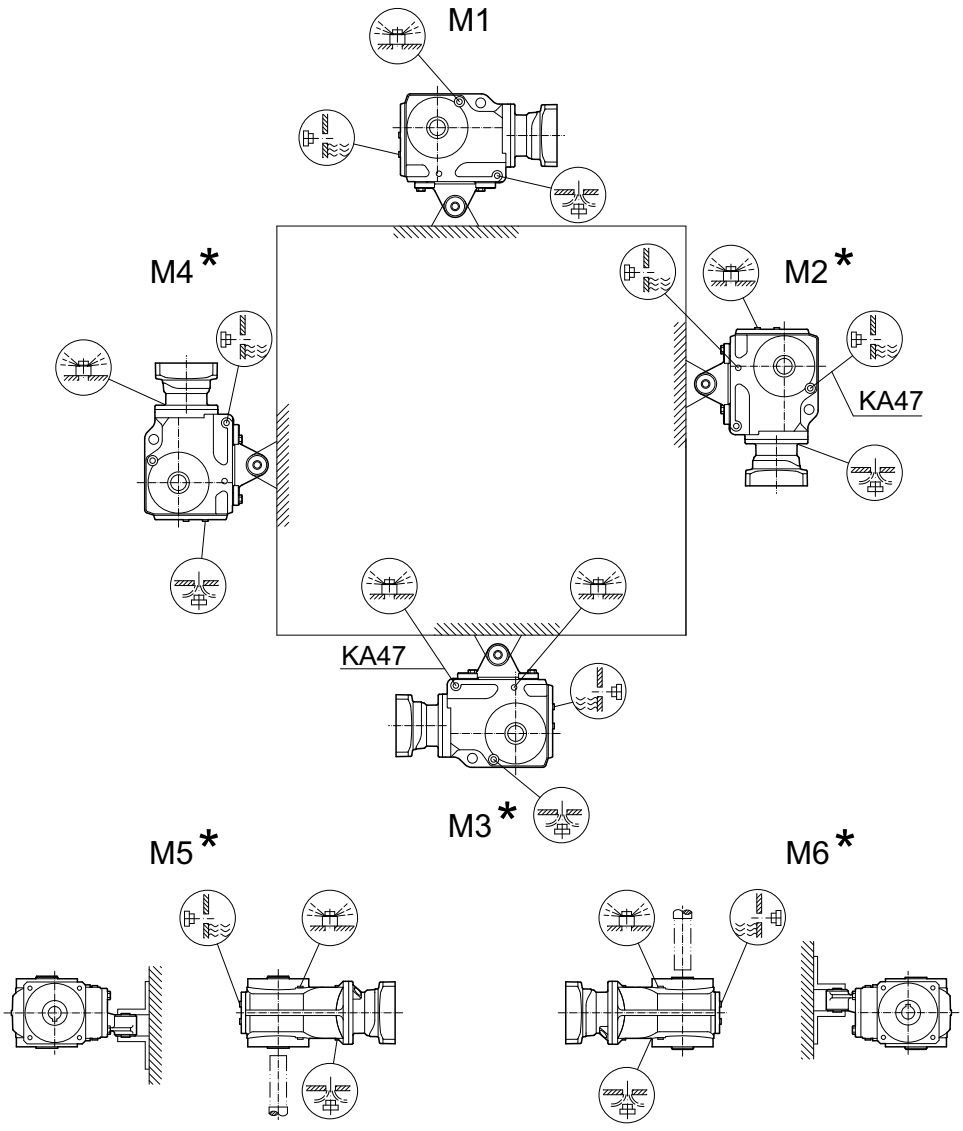
* (→ 🗎 62)

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KA/KH37 – 127, KV37 – 107, KT37 – 127

33 012 00 21





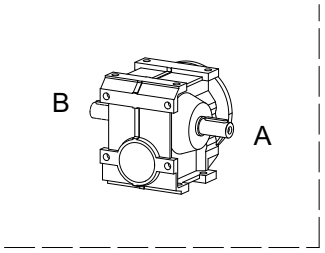
* (→ 🗎 62)

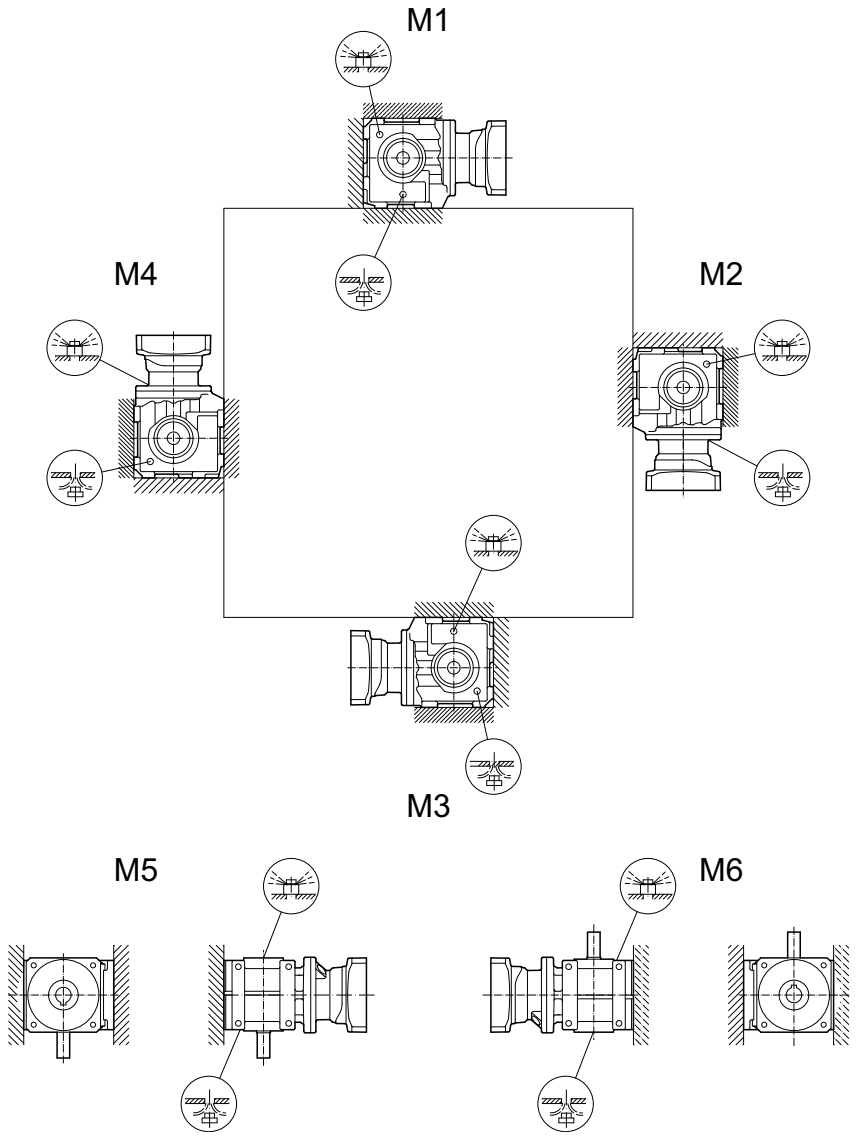
27788644/EN – 02/2024

5.5.6 Mounting positions of helical-worm gear units

S37

02 002 00 21





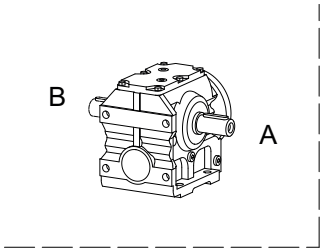
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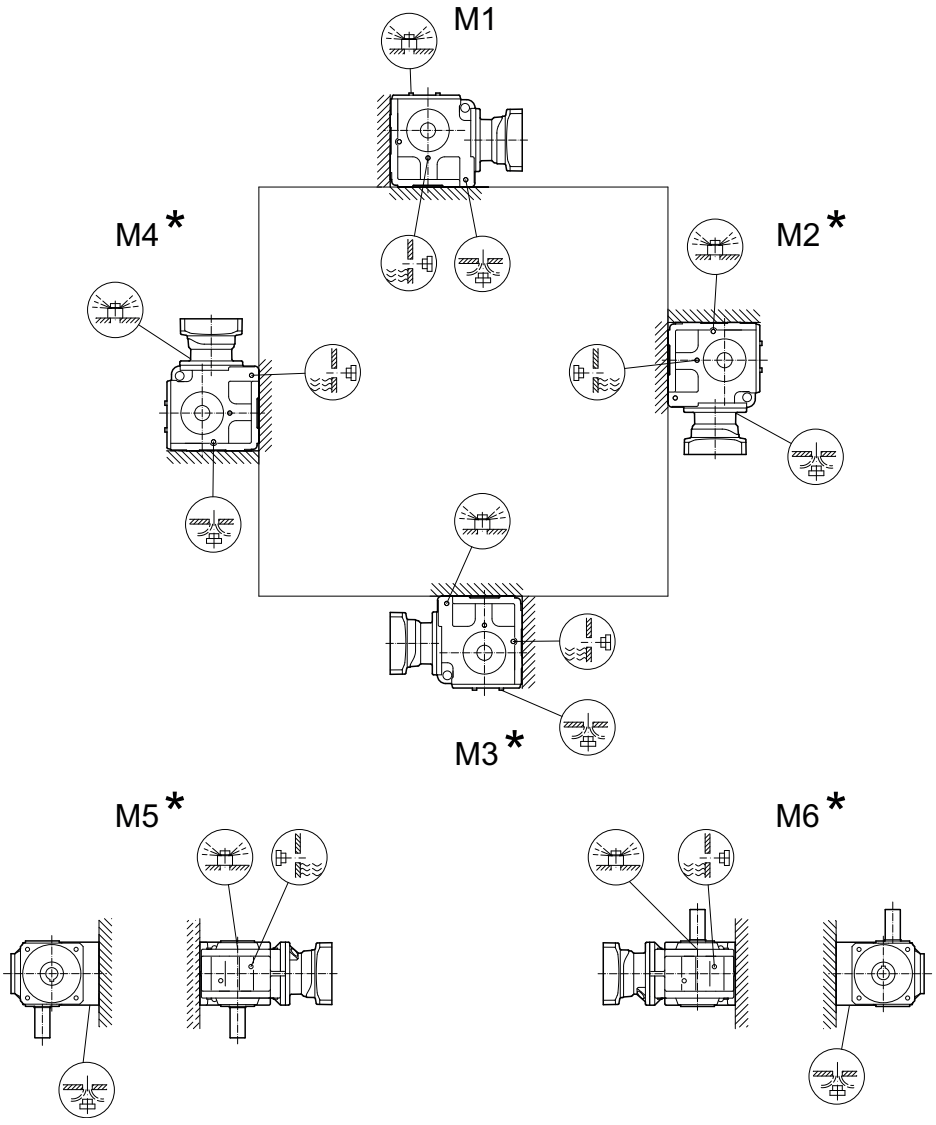
Observe the notes in chapter "Overhung and axial loads of R.., F.., K.., S.., W.. gear units" (→ 🗎 63).

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S47 – S67

02 003 00 21





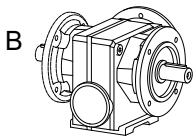
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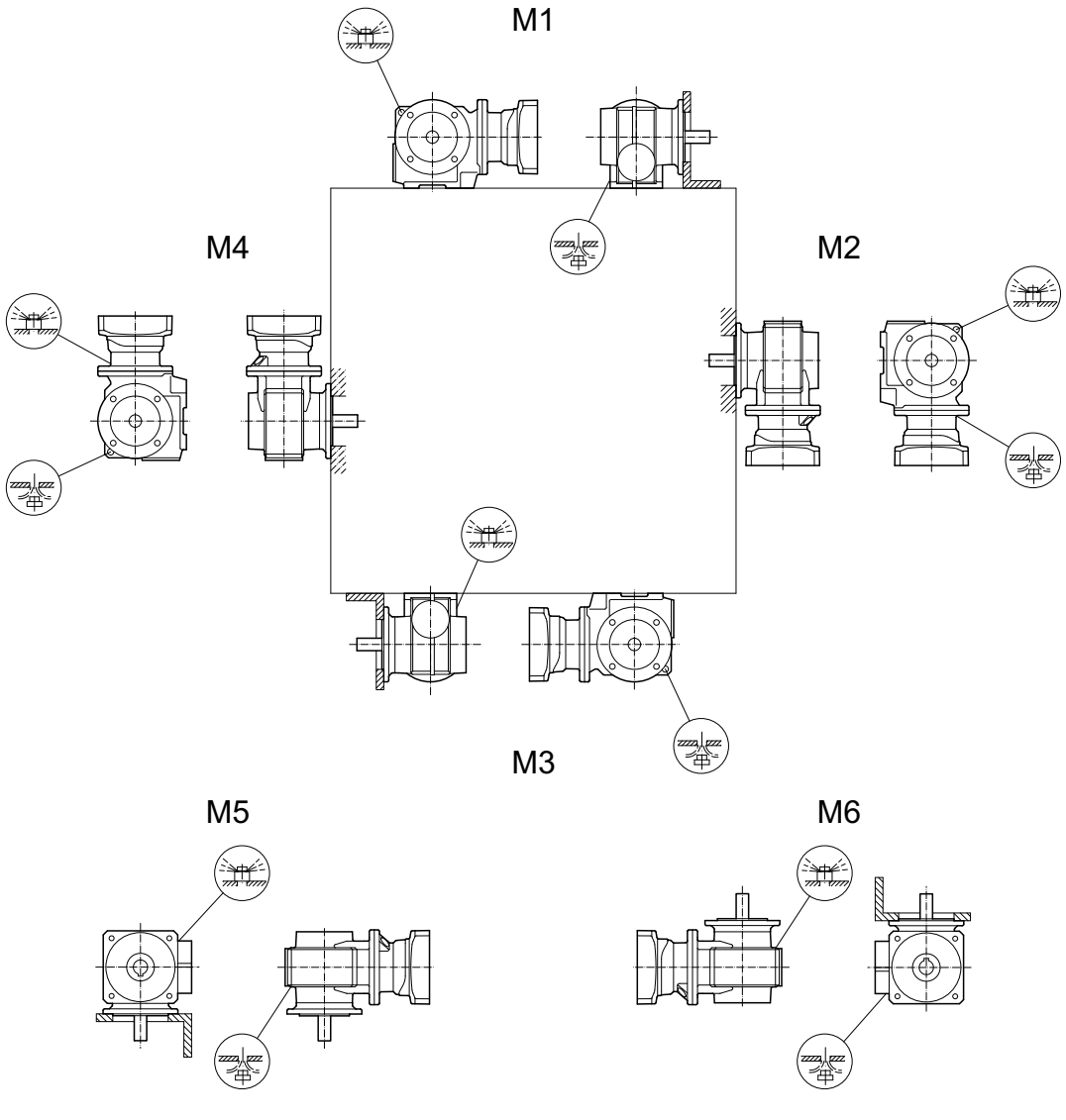
Observe the notes in chapter "Overhung and axial loads of R.., F.., K.., S.., W.. gear units" (→ 🗎 63).

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SF/SAF/SHF37

02 004 00 21



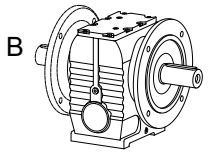


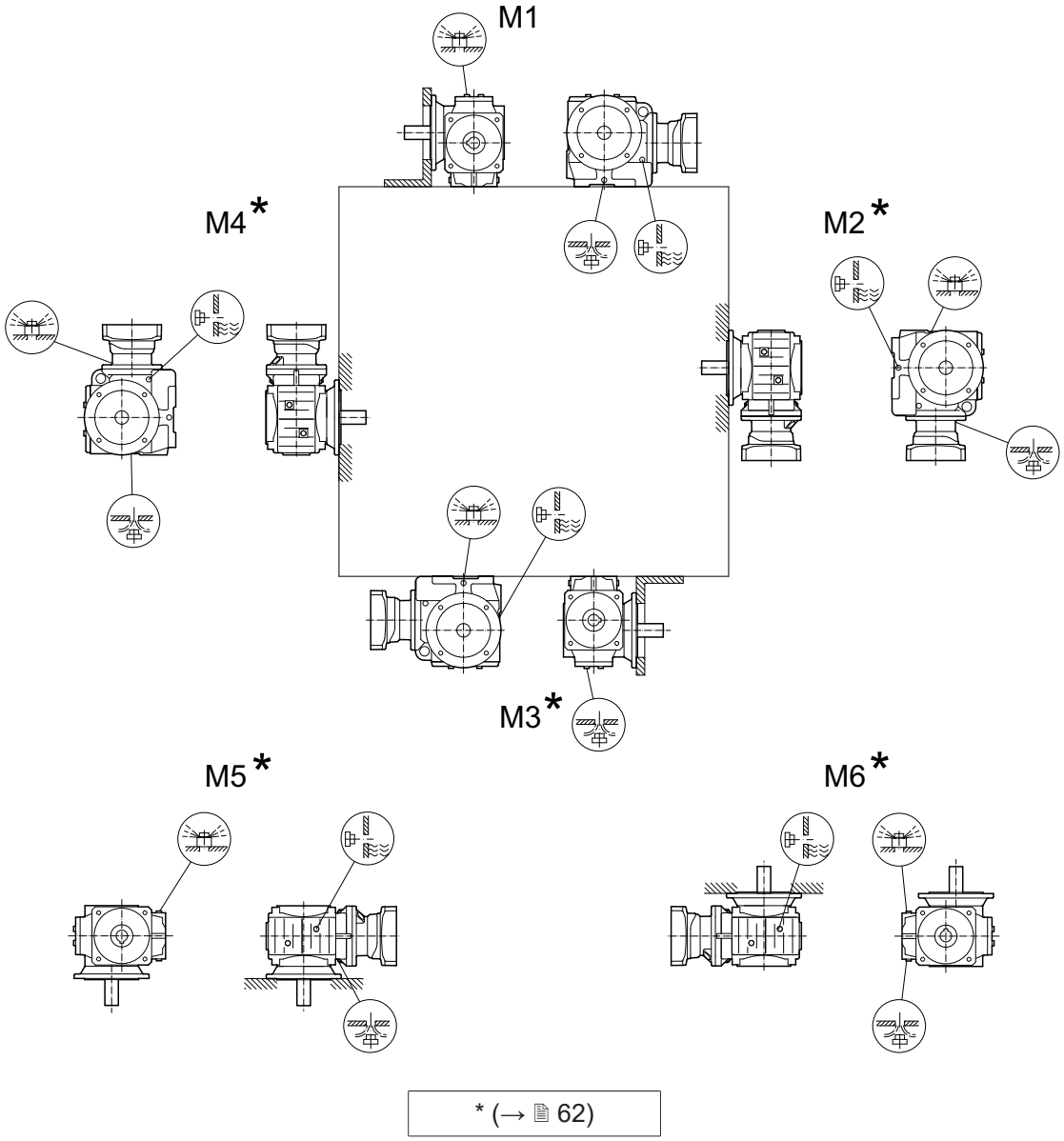
* (→ 🗎 62)

27788644/EN – 02/2024

SF/SAF/SHF/SAZ/SHZ47 – 67

02 005 00 21

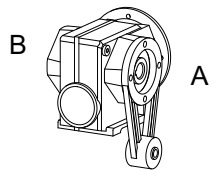


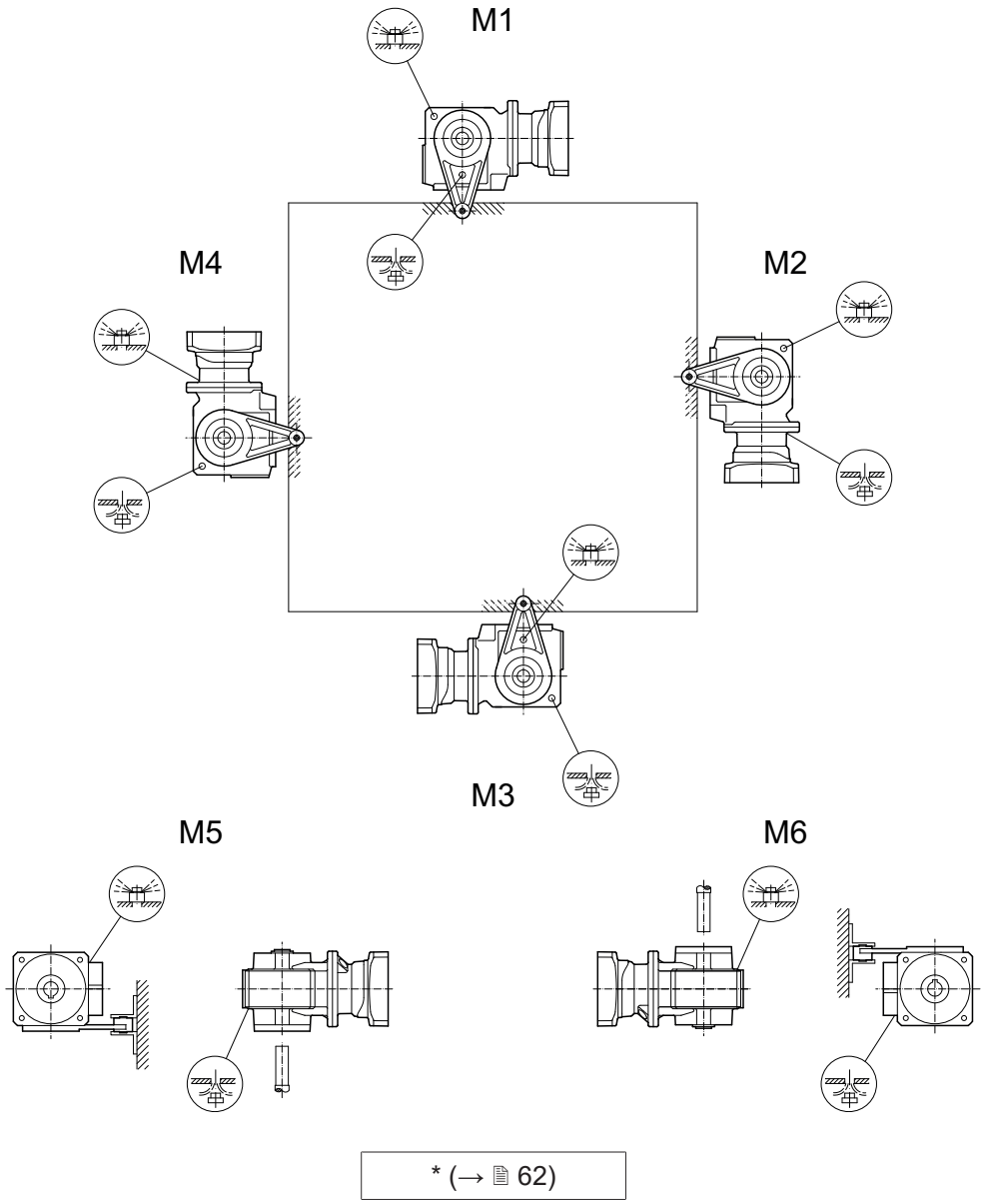


* (→ 62)

SA/SH/ST37

02 006 00 21



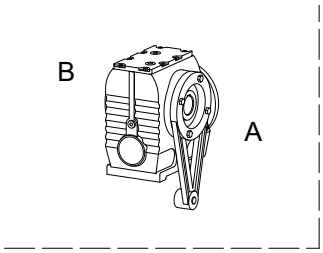


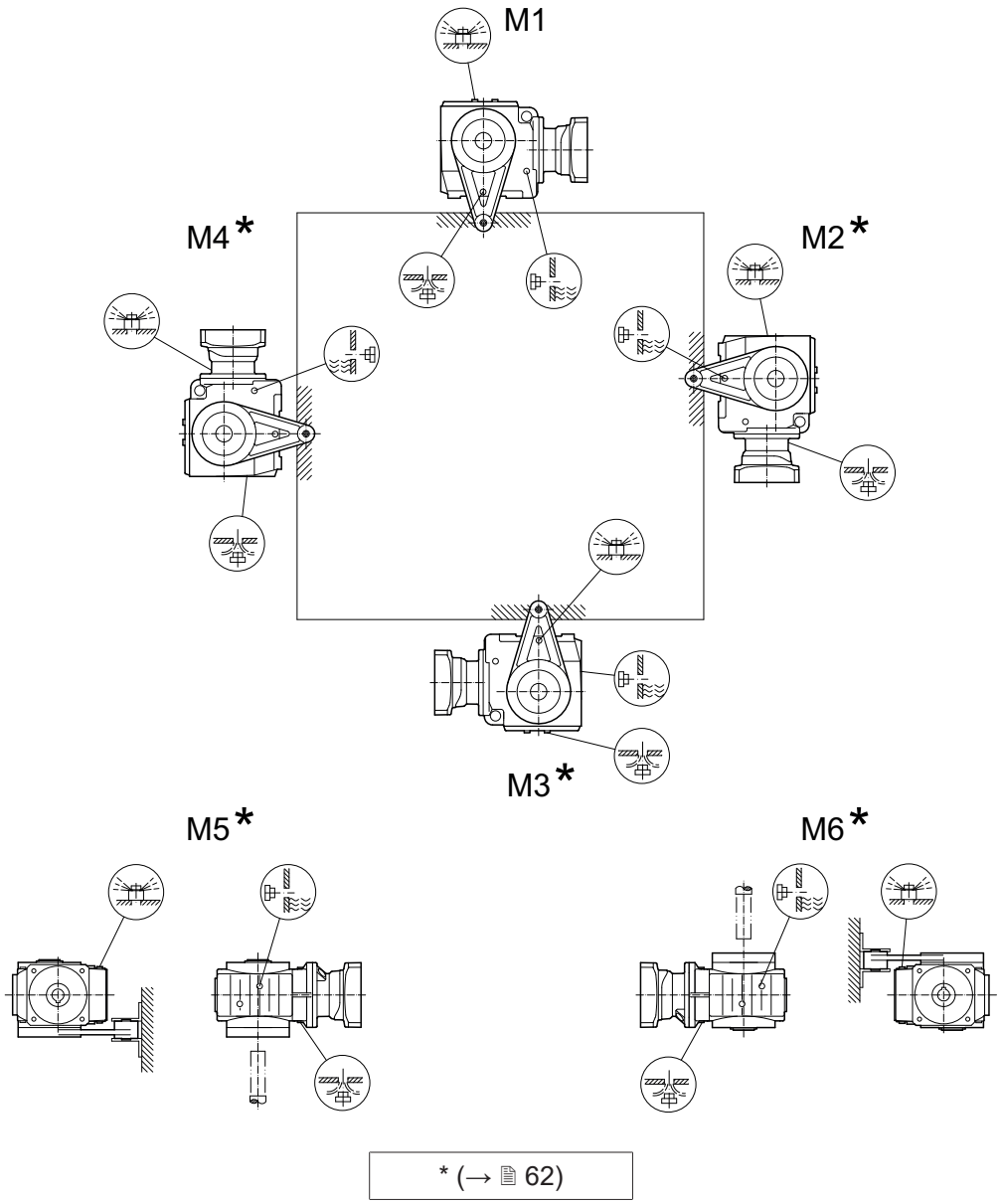
* (→ 🗎 62)

27788644/EN – 02/2024

SA/SH/ST47 – 67

02 007 00 21





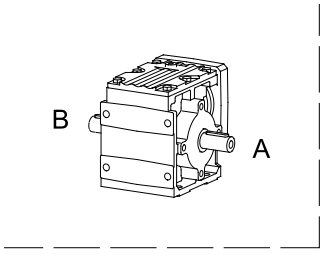
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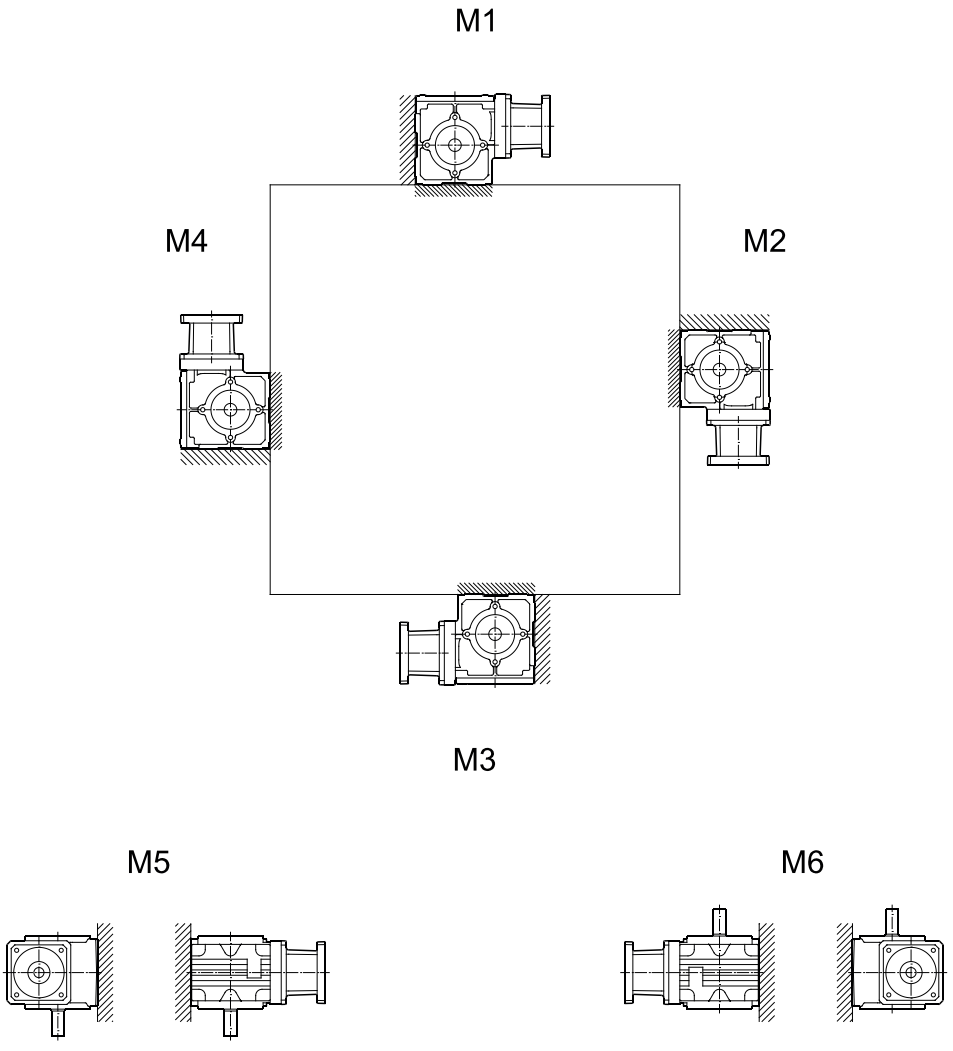
27788644/EN – 02/2024

5.5.7 Mounting positions SPIROPLAN® right-angle gear units

W10 – 30

20 060 00 20

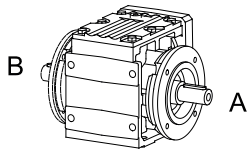


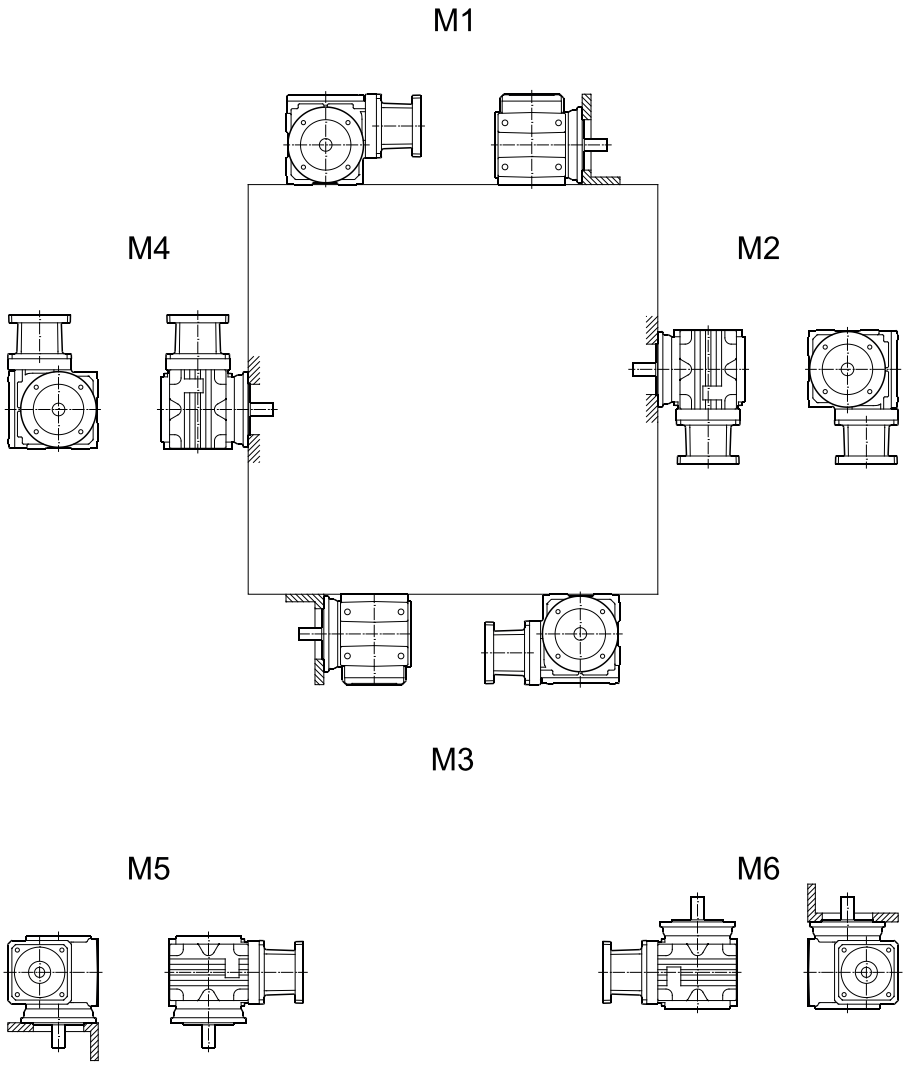


27788644/EN – 02/2024

WF/WAF10 – 30

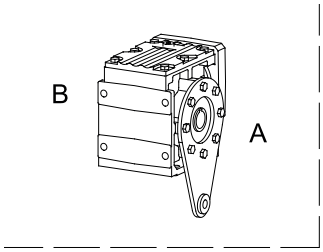
20 061 00 20



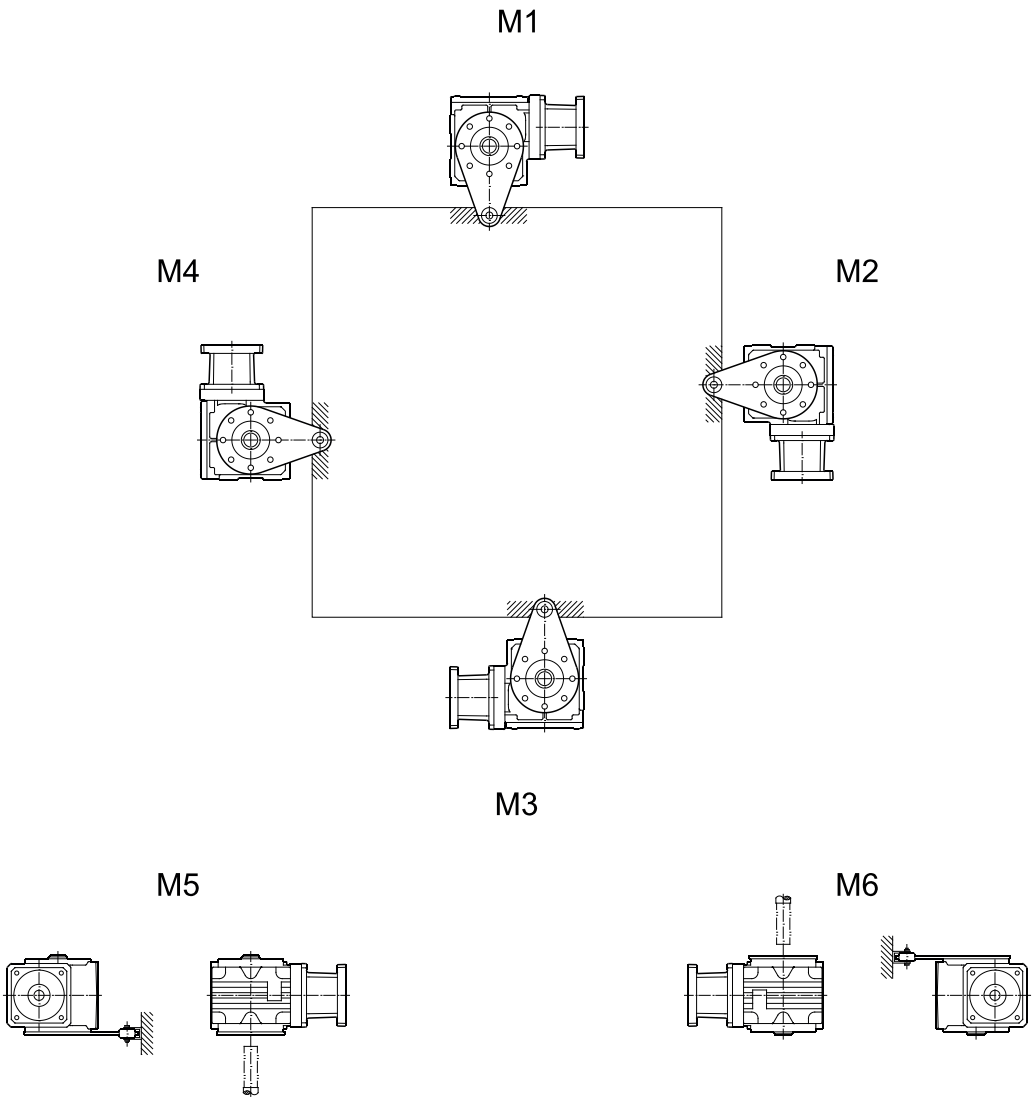


27788644/EN – 02/2024

WA10 – 20



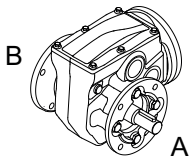
20 062 00 20

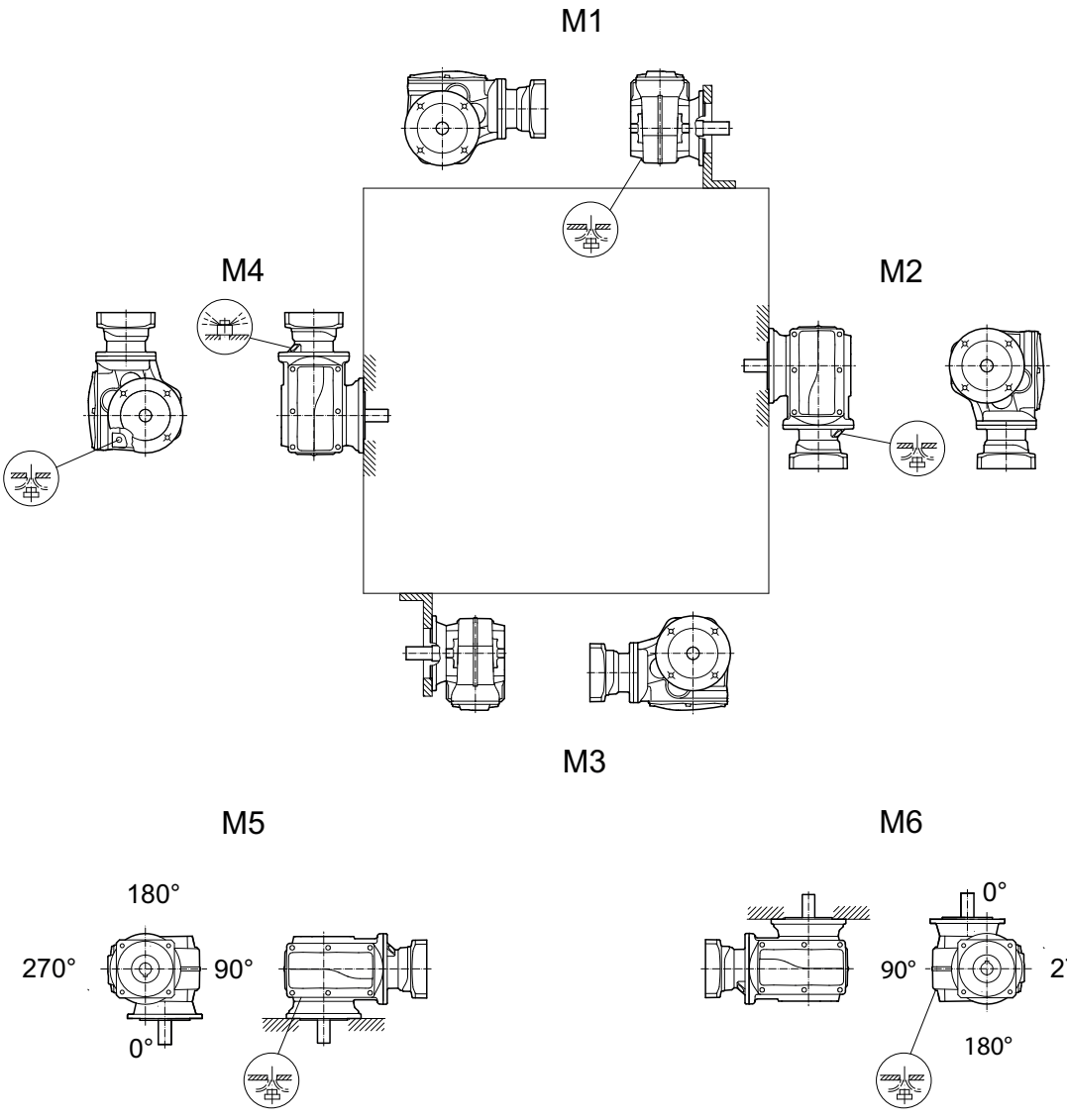


27788644/EN – 02/2024

WF/WAF19 – 59, WHF29 – 59

20 007 00 21

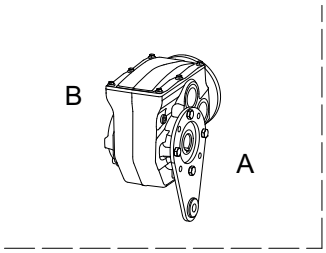


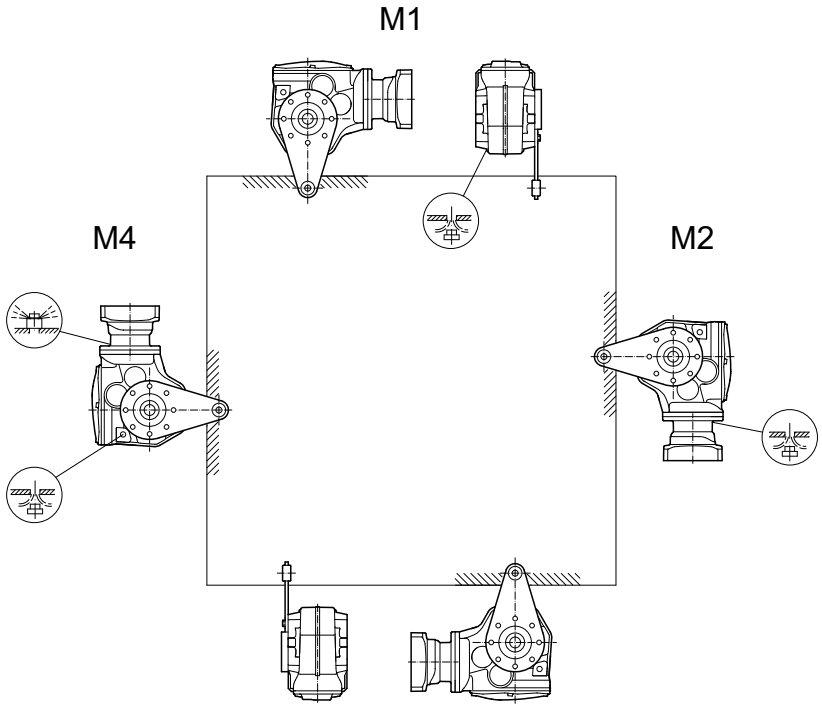


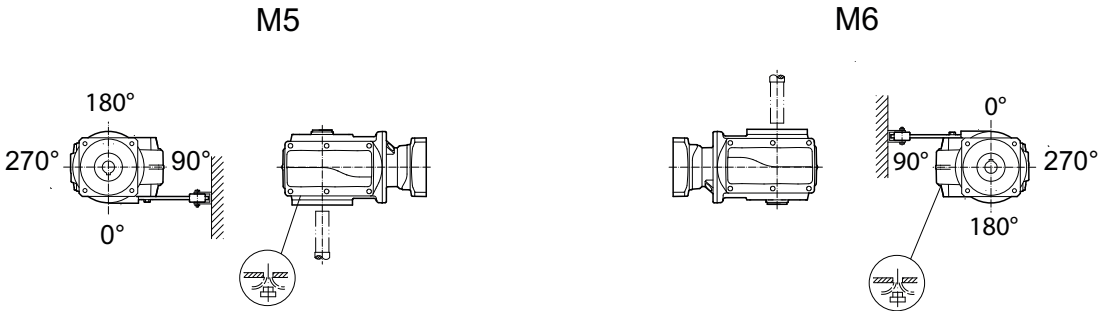
27788644/EN – 02/2024

WA19 – 59, WH/WT29 – 59

20 008 00 21





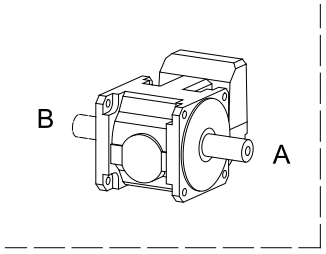


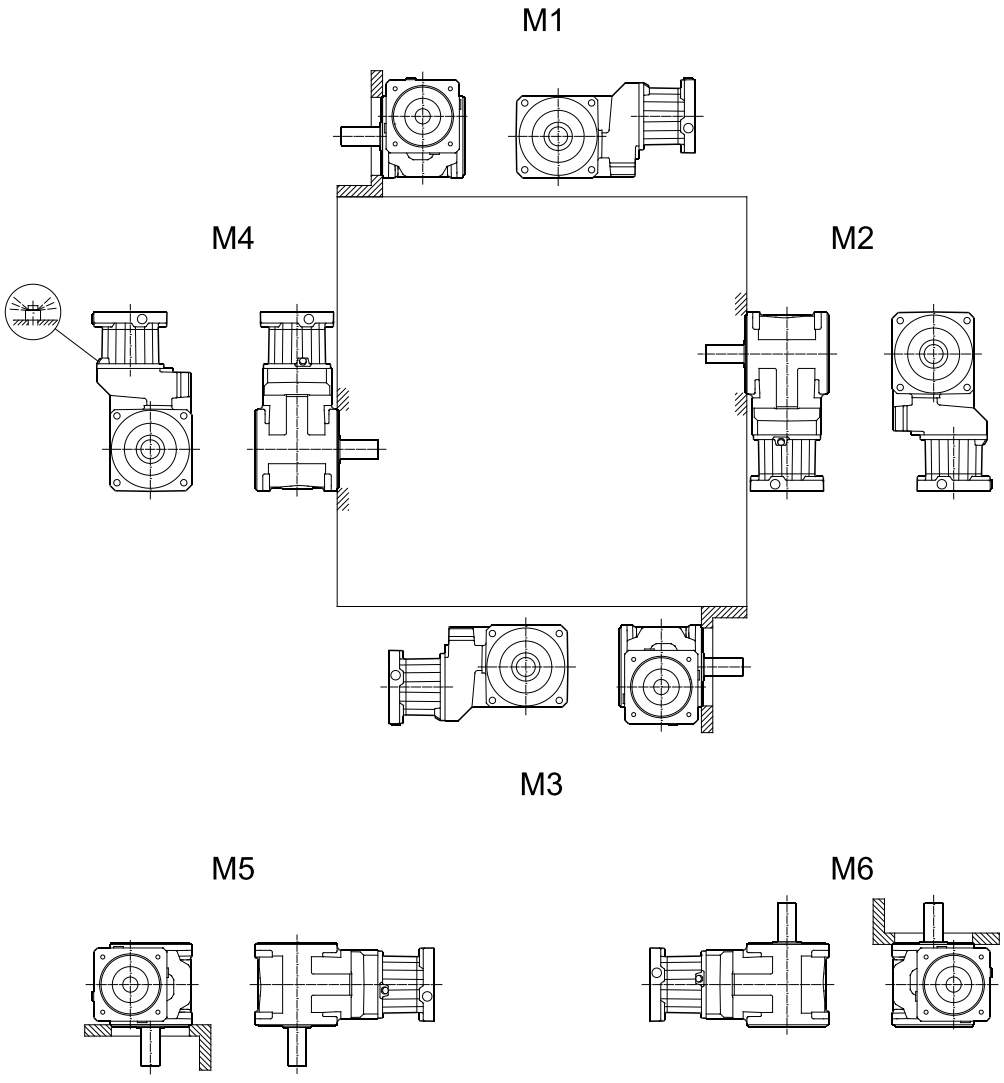
27788644/EN – 02/2024

5.5.8 Mounting positions of helical-bevel gear units BS.F

BS.F202 – 802

55 001 00 15

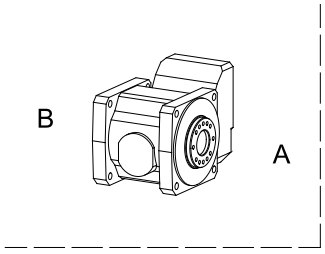


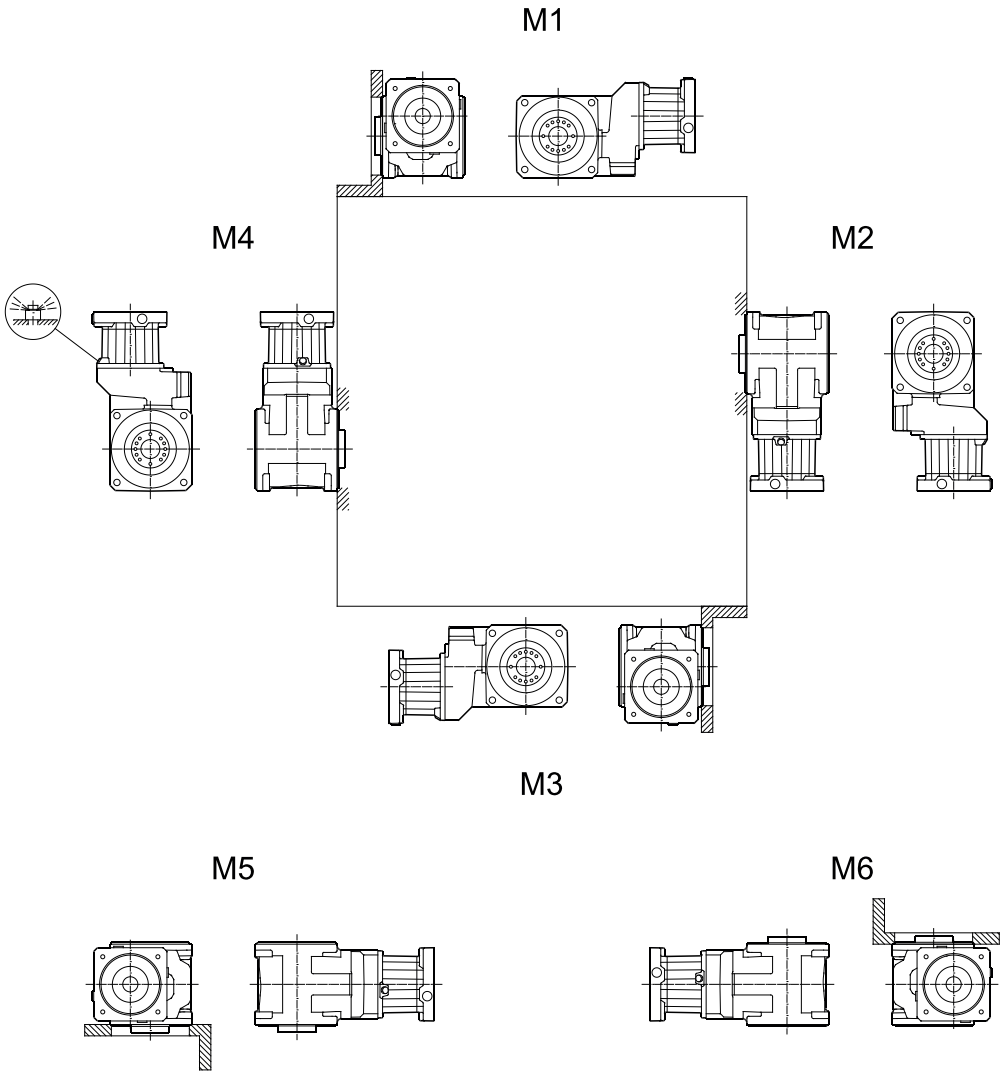


27788644/EN – 02/2024

BSBF202 – 802

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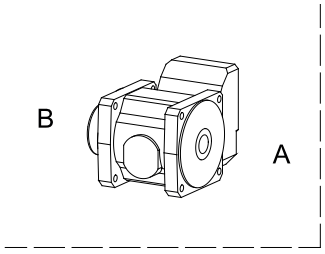


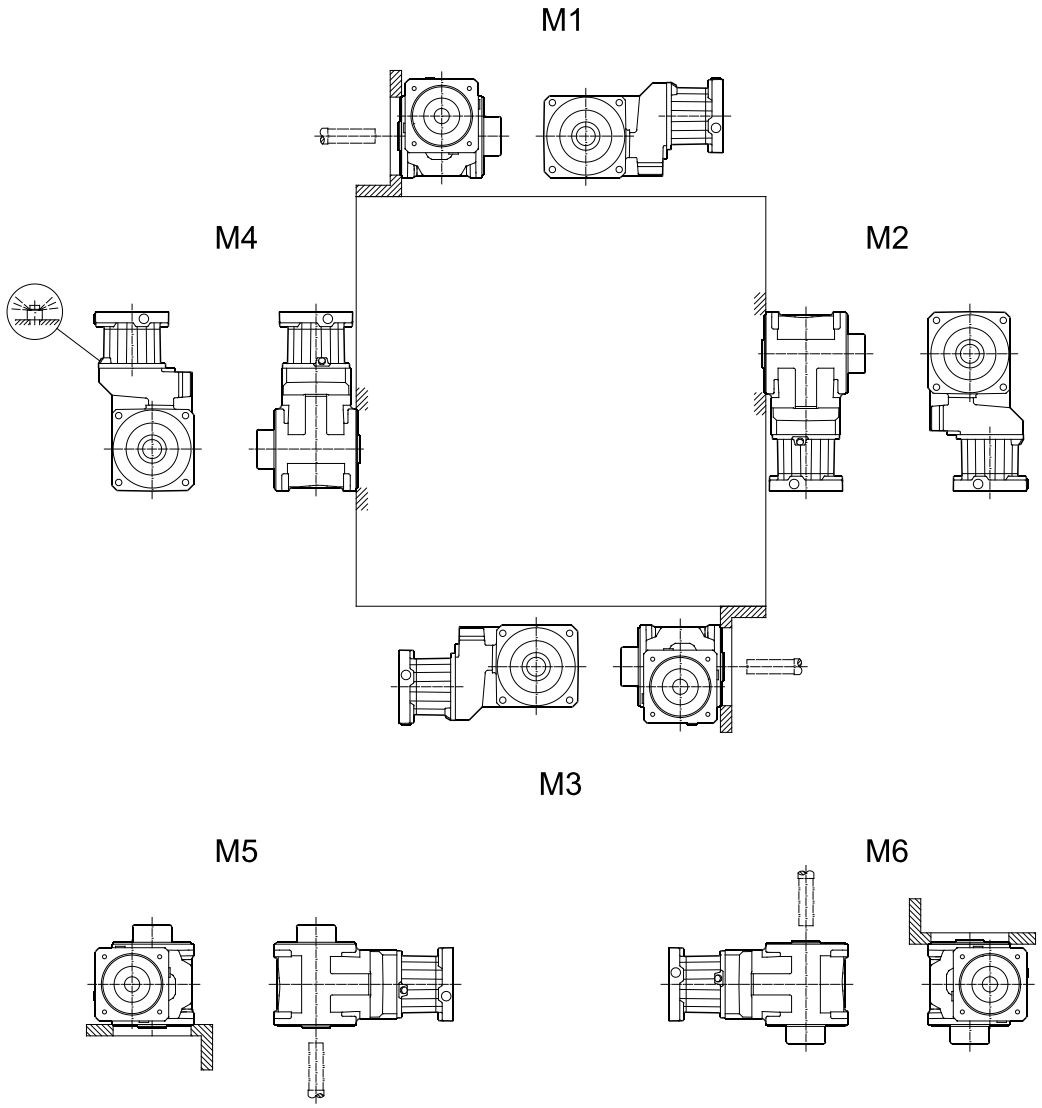


27788644/EN – 02/2024

BSHF202 – 802

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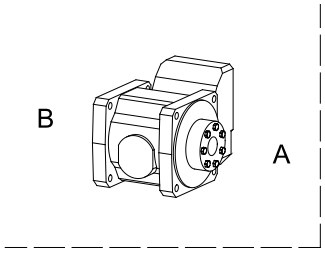


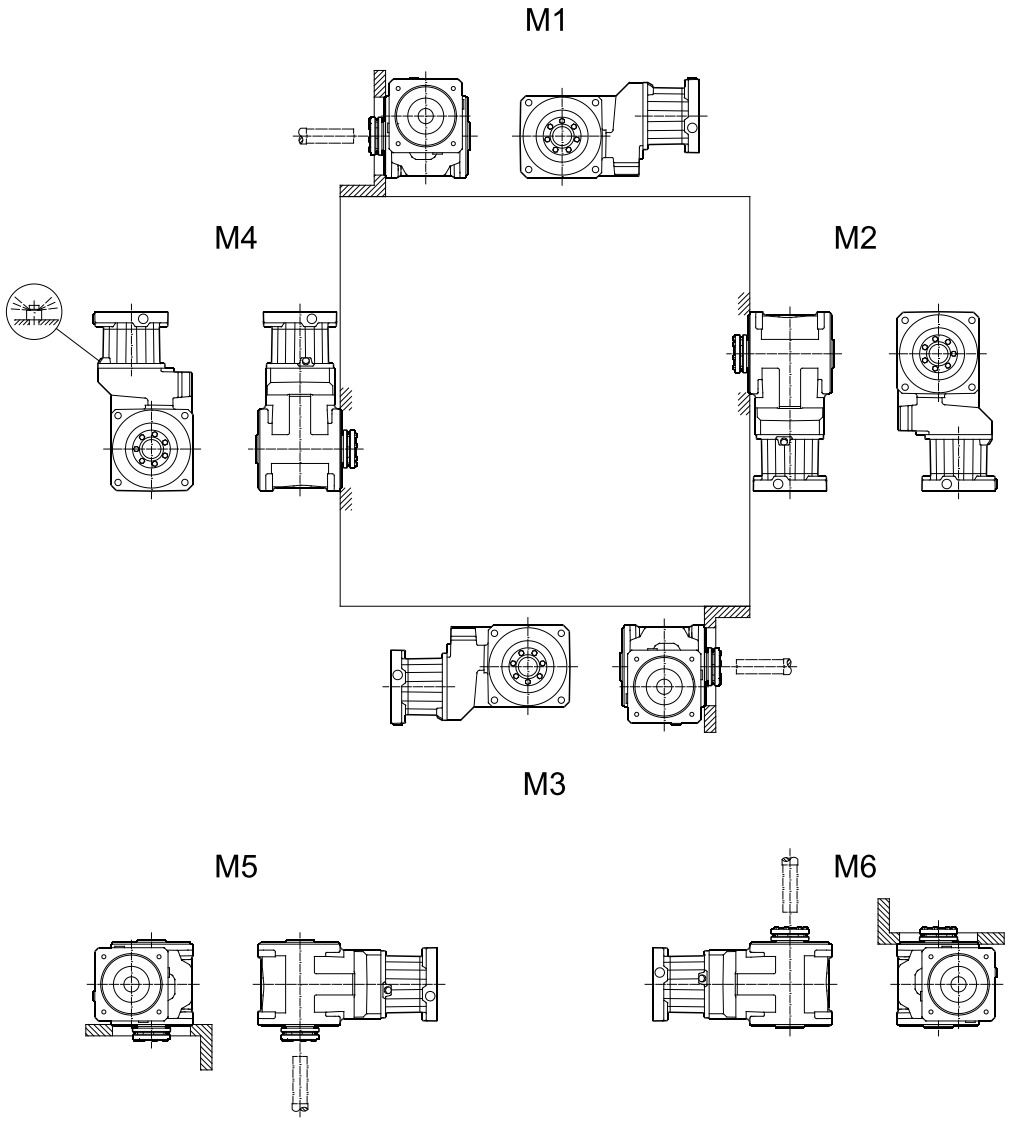


27788644/EN – 02/2024

BSHF202 – 802 /I

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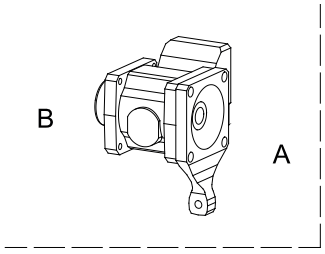


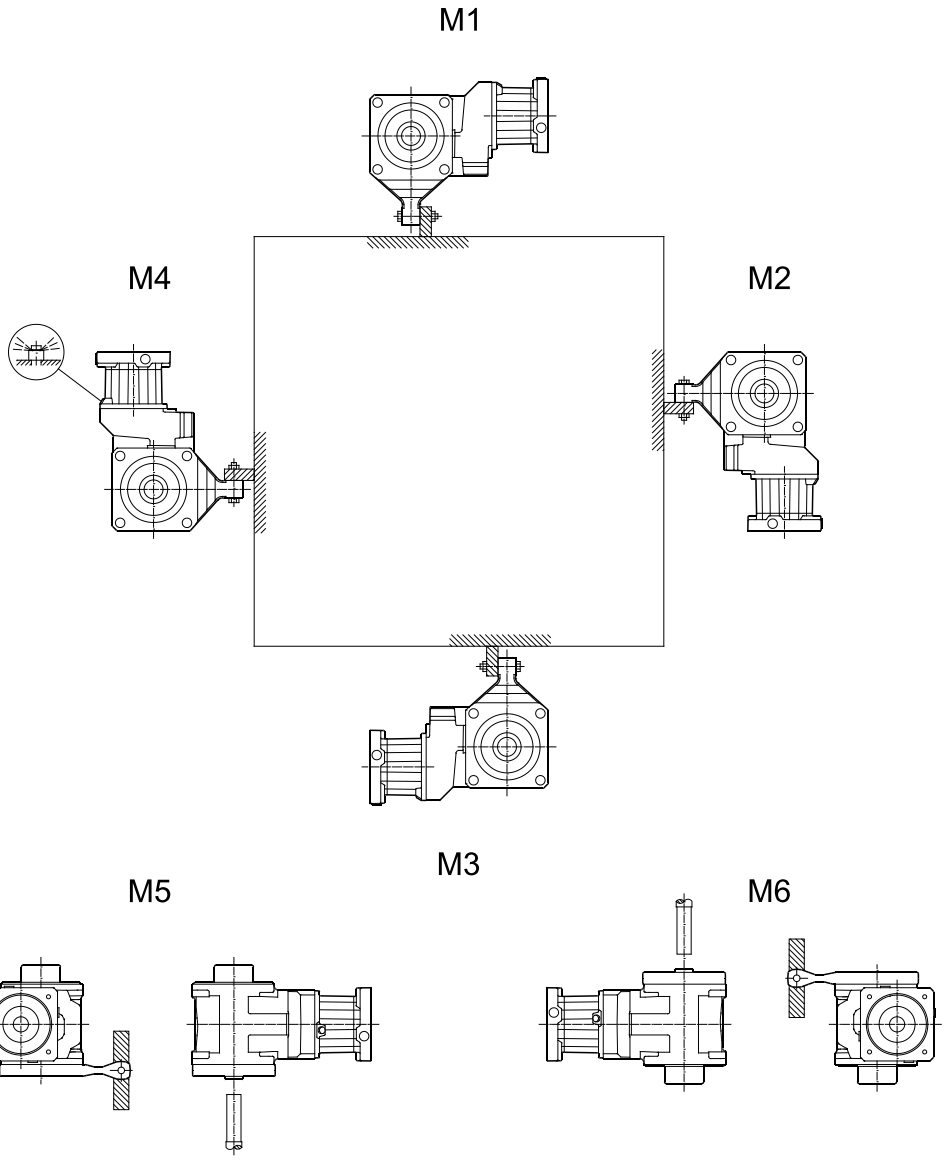


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BSHF202 – 802 /T

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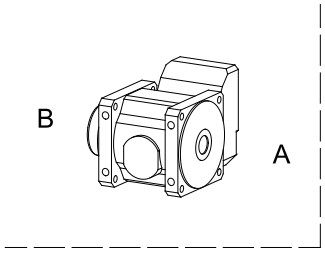


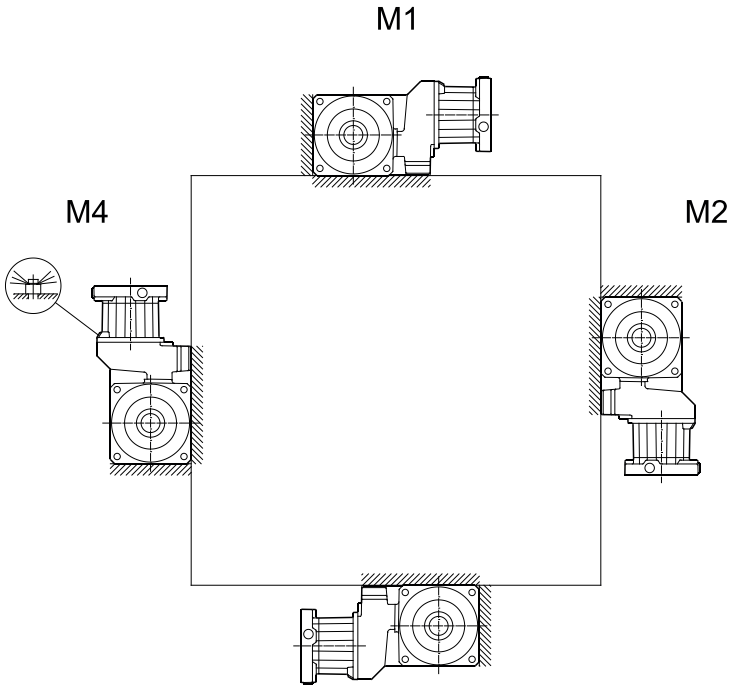


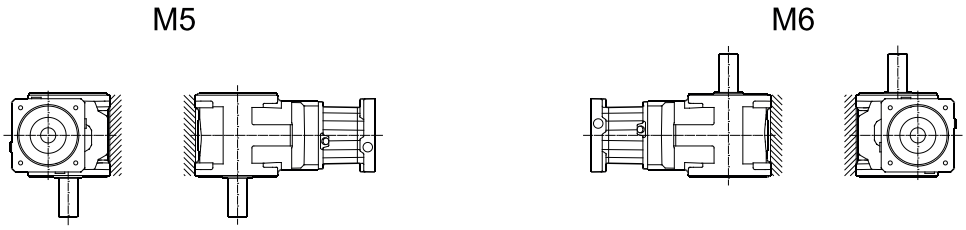
27788644/EN – 02/2024

BS.F202 – 802B

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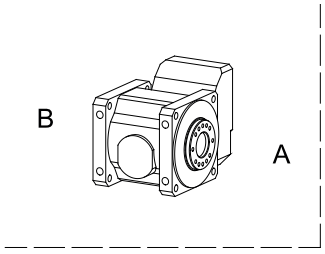


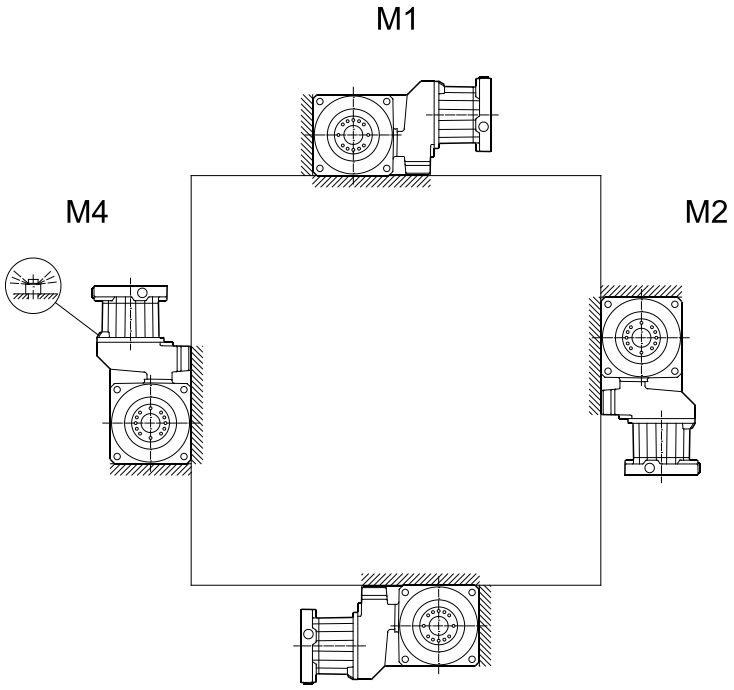


27788644/EN – 02/2024

BSBF202 – 802B

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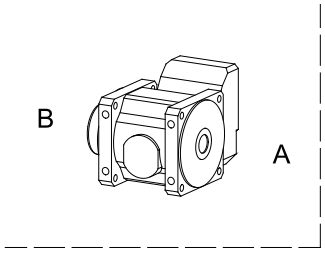


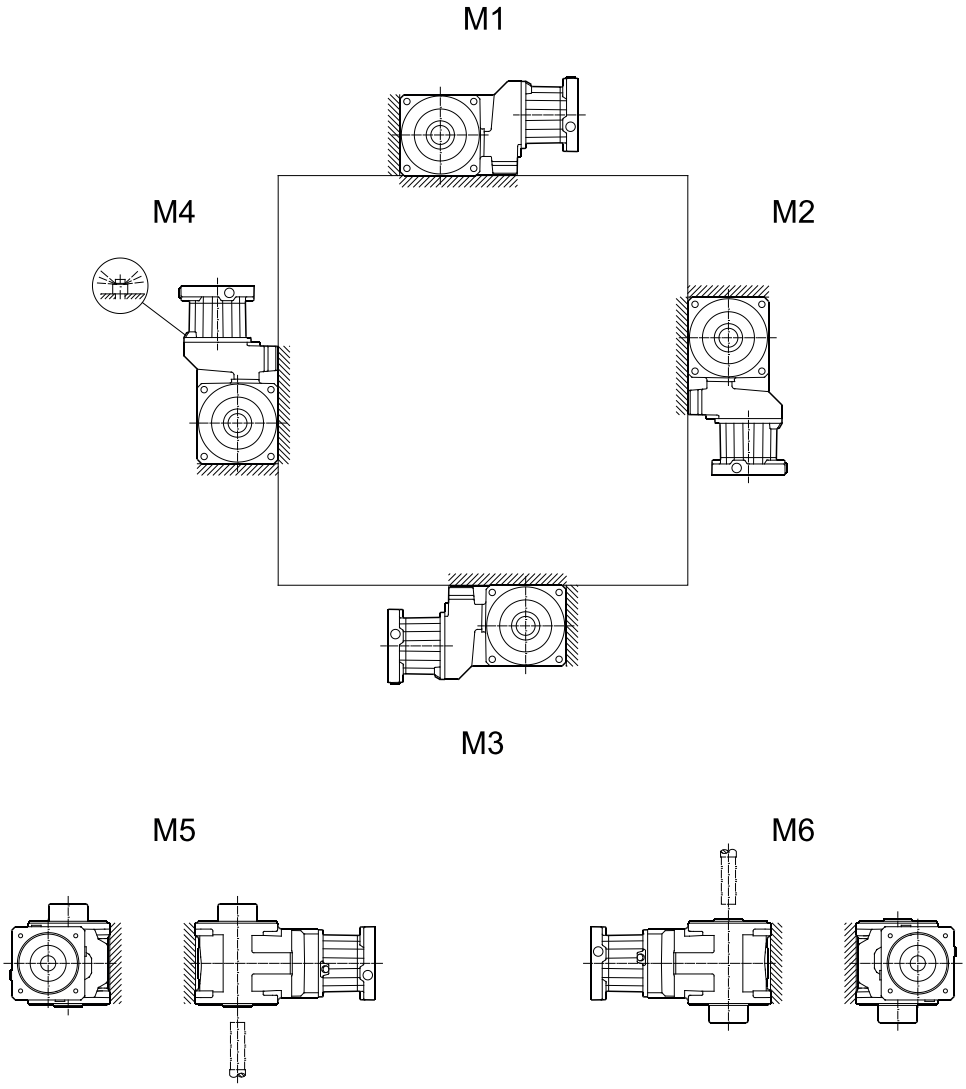


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BSHF202 – 802B

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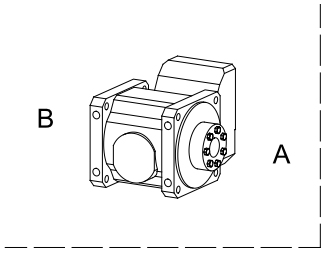


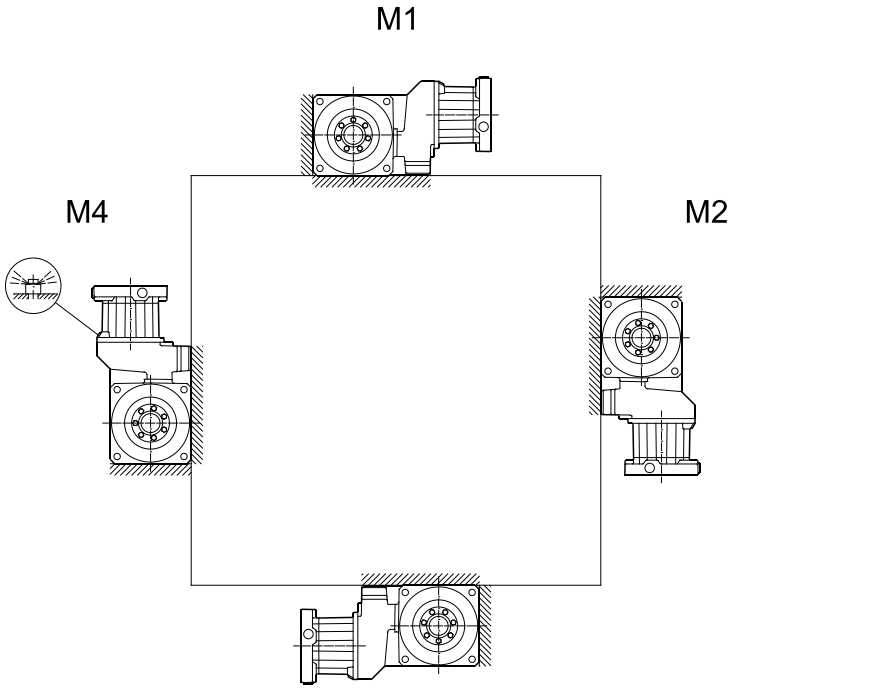


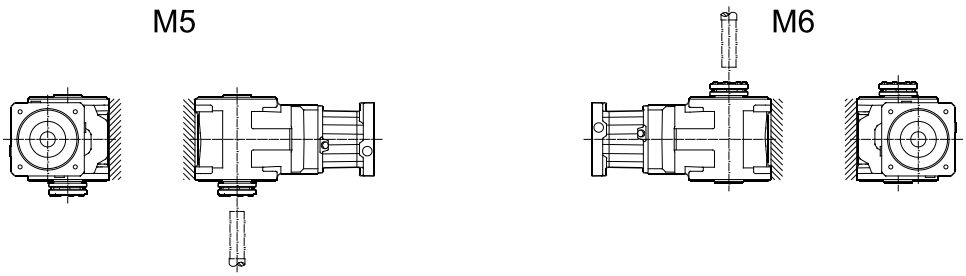
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BSHF202 – 802B /I

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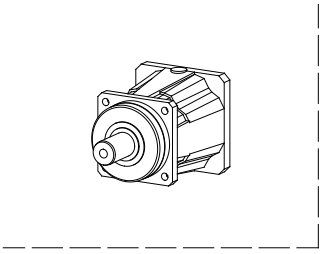


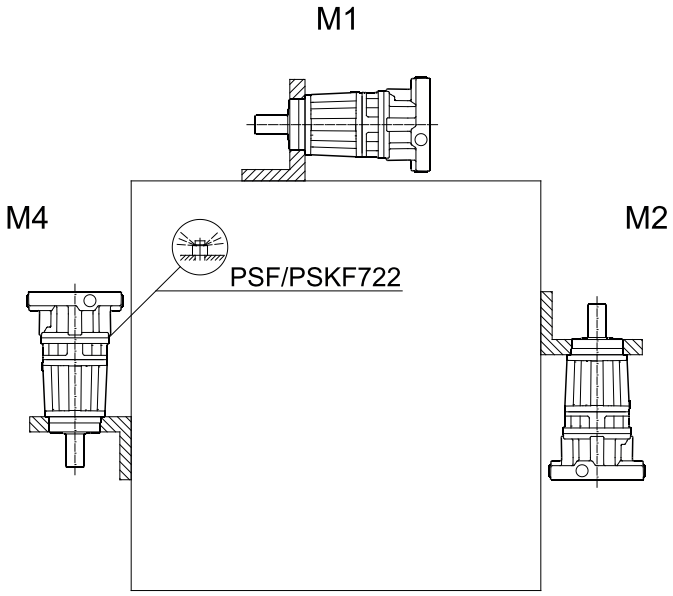
27788644/EN – 02/2024

5.5.9 Mounting positions of planetary gear units PS.F, PS.C

PS.F121 – 922, PS.C221 – 622

57 001 01 15

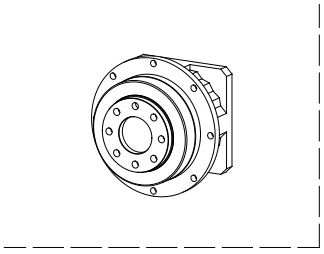


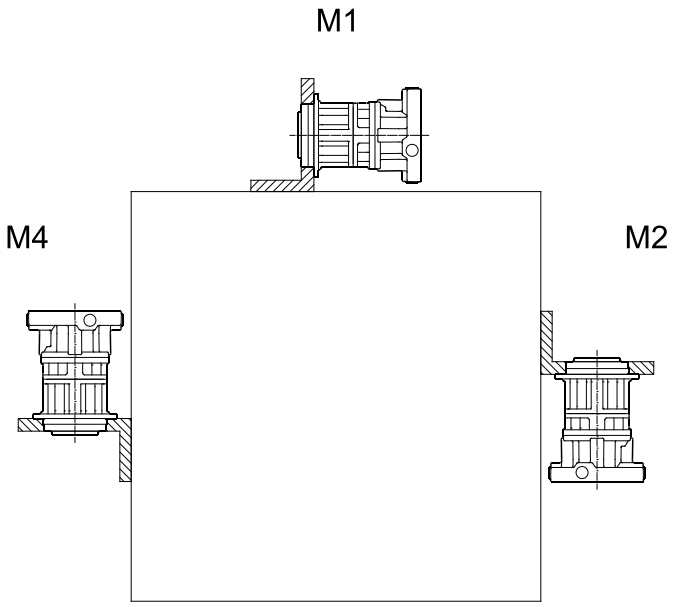


27788644/EN – 02/2024

PSBF221 – 822

57 002 01 15





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6 Design and operating notes

6.1 Lubricants

The BS.F.. helical-bevel gear units and PS.F.. planetary gear units from SEW-EURODRIVE are supplied exclusively with synthetic lubricants.

For drives for the food industry, contact SEW-EURODRIVE.

6.1.1 Premium lubricants from SEW-EURODRIVE

GearOil by SEW-EURODRIVE – 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. On this basis and in accordance with long-term test runs, SEW-EURODRIVE has developed a special formulation for its own premium gear oil: GearOil by SEW-EURODRIVE – the optimum protection for SEW-EURODRIVE gear units.

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

GearOil by SEW-EURODRIVE increases the performance of the gear unit, regardless of whether it is a standard, servo or industrial gear unit. The premium gear oil reduces the friction between gear wheels by creating a very good lubrication film. This increases the service life of lubricant and wear parts, such as sealing rings and bearings. The high damage load stage of the mineral lubricants GearOil Base (damage load stage 14) improves protection against pitting of the gearing. At the same time, GearOil increases the efficiency of the gear unit and protects against corrosion and harmful foaming of the oil. The "self-cleaning" properties of the lubricants prevent deposits as they bind water and dirt particles.

Optionally, you can select GearOil by SEW-EURODRIVE as the initial filling for the gear units and gearmotors. The premium gear oil can be ordered in can or barrel containers for service and maintenance purposes. GearOil by SEW-EURODRIVE can be stored for up to 6 years in unopened containers.

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

GearOil Base	Can 1 liter	Can 5 liters	Can 20 liters	Barrel 205 liters	IBC 1000 liters
GearOil Base 150 E1	–	–	03287866	03287742	03096750
GearOil Base 220 E1	03044130	03044084	03287858	03287734	03096688
GearOil Base 320 E1	–	–	–	03287726	03096742
GearOil Base 460 E1	–	–	–	03287718	03096734
GearOil Base 680 E1	–	–	03287815	03287696	–
GearOil Base 680 S E1	03044432	–	03287807	03287688	03096718

GearOil Poly	Can 1 liter	Can 5 liters	Can 20 liters	Barrel 205 liters
GearOil Poly 150 E1	–	03099296	–	03099172

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GearOil Poly	Can 1 liter	Can 5 liters	Can 20 liters	Barrel 205 liters
GearOil Poly 220 E1	03044211	03099288	–	03099164
GearOil Poly 460 E1	–	03099261	–	03099148
GearOil Poly 460 W E1	–	03096599	03287750	03287645
GearOil Poly 150 H1 E1	–	03099253	–	03099121
GearOil Poly 220 H1 E1	–	03099237	03099180	03099113
GearOil Poly 460 H1 E1	03044165	03287076	03288099	03287068

GearOil Synth	Can 1 liter	Can 5 liters	Can 20 liters	Barrel 205 liters
GearOil Synth 150 E1	–	03042545	03042413	03042308
GearOil Synth 220 E1	03044270	03042537	03042405	03042294
GearOil Synth 320 E1	–	03042529	03042391	03042286
GearOil Synth 460 E1	–	03042510	03042383	03042278
GearOil Synth 680 E1	–	03042502	03042375	03042251
GearOil Synth 220 H1 E1	–	03042596	03042464	03042340
GearOil Synth 460 H1 E1	03044319	03042588	03042456	03042332

= Lubricant suitable for the food and feed industry

For further information on the use of GearOil lubricants and their essential technical properties, refer to the lubricant tables, see chapter "Lubricant table" (→ 🗎 127). Technical data sheets and safety data sheets are available from SEW-EURODRIVE on request.

GearFluid by SEW-EURODRIVE – CO_2-reduced premium lubricant for gear units

GearFluid by SEW-EURODRIVE is the environmentally friendly alternative to lubricants made from fossil raw materials.

GearFluid by SEW-EURODRIVE is produced using sustainable biomass, such as biowaste and food residues. In a complex synthesis process, biomass is used to produce a high-quality lubricant. As proven by a certified mass balance approach, the GearFluid does not use fossil raw materials. Compared to conventional polyglycol base oils, the production of GearFluid base oil releases 84 percent less CO_2 emissions, which reduces your company-specific footprint. You will also save money as the lubricant lasts 50 percent longer and helps to extend maintenance intervals. In addition, according to Directive OECD 301 B, GearFluid Poly 220 E1 is easily biodegradable and therefore suitable for use in environmentally sensitive areas. The sustainable GearFluid lubricant can be used in almost all standard gear units and servo gear units from SEW-EURODRIVE.

Compared to conventional bio oils, GearFluid Poly 220 E1 by SEW-EURODRIVE extends the lubricant change interval by up to 300 percent. In addition, there are no restrictions on the use of various oil seals and seal materials.

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The GearFluid Poly 220 H1 E1 is an NSF-H1 registered food grade variant for use in the beverage and food industry.

GearFluid Poly	20 liter can
GearFluid Poly 220 E1	03049000
GearFluid Poly 220 H1 E1	03050556

= Lubricant suitable for the food and feed industry

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For further information on the use of GearOil lubricants and their essential technical properties, refer to the lubricant tables, see chapter "Lubricant table" (→ 🗎 127). Technical data sheets and safety data sheets are available from SEW-EURODRIVE on request.

Grease by SEW-EURODRIVE – bearing grease

Grease by SEW-EURODRIVE HL 2 E1 consists of optimally matched product components. The basis of the calcium sulphonate complex saponified grease is a semi-synthetic base oil. HL 2 E1 offers extraordinary mechanical properties in combination with an optimized additive package. The powerful lubricant provides high thermal and mechanical stability for all friction points (bearings and seals) which are subjected to high levels of stress in the gear unit and the seals in the motor. This minimizes sealing ring wear and reduces the risk of premature roller bearing failure.

The corresponding premium bearing grease Grease HL 2 H1 E1 is available for use in the food processing industry.

Key advantages:

- Good corrosion and wear protection
- Wide service temperature range
- Optimum water resistance
- Resistant to aging
- High thermal and mechanical stability

Trade name	Packaging unit	Order number
Grease HL 2 E1	500 g cartridge	03041476
Grease HL 2 H1 E1		03041484

6.1.2 Bearing greases

The table shows the lubricants recommended by SEW-EURODRIVE:

Area of application	Ambient temperature	Manufacturer	Type
Standard	-40 °C to +80 °C	SEW-EURODRIVE	Grease HL 2 E1[1)]
		Fuchs	Renolit CX-TOM 15[1)]
		Klüber	Petamo GHY 133 N
2)	-40 °C to +40 °C	SEW-EURODRIVE	Grease HL 2 H1 E1
		Bremer & Leguil	Cassida Grease GTS 2

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Area of application	Ambient temperature	Manufacturer	Type
 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.

6.1.3 Lubricant table

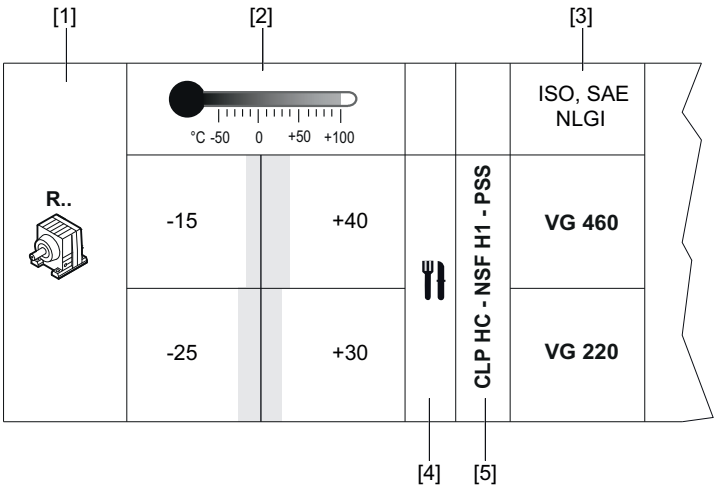
The lubricant recommendation provided in the lubricant table in no way represents a guarantee as to the quality of the lubricant delivered by each respective supplier. Each lubricant manufacturer is responsible for the quality of their product.

Oils of the same viscosity class from different manufacturers do not have the same characteristics. In particular, the minimum and maximum permitted oil bath temperatures are manufacturer-specific. These temperatures are specified in the lubricant tables.

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 values specified in the lubricant tables apply as of the time of printing of this document. The data of the lubricants are subject to dynamic change on the part of the lubricant manufacturers. For the latest information about the lubricants, visit: **www.sew-eurodrive.de/lubricants**.

Information on the table structure

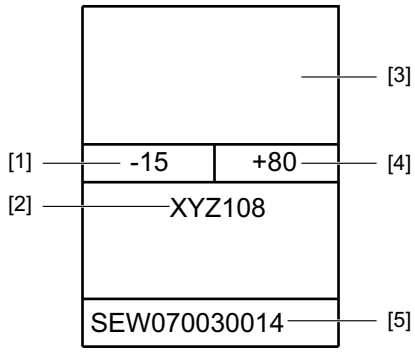


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[1] Gear unit type
[2] Ambient temperature range
[3] Viscosity class
[4] Information about special approvals
[5] Lubricant type

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 seals

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.

Permitted 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. Take special care to avoid or limit pulsating and changing radial displacements of the shaft. Contact SEW-EURODRIVE if necessary.

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

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

Material class			Manufacturer		Material	
S	1	NBR	1	Freudenberg		72 NBR 902
			2	Trelleborg		4NV11
	2	FKM	1	Freudenberg	1	75 FKM 585
					2	75 FKM 170055
			2	Trelleborg	1	VCBVR
			3	SKF	1	FKM 00934

Examples:

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

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

Key

The following table shows the symbols and abbreviations used in the lubricant table and their meaning.

Abbreviation/symbol	Meaning
	Synthetic lubricant (marked gray)
	Mineral lubricant
CLP	Mineral oil
CLP PG	Polyglycol (PG)
rPCF	Reduced Product Carbon Footprint
CLP HC	Synthetic hydrocarbons to polyalphaolefins (PAO)
E	Ester-based oil
	Lubricant for the food processing industry and feed industry. Oils are NSF-H1 registered and compliant in accordance with FDA 21 CFR § 178.3570
	Lubricants with particularly reduced CO_2 footprint (cradle-to-gate) with sustainable raw materials.
	Lubricants with slight bio-degradability for environmentally sensitive areas (> 60% according to OECD 301 or according to appendix A of EPA 2013 VGP)
	Lubricant suitable for explosion-protected gear units and gearmotors
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.

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Abbreviation/symbol	Meaning
4)	Oils for the food processing industry cannot be combined with the gear unit option “Extended storage” (a VCI anti-corrosion agent is added).
Oil seal	Oil seal
Premium Sine Seal	Oil seal of the Premium Sine Seal type. The addendum "PSS" for the lubricant type indicates compatibility with the sealing system.

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

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

Observe the thermal limits of the oil seal materials; see chapter "Lubricant compatibility with oil seals".



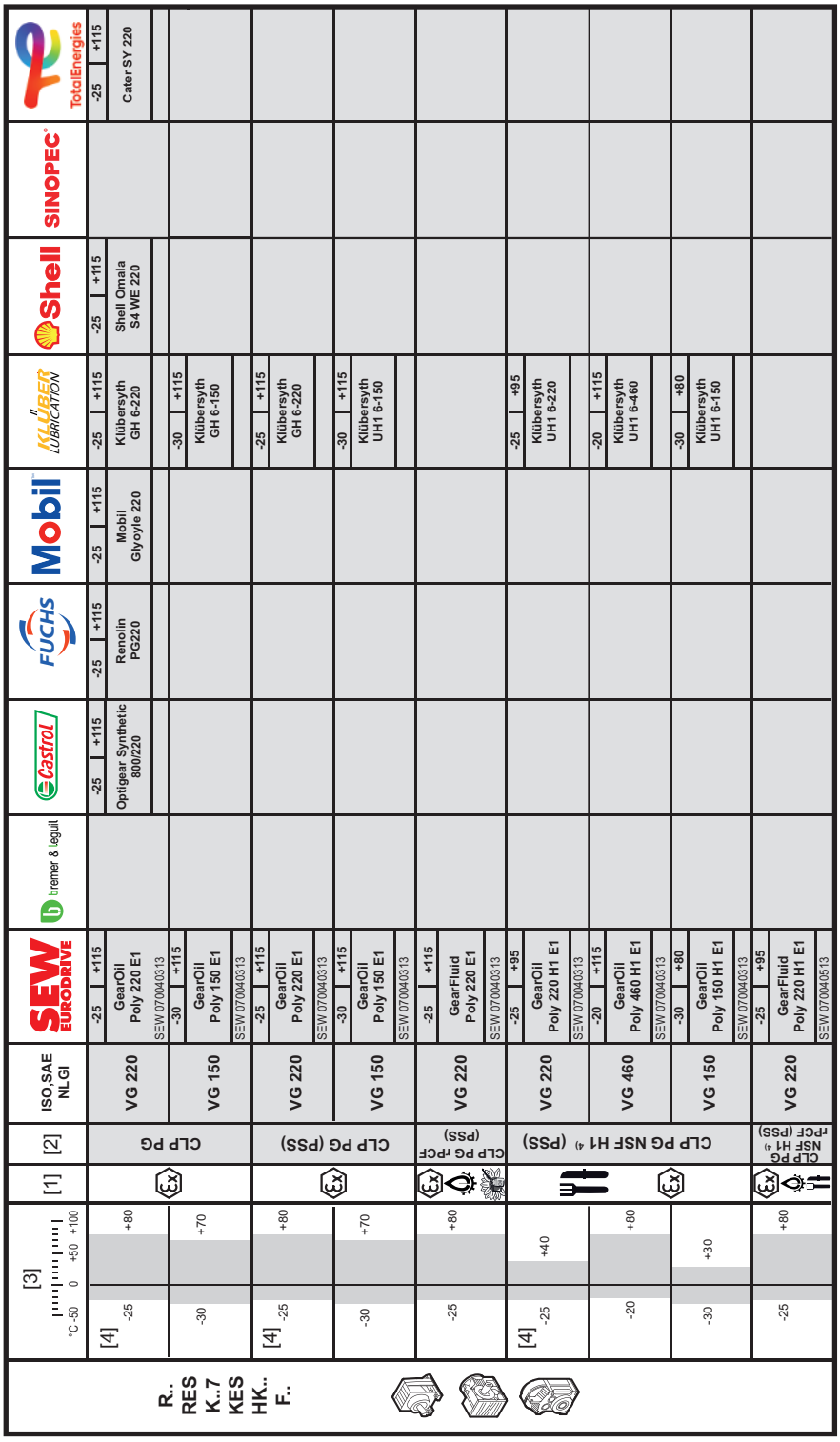
R.., RES, K..7, KES, HK.., F..	[3] °C -50 0 +50 +100	[1]	[2]	ISO,SAE NLGI	SEW EURODRIVE	bremer & leguil	Castrol	FUCHS	Mobil	KLÜBER LUBRICATION	Shell	SINOPEC	TotalEnergies
[4]	-15 +40		CLP	VG 220	-15 +80 GearOil Base 220 E1/US1/CN1/BR1 SEW 070040313		-15 +80 Optigear BM 220	-15 +80 Renolin CLP 220 Plus SEW 070040313	-15 +80 Mobilgear 600 XP 220 SEW 070040013	-15 +80 Klüberoil GEM 1-220 N	-15 +80 Shell Omala SG 220	-15 +80 AP-SGO 220 SEW 070040313	-15 +80 Cater EP 220
	-20 +30			VG 150	-20 +80 GearOil Base 150 E1/US1/CN1/BR1 SEW 070040313		-20 +80 Optigear BM 150	-20 +80 Renolin CLP 150 Plus SEW 070040313	-20 +80 Mobilgear 600 XP 150 SEW 070040013	-20 +80 Klüberoil GEM 1-150 N	-20 +80 Shell Omala SG 150	-20 +80 AP-SGO 150 SEW 070040313	-20 +80 Cater EP 150
[4]	-15 +40		CLP PSS	VG 220	-15 +80 GearOil Base 220 E1/US1/CN1/BR1 SEW 070040313			-15 +80 Renolin CLP 220 Plus SEW 070040313	-15 +80 Mobilgear 600 XP 220 SEW 070040013			-15 +80 AP-SGO 220 SEW 070040313	
	-20 +30			VG 150	-20 +80 GearOil Base 150 E1/US1/CN1/BR1 SEW 070040313			-20 +80 Renolin CLP 150 Plus SEW 070040313	-20 +80 Mobilgear 600 XP 150 SEW 070040013			-20 +80 AP-SGO 150 SEW 070040313	

[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. See **www.sew-eurodrive.de/lubricants** for the latest tables.

Observe the thermal limits of the oil seal materials; see chapter "Lubricant compatibility with oil seals".



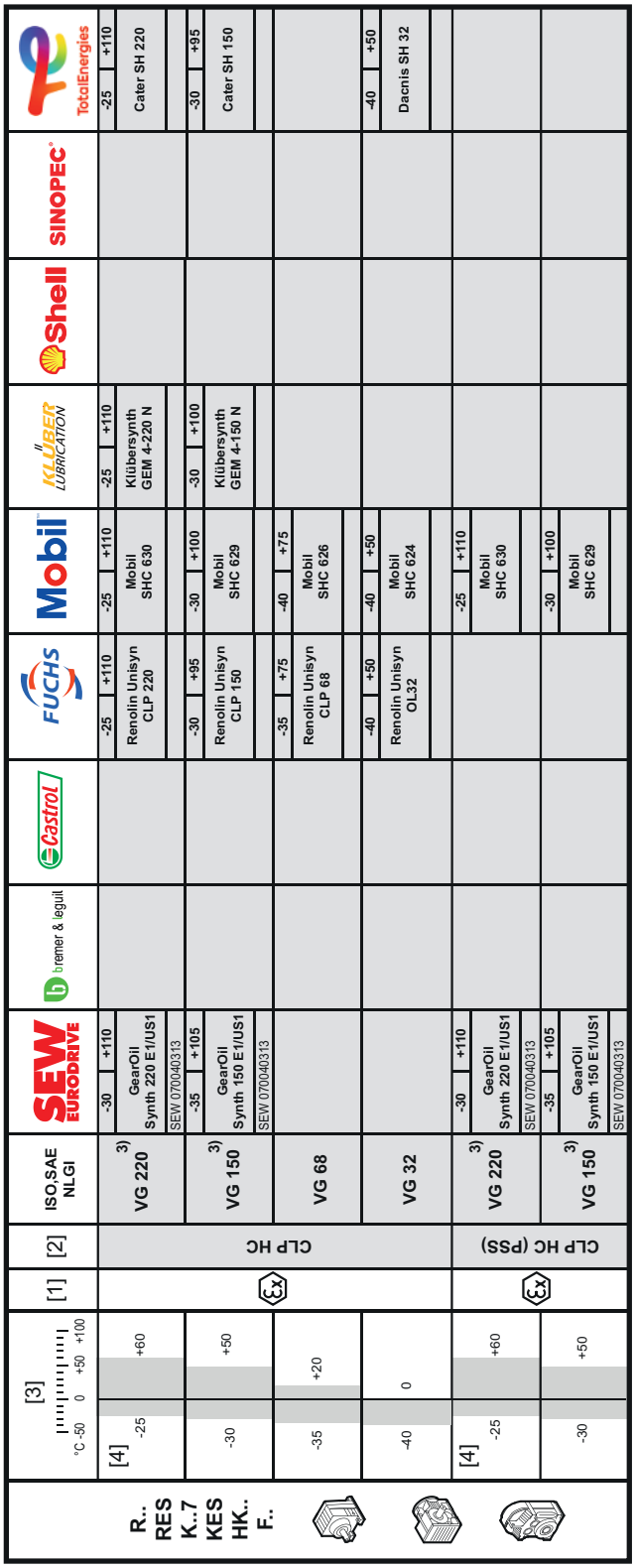
R.. RES K..7 KES HK.. F..	[3] °C -50 0 +50 +100	[1]	[2]	ISO,SAE NLGI	SEW EURODRIVE	bremer & leguil	Castrol	FUCHS	Mobil	KLÜBER LUBRICATION	Shell	SINOPEC	TotalEnergies
	[4] -25 … +80		CLP PG	VG 220	-25 … +115 GearOil Poly 220 E1 SEW 070040313		-25 … +115 Optigear Synthetic 800/220	-25 … +115 Renolin PG220	-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 GearOil Poly 150 E1 SEW 070040313					-30 … +115 Klübersyth GH 6-150			
	[4] -25 … +80		CLP PG (PSS)	VG 220	-25 … +115 GearOil Poly 220 E1 SEW 070040313					-25 … +115 Klübersyth GH 6-220			
	-30 … +70			VG 150	-30 … +115 GearOil Poly 150 E1 SEW 070040313					-30 … +115 Klübersyth UH1 6-150			
	-25 … +80		CLP PG rPCF (PSS)	VG 220	-25 … +115 GearFluid Poly 220 E1 SEW 070040313								
	[4] -25 … +40		CLP PG NSF H1 [4] (PSS)	VG 220	-25 … +95 GearOil Poly 220 H1 E1 SEW 070040313					-25 … +95 Klübersyth UH1 6-220			
	-20 … +80			VG 460	-20 … +115 GearOil Poly 460 H1 E1 SEW 070040313					-20 … +115 Klübersyth UH1 6-460			
	-30 … +30			VG 150	-30 … +80 GearOil Poly 150 H1 E1 SEW 070040313					-30 … +80 Klübersyth UH1 6-150			
	[4] -25 … +80		CLP PG NSF H1 [4] rPCF (PSS)	VG 220	-25 … +95 GearFluid Poly 220 H1 E1 SEW 070040513								

[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. See **www.sew-eurodrive.de/lubricants** for the latest tables.

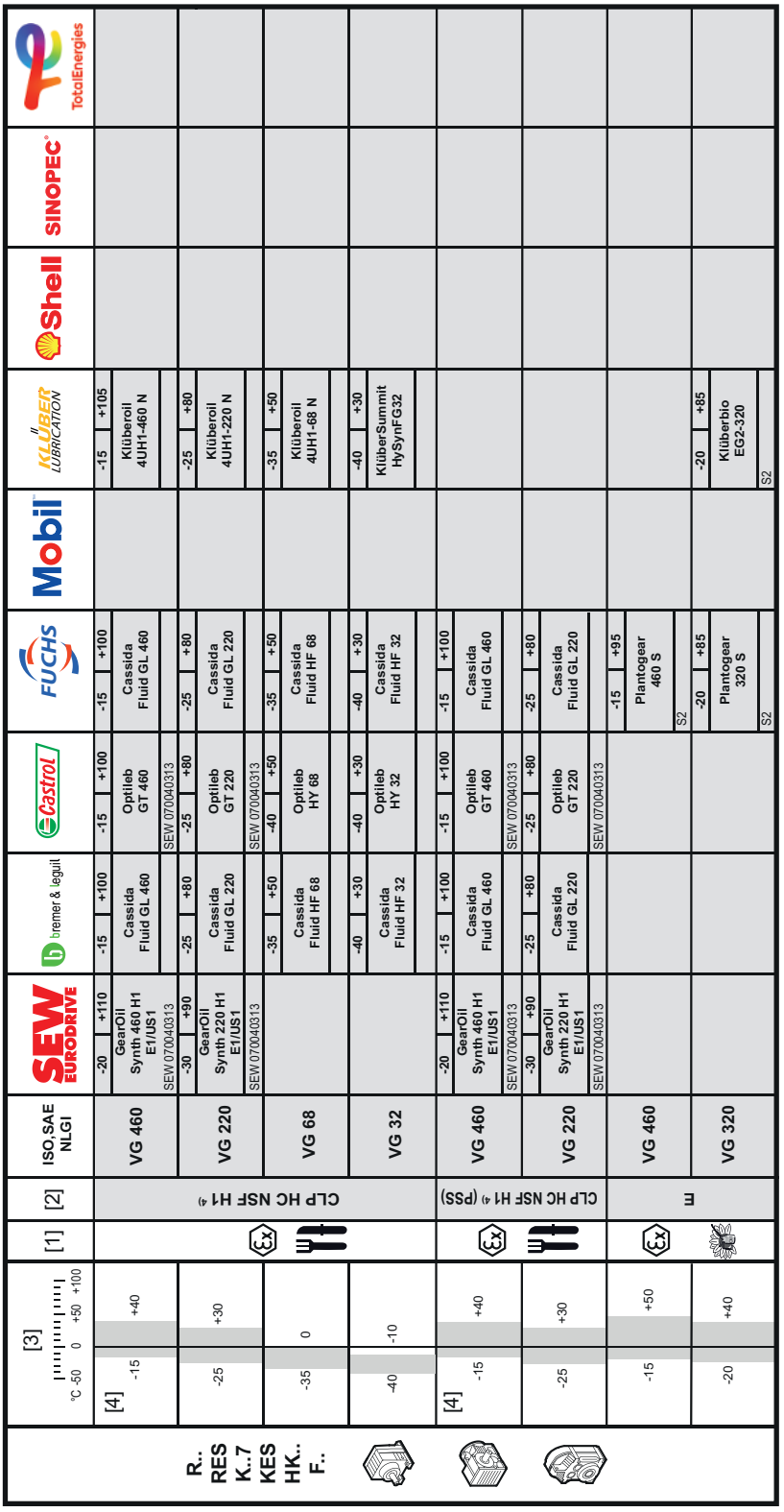
Observe the thermal limits of the oil seal materials; see chapter "Lubricant compatibility with oil seals".



[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. See **www.sew-eurodrive.de/lubricants** for the latest tables.

Observe the thermal limits of the oil seal materials; see chapter "Lubricant compatibility with oil seals".



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	SINOPEC	TotalEnergies
	[4] -15 … +40		CLP HC NSF H1 4)	VG 460	-20 … +110 GearOil Synth 460 H1 E1/US1 SEW 070040313	-15 … +100 Cassida Fluid GL 460	-15 … +100 Optileb GT 460 SEW 070040313	-15 … +100 Cassida Fluid GL 460		-15 … +105 Klüberoil 4UH1-460 N			
	[4] -25 … +30			VG 220	-30 … +90 GearOil Synth 220 H1 E1/US1 SEW 070040313	-25 … +80 Cassida Fluid GL 220	-25 … +80 Optileb GT 220 SEW 070040313	-25 … +80 Cassida Fluid GL 220		-25 … +80 Klüberoil 4UH1-220 N			
	[4] -35 … 0			VG 68	SEW 070040313	-35 … +50 Cassida Fluid HF 68	-40 … +50 Optileb HY 68	-35 … +50 Cassida Fluid HF 68		-35 … +50 Klüberoil 4UH1-68 N			
	[4] -40 … -10			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 4) (PSS)	VG 460	-20 … +110 GearOil Synth 460 H1 E1/US1 SEW 070040313	-15 … +100 Cassida Fluid GL 460	-15 … +100 Optileb GT 460 SEW 070040313	-15 … +100 Cassida Fluid GL 460					
	[4] -25 … +30			VG 220	-30 … +90 GearOil Synth 220 H1 E1/US1 SEW 070040313	-25 … +80 Cassida Fluid GL 220	-25 … +80 Optileb GT 220 SEW 070040313	-25 … +80 Cassida Fluid GL 220					
	[4] -15 … +50		E	VG 460				-15 … +95 Plantogear 460 S S2					
	[4] -20 … +40			VG 320				-20 … +85 Plantogear 320 S S2		-20 … +85 Klüberbio EG2-320 S2			

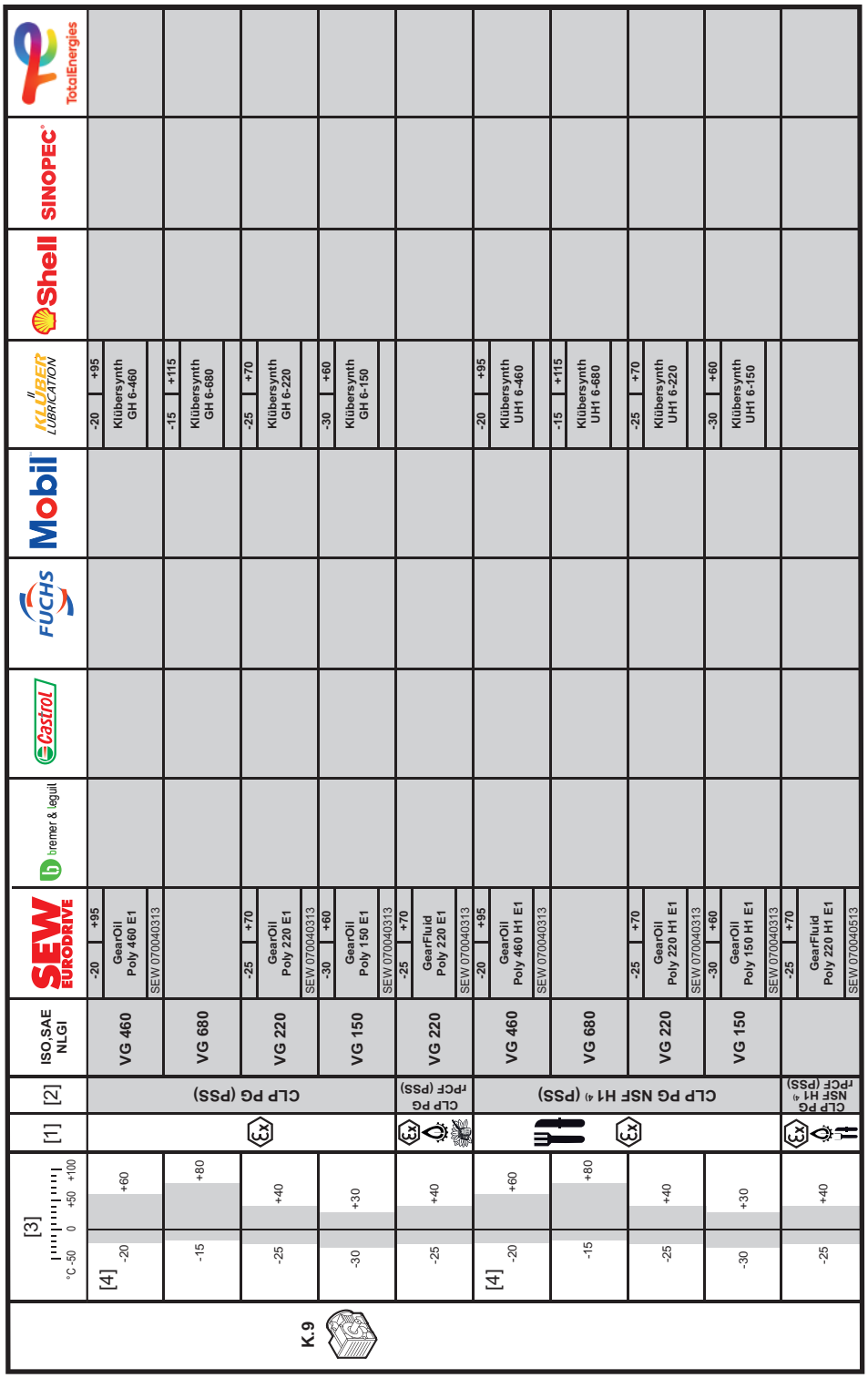
[1] Note on special approvals
[2] Oil type
[3] Ambient temperature range
[4] Standard

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Lubricant table for K..9 gear units

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

Observe the thermal limits of the oil seal materials; see chapter "Lubricant compatibility with oil seals".



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

Lubricant table for S.. gear units

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

Observe the thermal limits of the oil seal materials; see chapter "Lubricant compatibility with oil seals".



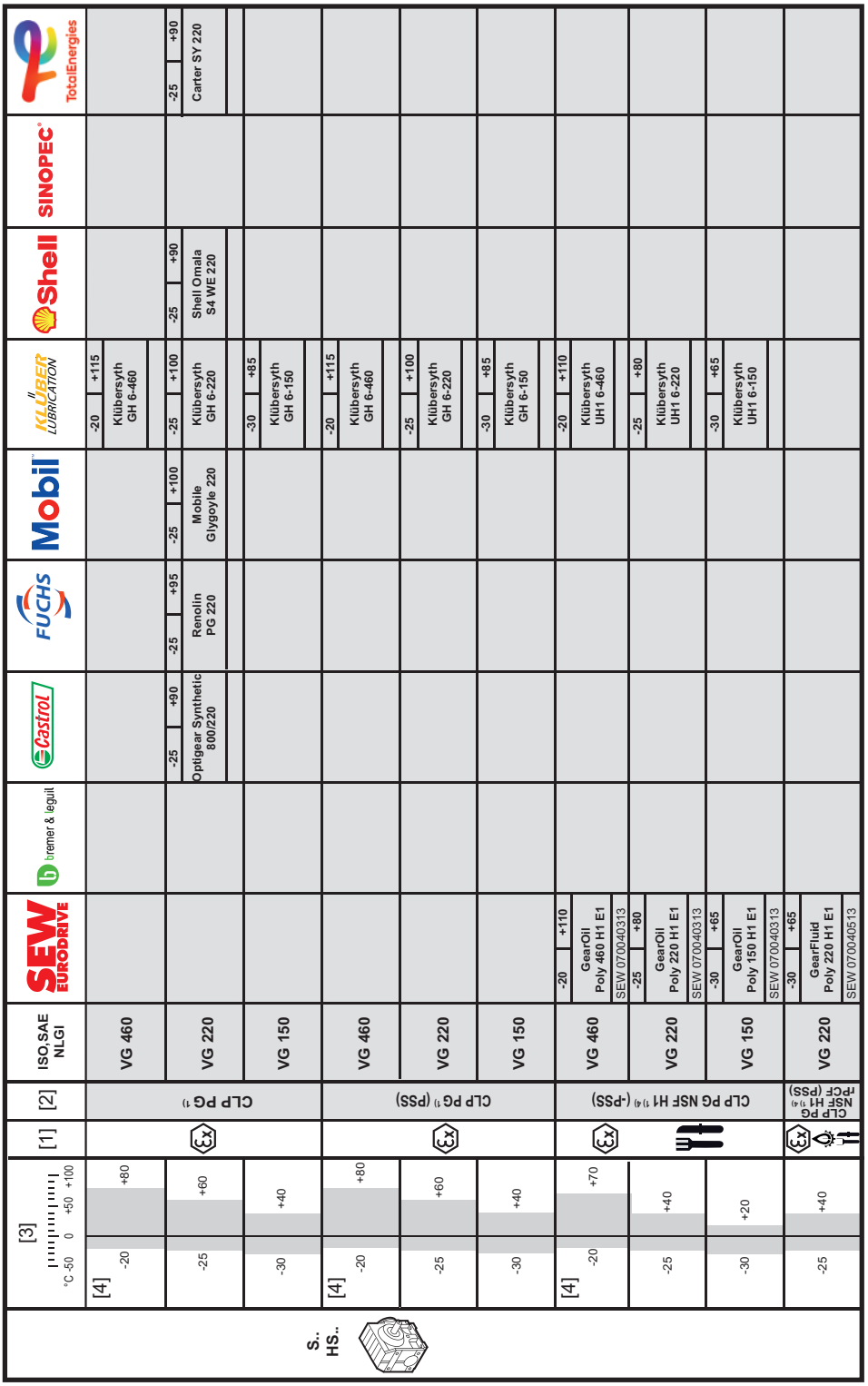
S.. HS..	[3] °C -50 0 +50 +100		[1]	[2]	ISO,SAE NLGI	SEW EURODRIVE			bremer & leguil	Castrol		FUCHS			Mobil			KLÜBER LUBRICATION			Shell			SINOPEC			TotalEnergies		
	[4]																											
	0	+40		CLP	VG 680	0	+80	SEW GearOil Base 680 S E1		0	+80	Optigear BM 680		0	+80	Renolin CLP 680 Plus		0	+80	Mobilgear 600 XP 680		0	+80	Klüberoil GEM 1-680 N		0	+80	Shell Omala SG 680		0	+80	AP-SGO 680		0	+80	Carter EP 680
						SEW 070040313								SEW 070040313				SEW 070040313				SEW 070040313				SEW 070040313				SEW 070040313			
	-20	+25			VG 150	-20	+65	SEW GearOil Base 150 E1/US1CN1/BR1		-20	+65	Optigear BM150		-20	+65	Renolin CLP 150 Plus		-20	+65	Mobilgear 600 XP 150		-20	+65	Klüberoil GEM 1-150 N		-20	+65	Shell Omala SG 150		-20	+65	AP-SGO 150		-20	+65	Carter EP 150
						SEW 070040313								SEW 070040313				SEW 070040313				SEW 070040313				SEW 070040313				SEW 070040313			
	[4]																													
	0	+40		CLP (PSS)	VG 680	0	+80	SEW GearOil Base 680 S E1						0	+80	Renolin CLP 680 Plus		0	+80	Mobilgear 600 XP 680										0	+80	AP-SGO 680			
						SEW 070040313								SEW 070040313				SEW 070040313												SEW 070040313			
	-20	+25			VG 150	-20	+65	SEW GearOil Base 150 E1/US1CN1/BR1						-20	+65	Renolin CLP 150 Plus		-20	+65	Mobilgear 600 XP 150										-20	+65	AP-SGO 150			
						SEW 070040313								SEW 070040313				SEW 070040313												SEW 070040313			

[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. See **www.sew-eurodrive.de/lubricants** for the latest tables.

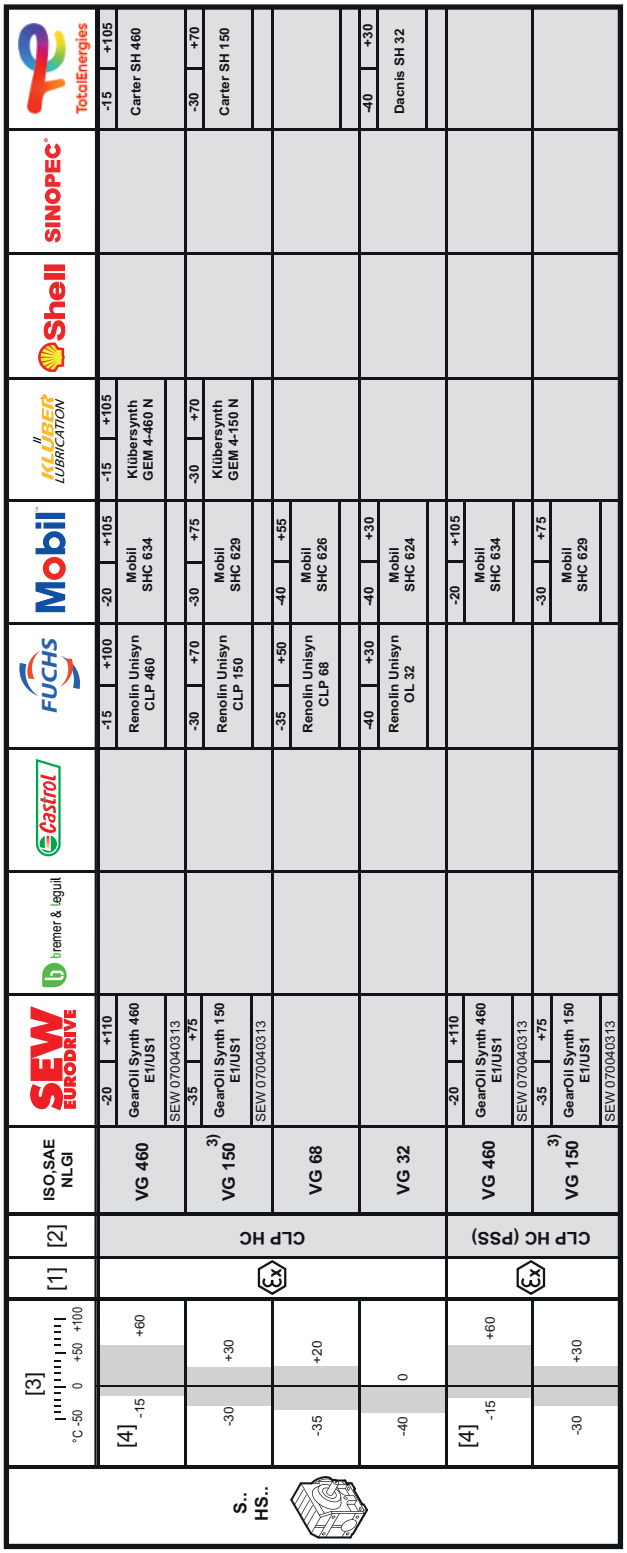
Observe the thermal limits of the oil seal materials; see chapter "Lubricant compatibility with oil seals".



[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. See **www.sew-eurodrive.de/lubricants** for the latest tables.

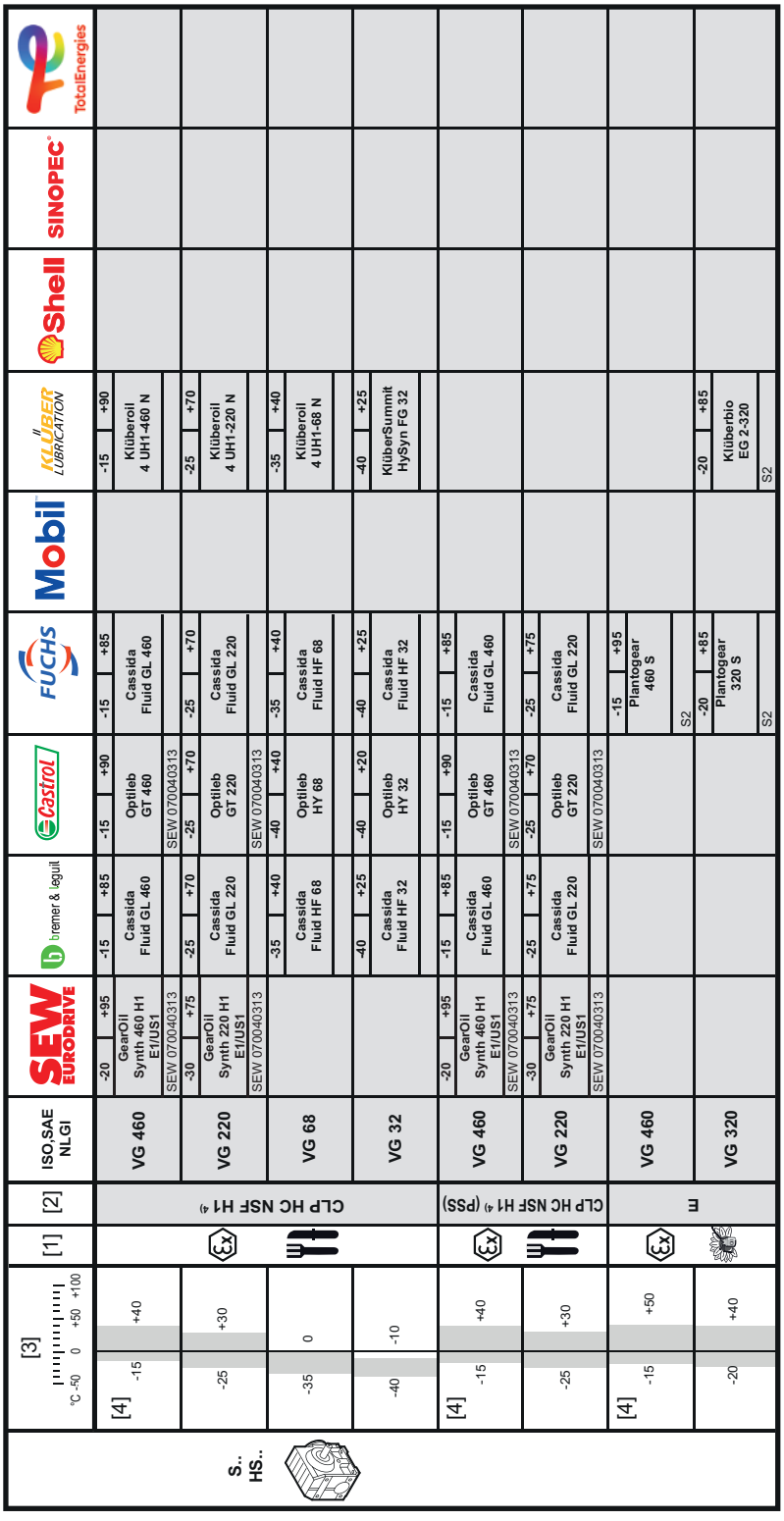
Observe the thermal limits of the oil seal materials; see chapter "Lubricant compatibility with oil seals".



[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. See **www.sew-eurodrive.de/lubricants** for the latest tables.

Observe the thermal limits of the oil seal materials; see chapter "Lubricant compatibility with oil seals".



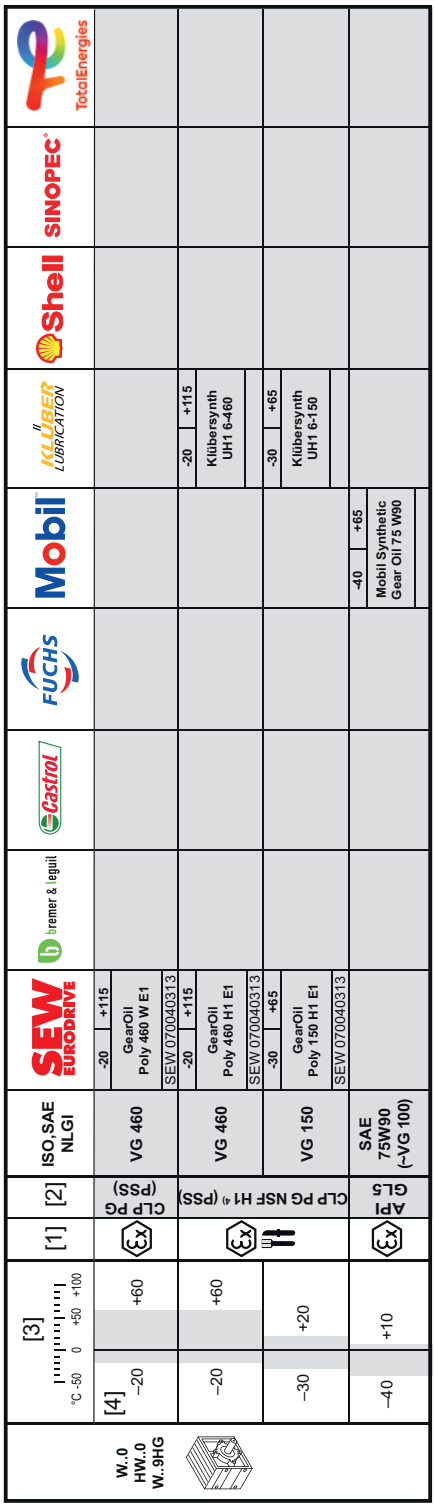
S.. HS..	[3] °C -40 0 +50 +100	[1]	[2]	ISO,SAE NLGI	SEW EURODRIVE	bremer & leguil	Castrol	FUCHS	Mobil	KLÜBER LUBRICATION	Shell	SINOPEC	TotalEnergies
	[4] -15 +40		CLP HC NSF H1 a)	VG 460	-20 +95 GearOil Synth 460 H1 E1/US1 SEW 070040313	-15 +85 Cassida Fluid GL 460	-15 +90 Optileb GT 460 SEW 070040313	-15 +85 Cassida Fluid GL 460		-15 +90 Klüberoil 4 UH1-460 N			
	-25 +30			VG 220	-30 +75 GearOil Synth 220 H1 E1/US1 SEW 070040313	-25 +70 Cassida Fluid GL 220	-25 +70 Optileb GT 220 SEW 070040313	-25 +70 Cassida Fluid GL 220		-25 +70 Klüberoil 4 UH1-220 N			
	-35 0			VG 68		-35 +40 Cassida Fluid HF 68	-40 +40 Optileb HY 68	-35 +40 Cassida Fluid HF 68		-35 +40 Klüberoil 4 UH1-68 N			
	-40 -10			VG 32		-40 +25 Cassida Fluid HF 32	-40 +20 Optileb HY 32	-40 +25 Cassida Fluid HF 32		-40 +25 KlüberSummit HySyn FG 32			
	[4] -15 +40		CLP HC NSF H1 a) (PSS)	VG 460	-20 +95 GearOil Synth 460 H1 E1/US1 SEW 070040313	-15 +85 Cassida Fluid GL 460	-15 +90 Optileb GT 460 SEW 070040313	-15 +85 Cassida Fluid GL 460					
	-25 +30			VG 220	-30 +75 GearOil Synth 220 H1 E1/US1 SEW 070040313	-25 +75 Cassida Fluid GL 220	-25 +70 Optileb GT 220 SEW 070040313	-25 +75 Cassida Fluid GL 220					
	[4] -15 +50		E	VG 460				-15 +95 Plantogear 460 S S2					
	-20 +40			VG 320				-20 +85 Plantogear 320 S S2		-20 +85 Klüberbio EG 2-320 S2			

[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. See **www.sew-eurodrive.de/lubricants** for the latest tables.

Observe the thermal limits of the oil seal materials; see chapter "Lubricant compatibility with oil seals".



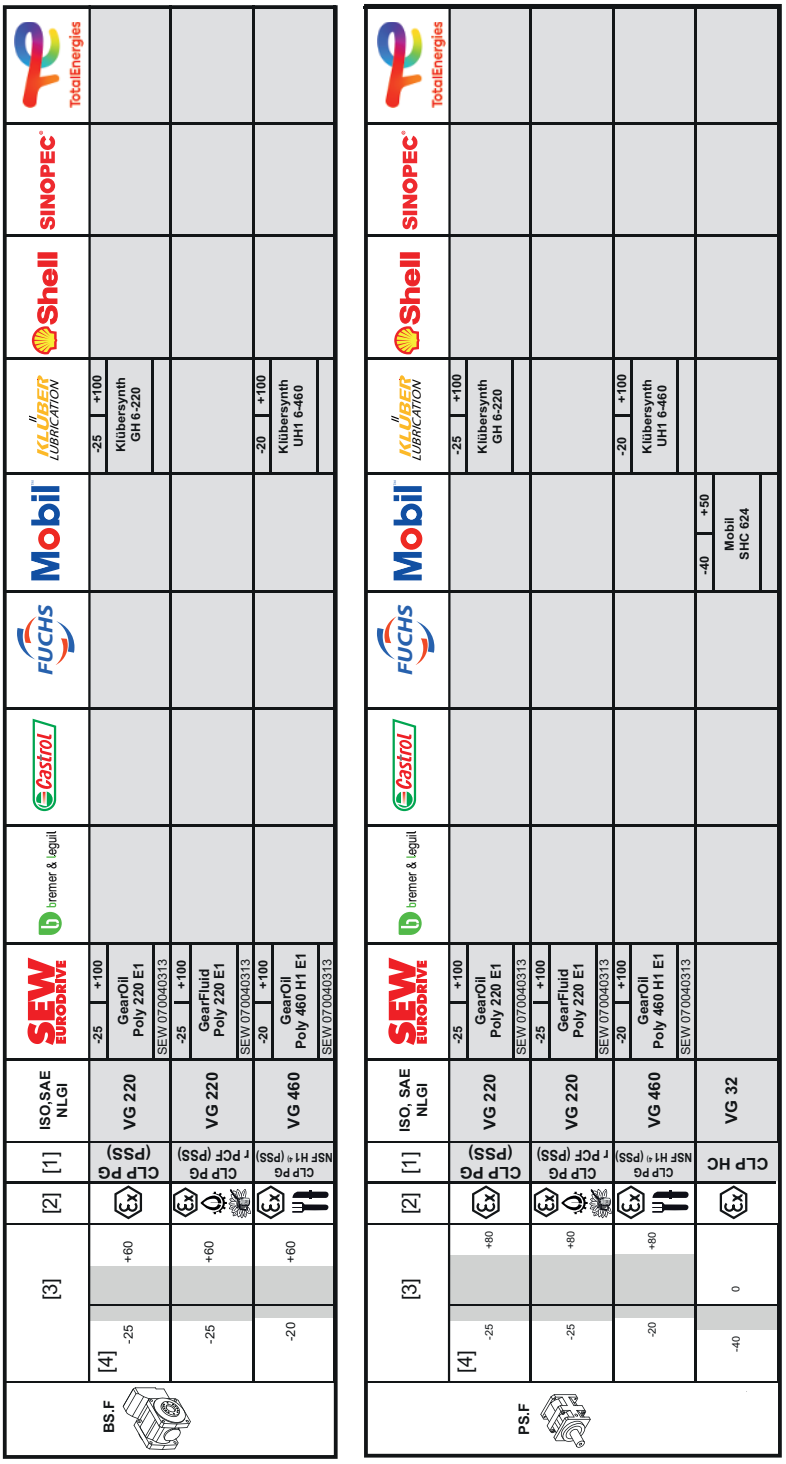
[1] Note on special approvals
[2] Oil type
[3] Ambient temperature range
[4] Standard

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Lubricant table for BS.F, PS.F and PS.C gear units

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

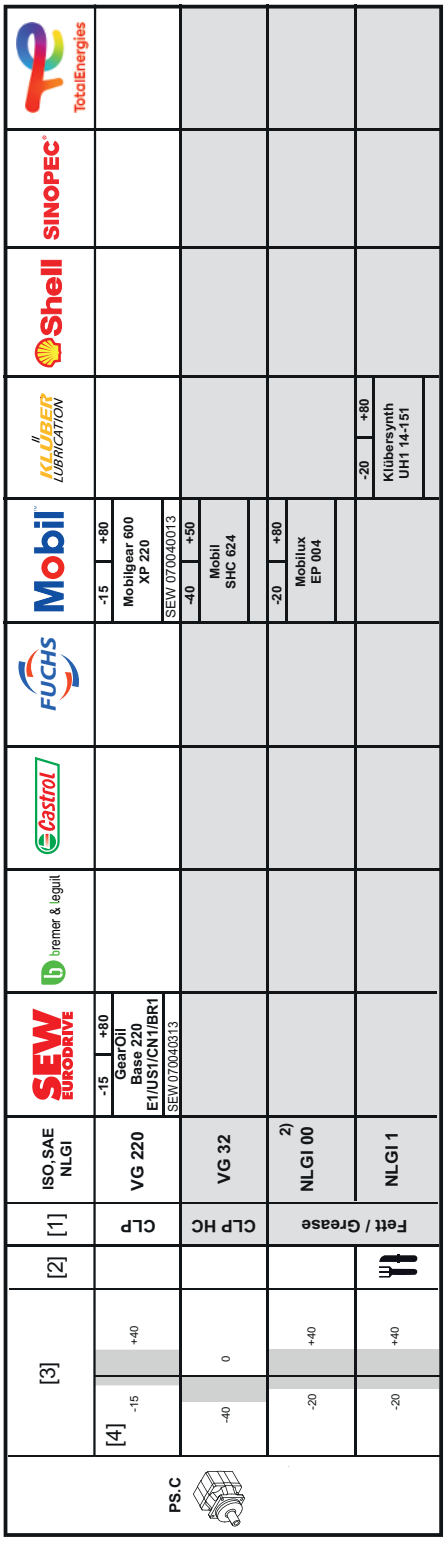
Observe the thermal limits of the oil seal materials; see chapter "Lubricant compatibility with oil seals".



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

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

Observe the thermal limits of the oil seal materials; see chapter "Lubricant compatibility with oil seals".



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

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6.1.4 Lubricant fill quantities

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

The exact values vary depending on the number of gear stages and the gear ratio. Always check the oil level plug during filling for the exact oil quantity.

Unless a special arrangement is made, SEW-EURODRIVE supplies the drives with a lubricant fill adapted for the specific mounting position. The decisive factor is the specification of the mounting position when ordering the drive.

When the mounting position is changed, the lubricant fill quantity must be adapted accordingly (see the following chapters). Do not change the mounting position without prior consultation with SEW-EURODRIVE, otherwise the rights to claim under limited warranty become void.

Helical (R) gear units

R.., R..F

Gear unit	Fill quantity in liters					
	M1[1)]	M2[1)]	M3[1)]	M4	M5	M6
R07	0.12	0.20				
R17	0.25	0.55	0.35	0.55	0.35	0.40
R27	0.25/0.40	0.70	0.50	0.70	0.50	
R37	0.30/0.95	0.85	0.95	1.05	0.75	0.95
R47	0.70/1.50	1.60	1.50	1.65	1.50	
R57	0.80/1.70	1.90	1.70	2.10	1.70	
R67	1.10/2.30	2.40	2.80	2.90	1.80	2.00
R77	1.20/3.00	3.30	3.60	3.80	2.50	3.40
R87	2.30/6.0	6.5/8.1	7.4/7.2	7.4	6.4	6.6
R97	4.60/9.8	11.7		13.4	11.3	11.7
R107	6.0/13.7	16.3	16.9	19.2	13.2	15.9
R127	6.4/17	18.3	18.2	22.0	16.8	17.9
R137	10.0/25.0	28.0	29.5	31.5	25.0	
R147	15.4/40.0	46.5	48.0	52.0	39.5	41.0

1) With compound gear units, the large gear unit must be filled with the larger oil quantity.

RF.., RM.., RZ..

Gear unit	Fill quantity in liters					
	M1[1)]	M2[1)]	M3	M4	M5	M6
RF07	0.12	0.20				
RF17	0.25	0.55	0.35	0.55	0.35	0.40
RF27	0.25/0.40	0.70	0.50	0.70	0.50	
RF37	0.35/0.95	0.90	0.95	1.05	0.75	0.95
RF47	0.65/1.50	1.60	1.50	1.65	1.50	
RF57	0.80/1.70	1.80	1.70	2.00	1.70	
RF67	1.20/2.50	2.50/3.2	2.70	2.80	1.90	2.10
RF77	1.20/2.60	3.10/4.0	3.30	3.60	2.40	3.00
RF87	2.40/6.0	6.5/8.2	7.3	7.4	6.4	6.5
RF97	5.1/10.2	11.9	11.2	14.0	11.2	11.8
RF107	6.3/14.9	15.9	17.0	19.2	13.1	15.9
RF127	6.6/16.0	18.3	18.2	21.4	15.9	17.0
RF137	9.5/25.0	27.0	29.0	32.5	25.0	
RF147	16.4/42.0	47.0	48.0	52.0	42.0	

1) With compound gear units, the large gear unit must be filled with the larger oil quantity.

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RX..

Gear unit	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
RX57	0.60	0.80	1.30		0.90	
RX67	0.80		1.70	1.40	1.10	
RX77	1.10	1.50	2.60	2.70	1.60	
RX87	1.70	2.50	4.80		2.90	
RX97	2.10	3.40	7.4	7.0	4.80	
RX107	3.90	5.6	11.6	11.9	7.7	

RXF..

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

Parallel shaft helical (F) gear units

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

Gear unit	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
F..27	0.60	0.80	0.65	0.70	0.60	
F..37	0.95	1.25	0.70	1.25	1.00	1.10
F..47	1.50	1.80	1.10	1.90	1.50	1.70
F..57	2.25	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	11.0	13.1	7.70	14.0	10.9	11.1
F..97	18.8	22.7	12.6	25.5	18.6	20.2
F..107	24.5	32.0	19.5	37.5	27.0	
F..127	40.5	54.5	34.0	61.0	46.3	47.0

FF..

Gear unit	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
FF27	0.60	0.80	0.65	0.70	0.60	
FF37	1.00	1.25	0.70	1.30	1.00	1.10
FF47	1.60	1.85	1.10	1.90	1.50	1.70
FF57	2.30	3.05	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	11.0	13.3	7.80	14.3	11.1	11.3
FF97	19.3	22.7	12.6	25.9	19.0	20.7
FF107	25.5	32.0	19.5	38.5	18.6	28.0
FF127	41.5	55.5	34.0	63.0	45.0	49.0

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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	
F..37	0.95	1.25	0.70	1.25	1.00	1.10
F..47	1.30	1.70	1.00	1.90	1.40	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	11.0	13.1	7.70	14.0	10.9	11.1
F..97	18.8	22.7	12.6	25.5	18.6	20.2
F..107	24.5	32.0	19.5	37.5	27.0	
F..127	39.0	54.5	34.0	61.0	45.0	46.5

Helical-bevel (K) gear units

K..19 and K..29 gear units have a universal design and are filled with the same quantity of oil regardless of the mounting position, with the exception of M4.

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

Gear unit	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
K..19	0.40			0.45	0.40	
K..29	0.70			0.85	0.70	
K..37	0.50	1.00		1.25	0.95	
K..39	0.86	1.65	1.55	2.10	1.55	1.30
K..47	0.80	1.30	1.50	2.00	1.60	
K..49	1.65	3.35	2.80	4.20	3.15	2.75
K..57	1.10	2.20		2.80	2.30	2.10
K..67	1.10	2.40	2.60	3.45	2.60	
K..77	2.20	4.10	4.40	5.80	4.20	4.40
K..87	3.70	8.20	8.90	10.90	8.20	
K..97	7.0	14.0	15.70	20.0	15.70	15.50
K..107	10.0	21.0	25.50	33.50	24.0	
K..127	19.0	41.50	44.0	54.0	40.0	41.0

KF..

Gear unit	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
KF19	0.40			0.45	0.40	
KF29	0.70			0.85	0.70	
KF37	0.50	1.10		1.40	1.00	
KF39	0.86	1.65	1.55	2.10	1.55	1.30
KF47	0.80	1.30	1.70	2.20	1.60	
KF49	1.65	3.35	2.80	4.20	3.15	2.75
KF57	1.20	2.20	2.40	3.15	2.50	2.30
KF67	1.10	2.40	2.80	3.70	2.70	
KF77	2.10	4.10	4.40	5.90	4.50	
KF87	3.70	8.30	9.2	11.90	8.60	8.50
KF97	7.0	14.70	17.30	21.50	15.70	16.50
KF107	10.0	21.90	26.0	35.10	25.40	25.30
KF127	19.0	41.50	46.0	55.0	41.0	

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

Gear unit	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
K..19	0.40			0.45	0.40	
K..29	0.70			0.85	0.70	
K..37	0.50	1.00		1.30	1.00	
K..39	0.86	1.65	1.55	2.10	1.55	1.30
K..47	0.80	1.30	1.60	2.0	1.60	
K..49	1.65	3.35	2.80	4.20	3.15	2.75
K..57	1.20	2.20	2.40	3.15	2.70	2.40
K..67	1.10	2.40	2.70	3.70	2.60	
K..77	2.10	4.10	4.60	5.90	4.40	
K..87	3.70	8.40	9.0	11.10	8.2	
K..97	7.0	14.70	15.70	20.0	15.70	
K..107	10.0	20.80	24.5	32.4	24.5	24.3
K..127	19.0	41.50	43.0	52.0	40.0	

Helical-worm (S) gear units

S..

Gear unit	Fill quantity in liters					
	M1	M2	M3[1)]	M4	M5	M6
S37	0.25	0.40	0.50	0.55	0.40	
S47	0.35	0.80	0.70/0.90	1.00	0.80	
S57	0.50	1.20	1.00/1.20	1.35	1.30	
S67	1.00	2.00	2.20/3.10	3.10	2.60	2.60

1) With compound gear units, the large gear unit must be filled with the larger oil quantity.

SF..

Gear unit	Fill quantity in liters										
	M1	M2	M3[1)]	M4 Output		M5 Output			M6 Output		
				A/B	A + B	A	B	A + B	A	B	A + B
SF37	0.25	0.40	0.50	0.55	0.6	0.4	0.4	0.4	0.4	0.4	0.4
SF47	0.40	0.90	0.90/1.05	1.10	1.15	1.0	0.9	1.0	0.9	1.0	1.0
SF57	0.50	1.20	1.00/1.50	1.50	1.55	1.4	1.4	1.4	1.4	1.4	1.4
SF67	1.00	2.20	2.30/3.00	3.20	3.5	2.7	2.6	2.7	2.6	2.7	2.7

1) With compound gear units, the large gear unit must be filled with the larger oil quantity.

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

Gear unit	Fill quantity in liters					
	M1	M2	M3[1)]	M4	M5	M6
S..37	0.25	0.40	0.50		0.40	
S..47	0.40	0.80	0.70/0.90	1.05	0.80	
S..57	0.50	1.10	1.00/1.50	1.45	1.20	
S..67	1.00	2.00	1.80/2.60	2.90	2.50	

1) With compound gear units, the large gear unit must be filled with the larger oil quantity.

SPIROPLAN® right-angle gear units

SPIROPLAN® right-angle gear units W..10 to W..30 have a universal design and are filled with the same quantity of oil regardless of the mounting position.

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

Gear unit	Fill quantity in liters						
	M1	M2	M3	M4		M5	M6
				 2	 3		
W..10	0.16						
W..19	0.34			0.57	0.51	0.515	
W..20	0.24						
W..29	0.54			0.93	0.78	0.72	
W..30	0.40						
W..39	0.85			1.5	1.35	1.25	
W..49	1.39			2.41	2.19	2.15	
W..59	2.0			3.49	3.2	3.0	

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BS.F.. gear units

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

BS.F.. helical-bevel gear unit fill quantity

Gear unit	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
BS.F202	0.15	0.25	0.25	0.30	0.25	0.25
BS.F302	0.25	0.50	0.50	0.55	0.35	0.35
BS.F402	0.45	0.80	0.80	1.05	0.65	0.65
BS.F502	1.00	1.80	1.80	2.50	1.50	1.50
BS.F602	1.60	2.50	2.80	4.10	2.00	2.60
BS.F802	3.30	5.30	5.70	7.90	4.50	4.50

Fill quantity tolerance for BS.F..

Fill quantity in liters	Tolerance
Up to 1 l	0.01 l
> 1 l	1% of the fill quantity

PS.F.. gear units

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

Fill quantities for PSBF.. planetary gear units

Gear unit	Fill quantity in liters		
	M1 (M3, M5, M6)	M2	M4
PSBF221	0.025	0.051	0.025
PSBF222	0.035	0.074	0.060
PSBF321	0.045	0.085	0.050
PSBF322	0.070	0.145	0.130
PSBF521	0.093	0.168	0.103
PSBF522	0.143	0.308	0.273
PSBF621	0.198	0.358	0.188
PSBF622	0.298	0.568	0.498
PSBF721	0.404	0.544	0.314
PSBF722	0.544	0.834	1.004
PSBF821	–	–	–
PSBF822	0.995	1.895	1.995

Fill quantities of PS.F.. planetary gear units

Gear unit	Fill quantity in liters		
	M1 (M3, M5, M6)	M2	M4
PSF121	0.023	0.037	0.023
PSF122	0.035	0.068	0.054
PSF221	0.035	0.063	0.035
PSF222	0.045	0.085	0.085
PSF321	0.070	0.120	0.070
PSF322	0.095	0.185	0.190
PSF521	0.140	0.245	0.150
PSF522	0.200	0.380	0.395
PSF621	0.300	0.500	0.320
PSF622	0.410	0.710	0.780

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Gear unit	Fill quantity in liters		
	M1 (M3, M5, M6)	M2	M4
PSF721	0.600	1.060	0.650
PSF722	0.750	1.280	1.645
PSF821	–	–	–
PSF822	1.550	2.640	3.350
PSF921	–	–	–
PSF922	2.050	3.650	4.350

Fill quantity tolerance for PS.F

Fill quantity in liters	Tolerance
Up to 1 l	0.01 l
> 1 l	1% of the fill quantity

6.2 Gear unit venting

Dirt and dust in the environment may affect the function of the breather valves. Contact SEW-EURODRIVE regarding 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 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.

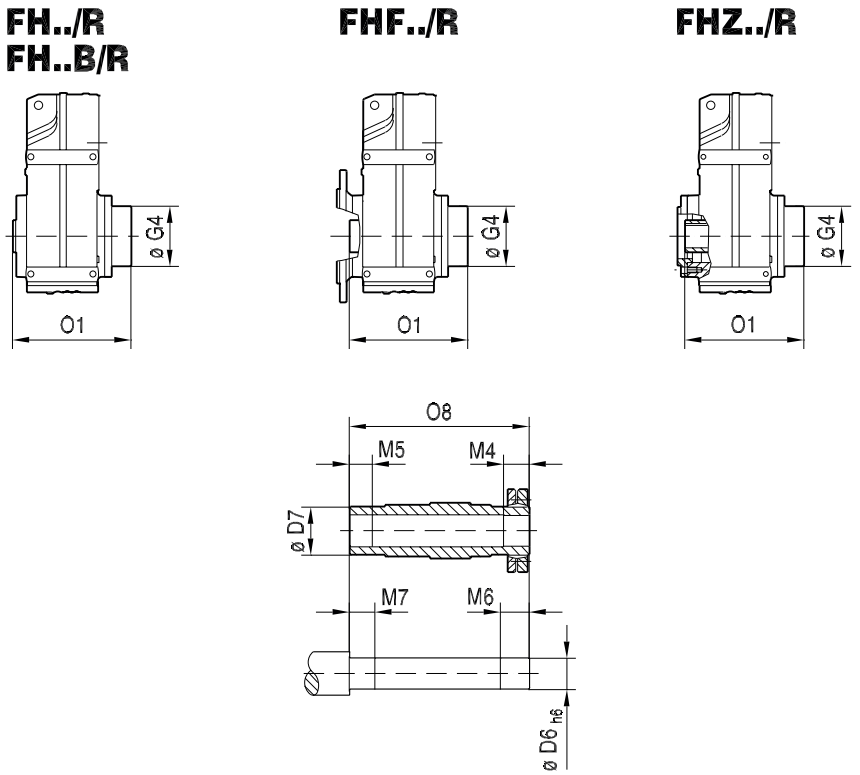
The reduced backlash design is available for the following gear units:

- 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



9007205899247883

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

The key dimension L12 is specified for the customer and depends on the application requirements and the used materials. See the following figure "Customer shaft with contact shoulder [A] and without contact shoulder [B].

When dimensioning the keyed connection, take into account 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 using the SEW-EURODRIVE assembly and disassembly kit

The following sections describe the two options.

6.4.1 Mounting with supplied fastening parts

The following fastening parts are provided as standard:

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

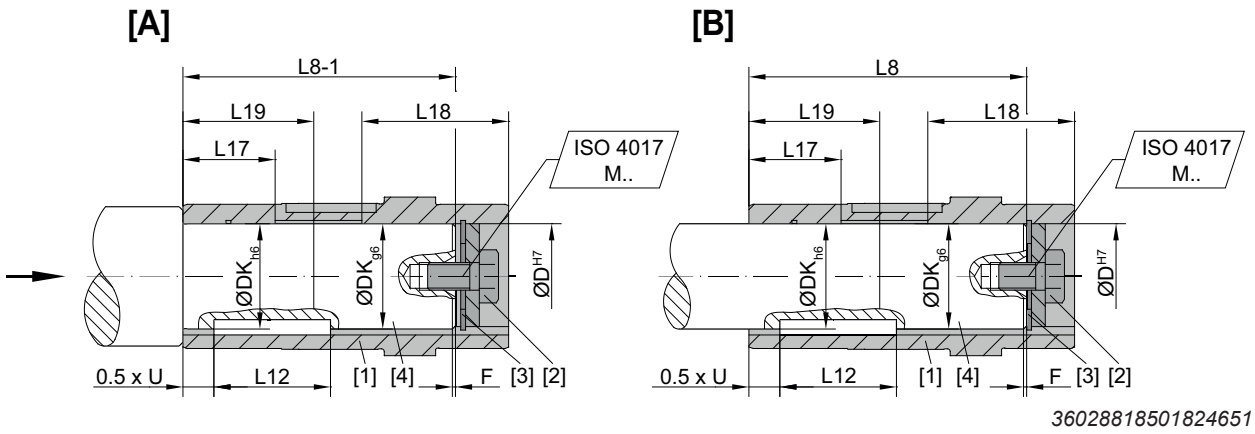
Note the following information concerning the customer shaft:

- 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].

00 001 03 02



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D Hollow shaft diameter
DK Customer shaft diameter
F Shaft end chamfer
L8 Length of the customer shaft without contact shoulder
L8-1 Length of the customer shaft with contact shoulder = "L8" - 1 mm
L12 Key length
L17 Cylinder section length with dimension H7
L18 Cylinder section length with dimension H7
L19 Depending on the insertion side of the customer shaft, the dimension L19 should be > L17 or > L18.
rev Key width
[1] Hollow shaft
[2] Retaining screw with washer
[3] Retaining ring
[4] Customer shaft

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

Gear unit type	D^{H7} mm	DK mm	F mm	L8 mm	L17 mm	L18 mm	rev mm	MS Nm	ISO 4017 M..
FA..27	25		1	89	30	30	8	20	M10 × 25
FA..37, KA..37	30		1	105	39	45	8	20	M10 × 25
FA..47, KA..47	35		1	132	45	52	10	20	M12 × 30
FA..57, KA..57	40		1	142	50	60	12	40	M16 × 40
FA..67, KA..67	40		1	156	50	60	12	40	M16 × 40
FA..77, KA..77	50		1	183	65	75	14	40	M16 × 45
FA..87, KA..87	60		1	210	75	90	18	80	M20 × 50
FA..97, KA..97	70		2	270	90	105	20	80	M20 × 50
FA..107, KA..107	90		2	313	110	125	25	200	M24 × 60
FA..127, KA..127	100		2	373	120	150	28	200	M24 × 60
FAM67, KAM67	40		1	278	50	60	12	40	M16 × 40

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Gear unit type	D^{H7} mm	DK mm	F mm	L8 mm	L17 mm	L18 mm	rev mm	MS Nm	ISO 4017 M..
FAM77, KAM77	50		1	309	65	75	14	40	M16 × 45
FAM87, KAM87	60		1	363	75	90	18	80	M20 × 50
FAM97, KAM97	70		2	422	90	105	20	80	M20 × 50
FAM107, KAM107	90		2	473	110	125	25	200	M24 × 60
FAM127, KAM127	100		2	553	120	150	28	200	M24 × 60
KA..19	20		1	92	28	30	6	8	M6 × 16
KA..29	25		1	107	30	38	8	20	M10 × 25
KA..39	30		1	137	35	45	8	20	M10 × 25
KA..39	35		1	137	35	45	10	20	M12 × 30
KA..49	35		1	160	35	45	10	20	M12 × 30
KA..49	40		1	154	35	45	12	40	M16 × 40
SA..37	20		1	104	40	40	6	8	M6 × 16
SA..47	25		1	105	38	38	8	20	M10 × 25
SA..47	30		1	105	39	45	8	20	M10 × 25
SA..57	30		1	132	39	45	8	20	M10 × 25
SA..57	35		1	132	45	52	10	20	M12 × 30
SA..67	40		1	144	50	60	12	40	M16 × 40
SA..67	45		1	144	50	60	14	40	M16 × 40
WA..10	16		0.5	69	24	24	5	8	M5 × 12
WA..19	18		1	84	27	27	6	8	M6 × 16
WA..19	20		1	84	26	30	6	8	M6 × 16
WA..20	18		1	84	24	27	6	8	M6 × 16
WA..29	20		1	92	28	30	6	8	M6 × 16
WA..29	25		0.5	92	28	30	8	20	M10 × 25
WA..29	30		0.5	92	28	30	8	20	M10 × 25
WA..30	20		1	105	30	30	6	8	M6 × 16
WA..39	25		1	107	30	38	8	20	M10 × 25
WA..39	30		1	107	30	38	8	20	M10 × 25
WA..49	30		1	137	35	45	8	20	M10 × 25
WA..49	35		1	137	35	45	10	20	M12 × 30
WA..59	35		1	160	35	45	10	20	M12 × 30
WA..59	40		1	154	35	45	12	40	M16 × 40

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

Gear unit type	D^{H7} mm	DK mm	L8 mm	MS mm	F mm	L17 mm	L18 mm	rev mm
BSAF202	20		104	8	2	30	30	6
BSAF302	25		118	20	2	40	40	8
BSAF402	30		138	20	2	45	45	8
BSAF502	40		158	40	2	60	60	12
BSAF602	55		179	80	2	82.5	82.5	16
BSAF802	70		222	80	2	105	90	20

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6.4.2 Mounting/dismounting using the optional assembly/disassembly kit

Assembly

You can also use the optional assembly/disassembly kit for mounting. The kit can be ordered for the respective gear unit types by quoting the part numbers in the table below. 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]

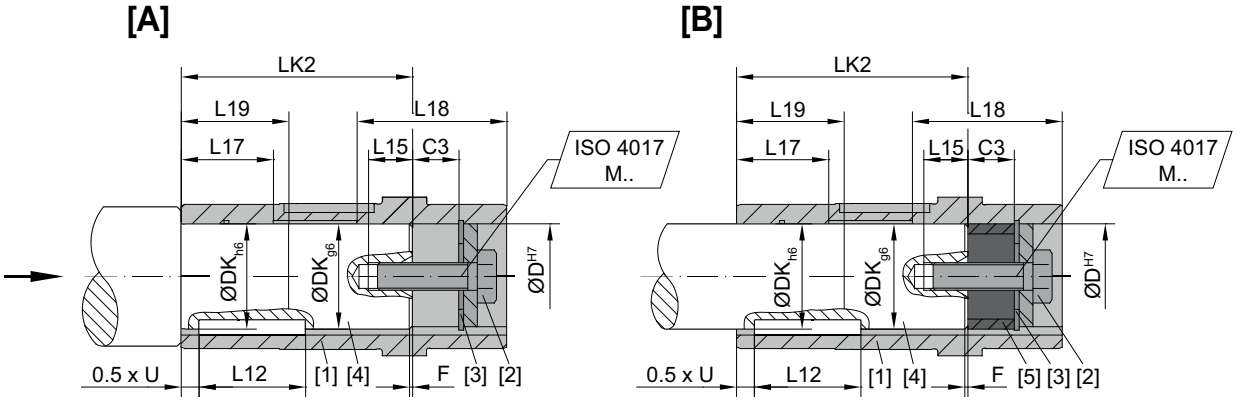
The short retaining screw supplied as standard is not used.

Observe the following information regarding 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 does not have a contact shoulder [B].**

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

00 002 02 02



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C3 Indentation fixed nut and forcing washer
D Hollow shaft diameter
DK Customer shaft diameter
F Shaft end chamfer
L12 Key length
L15 Thread depth of customer shaft
L17 Cylinder section length with dimension H7
L18 Cylinder section length with dimension H7
L19 Depending on the insertion side of the customer shaft, the dimension L19 should be > L17 or > L18.
LK2 Length of the customer shaft when using the optional assembly/disassembly kit
rev 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	C3	D^{H7}	DK	F	L15	L17	L18	LK2	rev	MS	ISO 4017	Part number of assembly/disassembly kit
	mm	mm	mm	mm	mm	mm	mm	mm	mm	Nm	M..	
FA..27	16	25		1	22	30	30	73	8	20	M10 × 35	06436846
FA..37	16	30		1	22	39	45	89	8	20	M10 × 35	06436854
FA..47	18	35		1	28	45	52	114	10	20	M12 × 45	06436862
FA..57	18	40		1	36	50	60	124	12	40	M16 × 50	06436870
FA..67	18	40		1	36	50	60	138	12	40	M16 × 50	06436870
FA..77	18	50		1	36	65	75	165	14	40	M16 × 50	06436897
FA..87	22	60		1	42	75	90	188	18	80	M20 × 60	06436900
FA..97	22	70		2	42	90	105	248	20	80	M20 × 60	06436919
FA..107	26	90		2	50	110	125	287	25	200	M24 × 70	06436927
FA..127	26	100		2	50	120	150	347	28	200	M24 × 70	06436935
FAM67	18	40		1	36	50	60	260	12	40	M16 × 50	06436870
FAM77	18	50		1	36	65	75	291	14	40	M16 × 50	06436897
FAM87	22	60		1	42	75	90	341	18	80	M20 × 60	06436900
FAM97	22	70		2	42	90	105	400	20	80	M20 × 60	06436919
FAM107	26	90		2	50	110	125	447	25	200	M24 × 70	06436927
FAM127	26	100		2	50	120	150	527	28	200	M24 × 70	06436935
KA..19	12	20		1	16	28	30	80	6	8	M6 × 25	06436838
KA..29	16	25		1	22	30	38	91	8	20	M10 × 35	06436846
KA..29	16	30		1	22	35	35	91	8	20	M10 × 35	06436854
KA..37	16	30		1	22	39	45	89	8	20	M10 × 35	06436854
KA..39	16	30		1	22	35	45	121	8	20	M10 × 35	06436854
KA..39	18	35		1	28	35	45	119	10	20	M12 × 45	06436862
KA..47	18	35		1	28	45	52	114	10	20	M12 × 45	06436862
KA..49	18	35		1	28	35	45	142	10	20	M12 × 45	06436862
KA..49	18	40		1	36	35	45	136	12	40	M16 × 50	06436870
KA..57	18	40		1	36	50	60	124	12	40	M16 × 50	06436870
KA..67	18	40		1	36	50	60	138	12	40	M16 × 50	06436870
KA..77	18	50		1	36	65	75	165	14	40	M16 × 50	06436897
KA..87	22	60		1	42	75	90	188	18	80	M20 × 60	06436900
KA..97	22	70		2	42	90	105	248	20	80	M20 × 60	06436919
KA..107	26	90		2	50	110	125	287	25	200	M24 × 70	06436927
KA..127	26	100		2	50	120	150	347	28	200	M24 × 70	06436935
KAM67	18	40		1	36	50	60	260	12	40	M16 × 50	06436870
KAM77	18	50		1	36	65	75	291	14	40	M16 × 50	06436897
KAM87	22	60		1	42	75	90	341	18	80	M20 × 60	06436900

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Type	C3	D^{H7}	DK	F	L15	L17	L18	LK2	rev	MS	ISO 4017	Part number of assembly/disassembly kit
	mm	mm	mm	mm	mm	mm	mm	mm	mm	Nm	M..	
KAM97	22	70		2	42	90	105	400	20	80	M20 × 60	06436919
KAM107	26	90		2	50	110	125	447	25	200	M24 × 70	06436927
KAM127	26	100		2	50	120	150	527	28	200	M24 × 70	06436935
SA..37	12	20		1	16	40	40	92	6	8	M6 × 25	06436838
SA..47	16	25		1	22	38	38	89	8	20	M10 × 35	06436846
SA..47	16	30		1	22	39	45	89	8	20	M10 × 35	06436854
SA..57	16	30		1	22	39	45	116	8	20	M10 × 35	06436854
SA..57	18	35		1	28	45	52	114	10	20	M12 × 45	06436862
SA..67	18	40		1	36	50	60	126	12	40	M16 × 50	06436870
SA..67	18	45		1	36	50	60	126	14	40	M16 × 50	06436889
WA..10	11	16		0.5	12.5	24	24	58	5	8	M5 × 50	06437125
WA..19	12	18		1	16	27	27	72	6	8	M6 × 25	0643682X
WA..19	12	20		1	16	26	30	72	6	8	M6 × 25	06436838
WA..20	12	18		1	16	27	27	72	6	8	M6 × 25	0643682X
WA..20	12	20		1	16	26	30	72	6	8	M6 × 25	06436838
WA..29	12	20		1	16	28	30	80	6	8	M6 × 16	06436838
WA..29	16	25		0.5	22	28	30	76	8	20	M10 × 35	06436846
WA..29	16	30		0.5	22	28	30	76	8	20	M10 × 35	06436854
WA..30	12	20		1	16	30	30	93	6	8	M6 × 25	06436838
WA..39	16	25		1	22	30	38	91	8	20	M10 × 35	06436846
WA..39	16	30		1	22	35	35	91	8	20	M10 × 35	06436854
WA..49	16	30		1	22	35	45	121	8	20	M10 × 35	06436854
WA..49	18	35		1	28	35	45	119	10	20	M12 × 45	06436862
WA..59	18	35		1	28	35	45	142	10	20	M12 × 45	06436862
WA..59	18	40		1	36	35	45	136	12	40	M16 × 50	06436870

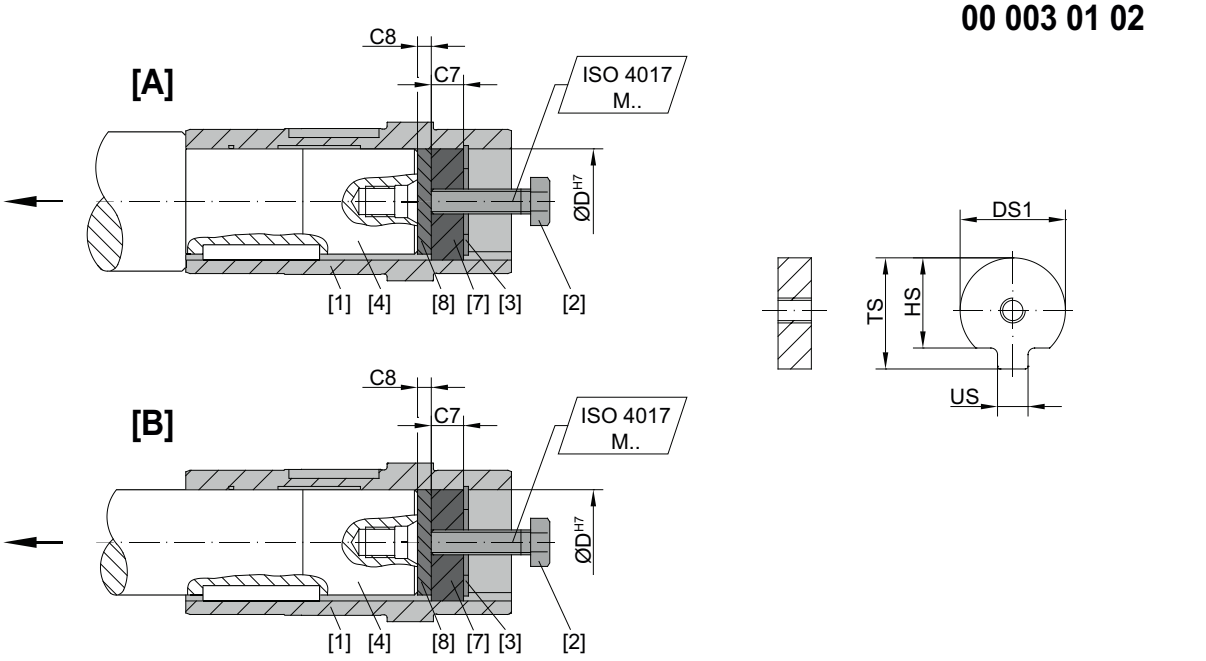
Disassembly

The assembly kit shown for mounting the customer shaft is a recommendation from SEW-EURODRIVE.

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Always check whether this design can compensate for the axial forces present. In special applications (e.g. mounting of agitator shafts), you may have to use a different design for securing the shaft axially. You can use your own devices to secure the shaft axially if it can be ensured that the designs do not cause potential ignition sources according to ISO 80079-36 and -37 (e.g. impact sparks).

00 003 01 02



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

Dimensions and part numbers of the assembly/disassembly kit:

Gear unit	D^{H7} mm	C8 mm	C7 mm	HS mm	VS mm	TS mm	DS1 mm	ISO 4017 M..	Part number of assembly/disassembly kit
WA..10	16	5	5	12	4.5	18	15.7	M5 × 50	06437125
WA..19, WA..20	18	5	6	13.5	5.5	20.5	17.7	M6 × 25	0643682X
KA..19, SA..37, WA..19, WA..20, WA..29, WA..30	20	5	6	15.5	5.5	22.5	19.7	M6 × 25	06436838
FA..27, KA..29, SA..47,WA..29, WA..39	25	5	10	20	7.5	28	24.7	M10 × 35	06436846

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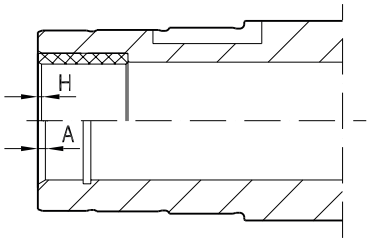
Gear unit	D^{H7} mm	C8 mm	C7 mm	HS mm	VS mm	TS mm	DS1 mm	ISO 4017 M..	Part number of assembly/disassembly kit
FA..37, KA..29, KA..37, KA..39, SA..47, SA..57, WA..29, WA..39, WA..49	30	5	10	25	7.5	33	29.7	M10 × 35	06436854
FA..47, KA..39, KA..47, KA..49, SA..57, WA..49, WA..59	35	5	12	29	9.5	38	34.7	M12 × 45	06436862
FA..57, KA..57, FA..67, KA..49, KA..67, SA..67, WA..59	40	5	12	34	11.5	41.9	39.7	M16 × 50	06436870
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

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6.5 Gear units with hollow shaft

6.5.1 Chamfers on hollow shafts

The following figure illustrates the hollow shaft chamfers of gear units:



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Gear unit	Design	
	with hollow shaft (A)	with hollow shaft and shrink disk (H)
W..10	1.5 × 30°	-
W..19, W..20, W..30	2 × 30°	-
F..27	2 × 30°	0.5 × 45°
K..19, W..29	2 × 30°	0.5 × 45°
K..29, W..39	2 × 30°	0.5 × 45°
F../K../S..37	2 × 30°	0.5 × 45°
K..39, W..49	2 × 30°	0.5 × 45°
F../K../S..47	2 × 30°	0.5 × 45°
K..49, W..59	2 × 30°	0.5 × 45°
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..77	2 × 30°	0.5 × 45°
F../K..87	3 × 30°	0.5 × 45°
F../K..97	3 × 30°	0.5 × 45°
F../K..107	3 × 30°	0.5 × 45°
F../K..127	5 × 30°	0.5 × 45°
BS.F202	2 × 30°	0.5 × 45°
BS.F302	2 × 30°	0.5 × 45°
BS.F402	2 × 30°	0.5 × 45°
BS.F502	2 × 30°	3 × 2°
BS.F602	2 × 30°	3 × 2°
BS.F802	2 × 30°	3 × 2°

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6.5.2 Special motor/gear unit combinations

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.

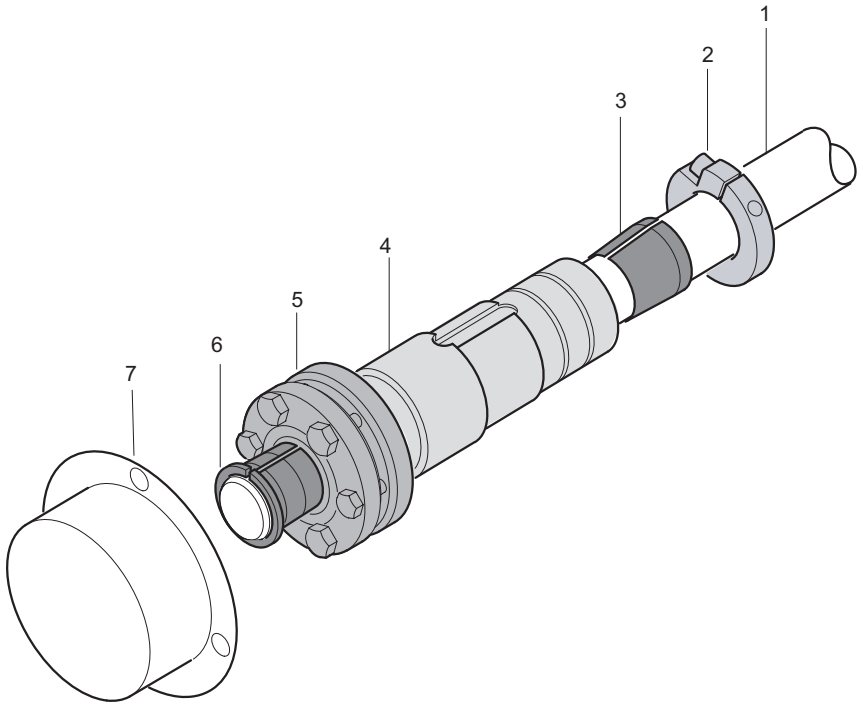
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6.6 TorqLOC® mounting system for gear units with hollow shaft

6.6.1 TorqLOC® description

The TorqLOC® hollow shaft mounting system is used for achieving a non-positive connection between the customer shaft and the hollow shaft in the gear unit. This makes the TorqLOC® hollow shaft mounting system an alternative to the previous hollow shaft with shrink disk, hollow shaft with key, and splined hollow shaft.

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



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

6.6.2 Advantages of TorqLOC®

The TorqLOC® hollow shaft mounting system is characterized by the following advantages:

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

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6.6.3 Technical data for TorqLOC®

The TorqLOC® hollow shaft mounting system is approved for output torques of 80 Nm to 20 000 Nm.

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

- Parallel-shaft helical gear units in gear unit sizes 37 to 157 (FT37 – FT107)
- Helical-bevel gear units in gear unit sizes 37 to 157 (KT37 – KT157), 19 to 49 (KT19 – KT49).
- Helical-worm gear units in gear unit sizes 37 to 97 (ST37 – ST97)
- SPIROPLAN® right-angle gear units in gear unit sizes 29 to 59 (WT29 – WT59)

Available options

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

- for helical-bevel, helical-worm and SPIROPLAN® right-angle gear units (KT.., ST.., WT.9..): "Torque arm" option (../T)
- for parallel-shaft helical gear units (FT..): "Rubber buffer" option (../G).

6.7 Gear unit with flange block shaft

Only use screws of **strength class 12.9** to screw the output elements to the flange block shaft of the gear unit.

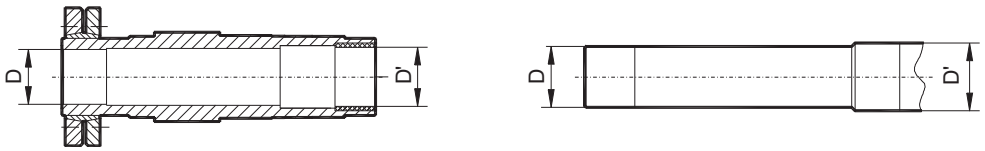
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6.8 Shouldered hollow shaft option with shrink disk

The following gear units with hollow shaft and shrink disk can be supplied with a larger bore diameter D' as an option:

- Parallel-shaft helical gear units FH/FHF/FHZ37 – 127
- Helical-bevel gear units KH/KHF/KHZ37 – 127
- Helical-worm gear units SH/SHF47 – 97

As standard, D' = D.



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Gear unit	Bore diameter D/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, SH/SHF/SHZ57	40/42
FH/FHF/FHZ67, KH/KHF/KHZ67, SH/SHF/SHZ67	40/42
FH/FHF/FHZ77, KH/KHF/KHZ77	50/52
FH/FHF/FHZ87, KH/KHF/KHZ87	65/66
FH/FHF/FHZ97, KH/KHF/KHZ97	75/76
FH/FHF/FHZ107, KH/KHF/KHZ107	95/96
FH/FHF/FHZ127, KH/KHF/KHZ127	105/106

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

6.8.1 Sample order

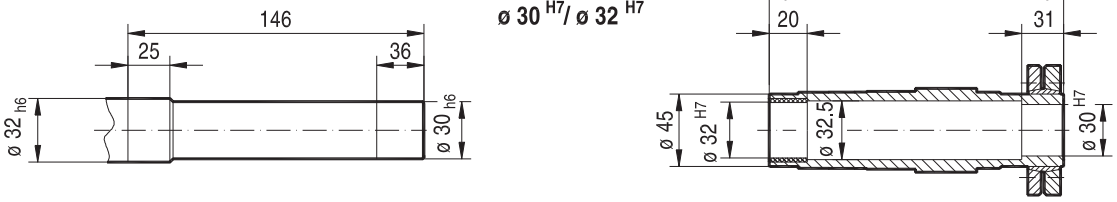
FH77CM3C71M with hollow shaft 50/52 mm

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

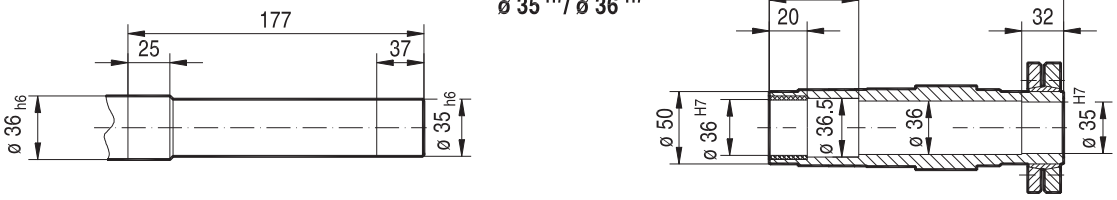
FH / FHF / FHZ37

ø 30 H7/ ø 32 H7



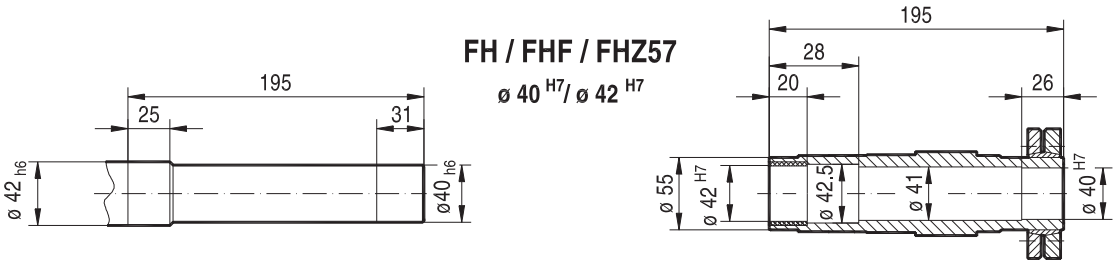
FH / FHF / FHZ47

ø 35 H7/ ø 36 H7



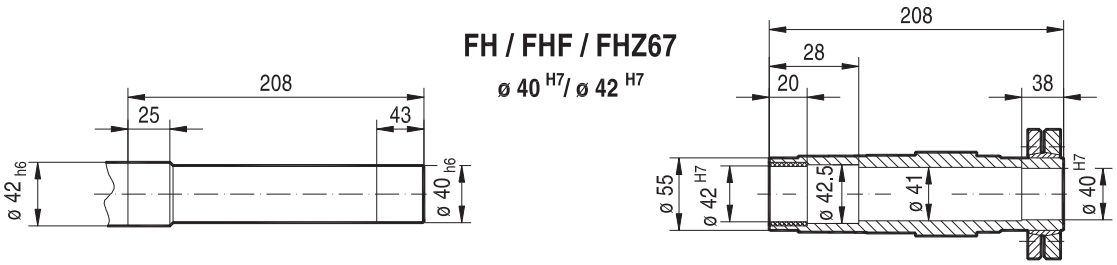
FH / FHF / FHZ57

ø 40 H7/ ø 42 H7



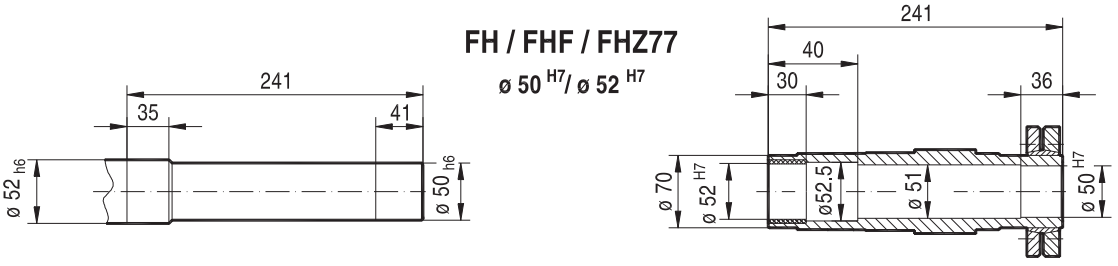
FH / FHF / FHZ67

ø 40 H7/ ø 42 H7



FH / FHF / FHZ77

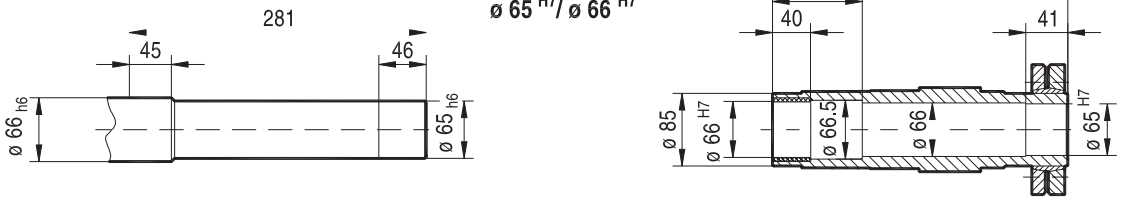
ø 50 H7/ ø 52 H7



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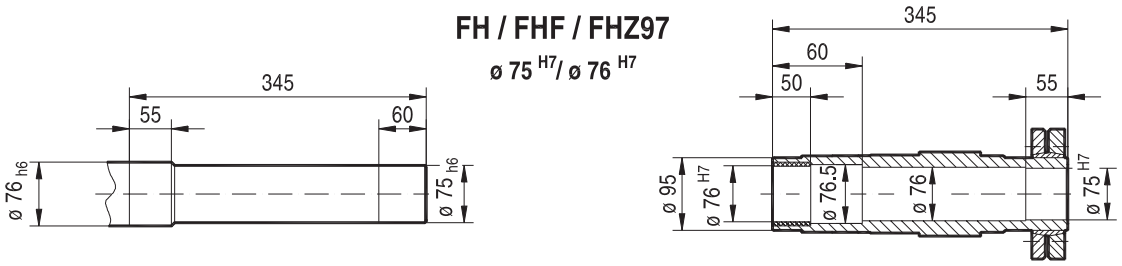
FH / FHF / FHZ87

ø 65 H7/ ø 66 H7



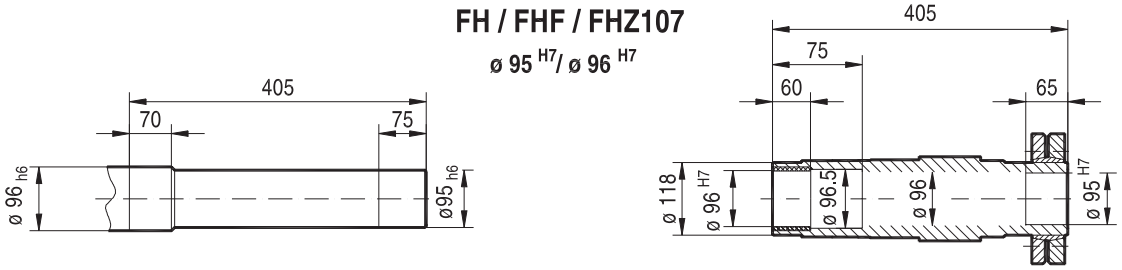
FH / FHF / FHZ97

ø 75 H7/ ø 76 H7



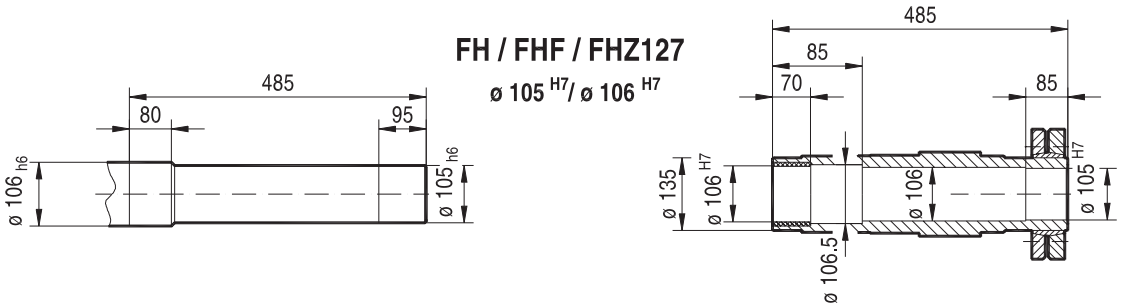
FH / FHF / FHZ107

ø 95 H7/ ø 96 H7



FH / FHF / FHZ127

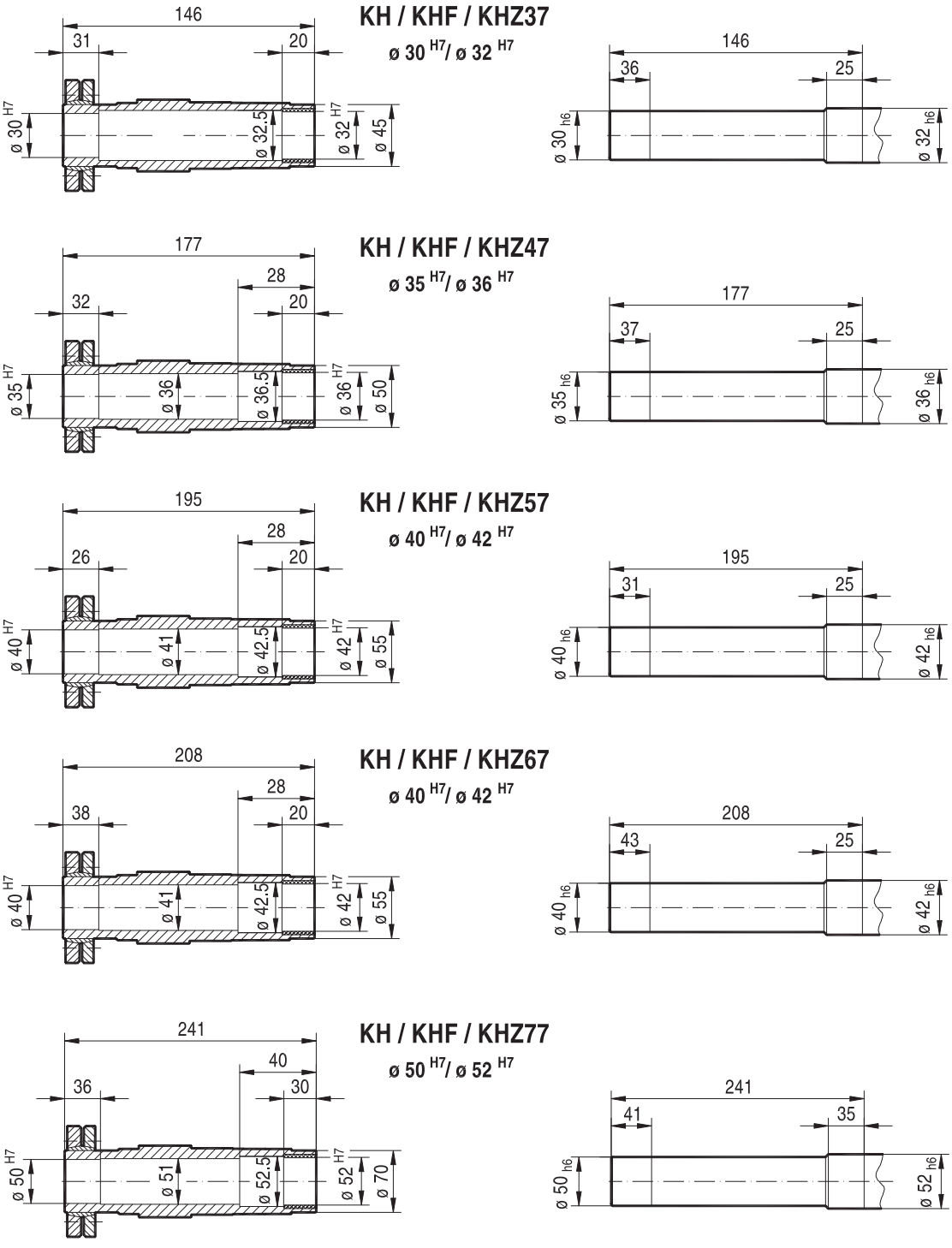
ø 105 H7/ ø 106 H7



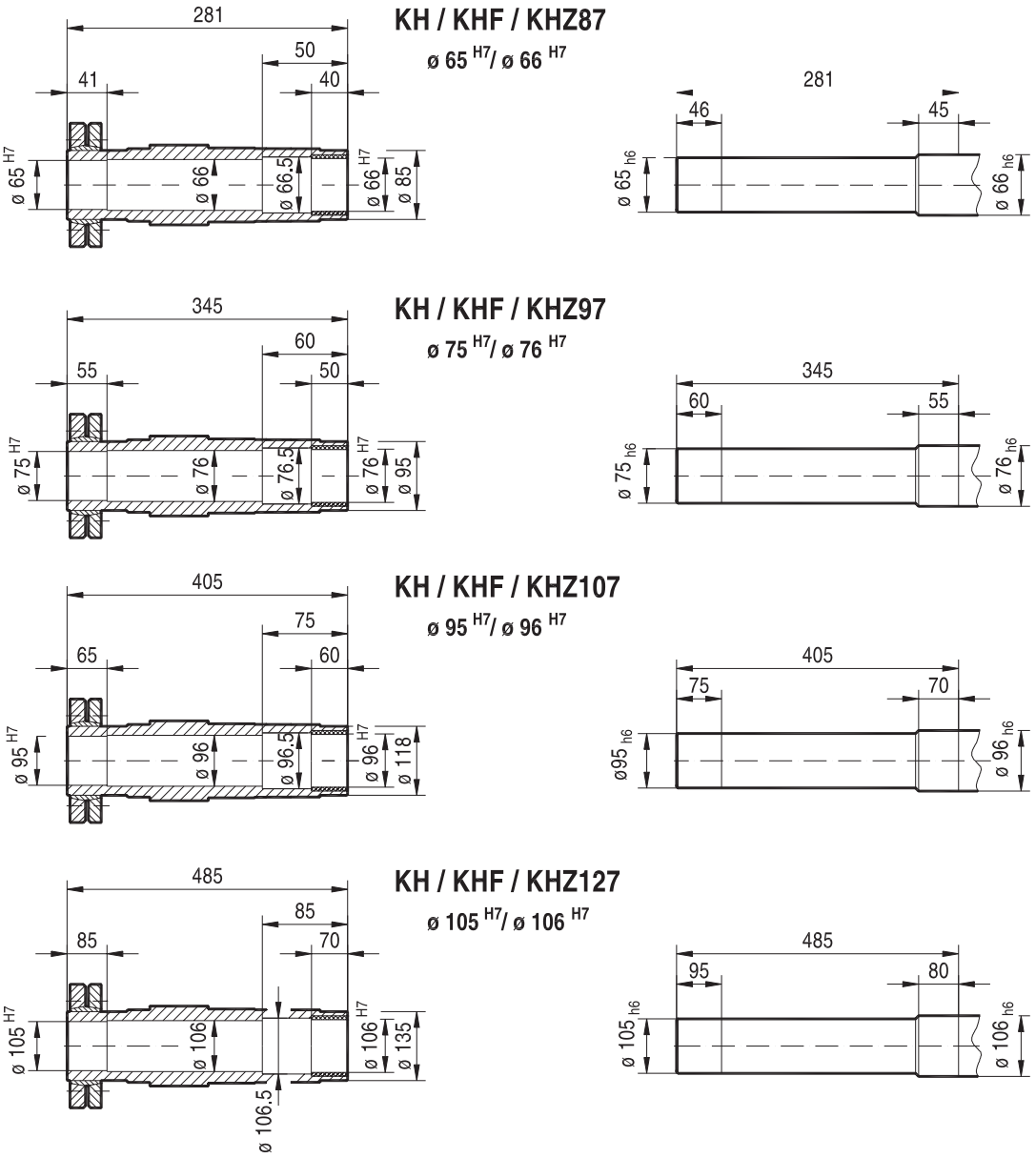
44051136779

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



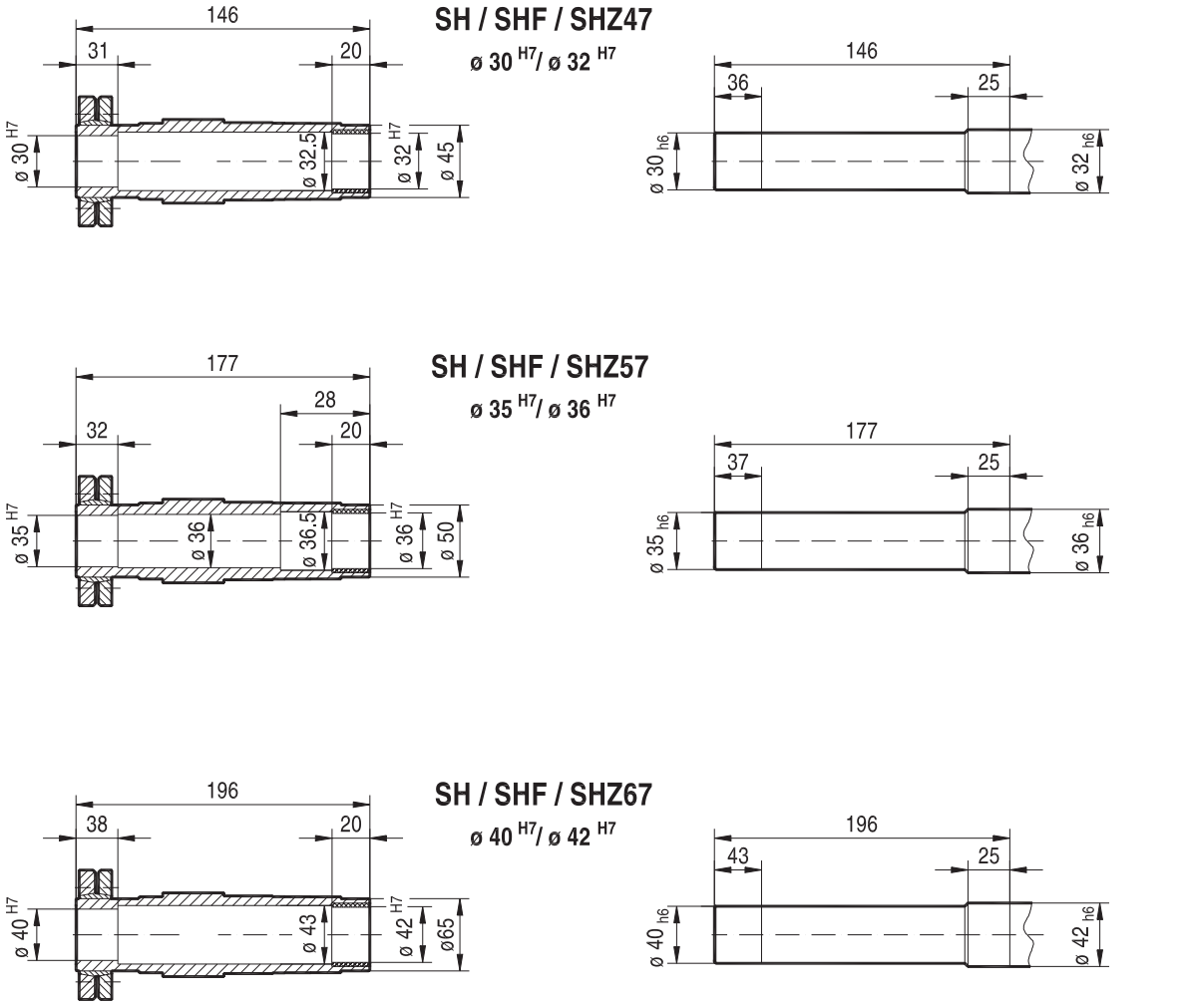
4987063435



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



44427050123

6.9 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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6.10 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. For these gearmotors, use screws of strength class 10.9. Use suitable washers.

Gear units with screws of strength class 10.9	Flange Ø mm
RF37/R37F SF37p	120
RF47/R47F	140
RF57/R57F	160
SF67p	200
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
FM/FAM127 KM/KAM127	550

6.11 Torque arms

There is a risk of static overdetermination if gear unit with foot housing (e.g. KA19/29B, KA127/157B or FA127/157B) can be mounted both via the torque arm and the foot rail. Therefore, observe the following points:

- Simultaneous use of the foot rails and the torque arm is not permitted, especially for the KA.9B/T design.
- 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 use feet **and** torque arm for mounting, please contact SEW-EURODRIVE.

Note that torque arms are always mounted on the output end.

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6.11.1 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	10682279	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	–
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	–
FA, FH, FV, FT Rubber buffer (2 pieces)	0133493	0133507	0133507	0133515	–

Gear unit	Size		
	10	20	30
WA, WH, WT	10610219	01680730	1680110

Gear unit	Size				
	19	29	39	49	59
WA, WH, WT	01680730	10684115	10684107	29226015	29226430

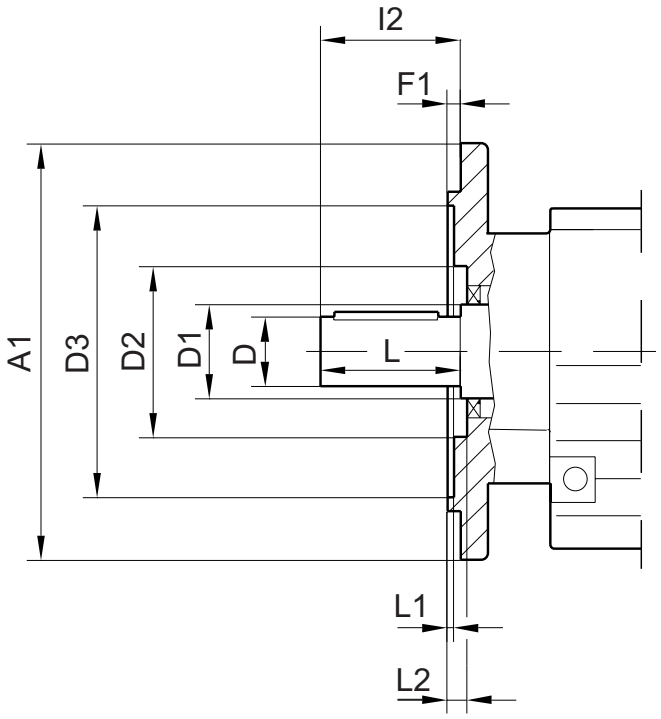
Gear unit	Size					
	202	302	402	502	602	802
BSHF, BSAF	10630988	10631003	10631038	10631054	10631070	10631097

6.11.2 Torque arms for KH167.., KH187..

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

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

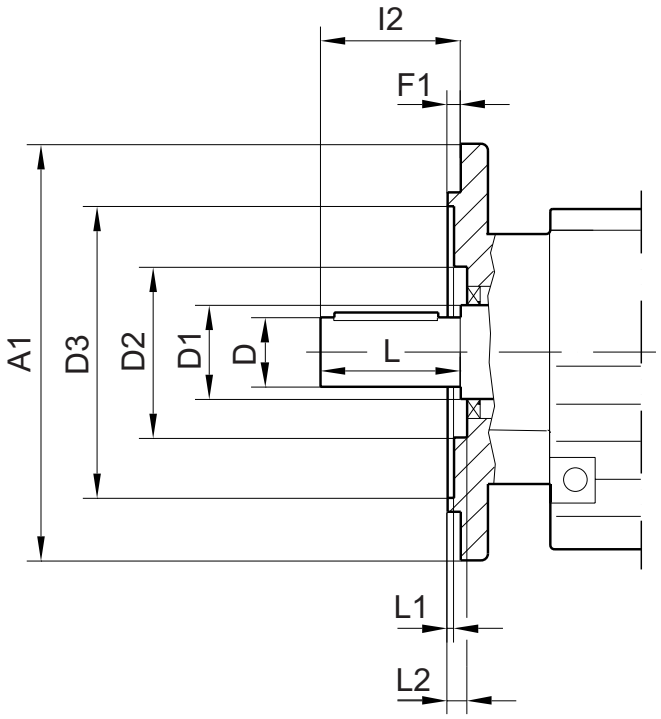


Check dimensions L1 and L2 for selection and installation of output elements!

Type	Dimensions in mm											
	A1	D	D1	D2		D3	F1	I2	L	L1		L2
				RF	R..F					RF	R..F	
RF07, R07F	120	20	22	38	38	72	3	40	40	2	2	6
	140[1)]	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
	140	25	35	60	–	85	3	50	50	5	–	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

1) The flange contour protrudes below the foot surface.

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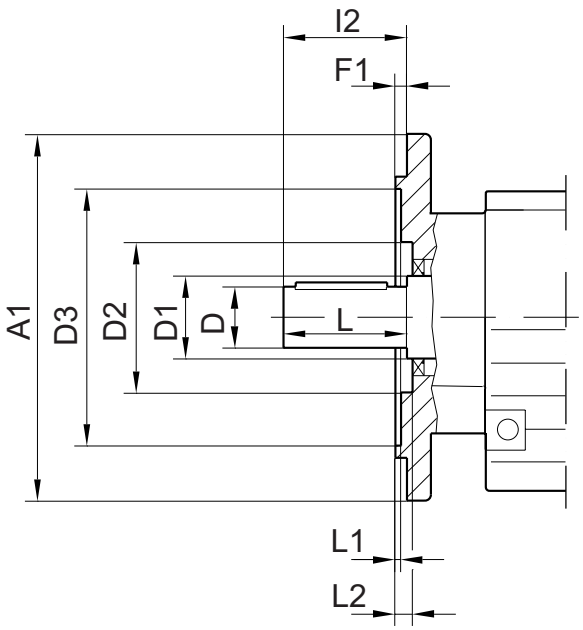
Check dimensions L1 and L2 for selection and installation of output elements!

Type	Dimensions in mm											
	A1	D	D1	D2		D3	F1	I2	L	L1		L2
				RF	R..F					RF	R..F	
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
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

1) The flange contour protrudes below the foot surface.

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

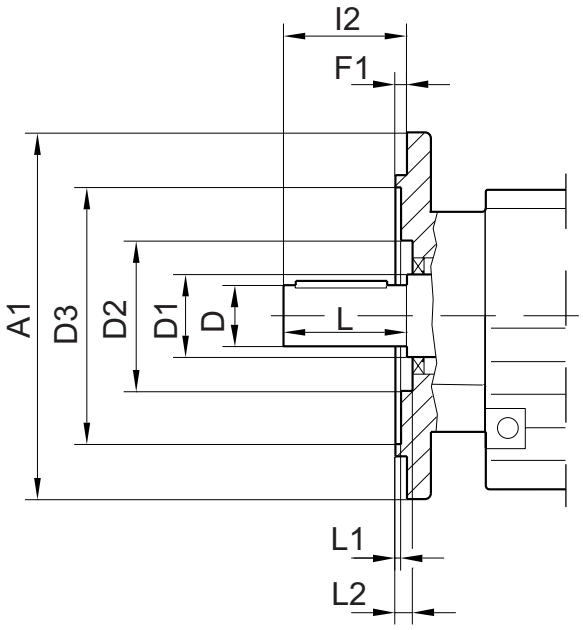


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Check dimensions L1 and L2 for selection and installation of output elements!

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	–
KF19	120	20	25	–	70	2.5	40	40	–	11.5
	160	20	25	–	100	2.5	40	40	–	11.5
KF29	160	25	30	–	109	3.5	50	50	–	6.5
	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	–

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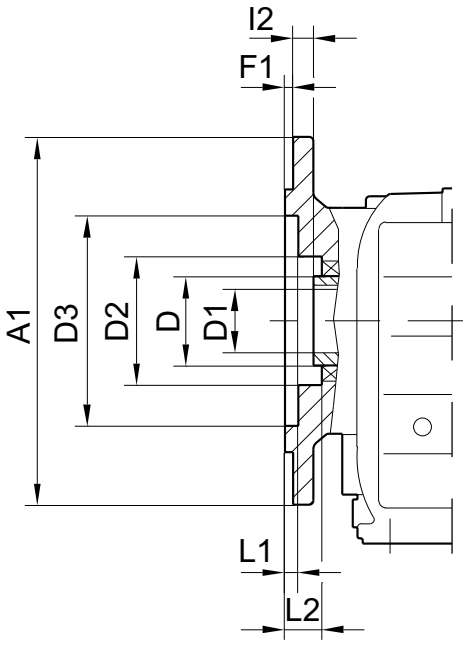
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Check dimensions L1 and L2 for selection and installation of output elements!

Type	Dimensions in mm									
	A1	D	D1	D2	D3	F1	I2	L	L1	L2
SF37	120	20	25	–	68	3	40	40	6	–
	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	–
WF10	80	16	25	–	39	2.5	40	40	30	–
	120	16	25	39	74	3	40	40	5	30
WF19	110	20	30	44	53	- 4	40	40	27	35
	120	20	30	–	45	2.5	40	40	37.5	–
WF20	110	20	30	44	53	- 4	40	40	27	35
	120	20	30	–	45	2.5	40	40	37.5	–
WF29	120	20	25	–	70	2.5	40	40	–	11.5
	160	20	25	–	100	2.5	40	40	–	11.5
WF30	120	20	30	48	63	2.5	40	40	18	27
	160	20	30	48	63	2.5	40	40	33	42
WF39	160	25	30	–	109	3.5	50	50	–	6.5
	200	25	30	–	115	3.5	50	50	–	6.5
WF49	160	30	39	–	97	3.5	60	60	15.3	23.5
WF59	200	35	49	76	115	3.5	70	70	16	25

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

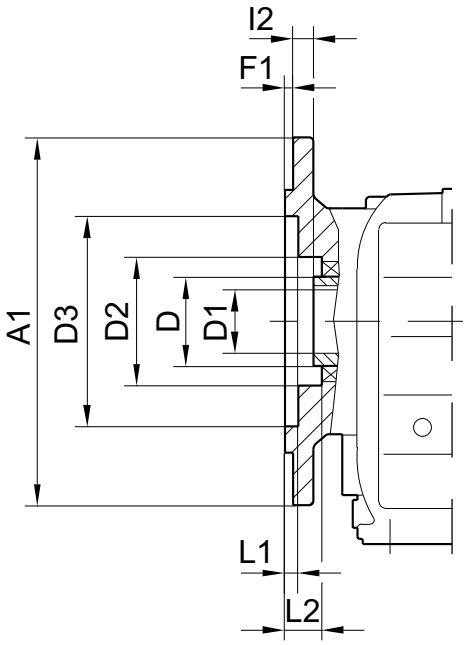


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Check dimensions L1 and L2 for selection and installation of output elements!

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
KAF19	120	30	20	60	70	2.5	25	9	25.5
	160	30	20	60	100	2.5	25	9	25.5
KAF29	160	40	25 / 30	–	98	3.5	29.5	–	6.5
	200	40	25 / 30	–	118	3.5	29.5	–	6.5
KAF37	160	45	30	62	94	3.5	24	2	30
KAF39	160	50	30 / 35	68	96	3.5	24.5	10	27
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

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

SAF37	120	35	20	–	68	3	15	6	–
	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
WAF10	80	25	16	–	39	2.5	23	30	–
	120	25	16	39	74	3	23	5	30
WAF19	110	30	18 / 20	45	53	- 4	30	27	35
	120	30	18 / 20	–	45	2.5	30	37.5	–
WAF20	110	30	18 / 20	45	53	- 4	30	27	35
	120	30	18 / 20	–	45	2.5	30	37.5	–
WAF29	120	30	20	60	70	2.5	25	9	25.5
	160	30	20	60	100	2.5	25	9	25.5
WAF30	120	30	20	48	63	2.5	19.5	18	27
	160	30	20	48	63	2.5	34.5	22	42
WAF39	160	40	25 / 30	–	105	3.5	33.5	–	6.5
	200	40	25 / 30	–	118	3.5	33.5	–	6.5
WAF49	160	50	30 / 35	–	97	3.5	24.5	15.3	23.5
WAF59	200	55	35 / 40	76	115	3.5	32.5	16	25

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6.15 Optional output shafts

The available output shafts for the gear units and gearmotors are shown below. For the standard shaft dimensions, refer to the dimension sheets. Optional shafts are available on request. The optional shaft diameters or the optional shaft material can influence the permitted maximum torque M_{amax} and the permitted maximum overhung load of the gear units as shown in the catalog. The deviating values and other shaft dimensions are available on request.

6.15.1 R, RF, RZ, R..F helical gear units

R, RF, RZ, R..F helical gear units									
Gear unit size	**07**	**17**	**27**	**37**	**47**	**57**	**67**	**77**	**87**
Solid shaft in mm	20×40[1)] 16×40	20×40[1)2)] 16×40	25×50[1)2)]	25×50[1)2)]	30×60[1)2)]	35×70[1)2)]	35×70[1)2)] 40×80	40×80[1)2)]	50×100[1)2)]
Solid shaft in inches	0.75×1.57[1)]	0.75×1.57[1)]	1×1.97[1)]	1×1.97[1)]	1.25×2.36[1)]	1.375×2.76[1)]	1.375×2.76[1)]	1.625×3.15[1)]	2.125×3.94[1)]

1) Optional stainless steel X17CrNi16-2+QT900.

2) Optional solid shaft without key (smooth).

R, RF helical gear units					
Gear unit size	**97**	**107**	**127**	**137**	**147**
Solid shaft in mm	60×120[1)2)]	70×140[1)2)]	90×170[2)]	90×170[1)2)]	110×210[1)2)]
Solid shaft in inches	2.375×4.72[1)]	2.875×5.51	3.625×6.69	3.625×6.69	4.375×8.27

1) Optional stainless steel X17CrNi16-2+QT900.

2) Optional solid shaft without key (smooth).

6.15.2 F series parallel-shaft helical gear units

Parallel-shaft helical gear units F						
Gear unit size	**27**	**37**	**47**	**57**	**67**	**77**
Solid shaft in mm	25×50[1)]	25×50[1)2)]	30×60[1)2)] 35×70[1)2)]	35×70[1)]	40×80[1)2)] 35×70	50×100[1)2)] 45×90[1)2)]
Solid shaft in mm 2nd shaft end	25×50	25×50	30×60[1)2)] 35×70[1)]	35×70[2)]	40×80[1)2)]	50×100[1)2)]
Solid shaft in inches	1×1.97[1)]	1×1.97[1)]	1.25×2.36[1)] 1.375×2.76	1.375×2.76[1)]	1.625×3.15[1)] 1.375×2.76	2×3.94[1)] 1.75×3.54
Solid shaft in inches 2nd shaft end	–	–	1.25×2.36	–	1.625×3.15	2×3.94

1) Optional stainless steel X17CrNi16-2+QT900.

2) Optional solid shaft without key (smooth).

Parallel-shaft helical gear units F				
Gear unit size	**87**	**97**	**107**	**127**
Solid shaft in mm	60×120[1)2)]	70×140[1)]	90×170	110×210
Solid shaft in mm 2nd shaft end	60×120[1)2)]	70×140	90×170[1)2)]	110×210[2)]
Solid shaft in inches	2.375×4.72[1)]	2.875×5.51[1)]	3.625×6.69	4.375×8.27
Solid shaft in inches 2nd shaft end	–	–	3.625×6.69	4.375×8.27

1) Optional stainless steel X17CrNi16-2+QT900.

2) Optional solid shaft without key (smooth).

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6.15.3 FF series parallel-shaft helical gear units

FF series parallel-shaft helical gear units						
Gear unit size	**27**	**37**	**47**	**57**	**67**	**77**
Solid shaft in mm	25×50[1)]	25×50[1)2)]	30×60[1)2)] 35×70[1)]	35×70[1)2)]	40×80[1)2)] 35×70	50×100[1)2)] 45×90
Solid shaft in inches	1×1.97[1)]	1×1.97[1)]	1.25×2.36[1)] 1.375×2.76	1.375×2.76[1)]	1.625×3.15[1)] 1.375×2.76	2×3.94[1)] 1.75×3.54

1) Optional stainless steel X17CrNi16-2+QT900.
2) Optional solid shaft without key (smooth).

FF series parallel-shaft helical gear units				
Gear unit size	**87**	**97**	**107**	**127**
Solid shaft in mm	60×120[1)]	70×140[1)]	90×170	110×210
Solid shaft in inches	2.375×4.72[1)]	2.875×5.51[1)]	3.625×6.69	4.375×8.27

1) Optional stainless steel X17CrNi16-2+QT900.

6.15.4 FZ series parallel-shaft helical gear units

FZ parallel-shaft helical gear units						
Gear unit size	**27**	**37**	**47**	**57**	**67**	**77**
Solid shaft in mm	25×50[1)]	25×50	30×60 35×70	35×70	40×80	50×100

1) Optional stainless steel X17CrNi16-2+QT900.

FZ series parallel-shaft helical gear units				
Gear unit size	**87**	**97**	**107**	**127**
Solid shaft in mm	60×120	70×140	90×170[1)]	110110×210

1) Optional stainless steel X17CrNi16-2+QT900.

6.15.5 FA, FAF, FAZ parallel-shaft helical gear units

FA, FAF, FAZ parallel-shaft helical gear units						
Gear unit size	**27**	**37**	**47**	**57**	**67**	**77**
Hollow shaft in mm	25[1)]	25[1)] 30[1)]	30[1)2)3)] 35[1)2)3)]	40[1)2)3)]	40[1)2)3)]	50[1)2)3)]
Hollow shaft in inches	1[1)]	1.25[1)]	1.188 1.25[1)] 1.375[1)]	1.438 1.5[1)]	1.438 1.5[1)]	1.938 2[1)]

1) Optional stainless steel X17CrNi16-2+QT900.
2) Optional with reinforced bearings.
3) Optional stainless steel X17CrNi16-2+QT900 with reinforced bearings.

FA, FAF, FAZ parallel-shaft helical gear units				
Gear unit size	**87**	**97**	**107**	**127**
Hollow shaft in mm	60[1)2)3)]	70[1)2)3)]	80[1)2)3)] 90[1)2)3)]	100[1)2)3)]
Hollow shaft in inches	2.375[1)] 2.438	2.75[1)] 2.938	3.25 3.438 3.625	4

1) Optional stainless steel X17CrNi16-2+QT900.
2) Optional with reinforced bearings.
3) Optional stainless steel X17CrNi16-2+QT900 with reinforced bearings.

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6.15.6 FH, FHF, FHZ parallel-shaft helical gear units

FH, FHF, FHZ parallel-shaft helical gear units						
Gear unit size	**27**	**37**	**47**	**57**	**67**	**77**
Hollow shaft in mm	25[1)]	30[1)] 30/32[1)]	35[1)2)3)] 35/36[1)2)3)]	40[1)2)3)] 40/42[1)2)3)]	40[1)2)3)] 40/42[1)2)3)]	50[1)2)3)] 50/52[1)2)3)]

1) Optional stainless steel X17CrNi16-2+QT900.
2) Optional with reinforced bearings.
3) Optional stainless steel X17CrNi16-2+QT900 with reinforced bearings.

FH, FHF, FHZ parallel-shaft helical gear units				
Gear unit size	**87**	**97**	**107**	**127**
Hollow shaft in mm	65[1)2)3)] 65/66[1)2)3)]	75[1)2)3)] 75/76[1)2)3)]	95[1)2)3)] 95/96[1)2)3)]	105[1)2)3)] 105/106[1)2)3)]

1) Optional stainless steel X17CrNi16-2+QT900.
2) Optional with reinforced bearings.
3) Optional stainless steel X17CrNi16-2+QT900 with reinforced bearings.

6.15.7 FV, FVF, FVZ parallel-shaft helical gear units

FV, FVF, FVZ parallel-shaft helical gear units								
Gear unit size	**37**	**47**	**57**	**67**	**77**	**87**	**97**	**107**
Hollow shaft Splined hollow shaft	N30	N35	N35	N45	N50	N65[1)]	N70	N85

1) Optional stainless steel X17CrNi16-2+QT900.

6.15.8 FT parallel-shaft helical gear units

FT parallel-shaft helical gear units					
Gear unit size	**37**	**47**	**57**	**67**	**77**
Hollow shaft in mm With TorqLOC® With TorqLOC® Plus	25[1)] 30[1)]	25 30[1)] 35[1)]	35[1)] 38[1)] 40[1)]	35[1)] 38[1)] 40[1)]	40 42 45 50[1)] 51
Hollow shaft in inches With TorqLOC® With TorqLOC® Plus	1[1)] 1.188[1)] 1.25[1)]	1.188[1)] 1.25[1)] 1.375[1)] 1.438[1)]	1.375[1)] 1.438[1)] 1.5[1)] 1.625[1)]	1.375[1)] 1.438[1)] 1.5[1)] 1.625[1)] 1.688	1.625[1)] 1.688 1.75[1)] 1.938[1)] 2[1)]

1) Optional stainless steel X17CrNi16-2+QT900.

FT parallel-shaft helical gear units				
Gear unit size	**87**	**97**	**107**	**127**
Hollow shaft in mm With TorqLOC® With TorqLOC® Plus	50 51[1)] 55 60[1)] 62[1)] 65[1)]	60 62[1)] 65 70[1)] 75[1)]	80[1)] 85[1)] 90[1)] 92[1)] 95[1)]	90 95[1)] 100[1)] 105[1)]
Hollow shaft in inches With TorqLOC® With TorqLOC® Plus	1.938[1)] 2[1)] 2.375[1)] 2.438[1)]	2.438[1)] 2.75[1)] 2.938[1)]	3.25[1)] 3.438[1)] 3.625[1)] 3.75[1)]	3.438[1)] 3.75[1)] 3.938[1)] 4[1)] 4.188[1)]

1) Optional stainless steel X17CrNi16-2+QT900.

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6.15.9 K series helical-bevel gear units

Helical-bevel gear units K								
Gear unit size	**19**	**29**	**39**	**49**	**37**	**47**	**57**	**67**
Solid shaft in mm	20×40[1)2)]	25×50[1)2)]	30×60[1)2)]	35×70[1)]	25×50[1)2)]	30×60[1)2)] 35×70[1)2)]	35×70[1)2)]	40×80[1)2)] 35×70
Solid shaft in mm 2nd shaft end	20×40[1)]	25×50[1)]	30×60[1)2)]	35×70[1)2)]	25×50[1)2)]	30×60[1)2)] 35×70[1)]	35×70[1)2)]	40×80[1)2)] 35×70
Solid shaft in inches	0.75×1.57[1)]	1×1.97[1)]	1×1.97[1)] 1.25×2.36[1)]	1.375×2.76[1)]	1×1.97[1)]	1.25×2.36[1)] 1.375×2.76	1.375×2.76[1)]	1.375×2.76 1.625×3.15[1)]
Solid shaft in inches 2nd shaft end	0.75×1.57[1)]	1×1.97[1)]	1.25×2.36[1)]	1.375×2.76[1)]	1×1.97	1.25×2.36 1.375×2.76	1.375×2.76	1.625×3.15 1.375×2.76

1) Optional stainless steel X17CrNi16-2+QT900.

2) Optional solid shaft without key (smooth).

Helical-bevel gear units K					
Gear unit size	**77**	**87**	**97**	**107**	**127**
Solid shaft in mm	50×100[1)2)] 45×90[1)2)]	60×120[1)2)]	70×140[1)2)]	90×170[1)2)]	110×210[1)]
Solid shaft in mm 2nd shaft end	50×100[1)2)] 45×90	60×120[1)2)]	70×140[2)]	90×170[1)2)]	110×210[2)]
Solid shaft in inches	2×3.94[1)] 1.75 × 3.54	2.375×4.72[1)]	2.875×5.51[1)]	3.625×6.69	4.375×8.27
Solid shaft in inches 2nd shaft end	2×3.94 1.75 × 3.54	2.375×4.72	2.875×5.51	3.625×6.69	4.375×8.27

1) Optional stainless steel X17CrNi16-2+QT900.

2) Optional solid shaft without key (smooth).

6.15.10 KF helical-bevel gear units

KF series helical-bevel gear units							
Gear unit size	**19**	**29**	**39**	**49**	**37**	**47**	**57**
Solid shaft in mm	20×40[1)]	25×50[1)]	30×60[1)]	35×70[1)]	25×50[1)2)]	30×60[1)2)] 35×70[1)]	35×70[1)2)]
Solid shaft in mm 2nd shaft end	–	–	–	–	25 × 50[1)]	30 × 60	35 × 70
Solid shaft in inches	0.75×157[1)]	1×1.97[1)]	1×1.97[1)] 1.25×2.36[1)]	1.375×2.76[1)]	1×1.97[1)]	1.25×2.36[1)]	1.375×2.76[1)]

1) Optional stainless steel X17CrNi16-2+QT900.

2) Optional solid shaft without key (smooth).

KF series helical-bevel gear units						
Gear unit size	**67**	**77**	**87**	**97**	**107**	**127**
Solid shaft in mm	40×80[1)2)] 35×70	50×100[1)2)] 45×90	60×120[1)2)]	70×140[1)2)]	90×170[2)]	110×210
Solid shaft in mm 2nd shaft end	40×80 35×70	50×100[1)]	60×120	70×140[2)]	90×170	110×210
Solid shaft in inches	1.625×3.15[1)] 1.375×2.76	2×3.94[1)] 1.75×3.54	2.375×4.72[1)]	2.875×5.51[1)]	3.625×6.69	4.375×8.27

1) Optional stainless steel X17CrNi16-2+QT900.

2) Optional solid shaft without key (smooth).

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6.15.11 KZ helical-bevel gear units

KZ series helical-bevel gear units					
Gear unit size	**37**	**47**	**57**	**67**	**77**
Solid shaft in mm	25×50	30×60 35×70	35×70	40×80	50×100

KZ series helical-bevel gear units				
Gear unit size	**87**	**97**	**107**	**127**
Solid shaft in mm	60×120	70×140	90×170[1)]	110×210

1) Optional stainless steel X17CrNi16-2+QT900.

6.15.12 KA, KAF, KAZ helical-bevel gear units

KA, KAF, KAZ helical-bevel gear units							
Gear unit size	**19**	**29**	**39**	**49**	**37**	**47**	**57**
Hollow shaft in mm	20[1)]	25[1)] 30[1)]	30[1)] 35[1)]	35[1)] 40[1)]	25[1)] 30[1)]	30[1)2)3)] 35[1)2)3)]	40[1)2)3)]
Hollow shaft in inches	0.75[1)]	1[1)]	1.25[1)] 1.375[1)]	1.375[1)] 1.5[1)]	1.25[1)]	1.188 1.25[1)] 1.375[1)]	1.438 1.5[1)]

1) Optional stainless steel X17CrNi16-2+QT900.
2) Optional with reinforced bearings.
3) Optional stainless steel X17CrNi16-2+QT900 with reinforced bearings.

KA, KAF, KAZ helical-bevel gear units						
Gear unit size	**67**	**77**	**87**	**97**	**107**	**127**
Hollow shaft in mm	40[1)2)3)]	50[1)2)3)]	60[1)2)3)]	70[1)2)3)]	80[1)2)3)] 90[1)2)3)]	100[1)2)3)]
Hollow shaft in inches	1.438 1.5[1)]	1.938 2[1)]	2.375[1)] 2.438	2.75[1)] 2.938	3.25 3.438 3.625	4[2)]

1) Optional stainless steel X17CrNi16-2+QT900.
2) Optional with reinforced bearings.
3) Optional stainless steel X17CrNi16-2+QT900 with reinforced bearings.

6.15.13 KH, KHF, KHZ helical-bevel gear units

KH, KHF, KHZ helical-bevel gear units								
Gear unit size	**19**	**29**	**39**	**49**	**37**	**47**	**57**	**67**
Hollow shaft in mm	20[1)]	25[1)]	35[1)]	40[1)]	30[1)] 30/32[1)]	35[1)2)3)] 35/36[1)2)3)]	40[1)2)3)] 40/42[1)2)3)]	40[1)2)3)] 40/42[1)2)3)]

1) Optional stainless steel X17CrNi16-2+QT900.
2) Optional with reinforced bearings.
3) Optional stainless steel X17CrNi16-2+QT900 with reinforced bearings.

KH, KHF, KHZ helical-bevel gear units					
Gear unit size	**77**	**87**	**97**	**107**	**127**
Hollow shaft in mm	50[1)2)3)] 50/52[1)2)3)]	65[1)2)3)] 65/66[1)2)3)]	75[1)2)3)] 75/76[1)2)3)]	95[1)2)3)] 95/96[1)2)3)]	105[1)2)3)] 105/106[1)2)3)]

1) Optional stainless steel X17CrNi16-2+QT900.
2) Optional with reinforced bearings.
3) Optional stainless steel X17CrNi16-2+QT900 with reinforced bearings.

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6.15.14 KV, KVF, KVZ helical-bevel gear units

KV, KVF, KVZ helical-bevel gear units								
Gear unit size	**37**	**47**	**57**	**67**	**77**	**87**	**97**	**107**
Splined hollow shaft	N30	N35	N35	N45	N50	N65[1)]	N70	N85

1) Optional stainless steel X17CrNi16-2+QT900.

6.15.15 KT helical-bevel gear units

KT series helical-bevel gear units							
Gear unit size	**19**	**29**	**39**	**49**	**37**	**47**	**57**
Hollow shaft in mm with TorqLOC® with TorqLOC® Plus	20[1)]	25[1)]	30[1)] 35[1)]	35[1)] 40[1)]	25[1)] 30[1)]	25 30[1)] 35[1)]	35[1)] 38[1)] 40[1)]
Hollow shaft in inch with TorqLOC® with TorqLOC® Plus	0.625[1)] 0.688[1)] 0.75[1)]	0.984[1)] 1[1)]	1.188[1)] 1.25[1)] 1.375[1)] 1.438[1)]	1.25 1.375[1)] 1.438[1)] 1.5[1)] 1.625[1)] 1.688	1[1)] 1.188[1)] 1.25[1)]	1.188[1)] 1.25[1)] 1.375[1)] 1.438[1)]	1.375[1)] 1.438[1)] 1.5[1)] 1.625[1)]

1) Optional stainless steel X17CrNi16-2+QT900.

KT series helical-bevel gear units						
Gear unit size	**67**	**77**	**87**	**97**	**107**	**127**
Hollow shaft in mm with TorqLOC® with TorqLOC® Plus	35[1)] 38[1)] 40[1)]	40 42 45 50[1)] 51	50 51[1)] 55 60[1)] 62[1)] 65[1)]	60 62[1)] 65 70[1)] 75[1)]	80[1)] 85[1)] 90[1)] 92[1)] 95[1)]	90 95[1)] 100[1)] 105[1)]
Hollow shaft in inch with TorqLOC® with TorqLOC® Plus	1.375[1)] 1.438[1)] 1.5[1)] 1.625[1)] 1.688	1.625[1)] 1.688 1.75[1)] 1.938[1)] 2[1)]	1.938[1)] 2[1)] 2.375[1)] 2.438[1)]	2.438[1)] 2.75[1)] 2.938[1)]	3.25[1)] 3.438[1)] 3.625[1)] 3.75[1)]	3.438[1)] 3.75[1)] 3.938[1)] 4[1)] 4.188[1)]

1) Optional stainless steel X17CrNi16-2+QT900.

6.15.16 S helical-worm gear units

Helical-worm gear units S				
Gear unit size	**37**	**47**	**57**	**67**
Solid shaft in mm	20×40[1)2)]	25×50[1)2)]	30×60[1)2)]	35×70[1)2)] 40×80[1)]
Solid shaft in mm 2nd shaft end	20×40[1)2)]	25×50[1)2)]	30×60[1)2)]	35×70[1)2)] 40×80
Solid shaft in inches	0.75×1.57[1)]	1×1.97[1)]	1.25×2.36[1)]	1.375×2.76[1)] 1.625×3.15
Solid shaft in inches 2nd shaft end	0.75×1.57	1×1.97	1.25×2.36	1.375×2.76 1.625×3.15

1) Optional stainless steel X17CrNi16-2+QT900.

2) Optional solid shaft without key (smooth).

6.15.17 SF helical-worm gear units

SF helical-worm gear units				
Gear unit size	**37**	**47**	**57**	**67**
Solid shaft in mm	20×40[1)2)]	25×50[1)2)]	30×60[1)2)]	35×70[1)2)] 40×80[1)]
Solid shaft in mm 2nd shaft end	20×40[1)]	25×50[1)]	30×60	35×70

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SF helical-worm gear units				
Gear unit size	**37**	**47**	**57**	**67**
Solid shaft in inches	0.75×1.57[1)]	1×1.97[1)]	1.25×2.36[1)]	1.375×2.76[1)] 1.625×3.15

1) Optional stainless steel X17CrNi16-2+QT900.
2) Optional solid shaft without key (smooth).

6.15.18 SA, SAF, SAZ helical-worm gear units

SA, SAF, SAZ helical-worm gear units				
Gear unit size	**37**	**47**	**57**	**67**
Hollow shaft in mm	20[1)]	25[1)] 30[1)]	30[1)] 35[1)]	40[1)] 45[1)]
Hollow shaft in inches	0.75[1)]	1.25[1)]	1.188 1.25[1)] 1.375[1)]	1.5[1)]

1) Optional stainless steel X17CrNi16-2+QT900.

6.15.19 SH, SHF, SHZ helical-worm gear units

SH, SHF, SHZ helical-worm gear units				
Gear unit size	**37**	**47**	**57**	**67**
Hollow shaft in mm	20[1)]	30[1)] 30/32[1)]	35[1)] 35/36[1)]	40[1)] 40/42

1) Optional stainless steel X17CrNi16-2+QT900.

6.15.20 ST helical-worm gear units

ST helical-worm gear units				
Gear unit size	**37**	**47**	**57**	**67**
Hollow shaft in mm With TorqLOC® With TorqLOC® Plus	16[1)] 19[1)] 20[1)]	25[1)] 30[1)]	25 30[1)] 35[1)]	35[1)] 38[1)] 40[1)]
Hollow shaft in inches With TorqLOC® With TorqLOC® Plus	0.625[1)] 0.688[1)] 0.75[1)]	1[1)] 1.188[1)] 1.25[1)]	1.188[1)] 1.25[1)] 1.375[1)] 1.438[1)]	1.375[1)] 1.438[1)] 1.5[1)] 1.625[1)] 1.688

1) Optional stainless steel X17CrNi16-2+QT900.

6.15.21 SPIROPLAN® right-angle gear units W10, W20, W30

SPIROPLAN® right-angle gear units W			
Gear unit size	**10**	**20**	**30**
Solid shaft in mm	14×30 16×40	20×40[1)2)]	20×40[1)2)]
Solid shaft in mm 2nd shaft end	16×40	20×40[1)]	20×40[1)2)]
Solid shaft in inches	0.625×1.57	0.75×1.57[1)]	0.75×1.57[1)]
Solid shaft in inches 2nd shaft end	0.625×1.57	0.75×1.57	0.75×1.57

1) Optional stainless steel X17CrNi16-2+QT900.
2) Optional solid shaft without key (smooth).

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6.15.22 SPIROPLAN® right-angle gear units WF

SPIROPLAN® right-angle gear units WF								
Gear unit size	**10**	**20**	**30**	**19**	**29**	**39**	**49**	**59**
Solid shaft in mm	16×40[1)]	20×40[1)]	20×40[1)]	20×40[1)]	20×40[1)]	25×50[1)]	30×60[1)]	35×70[1)]
Solid shaft in mm 2nd shaft end	20×40	20×40	20×40	20×40	–	–	–	–
Solid shaft in inches	0.625×1.57	0.75×1.57	0.75×1.57	0.75×1.57	0.75×1.57 [1)]	1×1.97[1)]	1×1.97[1)]	1.375×2.76[1)]

1) Optional stainless steel X17CrNi16-2+QT900.

6.15.23 SPIROPLAN® right-angle gear units WA, WAF

SPIROPLAN® right-angle gear units WA, WAF								
Gear unit size	**10**	**20**	**30**	**19**	**29**	**39**	**49**	**59**
Hollow shaft in mm	14 16[1)]	18[1)] 20[1)]	20[1)]	18[1)] 20[1)]	20[1)] 25[1)] 30[1)]	25[1)] 30[1)]	30[1)] 35[1)]	35[1)] 40[1)]
Hollow shaft in inches	0.625	0.75[1)]	0.75[1)]	0.75[1)]	0.75[1)]	1[1)]	1.25[1)] 1.375[1)]	1.375[1)] 1.5[1)]

1) Optional stainless steel X17CrNi16-2+QT900.

6.15.24 SPIROPLAN® right-angle gear units WH, WHF

SPIROPLAN® right-angle gear units WH, WHF				
Gear unit size	**29**	**39**	**49**	**59**
Hollow shaft in mm	20[1)]	25[1)]	35[1)]	40[1)]

1) Optional stainless steel X17CrNi16-2+QT900.

6.15.25 SPIROPLAN® right-angle gear units WT

SPIROPLAN® right-angle gear units WT				
Gear unit size	**29**	**39**	**49**	**59**
Hollow shaft in mm With TorqLOC® With TorqLOC® Plus	16[1)] 19[1)] 20[1)]	25[1)]	30[1)] 35[1)]	35[1)] 40[1)]
Hollow shaft in inches With TorqLOC® With TorqLOC® Plus	0.625[1)] 0.688[1)] 0.75[1)]	0.984[1)] 1[1)]	1.188[1)] 1.25[1)] 1.375[1)] 1.438[1)]	1.25 1.375[1)] 1.438[1)] 1.5[1)] 1.625[1)] 1.688

1) Optional stainless steel X17CrNi16-2+QT900.

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6.16 Safety covers

6.16.1 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..	37 – 97
SH...	37 – 67
WH..	29 – 59
BS.F..	202 – 802

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

6.16.2 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.

6.16.3 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
FT.., KT.., ST.., WT.. (with TorqLOC® hollow shaft mounting system)	All available sizes
Explosion-protected gear units FH.., KH.., SH.., WH..	All available sizes

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

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6.16.4 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 – 67
WA..	10 – 30 and 19 – 59

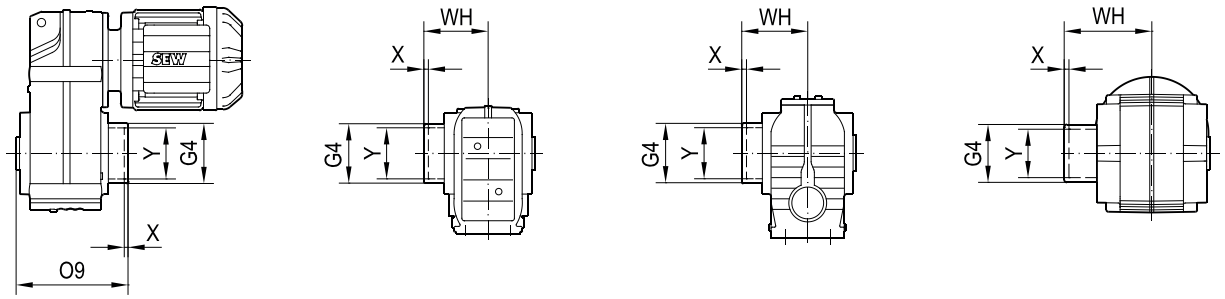
Should you require a flat fixed plastic safety cover for these gear unit types due to safety reasons, refer to the part numbers in the following chapters.

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6.16.5 Part numbers and dimensions for high fixed plastic covers

00 002 00 18

FH../FA.. KH../KA.. SH../SA.. WH../WA..



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 for helical-bevel gear units with hollow shaft in foot-mounted design (KH..B and KA..B).

Helical-worm gearmotors	SH/SA ..37	SH/SA ..47	SH/SA ..57	SH/SA ..67
Part number	6435122	6435130	6435149	6435157
G4 in mm	59	78	88	100
WH In mm	88	95	111.5	123
X in mm	1	0	1.5	3
Y in mm	53	75	83	93

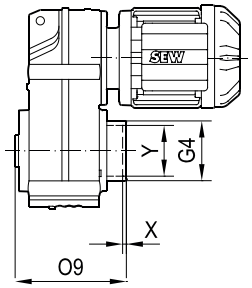
SPIROPLAN® right-angle gearmotors	WH/WA ..29	WH/WA ..39
Part number	10684158	10684166
G4 in mm	62	68
WH In mm	83	90
X in mm	2	4
Y in mm	50	60

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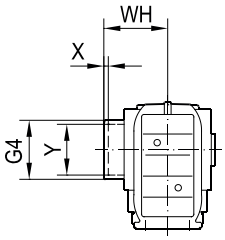
6.16.6 Part numbers and dimensions for fixed sheet metal covers

19 004 00 18

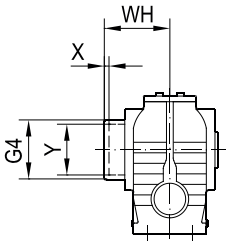
FT../FH../FA..



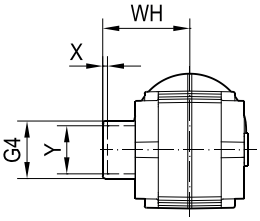
KT../KH../KA..



ST../SH../SA..



WT../WH../WA..



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
Part number	0643584X	06435858	06435866	06435866	06435874	06435882	06435890	06421814	06421822
G4 in mm	81	90	101	101	124	165	200	196	229
O9 in mm	166	199	222	236	285	322	382	421	502
X in mm	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

Helical-bevel gearmotors	KH/KA ..19	KT..19	KH/KA ..29	KT..29	KT/KH/KA ..39	KT/KH/KA ..49
Part number	10686320	29225299	10686339	29225086	10682651	10682694
G4 in mm	60	61	68	70	86	97
WH in mm	84.5	87	91.5	98.5	117.5	138
X in mm	1.5	1.5	1.5	1.5	1	1
Y in mm	50	58	60	67	84	95

Helical-bevel gearmotors[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
Part number	0643584X	06435858	06435866	06435866	06435874	06435882	06435890	06421814	06421822
G4 in mm	81	90	101	101	124	165	200	196	229
WH In mm	104	122	137	143	177	229	382	246	297
X in mm	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

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

Helical-worm gearmotors	ST/SH/SA ..37	ST/SH/SA ..47	ST/SH/SA ..57	ST/SH/SA ..67
Part number	06444768	0643584X	06435858	06435866
G4 in mm	64	81	90	101
WH In mm	98	104	122	137
X in mm	1.5	1.5	1.5	1.5
Y in mm	61	78	87	98

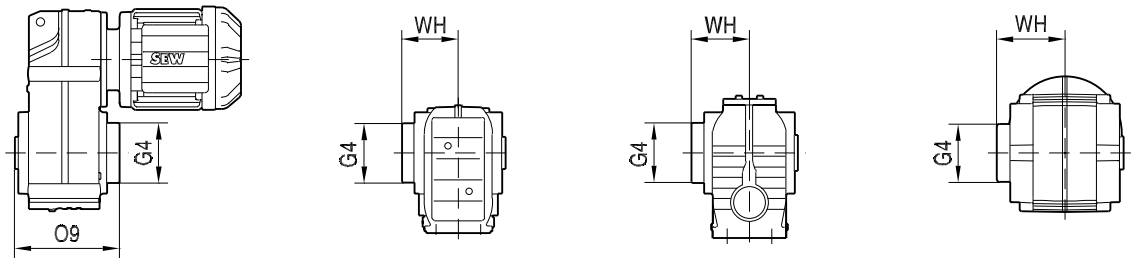
SPIROPLAN® right-angle gearmotors	WH/WA ..29	WT ..29	WH/WA ..39	WT ..39	WT/WH/WA ..49	WT/WH/WA ..59
Part number	10686320	29225299	10686339	29225086	29225612	29226147
G4 in mm	60	61	68	70	87	97
WH In mm	84.5	87	91.5	98	119	138
X in mm	1.5	1.5	1.5	1.5	1.5	1.0
Y in mm	50	58	60	67	84	95

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6.16.7 Part numbers and dimensions for flat fixed plastic covers

19 003 00 18

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	102

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 for helical-bevel gear units with hollow shaft in foot-mounted design (KH..B and KA..B).

Helical-worm gearmotors	SA ..37	SA..47	SA ..57	SA..67
Part number	10687890	10688293	10688390	10688498
G4 in mm	57.4	80.4	80.4	84.7
WH In mm	68	72.5	87	95.5

SPIROPLAN® right-angle gearmotors	WA..10	WA..19	WA..20	WA ..29	WA..30	WA ..39	WA ..49	WA ..59
Part number	10687998	10687998	10687998	10688684	10688099	10688293	10690794	10690794
G4 in mm	42.4	42.4	42.4	57.4	57.4	80.4	87.4	87.4
WH In mm	51	58.5	58.5	63.2	69	73.5	90	102

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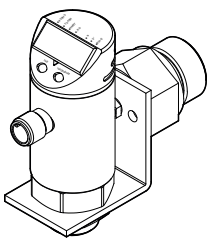
6.17 Technical data of condition monitoring

6.17.1 Information on oil aging sensor /DUO10A

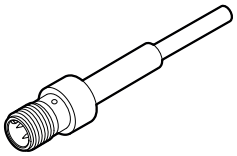
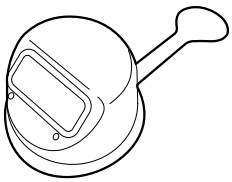
Technical data

	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
Switching 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 to +130 °C		
Permitted temperature sensor	Pt1000		
EMC	IEC1000-4-2/3/4/6		
Ambient temperature	-25 °C to +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		

Designations and part numbers

Designation	Description	Part number
DUO10A 	Evaluation unit (basic device)	13438751

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Designation	Description	Part number
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	13587862
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 	Protective cap (for aseptic, 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.

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

Adapter for mounting the Pt1000 temperature sensor in screw plug bores:

Adapter complete for sensor Pt1000	Part number
M10 × 1	20593422
M12 × 1.5	20593430
M22 × 1.5	20593449
M33 × 2	20593457
M42 × 2	20593465

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

6.17.2 Information on the /DUV40A vibration monitoring system

Scope of delivery

- Vibration SmartCheck unit with integrated SmartWeb software

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- Vibration SmartCheck and SmartWeb documentation on CD-ROM
- SmartUtility Light software with user documentation on CD-ROM

Technical data

DUV40A (Diagnostic Unit Vibration)	
Housing	Glass fiber reinforced plastic
Mounting	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
Voltage supply	DC 11 – 32 V or Power over Ethernet (PoE) based on 802.3af Mode A
Size	44 mm × 57 mm × 55 mm
Weight	Approx. 210 g
Degree of protection	IP 67
Operating system	Embedded Linux
Software	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 procedure	Time signal, envelope, spectrum and trend analysis, rotational speed and frequency tracking

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.

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Signal processor	
Frequency resolution	1600, 3200, 6400, or 12 800 lines
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 on request)

Storage	
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)

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 OPC UA (server) available with additional license
Electrical connections	3 polarity reversal-protected M12 plug connectors for supply, input/outputs and Ethernet

Part numbers

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

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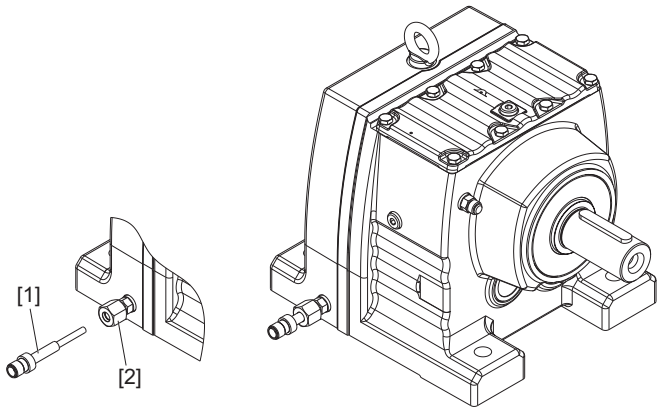
	Description	Part number
Base for mounting on standard gear units (R, F, K, and S gear units)	Mounting base with sealing ring M10 × 1	20593422
	Mounting base with sealing ring M12 × 1.5	20593430
	Mounting base with sealing ring M22 × 1.5	20593449
	Mounting base with sealing ring M33 × 2	20593457
	Mounting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

6.17.3 Pt1000 temperature sensor

The optional Pt1000 temperature sensor (part number 13438816) is used for continuously measuring the oil temperature of the gear unit.



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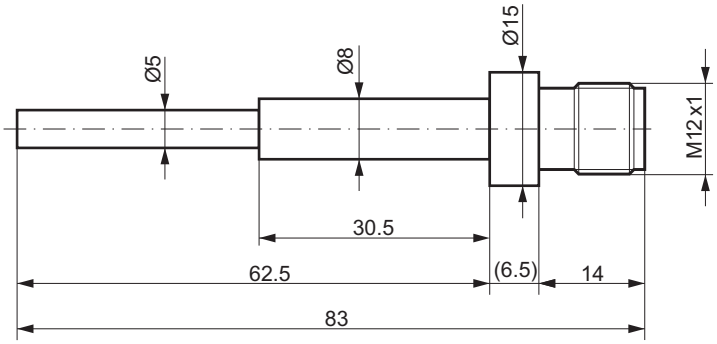
[1] Temperature sensor
[2] Adapter screw fitting

The temperature sensor [1] is delivered in mounted condition. It is attached to the gear unit by means of an adapter screw fitting [2] in the corresponding screw plug bore.

For using the temperature sensor in potentially explosive areas, observe the corresponding information in the "Explosion-Protected Gear Units" assembly and operating instructions (Mechanical installation → Optional equipment).

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Dimension drawing Pt1000



9007214369752075

Technical data Pt1000

Technical data	Value
Rod length	62.5 mm
Measuring range	-40 to 130 °C
Permitted oil temperature	-40 to 130 °C
Accuracy	± (Pt1000 + 0.2 K)
Measuring element	1 × Pt1000 to DIN EN 60751, class B, 4-wire connection
Dynamic response T05/T09 (s)	3/8 to DIN EN 60751
Ambient temperature	-25 to 80 °C
Degree of protection, protection class	IP67, III
Housing materials	V4A (1.4404)
Materials in contact with the medium	V4A (1.4404)
Connection	M12 plug-in connection; gold-plated contacts

6.18 Limitation of permitted torques for EBH../EPH.. with coupling sleeve

Type	D1	M_{per} [1)]
EPH03	9	18
EPH02	8	14
EPH02	9	18
EPH02	10	24
EPH02	11	30
EPH02	12	37
EPH03, EBH03	8	14
EPH03, EBH03	9	18
EPH03, EBH03	10	24
EPH03, BH03	11	30

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Type	D1	M_{per} [1)]
EPH03, EBH03	12	37
EPH04, EBH04	11	30
EPH04, EBH04	12	37
EPH04, EBH04	14	54
EPH04, EBH04	16	74
EPH05, EBH05	14	54
EPH05, EBH05	16	74
EPH05, EBH05	17	86
EPH05, EBH05	18	99
EPH05, EBH05	19	113
EPH07, EBH07	22	160
EPH07, EBH07	24	198
EPH07, EBH07	28	287
EPH08, EBH08	32	396
EPH08, EBH08	35	492
EPH09, EBH09	32	396
EPH09, EBH09	35	492
EPH09, EBH09	38	501
EPH10, EBH10	48	1053

1) Maximum permitted input torque.

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7 Important information on selection tables and dimension drawings

7.1 Information on the selection tables for R.., F.., K.., S.., W.. gear units

[3]

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$														
	i	50/1-2			80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6		
FA27	4.16	27	27	36	52	68	88	87	127	148	87	130	148	87	130	148
2	4.93	33	33	43	57	81	97	96	144	163	96	144	163	96	144	163
	5.27	35	35	46	58	86	99	100	150	170	100	150	170	100	150	170

[1] [2]

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[1] Gear unit ratio
[2] Gear unit size with number of gear unit stages
[3] Adapter sizes

FA27, m kg					
	AQS.				
s	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
2	7.0	7.4	8.1	9.8	14
3	7.3	7.6	8.4	10	14
FAF: + 0.70 kg / F: + 0.50 kg / FF: + 1.3 kg					

9007234268869771

m Mass of the drive
s Number of gear unit stages

F27, J_A / c_{TA}		AQS.				
		50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
J_A 10^{-4}	kgm^2	0.41	0.46	1.3	2.4	8.1
c_{TA}	Nm/'	0.15	0.15	0.3	0.7	3.0

9007234268872203

J_A Mass moment of inertia of the adapter
C_{TA} Torsional rigidity of the adapter

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F..27							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aEmergOff}$	n_{ak}	J_G 10^{-4}	FA	FAF	F	FF	FA	FAF	F	FF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
FA27 2	4.16	87	130	148	365	1.4	1810	1810	1380	1180	4500	4500	4500	4500
	4.93	96	144	163	306	1.0	1860	1860	1420	1210	4500	4500	4500	4500
	5.27	100	150	170	283	0.90	1880	1880	1440	1220	4500	4500	4500	4500

9007234268874635

n_e Reference speed for continuous duty
i Gear unit ratio
M_{amax} Maximum permitted output torque for continuous duty
M_{apk} Maximum permitted output torque for short-time duty
$M_{aNotaus}$ Maximum permitted output emergency stop torque, max. 1000 emergency stops
n_{ak} Breakpoint speed (output)
J_G Mass moment of inertia of the gear unit with reference to the input shaft
F_{Ramax} Maximum permitted overhung load at the output shaft at M_{amax}, load application point at the center of the shaft end and at maximum output torque M_{amax}
F_{Rapk} Maximum permitted overhung load at the output shaft at M_{apk}, load application point at the center of the shaft end and at maximum output torque M_{apk}

If a gear ratio is marked with the footnote reference [1)], this means increased churning losses (see chapter "Churning losses and thermal rating" (→ 🗎 62)) and thus increased heat generation at the gear unit can occur under unfavorable conditions.

Determine the requirements from the application and the corresponding operating conditions (see chapter "Data for calculating the thermal rating" (→ 🗎 62)). Contact SEW-EURODRIVE to calculate the thermal rating based on the actual operating conditions. If necessary, the thermal rating of the gear unit can be increased by suitable measures, e.g. by using a synthetic lubricant with greater thermal resistance.

7.2 Information on the selection tables for BS.F.., PS.F.., PS.C.. gear units

[3]

Nm		EBH M_{amax} | M_{apk} | $M_{aEmergOff}$					
	i	03			04		
BSF202 2	3.00	40	60	90	40	60	90
	4.00	40	60	90	40	60	90
	6.00	40	60	90	40	60	90

[1] [2]

9007234268877067

[1] Gear unit ratio
[2] Gear unit size with number of gear unit stages
[3] Adapter sizes

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BSF202, m kg		
	EBH	
s	03	04
2	5.3	5.3
BSBF: + - kg / BSHF: + - kg		

35014138507

m Mass of the drive
s Number of gear unit stages

BS..202EBH03							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aEmergOff}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF202	3.00	40	60	90	667	1.8	1.8	2.0	2.0	2680	2970	4200	4200
2	4.00	40	60	90	650	1.5	2.1	2.3	2.2	3000	3330	4200	4200
	6.00	40	60	90	650	1.3	2.3	2.6	2.5	3500	3880	4200	4200

9007234268881931

n_e Reference speed for continuous duty
i Gear unit ratio
M_{amax} Maximum permitted output torque for continuous duty
M_{apk} Maximum permitted output torque for short-time duty
$M_{aNotaus}$ Maximum permitted output emergency stop torque, max. 1000 emergency stops
n_{ak} Breakpoint speed (output)
J_{GA} Mass moment of inertia of the gear unit including the adapter in relation to the input shaft
C_T Torsional rigidity of the gear unit/gear unit with adapter
F_{Ramax} Maximum permitted overhung load at the output shaft at M_{amax}, load application point at the center of the shaft end
F_{Rapk} Maximum permitted overhung load at the output shaft at M_{apk}, load application point at the center of the shaft end

BS..202				M1			M2/M4			M3/M5-6			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
BSF202	3.00	4500	94	4.10	-0.011	77457	14.47	-0.020	66498	6.12	-0.013	75323	6	3	-
2	4.00	4500	94	4.26	-0.014	76815	20.11	-0.028	60846	7.52	-0.017	73532	6	3	-
	6.00	4500	94	4.50	-0.019	75905	30.66	-0.042	51203	10.05	-0.024	70662	6	3	-

35014143371

i Gear unit ratio
n_{epk} Maximum permitted input speed for short-time duty
η Efficiency of the gear unit (for M_{amax} n_e = 1400 min^{-1}, mounting position M1, continuous duty)
φ Rotational clearance
a_0, a_1, a_2 Gear unit constants with regard to gear unit heating

If a gear ratio is marked with the footnote reference [1)], this means increased churning losses (see chapter "Churning losses and thermal rating" (→ 🗎 62)) and thus increased heat generation at the gear unit can occur under unfavorable conditions.

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Determine the requirements from the application and the corresponding operating conditions (see chapter "Data for calculating the thermal rating" (→ 🗎 62)). Contact SEW-EURODRIVE to calculate the thermal rating based on the actual operating conditions. If necessary, the thermal rating of the gear unit can be increased by suitable measures, e.g. by using a synthetic lubricant with greater thermal resistance.

7.3 Dimension sheet information

7.3.1 Symbols for scope of delivery

The scope of delivery is indicated in the dimension sheets using the following shapes:



Standard parts supplied by SEW-EURODRIVE.



Standard parts not supplied by SEW-EURODRIVE.

7.3.2 Tolerances

Shaft heights

The following tolerances apply to the specified dimensions:

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

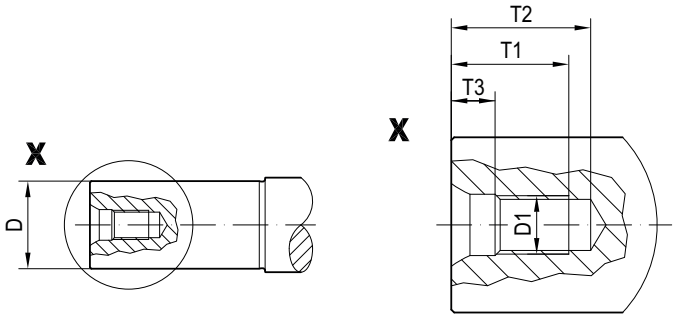
Foot-mounted gear unit: The mounted motor could protrude under the mounting surface, check.

Shaft ends

Diameter tolerance:

- Ø ≤ 50 mm → ISO k6
- Ø > 50 mm → ISO m6

Center holes according to DIN 332, shape DR:



18014429970571787

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

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D	D1	T1 +2/0	T2 min	T3 +1/0
30 < D ≤ 38	M12	28	37	9.5
38 < D ≤ 50	M16	36	45	12
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

For helical gear units, SPIROPLAN® right-angle gear units, AC (brake) motors and explosion-protected AC (brake) motors, up to 3 different flange dimensions are available per size. The mountable flange for each size can be found in the respective dimension sheets.

7.3.3 Eyebolts, lifting eyes

The following gear units and motors are delivered without a special transportation fixture:

- R..07 – R..27
- W..10 – W..30

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- PS.F121 – PS.F521
- PS.F122 – PS.F522
- BS.F202 – BS.F402

All other gear units and motors are equipped with cast-on lifting eyes, screw-on lifting eyes or screw-on lifting eyebolts.

Gear unit/motor type	Removable		Cast-on Lifting eyes
	Eyebolts	Lifting eyes	
R..37 – R..57	—	X	—
R..67 – R..147	X	—	—
RX57/RX67	—	X	—
RX77 – RX107	X	—	—
F..27 – F..127	—	—	X
K..19 – K..49	—	X	—
K..37 – K..127	—	—	X
S..37/S47	—	X	—
S..47 – S..67	—	—	X
W..19 – W..59	—	X	—
BS.F502 – 802	—	X	—
PS.F621 – 921	—	X	—
PS.F622 – 922	—	X	—

X = present, — = not present

7.3.4 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.

7.3.5 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.

7.3.6 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.

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7.3.7 Rubber buffer for FA/FH/FV/FT

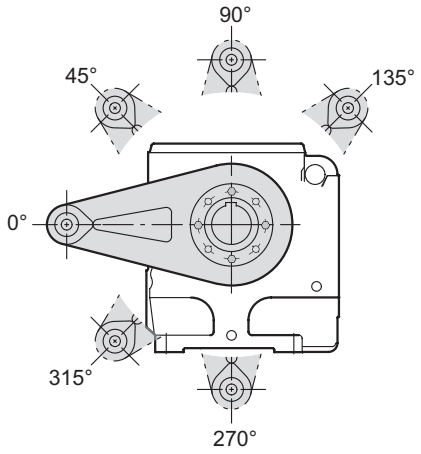
The depictions on the dimension sheets show the rubber buffers for FA/FH/FV/FT gear units in loose state. Preload rubber buffer by the indicated value ΔL. The characteristic curve of spring for the rubber buffer is available upon request from SEW-EURODRIVE.

7.3.8 Torque arm position

The following illustration shows the possible torque arm positions for helical-worm gear units, 2-stage helical-bevel gear units K..9, SPIROPLAN® right-angle gear units and the BS.F gear units as well as the respective angles.

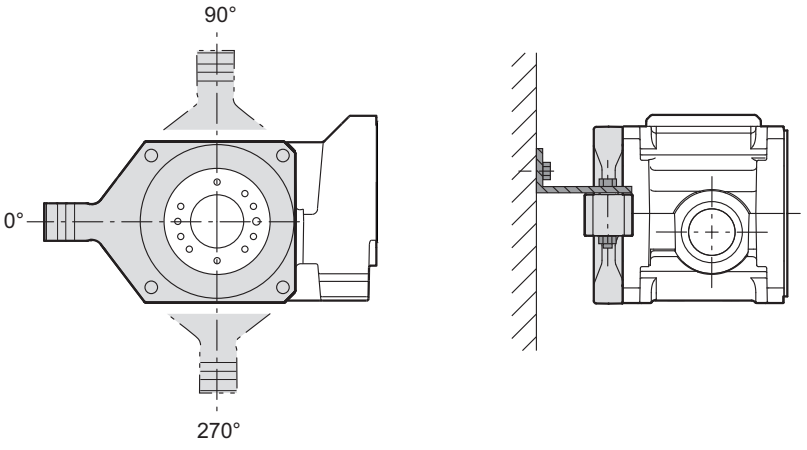
The gear units in the following table have exceptions for the position of the torque arm:

Gear unit	Impossible position
W..29, W..39	90°
W..10 – W..30 W..19 – W..49 K..9	135°



9007214715830667

The following illustration shows the possible torque arm positions for BS.F gear units as well as the respective angles:



9007214715828235

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

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Gearmotor	Dimension sheets on page
K..9 and K..7 helical-bevel gearmotors	(→ 🗎 444)
Helical-worm gearmotors	(→ 🗎 585)
SPIROPLAN® right-angle gearmotors	(→ 🗎 637)
BS.F helical-bevel gearmotors	(→ 🗎 694)

7.3.9 Tolerances and chamfers for flange block gear units

Inner centering → ISO H7

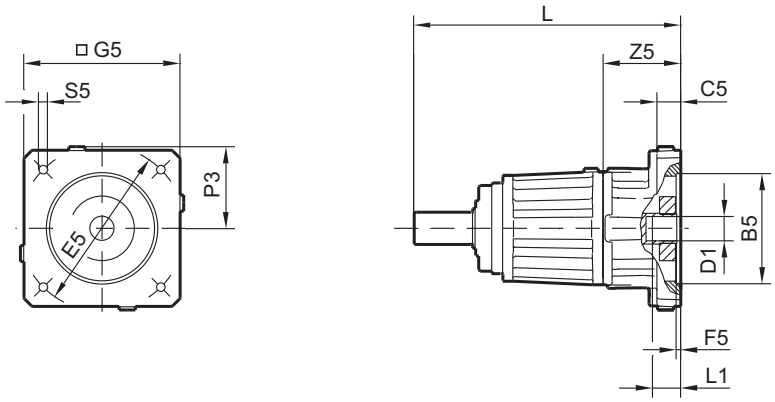
External centering → ISO h7

7.3.10 Front and foot-end mounting of BS.F..B gear units

The corresponding dimension sheet can be found in chapter "BS..B.. /mm" (→ 🗎 741)

7.3.11 Dimension designations of gear units and adapters

Gear unit dimension designation

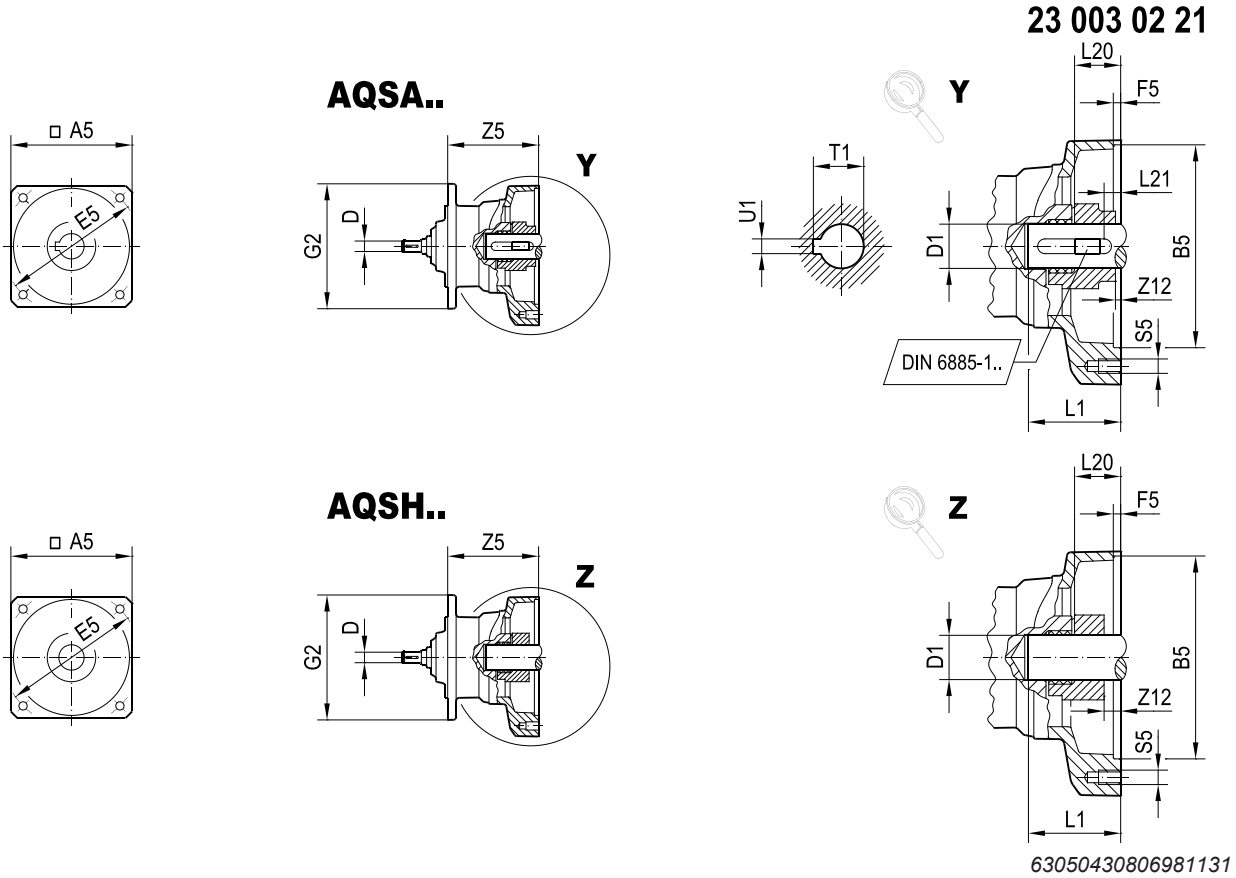


35022070027

G5 Square dimension
S5 Tapped hole
P3 Projecting length of closing plug
E5 Hole circle diameter
L Overall length of gear unit with adapter
Z5 Adapter length
C5 Flange thickness
B5 Centering diameter
D1 Coupling bore diameter
F5 Centering depth
L1 Maximum insertion depth of motor shaft

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Adapter AQS.. dimension designation



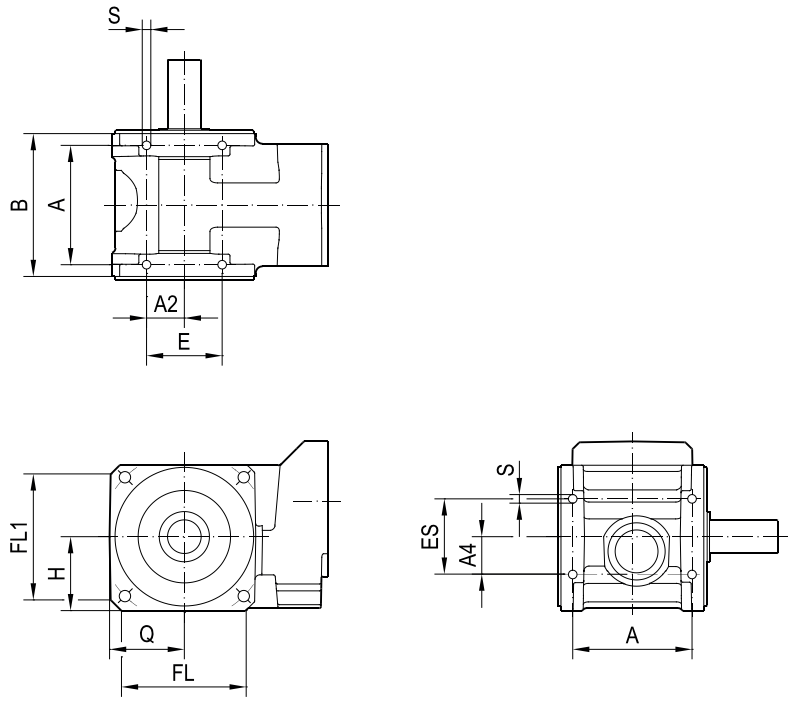
63050430806981131

A5	Square dimension
B5	Centering diameter
D	Diameter of the pinion shaft end
D1	Coupling bore diameter
E5	Hole circle diameter
F5	Centering depth
G2	Flange diameter of the gear unit on the drive end
L1	Maximum insertion depth of the motor
L20	Distance between flange contact surface and claw base of the coupling
L21	Maximum dimension for the start of the bearing length of the keyway in the motor shaft
S5	Tapped hole
T1	Keyway depth
U1	Keyway width
Z5	Adapter length
Z12	Distance from flange contact surface – coupling

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Dimension designation BS..B

BS..B



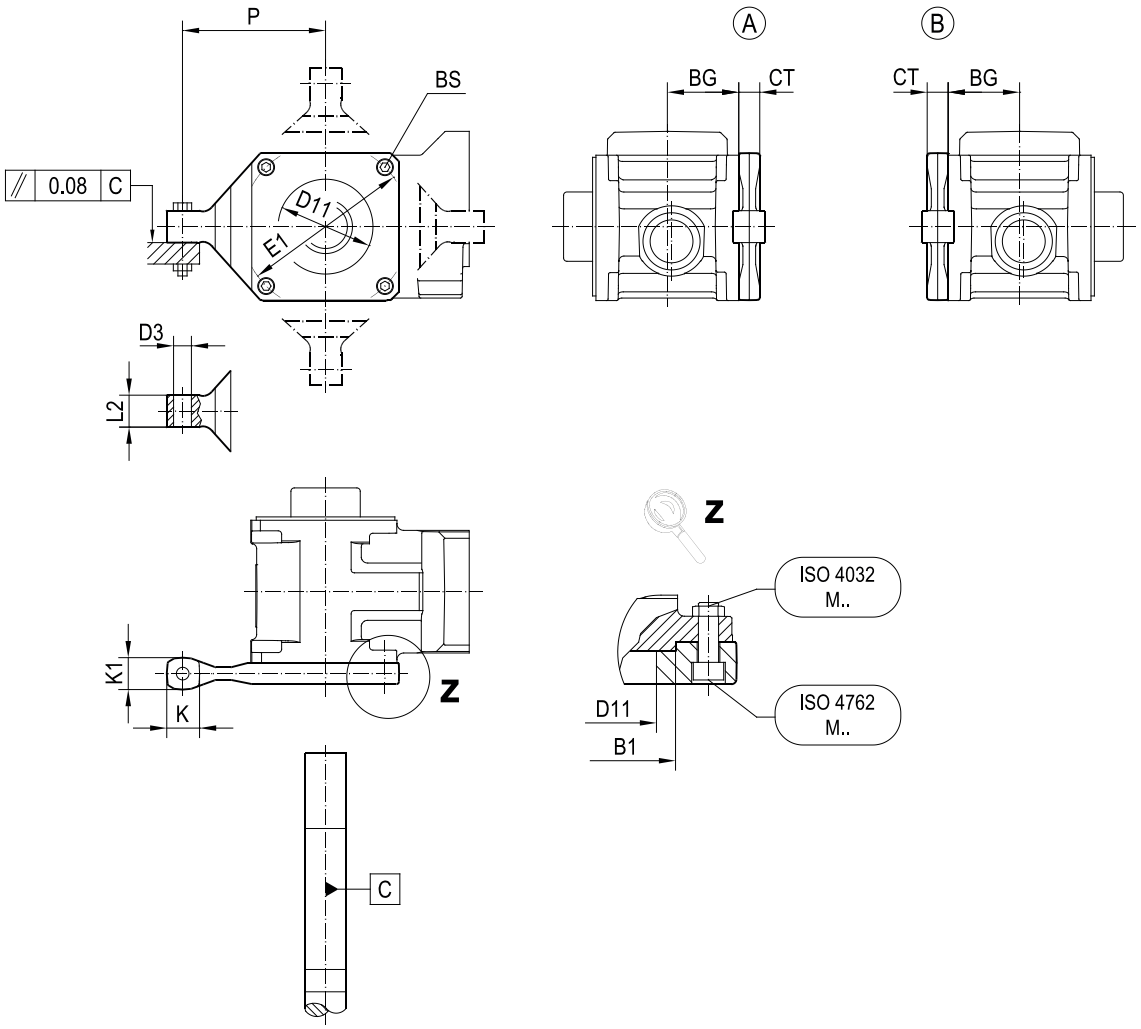
35080539915

B	Gear unit base width
A	Spacing of foot bores in axial direction of output
S	Diameter of the foot bores
A2	Distance from foot bore to output shaft (horizontal)
E	Spacing of the foot bores (horizontal)
FL	Width of foot contact surface (horizontal)
H	Axle height from bottom edge of foot to center of output shaft
FL1	Wide foot contact surface (vertical)
ES	Spacing of the foot bores (vertical)
A4	Distance from foot bore to output shaft (vertical)

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Dimension designation BSHF../T

BSHF.. /T

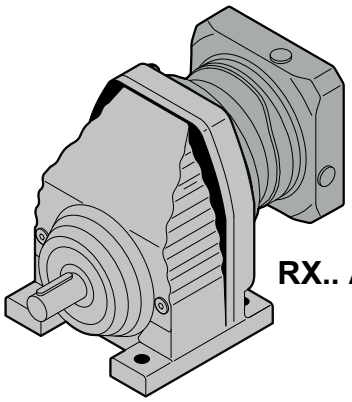


35080545931

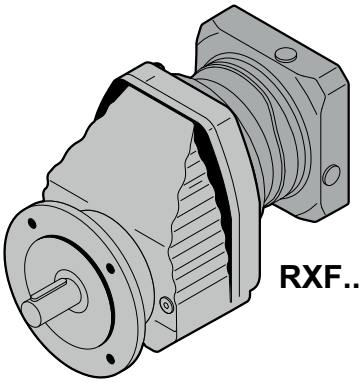
P	Center of gear unit to bore in torque arm
B1	Centering diameter
E1	Hole circle diameter
D11	Inner diameter of torque arm
BG	Center of gear unit to contact surface of torque arm
CT	Width of torque arm
K	Length of torque arm mounting surface
K1	Width of torque arm mounting surface
D3	Diameter of through bore in torque arm
L2	Length of through bore in torque arm
BS	Retaining screw for the torque arm

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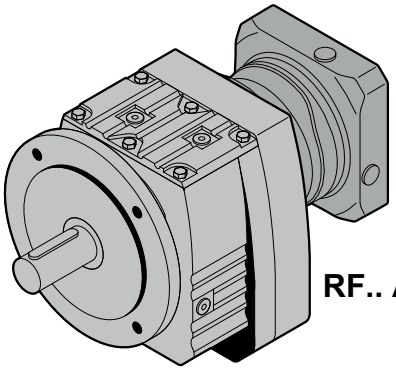
8 R.. helical gear units



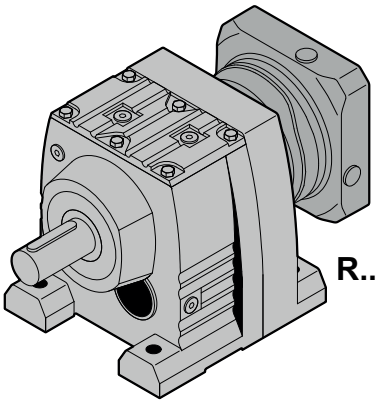
RX.. AQS..



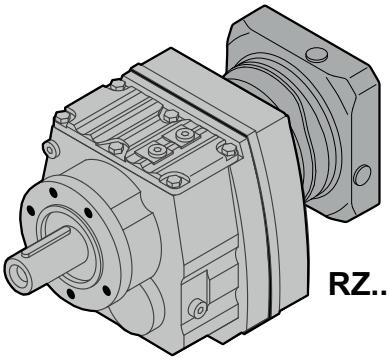
RXF.. AQS..



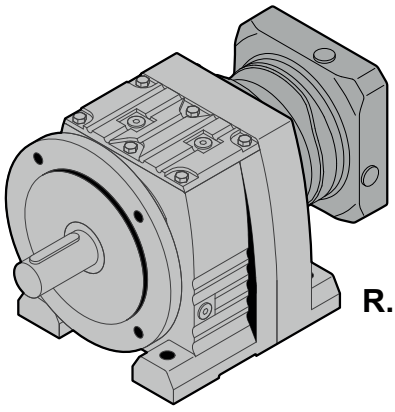
RF.. AQS..



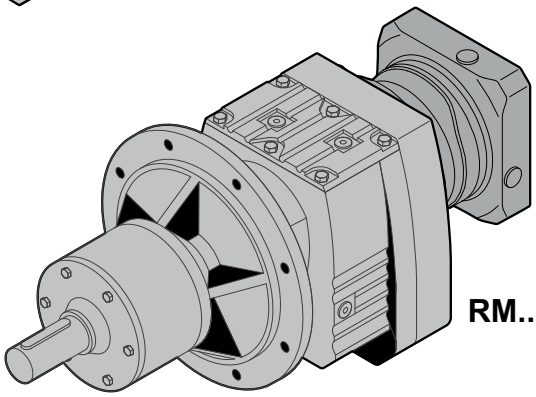
R.. AQS..



RZ.. AQS..



R..F AQS..



RM.. AQS..

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8.1 RX..AQS.. – Selection tables and dimension sheets

8.1.1 RX57 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$																	
	i	80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6			160/1			190/1,3-6		
RX57 1	1.30	19	21	32	36	40	57	37	56	63	63	90	107	63	90	107	63	90	107
	1.48	19	24	32	38	45	65	39	59	66	68	90	116	68	90	116	68	90	116
	1.65	21	27	36	40	51	68	41	62	70	69	90	117	69	90	117	69	90	117
	1.92	22	31	37	42	59	71	43	65	73	69	90	117	69	90	117	69	90	117
	2.04	22	33	37	43	63	73	44	66	75	69	90	117	69	90	117	69	90	117
	2.37	24	36	41	45	68	77	47	71	80	69	90	117	69	90	117			
	2.64	25	38	43	47	71	80	48	72	82	69	90	117	69	90	117			
	2.91	25	38	43	48	68	82	49	68	83									
	3.14	26	39	44	50	75	85	51	77	87	65	86	111	65	85	111			
	3.55	27	41	46	51	76	87	52	76	88									
	3.79	27	41	46	52	78	88	53	78	90									
	4.35	28	42	48	54	62	92	55	62	94									
	5.07	29	39	49	34	39	58	34	39	58									
	5.50	30	43	51	37	43	63	37	43	63									

min^{-1}		AQS. n_{ak}					
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
RX57 1	1.30	1123	1215	1200	1169	1169	1169
	1.48	1297	980	973	1014	1014	1014
	1.65	873	891	891	1115	1115	1115
	1.92	818	813	818	1276	1276	1276
	2.04	897	765	770	1348	1348	1348
	2.37	616	675	595	1515	1515	
	2.64	538	576	583	1644	1644	
	2.91	557	515	522			
	3.14	490	449	459	1433	1433	
	3.55	423	431	442			
	3.79	441	393	404			
	4.35	375	329	338			
	5.07	314	888	888			
	5.50	256	818	818			

RX57, m kg	AQS.					
s	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
1	12	13	14	19	21	25
RXF: + 1.9 kg						

RX57, J_A / c_{TA}		AQS.					
		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	0.46	1.3	2.4	8.1	22.0	22.0
c_{TA}	Nm/'	0.15	0.3	0.7	3.0	7.0	7.0

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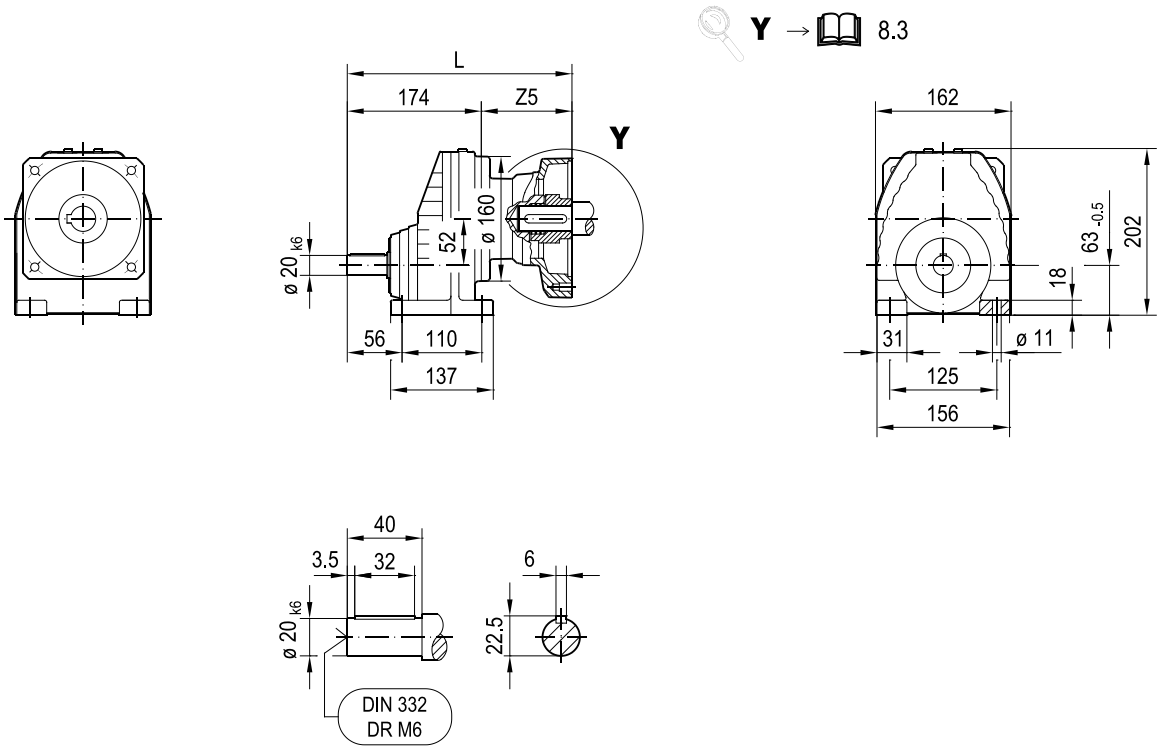
RX..57							F_{Ramax}		F_{Rapk}	
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	RX	RXF	RX	RXF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N
RX57 1	1.30	63	90	107	1169	1.9	132	132	3940	3940
	1.48	68	90	116	1014	1.4	112	112	3950	3950
	1.65	69	90	117	1115	1.2	430	430	3960	3960
	1.92	69	90	117	1276	0.94	880	880	3970	3970
	2.04	69	90	117	1348	0.85	1070	1070	3970	3970
	2.37	69	90	117	1515	0.64	1500	1500	3980	3980
	2.64	69	90	117	1644	0.55	1810	1810	3980	3980
	2.91	67	90	114	1546	0.44	2170	2170	3980	3980
	3.14	65	90	111	1433	0.42	2320	2320	3990	3990
	3.55	69	90	117	1268	0.35	2420	2420	3990	3990
	3.79	69	90	117	1187	0.32	2480	2480	3990	3990
	4.35	68	90	116	1034	0.26	2640	2640	4000	4000
	5.07	36	54	61	888	0.21	3030	3030	4210	4210
	5.50	39	58	66	818	0.18	3100	3100	4190	4190

RX..57				c_{TG}	
		n_{epk}	η	RX	RXF
	i	min^{-1}	%	Nm/'	Nm/'
RX57 1	1.30	2483	98	4.2	4.2
	1.48	2827	98	4.2	4.2
	1.65	3151	98	4.2	4.2
	1.92	3667	98	4.2	4.2
	2.04	3896	98	4.2	4.2
	2.37	4500	98	4.2	4.2
	2.64	4500	98	4.2	4.2
	2.91	4500	98	4.2	4.2
	3.14	4500	98	4.2	4.2
	3.55	4500	98	4.2	4.2
	3.79	4500	98	4.2	4.2
	4.35	4500	98	4.2	4.2
	5.07	4500	98	4.2	4.2
	5.50	4500	98	4.2	4.2

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01 013 00 21

RX57..

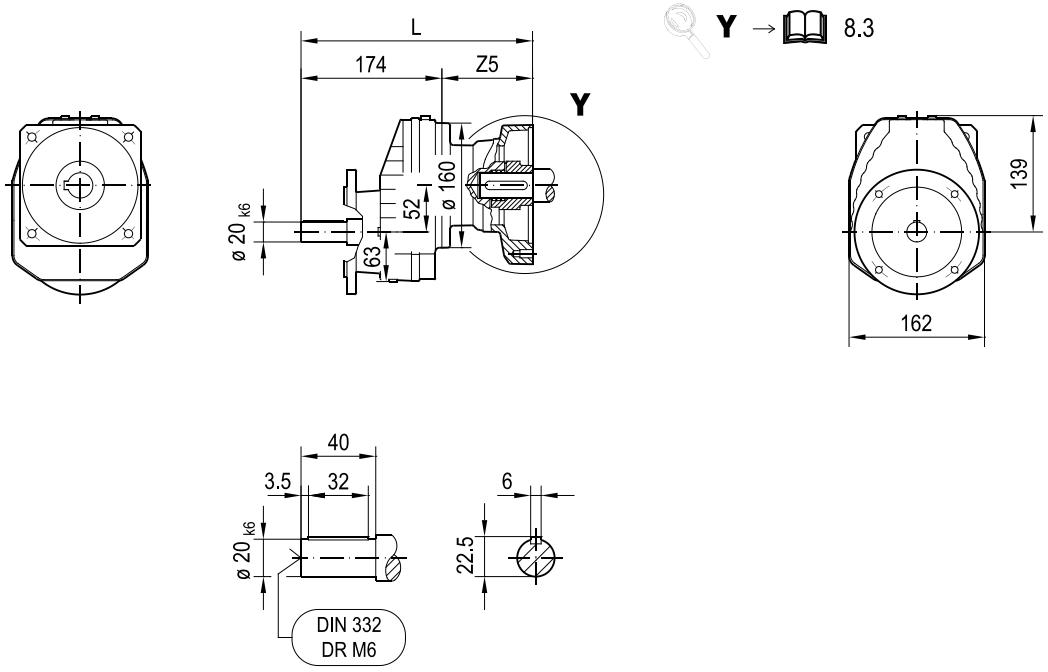


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	224	241	247	251	254	260	254	259	283	308	308	320

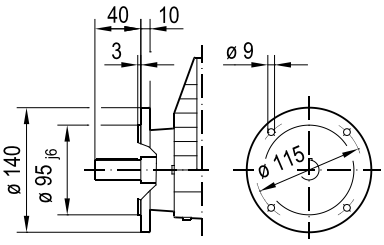
27788644/EN – 02/2024

01 014 00 21

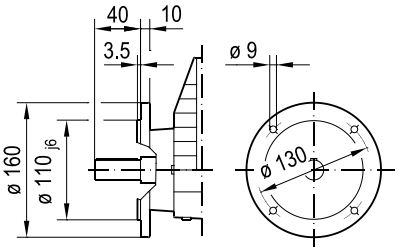
RXF57..



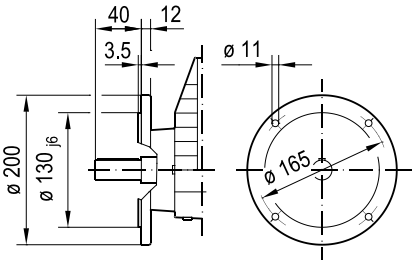
ø 140



ø 160



ø 200



(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	224	241	247	251	254	260	254	259	283	308	308	320

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8.1.2 RX67 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$																	
	i	80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6			160/1			190/1,3-6		
RX67 1	1.40	22	23	37	42	43	62	43	62	73	91	125	155	104	131	177	104	131	177
	1.61	23	26	39	45	49	71	46	69	78	97	136	165	114	144	194	114	144	194
	1.86	25	30	43	48	57	82	49	74	83	102	148	173	126	158	215	126	158	215
	2.04	26	33	44	49	63	83	51	77	87	106	156	180	134	167	230	134	167	230
	2.40	27	39	46	53	74	90	54	81	92	113	163	192	123	163	210	123	163	210
	2.54	28	42	48	54	78	92	55	83	94	115	161	196	118	161	200	118	161	200
	2.89	29	44	49	56	84	95	57	86	97	106	142	180	106	142	180			
	3.20	30	45	51	57	86	97	59	89	100	100	136	170	100	136	170			
	3.77	31	47	53	60	90	102	61	92	104	87	119	148	87	119	148			
	4.30	33	50	56	63	94	107	64	94	109									
	4.53	33	50	56	63	95	107	64	96	109									
	5.18	34	51	58	64	76	109	66	76	112									
	6.07	35	47	60	41	47	70	41	47	70									

min^{-1}		AQS. n_{ak}					
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
RX67 1	1.40	1014	1071	1086	1014	1100	1100
	1.61	1012	894	919	870	969	969
	1.86	763	753	774	790	828	828
	2.04	696	765	691	706	755	755
	2.40	729	608	633	613	1150	1150
	2.54	618	579	598	583	1362	1362
	2.89	529	484	502	765	1557	
	3.20	469	469	438	894	1406	
	3.77	430	377	395	1194	1194	
	4.30	347	328	342			
	4.53	336	313	329			
	5.18	286	293	278			
	6.07	255	741	741			

RX67, m kg	AQS.					
s	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
1	14	15	17	22	24	28
RXF: + 4.0 kg						

RX67, J_A / c_{TA}		AQS.					
		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	0.46	1.3	2.4	8.1	22.0	22.0
c_{TA}	Nm/'	0.15	0.3	0.7	3.0	7.0	7.0

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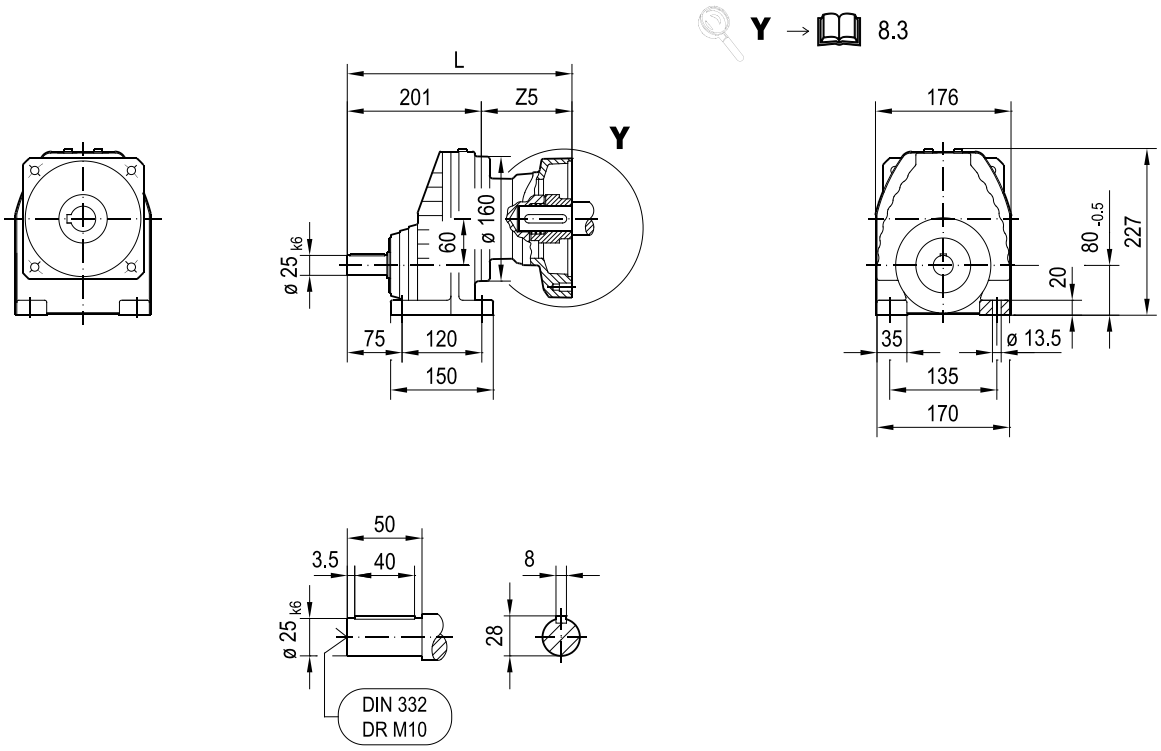
RX..67							F_{Ramax}		F_{Rapk}	
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	RX	RXF	RX	RXF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N
RX67 1	1.40	104	156	177	1100	3.2	205	205	5450	5450
	1.61	114	171	194	969	2.6	245	245	5380	5380
	1.86	126	187	210	828	2.1	225	225	5300	5300
	2.04	134	186	225	755	1.8	230	230	5310	5310
	2.40	123	163	205	1150	1.4	1530	1530	5460	5460
	2.54	118	162	200	1362	1.3	2000	2000	5470	5470
	2.89	106	142	180	1557	1.0	2640	2640	5590	5590
	3.20	100	142	170	1406	0.88	2800	2800	5590	5590
	3.77	87	130	148	1194	0.69	3090	3090	5660	5660
	4.30	80	109	136	1047	0.47	3300	3300	5770	5770
	4.53	82	110	139	993	0.42	3350	3350	5760	5760
	5.18	75	110	128	869	0.34	3580	3580	5760	5760
	6.07	43	64	73	741	0.28	4000	4000	5970	5970

RX..67				c_{TG}	
		n_{epk}	η	RX	RXF
	i	min^{-1}	%	Nm/'	Nm/'
RX67 1	1.40	2507	99	8.1	8.1
	1.61	2883	99	8.1	8.1
	1.86	3330	99	8.1	8.1
	2.04	3653	99	8.1	8.1
	2.40	4297	99	8.1	8.1
	2.54	4500	99	8.1	8.1
	2.89	4500	98	8.1	8.1
	3.20	4500	98	8.1	8.1
	3.77	4500	98	8.1	8.1
	4.30	4500	98	8.1	8.1
	4.53	4500	98	8.1	8.1
	5.18	4500	98	8.1	8.1
	6.07	4500	98	8.1	8.1

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RX67..

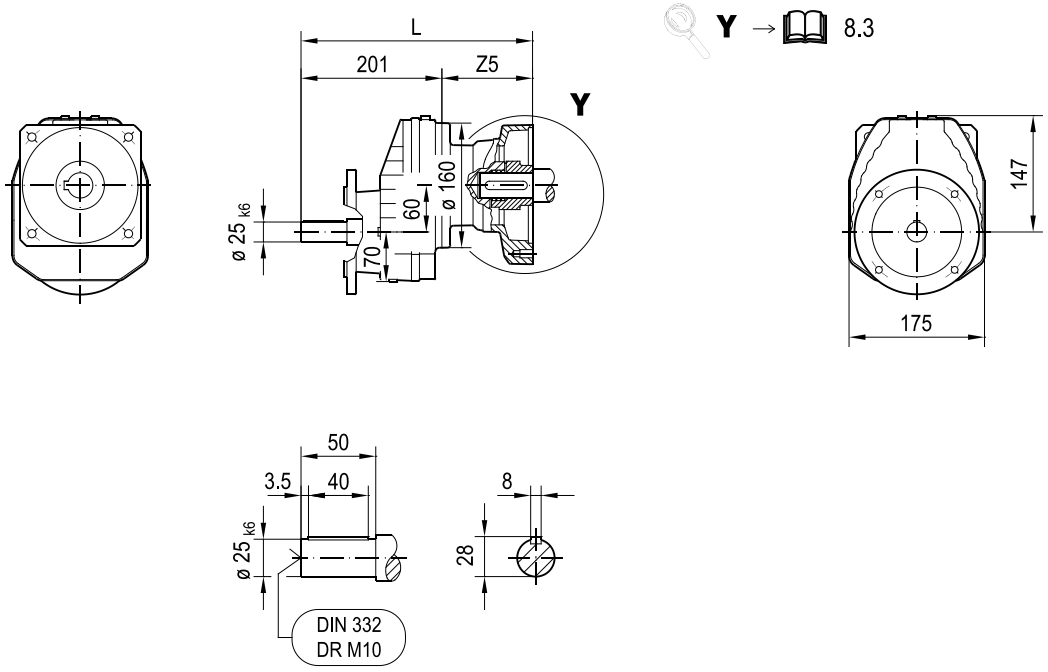


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	251	268	274	278	281	287	281	286	310	335	335	347

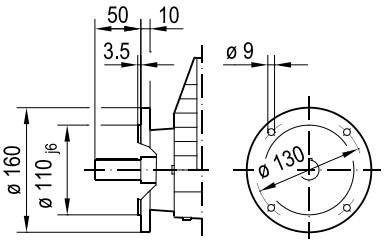
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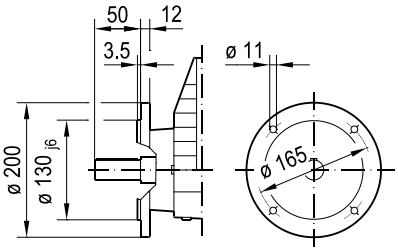
RXF67..



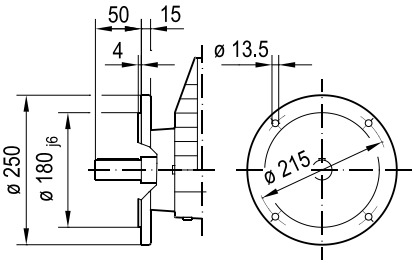
ø 160



ø 200



ø 250



(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	251	268	274	278	281	287	281	286	310	335	335	347

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8.1.3 RX77 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$																	
	i	80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6			160/1			190/1,3-6		
RX77 1	1.42	23	23	39	43	43	62	51	67	87	110	157	187	155	162	265	155	232	265
	1.67	27	27	46	51	51	73	55	76	94	118	177	200	173	183	295	173	259	295
	1.88	29	30	49	57	57	83	58	84	99	124	186	210	187	200	320	187	280	320
	2.13	31	35	53	60	65	94	61	92	104	130	195	220	200	215	340	200	300	340
	2.43	32	40	54	62	74	105	64	96	109	136	205	230	215	235	365	215	305	365
	2.70	34	44	58	65	83	111	67	101	114	142	215	240	215	250	365	215	250	365
	3.08	36	51	61	68	95	116	70	105	119	148	220	250	193	255	330	193	255	330
	3.25	36	53	61	69	100	117	71	107	121	150	225	255	182	245	310	182	245	310
	3.70	37	56	63	71	107	121	73	110	124	153	194	260	153	190	260			
	4.04	38	57	65	72	108	122	74	111	126	143	200	245	143	199	245			
	4.73	39	59	66	75	113	128	77	116	131	123	166	210	123	163	210			
	5.35	41	62	70	79	119	134	81	122	138									
	5.63	41	62	70	79	119	134	81	122	138									
	6.41	42	63	71	81	101	138	83	101	141									
	7.47	43	57	73	50	57	85	50	57	85									
	8.00	43	62	73	53	62	90	53	62	90									

min^{-1}		AQS. n_{ak}					
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
RX77 1	1.42	1524	1524	1092	1000	1120	1120
	1.67	1090	1240	910	844	946	946
	1.88	867	755	798	750	840	840
	2.13	695	657	695	662	770	770
	2.43	683	634	605	580	687	687
	2.70	567	563	544	526	715	715
	3.08	455	481	468	455	971	971
	3.25	477	458	446	434	1145	1145
	3.70	435	411	400	408	1216	
	4.04	371	376	366	507	1114	
	4.73	336	309	302	751	951	
	5.35	277	275	269			
	5.63	266	265	259			
	6.41	229	226	222			
	7.47	203	602	602			
	8.00	190	563	563			

RX77, m kg							
		AQS.					
s		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
1		24	25	27	32	34	38
RXF: + 2.3 kg							

RX77, J_A / c_{TA}		AQS.					
		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	0.46	1.3	2.4	8.1	22.0	22.0
c_{TA}	Nm/'	0.15	0.3	0.7	3.0	7.0	7.0

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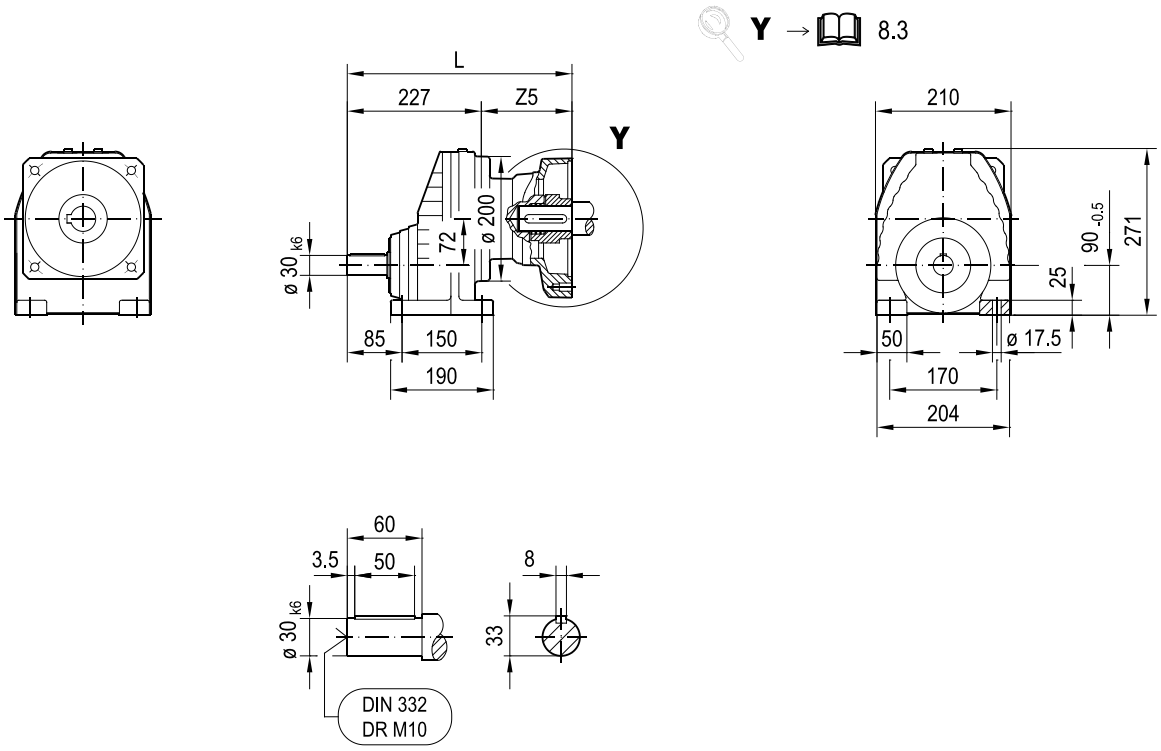
RX..77							F_{Ramax}		F_{Rapk}	
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	RX	RXF	RX	RXF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N
RX77 1	1.42	155	230	260	1120	7.6	240	240	10000	10000
	1.67	173	255	290	946	6.0	240	240	10000	10000
	1.88	187	280	315	840	5.0	255	255	10000	10000
	2.13	200	300	340	770	4.1	360	360	10000	10000
	2.43	215	305	365	687	3.4	425	425	10000	10000
	2.70	215	285	365	763	3.0	1030	1030	10000	10000
	3.08	193	260	325	1156	2.5	2490	2490	10000	10000
	3.25	182	260	305	1385	2.3	3140	3140	10000	10000
	3.70	153	215	260	1216	1.9	4280	4280	10000	10000
	4.04	143	210	240	1114	1.6	4490	4490	10000	10000
	4.73	123	184	205	951	1.3	4890	4890	10000	10000
	5.35	103	154	175	841	0.90	5240	5240	10000	10000
	5.63	110	165	187	799	0.81	5300	5300	10000	10000
	6.41	103	154	175	702	0.66	5600	5600	10000	10000
	7.47	53	79	90	602	0.53	6200	6200	10000	10000
	8.00	57	85	97	563	0.46	6330	6330	10000	10000

RX..77				c_{TG}	
		n_{epk}	η	RX	RXF
	i	min^{-1}	%	Nm/'	Nm/'
RX77 1	1.42	2164	98	17	17
	1.67	2545	99	17	17
	1.88	2865	99	17	17
	2.13	3246	99	17	17
	2.43	3703	99	17	17
	2.70	4114	99	17	17
	3.08	4500	99	17	17
	3.25	4500	98	17	17
	3.70	4500	98	17	17
	4.04	4500	98	17	17
	4.73	4500	98	17	17
	5.35	4500	98	17	17
	5.63	4500	98	17	17
	6.41	4500	98	17	17
	7.47	4500	97	17	17
	8.00	4500	97	17	17

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RX77..

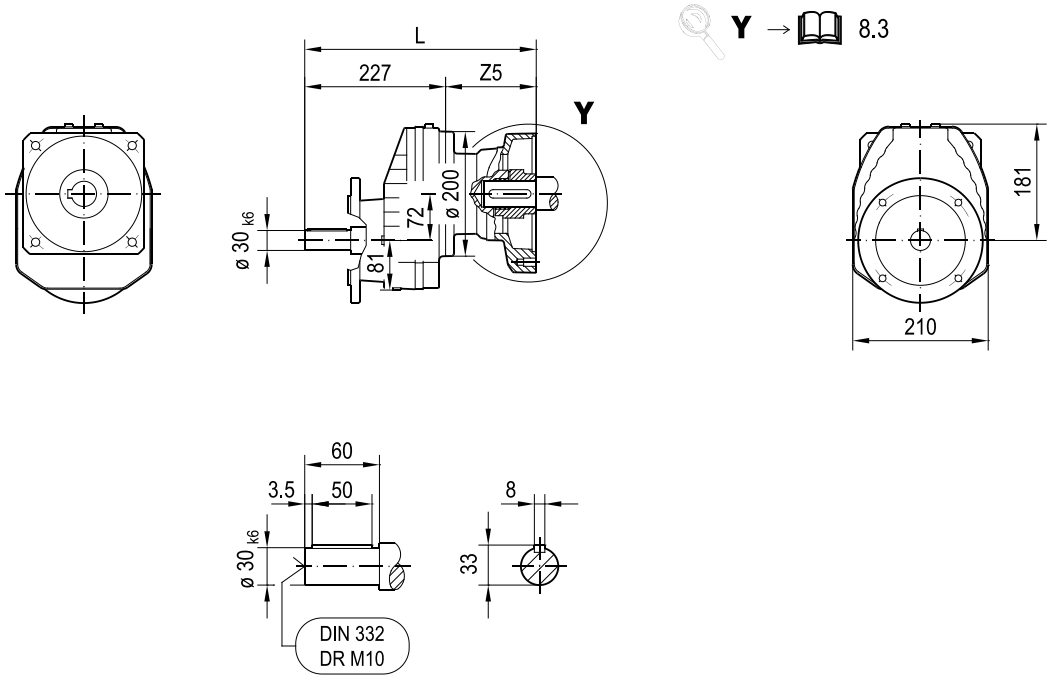


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	271	287	293	297	300	306	300	305	328	353	353	365

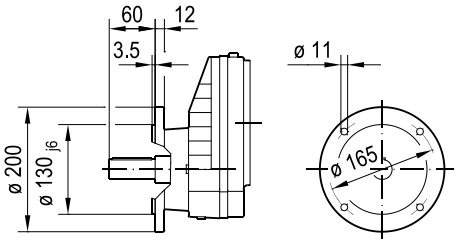
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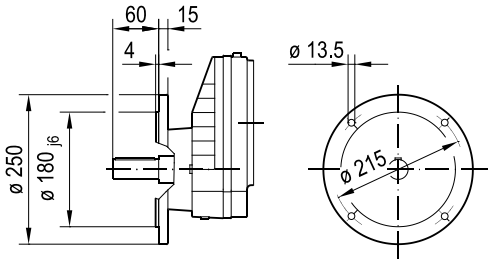
RXF77..



ø 200



ø 250



(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	271	287	293	297	300	306	300	305	328	353	353	365

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8.1.4 RX87 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$														
	i	100/3-7			115/1,3-6			140/1,3,5-6			160/1			190/1,3-6		
RX87 1	1.39							143	170	225	155	179	265	235	295	370
	1.60	48	48	70	71	77	101	151	196	255	179	205	305	250	340	425
	1.93	58	58	84	78	94	123	165	230	280	215	240	365	270	405	460
	2.15	65	65	94	81	105	137	172	250	290	240	260	410	280	420	475
	2.48	76	76	109	86	121	146	182	275	310	275	290	470	295	445	500
	2.76	84	84	121	89	132	151	188	280	320	305	315	520	305	460	520
	3.09	90	94	136	92	138	156	195	295	330	320	340	545	320	480	545
	3.48	94	107	153	96	144	163	200	300	340	330	370	560	330	495	560
	3.78	96	116	163	98	147	167	205	310	350	305	390	520	305	390	520
	4.50	101	138	172	103	155	175	215	325	365	290	410	495	290	410	495
	5.07	103	155	175	105	158	179	215	300	365	250	290	425			
	5.56	105	158	179	107	161	182	220	315	375	225	305	385			
	6.45	107	161	182	110	165	187	192	260	325	192	255	325			
	7.20	110	165	187	112	168	190									
	7.63	111	167	189	113	170	192									
	8.65	113	153	192	115	153	196									

min^{-1}		AQS. n_{ak}				
	i	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
RX87 1	1.39			1036	1561	1086
	1.60	1561	888	881	1561	875
	1.93	1561	725	731	1560	767
	2.15	1561	684	660	1144	716
	2.48	1048	581	565	774	621
	2.76	652	529	514	558	558
	3.09	479	482	453	453	453
	3.48	405	411	425	408	408
	3.78	386	392	392	540	540
	4.50	311	316	316	591	591
	5.07	280	282	318	864	
	5.56	254	257	279	809	
	6.45	228	219	411	698	
	7.20	200	204			
	7.63	189	191			
	8.65	164	166			

RX87, m kg					
	AQS.				
s	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
1	41	43	49	52	56
RXF: + 5.0 kg					

RX87, J_A / c_{TA}		AQS.				
		100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	1.3	2.4	8.1	22.0	22.0
c_{TA}	Nm/'	0.3	0.7	3.0	7.0	7.0

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RX..87							F_{Ramax}		F_{Rapk}	
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	RX	RXF	RX	RXF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N
RX87 1	1.39	290	435	490	1029	25	74	74	12700	12700
	1.60	315	470	535	888	19	74	74	12500	12500
	1.93	355	530	600	762	15	185	185	12300	12300
	2.15	385	540	655	656	13	42	42	12300	12300
	2.48	405	540	685	633	11	470	470	12300	12300
	2.76	405	535	685	681	9.4	1200	1200	12400	12400
	3.09	405	540	685	731	8.1	2030	2030	12400	12400
	3.48	405	540	685	784	6.9	2810	2810	12400	12400
	3.78	305	455	515	1190	6.2	5050	5050	12700	12700
	4.50	290	435	490	1000	4.8	5520	5520	12800	12800
	5.07	250	375	425	888	3.9	5990	5990	13000	13000
	5.56	225	335	380	809	3.4	6330	6330	13000	13000
	6.45	192	285	325	698	2.7	6860	6860	13000	13000
	7.20	140	210	235	625	1.8	7380	7380	13000	13000
	7.63	149	220	250	590	1.6	7500	7500	13000	13000
	8.65	139	205	235	520	1.3	7890	7890	13000	13000

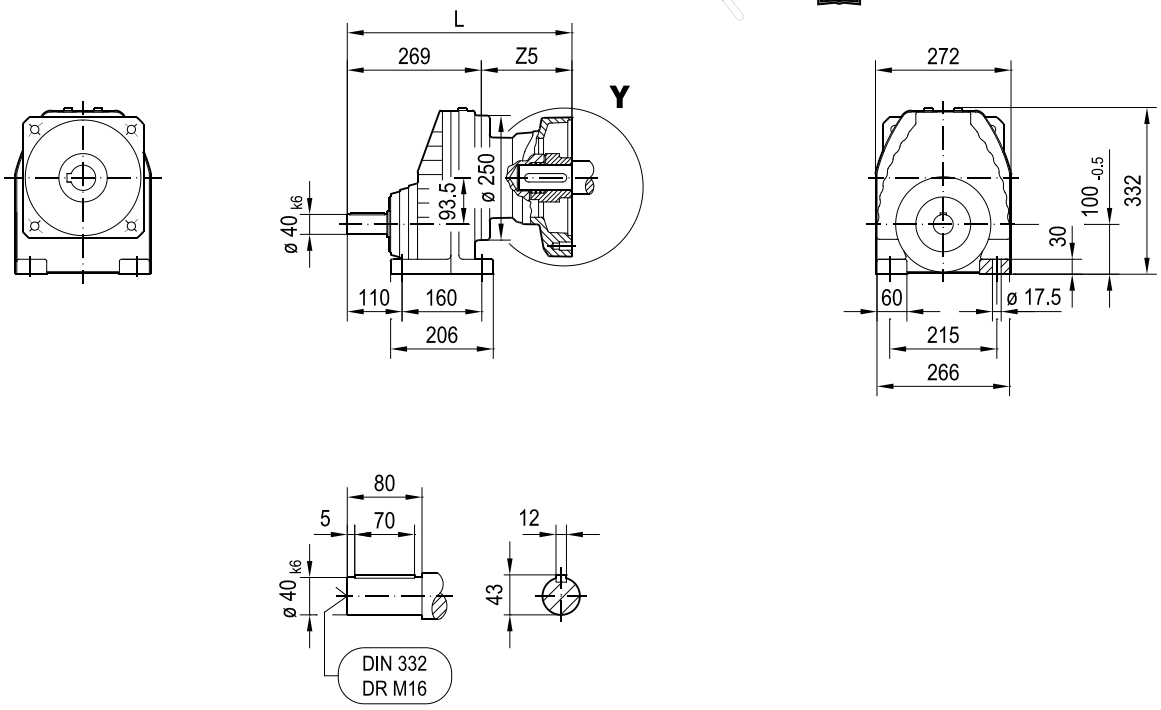
RX..87				c_{TG}	
		n_{epk}	η	RX	RXF
	i	min^{-1}	%	Nm/'	Nm/'
RX87 1	1.39	2170	98	34	34
	1.60	2498	99	34	34
	1.93	3013	99	34	34
	2.15	3356	99	34	34
	2.48	3871	99	34	34
	2.76	4308	99	34	34
	3.09	4500	99	34	34
	3.48	4500	99	34	34
	3.78	4500	98	34	34
	4.50	4500	98	34	34
	5.07	4500	98	34	34
	5.56	4500	98	34	34
	6.45	4500	98	34	34
	7.20	4500	98	34	34
	7.63	4500	98	34	34
	8.65	4500	98	34	34

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RX87..

Y → 8.3

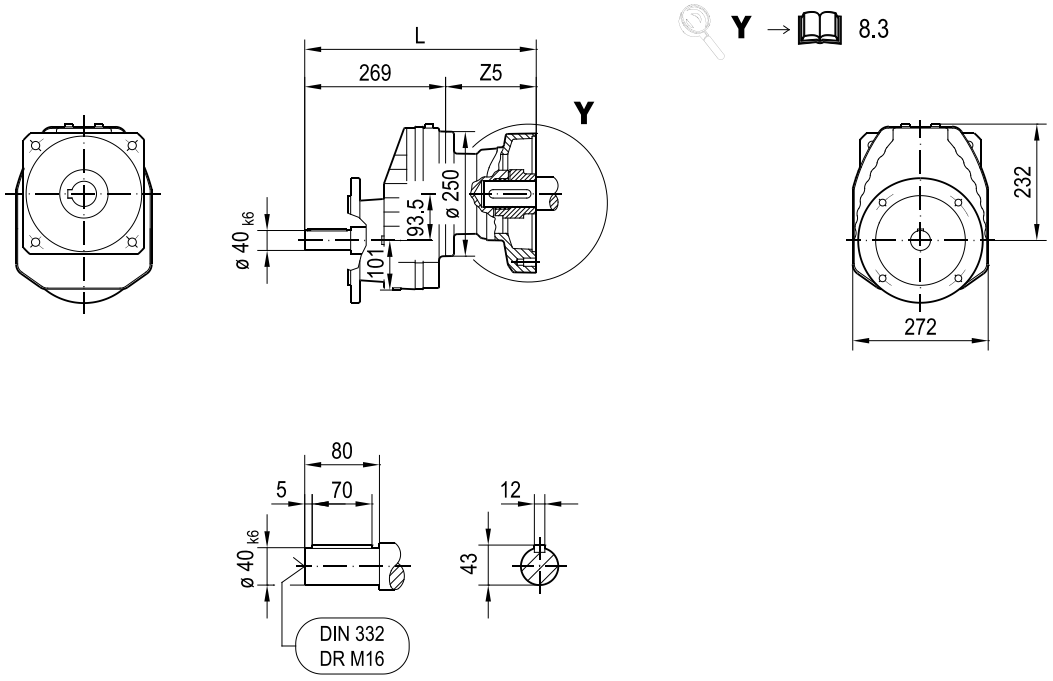


(→ 7.3.11)	AQS.										
	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	55	60.5	65	68	74	68	73	95.5	121	121	133
L	324	330	334	337	343	337	342	365	390	390	402

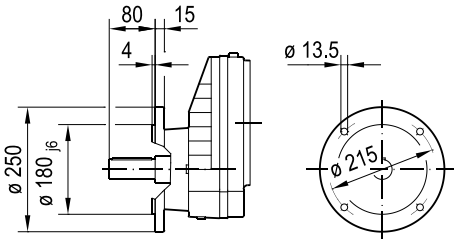
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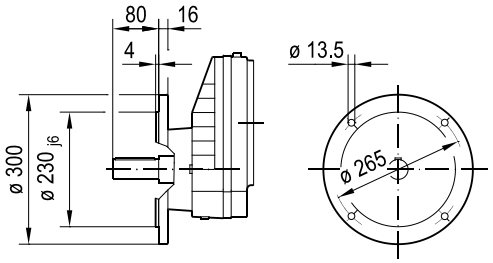
RXF87..



ø 250



ø 300



(→ 7.3.11)	AQS.										
	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	55	60.5	65	68	74	68	73	95.5	121	121	133
L	324	330	334	337	343	337	342	365	390	390	402

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8.1.5 RX97 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$								
	i	140/1,3,5-6			160/1			190/1,3-6		
RX97 1	1.42	157	172	230	157	181	265	260	300	375
	1.64	182	199	265	182	210	310	300	350	435
	1.96	199	235	315	215	250	365	330	420	520
	2.24	205	270	350	250	280	425	345	480	585
	2.64	220	305	375	295	320	500	365	550	620
	2.92	230	335	390	325	345	555	380	570	645
	3.30	235	355	400	365	380	620	390	585	665
	3.64	245	370	415	400	405	680	400	600	680
	4.04	250	375	425	415	435	705	415	625	705
	4.52	255	385	435	425	465	725	425	640	725
	4.91	265	400	450	395	490	670	395	490	670
	5.79	270	405	460	420	540	715	420	540	715
	6.56	275	370	470	300	360	510			
	7.16	260	390	440	260	380	440			
	8.23	225	315	385	225	310	385			

min^{-1}		AQS. n_{ak}		
	i	140/1,3,5-6	160/1	190/1,3-6
RX97 1	1.42	1401	1540	1380
	1.64	890	1540	957
	1.96	719	1540	724
	2.24	705	1540	638
	2.64	583	1095	572
	2.92	493	818	490
	3.30	467	564	448
	3.64	387	412	412
	4.04	366	347	347
	4.52	343	314	314
	4.91	287	405	405
	5.79	263	314	314
	6.56	238	686	
	7.16	282	628	
	8.23	392	547	

RX97, m kg			
	AQS.		
s	140/1,3,5-6	160/1	190/1,3-6
1	73	76	80
RXF: + 8.6 kg			

RX97, J_A / c_{TA}		AQS.		
		140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	8.1	22.0	22.0
c_{TA}	Nm/'	3.0	7.0	7.0

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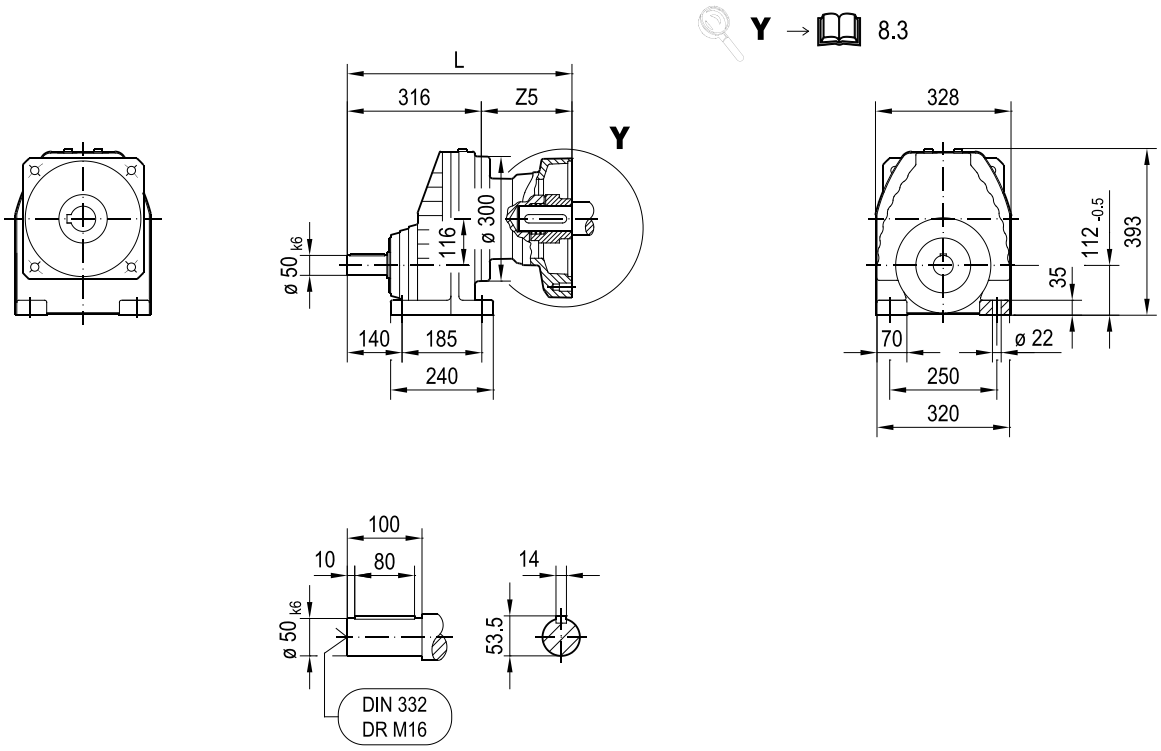
RX..97							F_{Ramax}		F_{Rapk}	
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	RX	RXF	RX	RXF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N
RX97 1	1.42[1)]	455	680	770	1014	61	132	132	20000	20000
	1.64[1)]	505	755	850	860	51	51	51	20000	20000
	1.96	570	800	960	714	41	19	19	20000	20000
	2.24	595	800	1010	692	33	545	545	20000	20000
	2.64	595	800	1010	795	28	2020	2020	20000	20000
	2.92	595	800	1010	849	24	2890	2890	20000	20000
	3.30	595	800	1010	903	20	3820	3820	20000	20000
	3.64	595	800	1010	953	18	4610	4610	20000	20000
	4.04	595	800	1010	1007	15	5450	5450	20000	20000
	4.52	595	800	1010	996	13	6210	6210	20000	20000
	4.91	395	590	670	916	12	7240	7240	20000	20000
	5.79	420	630	710	777	9.2	7650	7650	20000	20000
	6.56	300	450	510	686	5.8	8510	8510	20000	20000
	7.16	260	390	440	628	5.1	8960	8960	20000	20000
	8.23	225	335	380	547	4.0	9570	9570	20000	20000

RX..97				c_{TG}	
		n_{epk}	η	RX	RXF
	i	min^{-1}	%	Nm/'	Nm/'
RX97 1	1.42	2187	98	58	58
	1.64	2526	98	58	58
	1.96	3019	98	58	58
	2.24	3450	99	58	58
	2.64	4066	99	58	58
	2.92	4497	99	58	58
	3.30	4500	99	58	58
	3.64	4500	99	58	58
	4.04	4500	99	58	58
	4.52	4500	99	58	58
	4.91	4500	98	58	58
	5.79	4500	98	58	58
	6.56	4500	98	58	58
	7.16	4500	98	58	58
	8.23	4500	98	58	58

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RX97..

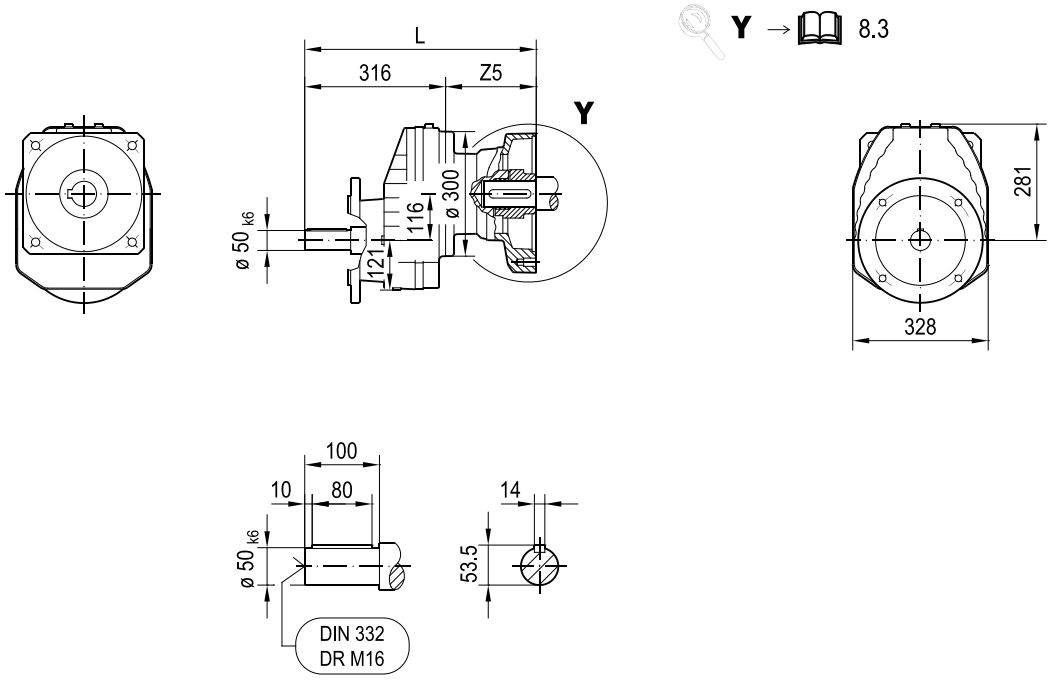


(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	90.5	116	116	128				
L	407	432	432	444				

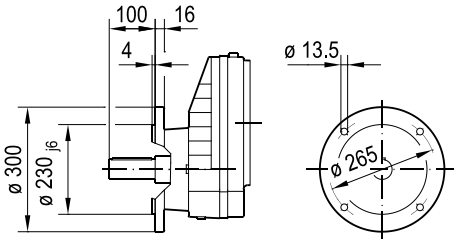
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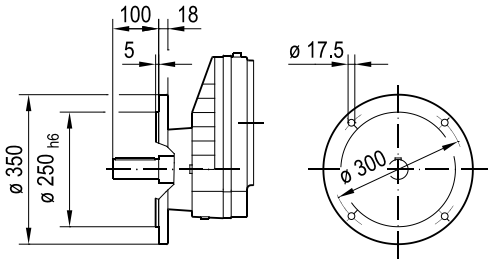
RXF97..



ø 300



ø 350



(→ 📖 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	90.5	116	116	128				
L	407	432	432	444				

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8.1.6 RX107 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$								
	i	140/1,3,5-6			160/1			190/1,3-6		
RX107 1	1.44							265	305	380
	1.71	189	205	275	189	215	320	315	365	450
	1.95	205	230	315	215	240	365	340	415	515
	2.30	220	265	370	255	275	435	365	490	610
	2.64	230	290	390	290	305	495	385	565	655
	3.07	245	330	415	340	340	580	405	610	690
	3.38	250	350	425	360	360	610	415	625	705
	3.81	260	380	440	390	390	665	425	640	725
	4.20	265	400	450	415	415	705	435	655	740
	4.65	270	405	460	440	440	750	450	675	765
	5.19	280	420	475	465	470	790	460	690	780
	5.61	285	430	485	455	485	775	455	485	775
	6.63	295	445	500	460	525	780	460	525	780

min^{-1}		AQS. n_{ak}		
	i	140/1,3,5-6	160/1	190/1,3-6
RX107 1	1.44			1459
	1.71	1000	1459	953
	1.95	774	1459	779
	2.30	648	1459	639
	2.64	580	1330	530
	3.07	466	840	456
	3.38	450	701	423
	3.81	381	538	391
	4.20	357	436	355
	4.65	335	355	318
	5.19	277	276	287
	5.61	257	301	301
	6.63	213	270	270

RX107, m kg			
	AQS.		
s	140/1,3,5-6	160/1	190/1,3-6
1	105	110	115
RXF: + 17 kg			

RX107, J_A / c_{TA}		AQS.		
		140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	8.1	22.0	22.0
c_{TA}	Nm/'	3.0	7.0	7.0

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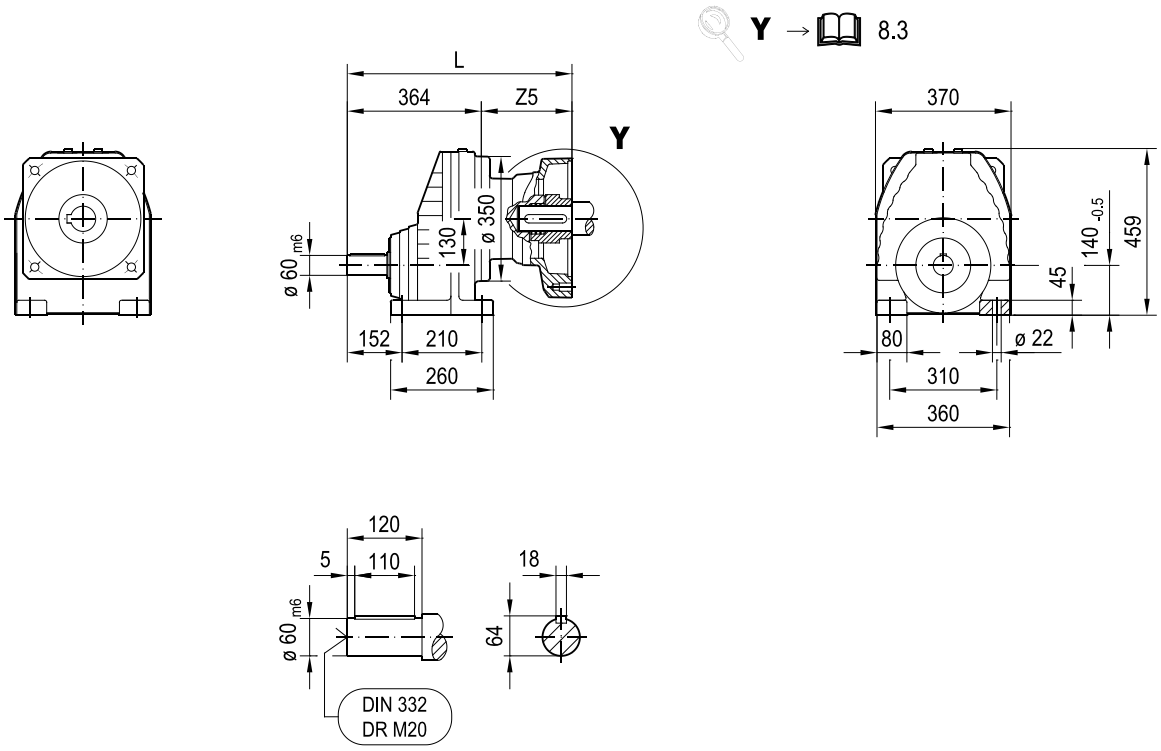
RX..107							F_{Ramax}		F_{Rapk}	
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	RX	RXF	RX	RXF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N
RX107 1	1.44[1)]	645	960	1090	1042	111	315	315	30000	30000
	1.71[1)]	705	1050	1190	906	84	345	345	30000	30000
	1.95	765	1090	1300	805	70	420	420	30000	30000
	2.30	830	1110	1410	722	57	760	760	30000	30000
	2.64	830	1120	1410	792	47	1850	1850	30000	30000
	3.07	830	1130	1410	870	39	3300	3300	30000	30000
	3.38	830	1130	1410	920	34	4190	4190	30000	30000
	3.81	830	1140	1410	976	29	5260	5260	30000	30000
	4.20	830	1150	1410	1021	25	6140	6140	30000	30000
	4.65	695	1040	1180	968	19	7380	7380	30000	30000
	5.19	695	1040	1180	867	17	7780	7780	30000	30000
	5.61	455	680	770	802	15	9040	9040	30000	30000
	6.63	460	690	780	679	12	9660	9660	30000	30000

RX..107				c_{TG}	
		n_{epk}	η	RX	RXF
	i	min^{-1}	%	Nm/'	Nm/'
RX107 1	1.44	2101	98	93	93
	1.71	2495	98	93	93
	1.95	2845	98	93	93
	2.30	3356	98	93	93
	2.64	3852	99	93	93
	3.07	4479	99	93	93
	3.38	4500	99	93	93
	3.81	4500	99	93	93
	4.20	4500	99	93	93
	4.65	4500	99	93	93
	5.19	4500	99	93	93
	5.61	4500	98	93	93
	6.63	4500	98	93	93

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RX107..

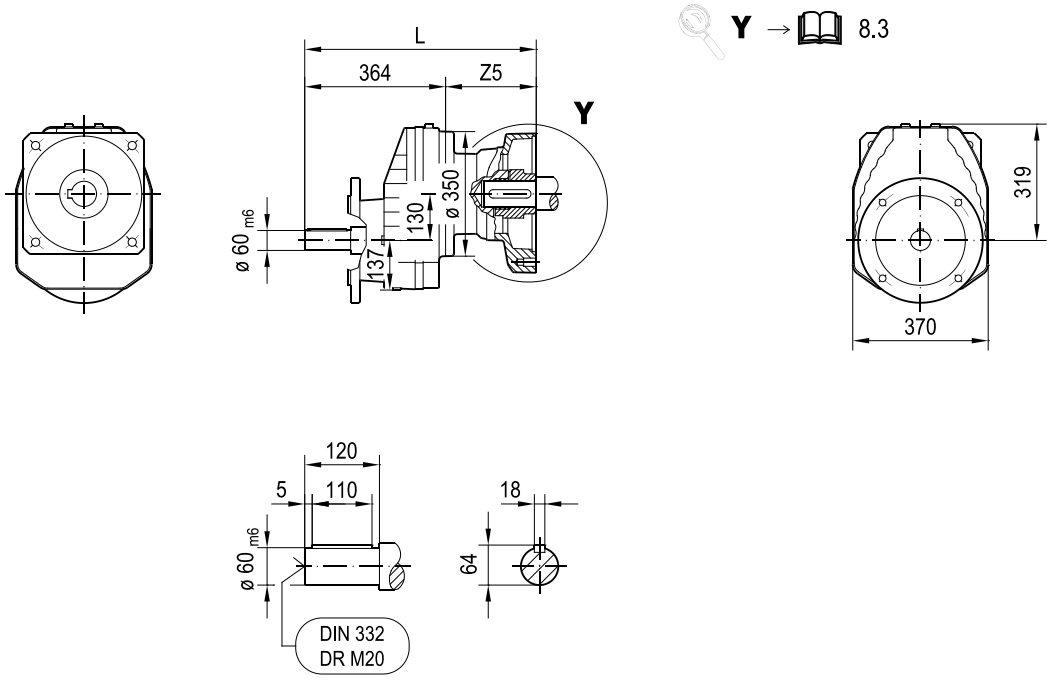


(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	84.5	110	110	122				
L	449	474	474	486				

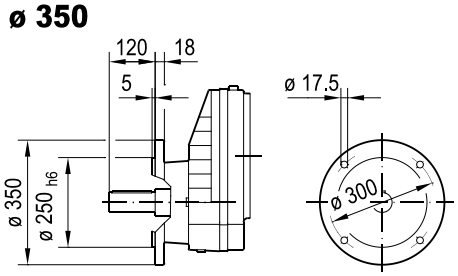
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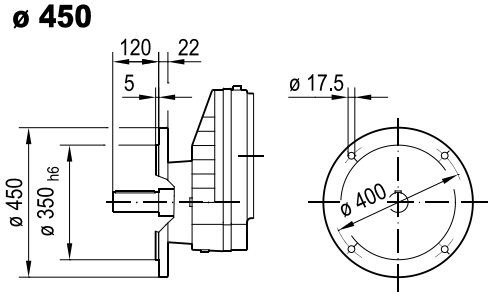
RXF107..



ø 350



ø 450



(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	84.5	110	110	122				
L	449	474	474	486				

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8.2 R..AQS.. – Selection tables and dimension sheets

8.2.1 R07 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$								
	i	50/1-2			80/1,3-5			100/3-7		
R07 2	3.21	21	21	28	28	42	48	31	46	53
	3.68	24	24	32	30	45	51	33	46	56
	3.95	26	26	34	31	46	53	34	46	58
	4.57	30	30	40	32	46	54	36	46	61
	4.92	33	33	43	33	46	56	37	46	63
	5.76	35	39	50	35	46	60	40	46	68
	6.83	37	46	59	37	46	63	43	46	73
	7.48	38	46	65	38	46	65	43	46	73
	7.85	49	51	68	49	51	83	49	51	83
	9.01	50	51	78	50	51	85	50	51	85
	9.67	50	51	84	50	51	85	50	51	85
	11.18	50	51	85	50	51	85	50	51	85
	12.06	50	51	85	50	51	85	50	51	85
	14.12	50	51	85	50	51	85	50	51	85
	16.73	50	51	85	50	51	85	50	51	85
	18.31	50	51	85	50	51	85	50	51	85
R07 3	21.73	50	51	85	50	51	85	50	51	85
	23.32	50	51	85	50	51	85	50	51	85
	26.97	50	51	85	50	51	85	50	51	85
	29.08	50	51	85	50	51	85	50	51	85
	34.05	50	51	85	50	51	85	50	51	85
	38.51	50	51	85	50	51	85	50	51	85
	40.34	50	51	85	50	51	85	50	51	85
	41.31	50	51	85	50	51	85	50	51	85
	44.16	50	51	85	50	51	85	50	51	85
	47.78	50	51	85	50	51	85	50	51	85
	51.52	50	51	85	50	51	85	50	51	85
	60.32	50	51	85	50	51	85	50	51	85
	71.47	50	51	85	50	51	85	50	51	85
	78.24	50	51	85	50	51	85	50	51	85

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min^{-1}		AQS. n_{ak}		
	i	50/1-2	80/1,3-5	100/3-7
R07 2	3.21	1206	498	545
	3.68	978	408	519
	3.95	782	370	496
	4.57	523	372	449
	4.92	335	335	429
	5.76	273	273	359
	6.83	218	218	305
	7.48	195	195	311
	7.85	169	169	169
	9.01	165	165	165
	9.67	169	169	169
	11.18	174	174	174
	12.06	177	177	177
	14.12	182	182	182
	16.73	187	187	187
	18.31	190	190	190
R07 3	21.73	154	154	154
	23.32	156	156	156
	26.97	158	158	158
	29.08	155	155	155
	34.05	132	132	132
	38.51	117	117	117
	40.34	112	112	112
	41.31	109	109	109
	44.16	102	102	102
	47.78	94	94	94
	51.52	87	87	87
	60.32	75	75	75
	71.47	63	63	63
	78.24	58	58	58

R07, m kg	AQS.		
s	50/1-2	80/1,3-5	100/3-7
2	3.8	4.2	4.8
3	4.0	4.3	5.0
RF: + - kg			

R07, J_A / c_{TA}		AQS.		
		50/1-2	80/1,3-5	100/3-7
J_A 10^{-4}	kgm^2	0.41	0.46	1.3
c_{TA}	Nm/'	0.15	0.15	0.3

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R..07							F_{Ramax}		F_{Rapk}	
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	R	RF	R	RF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N
R07 2	3.21	31	46	53	564	0.24	495	415	1530	1250
	3.68	33	46	56	538	0.19	500	420	1530	1250
	3.95	34	46	58	514	0.17	505	425	1530	1250
	4.57	36	46	61	466	0.13	520	435	1530	1250
	4.92	37	46	63	445	0.12	530	445	1530	1250
	5.76	40	46	68	373	0.090	530	440	1530	1250
	6.83	43	46	73	316	0.070	535	450	1530	1250
	7.48	43	46	73	324	0.060	595	500	1530	1250
	7.85	49	51	83	176	0.20	645	585	1500	1220
	9.01	50	51	85	172	0.16	685	620	1500	1220
	9.67	50	51	85	175	0.14	710	645	1500	1220
	11.18	50	51	85	181	0.11	760	695	1500	1220
	12.06	50	51	85	183	0.10	790	720	1500	1220
	14.12	50	51	85	188	0.080	850	780	1500	1220
	16.73	50	51	85	194	0.060	920	840	1500	1220
	18.31	50	51	85	196	0.050	960	880	1500	1220
R07 3	21.73	50	51	85	164	0.16	1040	950	1500	1220
	23.32	50	51	85	164	0.14	1080	980	1500	1220
	26.97	50	51	85	164	0.11	1150	1050	1500	1220
	29.08	50	51	85	155	0.10	1190	1080	1500	1220
	34.05	50	51	85	132	0.080	1270	1160	1500	1220
	38.51	50	51	85	117	0.14	1340	1220	1500	1220
	40.34	50	51	85	112	0.060	1370	1230	1500	1220
	41.31	50	51	85	109	0.13	1380	1230	1500	1220
	44.16	50	51	85	102	0.050	1420	1230	1500	1220
	47.78	50	51	85	94	0.10	1470	1230	1500	1220
	51.52	50	51	85	87	0.090	1510	1230	1500	1220
	60.32	50	51	85	75	0.070	1510	1230	1500	1220
	71.47	50	51	85	63	0.060	1510	1230	1500	1220
	78.24	50	51	85	58	0.050	1510	1230	1500	1220

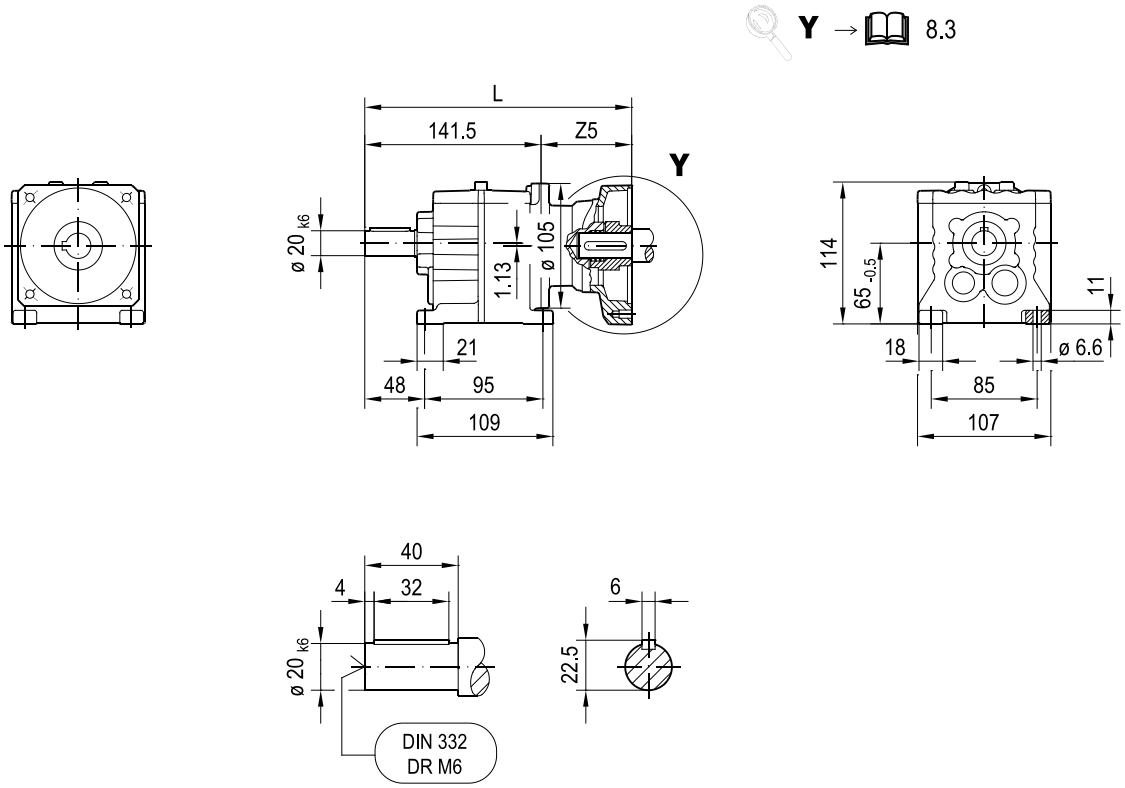
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R..07				c_{TG}	
	i	n_{epk} min^{-1}	η %	R Nm/'	RF Nm/'
R07 2	3.21	3872	97	2.8	2.7
	3.68	4439	97	2.8	2.7
	3.95	4500	97	2.8	2.7
	4.57	4500	97	2.8	2.7
	4.92	4500	97	2.8	2.7
	5.76	4500	97	2.8	2.7
	6.83	4500	97	2.8	2.7
	7.48	4500	97	2.8	2.7
	7.85	4500	96	3.9	3.7
	9.01	4500	96	3.9	3.7
	9.67	4500	96	3.9	3.7
	11.18	4500	96	3.9	3.7
	12.06	4500	96	3.9	3.7
	14.12	4500	96	3.9	3.7
	16.73	4500	96	3.9	3.7
	18.31	4500	96	3.9	3.7
R07 3	21.73	4500	93	4.1	3.9
	23.32	4500	93	4.1	3.9
	26.97	4500	93	4.1	3.9
	29.08	4500	93	4.1	3.9
	34.05	4500	93	4.1	3.9
	38.51	4500	91	4.1	3.9
	40.34	4500	92	4.1	3.9
	41.31	4500	91	4.1	3.9
	44.16	4500	92	4.1	3.9
	47.78	4500	90	4.1	3.9
	51.52	4500	90	4.1	3.9
	60.32	4500	90	4.1	3.9
	71.47	4500	89	4.1	3.9
	78.24	4500	88	4.1	3.9

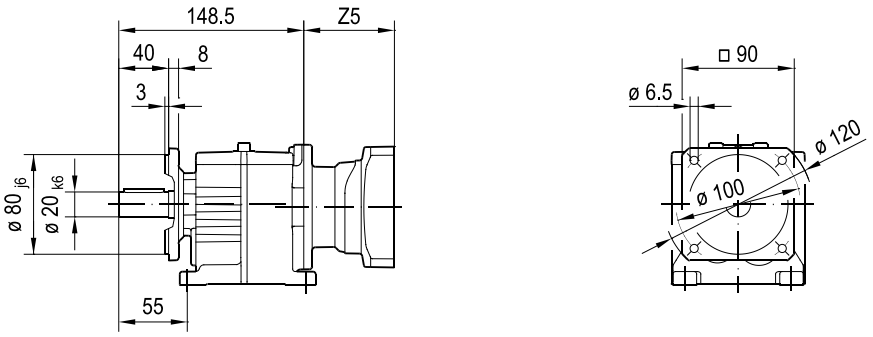
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R07..



R07F..

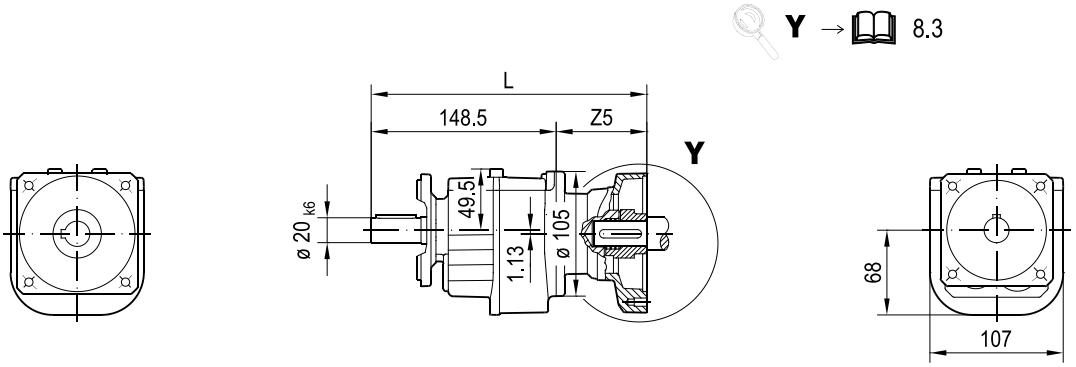


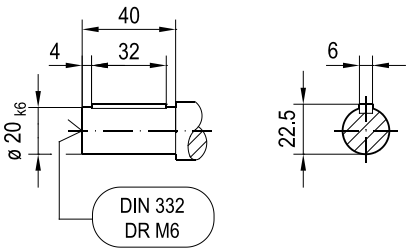
(→ 📖 7.3.11)	AQS.							
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7			
Z5	52.5	56.5	73.5	79	83.5			
L	194	198	215	221	225			

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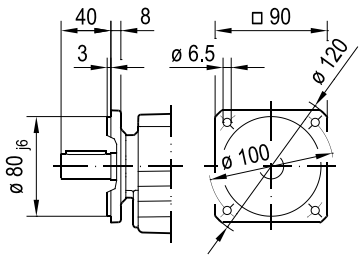
01 026 00 21

RF07..

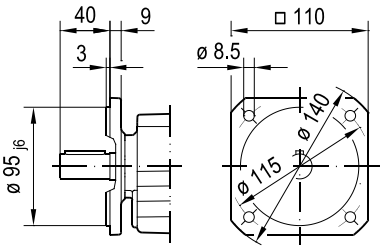




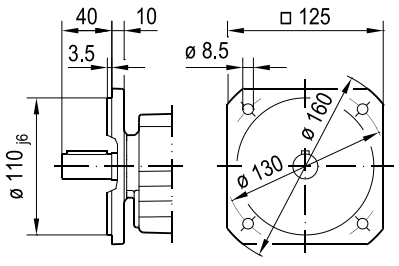
ø 120



ø 140



ø 160

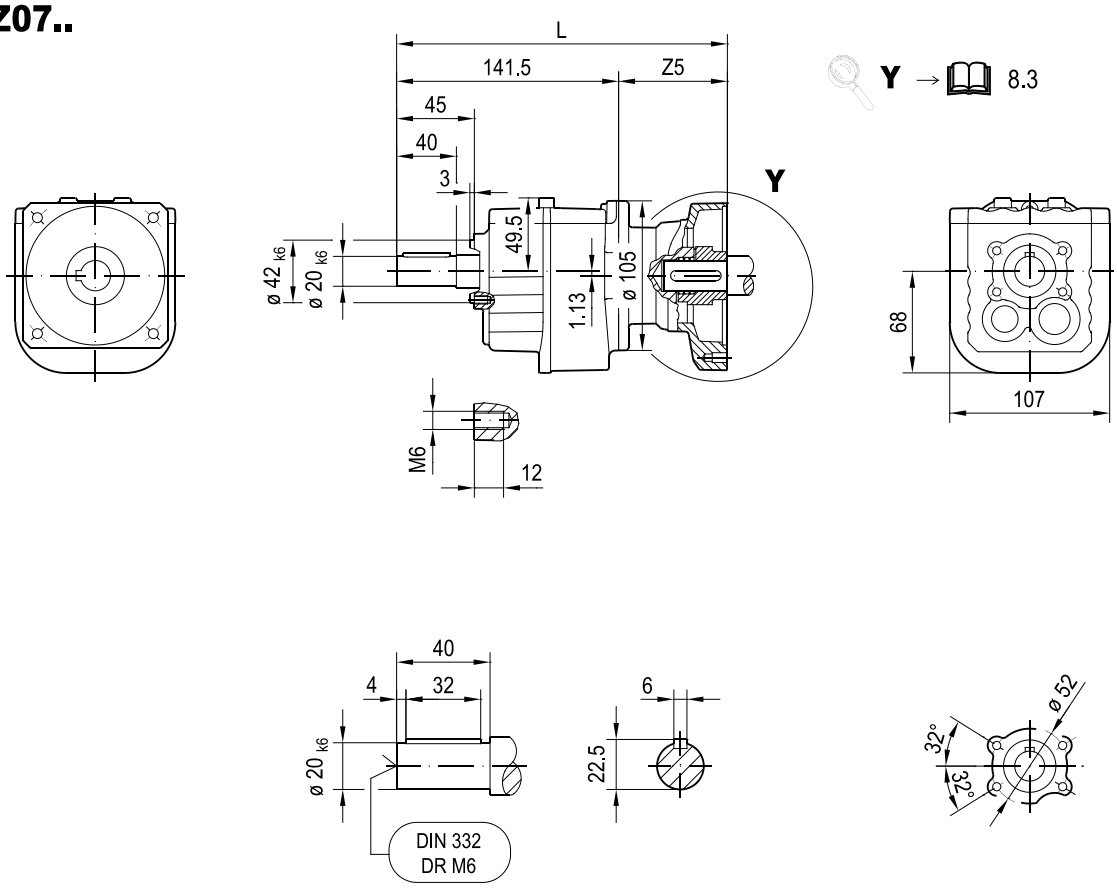


(→ 7.3.11)	AQS.							
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7			
Z5	52.5	56.5	73.5	79	83.5			
L	201	205	222	228	232			

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01 027 00 21

RZ07..



(→ 7.3.11)	AQS.							
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7			
Z5	52.5	56.5	73.5	79	83.5			
L	194	198	215	221	225			

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8.2.2 R17 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$								
	i	50/1-2			80/1,3-5			100/3-7		
R17 2	3.83	25	25	33	41	52	70	45	52	77
	4.51	30	30	39	44	54	75	48	54	82
	5.09	33	34	44	46	55	78	51	55	87
	5.76	38	38	50	49	59	83	53	59	90
	6.15	41	41	53	50	57	85	54	57	92
	7.04	47	47	61	52	58	88	55	58	94
	7.55	50	51	66	53	59	90	56	59	95
	8.63	57	57	74	72	86	122	72	86	122
	10.15	67	68	88	77	86	131	77	86	131
	11.45	76	77	99	81	86	138	81	86	138
	12.98	85	86	113	85	86	145	85	86	145
	13.84	85	86	120	85	86	145	85	86	145
	15.84	85	86	137	85	86	145	85	86	145
	16.99	85	86	145	85	86	145	85	86	145
	19.71	85	86	145	85	86	145	85	86	145
	23.15	85	86	145	85	86	145	85	86	145
	25.23	85	86	145	85	86	145	85	86	145
R17 3	24.07	85	86	145	85	86	145	85	86	145
	28.32	85	86	145	85	86	145	85	86	145
	31.94	85	86	145	85	86	145	85	86	145
	36.20	85	86	145	85	86	145	85	86	145
	38.61	85	86	145	85	86	145	85	86	145
	44.18	85	86	145	85	86	145	85	86	145
	47.44	85	86	145	85	86	145	85	86	145
	53.76	85	86	145	85	86	145	85	86	145
	57.35	85	86	145	85	86	145	85	86	145
	65.61	85	86	145	85	86	145	85	86	145
	70.39	85	86	145	85	86	145	85	86	145
	81.64	85	86	145	85	86	145	85	86	145

min^{-1}		AQS. n_{ak}		
	i	50/1-2	80/1,3-5	100/3-7
R17 2	3.83	1175	420	368
	4.51	998	346	313
	5.09	884	314	277
	5.76	665	250	245
	6.15	533	237	233
	7.04	358	214	229
	7.55	297	203	220
	8.63	329	163	163
	10.15	211	139	139
	11.45	149	123	123
	12.98	109	109	109
	13.84	108	108	108
	15.84	110	110	110
	16.99	111	111	111
	19.71	114	114	114
	23.15	116	116	116
	25.23	117	117	117

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min^{-1}		AQS. n_{ak}		
	i	50/1-2	80/1,3-5	100/3-7
R17 3	24.07	102	102	102
	28.32	102	102	102
	31.94	102	102	102
	36.20	102	102	102
	38.61	102	102	102
	44.18	102	102	102
	47.44	95	95	95
	53.76	84	84	84
	57.35	78	78	78
	65.61	69	69	69
	70.39	64	64	64
	81.64	55	55	55

R17, m kg			
	AQS.		
s	50/1-2	80/1,3-5	100/3-7
2	4.8	5.2	5.8
3	5.1	5.4	6.1
RF: + -0.05 kg			

R17, J_A / c_{TA}		AQS.		
		50/1-2	80/1,3-5	100/3-7
J_A 10^{-4}	kgm^2	0.41	0.46	1.3
c_{TA}	Nm/'	0.15	0.15	0.3

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R..17 n_e = 1400	i	M_{amax} Nm	M_{apk} Nm	$M_{aNotaus}$ Nm	n_{ak} min^{-1}	J_G 10^{-4} $kg*m^2$	F_{Ramax} R N	 RF N	F_{Rapk} R N	 RF N
R17 2	3.83	45	52	77	381	0.46	820	755	2500	2200
	4.51	48	54	82	324	0.35	870	795	2500	2200
	5.09	51	55	87	287	0.29	890	820	2500	2190
	5.76	53	59	90	253	0.24	930	860	2500	2180
	6.15	54	57	92	242	0.22	950	880	2500	2190
	7.04	55	58	94	237	0.18	1010	930	2500	2180
	7.55	56	59	95	229	0.16	1040	950	2500	2180
	8.63	72	86	122	169	0.39	1090	1000	1700	1510
	10.15	77	86	131	144	0.30	1140	1050	1700	1510
	11.45	81	86	138	128	0.26	1180	1080	1700	1510
	12.98	85	86	145	112	0.21	1230	1130	1700	1510
	13.84	85	86	145	111	0.20	1270	1160	1700	1510
	15.84	85	86	145	114	0.16	1350	1240	1700	1510
	16.99	85	86	145	115	0.15	1400	1280	1700	1510
	19.71	85	86	145	118	0.12	1500	1380	1700	1510
	23.15	85	86	145	121	0.090	1620	1480	1700	1510
	25.23	85	86	145	122	0.080	1680	1540	1700	1510
R17 3	24.07	85	86	145	106	0.41	1650	1510	1700	1510
	28.32	85	86	145	106	0.32	1770	1560	1700	1510
	31.94	85	86	145	106	0.27	1770	1560	1700	1510
	36.20	85	86	145	106	0.22	1770	1560	1700	1510
	38.61	85	86	145	106	0.20	1770	1560	1700	1510
	44.18	85	86	145	102	0.17	1770	1560	1700	1510
	47.44	85	86	145	95	0.25	1770	1560	1700	1510
	53.76	85	86	145	84	0.21	1770	1560	1700	1510
	57.35	85	86	145	78	0.19	1770	1560	1700	1510
	65.61	85	86	145	69	0.16	1770	1560	1700	1510
	70.39	85	86	145	64	0.14	1770	1560	1700	1510
	81.64	85	86	145	55	0.11	1770	1560	1700	1510

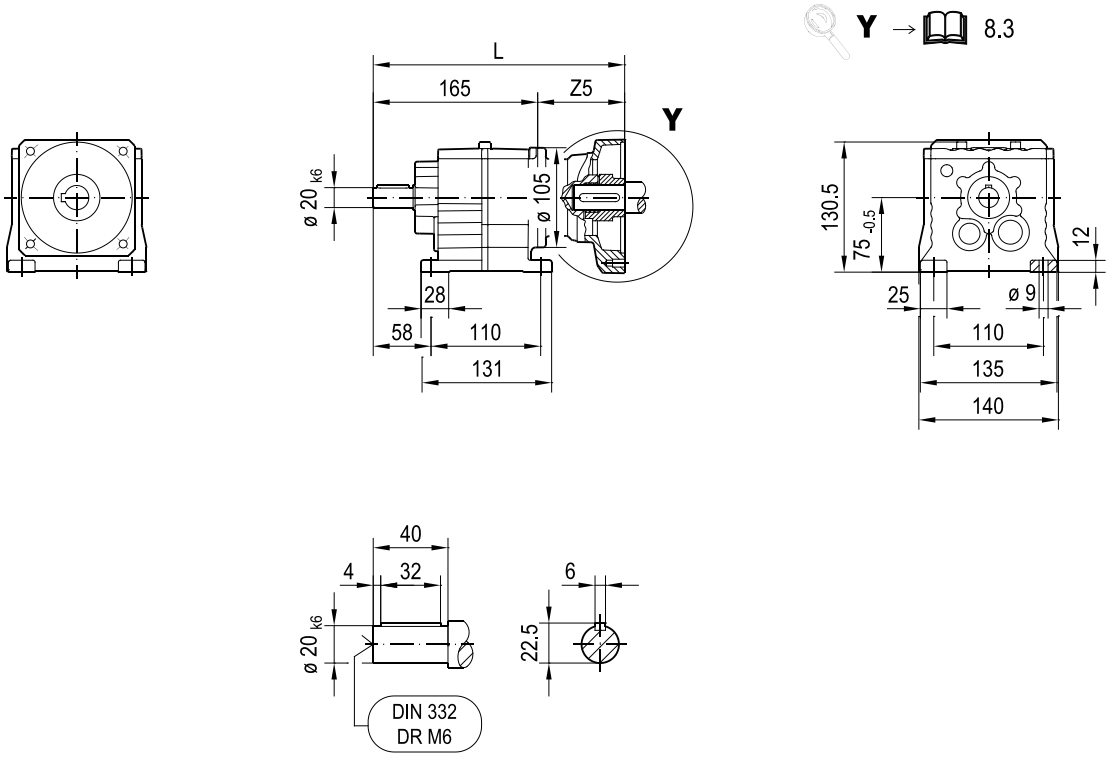
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R..17				c_{TG}	
	i	n_{epk} min^{-1}	η %	R Nm/'	RF Nm/'
R17  2	3.83	4500	97	3.0	3.0
	4.51	4500	97	3.0	3.0
	5.09	4500	97	3.0	3.0
	5.76	4500	97	3.0	3.0
	6.15	4500	97	3.0	3.0
	7.04	4500	97	3.0	3.0
	7.55	4500	97	3.0	3.0
	8.63	4500	96	4.4	4.3
	10.15	4500	96	4.4	4.3
	11.45	4500	96	4.4	4.3
	12.98	4500	96	4.4	4.3
	13.84	4500	96	4.4	4.3
	15.84	4500	96	4.4	4.3
	16.99	4500	96	4.4	4.3
	19.71	4500	96	4.4	4.3
	23.15	4500	96	4.4	4.3
	25.23	4500	96	4.4	4.3
R17  3	24.07	4500	93	4.6	4.4
	28.32	4500	93	4.6	4.4
	31.94	4500	93	4.6	4.4
	36.20	4500	93	4.6	4.4
	38.61	4500	93	4.6	4.4
	44.18	4500	93	4.6	4.4
	47.44	4500	92	4.6	4.4
	53.76	4500	92	4.6	4.4
	57.35	4500	92	4.6	4.4
	65.61	4500	92	4.6	4.4
	70.39	4500	91	4.6	4.4
	81.64	4500	91	4.6	4.4

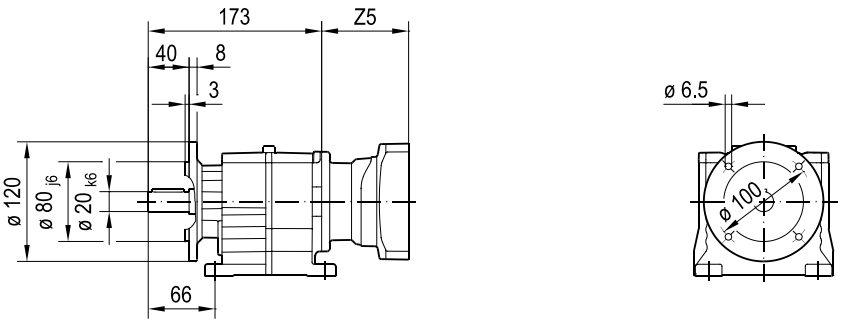
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01 028 00 21

R17..



R17F..

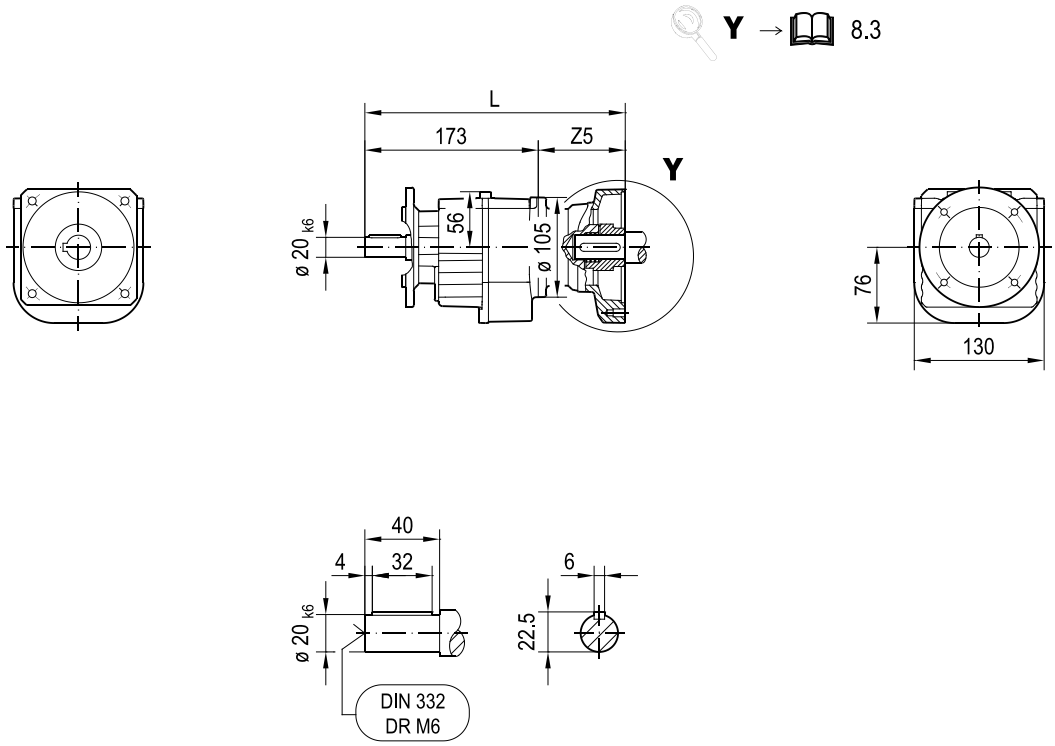


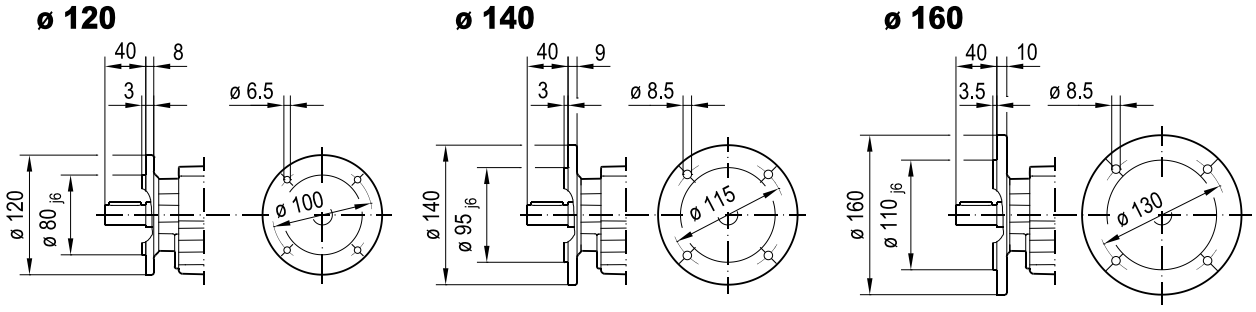
(→ 7.3.11)	AQS.							
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7			
Z5	52.5	56.5	73.5	79	83.5			
L	218	222	239	244	249			

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01 029 00 21

RF17..



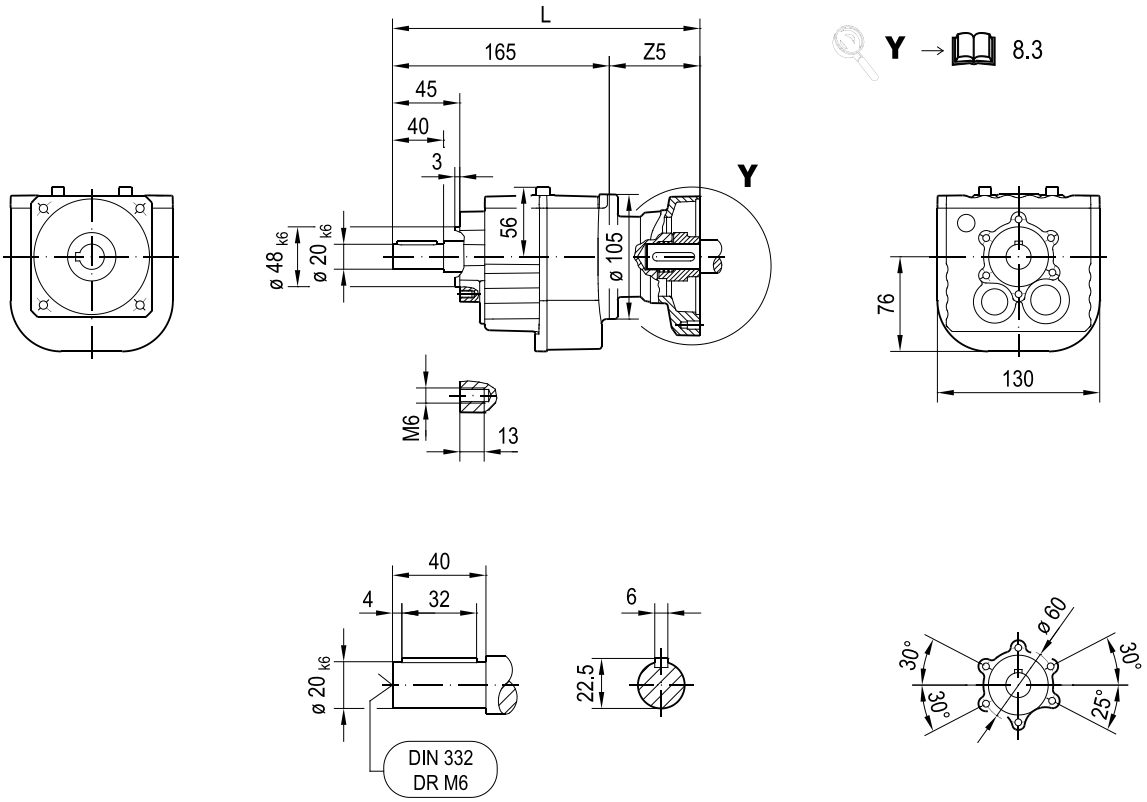


(→ 7.3.11)	AQS.							
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7			
Z5	52.5	56.5	73.5	79	83.5			
L	226	230	247	252	257			

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01 030 00 21

RZ17..



(→ 7.3.11)	AQS.							
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7			
Z5	52.5	56.5	73.5	79	83.5			
L	218	222	239	244	249			

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8.2.3 R27 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$														
	i	50/1-2			80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6		
R27 2	3.37	22	22	29	41	55	70	79	103	134	79	118	134	79	118	134
	4.00	26	26	34	45	65	77	85	122	145	85	127	145	85	127	145
	4.27	28	28	37	46	69	78	87	130	148	87	130	148	87	130	148
	5.00	33	33	43	49	74	83	94	141	160	95	142	162	95	142	162
	5.60	37	37	48	51	77	87	98	144	167	99	144	168	99	144	168
	6.59	44	44	57	53	80	90	102	144	173	105	144	179	106	143	180
	7.63	51	51	66	56	84	95	108	148	184	110	148	187			
	8.16	54	55	71	58	87	99	110	148	187	112	148	190			
	9.41	60	63	82	60	90	102	114	124	194	116	124	197			
	10.13	67	67	87	110	136	187	122	136	205	122	136	205	122	136	205
	11.86	79	79	102	117	136	199	129	136	220	129	136	220	129	136	220
	13.28	88	89	115	122	136	205	130	136	220	130	136	220	130	136	220
	15.63	104	105	135	127	136	215	130	136	220	130	136	220	130	136	220
	18.08	121	122	157	130	136	220	130	136	220	130	136	220			
	19.35	129	130	168	130	136	220	130	136	220	130	136	220			
	22.32	130	136	194	130	136	220	130	136	220	130	136	220			
	26.09	130	136	220	130	136	220	130	136	220	130	136	220			
	28.37	130	136	220	130	136	220	130	136	220	130	136	220			
R27 3	24.47	130	136	205	130	136	220	130	136	220	130	136	220	130	136	220
	28.78	130	136	220	130	136	220	130	136	220	130	136	220	130	136	220
	32.47	130	136	220	130	136	220	130	136	220	130	136	220	130	136	220
	36.79	130	136	220	130	136	220	130	136	220	130	136	220			
	39.25	130	136	220	130	136	220	130	136	220	130	136	220	130	136	220
	44.90	130	136	220	130	136	220	130	136	220	130	136	220			
	48.17	130	136	220	130	136	220	130	136	220	130	136	220			
	55.87	130	136	220	130	136	220	130	136	220	130	136	220			
	61.30	130	136	220	130	136	220	130	136	220	130	136	220	130	136	220
	69.47	130	136	220	130	136	220	130	136	220	130	136	220			
	74.11	130	136	220	130	136	220	130	136	220	130	136	220	130	136	220
	84.78	130	136	220	130	136	220	130	136	220	130	136	220			
	90.96	130	136	220	130	136	220	130	136	220	130	136	220			
	105.49	130	136	220	130	136	220	130	136	220	130	136	220			
	123.91	130	136	220	130	136	220	130	136	220	130	136	220			
	135.09	130	136	220	130	136	220	130	136	220	130	136	220			

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min^{-1}		AQS. n_{ak}				
	i	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
R27 2	3.37	1335	472	418	418	418
	4.00	1125	368	353	353	353
	4.27	1054	358	330	330	330
	5.00	900	300	290	282	282
	5.60	804	271	257	252	252
	6.59	498	237	219	212	214
	7.63	328	204	186	193	
	8.16	273	173	174	180	
	9.41	152	152	150	156	
	10.13	444	143	139	139	139
	11.86	379	121	119	119	119
	13.28	339	108	116	116	116
	15.63	212	93	118	118	118
	18.08	138	99	121	121	
	19.35	110	105	122	122	
	22.32	107	107	124	124	
	26.09	102	102	125	125	
	28.37	98	98	126	126	
R27 3	24.47	91	91	91	91	91
	28.78	91	91	91	91	91
	32.47	91	91	91	91	91
	36.79	91	91	91	91	
	39.25	91	91	91	91	91
	44.90	91	91	91	91	
	48.17	91	91	91	91	
	55.87	81	81	81	81	
	61.30	73	73	73	73	73
	69.47	65	65	65	65	
	74.11	61	61	61	61	61
	84.78	53	53	53	53	
	90.96	49	49	49	49	
	105.49	43	43	43	43	
	123.91	36	36	36	36	
	135.09	33	33	33	33	

R27, m kg	AQS.				
s	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
2	5.4	5.8	6.5	8.2	12
3	5.6	6.0	6.7	8.4	13
RF: + -0.05 kg					

R27, J_A / c_{TA}		AQS.				
		50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
J_A 10^{-4}	kgm^2	0.41	0.46	1.3	2.4	8.1
c_{TA}	Nm/'	0.15	0.15	0.3	0.7	3.0

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R..27							F_{Ramax}		F_{Rapk}	
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	R	RF	R	RF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N
R27 2	3.37	79	118	134	433	1.1	900	790	4290	3690
	4.00	85	127	145	365	0.85	900	800	4250	3660
	4.27	87	130	148	342	0.76	920	810	4230	3640
	5.00	95	142	162	292	0.58	860	760	4180	3590
	5.60	99	144	168	261	0.48	880	775	4170	3580
	6.59	106	145	180	222	0.36	880	775	4160	3580
	7.63	112	148	190	191	0.29	900	795	4150	3570
	8.16	116	148	197	179	0.26	870	770	4150	3570
	9.41	122	149	205	155	0.21	900	795	4140	3560
	10.13	122	136	205	144	0.61	1890	1670	4210	3620
	11.86	129	136	215	123	0.47	1980	1750	4210	3620
	13.28	130	136	220	120	0.39	2140	1910	4210	3620
	15.63	130	136	220	122	0.29	2290	2170	4210	3620
	18.08	130	136	220	126	0.24	2440	2310	4210	3620
	19.35	130	136	220	127	0.22	2510	2380	4210	3620
	22.32	130	136	220	128	0.18	2660	2520	4210	3620
	26.09	130	136	220	130	0.14	2840	2690	4210	3620
	28.37	130	136	220	131	0.12	2940	2780	4210	3620
R27 3	24.47	130	136	220	94	0.49	2760	2620	4210	3620
	28.78	130	136	220	94	0.37	2950	2800	4210	3620
	32.47	130	136	220	94	0.31	3100	2940	4210	3620
	36.79	130	136	220	94	0.25	3260	3090	4210	3620
	39.25	130	136	220	94	0.22	3350	3170	4210	3620
	44.90	130	136	220	94	0.18	3530	3340	4210	3620
	48.17	130	136	220	93	0.16	3630	3430	4210	3620
	55.87	130	136	220	81	0.13	3840	3640	4210	3620
	61.30	130	136	220	73	0.26	3980	3640	4210	3620
	69.47	130	136	220	65	0.22	4180	3640	4210	3620
	74.11	130	136	220	61	0.20	4230	3640	4210	3620
	84.78	130	136	220	53	0.16	4230	3640	4210	3620
	90.96	130	136	220	49	0.15	4230	3640	4210	3620
	105.49	130	136	220	43	0.12	4230	3640	4210	3620
	123.91	130	136	220	36	0.090	4230	3640	4210	3620
	135.09	130	136	220	33	0.080	4230	3640	4210	3620

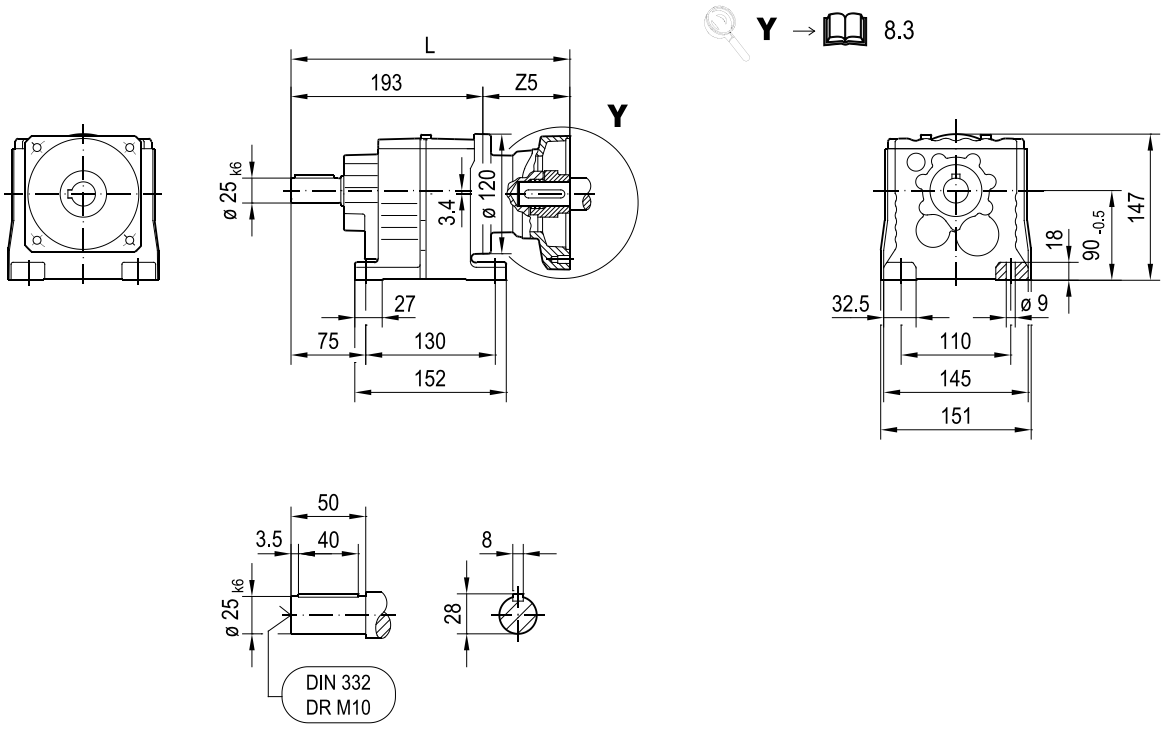
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R..27				c_{TG}	
	i	n_{epk} min^{-1}	η %	R Nm/'	RF Nm/'
R27 2	3.37	4500	97	7.2	7.1
	4.00	4500	97	7.2	7.1
	4.27	4500	97	7.2	7.1
	5.00	4500	97	7.2	7.1
	5.60	4500	97	7.2	7.1
	6.59	4500	97	7.2	7.1
	7.63	4500	97	7.2	7.1
	8.16	4500	97	7.2	7.1
	9.41	4500	97	7.2	7.1
	10.13	4500	97	9.0	8.8
	11.86	4500	97	9.0	8.8
	13.28	4500	97	9.0	8.8
	15.63	4500	97	9.0	8.8
	18.08	4500	97	9.0	8.8
	19.35	4500	97	9.0	8.8
	22.32	4500	97	9.0	8.8
	26.09	4500	96	9.0	8.8
	28.37	4500	96	9.0	8.8
R27 3	24.47	4500	94	9.0	8.8
	28.78	4500	94	9.0	8.8
	32.47	4500	94	9.0	8.8
	36.79	4500	94	9.0	8.8
	39.25	4500	94	9.0	8.8
	44.90	4500	94	9.0	8.8
	48.17	4500	94	9.0	8.8
	55.87	4500	94	9.0	8.8
	61.30	4500	92	9.1	8.8
	69.47	4500	92	9.1	8.8
	74.11	4500	92	9.1	8.8
	84.78	4500	92	9.1	8.8
	90.96	4500	92	9.1	8.8
	105.49	4500	92	9.1	8.8
	123.91	4500	91	9.1	8.8
	135.09	4500	91	9.1	8.8

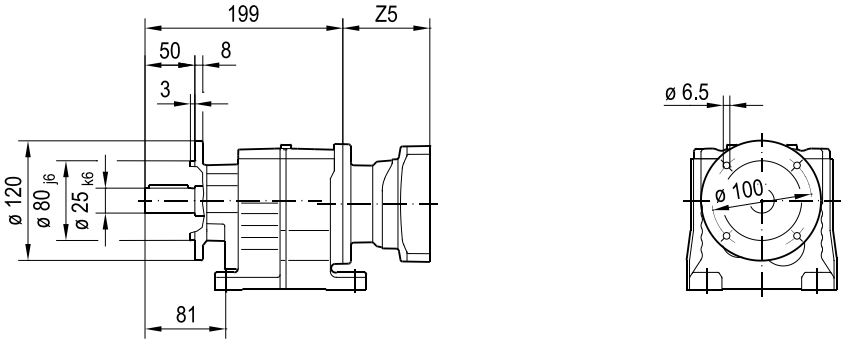
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R27..

01 031 01 21



R27F..

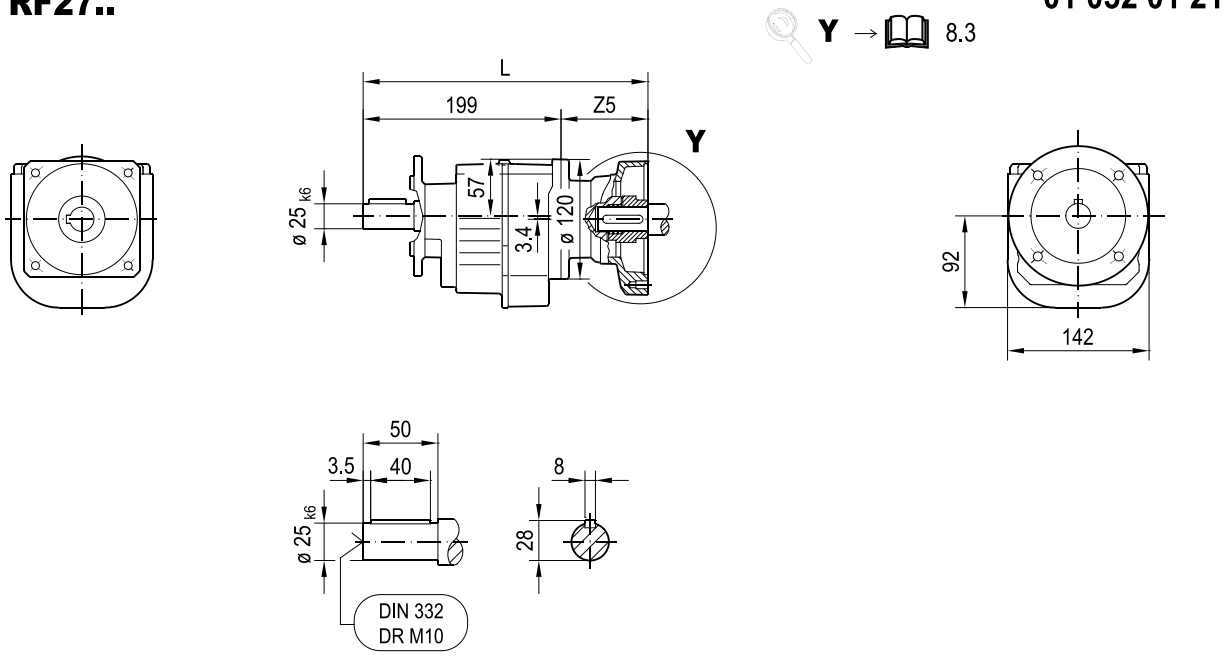


(→ 📖 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	246	250	267	272	277	280	286	280	285	302

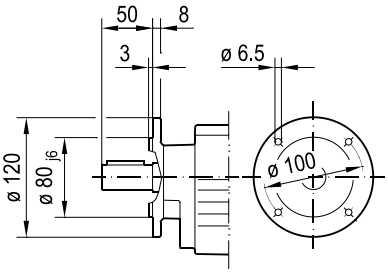
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RF27..

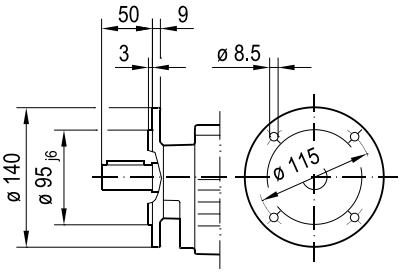
01 032 01 21



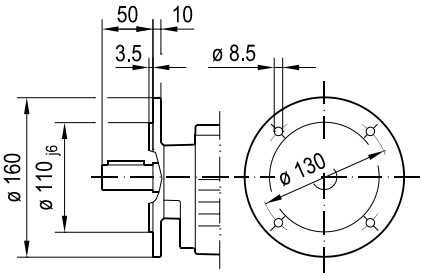
ø 120



ø 140



ø 160

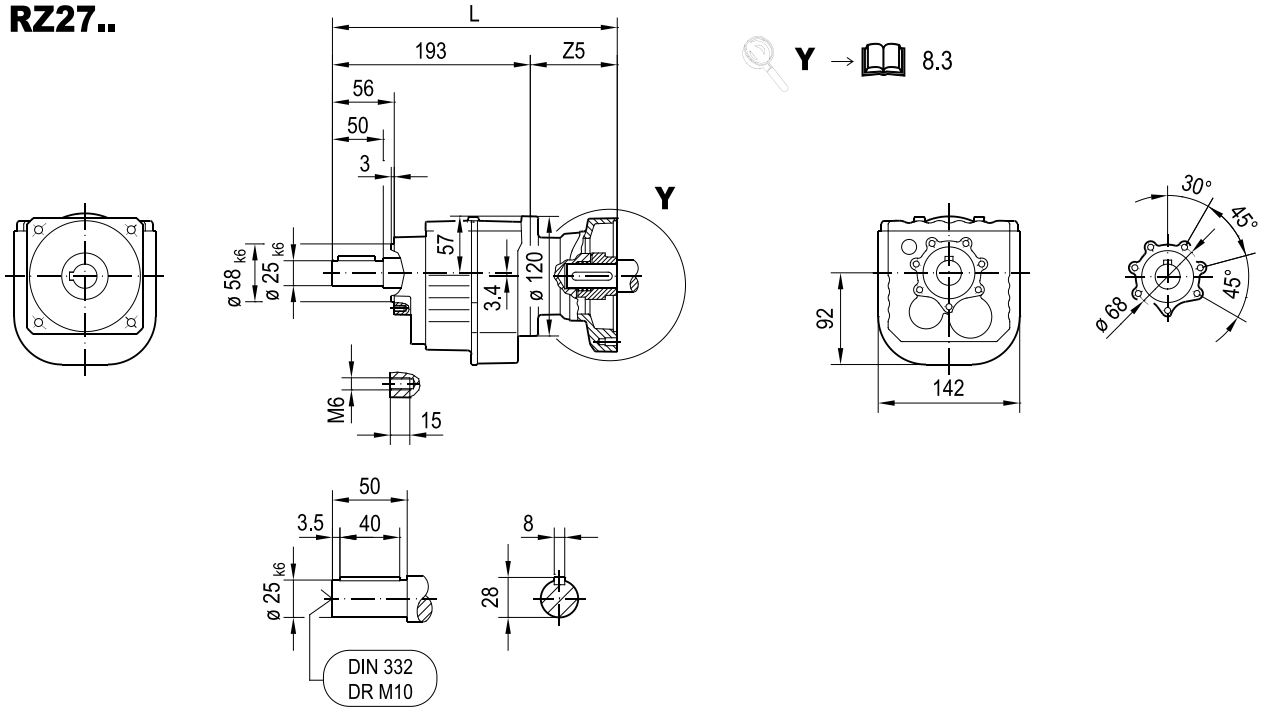


(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	252	256	273	278	283	286	292	286	291	308

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01 033 01 21

RZ27..



(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	246	250	267	272	277	280	286	280	285	302

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8.2.4 R37 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$														
	i	50/1-2			80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6		
R37 2	3.41	22	22	29	42	56	71	81	104	138	83	125	141	112	125	190
	4.05	26	27	35	45	66	77	87	123	148	90	135	153	122	141	205
	4.32	28	28	37	47	71	80	90	132	153	92	138	156	126	147	215
	5.06	33	33	44	50	75	85	95	143	162	98	147	167	135	156	230
	5.67	37	38	49	52	78	88	99	149	168	102	153	173	142	156	240
	6.67	44	44	58	54	81	92	103	145	175	106	145	180	126	145	215
	7.97	52	53	68	99	131	168	156	205	265	156	205	265	156	205	265
	9.47	62	63	81	107	155	182	167	205	285	167	205	285	167	205	285
	10.11	67	67	87	110	165	187	170	205	290	170	205	290	170	205	290
	11.83	78	79	102	117	176	199	183	205	310	183	205	310	183	205	310
	13.25	88	89	115	122	183	205	190	205	325	190	205	325	190	205	325
	15.60	104	105	135	127	191	215	200	205	340	200	205	340	200	205	340
	18.05	120	121	157	134	200	230	200	205	340	200	205	340			
	19.31	129	130	168	137	205	235	200	205	340	200	205	340			
	22.27	142	150	194	142	205	240	200	205	340	200	205	340			
	26.03	147	176	225	147	200	250	174	200	295	174	200	295			
	28.32	150	191	245	150	205	255	190	205	325	190	205	325			
R37 3	24.42	160	161	210	200	205	340	200	205	340	200	205	340	200	205	340
	28.73	189	190	245	200	205	340	200	205	340	200	205	340	200	205	340
	32.40	200	205	275	200	205	340	200	205	340	200	205	340	200	205	340
	36.72	200	205	315	200	205	340	200	205	340	200	205	340			
	39.17	200	205	335	200	205	340	200	205	340	200	205	340	200	205	340
	44.81	200	205	340	200	205	340	200	205	340	200	205	340			
	48.08	200	205	340	200	205	340	200	205	340	200	205	340			
	55.76	200	205	340	200	205	340	200	205	340	200	205	340			
	61.18	200	205	340	200	205	340	200	205	340	200	205	340	200	205	340
	69.33	200	205	340	200	205	340	200	205	340	200	205	340			
	73.96	200	205	340	200	205	340	200	205	340	200	205	340	200	205	340
	84.61	200	205	340	200	205	340	200	205	340	200	205	340			
	90.77	200	205	340	200	205	340	200	205	340	200	205	340			
	105.28	200	205	340	200	205	340	200	205	340	200	205	340			
	123.66	200	205	340	200	205	340	200	205	340	200	205	340			
	134.82	200	205	340	200	205	340	200	205	340	200	205	340			

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min^{-1}		AQS. n_{ak}				
	i	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
R37 2	3.41	1052	431	413	416	413
	4.05	1052	393	365	346	348
	4.32	1042	333	329	336	326
	5.06	889	281	289	277	279
	5.67	794	254	256	247	249
	6.67	508	223	219	213	316
	7.97	565	176	176	176	176
	9.47	475	151	148	148	148
	10.11	445	141	138	138	138
	11.83	380	120	118	118	118
	13.25	340	107	106	106	106
	15.60	211	92	90	90	90
	18.05	141	81	93	93	
	19.31	109	74	94	94	
	22.27	64	64	95	95	
	26.03	55	55	147	147	
	28.32	49	49	114	114	
R37 3	24.42	129	66	66	66	66
	28.73	79	66	66	66	66
	32.40	67	67	67	67	67
	36.72	67	67	67	67	
	39.17	68	68	68	68	68
	44.81	68	68	68	68	
	48.08	68	68	68	68	
	55.76	69	69	69	69	
	61.18	70	70	70	70	70
	69.33	65	65	65	65	
	73.96	61	61	61	61	61
	84.61	53	53	53	53	
	90.77	50	50	50	50	
	105.28	43	43	43	43	
	123.66	36	36	36	36	
	134.82	33	33	33	33	

R37, m kg	AQS.				
s	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
2	11	12	12	14	18
3	11	12	13	14	18
RF: + 1.5 kg					

R37, J_A / c_{TA}		AQS.				
		50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
J_A 10^{-4}	kgm^2	0.41	0.46	1.3	2.4	8.1
c_{TA}	Nm/'	0.15	0.15	0.3	0.7	3.0

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R..37							F_{Ramax}		F_{Rapk}	
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	R	RF	R	RF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N
R37 2	3.41	112	147	190	428	1.4	900	800	5500	5500
	4.05	122	153	205	360	1.1	840	750	5440	5440
	4.32	126	155	210	338	0.95	820	725	5430	5430
	5.06	135	156	230	289	0.72	790	700	5420	5420
	5.67	142	156	240	257	0.59	760	675	5420	5420
	6.67	144	166	245	219	0.43	1000	890	5320	5320
	7.97	156	205	265	182	0.96	1720	1520	4880	4880
	9.47	167	205	280	153	0.74	1760	1560	4880	4880
	10.11	170	205	285	143	0.66	1820	1620	4880	4880
	11.83	183	205	310	123	0.51	1810	1610	4880	4880
	13.25	190	205	320	109	0.43	1880	1670	4880	4880
	15.60	200	205	340	94	0.31	2010	1780	4880	4880
	18.05	200	205	340	96	0.26	2390	2120	4880	4880
	19.31	200	205	340	97	0.23	2570	2280	4880	4880
	22.27	200	205	340	99	0.19	2970	2640	4880	4880
	26.03	185	205	315	127	0.15	3860	3420	4880	4880
	28.32	200	205	340	101	0.13	3690	3270	4880	4880
R37 3	24.42	200	205	340	71	0.53	3240	2870	4880	4880
	28.73	200	205	340	71	0.39	3740	3310	4880	4880
	32.40	200	205	340	72	0.31	4120	3650	4880	4880
	36.72	200	205	340	72	0.25	4540	4020	4880	4880
	39.17	200	205	340	73	0.23	4760	4220	4880	4880
	44.81	200	205	340	73	0.19	4940	4640	4880	4880
	48.08	200	205	340	73	0.17	4940	4870	4880	4880
	55.76	200	205	340	74	0.13	4940	4940	4880	4880
	61.18	200	205	340	74	0.26	4940	4940	4880	4880
	69.33	200	205	340	65	0.22	4940	4940	4880	4880
	73.96	200	205	340	61	0.20	4940	4940	4880	4880
	84.61	200	205	340	53	0.16	4940	4940	4880	4880
	90.77	200	205	340	50	0.15	4940	4940	4880	4880
	105.28	200	205	340	43	0.12	4940	4940	4880	4880
	123.66	200	205	340	36	0.090	4940	4940	4880	4880
	134.82	200	205	340	33	0.080	4940	4940	4880	4880

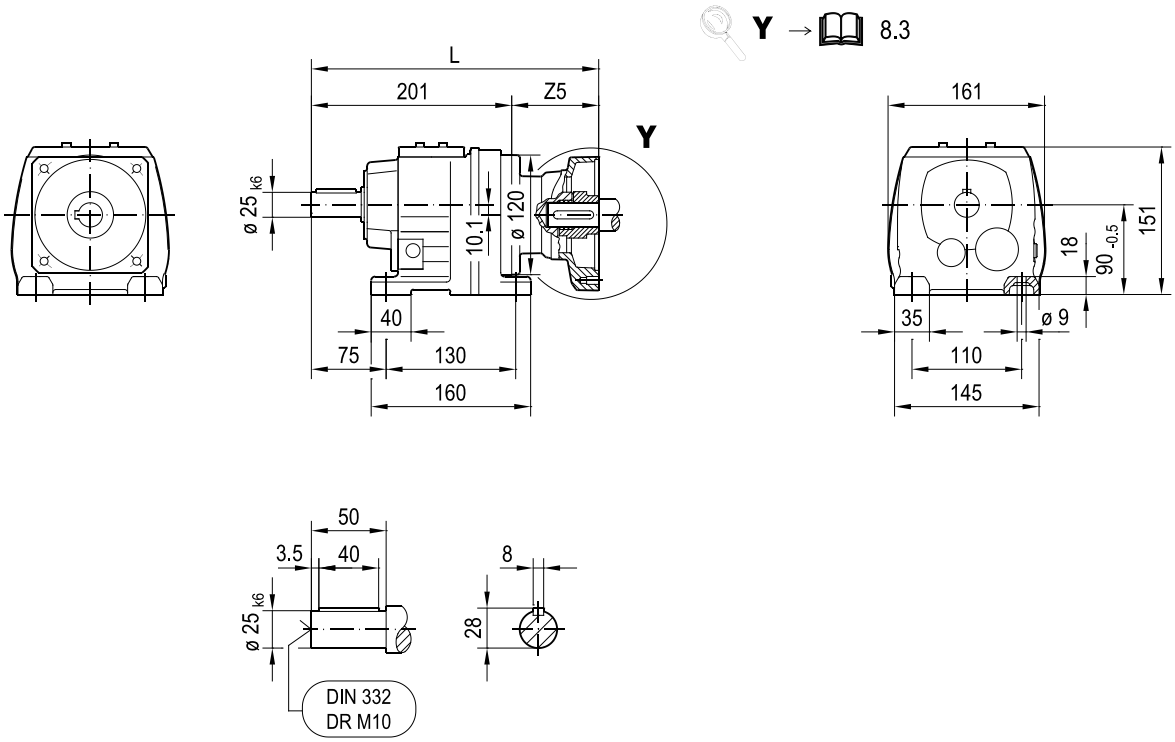
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R..37				c_{TG}		φ
	i	n_{epk} min^{-1}	η %	R Nm/'	RF Nm/'	/R '
R37 2	3.41	3587	97	9.7	9.5	14
	4.05	4261	97	9.7	9.5	13
	4.32	4500	97	9.7	9.5	13
	5.06	4500	97	9.7	9.5	13
	5.67	4500	97	9.7	9.5	12
	6.67	4500	97	9.7	9.5	12
	7.97	4500	97	13	12	8
	9.47	4500	97	13	12	8
	10.11	4500	97	13	12	8
	11.83	4500	97	13	12	8
	13.25	4500	97	13	12	8
	15.60	4500	97	13	12	8
	18.05	4500	97	13	12	8
	19.31	4500	97	13	12	7
	22.27	4500	97	13	12	7
	26.03	4500	97	13	12	7
	28.32	4500	97	13	12	7
R37 3	24.42	4500	95	13	12	9
	28.73	4500	95	13	12	9
	32.40	4500	95	13	12	9
	36.72	4500	95	13	12	9
	39.17	4500	95	13	12	9
	44.81	4500	95	13	12	9
	48.08	4500	95	13	12	9
	55.76	4500	95	13	12	9
	61.18	4500	94	13	13	8
	69.33	4500	94	13	13	8
	73.96	4500	94	13	13	8
	84.61	4500	93	13	13	8
	90.77	4500	93	13	13	8
	105.28	4500	93	13	13	8
	123.66	4500	93	13	13	8
	134.82	4500	93	13	13	8

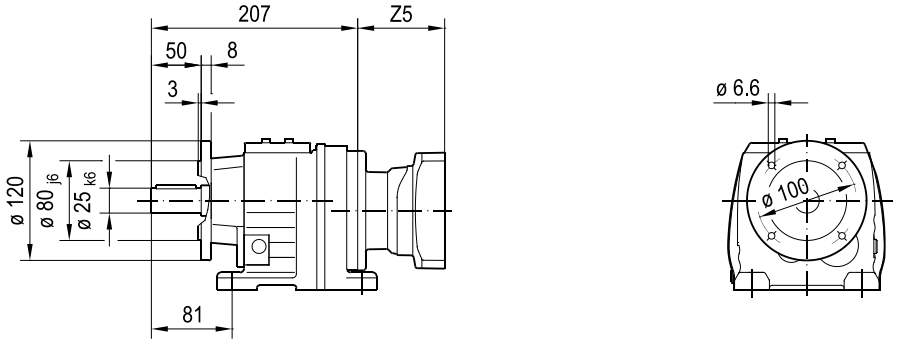
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R37..

01 034 00 21



R37F..

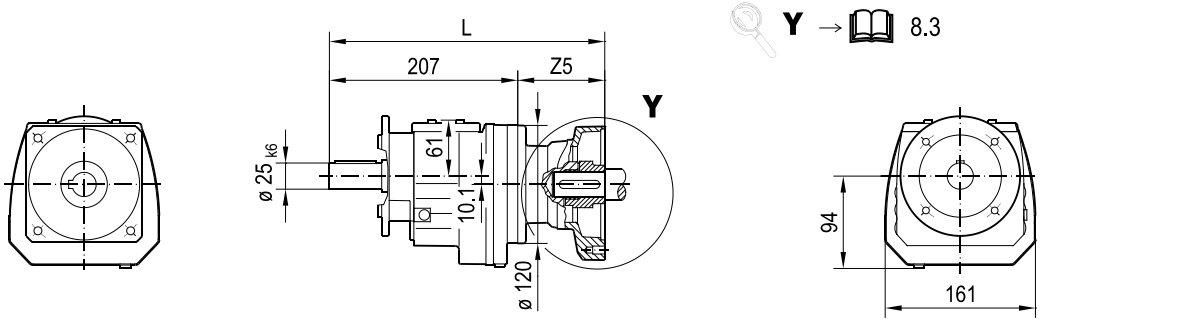


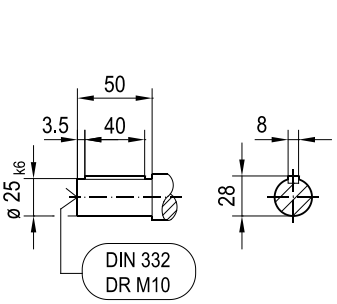
(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	254	258	275	280	285	288	294	288	293	310

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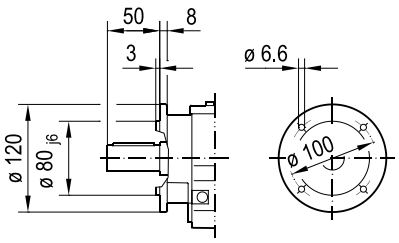
01 035 00 21

RF37..

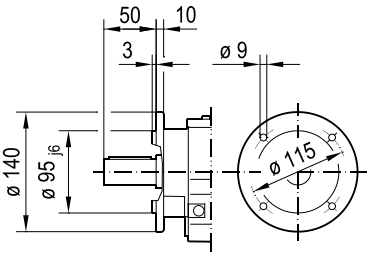




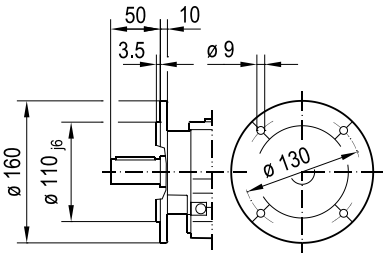
ø 120



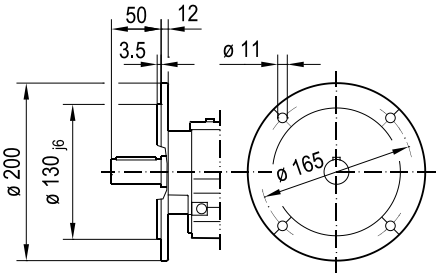
ø 140



ø 160



ø 200

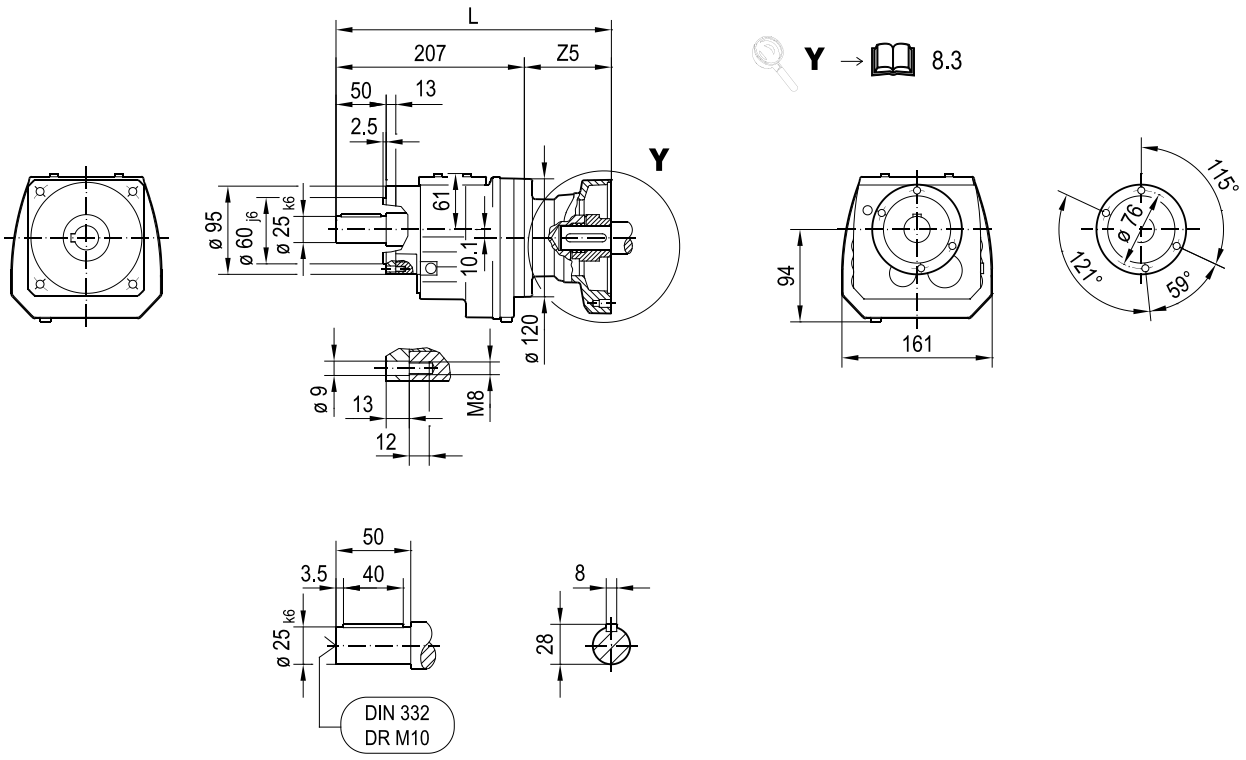


(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	260	264	281	286	291	294	300	294	299	316

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01 036 00 21

RZ37..



(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	260	264	281	286	291	294	300	294	299	316

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8.2.5 R47 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$																	
	i	80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6			160/1			190/1,3-6		
R47 2	3.83	56	62	95	107	117	167	110	165	187	144	166	245	144	166	245	144	166	245
	4.34	58	71	99	112	132	189	114	170	194	146	170	250	146	170	250	146	170	250
	4.85	62	79	105	118	148	200	121	175	205	150	175	255	150	175	255	150	175	255
	5.64	65	92	111	125	172	215	128	180	220	155	180	265	155	180	265	155	180	265
	6.00	67	98	114	128	182	220	131	182	225	156	182	265	156	182	265	156	182	265
	6.96	71	107	121	134	187	230	138	187	235	159	187	270	159	187	270			
	7.76	73	110	124	139	190	235	142	190	240	163	190	275	163	190	275			
	8.01	117	131	199	205	240	350	205	300	350	205	300	350	205	300	350	205	300	350
	9.07	122	148	205	220	275	375	220	305	375	220	305	375	220	305	375	220	305	375
	10.15	129	166	220	230	305	390	230	305	390	230	305	390	230	305	390	230	305	390
	11.79	137	193	235	245	305	415	245	305	415	245	305	415	245	305	415	245	305	415
	12.54	141	205	240	250	305	425	250	305	425	250	305	425	250	305	425	250	305	425
	14.56	148	220	250	265	305	450	265	305	450	265	305	450	265	305	450			
	16.22	154	230	260	275	305	470	275	305	470	275	305	470	275	305	470			
	17.89	157	235	265	290	305	495	290	305	495									
	19.27	162	245	275	295	305	500	295	305	500	295	305	500	295	305	500			
	21.81	168	250	285	300	305	510	300	305	510									
	23.28	170	255	290	300	305	510	300	305	510									
	26.74	176	265	300	300	305	510	300	305	510									
	31.12	182	240	310	205	240	350	205	240	350									
	33.79	184	260	315	225	260	385	225	260	385									
R47 3	23.59	300	305	510	300	305	510	300	305	510	300	305	510	300	305	510			
	26.70	300	305	510	300	305	510	300	305	510	300	305	510	300	305	510			
	29.88	300	305	510	300	305	510	300	305	510	300	305	510	300	305	510			
	34.73	300	305	510	300	305	510	300	305	510	300	305	510	300	305	510			
	36.93	300	305	510	300	305	510	300	305	510	300	305	510	300	305	510			
	42.87	300	305	510	300	305	510	300	305	510	300	305	510	300	305	510			
	47.75	300	305	510	300	305	510	300	305	510	300	305	510	300	305	510			
	52.69	300	305	510	300	305	510	300	305	510									
	56.73	300	305	510	300	305	510	300	305	510	300	305	510	300	305	510			
	64.21	300	305	510	300	305	510	300	305	510									
	68.54	300	305	510	300	305	510	300	305	510									
	76.23	300	305	510	300	305	510	300	305	510									
	84.90	300	305	510	300	305	510	300	305	510									
	93.68	300	305	510	300	305	510	300	305	510									
	100.86	300	305	510	300	305	510	300	305	510									
	114.17	300	305	510	300	305	510	300	305	510									
	121.87	300	305	510	300	305	510	300	305	510									
	139.99	300	305	510	300	305	510	300	305	510									
	162.94	300	305	510	300	305	510	300	305	510									
	176.88	300	305	510	300	305	510	300	305	510									

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min^{-1}		AQS. n_{ak}					
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
R47 2	3.83	376	379	373	399	399	399
	4.34	348	323	336	399	399	399
	4.85	291	293	291	390	390	390
	5.64	271	252	252	374	374	374
	6.00	245	237	237	375	375	375
	6.96	203	210	201	372	372	
	7.76	192	186	188	357	357	
	8.01	181	201	201	201	201	201
	9.07	160	168	168	168	168	168
	10.15	143	152	152	152	152	152
	11.79	123	131	131	131	131	131
	12.54	112	125	125	125	125	125
	14.56	99	108	108	108	108	
	16.22	87	98	98	98	98	
	17.89	79	84	84			
	19.27	74	81	81	81	81	
	21.81	64	78	78			
	23.28	62	79	79			
	26.74	53	80	80			
	31.12	45	145	145			
	33.79	43	133	133			
R47 3	23.59	84	84	84	84	84	
	26.70	84	84	84	84	84	
	29.88	83	83	83	83	83	
	34.73	84	84	84	84	84	
	36.93	83	83	83	83	83	
	42.87	84	84	84	84	84	
	47.75	84	84	84	84	84	
	52.69	84	84	84			
	56.73	79	79	79	79	79	
	64.21	70	70	70			
	68.54	66	66	66			
	76.23	59	59	59			
	84.90	53	53	53			
	93.68	48	48	48			
	100.86	45	45	45			
	114.17	39	39	39			
	121.87	37	37	37			
	139.99	32	32	32			
	162.94	28	28	28			
	176.88	25	25	25			

R47, m kg						
	AQS.					
s	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
2	15	16	18	23	25	29
3	16	17	19	23	26	29
RF: + 0.15 kg						

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R47, J_A / c_{TA}		AQS.					
		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	0.46	1.3	2.4	8.1	22.0	22.0
c_{TA}	Nm/'	0.15	0.3	0.7	3.0	7.0	7.0

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R..47							F_{Ramax}		F_{Rapk}	
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	R	RF	R	RF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N
R47 2	3.83	144	166	245	415	2.6	2080	2080	5960	5960
	4.34	146	170	245	412	2.0	2190	2190	5940	5940
	4.85	150	175	255	404	1.7	2280	2280	5930	5930
	5.64	155	180	260	388	1.3	2410	2410	5920	5920
	6.00	156	182	265	390	1.2	2470	2470	5910	5910
	6.96	159	187	270	386	0.93	2620	2620	5890	5890
	7.76	163	190	275	370	0.77	2720	2720	5880	5880
	8.01	205	300	345	208	2.0	2690	2690	5420	5420
	9.07	220	305	370	173	1.6	2780	2780	5390	5390
	10.15	230	305	390	158	1.3	2880	2880	5390	5390
	11.79	245	305	415	136	1.1	3020	3020	5390	5390
	12.54	250	305	425	129	0.95	3080	3080	5390	5390
	14.56	265	305	450	112	0.74	3230	3230	5390	5390
	16.22	275	305	465	102	0.63	3350	3350	5390	5390
	17.89	290	305	490	88	0.51	3390	3390	5390	5390
	19.27	295	305	500	85	0.48	3530	3530	5390	5390
	21.81	300	305	510	82	0.39	3710	3710	5390	5390
	23.28	300	305	510	82	0.36	3820	3820	5390	5390
	26.74	300	305	510	83	0.29	4050	4050	5390	5390
	31.12	220	305	370	145	0.23	4610	4610	5390	5390
	33.79	240	305	405	133	0.20	4680	4680	5390	5390
R47 3	23.59	300	305	510	86	1.7	3840	3840	5390	5390
	26.70	300	305	510	86	1.4	4050	4050	5390	5390
	29.88	300	305	510	86	1.2	4240	4240	5390	5390
	34.73	300	305	510	86	0.93	4520	4520	5390	5390
	36.93	300	305	510	86	0.85	4630	4630	5390	5390
	42.87	300	305	510	86	0.67	4930	4930	5390	5390
	47.75	300	305	510	86	0.56	5140	5140	5390	5390
	52.69	300	305	510	85	0.47	5350	5350	5390	5390
	56.73	300	305	510	79	0.44	5420	5420	5390	5390
	64.21	300	305	510	70	0.37	5420	5420	5390	5390
	68.54	300	305	510	66	0.33	5420	5420	5390	5390
	76.23	300	305	510	59	0.60	5420	5420	5390	5390
	84.90	300	305	510	53	0.52	5420	5420	5390	5390
	93.68	300	305	510	48	0.43	5420	5420	5390	5390
	100.86	300	305	510	45	0.41	5420	5420	5390	5390
	114.17	300	305	510	39	0.34	5420	5420	5390	5390
	121.87	300	305	510	37	0.31	5420	5420	5390	5390
	139.99	300	305	510	32	0.25	5420	5420	5390	5390
	162.94	300	305	510	28	0.20	5420	5420	5390	5390
	176.88	300	305	510	25	0.18	5420	5420	5390	5390

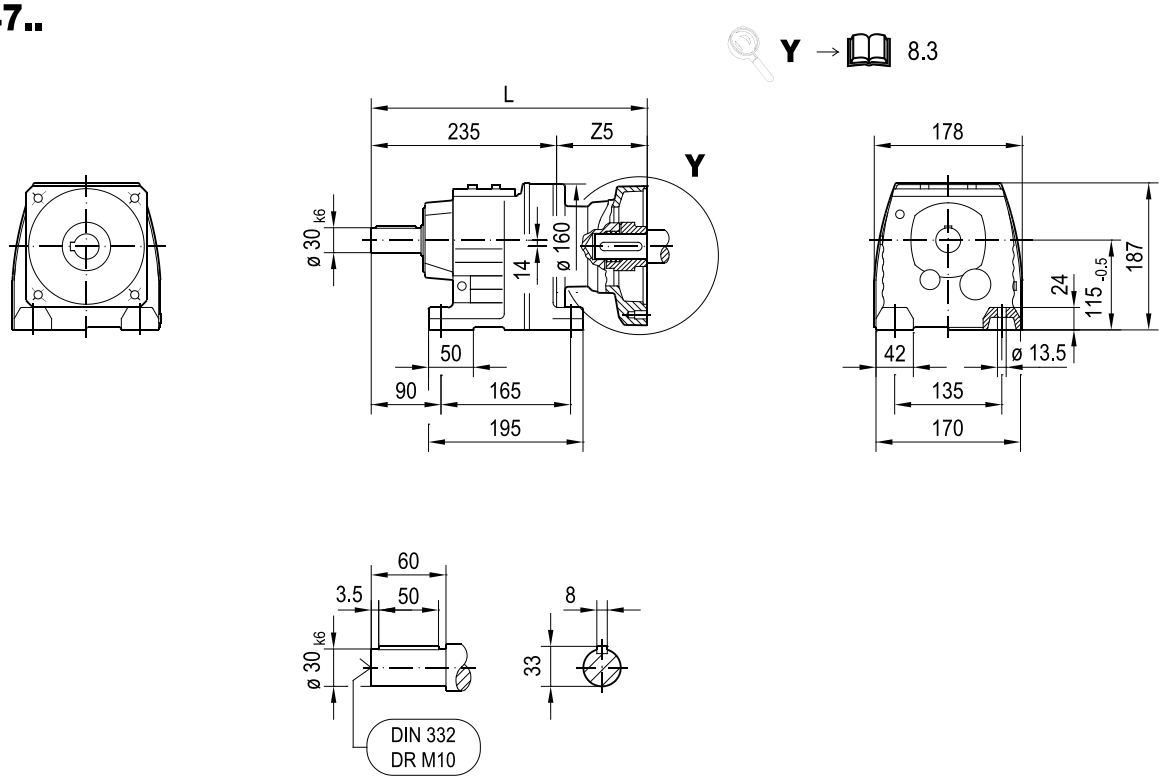
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R..47				c_{TG}		φ
	i	n_{epk} min^{-1}	η %	R Nm/'	RF Nm/'	/R '
R47 2	3.83	3657	97	11	11	11
	4.34	4144	97	11	11	11
	4.85	4500	97	11	11	10
	5.64	4500	97	11	11	10
	6.00	4500	97	11	11	10
	6.96	4500	97	11	11	10
	7.76	4500	97	11	11	10
	8.01	4500	97	15	15	8
	9.07	4500	97	15	15	8
	10.15	4500	97	15	15	7
	11.79	4500	97	15	15	7
	12.54	4500	97	15	15	7
	14.56	4500	97	15	15	7
	16.22	4500	97	15	15	7
	17.89	4500	97	15	15	7
	19.27	4500	97	15	15	7
	21.81	4500	97	15	15	7
	23.28	4500	97	15	15	7
	26.74	4500	97	15	15	7
	31.12	4500	97	15	15	7
	33.79	4500	97	15	15	7
R47 3	23.59	4500	95	15	15	8
	26.70	4500	95	15	15	8
	29.88	4500	95	15	15	8
	34.73	4500	95	15	15	8
	36.93	4500	95	15	15	8
	42.87	4500	95	15	15	8
	47.75	4500	95	15	15	8
	52.69	4500	95	15	15	8
	56.73	4500	95	15	15	8
	64.21	4500	95	15	15	8
	68.54	4500	95	15	15	8
	76.23	4500	94	15	15	7
	84.90	4500	94	15	15	7
	93.68	4500	94	15	15	7
	100.86	4500	93	15	15	7
	114.17	4500	93	15	15	7
	121.87	4500	93	15	15	7
	139.99	4500	93	15	15	7
	162.94	4500	93	15	15	7
	176.88	4500	93	15	15	7

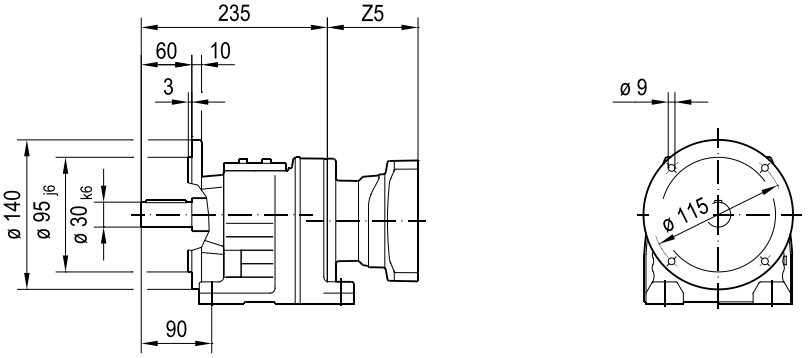
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01 037 00 21

R47..



R47F..

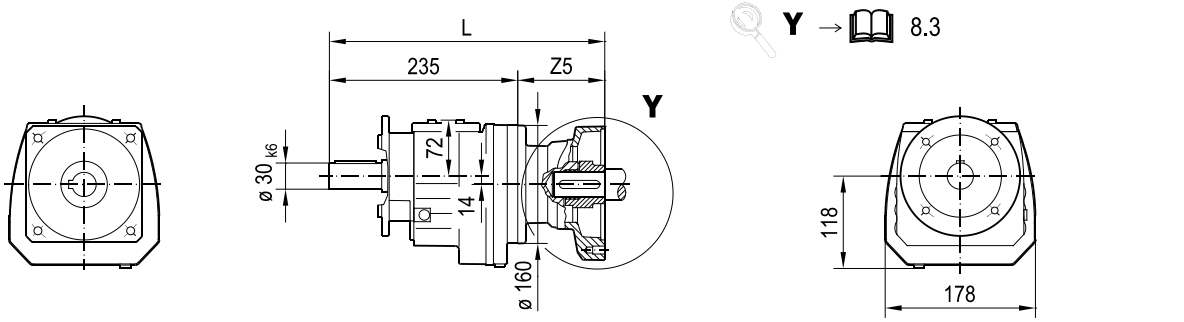


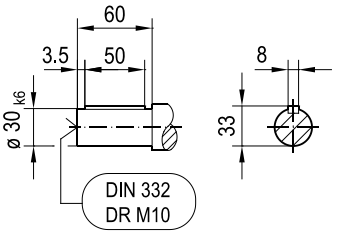
(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	285	302	308	312	315	321	315	320	344	369	369	381

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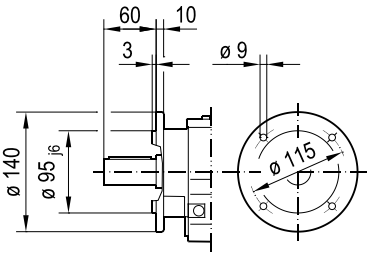
01 038 00 21

RF47..

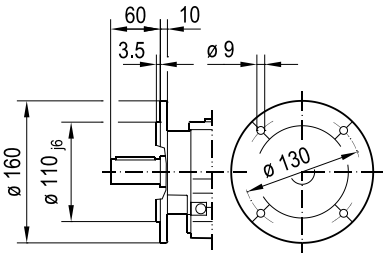




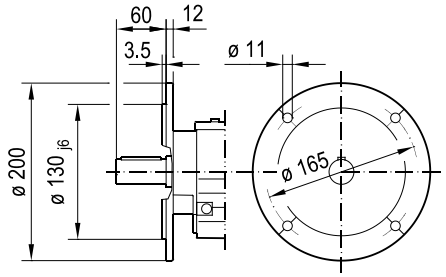
ø 140



ø 160



ø 200

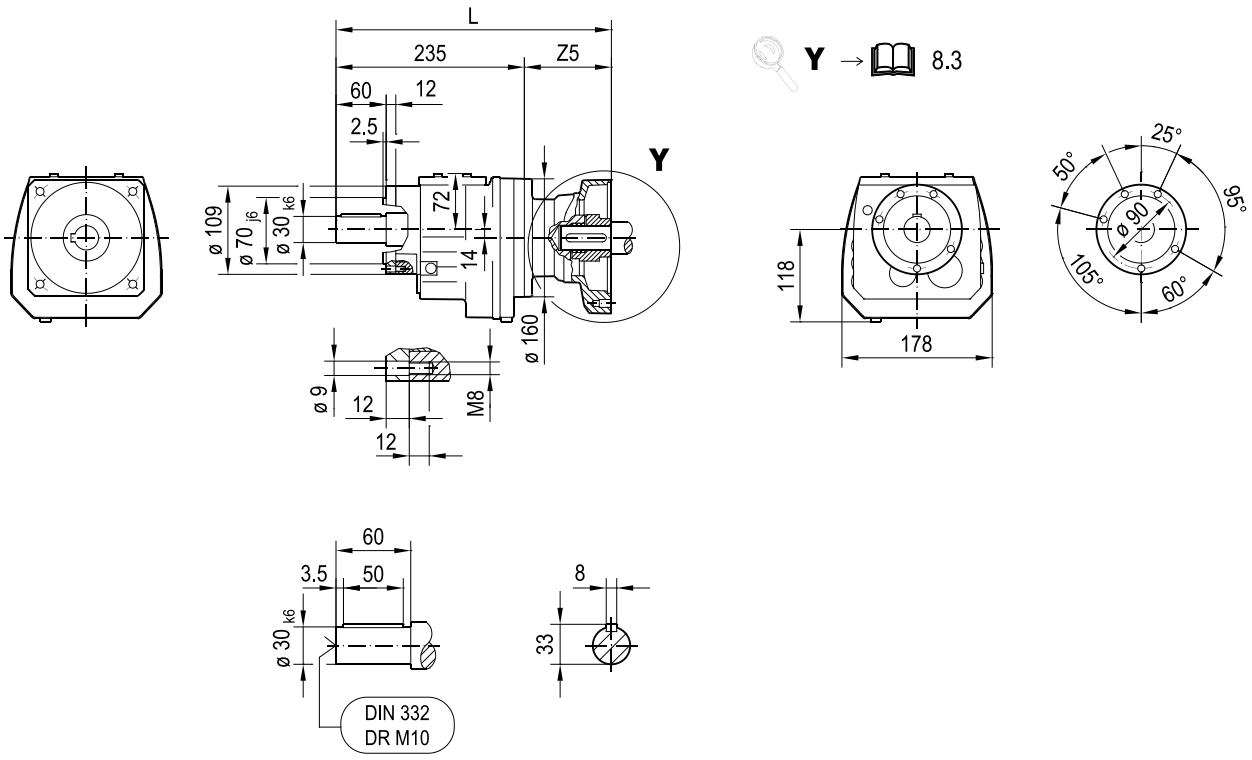


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	285	302	308	312	315	321	315	320	344	369	369	381

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01 039 00 21

RZ47..



(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	285	302	308	312	315	321	315	320	344	369	369	381

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8.2.6 R57 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$																	
	i	80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6			160/1			190/1,3-6		
R57 2	4.39	70	71	119	133	133	191	138	200	235	280	405	475	280	420	475	280	420	475
	5.05	75	82	128	143	153	220	147	220	250	305	425	520	305	425	520	305	425	520
	5.82	80	95	136	152	177	255	156	235	265	320	425	545	320	425	545	320	425	545
	6.41	83	105	141	158	195	270	162	245	275	335	425	570	335	425	570	335	425	570
	7.53	89	123	151	169	230	285	173	260	295	350	425	595	350	425	595	350	425	595
	7.97	91	130	155	172	240	290	176	265	300	355	425	605	355	425	605	355	425	605
	9.06	94	141	160	177	265	300	181	270	310	375	425	640	375	425	640			
	9.35	139	153	235	265	285	410	270	405	460	370	455	630	370	455	630	370	455	630
	10.79	148	176	250	280	325	470	285	430	485	390	455	665	390	455	665	390	455	665
	11.88	154	194	260	290	360	495	300	450	510	405	455	690	405	455	690	405	455	690
	13.95	165	225	280	310	425	525	320	455	545	430	455	730	430	455	730	430	455	730
	14.77	168	240	285	320	450	545	325	455	555	435	455	740	435	455	740	435	455	740
	16.79	174	260	295	325	455	555	335	455	570	450	455	765	450	455	765			
	18.60	179	270	305	335	455	570	345	455	585	450	455	765	450	455	765			
	21.93	187	280	320	350	455	595	360	455	610	450	455	765	450	455	765			
	24.99	197	295	335	370	455	630	375	455	640									
	26.31	198	295	335	370	455	630	380	455	645									
R57 3	26.97	360	435	610	450	455	765	450	455	765	450	455	765	450	455	765	450	455	765
	30.18	380	455	645	450	455	765	450	455	765	450	455	765	450	455	765	450	455	765
	35.07	405	455	690	450	455	765	450	455	765	450	455	765	450	455	765	450	455	765
	37.30	415	455	705	450	455	765	450	455	765	450	455	765	450	455	765	450	455	765
	43.30	435	455	740	450	455	765	450	455	765	450	455	765	450	455	765			
	48.23	450	455	765	450	455	765	450	455	765	450	455	765	450	455	765			
	53.22	450	455	765	450	455	765	450	455	765									
	57.29	450	455	765	450	455	765	450	455	765	450	455	765	450	455	765			
	64.85	450	455	765	450	455	765	450	455	765									
	69.23	450	455	765	450	455	765	450	455	765									
	80.55	450	455	765	450	455	765	450	455	765	450	455	765	450	455	765			
	89.71	450	455	765	450	455	765	450	455	765	450	455	765	450	455	765			
	98.99	450	455	765	450	455	765	450	455	765									
	106.58	450	455	765	450	455	765	450	455	765	450	455	765	450	455	765			
	120.63	450	455	765	450	455	765	450	455	765									
	128.77	450	455	765	450	455	765	450	455	765									
	147.92	450	455	765	450	455	765	450	455	765									
	172.17	450	455	765	450	455	765	450	455	765									
	186.89	450	455	765	450	455	765	450	455	765									

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min^{-1}		AQS. n_{ak}					
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
R57 2	4.39	330	346	321	323	323	323
	5.05	281	283	277	281	281	281
	5.82	241	246	241	244	244	244
	6.41	222	220	218	222	222	222
	7.53	190	189	189	207	207	207
	7.97	177	181	181	198	198	198
	9.06	155	159	159	157	169	
	9.35	152	153	158	165	165	165
	10.79	132	137	143	141	141	141
	11.88	119	126	118	126	126	126
	13.95	103	109	103	106	106	106
	14.77	98	95	100	103	103	103
	16.79	84	91	87	93	93	
	18.60	77	82	78	93	93	
	21.93	66	69	66	93	93	
	24.99	57	57	60			
	26.31	53	55	53			
R57 3	26.97	53	60	60	60	60	60
	30.18	48	60	60	60	60	60
	35.07	40	60	60	60	60	60
	37.30	38	60	60	60	60	60
	43.30	34	60	60	60	60	
	48.23	31	60	60	60	60	
	53.22	32	60	60			
	57.29	36	60	60	60	60	
	64.85	37	60	60			
	69.23	36	60	60			
	80.55	56	56	56	56	56	
	89.71	50	50	50	50	50	
	98.99	45	45	45			
	106.58	42	42	42	42	42	
	120.63	37	37	37			
	128.77	35	35	35			
	147.92	30	30	30			
	172.17	26	26	26			
	186.89	24	24	24			

R57, m kg	AQS.					
s	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
2	20	21	23	27	30	34
3	21	22	24	28	31	35
RF: + 3.4 kg / RM: + 15 kg						

R57, J_A / c_{TA}		AQS.					
		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	0.46	1.3	2.4	8.1	22.0	22.0
c_{TA}	Nm/'	0.15	0.3	0.7	3.0	7.0	7.0

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R..57							F_{Ramax}			F_{Rapk}		
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	R	RF	RM	R	RF	RM
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N
R57 2	4.39	280	420	475	335	4.3	1900	1900	3960	7230	7230	3730
	5.05	305	425	515	291	3.4	1730	1730	3920	7210	7210	3720
	5.82	320	425	540	254	2.7	1820	1820	3900	7210	7210	3720
	6.41	335	425	570	231	2.3	1770	1770	3870	7210	7210	3720
	7.53	350	425	595	215	1.8	1950	1950	3850	7210	7210	3720
	7.97	355	425	600	206	1.6	2020	2020	3840	7210	7210	3720
	9.06	375	425	635	175	1.3	2010	2010	3810	7210	7210	3720
	9.35	370	455	625	171	2.8	3180	3180	3800	7080	7080	3650
	10.79	390	455	660	146	2.2	3330	3330	3760	7080	7080	3650
	11.88	405	455	685	131	1.9	3430	3430	3740	7080	7080	3650
	13.95	430	455	730	110	1.6	3610	3610	3700	7080	7080	3650
	14.77	435	455	740	106	1.4	3690	3690	3690	7080	7080	3650
	16.79	450	455	765	96	1.1	3860	3860	3660	7080	7080	3650
	18.60	450	455	765	96	0.94	4050	4050	3660	7080	7080	3650
	21.93	450	455	765	97	0.73	4370	4370	3660	7080	7080	3650
	24.99	450	455	765	97	0.51	4640	4640	3660	7080	7080	3650
	26.31	450	455	765	97	0.45	4750	4750	3660	7080	7080	3650
R57 3	26.97	450	455	765	62	1.5	4800	4800	3660	7080	7080	3650
	30.18	450	455	765	62	1.3	5040	5040	3660	7080	7080	3650
	35.07	450	455	765	62	0.97	5390	5390	3660	7080	7080	3650
	37.30	450	455	765	62	0.89	5530	5530	3660	7080	7080	3650
	43.30	450	455	765	62	0.70	5900	5900	3660	7080	7080	3650
	48.23	450	455	765	62	0.60	6170	6170	3660	7080	7080	3650
	53.22	450	455	765	62	0.49	6430	6430	3660	7080	7080	3650
	57.29	450	455	765	62	0.46	6630	6630	3660	7080	7080	3650
	64.85	450	455	765	62	0.38	6980	6980	3660	7080	7080	3650
	69.23	450	455	765	62	0.35	7100	7100	3660	7080	7080	3650
	80.55	450	455	765	56	0.62	7100	7100	3660	7080	7080	3650
	89.71	450	455	765	50	0.54	7100	7100	3660	7080	7080	3650
	98.99	450	455	765	45	0.45	7100	7100	3660	7080	7080	3650
	106.58	450	455	765	42	0.42	7100	7100	3660	7080	7080	3650
	120.63	450	455	765	37	0.35	7100	7100	3660	7080	7080	3650
	128.77	450	455	765	35	0.32	7100	7100	3660	7080	7080	3650
	147.92	450	455	765	30	0.26	7100	7100	3660	7080	7080	3650
	172.17	450	455	765	26	0.21	7100	7100	3660	7080	7080	3650
	186.89	450	455	765	24	0.18	7100	7100	3660	7080	7080	3650

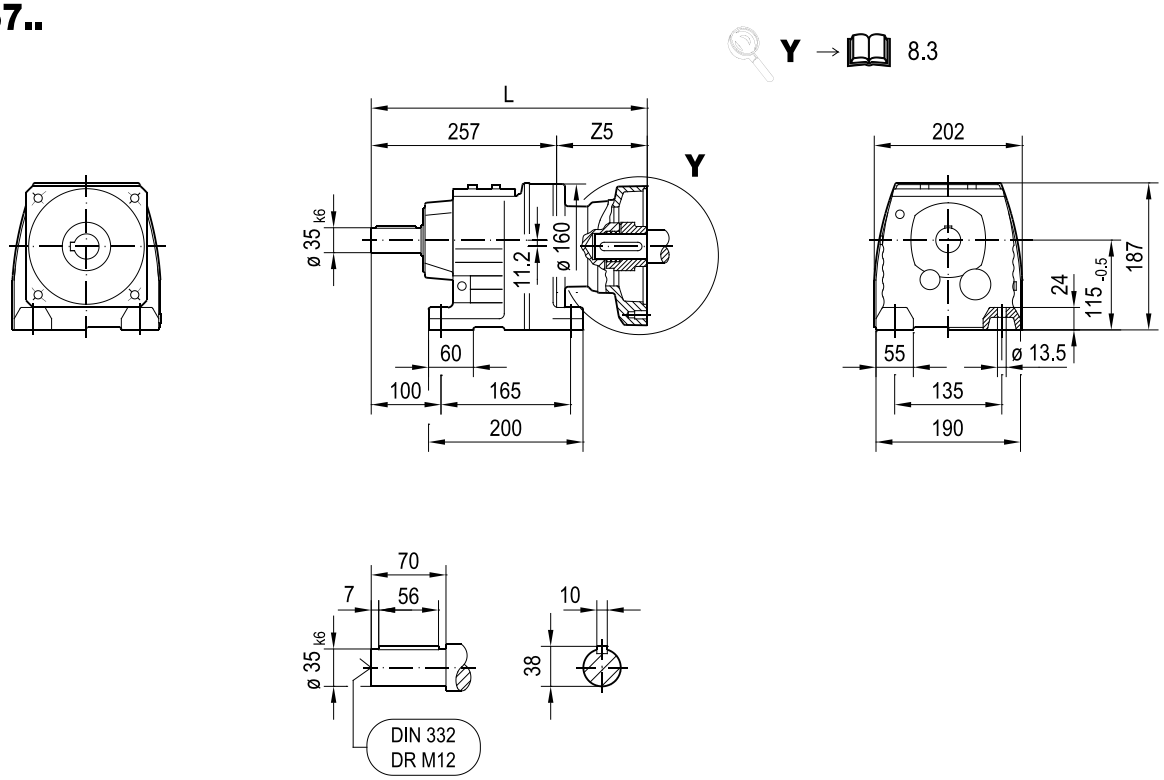
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R..57				c_{TG}			φ
	i	n_{epk} min^{-1}	η %	R Nm/'	RF Nm/'	RM Nm/'	/R '
R57 2	4.39	4500	97	21	21	17	10
	5.05	4500	97	21	21	17	10
	5.82	4500	97	21	21	17	10
	6.41	4500	97	21	21	17	9
	7.53	4500	97	21	21	17	9
	7.97	4500	97	21	21	17	9
	9.06	4500	97	21	21	17	9
	9.35	4500	97	25	25	20	7
	10.79	4500	97	25	25	20	7
	11.88	4500	97	25	25	20	7
	13.95	4500	97	25	25	20	7
	14.77	4500	97	25	25	20	7
	16.79	4500	97	25	25	20	7
	18.60	4500	97	25	25	20	7
	21.93	4500	97	25	25	20	7
	24.99	4500	97	25	25	20	6
	26.31	4500	97	25	25	20	6
R57 3	26.97	4500	95	26	26	20	8
	30.18	4500	95	26	26	20	8
	35.07	4500	95	26	26	20	8
	37.30	4500	95	26	26	20	8
	43.30	4500	95	26	26	20	8
	48.23	4500	95	26	26	20	8
	53.22	4500	95	26	26	20	8
	57.29	4500	95	26	26	20	8
	64.85	4500	95	26	26	20	8
	69.23	4500	95	26	26	20	7
	80.55	4500	94	26	26	20	7
	89.71	4500	94	26	26	20	7
	98.99	4500	94	26	26	20	7
	106.58	4500	94	26	26	20	7
	120.63	4500	94	26	26	20	7
	128.77	4500	94	26	26	20	7
	147.92	4500	94	26	26	20	7
	172.17	4500	93	26	26	20	7
	186.89	4500	93	26	26	20	7

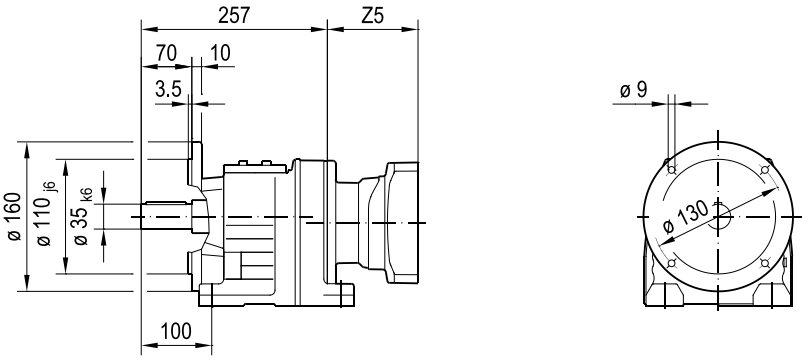
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01 040 00 21

R57..



R57F..

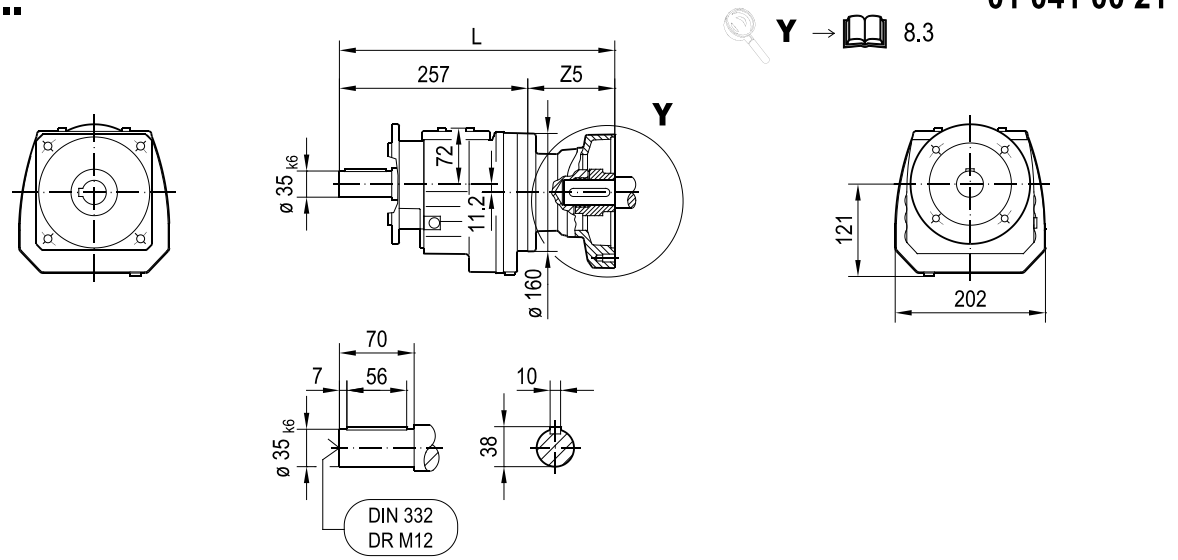


(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	307	324	330	334	337	343	337	342	366	391	391	403

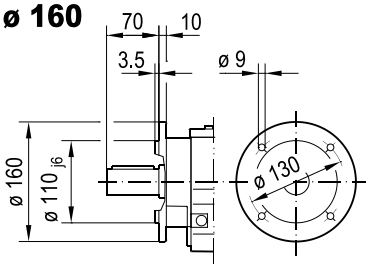
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RF57..

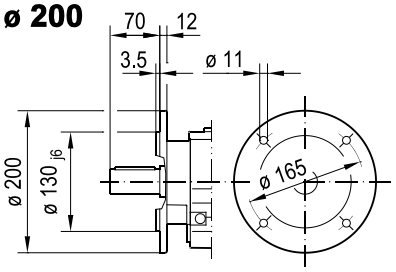
01 041 00 21



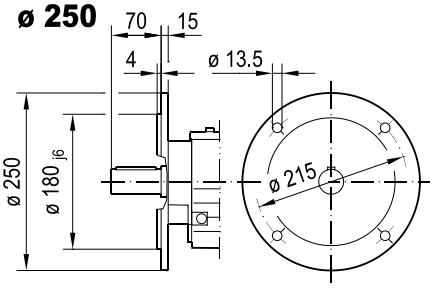
ø 160



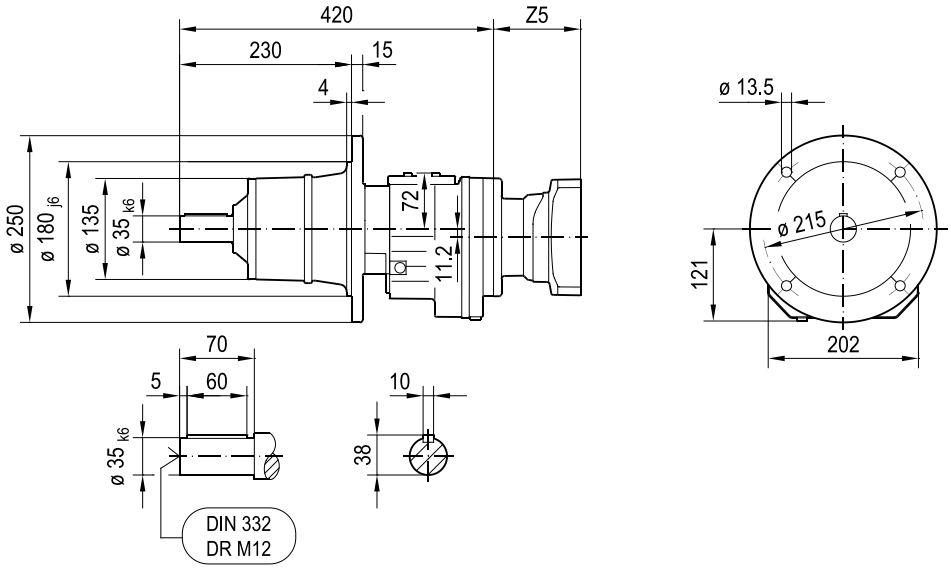
ø 200



ø 250



RM57..

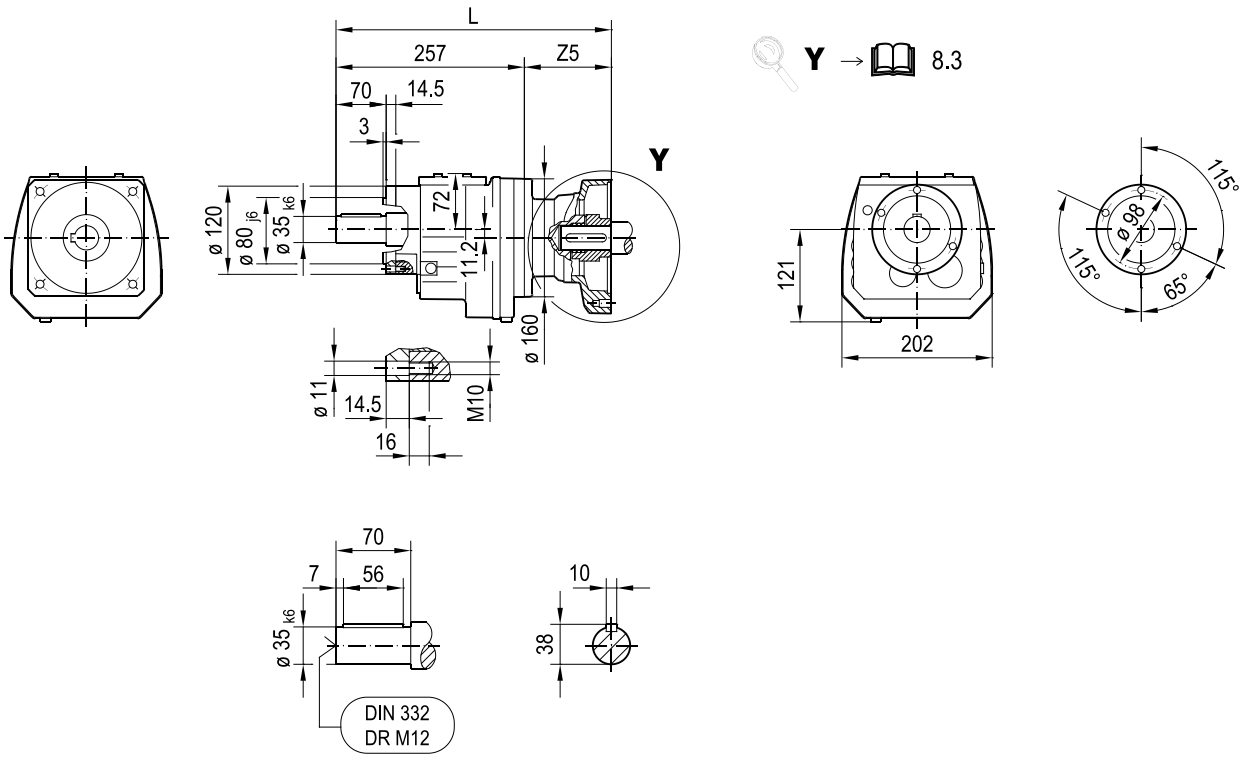


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	307	324	330	334	337	343	337	342	366	391	391	403

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01 042 00 21

RZ57..



(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	307	324	330	334	337	343	337	342	366	391	391	403

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8.2.7 R67 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$																	
	i	80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6			160/1			190/1,3-6		
R67 2	4.29	66	70	112	127	130	187	130	185	220	270	370	460	270	390	460	270	390	460
	4.93	70	80	119	135	150	215	138	205	235	290	400	495	290	425	495	290	425	495
	5.70	75	93	128	143	173	245	147	220	250	305	435	520	310	465	525	310	465	525
	6.27	78	102	133	148	191	250	152	230	260	315	455	535	330	485	560	330	485	560
	7.36	84	120	143	159	225	270	163	245	275	340	485	580	370	485	630	370	485	630
	7.79	85	128	145	162	235	275	166	250	280	345	480	585	380	480	645	380	480	645
	8.70	134	142	230	255	265	380	260	375	440	440	660	750	440	660	750	440	660	750
	10.00	143	163	245	270	305	435	280	415	475	470	665	800	470	665	800	470	665	800
	11.54	152	189	260	290	350	495	295	445	500	500	665	850	500	665	850	500	665	850
	12.70	158	205	270	300	385	510	305	460	520	520	665	880	520	665	880	520	665	880
	14.91	170	240	290	320	455	545	330	495	560	550	665	940	550	665	940	550	665	940
	15.79	173	255	295	325	480	555	335	505	570	560	665	950	560	665	950	560	665	950
	17.95	179	270	305	335	505	570	345	520	585	590	665	1000	590	665	1000			
	19.89	184	275	315	345	520	585	355	535	605	600	665	1020	600	665	1020			
	23.44	193	290	330	360	540	610	370	555	630	560	665	950	560	665	950			
	26.72	200	300	340	380	550	645	390	550	665									
	28.13	200	300	340	380	555	645	390	555	665									
R67 3	28.83	370	465	630	520	595	880	520	595	880	520	595	880	520	595	880	520	595	880
	32.27	390	520	665	540	595	920	540	595	920	540	595	920	540	595	920	540	595	920
	37.50	415	595	705	570	595	970	570	595	970	570	595	970	570	595	970	570	595	970
	39.88	425	595	725	580	595	990	580	595	990	580	595	990	580	595	990	580	595	990
	46.29	450	600	765	600	600	1020	600	600	1020	600	600	1020	600	600	1020			
	51.56	465	600	790	600	600	1020	600	600	1020	600	600	1020	600	600	1020			
	56.89	475	600	810	600	600	1020	600	600	1020									
	61.26	490	600	830	600	600	1020	600	600	1020	600	600	1020	600	600	1020			
	69.75	600	660	1020	600	660	1020	600	660	1020	600	660	1020	600	660	1020	600	660	1020
	74.17	600	660	1020	600	660	1020	600	660	1020	600	660	1020	600	660	1020	600	660	1020
	86.11	600	660	1020	600	660	1020	600	660	1020	600	660	1020	600	660	1020			
	95.91	600	660	1020	600	660	1020	600	660	1020	600	660	1020	600	660	1020			
	105.83	600	660	1020	600	660	1020	600	660	1020									
	113.94	600	660	1020	600	660	1020	600	660	1020	600	660	1020	600	660	1020			
	128.97	600	660	1020	600	660	1020	600	660	1020									
	137.67	600	660	1020	600	660	1020	600	660	1020									
	158.14	600	660	1020	600	660	1020	600	660	1020									
	184.07	600	660	1020	600	660	1020	600	660	1020									
	199.81	600	660	1020	600	660	1020	600	660	1020									

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min^{-1}		AQS. n_{ak}					
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
R67 2	4.29	336	326	331	331	329	329
	4.93	304	286	292	286	286	286
	5.70	251	251	247	261	251	251
	6.27	228	231	230	244	225	225
	7.36	190	193	193	194	192	192
	7.79	189	184	184	189	181	181
	8.70	163	170	177	167	167	167
	10.00	142	153	143	145	145	145
	11.54	124	123	130	127	127	127
	12.70	113	114	120	116	116	116
	14.91	95	100	96	99	99	99
	15.79	91	96	93	93	93	93
	17.95	78	84	81	82	82	
	19.89	72	75	73	74	74	
	23.44	60	64	63	91	91	
	26.72	54	54	53			
	28.13	52	52	50			
R67 3	28.83	51	50	50	50	50	50
	32.27	47	44	44	44	44	44
	37.50	40	38	38	38	38	38
	39.88	37	36	36	36	36	36
	46.29	31	32	32	32	32	
	51.56	29	32	32	32	32	
	56.89	26	32	32			
	61.26	24	32	32	32	32	
	69.75	27	27	27	27	27	27
	74.17	28	28	28	28	28	28
	86.11	28	28	28	28	28	
	95.91	28	28	28	28	28	
	105.83	28	28	28			
	113.94	28	28	28	28	28	
	128.97	28	28	28			
	137.67	28	28	28			
	158.14	28	28	28			
	184.07	24	24	24			
	199.81	23	23	23			

R67, m kg							
		AQS.					
s		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
2		27	28	30	34	36	40
3		28	29	30	35	37	41
RF: + 3.2 kg / RM: + 19 kg							

R67, J_A / c_{TA}		AQS.					
		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	0.46	1.3	2.4	8.1	22.0	22.0
c_{TA}	Nm/'	0.15	0.3	0.7	3.0	7.0	7.0

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R..67							F_{Ramax}			F_{Rapk}		
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	R	RF	RM	R	RF	RM
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N
R67 2	4.29	270	405	455	343	5.9	5000	5000	6250	9300	9300	6040
	4.93	290	435	490	298	4.6	5210	5210	6220	9100	9100	5990
	5.70	310	465	525	261	3.6	5450	5450	6190	8870	8870	5950
	6.27	330	485	560	236	3.0	5590	5590	6160	8710	8710	5910
	7.36	370	485	625	201	2.4	5790	5790	6100	8710	8710	5910
	7.79	380	485	645	190	2.1	5830	5830	6080	8710	8710	5910
	8.70	440	660	745	172	4.0	5960	5960	5960	5350	5350	5600
	10.00	470	665	795	151	3.2	6220	6220	5910	4700	4700	5590
	11.54	500	665	850	133	2.5	6500	6500	5860	4700	4700	5590
	12.70	520	665	880	120	2.2	6640	6640	5830	4700	4700	5590
	14.91	550	665	930	103	1.7	6980	6980	5780	4700	4700	5590
	15.79	560	665	950	97	1.6	7130	7130	5760	4700	4700	5590
	17.95	590	665	1000	85	1.2	7330	7330	5720	4700	4700	5590
	19.89	600	665	1020	77	1.0	7560	7560	5700	4700	4700	5590
	23.44	560	665	950	95	0.80	8010	8010	5760	4700	4700	5590
	26.72	540	665	910	106	0.56	8210	8210	5800	4700	4700	5590
	28.13	540	665	910	106	0.50	8210	8210	5800	4700	4700	5590
R67 3	28.83	520	595	880	51	1.5	8400	8400	5830	7620	7620	5710
	32.27	540	595	910	46	1.3	8210	8210	5800	7620	7620	5710
	37.50	570	595	960	39	1.0	7900	7900	5750	7620	7620	5710
	39.88	580	595	980	37	0.93	7790	7790	5730	7620	7620	5710
	46.29	600	600	1020	33	0.72	7560	7560	5700	7560	7560	5700
	51.56	600	600	1020	33	0.61	7560	7560	5700	7560	7560	5700
	56.89	600	600	1020	33	0.50	7560	7560	5700	7560	7560	5700
	61.26	600	600	1020	33	0.47	7560	7560	5700	7560	7560	5700
	69.75	600	660	1020	30	0.88	7560	7560	5700	5350	5350	5600
	74.17	600	660	1020	30	0.81	7560	7560	5700	5350	5350	5600
	86.11	600	660	1020	30	0.63	7560	7560	5700	5350	5350	5600
	95.91	600	660	1020	30	0.54	7560	7560	5700	5350	5350	5600
	105.83	600	660	1020	30	0.45	7560	7560	5700	5350	5350	5600
	113.94	600	660	1020	30	0.42	7560	7560	5700	5350	5350	5600
	128.97	600	660	1020	30	0.36	7560	7560	5700	5350	5350	5600
	137.67	600	660	1020	30	0.32	7560	7560	5700	5350	5350	5600
	158.14	600	660	1020	28	0.26	7560	7560	5700	5350	5350	5600
	184.07	600	660	1020	24	0.21	7560	7560	5700	5350	5350	5600
	199.81	600	660	1020	23	0.19	7560	7560	5700	5350	5350	5600

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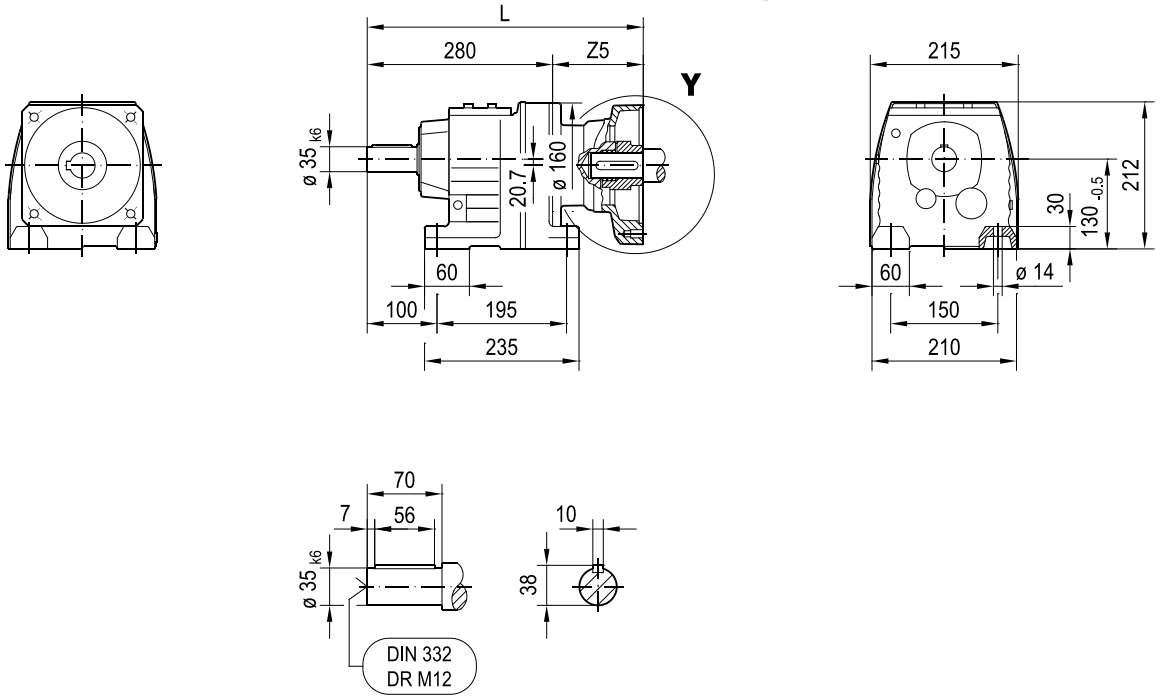
R..67				c_{TG}			φ
	i	n_{epk} min^{-1}	η %	R Nm/'	RF Nm/'	RM Nm/'	/R '
R67 2	4.29	3700	97	24	24	22	10
	4.93	4252	97	24	24	22	9
	5.70	4500	97	24	24	22	9
	6.27	4500	97	24	24	22	9
	7.36	4500	97	24	24	22	8
	7.79	4500	97	24	24	22	8
	8.70	4500	97	32	32	28	7
	10.00	4500	97	32	32	28	7
	11.54	4500	97	32	32	28	7
	12.70	4500	97	32	32	28	6
	14.91	4500	97	32	32	28	6
	15.79	4500	97	32	32	28	6
	17.95	4500	97	32	32	28	6
	19.89	4500	97	32	32	28	6
	23.44	4500	97	32	32	28	6
	26.72	4500	97	32	32	28	6
	28.13	4500	97	32	32	28	6
R67 3	28.83	4500	95	33	33	29	7
	32.27	4500	95	33	33	29	7
	37.50	4500	95	33	33	29	7
	39.88	4500	95	33	33	29	7
	46.29	4500	95	33	33	29	7
	51.56	4500	95	33	33	29	7
	56.89	4500	95	33	33	29	7
	61.26	4500	95	33	33	29	7
	69.75	4500	95	33	33	29	7
	74.17	4500	95	33	33	29	7
	86.11	4500	95	33	33	29	6
	95.91	4500	95	33	33	29	6
	105.83	4500	95	33	33	29	6
	113.94	4500	95	33	33	29	6
	128.97	4500	95	33	33	29	6
	137.67	4500	94	33	33	29	6
	158.14	4500	94	33	33	29	6
	184.07	4500	94	33	33	29	6
	199.81	4500	93	33	33	29	6

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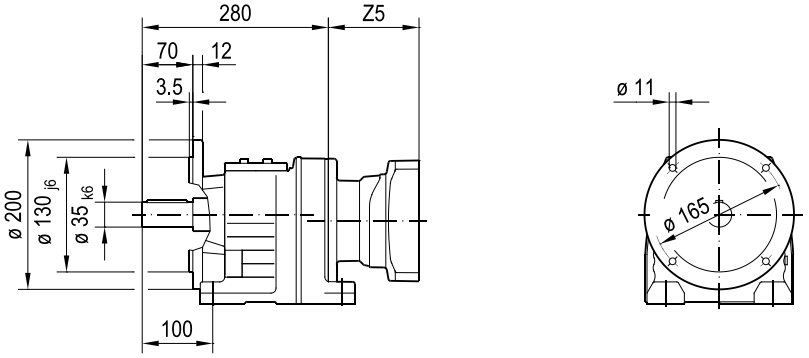
01 043 00 21

R67..

Y → 8.3



R67F..

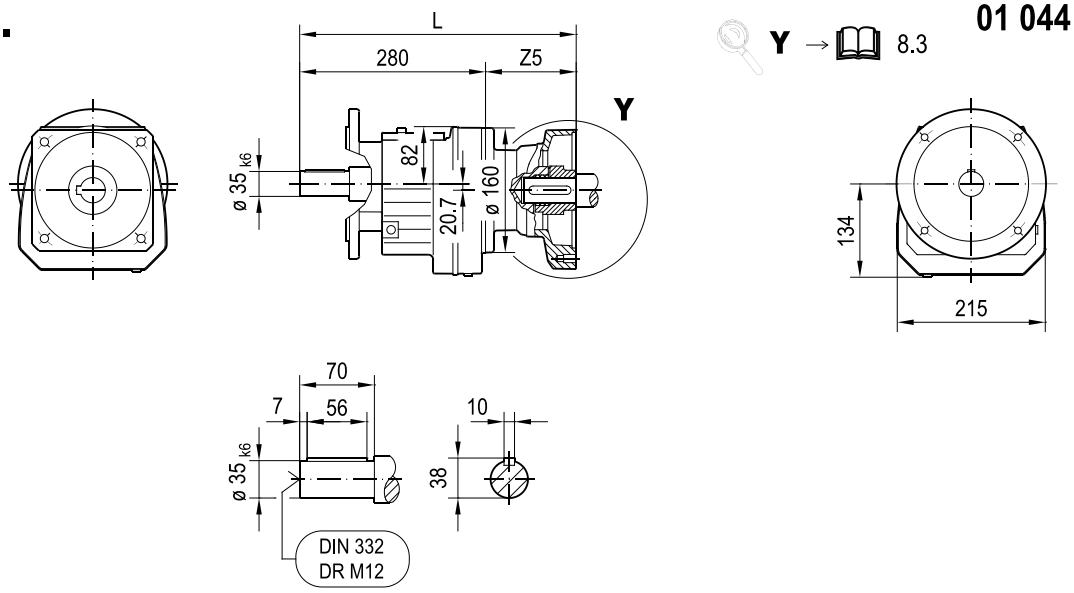


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	330	347	353	357	360	366	360	365	389	414	414	426

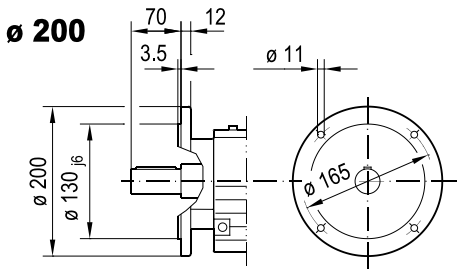
27788644/EN – 02/2024

RF67..

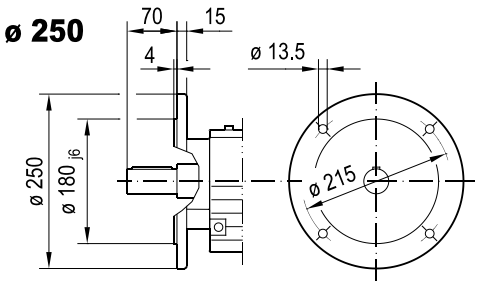
01 044 00 21



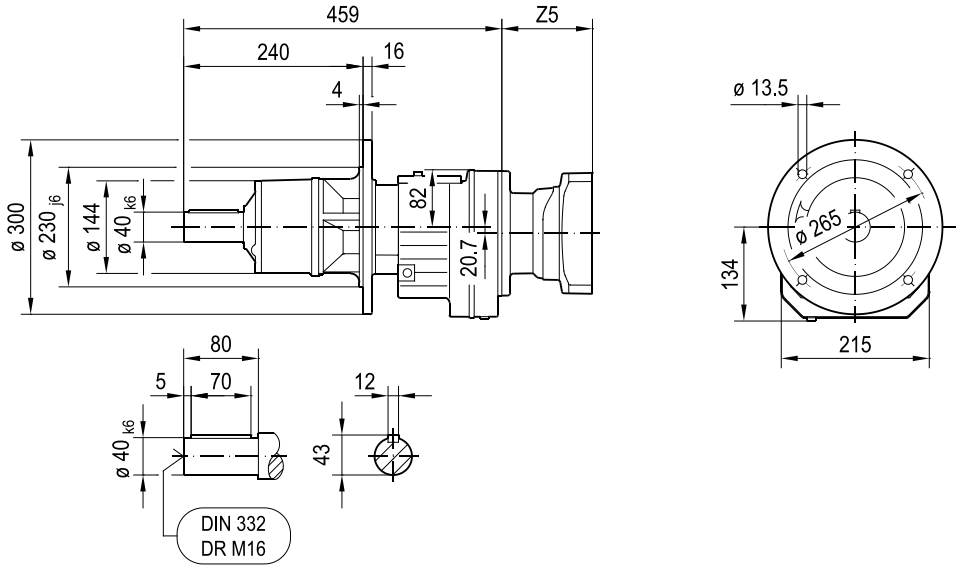
ø 200



ø 250



RM67..

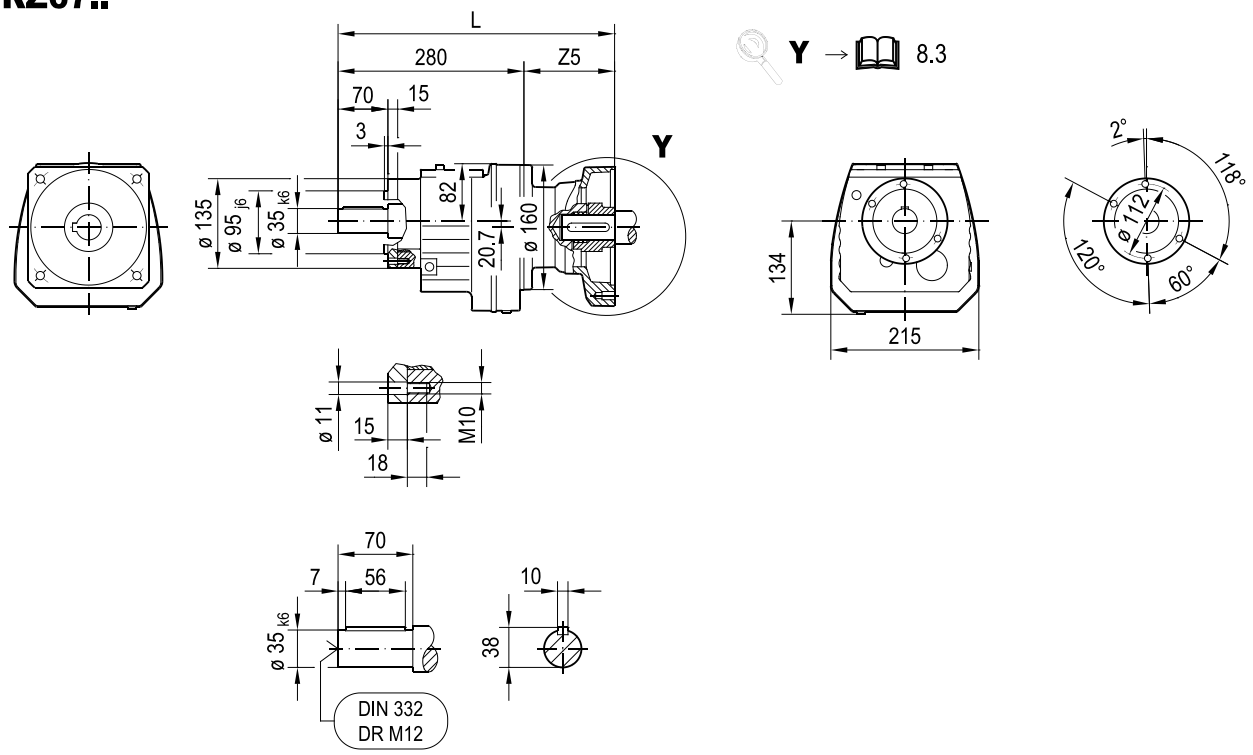


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	330	347	353	357	360	366	360	365	389	414	414	426

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01 045 00 21

RZ67..



(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	330	347	353	357	360	366	360	365	389	414	414	426

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8.2.8 R77 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$																	
	i	80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6			160/1			190/1,3-6		
R77 2	5.31	86	86	146	161	161	230	180	250	305	380	570	645	510	605	870	510	765	870
	5.99	95	97	162	182	182	260	190	275	325	400	600	680	540	660	920	540	810	920
	6.79	100	110	170	195	205	295	199	300	340	415	625	705	580	725	990	580	840	990
	7.74	105	126	179	200	235	335	205	310	350	435	655	740	610	795	1040	610	840	1040
	8.59	110	140	187	210	260	355	215	325	365	455	685	775	630	840	1070	630	840	1070
	9.64	156	156	265	290	290	420	325	455	555	630	900	1070	630	900	1070	630	900	1070
	10.88	173	177	295	330	330	475	345	505	585	660	900	1120	660	900	1120	660	900	1120
	12.33	182	200	310	350	375	535	360	540	610	690	900	1170	690	900	1170	690	900	1170
	14.05	191	225	325	370	425	610	380	570	645	720	900	1220	720	900	1220	720	900	1220
	15.60	200	255	340	385	475	655	395	595	670	740	900	1260	740	900	1260	740	900	1260
	17.82	205	290	350	405	540	690	410	615	695	780	900	1330	780	900	1330	780	900	1330
	18.80	210	305	355	410	570	695	420	630	715	780	900	1330	780	900	1330	780	900	1330
	21.43	220	330	375	420	630	715	430	645	730	820	900	1390	820	900	1390			
	23.37	220	330	375	430	645	730	440	660	750	820	900	1390	820	900	1390			
R77 3	25.23	405	405	690	755	755	1080	780	900	1330	780	900	1330	780	900	1330	780	900	1330
	29.00	435	465	740	820	870	1250	820	900	1390	820	900	1390	820	900	1390	820	900	1390
	33.47	465	540	790	820	900	1390	820	900	1390	820	900	1390	820	900	1390	820	900	1390
	36.83	485	595	820	820	900	1390	820	900	1390	820	900	1390	820	900	1390	820	900	1390
	43.26	520	700	880	820	900	1390	820	900	1390	820	900	1390	820	900	1390	820	900	1390
	45.81	530	740	900	820	900	1390	820	900	1390	820	900	1390	820	900	1390	820	900	1390
	52.07	550	830	940	820	900	1390	820	900	1390	820	900	1390	820	900	1390			
	57.68	565	850	960	820	900	1390	820	900	1390	820	900	1390	820	900	1390			
	65.77	820	900	1390	820	900	1390	820	900	1390	820	900	1390	820	900	1390	820	900	1390
	77.24	820	900	1390	820	900	1390	820	900	1390	820	900	1390	820	900	1390	820	900	1390
	81.80	820	900	1390	820	900	1390	820	900	1390	820	900	1390	820	900	1390	820	900	1390
	92.97	820	900	1390	820	900	1390	820	900	1390	820	900	1390	820	900	1390			
	102.99	820	900	1390	820	900	1390	820	900	1390	820	900	1390	820	900	1390			
	121.42	820	900	1390	820	900	1390	820	900	1390	820	900	1390	820	900	1390			
	138.39	820	900	1390	820	900	1390	820	900	1390									
	145.67	820	900	1390	820	900	1390	820	900	1390									
	166.59	820	900	1390	820	900	1390	820	900	1390									
	195.24	820	900	1390	820	900	1390	820	900	1390									

min^{-1}		AQS. n_{ak}					
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
R77 2	5.31	360	467	269	269	266	266
	5.99	239	264	234	235	239	239
	6.79	211	206	211	221	208	208
	7.74	187	208	207	193	185	185
	8.59	170	184	184	173	169	169
	9.64	199	268	154	146	146	146
	10.88	129	146	129	130	130	130
	12.33	114	122	118	114	114	114
	14.05	102	102	100	100	100	100
	15.60	92	96	94	91	91	91
	17.82	91	79	84	79	79	79
	18.80	82	76	76	76	76	76
	21.43	67	70	70	66	66	
	23.37	67	61	60	64	64	

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min^{-1}		AQS. n_{ak}					
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
R77 3	25.23	61	61	56	56	56	56
	29.00	51	49	49	49	49	49
	33.47	43	48	48	48	48	48
	36.83	39	49	49	49	49	49
	43.26	33	51	51	51	51	51
	45.81	32	52	52	52	52	52
	52.07	27	52	52	52	52	
	57.68	25	52	52	52	52	
	65.77	31	37	37	37	37	37
	77.24	34	37	37	37	37	37
	81.80	34	37	37	37	37	37
	92.97	33	37	37	37	37	
	102.99	32	37	37	37	37	
	121.42	31	37	37	37	37	
	138.39	32	33	33			
	145.67	30	31	31			
	166.59	27	27	27			
	195.24	23	23	23			

R77, m kg						
	AQS.					
s	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
2	33	34	35	40	43	47
3	34	35	36	41	44	48
RF: + 5.7 kg / RM: + 31 kg						

R77, J_A / c_{TA}		AQS.					
		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	0.46	1.3	2.4	8.1	22.0	22.0
c_{TA}	Nm/'	0.15	0.3	0.7	3.0	7.0	7.0

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R..77							F_{Ramax}			F_{Rapk}		
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	R	RF	RM	R	RF	RM
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N
R77 2	5.31	510	765	860	275	7.7	3990	3990	6470	10400	10400	6180
	5.99	540	810	910	247	6.4	3990	3990	6440	10000	10000	6130
	6.79	580	840	980	215	5.2	3850	3850	6390	9730	9730	6090
	7.74	610	840	1030	191	4.2	3940	3940	6360	9730	9730	6090
	8.59	630	840	1070	175	3.7	4110	4110	6340	9730	9730	6090
	9.64	630	900	1070	151	6.6	6300	6300	6230	9110	9110	5870
	10.88	660	900	1120	134	5.5	6490	6490	6190	9110	9110	5870
	12.33	690	900	1170	118	4.5	6740	6740	6150	9110	9110	5870
	14.05	720	900	1220	104	3.7	7050	7050	6110	9110	9110	5870
	15.60	740	900	1250	95	3.3	7390	7390	6080	9110	9110	5870
	17.82	780	900	1320	82	2.7	7620	7620	6030	9110	9110	5870
	18.80	780	900	1320	79	2.5	7980	7980	6030	9110	9110	5870
	21.43	820	900	1390	69	2.0	8250	8250	5980	9110	9110	5870
	23.37	820	900	1390	66	1.7	8870	8870	5980	9110	9110	5870
R77 3	25.23	780	900	1320	60	3.7	10100	10100	6030	9110	9110	5870
	29.00	820	900	1390	52	3.0	9920	9920	5980	9110	9110	5870
	33.47	820	900	1390	51	2.2	9920	9920	5980	9110	9110	5870
	36.83	820	900	1390	52	1.9	9920	9920	5980	9110	9110	5870
	43.26	820	900	1390	54	1.6	9920	9920	5980	9110	9110	5870
	45.81	820	900	1390	54	1.4	9920	9920	5980	9110	9110	5870
	52.07	820	900	1390	55	1.1	9920	9920	5980	9110	9110	5870
	57.68	820	900	1390	54	0.97	9920	9920	5980	9110	9110	5870
	65.77	820	900	1390	39	1.6	9920	9920	5980	9110	9110	5870
	77.24	820	900	1390	39	1.3	9920	9920	5980	9110	9110	5870
	81.80	820	900	1390	39	1.2	9920	9920	5980	9110	9110	5870
	92.97	820	900	1390	39	0.99	9920	9920	5980	9110	9110	5870
	102.99	820	900	1390	39	0.86	9920	9920	5980	9110	9110	5870
	121.42	820	900	1390	37	0.68	9920	9920	5980	9110	9110	5870
	138.39	820	900	1390	33	0.46	9920	9920	5980	9110	9110	5870
	145.67	820	900	1390	31	0.42	9920	9920	5980	9110	9110	5870
	166.59	820	900	1390	27	0.34	9920	9920	5980	9110	9110	5870
	195.24	820	900	1390	23	0.27	9920	9920	5980	9110	9110	5870

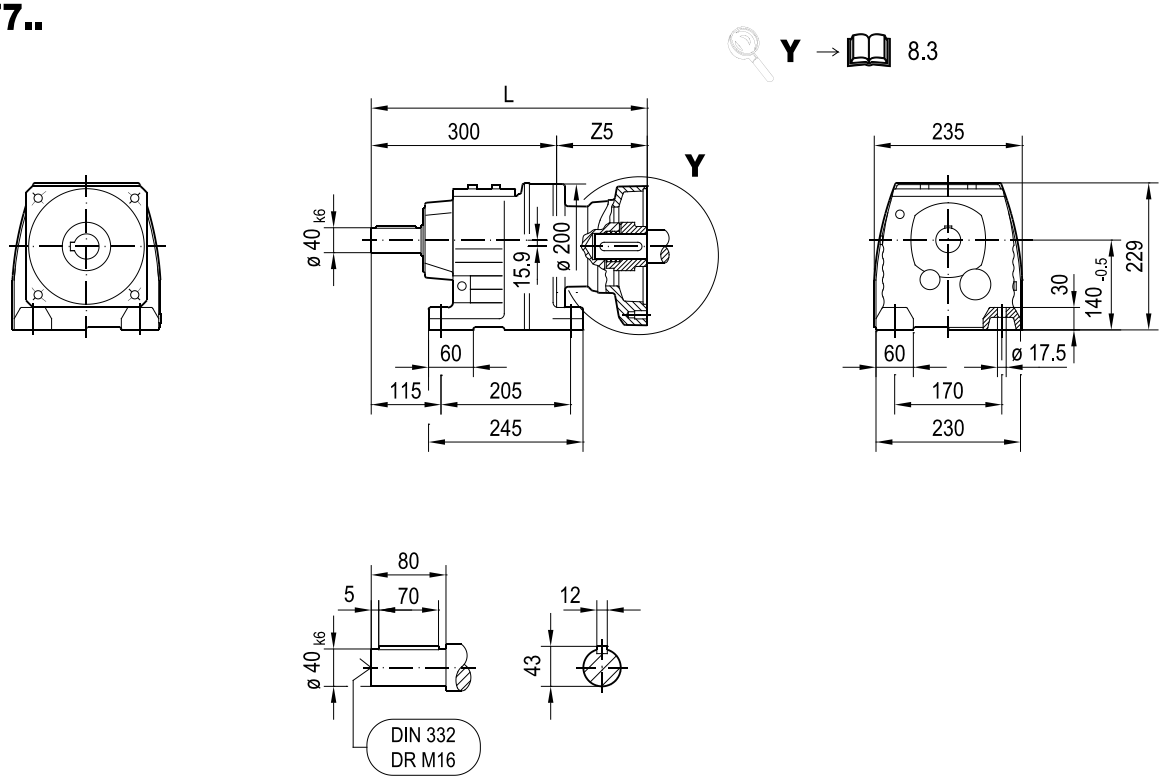
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R..77				c_{TG}			φ
	i	n_{epk} min^{-1}	η %	R Nm/'	RF Nm/'	RM Nm/'	/R '
R77 2	5.31	4500	97	42	42	46	8
	5.99	4500	97	42	42	46	8
	6.79	4500	97	42	42	46	8
	7.74	4500	97	42	42	46	8
	8.59	4500	97	42	42	46	7
	9.64	4500	97	51	51	58	7
	10.88	4500	97	51	51	58	6
	12.33	4500	97	51	51	58	6
	14.05	4500	97	51	51	58	6
	15.60	4500	97	51	51	58	6
	17.82	4500	97	51	51	58	6
	18.80	4500	97	51	51	58	6
	21.43	4500	97	51	51	58	6
	23.37	4500	97	51	51	58	6
R77 3	25.23	4500	96	53	53	61	7
	29.00	4500	96	53	53	61	7
	33.47	4500	96	53	53	61	7
	36.83	4500	95	53	53	61	7
	43.26	4500	95	53	53	61	7
	45.81	4500	95	53	53	61	7
	52.07	4500	95	53	53	61	7
	57.68	4500	95	53	53	61	7
	65.77	4500	95	53	53	61	7
	77.24	4500	95	53	53	61	6
	81.80	4500	95	53	53	61	6
	92.97	4500	95	53	53	61	6
	102.99	4500	95	53	53	61	6
	121.42	4500	94	53	53	61	6
	138.39	4500	94	53	53	61	6
	145.67	4500	94	53	53	61	6
	166.59	4500	94	53	53	61	6
	195.24	4500	93	53	53	61	6

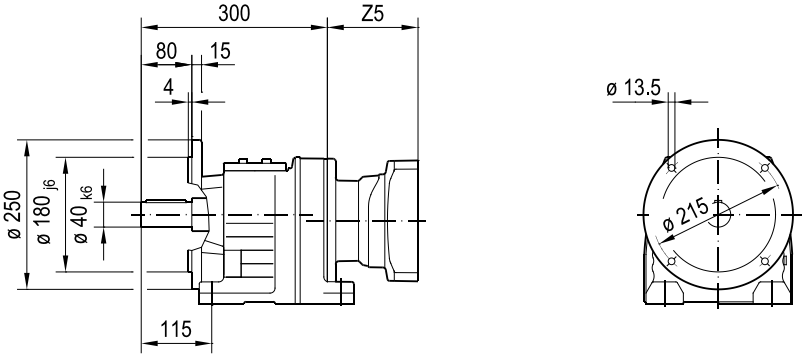
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01 046 00 21

R77..



R77F..



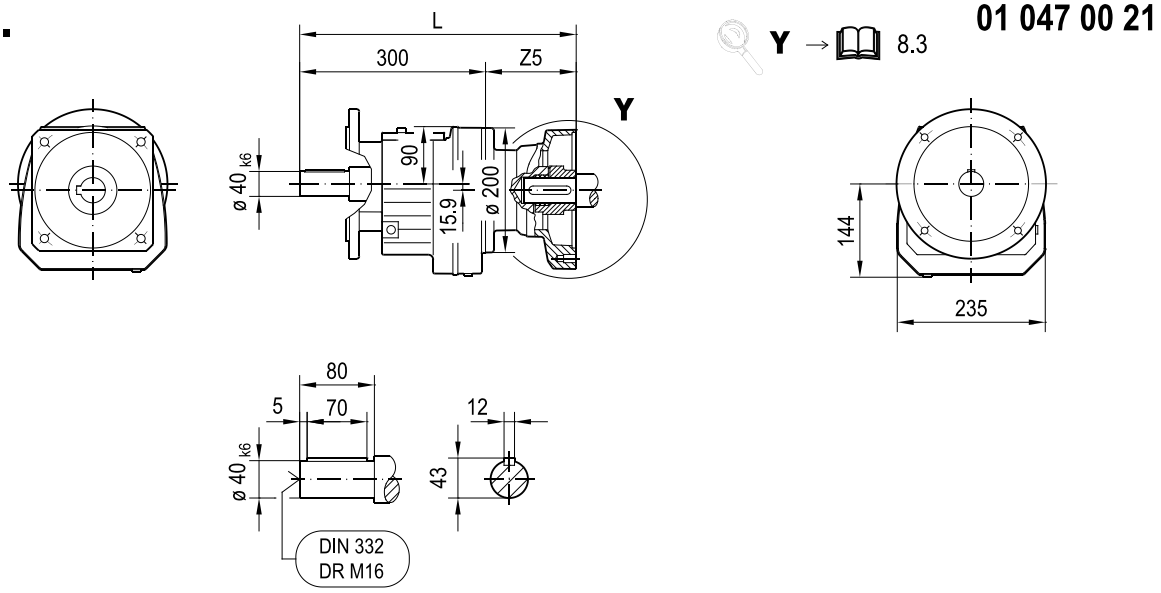
(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	344	360	366	370	373	379	373	378	401	426	426	438

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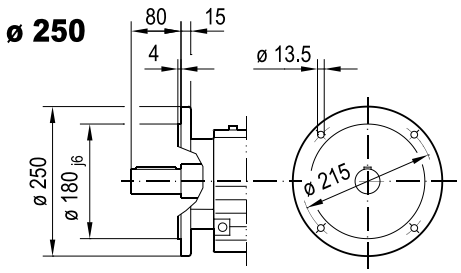
RF77..

01 047 00 21

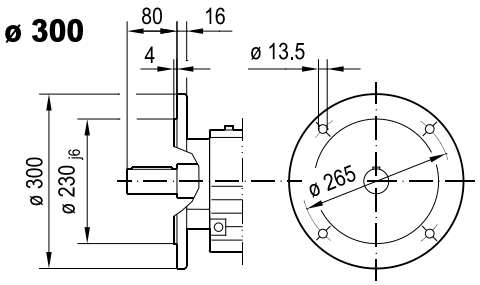
Y → 8.3



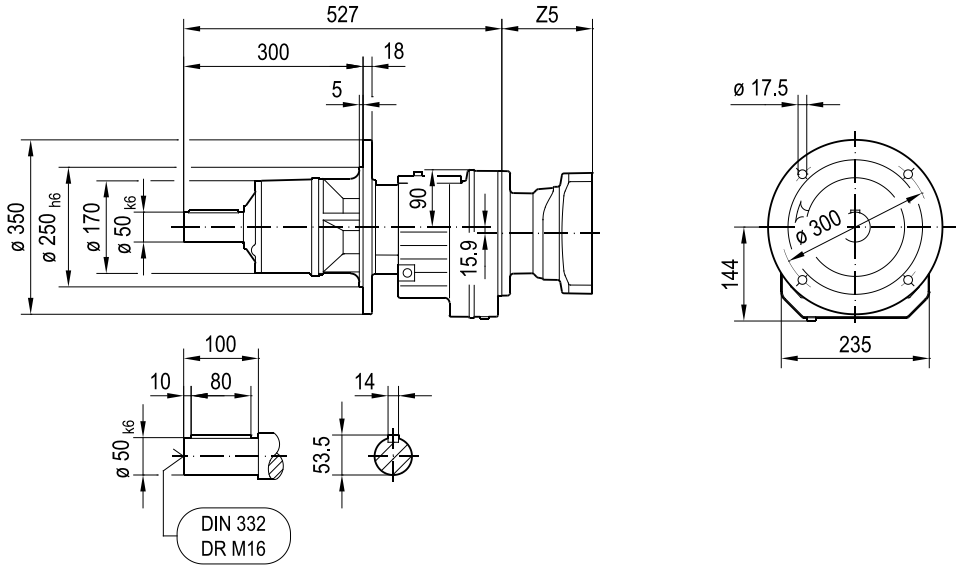
ø 250



ø 300



RM77..

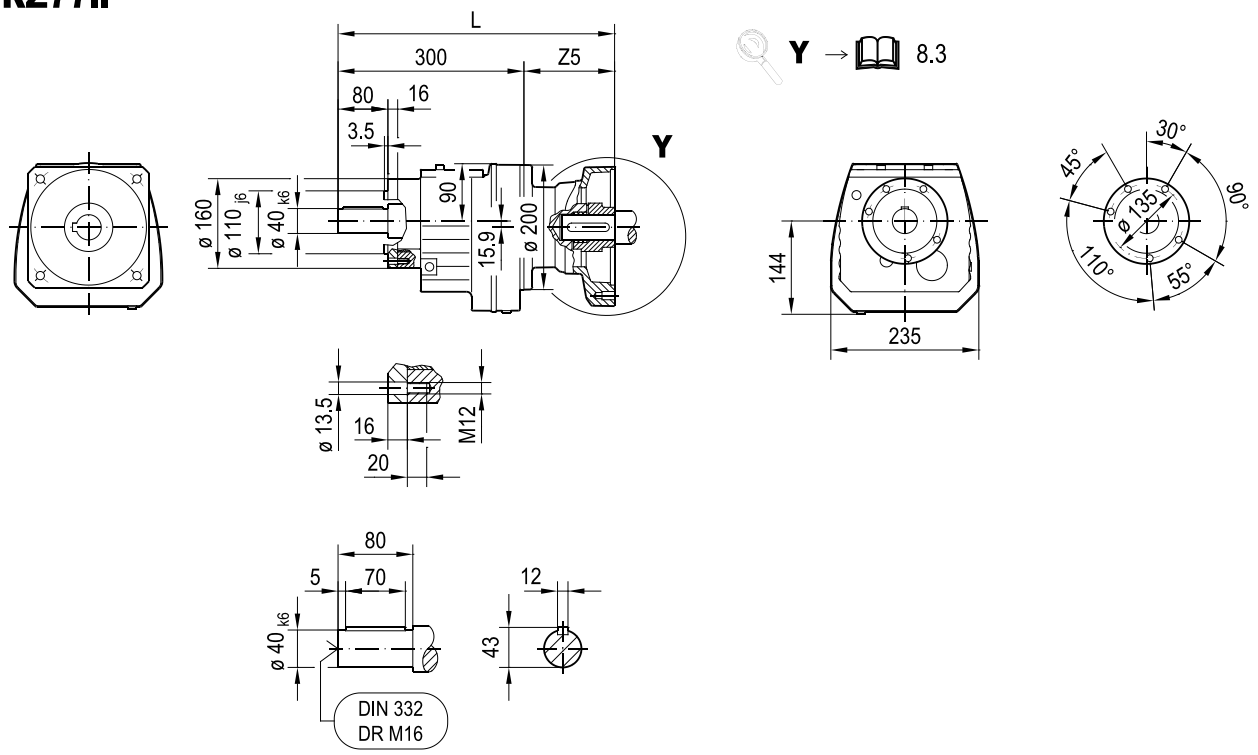


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	344	360	366	370	373	379	373	378	401	426	426	438

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01 048 00 21

RZ77..



(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	344	360	366	370	373	379	373	378	401	426	426	438

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8.2.9 R87 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$														
	i	100/3-7			115/1,3-6			140/1,3,5-6			160/1			190/1,3-6		
R87 2	5.30	159	159	230	225	255	330	485	630	820	585	660	990	810	1120	1380
	6.39	192	192	275	250	305	400	530	740	900	705	770	1200	880	1270	1500
	7.13	215	215	310	260	340	440	555	810	940	790	840	1340	920	1270	1560
	8.22	245	245	355	275	385	470	585	880	990	910	930	1550	970	1270	1650
	9.14	275	275	395	285	420	485	610	920	1040	1000	1010	1700	1000	1270	1700
	9.90	295	295	425	425	475	620	910	1180	1550	1090	1230	1850	1180	1550	2010
	11.93	360	360	515	470	575	750	990	1380	1680	1230	1440	2090	1230	1550	2090
	13.33	400	400	575	490	640	830	1040	1510	1770	1280	1550	2180	1280	1550	2180
	15.35	465	465	665	520	725	880	1100	1550	1870	1340	1550	2280	1340	1550	2280
	17.08	515	515	740	540	790	920	1140	1550	1940	1390	1550	2360	1390	1550	2360
	19.10	545	580	830	560	840	950	1170	1550	1990	1440	1550	2450	1440	1550	2450
	21.51	565	650	930	580	870	990	1210	1550	2060	1500	1550	2550	1500	1550	2550
	23.40	580	710	990	595	890	1010	1250	1550	2130	1550	1550	2640	1550	1550	2640
	27.84	605	840	1030	620	930	1050	1300	1550	2210	1550	1550	2640	1550	1550	2640
	31.40	620	930	1050	635	950	1080	1320	1550	2240	1550	1550	2640			
	34.40	630	950	1070	645	970	1100	1350	1550	2300	1500	1550	2550			
R87 3	27.88	830	830	1190	1030	1330	1730	1500	1550	2550	1500	1550	2550	1500	1550	2550
	32.66	970	970	1400	1100	1550	1870	1550	1550	2640	1550	1550	2640	1550	1550	2640
	36.84	1100	1100	1580	1160	1550	1970	1550	1550	2640	1550	1550	2640	1550	1550	2640
	41.74	1190	1250	1790	1220	1550	2070	1550	1550	2640	1550	1550	2640	1550	1550	2640
	47.58	1250	1430	2040	1280	1550	2180	1550	1550	2640	1550	1550	2640	1550	1550	2640
	52.82	1310	1550	2230	1340	1550	2280	1550	1550	2640	1550	1550	2640	1550	1550	2640
	60.35	1370	1550	2330	1400	1550	2380	1550	1550	2640	1550	1550	2640	1550	1550	2640
	63.68	1390	1550	2360	1420	1550	2410	1550	1550	2640	1550	1550	2640	1550	1550	2640
	72.57	1440	1550	2450	1470	1550	2500	1550	1550	2640	1550	1550	2640			
	81.92	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640
	93.38	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640
	103.65	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640
	118.43	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640
	124.97	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640
	142.41	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640			
	155.34	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640			
	181.77	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640			
	205.71	1550	1550	2640	1550	1550	2640									
	216.54	1550	1550	2640	1550	1550	2640									
	246.54	1550	1550	2640	1550	1550	2640									

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min^{-1}		AQS. n_{ak}				
	i	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
R87 2	5.30	849	302	281	742	266
	6.39	610	230	232	457	225
	7.13	452	213	203	330	198
	8.22	318	185	178	219	170
	9.14	181	168	153	158	158
	9.90	455	151	146	181	142
	11.93	324	118	124	121	121
	13.33	245	108	107	107	107
	15.35	158	92	91	94	94
	17.08	95	83	82	84	84
	19.10	75	73	77	76	76
	21.51	66	66	68	67	67
	23.40	61	60	60	61	61
	27.84	52	51	51	61	61
	31.40	45	45	46	61	
	34.40	42	41	41	67	
R87 3	27.88	120	51	51	51	51
	32.66	81	45	47	47	47
	36.84	48	40	47	47	47
	41.74	35	35	47	47	47
	47.58	30	30	48	48	48
	52.82	27	27	48	48	48
	60.35	24	24	48	48	48
	63.68	22	23	48	48	48
	72.57	19	19	49	49	
	81.92	48	48	48	48	48
	93.38	48	48	48	48	48
	103.65	43	43	43	43	43
	118.43	38	38	38	38	38
	124.97	36	36	36	36	36
	142.41	32	32	32	32	
	155.34	29	29	29	29	
	181.77	25	25	25	25	
	205.71	22	22			
	216.54	21	21			
	246.54	18	18			

R87, m kg					
	AQS.				
s	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
2	60	62	67	70	74
3	61	63	68	72	75
RF: + 7.1 kg / RM: + 37 kg					

R87, J_A / c_{TA}		AQS.				
		100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	1.3	2.4	8.1	22.0	22.0
c_{TA}	Nm/'	0.3	0.7	3.0	7.0	7.0

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R..87							F_{Ramax}			F_{Rapk}		
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	R	RF	RM	R	RF	RM
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N
R87 2	5.30	910	1270	1540	275	25	1710	1710	10500	18600	18600	10200
	6.39	1020	1270	1730	228	19	970	970	10400	18600	18600	10200
	7.13	1070	1270	1810	205	16	820	820	10300	18600	18600	10200
	8.22	1160	1270	1970	178	13	225	225	10300	18600	18600	10200
	9.14	1210	1270	2050	161	11	99	99	10200	18600	18600	10200
	9.90	1180	1550	2000	147	21	3520	3520	10000	16900	16900	9590
	11.93	1230	1550	2090	125	17	4120	4120	9940	16900	16900	9590
	13.33	1280	1550	2170	111	14	4220	4220	9890	16900	16900	9590
	15.35	1340	1550	2270	97	12	4450	4450	9820	16900	16900	9590
	17.08	1390	1550	2360	87	10	4580	4580	9770	16900	16900	9590
	19.10	1440	1550	2440	79	8.7	4800	4800	9710	16900	16900	9590
	21.51	1500	1550	2550	70	7.3	4970	4970	9650	16900	16900	9590
	23.40	1550	1550	2630	63	6.6	5000	5000	9590	16900	16900	9590
	27.84	1550	1550	2630	63	5.1	6640	6640	9590	16900	16900	9590
	31.40	1550	1550	2630	63	4.1	7820	7820	9590	16900	16900	9590
	34.40	1500	1550	2550	70	3.6	9480	9480	9650	16900	16900	9590
R87 3	27.88	1500	1550	2550	55	9.8	7370	7370	9650	16900	16900	9590
	32.66	1550	1550	2630	50	7.6	8220	8220	9590	16900	16900	9590
	36.84	1550	1550	2630	50	6.2	9470	9470	9590	16900	16900	9590
	41.74	1550	1550	2630	51	5.1	10800	10800	9590	16900	16900	9590
	47.58	1550	1550	2630	51	4.1	12300	12300	9590	16900	16900	9590
	52.82	1550	1550	2630	51	3.6	13500	13500	9590	16900	16900	9590
	60.35	1550	1550	2630	52	2.9	15200	15200	9590	16900	16900	9590
	63.68	1550	1550	2630	52	2.7	15800	15800	9590	16900	16900	9590
	72.57	1550	1550	2630	52	2.2	16900	16900	9590	16900	16900	9590
	81.92	1550	1550	2630	52	4.0	16900	16900	9590	16900	16900	9590
	93.38	1550	1550	2630	48	3.3	16900	16900	9590	16900	16900	9590
	103.65	1550	1550	2630	43	3.0	16900	16900	9590	16900	16900	9590
	118.43	1550	1550	2630	38	2.4	16900	16900	9590	16900	16900	9590
	124.97	1550	1550	2630	36	2.3	16900	16900	9590	16900	16900	9590
	142.41	1550	1550	2630	32	1.9	16900	16900	9590	16900	16900	9590
	155.34	1550	1550	2630	29	1.6	16900	16900	9590	16900	16900	9590
	181.77	1550	1550	2630	25	1.3	16900	16900	9590	16900	16900	9590
	205.71	1550	1550	2630	22	0.90	16900	16900	9590	16900	16900	9590
	216.54	1550	1550	2630	21	0.81	16900	16900	9590	16900	16900	9590
	246.54	1550	1550	2630	18	0.66	16900	16900	9590	16900	16900	9590

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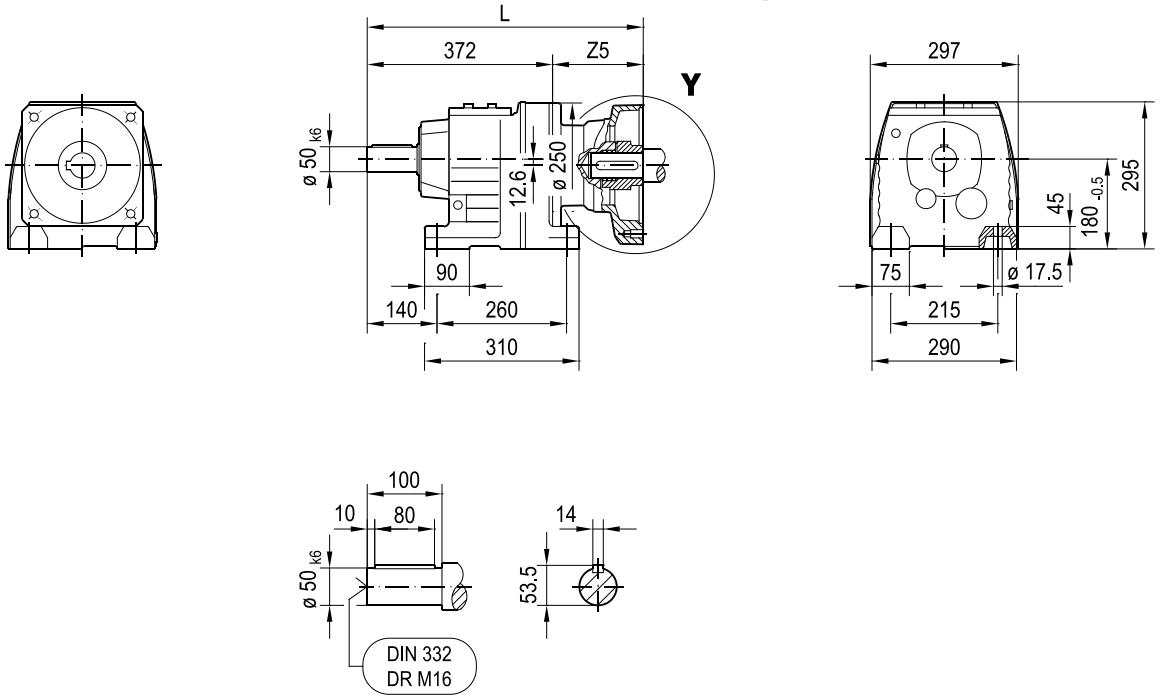
R..87				c_{TG}			φ
	i	n_{epk} min^{-1}	η %	R Nm/'	RF Nm/'	RM Nm/'	/R '
R87 2	5.30	4500	97	76	76	78	7
	6.39	4500	97	76	76	78	7
	7.13	4500	97	76	76	78	7
	8.22	4500	97	76	76	78	7
	9.14	4500	97	76	76	78	6
	9.90	4500	97	93	93	96	6
	11.93	4500	97	93	93	96	6
	13.33	4500	97	93	93	96	6
	15.35	4500	97	93	93	96	6
	17.08	4500	97	93	93	96	6
	19.10	4500	97	93	93	96	6
	21.51	4500	97	93	93	96	6
	23.40	4500	97	93	93	96	6
	27.84	4500	97	93	93	96	6
	31.40	4500	97	93	93	96	5
	34.40	4500	97	93	93	96	5
R87 3	27.88	4500	96	97	97	99	7
	32.66	4500	96	97	97	99	7
	36.84	4500	96	97	97	99	7
	41.74	4500	96	97	97	99	7
	47.58	4500	96	97	97	99	7
	52.82	4500	96	97	97	99	6
	60.35	4500	96	97	97	99	6
	63.68	4500	96	97	97	99	6
	72.57	4500	96	97	97	99	6
	81.92	4500	95	97	97	100	6
	93.38	4500	95	97	97	100	6
	103.65	4500	95	97	97	100	6
	118.43	4500	95	97	97	100	6
	124.97	4500	95	97	97	100	6
	142.41	4500	95	97	97	100	6
	155.34	4500	94	97	97	100	6
	181.77	4500	94	97	97	100	6
	205.71	4500	94	97	97	100	6
	216.54	4500	94	97	97	100	6
	246.54	4500	93	97	97	100	6

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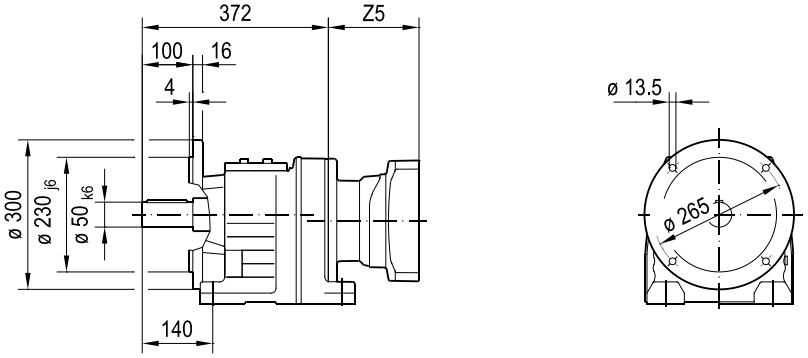
01 049 00 21

R87..

Y → 8.3



R87F..

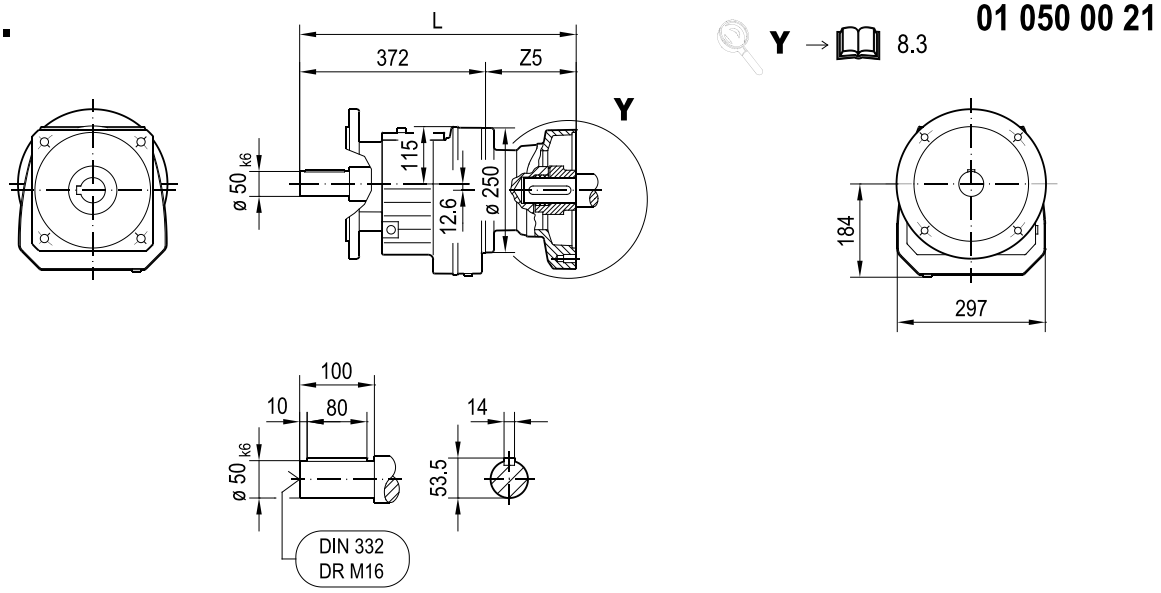


(→ 7.3.11)	AQS.										
	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	55	60.5	65	68	74	68	73	95.5	121	121	133
L	427	433	437	440	446	440	445	468	493	493	505

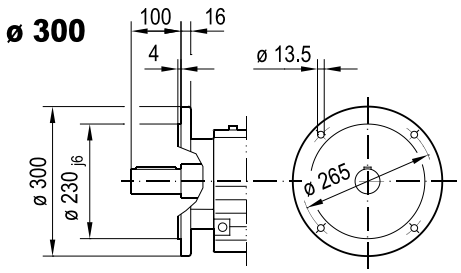
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RF87..

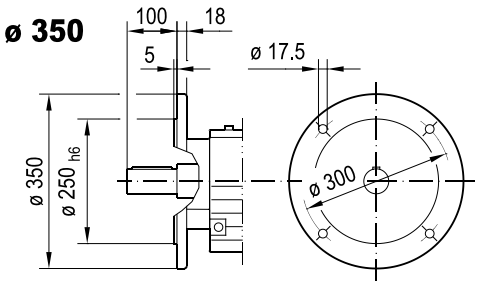
01 050 00 21



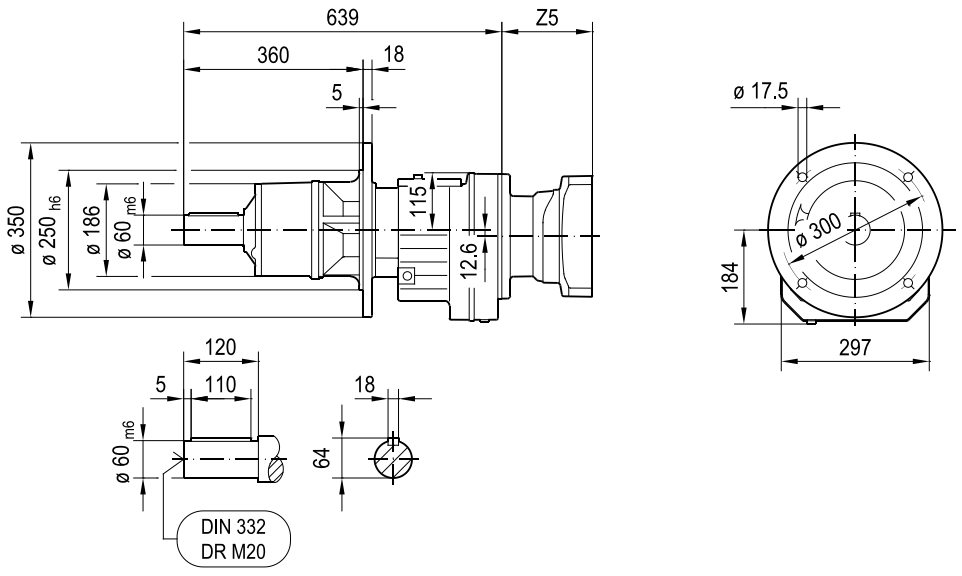
ø 300



ø 350



RM87..

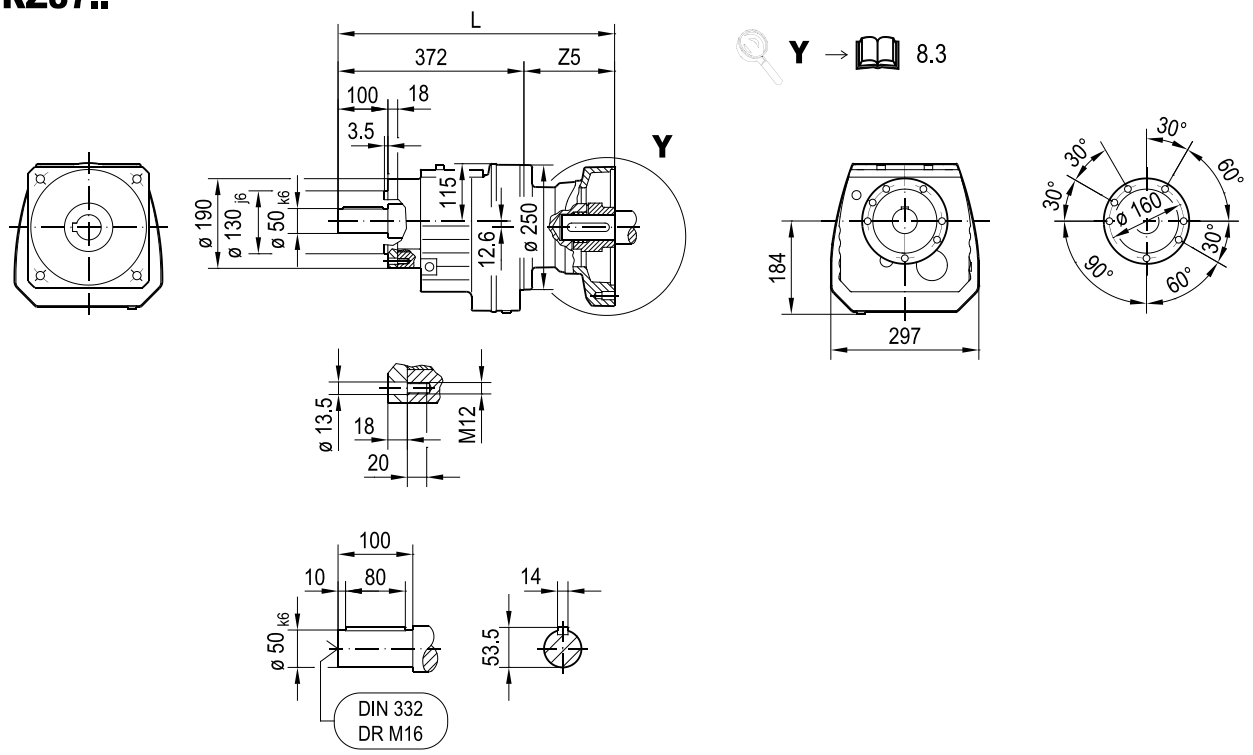


(→ 7.3.11)	AQS.										
	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	55	60.5	65	68	74	68	73	95.5	121	121	133
L	427	433	437	440	446	440	445	468	493	493	505

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01 051 00 21

RZ87..



(→ 7.3.11)	AQS.										
	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	55	60.5	65	68	74	68	73	95.5	121	121	133
L	427	433	437	440	446	440	445	468	493	493	505

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8.2.10 R97 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$								
	i	140/1,3,5-6			160/1			190/1,3-6		
R97 2	4.50	490	540	715	490	570	830	820	950	1180
	5.20	560	625	830	570	660	970	940	1100	1360
	6.21	610	735	990	680	765	1160	1020	1320	1630
	7.12	640	820	1090	785	850	1330	1060	1510	1800
	8.39	685	940	1160	920	970	1560	1130	1700	1920
	9.29	705	1010	1200	1020	1050	1730	1170	1760	1990
	10.83	1060	1280	1730	1190	1340	2020	1770	2300	2840
	12.39	1110	1430	1890	1360	1490	2310	1860	2630	3160
	14.62	1190	1630	2020	1610	1690	2740	1980	2970	3370
	16.17	1230	1760	2090	1780	1830	3030	2040	3060	3470
	18.24	1270	1910	2160	1980	1980	3370	2110	3090	3590
	20.14	1310	1970	2230	2120	2120	3600	2170	3090	3690
	22.37	1340	2010	2280	2220	2270	3770	2220	3090	3770
	25.03	1380	2070	2350	2280	2420	3880	2280	3090	3880
	27.19	1410	2120	2400	2330	2550	3960	2330	2550	3960
	32.05	1460	2190	2480	2400	2770	4080	2400	2770	4080
R97 3	27.58	2480	3090	4220	2670	3090	4540	2670	3090	4540
	33.25	2710	3090	4610	2890	3090	4910	2890	3090	4910
	37.13	2830	3090	4810	3000	3090	5100	3000	3090	5100
	42.78	2990	3090	5080	3000	3090	5100	3000	3090	5100
	47.58	3000	3090	5100	3000	3090	5100	3000	3090	5100
	53.21	3000	3090	5100	3000	3090	5100	3000	3090	5100
	59.92	3000	3090	5100	3000	3090	5100	3000	3090	5100
	65.21	3000	3090	5100	3000	3090	5100	3000	3090	5100
	72.17	3000	3090	5100	3000	3090	5100	3000	3090	5100
	83.15	3000	3090	5100	3000	3090	5100	3000	3090	5100
	92.48	3000	3090	5100	3000	3090	5100	3000	3090	5100
	103.44	3000	3090	5100	3000	3090	5100	3000	3090	5100
	116.48	3000	3090	5100	3000	3090	5100	3000	3090	5100
	126.75	3000	3090	5100	3000	3090	5100	3000	3090	5100
	150.78	3000	3090	5100	3000	3090	5100	3000	3090	5100
	170.02	3000	3090	5100	3000	3090	5100			
	186.30	3000	3090	5100	3000	3090	5100			
	216.28	3000	3090	5100	3000	3090	5100			
	241.25									
	255.71									
	289.74									

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min^{-1}		AQS. n_{ak}		
	i	140/1,3,5-6	160/1	190/1,3-6
R97 2	4.50	424	799	409
	5.20	281	755	273
	6.21	230	705	225
	7.12	201	515	206
	8.39	169	333	175
	9.29	157	244	155
	10.83	134	404	133
	12.39	119	301	113
	14.62	98	188	97
	16.17	89	139	89
	18.24	79	99	77
	20.14	71	79	70
	22.37	65	64	64
	25.03	58	57	57
	27.19	53	53	53
	32.05	44	45	45
R97 3	27.58	51	51	51
	33.25	42	43	43
	37.13	38	38	38
	42.78	33	37	37
	47.58	36	37	37
	53.21	36	37	37
	59.92	35	37	37
	65.21	35	37	37
	72.17	33	33	33
	83.15	33	33	33
	92.48	33	33	33
	103.44	33	33	33
	116.48	33	33	33
	126.75	33	33	33
	150.78	30	30	30
	170.02	26	26	
	186.30	24	24	
	216.28	21	21	
	241.25			
	255.71			
	289.74			

R97, m kg			
	AQS.		
s	140/1,3,5-6	160/1	190/1,3-6
2	105	110	115
3	110	115	115
RF: + 17 kg / RM: + 68 kg			

R97, J_A / c_{TA}		AQS.		
		140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	8.1	22.0	22.0
c_{TA}	Nm/"	3.0	7.0	7.0

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R..97							F_{Ramax}			F_{Rapk}		
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	R	RF	RM	R	RF	RM
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N
R97 2	4.50	1630	2440	2770	324	80	0	0	17900	24400	24400	19500
	5.20	1780	2560	3020	281	65	0	0	18700	23800	23800	19400
	6.21	1890	2560	3210	256	51	0	0	19900	23800	23800	19400
	7.12	2000	2560	3400	228	41	0	0	19800	23800	23800	19400
	8.39	2030	2560	3450	219	33	0	0	19800	23800	23800	19400
	9.29	2030	2560	3450	221	28	0	0	19800	23800	23800	19400
	10.83	2090	3090	3550	136	46	3720	3720	19400	16000	16000	18400
	12.39	2190	3090	3720	119	37	3850	3850	19300	16000	16000	18400
	14.62	2300	3090	3910	103	30	4240	4240	19200	16000	16000	18400
	16.17	2400	3090	4080	90	26	4130	4130	19100	16000	16000	18400
	18.24	2500	3090	4250	80	22	4270	4270	19000	16000	16000	18400
	20.14	2610	3090	4430	72	19	4110	4110	18900	16000	16000	18400
	22.37	2720	3090	4620	65	16	4060	4060	18800	16000	16000	18400
	25.03	2830	3090	4810	58	14	4140	4140	18700	16000	16000	18400
	27.19	2560	3090	4350	75	13	8380	8380	18900	16000	16000	18400
	32.05	2560	3090	4350	75	9.8	10600	10600	18900	16000	16000	18400
R97 3	27.58	2670	3090	4530	55	24	7260	7260	18800	16000	16000	18400
	33.25	2890	3090	4910	46	19	7160	7160	18600	16000	16000	18400
	37.13	3000	3090	5100	41	16	7410	7410	18500	16000	16000	18400
	42.78	3000	3090	5100	40	13	9480	9480	18500	16000	16000	18400
	47.58	3000	3090	5100	40	11	11100	11100	18500	16000	16000	18400
	53.21	3000	3090	5100	40	9.5	12900	12900	18500	16000	16000	18400
	59.92	3000	3090	5100	40	8.0	14800	14800	18500	16000	16000	18400
	65.21	3000	3090	5100	40	7.1	16300	16300	18500	16000	16000	18400
	72.17	3000	3090	5100	35	14	18000	18000	18500	16000	16000	18400
	83.15	3000	3090	5100	35	11	19800	19800	18500	16000	16000	18400
	92.48	3000	3090	5100	35	9.8	19800	19800	18500	16000	16000	18400
	103.44	3000	3090	5100	35	8.4	19800	19800	18500	16000	16000	18400
	116.48	3000	3090	5100	36	7.0	19800	19800	18500	16000	16000	18400
	126.75	3000	3090	5100	36	6.3	19800	19800	18500	16000	16000	18400
	150.78	3000	3090	5100	30	4.9	19800	19800	18500	16000	16000	18400
	170.02	3000	3090	5100	26	4.0	19800	19800	18500	16000	16000	18400
	186.30	3000	3090	5100	24	3.5	19800	19800	18500	16000	16000	18400
	216.28	3000	3090	5100	21	2.8	19800	19800	18500	16000	16000	18400
	241.25	3000	3090	5100	19	1.8	19800	19800	18500	16000	16000	18400
	255.71	3000	3090	5100	18	1.6	19800	19800	18500	16000	16000	18400
	289.74	3000	3090	5100	16	1.3	19800	19800	18500	16000	16000	18400

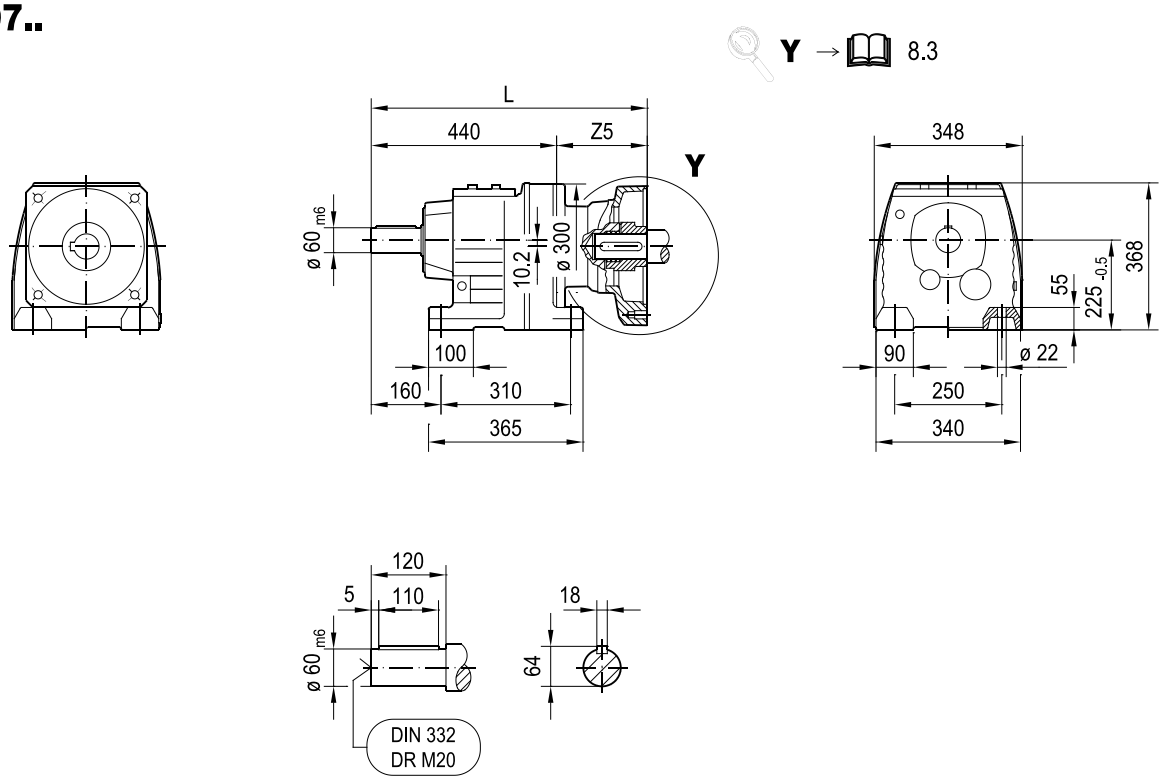
27788644/EN – 02/2024

R..97				c_{TG}			φ
	i	n_{epk} min^{-1}	η %	R Nm/'	RF Nm/'	RM Nm/'	/R '
R97 2	4.50	3597	97	127	127	112	6
	5.20	3924	97	127	127	112	6
	6.21	4378	97	127	127	112	6
	7.12	4500	97	127	127	112	6
	8.39	4500	97	127	127	112	6
	9.29	4500	97	127	127	112	6
	10.83	4378	97	155	155	132	6
	12.39	4500	97	155	155	132	6
	14.62	4500	97	155	155	132	6
	16.17	4500	97	155	155	132	6
	18.24	4500	97	155	155	132	6
	20.14	4500	97	155	155	132	5
	22.37	4500	97	155	155	132	5
	25.03	4500	97	155	155	132	5
	27.19	4500	97	155	155	132	5
	32.05	4500	97	155	155	132	5
R97 3	27.58	4500	96	163	163	138	6
	33.25	4500	96	163	163	138	6
	37.13	4500	96	163	163	138	6
	42.78	4500	96	163	163	138	6
	47.58	4500	96	163	163	138	6
	53.21	4500	96	163	163	138	6
	59.92	4500	96	163	163	138	6
	65.21	4500	96	163	163	138	6
	72.17	4500	95	164	164	139	6
	83.15	4500	95	164	164	139	6
	92.48	4500	95	164	164	139	6
	103.44	4500	95	164	164	139	6
	116.48	4500	95	164	164	139	6
	126.75	4500	95	164	164	139	6
	150.78	4500	95	164	164	139	6
	170.02	4500	95	164	164	139	6
	186.30	4500	95	164	164	139	6
	216.28	4500	94	164	164	139	6
	241.25	4500	94	164	164	139	6
	255.71	4500	94	164	164	139	6
	289.74	4500	93	164	164	139	6

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01 052 00 21

R97..

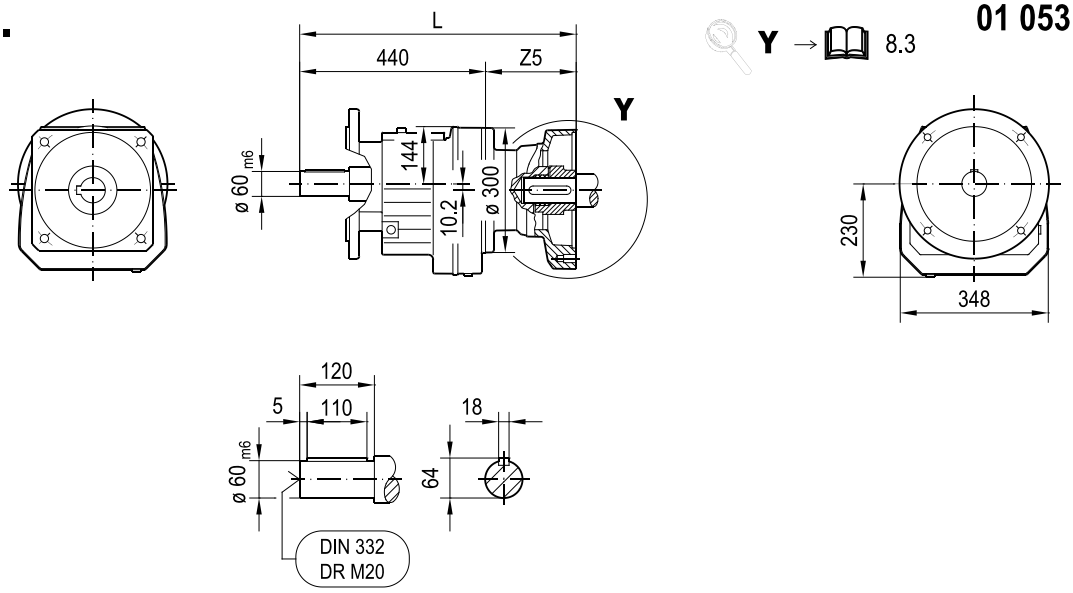


(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	90.5	116	116	128				
L	531	556	556	568				

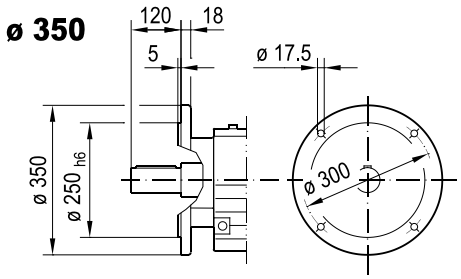
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RF97..

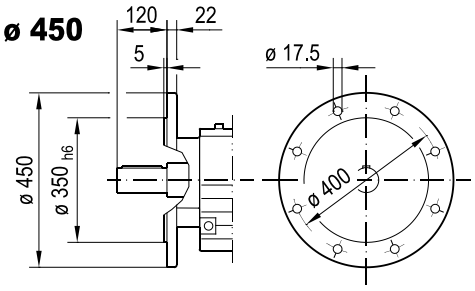
01 053 00 21



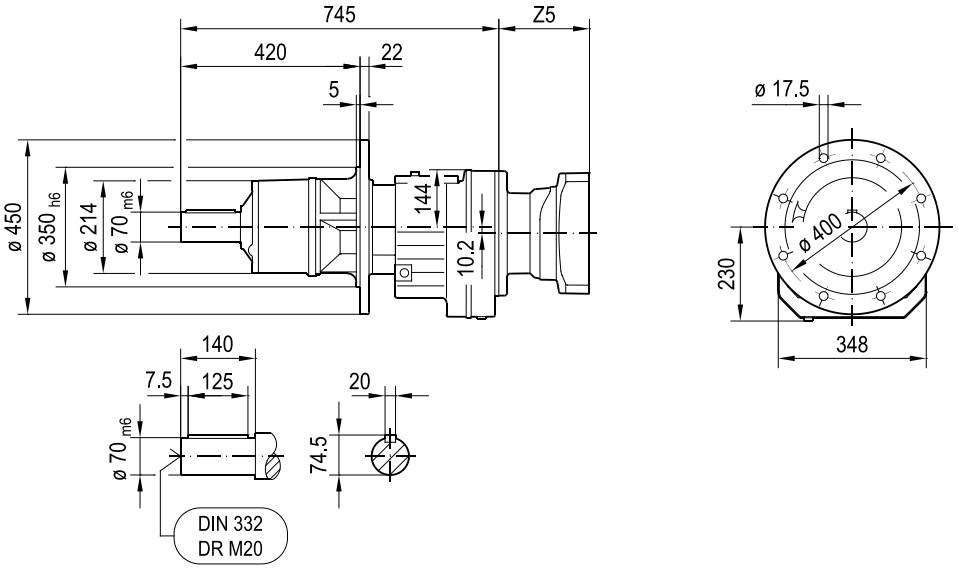
ø 350



ø 450



RM97..



(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	90.5	116	116	128				
L	531	556	556	568				

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8.2.11 R107 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$								
	i	140/1,3,5-6			160/1			190/1,3-6		
R107 2	4.92							900	1040	1280
	5.82	635	695	920	635	735	1080	1060	1230	1520
	6.66	730	800	1060	730	840	1240	1220	1410	1740
	7.86	785	940	1250	860	990	1460	1300	1660	2060
	8.56							1560	1800	2230
	10.13	1100	1210	1610	1100	1280	1870	1850	2140	2650
	11.59	1270	1390	1840	1270	1460	2160	2120	2450	3030
	13.66	1360	1640	2180	1500	1730	2550	2270	2890	3580
	15.65	1430	1850	2430	1720	1930	2920	2380	3320	4050
	18.21	1510	2090	2570	2000	2180	3400	2500	3750	4250
	20.07	1560	2260	2650	2210	2340	3760	2580	3870	4390
	22.62	1610	2420	2740	2500	2550	4250	2650	3980	4510
	24.90	1650	2480	2810	2720	2730	4620	2720	4080	4620
	27.58	1720	2580	2920	2820	3040	4790	2820	4230	4790
	30.77	1760	2640	2990	2890	3260	4910	2890	4340	4910
R107 3	29.49	3180	3500	4630	3190	3690	5420	4300	4360	7310
	35.26	3460	4180	5550	3830	4360	6510	4300	4360	7310
	40.37	3630	4360	6170	4300	4360	7310	4300	4360	7310
	47.63	3880	4360	6600	4300	4360	7310	4300	4360	7310
	52.68	4010	4360	6820	4300	4360	7310	4300	4360	7310
	59.41	4140	4360	7040	4300	4360	7310	4300	4360	7310
	65.60	4260	4360	7240	4300	4360	7310	4300	4360	7310
	72.88	4300	4360	7310	4300	4360	7310	4300	4360	7310
	78.57	4300	4360	7310	4300	4360	7310	4300	4360	7310
	92.70	4300	4360	7310	4300	4360	7310	4300	4360	7310
	102.53	4300	4360	7310	4300	4360	7310	4300	4360	7310
	115.63	4300	4360	7310	4300	4360	7310	4300	4360	7310
	127.68	4300	4360	7310	4300	4360	7310	4300	4360	7310
	141.83	4300	4360	7310	4300	4360	7310	4300	4360	7310
	158.68	4300	4360	7310	4300	4360	7310	4300	4360	7310
	172.34	4300	4360	7310	4300	4360	7310	4300	4360	7310
	203.16	4300	4360	7310	4300	4360	7310	4300	4360	7310
	229.95	4300	4360	7310	4300	4360	7310			
	251.15	4300	4360	7310	4300	4360	7310			

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min^{-1}		AQS. n_{ak}		
	i	140/1,3,5-6	160/1	190/1,3-6
R107 2	4.92			514
	5.82	338	618	328
	6.66	216	589	215
	7.86	179	557	184
	8.56			298
	10.13	196	355	187
	11.59	124	339	123
	13.66	105	320	104
	15.65	91	244	90
	18.21	78	158	78
	20.07	70	117	70
	22.62	62	79	63
	24.90	57	57	57
	27.58	51	51	51
	30.77	46	46	46
R107 3	29.49	48	133	81
	35.26	40	116	82
	40.37	35	82	82
	47.63	29	83	83
	52.68	27	83	83
	59.41	24	76	76
	65.60	21	69	69
	72.88	22	62	62
	78.57	44	44	44
	92.70	45	45	45
	102.53	44	44	44
	115.63	39	39	39
	127.68	35	35	35
	141.83	32	32	32
	158.68	28	28	28
	172.34	26	26	26
	203.16	22	22	22
	229.95	20	20	
	251.15	18	18	

R107, m kg	AQS.		
s	140/1,3,5-6	160/1	190/1,3-6
2	160	165	170
3	170	170	175
RF: + 6.0 kg / RM: + 94 kg			

R107, J_A / c_{TA}		AQS.		
		140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	8.1	22.0	22.0
c_{TA}	Nm/'	3.0	7.0	7.0

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R..107							F_{Ramax}			F_{Rapk}		
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	R	RF	RM	R	RF	RM
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N
R107 2	4.92[1)]	2900	3820	4930	480	144	11300	11300	21100	31800	31800	23400
	5.82	2970	3820	5040	517	108	12100	12100	22400	31800	31800	23400
	6.66	2970	3820	5040	589	88	12800	12800	23500	31800	31800	23400
	7.86	2970	3820	5040	557	70	13800	13800	24000	31800	31800	23400
	8.56[1)]	4300	4360	7310	248	129	11300	11300	22600	29100	29100	22600
	10.13	4300	4360	7310	245	97	12400	12400	22600	29100	29100	22600
	11.59	4300	4360	7310	243	80	13300	13300	22600	29100	29100	22600
	13.66	4300	4360	7310	242	64	14400	14400	22600	29100	29100	22600
	15.65	4300	4360	7310	240	52	15400	15400	22600	29100	29100	22600
	18.21	4300	4360	7310	239	43	16600	16600	22600	29100	29100	22600
	20.07	4300	4360	7310	224	37	17300	17300	22600	29100	29100	22600
	22.62	4300	4360	7310	199	31	18300	18300	22600	29100	29100	22600
	24.90	4300	4360	7310	181	27	19200	19200	22600	29100	29100	22600
	27.58	4300	4360	7310	163	21	20100	20100	22600	29100	29100	22600
	30.77	4300	4360	7310	146	18	21100	21100	22600	29100	29100	22600
R107 3	29.49	4300	4360	7310	87	60	20700	20700	22600	29100	29100	22600
	35.26	4300	4360	7310	88	47	22400	22400	22600	29100	29100	22600
	40.37	4300	4360	7310	88	38	23800	23800	22600	29100	29100	22600
	47.63	4300	4360	7310	89	31	25500	25500	22600	29100	29100	22600
	52.68	4300	4360	7310	85	27	26600	26600	22600	29100	29100	22600
	59.41	4300	4360	7310	76	22	28000	28000	22600	29100	29100	22600
	65.60	4300	4360	7310	69	19	29200	29200	22600	29100	29100	22600
	72.88	4300	4360	7310	62	17	29500	29500	22600	29100	29100	22600
	78.57	4300	4360	7310	46	34	29500	29500	22600	29100	29100	22600
	92.70	4300	4360	7310	47	28	29500	29500	22600	29100	29100	22600
	102.53	4300	4360	7310	44	25	29500	29500	22600	29100	29100	22600
	115.63	4300	4360	7310	39	20	29500	29500	22600	29100	29100	22600
	127.68	4300	4360	7310	35	18	29500	29500	22600	29100	29100	22600
	141.83	4300	4360	7310	32	15	29500	29500	22600	29100	29100	22600
	158.68	4300	4360	7310	28	13	29500	29500	22600	29100	29100	22600
	172.34	4300	4360	7310	26	12	29500	29500	22600	29100	29100	22600
	203.16	4300	4360	7310	22	9.2	29500	29500	22600	29100	29100	22600
	229.95	4300	4360	7310	20	5.9	29500	29500	22600	29100	29100	22600
	251.15	4300	4360	7310	18	5.1	29500	29500	22600	29100	29100	22600

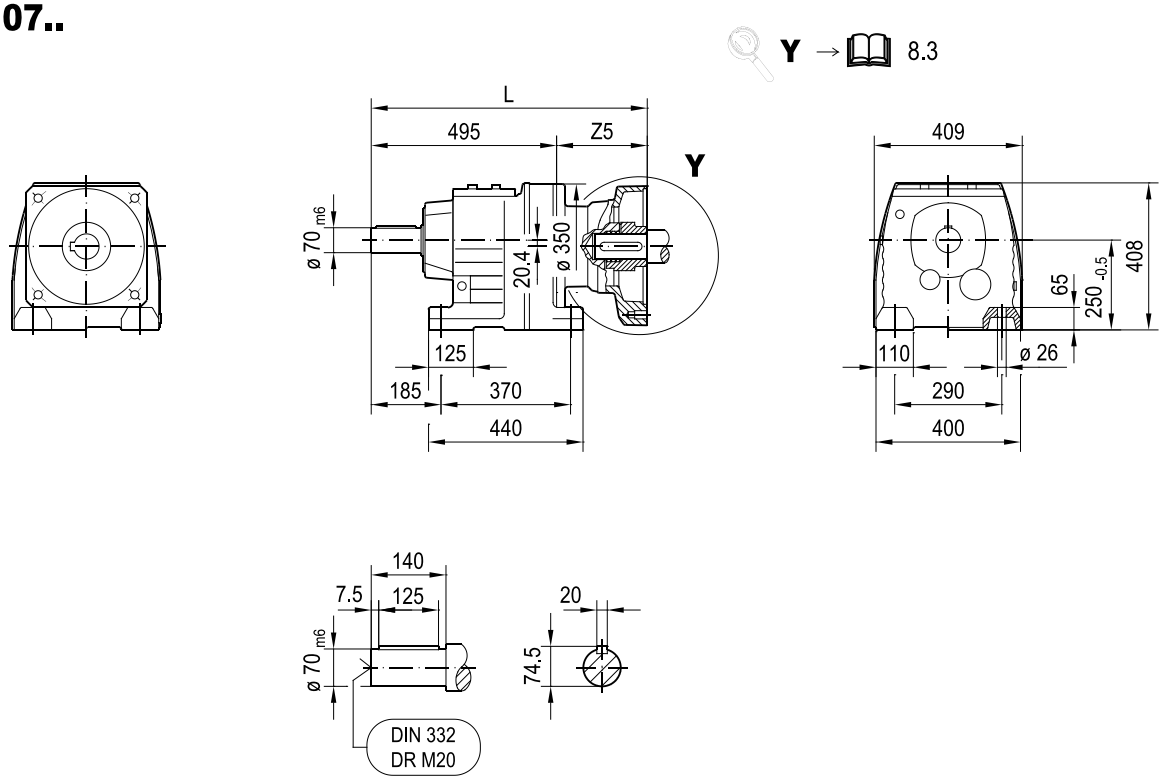
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R..107				c_{TG}			φ
		n_{epk}	η	R	RF	RM	/R
	i	min^{-1}	%	Nm/'	Nm/'	Nm/'	'
R107 2	4.92	3197	97	208	208	175	9
	5.82	3597	97	208	208	175	9
	6.66	3924	97	208	208	175	9
	7.86	4378	97	208	208	175	9
	8.56	3197	97	250	250	203	7
	10.13	3597	97	250	250	203	7
	11.59	3924	97	250	250	203	7
	13.66	4378	97	250	250	203	7
	15.65	4500	97	250	250	203	7
	18.21	4500	97	250	250	203	7
	20.07	4500	97	250	250	203	7
	22.62	4500	97	250	250	203	7
	24.90	4500	97	250	250	203	7
	27.58	4500	97	250	250	203	7
	30.77	4500	97	250	250	203	7
R107 3	29.49	3924	95	259	259	210	7
	35.26	4378	96	259	259	210	7
	40.37	4500	96	259	259	210	7
	47.63	4500	96	259	259	210	7
	52.68	4500	96	259	259	210	7
	59.41	4500	96	259	259	210	7
	65.60	4500	96	259	259	210	7
	72.88	4500	96	259	259	210	7
	78.57	4500	95	260	260	210	7
	92.70	4500	95	260	260	210	7
	102.53	4500	95	260	260	210	7
	115.63	4500	95	260	260	210	7
	127.68	4500	95	260	260	210	7
	141.83	4500	95	260	260	210	7
	158.68	4500	95	260	260	210	7
	172.34	4500	95	260	260	210	7
	203.16	4500	94	260	260	210	7
	229.95	4500	94	260	260	210	7
	251.15	4500	94	260	260	210	7

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01 054 00 21

R107..

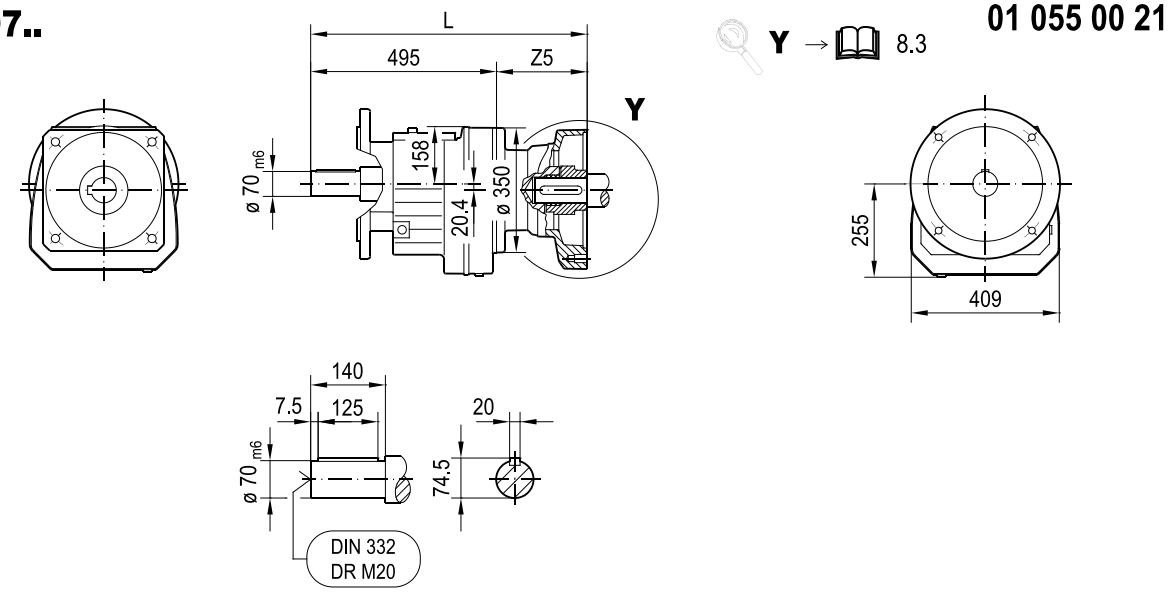


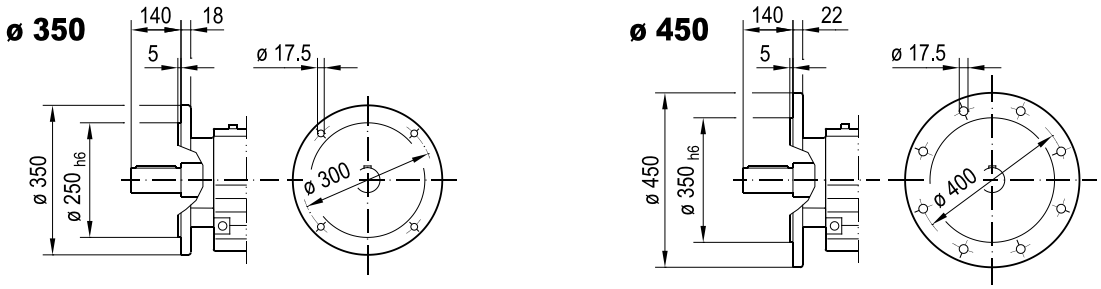
(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	84.5	110	110	122				
L	580	605	605	617				

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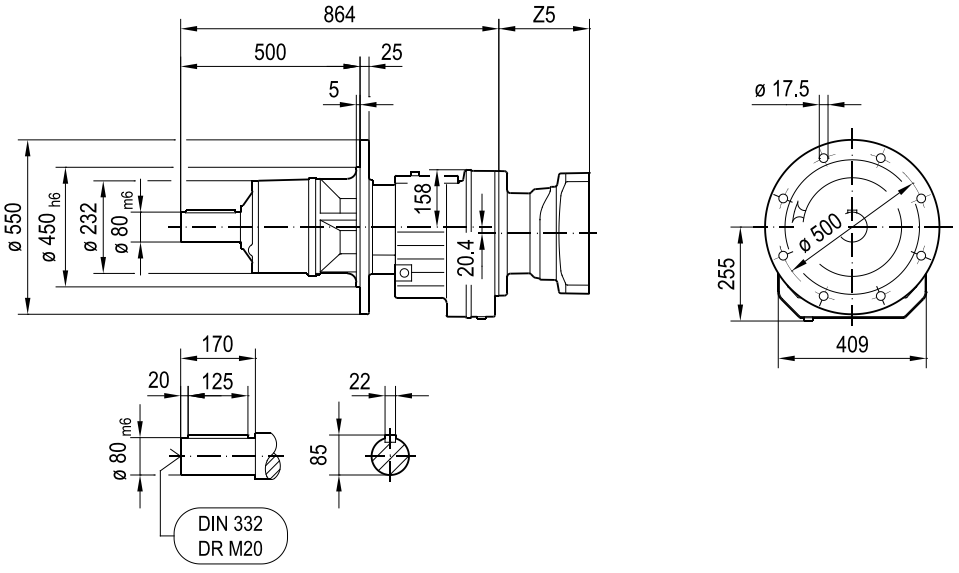
RF107..

01 055 00 21





RM107..



(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	84.5	110	110	122				
L	580	605	605	617				

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8.2.12 R127 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$								
	i	140/1,3,5-6			160/1			190/1,3-6		
R127 2	5.55							1010	1170	1450
	6.56	715	785	1040	715	830	1220	1200	1380	1710
	7.51	800	890	1190	820	930	1390	1340	1590	1960
	8.85	850	1030	1410	970	1070	1650	1430	1870	2320
	8.96							1630	1890	2340
	10.59	1150	1270	1680	1150	1340	1960	1940	2240	2770
	12.12	1290	1440	1930	1320	1510	2240	2160	2560	3170
	14.29	1380	1660	2280	1570	1730	2670	2310	3030	3740
	16.37	1450	1850	2470	1800	1920	3060	2420	3470	4110
	19.04	1530	2080	2600	2100	2160	3570	2550	3830	4340
	20.98	1580	2240	2690	2310	2310	3930	2620	3930	4450
	23.65	1630	2430	2770	2500	2500	4250	2700	4050	4590
	26.04	1670	2510	2840	2660	2660	4520	2760	4140	4690
	28.84	1740	2610	2960	2870	2930	4880	2870	4310	4880
	32.18	1780	2670	3030	2930	3130	4980	2930	4400	4980
R127 3	30.84	3300	3660	4840	3340	3860	5680	5380	6450	7970
	36.88	3590	4330	5800	4000	4520	6800	5730	7000	9540
	42.22	3770	4840	6410	4590	5040	7800	6000	7000	10200
	49.81	4030	5530	6850	5420	5740	9210	6000	7000	10200
	55.09	4160	5980	7070	6000	6190	10200	6000	7000	10200
	62.13	4300	6450	7310	6000	6730	10200	6000	7000	10200
	68.61	4430	6650	7530	6000	7000	10200	6000	7000	10200
	76.21	4550	6830	7740	6000	7000	10200	6000	7000	10200
	82.17	6000	7000	10200	6000	7000	10200	6000	7000	10200
	85.26	4670	7000	7940	6000	7000	10200	6000	7000	10200
	96.95	6000	7000	10200	6000	7000	10200	6000	7000	10200
	107.23	6000	7000	10200	6000	7000	10200	6000	7000	10200
	120.92	6000	7000	10200	6000	7000	10200	6000	7000	10200
	133.53	6000	7000	10200	6000	7000	10200	6000	7000	10200
	148.33	6000	7000	10200	6000	7000	10200	6000	7000	10200
	165.95	6000	7000	10200	6000	7000	10200	6000	7000	10200
	180.23	6000	7000	10200	6000	7000	10200	6000	7000	10200
	212.46	6000	7000	10200	6000	7000	10200	6000	7000	10200
	240.48	6000	7000	10200	6000	7000	10200			
	262.65	6000	7000	10200	6000	7000	10200			

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min^{-1}		AQS. n_{ak}		
	i	140/1,3,5-6	160/1	190/1,3-6
R127 2	5.55			427
	6.56	277	548	265
	7.51	189	522	188
	8.85	169	495	162
	8.96			265
	10.59	173	340	163
	12.12	118	324	117
	14.29	101	306	99
	16.37	87	216	86
	19.04	75	138	74
	20.98	67	103	67
	23.65	60	79	60
	26.04	55	65	55
	28.84	49	49	49
	32.18	44	44	44
R127 3	30.84	46	127	45
	36.88	38	112	38
	42.22	33	74	33
	49.81	28	46	34
	55.09	26	34	34
	62.13	23	34	34
	68.61	20	34	34
	76.21	18	34	34
	82.17	19	19	19
	85.26	17	34	34
	96.95	20	20	20
	107.23	20	20	20
	120.92	20	20	20
	133.53	21	21	21
	148.33	21	21	21
	165.95	21	21	21
	180.23	21	21	21
	212.46	21	21	21
	240.48	19	19	
	262.65	17	17	

R127, m kg	AQS.		
s	140/1,3,5-6	160/1	190/1,3-6
2	210	210	215
3	225	230	230
RF: + 11 kg / RM: + 105 kg			

R127, J_A / c_{TA}		AQS.		
		140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	8.1	22.0	22.0
c_{TA}	Nm/'	3.0	7.0	7.0

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R..127							F_{Ramax}			F_{Rapk}		
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	R	RF	RM	R	RF	RM
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N
R127 2	5.55[1)]	3930	4590	6880	371	164	37600	37600	34400	43000	43000	34000
	6.56	3930	4590	6880	369	122	40200	40200	34400	43000	43000	34000
	7.51	3930	4590	6880	368	99	42400	42400	34400	43000	43000	34000
	8.85	3930	4590	6880	366	78	43000	43000	34400	43000	43000	34000
	8.96[1)]	5420	7000	10500	160	148	41400	41400	33100	43000	43000	32000
	10.59	5700	7000	10500	136	111	43000	43000	32900	43000	43000	32000
	12.12	5940	7000	10500	119	91	43000	43000	32700	43000	43000	32000
	14.29	6000	7000	10500	115	71	43000	43000	32700	43000	43000	32000
	16.37	6000	7000	10500	115	58	43000	43000	32700	43000	43000	32000
	19.04	6000	7000	10500	116	47	43000	43000	32700	43000	43000	32000
	20.98	6000	7000	10500	116	41	43000	43000	32700	43000	43000	32000
	23.65	6000	7000	10500	116	34	43000	43000	32700	43000	43000	32000
	26.04	6000	7000	10500	116	29	43000	43000	32700	43000	43000	32000
	28.84	6000	6760	10100	117	23	43000	43000	32700	43000	43000	32200
	32.18	6000	6660	9990	117	19	43000	43000	32700	43000	43000	32200
R127 3	30.84	5380	7000	10500	49	62	43000	43000	33100	43000	43000	32000
	36.88	5730	7000	10500	41	48	43000	43000	32900	43000	43000	32000
	42.22	6000	7000	10500	36	39	43000	43000	32700	43000	43000	32000
	49.81	6000	7000	10500	36	32	43000	43000	32700	43000	43000	32000
	55.09	6000	7000	10500	36	27	43000	43000	32700	43000	43000	32000
	62.13	6000	7000	10500	36	23	43000	43000	32700	43000	43000	32000
	68.61	6000	7000	10500	36	20	43000	43000	32700	43000	43000	32000
	76.21	6000	7000	10500	37	17	43000	43000	32700	43000	43000	32000
	82.17	6000	7000	10500	21	34	43000	43000	32700	43000	43000	32000
	85.26	6000	7000	10500	37	14	43000	43000	32700	43000	43000	32000
	96.95	6000	7000	10500	21	28	43000	43000	32700	43000	43000	32000
	107.23	6000	7000	10500	22	24	43000	43000	32700	43000	43000	32000
	120.92	6000	7000	10500	22	20	43000	43000	32700	43000	43000	32000
	133.53	6000	7000	10500	22	18	43000	43000	32700	43000	43000	32000
	148.33	6000	7000	10500	22	15	43000	43000	32700	43000	43000	32000
	165.95	6000	7000	10500	22	13	43000	43000	32700	43000	43000	32000
	180.23	6000	7000	10500	22	12	43000	43000	32700	43000	43000	32000
	212.46	6000	7000	10500	21	9.2	43000	43000	32700	43000	43000	32000
	240.48	6000	7000	10500	19	5.9	43000	43000	32700	43000	43000	32000
	262.65	6000	7000	10500	17	5.1	43000	43000	32700	43000	43000	32000

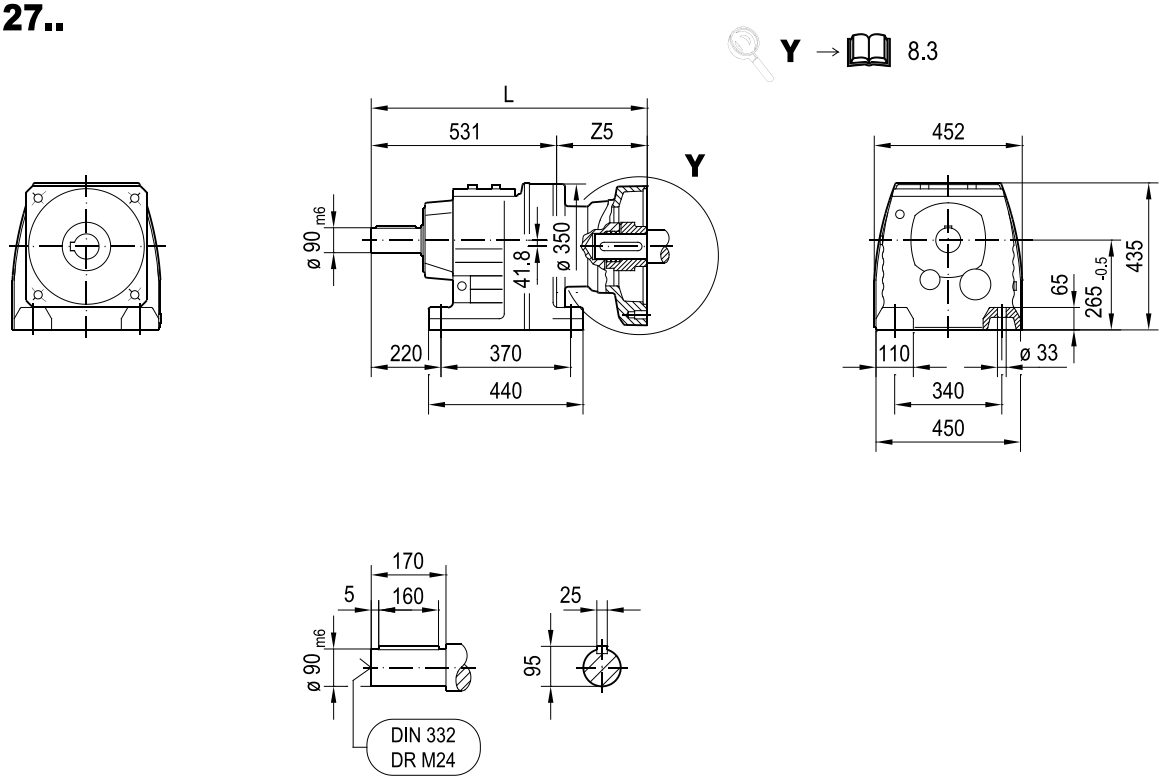
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R..127				c_{TG}			φ
	i	n_{epk} min^{-1}	η %	R Nm/'	RF Nm/'	RM Nm/'	/R '
R127 2	5.55	3196	97	338	338	286	8
	6.56	3596	97	353	353	297	8
	7.51	3923	97	363	363	304	8
	8.85	4378	97	372	372	311	8
	8.96	3196	97	486	486	386	7
	10.59	3596	97	498	498	394	6
	12.12	3923	97	505	505	399	6
	14.29	4378	97	512	512	403	6
	16.37	4500	97	517	517	406	6
	19.04	4500	97	521	521	408	6
	20.98	4500	97	522	522	409	6
	23.65	4500	97	522	522	409	6
	26.04	4500	97	523	523	410	6
	28.84	4500	97	520	520	407	6
	32.18	4500	97	522	522	409	6
R127 3	30.84	3923	96	567	567	436	7
	36.88	4378	96	569	569	437	7
	42.22	4500	96	569	569	437	7
	49.81	4500	96	570	570	438	7
	55.09	4500	96	571	571	438	7
	62.13	4500	96	570	570	438	7
	68.61	4500	96	571	571	438	7
	76.21	4500	96	570	570	438	7
	82.17	4500	95	575	575	441	6
	85.26	4500	96	571	571	438	7
	96.95	4500	95	575	575	441	6
	107.23	4500	95	575	575	441	6
	120.92	4500	95	575	575	441	6
	133.53	4500	95	575	575	441	6
	148.33	4500	95	575	575	441	6
	165.95	4500	95	575	575	441	6
	180.23	4500	95	575	575	441	6
	212.46	4500	95	575	575	441	6
	240.48	4500	95	575	575	440	6
	262.65	4500	95	575	575	440	6

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01 056 00 21

R127..

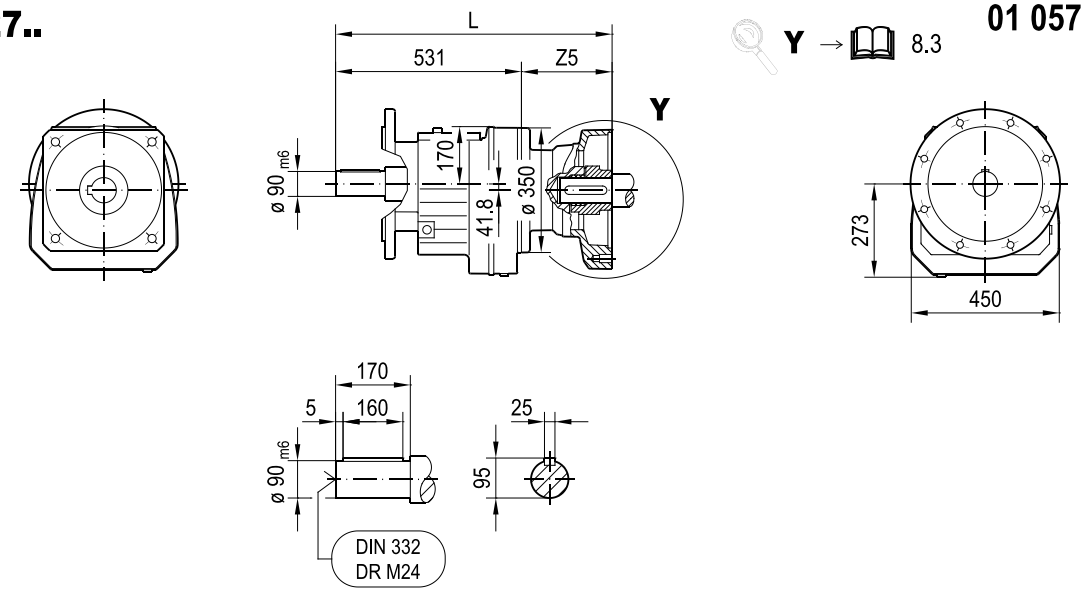


(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	84.5	110	110	122				
L	616	641	641	653				

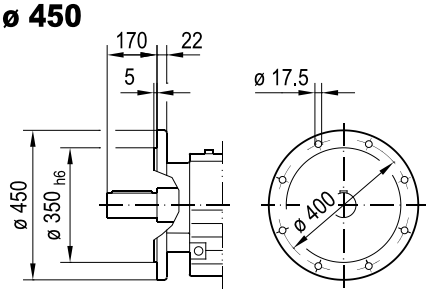
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RF127..

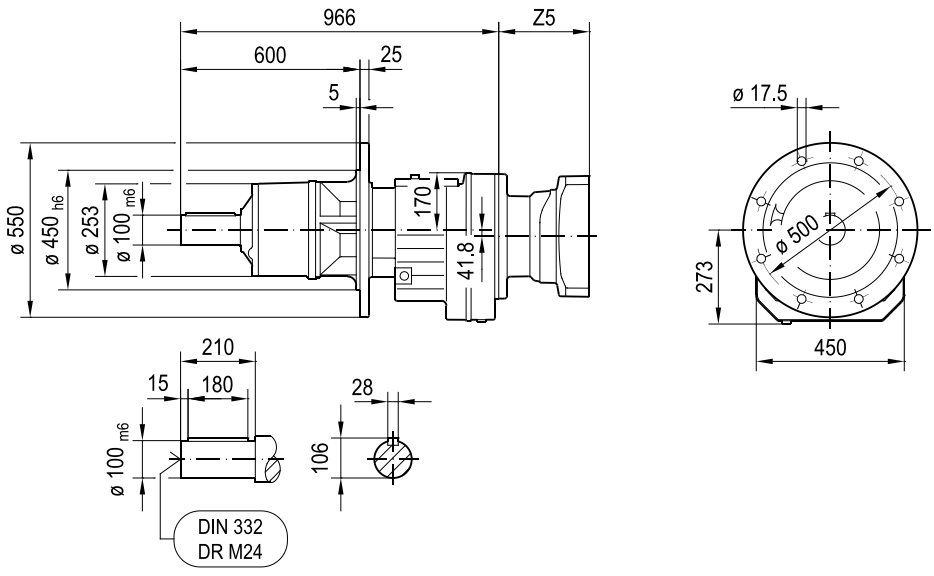
01 057 00 21



ø 450



RM127..



(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	84.5	110	110	122				
L	616	641	641	653				

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8.2.13 R137 AQS..

Nm	i	AQS. M_{amax} | M_{apk} | $M_{aNotaus}$ 190/1,3-6		
R137 2	5.15			
	6.38	1160	1340	1660
	7.59	1380	1600	1980
	8.71			
	10.79	1960	2270	2810
	12.83	2340	2710	3350
	14.51	2640	3070	3790
	16.80	2770	3560	4400
	19.04	2870	4040	4880
	22.00	3000	4500	5100
	24.12	3070	4610	5220
	29.57	3270	4910	5560
R137 3	27.83	5020	5800	7160
	32.91	5950	6870	8490
	37.65	6820	7880	9720
	44.39	7310	8160	11500
	50.86	7660	8160	13000
	59.17	8000	8160	13600
	65.20	8000	8160	13600
	73.49	8000	8160	13600
	80.91	8000	8160	13600
	88.70	8000	8160	13600
	103.20	8000	8160	13600
	113.72	8000	8160	13600
	128.18	8000	8160	13600
	141.12	8000	8160	13600
	156.31	8000	8160	13600
	174.40	8000	8160	13600
	188.45	8000	8160	13600
	222.60	8000	8160	13600

min^{-1}	i	AQS. n_{ak} 190/1,3-6
R137 2	5.15	
	6.38	393
	7.59	248
	8.71	
	10.79	233
	12.83	145
	14.51	98
	16.80	85
	19.04	75
	22.00	65
	24.12	59
	29.57	47

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min^{-1}		AQS. n_{ak}
	i	190/1,3-6
R137 3	27.83	91
	32.91	57
	37.65	38
	44.39	32
	50.86	28
	59.17	25
	65.20	25
	73.49	25
	80.91	24
	88.70	51
	103.20	44
	113.72	40
	128.18	35
	141.12	32
	156.31	29
	174.40	26
	188.45	24
	222.60	20

R137, m kg	
s	AQS. 190/1,3-6
2	250
3	260
RF: + 23 kg / RM: + 135 kg	

R137, J_A / c_{TA}		AQS. 190/1,3-6
J_A 10^{-4}	kgm^2	22.0
c_{TA}	Nm/'	7.0

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R..137							F_{Ramax}			F_{Rapk}		
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	R	RF	RM	R	RF	RM
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N
R137 2	5.15	4600	6150	7820	543	304	34500	34500	34500	56800	56800	33600
	6.38	5110	6150	8680	501	223	35900	35900	34200	56800	56800	33600
	7.59	5110	6150	8680	474	173	39000	39000	34200	56800	56800	33600
	8.71	7840	8160	13300	169	289	27600	27600	31800	53000	53000	31600
	10.79	8000	8160	13600	152	213	31100	31100	31700	53000	53000	31600
	12.83	8000	8160	13600	143	161	34700	34700	31700	53000	53000	31600
	14.51	8000	8160	13600	138	136	37300	37300	31700	53000	53000	31600
	16.80	8000	8160	13600	133	110	40600	40600	31700	53000	53000	31600
	19.04	8000	8160	13600	130	91	43500	43500	31700	53000	53000	31600
	22.00	8000	8160	13600	126	75	47100	47100	31700	53000	53000	31600
	24.12	8000	8160	13600	124	66	49400	49400	31700	53000	53000	31600
	29.57	7780	8160	13200	132	42	53900	53900	31900	53000	53000	31600
R137 3	27.83	7680	8160	13000	55	125	54100	54100	31900	53000	53000	31600
	32.91	8000	8160	13600	48	94	53400	53400	31700	53000	53000	31600
	37.65	8000	8160	13600	51	78	53400	53400	31700	53000	53000	31600
	44.39	8000	8160	13600	54	62	53400	53400	31700	53000	53000	31600
	50.86	8000	8160	13600	57	51	53400	53400	31700	53000	53000	31600
	59.17	8000	8160	13600	59	42	53400	53400	31700	53000	53000	31600
	65.20	8000	8160	13600	61	37	53400	53400	31700	53000	53000	31600
	73.49	8000	8160	13600	61	31	53400	53400	31700	53000	53000	31600
	80.91	8000	8160	13600	56	27	53400	53400	31700	53000	53000	31600
	88.70	8000	8160	13600	51	47	53400	53400	31700	53000	53000	31600
	103.20	8000	8160	13600	44	39	53400	53400	31700	53000	53000	31600
	113.72	8000	8160	13600	40	34	53400	53400	31700	53000	53000	31600
	128.18	8000	8160	13600	35	28	53400	53400	31700	53000	53000	31600
	141.12	8000	8160	13600	32	25	53400	53400	31700	53000	53000	31600
	156.31	8000	8160	13600	29	19	53400	53400	31700	53000	53000	31600
	174.40	8000	8160	13600	26	16	53400	53400	31700	53000	53000	31600
	188.45	8000	8160	13600	24	15	53400	53400	31700	53000	53000	31600
	222.60	8000	8160	13600	20	12	53400	53400	31700	53000	53000	31600

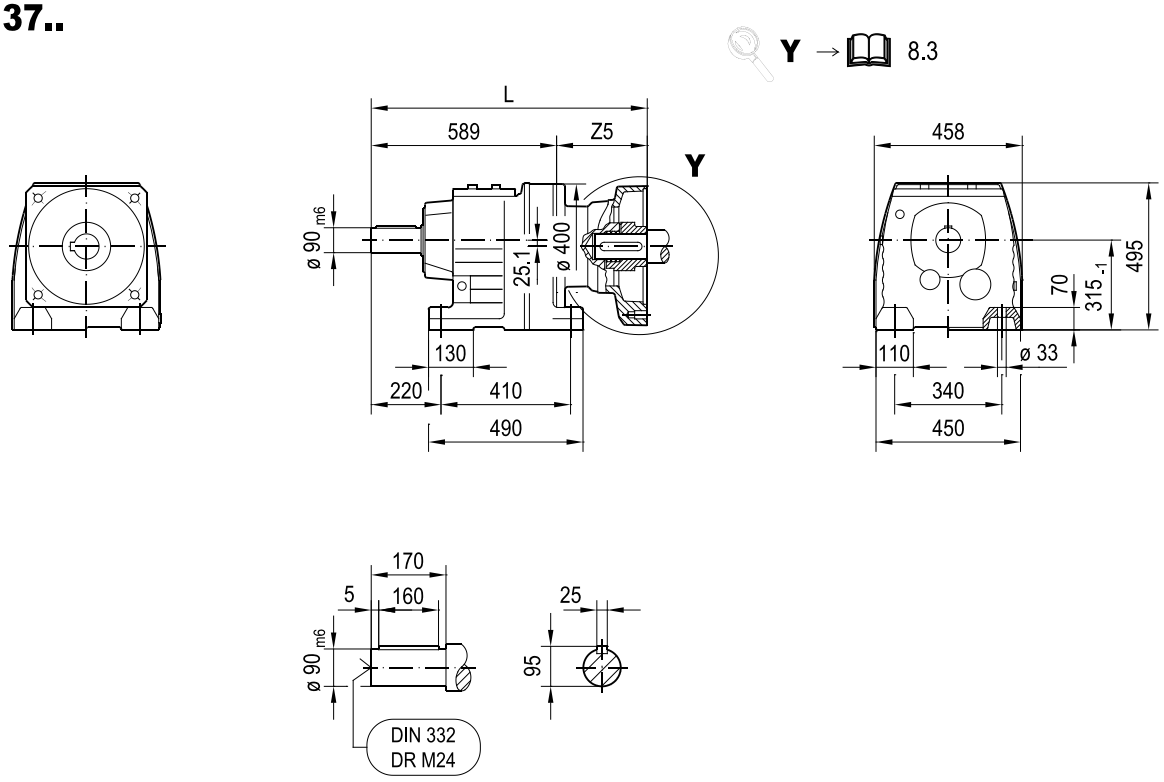
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R..137				c_{TG}			φ
	i	n_{epk} min^{-1}	η %	R Nm/'	RF Nm/'	RM Nm/'	/R '
R137 2	5.15	2797	97	433	433	351	8
	6.38	3197	97	433	433	351	8
	7.59	3597	97	433	433	351	8
	8.71	2797	97	524	524	409	6
	10.79	3197	97	524	524	409	6
	12.83	3597	97	524	524	409	6
	14.51	3924	97	524	524	409	6
	16.80	4378	97	524	524	409	6
	19.04	4500	97	524	524	409	6
	22.00	4500	97	524	524	409	6
	24.12	4500	97	524	524	409	6
	29.57	4500	97	524	524	409	6
R137 3	27.83	3197	96	546	546	422	6
	32.91	3597	96	546	546	422	6
	37.65	3924	96	546	546	422	6
	44.39	4378	96	546	546	422	6
	50.86	4500	96	546	546	422	6
	59.17	4500	96	546	546	422	6
	65.20	4500	96	546	546	422	6
	73.49	4500	96	546	546	422	6
	80.91	4500	96	546	546	422	6
	88.70	4500	95	548	548	423	6
	103.20	4500	95	548	548	423	6
	113.72	4500	95	548	548	423	6
	128.18	4500	95	548	548	423	6
	141.12	4500	95	548	548	423	6
	156.31	4500	95	548	548	423	6
	174.40	4500	95	548	548	423	6
	188.45	4500	95	548	548	423	6
	222.60	4500	95	548	548	423	6

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01 058 00 21

R137..

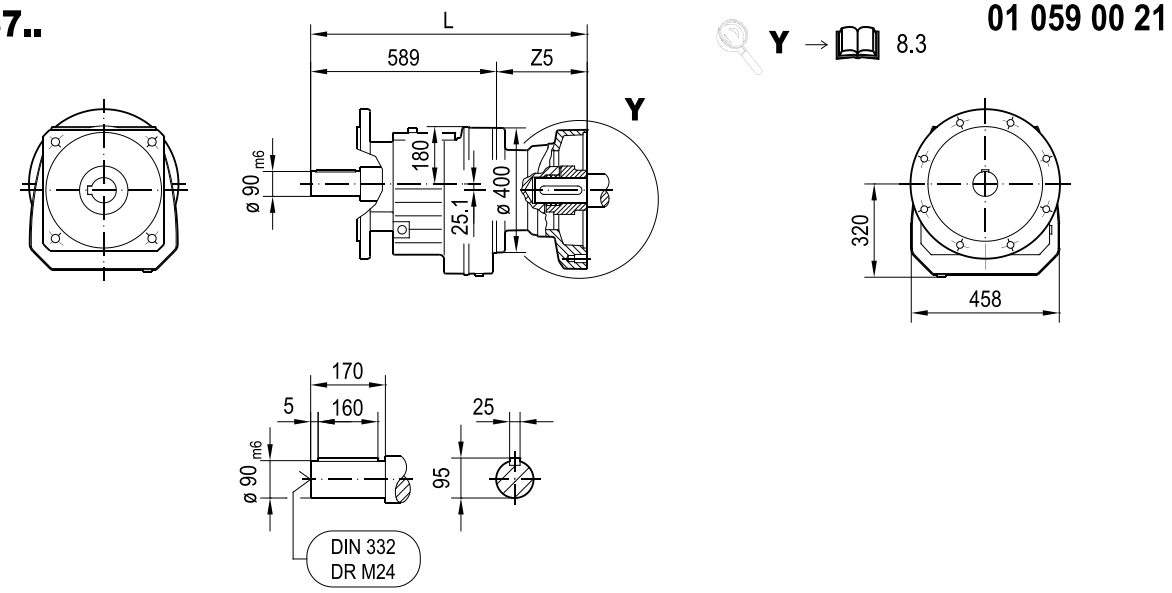


(→ 7.3.11)	AQS.							
	190/1, 3-5	190/6						
Z5	103	115						
L	692	704						

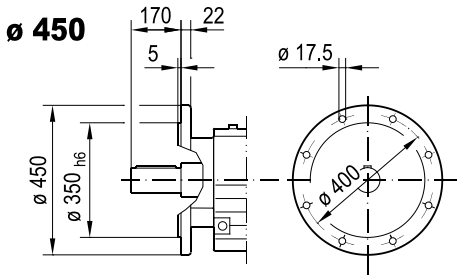
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RF137..

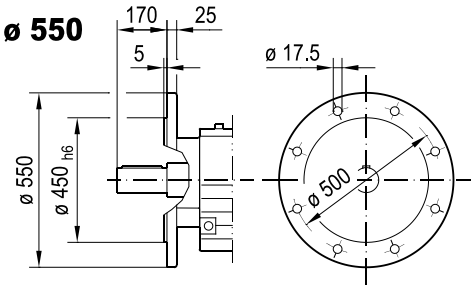
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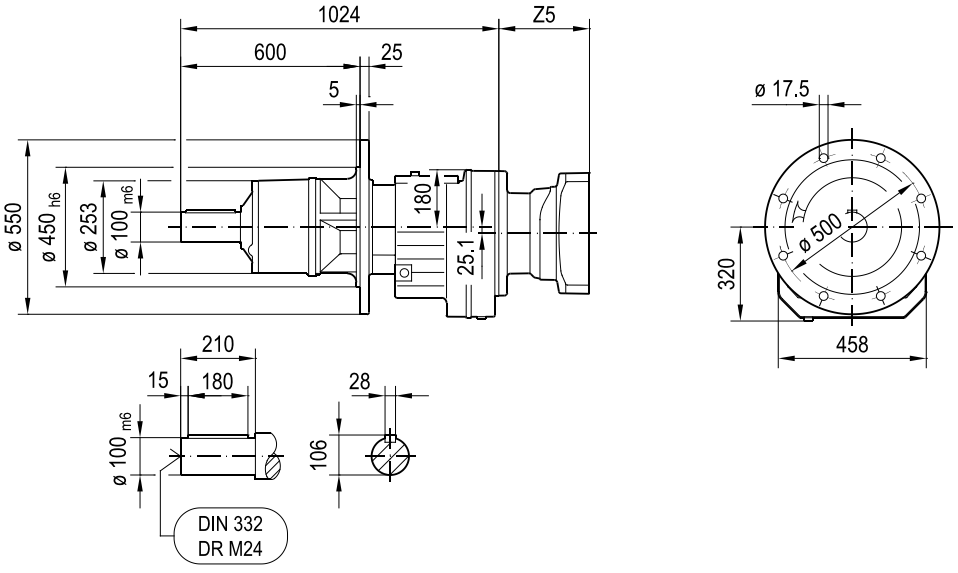
ø 450



ø 550



RM137..



(→ 7.3.11)	AQS.							
	190/1, 3-5	190/6						
Z5	103	115						
L	692	704						

8.2.14 R147 AQS..

Nm	i	AQS. M_{amax} | M_{apk} | $M_{aNotaus}$ 190/1,3-6		
R147  2	5.00			
	5.89			
	7.25	1320	1520	1890
	8.26			
	9.74			
	11.99	2180	2520	3120
	13.91	2540	2940	3630
	15.64	2860	3310	4090
	18.04	3030	3820	4720
	20.44	3140	4330	5340
R147  3	24.19			
	29.95	5400	6240	7700
	35.64	6440	7440	9190
	40.29	7070	8420	10400
	46.65	7420	9770	12100
	52.87	7680	11000	13100
	61.09	8030	12000	13700
	66.99	8220	12300	14000
	72.09	12600	13000	18600
	83.47	13000	13000	21500
	94.60	13000	13000	22100
	109.31	13000	13000	22100
	119.86	13000	13000	22100
	146.91	13000	13000	22100
	163.31	13000	13000	22100

min^{-1}	i	AQS. n_{ak} 190/1,3-6
R147  2	5.00	
	5.89	
	7.25	360
	8.26	
	9.74	
	11.99	219
	13.91	139
	15.64	98
	18.04	78
	20.44	69

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min^{-1}	i	AQS. n_{ak} 190/1,3-6
R147  3	24.19	
	29.95	77
	35.64	48
	40.29	35
	46.65	30
	52.87	26
	61.09	23
	66.99	21
	72.09	20
	83.47	19
	94.60	18
	109.31	18
	119.86	18
	146.91	17
	163.31	17

R147, m kg	
s	AQS. 190/1,3-6
2	380
3	395
RF: + 8.3 kg / RM: + 175 kg	

R147, J_A / c_{TA}		AQS. 190/1,3-6
J_A 10^{-4}	kgm^2	22.0
c_{TA}	Nm/'	7.0

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R..147							F_{Ramax}			F_{Rapk}		
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	R	RF	RM	R	RF	RM
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N
R147 2	5.00	8670	10500	14700	294	642	49300	49300	35400	67000	67000	34400
	5.89	8670	10500	14700	326	491	53200	53200	35400	67000	67000	34400
	7.25	8670	10500	14700	379	358	58400	58400	35400	67000	67000	34400
	8.26	13000	13000	22100	190	591	49900	49900	32700	62700	62700	32700
	9.74	13000	13000	22100	215	454	54400	54400	32700	62700	62700	32700
	11.99	13000	13000	22100	207	334	60400	60400	32700	62700	62700	32700
	13.91	12600	13000	21400	220	250	63400	63400	32900	62700	62700	32700
	15.64	13000	13000	22100	191	210	62700	62700	32700	62700	62700	32700
	18.04	10500	13000	17800	243	168	67000	67000	34100	62700	62700	32700
	20.44	12000	13000	20400	220	140	64600	64600	33300	62700	62700	32700
R147 3	24.19	11900	13000	20200	64	291	64700	64700	33300	62700	62700	32700
	29.95	13000	13000	22100	51	214	62700	62700	32700	62700	62700	32700
	35.64	13000	13000	22100	52	166	62700	62700	32700	62700	62700	32700
	40.29	13000	13000	22100	54	136	62700	62700	32700	62700	62700	32700
	46.65	13000	13000	22100	55	110	62700	62700	32700	62700	62700	32700
	52.87	13000	13000	22100	57	91	62700	62700	32700	62700	62700	32700
	61.09	13000	13000	22100	58	75	62700	62700	32700	62700	62700	32700
	66.99	13000	13000	22100	59	66	62700	62700	32700	62700	62700	32700
	72.09	13000	13000	22100	41	118	62700	62700	32700	62700	62700	32700
	83.47	13000	13000	22100	41	97	62700	62700	32700	62700	62700	32700
	94.60	13000	13000	22100	41	81	62700	62700	32700	62700	62700	32700
	109.31	13000	13000	22100	41	68	62700	62700	32700	62700	62700	32700
	119.86	13000	13000	22100	38	60	62700	62700	32700	62700	62700	32700
	146.91	13000	13000	22100	31	38	62700	62700	32700	62700	62700	32700
	163.31	13000	13000	22100	28	34	62700	62700	32700	62700	62700	32700

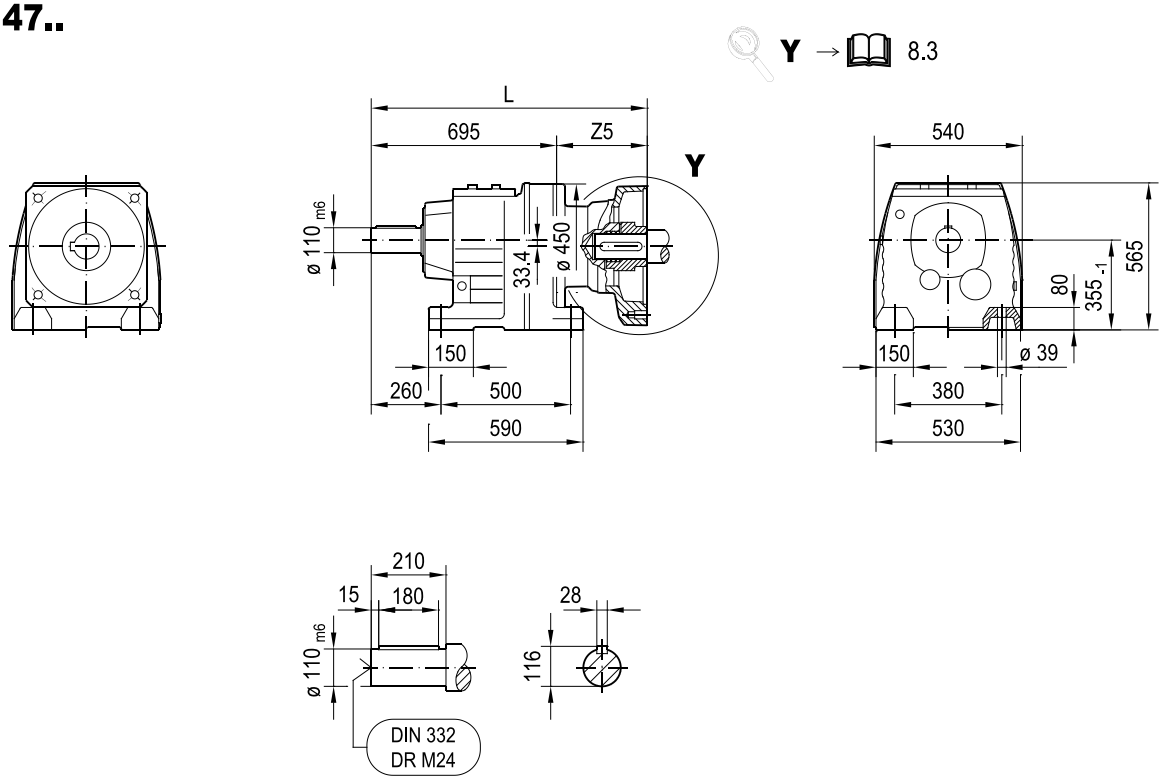
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R..147				c_{TG}			φ
	i	n_{epk} min^{-1}	η %	R Nm/'	RF Nm/'	RM Nm/'	/R '
R147 2	5.00	2518	97	665	665	461	8
	5.89	2797	97	665	665	461	8
	7.25	3197	97	665	665	461	8
	8.26	2518	97	873	873	551	6
	9.74	2797	97	873	873	551	6
	11.99	3197	97	873	873	551	5
	13.91	3597	97	873	873	551	5
	15.64	3924	97	873	873	551	5
	18.04	4378	97	873	873	551	5
	20.44	4500	97	873	873	551	5
R147 3	24.19	2797	96	913	913	567	6
	29.95	3197	96	913	913	567	6
	35.64	3597	96	913	913	567	6
	40.29	3924	96	913	913	567	6
	46.65	4378	96	913	913	567	6
	52.87	4500	96	913	913	567	6
	61.09	4500	96	913	913	567	6
	66.99	4500	96	913	913	567	6
	72.09	3924	96	917	917	568	6
	83.47	4378	96	917	917	568	6
	94.60	4500	96	917	917	568	6
	109.31	4500	96	917	917	568	5
	119.86	4500	96	917	917	568	5
	146.91	4500	96	917	917	568	5
	163.31	4500	96	917	917	568	5

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01 060 00 21

R147..

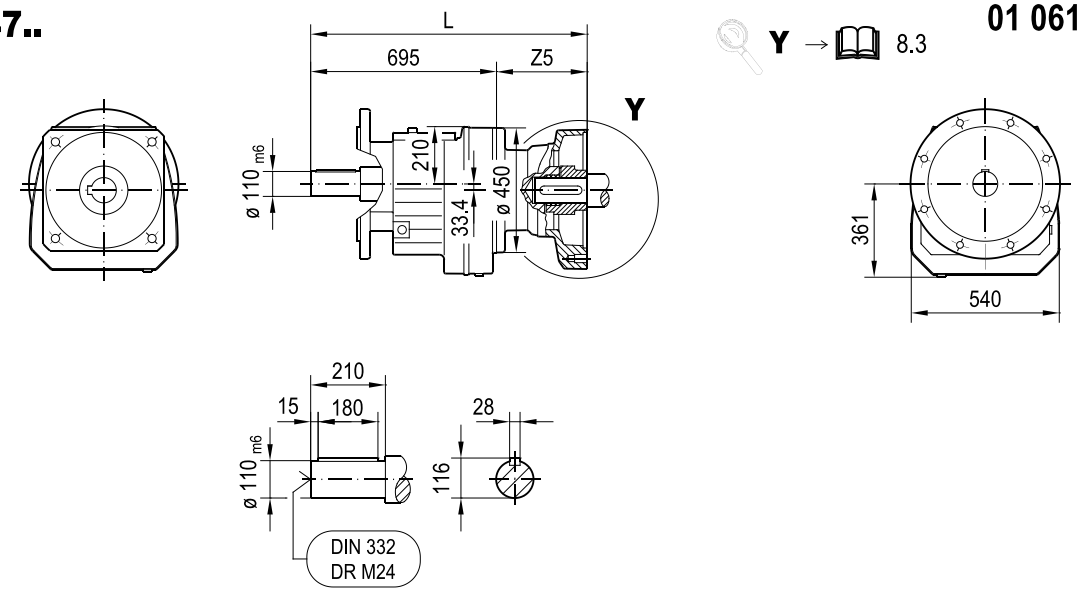


(→ 7.3.11)	AQS.							
	190/1, 3-5	190/6						
Z5	95	107						
L	790	802						

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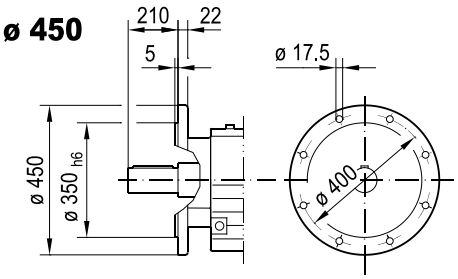
RF147..

01 061 00 21

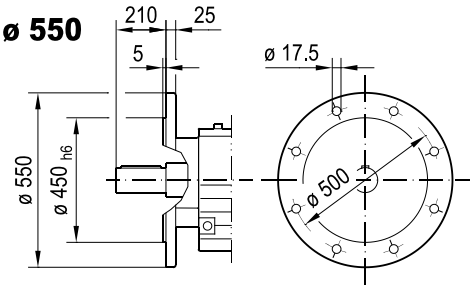


Y → 8.3

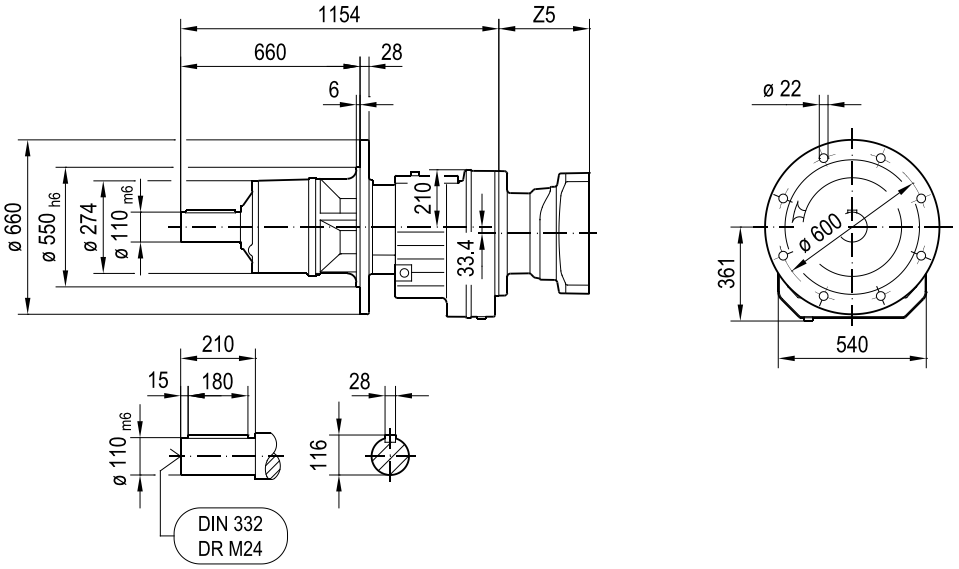
ø 450



ø 550



RM147..



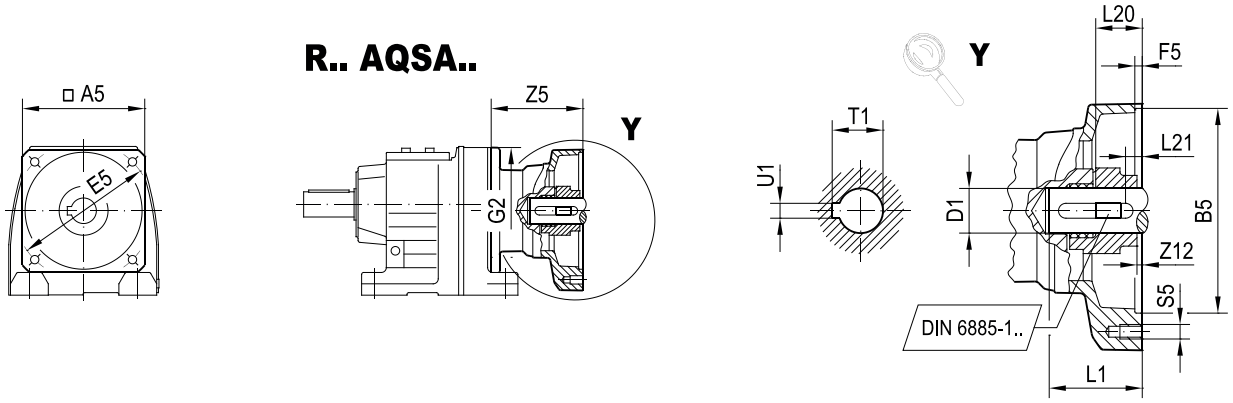
(→ 7.3.11)	AQS.							
	190/1, 3-5	190/6						
Z5	95	107						
L	790	802						

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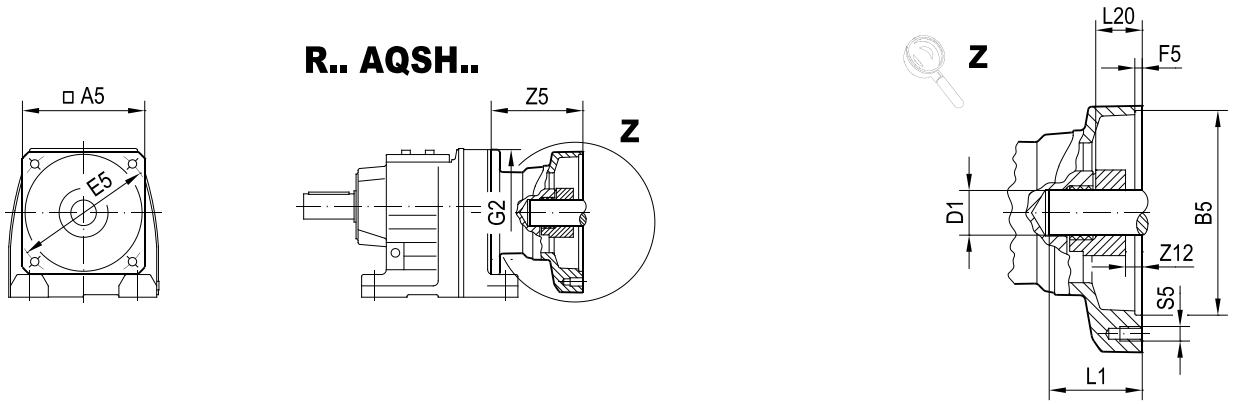
8.3 Adapter RX/R..AQS.. /mm

01 007 01 21

R.. AQSA..



R.. AQSH..

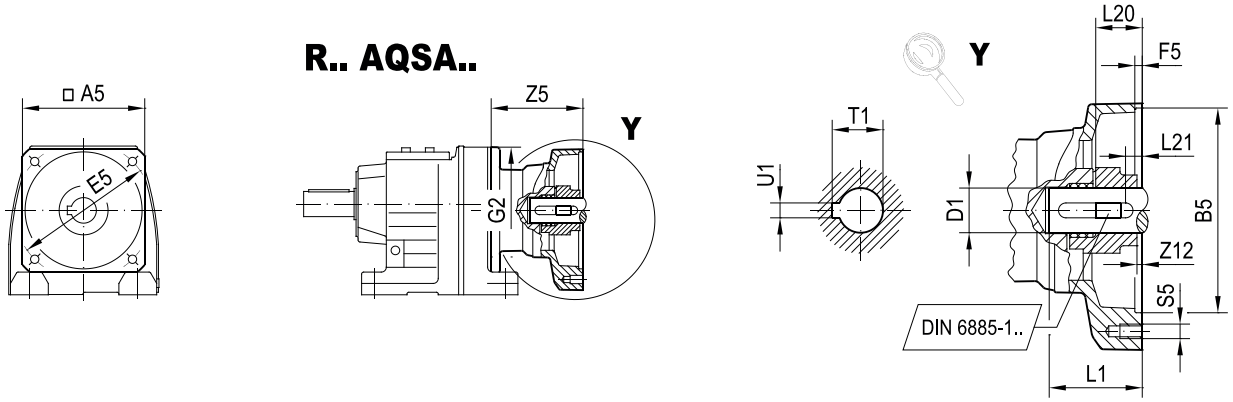


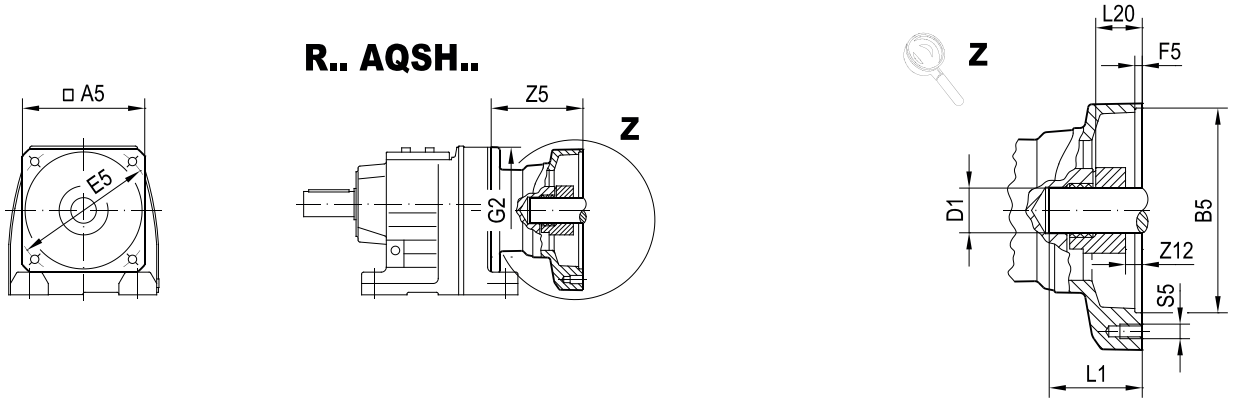
D1	T1	U1	AQS..							
			50/1 50/2	80/1 80/3 80/4 80/5	100/3 100/4 100/5 100/6[1] 100/7[1]	115/1 115/3 115/4 115/5 115/6[1]	140/1 140/3 140/5 140/6	160/1	190/1 190/3 190/4 190/5	190/6
mm	mm	mm								
8[2]	-	-	X							
9	10.4	3	X							
11	12.8	4		X						
14	16.3	5		X	X					
16	18.3	5			X					
19	21.8	6			X	X				
22	24.8	6				X				
	25.3	8				X				
24	27.3	8				X	X			
28	31.3	8					X	X	X	
32	35.3	10					X	X	X	
35	38.3	10						X[3]	X[3]	X
38	41.3	10						X	X	

1) Key design only (AQSA).
2) Terminal connection only (AQSH).
3) Only clamp connection (AQSH).

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01 007 01 21





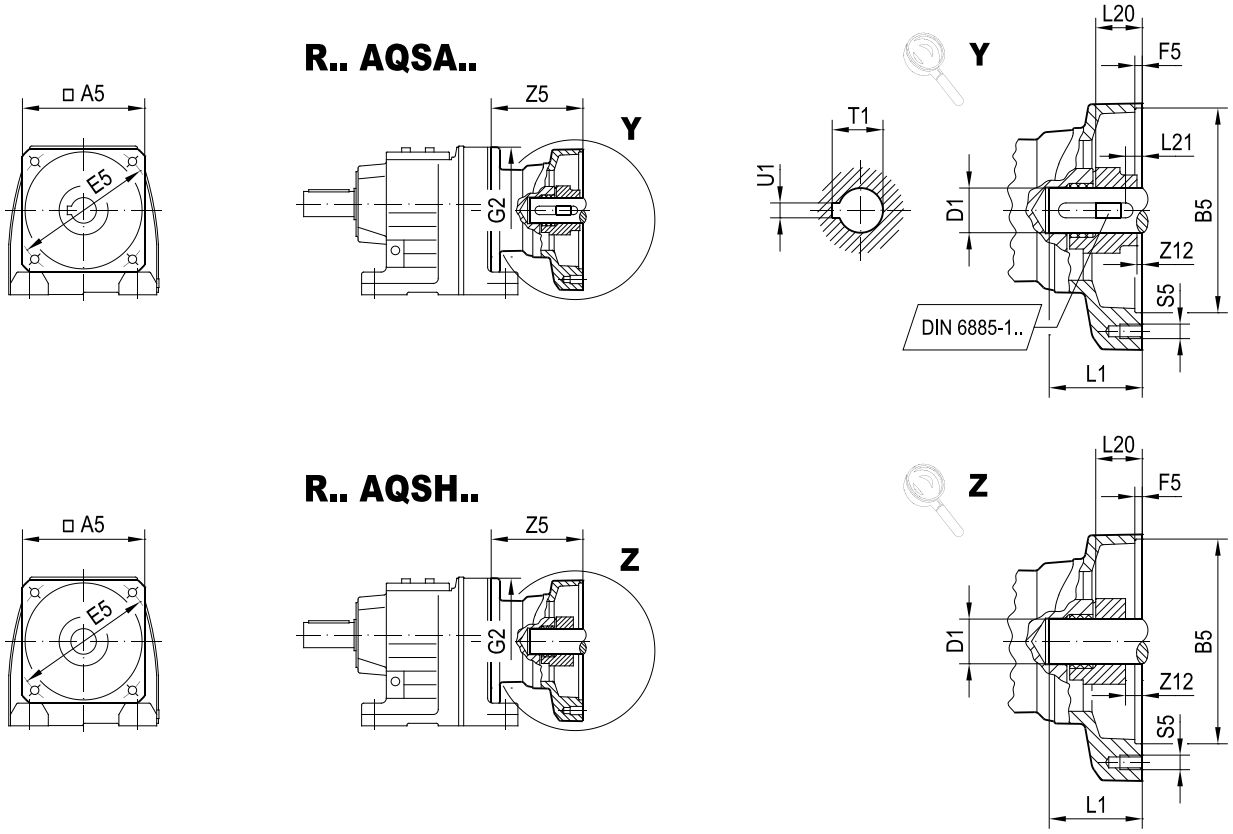
(→ 📖 7.3.11)	Dimensions in mm										
	D1	L20	L21 (ØD1: L21)	L1	B5	E5	A5	S5	Z12		F5
			AQSA						AQSA	AQSH	
AQS50/1	8 K7[1]	14	Ø9: 7	25	30	46	40	M4 × 7	3	4	2.5
AQS50/2	9 H7	14	Ø9: 7	25	40	63	55	M4 × 7	3	4	2.5
AQS80/1	11 H7 14 H7	18 18	Ø11: 10 Ø14: 11	31	60	75	73	M5 × 8	4	6	3.5
AQS80/3				31	50	95	82	M6 × 10	4	6	3.5
AQS80/4				31	50	70	60	M5 × 8	4	6	3.5
AQS80/5				31	60	90	75	M5 × 8	4	6	3.5
AQS100/3	14 H7 16 H7 19 H7	20	Ø14,16,19: 13	45	80	100	94	M6 × 10	4	6	4
AQS100/6[2]		25.5	Ø14,16,19: 18.5	50.5	80	100	94	M6 × 10	9.5	–	4
AQS100/4		20	Ø14,16,19: 13	45	95	115	105	M8 × 12	4	6	4
AQS100/7[2]		30	Ø14,16,19: 23	55	95	115	105	M8 × 12	14	–	4
AQS100/5		20	Ø14,16,19: 13	45	70	90	94	M6 × 10	4	6	4
AQS115/1	19 H7 22 H7 24 H7	25	Ø19: 16 Ø22: 17 Ø24: 17	50	95	130	115	M8 × 14.5	0 Ø22: 9	9	5
AQS115/3		25		50	110	130	115	M8 × 14.5	0 Ø22: 9	9	5
AQS115/6[2]		30	Ø19: 21 Ø22: 22 Ø24: 22	55	110	130	115	M8 × 14.5	5 Ø22: 14	–	5
AQS115/4		31	Ø19: 22 Ø22: 23 Ø24: 23	58	110	145	130	M8 × 14.5	6 Ø22: 15	15	6.5
AQS115/5		25	Ø19: 16 Ø22: 17 Ø24: 17	50	95	115	115	M8 × 14.5	0 Ø22: 9	9	5
AQS140/1	24 H7 28 H7 32 H7	30	Ø24: 11 Ø28: 19 Ø32: 19	60	110	165	140	M10 × 20	4	8	5
AQS140/3		30		60	130	165	140	M10 × 20	4	8	5
AQS140/5		30		60	180	215	190	M12 × 22	4	8	5
AQS140/6		30		80	130	165	140	M10 × 20	4	8	5

1) Only clamp connection (AQSH).

2) Key design only (AQSA).

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01 007 01 21

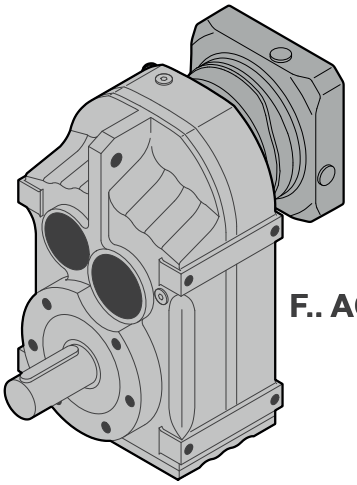


(→ 7.3.11)	Dimensions in mm										
	D1	L20	L21 (ØD1: L21) AQSA	L1	B5	E5	A5	S5	Z12 AQSA	Z12 AQSH	F5
AQS160/1	28 H7 32 H7 35 H7[1)] 38 H7	34	Ø28: 15 Ø32: 17 Ø38: 21	80	155	190	163	M10 × 20	0	8	5
AQS190/1	28 H7 32 H7 35 H7[1)] 38 H7	34	Ø28: 15 Ø32: 17 Ø38: 21	80	130	215	190	M12 × 22	0	8	5
AQS190/3		34		80	180	215	190	M12 × 22	0	8	5
AQS190/4		34		80	114.3	200	180	M12 × 22	0	8	5
AQS190/5		34		80	230	265	240	M12 × 22	0	8	5
AQS190/6	35 H7	46	Ø35: 31	80	114.3	200	180	M12 × 22	12	20	5

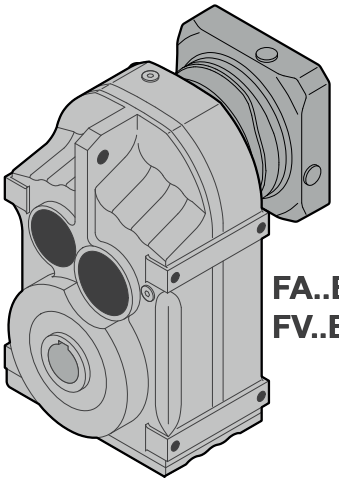
1) Only clamp connection (AQSH).

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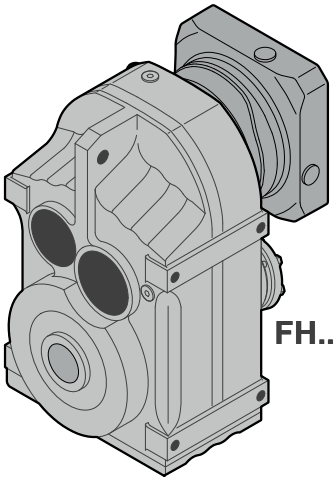
9 F.. parallel-shaft helical gear units



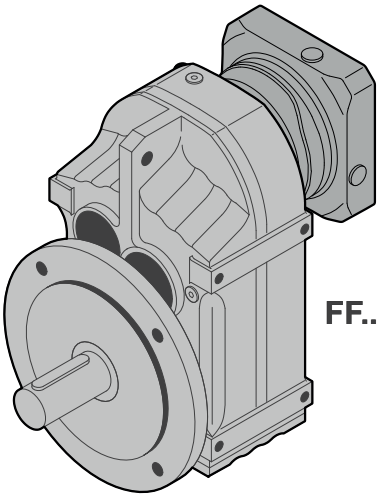
F.. AQS..



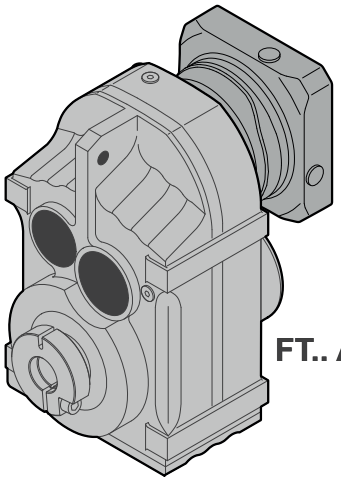
FA..B AQS..
FV..B AQS..



FH..B AQS..



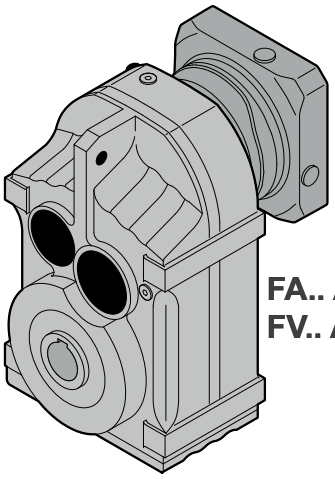
FF.. AQS..



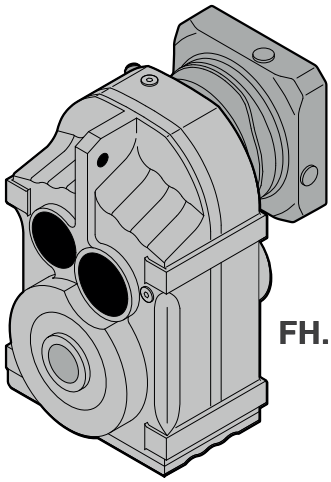
FT.. AQS..

35094989323

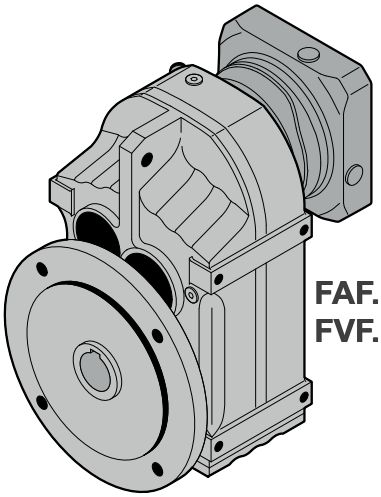
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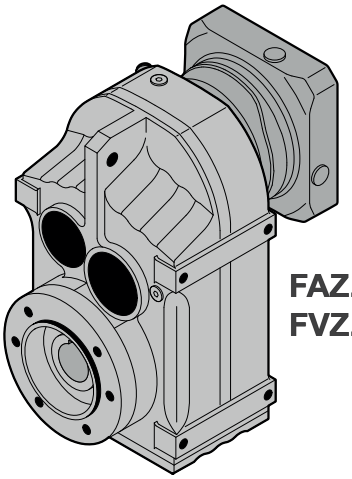
FA.. AQS..
FV.. AQS..



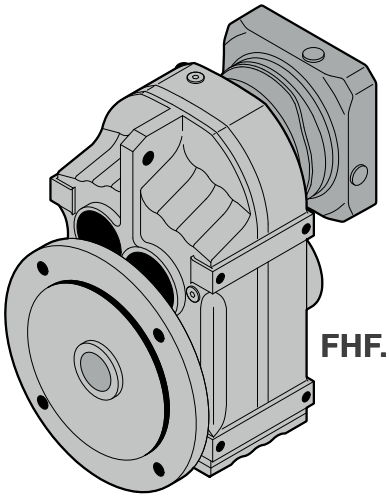
FH.. AQS..



FAF.. AQS..
FVF.. AQS..



FAZ.. AQS..
FVZ.. AQS..

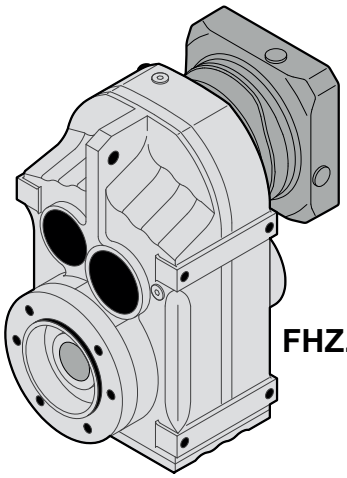


FHF.. AQS..

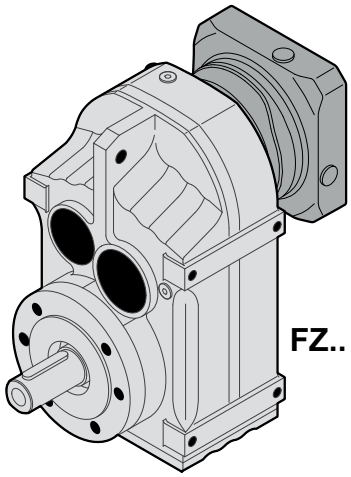
35094991755

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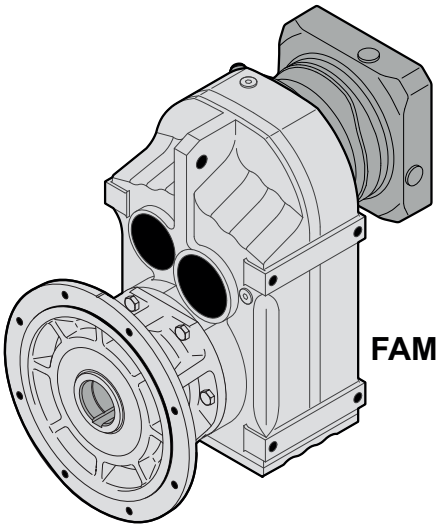
SEW EURODRIVE



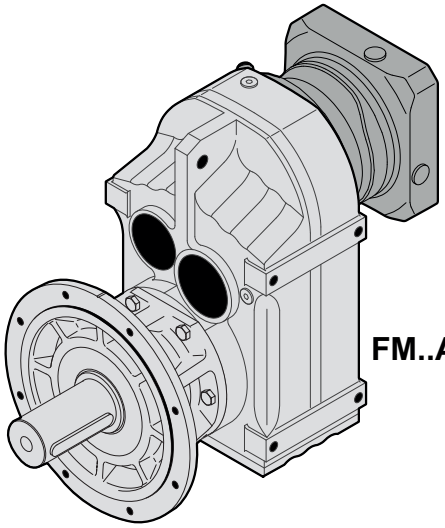
FHZ.. AQS..



FZ.. AQS..



FAM..AQS..



FM..AQS..

35094994187

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9.1 F..AQS.. – Selection tables and dimension sheets

9.1.1 F27 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$														
	i	50/1-2			80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6		
FA27 2	4.16	27	27	36	52	68	88	87	127	148	87	130	148	87	130	148
	4.93	33	33	43	57	81	97	96	144	163	96	144	163	96	144	163
	5.27	35	35	46	58	86	99	100	150	170	100	150	170	100	150	170
	6.17	41	41	54	62	93	105	109	163	185	109	163	185	109	163	185
	6.91	46	46	60	65	98	111	114	163	194	114	163	194	114	163	194
	8.13	54	54	71	67	101	114	123	163	210	123	163	210	123	163	210
	9.40	63	63	82	71	107	121	130	163	220	130	163	220			
	9.88	66	66	86	114	157	194	130	157	220	130	157	220	130	157	220
	10.55	70	71	92	117	157	199	130	157	220	130	157	220	130	157	220
	12.35	82	83	107	125	157	215	130	157	220	130	157	220	130	157	220
	13.84	92	93	120	130	157	220	130	157	220	130	157	220	130	157	220
	16.28	109	110	142	130	157	220	130	157	220	130	157	220	130	157	220
	18.84	126	127	164	130	157	220	130	157	220	130	157	220			
	20.15	130	136	175	130	157	220	130	157	220	130	157	220			
	23.25	130	157	200	130	157	220	130	157	220	130	157	220			
	27.18	130	157	220	130	157	220	130	157	220	130	157	220			
	29.56	130	157	220	130	157	220	130	157	220	130	157	220			
FA27 3	33.83	130	157	220	130	157	220	130	157	220	130	157	220	130	157	220
	38.33	130	157	220	130	157	220	130	157	220	130	157	220			
	40.89	130	157	220	130	157	220	130	157	220	130	157	220	130	157	220
	46.78	130	157	220	130	157	220	130	157	220	130	157	220			
	50.19	130	157	220	130	157	220	130	157	220	130	157	220			
	56.62	130	157	220	130	157	220	130	157	220	130	157	220	130	157	220
	63.86	130	157	220	130	157	220	130	157	220	130	157	220	130	157	220
	72.37	130	157	220	130	157	220	130	157	220	130	157	220			
	77.21	130	157	220	130	157	220	130	157	220	130	157	220	130	157	220
	88.32	130	157	220	130	157	220	130	157	220	130	157	220			
	94.76	130	157	220	130	157	220	130	157	220	130	157	220			
	109.90	130	157	220	130	157	220	130	157	220	130	157	220			
	129.09	130	157	220	130	157	220	130	157	220	130	157	220			
	140.74	130	157	220	130	157	220	130	157	220	130	157	220			

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min^{-1}		AQS. n_{ak}				
	i	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
FA27 2	4.16	990	368	353	353	353
	4.93	913	290	296	296	296
	5.27	854	290	271	271	271
	6.17	729	238	229	229	229
	6.91	651	204	211	211	211
	8.13	435	187	177	177	177
	9.40	283	159	162	162	
	9.88	455	147	199	199	199
	10.55	427	139	201	201	201
	12.35	364	114	203	203	203
	13.84	325	103	205	205	205
	16.28	213	115	207	207	207
	18.84	142	129	209	209	
	20.15	128	128	209	209	
	23.25	123	123	194	194	
	27.18	116	116	166	166	
	29.56	112	112	152	152	
FA27 3	33.83	133	133	133	133	133
	38.33	117	117	117	117	
	40.89	110	110	110	110	110
	46.78	96	96	96	96	
	50.19	90	90	90	90	
	56.62	79	79	79	79	79
	63.86	70	70	70	70	70
	72.37	62	62	62	62	
	77.21	58	58	58	58	58
	88.32	51	51	51	51	
	94.76	47	47	47	47	
	109.90	41	41	41	41	
	129.09	35	35	35	35	
	140.74	32	32	32	32	

FA27, m kg					
	AQS.				
s	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
2	7.0	7.4	8.1	9.8	14
3	7.3	7.6	8.4	10	14
FAF: + 0.70 kg / F: + 0.50 kg / FF: + 1.3 kg					

F27, J_A / c_{TA}		AQS.				
		50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
J_A 10^{-4}	kgm^2	0.41	0.46	1.3	2.4	8.1
c_{TA}	Nm/'	0.15	0.15	0.3	0.7	3.0

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F..27							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	FA	FAF	F	FF	FA	FAF	F	FF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
FA27 2	4.16	87	130	148	365	1.4	1810	1810	1380	1180	4500	4500	4500	4500
	4.93	96	144	163	306	1.0	1860	1860	1420	1210	4500	4500	4500	4500
	5.27	100	150	170	283	0.90	1880	1880	1440	1220	4500	4500	4500	4500
	6.17	109	163	185	237	0.68	1940	1940	1480	1260	4500	4500	4500	4500
	6.91	114	163	194	219	0.56	2000	2000	1530	1300	4500	4500	4500	4500
	8.13	123	163	205	183	0.42	2080	2080	1580	1350	4500	4500	4500	4500
	9.40	130	163	220	168	0.33	2170	2170	1660	1410	4500	4500	4500	4500
	9.88	130	157	220	207	0.74	2400	2400	1830	1560	4500	4500	4500	4500
	10.55	130	157	220	209	0.67	2490	2490	1900	1620	4500	4500	4500	4500
	12.35	130	157	220	211	0.51	2700	2700	2060	1760	4500	4500	4500	4500
	13.84	130	157	220	212	0.43	2860	2860	2180	1860	4500	4500	4500	4500
	16.28	130	157	220	214	0.32	3110	3110	2370	2020	4500	4500	4500	4500
	18.84	130	157	220	217	0.26	3340	3340	2550	2170	4500	4500	4500	4500
	20.15	130	157	220	217	0.23	3450	3450	2630	2240	4500	4500	4500	4500
	23.25	130	157	220	194	0.19	3690	3690	2820	2400	4500	4500	4500	4500
	27.18	130	157	220	166	0.15	3970	3970	3030	2580	4500	4500	4500	4500
	29.56	130	157	220	152	0.13	4120	4120	3140	2680	4500	4500	4500	4500
FA27 3	33.83	130	157	220	133	0.31	4380	4380	3340	2850	4500	4500	4500	4500
	38.33	130	157	220	117	0.26	4500	4500	3530	3010	4500	4500	4500	4500
	40.89	130	157	220	110	0.23	4500	4500	3640	3100	4500	4500	4500	4500
	46.78	130	157	220	96	0.18	4500	4500	3860	3290	4500	4500	4500	4500
	50.19	130	157	220	90	0.17	4500	4500	3980	3390	4500	4500	4500	4500
	56.62	130	157	220	79	0.31	4500	4500	4180	3570	4500	4500	4500	4500
	63.86	130	157	220	70	0.26	4500	4500	4400	3750	4500	4500	4500	4500
	72.37	130	157	220	62	0.22	4500	4500	4500	3960	4500	4500	4500	4500
	77.21	130	157	220	58	0.20	4500	4500	4500	4060	4500	4500	4500	4500
	88.32	130	157	220	51	0.16	4500	4500	4500	4290	4500	4500	4500	4500
	94.76	130	157	220	47	0.15	4500	4500	4500	4420	4500	4500	4500	4500
	109.90	130	157	220	41	0.12	4500	4500	4500	4500	4500	4500	4500	4500
	129.09	130	157	220	35	0.090	4500	4500	4500	4500	4500	4500	4500	4500
	140.74	130	157	220	32	0.080	4500	4500	4500	4500	4500	4500	4500	4500

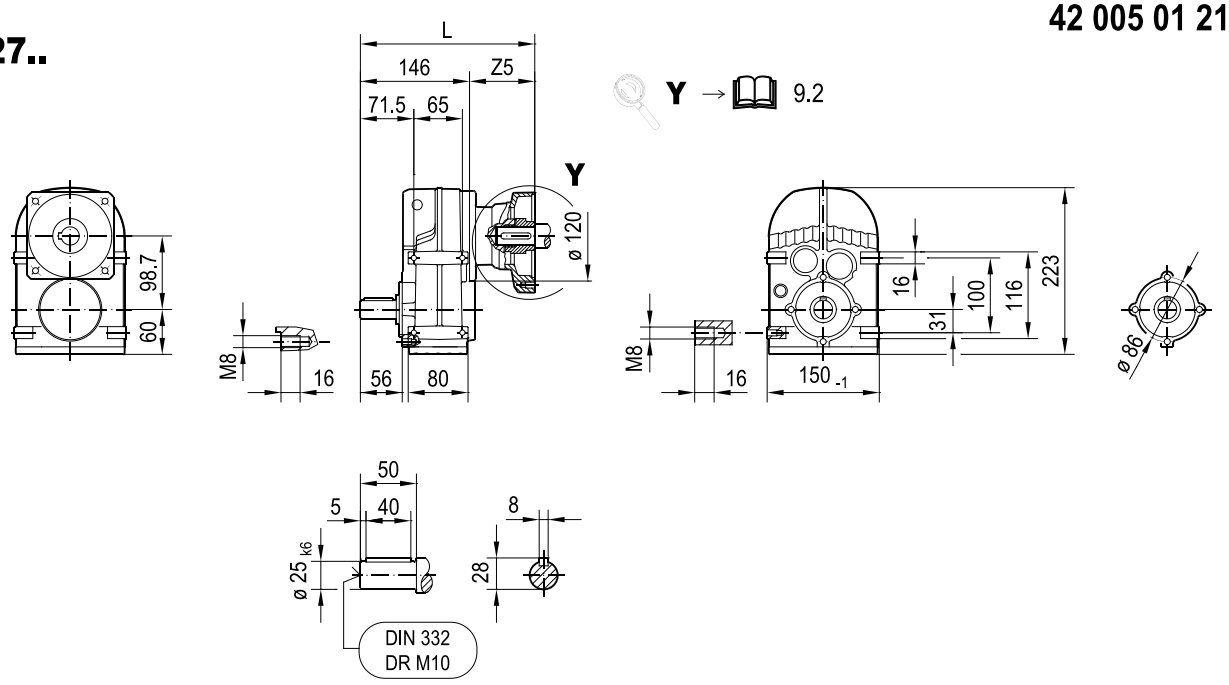
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F..27				c_{TG}			
	i	n_{epk} min^{-1}	η %	FA Nm/'	FAF Nm/'	F Nm/'	FF Nm/'
FA27 2	4.16	4120	97	46	46	21	18
	4.93	4500	97	46	46	21	18
	5.27	4500	97	46	46	21	18
	6.17	4500	97	46	46	21	18
	6.91	4500	97	46	46	21	18
	8.13	4500	97	46	46	21	18
	9.40	4500	97	46	46	21	18
	9.88	4500	97	83	83	26	22
	10.55	4500	97	83	83	26	22
	12.35	4500	97	83	83	26	22
	13.84	4500	97	83	83	26	22
	16.28	4500	97	83	83	26	22
	18.84	4500	97	83	83	26	22
	20.15	4500	97	83	83	26	22
	23.25	4500	97	83	83	26	22
	27.18	4500	96	83	83	26	22
	29.56	4500	96	83	83	26	22
FA27 3	33.83	4500	95	95	95	27	23
	38.33	4500	95	95	95	27	23
	40.89	4500	95	95	95	27	23
	46.78	4500	94	95	95	27	23
	50.19	4500	94	95	95	27	23
	56.62	4500	94	99	99	27	23
	63.86	4500	94	99	99	27	23
	72.37	4500	93	99	99	27	23
	77.21	4500	93	99	99	27	23
	88.32	4500	93	99	99	27	23
	94.76	4500	92	99	99	27	23
	109.90	4500	92	99	99	27	23
	129.09	4500	91	99	99	27	23
	140.74	4500	90	99	99	27	23

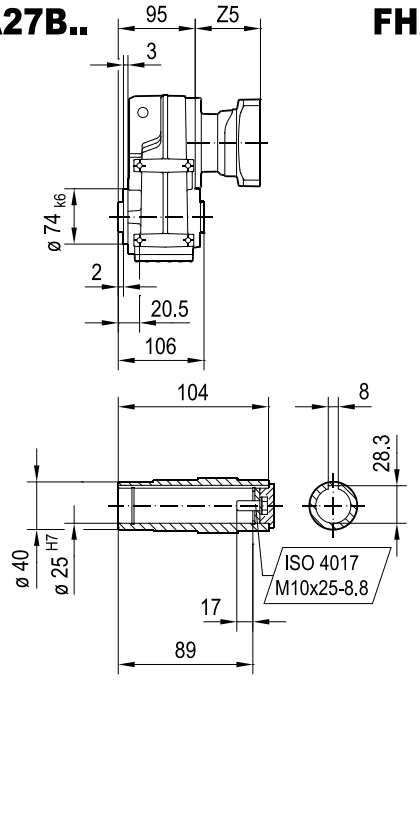
27788644/EN – 02/2024

42 005 01 21

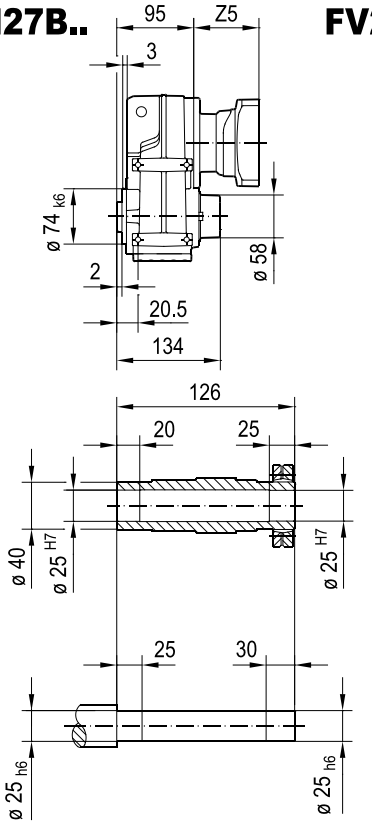
F27..



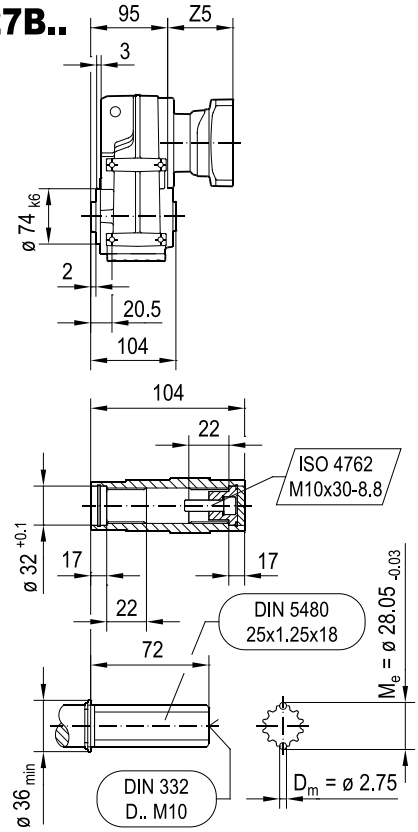
FA27B..



FH27B..



FV27B..

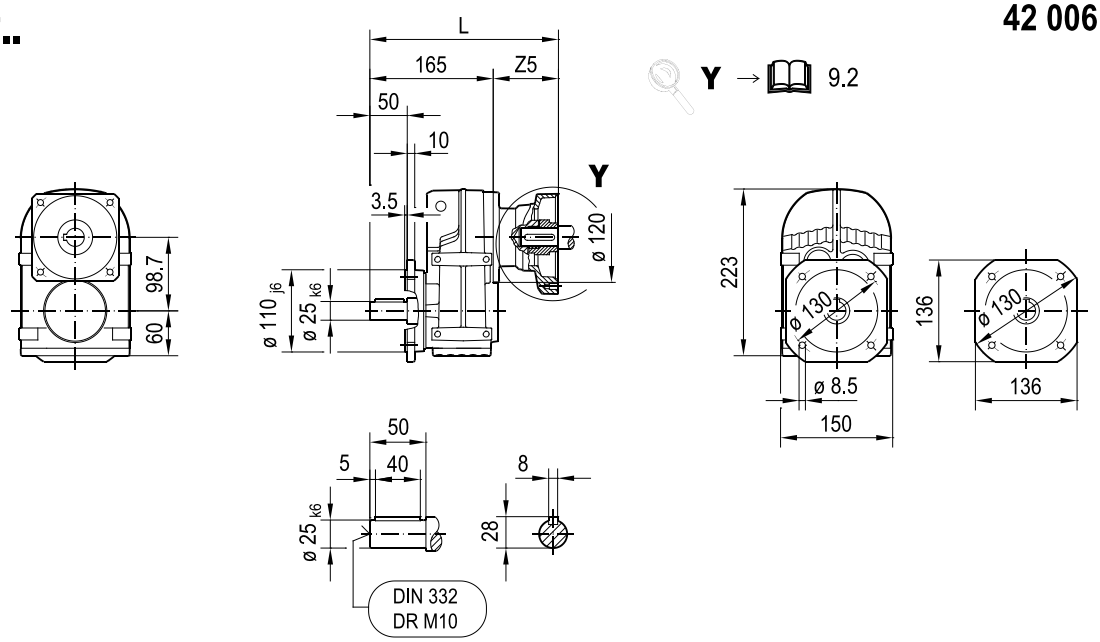


(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	199	203	220	225	230	233	239	233	238	255

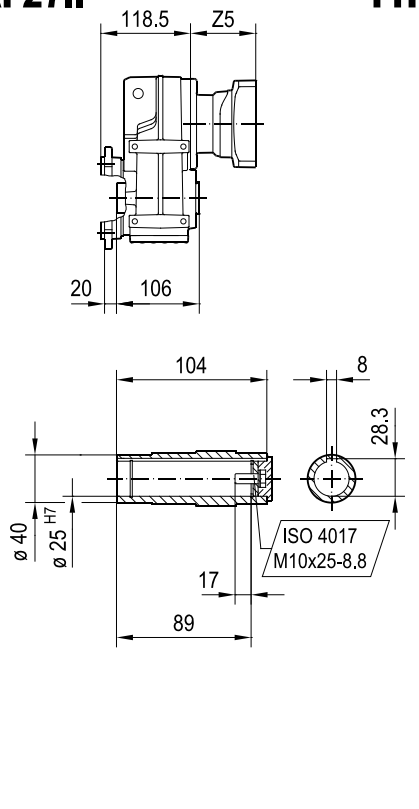
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FF27..

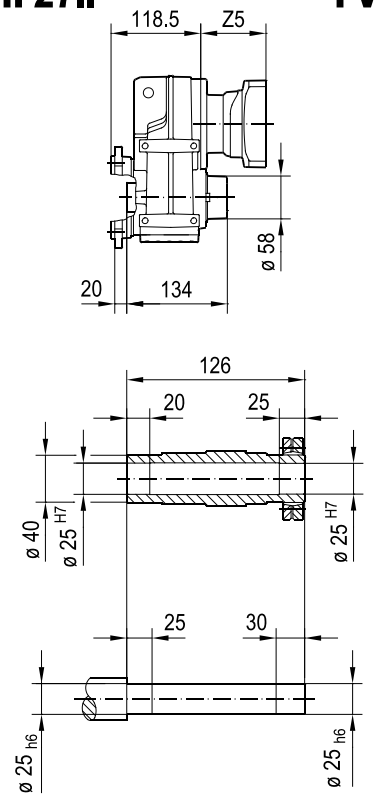
42 006 00 21



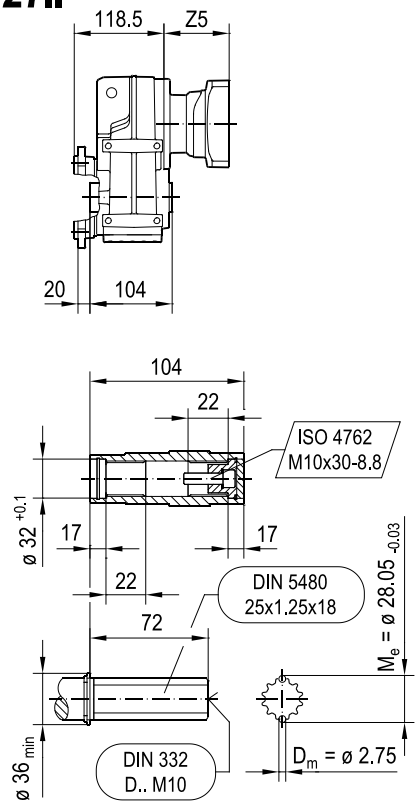
FAF27..



FHF27..



FVF27..

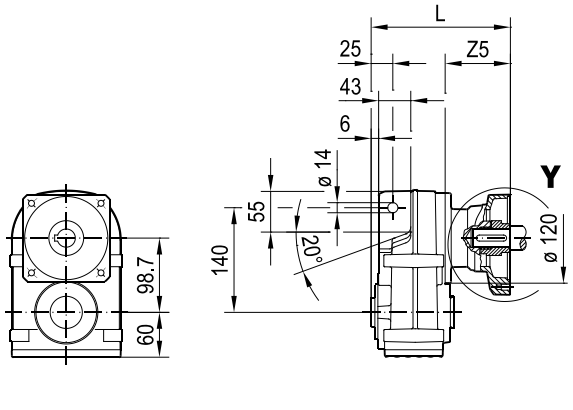


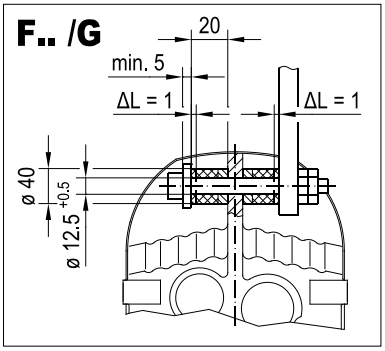
(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	218	222	239	244	249	252	258	252	257	274

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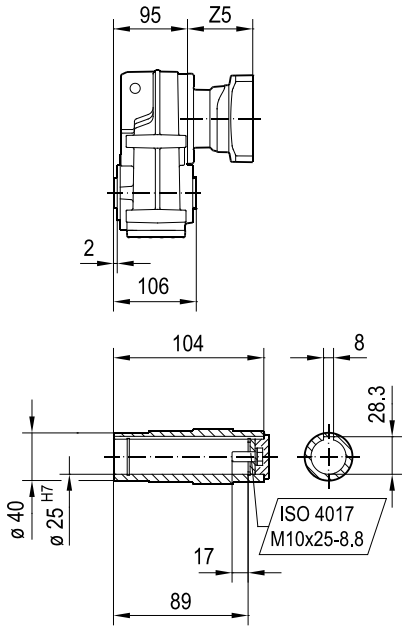
42 007 00 21

FA27..

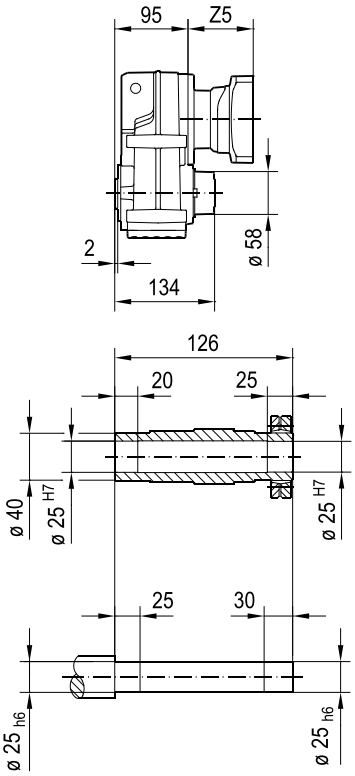




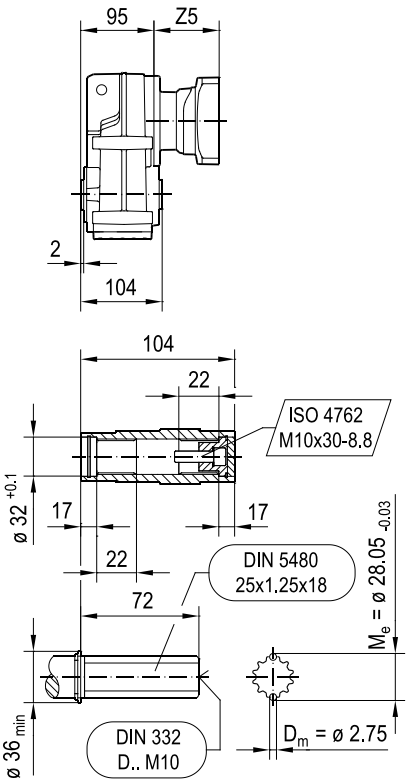
FA27..



FH27..



FV27..

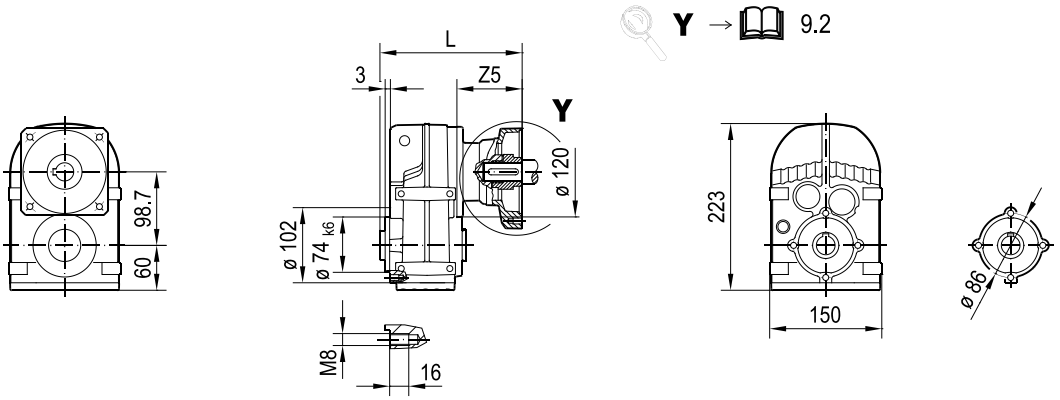


(→ 📖 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	148	152	169	174	179	182	188	182	187	204

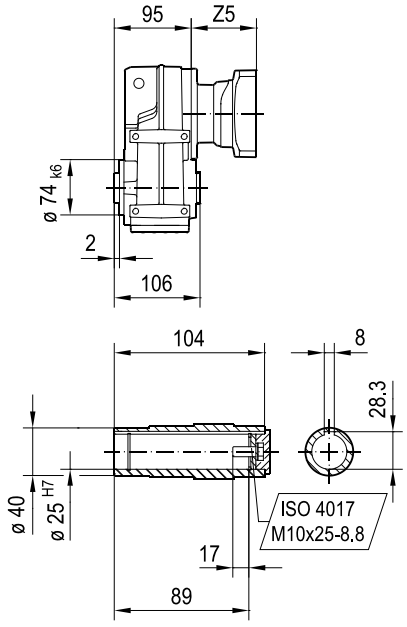
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FAZ27..

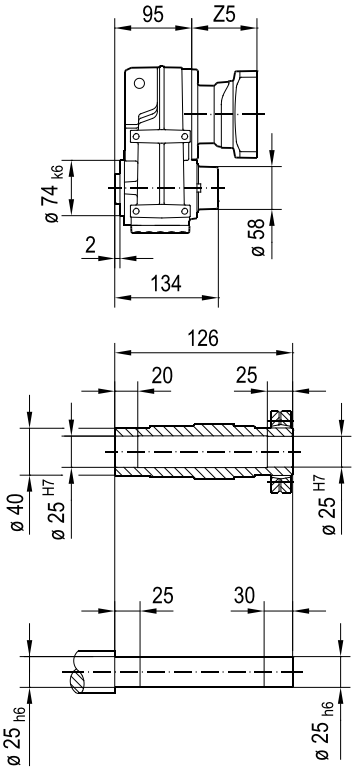
42 008 00 21



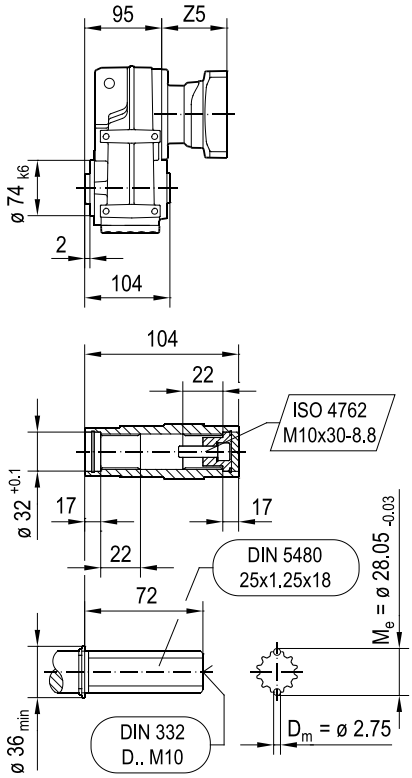
FAZ27..



FHZ27..



FVZ27..

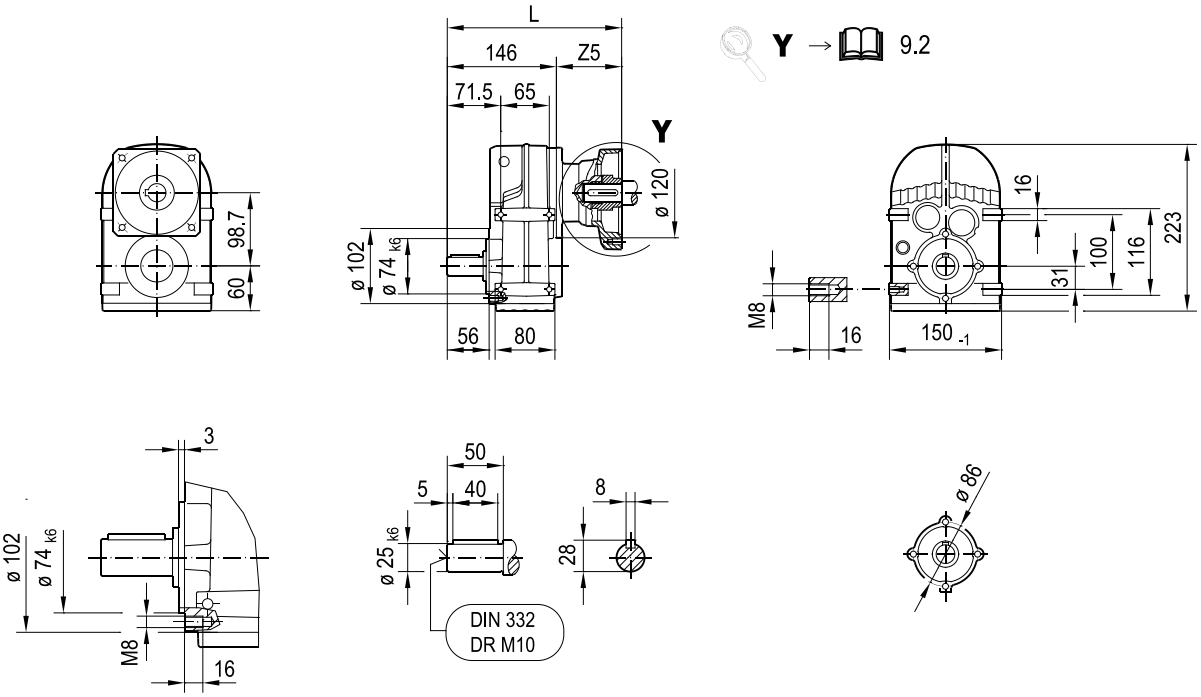


(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	148	152	169	174	179	182	188	182	187	204

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42 009 01 21

FZ27..



(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	199	203	220	225	230	233	239	233	238	255

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9.1.2 F37 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$														
	i	50/1-2			80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6		
FA37 2	3.77	25	25	33	50	62	85	96	115	163	98	144	167	105	144	179
	4.22	28	28	36	53	69	90	101	129	172	104	156	177	110	157	187
	4.90	33	33	42	56	80	95	107	150	182	110	165	187	120	173	205
	5.21	35	35	45	58	86	99	110	159	187	112	168	190	125	180	215
	6.05	40	40	53	61	92	104	115	173	196	118	177	200	135	188	230
	6.74	45	45	59	63	95	107	120	180	205	122	183	205	140	188	240
	7.44	50	50	65	64	96	109	122	169	205	125	169	215			
	8.01	54	54	69	107	132	182	170	245	290	170	255	290	170	255	290
	8.97	60	60	78	113	147	192	175	255	300	175	255	300	175	255	300
	10.42	70	70	90	120	172	205	185	255	315	185	255	315	185	255	315
	11.08	75	75	96	123	182	210	190	255	325	190	255	325	190	255	325
	12.87	87	87	112	130	195	220	205	255	350	205	255	350	205	255	350
	14.33	97	97	125	134	200	230	215	255	365	215	255	365	215	255	365
	15.81	107	107	137	137	205	235	220	255	375	220	255	375			
	17.03	115	115	148	142	215	240	230	255	390	230	255	390	230	255	390
	19.27	130	130	168	146	220	250	230	255	390	230	255	390			
	20.57	139	139	179	149	225	255	230	255	390	230	255	390			
	23.63	154	159	205	154	230	260	230	255	390	230	255	390			
FA37 3	23.88	159	159	205	230	255	390	230	255	390	230	255	390	230	255	390
	28.09	188	188	240	230	255	390	230	255	390	230	255	390	230	255	390
	31.69	210	210	270	230	255	390	230	255	390	230	255	390	230	255	390
	35.91	230	235	310	230	255	390	230	255	390	230	255	390			
	38.31	230	255	330	230	255	390	230	255	390	230	255	390	230	255	390
	43.83	230	255	375	230	255	390	230	255	390	230	255	390			
	47.02	230	255	390	230	255	390	230	255	390	230	255	390			
	51.70	230	255	390	230	255	390	230	255	390	230	255	390	230	255	390
	54.54	230	255	390	230	255	390	230	255	390	230	255	390			
	58.32	230	255	390	230	255	390	230	255	390	230	255	390	230	255	390
	66.09	230	255	390	230	255	390	230	255	390	230	255	390			
	70.50	230	255	390	230	255	390	230	255	390	230	255	390	230	255	390
	80.65	230	255	390	230	255	390	230	255	390	230	255	390			
	86.53	230	255	390	230	255	390	230	255	390	230	255	390			
	100.36	230	255	390	230	255	390	230	255	390	230	255	390			
	117.88	230	255	390	230	255	390	230	255	390	230	255	390			
	128.51	230	255	390	230	255	390	230	255	390	230	255	390			

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min^{-1}		AQS. n_{ak}				
	i	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
FA37 2	3.77	1194	377	369	379	451
	4.22	1066	332	336	327	424
	4.90	918	296	292	286	355
	5.21	864	259	267	276	324
	6.05	744	226	238	235	276
	6.74	668	206	202	212	260
	7.44	501	192	185	184	
	8.01	562	171	197	197	197
	8.97	502	154	183	183	183
	10.42	432	132	157	157	157
	11.08	406	125	146	146	146
	12.87	350	105	117	117	117
	14.33	314	97	103	103	103
	15.81	232	87	96	96	
	17.03	192	78	85	85	85
	19.27	131	71	85	85	
	20.57	103	65	85	85	
	23.63	56	56	86	86	
FA37 3	23.88	180	62	62	62	62
	28.09	113	62	62	62	62
	31.69	81	62	62	62	62
	35.91	62	62	62	62	
	38.31	62	62	62	62	62
	43.83	62	62	62	62	
	47.02	62	62	62	62	
	51.70	61	61	61	61	61
	54.54	62	62	62	62	
	58.32	61	61	61	61	61
	66.09	61	61	61	61	
	70.50	61	61	61	61	61
	80.65	56	56	56	56	
	86.53	52	52	52	52	
	100.36	45	45	45	45	
	117.88	38	38	38	38	
	128.51	35	35	35	35	

FA37, m kg	AQS.				
s	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
2	13	14	14	16	20
3	13	14	14	16	20
FAF: + 1.5 kg / F: + 0.45 kg / FF: + 2.3 kg					

F37, J_A / c_{TA}		AQS.				
		50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
J_A 10^{-4}	kgm^2	0.41	0.46	1.3	2.4	8.1
c_{TA}	Nm/'	0.15	0.15	0.3	0.7	3.0

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F..37							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	FA	FAF	F	FF	FA	FAF	F	FF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
FA37 2	3.77	105	157	178	467	2.8	2470	2470	1970	2220	7000	7000	4810	5860
	4.22	110	165	187	441	2.3	2550	2550	2030	2300	7000	7000	4730	5820
	4.90	120	180	200	369	1.8	2630	2630	2100	2380	7000	7000	4560	5740
	5.21	125	187	210	338	1.6	2660	2660	2120	2410	7000	7000	4470	5700
	6.05	135	188	225	286	1.2	2750	2750	2190	2510	7000	7000	4460	5700
	6.74	140	188	235	269	1.0	2850	2850	2270	2600	7000	7000	4460	5700
	7.44	145	188	245	247	0.83	2940	2940	2350	2680	7000	7000	4460	5700
	8.01	170	255	285	205	1.5	2960	2960	2360	2710	7000	7000	1270	1270
	8.97	175	255	295	191	1.3	3080	3080	2460	2820	7000	7000	1270	1270
	10.42	185	255	310	163	1.0	3230	3230	2580	2960	7000	7000	1270	1270
	11.08	190	255	320	152	0.94	3290	3290	2620	3020	7000	7000	1270	1270
	12.87	205	255	345	122	0.74	3400	3400	2710	3130	7000	7000	1270	1270
	14.33	215	255	365	106	0.63	3500	3500	2790	3230	7000	7000	1270	1270
	15.81	220	255	370	99	0.52	3640	3640	2900	3350	7000	7000	1270	1270
	17.03	230	255	390	87	0.48	3680	3680	2940	3400	7000	7000	1270	1270
	19.27	230	255	390	88	0.40	3940	3940	3140	3620	7000	7000	1270	1270
	20.57	230	255	390	88	0.36	4080	4080	3250	3730	7000	7000	1270	1270
	23.63	230	255	390	89	0.29	4380	4380	3500	3980	7000	7000	1270	1270
FA37 3	23.88	230	255	390	64	0.60	4410	4410	3510	4000	7000	7000	1270	1270
	28.09	230	255	390	64	0.45	4780	4780	3810	4310	7000	7000	1270	1270
	31.69	230	255	390	64	0.35	5080	5080	3810	4550	7000	7000	1270	1270
	35.91	230	255	390	64	0.29	5390	5390	3810	4820	7000	7000	1270	1270
	38.31	230	255	390	64	0.26	5560	5560	3810	4950	7000	7000	1270	1270
	43.83	230	255	390	64	0.21	5930	5930	3810	5140	7000	7000	1270	1270
	47.02	230	255	390	64	0.19	6120	6120	3810	5140	7000	7000	1270	1270
	51.70	230	255	390	63	0.34	6400	6400	3810	5140	7000	7000	1270	1270
	54.54	230	255	390	64	0.15	6550	6550	3810	5140	7000	7000	1270	1270
	58.32	230	255	390	63	0.27	6760	6760	3810	5140	7000	7000	1270	1270
	66.09	230	255	390	63	0.23	7000	7000	3810	5140	7000	7000	1270	1270
	70.50	230	255	390	63	0.21	7000	7000	3810	5140	7000	7000	1270	1270
	80.65	230	255	390	56	0.17	7000	7000	3810	5140	7000	7000	1270	1270
	86.53	230	255	390	52	0.15	7000	7000	3810	5140	7000	7000	1270	1270
	100.36	230	255	390	45	0.12	7000	7000	3810	5140	7000	7000	1270	1270
	117.88	230	255	390	38	0.10	7000	7000	3810	5140	7000	7000	1270	1270
	128.51	230	255	390	35	0.080	7000	7000	3810	5140	7000	7000	1270	1270

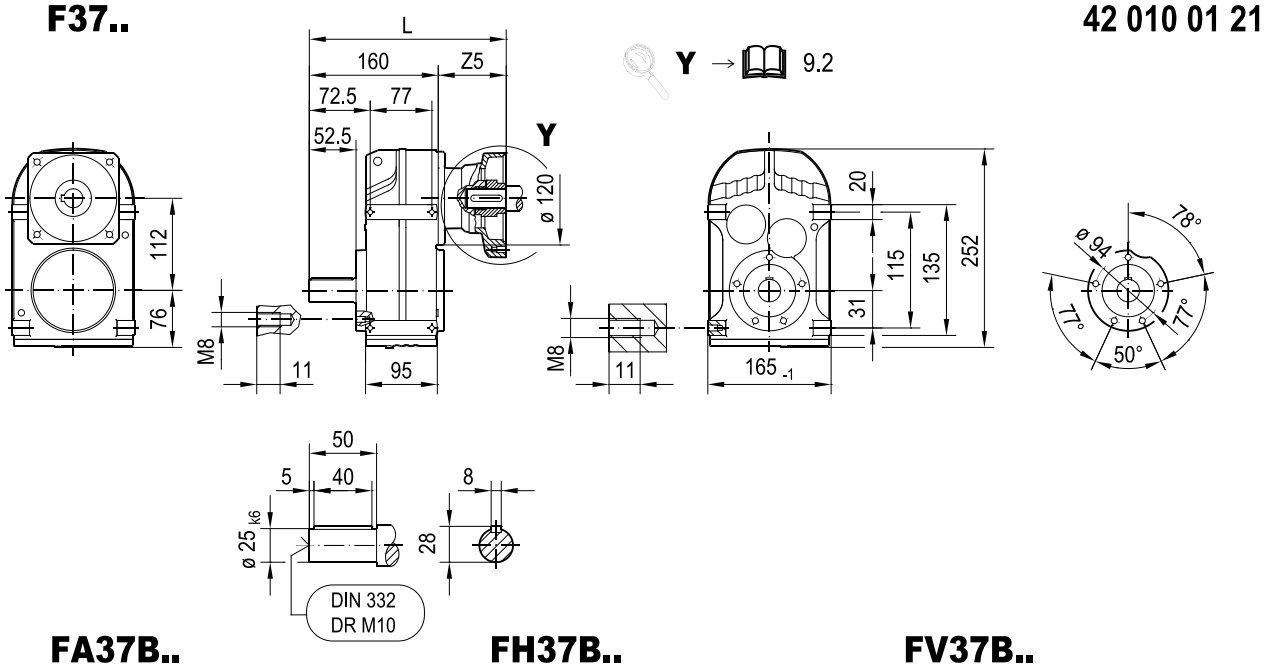
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F..37				c_{TG}				φ
	i	n_{epk} min^{-1}	η %	FA Nm/'	FAF Nm/'	F Nm/'	FF Nm/'	/R '
FA37 2	3.77	4500	97	41	41	20	15	12
	4.22	4500	97	41	41	20	15	11
	4.90	4500	97	41	41	20	15	11
	5.21	4500	97	41	41	20	15	10
	6.05	4500	97	41	41	20	15	10
	6.74	4500	97	41	41	20	15	10
	7.44	4500	97	41	41	20	15	10
	8.01	4500	97	84	84	26	19	7
	8.97	4500	97	84	84	26	19	7
	10.42	4500	97	84	84	26	19	7
	11.08	4500	97	84	84	26	19	7
	12.87	4500	97	84	84	26	19	7
	14.33	4500	97	84	84	26	19	6
	15.81	4500	97	84	84	26	19	6
	17.03	4500	97	84	84	26	19	6
	19.27	4500	97	84	84	26	19	6
	20.57	4500	97	84	84	26	19	6
	23.63	4500	97	84	84	26	19	6
FA37 3	23.88	4500	96	94	94	27	19	8
	28.09	4500	96	94	94	27	19	8
	31.69	4500	96	94	94	27	19	8
	35.91	4500	95	94	94	27	19	8
	38.31	4500	95	94	94	27	19	8
	43.83	4500	95	94	94	27	19	8
	47.02	4500	95	94	94	27	19	8
	51.70	4500	95	97	97	27	19	7
	54.54	4500	95	94	94	27	19	8
	58.32	4500	95	97	97	27	19	7
	66.09	4500	95	97	97	27	19	7
	70.50	4500	94	97	97	27	19	7
	80.65	4500	94	97	97	27	19	7
	86.53	4500	94	97	97	27	19	7
	100.36	4500	94	97	97	27	19	7
	117.88	4500	93	97	97	27	19	7
	128.51	4500	93	97	97	27	19	7

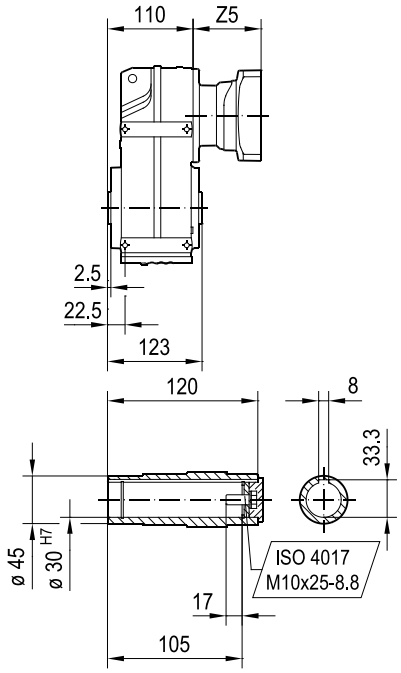
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F37..

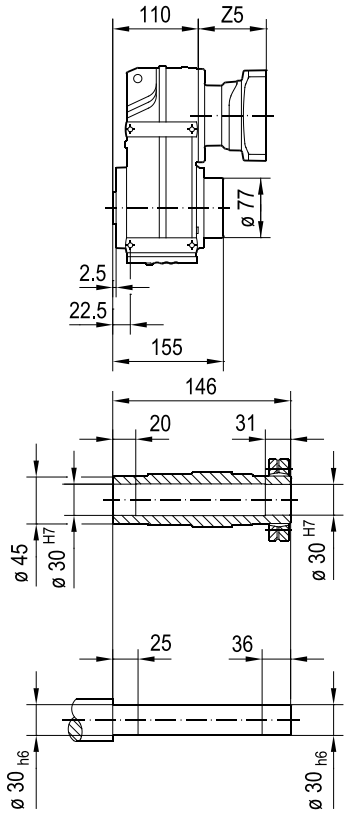
42 010 01 21



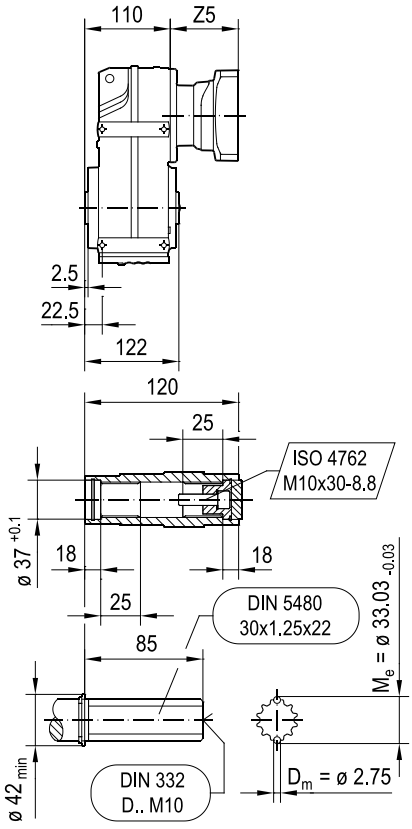
FA37B..



FH37B..



FV37B..

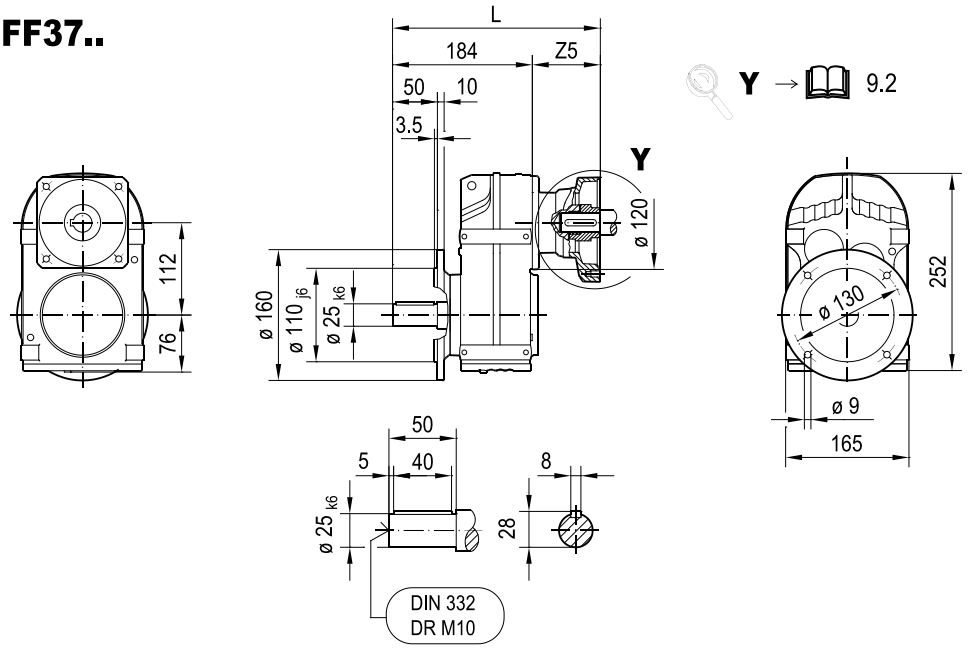


(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	213	217	234	239	244	247	253	247	252	269

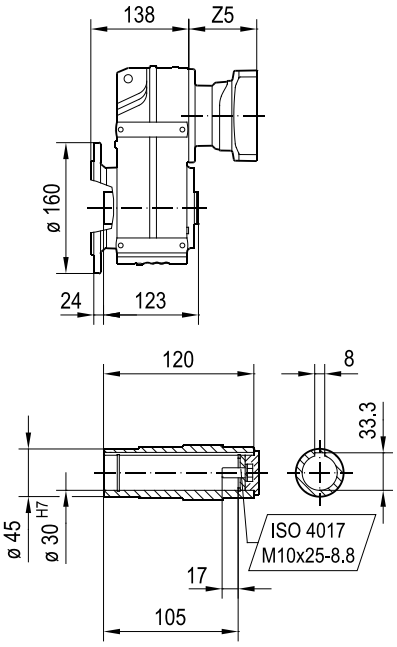
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FF37..

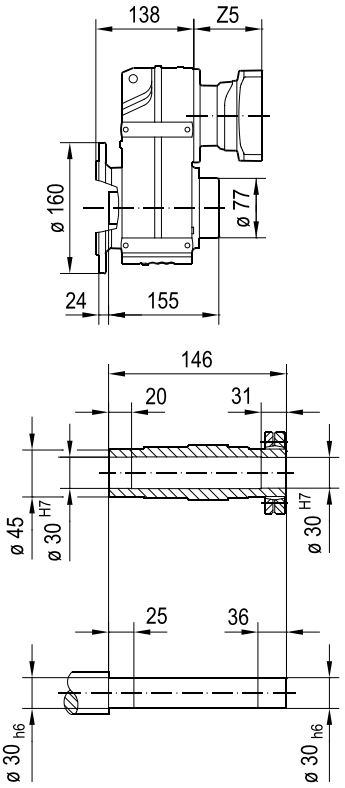
42 011 00 21



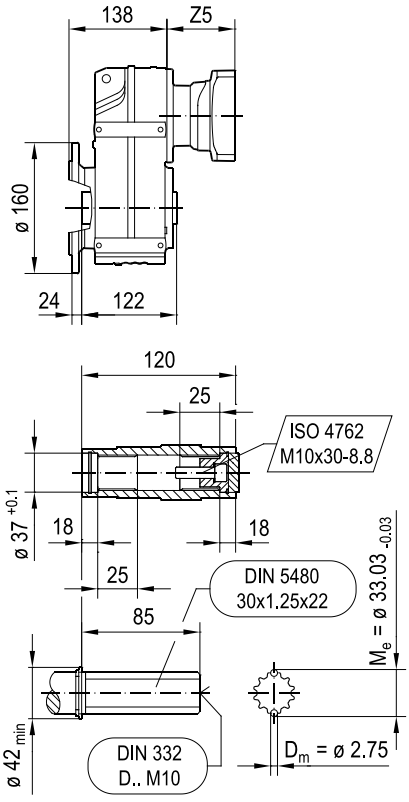
FAF37..



FHF37..



FVF37..

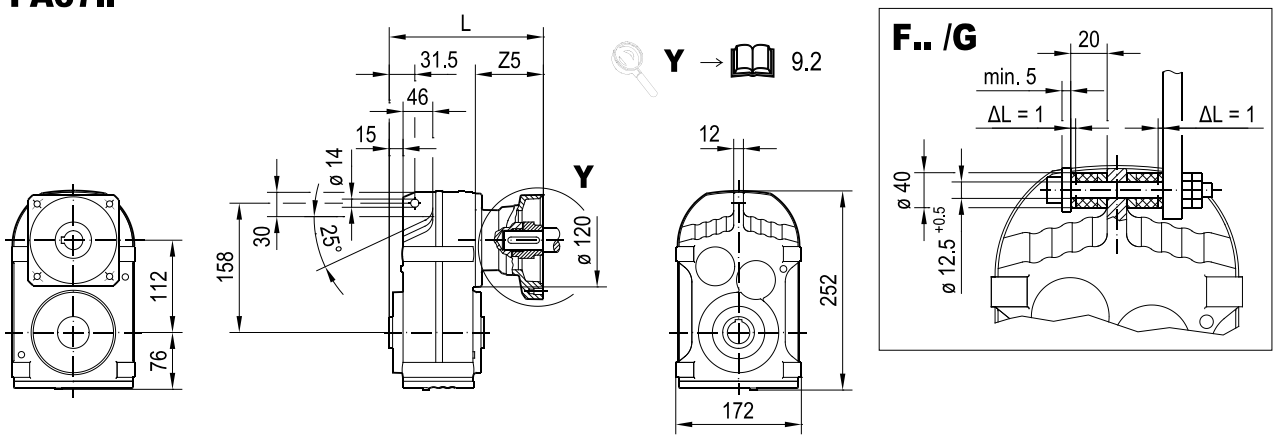


(→ 📖 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	237	241	258	263	268	271	277	271	276	293

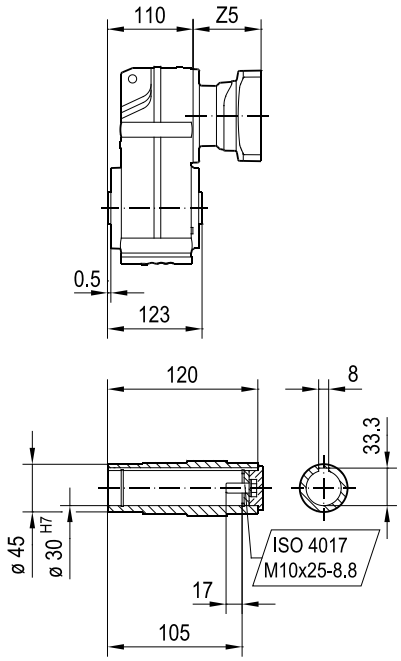
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FA37..

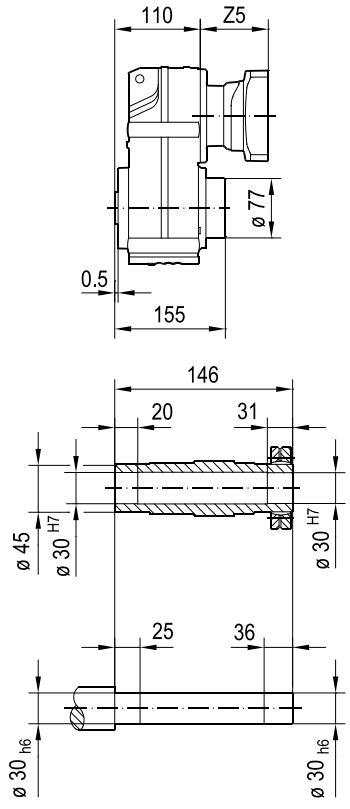
42 012 00 21



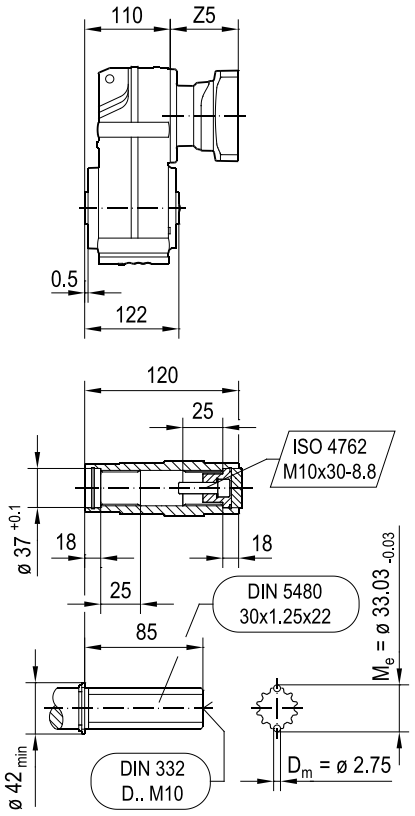
FA37..



FH37..



FV37..

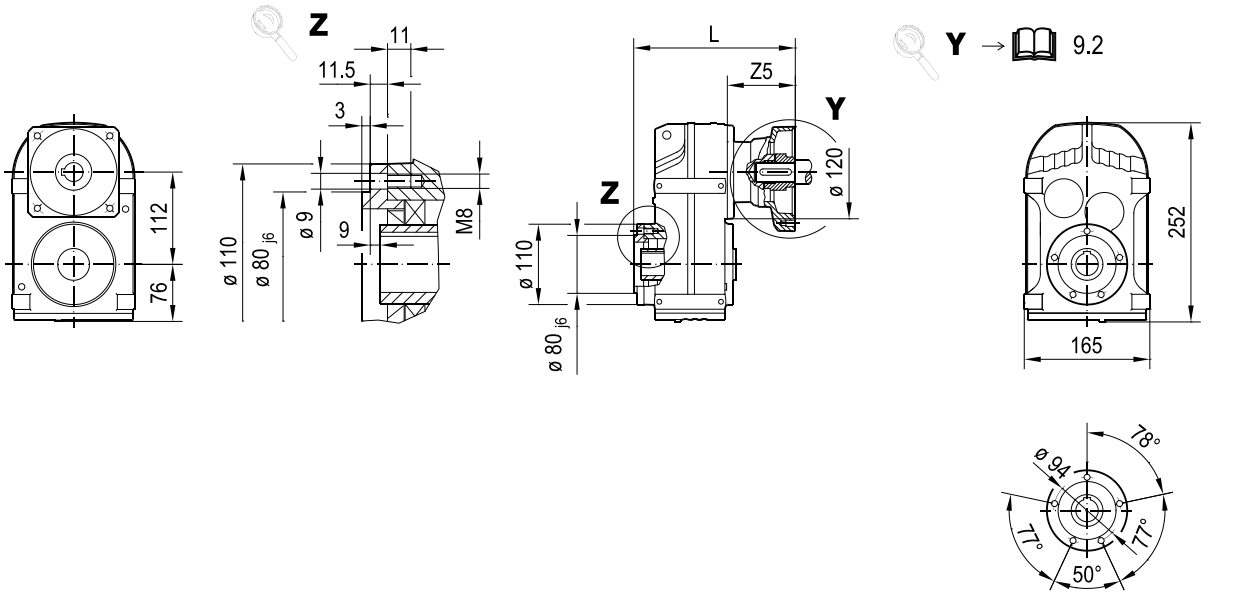


(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	163	167	184	189	194	197	203	197	202	219

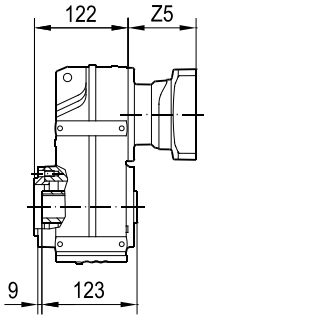
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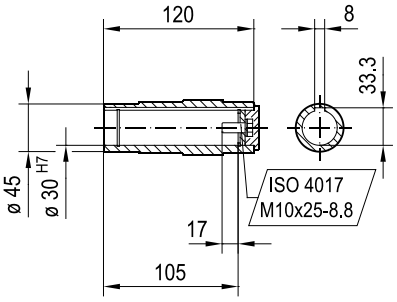
FAZ37..

42 013 00 21

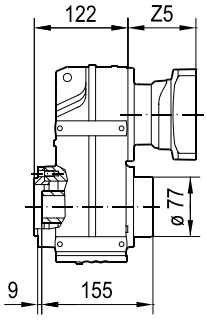


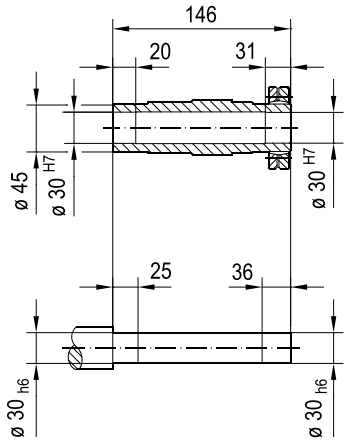
FAZ37..



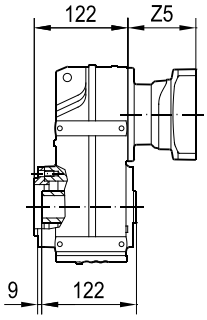


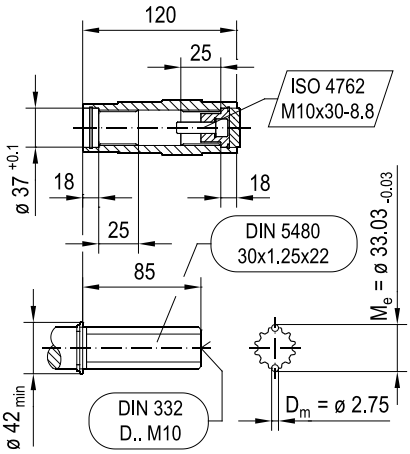
FHZ37..





FVZ37..



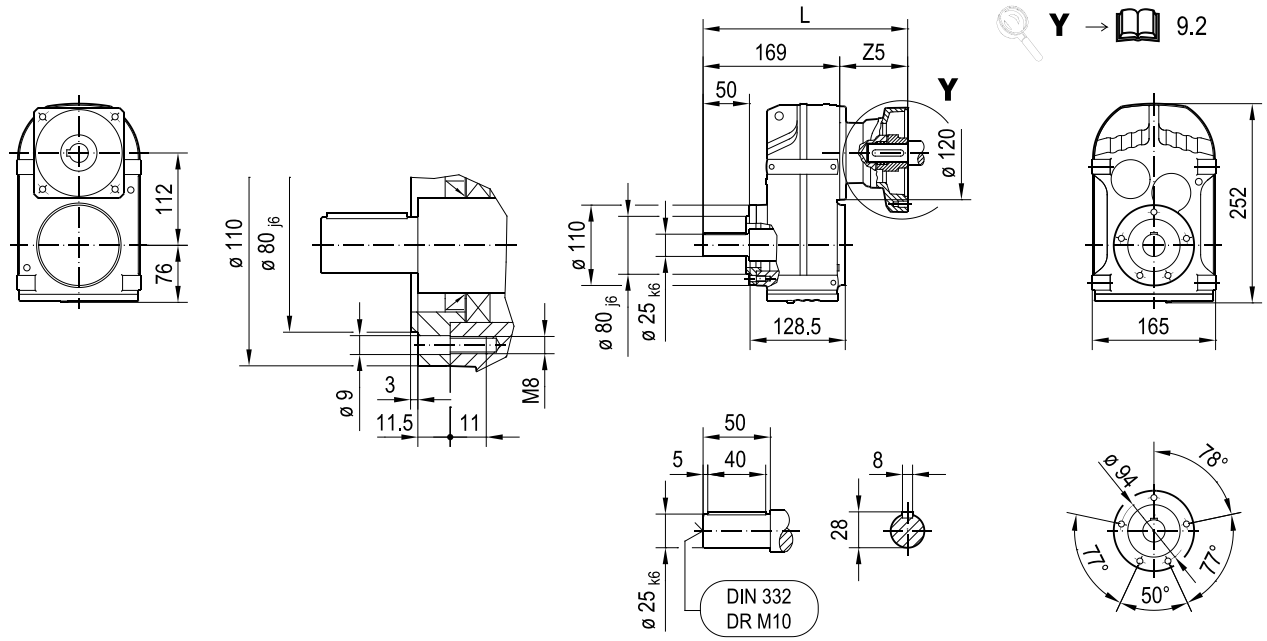


(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	175	179	196	201	206	209	215	209	214	231

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FZ37..

42 014 01 21

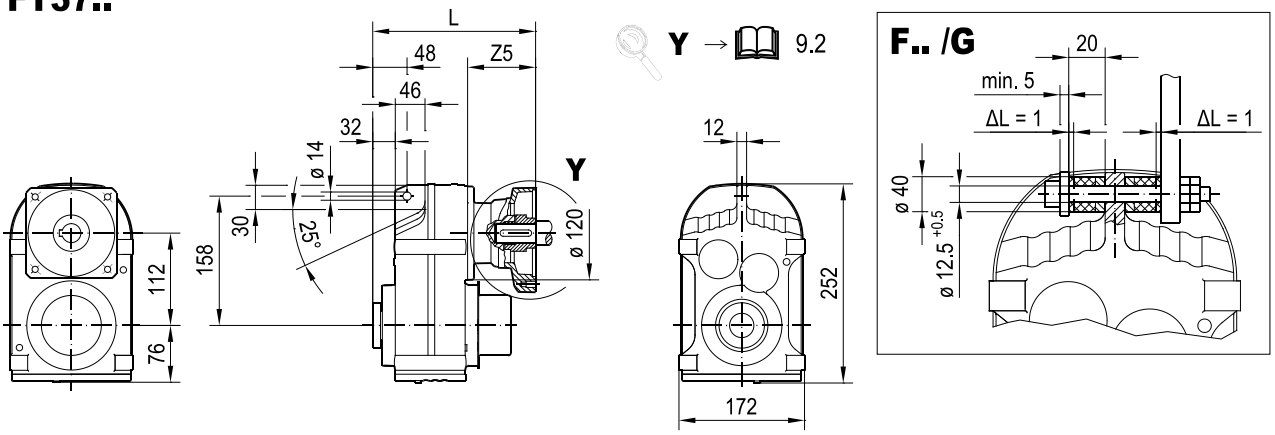


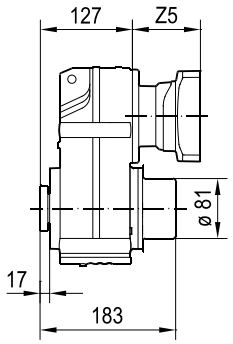
(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	222	226	243	248	253	256	262	256	261	278

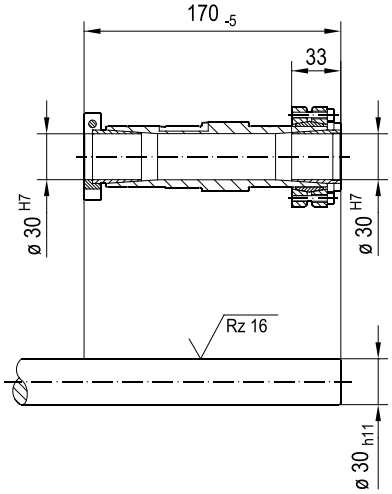
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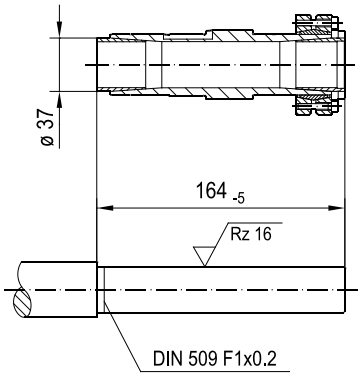
FT37..

42 015 01 21









(→ 📖 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	180	184	201	206	211	214	220	214	219	236

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9.1.3 F47 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$														
	i	50/1-2			80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6		
FA47 2	4.99	33	33	43	72	81	122	139	152	220	142	199	240	200	200	340
	5.76	39	39	50	77	94	131	147	176	250	151	220	255	220	220	375
	6.34	42	42	55	80	104	136	153	194	260	156	235	265	225	235	385
	7.44	50	50	64	85	122	145	163	225	275	167	250	285	240	260	410
	7.88	53	53	68	87	129	148	167	240	285	171	255	290	245	270	415
	8.96	60	60	78	90	135	153	171	255	290	176	265	300	255	290	435
	10.97	74	74	94	159	180	270	305	335	480	310	435	525	440	440	750
	12.66	85	85	109	169	205	285	320	385	545	330	485	560	450	485	765
	13.93	94	94	120	176	225	300	335	425	570	345	520	585	450	520	765
	16.36	110	110	142	189	265	320	360	500	610	365	550	620	450	555	765
	17.33	117	117	150	192	285	325	365	530	620	375	555	640	450	555	765
	19.70	133	133	171	198	295	335	375	555	640	385	555	655	450	555	765
	21.82	147	147	189	200	300	340	385	555	655	395	555	670	450	555	765
	25.72	174	174	225	210	315	355	405	555	690	415	555	705	450	555	765
	29.32	198	198	255	220	330	375	420	555	715	425	555	725			
	30.86	205	205	265	220	330	375	420	555	715	430	555	730			
FA47 3	28.88	193	193	245	375	470	640	450	555	765	450	555	765	450	555	765
	34.29	225	225	295	405	555	690	450	555	765	450	555	765	450	555	765
	36.61	245	245	315	420	555	715	450	555	765	450	555	765	450	555	765
	42.86	285	285	365	445	555	755	450	555	765	450	555	765	450	555	765
	48.00	320	320	410	450	555	765	450	555	765	450	555	765	450	555	765
	56.49	375	375	485	450	555	765	450	555	765	450	555	765	450	555	765
	65.36	435	435	560	450	555	765	450	555	765	450	555	765			
	68.09	450	450	580	450	555	765	450	555	765	450	555	765	450	555	765
	79.72	450	530	680	450	555	765	450	555	765	450	555	765	450	555	765
	89.29	450	555	765	450	555	765	450	555	765	450	555	765	450	555	765
	105.09	450	555	765	450	555	765	450	555	765	450	555	765	450	555	765
	121.57	450	555	765	450	555	765	450	555	765	450	555	765			
	130.07	450	555	765	450	555	765	450	555	765	450	555	765			
	150.06	450	555	765	450	555	765	450	555	765	450	555	765			
	175.38	450	555	765	450	555	765	450	555	765	450	555	765			
	190.76	450	555	765	450	555	765	450	555	765	450	555	765			

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min^{-1}		AQS. n_{ak}				
	i	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
FA47 2	4.99	902	275	271	277	353
	5.76	781	231	241	238	241
	6.34	710	211	215	222	240
	7.44	605	191	190	190	208
	7.88	571	176	173	173	194
	8.96	502	151	156	151	156
	10.97	410	122	125	132	160
	12.66	355	107	117	112	154
	13.93	323	95	101	98	156
	16.36	275	81	84	89	162
	17.33	260	78	82	80	162
	19.70	228	69	72	71	154
	21.82	206	70	66	66	152
	25.72	126	57	53	53	146
	29.32	84	47	46	49	
	30.86	72	45	44	44	
FA47 3	28.88	156	48	73	73	73
	34.29	131	42	73	73	73
	36.61	123	37	73	73	73
	42.86	105	32	73	73	73
	48.00	94	35	74	74	74
	56.49	67	39	73	73	73
	65.36	44	40	69	69	
	68.09	66	66	66	66	66
	79.72	56	56	56	56	56
	89.29	50	50	50	50	50
	105.09	43	43	43	43	43
	121.57	37	37	37	37	
	130.07	35	35	35	35	
	150.06	30	30	30	30	
	175.38	26	26	26	26	
	190.76	24	24	24	24	

FA47, m kg						
		AQS.				
s		50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
2		17	18	19	20	24
3		18	19	19	21	25
FAF: + 2.7 kg / F: + 0.80 kg / FF: + 3.9 kg						

F47, J_A / c_{TA}		AQS.				
		50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
J_A 10^{-4}	kgm^2	0.41	0.46	1.3	2.4	8.1
c_{TA}	Nm/'	0.15	0.15	0.3	0.7	3.0

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F..47							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	FA	FAF	F	FF	FA	FAF	F	FF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
FA47 2	4.99	320	450	540	341	4.4	1160	1160	2230	2340	8370	8370	8250	7390
	5.76	340	450	575	306	3.4	1180	1180	2310	2430	8370	8370	8250	7390
	6.34	350	455	595	293	2.9	1230	1230	2390	2510	8320	8320	8210	7370
	7.44	380	455	645	249	2.3	1190	1190	2450	2580	8320	8320	8210	7370
	7.88	380	455	645	256	2.1	1280	1280	2550	2680	8320	8320	8210	7370
	8.96	330	435	560	425	1.6	1970	1970	3150	3220	8510	8510	8360	7440
	10.97	450	555	765	234	2.6	1630	1630	3000	3130	7920	7920	7900	7060
	12.66	450	555	765	251	2.1	1900	1900	3290	3400	7920	7920	7900	7060
	13.93	450	555	765	261	1.8	2090	2090	3500	3600	7920	7920	7900	7060
	16.36	450	555	765	273	1.5	2410	2410	3850	3940	7920	7920	7900	7060
	17.33	450	555	765	260	1.4	2530	2530	3980	4060	7920	7920	7900	7060
	19.70	450	555	765	228	1.1	2810	2810	4290	4350	7920	7920	7900	7060
	21.82	450	555	765	206	0.96	3040	3040	4540	4590	7920	7920	7900	7060
	25.72	450	555	765	175	0.75	3420	3420	4960	5000	7920	7920	7900	7060
	29.32	450	555	765	153	0.52	3750	3750	5320	5330	7920	7920	7900	7060
	30.86	450	555	765	146	0.46	3880	3880	5460	5470	7920	7920	7900	7060
FA47 3	28.88	450	555	765	77	1.1	3710	3710	5280	5300	7920	7920	7900	7060
	34.29	450	555	765	76	0.85	4150	4150	5760	5760	7920	7920	7900	7060
	36.61	450	555	765	76	0.76	4330	4330	5950	5940	7920	7920	7900	7060
	42.86	450	555	765	77	0.58	4770	4770	6440	6400	7920	7920	7900	7060
	48.00	450	555	765	76	0.48	5100	5100	6800	6750	7920	7920	7900	7060
	56.49	450	555	765	76	0.36	5600	5600	7340	7260	7920	7920	7900	7060
	65.36	450	555	765	69	0.29	6060	6060	7860	7450	7920	7920	7900	7060
	68.09	450	555	765	66	0.61	6200	6200	8000	7450	7920	7920	7900	7060
	79.72	450	555	765	56	0.48	6740	6740	8590	7450	7920	7920	7900	7060
	89.29	450	555	765	50	0.40	7150	7150	8590	7450	7920	7920	7900	7060
	105.09	450	555	765	43	0.30	7760	7760	8590	7450	7920	7920	7900	7060
	121.57	450	555	765	37	0.25	8340	8340	8590	7450	7920	7920	7900	7060
	130.07	450	555	765	35	0.23	8610	8610	8590	7450	7920	7920	7900	7060
	150.06	450	555	765	30	0.18	8820	8820	8590	7450	7920	7920	7900	7060
	175.38	450	555	765	26	0.14	8820	8820	8590	7450	7920	7920	7900	7060
	190.76	450	555	765	24	0.13	8820	8820	8590	7450	7920	7920	7900	7060

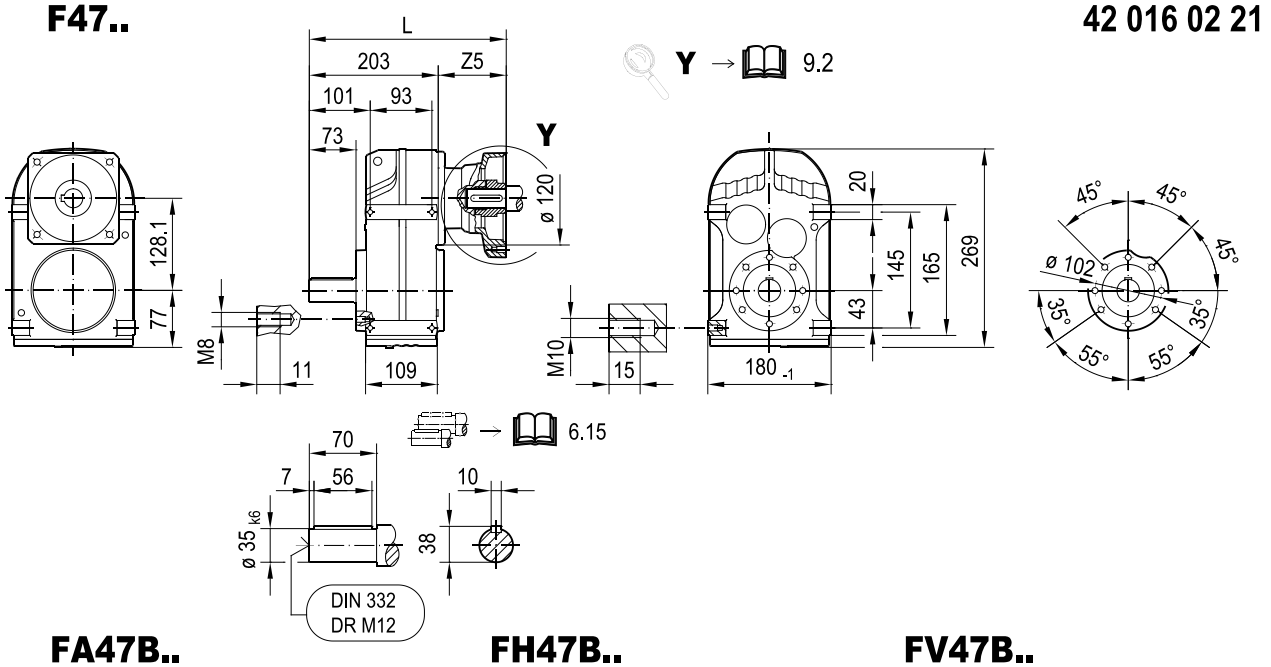
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F..47				c_{TG}				φ
	i	n_{epk} min^{-1}	η %	FA Nm/'	FAF Nm/'	F Nm/'	FF Nm/'	/R '
FA47 2	4.99	4500	97	99	99	34	30	9
	5.76	4500	97	99	99	34	30	9
	6.34	4500	97	99	99	34	30	8
	7.44	4500	97	99	99	34	30	8
	7.88	4500	97	99	99	34	30	8
	8.96	4500	97	99	99	34	30	8
	10.97	4500	97	125	125	37	32	6
	12.66	4500	97	125	125	37	32	6
	13.93	4500	97	125	125	37	32	6
	16.36	4500	97	125	125	37	32	6
	17.33	4500	97	125	125	37	32	6
	19.70	4500	97	125	125	37	32	6
	21.82	4500	97	125	125	37	32	6
	25.72	4500	97	125	125	37	32	6
	29.32	4500	97	125	125	37	32	6
	30.86	4500	97	125	125	37	32	6
FA47 3	28.88	4500	96	136	136	38	33	7
	34.29	4500	96	136	136	38	33	7
	36.61	4500	96	136	136	38	33	7
	42.86	4500	96	136	136	38	33	7
	48.00	4500	95	136	136	38	33	7
	56.49	4500	95	136	136	38	33	7
	65.36	4500	95	136	136	38	33	7
	68.09	4500	95	138	138	38	33	6
	79.72	4500	95	138	138	38	33	6
	89.29	4500	95	138	138	38	33	6
	105.09	4500	94	138	138	38	33	6
	121.57	4500	94	138	138	38	33	6
	130.07	4500	94	138	138	38	33	6
	150.06	4500	93	138	138	38	33	6
	175.38	4500	93	138	138	38	33	6
	190.76	4500	92	138	138	38	33	6

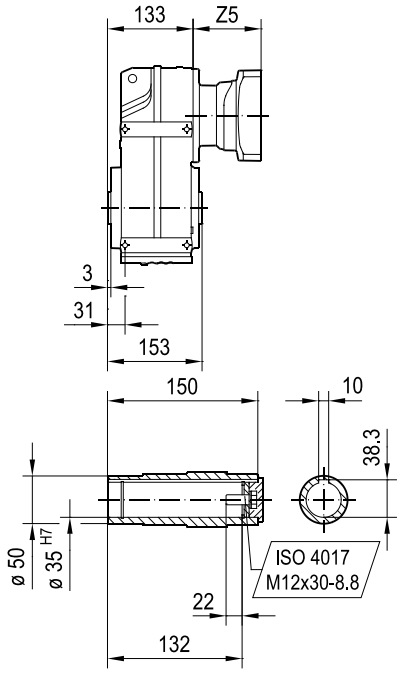
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F47..

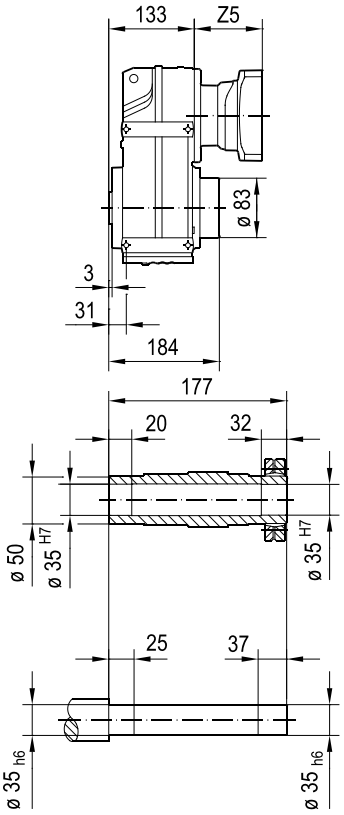
42 016 02 21



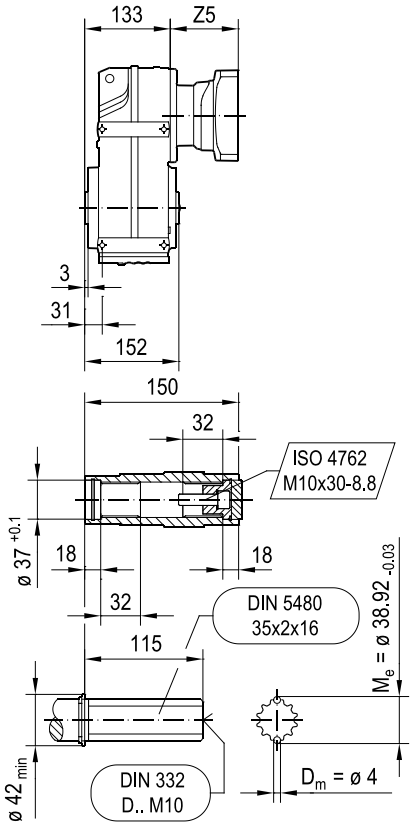
FA47B..



FH47B..



FV47B..

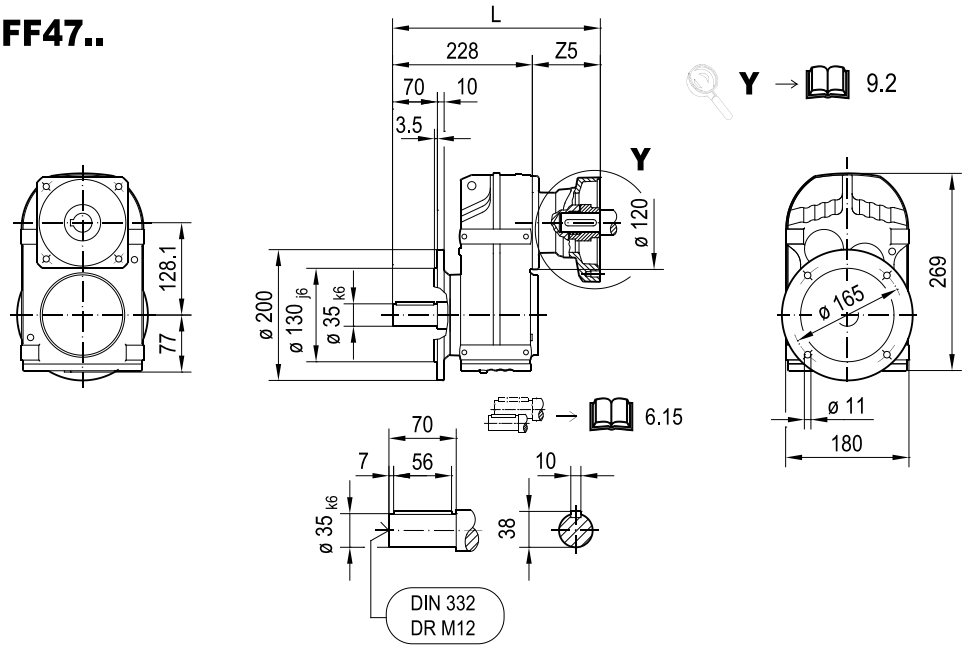


(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	246	250	267	272	277	280	286	280	285	302

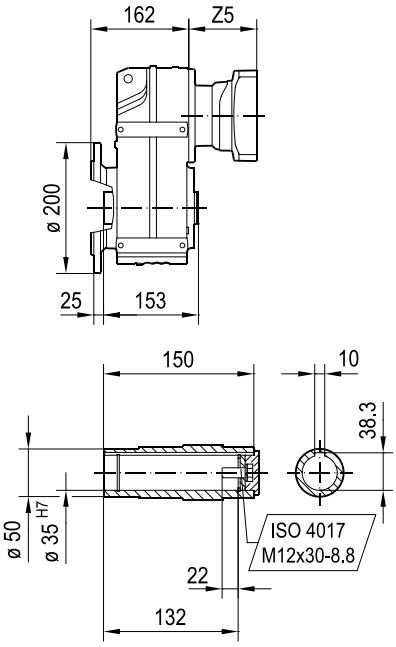
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FF47..

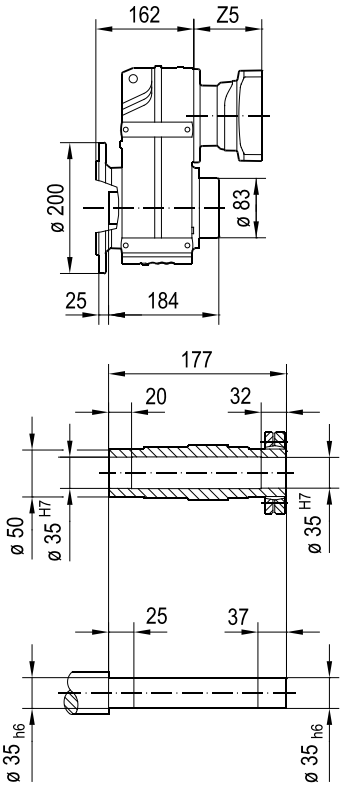
42 017 01 21



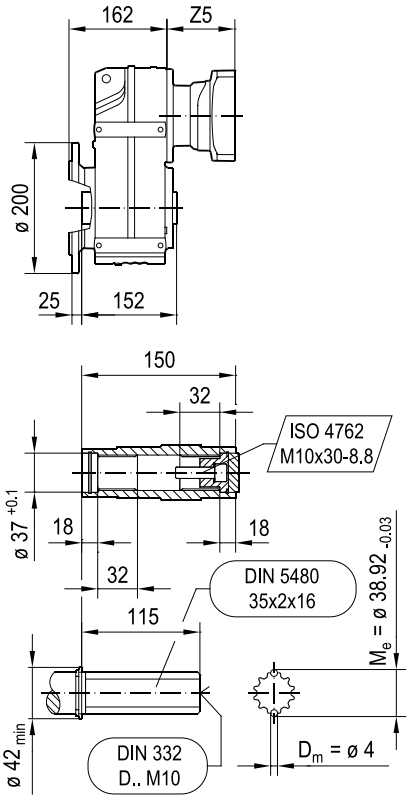
FAF47..



FHF47..



FVF47..

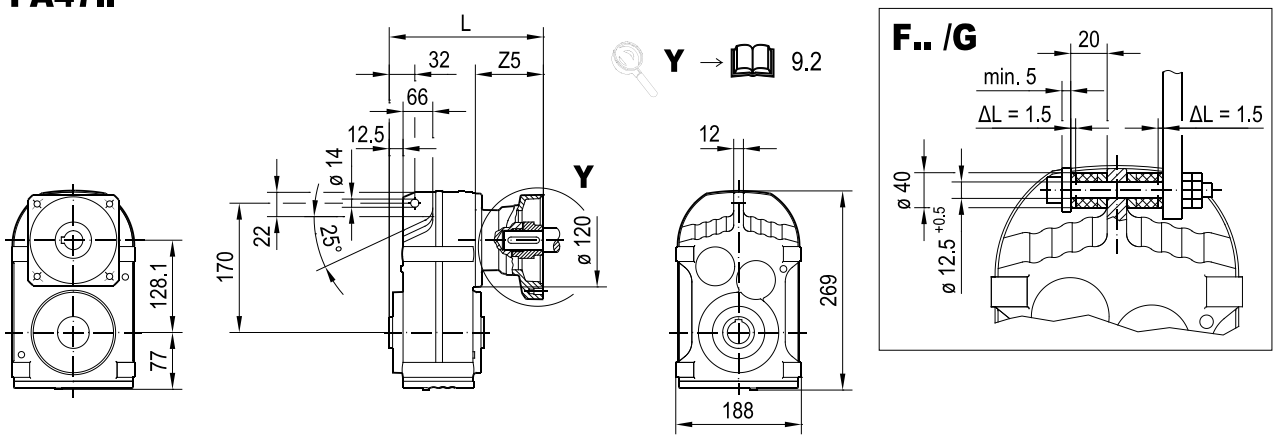


(→ 📖 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	271	275	292	297	302	305	311	305	310	327

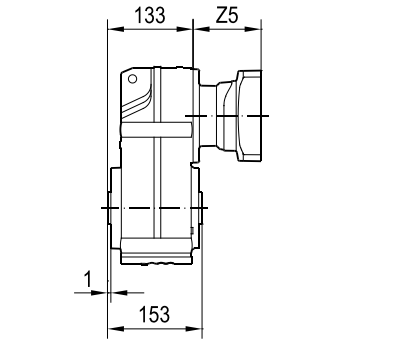
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FA47..

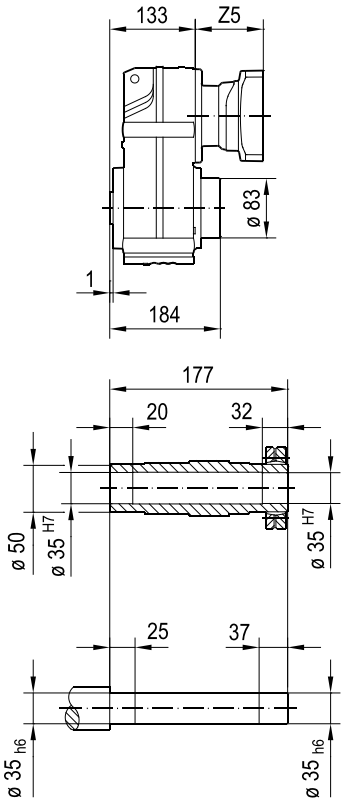
42 018 00 21



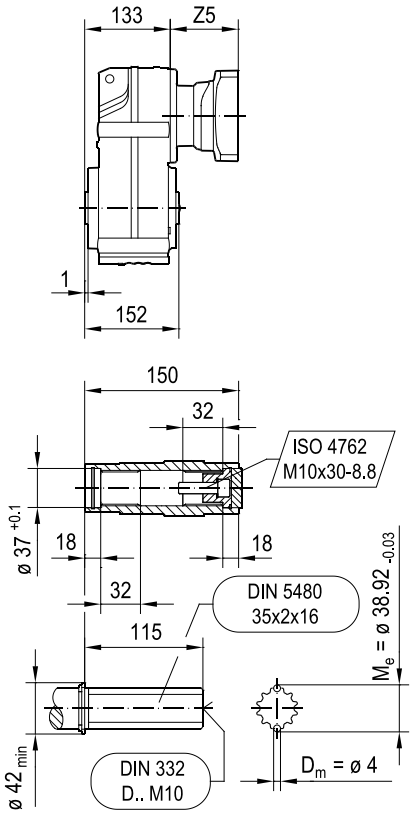
FA47..



FH47..



FV47..

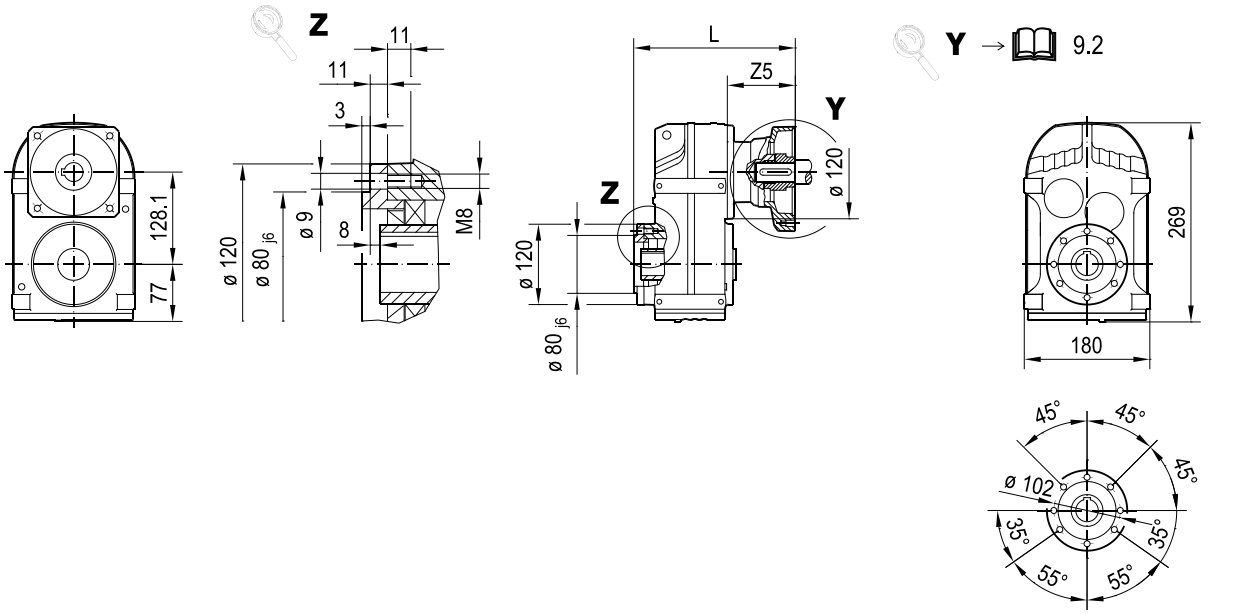


(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	186	190	207	212	217	220	226	220	225	242

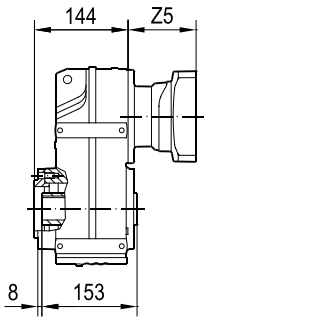
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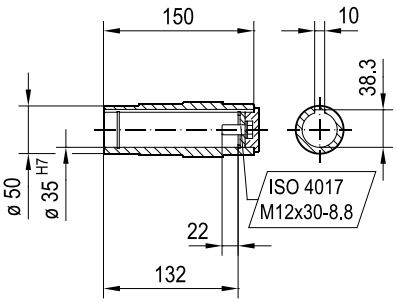
FAZ47..

42 019 00 21

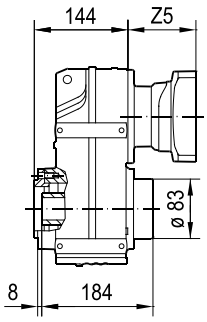


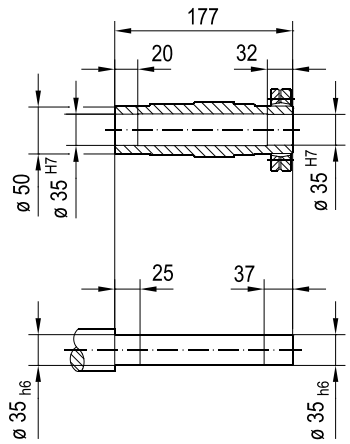
FAZ47..



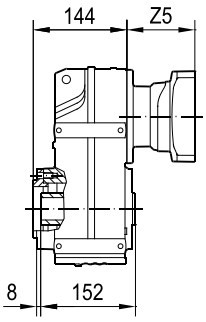


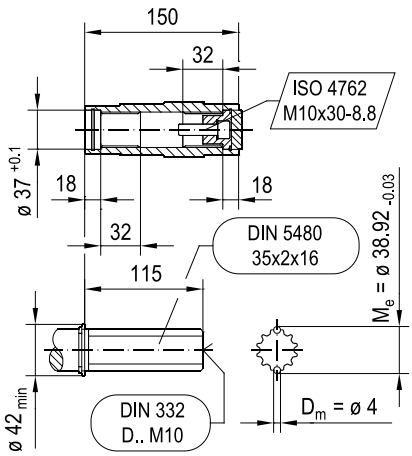
FHZ47..





FVZ47..



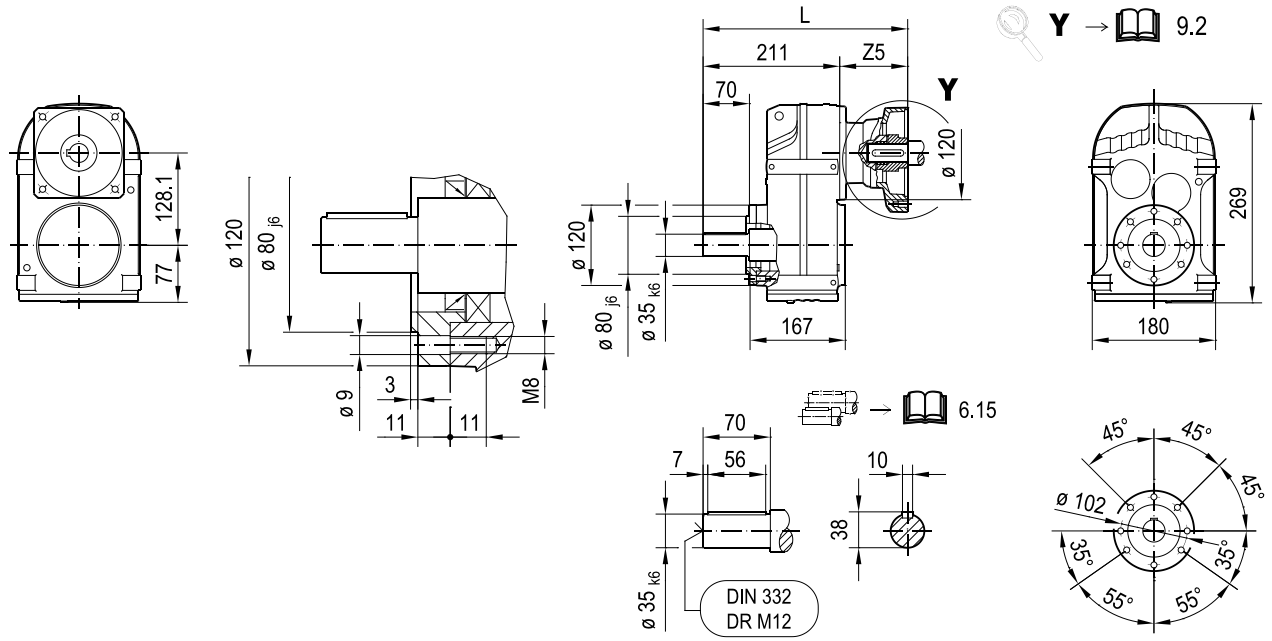


(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	197	201	218	223	228	231	237	231	236	253

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FZ47..

42 020 02 21

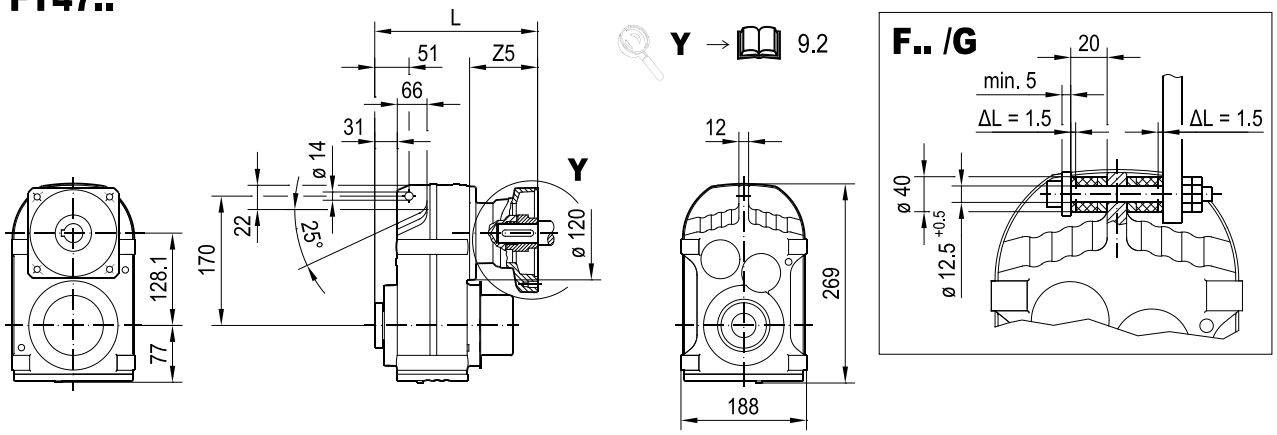


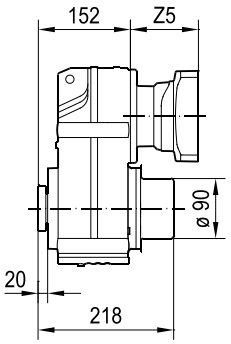
(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	254	258	275	280	285	288	294	288	293	310

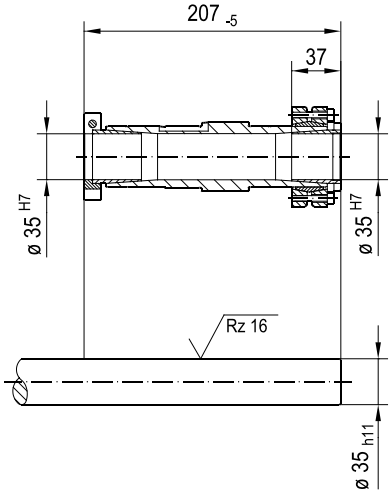
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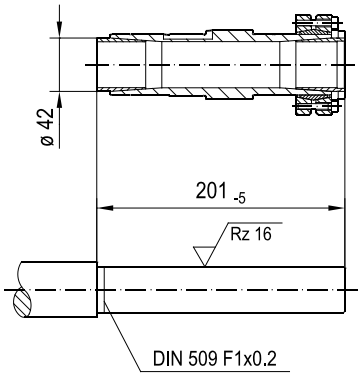
FT47..

42 021 01 21









(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	205	209	226	231	236	239	245	239	244	261

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9.1.4 F57 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$																	
	i	80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6			160/1			190/1,3-6		
FA57 2	5.18	74	85	126	141	158	225	145	210	245	300	410	510	415	435	705	415	435	705
	5.98	79	98	134	150	183	255	153	230	260	320	445	545	420	475	715	420	475	715
	6.58	82	108	139	155	200	265	159	240	270	330	465	560	420	480	715	420	480	715
	7.73	88	127	150	166	235	280	170	255	290	355	480	605	420	480	715	420	480	715
	8.19	90	134	153	169	250	285	174	260	295	360	470	610	405	470	690	405	470	690
	9.31	93	140	158	174	260	295	179	270	305	370	430	630	395	420	670			
	10.64	153	174	260	290	325	465	295	435	500	620	680	1050	630	680	1070	630	680	1070
	12.29	163	200	275	305	375	520	315	475	535	630	680	1070	630	680	1070	630	680	1070
	13.52	169	220	285	315	410	535	325	490	555	630	680	1070	630	680	1070	630	680	1070
	15.88	182	260	310	340	485	580	350	525	595	630	680	1070	630	680	1070	630	680	1070
	16.81	185	275	315	345	510	585	355	535	605	630	680	1070	630	680	1070	630	680	1070
	19.11	191	285	325	355	535	605	365	550	620	630	680	1070	630	680	1070			
	21.17	197	295	335	365	550	620	375	565	640	630	680	1070	630	680	1070			
	24.96	205	310	350	385	580	655	390	585	665	575	680	980	575	680	980			
	28.45	210	315	355	400	555	680	410	555	695									
	29.94	210	315	355	400	560	680	410	560	695									
	34.24	215	325	365	410	435	695	420	435	715									
	40.13	225	305	385	270	305	460	270	305	460									
FA57 3	30.15	380	490	645	590	680	1000	590	680	1000	590	680	1000	590	680	1000	590	680	1000
	35.79	410	580	695	630	680	1070	630	680	1070	630	680	1070	630	680	1070	630	680	1070
	38.21	420	620	715	630	680	1070	630	680	1070	630	680	1070	630	680	1070	630	680	1070
	44.73	450	675	765	630	680	1070	630	680	1070	630	680	1070	630	680	1070			
	50.10	465	680	790	630	680	1070	630	680	1070	630	680	1070	630	680	1070			
	58.97	490	680	830	630	680	1070	630	680	1070	630	680	1070	630	680	1070			
	68.22	515	680	880	630	680	1070	630	680	1070									
	72.98	525	680	890	630	680	1070	630	680	1070									
	83.46	630	680	1070	630	680	1070	630	680	1070	630	680	1070	630	680	1070			
	93.47	630	680	1070	630	680	1070	630	680	1070	630	680	1070	630	680	1070			
	110.01	630	680	1070	630	680	1070	630	680	1070	630	680	1070	630	680	1070			
	127.27	630	680	1070	630	680	1070	630	680	1070									
	136.16	630	680	1070	630	680	1070	630	680	1070									
	157.09	630	680	1070	630	680	1070	630	680	1070									
	183.60	630	680	1070	630	680	1070	630	680	1070									
	199.70	630	680	1070	630	680	1070	630	680	1070									

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min^{-1}		AQS. n_{ak}					
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
FA57 2	5.18	272	264	261	286	396	396
	5.98	232	226	234	237	443	443
	6.58	211	211	211	223	485	485
	7.73	179	179	180	181	524	524
	8.19	165	168	165	176	549	549
	9.31	142	147	144	154	483	
	10.64	127	127	134	133	168	168
	12.29	110	117	112	145	170	170
	13.52	101	109	106	146	171	171
	15.88	83	88	86	152	173	173
	16.81	80	85	83	152	174	174
	19.11	69	75	73	144	175	
	21.17	61	68	67	142	175	
	24.96	53	53	57	178	180	
	28.45	48	49	49			
	29.94	46	47	47			
	34.24	41	41	41			
	40.13	33	112	112			
FA57 3	30.15	44	48	48	48	48	48
	35.79	38	40	40	40	40	40
	38.21	37	40	40	40	40	40
	44.73	29	40	40	40	40	
	50.10	27	41	41	41	41	
	58.97	22	41	41	41	41	
	68.22	19	41	41			
	72.98	18	41	41			
	83.46	34	34	34	34	34	
	93.47	34	34	34	34	34	
	110.01	34	34	34	34	34	
	127.27	34	34	34			
	136.16	33	33	33			
	157.09	29	29	29			
	183.60	25	25	25			
	199.70	23	23	23			

FA57, m kg	AQS.					
s	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
2	26	26	28	33	35	39
3	26	27	29	33	36	40
FAF: + 5.5 kg / F: + 0.20 kg / FF: + 6.6 kg						

F57, J_A / c_{TA}		AQS.					
		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	0.46	1.3	2.4	8.1	22.0	22.0
c_{TA}	Nm/'	0.15	0.3	0.7	3.0	7.0	7.0

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F..57							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	FA	FAF	F	FF	FA	FAF	F	FF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
FA57 2	5.18	415	475	705	413	5.8	2020	2020	3460	3670	11500	11500	9910	8490
	5.98	420	475	710	460	4.5	2240	2240	3730	3940	11500	11500	9910	8490
	6.58	420	480	710	505	3.8	2430	2430	3940	4140	11500	11500	9870	8460
	7.73	420	480	710	582	2.9	2760	2760	4310	4500	11500	11500	9870	8460
	8.19	420	485	710	549	2.6	2880	2880	4450	4640	11500	11500	9840	8430
	9.31	420	460	710	483	2.0	3170	3170	4760	4950	11500	11500	10000	8580
	10.64	630	680	1070	175	3.2	2240	2240	4140	4430	11500	11500	1460	1460
	12.29	630	680	1070	177	2.6	2580	2580	4530	4810	11500	11500	1460	1460
	13.52	630	680	1070	178	2.2	2820	2820	4800	5080	11500	11500	1460	1460
	15.88	630	680	1070	180	1.8	3240	3240	5270	5540	11500	11500	1460	1460
	16.81	630	680	1070	181	1.6	3400	3400	5440	5710	11500	11500	1460	1460
	19.11	630	680	1070	182	1.3	3760	3760	5840	6100	11500	11500	1460	1460
	21.17	630	680	1070	183	1.1	4050	4050	6180	6430	11500	11500	1460	1460
	24.96	575	680	970	180	0.84	4970	4970	7060	7260	11500	11500	1460	1460
	28.45	535	680	900	158	0.59	5690	5690	7760	7930	11500	11500	1460	1460
	29.94	545	680	920	150	0.53	5790	5790	7890	8060	11500	11500	1460	1460
	34.24	500	680	850	131	0.43	6580	6580	8670	8500	11500	11500	1460	1460
	40.13	290	435	490	112	0.34	8750	8750	10500	9540	11500	11500	10400	8850
FA57 3	30.15	590	680	1000	52	1.3	5460	5460	7650	7850	11500	11500	1460	1460
	35.79	630	680	1070	43	0.94	5750	5750	8070	7710	11500	11500	1460	1460
	38.21	630	680	1070	43	0.84	5980	5980	8180	7710	11500	11500	1460	1460
	44.73	630	680	1070	44	0.64	6560	6560	8180	7710	11500	11500	1460	1460
	50.10	630	680	1070	44	0.52	7000	7000	8180	7710	11500	11500	1460	1460
	58.97	630	680	1070	44	0.38	7660	7660	8180	7710	11500	11500	1460	1460
	68.22	630	680	1070	44	0.31	8280	8280	8180	7710	11500	11500	1460	1460
	72.98	630	680	1070	44	0.28	8580	8580	8180	7710	11500	11500	1460	1460
	83.46	630	680	1070	36	0.51	9190	9190	8180	7710	11500	11500	1460	1460
	93.47	630	680	1070	36	0.42	9730	9730	8180	7710	11500	11500	1460	1460
	110.01	630	680	1070	37	0.31	10500	10500	8180	7710	11500	11500	1460	1460
	127.27	630	680	1070	35	0.26	11300	11300	8180	7710	11500	11500	1460	1460
	136.16	630	680	1070	33	0.23	11500	11500	8180	7710	11500	11500	1460	1460
	157.09	630	680	1070	29	0.19	11500	11500	8180	7710	11500	11500	1460	1460
	183.60	630	680	1070	25	0.15	11500	11500	8180	7710	11500	11500	1460	1460
	199.70	630	680	1070	23	0.13	11500	11500	8180	7710	11500	11500	1460	1460

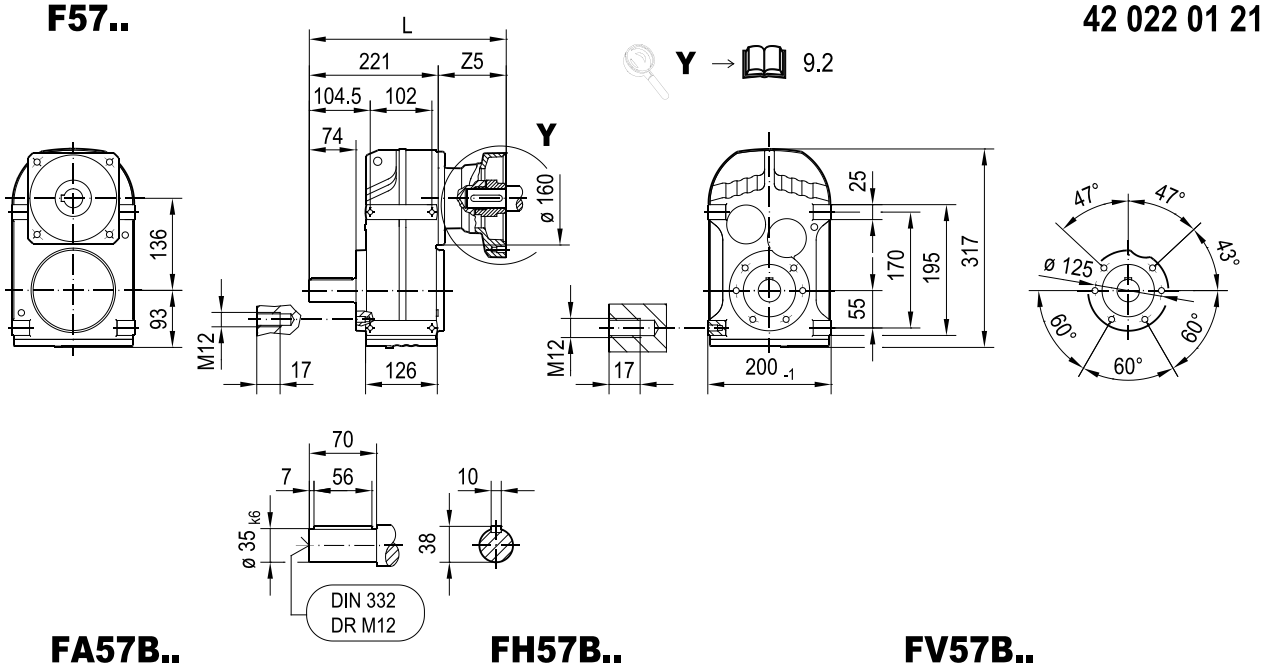
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F..57				c_{TG}				φ
	i	n_{epk} min^{-1}	η %	FA Nm/'	FAF Nm/'	F Nm/'	FF Nm/'	/R '
FA57 2	5.18	4468	97	120	120	43	38	9
	5.98	4500	97	120	120	43	38	9
	6.58	4500	97	120	120	43	38	8
	7.73	4500	97	120	120	43	38	8
	8.19	4500	97	120	120	43	38	8
	9.31	4500	97	120	120	43	38	8
	10.64	4500	97	150	150	47	40	6
	12.29	4500	97	150	150	47	40	6
	13.52	4500	97	150	150	47	40	6
	15.88	4500	97	150	150	47	40	6
	16.81	4500	97	150	150	47	40	6
	19.11	4500	97	150	150	47	40	6
	21.17	4500	97	150	150	47	40	6
	24.96	4500	97	150	150	47	40	6
	28.45	4500	97	150	150	47	40	6
	29.94	4500	97	150	150	47	40	6
	34.24	4500	97	150	150	47	40	6
	40.13	4500	96	150	150	47	40	6
FA57 3	30.15	4500	96	169	169	49	41	7
	35.79	4500	96	169	169	49	41	7
	38.21	4500	96	169	169	49	41	7
	44.73	4500	96	169	169	49	41	7
	50.10	4500	96	169	169	49	41	7
	58.97	4500	95	169	169	49	41	7
	68.22	4500	95	169	169	49	41	6
	72.98	4500	95	169	169	49	41	6
	83.46	4500	95	171	171	49	42	6
	93.47	4500	95	171	171	49	42	6
	110.01	4500	94	171	171	49	42	6
	127.27	4500	94	171	171	49	42	6
	136.16	4500	94	171	171	49	42	6
	157.09	4500	94	171	171	49	42	6
	183.60	4500	93	171	171	49	42	6
	199.70	4500	93	171	171	49	42	6

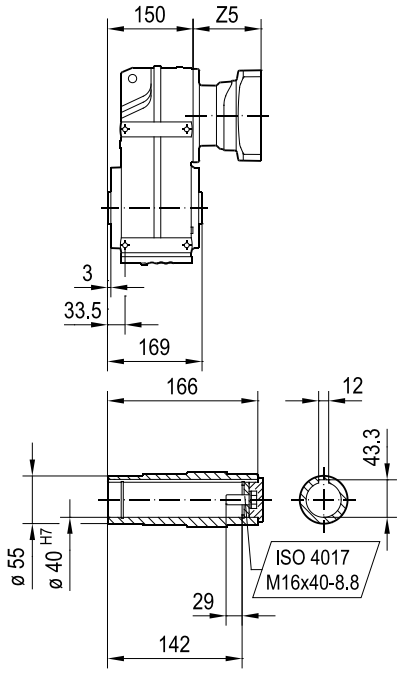
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F57..

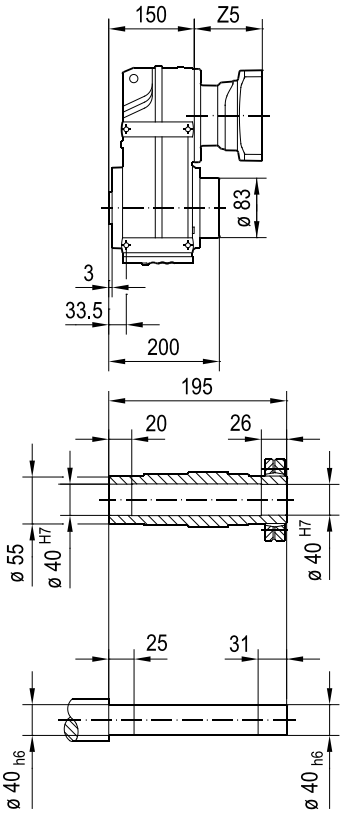
42 022 01 21



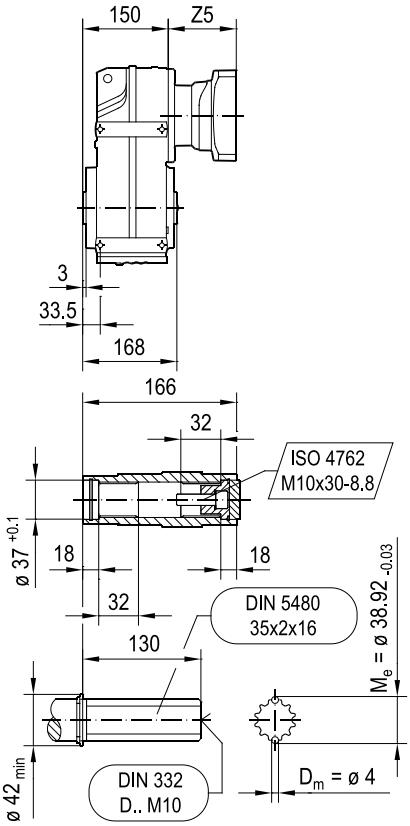
FA57B..



FH57B..



FV57B..

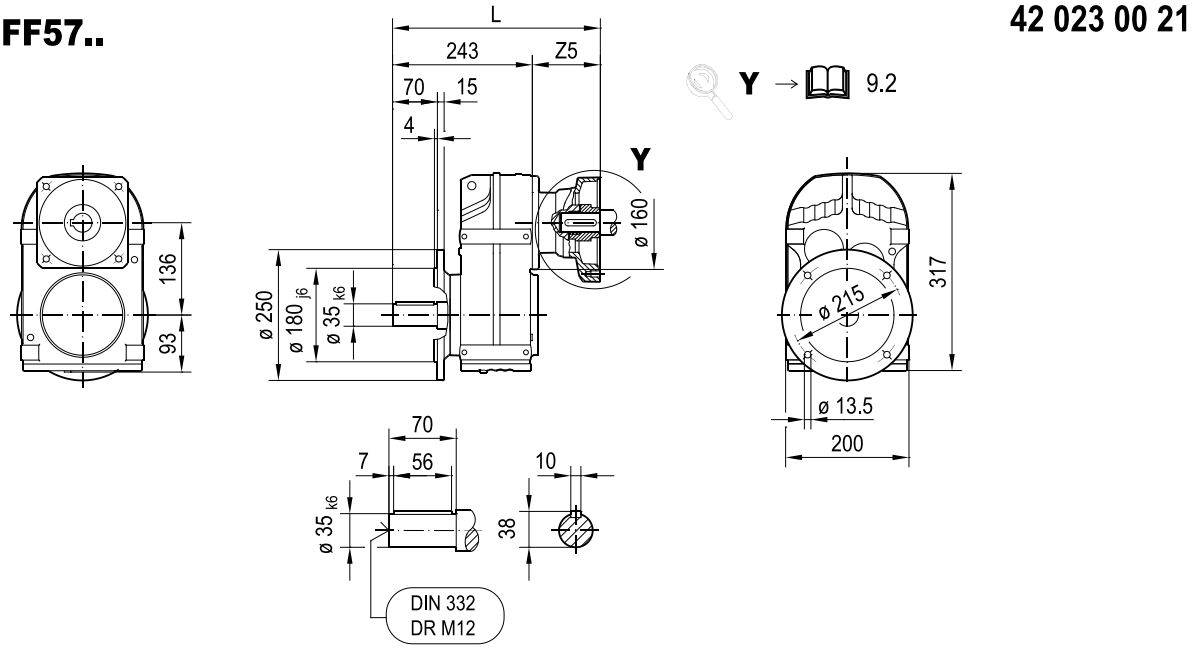


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	271	288	294	298	301	307	301	306	330	355	355	367

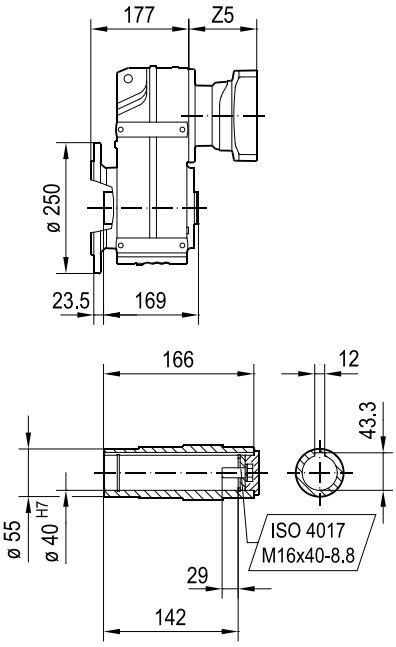
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FF57..

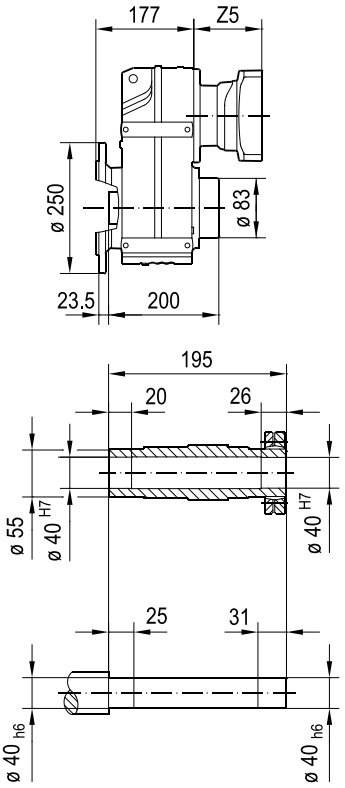
42 023 00 21



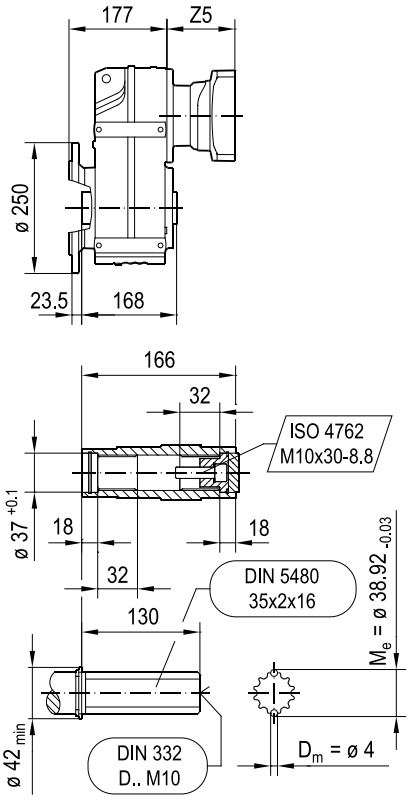
FAF57..



FHF57..



FVF57..

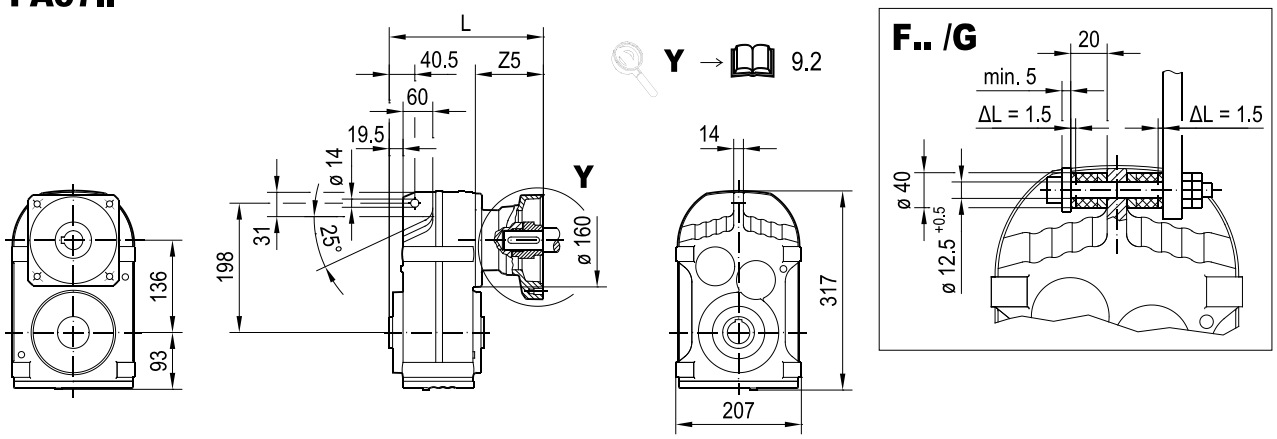


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	293	310	316	320	323	329	323	328	352	377	377	389

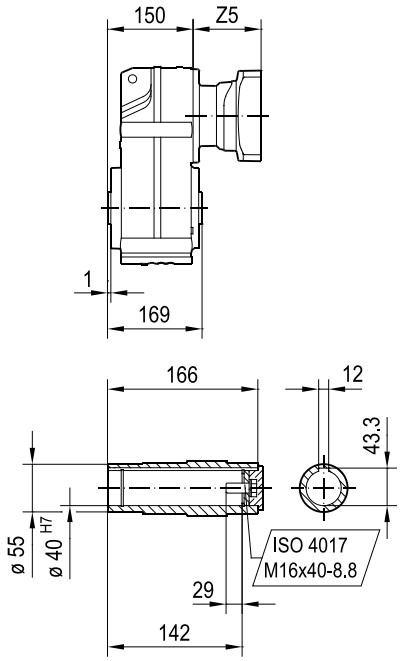
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FA57..

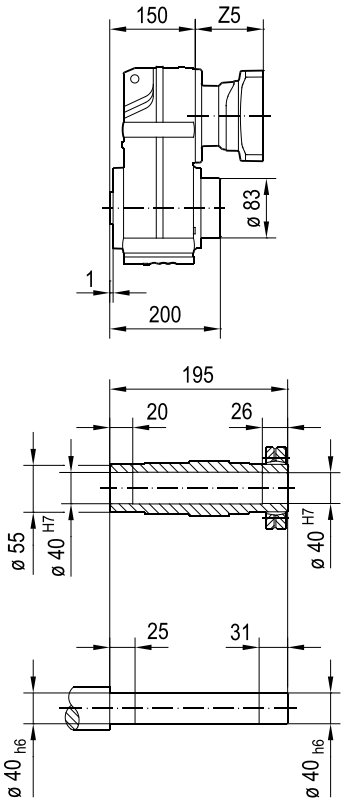
42 024 00 21



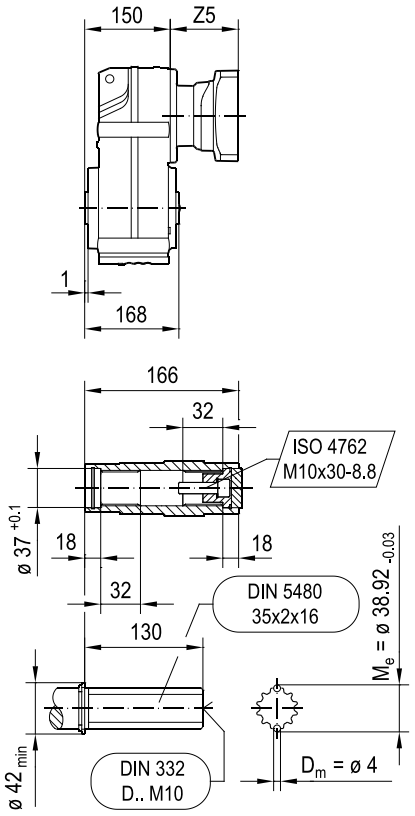
FA57..



FH57..



FV57..

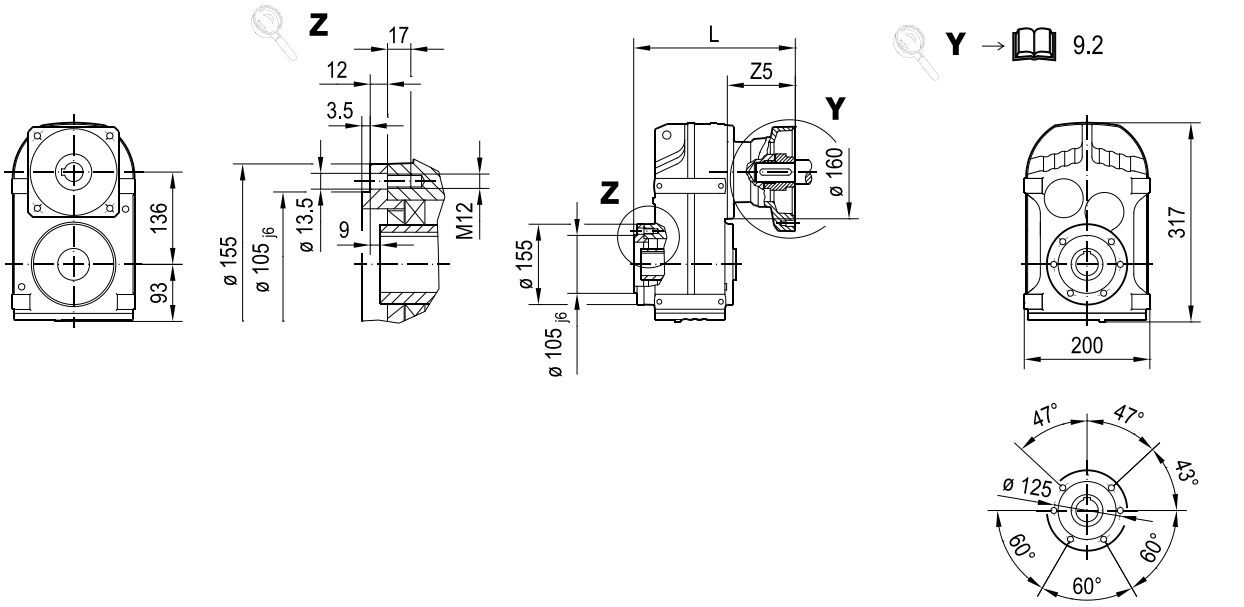


(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	200	217	223	227	230	236	230	235	259	284	284	296

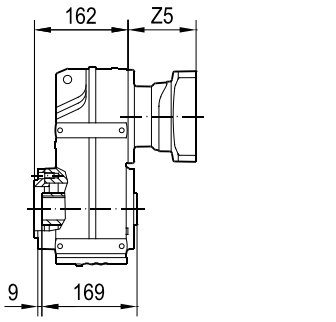
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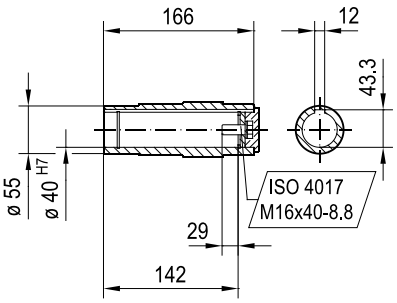
FAZ57..

42 025 00 21

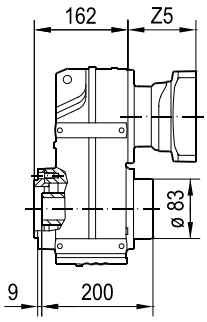


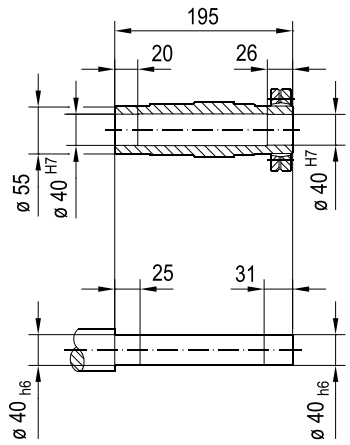
FAZ57..



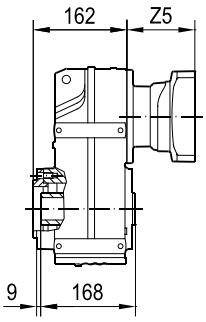


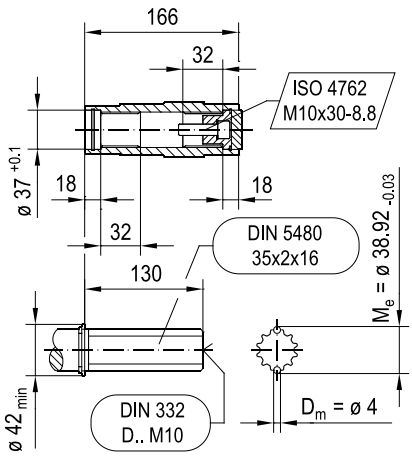
FHZ57..





FVZ57..



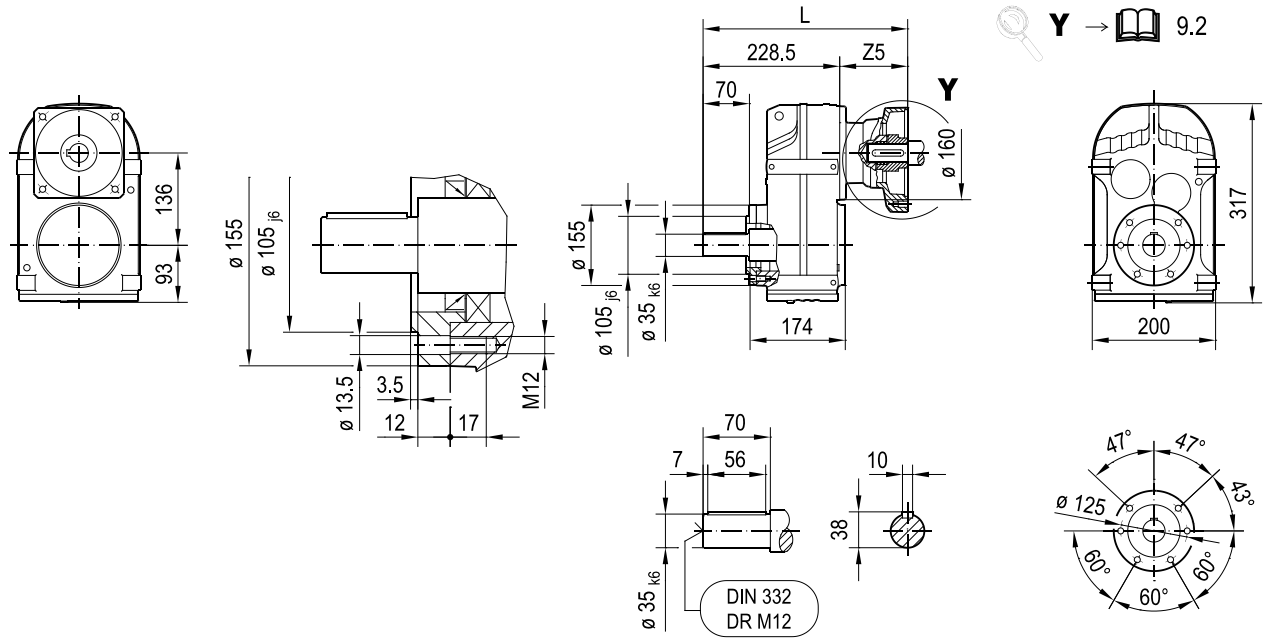


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	212	229	235	239	242	248	242	247	271	296	296	308

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FZ57..

42 026 01 21

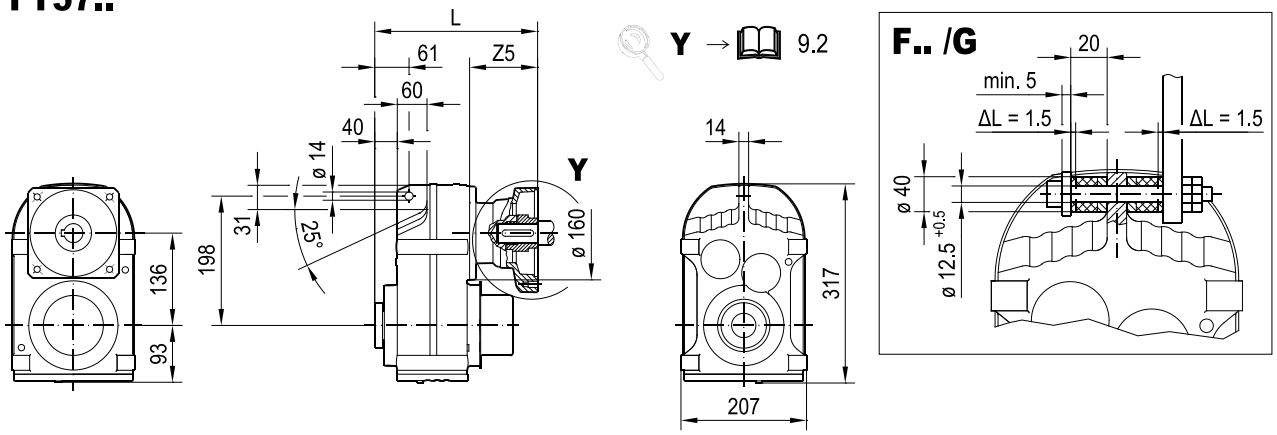


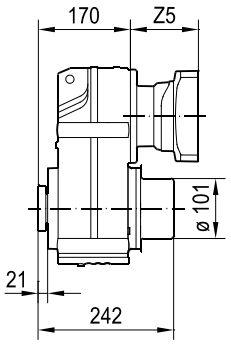
(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	279	296	301	306	309	315	309	314	337	363	363	375

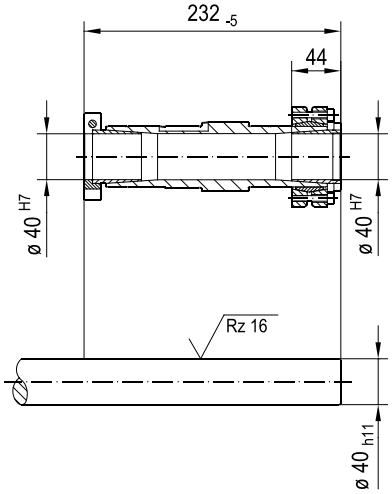
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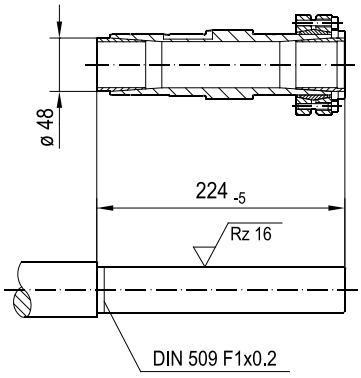
FT57..

42 027 01 21









(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	220	237	243	247	250	256	250	255	279	304	304	316

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9.1.5 F67 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$																	
	i	80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6			160/1			190/1,3-6		
FA67 2	3.97	65	65	110	122	122	173	142	181	240	295	380	500	395	395	670	395	395	670
	4.66	77	77	130	143	143	205	152	205	260	320	420	545	440	440	750	440	440	750
	5.25	83	86	141	156	160	230	160	225	270	335	450	570	475	475	810	475	475	810
	5.95	87	97	148	164	181	260	168	245	285	350	485	595	515	515	880	515	515	880
	6.78	91	111	155	172	205	290	176	265	300	365	520	620	555	555	940	555	555	940
	7.53	96	123	163	180	230	305	184	275	315	385	550	655	590	590	1000	590	590	1000
	8.60	100	141	170	187	260	320	192	290	325	400	585	680	540	625	920	540	625	920
	9.08	102	149	173	190	275	325	195	295	330	405	595	690	515	595	880	515	595	880
	9.66	160	160	270	295	295	420	345	435	585	725	920	1230	870	920	1480	870	920	1480
	11.31	187	187	315	345	345	495	370	500	630	775	920	1320	870	920	1480	870	920	1480
	12.76	200	205	340	380	385	555	390	550	665	810	920	1380	870	920	1480	870	920	1480
	14.46	210	235	355	395	440	630	405	605	690	850	920	1450	870	920	1480	870	920	1480
	16.48	220	270	375	415	500	705	425	640	725	870	920	1480	870	920	1480	870	920	1480
	18.29	230	300	390	435	555	740	445	670	755	870	920	1480	870	920	1480	870	920	1480
	20.90	240	340	410	455	635	775	465	700	790	870	920	1480	870	920	1480	870	920	1480
	22.05	245	360	415	460	670	780	470	705	800	870	920	1480	870	920	1480	870	920	1480
	25.13	255	385	435	475	715	810	485	730	820	870	920	1480	870	920	1480			
	27.41	260	390	440	480	720	820	495	745	840	870	920	1480	870	920	1480			
	32.08	265	400	450	500	750	850	510	765	870	810	920	1380	810	920	1380			
	36.30	275	415	470	525	765	890	535	765	910									
FA67 3	34.01	495	550	840	740	920	1260	740	920	1260	740	920	1260	740	920	1260	740	920	1260
	39.26	525	635	890	780	920	1330	780	920	1330	780	920	1330	780	920	1330	780	920	1330
	43.20	550	700	940	870	920	1480	870	920	1480	870	920	1480	870	920	1480	870	920	1480
	50.74	590	820	1000	870	920	1480	870	920	1480	870	920	1480	870	920	1480	870	920	1480
	53.73	600	870	1020	870	920	1480	870	920	1480	870	920	1480	870	920	1480	870	920	1480
	61.07	620	920	1050	870	920	1480	870	920	1480	870	920	1480	870	920	1480			
	67.65	640	920	1090	870	920	1480	870	920	1480	870	920	1480	870	920	1480			
	79.76	665	920	1130	870	920	1480	870	920	1480	870	920	1480	870	920	1480			
	90.59	870	920	1480	870	920	1480	870	920	1480	870	920	1480	870	920	1480	870	920	1480
	95.94	870	920	1480	870	920	1480	870	920	1480	870	920	1480	870	920	1480	870	920	1480
	109.04	870	920	1480	870	920	1480	870	920	1480	870	920	1480	870	920	1480			
	120.79	870	920	1480	870	920	1480	870	920	1480	870	920	1480	870	920	1480			
	142.40	870	920	1480	870	920	1480	870	920	1480	870	920	1480	870	920	1480			
	162.31	870	920	1480	870	920	1480	870	920	1480									
	170.85	870	920	1480	870	920	1480	870	920	1480									
	195.39	870	920	1480	870	920	1480	870	920	1480									
	228.99	870	920	1480	870	920	1480	870	920	1480									

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min^{-1}		AQS. n_{ak}					
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
FA67 2	3.97	599	680	340	373	728	728
	4.66	318	367	296	294	552	552
	5.25	248	261	263	267	450	450
	5.95	225	230	232	240	358	358
	6.78	204	201	204	215	288	288
	7.53	174	181	183	182	246	246
	8.60	153	159	158	159	314	314
	9.08	142	151	149	153	358	358
	9.66	238	284	140	142	152	152
	11.31	131	157	121	124	165	165
	12.76	107	106	106	113	175	175
	14.46	96	100	100	99	185	185
	16.48	86	86	87	100	194	194
	18.29	79	77	78	105	204	204
	20.90	68	65	67	103	212	212
	22.05	63	63	64	102	204	204
	25.13	52	55	56	96	179	
	27.41	46	51	49	92	164	
	32.08	43	42	43	108	140	
	36.30	37	36	37			
FA67 3	34.01	40	42	42	42	42	42
	39.26	35	36	36	36	36	36
	43.20	30	28	28	28	28	28
	50.74	25	27	27	27	27	27
	53.73	24	28	28	28	28	28
	61.07	21	28	28	28	28	
	67.65	19	29	29	29	29	
	79.76	16	29	29	29	29	
	90.59	33	44	44	44	44	44
	95.94	33	44	44	44	44	44
	109.04	32	41	41	41	41	
	120.79	32	37	37	37	37	
	142.40	31	32	32	32	32	
	162.31	28	28	28			
	170.85	26	26	26			
	195.39	23	23	23			
	228.99	20	20	20			

FA67, m kg	AQS.					
s	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
2	29	30	32	36	38	42
3	30	31	33	37	40	43
FAF: + 6.3 kg / F: + 2.8 kg / FF: + 8.9 kg						

F67, J_A / c_{TA}		AQS.					
		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	0.46	1.3	2.4	8.1	22.0	22.0
c_{TA}	Nm/"	0.15	0.3	0.7	3.0	7.0	7.0

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F..67							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	FA	FAF	F	FF	FA	FAF	F	FF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
	3.97	500	695	850	413	16	1220	1220	8390	8620	11600	11600	11300	11300
	4.66	560	700	950	337	12	1020	1020	8590	8860	11600	11600	11300	11300
	5.25	590	705	1000	309	10.0	1010	1010	8850	9140	11500	11500	11200	11200
	5.95	610	705	1030	299	8.0	1090	1090	9200	9500	11500	11500	11200	11200
	6.78	620	710	1050	304	6.3	1280	1280	9660	9950	11500	11500	11200	11200
	7.53	610	715	1030	341	5.5	1570	1570	10100	10400	11500	11500	11200	11200
	8.60	610	715	1030	363	4.4	1860	1860	10700	11000	11500	11500	11200	11200
	9.08	610	715	1030	371	4.0	1990	1990	10900	11200	11500	11500	11200	11200
	9.66	870	920	1470	159	8.5	1250	1250	9840	9840	11100	11100	9310	9310
FA67	11.31	870	920	1470	173	6.7	1630	1630	9840	9840	11100	11100	9310	9310
2	12.76	870	920	1470	183	5.6	1930	1930	9840	9840	11100	11100	9310	9310
	14.46	870	920	1470	194	4.6	2260	2260	9840	9840	11100	11100	9310	9310
	16.48	870	920	1470	203	3.8	2610	2610	9840	9840	11100	11100	9310	9310
	18.29	870	920	1470	212	3.4	2900	2900	9840	9840	11100	11100	9310	9310
	20.90	870	920	1470	215	2.7	3290	3290	9840	9840	11100	11100	9310	9310
	22.05	870	920	1470	204	2.5	3460	3460	9840	9840	11100	11100	9310	9310
	25.13	870	920	1470	179	2.0	3860	3860	9840	9840	11100	11100	9310	9310
	27.41	870	920	1470	164	1.7	4140	4140	9840	9840	11100	11100	9310	9310
	32.08	870	920	1470	140	1.4	4670	4670	9840	9840	11100	11100	9310	9310
	36.30	870	920	1470	124	0.98	5110	5110	9840	9840	11100	11100	9310	9310
	34.01	740	920	1250	44	2.8	5730	5730	11000	11000	11100	11100	9310	9310
	39.26	780	920	1320	38	2.2	5980	5980	10700	10700	11100	11100	9310	9310
	43.20	870	920	1470	30	1.9	5760	5760	9840	9840	11100	11100	9310	9310
	50.74	870	920	1470	29	1.6	6390	6390	9840	9840	11100	11100	9310	9310
	53.73	870	920	1470	29	1.4	6620	6620	9840	9840	11100	11100	9310	9310
	61.07	870	920	1470	30	1.1	7160	7160	9840	9840	11100	11100	9310	9310
	67.65	870	920	1470	30	0.97	7600	7600	9840	9840	11100	11100	9310	9310
	79.76	870	920	1470	31	0.76	8350	8350	9840	9840	11100	11100	9310	9310
FA67	90.59	870	920	1470	48	1.4	8960	8960	9840	9840	11100	11100	9310	9310
3	95.94	870	920	1470	47	1.2	9240	9240	9840	9840	11100	11100	9310	9310
	109.04	870	920	1470	41	0.98	9900	9900	9840	9840	11100	11100	9310	9310
	120.79	870	920	1470	37	0.85	10400	10400	9840	9840	11100	11100	9310	9310
	142.40	870	920	1470	32	0.68	11300	11300	9840	9840	11100	11100	9310	9310
	162.31	870	920	1470	28	0.47	11400	11400	9840	9840	11100	11100	9310	9310
	170.85	870	920	1470	26	0.42	11400	11400	9840	9840	11100	11100	9310	9310
	195.39	870	920	1470	23	0.34	11400	11400	9840	9840	11100	11100	9310	9310
	228.99	870	920	1470	20	0.27	11400	11400	9840	9840	11100	11100	9310	9310

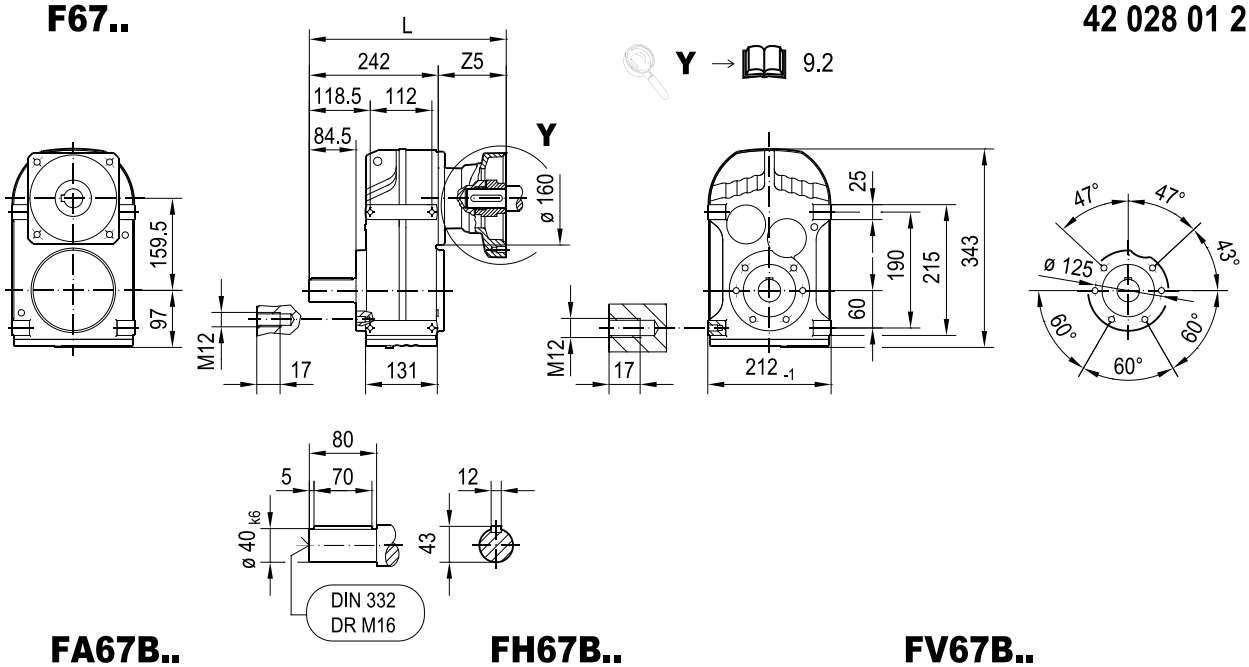
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F..67				c_{TG}				φ
	i	n_{epk} min^{-1}	η %	FA Nm/'	FAF Nm/'	F Nm/'	FF Nm/'	/R '
FA67 2	3.97	4500	97	129	129	68	62	10
	4.66	4500	97	129	129	68	62	9
	5.25	4500	97	129	129	68	62	9
	5.95	4500	98	129	129	68	62	9
	6.78	4500	97	129	129	68	62	9
	7.53	4500	97	129	129	68	62	8
	8.60	4500	97	129	129	68	62	8
	9.08	4500	97	129	129	68	62	8
	9.66	4500	97	173	173	79	71	6
	11.31	4500	97	173	173	79	71	6
	12.76	4500	97	173	173	79	71	6
	14.46	4500	97	173	173	79	71	6
	16.48	4500	97	173	173	79	71	6
	18.29	4500	97	173	173	79	71	6
	20.90	4500	97	173	173	79	71	5
	22.05	4500	97	173	173	79	71	5
	25.13	4500	97	173	173	79	71	5
	27.41	4500	97	173	173	79	71	5
	32.08	4500	97	173	173	79	71	5
	36.30	4500	97	173	173	79	71	5
FA67 3	34.01	4500	96	187	187	82	74	6
	39.26	4500	96	187	187	82	74	6
	43.20	4500	96	187	187	82	74	6
	50.74	4500	96	187	187	82	74	6
	53.73	4500	96	187	187	82	74	6
	61.07	4500	95	187	187	82	74	6
	67.65	4500	95	187	187	82	74	6
	79.76	4500	95	187	187	82	74	6
	90.59	4500	95	189	189	82	74	6
	95.94	4500	95	189	189	82	74	6
	109.04	4500	95	189	189	82	74	6
	120.79	4500	94	189	189	82	74	6
	142.40	4500	94	189	189	82	74	6
	162.31	4500	94	189	189	82	74	6
	170.85	4500	93	189	189	82	74	6
	195.39	4500	93	189	189	82	74	6
	228.99	4500	93	189	189	82	74	6

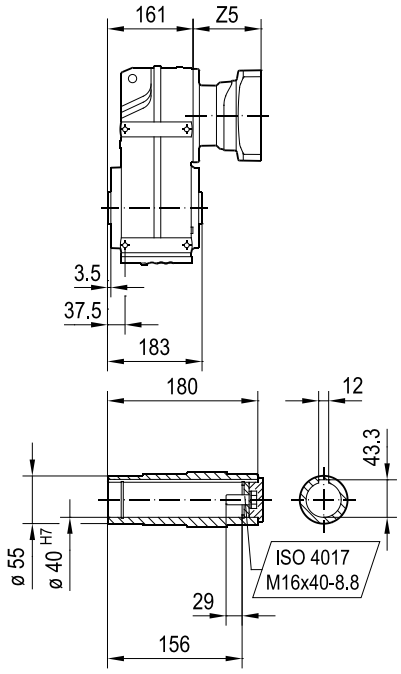
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F67..

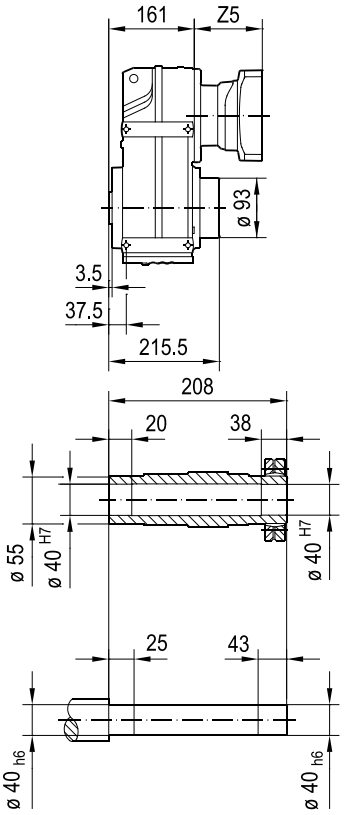
42 028 01 21



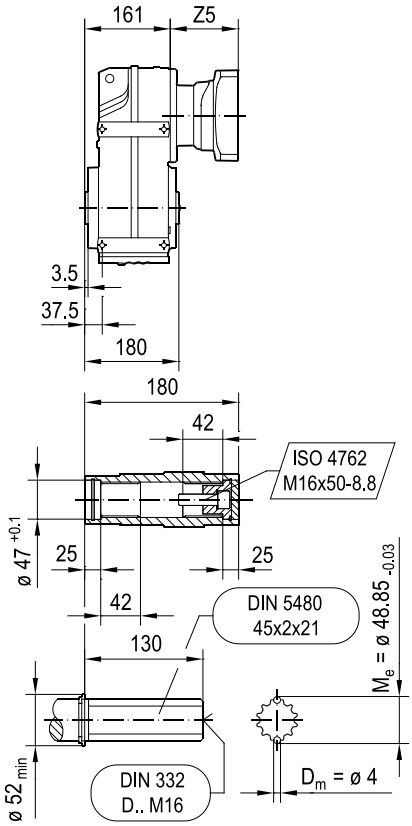
FA67B..



FH67B..



FV67B..

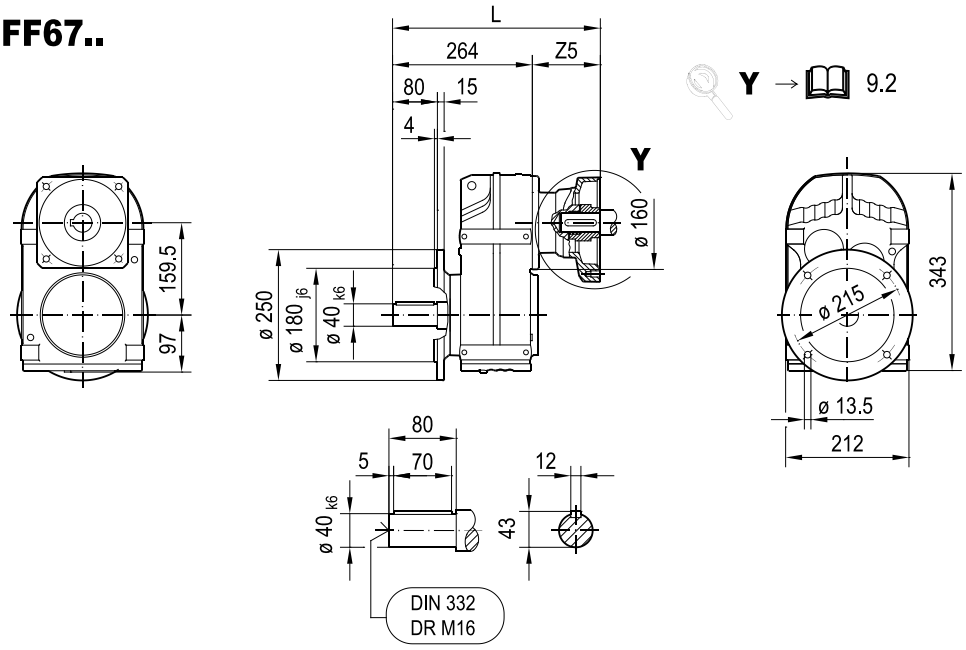


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	292	309	315	319	322	328	322	327	351	376	376	388

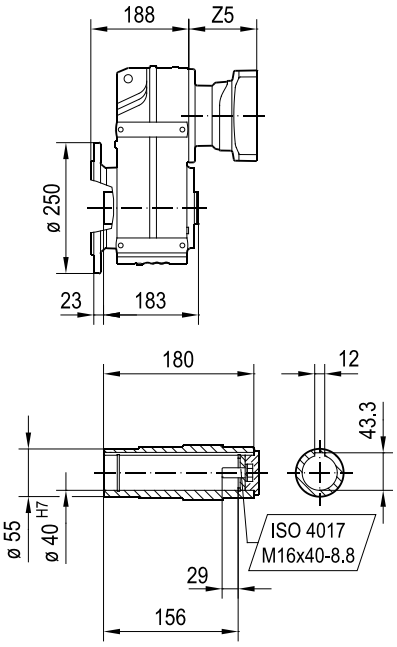
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FF67..

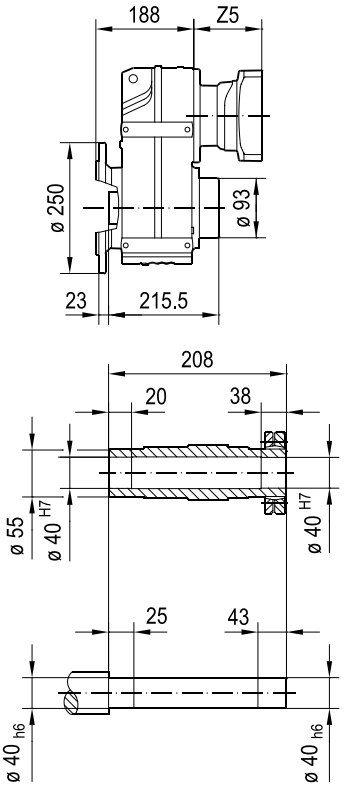
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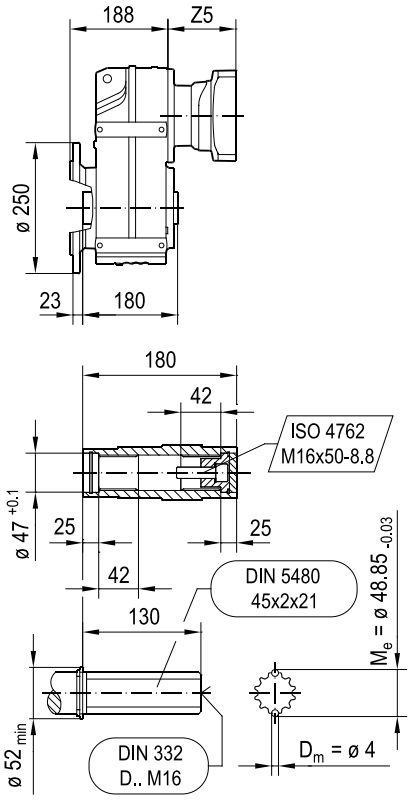
FAF67..



FHF67..



FVF67..

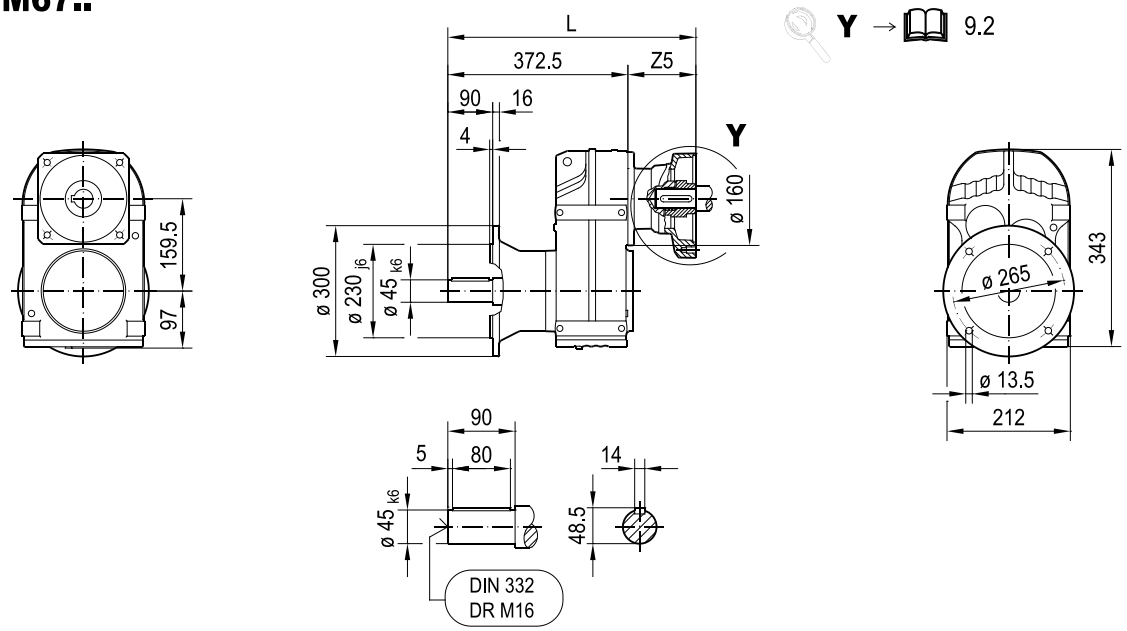


(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	314	331	337	341	344	350	344	349	373	398	398	410

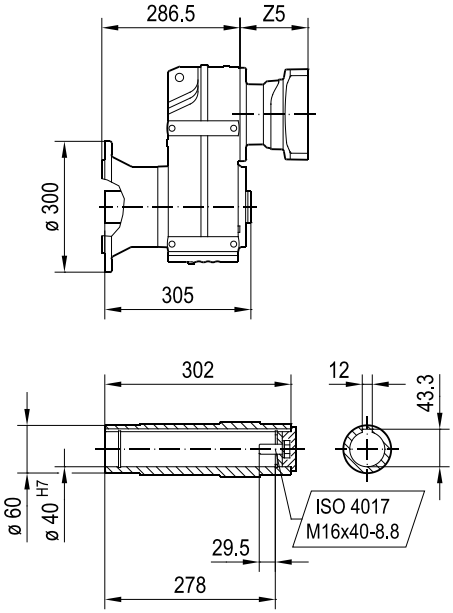
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42 030 00 21

FM67..



FAM67..

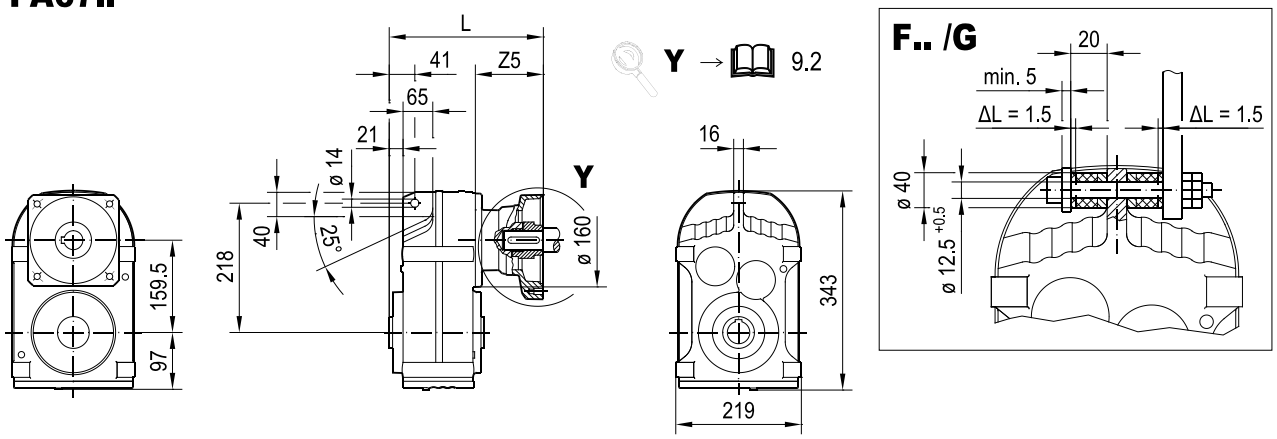


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	423	440	445	450	453	459	453	458	481	507	507	519

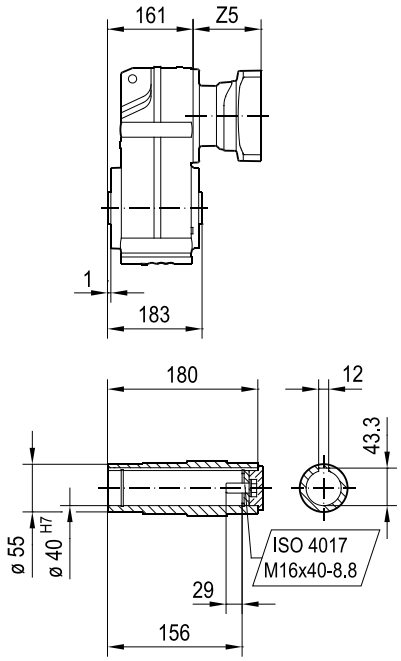
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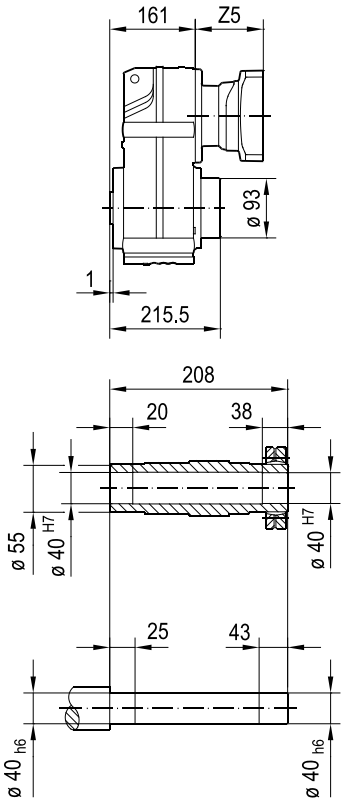
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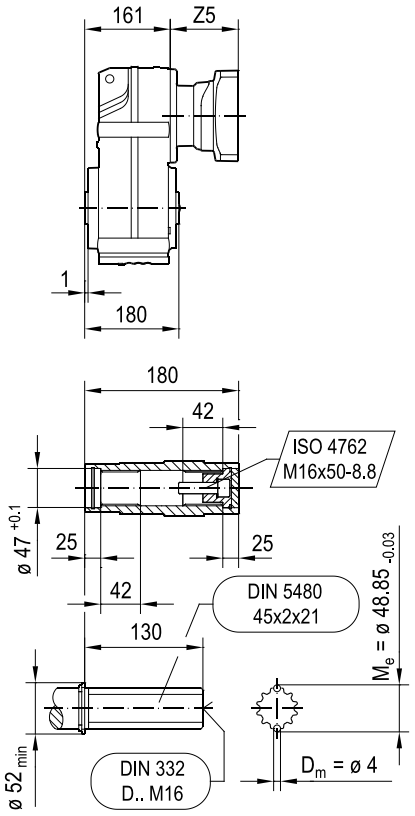
FA67..



FH67..



FV67..

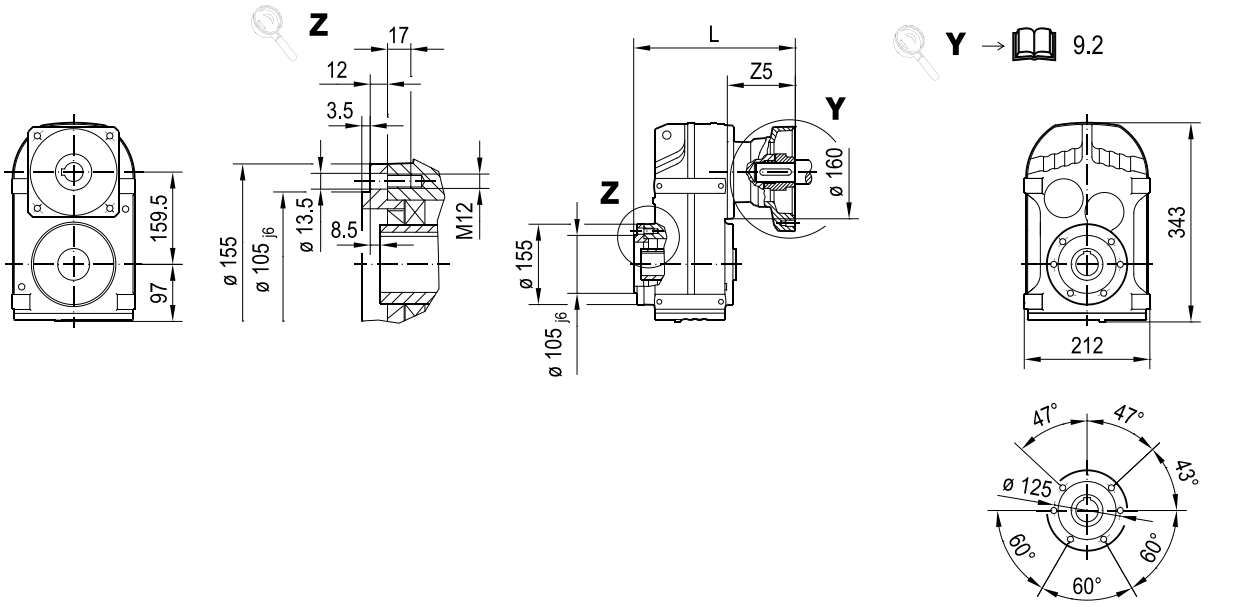


(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	211	228	234	238	241	247	241	246	270	295	295	307

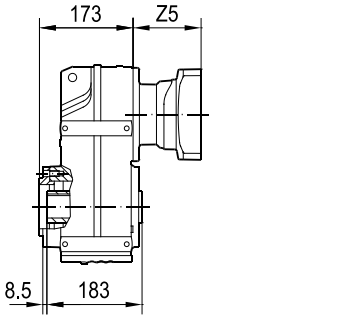
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FAZ67..

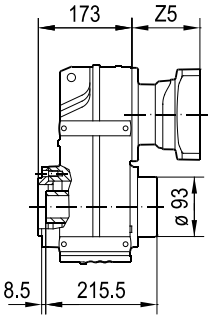
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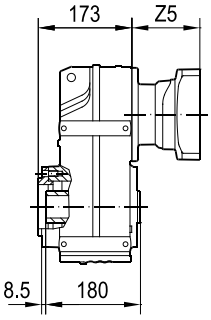
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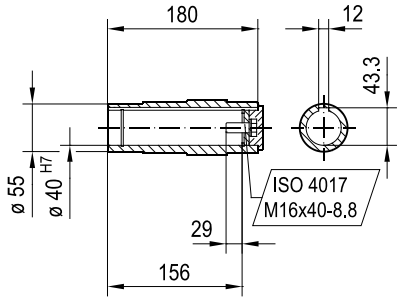


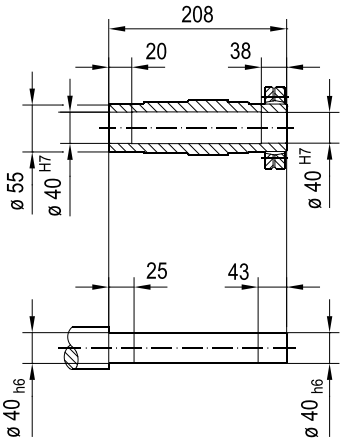
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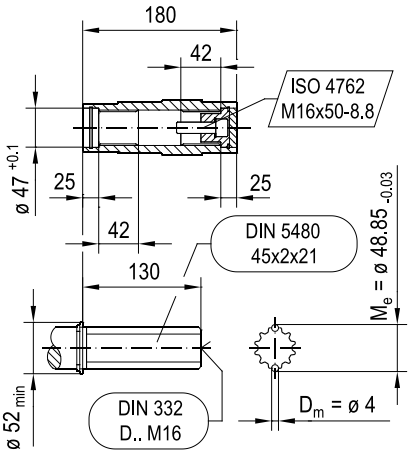


FVZ67..







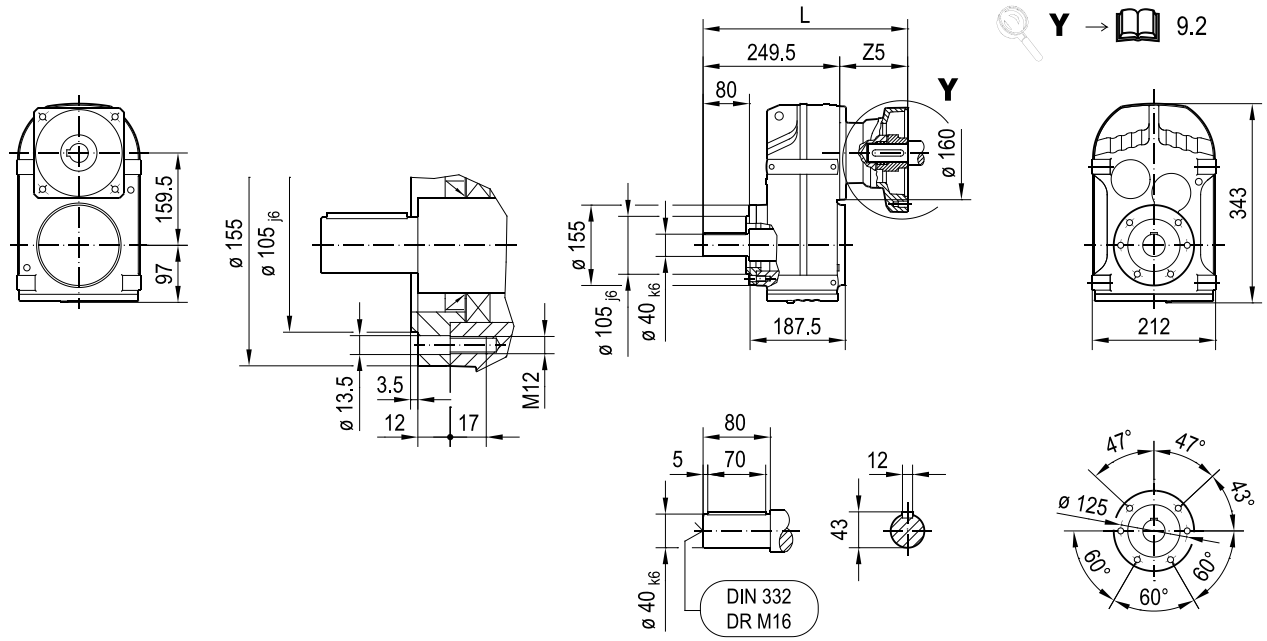


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	223	240	246	250	253	259	253	258	282	307	307	319

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FZ67..

42 033 01 21

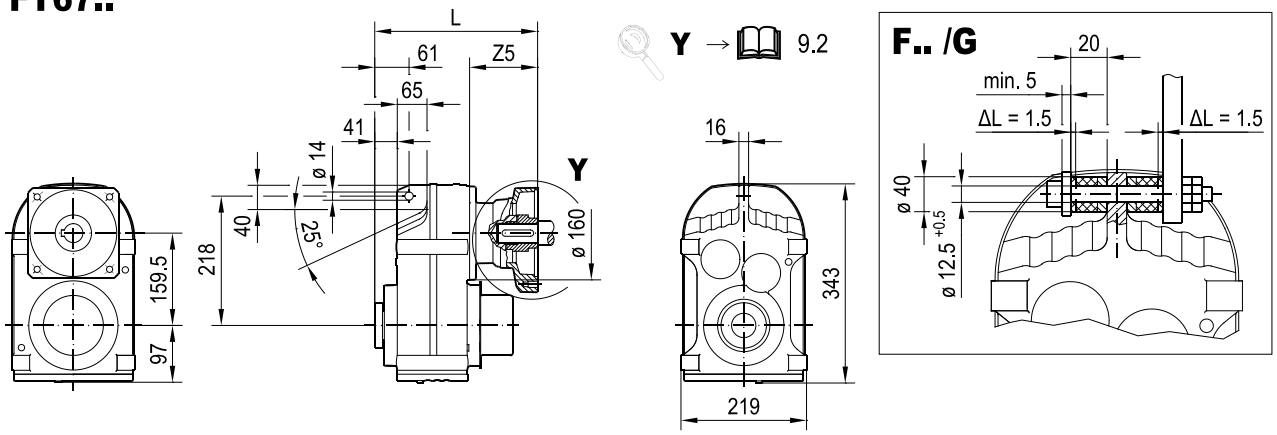


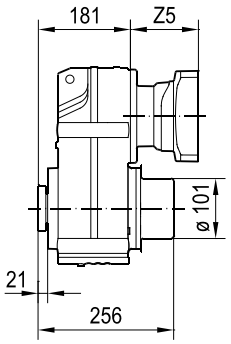
(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	300	317	322	327	330	336	330	335	358	384	384	396

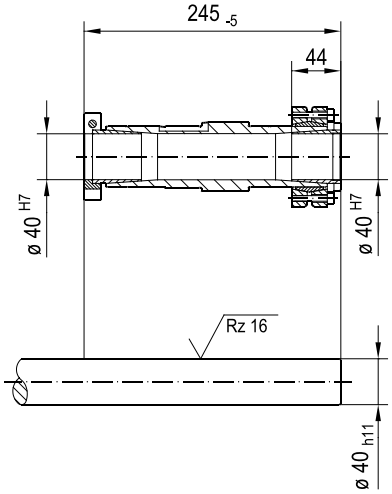
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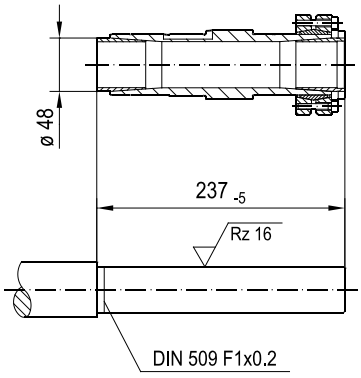
FT67..

42 034 01 21









(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	231	248	254	258	261	267	261	266	290	315	315	327

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9.1.6 F77 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$																	
	i	80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6			160/1			190/1,3-6		
FA77 2	4.28				129	129	185	180	205	270	380	480	645	470	500	800	630	910	1070
	5.16				156	156	225	197	240	325	410	560	695	570	575	970	685	1030	1160
	5.76	93	93	158	174	174	250	205	265	350	430	605	730	625	625	1060	715	1070	1220
	6.64	108	108	184	200	200	290	215	295	365	455	670	775	690	690	1170	755	1130	1280
	7.39	115	120	196	220	220	320	225	325	385	470	705	800	740	740	1260	780	1170	1330
	8.26	120	135	205	225	250	360	235	350	400	485	730	820	795	795	1350	800	1200	1360
	9.30	124	152	210	235	280	400	240	360	410	505	760	860	830	850	1410	830	1250	1410
	10.93				330	330	475	415	510	685	870	1180	1480	1210	1220	2060	1460	1530	2480
	12.20	197	197	335	370	370	530	435	560	740	910	1280	1550	1330	1330	2260	1500	1530	2550
	14.06	225	225	385	425	425	610	460	630	780	960	1420	1630	1470	1470	2500	1500	1530	2550
	15.64	245	255	415	465	475	680	480	685	820	1000	1500	1700	1500	1530	2550	1500	1530	2550
	17.49	250	285	425	485	530	760	495	745	840	1030	1530	1750	1500	1530	2550	1500	1530	2550
	19.70	260	320	440	500	600	850	515	775	880	1070	1530	1820	1500	1530	2550	1500	1530	2550
	21.43	270	350	460	515	650	880	525	790	890	1090	1530	1850	1500	1530	2550	1500	1530	2550
	25.50	280	415	475	535	775	910	550	830	940	1140	1530	1940	1500	1530	2550	1500	1530	2550
	28.75	285	430	485	545	820	930	560	840	950	1160	1420	1970	1390	1390	2360			
	31.51	290	435	495	555	830	940	570	860	970	1180	1480	2010	1380	1450	2350			
	36.58	300	450	510	570	860	970	585	880	990	1050	1220	1790	1040	1200	1770			
FA77 3	25.54	405	405	690	765	765	1090	930	1220	1580	1450	1530	2470	1450	1530	2470	1450	1530	2470
	29.91	480	480	820	890	890	1280	1000	1400	1700	1500	1530	2550	1500	1530	2550	1500	1530	2550
	33.74	530	540	900	1010	1010	1450	1050	1530	1790	1500	1530	2550	1500	1530	2550	1500	1530	2550
	38.23	560	615	950	1080	1150	1650	1110	1530	1890	1500	1530	2550	1500	1530	2550	1500	1530	2550
	43.58	585	700	990	1130	1310	1880	1160	1530	1970	1500	1530	2550	1500	1530	2550	1500	1530	2550
	48.37	615	780	1050	1190	1450	2020	1210	1530	2060	1500	1530	2550	1500	1530	2550	1500	1530	2550
	55.27	640	890	1090	1240	1530	2110	1260	1530	2140	1500	1530	2550	1500	1530	2550	1500	1530	2550
	58.32	650	940	1110	1250	1530	2130	1280	1530	2180	1500	1530	2550	1500	1530	2550	1500	1530	2550
	66.46	670	1010	1140	1290	1530	2190	1320	1530	2240	1500	1530	2550	1500	1530	2550			
	72.50	680	1020	1160	1310	1530	2230	1340	1530	2280	1500	1530	2550	1500	1530	2550			
	75.02	1090	1210	1850	1500	1530	2550	1500	1530	2550	1500	1530	2550	1500	1530	2550	1500	1530	2550
	85.52	1150	1380	1960	1500	1530	2550	1500	1530	2550	1500	1530	2550	1500	1530	2550	1500	1530	2550
	94.93	1200	1530	2040	1500	1530	2550	1500	1530	2550	1500	1530	2550	1500	1530	2550	1500	1530	2550
	108.46	1250	1530	2130	1500	1530	2550	1500	1530	2550	1500	1530	2550	1500	1530	2550	1500	1530	2550
	114.45	1270	1530	2160	1500	1530	2550	1500	1530	2550	1500	1530	2550	1500	1530	2550	1500	1530	2550
	130.42	1310	1530	2230	1500	1530	2550	1500	1530	2550	1500	1530	2550	1500	1530	2550			
	142.27	1330	1530	2260	1500	1530	2550	1500	1530	2550	1500	1530	2550	1500	1530	2550			
	166.47	1380	1530	2350	1500	1530	2550	1500	1530	2550	1500	1530	2550	1500	1530	2550			
	188.40	1460	1530	2480	1500	1530	2550	1500	1530	2550									
	198.31	1460	1530	2480	1500	1530	2550	1500	1530	2550									
	225.79	1490	1530	2530	1500	1530	2550	1500	1530	2550									
	262.93	1500	1530	2550	1500	1530	2550	1500	1530	2550									
	281.71	1500	1530	2550	1500	1530	2550	1500	1530	2550									

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min^{-1}		AQS. n_{ak}					
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
FA77 2	4.28		1037	329	327	834	336
	5.16		667	275	293	506	283
	5.76	427	502	255	253	391	250
	6.64	250	307	233	215	295	214
	7.39	196	195	199	198	238	194
	8.26	173	190	169	179	190	183
	9.30	156	160	163	152	157	157
	10.93		316	134	136	238	128
	12.20	202	234	119	120	182	126
	14.06	129	142	104	105	137	129
	15.64	90	93	90	90	129	129
	17.49	90	81	83	83	126	126
	19.70	79	73	71	71	124	124
	21.43	67	65	68	68	122	122
	25.50	59	56	55	55	115	115
	28.75	53	50	49	51	137	
	31.51	49	45	45	46	135	
	36.58	40	39	38	68	123	
FA77 3	25.54	102	123	57	56	56	56
	29.91	62	84	48	47	47	47
	33.74	42	48	44	48	48	48
	38.23	37	38	37	48	48	48
	43.58	33	34	33	49	49	49
	48.37	29	29	30	49	49	49
	55.27	26	25	26	49	49	49
	58.32	24	25	25	49	49	49
	66.46	21	22	22	50	50	
	72.50	19	20	20	50	50	
	75.02	20	50	50	50	50	50
	85.52	17	50	50	50	50	50
	94.93	15	47	47	47	47	47
	108.46	13	41	41	41	41	41
	114.45	13	39	39	39	39	39
	130.42	11	35	35	35	35	
	142.27	10	32	32	32	32	
	166.47	8	27	27	27	27	
	188.40	8	24	24			
	198.31	7	23	23			
	225.79	6	20	20			
	262.93	6	17	17			
	281.71	6	16	16			

FA77, m kg						
	AQS.					
s	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
2	52	52	54	59	61	65
3	53	54	56	60	63	67
FAF: + 6.6 kg / F: + 3.8 kg / FF: + 14 kg						

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F77, J_A / c_{TA}		AQS.					
		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	0.46	1.3	2.4	8.1	22.0	22.0
c_{TA}	Nm/'	0.15	0.3	0.7	3.0	7.0	7.0

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F..77							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	FA	FAF	F	FF	FA	FAF	F	FF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
FA77 2	4.28	1010	1310	1710	343	42	630	630	10200	10900	16900	20000	16900	17400
	5.16	1080	1320	1830	285	31	640	640	10700	11500	16800	20000	16800	17400
	5.76	1080	1320	1830	302	26	930	930	11300	12000	16800	20000	16800	17400
	6.64	1080	1320	1830	327	20	1310	1310	12000	12700	16800	20000	16800	17400
	7.39	1080	1330	1830	327	17	1610	1610	12500	13300	16700	20000	16800	17400
	8.26	1080	1330	1830	327	14	1940	1940	13100	13900	16700	20000	16800	17400
	9.30	1080	1330	1830	328	12	2300	2300	13800	14600	16700	20000	16800	17400
	10.93	1500	1530	2550	190	19	2080	2080	14200	15100	17500	20000	15500	17000
	12.20	1500	1530	2550	205	16	2450	2450	14900	15800	17500	20000	15500	17000
	14.06	1500	1530	2550	224	13	2940	2940	15700	16700	17500	20000	15500	17000
	15.64	1500	1530	2550	237	11	3330	3330	15700	17100	17500	20000	15500	17000
	17.49	1500	1530	2550	250	9.5	3750	3750	15700	17100	17500	20000	15500	17000
	19.70	1500	1530	2550	228	7.9	4220	4220	15700	17100	17500	20000	15500	17000
	21.43	1500	1530	2550	210	7.1	4560	4560	15700	17100	17500	20000	15500	17000
	25.50	1500	1530	2550	176	5.5	5300	5300	15700	17100	17500	20000	15500	17000
	28.75	1430	1530	2430	157	4.4	6190	6190	16200	17300	17500	20000	15500	17000
	31.51	1380	1530	2340	143	3.8	6870	6870	16500	17500	17500	20000	15500	17000
	36.58	1110	1530	1880	123	3.0	8990	8990	17900	18300	17500	20000	15500	17000
FA77 3	25.54	1450	1530	2460	60	10	5560	5560	16100	17300	17500	20000	15500	17000
	29.91	1500	1530	2550	51	7.8	6010	6010	15700	17100	17500	20000	15500	17000
	33.74	1500	1530	2550	52	6.4	6580	6580	15700	17100	17500	20000	15500	17000
	38.23	1500	1530	2550	52	5.2	7190	7190	15700	17100	17500	20000	15500	17000
	43.58	1500	1530	2550	52	4.3	7850	7850	15700	17100	17500	20000	15500	17000
	48.37	1500	1530	2550	53	3.8	8410	8410	15700	17100	17500	20000	15500	17000
	55.27	1500	1530	2550	53	3.0	9140	9140	15700	17100	17500	20000	15500	17000
	58.32	1500	1530	2550	53	2.8	9450	9450	15700	17100	17500	20000	15500	17000
	66.46	1500	1530	2550	53	2.2	10200	10200	15700	17100	17500	20000	15500	17000
	72.50	1500	1530	2550	53	1.9	10700	10700	15700	17100	17500	20000	15500	17000
	75.02	1500	1530	2550	53	4.0	11000	11000	15700	17100	17500	20000	15500	17000
	85.52	1500	1530	2550	53	3.3	11800	11800	15700	17100	17500	20000	15500	17000
	94.93	1500	1530	2550	47	3.0	12500	12500	15700	17100	17500	20000	15500	17000
	108.46	1500	1530	2550	41	2.5	13400	13400	15700	17100	17500	20000	15500	17000
	114.45	1500	1530	2550	39	2.3	13800	13800	15700	17100	17500	20000	15500	17000
	130.42	1500	1530	2550	35	1.9	14800	14800	15700	17100	17500	20000	15500	17000
	142.27	1500	1530	2550	32	1.6	15400	15400	15700	17100	17500	20000	15500	17000
	166.47	1500	1530	2550	27	1.3	16700	16700	15700	17100	17500	20000	15500	17000
	188.40	1500	1530	2550	24	0.91	17700	17700	15700	17100	17500	20000	15500	17000
	198.31	1500	1530	2550	23	0.82	18100	18100	15700	17100	17500	20000	15500	17000
	225.79	1500	1530	2550	20	0.67	19300	19300	15700	17100	17500	20000	15500	17000
	262.93	1500	1530	2550	17	0.54	20000	20000	15700	17100	17500	20000	15500	17000
	281.71	1500	1530	2550	16	0.47	20000	20000	15700	17100	17500	20000	15500	17000

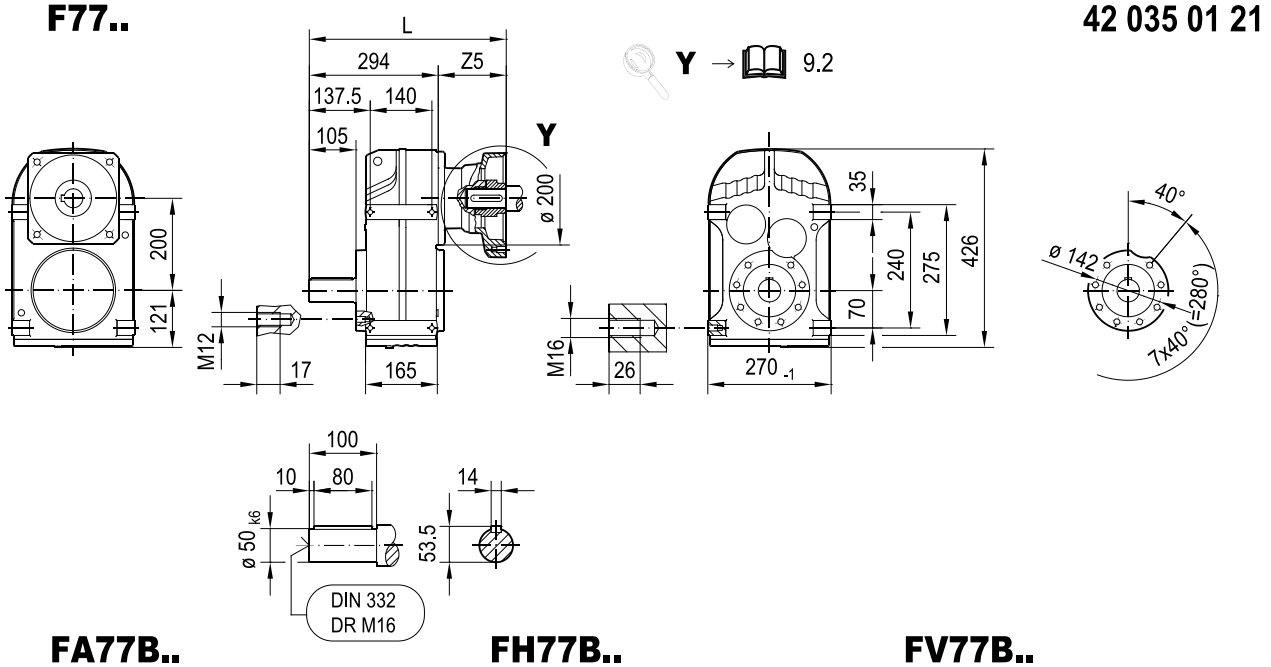
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F..77				c_{TG}				φ
	i	n_{epk} min^{-1}	η %	FA Nm/'	FAF Nm/'	F Nm/'	FF Nm/'	/R '
FA77 2	4.28	4500	97	263	263	132	106	8
	5.16	4500	97	263	263	132	106	8
	5.76	4500	97	263	263	132	106	8
	6.64	4500	97	263	263	132	106	8
	7.39	4500	97	263	263	132	106	7
	8.26	4500	97	263	263	132	106	7
	9.30	4500	97	263	263	132	106	7
	10.93	4500	97	351	351	151	118	6
	12.20	4500	97	351	351	151	118	5
	14.06	4500	97	351	351	151	118	5
	15.64	4500	97	351	351	151	118	5
	17.49	4500	97	351	351	151	118	5
	19.70	4500	97	351	351	151	118	5
	21.43	4500	97	351	351	151	118	5
	25.50	4500	97	351	351	151	118	5
	28.75	4500	97	351	351	151	118	5
	31.51	4500	97	351	351	151	118	5
	36.58	4500	97	351	351	151	118	5
FA77 3	25.54	4500	96	388	388	157	122	6
	29.91	4500	96	388	388	157	122	6
	33.74	4500	96	388	388	157	122	6
	38.23	4500	96	388	388	157	122	6
	43.58	4500	96	388	388	157	122	6
	48.37	4500	96	388	388	157	122	6
	55.27	4500	96	388	388	157	122	6
	58.32	4500	96	388	388	157	122	6
	66.46	4500	95	388	388	157	122	6
	72.50	4500	95	388	388	157	122	6
	75.02	4500	95	394	394	158	123	6
	85.52	4500	95	394	394	158	123	6
	94.93	4500	95	394	394	158	123	5
	108.46	4500	95	394	394	158	123	5
	114.45	4500	95	394	394	158	123	5
	130.42	4500	95	394	394	158	123	5
	142.27	4500	94	394	394	158	123	5
	166.47	4500	94	394	394	158	123	5
	188.40	4500	94	394	394	158	123	5
	198.31	4500	94	394	394	158	123	5
	225.79	4500	93	394	394	158	123	5
	262.93	4500	93	394	394	158	123	5
	281.71	4500	92	394	394	158	123	5

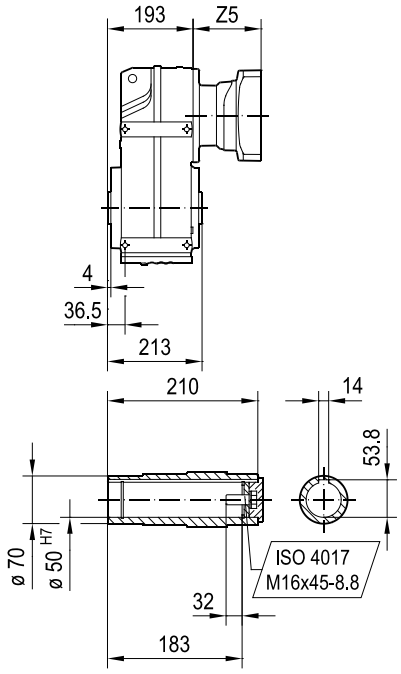
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F77..

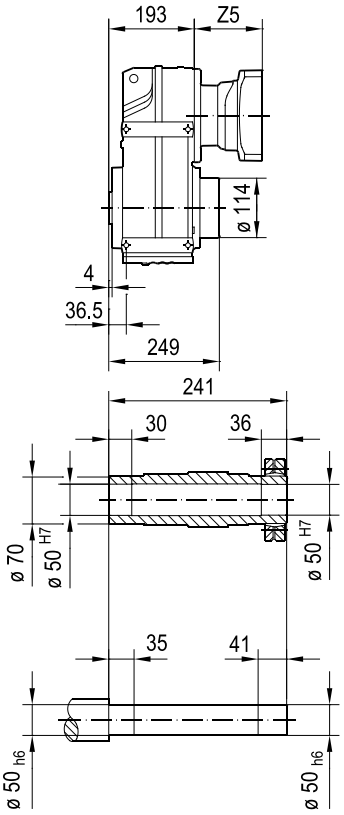
42 035 01 21



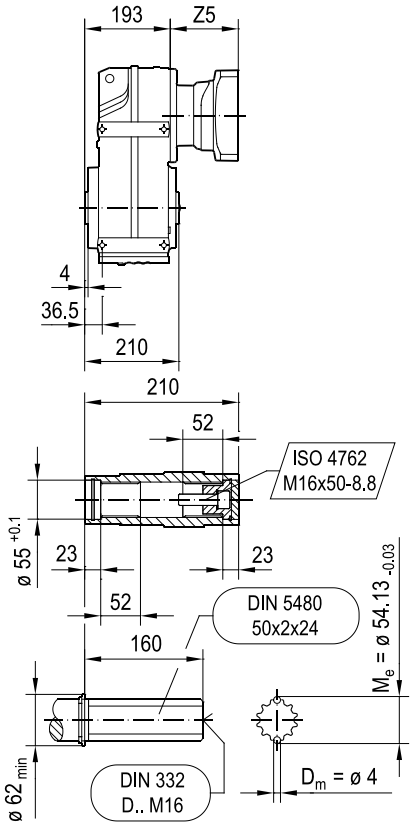
FA77B..



FH77B..



FV77B..

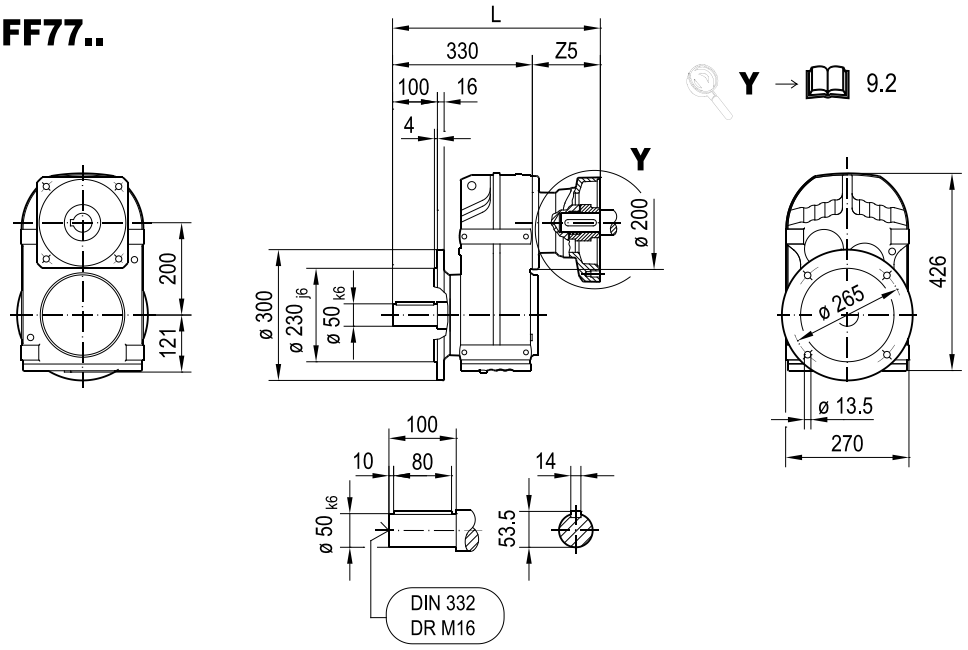


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	338	354	360	364	367	373	367	372	395	420	420	432

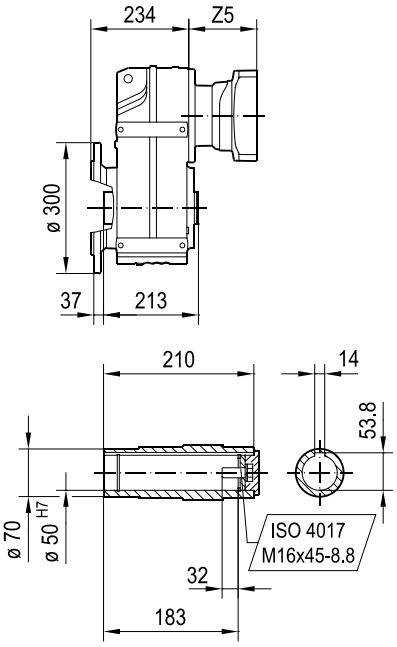
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FF77..

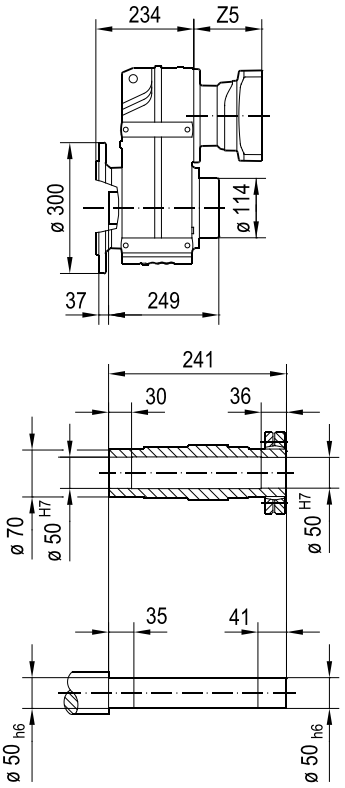
42 036 00 21



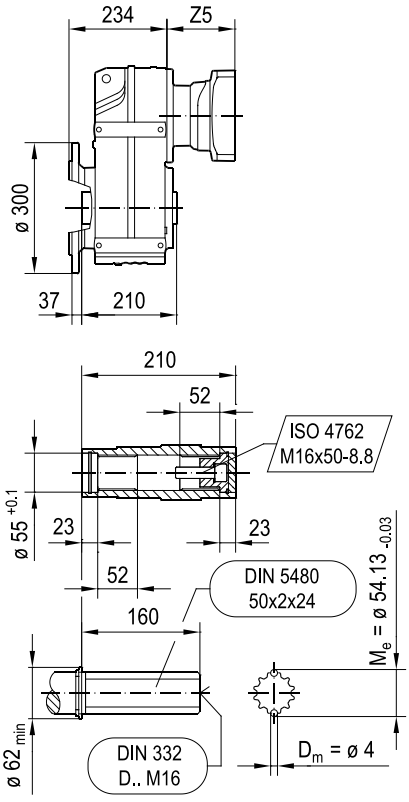
FAF77..



FHF77..



FVF77..

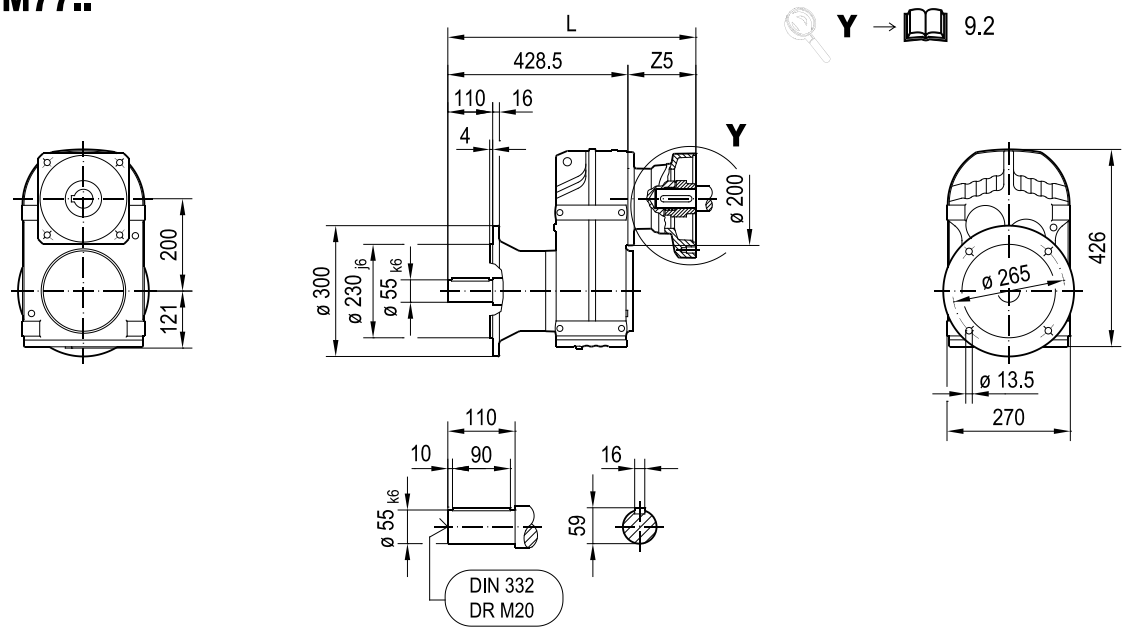


(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	374	390	396	400	403	409	403	408	431	456	456	468

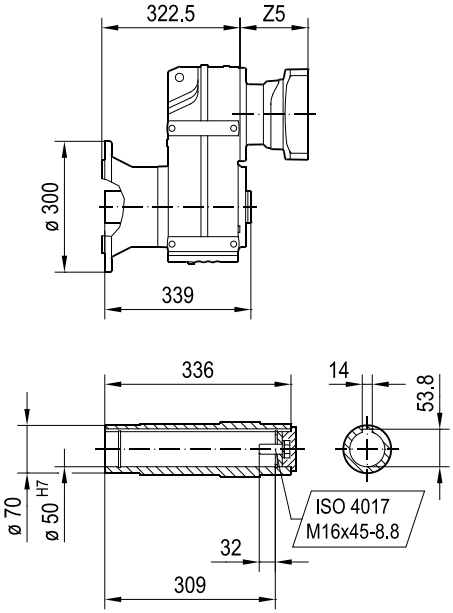
27788644/EN – 02/2024

42 037 00 21

FM77..



FAM77..

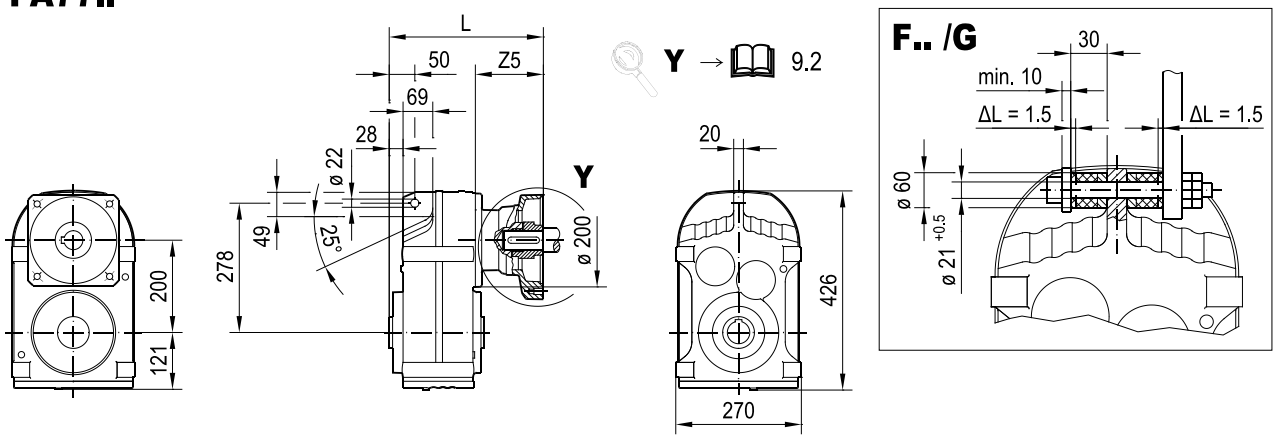


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	473	489	494	499	502	508	502	507	529	555	555	567

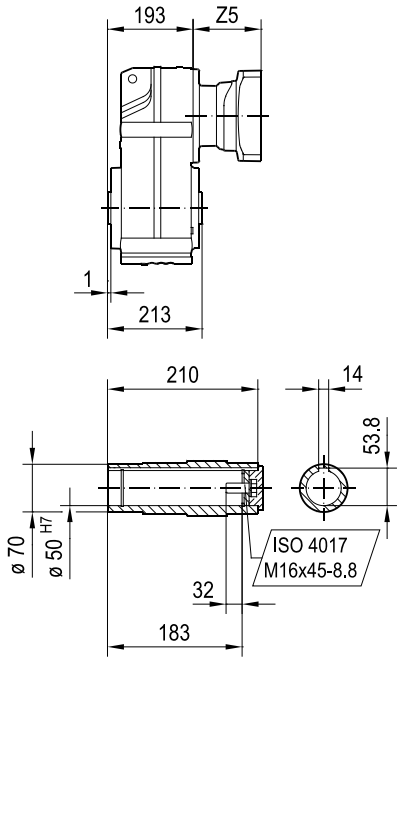
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FA77..

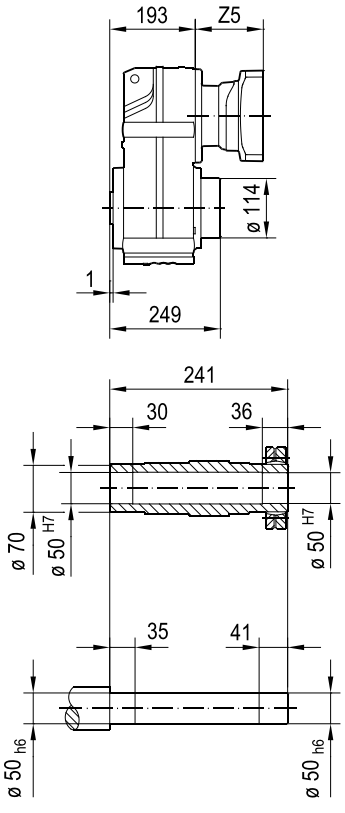
42 038 01 21



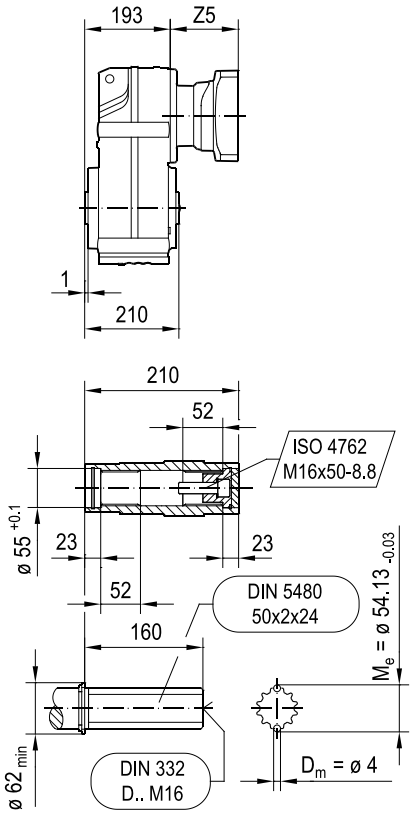
FA77..



FH77..



FV77..

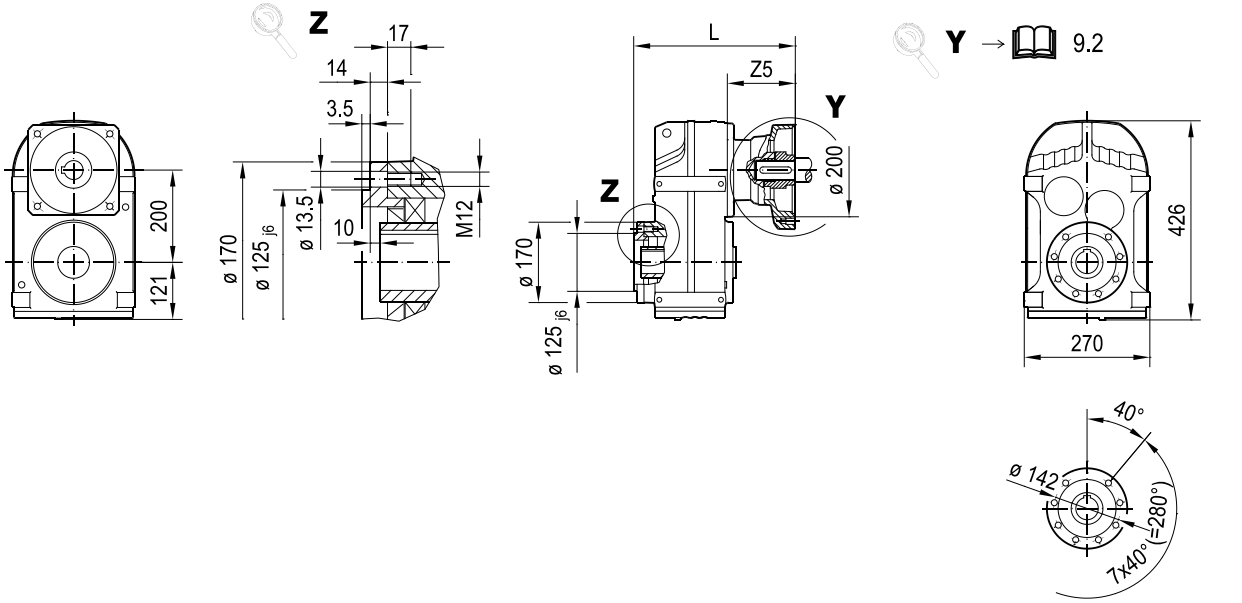


(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	237	253	259	263	266	272	266	271	294	319	319	331

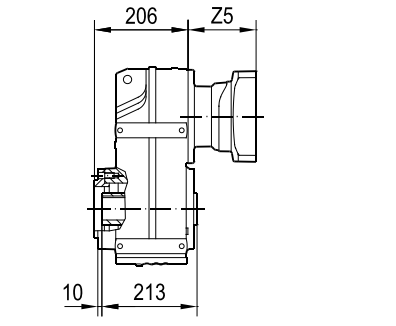
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FAZ77..

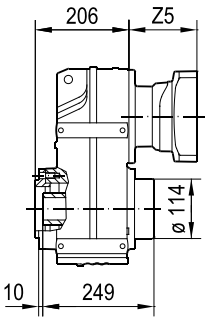
42 039 00 21



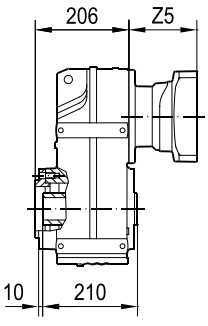
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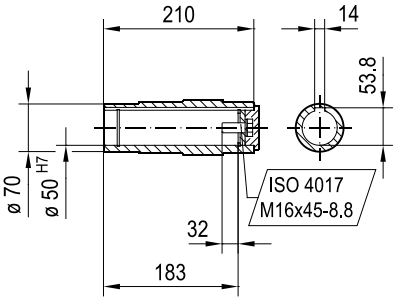


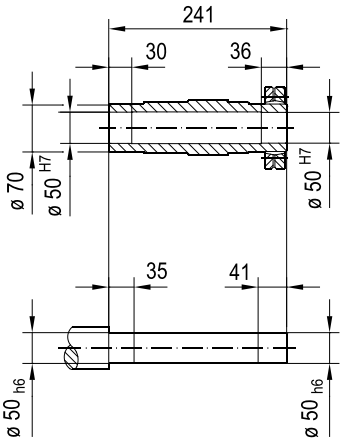
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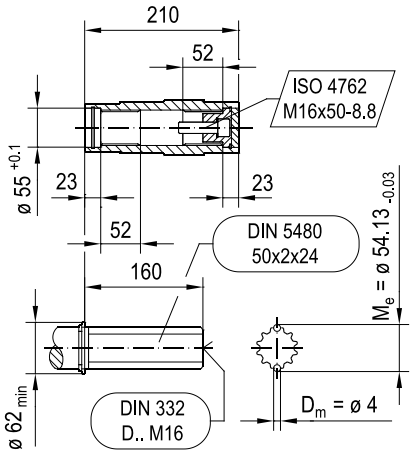


FVZ77..







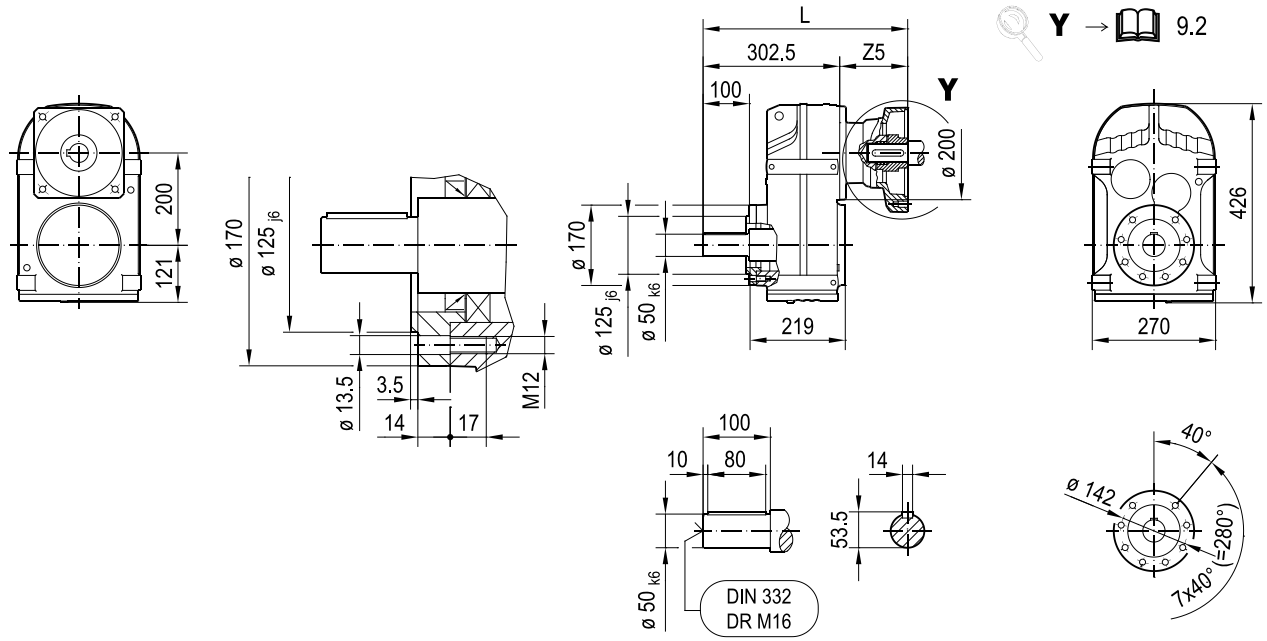


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	250	266	272	276	279	285	279	284	307	332	332	344

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FZ77..

42 040 01 21

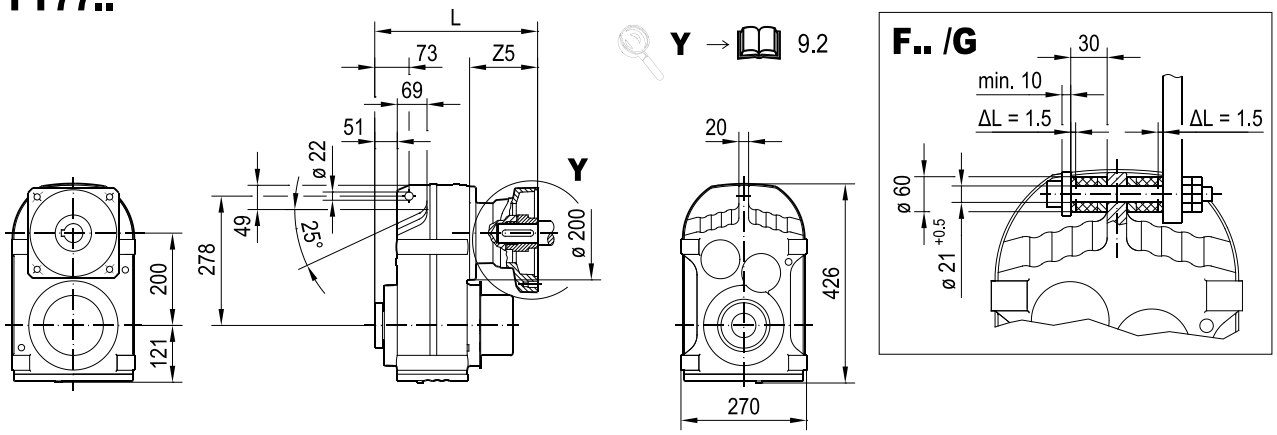


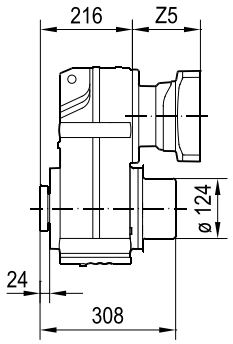
(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	347	363	368	373	376	382	376	381	403	429	429	441

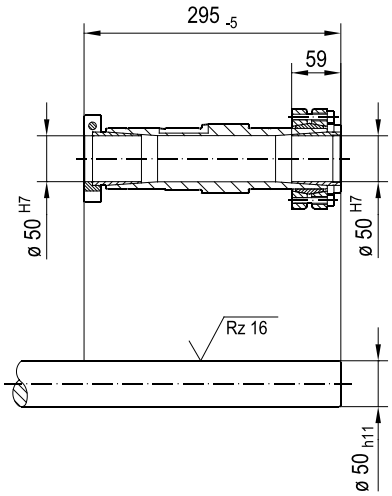
27788644/EN – 02/2024

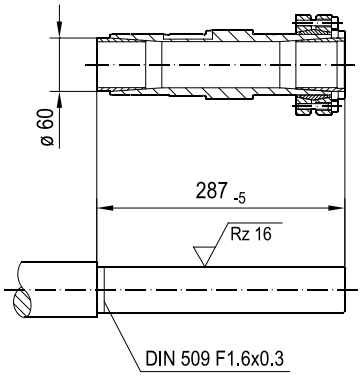
FT77..

42 041 02 21









(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	260	276	282	286	289	295	289	294	317	342	342	354

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9.1.7 F87 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$														
	i	100/3-7			115/1,3-6			140/1,3,5-6			160/1			190/1,3-6		
FA87 2	4.12							435	485	655	450	505	765	730	870	1080
	4.92							470	565	785	540	585	920	790	1040	1290
	5.63	168	168	240	235	270	350	495	630	840	620	650	1050	820	1190	1390
	6.65	200	200	285	255	315	415	530	715	900	735	740	1250	880	1320	1500
	7.35	220	220	315	265	340	450	545	770	930	795	795	1350	910	1370	1550
	8.29	250	250	360	270	375	460	565	830	960	860	860	1460	940	1410	1600
	9.58							1010	1130	1530	1050	1180	1790	1700	2030	2510
	11.46							1100	1320	1830	1260	1370	2140	1840	2430	3010
	13.12	390	390	560	555	630	820	1150	1460	1960	1440	1520	2450	1920	2790	3260
	15.48	465	465	665	595	735	970	1230	1670	2090	1710	1720	2910	2050	3080	3490
	17.12	515	515	740	615	800	1050	1280	1790	2180	1850	1850	3150	2120	3090	3600
	19.31	580	580	840	635	880	1080	1320	1940	2240	2000	2000	3400	2180	3090	3710
	21.32	640	645	920	655	950	1110	1350	2030	2300	2130	2130	3620	2240	3090	3810
	23.68	660	715	1030	675	1010	1150	1390	2090	2360	2270	2270	3860	2300	3090	3910
	26.50	675	800	1150	695	1040	1180	1430	2150	2430	2370	2420	4030	2360	3090	4010
	28.78	695	870	1180	710	1070	1210	1460	2190	2480	2420	2530	4110	2420	2530	4110
	33.92	715	1030	1220	735	1100	1250	1510	2270	2570	2490	2730	4230	2490	2730	4230
FA87 3	29.20	860	860	1240	1240	1380	1800	2510	3090	4270	2510	3090	4270	2510	3090	4270
	35.19	1040	1040	1500	1360	1670	2180	2610	3090	4440	2610	3090	4440	2610	3090	4440
	39.30	1170	1170	1680	1430	1870	2430	2720	3090	4620	2720	3090	4620	2720	3090	4620
	45.28	1350	1350	1940	1510	2110	2570	2820	3090	4790	2820	3090	4790	2820	3090	4790
	50.36	1500	1500	2160	1570	2310	2670	2940	3090	5000	2940	3090	5000	2940	3090	5000
	56.75	1680	1680	2400	2420	2690	3500	3000	3090	5100	3000	3090	5100	3000	3090	5100
	68.40	2030	2030	2910	2660	3090	4230	3000	3090	5100	3000	3090	5100	3000	3090	5100
	76.39	2270	2270	3260	2780	3090	4730	3000	3090	5100	3000	3090	5100	3000	3090	5100
	88.01	2630	2630	3760	2940	3090	5000	3000	3090	5100	3000	3090	5100	3000	3090	5100
	97.89	2930	2930	4190	3000	3090	5100	3000	3090	5100	3000	3090	5100	3000	3090	5100
	109.49	3000	3090	4690	3000	3090	5100	3000	3090	5100	3000	3090	5100	3000	3090	5100
	123.29	3000	3090	5100	3000	3090	5100	3000	3090	5100	3000	3090	5100	3000	3090	5100
	134.16	3000	3090	5100	3000	3090	5100	3000	3090	5100	3000	3090	5100	3000	3090	5100
	159.61	3000	3090	5100	3000	3090	5100	3000	3090	5100	3000	3090	5100	3000	3090	5100
	179.97	3000	3090	5100	3000	3090	5100	3000	3090	5100	3000	3090	5100			
	197.20	3000	3090	5100	3000	3090	5100	3000	3090	5100	3000	3090	5100			
	228.93	3000	3090	5100	3000	3090	5100	3000	3090	5100	3000	3090	5100			
	255.37	3000	3090	5100	3000	3090	5100									
	270.68	3000	3090	5100	3000	3090	5100									

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min^{-1}		AQS. n_{ak}				
	i	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
FA87 2	4.12			350	952	342
	4.92			303	890	287
	5.63	792	270	258	618	265
	6.65	520	214	215	386	215
	7.35	404	190	201	305	192
	8.29	251	187	174	235	169
	9.58			152	410	147
	11.46			126	382	123
	13.12	343	107	112	268	110
	15.48	225	91	94	167	92
	17.12	171	84	82	131	82
	19.31	110	76	73	102	74
	21.32	67	68	68	83	67
	23.68	60	61	61	66	60
	26.50	55	54	53	53	54
	28.78	49	50	50	49	49
	33.92	42	41	41	42	42
FA87 3	29.20	154	50	48	48	48
	35.19	107	41	41	41	41
	39.30	79	36	36	36	36
	45.28	53	32	31	31	31
	50.36	32	28	28	28	28
	56.75	79	25	31	31	31
	68.40	54	20	31	31	31
	76.39	41	19	31	31	31
	88.01	27	16	31	31	31
	97.89	16	16	31	31	31
	109.49	16	18	31	31	31
	123.29	17	18	31	31	31
	134.16	18	18	31	31	31
	159.61	18	17	28	28	28
	179.97	17	16	25	25	
	197.20	16	15	23	23	
	228.93	15	14	20	20	
	255.37	14	14			
	270.68	14	13			

FA87, m kg	AQS.				
s	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
2	90	92	97	100	105
3	93	95	100	105	105
FAF: + 13 kg / F: + 5.7 kg / FF: + 21 kg					

F87, J_A / c_{TA}		AQS.				
		100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	1.3	2.4	8.1	22.0	22.0
c_{TA}	Nm/'	0.3	0.7	3.0	7.0	7.0

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F..87							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	FA	FAF	F	FF	FA	FAF	F	FF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
FA87 2	4.12	1460	1940	2480	357	114	3020	3020	5980	11800	30000	30000	26400	23400
	4.92	1530	1960	2600	364	85	3310	3310	6430	12600	30000	30000	26300	23400
	5.63	1530	1960	2600	400	67	3850	3850	7020	13400	30000	30000	26300	23400
	6.65	1530	1970	2600	463	52	4550	4550	7790	14400	30000	30000	26300	23400
	7.35	1530	1970	2600	497	44	5000	5000	8280	15000	30000	30000	26300	23400
	8.29	1530	1980	2600	530	36	5550	5550	8890	15800	30000	30000	26200	23300
	9.58	2880	3090	4890	153	63	275	275	5050	11000	25700	30000	16000	16000
	11.46	3000	3090	5100	128	49	575	575	5580	11800	25700	30000	16000	16000
	13.12	3000	3090	5100	117	40	1300	1300	6370	13100	25700	30000	16000	16000
	15.48	3000	3090	5100	111	32	2220	2220	7390	14700	25700	30000	16000	16000
	17.12	3000	3090	5100	108	28	2810	2810	8040	15800	25700	30000	16000	16000
	19.31	3000	3090	5100	105	23	3540	3540	8840	17000	25700	30000	16000	16000
	21.32	3000	3090	5100	103	20	4160	4160	9520	18000	25700	30000	16000	16000
	23.68	3000	3090	5100	101	17	4850	4850	10300	19100	25700	30000	16000	16000
	26.50	3000	3090	5100	99	15	5610	5610	11100	19800	25700	30000	16000	16000
	28.78	2450	3090	4160	156	13	8940	8940	13900	22500	25700	30000	16000	16000
	33.92	2610	3090	4430	133	10	9340	9340	14600	22200	25700	30000	16000	16000
FA87 3	29.20	2510	3090	4260	50	25	8740	8740	13800	22400	25700	30000	16000	16000
	35.19	2610	3090	4430	42	19	9610	9610	14900	22200	25700	30000	16000	16000
	39.30	2720	3090	4620	37	16	9910	9910	15400	22000	25700	30000	16000	16000
	45.28	2820	3090	4790	33	13	10500	10500	16200	21700	25700	30000	16000	16000
	50.36	2940	3090	4990	29	11	10800	10800	16800	21500	25700	30000	16000	16000
	56.75	3000	3090	5100	32	20	11600	11600	17700	19800	25700	30000	16000	16000
	68.40	3000	3090	5100	32	16	13300	13300	19600	19800	25700	30000	16000	16000
	76.39	3000	3090	5100	32	14	14300	14300	19800	19800	25700	30000	16000	16000
	88.01	3000	3090	5100	32	11	15800	15800	19800	19800	25700	30000	16000	16000
	97.89	3000	3090	5100	32	9.9	16900	16900	19800	19800	25700	30000	16000	16000
	109.49	3000	3090	5100	32	8.3	18100	18100	19800	19800	25700	30000	16000	16000
	123.29	3000	3090	5100	32	7.0	19400	19400	19800	19800	25700	30000	16000	16000
	134.16	3000	3090	5100	32	6.3	20400	20400	19800	19800	25700	30000	16000	16000
	159.61	3000	3090	5100	28	4.9	22500	22500	19800	19800	25700	30000	16000	16000
	179.97	3000	3090	5100	25	4.0	24100	24100	19800	19800	25700	30000	16000	16000
	197.20	3000	3090	5100	23	3.5	25300	25300	19800	19800	25700	30000	16000	16000
	228.93	3000	3090	5100	20	2.8	27300	27300	19800	19800	25700	30000	16000	16000
	255.37	3000	3090	5100	18	1.8	28900	28900	19800	19800	25700	30000	16000	16000
	270.68	3000	3090	5100	17	1.6	29800	29800	19800	19800	25700	30000	16000	16000

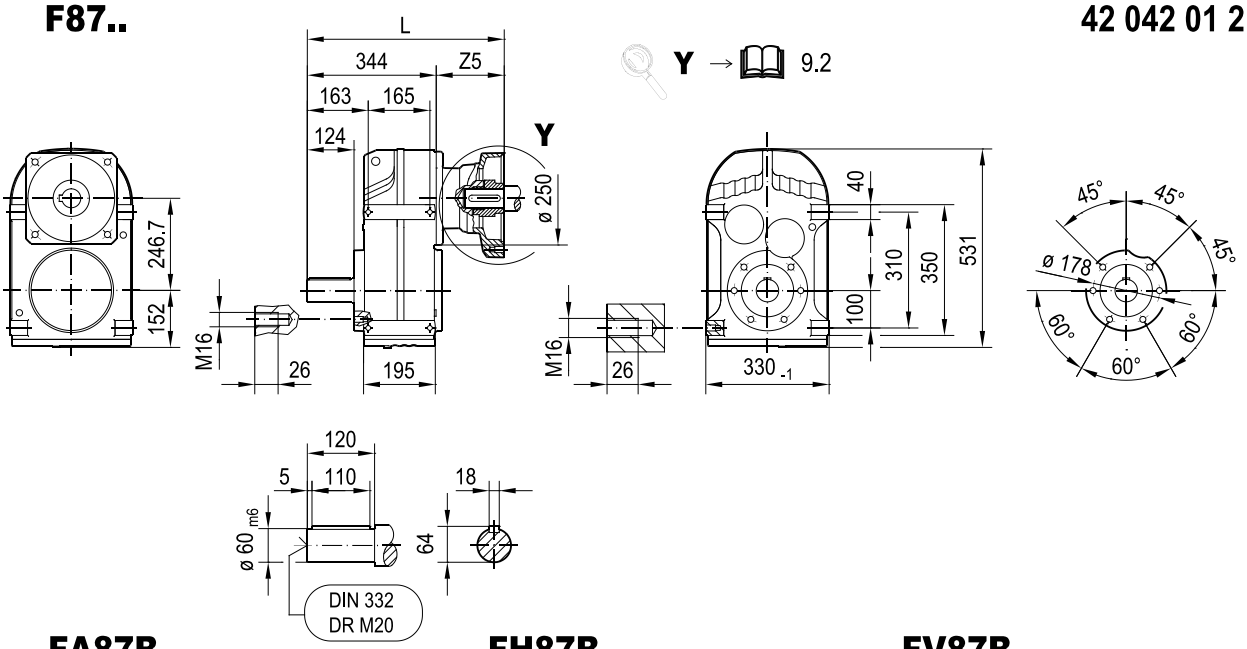
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F..87				c_{TG}				φ
	i	n_{epk} min^{-1}	η %	FA Nm/'	FAF Nm/'	F Nm/'	FF Nm/'	/R '
FA87 2	4.12	3924	97	465	465	197	186	7
	4.92	4378	97	465	465	197	186	7
	5.63	4500	97	465	465	197	186	7
	6.65	4500	97	465	465	197	186	7
	7.35	4500	97	465	465	197	186	7
	8.29	4500	97	465	465	197	186	7
	9.58	3924	97	711	711	230	216	7
	11.46	4378	97	711	711	230	216	7
	13.12	4500	97	711	711	230	216	7
	15.48	4500	97	711	711	230	216	7
	17.12	4500	97	711	711	230	216	7
	19.31	4500	97	711	711	230	216	7
	21.32	4500	97	711	711	230	216	7
	23.68	4500	97	711	711	230	216	7
	26.50	4500	97	711	711	230	216	7
	28.78	4500	97	711	711	230	216	7
	33.92	4500	97	711	711	230	216	7
FA87 3	29.20	4500	96	833	833	242	226	8
	35.19	4500	96	833	833	242	226	8
	39.30	4500	96	833	833	242	226	8
	45.28	4500	96	833	833	242	226	8
	50.36	4500	96	833	833	242	226	7
	56.75	4500	95	846	846	243	227	7
	68.40	4500	95	846	846	243	227	7
	76.39	4500	95	846	846	243	227	7
	88.01	4500	95	846	846	243	227	7
	97.89	4500	95	846	846	243	227	7
	109.49	4500	95	846	846	243	227	7
	123.29	4500	95	846	846	243	227	7
	134.16	4500	95	846	846	243	227	7
	159.61	4500	95	846	846	243	227	7
	179.97	4500	94	846	846	243	227	7
	197.20	4500	94	846	846	243	227	7
	228.93	4500	94	846	846	243	227	7
	255.37	4500	94	846	846	243	227	7
	270.68	4500	93	846	846	243	227	7

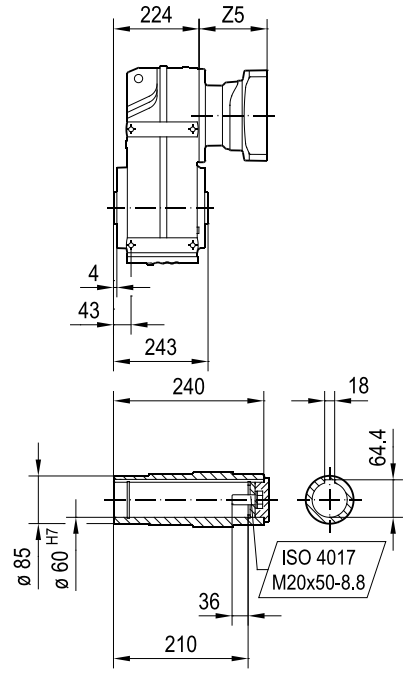
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F87..

42 042 01 21

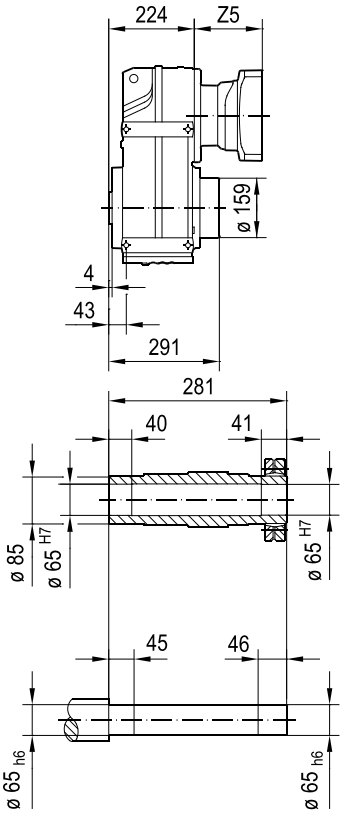


FA87B..

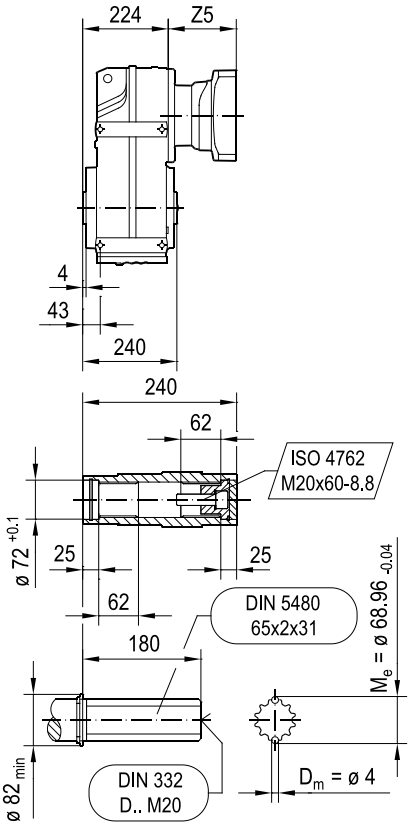


FH87B..

FH87B/R.. → 6.3



FV87B..

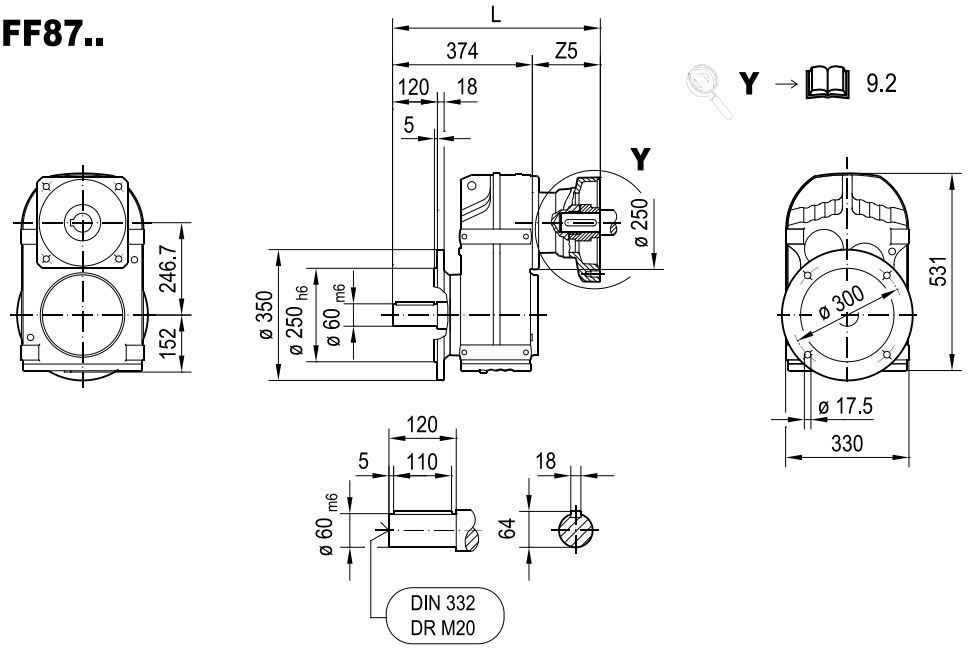


(→ 7.3.11)	AQS.										
	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	55	60.5	65	68	74	68	73	95.5	121	121	133
L	399	405	409	412	418	412	417	440	465	465	477

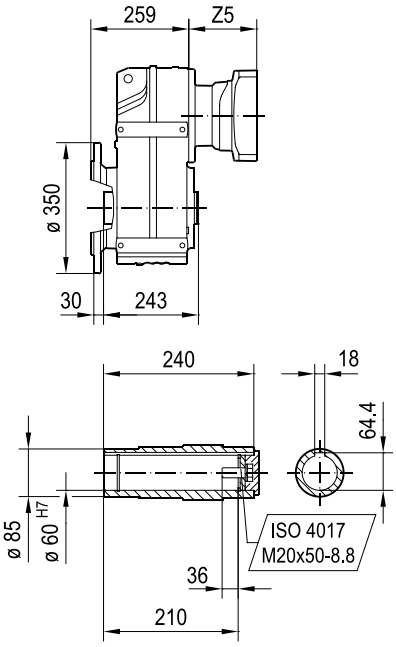
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FF87..

42 043 00 21

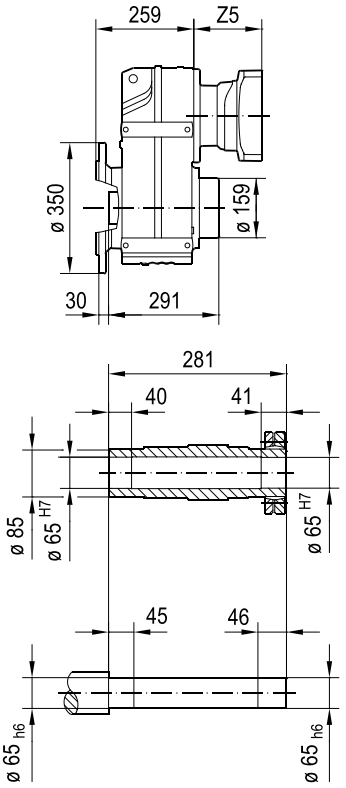


FAF87..

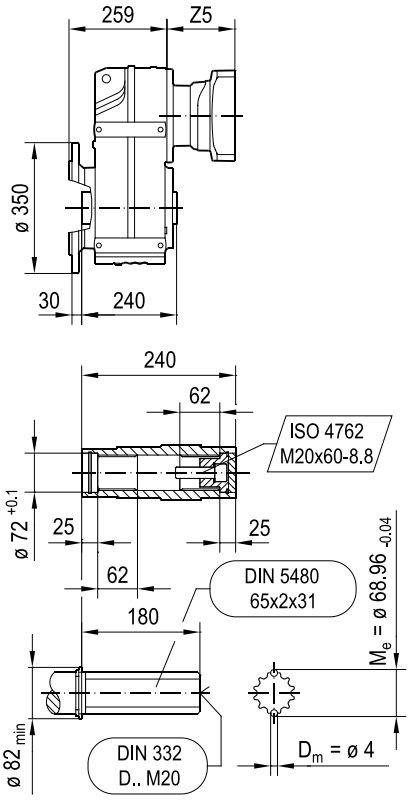


FHF87..

FHF87/R.. → 6.3



FVF87..

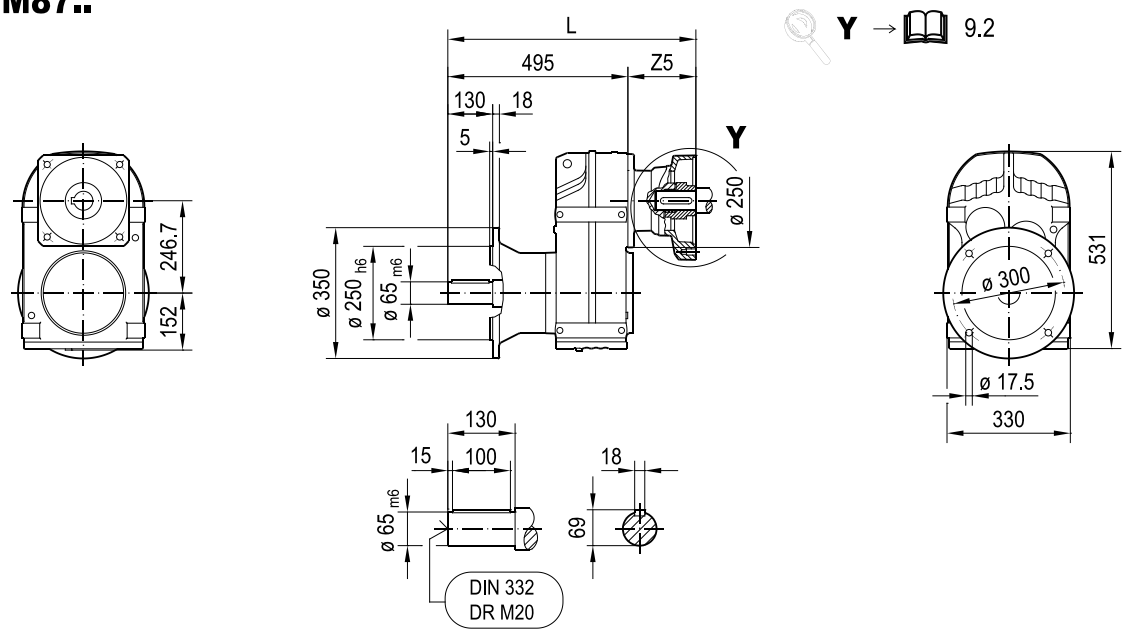


(→ 7.3.11)	AQS.										
	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	55	60.5	65	68	74	68	73	95.5	121	121	133
L	429	435	439	442	448	442	447	470	495	495	507

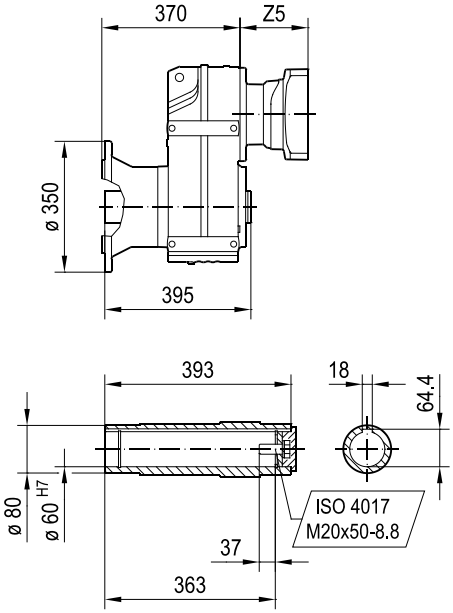
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42 044 00 21

FM87..



FAM87..

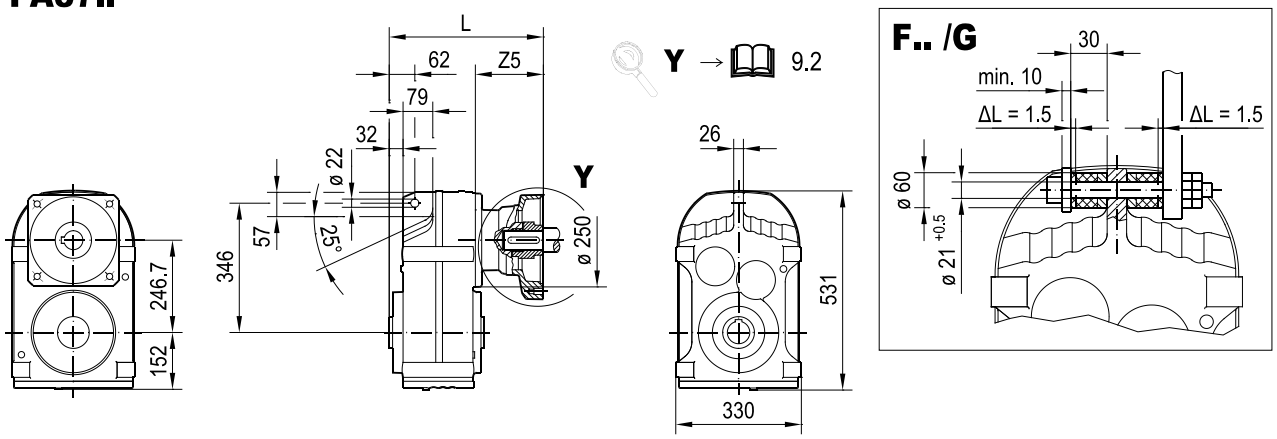


(→ 7.3.11)	AQS.										
	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	55	60.5	65	68	74	68	73	95.5	121	121	133
L	550	556	560	563	569	563	568	591	616	616	628

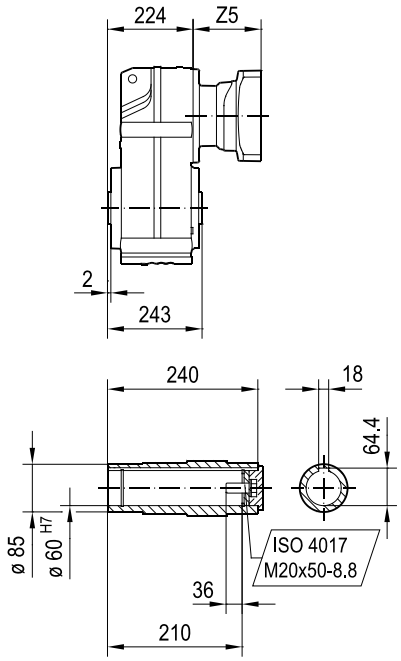
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FA87..

42 045 01 21

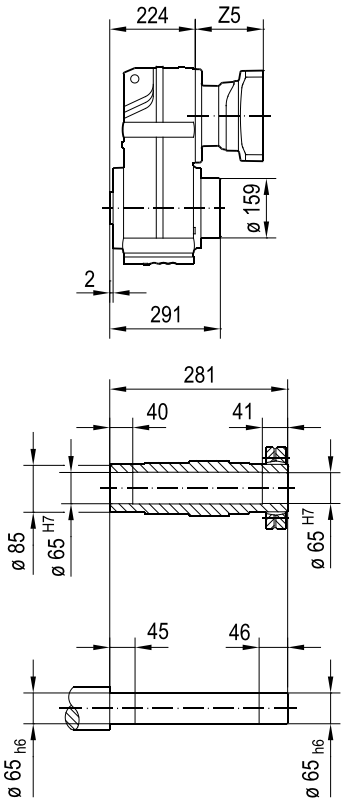


FA87..

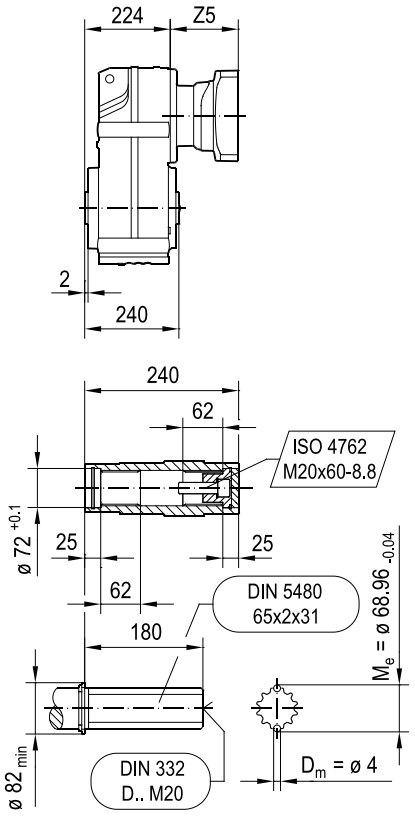


FH87..

FH87/R.. → 6.3



FV87..

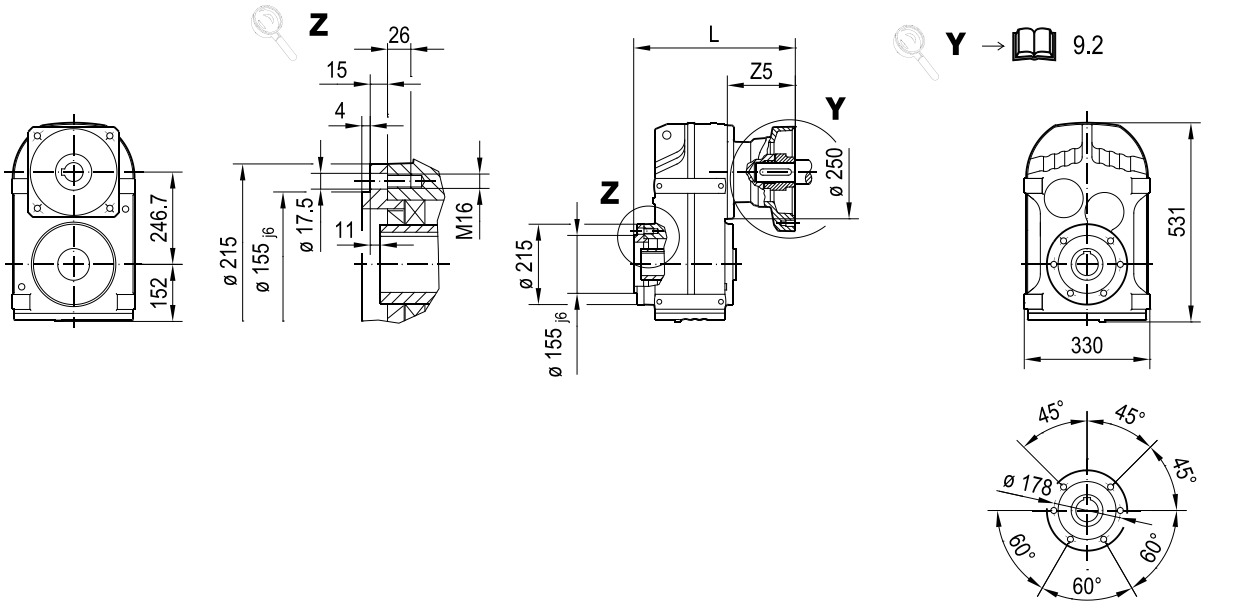


(→ 7.3.11)	AQS.										
	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	55	60.5	65	68	74	68	73	95.5	121	121	133
L	279	285	289	292	298	292	297	320	345	345	357

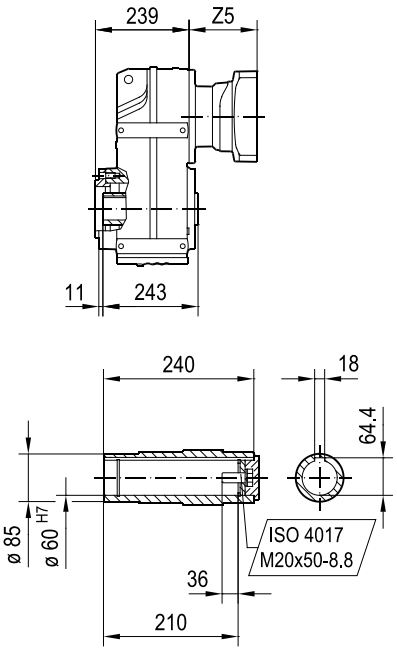
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FAZ87..

42 046 00 21

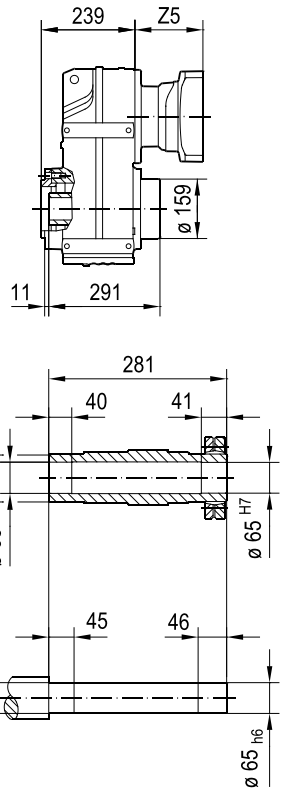


FAZ87..

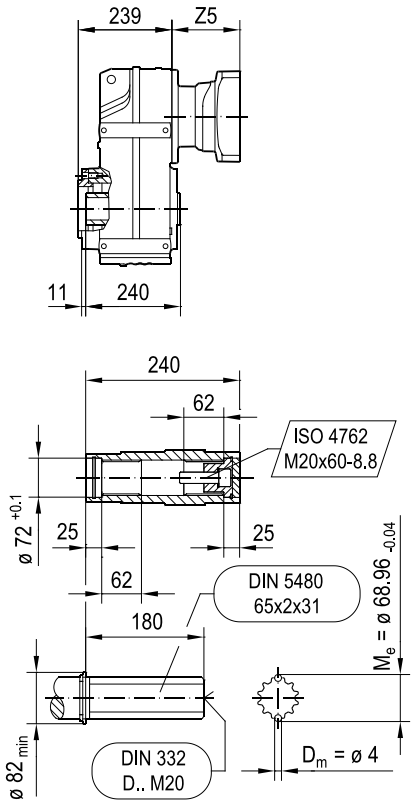


FHZ87..

FHZ87/R.. → 6.3



FVZ87..

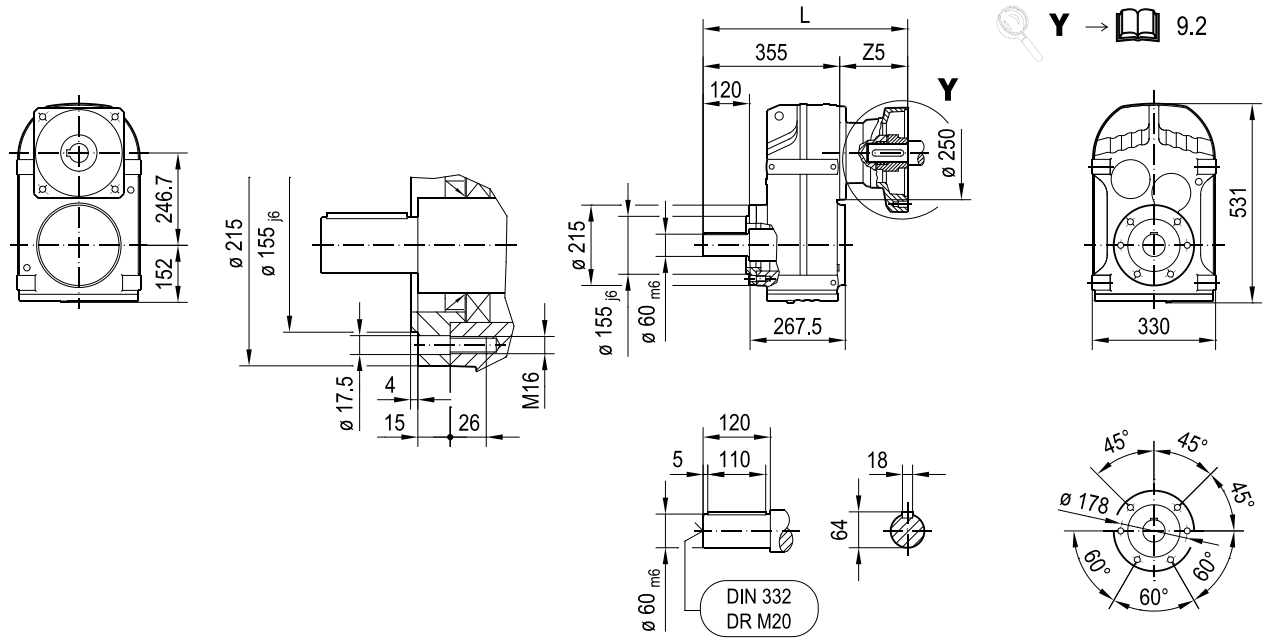


(→ 7.3.11)	AQS.										
	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	55	60.5	65	68	74	68	73	95.5	121	121	133
L	294	300	304	307	313	307	312	335	360	360	372

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FZ87..

42 047 01 21

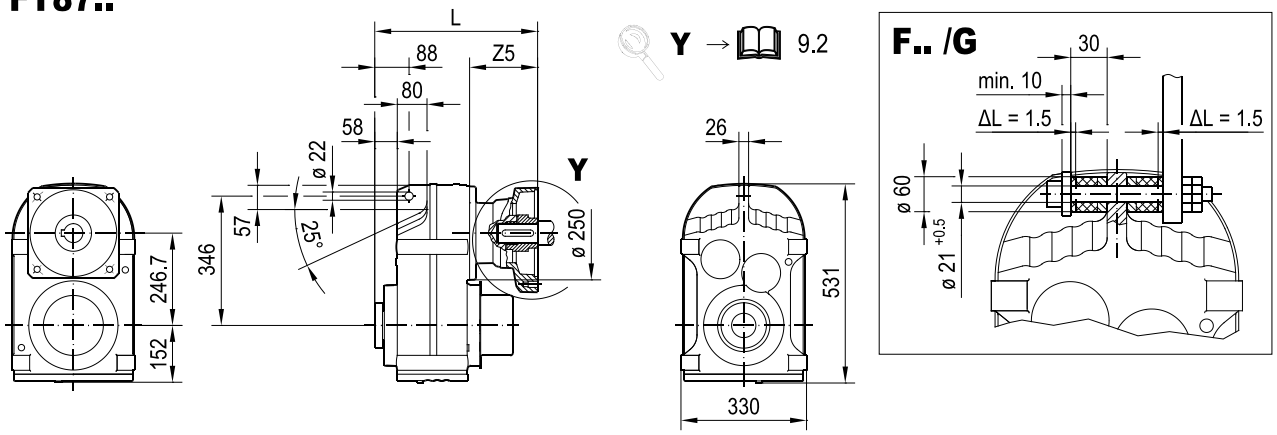


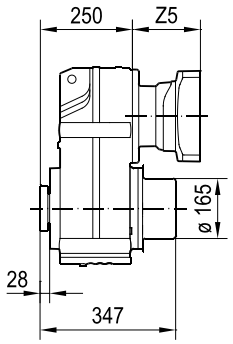
(→ 7.3.11)	AQS.										
	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	55	60.5	65	68	74	68	73	95.5	121	121	133
L	410	416	420	423	429	423	428	451	476	476	488

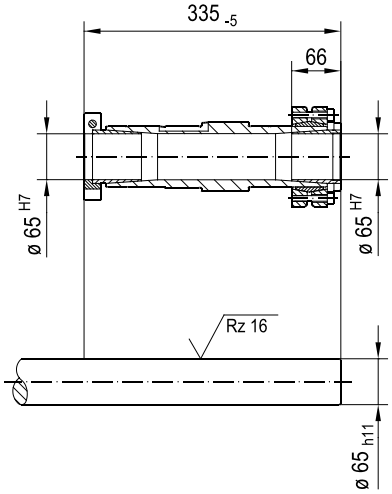
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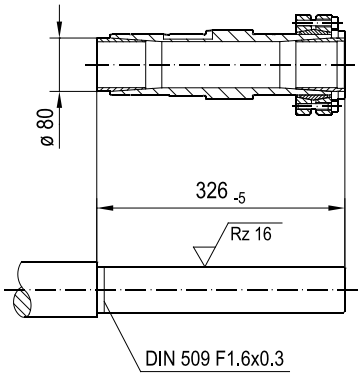
FT87..

42 048 02 21









(→ 📖 7.3.11)	AQS.										
	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	55	60.5	65	68	74	68	73	95.5	121	121	133
L	305	311	315	318	324	318	323	346	371	371	383

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9.1.8 F97 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$								
	i	140/1,3,5-6			160/1			190/1,3-6		
FA97 2	3.87							705	810	1010
	4.57	500	550	725	500	575	850	830	960	1200
	5.23	555	620	830	575	650	980	920	1110	1370
	6.17	595	710	980	675	740	1150	990	1310	1620
	7.07	625	795	1060	775	820	1320	1030	1500	1750
	8.22	660	890	1120	900	920	1530	1090	1640	1850
	9.06	680	950	1160	990	990	1680	1120	1680	1900
	11.16	1220	1340	1770	1220	1410	2070	2040	2360	2920
	12.77	1350	1510	2030	1400	1580	2380	2260	2700	3340
	15.06	1450	1740	2400	1650	1810	2810	2410	3190	3950
	17.25	1520	1940	2580	1900	2010	3230	2530	3660	4300
	20.07	1610	2180	2740	2210	2250	3760	2660	3990	4520
	22.11	1660	2340	2820	2410	2410	4100	2740	4110	4660
	24.92	1710	2530	2910	2610	2610	4440	2820	4230	4790
	27.44	1750	2630	2980	2770	2770	4710	2880	4320	4900
	30.39	1800	2700	3060	2990	3000	5080	2990	4360	5080
	33.91	1850	2780	3150	3060	3190	5200	3060	4360	5200
	36.64	1880	2820	3200	3070	3330	5220	3070	3330	5220
	43.28	1940	2910	3300	3070	3620	5220	3070	3620	5220
FA97 3	32.50	3390	3780	5110	3520	3950	5980	4300	4360	7310
	38.86	3680	4360	6120	4220	4360	7170	4300	4360	7310
	44.49	3860	4360	6560	4300	4360	7310	4300	4360	7310
	52.49	4130	4360	7020	4300	4360	7310	4300	4360	7310
	58.06	4270	4360	7260	4300	4360	7310	4300	4360	7310
	65.47	4300	4360	7310	4300	4360	7310	4300	4360	7310
	72.29	4300	4360	7310	4300	4360	7310	4300	4360	7310
	75.63	4300	4360	7310	4300	4360	7310	4300	4360	7310
	80.31	4300	4360	7310	4300	4360	7310	4300	4360	7310
	86.59	4300	4360	7310	4300	4360	7310	4300	4360	7310
	89.85	4300	4360	7310	4300	4360	7310	4300	4360	7310
	97.58	4300	4360	7310	4300	4360	7310	4300	4360	7310
	102.16	4300	4360	7310	4300	4360	7310	4300	4360	7310
	112.99	4300	4360	7310	4300	4360	7310	4300	4360	7310
	127.42	4300	4360	7310	4300	4360	7310	4300	4360	7310
	140.71	4300	4360	7310	4300	4360	7310	4300	4360	7310
	156.30	4300	4360	7310	4300	4360	7310	4300	4360	7310
	174.87	4300	4360	7310	4300	4360	7310	4300	4360	7310
	189.92	4300	4360	7310	4300	4360	7310	4300	4360	7310
	223.88	4300	4360	7310	4300	4360	7310	4300	4360	7310
	253.41	4300	4360	7310	4300	4360	7310			
	276.77	4300	4360	7310	4300	4360	7310			

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min^{-1}		AQS. n_{ak}		
	i	140/1,3,5-6	160/1	190/1,3-6
FA97 2	3.87			597
	4.57	389	787	381
	5.23	273	750	281
	6.17	230	710	229
	7.07	201	499	208
	8.22	170	324	172
	9.06	155	243	157
	11.16	159	322	152
	12.77	114	307	110
	15.06	96	291	95
	17.25	84	202	82
	20.07	70	131	70
	22.11	63	100	63
	24.92	57	77	56
	27.44	52	63	52
	30.39	48	46	46
	33.91	41	41	41
	36.64	38	42	42
	43.28	33	39	39
FA97 3	32.50	43	99	51
	38.86	36	54	51
	44.49	32	51	51
	52.49	27	51	51
	58.06	24	51	51
	65.47	25	51	51
	72.29	25	51	51
	75.63	52	52	52
	80.31	25	51	51
	86.59	52	52	52
	89.85	24	50	50
	97.58	23	46	46
	102.16	44	44	44
	112.99	40	40	40
	127.42	35	35	35
	140.71	32	32	32
	156.30	29	29	29
	174.87	26	26	26
	189.92	24	24	24
	223.88	20	20	20
	253.41	18	18	
	276.77	16	16	

FA97, m kg	AQS.		
s	140/1,3,5-6	160/1	190/1,3-6
2	160	160	165
3	165	170	170
FAF: + 22 kg / F: + 7.5 kg / FF: + 40 kg			

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F97, J_A / c_{TA}		AQS.		
		140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	8.1	22.0	22.0
c_{TA}	Nm/'	3.0	7.0	7.0

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F..97							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	FA	FAF	F	FF	FA	FAF	F	FF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
FA97 2	3.87	1800	2700	3060	470	266	10300	10300	9960	16500	40000	40000	33600	30600
	4.57	2050	3000	3480	346	193	10200	10200	9950	16800	40000	40000	32900	30300
	5.23	2150	3020	3650	333	153	10700	10700	10400	17400	40000	40000	32800	30300
	6.17	2250	3030	3820	326	116	11400	11400	11100	18300	40000	40000	32800	30200
	7.07	2360	3040	4010	304	92	11900	11900	11500	19000	40000	40000	32800	30200
	8.22	2360	3050	4010	336	72	13100	13100	12600	20300	40000	40000	32800	30200
	9.06	2360	3050	4010	353	61	13900	13900	13400	21100	40000	40000	32800	30200
	11.16	4100	4360	6970	150	104	9710	9710	10000	18700	40000	40000	29700	28200
	12.77	4300	4360	7310	141	85	10100	10100	10500	19400	40000	40000	29700	28200
	15.06	4300	4360	7310	157	67	11700	11700	11900	21100	40000	40000	29700	28200
	17.25	4300	4360	7310	161	55	13100	13100	13200	22500	40000	40000	29700	28200
	20.07	4300	4360	7310	154	45	14700	14700	14600	24100	40000	40000	29700	28200
	22.11	4300	4360	7310	151	39	15700	15700	15600	25200	40000	40000	29700	28200
	24.92	4300	4360	7310	147	33	17100	17100	16800	26600	40000	40000	29700	28200
	27.44	4300	4360	7310	145	28	18200	18200	17900	27800	40000	40000	29700	28200
	30.39	4300	4360	7310	142	22	19500	19500	19000	28300	40000	40000	29700	28200
	33.91	4300	4360	7310	133	19	20900	20900	20300	28300	40000	40000	29700	28200
	36.64	3070	4360	5210	123	17	27000	27000	25500	30200	40000	40000	29700	28200
	43.28	3070	4360	5210	104	13	29300	29300	27600	30200	40000	40000	29700	28200
FA97 3	32.50	4300	4360	7310	53	60	20300	20300	19800	28300	40000	40000	29700	28200
	38.86	4300	4360	7310	53	48	22700	22700	21900	28300	40000	40000	29700	28200
	44.49	4300	4360	7310	53	39	24500	24500	23600	28300	40000	40000	29700	28200
	52.49	4300	4360	7310	53	31	26900	26900	25800	28300	40000	40000	29700	28200
	58.06	4300	4360	7310	53	27	28500	28500	27200	28300	40000	40000	29700	28200
	65.47	4300	4360	7310	53	23	30400	30400	29000	28300	40000	40000	29700	28200
	72.29	4300	4360	7310	53	20	32000	32000	29900	28300	40000	40000	29700	28200
	75.63	4300	4360	7310	56	42	32800	32800	29900	28300	40000	40000	29700	28200
	80.31	4300	4360	7310	53	17	33800	33800	29900	28300	40000	40000	29700	28200
	86.59	4300	4360	7310	52	34	35100	35100	29900	28300	40000	40000	29700	28200
	89.85	4300	4360	7310	50	14	35700	35700	29900	28300	40000	40000	29700	28200
	97.58	4300	4360	7310	46	13	37200	37200	29900	28300	40000	40000	29700	28200
	102.16	4300	4360	7310	44	28	38100	38100	29900	28300	40000	40000	29700	28200
	112.99	4300	4360	7310	40	25	40000	40000	29900	28300	40000	40000	29700	28200
	127.42	4300	4360	7310	35	20	40000	40000	29900	28300	40000	40000	29700	28200
	140.71	4300	4360	7310	32	18	40000	40000	29900	28300	40000	40000	29700	28200
	156.30	4300	4360	7310	29	15	40000	40000	29900	28300	40000	40000	29700	28200
	174.87	4300	4360	7310	26	13	40000	40000	29900	28300	40000	40000	29700	28200
	189.92	4300	4360	7310	24	12	40000	40000	29900	28300	40000	40000	29700	28200
	223.88	4300	4360	7310	20	9.2	40000	40000	29900	28300	40000	40000	29700	28200
	253.41	4300	4360	7310	18	5.9	40000	40000	29900	28300	40000	40000	29700	28200
	276.77	4300	4360	7310	16	5.1	40000	40000	29900	28300	40000	40000	29700	28200

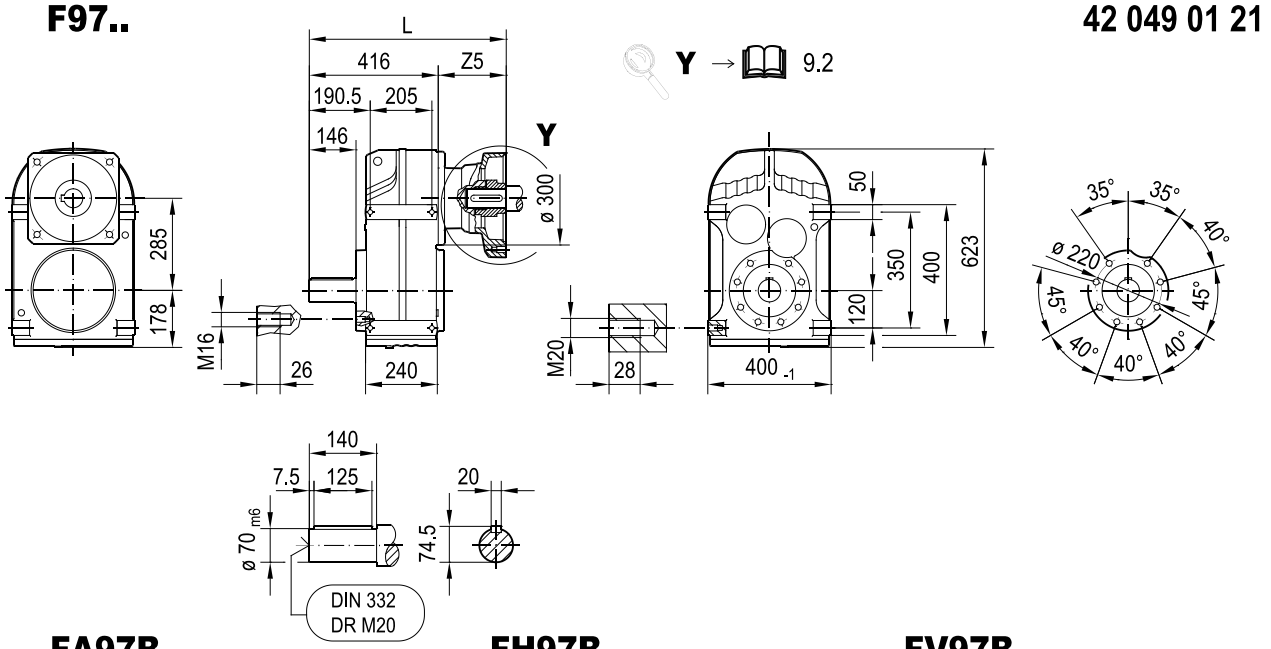
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F..97				c_{TG}				φ
	i	n_{epk} min^{-1}	η %	FA Nm/'	FAF Nm/'	F Nm/'	FF Nm/'	/R '
FA97 2	3.87	3197	97	627	627	324	283	9
	4.57	3597	97	627	627	324	283	9
	5.23	3924	97	627	627	324	283	9
	6.17	4378	97	627	627	324	283	9
	7.07	4500	97	627	627	324	283	9
	8.22	4500	97	627	627	324	283	8
	9.06	4500	97	627	627	324	283	9
	11.16	3597	97	873	873	380	325	6
	12.77	3924	97	873	873	380	325	6
	15.06	4378	97	873	873	380	325	6
	17.25	4500	97	873	873	380	325	6
	20.07	4500	97	873	873	380	325	6
	22.11	4500	97	873	873	380	325	6
	24.92	4500	97	873	873	380	325	6
	27.44	4500	97	873	873	380	325	6
	30.39	4500	97	873	873	380	325	6
	33.91	4500	97	873	873	380	325	6
	36.64	4500	97	873	873	380	325	6
	43.28	4500	97	873	873	380	325	6
FA97 3	32.50	3924	96	956	956	395	336	6
	38.86	4378	96	956	956	395	336	6
	44.49	4500	96	956	956	395	336	6
	52.49	4500	96	956	956	395	336	6
	58.06	4500	96	956	956	395	336	6
	65.47	4500	96	956	956	395	336	6
	72.29	4500	96	956	956	395	336	6
	75.63	4378	95	965	965	396	337	6
	80.31	4500	95	956	956	395	336	6
	86.59	4500	95	965	965	396	337	6
	89.85	4500	95	956	956	395	336	6
	97.58	4500	95	956	956	395	336	6
	102.16	4500	95	965	965	396	337	6
	112.99	4500	95	965	965	396	337	6
	127.42	4500	95	965	965	396	337	6
	140.71	4500	95	965	965	396	337	6
	156.30	4500	95	965	965	396	337	6
	174.87	4500	94	965	965	396	337	6
	189.92	4500	94	965	965	396	337	6
	223.88	4500	94	965	965	396	337	6
	253.41	4500	93	965	965	396	337	6
	276.77	4500	93	965	965	396	337	6

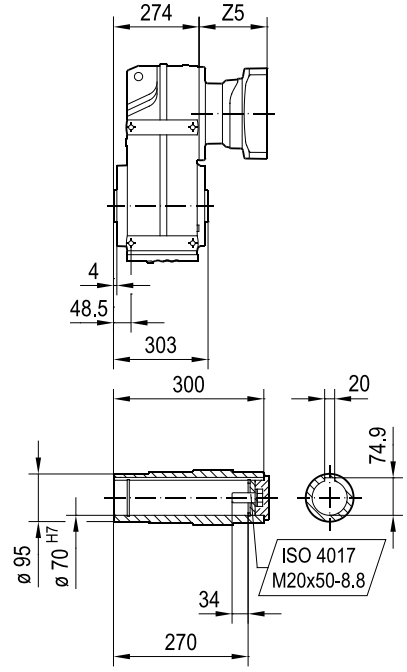
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F97..

42 049 01 21

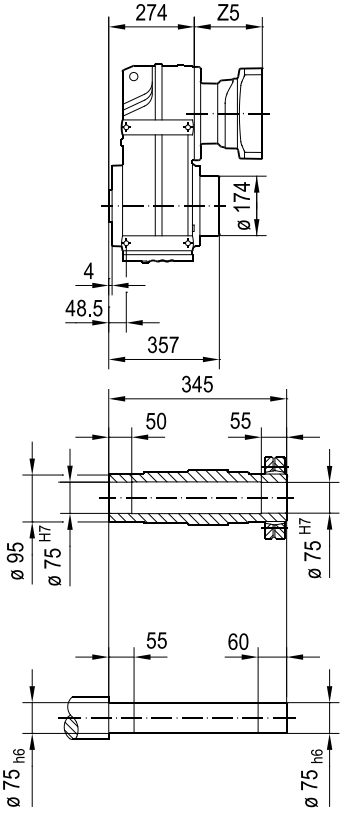


FA97B..

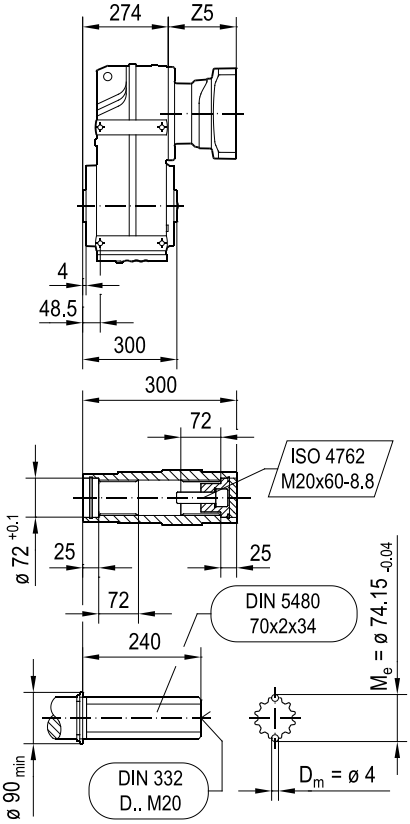


FH97B..

FH97B/R.. → 6.3



FV97B..

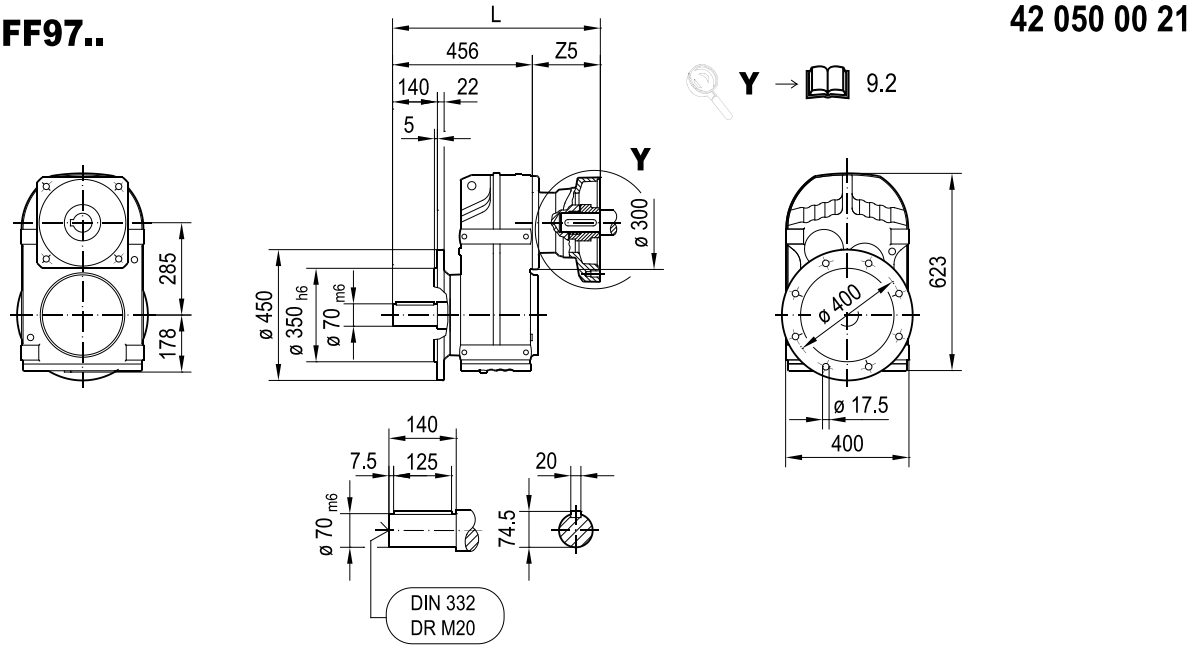


(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	90.5	116	116	128				
L	507	532	532	544				

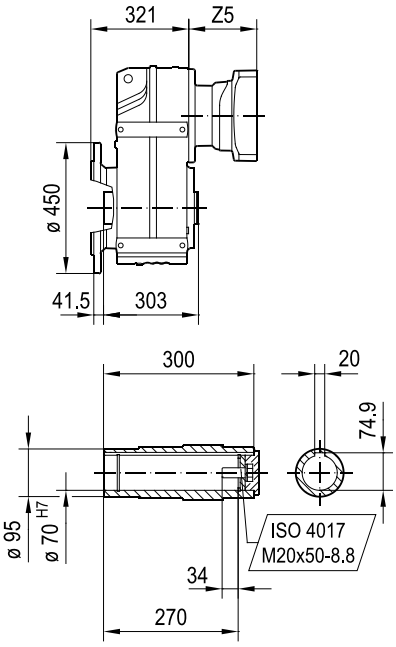
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FF97..

42 050 00 21

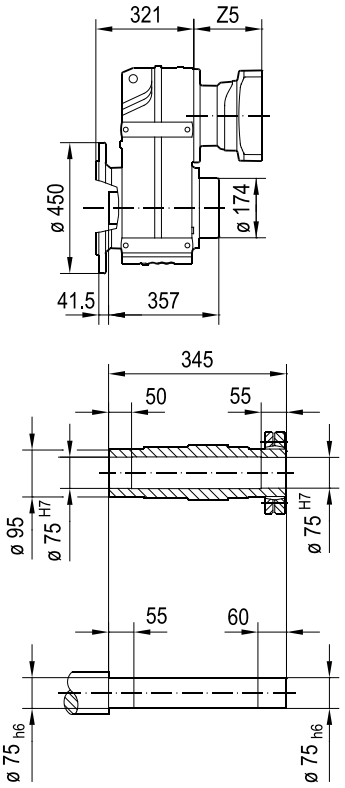


FAF97..

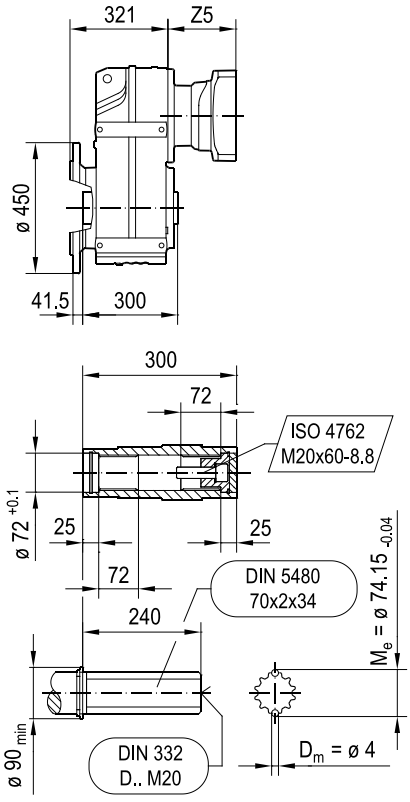


FHF97..

FHF97/R.. → 6.3



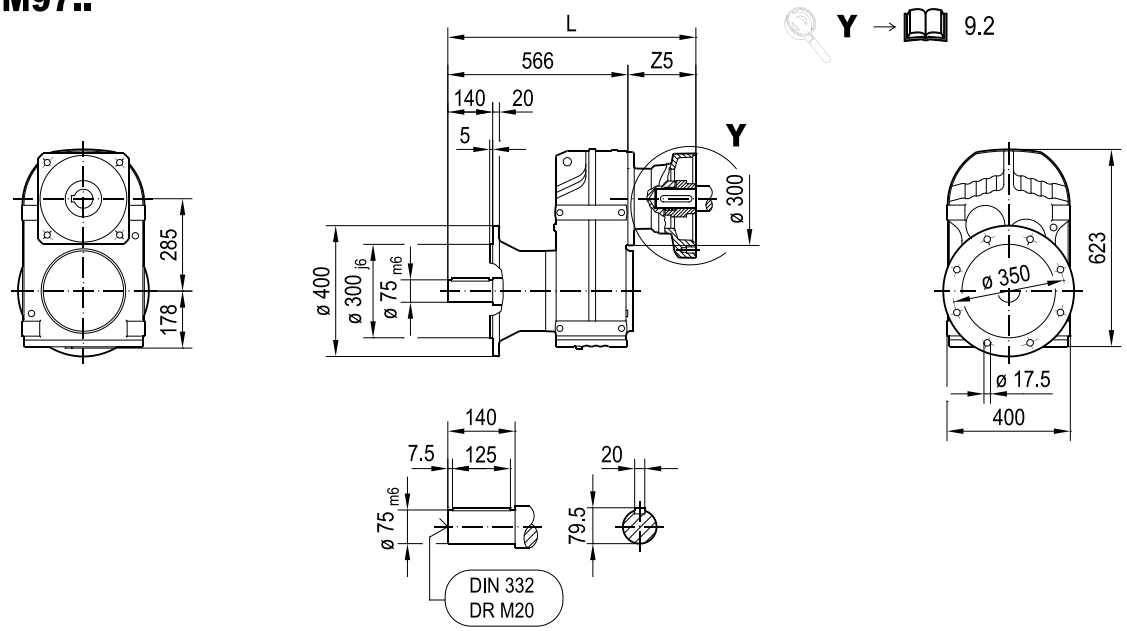
FVF97..



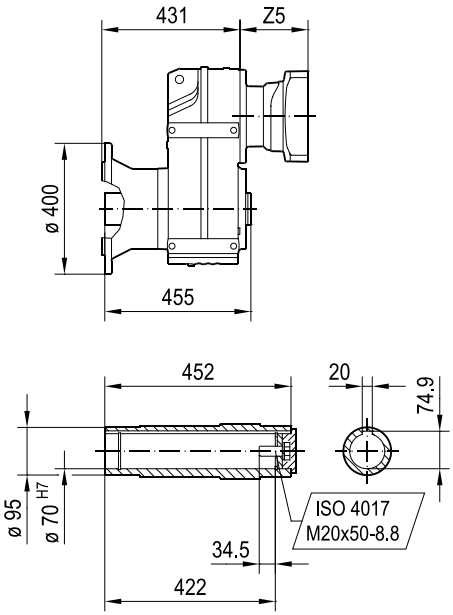
(→ 📖 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	90.5	116	116	128				
L	547	572	572	584				

42 051 00 21

FM97..



FAM97..

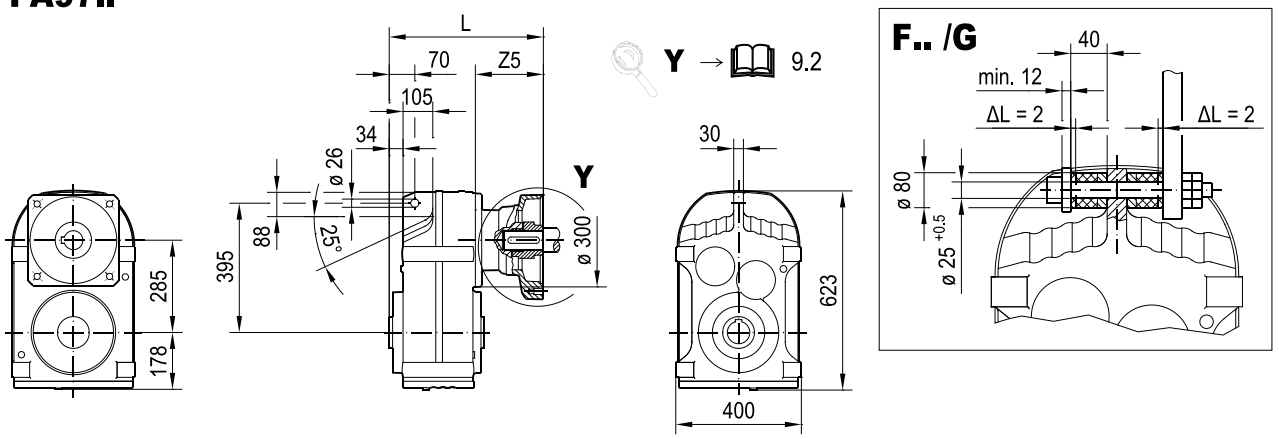


(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	90.5	116	116	128				
L	657	682	682	694				

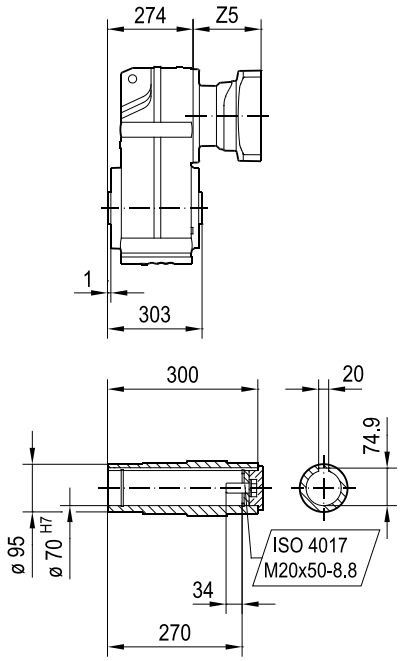
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FA97..

42 052 01 21

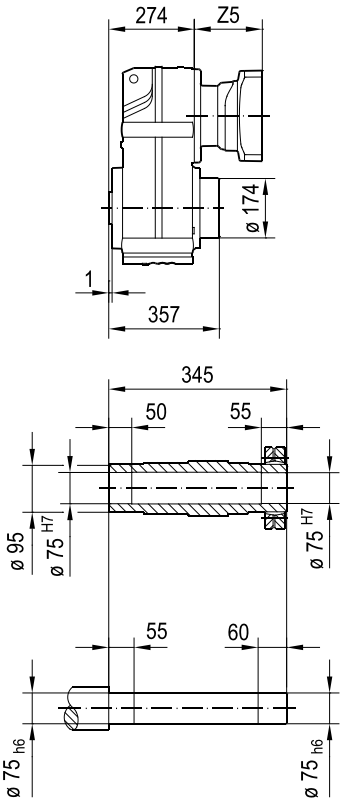


FA97..

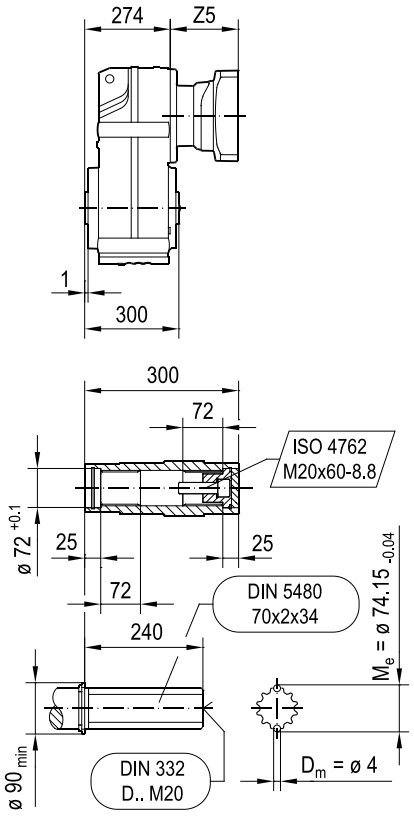


FH97..

FH97B/R.. → 6.3



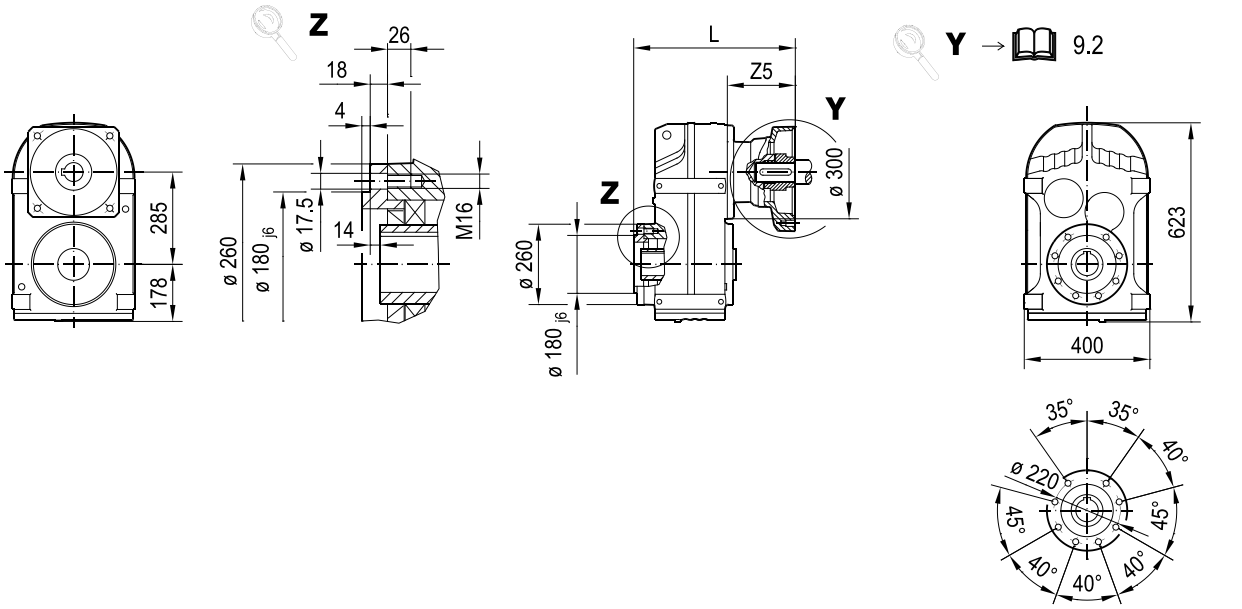
FV97..



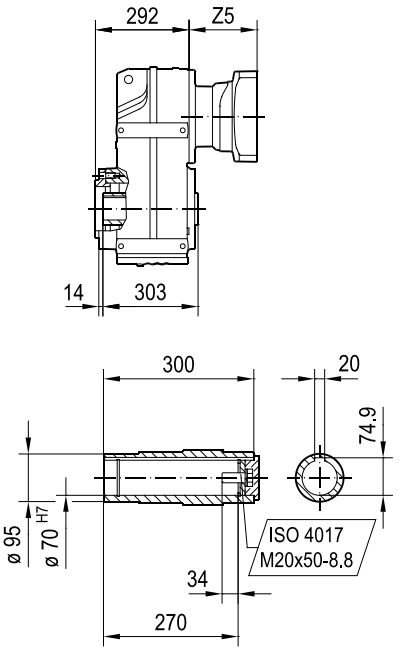
(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	90.5	116	116	128				
L	365	390	390	402				

FAZ97..

42 053 00 21

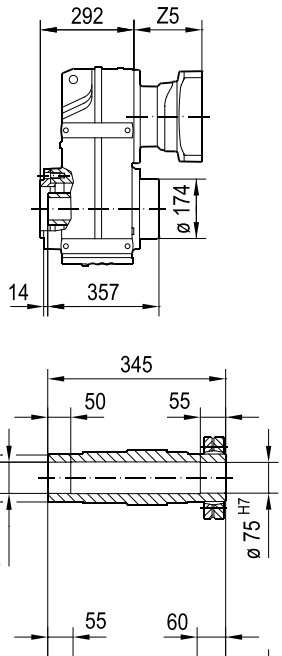


FAZ97..

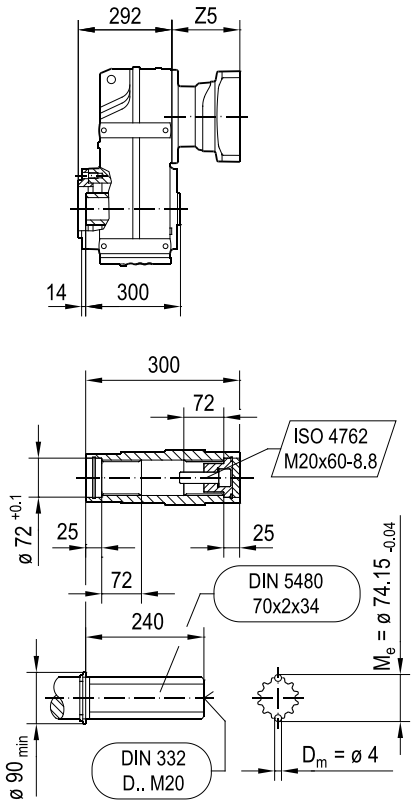


FHZ97..

FHZ97/R.. → 6.3



FVZ97..

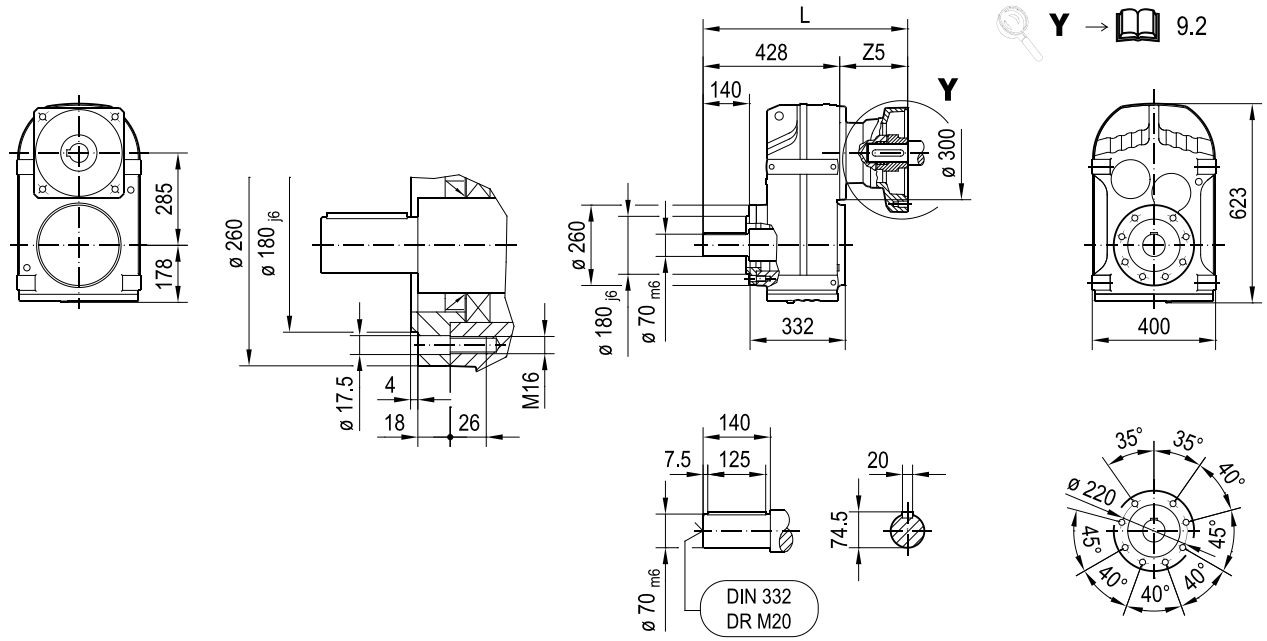


(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	90.5	116	116	128				
L	383	408	408	420				

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FZ97..

42 054 01 21

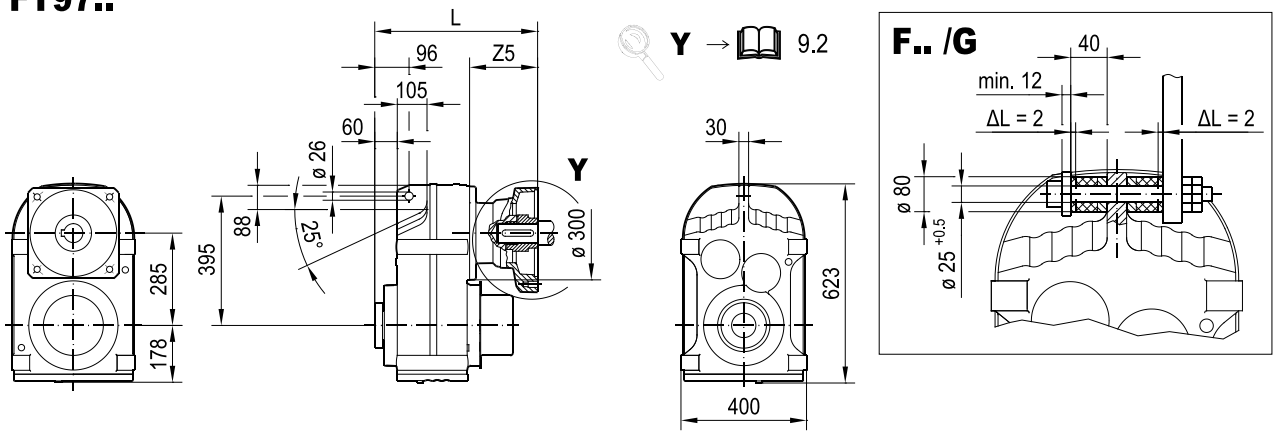


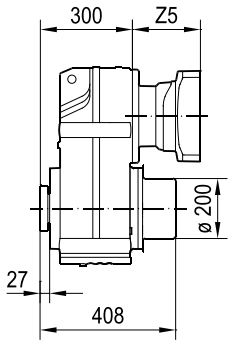
(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	90.5	116	116	128				
L	519	544	544	556				

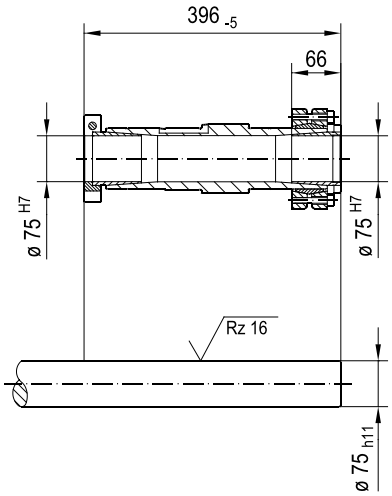
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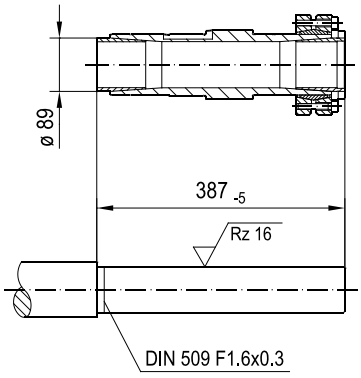
FT97..

42 055 02 21









(→ 📖 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	90.5	116	116	128				
L	391	416	416	428				

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9.1.9 F107 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$								
	i	140/1,3,5-6			160/1			190/1,3-6		
FA107 2	5.03									
	6.22							1130	1310	1620
	7.40	800	880	1170	800	930	1360	1350	1560	1930
	8.37	890	990	1330	910	1040	1550	1470	1770	2180
	9.69	930	1120	1540	1060	1170	1800	1550	2050	2530
	9.96									
	12.33							2240	2590	3200
	14.67	1590	1750	2320	1590	1840	2700	2670	3090	3820
	16.58	1760	1980	2630	1810	2070	3080	2920	3500	4330
	19.20	1860	2230	3050	2100	2330	3570	3070	4060	5020
	21.76	1930	2460	3280	2390	2560	4060	3180	4610	5410
	25.14	2020	2750	3430	2760	2850	4690	3320	4980	5640
	27.57	2070	2940	3520	3030	3040	5150	3400	5100	5780
	33.79	2170	3260	3690	3470	3470	5900	3590	5390	6100
FA107 3	31.80							5720	6610	8170
	37.61	4040	4440	5870	4040	4680	6870	6780	7840	9680
	43.03	4570	5100	6730	4640	5370	7890	7670	8860	11100
	50.73	4910	5910	7960	5490	6170	9330	7680	8860	13100
	58.12	5150	6610	8760	6300	6880	10700	7680	8860	13100
	67.62	5430	7450	9230	7350	7730	12500	7680	8860	13100
	74.52	5600	8020	9520	7680	8300	13100	7680	8860	13100
	83.99	5780	8670	9830	7680	8860	13100	7680	8860	13100
	88.49	7680	8860	13100	7680	8860	13100	7680	8860	13100
	92.47	5930	8860	10100	7680	8860	13100	7680	8860	13100
	101.38	7680	8860	13100	7680	8860	13100	7680	8860	13100
	117.94	7680	8860	13100	7680	8860	13100	7680	8860	13100
	129.97	7680	8860	13100	7680	8860	13100	7680	8860	13100
	146.49	7680	8860	13100	7680	8860	13100	7680	8860	13100
	161.28	7680	8860	13100	7680	8860	13100	7680	8860	13100
	178.64	7680	8860	13100	7680	8860	13100	7680	8860	13100
	199.31	7680	8860	13100	7680	8860	13100	7680	8860	13100
	215.37	7680	8860	13100	7680	8860	13100	7680	8860	13100
	254.40	7680	8860	13100	7680	8860	13100	7680	8860	13100

min^{-1}		AQS. n_{ak}		
	i	140/1,3,5-6	160/1	190/1,3-6
FA107 2	5.03			
	6.22			367
	7.40	247	486	228
	8.37	170	469	173
	9.69	153	452	146
	9.96			
	12.33			185
	14.67	124	245	116
	16.58	86	237	86
	19.20	73	228	73
	21.76	65	161	65
	25.14	56	105	56
	27.57	52	79	51
	33.79	41	49	42

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min^{-1}		AQS. n_{ak}		
	i	140/1,3,5-6	160/1	190/1,3-6
FA107  3	31.80			75
	37.61	49	96	48
	43.03	33	91	33
	50.73	28	86	35
	58.12	24	62	35
	67.62	21	40	35
	74.52	19	35	35
	83.99	17	34	34
	88.49	24	49	49
	92.47	15	33	33
	101.38	24	44	44
	117.94	24	38	38
	129.97	23	35	35
	146.49	23	31	31
	161.28	22	28	28
	178.64	23	25	25
	199.31	22	23	23
	215.37	21	21	21
	254.40	18	18	18

FA107, m kg	AQS.		
s	140/1,3,5-6	160/1	190/1,3-6
 2	230	235	240
 3	240	245	250
FAF: + 21 kg / F: + 17 kg / FF: + 44 kg			

F107, J_A / c_{TA}		AQS.		
		140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	8.1	22.0	22.0
c_{TA}	Nm/'	3.0	7.0	7.0

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F..107							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	FA	FAF	F	FF	FA	FAF	F	FF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
FA107 2	5.03[1)]	4600	6240	7820	392	439	4520	39000	16400	19200	65000	65000	52500	55300
	6.22	4600	6240	7820	394	311	6920	42600	19000	22200	65000	65000	52500	55300
	7.40	4600	6240	7820	393	236	8400	45800	21300	24800	65000	65000	52500	55300
	8.37	4800	6240	8160	351	195	8720	47400	22000	25600	65000	65000	52500	55300
	9.69	4910	6240	8340	331	154	9670	50000	23500	27300	65000	65000	52500	55300
	9.96[1)]	6500	8860	11000	173	280	6200	47000	21500	25300	64500	65000	46500	45600
	12.33	7000	8860	11900	137	209	6580	49800	22600	26600	64500	65000	46500	45600
	14.67	7680	8860	13000	102	164	6050	51500	22400	26500	64500	65000	46500	45600
	16.58	7840	8860	13300	95	138	6870	53800	23900	28200	64500	65000	46500	45600
	19.20	7840	8860	13300	95	112	8600	57400	26500	31200	64500	65000	46500	45600
	21.76	7840	8860	13300	93	92	10100	60600	28800	33800	64500	65000	46500	45600
	25.14	7840	8860	13300	91	76	12000	64500	31500	36800	64500	65000	46500	45600
	27.57	7840	8860	13300	90	66	13200	65000	33300	38800	64500	65000	46500	45600
	33.79	7400	8860	12500	106	43	17700	65000	38300	44900	64500	65000	46500	45600
FA107 3	31.80	7680	8860	13000	70	125	15800	65000	36500	42700	64500	65000	46500	45600
	37.61	7680	8860	13000	75	94	18300	65000	39500	46300	64500	65000	46500	45600
	43.03	7680	8860	13000	79	77	20300	65000	42000	49000	64500	65000	46500	45600
	50.73	7680	8860	13000	85	62	23000	65000	45100	51100	64500	65000	46500	45600
	58.12	7680	8860	13000	77	51	25300	65000	47800	51100	64500	65000	46500	45600
	67.62	7680	8860	13000	67	42	28000	65000	49800	51100	64500	65000	46500	45600
	74.52	7680	8860	13000	60	37	29900	65000	49800	51100	64500	65000	46500	45600
	83.99	7680	8860	13000	54	31	32200	65000	49800	51100	64500	65000	46500	45600
	88.49	7680	8860	13000	49	56	33200	65000	49800	51100	64500	65000	46500	45600
	92.47	7680	8860	13000	49	27	34100	65000	49800	51100	64500	65000	46500	45600
	101.38	7680	8860	13000	44	47	36000	65000	49800	51100	64500	65000	46500	45600
	117.94	7680	8860	13000	38	39	39300	65000	49800	51100	64500	65000	46500	45600
	129.97	7680	8860	13000	35	34	41400	65000	49800	51100	64500	65000	46500	45600
	146.49	7680	8860	13000	31	29	44200	65000	49800	51100	64500	65000	46500	45600
	161.28	7680	8860	13000	28	25	46600	65000	49800	51100	64500	65000	46500	45600
	178.64	7680	8860	13000	25	19	49100	65000	49800	51100	64500	65000	46500	45600
	199.31	7680	8860	13000	23	16	52000	65000	49800	51100	64500	65000	46500	45600
	215.37	7680	8860	13000	21	15	54000	65000	49800	51100	64500	65000	46500	45600
	254.40	7680	8860	13000	18	12	58600	65000	49800	51100	64500	65000	46500	45600

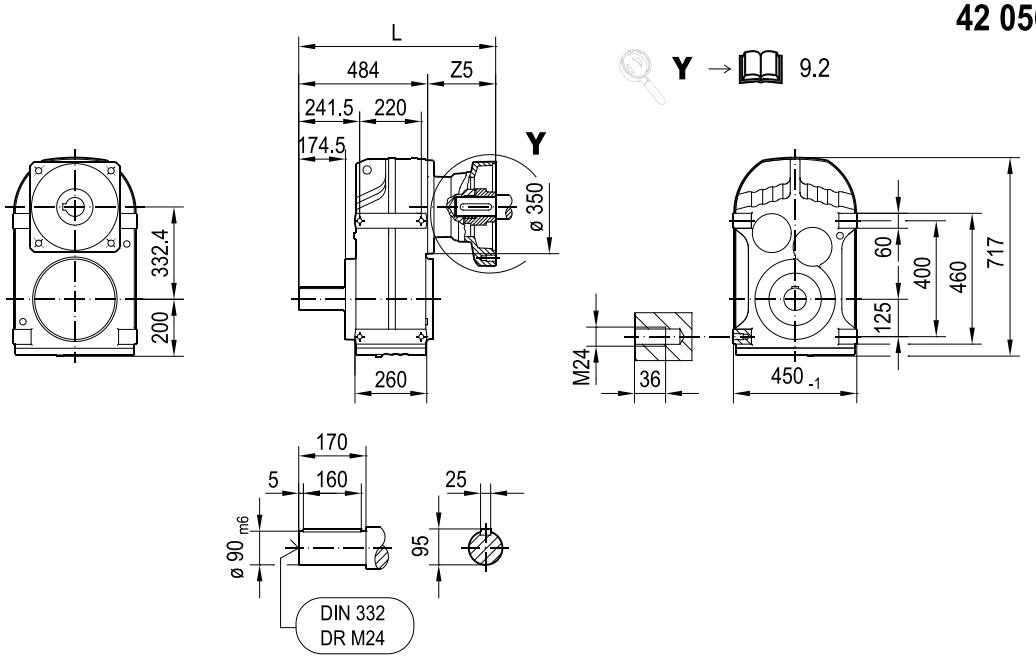
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F..107				c_{TG}				φ
		n_{epk}	η	FA	FAF	F	FF	/R
	i	min^{-1}	%	Nm/'	Nm/'	Nm/'	Nm/'	'
FA107 2	5.03	2797	97	1359	1359	722	666	7
	6.22	3197	97	1359	1359	722	666	7
	7.40	3597	97	1359	1359	722	666	7
	8.37	3924	97	1359	1359	722	666	7
	9.69	4378	97	1359	1359	722	666	7
	9.96	2797	97	1612	1612	788	722	5
	12.33	3197	97	1612	1612	788	722	5
	14.67	3597	97	1612	1612	788	722	5
	16.58	3924	97	1612	1612	788	722	5
	19.20	4378	97	1612	1612	788	722	5
	21.76	4500	97	1612	1612	788	722	5
	25.14	4500	97	1612	1612	788	722	5
	27.57	4500	97	1612	1612	788	722	5
	33.79	4500	97	1612	1612	788	722	5
FA107 3	31.80	3197	95	1806	1806	832	758	6
	37.61	3597	95	1806	1806	832	758	6
	43.03	3924	95	1806	1806	832	758	6
	50.73	4378	95	1806	1806	832	758	6
	58.12	4500	96	1806	1806	832	758	6
	67.62	4500	96	1806	1806	832	758	6
	74.52	4500	96	1806	1806	832	758	6
	83.99	4500	96	1806	1806	832	758	6
	88.49	4378	95	1823	1823	836	761	5
	92.47	4500	96	1806	1806	832	758	6
	101.38	4500	95	1823	1823	836	761	5
	117.94	4500	95	1823	1823	836	761	5
	129.97	4500	95	1823	1823	836	761	5
	146.49	4500	95	1823	1823	836	761	5
	161.28	4500	95	1823	1823	836	761	5
	178.64	4500	95	1823	1823	836	761	5
	199.31	4500	95	1823	1823	836	761	5
	215.37	4500	94	1823	1823	836	761	5
	254.40	4500	94	1823	1823	836	761	5

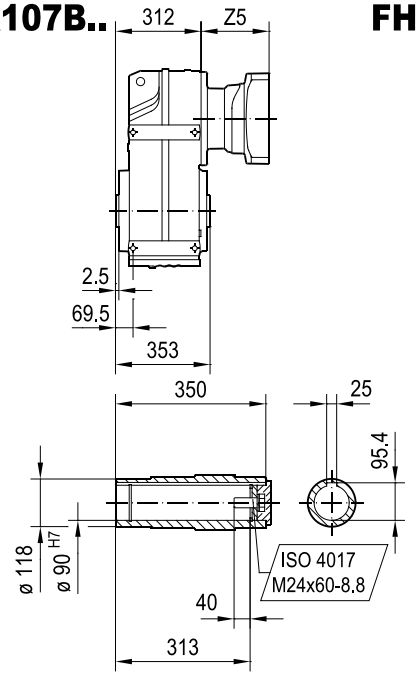
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F107..

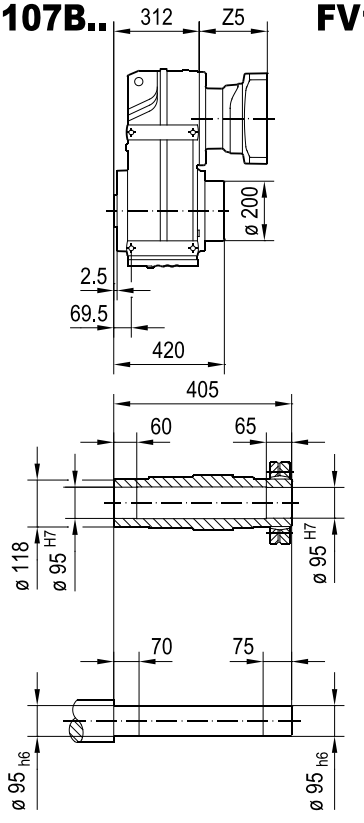
42 056 01 21



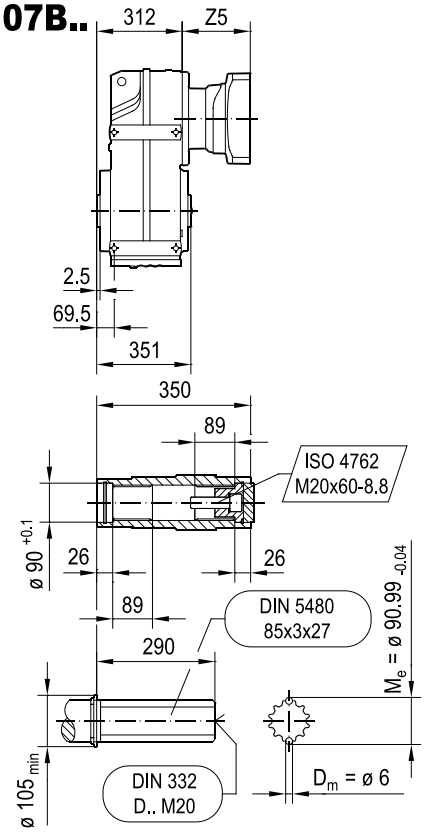
FA107B..



FH107B..



FV107B..

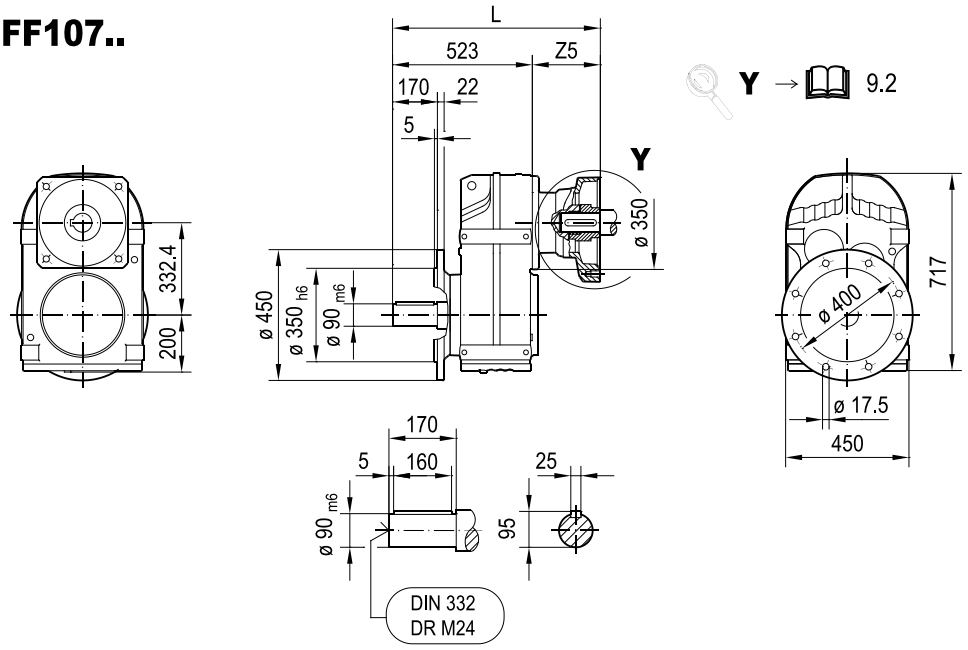


(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	84.5	110	110	122				
L	569	594	594	606				

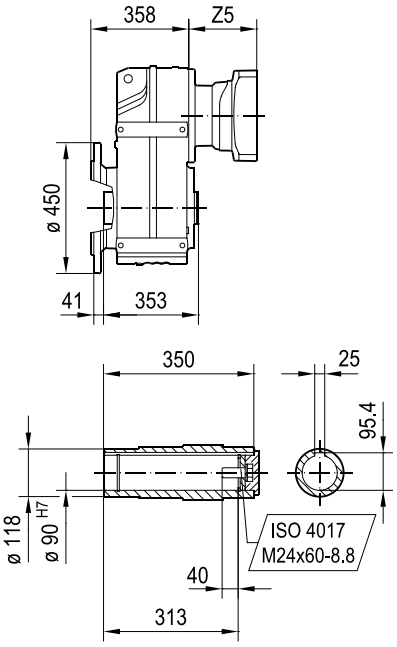
27788644/EN – 02/2024

FF107..

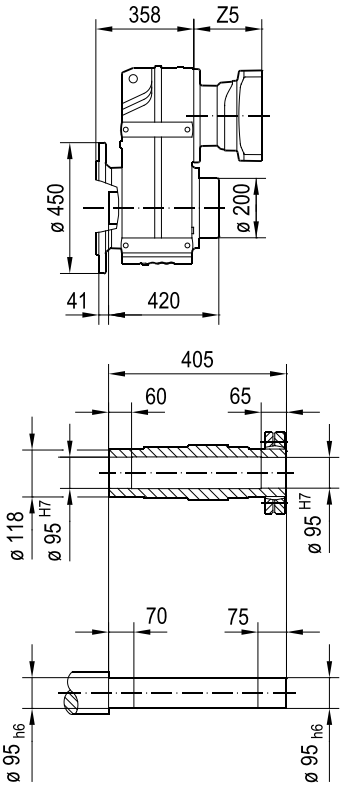
42 057 00 21



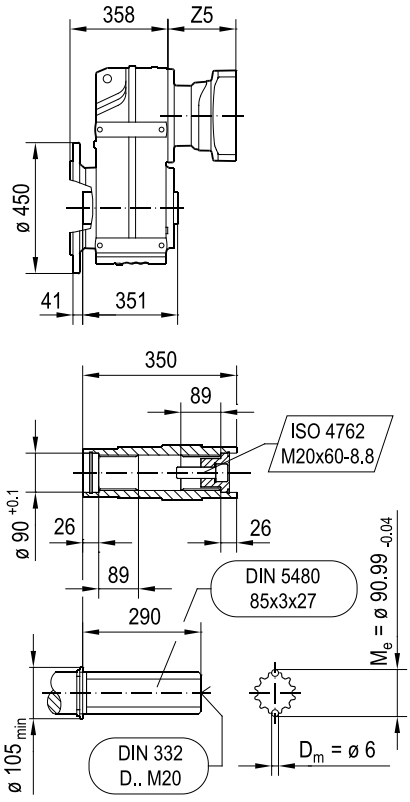
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FHF107..



FVF107..

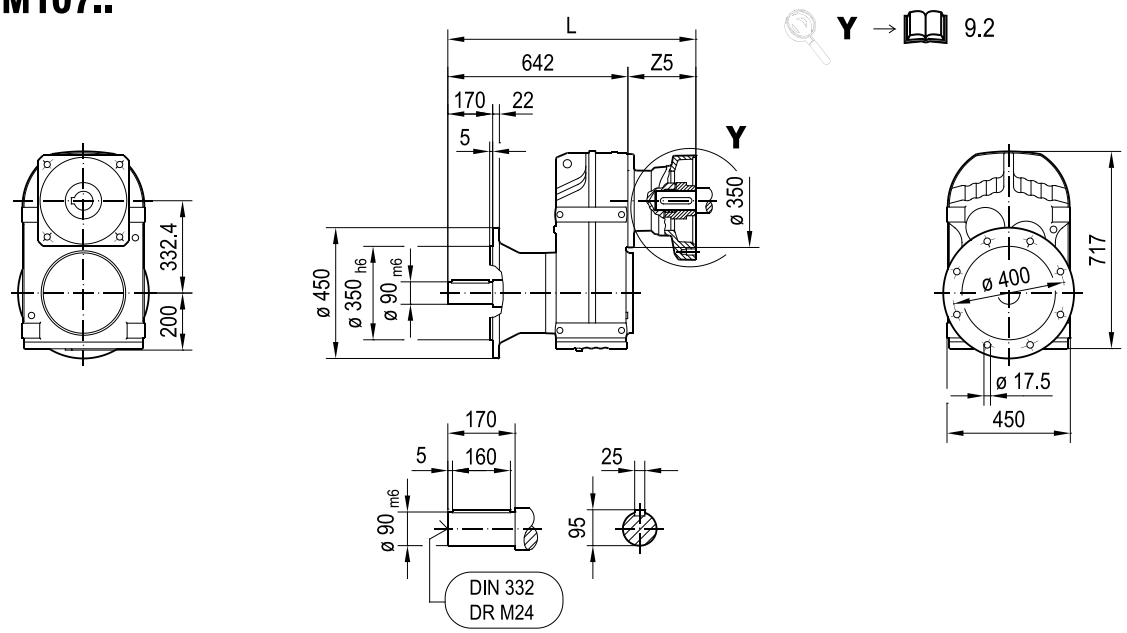


(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	84.5	110	110	122				
L	608	633	633	645				

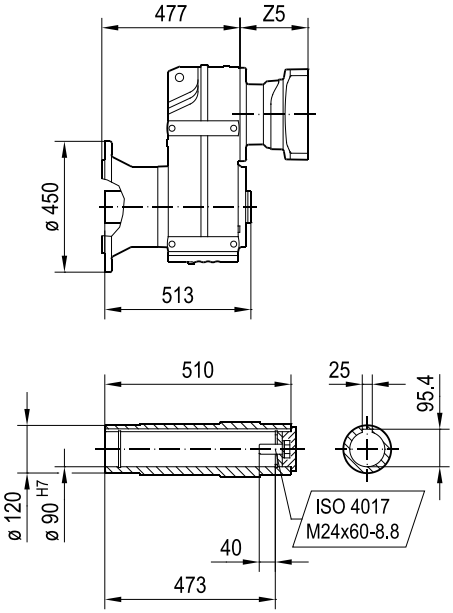
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42 058 00 21

FM107..



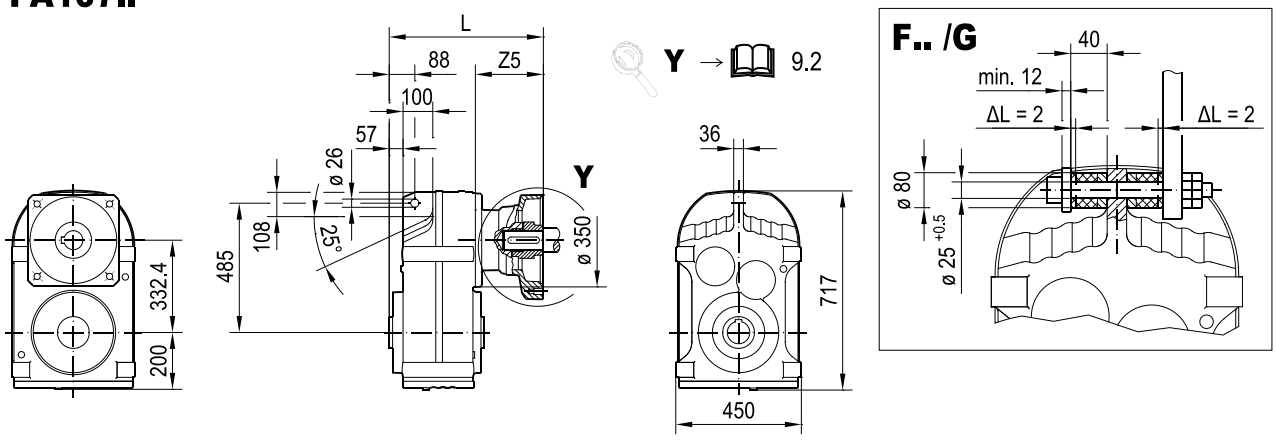
FAM107..



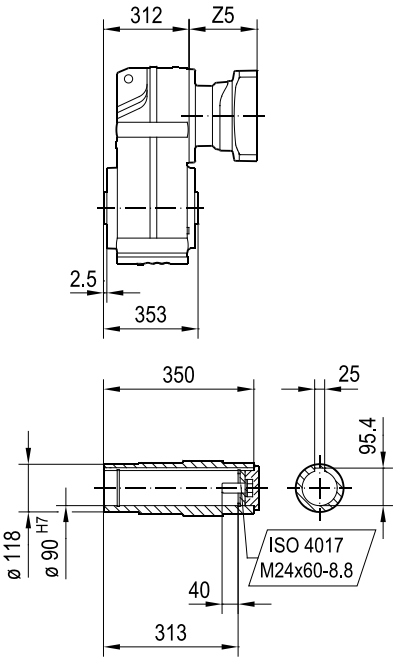
(→ 📖 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	84.5	110	110	122				
L	727	752	752	764				

FA107..

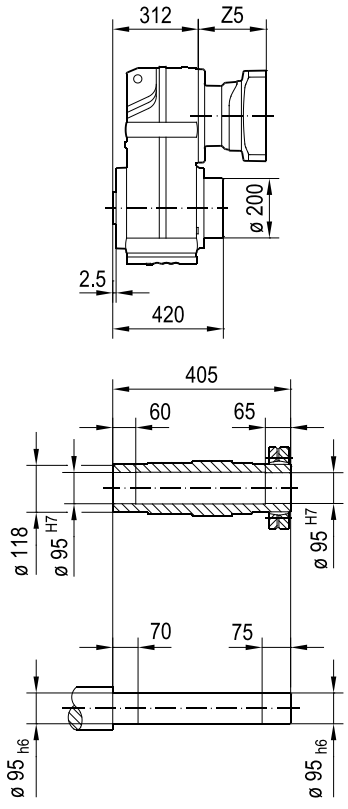
42 059 01 21



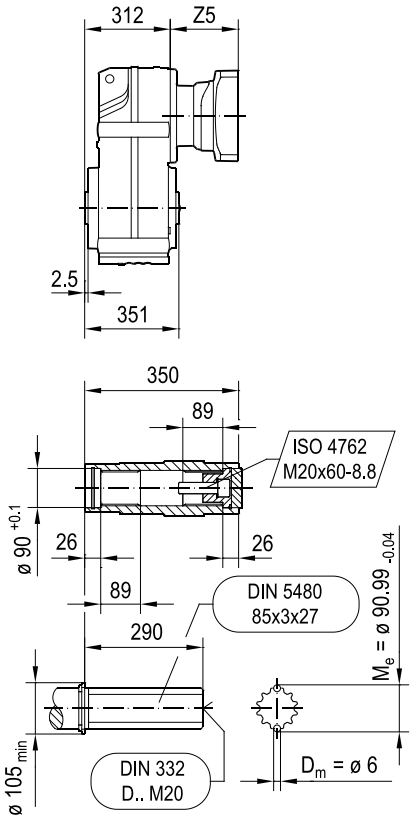
FA107..



FH107..



FV107..

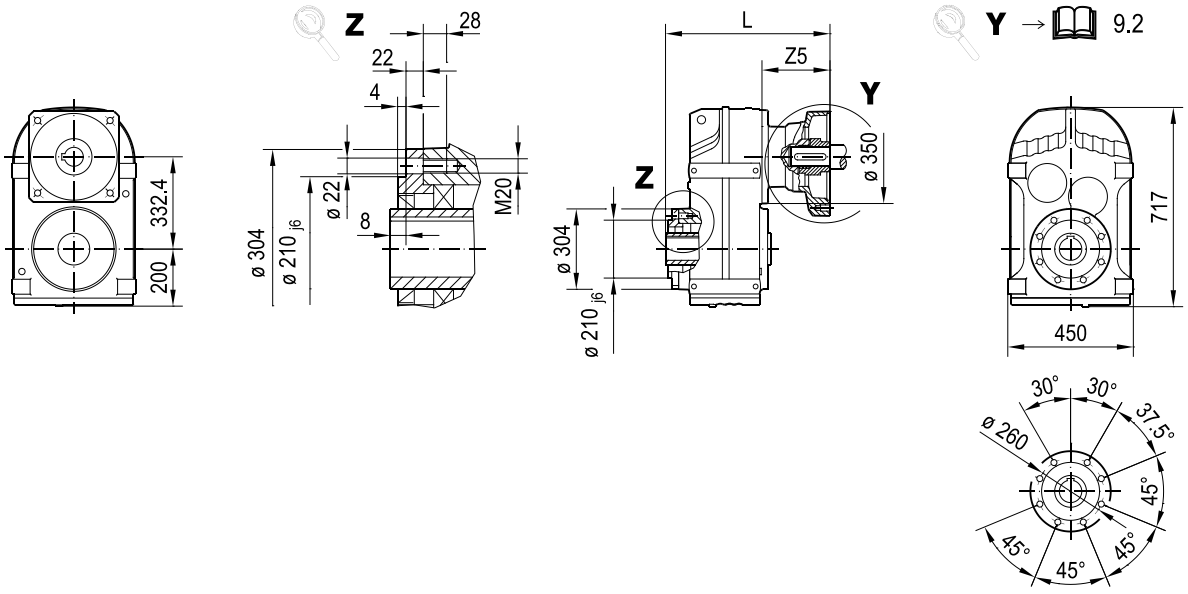


(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	84.5	110	110	122				
L	397	422	422	434				

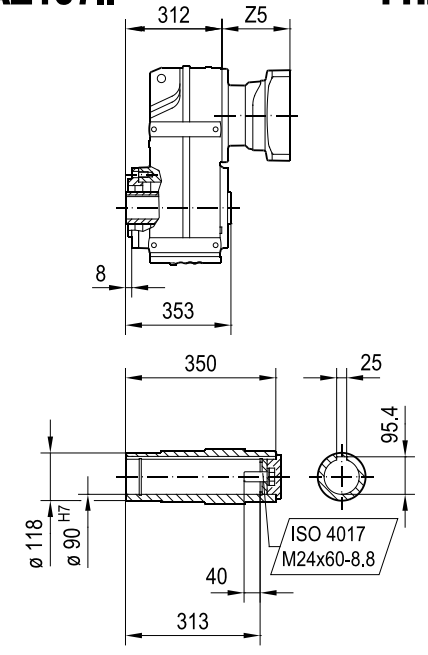
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FAZ107..

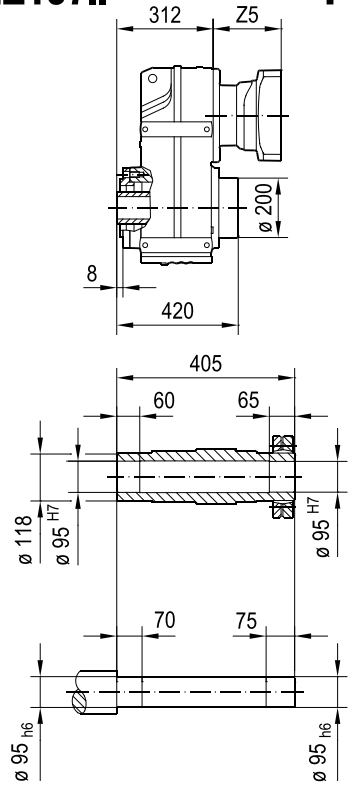
42 060 00 21



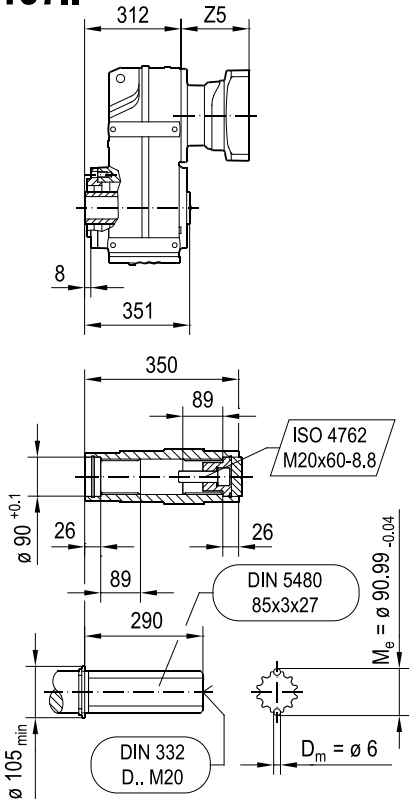
FAZ107..



FHZ107..



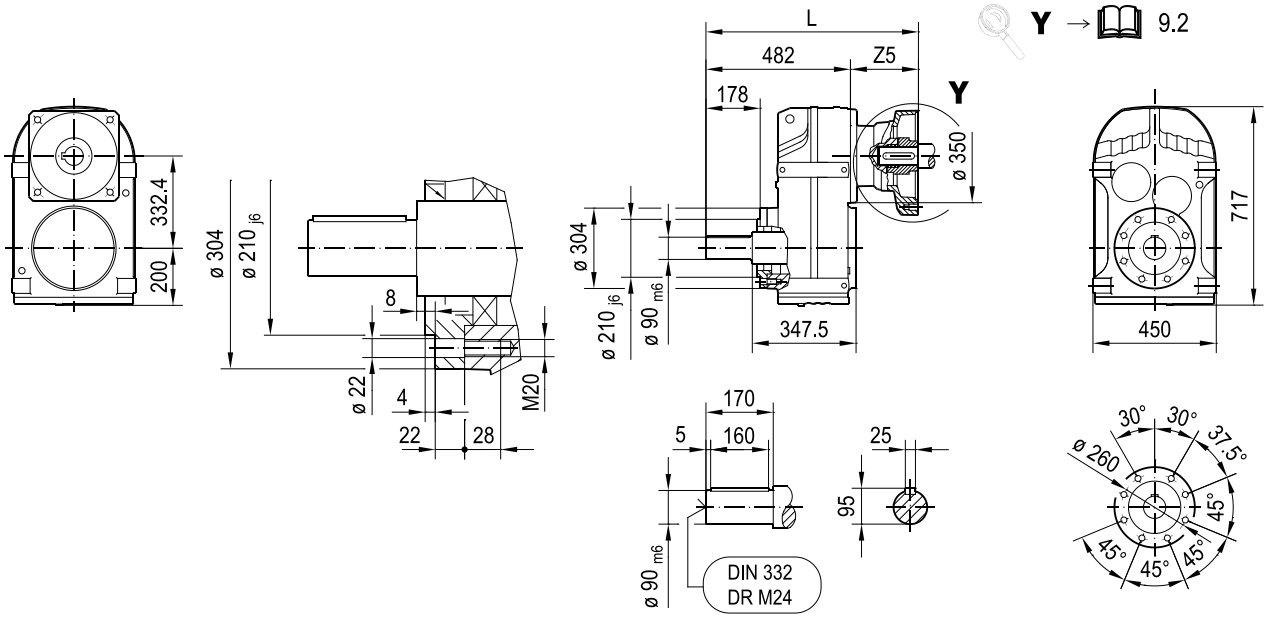
FVZ107..



(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	84.5	110	110	122				
L	397	422	422	434				

FZ107..

42 061 01 21

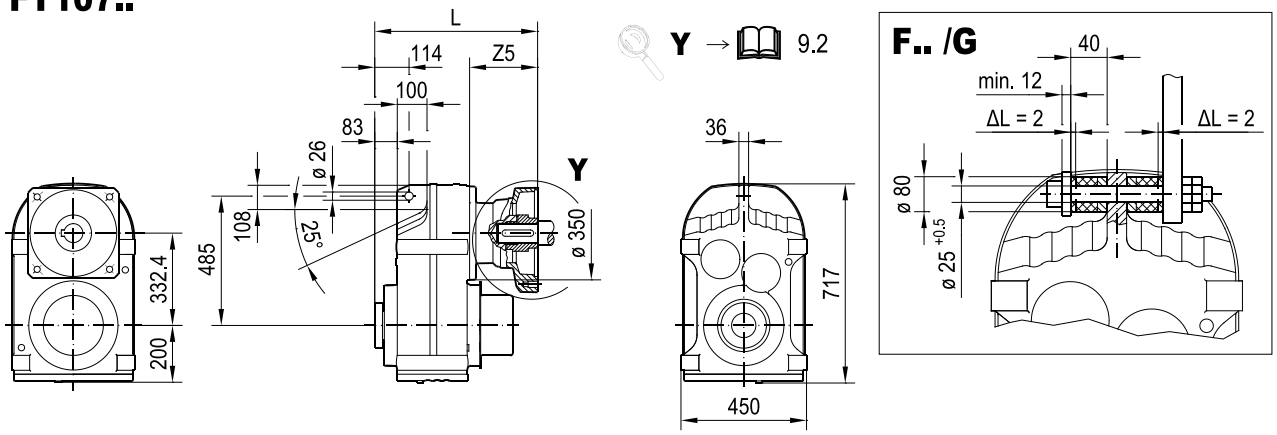


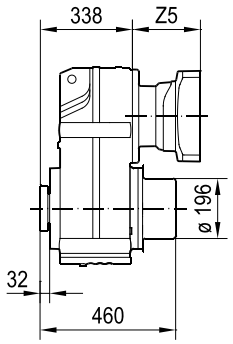
(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	84.5	110	110	122				
L	567	592	592	604				

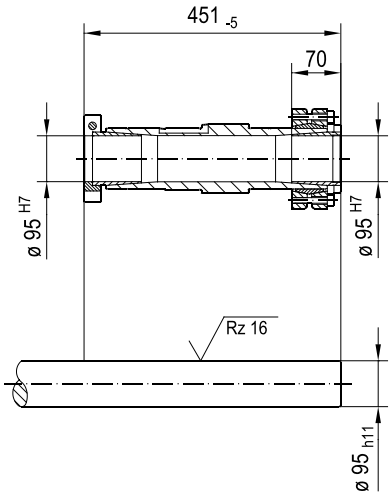
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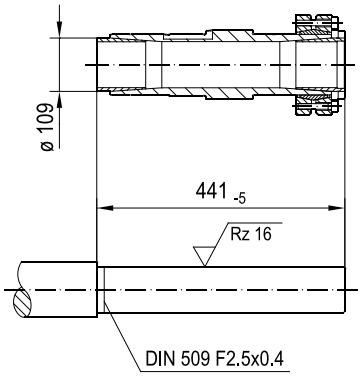
FT107..

42 062 02 21









(→ 📖 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	84.5	110	110	122				
L	423	448	448	460				

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9.1.10 F127 AQS..

Nm	i	AQS. M_{amax} | M_{apk} | $M_{aNotaus}$ 190/1,3-6		
FA127 2	4.68			
	5.52			
	6.80	1230	1420	1760
	7.88	1430	1650	2050
	8.86	1610	1860	2310
	10.19			
	12.54	2270	2630	3250
	14.55	2640	3060	3780
	16.36	2980	3450	4260
	18.87	3160	3980	4920
	21.38	3270	4520	5560
	24.57	3400	5100	5780
	26.86	3480	5220	5920
FA127 3	25.30			
	31.33	5610	6490	8010
	37.28	6700	7750	9570
	42.15	7360	8780	10800
	48.80	7730	10100	12600
	55.31	8010	11500	13600
	63.91	8370	12600	14200
	70.07	8570	12900	14600
	75.41	12000	13000	19300
	87.31	12000	13000	20400
	98.95	12000	13000	20400
	114.34	12000	13000	20400
	125.37	12000	13000	20400
	153.67	12000	13000	20400
	170.83	12000	13000	20400

min^{-1}	i	AQS. n_{ak} 190/1,3-6
FA127 2	4.68	
	5.52	
	6.80	378
	7.88	246
	8.86	174
	10.19	
	12.54	205
	14.55	133
	16.36	93
	18.87	74
	21.38	66
	24.57	58
	26.86	52

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min^{-1}	i	AQS. n_{ak} 190/1,3-6
FA127  3	25.30	
	31.33	73
	37.28	46
	42.15	33
	48.80	29
	55.31	25
	63.91	22
	70.07	20
	75.41	26
	87.31	25
	98.95	25
	114.34	24
	125.37	24
	153.67	23
	170.83	23

FA127, m kg		
s		AQS. 190/1,3-6
 2		385
 3		400
FAF: + 37 kg / F: + 36 kg / FF: + 81 kg		

F127, J_A / c_{TA}		AQS. 190/1,3-6
J_A 10^{-4}	kgm^2	22.0
c_{TA}	Nm/'	7.0

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F..127							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	FA	FAF	F	FF	FA	FAF	F	FF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
FA127 2	4.68	6000	9000	10200	321	971	5630	50000	29500	34700	90000	90000	90000	90000
	5.52	6000	9000	10200	361	733	7110	53500	31700	37100	90000	90000	90000	90000
	6.80	7000	9890	11900	247	524	5670	55000	32200	38100	90000	90000	90000	90000
	7.88	6000	9000	10200	438	400	10600	61800	37000	42800	90000	90000	90000	90000
	8.86	7000	9910	11900	277	329	8410	61400	36400	42600	90000	90000	90000	90000
	10.19	9500	13000	16100	144	483	1090	58900	30900	36300	83100	90000	88500	84100
	12.54	10000	13000	17000	126	359	2670	63000	33300	39100	83100	90000	88500	84100
	14.55	11000	13000	18700	98	278	475	64200	32600	38500	83100	90000	88500	84100
	16.36	11000	13000	18700	89	232	3190	67700	35400	41600	83100	90000	88500	84100
	18.87	11000	13000	18700	84	185	6620	72100	38800	45500	83100	90000	88500	84100
	21.38	12000	13000	20400	68	152	4380	73100	38000	44800	83100	90000	88500	84100
	24.57	8500	12700	14400	183	124	18400	88300	53300	61300	83900	90000	89000	85000
	26.86	8500	12600	14400	168	108	19800	90000	55300	63500	84400	90000	89300	85600
FA127 3	25.30	12000	12900	20400	62	284	7720	78800	42400	49800	83400	90000	88700	84500
	31.33	12000	12900	20400	62	212	11100	86400	48300	56300	83400	90000	88700	84500
	37.28	12000	12900	20400	62	166	14000	90000	53200	61900	83400	90000	88700	84500
	42.15	12000	12900	20400	62	140	16200	90000	56800	66000	83400	90000	88700	84500
	48.80	12000	12900	20400	62	113	18900	90000	61300	71000	83400	90000	88700	84500
	55.31	12000	12900	20400	62	93	21400	90000	65200	75500	83400	90000	88700	84500
	63.91	12000	12900	20400	62	77	24300	90000	69400	80300	83400	90000	88700	84500
	70.07	12000	12900	20400	62	67	26300	90000	72100	83200	83400	90000	88700	84500
	75.41	12000	13000	20400	52	119	27900	90000	74300	85600	83100	90000	88500	84100
	87.31	12000	13000	20400	50	98	31200	90000	79000	87700	83100	90000	88500	84100
	98.95	12000	13000	20400	45	82	34100	90000	83000	87700	83100	90000	88500	84100
	114.34	12000	13000	20400	39	68	37700	90000	88000	87700	83100	90000	88500	84100
	125.37	12000	13000	20400	36	60	40000	90000	90000	87700	83100	90000	88500	84100
	153.67	12000	13000	20400	29	39	45500	90000	90000	87700	83100	90000	88500	84100
	170.83	12000	13000	20400	26	34	48500	90000	90000	87700	83100	90000	88500	84100

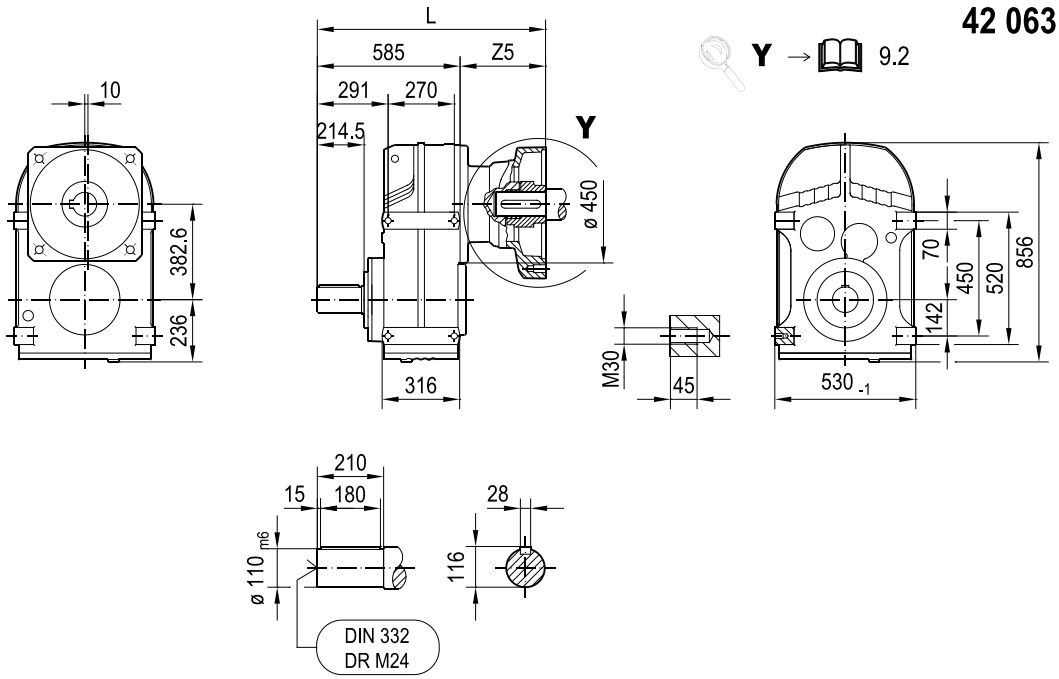
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F..127				c_{TG}				φ
	i	n_{epk} min^{-1}	η %	FA Nm/'	FAF Nm/'	F Nm/'	FF Nm/'	/R '
FA127 2	4.68	2518	97	1988	1988	1174	1092	7
	5.52	2797	97	1988	1988	1174	1092	7
	6.80	3197	97	1988	1988	1174	1092	7
	7.88	3597	97	1988	1988	1174	1092	6
	8.86	3924	97	1988	1988	1174	1092	6
	10.19	2797	97	2523	2523	1342	1236	5
	12.54	3197	97	2523	2523	1342	1236	5
	14.55	3597	97	2523	2523	1342	1236	5
	16.36	3924	97	2523	2523	1342	1236	5
	18.87	4378	97	2523	2523	1342	1236	5
	21.38	4500	97	2523	2523	1342	1236	5
	24.57	4500	97	2523	2523	1342	1236	5
	26.86	4500	97	2523	2523	1342	1236	5
FA127 3	25.30	2797	96	2861	2861	1432	1312	5
	31.33	3197	96	2861	2861	1432	1312	5
	37.28	3597	96	2861	2861	1432	1312	5
	42.15	3924	96	2861	2861	1432	1312	5
	48.80	4378	96	2861	2861	1432	1312	5
	55.31	4500	96	2861	2861	1432	1312	5
	63.91	4500	96	2861	2861	1432	1312	5
	70.07	4500	96	2861	2861	1432	1312	5
	75.41	3924	95	2898	2898	1442	1320	5
	87.31	4378	95	2898	2898	1442	1320	5
	98.95	4500	95	2898	2898	1442	1320	5
	114.34	4500	95	2898	2898	1442	1320	5
	125.37	4500	95	2898	2898	1442	1320	5
	153.67	4500	95	2898	2898	1442	1320	5
	170.83	4500	95	2898	2898	1442	1320	5

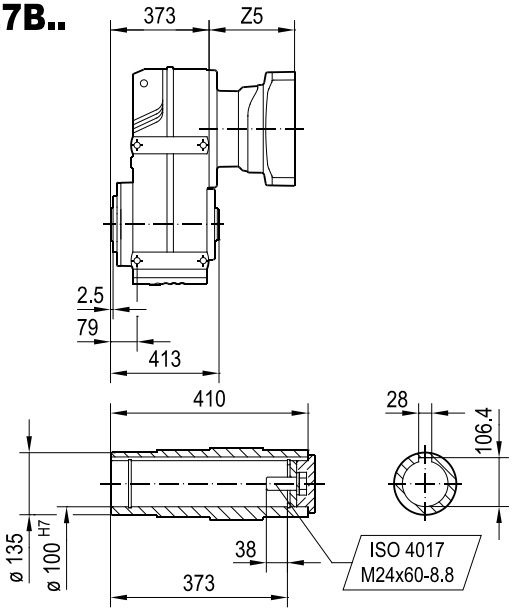
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F127..

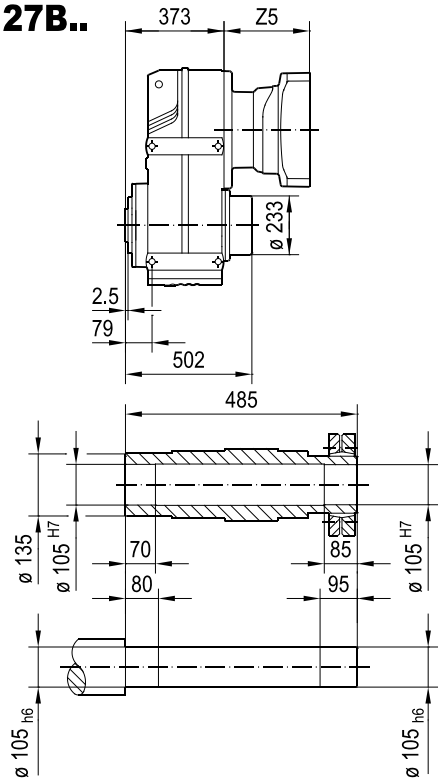
42 063 01 21



FA127B..



FH127B..

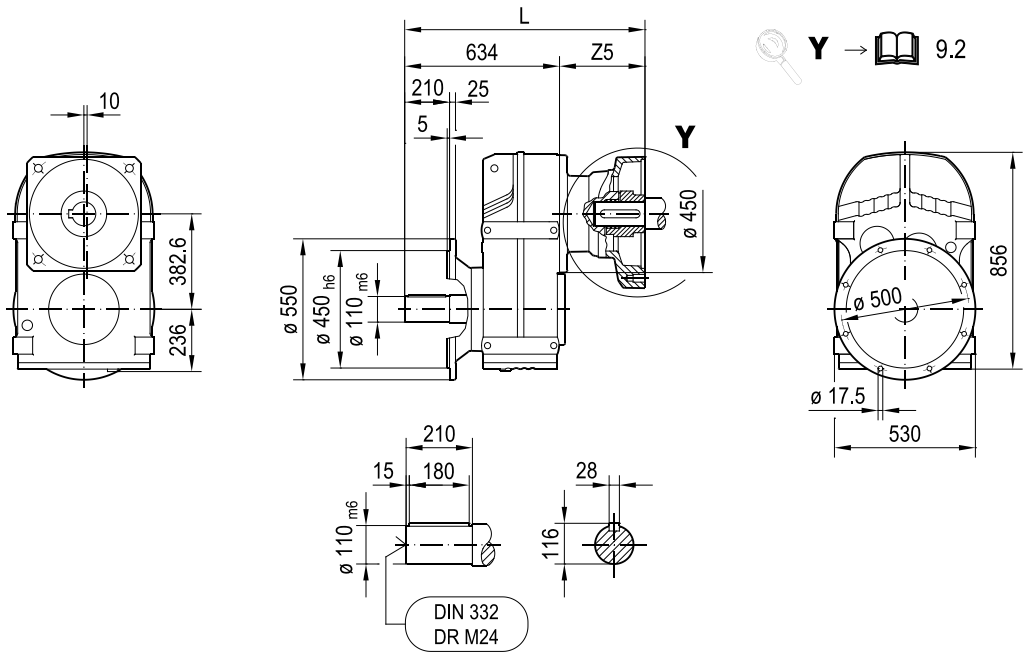


(→ 📖 7.3.11)	AQS.							
	190/1, 3-5	190/6						
Z5	95	107						
L	680	692						

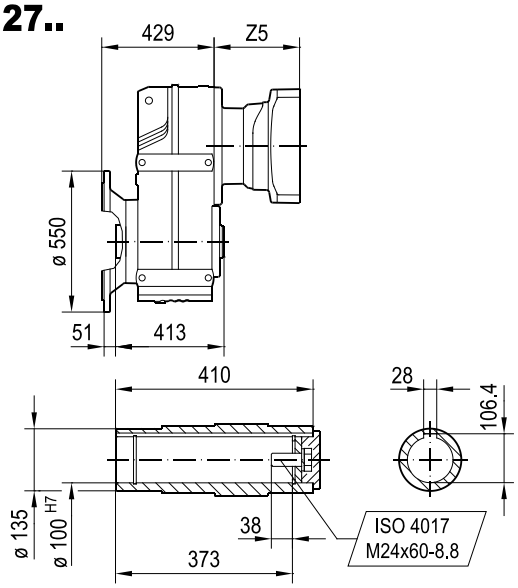
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FF127..

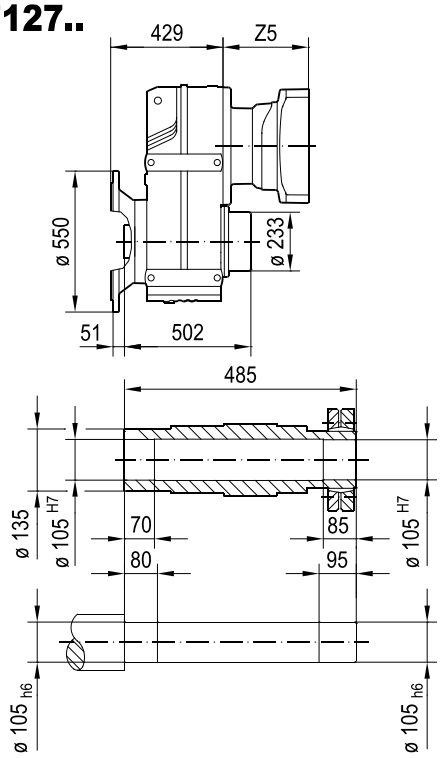
42 064 00 21



FAF127..



FHF127..

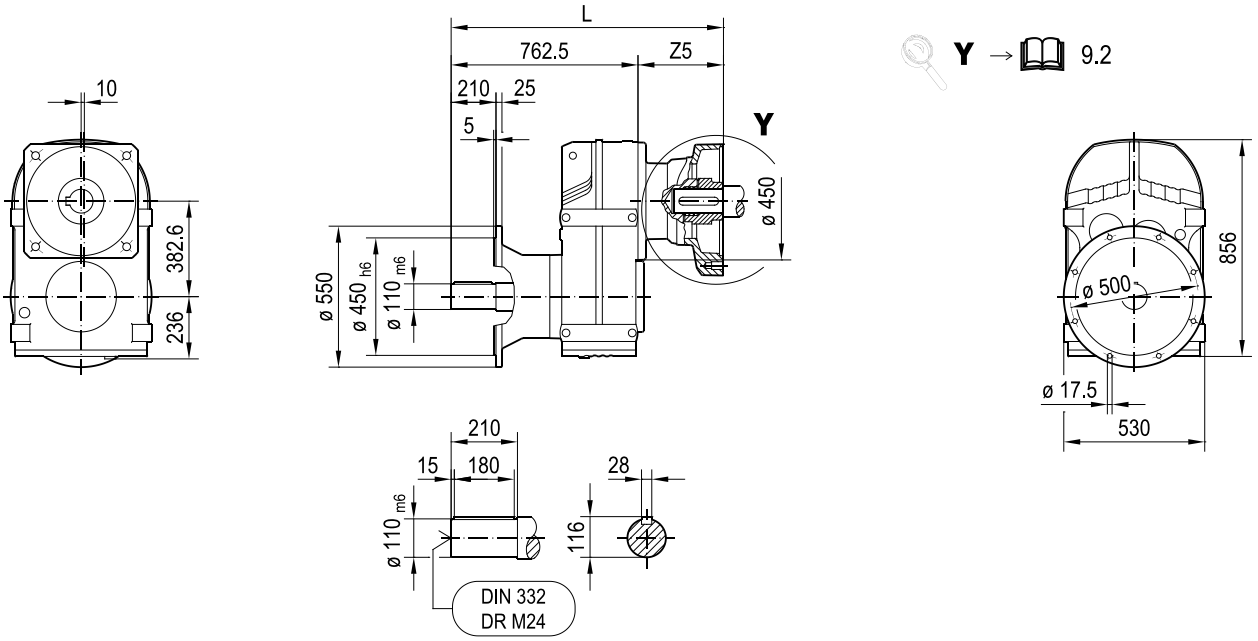


(→ 7.3.11)	AQS.							
	190/1, 3-5	190/6						
Z5	95	107						
L	729	741						

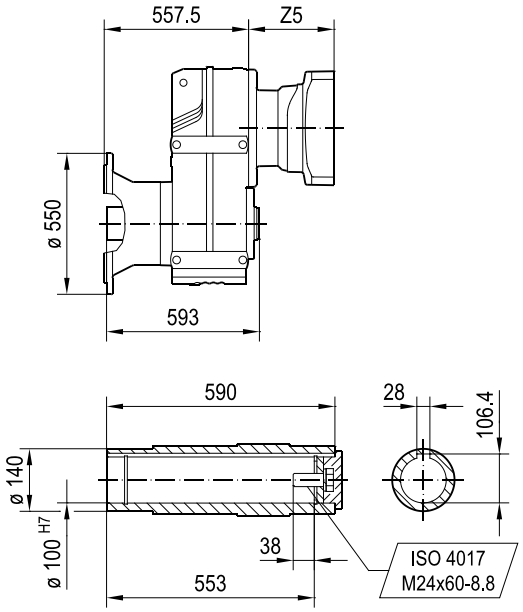
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FM127..

42 065 00 21



FAM127..

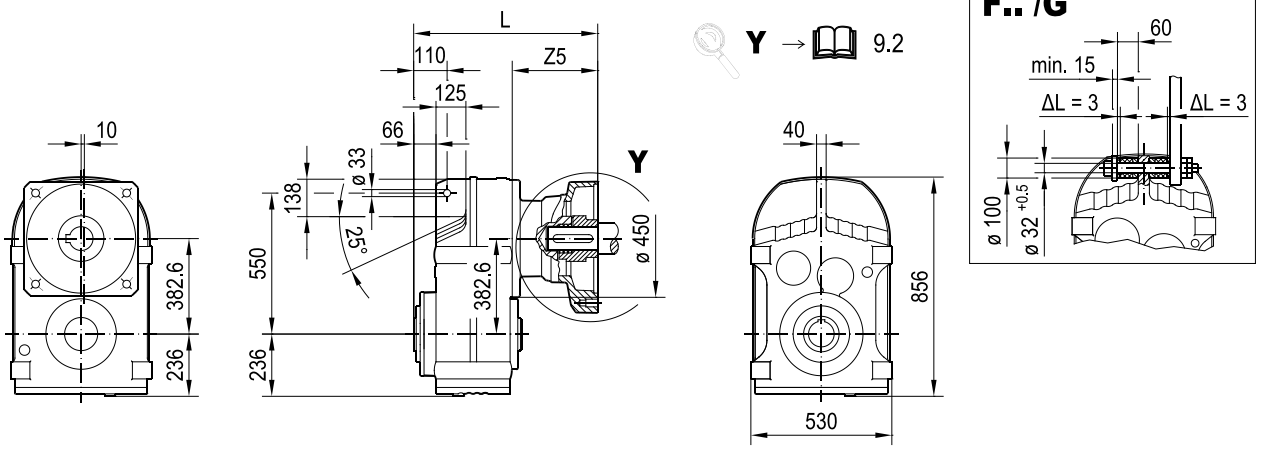


(→ 📖 7.3.11)	AQS.							
	190/1, 3-5	190/6						
Z5	95	107						
L	858	870						

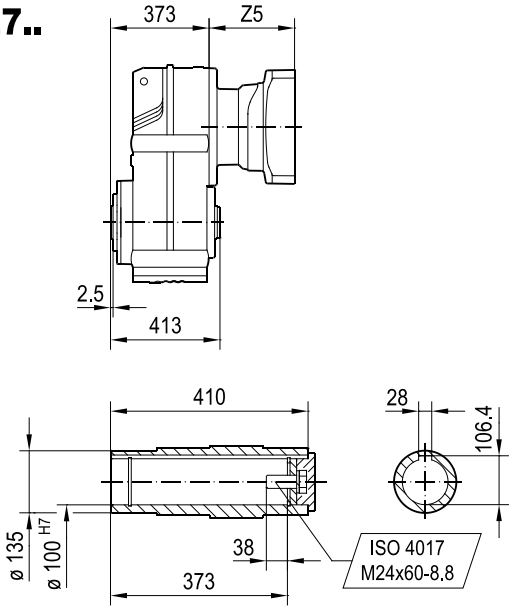
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FA127..

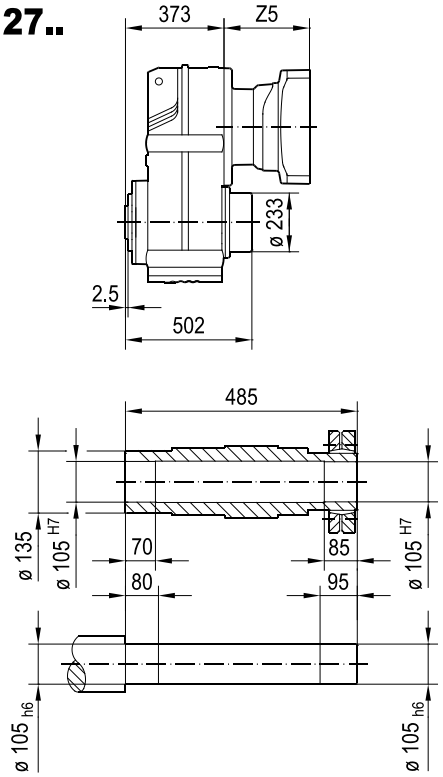
42 066 00 21



FA127..



FH127..

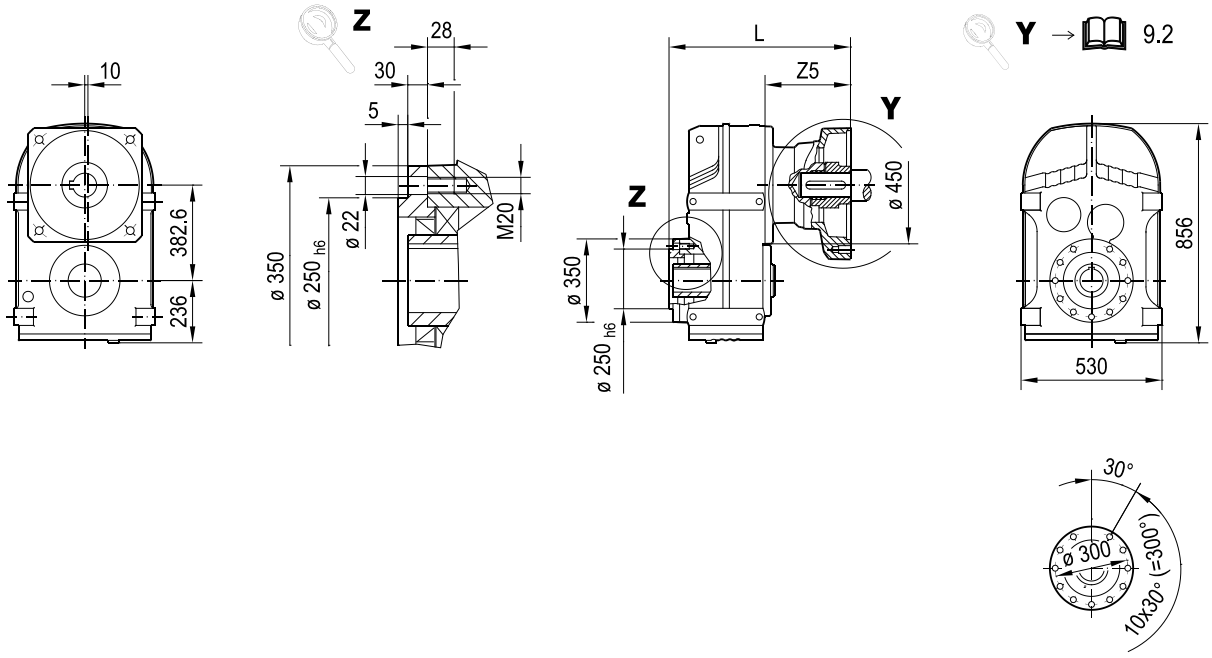


(→ 7.3.11)	AQS.							
	190/1, 3-5	190/6						
Z5	95	107						
L	468	480						

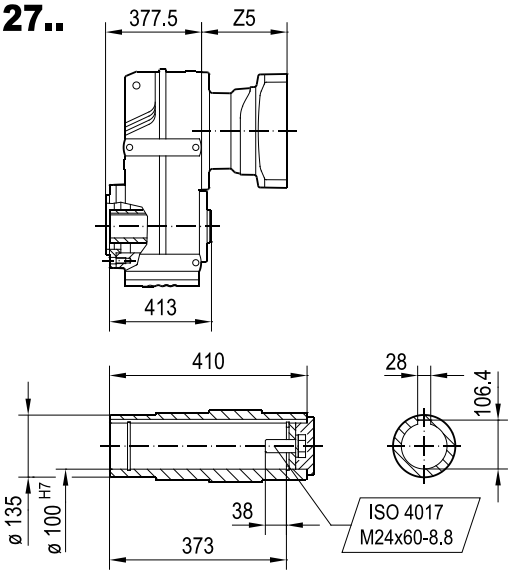
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FAZ127..

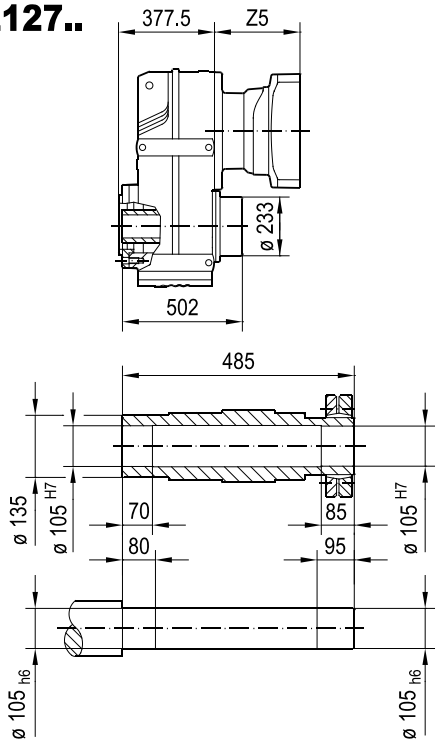
42 067 00 21



FAZ127..



FHZ127..

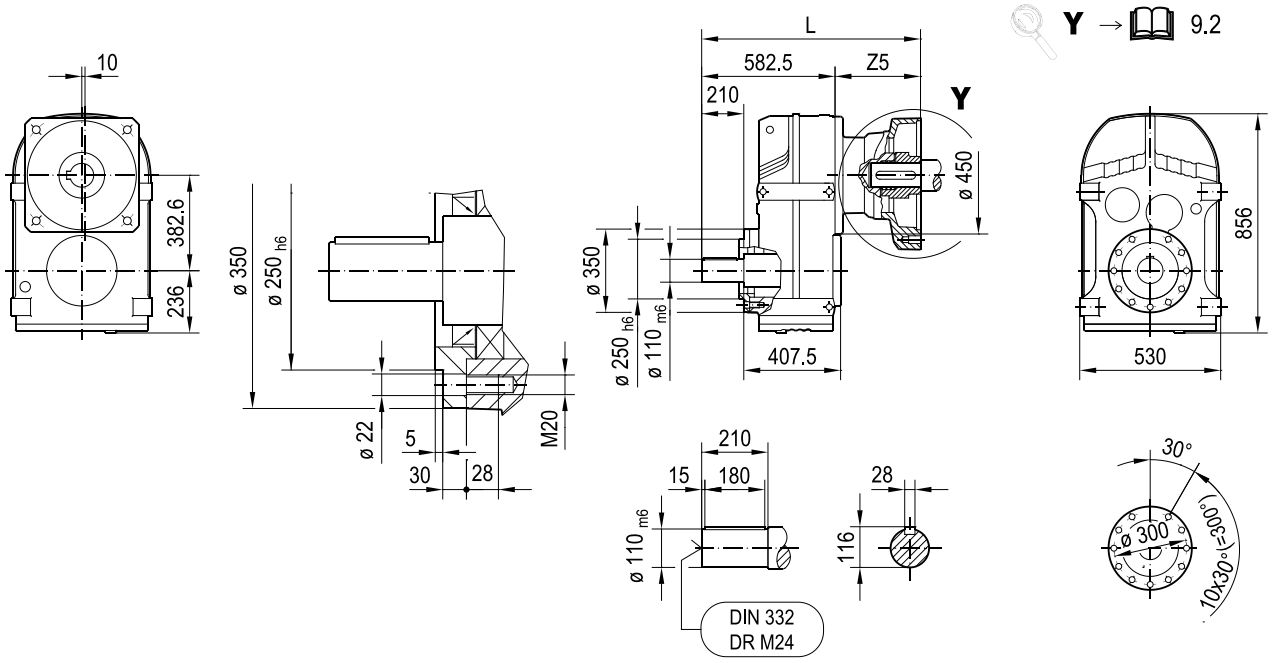


(→ 7.3.11)	AQS.							
	190/1, 3-5	190/6						
Z5	95	107						
L	473	485						

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42 068 01 21

FZ127..

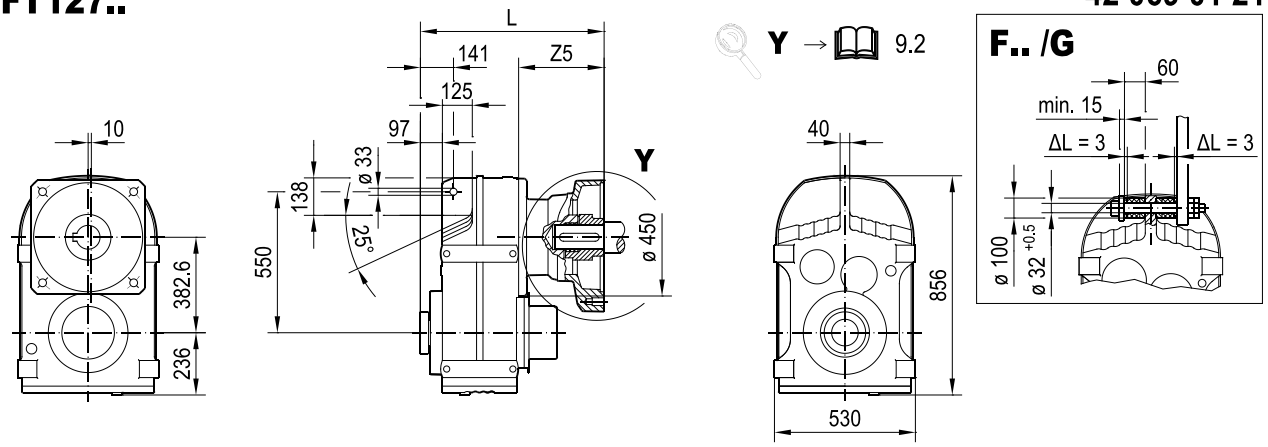


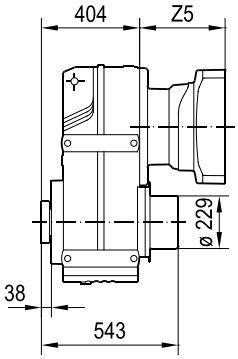
(→ 7.3.11)	AQS.							
	190/1, 3-5	190/6						
Z5	95	107						
L	678	690						

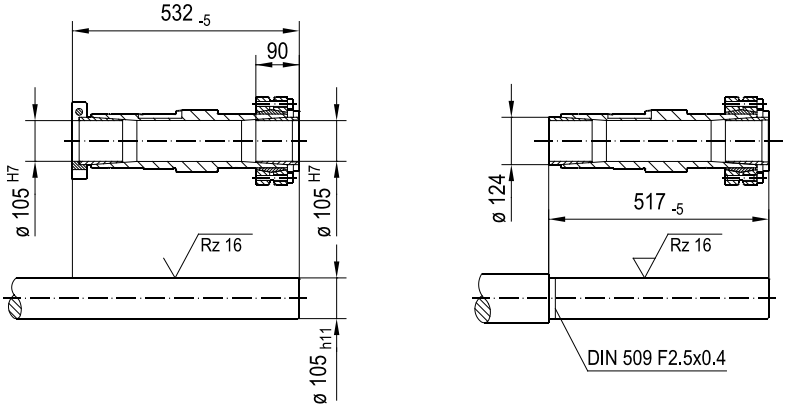
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FT127..

42 069 01 21





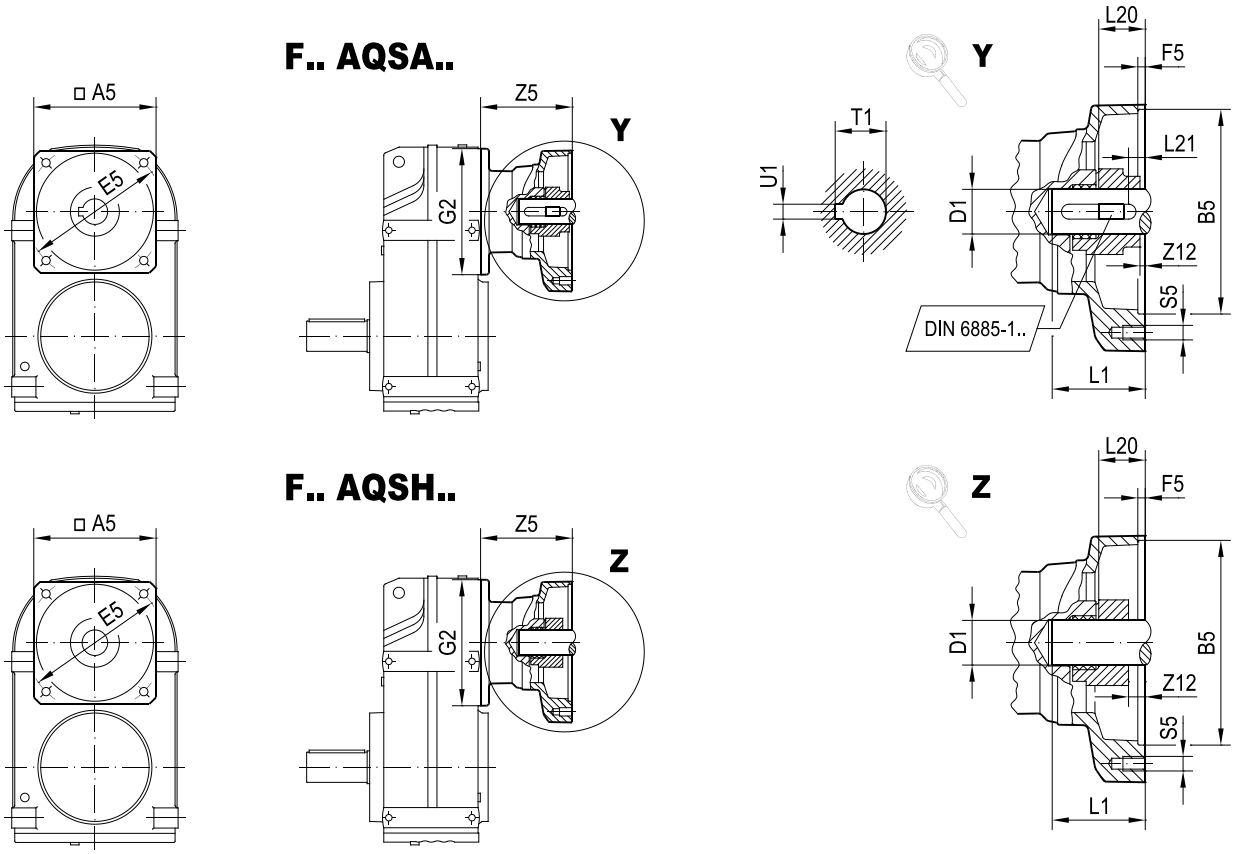


(→ 7.3.11)	AQS.							
	190/1, 3-5	190/6						
Z5	95	107						
L	499	511						

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9.2 Adapter F..AQS.. /mm

42 001 01 21



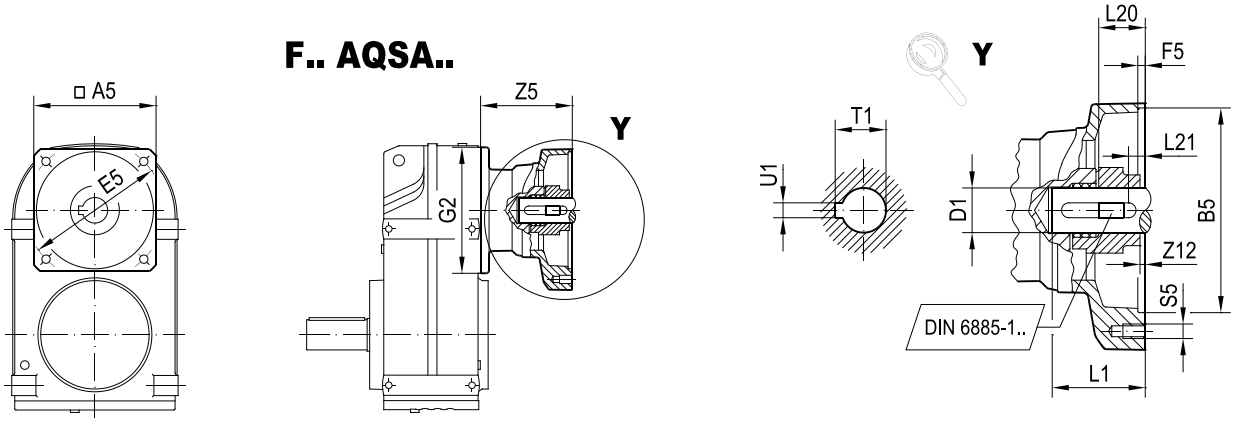
D1	T1	U1	AQS..							
			50/1 50/2	80/1 80/3 80/4 80/5	100/3 100/4 100/5 100/6[1] 100/7[1]	115/1 115/3 115/4 115/5 115/6[1]	140/1 140/3 140/5 140/6	160/1	190/1 190/3 190/4 190/5	190/6
mm	mm	mm								
8[2]	-	-	X							
9	10.4	3	X							
11	12.8	4		X						
14	16.3	5		X	X					
16	18.3	5			X					
19	21.8	6			X	X				
22	24.8	6				X				
	25.3	8				X				
24	27.3	8				X	X			
28	31.3	8					X	X	X	
32	35.3	10					X	X	X	
35	38.3	10						X[3]	X[3]	X
38	41.3	10						X	X	

1) Key design only (AQSA).
2) Terminal connection only (AQSH).
3) Only clamp connection (AQSH).

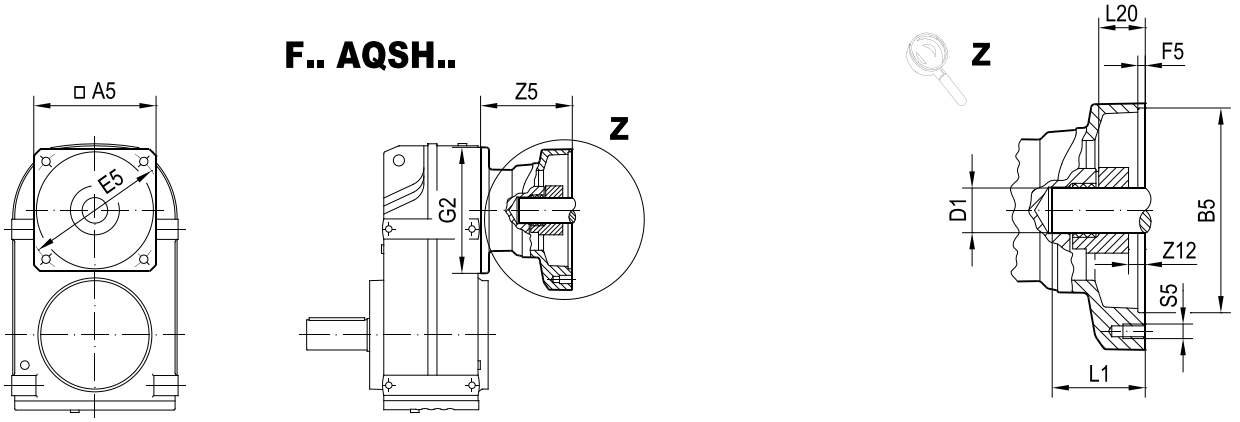
27788644/EN – 02/2024

42 001 01 21

F.. AQSA..



F.. AQSH..



(→ 7.3.11)	Dimensions in mm										
	D1	L20	L21 (ØD1: L21) AQSA	L1	B5	E5	A5	S5	Z12 AQSA	Z12 AQSH	F5
AQS50/1	8 K7[1]	14	Ø9: 7	25	30	46	40	M4 × 7	3	4	2.5
AQS50/2	9 H7	14	Ø9: 7	25	40	63	55	M4 × 7	3	4	2.5
AQS80/1	11 H7 14 H7	18 18	Ø11: 10 Ø14: 11	31	60	75	73	M5 × 8	4	6	3.5
AQS80/3				31	50	95	82	M6 × 10	4	6	3.5
AQS80/4				31	50	70	60	M5 × 8	4	6	3.5
AQS80/5				31	60	90	75	M5 × 8	4	6	3.5
AQS100/3	14 H7 16 H7 19 H7	20	Ø14,16,19: 13	45	80	100	94	M6 × 10	4	6	4
AQS100/6[2]		25.5	Ø14,16,19: 18.5	50.5	80	100	94	M6 × 10	9.5	–	4
AQS100/4		20	Ø14,16,19: 13	45	95	115	105	M8 × 12	4	6	4
AQS100/7[2]		30	Ø14,16,19: 23	55	95	115	105	M8 × 12	14	–	4
AQS100/5		20	Ø14,16,19: 13	45	70	90	94	M6 × 10	4	6	4
AQS115/1	19 H7 22 H7 24 H7	25	Ø19: 16 Ø22: 17 Ø24: 17	50	95	130	115	M8 × 14.5	0 Ø22: 9	9	5
AQS115/3		25		50	110	130	115	M8 × 14.5	0 Ø22: 9	9	5
AQS115/6[2]		30	Ø19: 21 Ø22: 22 Ø24: 22	55	110	130	115	M8 × 14.5	5 Ø22: 14	–	5
AQS115/4		31	Ø19: 22 Ø22: 23 Ø24: 23	58	110	145	130	M8 × 14.5	6 Ø22: 15	15	6.5
AQS115/5		25	Ø19: 16 Ø22: 17 Ø24: 17	50	95	115	115	M8 × 14.5	0 Ø22: 9	9	5
AQS140/1	24 H7 28 H7 32 H7	30	Ø24: 11 Ø28: 19 Ø32: 19	60	110	165	140	M10 × 20	4	8	5
AQS140/3		30		60	130	165	140	M10 × 20	4	8	5
AQS140/5		30		60	180	215	190	M12 × 22	4	8	5
AQS140/6		30		80	130	165	140	M10 × 20	4	8	5

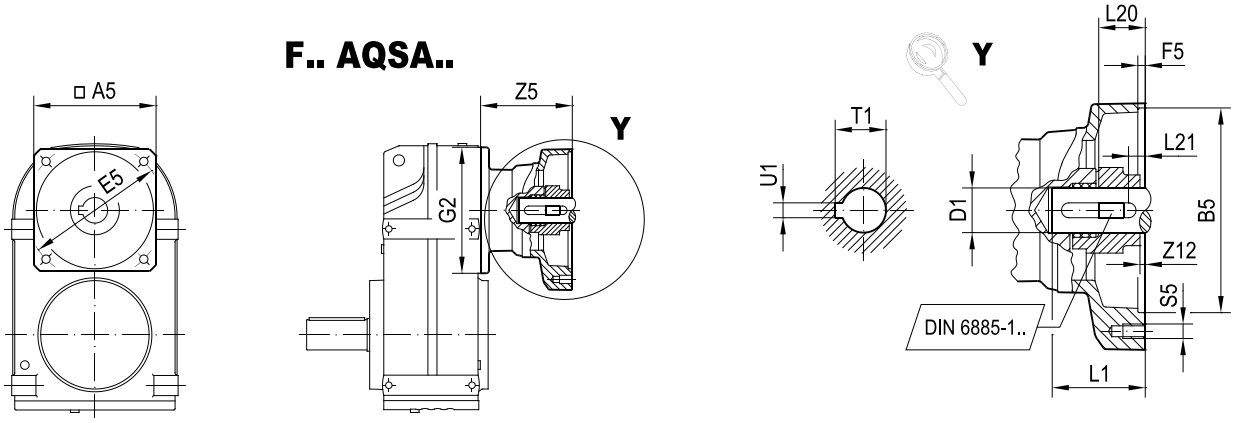
1) Only clamp connection (AQSH).

2) Key design only (AQSA).

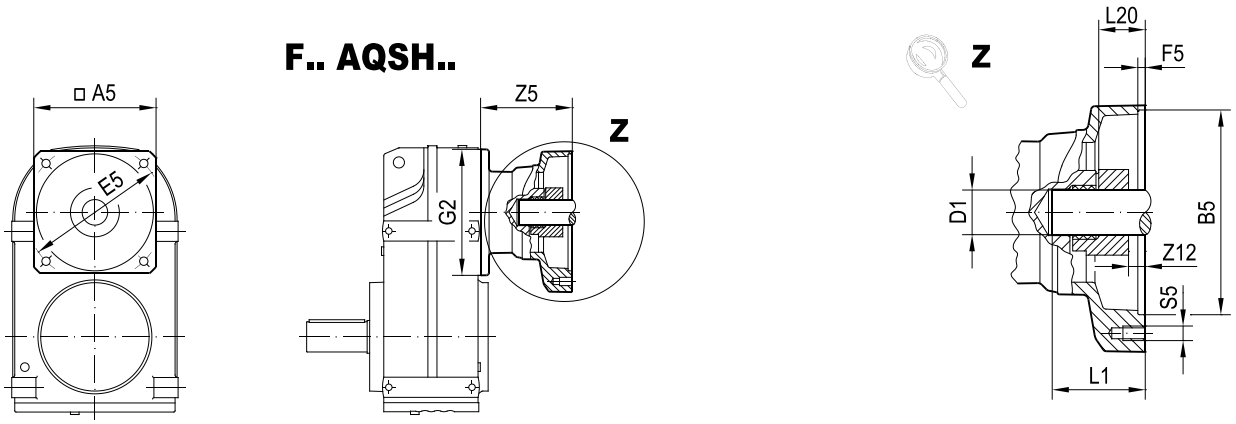
27788644/EN – 02/2024

42 001 01 21

F.. AQSA..



F.. AQSH..

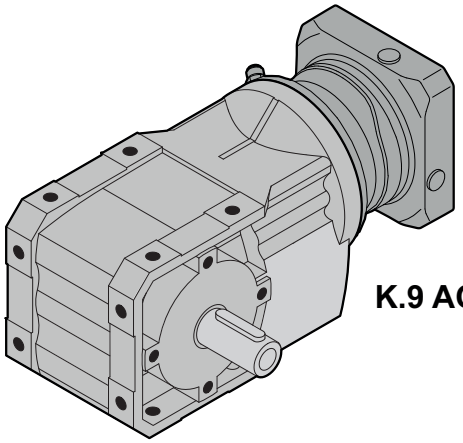


(→ 📖 7.3.11)	Dimensions in mm										
	D1	L20	L21 (ØD1: L21)	L1	B5	E5	A5	S5	Z12		F5
			AQSA						AQSA	AQSH	
AQS160/1	28 H7 32 H7 35 H7[1)] 38 H7	34	Ø28: 15 Ø32: 17 Ø38: 21	80	155	190	163	M10 × 20	0	8	5
AQS190/1	28 H7 32 H7 35 H7[1)] 38 H7	34	Ø28: 15 Ø32: 17 Ø38: 21	80	130	215	190	M12 × 22	0	8	5
AQS190/3		34		80	180	215	190	M12 × 22	0	8	5
AQS190/4		34		80	114.3	200	180	M12 × 22	0	8	5
AQS190/5		34		80	230	265	240	M12 × 22	0	8	5
AQS190/6	35 H7	46	Ø35: 31	80	114.3	200	180	M12 × 22	12	20	5

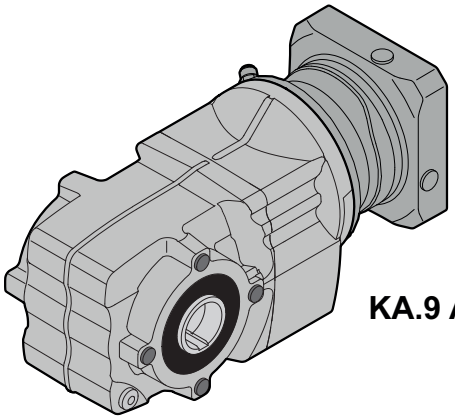
1) Only clamp connection (AQSH).

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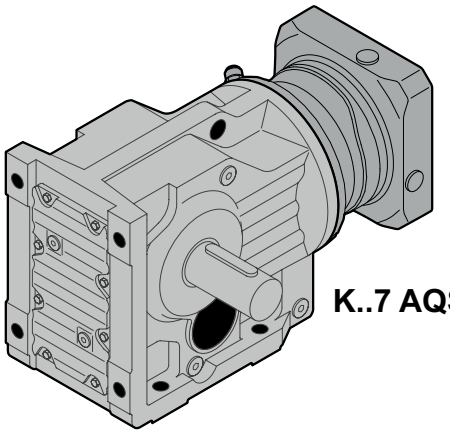
10 K.. helical-bevel gear units



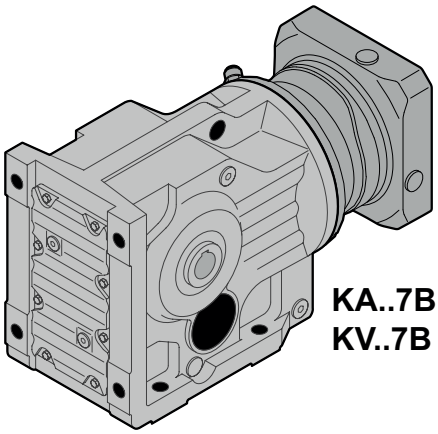
K.9 AQS..



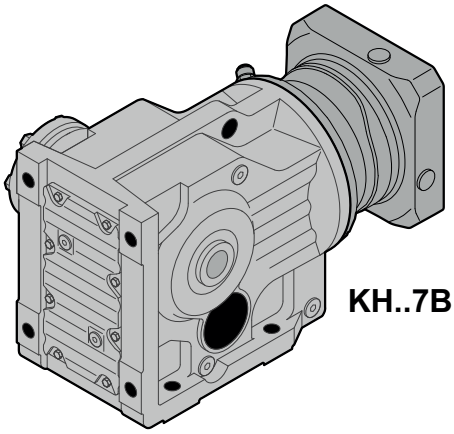
KA.9 AQS..



K..7 AQS..



KA..7B AQS..
KV..7B AQS..

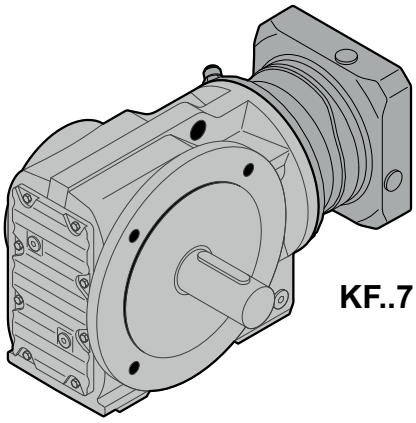


KH..7B AQS..

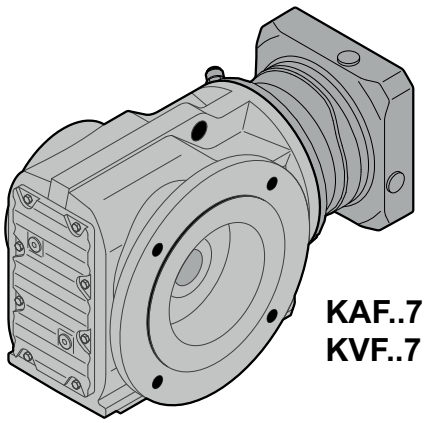
35094996619

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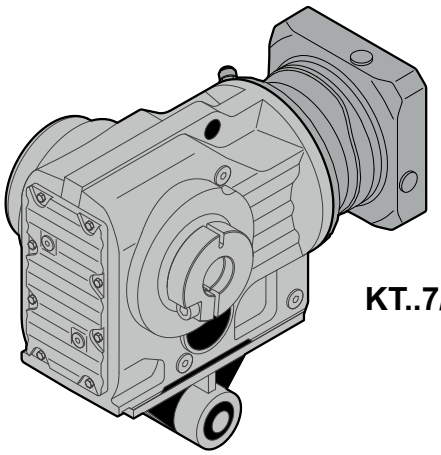
SEW EURODRIVE



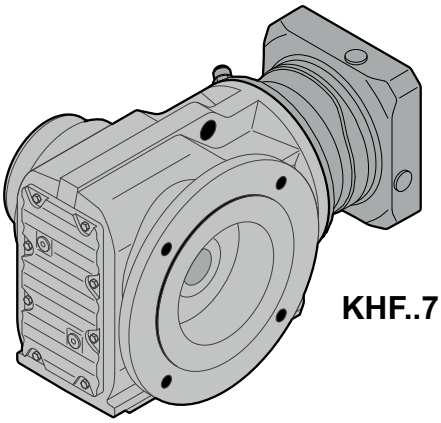
KF..7 AQS..



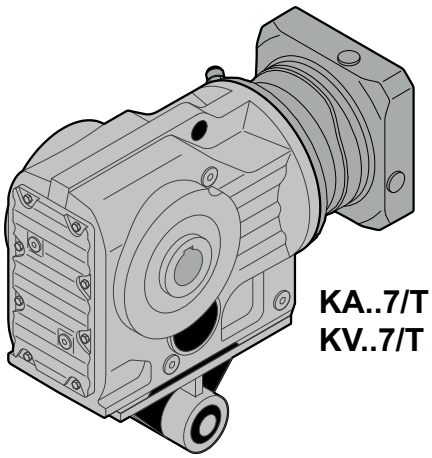
KAF..7 AQS..
KVF..7 AQS..



KT..7/T AQS..



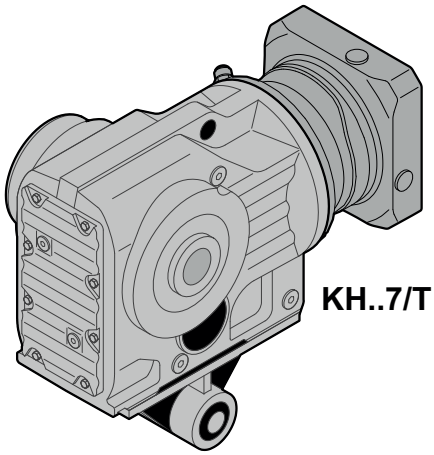
KHF..7 AQS..



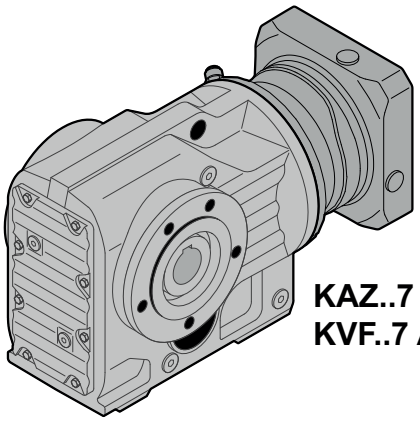
KA..7/T AQS..
KV..7/T AQS..

35094999051

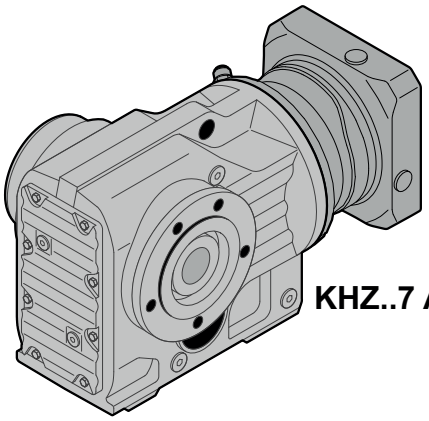
27788644/EN – 02/2024



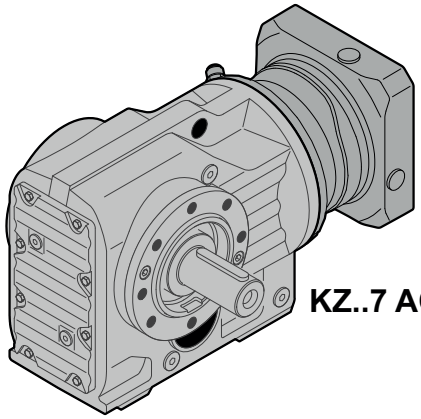
KH..7/T AQS..



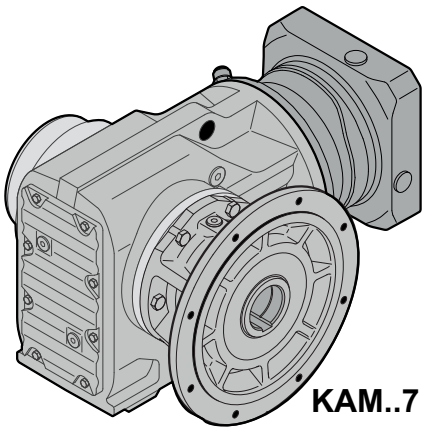
KAZ..7 AQS..
KVF..7 AQS..



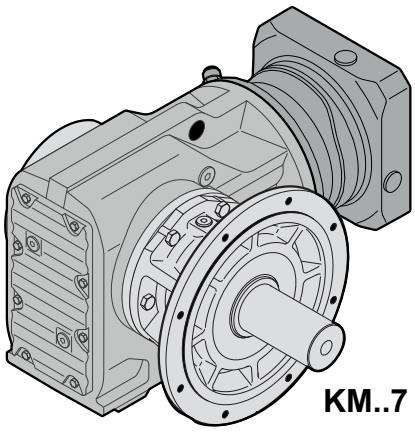
KHZ..7 AQS..



KZ..7 AQS..



KAM..7 AQS..



KM..7 AQS..

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SEW EURODRIVE

10.1 K..AQS.. – Selection tables and dimension sheets

10.1.1 K19 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	50/1-2			80/1,3-5			100/3-7			115/1,3-6		
K19 2	4.50	30	30	39	41	45	70	79	87	134	80	88	136
	5.16	34	34	45	44	48	75	80	88	136	80	88	136
	5.54	37	37	48	45	50	77	80	88	136	80	88	136
	6.41	43	43	56	48	53	82	80	88	136	80	88	136
	6.91	46	46	60	49	54	83	80	88	136	80	88	136
	8.09	52	54	71	52	57	88	80	88	136	80	88	136
	9.58	55	61	84	55	61	94	63	69	107	63	69	107
	10.32	68	69	89	76	83	129	76	83	129	76	83	129
	11.84	78	79	102	79	86	134	79	86	134	79	86	134
	12.70	80	85	110	80	88	136	80	88	136	80	88	136
	14.69	80	88	127	80	88	136	80	88	136	80	88	136
	15.84	80	88	136	80	88	136	80	88	136	80	88	136
	18.55	80	88	136	80	88	136	80	88	136	80	88	136
	21.98	80	88	136	80	88	136	80	88	136	80	88	136
	24.06	80	88	136	80	88	136	80	88	136	80	88	136
	26.88												
	27.16	60	66	102	60	66	102	60	66	102	60	66	102
	29.14												
	29.29	61	67	104	61	67	104	61	67	104	61	67	104
	31.74												
	34.29	64	70	109	64	70	109	64	70	109	64	70	109
	40.63	67	73	114	67	73	114	67	73	114	67	73	114
	44.48	69	75	117	69	75	117	69	75	117	69	75	117
	49.69												
	53.88												
	58.68												

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min^{-1}		AQS. n_{ak}			
	i	50/1-2	80/1,3-5	100/3-7	115/1,3-6
K19 2	4.50	1000	360	327	351
	5.16	758	293	380	419
	5.54	605	283	422	424
	6.41	398	231	449	429
	6.91	329	223	450	430
	8.09	180	180	446	426
	9.58	146	146	470	470
	10.32	224	154	154	154
	11.84	140	134	134	134
	12.70	128	128	128	128
	14.69	128	128	128	128
	15.84	128	128	128	128
	18.55	127	127	127	127
	21.98	126	126	126	126
	24.06	126	126	126	126
	26.88				
	27.16	55	55	55	55
	29.14				
	29.29	52	52	52	52
	31.74				
	34.29	44	44	44	44
	40.63	37	37	37	37
	44.48	33	33	33	33
	49.69				
	53.88				
	58.68				

K19, m kg	AQS.			
s	50/1-2	80/1,3-5	100/3-7	115/1,3-6
2	5.8	6.2	6.9	8.6
KF: + 0.30 kg / KA: + -0.45 kg / KAF: + -- kg				

K19, J_A / c_{TA}		AQS.			
		50/1-2	80/1,3-5	100/3-7	115/1,3-6
J_A 10^{-4}	kgm^2	0.41	0.46	1.3	2.4
c_{TA}	Nm/'	0.15	0.15	0.3	0.7

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K..19							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	K	KF	KA	KAF	K	KF	KA	KAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
K19 2	4.50	80	88	132	678	0.59	2010	1620	2500	2500	4190	3630	4500	4500
	5.16	80	88	132	663	0.46	2140	1720	2650	2650	4190	3630	4500	4500
	5.54	80	88	132	655	0.41	2200	1780	2730	2730	4190	3630	4500	4500
	6.41	80	88	132	641	0.31	2340	1890	2900	2900	4190	3630	4500	4500
	6.91	80	88	132	635	0.27	2420	1950	3000	3000	4190	3630	4500	4500
	8.09	80	88	132	556	0.21	2590	2080	3200	3200	4190	3630	4500	4500
	9.58	63	69	104	470	0.15	2910	2340	3600	3600	4340	3670	4500	4500
	10.32	76	83	124	167	0.28	2720	2190	3370	3370	4230	3610	4500	4500
	11.84	79	86	129	145	0.22	2850	2300	3530	3530	4210	3600	4500	4500
	12.70	80	88	132	139	0.20	2930	2360	3630	3630	4190	3600	4500	4500
	14.69	80	88	132	138	0.16	3110	2510	3860	3860	4190	3600	4500	4500
	15.84	80	88	132	138	0.14	3210	2590	3980	3980	4190	3600	4500	4500
	18.55	80	88	132	137	0.11	3430	2760	4250	4250	4190	3600	4500	4500
	21.98	80	88	132	136	0.084	3680	2960	4500	4500	4190	3600	4500	4500
	24.06	80	88	132	136	0.073	3820	3080	4500	4500	4190	3600	4500	4500
	26.88	80	88	132	135	0.062	3990	3220	4500	4500	4190	3600	4500	4500
	27.16	60	66	99	69	0.13	4090	3290	4500	4500	4360	3630	4500	4500
	29.14	80	88	132	135	0.055	4120	3320	4500	4500	4190	3600	4500	4500
	29.29	61	67	100	65	0.12	4200	3380	4500	4500	4350	3630	4500	4500
	31.74	80	88	132	135	0.048	4260	3440	4500	4500	4190	3600	4500	4500
	34.29	64	70	105	55	0.094	4370	3570	4500	4500	4330	3620	4500	4500
	40.63	67	73	110	47	0.074	4350	3630	4500	4500	4310	3610	4500	4500
	44.48	69	75	112	42	0.065	4340	3620	4500	4500	4290	3600	4500	4500
	49.69	70	77	116	40	0.055	4330	3620	4500	4500	4280	3600	4500	4500
	53.88	70	77	116	40	0.049	4330	3620	4500	4500	4280	3600	4500	4500
	58.68	70	77	116	40	0.043	4330	3620	4500	4500	4280	3600	4500	4500

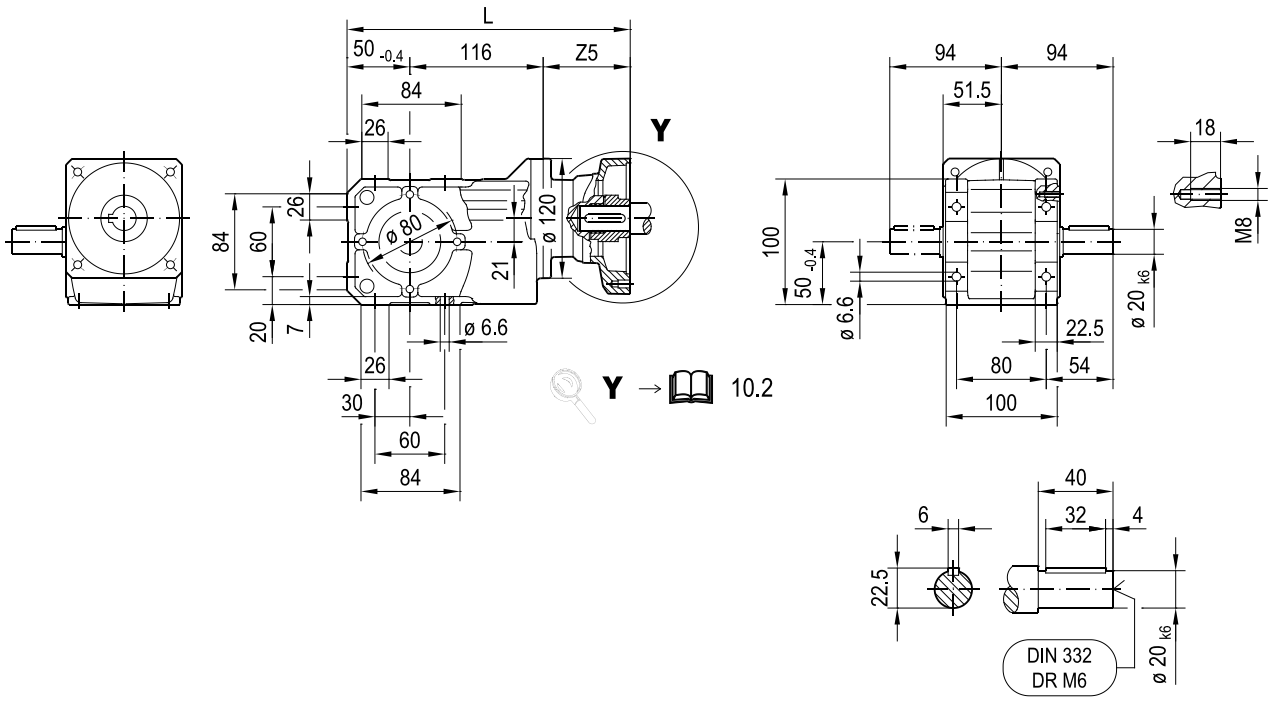
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K..19				c_{TG}			
	i	n_{epk} min^{-1}	η %	K Nm/'	KF Nm/'	KA Nm/'	KAF Nm/'
K19 2	4.50	4500	97	5.1	4.4	8.5	8.5
	5.16	4500	97	5.1	4.4	8.5	8.5
	5.54	4500	97	5.1	4.4	8.5	8.5
	6.41	4500	97	5.1	4.4	8.5	8.5
	6.91	4500	97	5.1	4.4	8.5	8.5
	8.09	4500	97	5.1	4.5	8.6	8.6
	9.58	4500	97	5.1	4.5	8.6	8.6
	10.32	4500	96	6.2	5.2	12	12
	11.84	4500	96	6.2	5.2	12	12
	12.70	4500	96	5.1	4.5	8.6	8.6
	14.69	4500	96	6.2	5.2	12	12
	15.84	4500	96	6.2	5.2	12	12
	18.55	4500	96	6.2	5.2	12	12
	21.98	4500	96	6.2	5.2	12	12
	24.06	4500	96	6.2	5.2	12	12
	26.88	4500	96	6.2	5.2	12	12
	27.16	4500	91	6.2	5.2	12	12
	29.14	4500	96	6.2	5.2	12	12
	29.29	4500	91	6.2	5.2	12	12
	31.74	4500	96	6.2	5.2	12	12
	34.29	4500	91	6.2	5.2	12	12
	40.63	4500	91	6.2	5.2	12	12
	44.48	4500	91	6.2	5.2	12	12
	49.69	4500	91	6.2	5.2	12	12
	53.88	4500	91	6.2	5.2	12	12
	58.68	4500	91	6.2	5.2	12	12

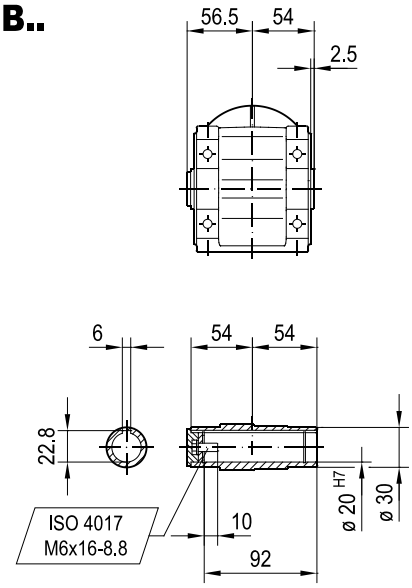
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33 013 00 21

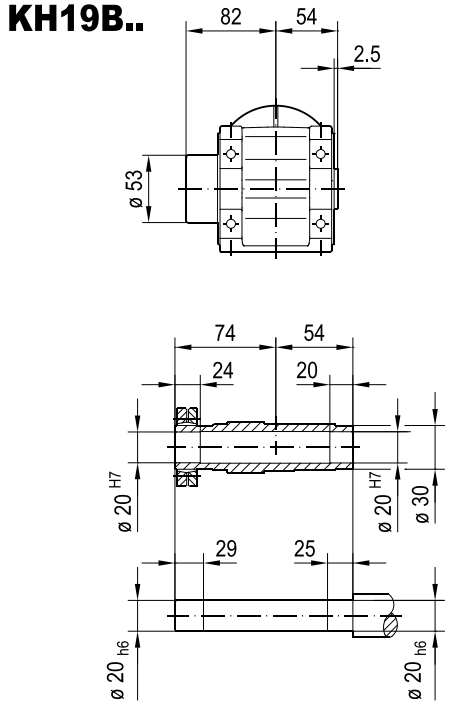
K19..



KA19B..



KH19B..

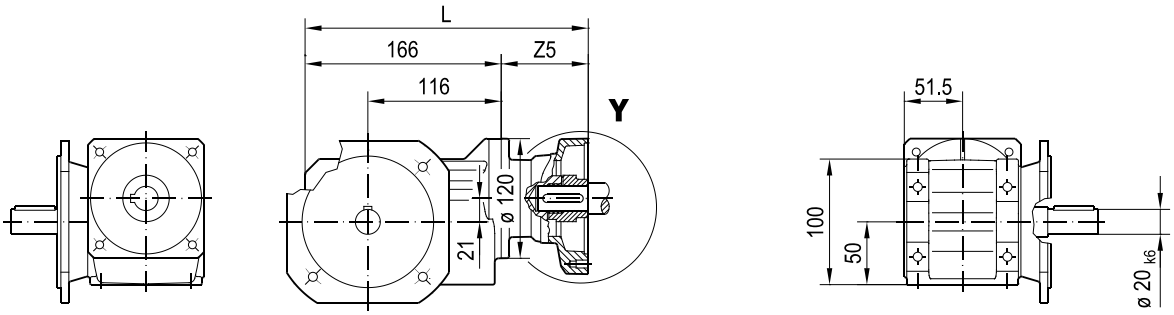


(→ 7.3.11)	AQS.								
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5
L	219	223	240	245	250	253	259	253	258

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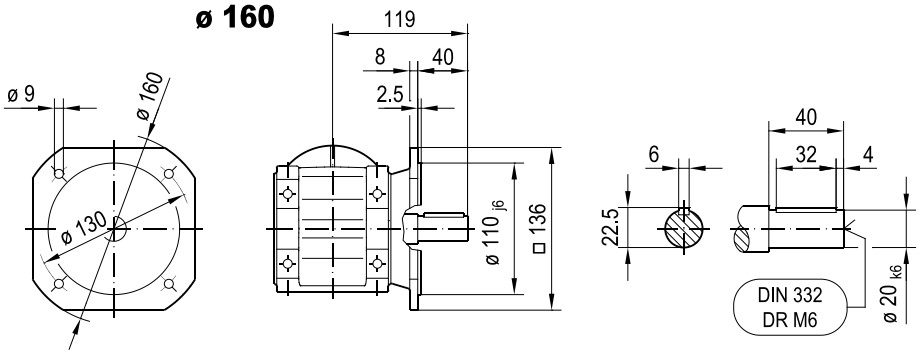
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KF19B..



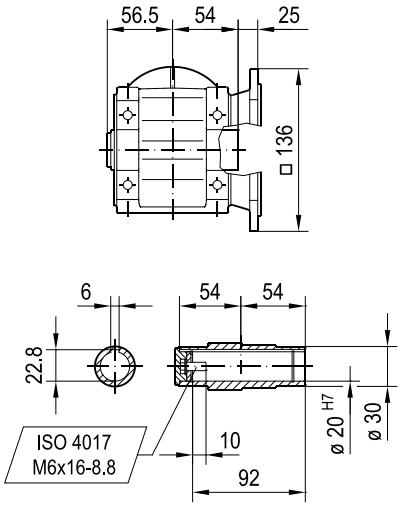
Y → 10.2

ø 160



KAF19B..

ø 160

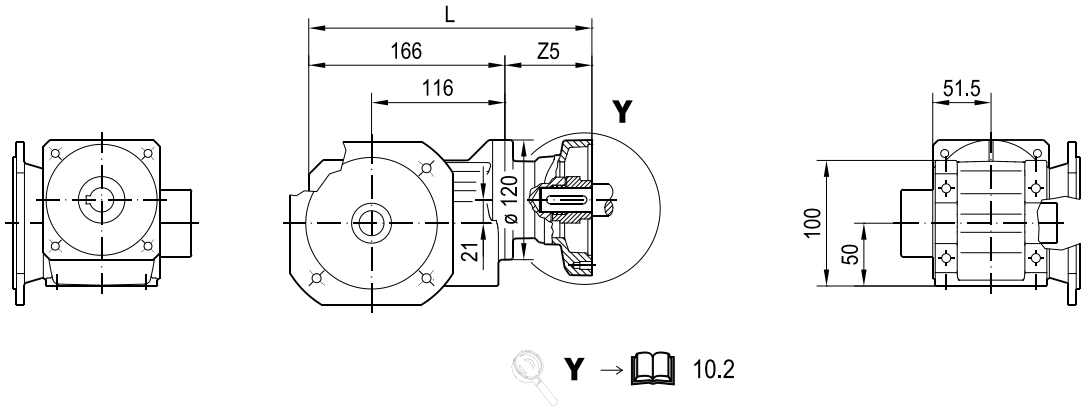


(→ 7.3.11)	AQS.								
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5
L	219	223	240	245	250	253	259	253	258

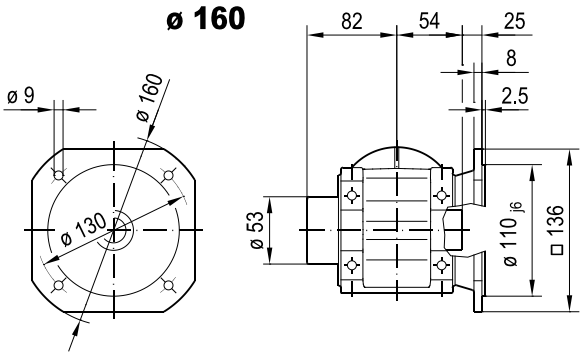
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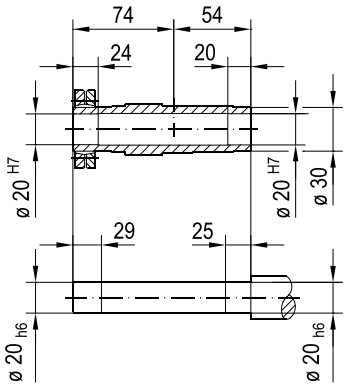
33 015 00 21

KHF19B..



Y → 10.2



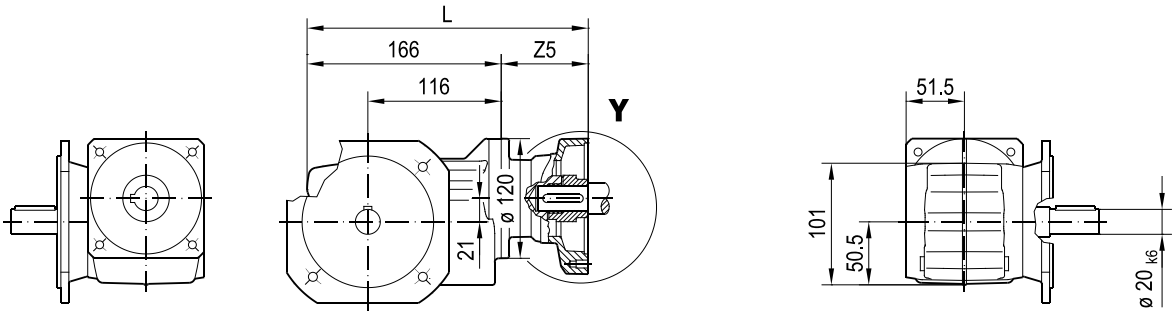


(→ 7.3.11)	AQS.								
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5
L	219	223	240	245	250	253	259	253	258

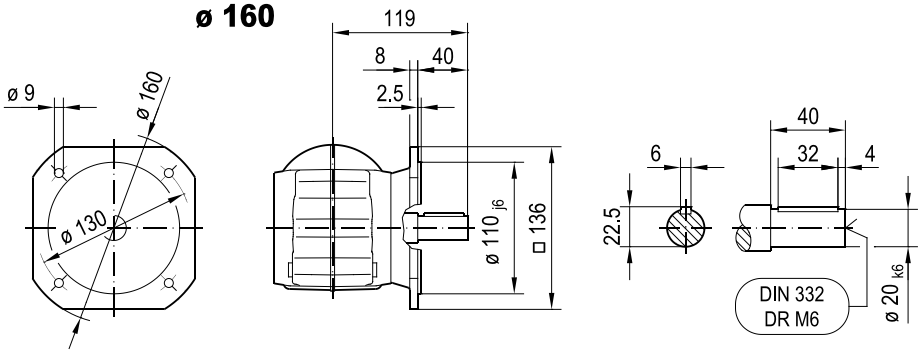
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33 016 00 21

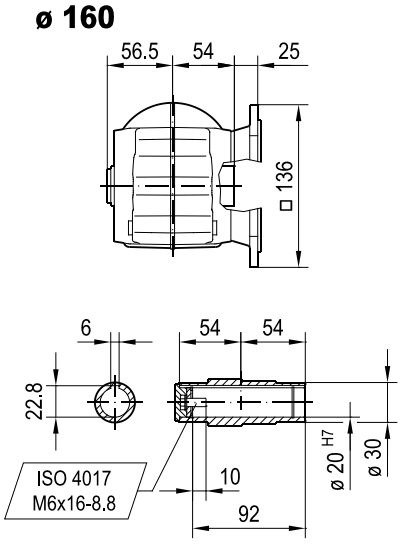
KF19..



Y → 10.2



KAF19..

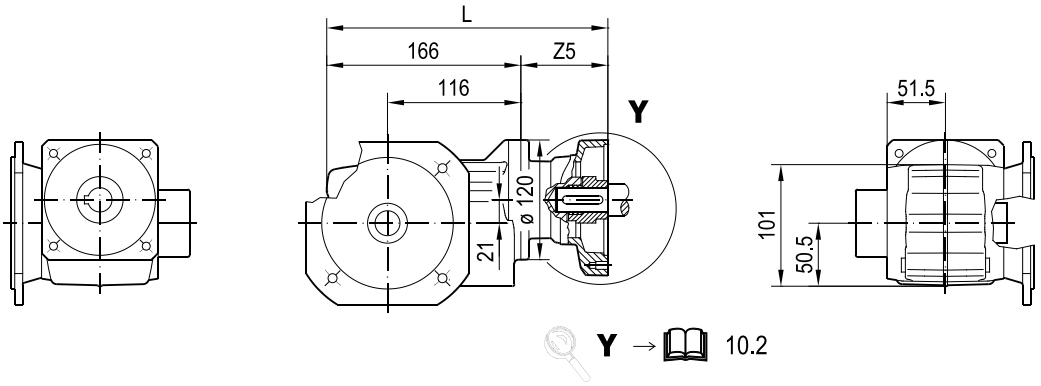


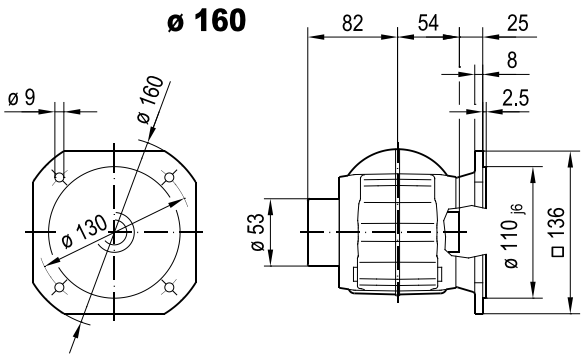
(→ 7.3.11)	AQS.								
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5
L	219	223	240	245	250	253	259	253	258

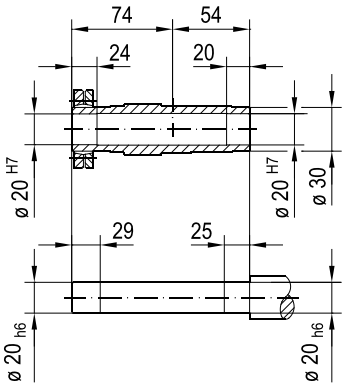
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33 017 00 21

KHF19..





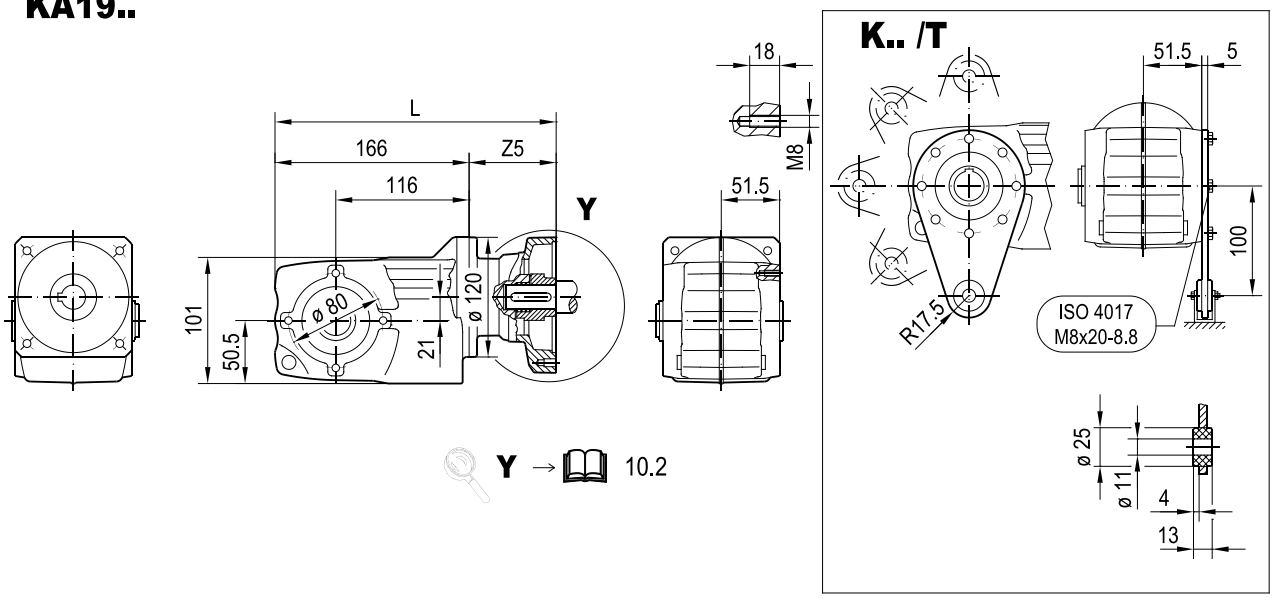


(→ 📖 7.3.11)	AQS.								
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5
L	219	223	240	245	250	253	259	253	258

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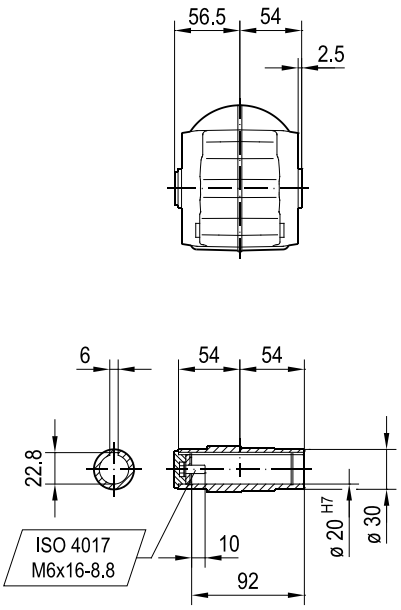
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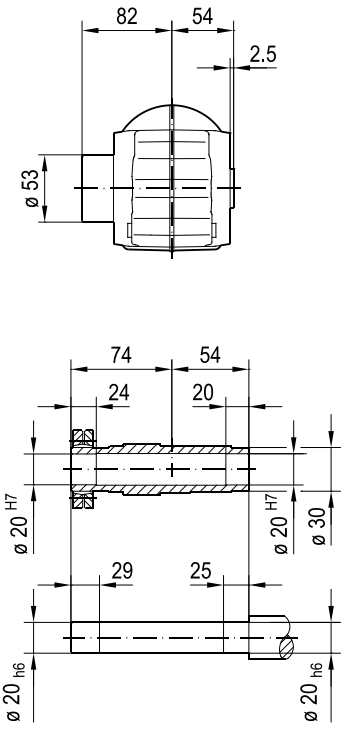


Y → 10.2

KA19..



KH19..

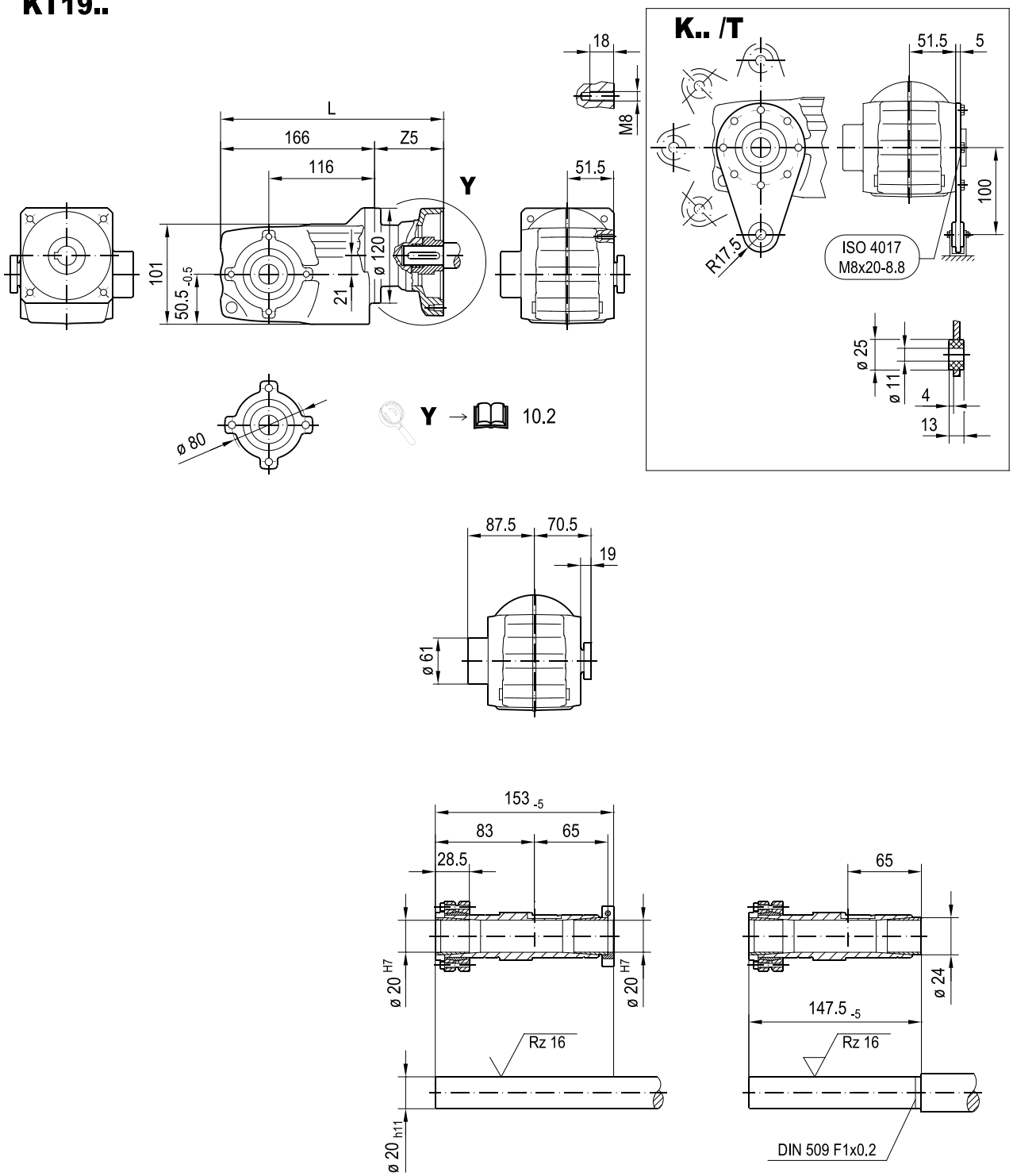


(→ 7.3.11)	AQS.								
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5
L	219	223	240	245	250	253	259	253	258

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33 119 02 21

KT19..



(→ 7.3.11)	AQS.								
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5
L	219	223	240	245	250	253	259	253	258

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10.1.2 K29 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$														
	i	50/1-2			80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6		
K29 2	3.19	21	21	27	39	43	66	75	83	128	76	84	129	110	114	187
	3.92	26	26	34	43	47	73	83	91	141	86	95	146	125	132	215
	5.10	34	34	44	49	54	83	95	105	162	97	107	165	110	121	187
	5.75	38	38	50	52	57	88	99	109	168	102	112	173	112	123	190
	6.95	46	47	60	56	62	95	106	117	180	109	120	185	112	123	190
	7.48	49	49	64	90	99	153	123	135	210	123	135	210	123	135	210
	8.53	57	57	74	60	66	102	114	125	194	116	128	197			
	9.17	60	60	78	101	111	172	130	143	220	130	143	220	130	143	220
	9.90	62	67	86	62	68	105	110	121	187	110	121	187			
	11.94	79	79	102	115	127	196	130	143	220	130	143	220	130	143	220
	13.47	89	90	116	121	133	205	130	143	220	130	143	220	130	143	220
	16.29	108	109	140	130	143	220	130	143	220	130	143	220	130	143	220
	19.99	130	134	173	130	143	220	130	143	220	130	143	220			
	22.08	105	115	179	105	115	179	105	115	179	105	115	179	105	115	179
	23.19	130	143	200	130	143	220	130	143	220	130	143	220			
	24.91	109	119	185	109	119	185	109	119	185	109	119	185	109	119	185
	27.23	130	143	220	130	143	220	130	143	220	130	143	220			
	29.69	130	143	220	130	143	220	130	143	220	130	143	220			
	30.11	115	126	196	115	126	196	115	126	196	115	126	196	115	126	196
	33.15															
	35.83															
	36.96	122	134	205	122	134	205	122	134	205	122	134	205			
	38.90															
	42.87	128	140	220	128	140	220	128	140	220	128	140	220			
	50.35	130	143	220	130	143	220	130	143	220	130	143	220			
	54.89	130	143	220	130	143	220	130	143	220	130	143	220			
	61.28															
	66.25															
	71.93															

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min^{-1}		AQS. n_{ak}				
	i	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
K29 2	3.19	1411	442	439	473	514
	3.92	1148	401	383	360	375
	5.10	882	306	278	286	665
	5.75	763	254	257	249	640
	6.95	458	204	212	207	645
	7.48	602	195	219	219	219
	8.53	226	164	164	171	
	9.17	491	158	181	181	181
	9.90	148	148	229	233	
	11.94	377	121	180	180	180
	13.47	318	106	180	180	180
	16.29	188	87	179	179	179
	19.99	108	108	178	178	
	22.08	69	69	69	69	69
	23.19	107	107	177	177	
	24.91	61	61	61	61	61
	27.23	103	103	165	165	
	29.69	100	100	152	152	
	30.11	50	50	50	50	50
	33.15					
	35.83					
	36.96	41	41	41	41	
	38.90					
	42.87	35	35	35	35	
	50.35	33	33	33	33	
	54.89	33	33	33	33	
	61.28					
	66.25					
	71.93					

K29, m kg					
	AQS.				
s	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
2	7.6	8.0	8.7	10	15
KF: + 1.0 kg / KA: + -0.45 kg / KAF: + 0.35 kg					

K29, J_A / c_{TA}		AQS.				
		50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
J_A 10^{-4}	kgm^2	0.41	0.46	1.3	2.4	8.1
c_{TA}	Nm/'	0.15	0.15	0.3	0.7	3.0

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K..29							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	K	KF	KA	KAF	K	KF	KA	KAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
K29 2	3.19	110	121	182	1389	2.6	1830	1200	1860	1860	5070	6000	6000	6000
	3.92	126	138	205	969	1.8	1910	1240	1920	1920	5030	6000	6000	6000
	5.10	110	121	182	882	1.1	2260	1500	2320	2320	5070	6000	6000	6000
	5.75	112	123	184	783	0.88	2370	1580	2440	2440	5070	6000	6000	6000
	6.95	112	123	184	647	0.61	2580	1720	2660	2660	5070	6000	6000	6000
	7.48	123	135	200	238	1.0	2300	1480	2300	2300	4980	6000	6000	6000
	8.53	122	134	200	528	0.42	2740	1830	2830	2830	5040	6000	6000	6000
	9.17	130	143	210	196	0.73	2470	1600	2480	2480	4960	6000	6000	6000
	9.90	110	121	182	455	0.32	3000	2020	3120	3120	5070	6000	6000	6000
	11.94	130	143	210	194	0.47	2810	1830	2840	2840	4960	6000	6000	6000
	13.47	130	143	210	194	0.38	2970	1950	3010	3010	4960	6000	6000	6000
	16.29	130	143	210	193	0.28	3240	2140	3300	3300	4960	6000	6000	6000
	19.99	130	143	210	192	0.20	3550	2350	3640	3640	4960	6000	6000	6000
	22.08	105	115	172	86	0.36	3820	2560	3950	3950	5020	6000	6000	6000
	23.19	130	143	210	191	0.15	3790	2520	3900	3900	4960	6000	6000	6000
	24.91	109	119	178	75	0.29	3980	2660	4120	4120	5010	6000	6000	6000
	27.23	130	143	210	165	0.12	4060	2710	4190	4190	4960	6000	6000	6000
	29.69	130	143	210	152	0.10	4210	2820	4360	4360	4960	6000	6000	6000
	30.11	115	126	189	63	0.21	4250	2850	4400	4400	4990	6000	6000	6000
	33.15	130	143	210	136	0.087	4410	2960	4580	4580	4960	6000	6000	6000
	35.83	130	143	210	126	0.077	4560	3060	4740	4740	4960	6000	6000	6000
	36.96	122	134	200	51	0.15	4560	3060	4730	4730	4960	6000	6000	6000
	38.90	130	143	210	116	0.067	4720	3170	4910	4910	4960	6000	6000	6000
	42.87	128	140	210	44	0.12	4790	3210	4970	4970	4940	6000	6000	6000
	50.35	130	143	210	42	0.096	4980	3430	5300	5300	4930	6000	6000	6000
	54.89	130	143	210	42	0.084	4980	3560	5510	5510	4930	6000	6000	6000
	61.28	130	143	210	41	0.072	4980	3730	5770	5770	4930	6000	6000	6000
	66.25	130	143	210	41	0.064	4980	3860	5970	5970	4930	6000	6000	6000
	71.93	130	143	210	41	0.056	4980	4000	6000	6000	4930	6000	6000	6000

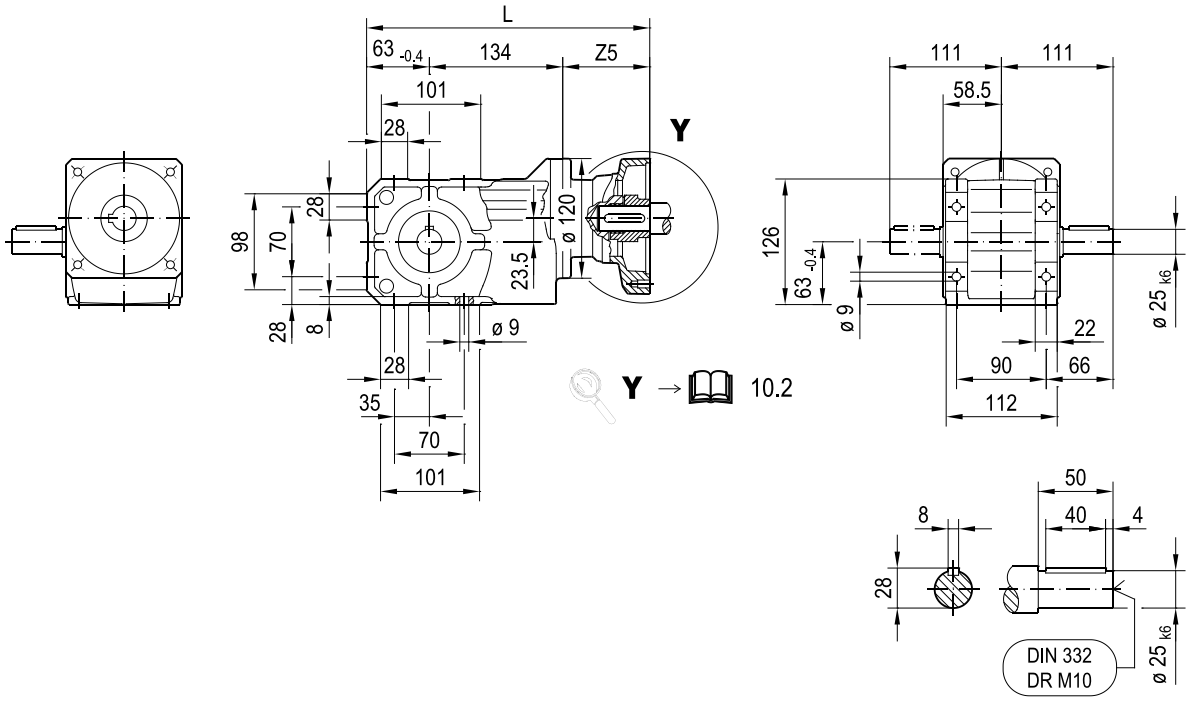
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K..29				c_{TG}			
	i	n_{epk} min^{-1}	η %	K Nm/'	KF Nm/'	KA Nm/'	KAF Nm/'
K29 2	3.19	4500	97	8.3	7.4	16	16
	3.92	4500	97	8.3	7.4	16	16
	5.10	4500	97	8.4	7.5	17	17
	5.75	4500	97	8.4	7.5	17	17
	6.95	4500	97	8.4	7.5	17	17
	7.48	4500	96	10	8.8	25	25
	8.53	4500	97	8.4	7.5	17	17
	9.17	4500	96	10	8.8	25	25
	9.90	4500	97	8.4	7.5	17	17
	11.94	4500	96	10	8.8	25	25
	13.47	4500	96	10	8.8	25	25
	16.29	4500	96	10	8.8	25	25
	19.99	4500	96	10	8.8	25	25
	22.08	4500	91	8.6	7.6	18	18
	23.19	4500	96	10	8.8	25	25
	24.91	4500	91	8.6	7.6	18	18
	27.23	4500	96	10	8.8	25	25
	29.69	4500	96	10	8.8	25	25
	30.11	4500	91	8.6	7.6	18	18
	33.15	4500	96	10	8.8	25	25
	35.83	4500	96	10	8.8	25	25
	36.96	4500	92	8.6	7.6	18	18
	38.90	4500	95	10	8.8	25	25
	42.87	4500	91	8.6	7.6	18	18
	50.35	4500	91	8.6	7.6	18	18
	54.89	4500	91	8.6	7.6	18	18
	61.28	4500	91	8.6	7.6	18	18
	66.25	4500	91	8.6	7.6	18	18
	71.93	4500	91	8.6	7.6	18	18

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33 019 00 21

K29..

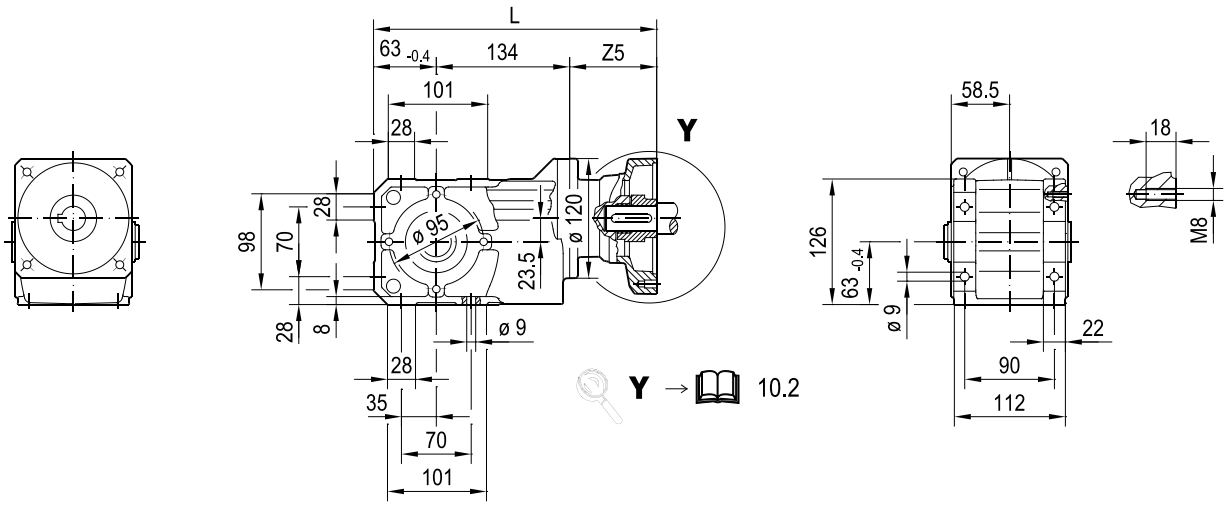


(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	250	254	271	276	281	284	290	284	289	306

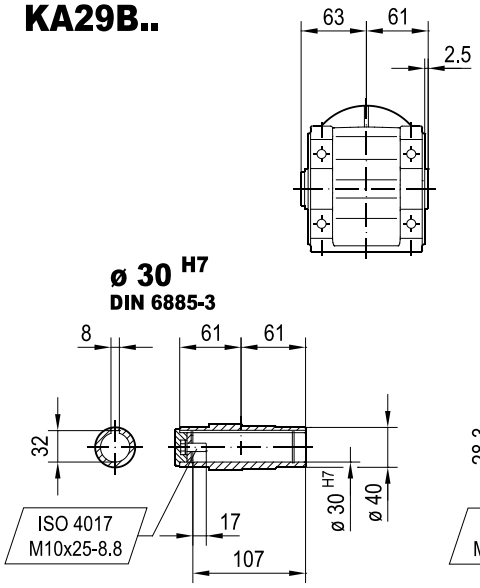
27788644/EN – 02/2024

33 020 00 21

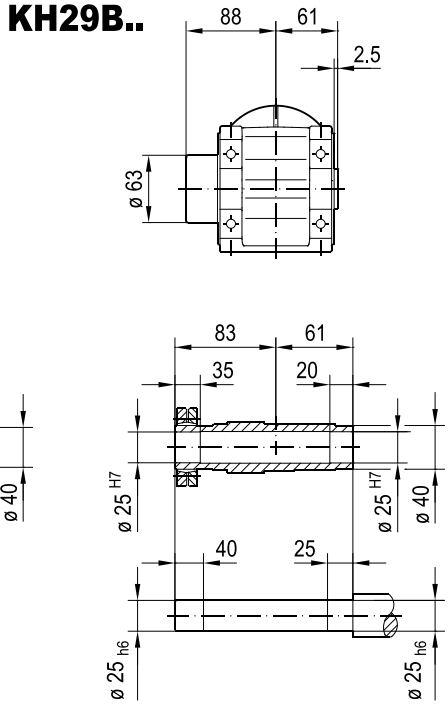
KA29B..



KA29B..



KH29B..

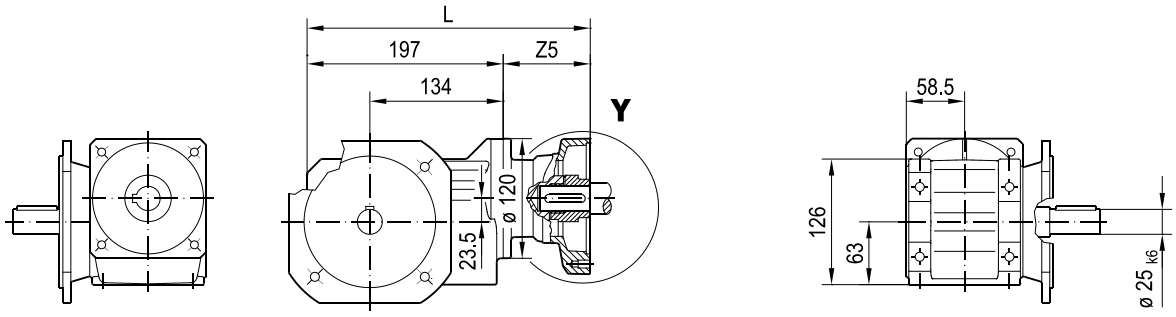


(→ 📖 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	250	254	271	276	281	284	290	284	289	306

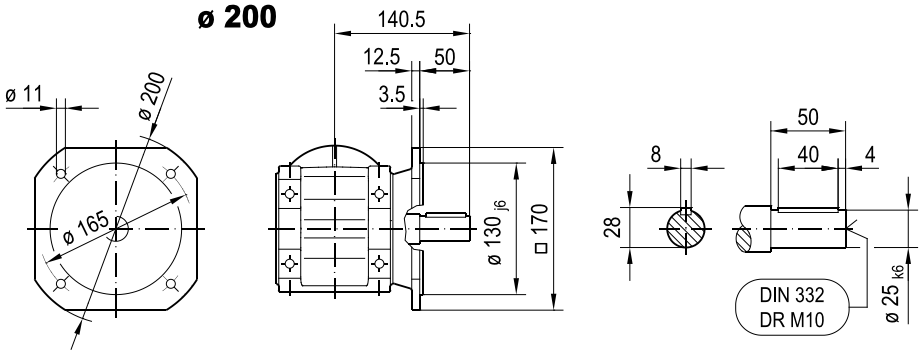
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33 021 00 21

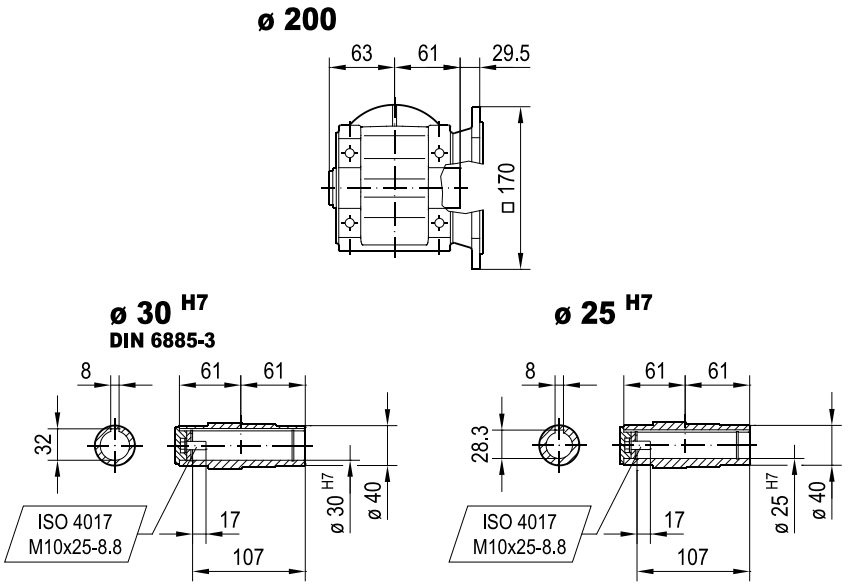
KF29B..



Y → 10.2



KAF29B..

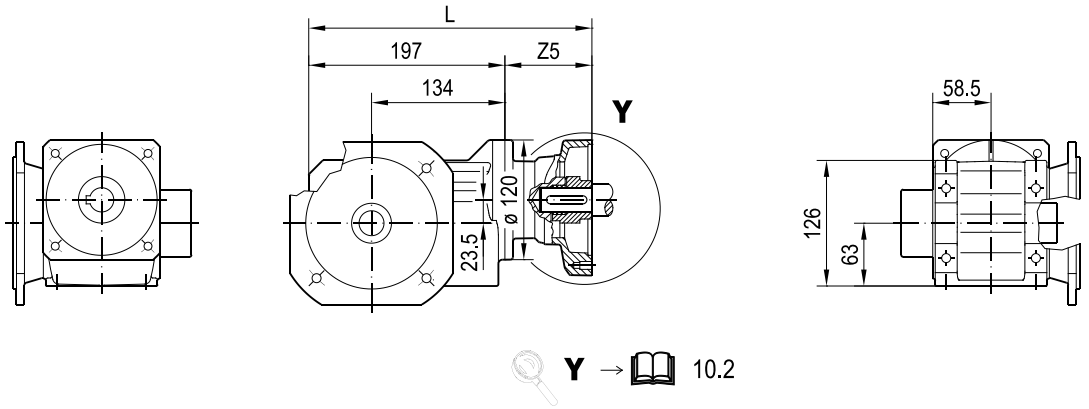


(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	250	254	271	276	281	284	290	284	289	306

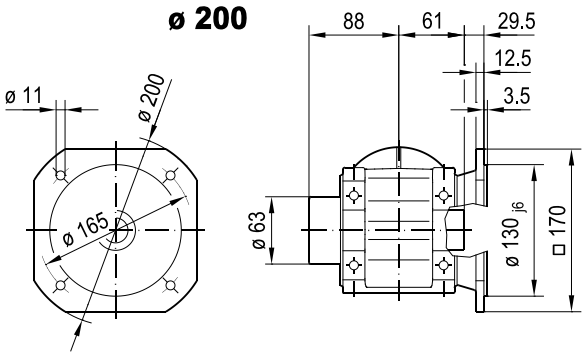
27788644/EN – 02/2024

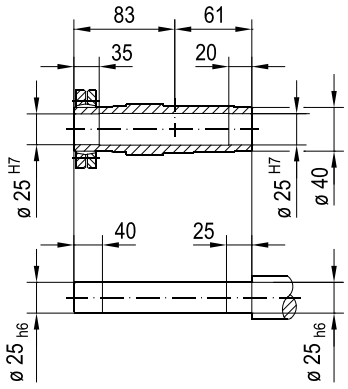
33 022 00 21

KHF29B..



Y → 10.2



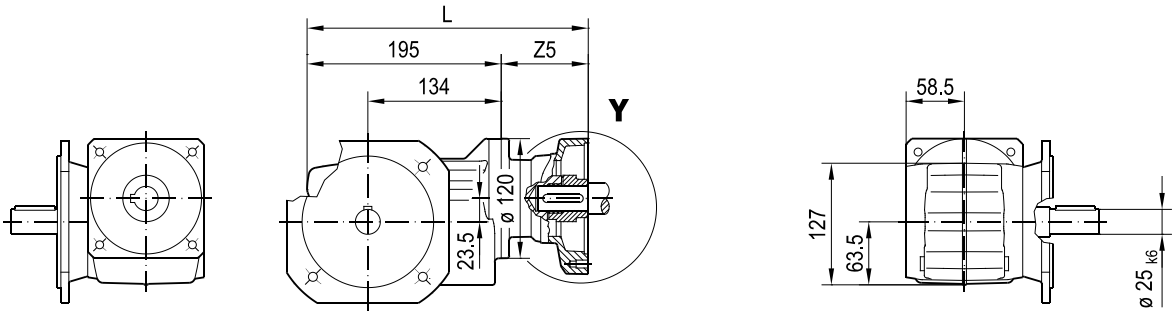


(→ 📖 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	250	254	271	276	281	284	290	284	289	306

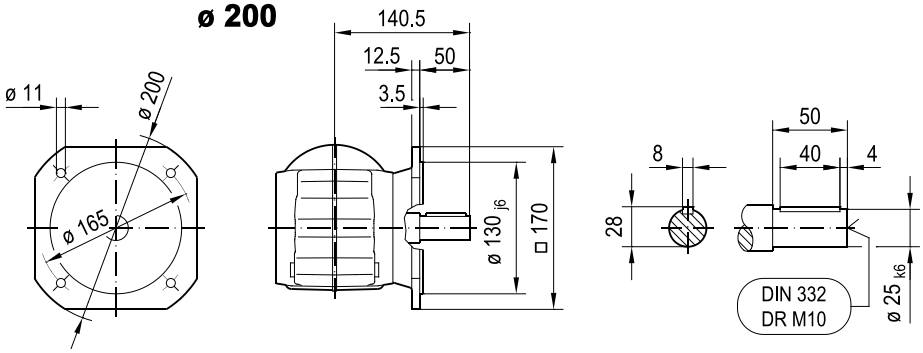
27788644/EN – 02/2024

33 023 00 21

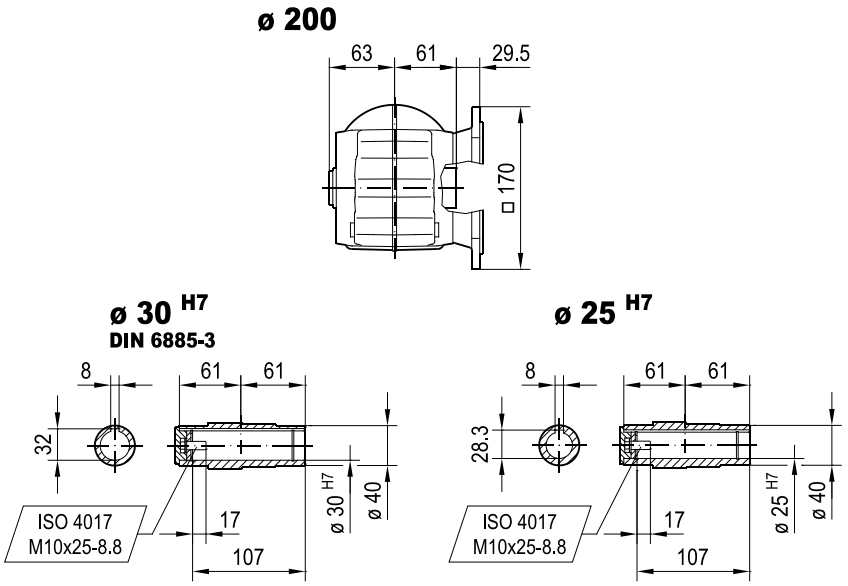
KF29..



Y → 10.2



KAF29..

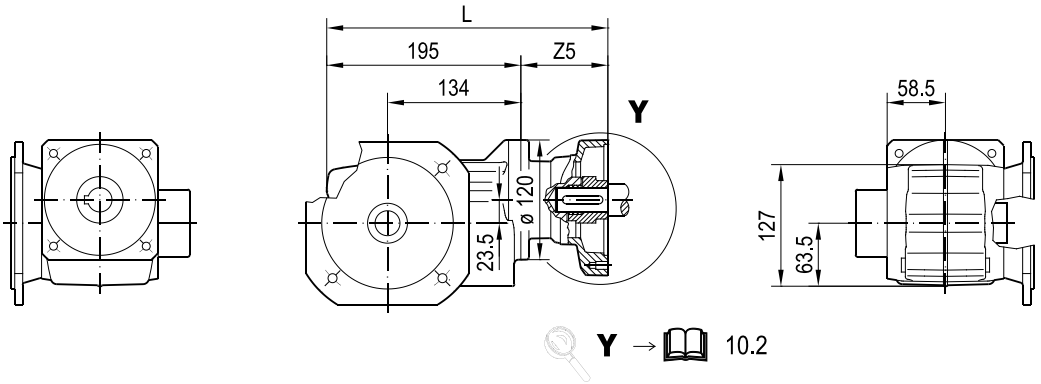


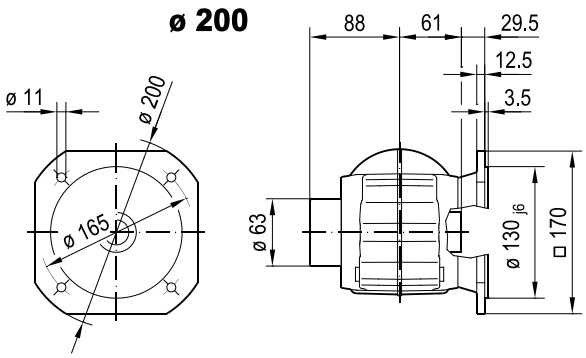
(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	248	252	269	274	279	282	288	282	287	304

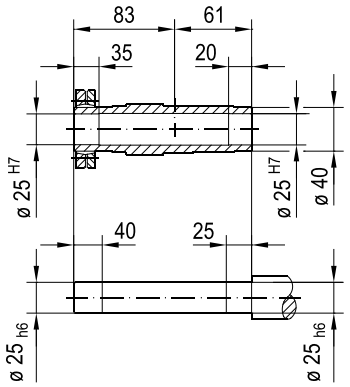
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33 024 00 21

KHF29..





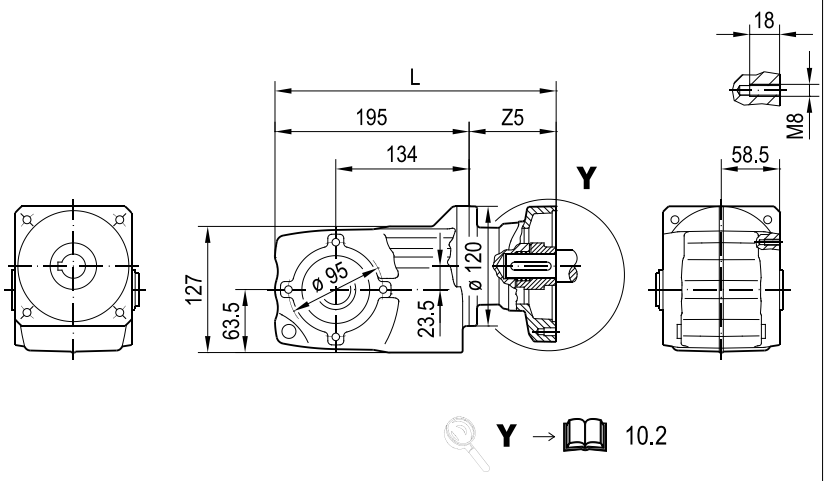


(→ 📖 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	248	252	269	274	279	282	288	282	287	304

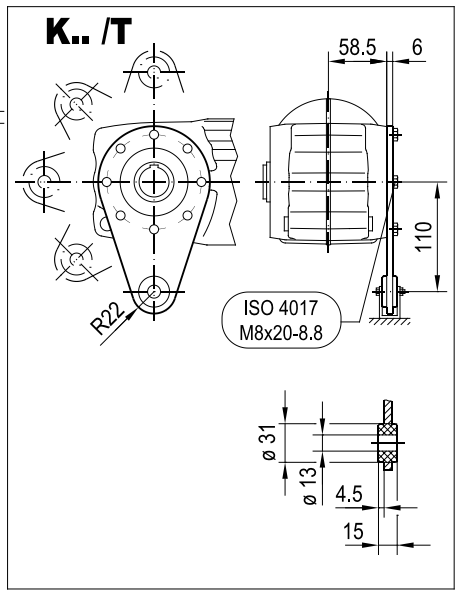
27788644/EN – 02/2024

33 025 01 21

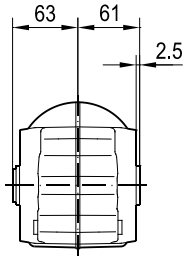
KA29..



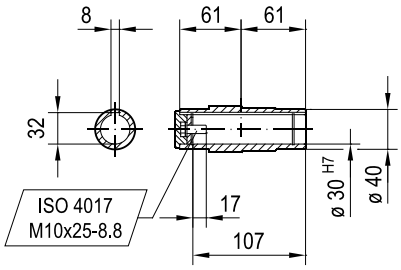
Y → 10.2



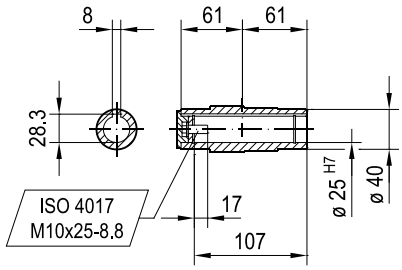
KA29..



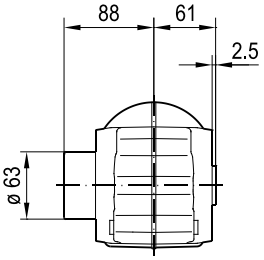
ø 30 H7
DIN 6885-3

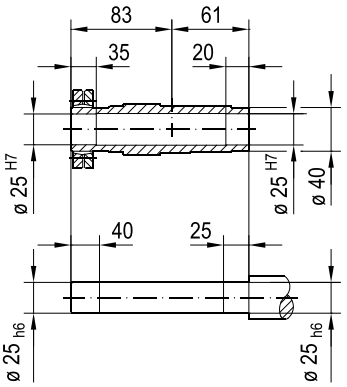


ø 25 H7



KH29..



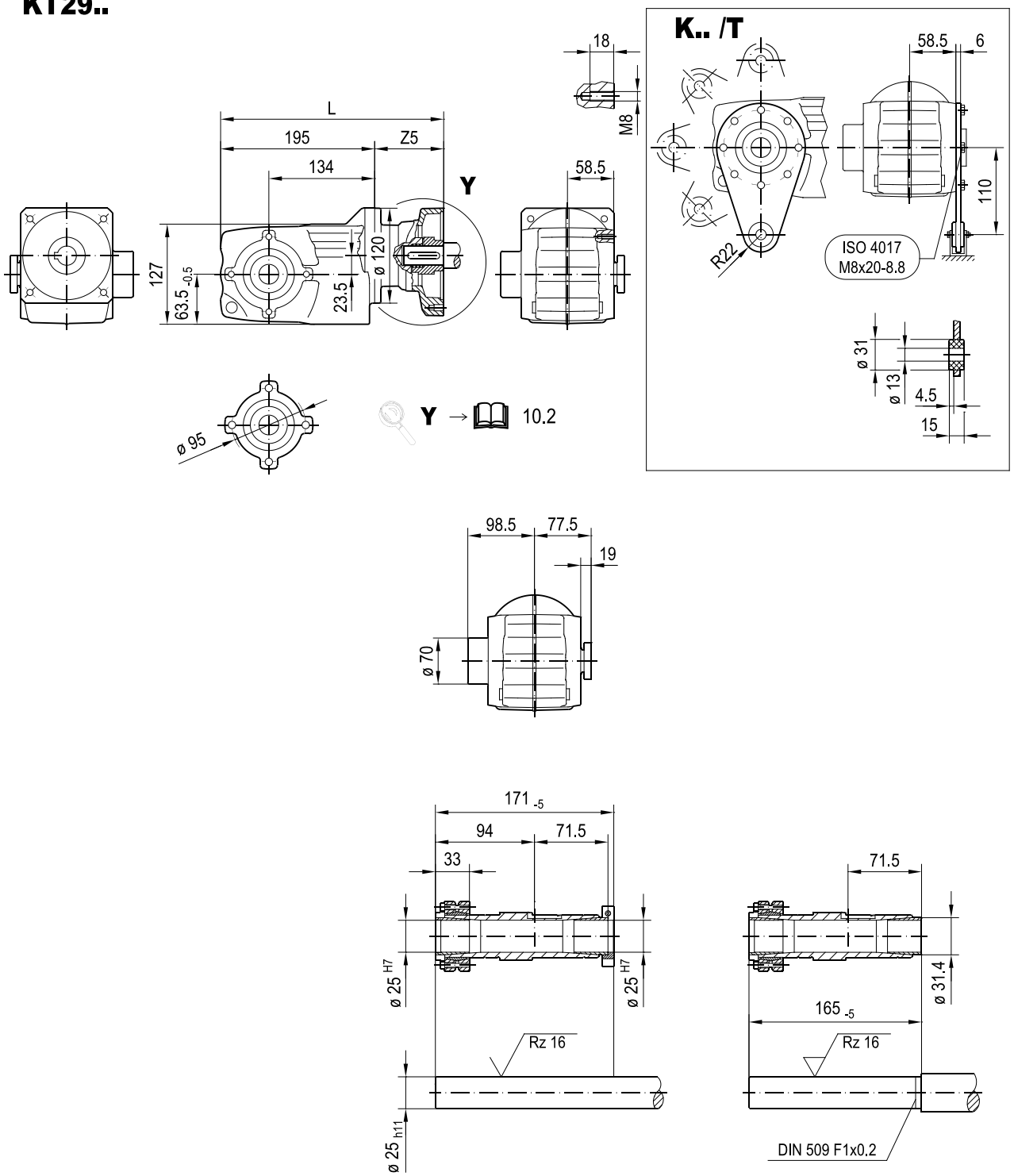


(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	248	252	269	274	279	282	288	282	287	304

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33 120 03 21

KT29..



(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	248	252	269	274	279	282	288	282	287	304

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10.1.3 K37 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$														
	i	50/1-2			80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6		
K37 3	3.98	26	26	34	59	64	100	113	120	172	116	167	197	125	167	215
	5.36	35	35	46	70	87	119	132	162	225	135	205	230	140	210	240
	6.37	42	42	54	76	103	129	143	192	245	145	210	245	145	210	245
	6.80	45	45	58	78	110	133	147	205	250	150	210	255	150	210	255
	7.96	53	53	68	83	125	141	155	210	265	155	210	265	155	210	265
	8.91	59	59	77	86	129	146	160	210	270	160	210	270	160	210	270
	10.49	70	70	90	90	135	153	160	210	270	160	210	270	160	210	270
	12.14	81	81	105	95	143	162	160	210	270	160	210	270			
	13.08	87	87	112	150	210	255	165	247	280	165	247	280	165	247	280
	15.31	102	102	131	160	240	270	175	255	300	175	255	300	175	255	300
	17.15	115	115	147	167	250	285	180	255	305	180	255	305	180	255	305
	20.19	135	135	174	174	255	295	185	255	315	185	255	315	185	255	315
	23.36	156	156	200	184	255	315	230	255	390	230	255	390			
	24.99	167	167	215	187	255	320	230	255	390	230	255	390			
	28.83	193	193	250	194	255	330	230	255	390	230	255	390			
	29.96	198	198	250	220	255	375	220	255	375	220	255	375	220	255	375
	35.57	230	230	300	230	255	390	230	255	390	230	255	390	230	255	390
	37.97	230	250	320	230	255	390	230	255	390	230	255	390	230	255	390
	44.46	230	255	375	230	255	390	230	255	390	230	255	390	230	255	390
	49.79	230	255	390	230	255	390	230	255	390	230	255	390	230	255	390
	58.60	230	255	390	230	255	390	230	255	390	230	255	390	230	255	390
	67.80	230	255	390	230	255	390	230	255	390	230	255	390			
	72.54	230	255	390	230	255	390	230	255	390	230	255	390			
	83.69	230	255	390	230	255	390	230	255	390	230	255	390			
	97.81	230	255	390	230	255	390	230	255	390	230	255	390			
	106.38	230	255	390	230	255	390	230	255	390	230	255	390			

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min^{-1}		AQS. n_{ak}				
	i	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
K37 3	3.98	1131	357	347	342	377
	5.36	840	250	259	261	319
	6.37	706	210	218	231	312
	6.80	662	200	204	207	288
	7.96	565	170	181	209	276
	8.91	505	158	171	196	260
	10.49	352	133	188	205	273
	12.14	236	115	219	208	
	13.08	344	105	344	344	344
	15.31	294	88	294	294	294
	17.15	262	78	262	262	262
	20.19	182	67	223	223	223
	23.36	122	57	142	142	
	24.99	100	54	142	142	
	28.83	49	47	142	142	
	29.96	150	109	109	109	109
	35.57	94	94	94	94	94
	37.97	94	94	94	94	94
	44.46	94	94	94	94	94
	49.79	90	90	90	90	90
	58.60	77	77	77	77	77
	67.80	66	66	66	66	
	72.54	62	62	62	62	
	83.69	54	54	54	54	
	97.81	46	46	46	46	
	106.38	42	42	42	42	

K37, m kg					
	AQS.				
s	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
3	13	14	14	16	20
KF: + 2.3 kg / KA: + -0.25 kg / KAF: + 1.5 kg					

K37, J_A / c_{TA}		AQS.				
		50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
J_A 10^{-4}	kgm^2	0.41	0.46	1.3	2.4	8.1
c_{TA}	Nm/'	0.15	0.15	0.3	0.7	3.0

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K..37							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	K	KF	KA	KAF	K	KF	KA	KAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
K37 3	3.98	125	187	210	407	2.6	1660	2130	2310	2310	5340	5710	7000	7000
	5.36	140	210	235	343	1.7	1810	2340	2530	2530	5130	5580	7000	7000
	6.37	145	210	245	338	1.3	1950	2500	2720	2720	5130	5580	7000	7000
	6.80	150	210	255	310	1.1	1980	2540	2760	2760	5130	5580	7000	7000
	7.96	155	210	260	298	0.85	2110	2700	2940	2940	5130	5580	7000	7000
	8.91	160	210	270	281	0.70	2200	2810	3070	3070	5130	5580	7000	7000
	10.49	160	210	270	294	0.51	2410	3030	3340	3340	5130	5580	7000	7000
	12.14	160	210	270	311	0.40	2600	3240	3600	3600	5130	5580	7000	7000
	13.08	165	245	280	344	1.0	2650	3310	3660	3660	3130	3130	7000	7000
	15.31	175	255	295	294	0.76	2780	3480	3850	3850	1270	1270	7000	7000
	17.15	180	255	305	262	0.62	2900	3630	4020	4020	1270	1270	7000	7000
	20.19	185	255	310	223	0.46	3110	3870	4300	4300	1270	1270	7000	7000
	23.36	230	255	390	148	0.37	2940	3790	4110	4110	1270	1270	7000	7000
	24.99	230	255	390	148	0.33	3050	3920	4260	4260	1270	1270	7000	7000
	28.83	230	255	390	148	0.26	3310	4200	4600	4600	1270	1270	7000	7000
	29.96	220	255	370	113	0.76	3470	4350	4800	4800	1270	1270	7000	7000
	35.57	230	255	390	98	0.60	3700	4630	5120	5120	1270	1270	7000	7000
	37.97	230	255	390	98	0.54	3820	4770	5290	5290	1270	1270	7000	7000
	44.46	230	255	390	98	0.42	4140	5120	5720	5720	1270	1270	7000	7000
	49.79	230	255	390	90	0.36	4380	5140	6040	6040	1270	1270	7000	7000
	58.60	230	255	390	77	0.27	4740	5140	6520	6520	1270	1270	7000	7000
	67.80	230	255	390	66	0.23	4940	5140	6980	6980	1270	1270	7000	7000
	72.54	230	255	390	62	0.21	4940	5140	7000	7000	1270	1270	7000	7000
	83.69	230	255	390	54	0.17	4940	5140	7000	7000	1270	1270	7000	7000
	97.81	230	255	390	46	0.13	4940	5140	7000	7000	1270	1270	7000	7000
	106.38	230	255	390	42	0.12	4940	5140	7000	7000	1270	1270	7000	7000

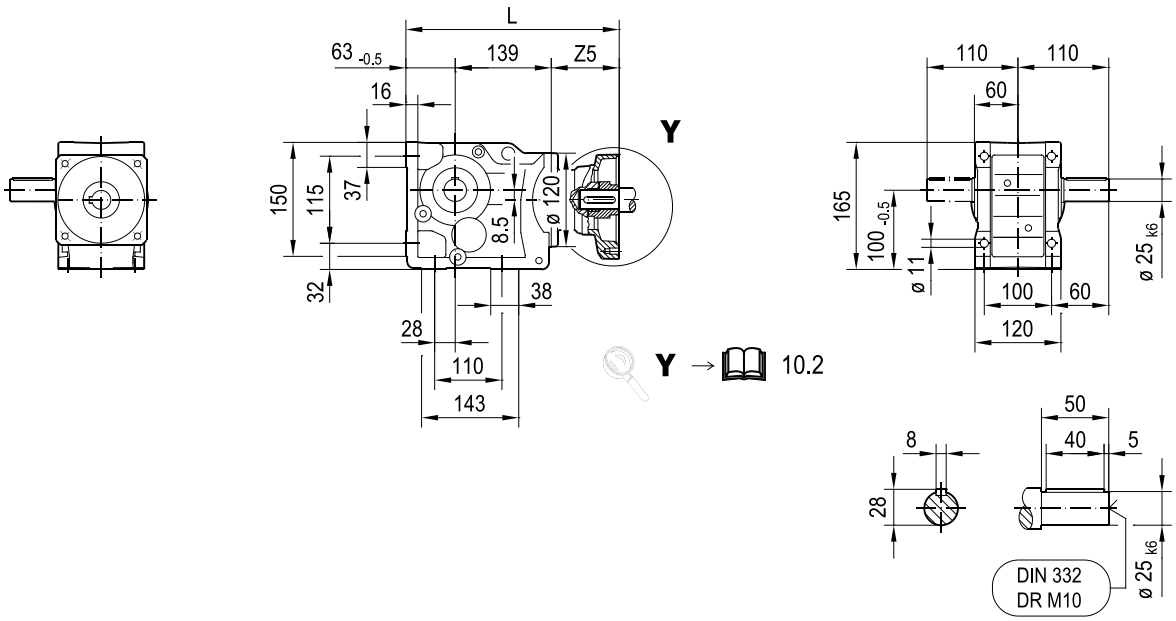
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K..37				c_{TG}				φ
	i	n_{epk} min^{-1}	η %	K Nm/'	KF Nm/'	KA Nm/'	KAF Nm/'	/R '
K37 3	3.98	4500	96	13	13	29	29	13
	5.36	4500	96	13	13	29	29	13
	6.37	4500	96	13	13	29	29	13
	6.80	4500	96	13	13	29	29	13
	7.96	4500	96	13	13	29	29	13
	8.91	4500	96	13	13	29	29	12
	10.49	4500	96	13	13	29	29	12
	12.14	4500	96	13	13	29	29	12
	13.08	4500	96	17	17	63	63	9
	15.31	4500	96	17	17	63	63	8
	17.15	4500	96	17	17	63	63	8
	20.19	4500	96	17	17	63	63	8
	23.36	4500	96	17	17	63	63	8
	24.99	4500	96	17	17	63	63	8
	28.83	4500	96	17	17	63	63	8
	29.96	4500	94	18	19	85	85	7
	35.57	4500	94	18	19	85	85	7
	37.97	4500	94	18	19	85	85	7
	44.46	4500	94	18	19	85	85	7
	49.79	4500	94	18	19	85	85	7
	58.60	4500	94	18	19	85	85	7
	67.80	4500	94	18	19	85	85	7
	72.54	4500	94	18	19	85	85	7
	83.69	4500	93	18	19	85	85	7
	97.81	4500	93	18	19	85	85	7
	106.38	4500	93	18	19	85	85	7

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33 026 00 21

K37..

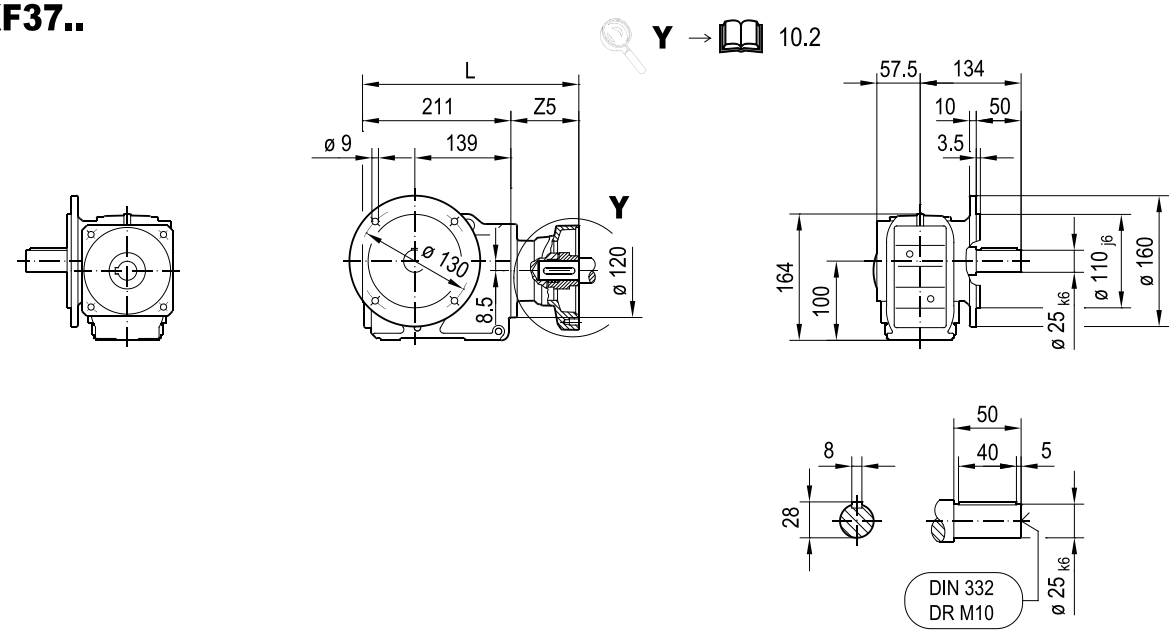


(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	255	259	276	281	286	289	295	289	294	311

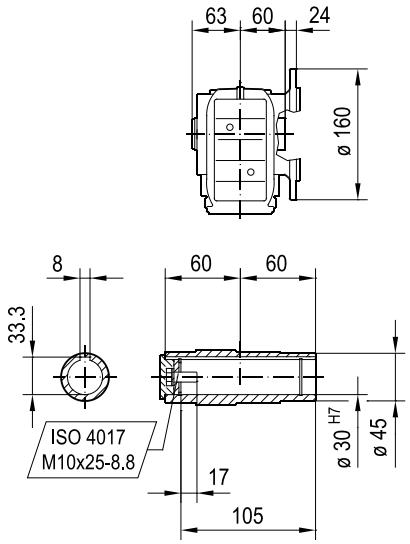
27788644/EN – 02/2024

33 027 00 21

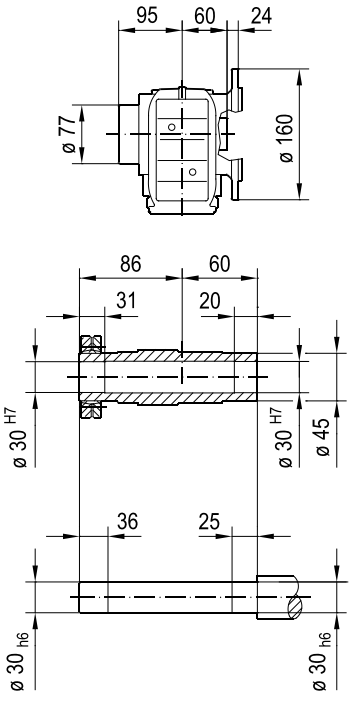
KF37..



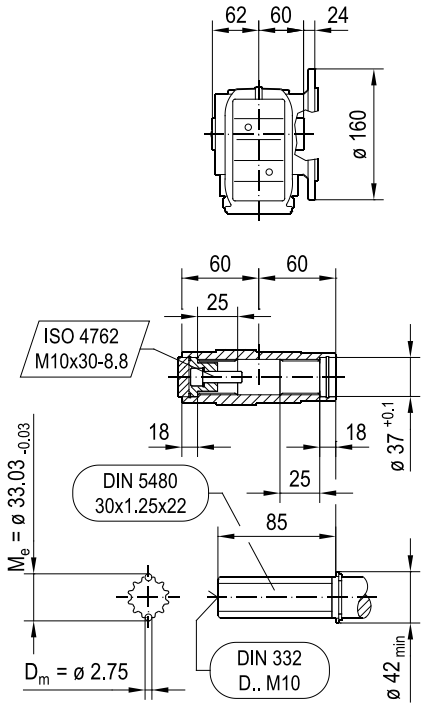
KAF37..



KHF37..



KVF37..

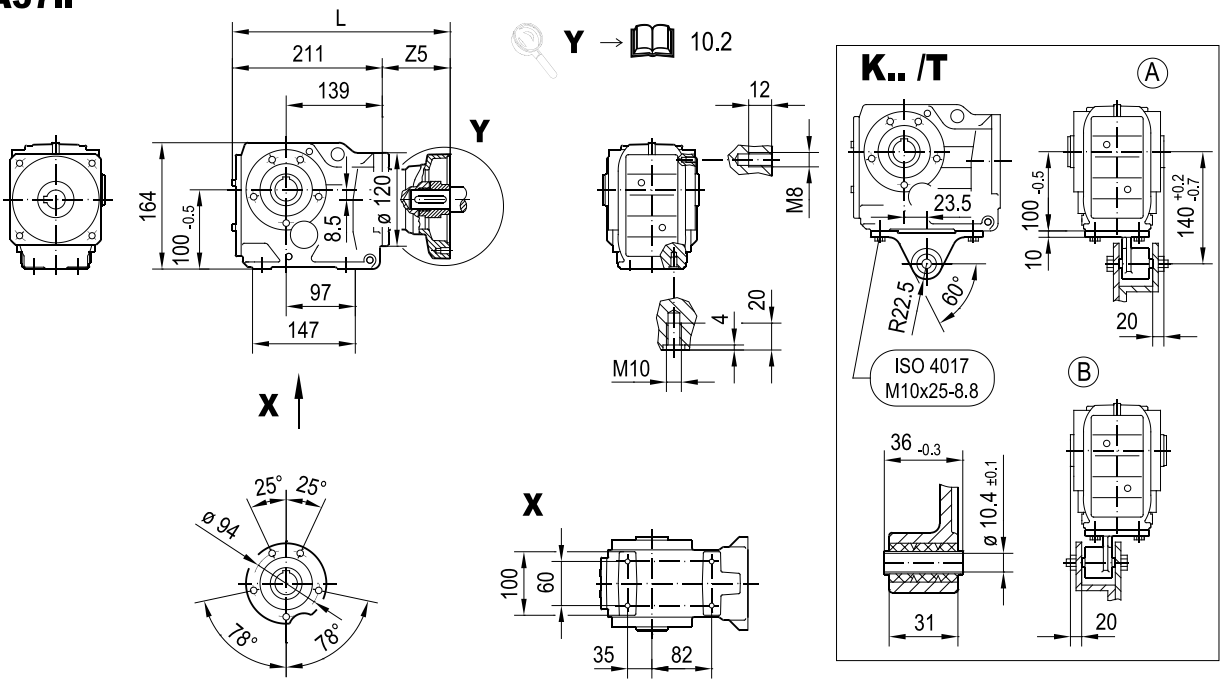


(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	264	268	285	290	295	298	304	298	303	320

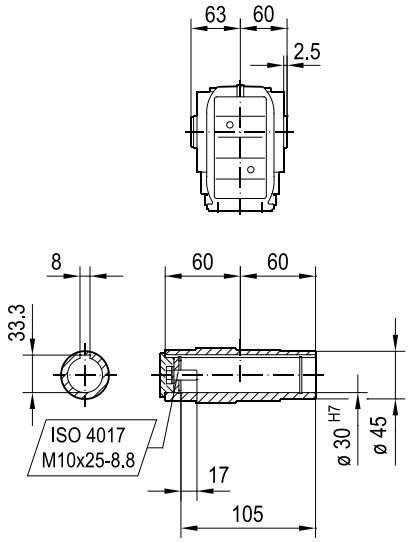
27788644/EN – 02/2024

KA37..

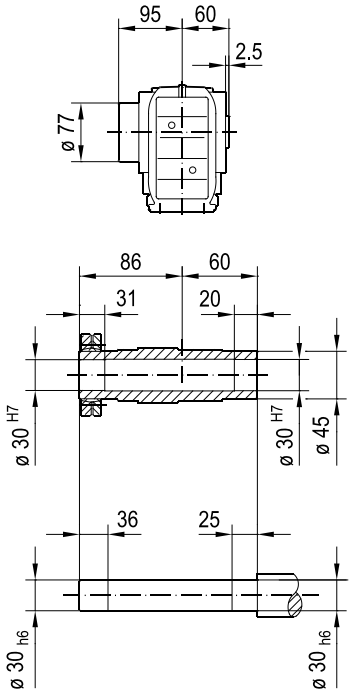
33 028 00 21



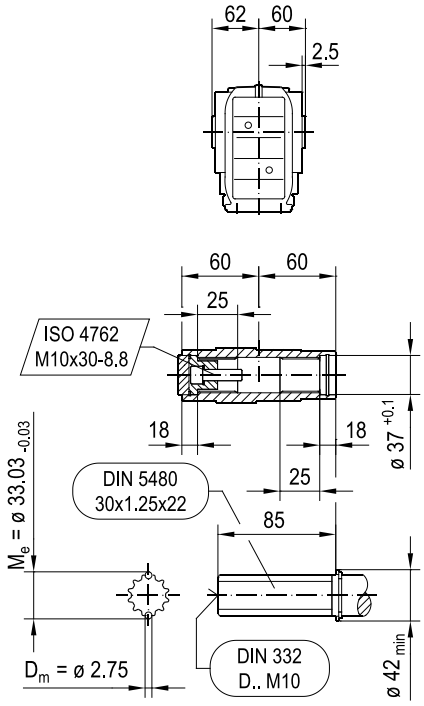
KA37..



KH37..



KV37..

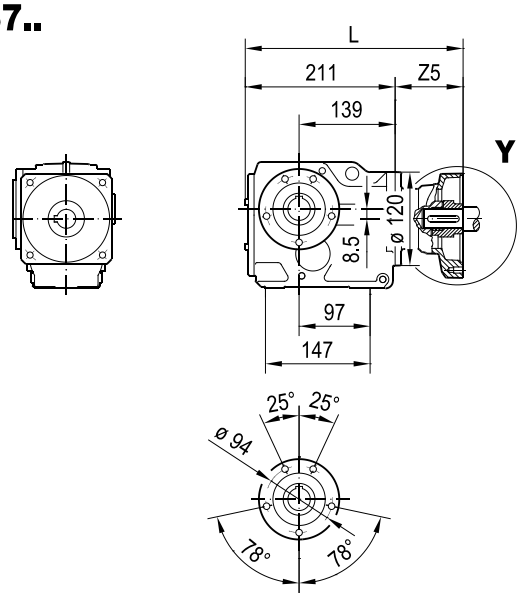


(→ 📖 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	264	268	285	290	295	298	304	298	303	320

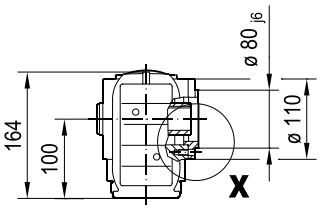
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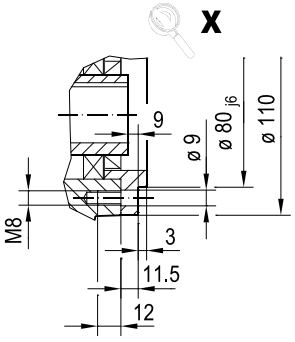
33 029 00 21

KAZ37..

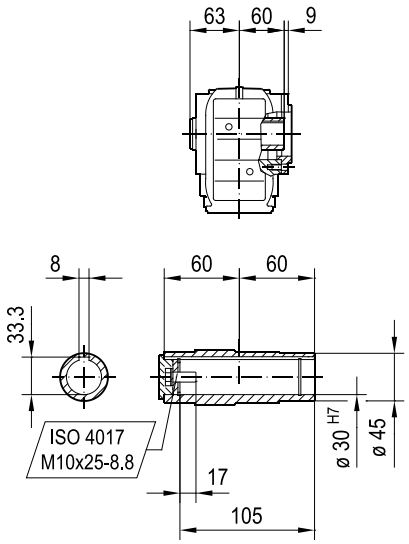


Y → 10.2

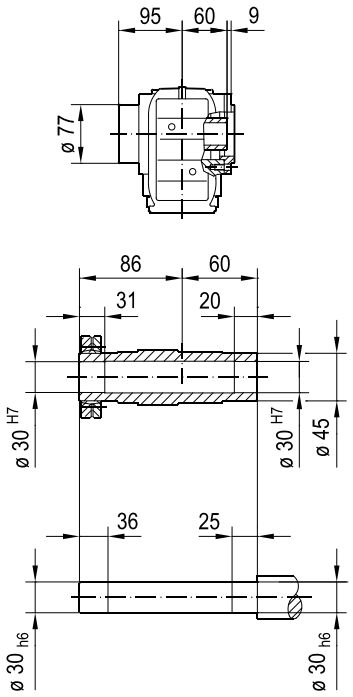




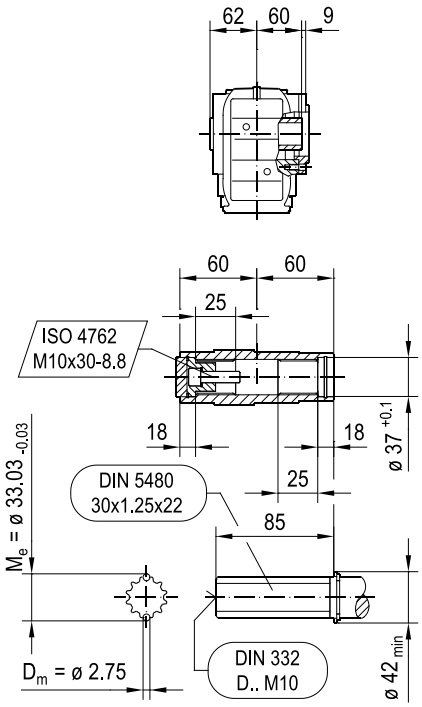
KAZ37..



KHZ37..



KVZ37..

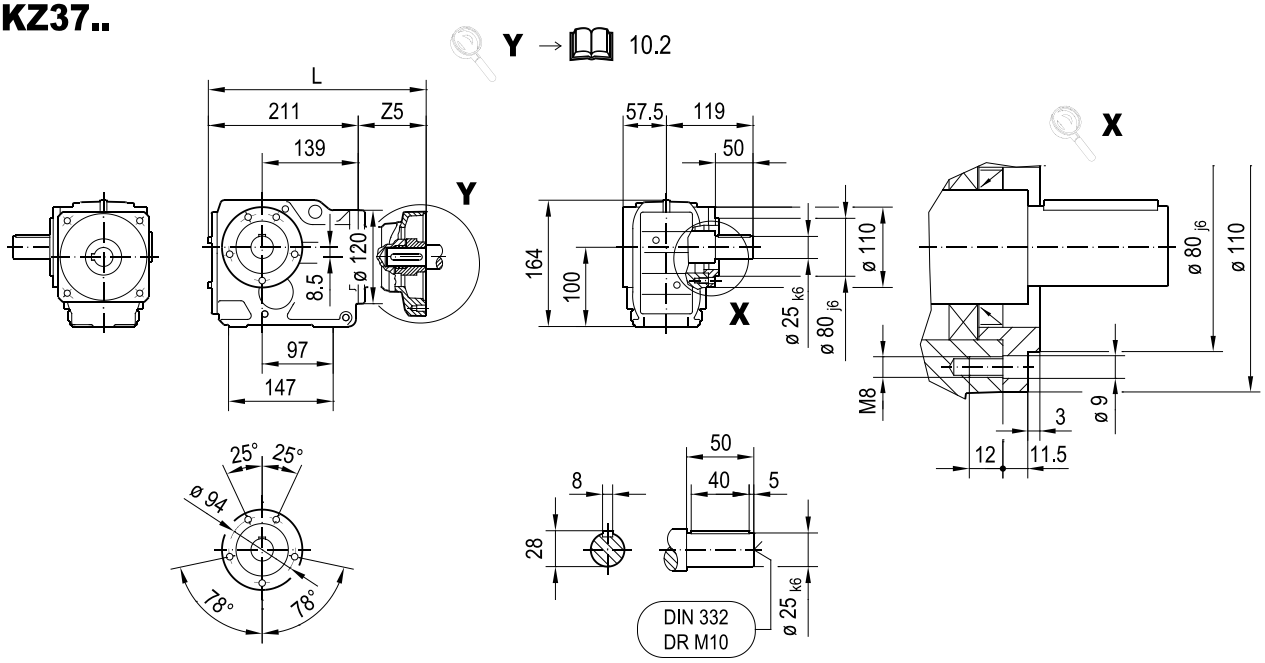


(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	264	268	285	290	295	298	304	298	303	320

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33 030 00 21

KZ37..

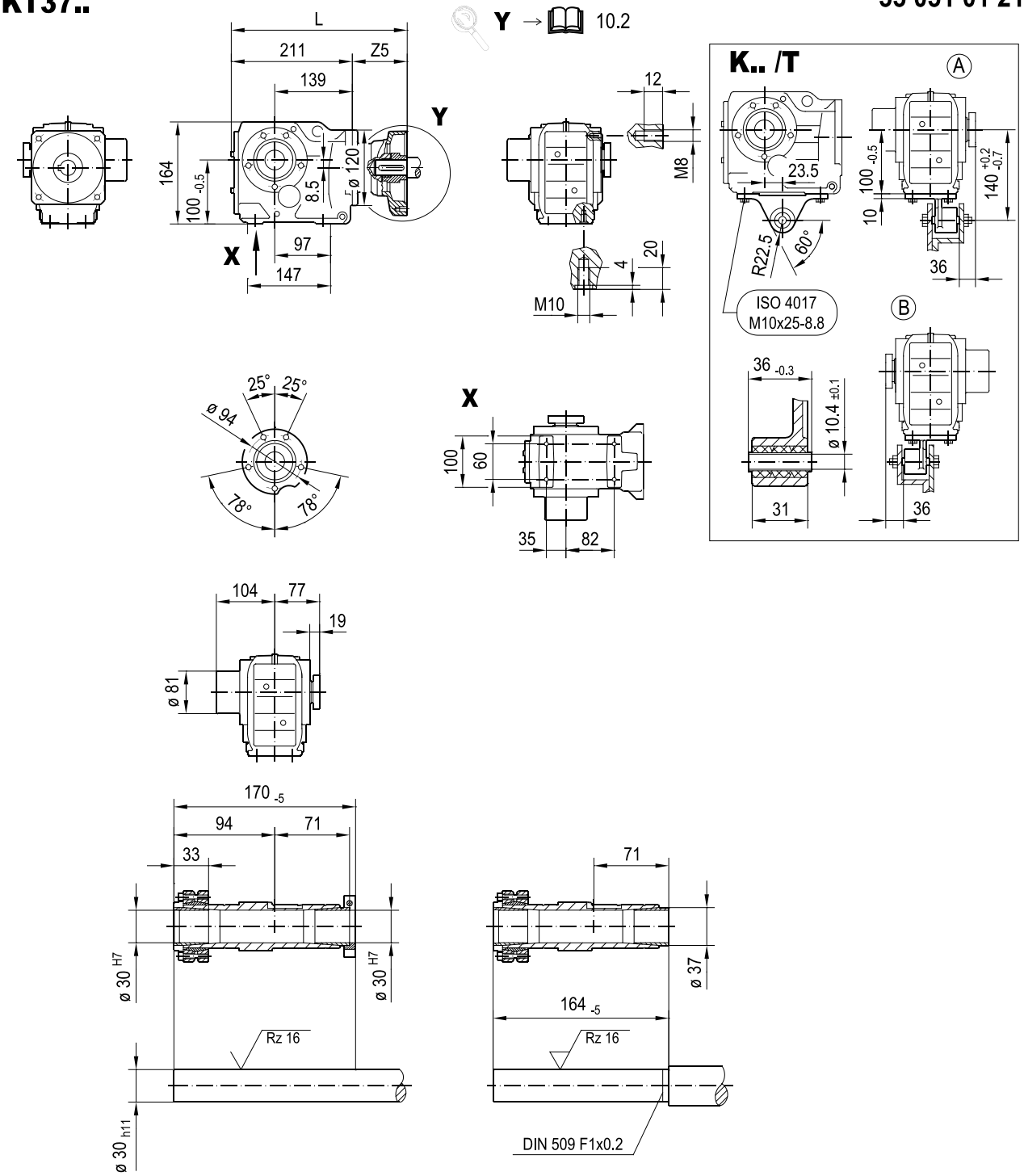


(→ 📖 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	264	268	285	290	295	298	304	298	303	320

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KT37..

33 031 01 21



(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	264	268	285	290	295	298	304	298	303	320

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10.1.4 K39 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$														
	i	80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6			160/1		
K39 2	2.81	44	44	75	83	83	120	98	126	167	170	182	290	170	175	290
	3.94	59	62	100	115	117	168	118	168	200	215	235	365	215	230	365
	4.52	63	72	107	122	135	194	125	188	215	240	265	410	240	255	410
	5.22	67	83	114	130	156	220	133	200	225	260	295	440	260	285	440
	5.75	70	92	119	135	172	230	138	205	235	275	315	470	275	305	470
	6.75	75	108	128	144	200	245	148	220	250	300	350	510	300	340	510
	7.15	77	115	131	147	215	250	151	225	255	300	360	510	300	355	510
	8.12	79	119	134	152	230	260	155	235	265	300	385	510	300	380	510
	9.00	82	123	139	156	235	265	160	240	270	300	375	510	300	370	510
	10.61	86	129	146	163	245	275	167	250	285	280	325	475	280	325	475
	12.09	90	135	153	171	250	290	175	250	300						
	12.73	90	135	153	171	255	290	175	255	300						
	13.44	196	205	335	270	385	460	270	405	460	270	405	460	270	405	460
	15.44	205	235	350	280	410	475	280	410	475	280	410	475	280	410	475
	17.83	220	275	375	290	410	495	290	410	495	290	410	495	290	410	495
	19.62	230	300	390	295	410	500	295	410	500	295	410	500	295	410	500
	23.04	245	355	415	300	410	510	300	410	510	300	410	510	300	410	510
	24.40	250	375	425	300	410	510	300	410	510	300	410	510	300	410	510
	27.73	260	390	440	300	410	510	300	410	510	300	410	510	300	410	510
	30.72	270	405	460	300	410	510	300	410	510	300	410	510	300	410	510
	36.22	280	410	475	300	410	510	300	410	510	300	410	510	300	410	510
	41.28	295	410	500	300	410	510	300	410	510						
	43.45	295	410	500	300	410	510	300	410	510						
	49.69	300	410	510	300	410	510	300	410	510						
	58.24	300	410	510	300	410	510	300	410	510						

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min^{-1}		AQS. n_{ak}				
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1
K39 2	2.81	858	1014	509	996	1601
	3.94	376	355	355	602	1142
	4.52	330	319	321	456	951
	5.22	289	270	274	370	734
	5.75	256	245	250	317	602
	6.75	221	215	210	255	441
	7.15	201	201	199	253	441
	8.12	185	172	177	241	437
	9.00	160	159	158	238	434
	10.61	135	135	134	279	424
	12.09	118	117	117		
	12.73	114	112	112		
	13.44	104	111	111	111	111
	15.44	103	97	97	97	97
	17.83	86	84	84	84	84
	19.62	75	78	78	78	78
	23.04	68	73	73	73	73
	24.40	64	73	73	73	73
	27.73	54	72	72	72	72
	30.72	47	72	72	72	72
	36.22	42	71	71	71	71
	41.28	36	70	70		
	43.45	34	70	70		
	49.69	32	70	70		
	58.24	34	69	69		

K39, m kg	AQS.				
s	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1
2	19	20	22	26	29
KF: + 1.5 kg / KA: + -1.0 kg / KAF: + 0.50 kg					

K39, J_A / c_{TA}		AQS.				
		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1
J_A 10^{-4}	kgm^2	0.46	1.3	2.4	8.1	22.0
c_{TA}	Nm/'	0.15	0.3	0.7	3.0	7.0

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K..39							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	K	KF	KA	KAF	K	KF	KA	KAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
K39 2	2.81	170	255	285	1601	15	2870	2460	2180	2180	7500	6260	7500	7500
	3.94	215	320	365	1142	8.3	3070	2630	2260	2260	7500	6180	7500	7500
	4.52	240	360	405	951	6.5	3130	2680	1730	1730	7500	6130	7500	7500
	5.22	260	390	440	770	5.0	3240	2770	960	960	7500	6090	7500	7500
	5.75	275	410	465	654	4.2	3300	2830	290	290	7470	6060	7500	7500
	6.75	300	435	510	481	3.2	3430	2940	0	0	7300	6020	7500	7500
	7.15	300	435	510	478	2.9	3530	3020	157	157	7300	6020	7500	7500
	8.12	300	385	510	477	2.3	3760	3220	2080	2080	7500	6090	7500	7500
	9.00	300	385	510	473	1.9	3950	3380	2860	2860	7500	6090	7500	7500
	10.61	285	370	485	424	1.4	4360	3730	3250	3250	7500	6110	7500	7500
	12.09	255	295	430	372	1.1	4790	4110	3700	3700	7500	6210	7500	7500
	12.73	250	295	425	353	0.94	4930	4220	3830	3830	7500	6210	7500	7500
	13.44	270	405	455	137	3.0	4160	3560	2830	2830	7500	5980	7500	7500
	15.44	280	410	475	119	2.4	4380	3750	2990	2990	7490	5960	7500	7500
	17.83	290	410	490	103	2.0	4630	3960	3180	3180	7490	5960	7500	7500
	19.62	295	410	500	97	1.7	4820	4120	3330	3330	7490	5960	7500	7500
	23.04	300	410	510	89	1.4	5180	4440	3630	3630	7490	5960	7500	7500
	24.40	300	410	510	89	1.3	5330	4560	3760	3760	7490	5960	7500	7500
	27.73	300	410	510	88	1.0	5670	4860	4070	4070	7490	5960	7500	7500
	30.72	300	410	510	88	0.89	5960	5100	4320	4320	7490	5960	7500	7500
	36.22	300	410	510	87	0.70	6440	5520	4740	4740	7490	5960	7500	7500
	41.28	300	410	510	86	0.48	6840	5860	5100	5100	7490	5960	7500	7500
	43.45	300	410	510	86	0.43	7000	6000	5240	5240	7490	5960	7500	7500
	49.69	300	410	510	86	0.35	7440	6150	5630	5630	7490	5960	7500	7500
	58.24	300	410	510	77	0.28	7500	6150	6110	6110	7490	5960	7500	7500

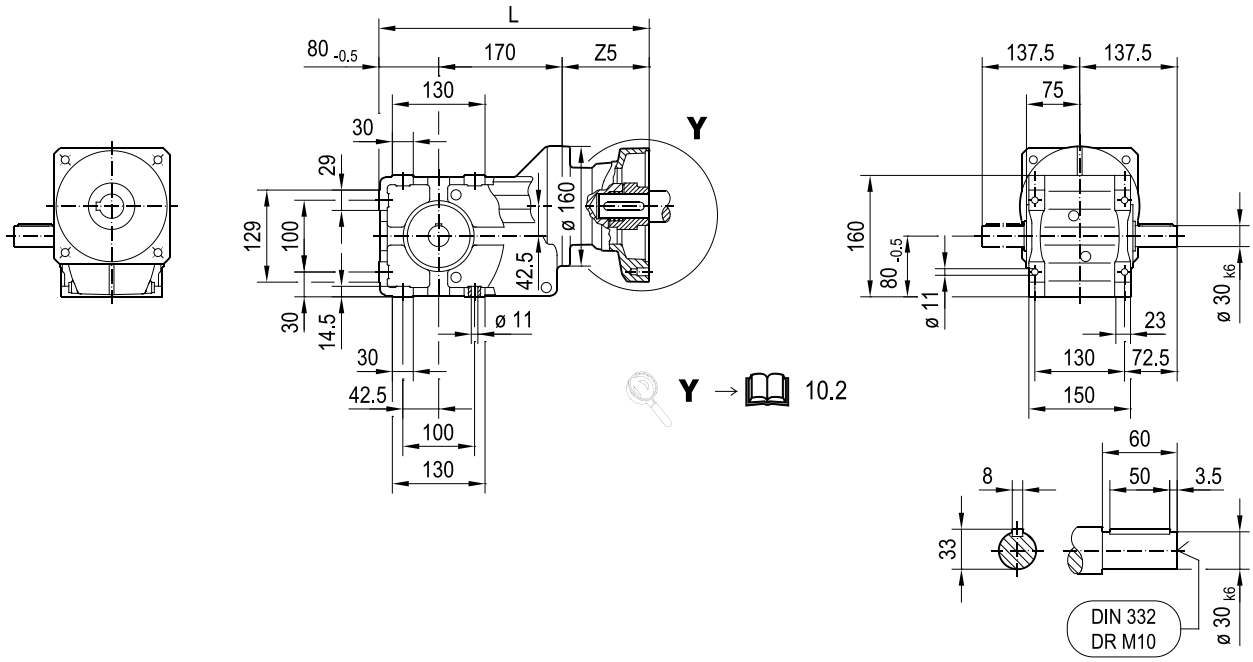
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K..39				c_{TG}			
	i	n_{epk} min^{-1}	η %	K Nm/'	KF Nm/'	KA Nm/'	KAF Nm/'
K39 2	2.81	4500	95	15	14	30	30
	3.94	4500	96	15	14	30	30
	4.52	4500	96	15	14	30	30
	5.22	4500	96	15	14	30	30
	5.75	4500	96	15	14	30	30
	6.75	4500	96	15	14	30	30
	7.15	4500	96	15	14	30	30
	8.12	4500	96	15	14	30	30
	9.00	4500	96	15	14	30	30
	10.61	4500	96	15	14	37	37
	12.09	4500	96	15	14	37	37
	12.73	4500	96	15	14	37	37
	13.44	4500	91	20	19	67	67
	15.44	4500	91	20	19	67	67
	17.83	4500	91	20	19	67	67
	19.62	4500	91	20	19	67	67
	23.04	4500	91	20	19	67	67
	24.40	4500	91	20	19	67	67
	27.73	4500	91	20	19	67	67
	30.72	4500	91	20	19	67	67
	36.22	4500	91	20	19	67	67
	41.28	4500	91	20	19	67	67
	43.45	4500	91	20	19	67	67
	49.69	4500	91	20	19	67	67
	58.24	4500	91	20	19	67	67

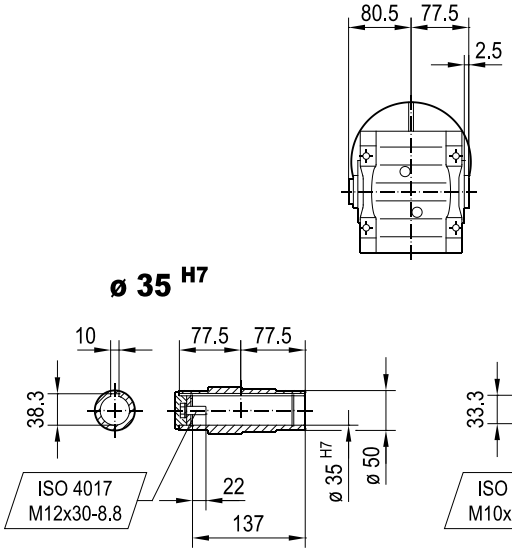
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33 032 00 21

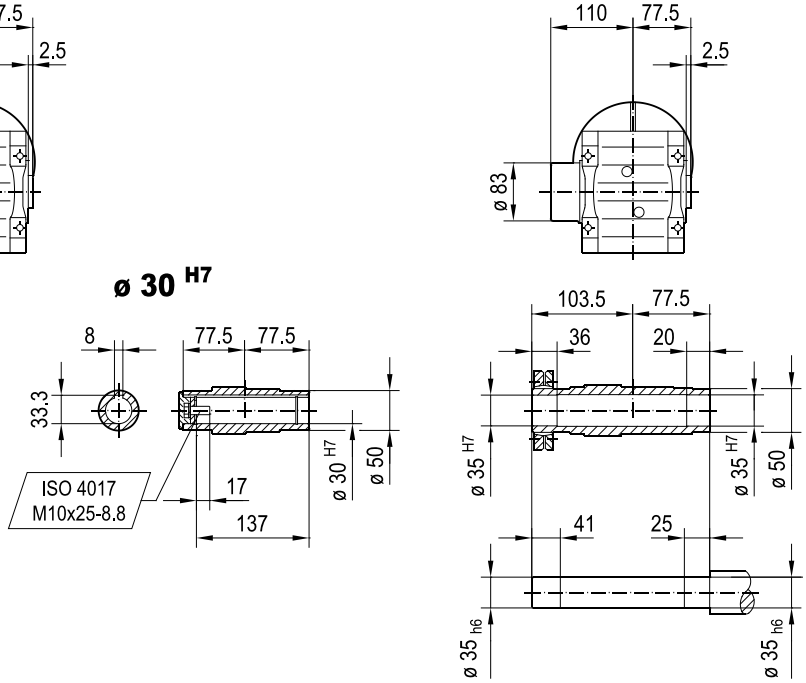
K39..



KA39B..



KH39B..

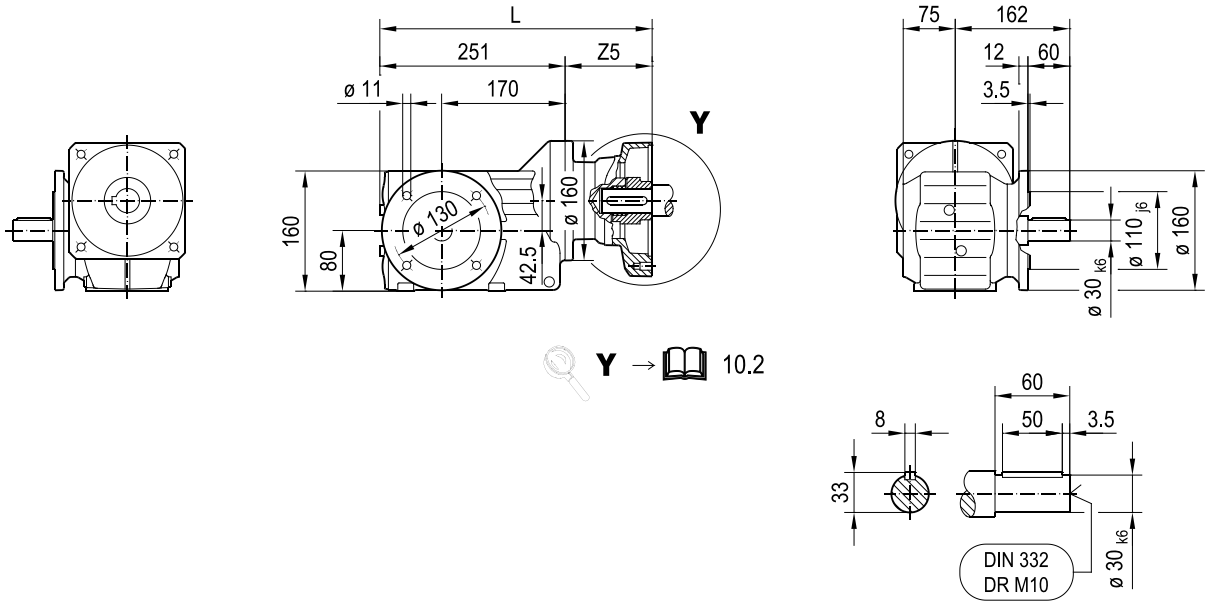


(→ 7.3.11)	AQS.									
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1
Z5	50	67	72.5	77	80	86	80	85	108.5	134
L	300	317	323	327	330	336	330	335	359	384

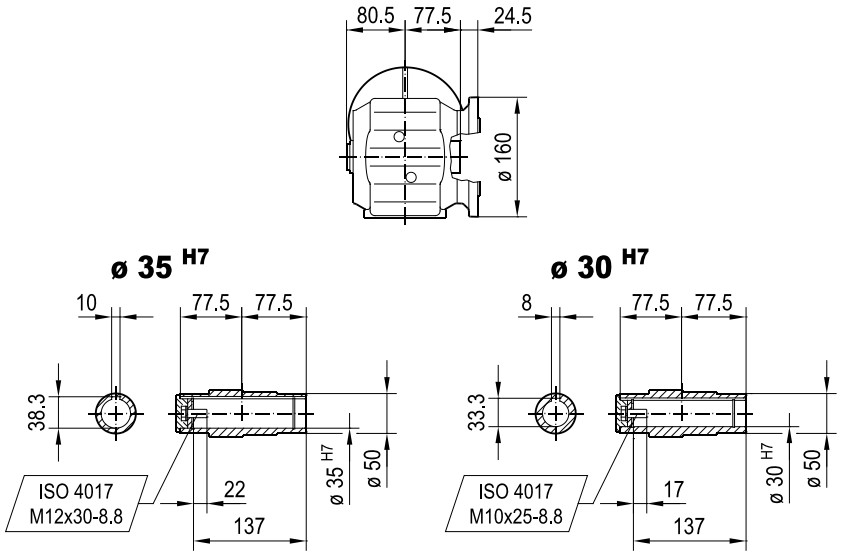
27788644/EN – 02/2024

33 033 00 21

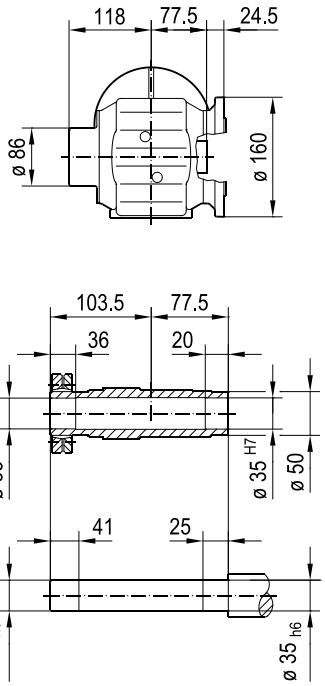
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KAF39..



KHF39..

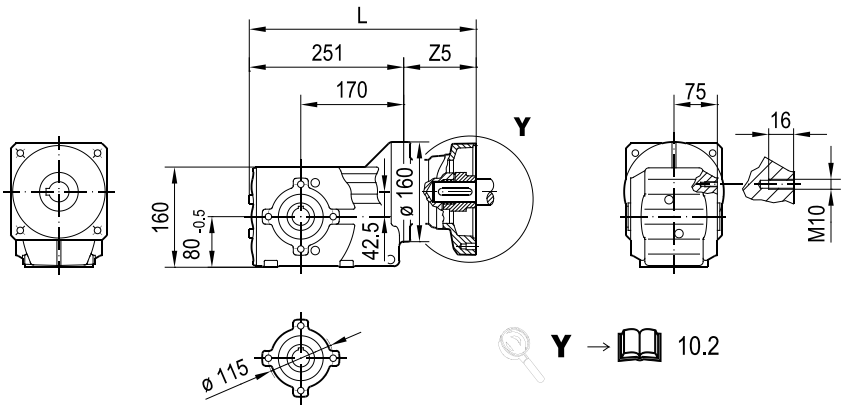


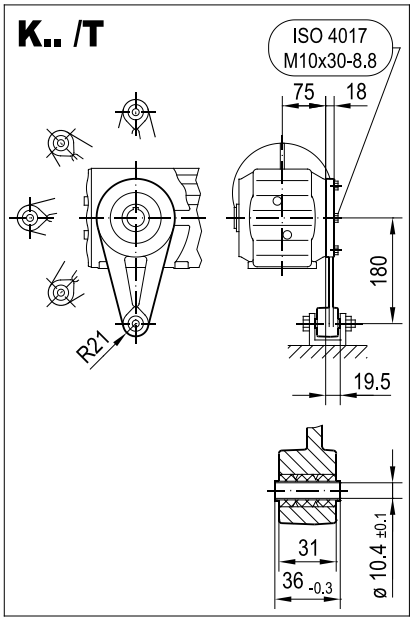
(→ 7.3.11)	AQS.									
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1
Z5	50	67	72.5	77	80	86	80	85	108.5	134
L	301	318	324	328	331	337	331	336	360	385

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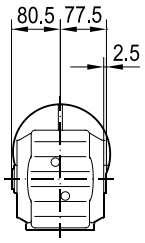
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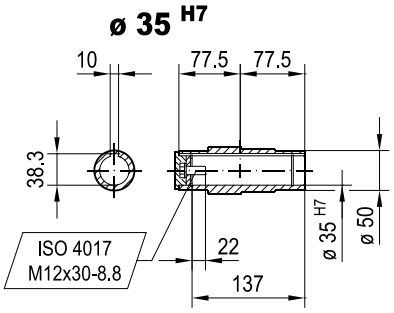
KA39..

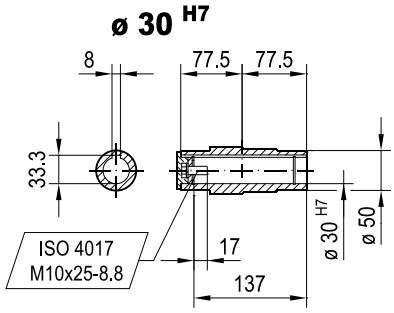




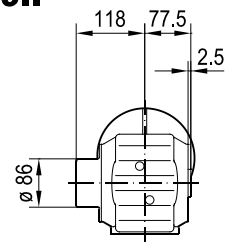
KA39..

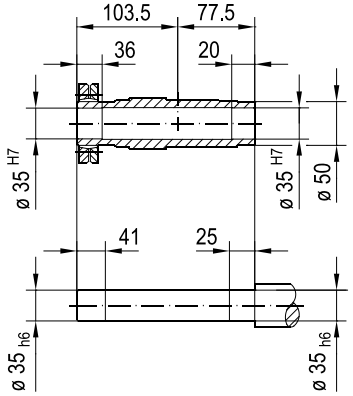






KH39..



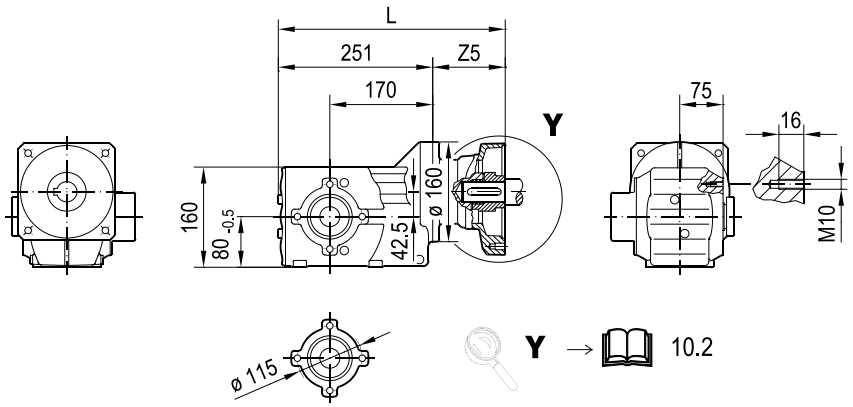


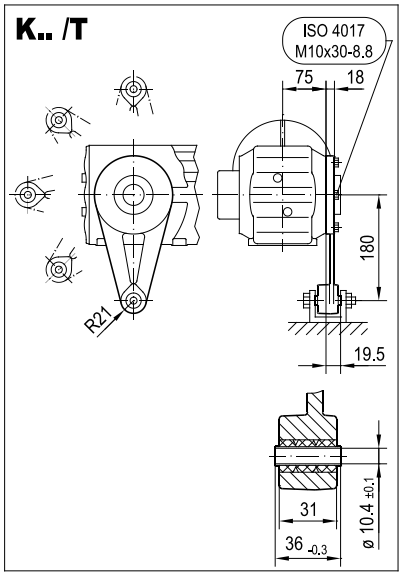
(→ 📖 7.3.11)	AQS.									
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1
Z5	50	67	72.5	77	80	86	80	85	108.5	134
L	301	318	324	328	331	337	331	336	360	385

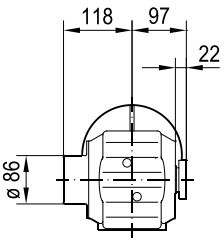
27788644/EN – 02/2024

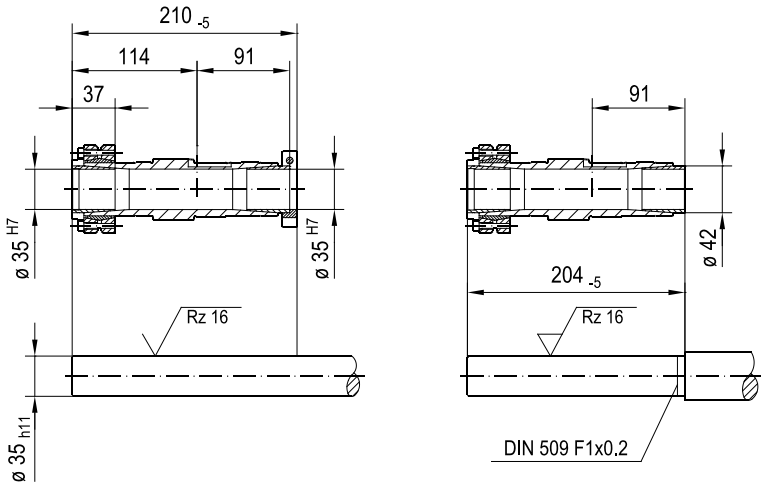
33 035 01 21

KT39..









(→ 📖 7.3.11)	AQS.									
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1
Z5	50	67	72.5	77	80	86	80	85	108.5	134
L	301	318	324	328	331	337	331	336	360	385

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10.1.5 K47 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$														
	i	80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6			160/1		
K47 3	4.64	76	76	128	141	141	200	149	215	255	200	300	340	200	295	340
	5.81	89	94	151	169	175	250	173	260	295	230	305	390	230	305	390
	6.58	93	106	158	176	199	285	180	270	305	240	310	410	240	310	410
	7.36	99	119	168	186	220	315	190	285	325	250	310	425	250	310	425
	8.56	105	139	179	197	255	335	200	300	340	270	310	460	270	310	460
	9.10	107	148	182	200	275	340	205	310	350	280	310	475	280	310	475
	10.56	113	170	192	210	315	355	215	315	365	280	315	475	280	315	475
	11.77	117	176	199	215	315	365	220	315	375	280	315	475	280	315	475
	12.19	173	198	295	325	365	525	330	495	560	375	505	640	375	505	640
	13.65	183	220	310	345	410	585	350	505	595	390	505	665	390	505	665
	15.86	195	255	330	365	480	620	370	505	630	405	505	690	405	505	690
	16.86	200	270	340	370	505	630	380	505	645	415	505	705	415	505	705
	19.58	210	315	355	390	505	665	400	505	680	430	505	730	430	505	730
	21.81	215	325	365	405	505	690	415	505	705	450	505	765	450	505	765
	24.06	220	330	375	415	505	705	420	505	715						
	25.91	230	345	390	425	505	725	435	505	740	450	505	765	450	505	765
	29.32	235	355	400	440	505	750	450	505	765						
	31.30	240	360	410	445	505	755	450	505	765						
	35.39	450	505	765	450	505	765	450	505	765	450	505	765	450	505	765
	39.61	450	505	765	450	505	765	450	505	765	450	505	765	450	505	765
	46.03	450	505	765	450	505	765	450	505	765	450	505	765	450	505	765
	48.95	450	505	765	450	505	765	450	505	765	450	505	765	450	505	765
	56.83	450	505	765	450	505	765	450	505	765	450	505	765	450	505	765
	63.30	450	505	765	450	505	765	450	505	765	450	505	765	450	505	765
	69.84	450	505	765	450	505	765	450	505	765						
	75.20	450	505	765	450	505	765	450	505	765	450	505	765	450	505	765
	85.12	450	505	765	450	505	765	450	505	765						
	90.86	450	505	765	450	505	765	450	505	765						
	104.37	450	505	765	450	505	765	450	505	765						
	121.48	450	505	765	450	505	765	450	505	765						
	131.87	450	505	765	450	505	765	450	505	765						

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min^{-1}		AQS. n_{ak}				
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1
K47 3	4.64	302	351	289	336	336
	5.81	236	234	232	260	260
	6.58	208	207	207	234	234
	7.36	179	183	185	219	219
	8.56	157	159	166	180	180
	9.10	152	157	155	166	166
	10.56	130	137	135	172	172
	11.77	117	133	131	179	179
	12.19	109	114	119	224	224
	13.65	98	99	103	210	210
	15.86	83	86	91	197	197
	16.86	78	86	84	186	186
	19.58	69	73	72	175	175
	21.81	66	64	63	155	155
	24.06	59	57	59		
	25.91	51	55	54	164	164
	29.32	48	48	47		
	31.30	43	46	49		
	35.39	58	58	58	58	58
	39.61	60	60	60	60	60
	46.03	61	61	61	61	61
	48.95	62	62	62	62	62
	56.83	63	63	63	63	63
	63.30	64	64	64	64	64
	69.84	64	64	64		
	75.20	60	60	60	60	60
	85.12	53	53	53		
	90.86	50	50	50		
	104.37	43	43	43		
	121.48	37	37	37		
	131.87	34	34	34		

K47, m kg					
	AQS.				
s	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1
3	20	21	23	28	30
KF: + 3.2 kg / KA: + -0.85 kg / KAF: + 2.0 kg					

K47, J_A / c_{TA}		AQS.				
		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1
J_A 10^{-4}	kgm^2	0.46	1.3	2.4	8.1	22.0
c_{TA}	Nm/'	0.15	0.3	0.7	3.0	7.0

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K..47							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	K	KF	KA	KAF	K	KF	KA	KAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
K47 3	4.64	205	300	340	362	4.4	2920	2920	2080	2080	9220	7830	9620	9620
	5.81	230	305	390	279	3.6	3040	3060	2100	2100	9190	7820	9570	9570
	6.58	240	310	405	252	2.8	3160	3180	2190	2190	9150	7810	9520	9520
	7.36	250	310	425	235	2.3	3280	3300	2270	2270	9150	7810	9520	9520
	8.56	270	310	455	194	1.8	3390	3420	2310	2310	9150	7810	9520	9520
	9.10	280	310	475	179	1.6	3430	3460	2310	2310	9150	7810	9520	9520
	10.56	280	315	475	186	1.2	3710	3740	2580	2580	9110	7790	9470	9470
	11.77	280	315	475	193	1.0	3930	3940	2770	2770	9110	7790	9470	9470
	12.19	375	505	635	241	2.4	3420	3510	2100	2100	7840	7180	7850	7850
	13.65	390	505	660	226	2.0	3550	3640	2170	2170	7840	7180	7850	7850
	15.86	405	505	685	212	1.6	3770	3860	2330	2330	7840	7180	7850	7850
	16.86	415	505	705	200	1.4	3830	3930	2360	2360	7840	7180	7850	7850
	19.58	430	505	730	188	1.1	4080	4170	2540	2540	7840	7180	7850	7850
	21.81	450	505	765	167	0.91	4190	4290	2590	2590	7840	7180	7850	7850
	24.06	450	505	765	170	0.75	4440	4530	2820	2820	7840	7180	7850	7850
	25.91	450	505	765	174	0.68	4640	4720	3000	3000	7840	7180	7850	7850
	29.32	450	505	765	153	0.55	4970	5040	3300	3300	7840	7180	7850	7850
	31.30	450	505	765	144	0.50	5150	5210	3470	3470	7840	7180	7850	7850
	35.39	450	505	765	65	1.3	5510	5550	3790	3790	7840	7180	7850	7850
	39.61	450	505	765	66	1.1	5850	5870	4100	4100	7840	7180	7850	7850
	46.03	450	505	765	68	0.88	6320	6320	4530	4530	7840	7180	7850	7850
	48.95	450	505	765	69	0.80	6520	6510	4710	4710	7840	7180	7850	7850
	56.83	450	505	765	70	0.64	7020	6990	5170	5170	7840	7180	7850	7850
	63.30	450	505	765	71	0.54	7400	7350	5520	5520	7840	7180	7850	7850
	69.84	450	505	765	64	0.45	7750	7390	5840	5840	7840	7180	7850	7850
	75.20	450	505	765	60	0.42	8030	7390	6090	6090	7840	7180	7850	7850
	85.12	450	505	765	53	0.35	8250	7390	6530	6530	7840	7180	7850	7850
	90.86	450	505	765	50	0.32	8250	7390	6770	6770	7840	7180	7850	7850
	104.37	450	505	765	43	0.26	8250	7390	7290	7290	7840	7180	7850	7850
	121.48	450	505	765	37	0.21	8250	7390	7890	7890	7840	7180	7850	7850
	131.87	450	505	765	34	0.18	8250	7390	8230	8230	7840	7180	7850	7850

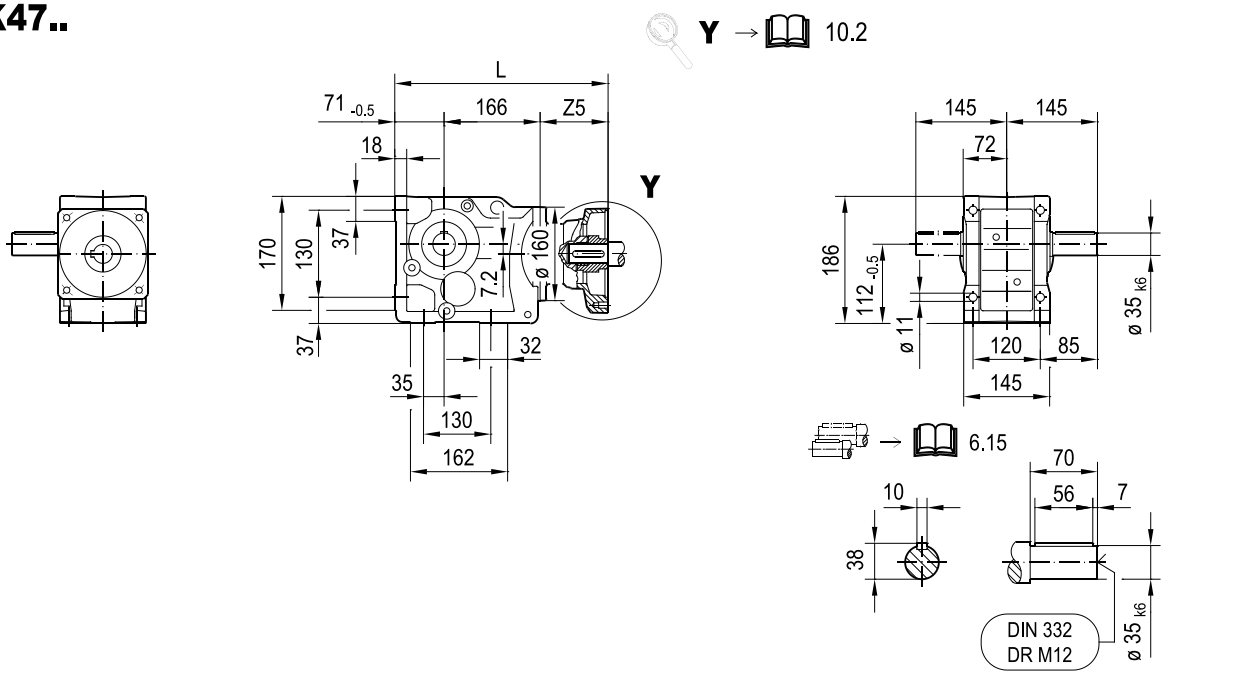
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K..47				c_{TG}				φ
	i	n_{epk} min^{-1}	η %	K Nm/'	KF Nm/'	KA Nm/'	KAF Nm/'	/R '
K47 3	4.64	4500	96	26	23	50	50	12
	5.81	4500	96	26	23	50	50	12
	6.58	4500	96	26	23	50	50	12
	7.36	4500	96	26	23	50	50	11
	8.56	4500	96	26	23	50	50	11
	9.10	4500	96	26	23	50	50	11
	10.56	4500	96	26	23	50	50	11
	11.77	4500	96	26	23	50	50	10
	12.19	4500	96	33	29	90	90	8
	13.65	4500	96	33	29	90	90	8
	15.86	4500	96	33	29	90	90	8
	16.86	4500	96	33	29	90	90	8
	19.58	4500	96	33	29	90	90	8
	21.81	4500	96	33	29	90	90	8
	24.06	4500	96	33	29	90	90	8
	25.91	4500	96	33	29	90	90	8
	29.32	4500	96	33	29	90	90	8
	31.30	4500	96	33	29	90	90	7
	35.39	4500	94	36	32	117	117	7
	39.61	4500	94	36	32	117	117	7
	46.03	4500	94	36	32	117	117	7
	48.95	4500	94	36	32	117	117	7
	56.83	4500	94	36	32	117	117	7
	63.30	4500	94	36	32	117	117	6
	69.84	4500	94	36	32	117	117	6
	75.20	4500	94	36	32	117	117	6
	85.12	4500	94	36	32	117	117	6
	90.86	4500	94	36	32	117	117	6
	104.37	4500	93	36	32	117	117	6
	121.48	4500	93	36	32	117	117	6
	131.87	4500	93	36	32	117	117	6

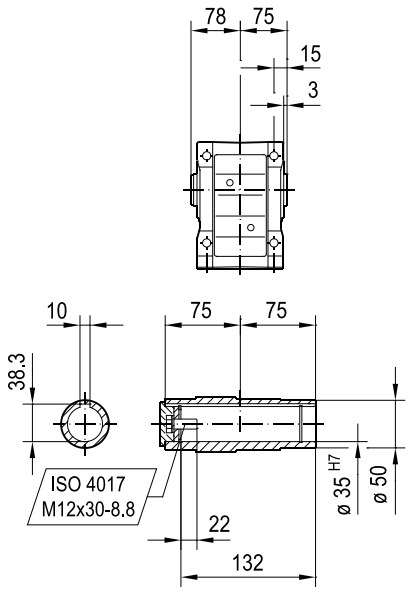
27788644/EN – 02/2024

33 036 01 21

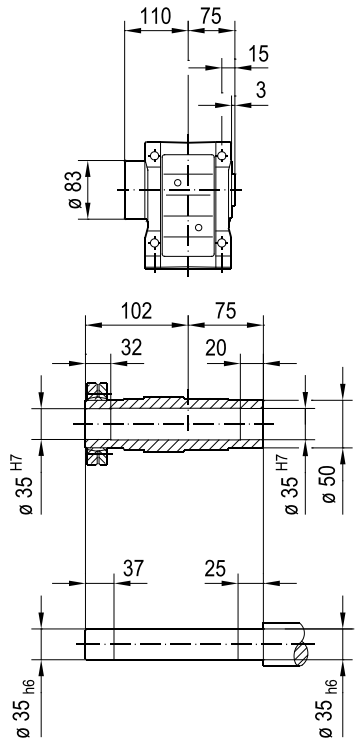
K47..



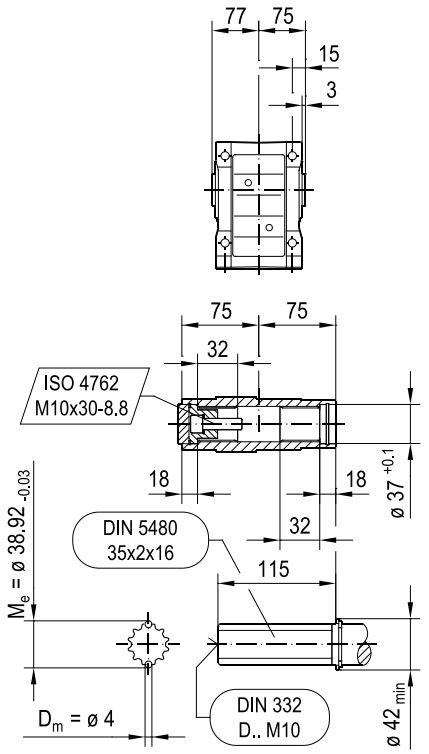
KA47B..



KH47B..



KV47B..

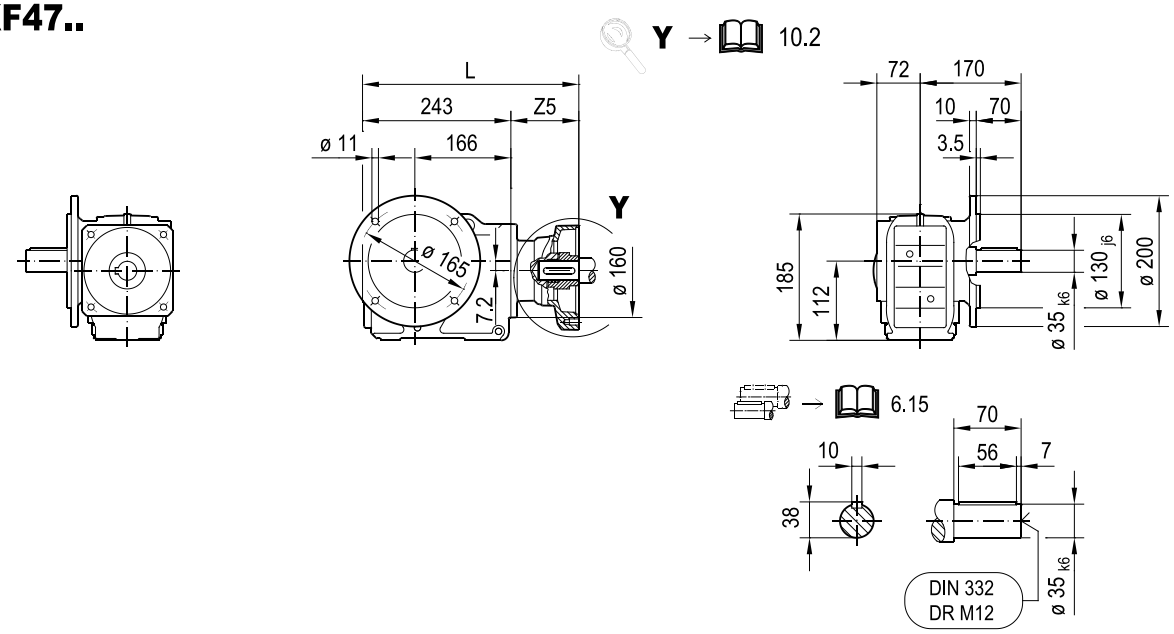


(→ 7.3.11)	AQS.									
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1
Z5	50	67	72.5	77	80	86	80	85	108.5	134
L	287	304	310	314	317	323	317	322	346	371

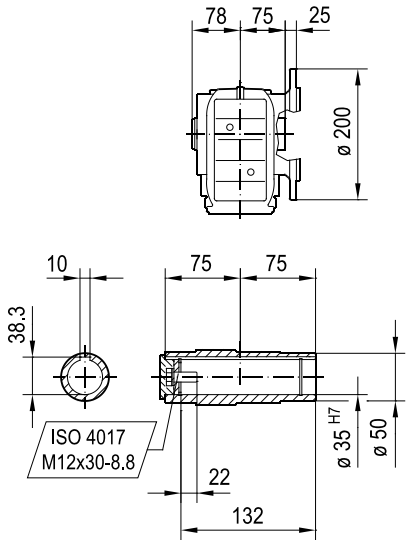
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33 037 01 21

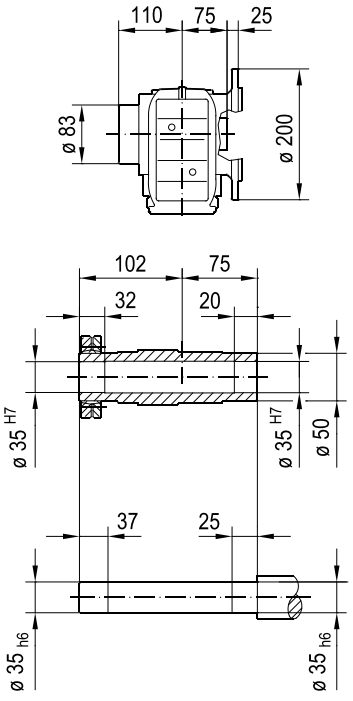
KF47..



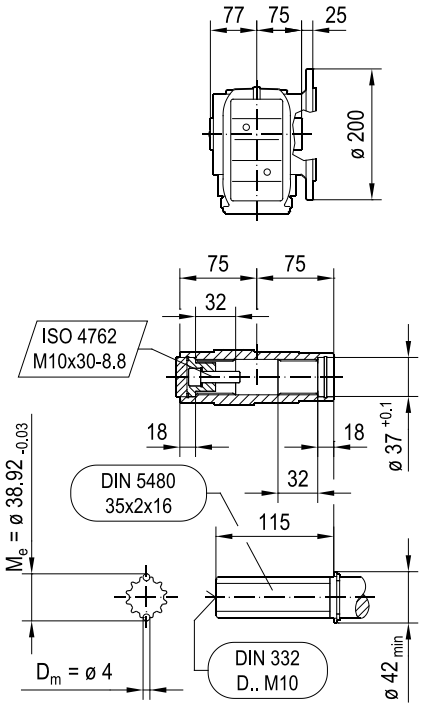
KAF47..



KHF47..



KVF47..

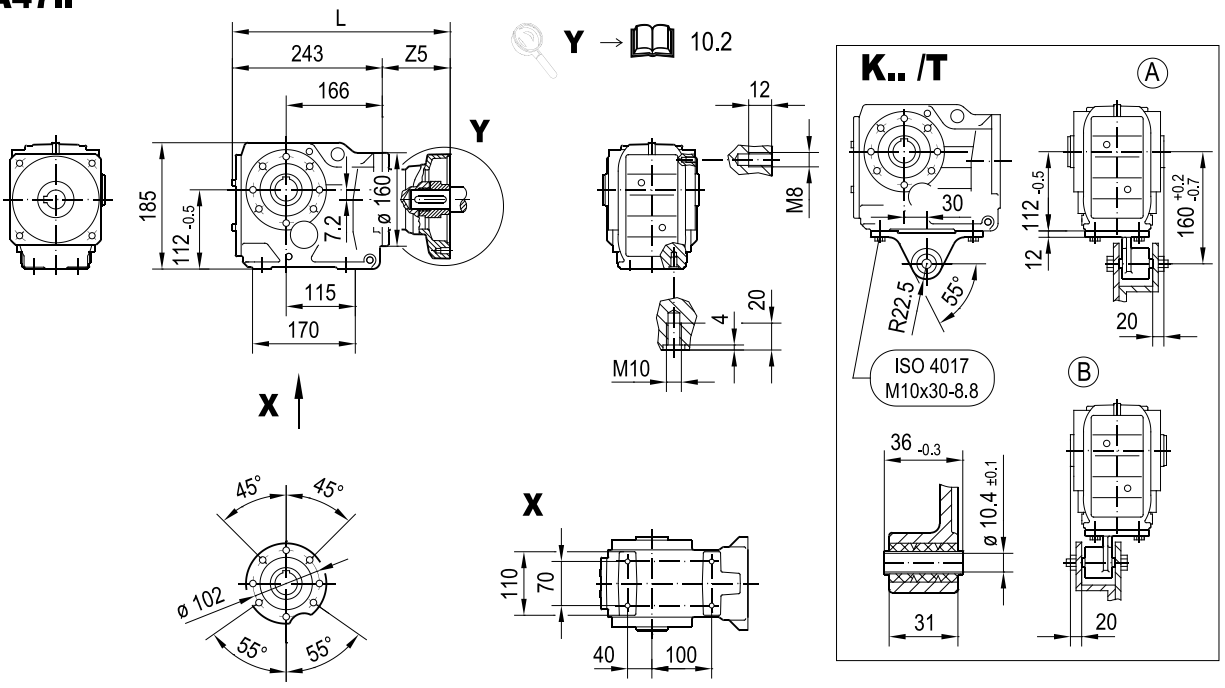


(→ 📖 7.3.11)	AQS.									
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1
Z5	50	67	72.5	77	80	86	80	85	108.5	134
L	293	310	316	320	323	329	323	328	352	377

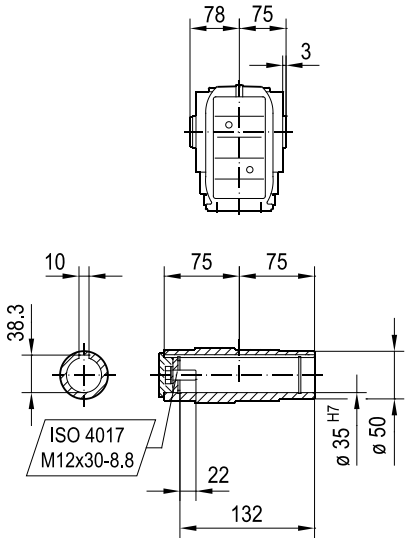
27788644/EN – 02/2024

KA47..

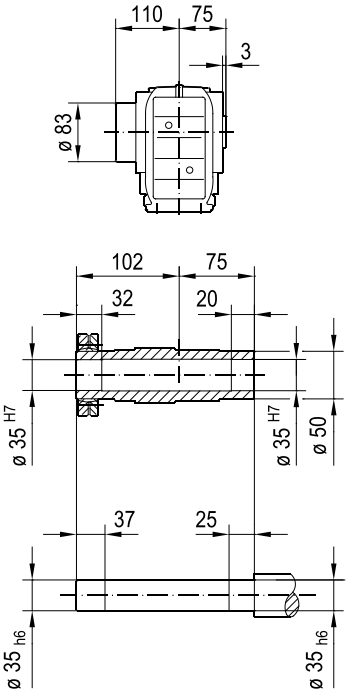
33 038 00 21



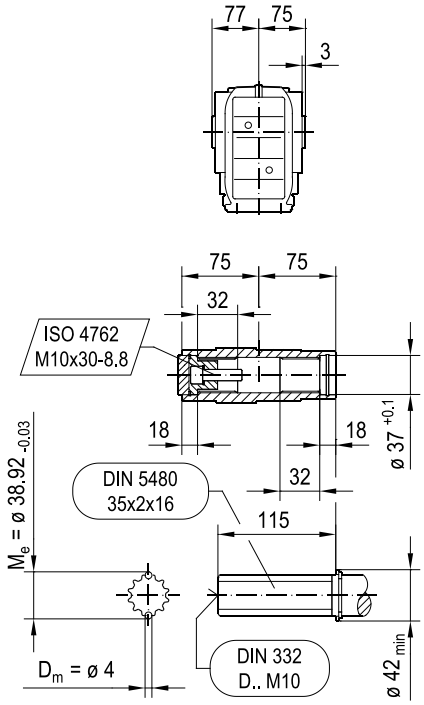
KA47..



KH47..



KV47..

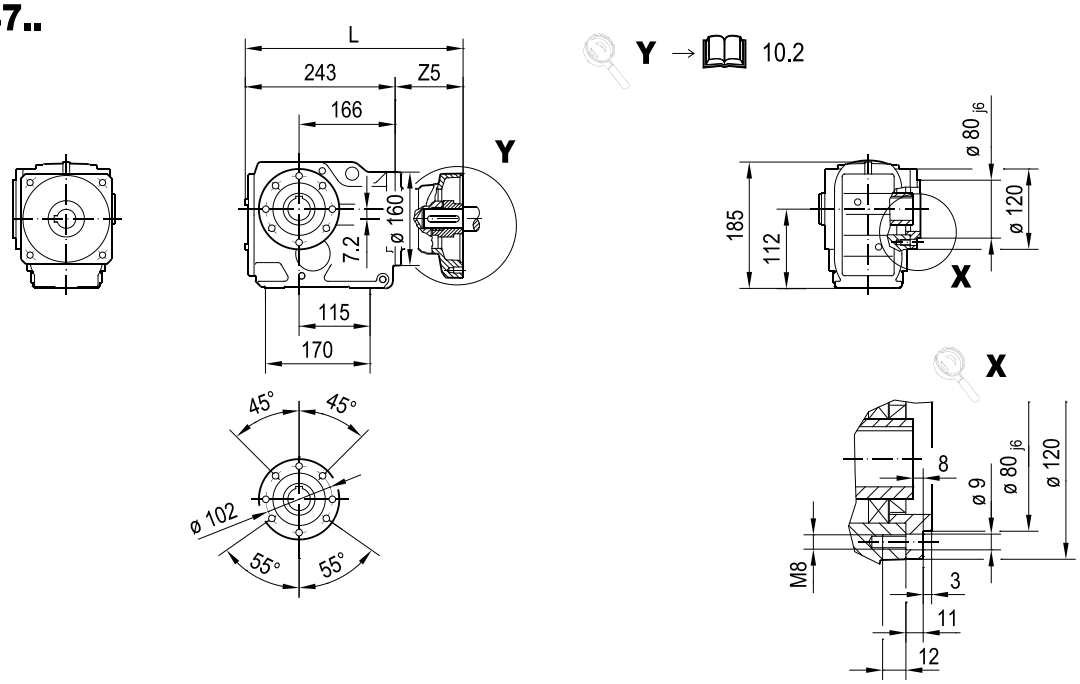


(→ 7.3.11)	AQS.									
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1
Z5	50	67	72.5	77	80	86	80	85	108.5	134
L	293	310	316	320	323	329	323	328	352	377

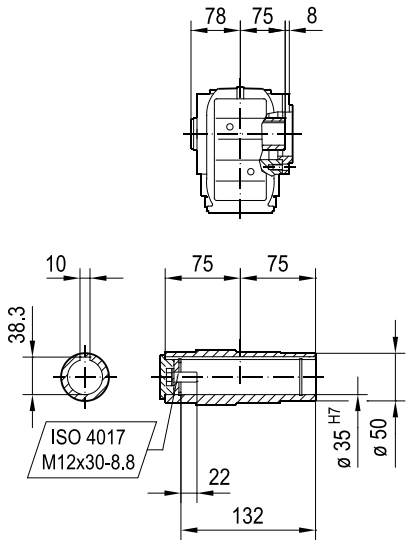
27788644/EN – 02/2024

33 039 00 21

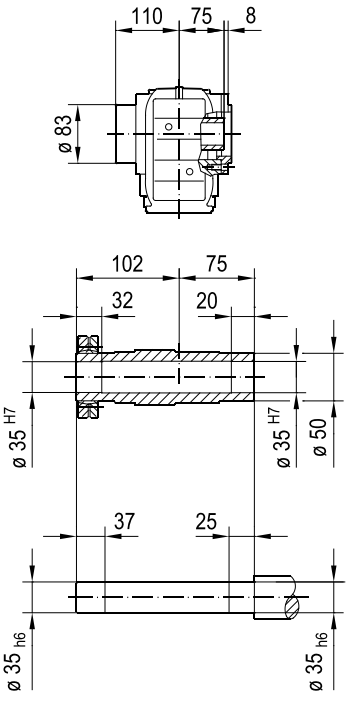
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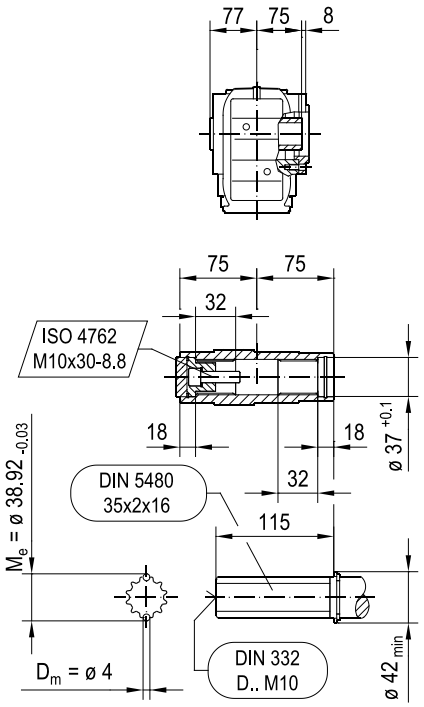
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KHZ47..



KVZ47..

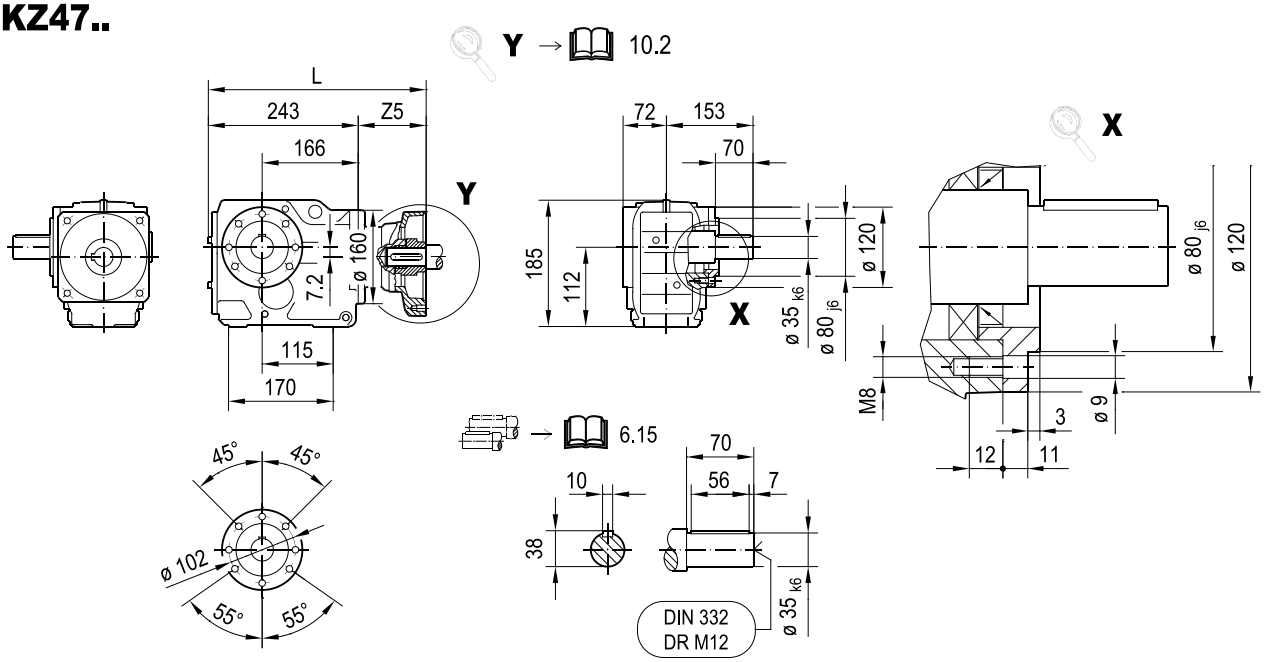


(→ 7.3.11)	AQS.									
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1
Z5	50	67	72.5	77	80	86	80	85	108.5	134
L	293	310	316	320	323	329	323	328	352	377

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33 040 01 21

KZ47..

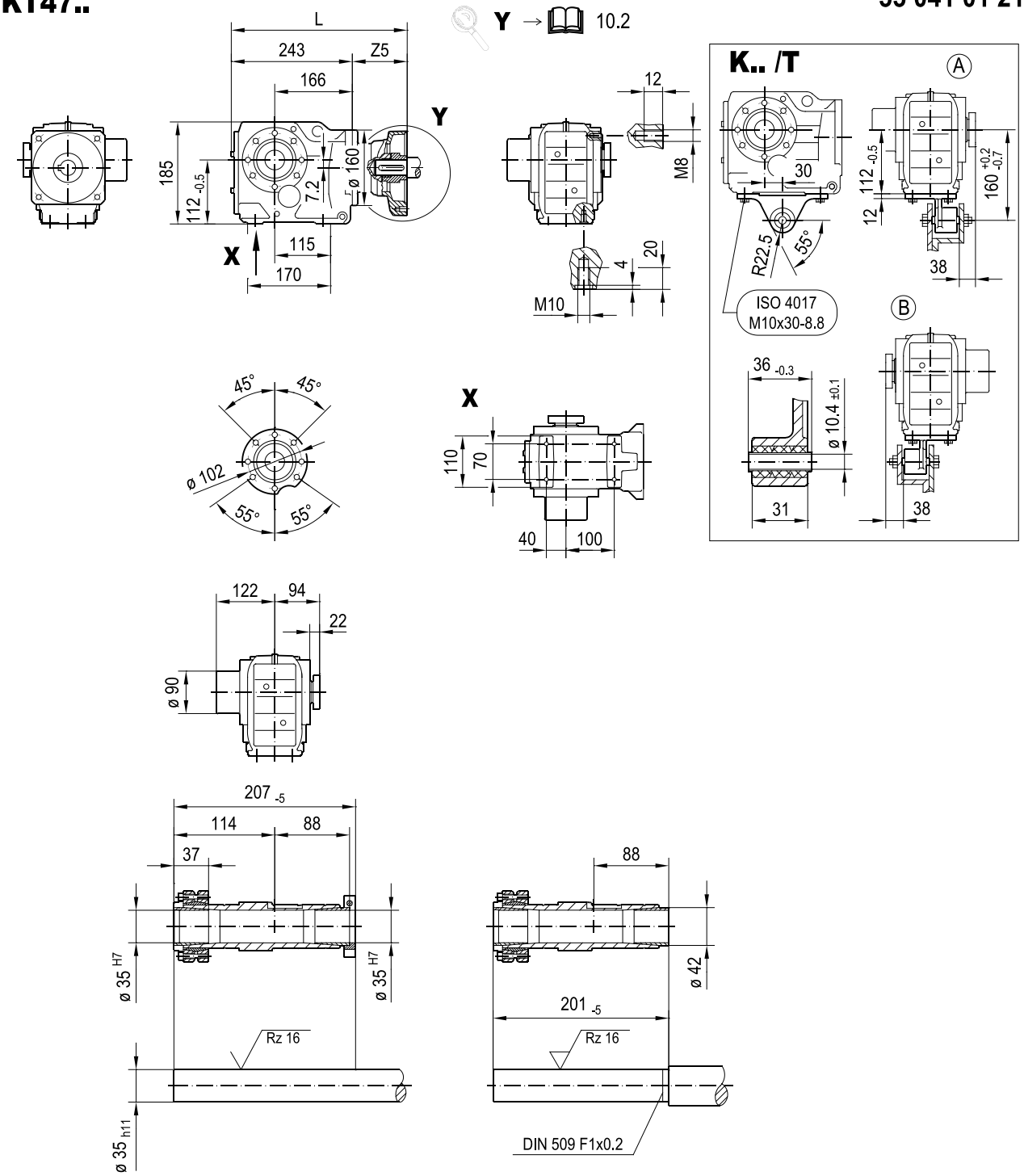


(→ 📖 7.3.11)	AQS.									
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1
Z5	50	67	72.5	77	80	86	80	85	108.5	134
L	293	310	316	320	323	329	323	328	352	377

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KT47..

33 041 01 21



(→ 7.3.11)	AQS.									
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1
Z5	50	67	72.5	77	80	86	80	85	108.5	134
L	293	310	316	320	323	329	323	328	352	377

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10.1.6 K49 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$																	
	i	80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6			160/1			190/1,3-6		
K49 2	4.00	63	63	107	119	119	170	141	183	240	300	430	510	435	445	740	435	445	740
	4.69	74	74	126	140	140	200	152	210	260	320	480	545	465	500	790	465	500	790
	5.29	81	84	138	156	158	225	160	230	270	340	510	580	485	550	820	485	550	820
	5.99	85	96	145	164	179	255	169	255	285	355	535	605	500	600	850	500	600	850
	6.83	90	109	153	173	205	295	177	265	300	370	555	630	500	605	850	500	605	850
	7.58	94	122	160	181	225	310	185	280	315	390	585	665	500	605	850	500	605	850
	8.66	99	140	168	188	260	320	193	290	330	405	605	690	500	605	850	500	605	850
	9.14	100	147	170	191	275	325	196	295	335	410	605	695	500	605	850	500	605	850
	10.42	104	156	177	198	295	335	200	300	340	425	535	725	480	525	820			
	11.37	105	158	179	200	300	340	205	310	350	430	560	730	490	550	830			
	13.38	200	200	340	380	380	550	455	590	775	470	605	800	470	605	800	470	605	800
	15.67	240	240	410	450	450	645	490	605	830	490	605	830	490	605	830	490	605	830
	17.67	260	270	440	500	510	730	500	605	850	500	605	850	500	605	850	500	605	850
	20.03	275	305	470	500	575	830	500	605	850	500	605	850	500	605	850	500	605	850
	22.83	290	350	495	500	605	850	500	605	850	500	605	850	500	605	850	500	605	850
	25.34	305	390	520	500	605	850	500	605	850	500	605	850	500	605	850	500	605	850
	28.95	315	450	535	500	605	850	500	605	850	500	605	850	500	605	850	500	605	850
	30.55	320	475	545	500	605	850	500	605	850	500	605	850	500	605	850	500	605	850
	34.81	335	505	570	500	605	850	500	605	850	500	605	850	500	605	850			
	37.98	340	510	580	500	605	850	500	605	850	500	605	850	500	605	850			
	44.44	350	525	595	500	605	850	500	605	850	500	605	850	500	605	850			
	50.29	365	550	620	500	605	850	500	605	850									
	52.94	365	550	620	500	605	850	500	605	850									
	60.27	375	565	640	500	605	850	500	605	850									
	70.19	385	510	655	440	510	750	440	510	750									
	75.20	385	545	655	470	545	800	470	545	800									

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min^{-1}		AQS. n_{ak}					
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
K49 2	4.00	595	708	363	368	520	520
	4.69	365	422	307	324	437	437
	5.29	268	272	272	268	391	391
	5.99	244	240	234	244	361	361
	6.83	206	205	206	220	360	360
	7.58	193	186	189	187	361	361
	8.66	162	166	164	166	361	361
	9.14	159	158	155	161	361	361
	10.42	136	135	147	135	402	
	11.37	128	127	125	125	381	
	13.38	184	217	108	113	113	113
	15.67	105	127	91	96	96	96
	17.67	82	84	88	88	88	88
	20.03	71	87	87	87	87	87
	22.83	62	86	86	86	86	86
	25.34	55	84	84	84	84	84
	28.95	52	84	84	84	84	84
	30.55	49	83	83	83	83	83
	34.81	41	83	83	83	83	
	37.98	37	83	83	83	83	
	44.44	33	82	82	82	82	
	50.29	29	82	82			
	52.94	28	82	82			
	60.27	24	75	75			
	70.19	21	64	64			
	75.20	19	60	60			

K49, m kg						
	AQS.					
s	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
2	32	32	34	39	41	45
KF: + 1.7 kg / KA: + -2.8 kg / KAF: + 2.1 kg						

K49, J_A / c_{TA}		AQS.					
		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	0.46	1.3	2.4	8.1	22.0	22.0
c_{TA}	Nm/'	0.15	0.3	0.7	3.0	7.0	7.0

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K..49							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	K	KF	KA	KAF	K	KF	KA	KAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
K49 2	4.00	440	605	745	505	21	3110	2390	0	0	9000	9000	9000	9000
	4.69	465	605	790	437	15	3270	2600	0	0	9000	9000	9000	9000
	5.29	485	605	820	391	12	3400	2770	0	0	9000	9000	9000	9000
	5.99	500	605	850	361	10.0	3570	3030	0	0	9000	9000	9000	9000
	6.83	500	605	850	360	7.9	3840	3250	0	0	9000	9000	9000	9000
	7.58	500	605	850	361	6.7	4050	3440	1030	1030	9000	9000	9000	9000
	8.66	500	605	850	361	5.3	4340	3680	3790	3790	9000	9000	9000	9000
	9.14	500	605	850	361	4.8	4460	3780	3910	3910	9000	9000	9000	9000
	10.42	480	585	810	402	3.8	4860	4120	4330	4330	9000	9000	9000	9000
	11.37	495	605	840	370	3.2	5000	4240	4450	4450	9000	9000	9000	9000
	13.38	470	605	795	138	7.5	4320	3660	3510	3510	9000	9000	9000	9000
	15.67	490	605	830	117	6.0	4590	3890	3750	3750	9000	9000	9000	9000
	17.67	500	605	850	108	5.0	4860	4120	3990	3990	9000	9000	9000	9000
	20.03	500	605	850	107	4.2	5220	4420	4350	4350	9000	9000	9000	9000
	22.83	500	605	850	106	3.4	5610	4750	4750	4750	9000	9000	9000	9000
	25.34	500	605	850	104	3.1	5940	5030	5070	5070	9000	9000	9000	9000
	28.95	500	605	850	103	2.5	6370	5400	5510	5510	9000	9000	9000	9000
	30.55	500	605	850	102	2.3	6550	5550	5690	5690	9000	9000	9000	9000
	34.81	500	605	850	102	1.9	7000	5930	6140	6140	9000	9000	9000	9000
	37.98	500	605	850	102	1.6	7310	6200	6450	6450	9000	9000	9000	9000
	44.44	500	605	850	101	1.3	7900	6690	7040	7040	9000	9000	9000	9000
	50.29	500	605	850	89	0.91	8380	7100	7530	7530	9000	9000	9000	9000
	52.94	500	605	850	85	0.81	8590	7280	7730	7730	9000	9000	9000	9000
	60.27	500	605	850	75	0.66	9000	7740	8280	8280	9000	9000	9000	9000
	70.19	445	605	755	64	0.54	9000	8630	9000	9000	9000	9000	9000	9000
	75.20	475	605	800	60	0.46	9000	8720	9000	9000	9000	9000	9000	9000

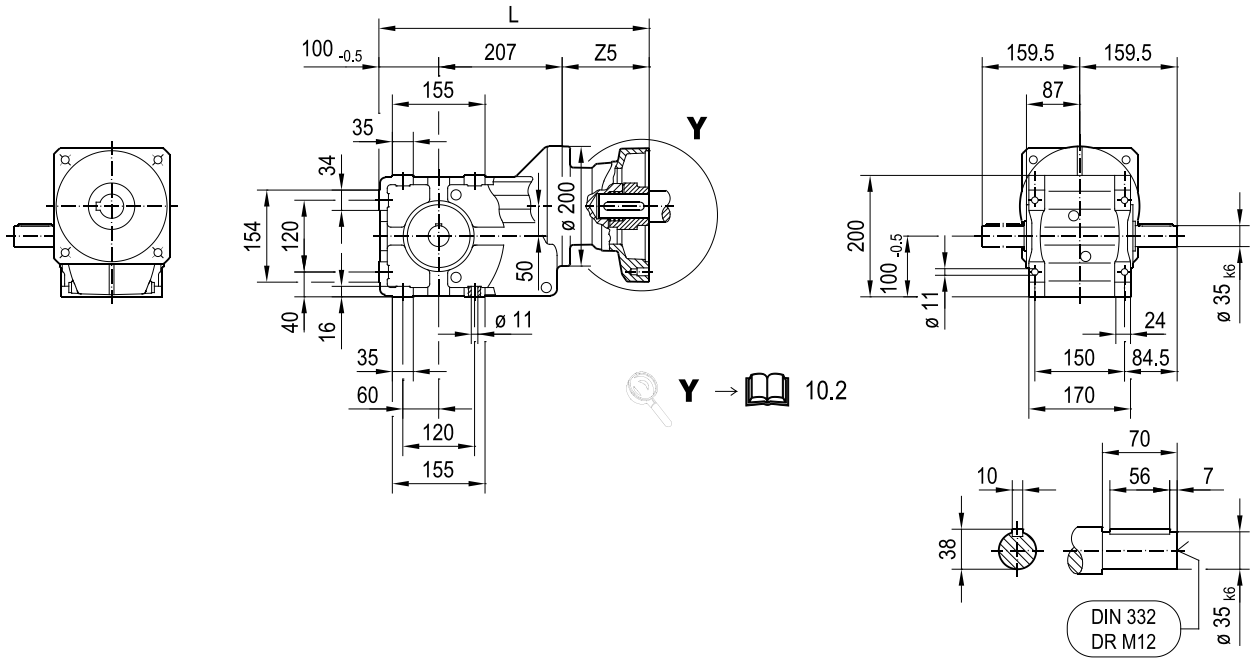
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K..49				c_{TG}			
	i	n_{epk} min^{-1}	η %	K Nm/'	KF Nm/'	KA Nm/'	KAF Nm/'
K49 2	4.00	4500	96	27	26	77	77
	4.69	4500	96	27	26	77	77
	5.29	4500	96	27	26	77	77
	5.99	4500	96	27	26	77	77
	6.83	4500	96	27	26	77	77
	7.58	4500	96	27	26	77	77
	8.66	4500	96	27	26	77	77
	9.14	4500	96	27	26	77	77
	10.42	4500	96	27	26	77	77
	11.37	4500	96	27	26	77	77
	13.38	4500	92	35	32	48	48
	15.67	4500	92	35	32	48	48
	17.67	4500	92	35	32	48	48
	20.03	4500	92	35	32	48	48
	22.83	4500	92	35	32	48	48
	25.34	4500	92	35	32	48	48
	28.95	4500	92	35	32	48	48
	30.55	4500	92	35	32	48	48
	34.81	4500	92	35	32	48	48
	37.98	4500	92	35	32	48	48
	44.44	4500	92	35	32	48	48
	50.29	4500	92	35	32	48	48
	52.94	4500	92	35	32	48	48
	60.27	4500	91	35	32	48	48
	70.19	4500	91	35	32	48	48
	75.20	4500	91	35	32	48	48

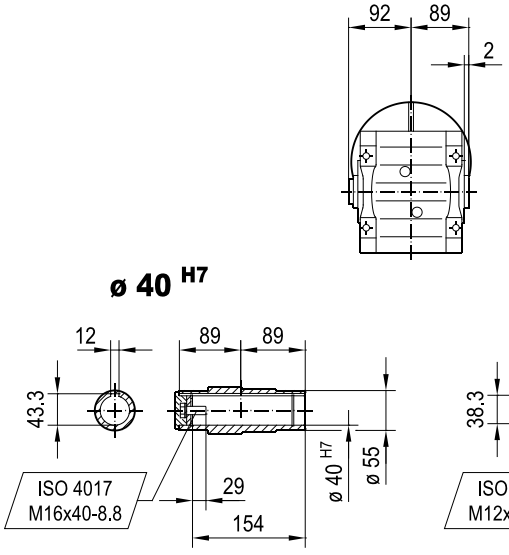
27788644/EN – 02/2024

33 042 00 21

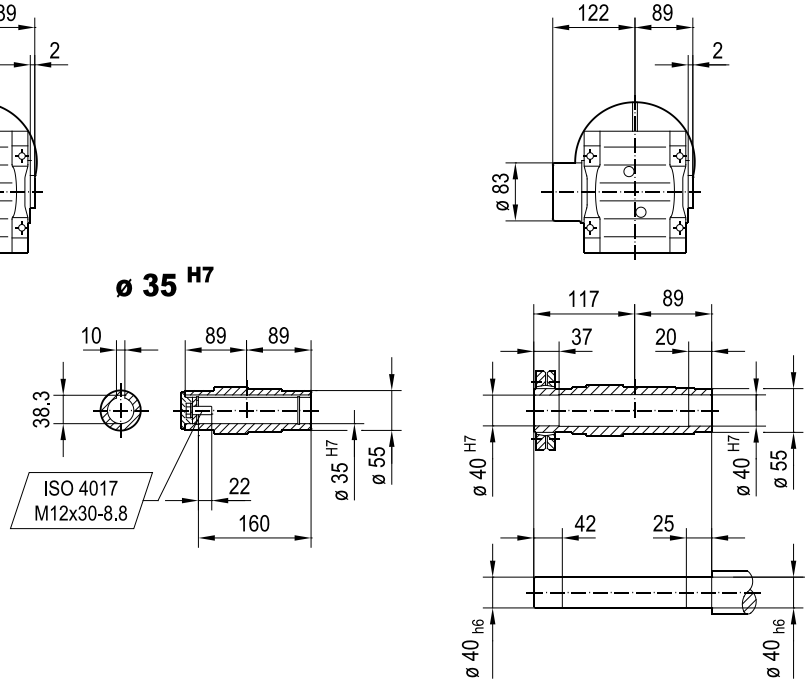
K49..



KA49B..



KH49B..

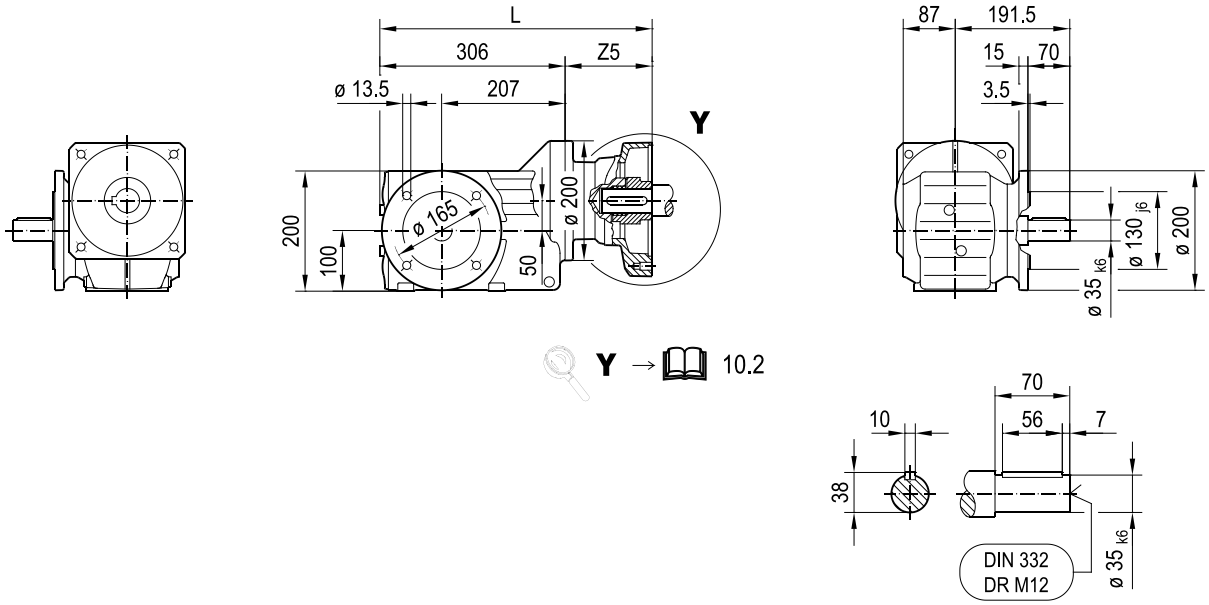


(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	351	367	373	377	380	386	380	385	408	433	433	445

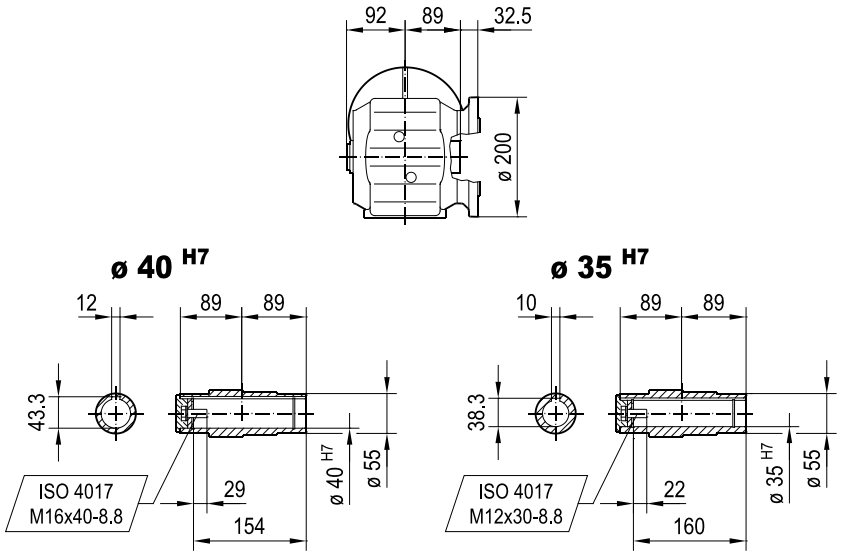
27788644/EN – 02/2024

33 043 00 21

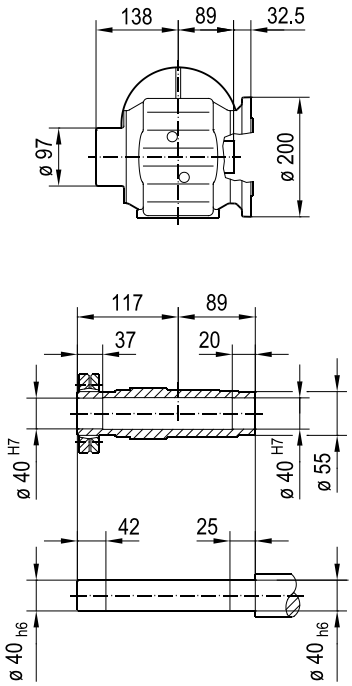
KF49..



KAF49..



KHF49..

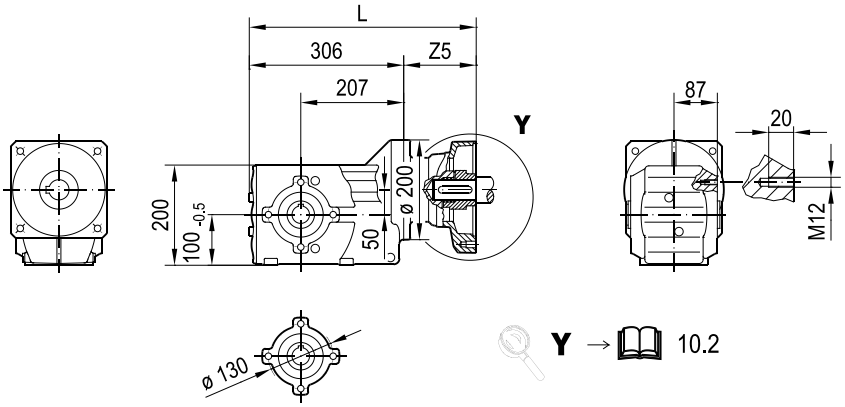


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	350	366	372	376	379	385	379	384	407	432	432	444

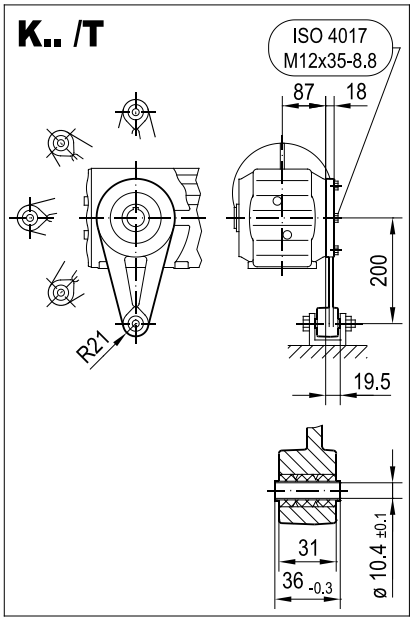
27788644/EN – 02/2024

33 044 00 21

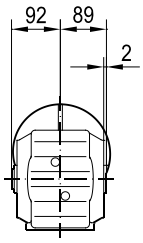
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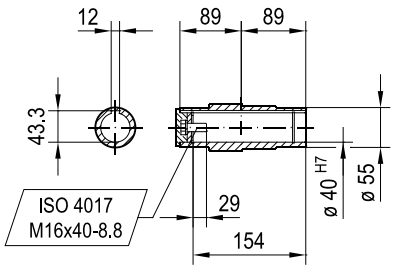
K.. /T



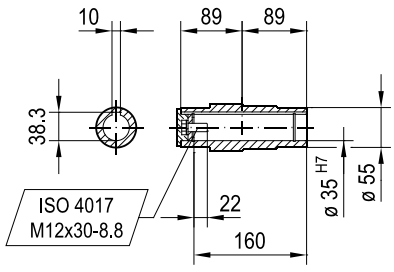
KA49..



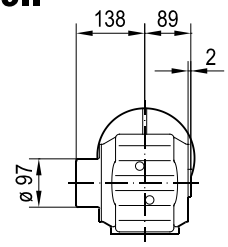
ø 40 H7

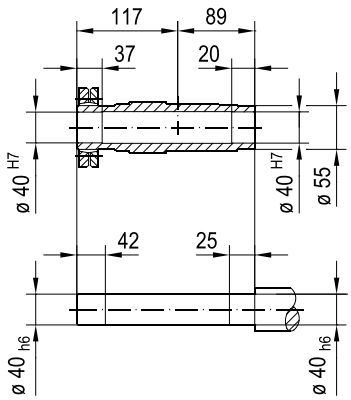


ø 35 H7



KH49..



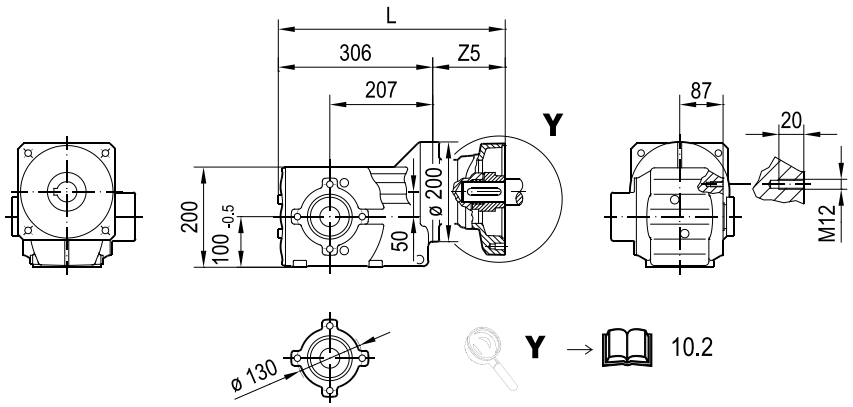


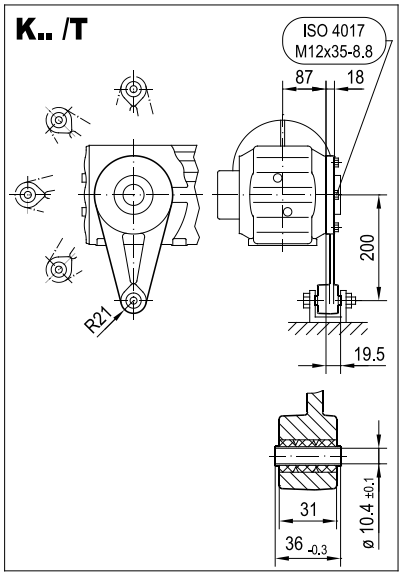
(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	350	366	372	376	379	385	379	384	407	432	432	444

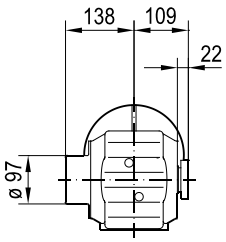
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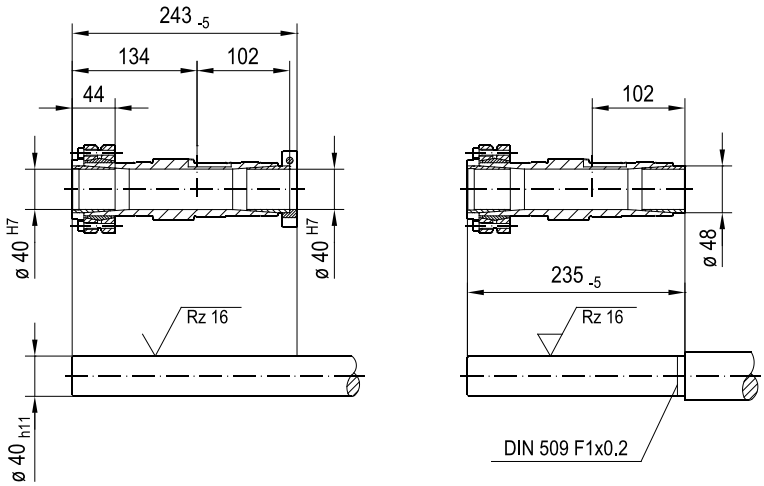
33 045 01 21

KT49..









(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	350	366	372	376	379	385	379	384	407	432	432	444

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10.1.7 K57 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$																	
	i	80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6			160/1			190/1,3-6		
	4.69	77	77	128	142	142	200	170	215	290	300	450	510	300	450	510	300	450	510
	6.57	104	105	177	199	199	285	200	290	340	345	517	585	345	517	585	345	517	585
	7.55	111	121	189	210	225	325	215	325	365	365	547	620	365	547	620	365	547	620
	8.71	118	140	200	225	260	375	230	345	390	390	585	665	390	585	665	390	585	665
	9.59	123	155	210	230	285	390	235	355	400	405	585	690	405	585	690	405	585	690
	11.26	132	182	225	250	340	425	255	385	435	415	585	705	415	585	705	415	585	705
	11.92	135	193	230	255	360	435	260	390	440	415	585	705	415	585	705	415	585	705
	13.25	210	210	355	400	400	570	410	590	695	510	665	870	510	665	870	510	665	870
	15.22	225	245	385	425	455	655	435	655	740	535	665	910	535	665	910	535	665	910
	17.57	235	280	400	450	530	760	465	665	790	555	665	940	555	665	940	555	665	940
	19.34	245	310	415	470	580	800	480	665	820	575	665	980	575	665	980	575	665	980
	22.71	265	365	450	505	665	860	515	665	880	600	665	1020	600	665	1020	600	665	1020
	24.05	270	390	460	510	665	870	525	665	890	615	665	1050	615	665	1050	615	665	1050
K57 3	27.34	280	420	475	525	665	890	540	665	920	630	665	1070	630	665	1070			
	30.28	285	430	485	545	665	930	555	665	940	630	665	1070	630	665	1070			
	35.70	300	450	510	565	665	960	580	665	990	630	665	1070	630	665	1070			
	38.49	560	615	950	630	665	1070	630	665	1070	630	665	1070	630	665	1070	630	665	1070
	44.43	595	665	1010	630	665	1070	630	665	1070	630	665	1070	630	665	1070	630	665	1070
	48.89	620	665	1050	630	665	1070	630	665	1070	630	665	1070	630	665	1070	630	665	1070
	57.42	630	665	1070	630	665	1070	630	665	1070	630	665	1070	630	665	1070	630	665	1070
	60.81	630	665	1070	630	665	1070	630	665	1070	630	665	1070	630	665	1070	630	665	1070
	69.12	630	665	1070	630	665	1070	630	665	1070	630	665	1070	630	665	1070			
	76.56	630	665	1070	630	665	1070	630	665	1070	630	665	1070	630	665	1070			
	90.26	630	665	1070	630	665	1070	630	665	1070	630	665	1070	630	665	1070			
	102.88	630	665	1070	630	665	1070	630	665	1070									
	108.29	630	665	1070	630	665	1070	630	665	1070									
	123.85	630	665	1070	630	665	1070	630	665	1070									
	145.14	630	665	1070	630	665	1070	630	665	1070									

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min^{-1}		AQS. n_{ak}					
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
K57  3	4.69	499	620	284	301	301	301
	6.57	195	201	227	237	237	237
	7.55	171	185	187	212	212	212
	8.71	149	153	154	181	181	181
	9.59	135	152	154	166	166	166
	11.26	115	119	122	165	165	165
	11.92	107	112	114	168	168	168
	13.25	96	102	102	217	217	217
	15.22	82	90	91	185	185	185
	17.57	80	80	76	164	164	164
	19.34	72	70	71	146	146	146
	22.71	59	59	60	126	126	126
	24.05	56	58	56	116	116	116
	27.34	48	52	50	108	108	
	30.28	47	44	46	107	107	
	35.70	38	39	38	108	108	
	38.49	34	54	54	54	54	54
	44.43	29	55	55	55	55	55
	48.89	27	56	56	56	56	56
	57.42	32	58	58	58	58	58
	60.81	34	59	59	59	59	59
	69.12	34	59	59	59	59	
	76.56	34	59	59	59	59	
	90.26	33	50	50	50	50	
	102.88	33	44	44			
	108.29	32	42	42			
	123.85	30	36	36			
	145.14	28	31	31			

K57, m kg	AQS.					
s	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
 3	26	27	29	33	36	40
KF: + 4.7 kg / KA: + -2.1 kg / KAF: + 3.6 kg						

K57, J_A / c_{TA}		AQS.					
		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	0.46	1.3	2.4	8.1	22.0	22.0
c_{TA}	Nm/'	0.15	0.3	0.7	3.0	7.0	7.0

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K..57							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	K	KF	KA	KAF	K	KF	KA	KAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
K57 3	4.69	300	450	510	324	9.0	3800	3980	2580	2580	8520	8520	11500	11500
	6.57	345	515	585	256	5.6	4180	4400	2800	2800	7990	8110	11500	11500
	7.55	365	545	620	228	4.4	4360	4580	2900	2900	7740	7920	11500	11500
	8.71	390	585	660	195	3.5	4520	4760	2980	2980	7420	7660	11400	11400
	9.59	405	585	685	178	3.0	4650	4900	3050	3050	7420	7660	11400	11400
	11.26	415	585	705	178	2.3	4990	5250	3340	3340	7420	7660	11400	11400
	11.92	415	585	705	181	2.1	5150	5400	3470	3470	7420	7660	11400	11400
	13.25	510	665	860	226	4.8	5190	5350	3240	3240	4700	4700	11100	11100
	15.22	535	665	900	193	3.8	5430	5600	3390	3390	4700	4700	11100	11100
	17.57	555	665	940	171	3.0	5740	5910	3610	3610	4700	4700	11100	11100
	19.34	575	665	970	151	2.6	5910	6080	3710	3710	4700	4700	11100	11100
	22.71	600	665	1020	132	2.0	6280	6460	3970	3970	4700	4700	11100	11100
	24.05	615	665	1040	121	1.9	6380	6560	4020	4020	4700	4700	11100	11100
	27.34	630	665	1070	112	1.5	6730	6920	4290	4290	4700	4700	11100	11100
	30.28	630	665	1070	112	1.2	7110	7290	4630	4630	4700	4700	11100	11100
	35.70	630	665	1070	112	0.95	7380	7510	5190	5190	4700	4700	11100	11100
	38.49	630	665	1070	60	2.3	7380	7510	5460	5460	4700	4700	11100	11100
	44.43	630	665	1070	62	1.9	7380	7510	5990	5990	4700	4700	11100	11100
	48.89	630	665	1070	63	1.6	7380	7510	6360	6360	4700	4700	11100	11100
	57.42	630	665	1070	65	1.3	7380	7510	7000	7000	4700	4700	11100	11100
	60.81	630	665	1070	65	1.2	7380	7510	7240	7240	4700	4700	11100	11100
	69.12	630	665	1070	65	0.98	7380	7510	7790	7790	4700	4700	11100	11100
	76.56	630	665	1070	59	0.85	7380	7510	8240	8240	4700	4700	11100	11100
	90.26	630	665	1070	50	0.67	7380	7510	9010	9010	4700	4700	11100	11100
	102.88	630	665	1070	44	0.46	7380	7510	9650	9650	4700	4700	11100	11100
	108.29	630	665	1070	42	0.41	7380	7510	9910	9910	4700	4700	11100	11100
	123.85	630	665	1070	36	0.33	7380	7510	10600	10600	4700	4700	11100	11100
	145.14	630	665	1070	31	0.27	7380	7510	11400	11400	4700	4700	11100	11100

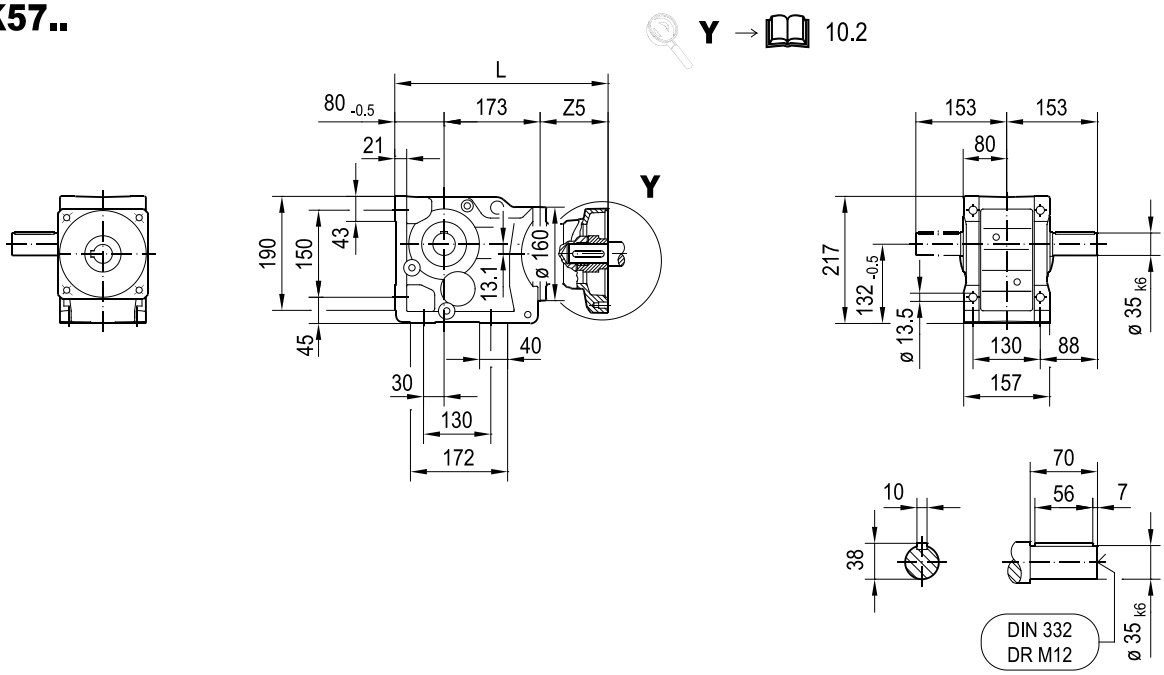
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K..57				c_{TG}				φ
	i	n_{epk} min^{-1}	η %	K Nm/'	KF Nm/'	KA Nm/'	KAF Nm/'	/R '
K57 3	4.69	4045	96	34	33	81	81	11
	6.57	4500	96	34	33	81	81	10
	7.55	4500	96	34	33	81	81	10
	8.71	4500	96	34	33	81	81	10
	9.59	4500	96	34	33	81	81	10
	11.26	4500	96	34	33	81	81	9
	11.92	4500	96	34	33	81	81	9
	13.25	4500	96	41	39	135	135	7
	15.22	4500	96	41	39	135	135	7
	17.57	4500	96	41	39	135	135	7
	19.34	4500	96	41	39	135	135	7
	22.71	4500	96	41	39	135	135	7
	24.05	4500	96	41	39	135	135	7
	27.34	4500	96	41	39	135	135	7
	30.28	4500	96	41	39	135	135	7
	35.70	4500	96	41	39	135	135	7
	38.49	4500	94	43	40	150	150	6
	44.43	4500	94	43	40	150	150	6
	48.89	4500	94	43	40	150	150	6
	57.42	4500	94	43	40	150	150	6
	60.81	4500	94	43	40	150	150	6
	69.12	4500	94	43	40	150	150	6
	76.56	4500	94	43	40	150	150	6
	90.26	4500	94	43	40	150	150	6
	102.88	4500	94	43	40	150	150	6
	108.29	4500	94	43	40	150	150	6
	123.85	4500	93	43	40	150	150	6
	145.14	4500	93	43	40	150	150	6

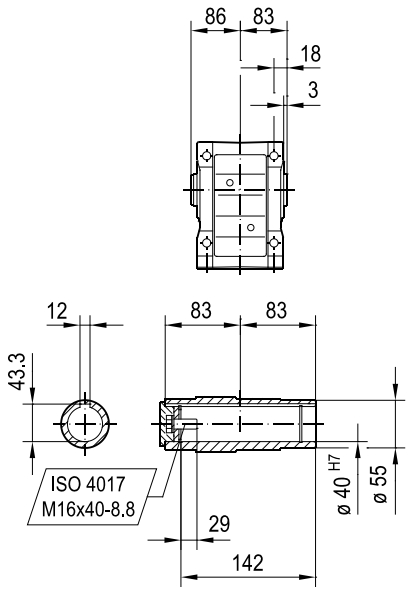
27788644/EN – 02/2024

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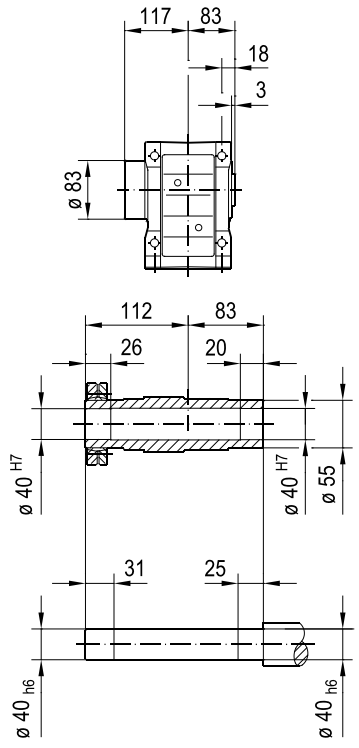
K57..



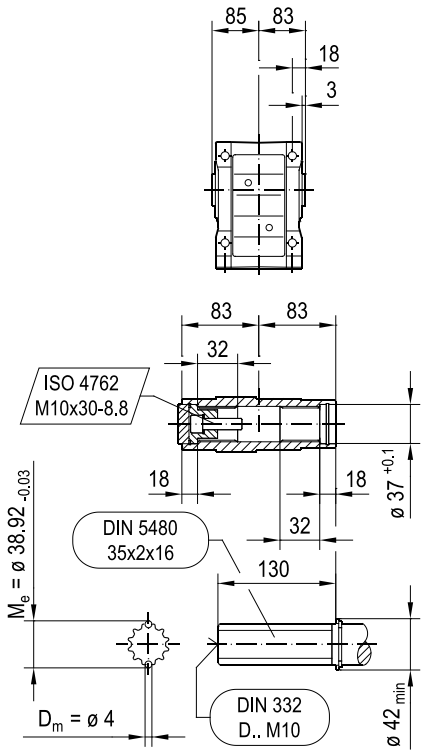
KA57B..



KH57B..



KV57B..

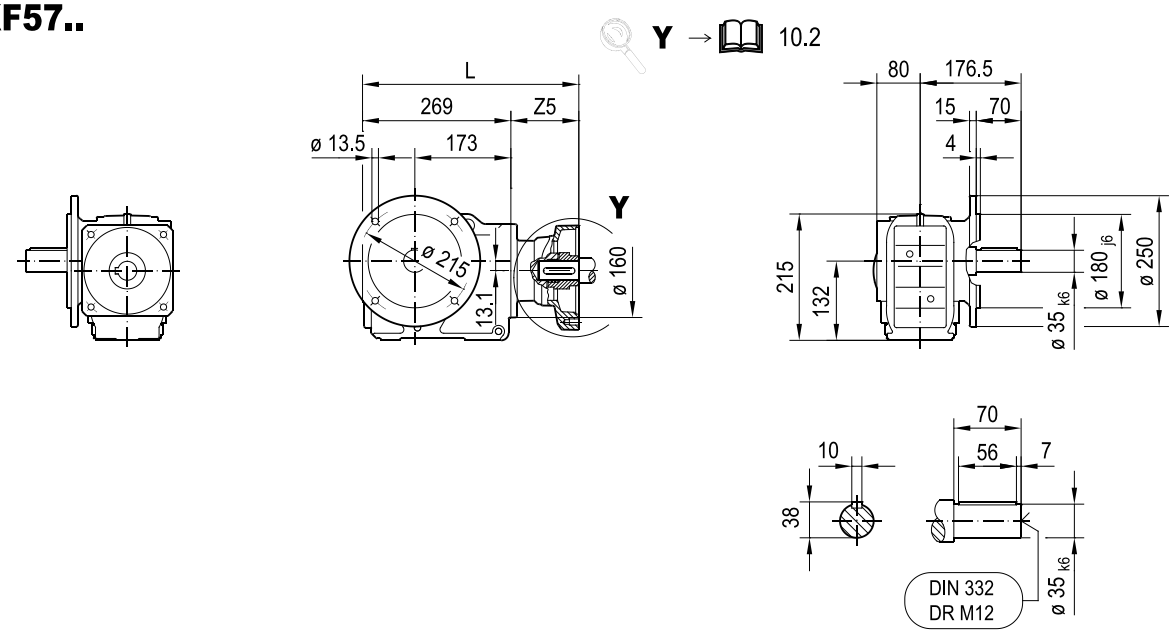


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	303	320	326	330	333	339	333	338	362	387	387	399

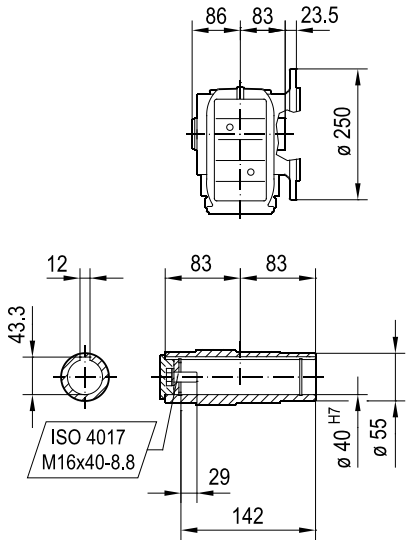
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33 047 00 21

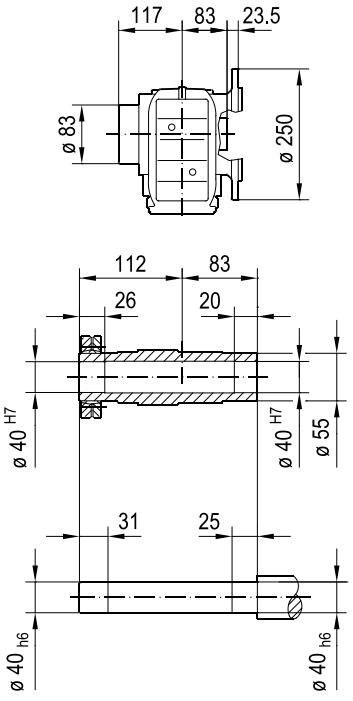
KF57..



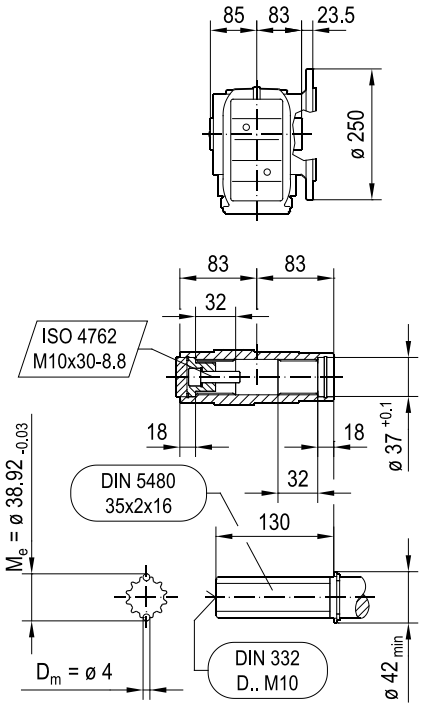
KAF57..



KHF57..



KVF57..

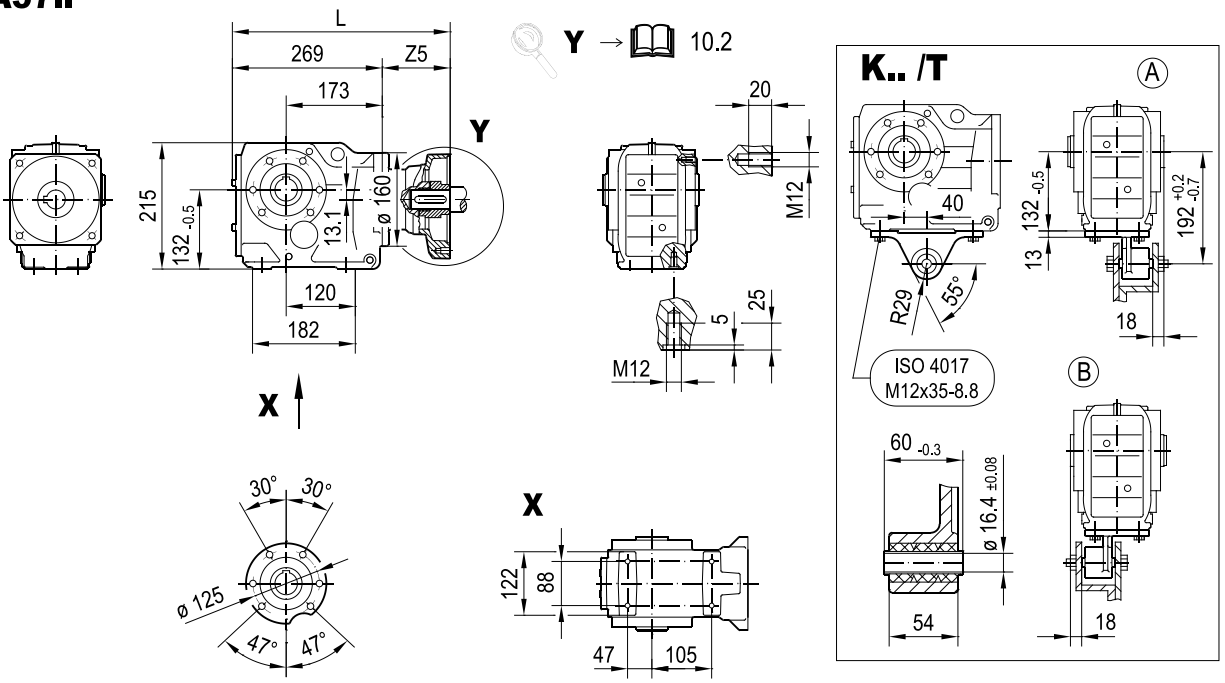


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	319	336	342	346	349	355	349	354	378	403	403	415

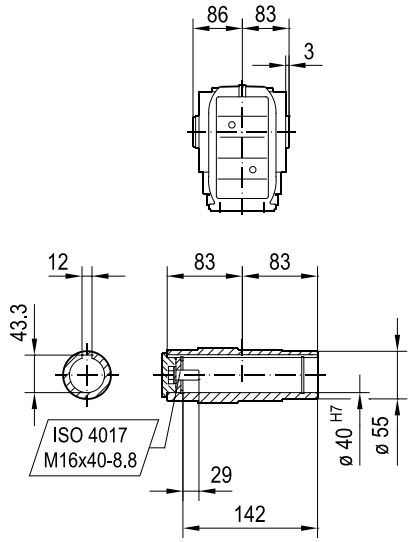
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KA57..

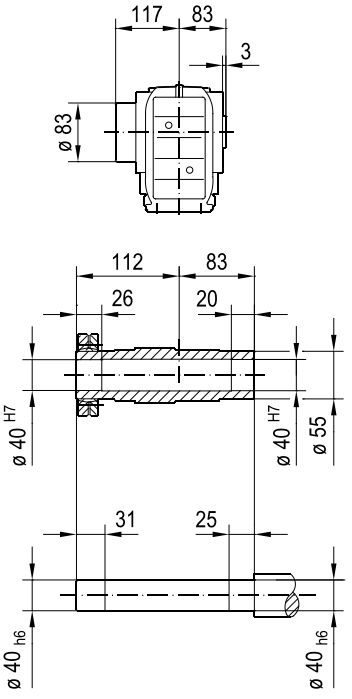
33 048 00 21



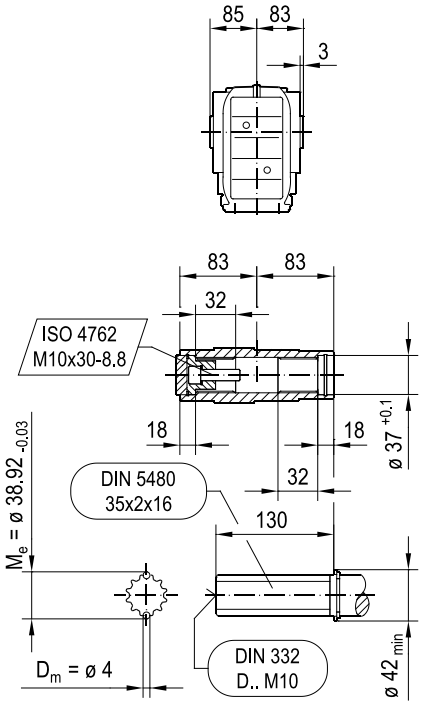
KA57..



KH57..



KV57..

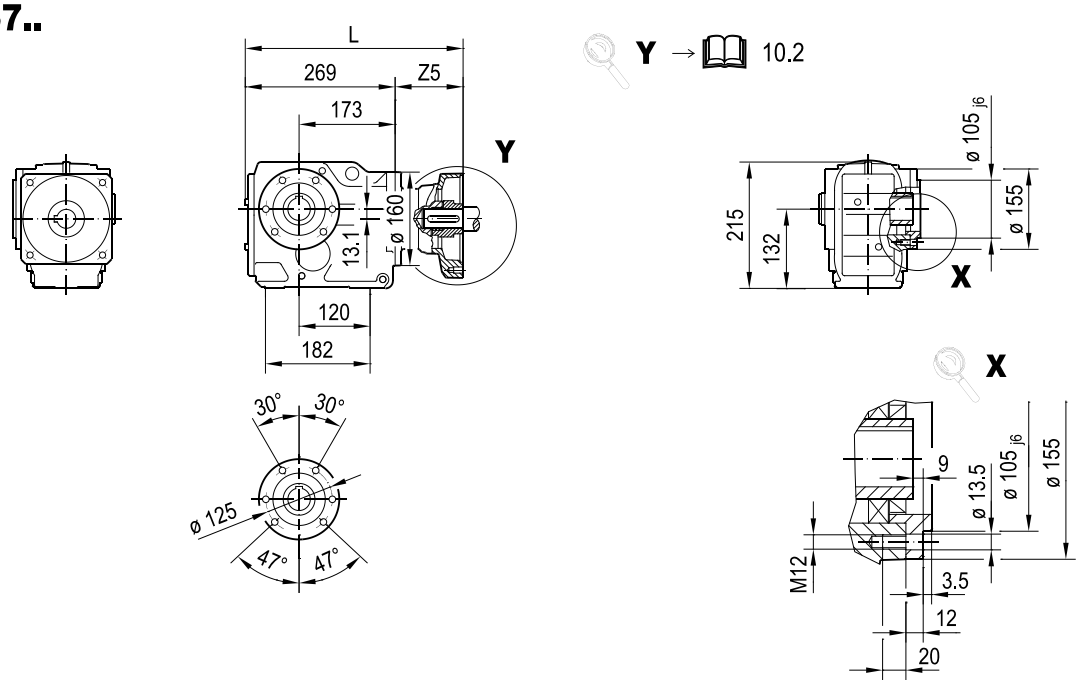


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	319	336	342	346	349	355	349	354	378	403	403	415

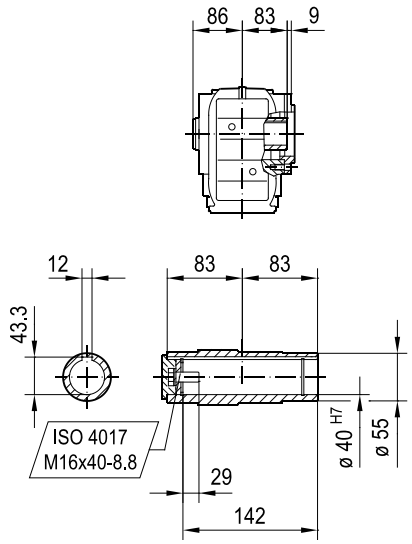
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33 049 00 21

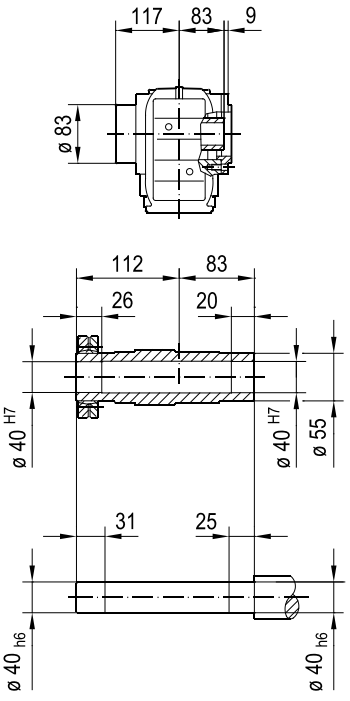
KAZ57..



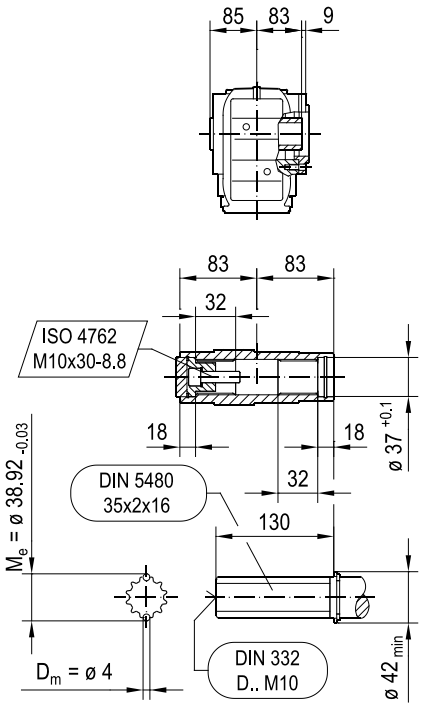
KAZ57..



KHZ57..



KVZ57..

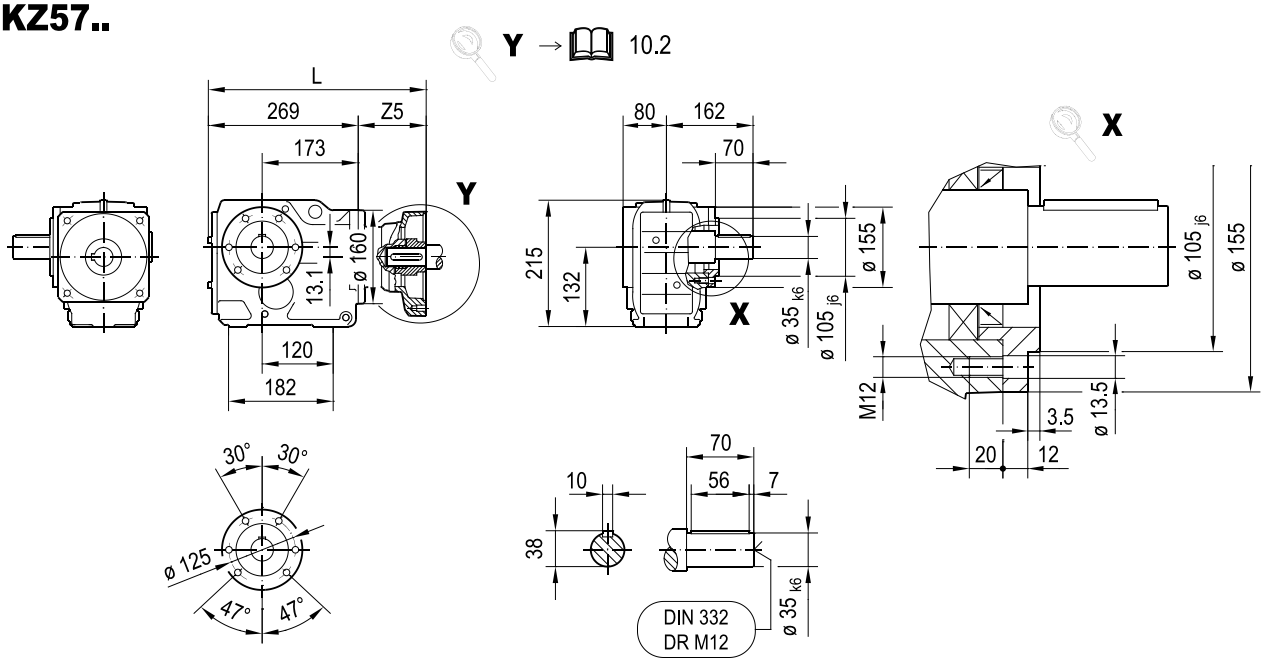


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	319	336	342	346	349	355	349	354	378	403	403	415

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33 050 00 21

KZ57..

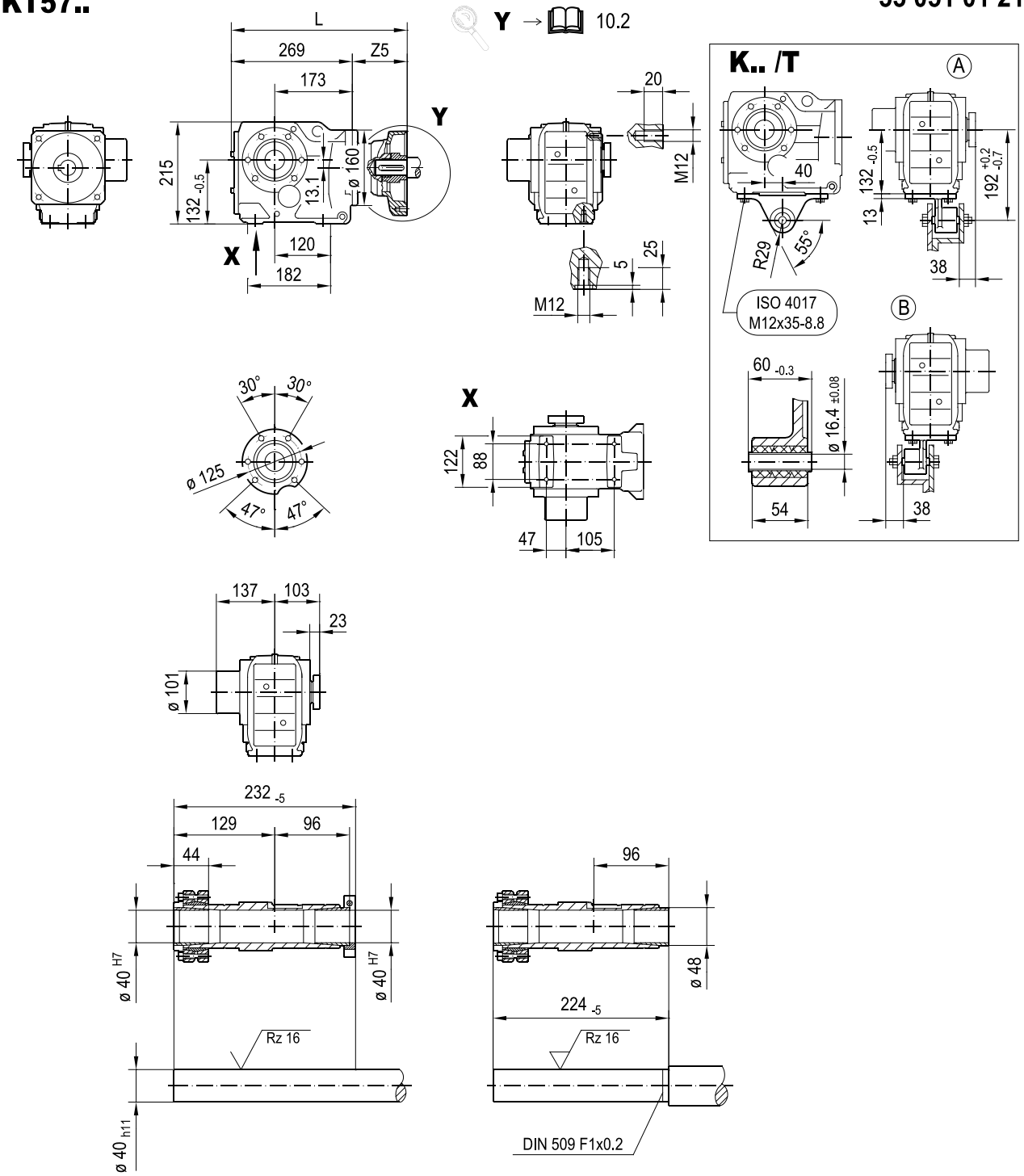


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	319	336	342	346	349	355	349	354	378	403	403	415

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KT57..

33 051 01 21



(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	319	336	342	346	349	355	349	354	378	403	403	415

10.1.8 K67 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$																	
	i	80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6			160/1			190/1,3-6		
	5.20	85	85	142	158	158	225	189	240	320	350	520	595	350	525	595	350	525	595
	7.28	116	117	197	220	220	315	225	325	385	420	630	715	420	630	715	420	630	715
	8.37	124	135	210	235	250	360	240	360	410	440	660	750	440	660	750	440	660	750
	9.66	132	156	225	250	290	415	255	385	435	480	685	820	480	685	820	480	685	820
	10.63	137	172	235	260	320	440	265	400	450	500	690	850	500	690	850	500	690	850
	12.48	147	200	250	275	375	470	285	430	485	530	695	900	530	695	900	530	695	900
	13.22	210	210	355	400	400	570	410	590	695	670	920	1140	670	920	1140	670	920	1140
	15.19	225	245	385	425	455	655	435	655	740	700	920	1190	700	920	1190	700	920	1190
	17.54	240	280	410	455	525	755	465	700	790	740	920	1260	740	920	1260	740	920	1260
	19.30	245	310	415	470	580	800	480	720	820	760	920	1290	760	920	1290	760	920	1290
	22.66	265	365	450	505	685	860	515	775	880	780	920	1330	780	920	1330	780	920	1330
	24.00	270	385	460	515	725	880	525	790	890	800	920	1360	800	920	1360	800	920	1360
K67	27.28	280	420	475	530	795	900	540	810	920	820	920	1390	820	920	1390			
3	30.22	290	435	495	545	820	930	555	830	940	870	920	1480	870	920	1480			
	35.62	300	450	510	570	860	970	580	870	990	870	920	1480	870	920	1480			
	38.39	560	610	950	800	920	1360	800	920	1360	800	920	1360	800	920	1360	800	920	1360
	44.32	595	705	1010	830	920	1410	830	920	1410	830	920	1410	830	920	1410	830	920	1410
	48.77	620	780	1050	850	920	1450	850	920	1450	850	920	1450	850	920	1450	850	920	1450
	57.28	665	920	1130	870	920	1480	870	920	1480	870	920	1480	870	920	1480	870	920	1480
	60.66	680	920	1160	870	920	1480	870	920	1480	870	920	1480	870	920	1480	870	920	1480
	68.95	700	920	1190	870	920	1480	870	920	1480	870	920	1480	870	920	1480			
	76.37	720	920	1220	870	920	1480	870	920	1480	870	920	1480	870	920	1480			
	90.04	755	920	1280	870	920	1480	870	920	1480	870	920	1480	870	920	1480			
	102.62	790	920	1340	870	920	1480	870	920	1480									
	108.03	795	920	1350	870	920	1480	870	920	1480									
	123.54	810	920	1380	870	920	1480	870	920	1480									
	144.79	850	920	1450	870	920	1480	870	920	1480									

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min^{-1}		AQS. n_{ak}					
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
K67  3	5.20	462	560	256	187	187	187
	7.28	174	190	191	199	199	199
	8.37	152	161	165	173	173	173
	9.66	131	139	143	150	150	150
	10.63	121	125	128	136	136	136
	12.48	104	115	107	116	116	116
	13.22	98	103	103	112	112	112
	15.19	84	92	92	105	105	105
	17.54	72	75	76	94	94	94
	19.30	73	70	72	90	90	90
	22.66	60	59	60	90	90	90
	24.00	57	56	57	84	84	84
	27.28	48	49	50	80	80	
	30.22	43	45	46	68	68	
	35.62	38	37	38	71	71	
	38.39	33	47	47	47	47	47
	44.32	29	43	43	43	43	43
	48.77	26	40	40	40	40	40
	57.28	23	39	39	39	39	39
	60.66	21	39	39	39	39	39
	68.95	19	40	40	40	40	
	76.37	17	40	40	40	40	
	90.04	14	41	41	41	41	
	102.62	13	41	41			
	108.03	12	41	41			
	123.54	11	36	36			
	144.79	8	31	31			

K67, m kg	AQS.					
s	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
 3	32	33	35	39	42	45
KF: + 5.6 kg / KA: + -2.7 kg / KAF: + 3.0 kg						

K67, J_A / c_{TA}		AQS.					
		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	0.46	1.3	2.4	8.1	22.0	22.0
c_{TA}	Nm/"	0.15	0.3	0.7	3.0	7.0	7.0

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K..67							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	K	KF	KA	KAF	K	KF	KA	KAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
K67 3	5.20	350	525	595	202	11	9860	10000	2450	2450	12300	12300	12300	12300
	7.28	420	630	710	214	6.3	10700	10900	2480	2480	11700	11700	11300	11300
	8.37	440	660	745	186	4.9	11100	11400	2590	2590	11500	11500	11100	11100
	9.66	480	685	810	161	3.8	11500	11700	2550	2550	11400	11400	10800	10800
	10.63	500	690	850	147	3.2	11800	12000	2590	2590	11300	11300	10800	10800
	12.48	530	695	900	126	2.5	12300	12300	2710	2710	11300	11300	10700	10700
	13.22	670	920	1130	120	5.6	11500	11500	2420	2420	9310	9310	9840	9840
	15.19	700	920	1190	113	4.4	11300	11300	2550	2550	9310	9310	9840	9840
	17.54	740	920	1250	101	3.4	11000	11000	2630	2630	9310	9310	9840	9840
	19.30	760	920	1290	97	2.9	10800	10800	2740	2740	9310	9310	9840	9840
	22.66	780	920	1320	97	2.2	10700	10700	3070	3070	9310	9310	9840	9840
	24.00	800	920	1360	91	2.0	10500	10500	3090	3090	9310	9310	9840	9840
	27.28	820	920	1390	86	1.6	10300	10300	3340	3340	9310	9310	9840	9840
	30.22	870	920	1470	73	1.3	9840	9840	3290	3290	9310	9310	9840	9840
	35.62	870	920	1470	77	1.0	9840	9840	3860	3860	9310	9310	9840	9840
	38.39	800	920	1360	53	2.4	10500	10500	4680	4680	9310	9310	9840	9840
	44.32	830	920	1410	48	1.9	10200	10200	4990	4990	9310	9310	9840	9840
	48.77	850	920	1440	45	1.7	10000	10000	5200	5200	9310	9310	9840	9840
	57.28	870	920	1470	43	1.4	9840	9840	5700	5700	9310	9310	9840	9840
	60.66	870	920	1470	44	1.2	9840	9840	5940	5940	9310	9310	9840	9840
	68.95	870	920	1470	44	1.0	9840	9840	6500	6500	9310	9310	9840	9840
	76.37	870	920	1470	45	0.87	9840	9840	6970	6970	9310	9310	9840	9840
	90.04	870	920	1470	45	0.68	9840	9840	7750	7750	9310	9310	9840	9840
	102.62	870	920	1470	44	0.47	9840	9840	8400	8400	9310	9310	9840	9840
	108.03	870	920	1470	42	0.42	9840	9840	8660	8660	9310	9310	9840	9840
	123.54	870	920	1470	36	0.34	9840	9840	9380	9380	9310	9310	9840	9840
	144.79	870	920	1470	31	0.28	9840	9840	10200	10200	9310	9310	9840	9840

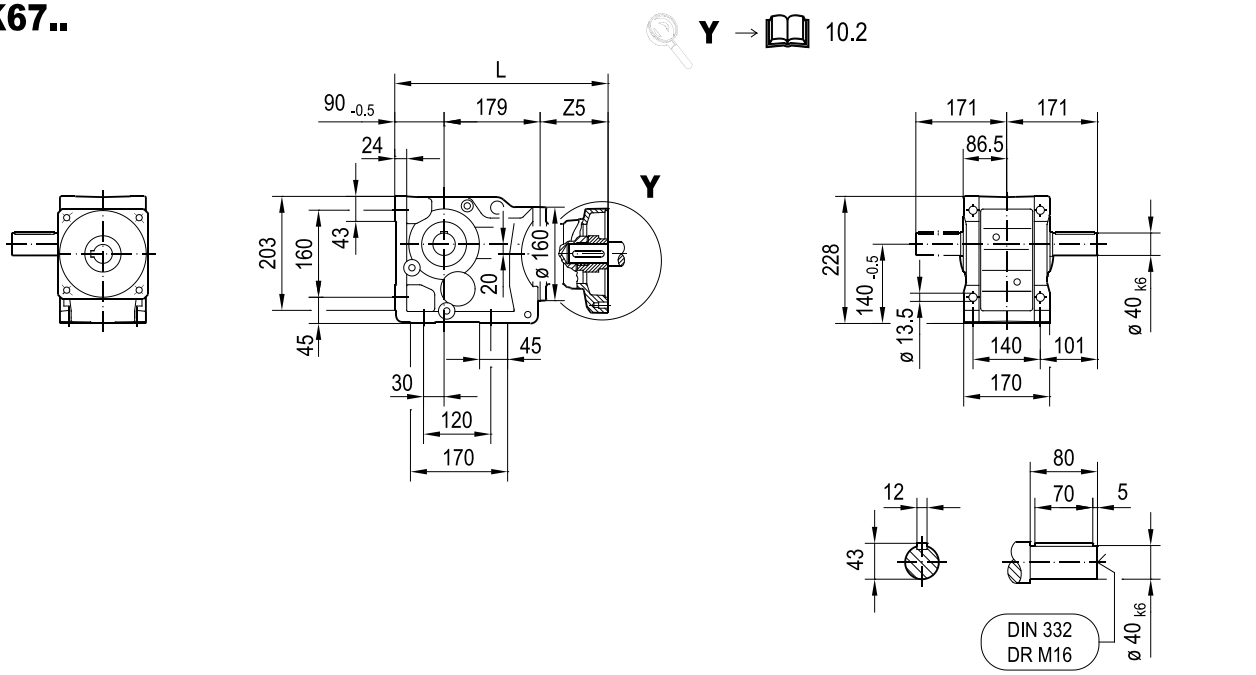
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K..67				c_{TG}				φ
	i	n_{epk} min^{-1}	η %	K Nm/'	KF Nm/'	KA Nm/'	KAF Nm/'	/R '
K67 3	5.20	3862	96	58	54	96	96	10
	7.28	4500	96	58	54	96	96	9
	8.37	4500	96	58	54	96	96	9
	9.66	4500	96	58	54	96	96	9
	10.63	4500	96	58	54	96	96	9
	12.48	4500	96	58	54	96	96	9
	13.22	4500	96	73	66	146	146	8
	15.19	4500	96	73	66	146	146	8
	17.54	4500	96	73	66	146	146	7
	19.30	4500	96	73	66	146	146	7
	22.66	4500	96	73	66	146	146	7
	24.00	4500	96	73	66	146	146	7
	27.28	4500	96	73	66	146	146	7
	30.22	4500	96	73	66	146	146	7
	35.62	4500	96	73	66	146	146	7
	38.39	4500	94	77	70	165	165	6
	44.32	4500	94	77	70	165	165	6
	48.77	4500	94	77	70	165	165	6
	57.28	4500	94	77	70	165	165	6
	60.66	4500	94	77	70	165	165	6
	68.95	4500	95	77	70	165	165	6
	76.37	4500	95	77	70	165	165	6
	90.04	4500	94	77	70	165	165	6
	102.62	4500	94	77	70	165	165	6
	108.03	4500	94	77	70	165	165	6
	123.54	4500	94	77	70	165	165	6
	144.79	4500	94	77	70	165	165	6

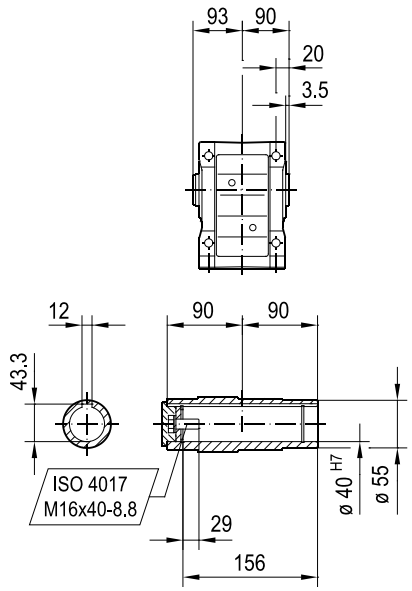
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33 052 00 21

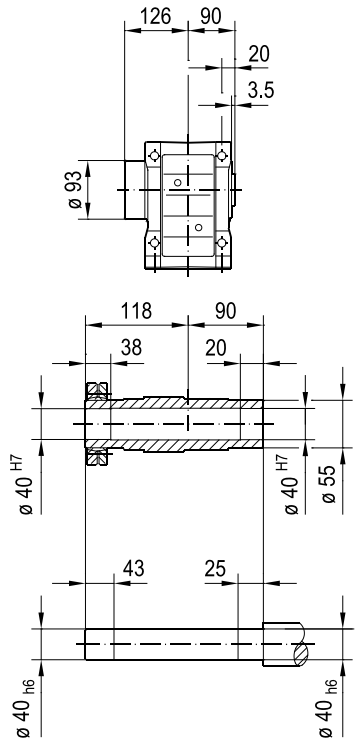
K67..



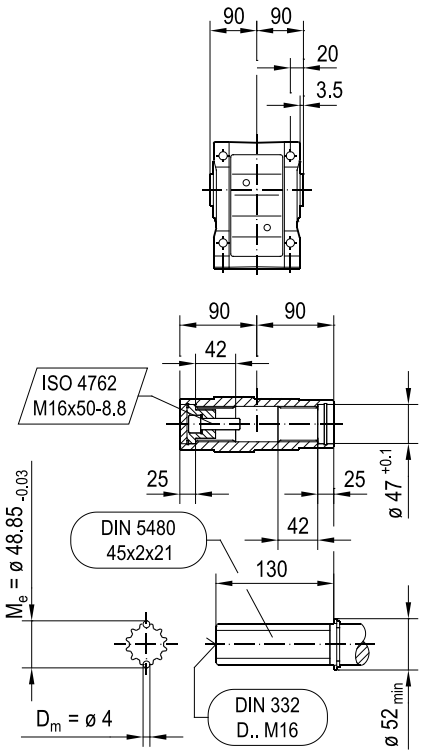
KA67B..



KH67B..



KV67B..

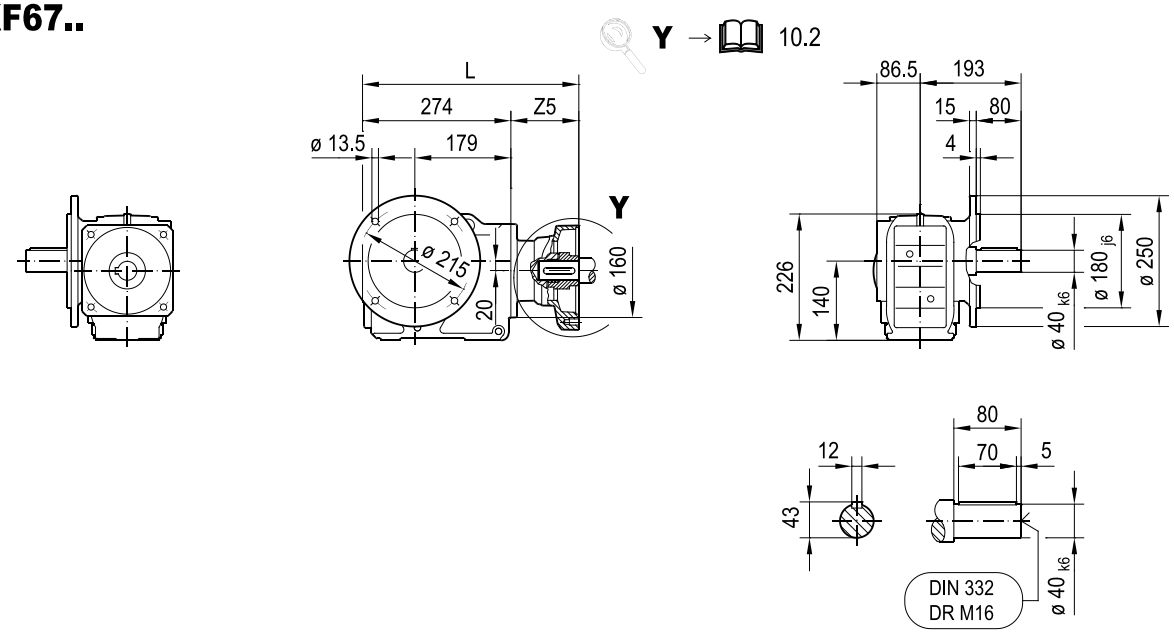


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	319	336	342	346	349	355	349	354	378	403	403	415

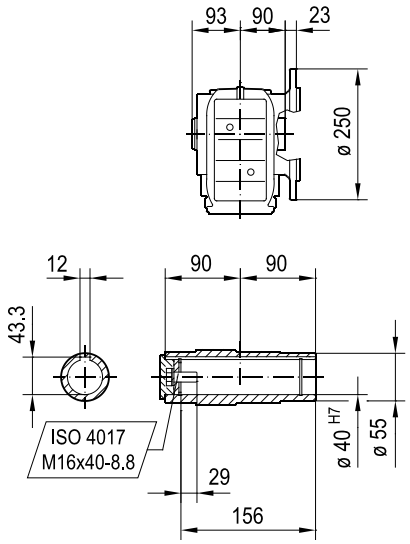
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33 053 00 21

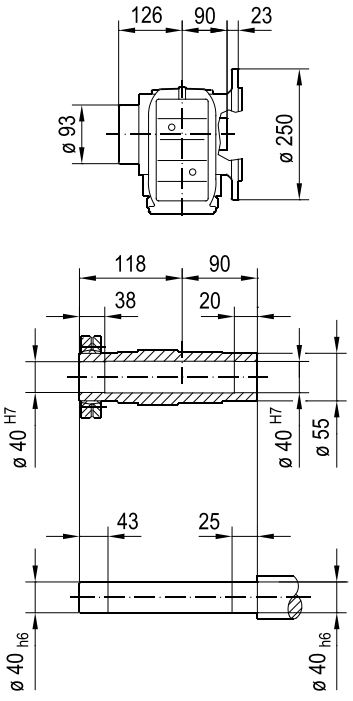
KF67..



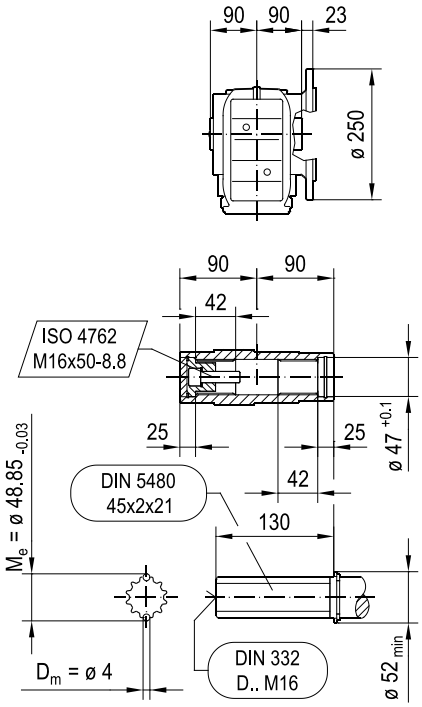
KAF67..



KHF67..



KVF67..

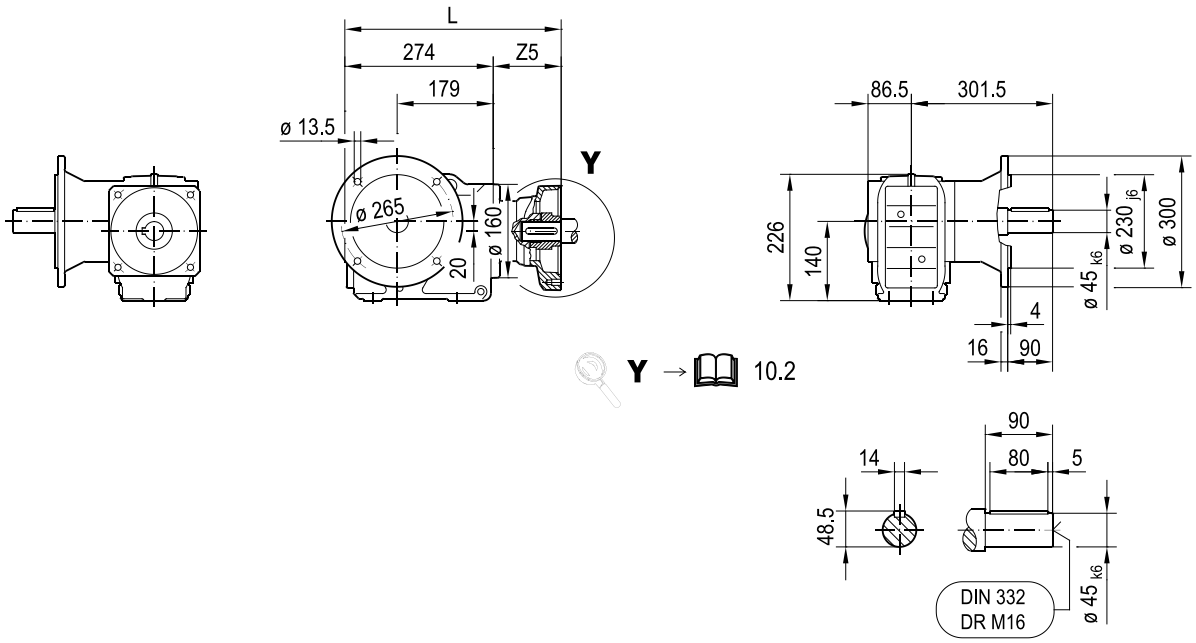


(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	324	341	347	351	354	360	354	359	383	408	408	420

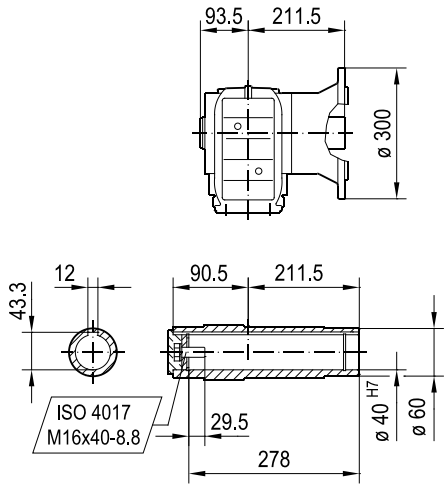
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33 054 00 21

KM67..



KAM67..

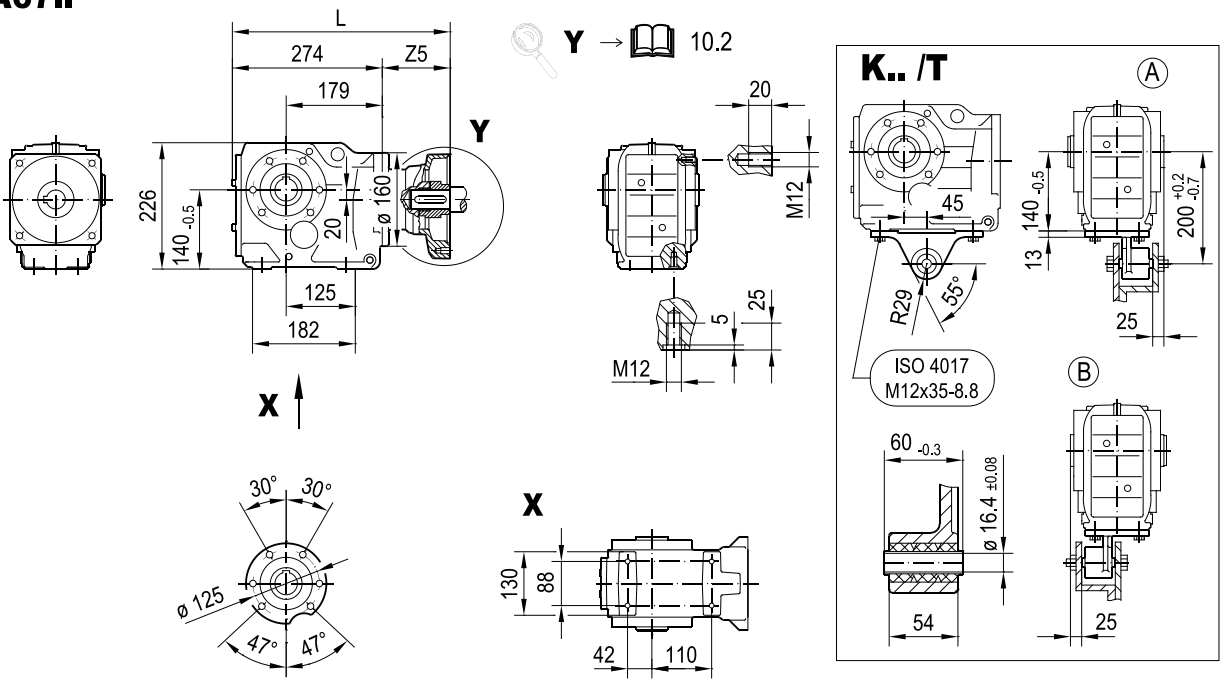


(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	324	341	347	351	354	360	354	359	383	408	408	420

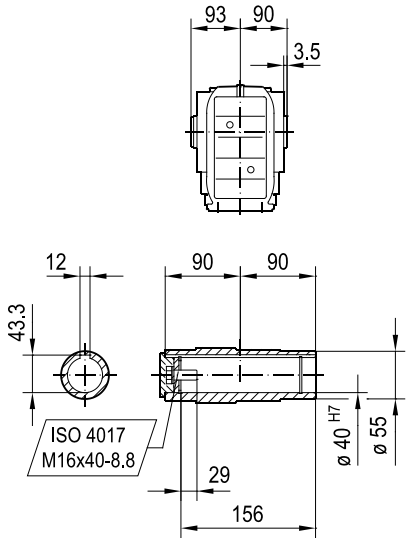
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KA67..

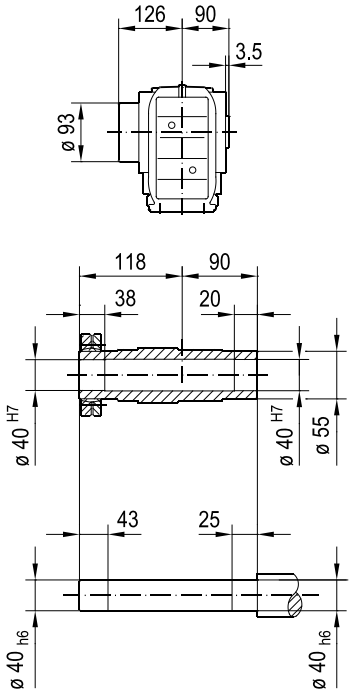
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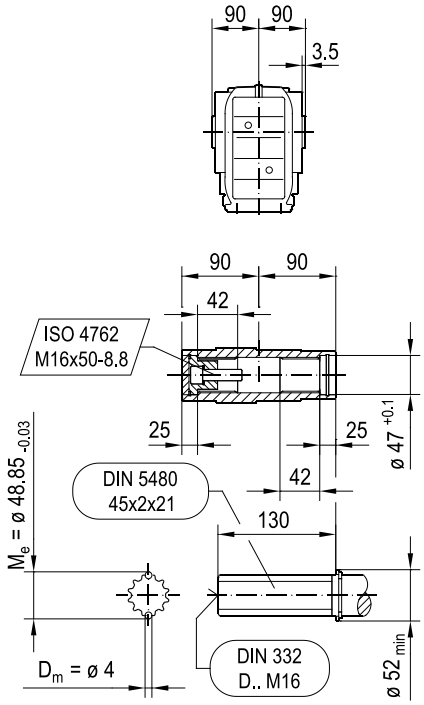
KA67..



KH67..



KV67..

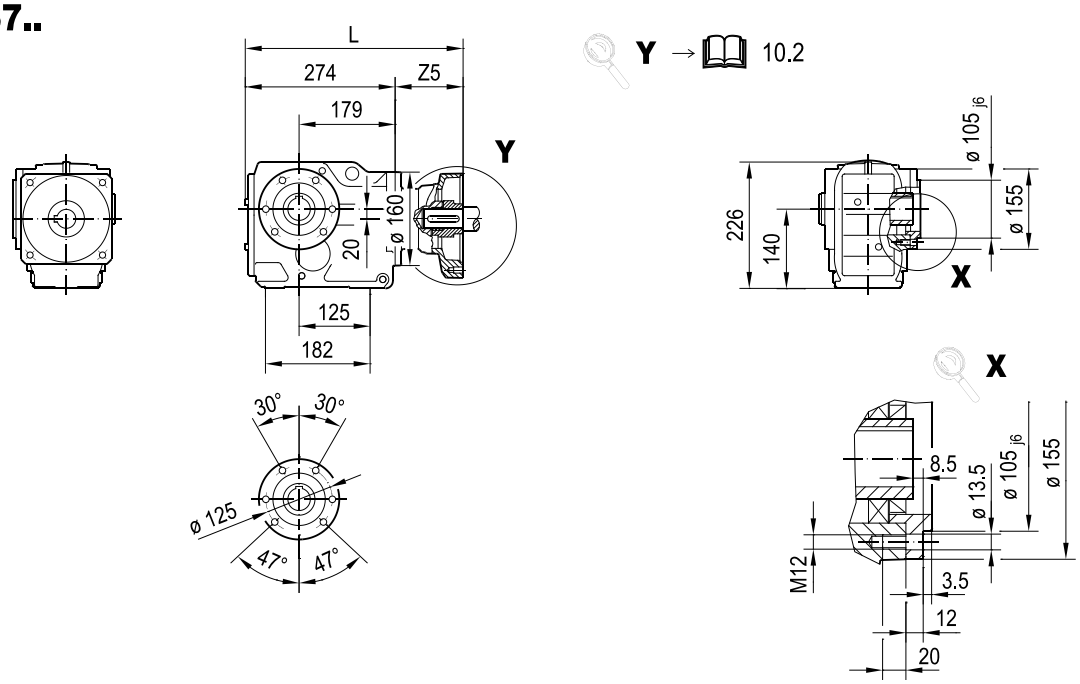


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	324	341	347	351	354	360	354	359	383	408	408	420

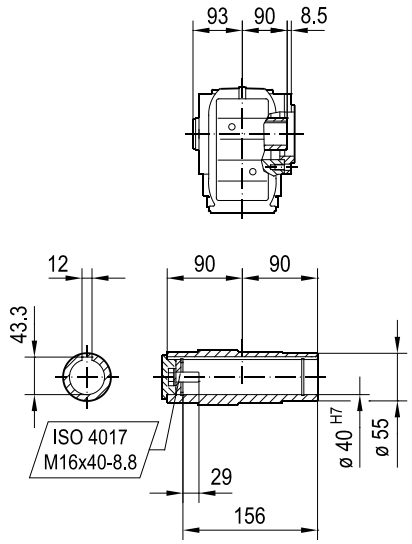
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33 056 00 21

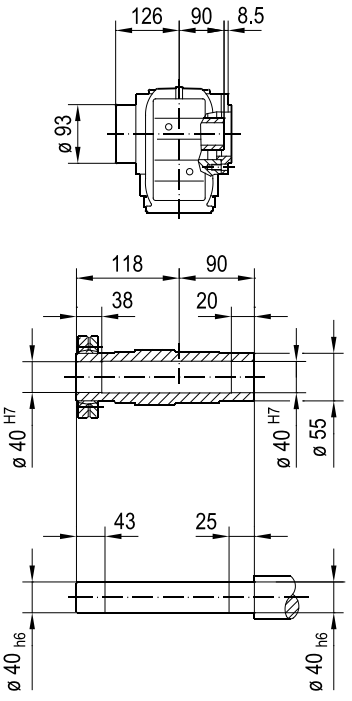
KAZ67..



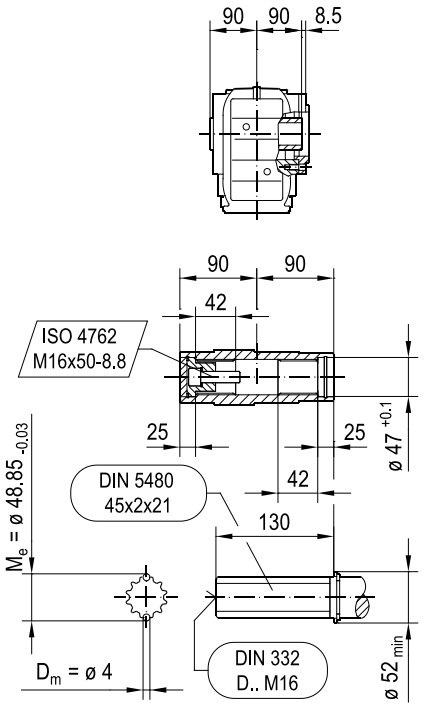
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KHZ67..



KVZ67..

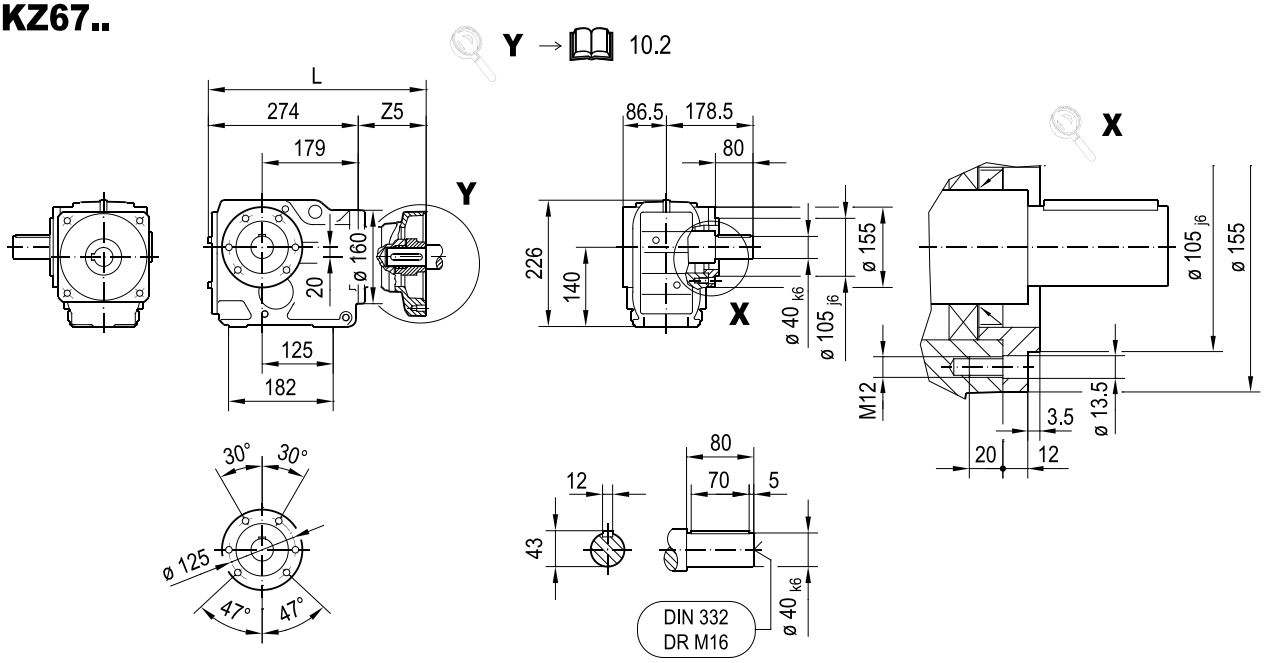


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	324	341	347	351	354	360	354	359	383	408	408	420

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33 057 00 21

KZ67..

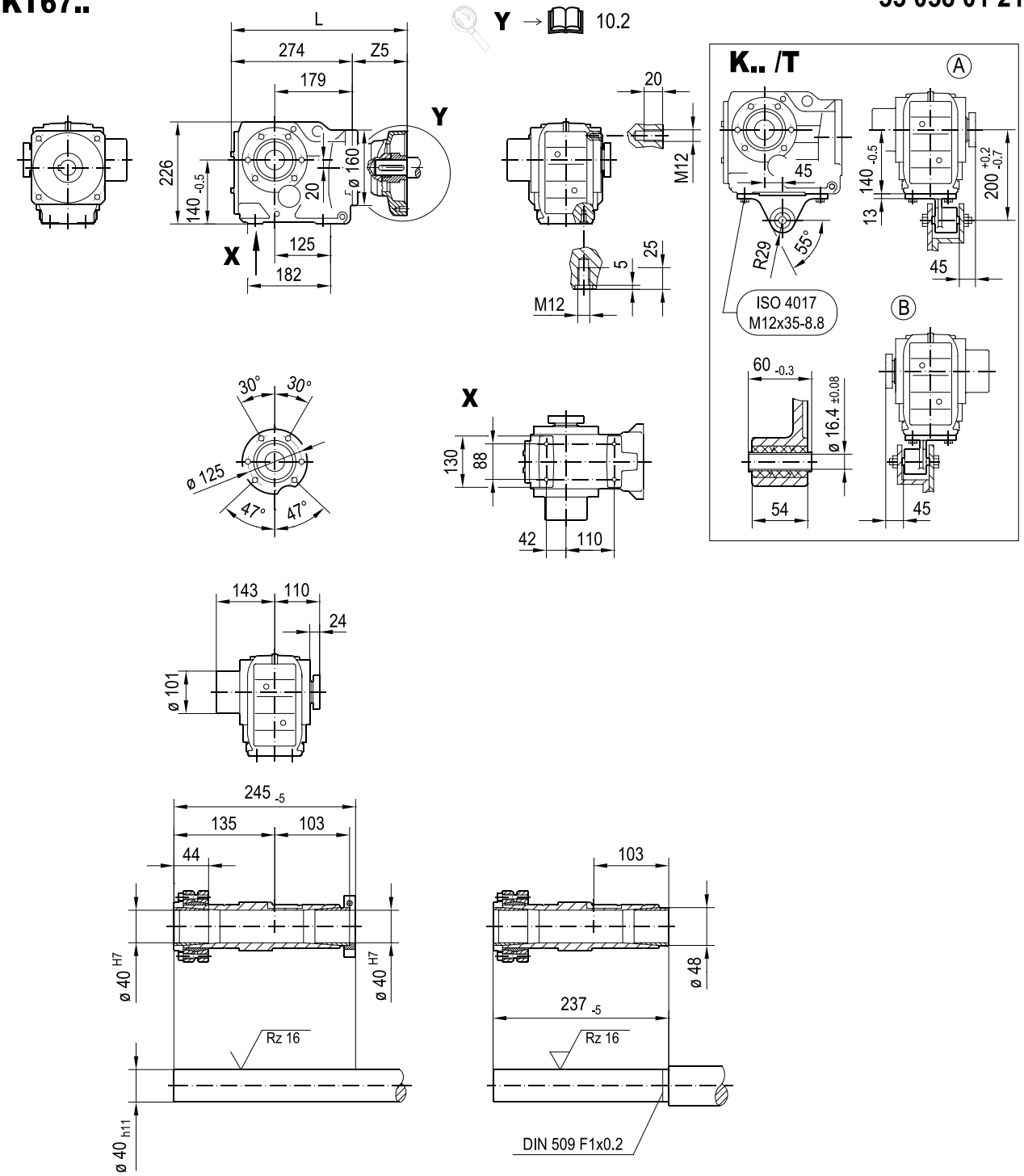


(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	324	341	347	351	354	360	354	359	383	408	408	420

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KT67..

33 058 01 21



(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	324	341	347	351	354	360	354	359	383	408	408	420

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10.1.9 K77 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$																	
	i	80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6			160/1			190/1,3-6		
K77 3	7.24	114	114	194	215	215	310	260	345	440	560	810	950	790	840	1340	820	1150	1390
	8.48	135	135	230	250	250	365	280	395	475	600	900	1020	890	950	1510	890	1160	1510
	9.56	149	153	255	285	285	410	295	440	500	630	950	1070	940	1040	1600	940	1160	1600
	10.84	157	173	265	305	325	465	310	465	525	660	990	1120	990	1140	1680	990	1170	1680
	12.36	166	198	280	320	370	530	330	495	560	690	1040	1170	1000	1170	1700	1000	1170	1700
	13.52	210	210	355	400	400	575	490	645	830	1040	1520	1770	1340	1550	2280	1340	1550	2280
	15.84	250	250	425	470	470	680	530	740	900	1120	1550	1900	1400	1550	2380	1400	1550	2380
	17.87	275	285	470	535	535	765	555	820	940	1180	1550	2010	1450	1550	2470	1450	1550	2470
	20.25	290	320	495	570	605	870	585	880	990	1230	1550	2090	1500	1550	2550	1500	1550	2550
	23.08	310	370	525	600	690	990	615	920	1050	1290	1550	2190	1550	1550	2640	1550	1550	2640
	25.62	325	410	555	630	770	1070	645	970	1100	1350	1550	2300	1550	1550	2640	1550	1550	2640
	29.27	340	470	580	655	880	1110	670	1010	1140	1400	1550	2380	1550	1550	2640	1550	1550	2640
	30.89	345	495	585	665	930	1130	680	1020	1160	1430	1550	2430	1550	1550	2640	1550	1550	2640
	35.20	355	535	605	690	1040	1170	705	1060	1200	1470	1550	2500	1550	1550	2640			
	38.39	360	540	610	695	1040	1180	715	1070	1220	1490	1550	2530	1500	1550	2550			
	40.04	630	630	1070	1180	1180	1700	1330	1550	2260	1550	1550	2640	1550	1550	2640	1550	1550	2640
	45.16	700	715	1190	1340	1340	1920	1400	1550	2380	1550	1550	2640	1550	1550	2640	1550	1550	2640
	51.18	735	810	1250	1430	1520	2180	1470	1550	2500	1550	1550	2640	1550	1550	2640	1550	1550	2640
	58.34	775	920	1320	1500	1550	2480	1540	1550	2620	1550	1550	2640	1550	1550	2640	1550	1550	2640
	64.75	810	1030	1380	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640
	73.99	850	1180	1450	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640
	78.07	860	1250	1460	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640
	88.97	890	1340	1510	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640			
	97.05	900	1350	1530	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640			
	113.56	940	1410	1600	1550	1550	2640	1550	1550	2640	1550	1550	2640	1550	1550	2640			
	128.52	990	1490	1680	1550	1550	2640	1550	1550	2640									
	135.28	1000	1500	1700	1550	1550	2640	1550	1550	2640									
	154.02	1020	1530	1730	1550	1550	2640	1550	1550	2640									
	179.37	1050	1330	1790	1150	1330	1960	1150	1330	1960									
	192.18	1050	1430	1790	1230	1430	2090	1230	1430	2090									

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min^{-1}		AQS. n_{ak}					
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
K77 3	7.24	365	448	215	195	224	198
	8.48	221	307	183	167	169	169
	9.56	151	171	161	149	150	150
	10.84	133	135	142	132	132	132
	12.36	113	119	113	117	117	117
	13.52	203	242	109	108	144	144
	15.84	124	161	90	90	137	137
	17.87	86	89	82	78	130	130
	20.25	76	72	71	72	123	123
	23.08	61	62	62	62	117	117
	25.62	55	55	55	56	124	124
	29.27	48	49	49	50	130	130
	30.89	46	47	47	45	132	132
	35.20	42	40	40	40	128	
	38.39	39	38	36	37	117	
	40.04	47	62	35	34	34	34
	45.16	31	35	31	31	31	31
	51.18	28	28	27	27	27	27
	58.34	24	25	24	28	28	28
	64.75	22	24	28	28	28	28
	73.99	19	27	29	29	29	29
	78.07	19	29	29	29	29	29
	88.97	16	29	28	29	29	
	97.05	15	28	27	29	29	
	113.56	12	27	26	30	30	
	128.52	12	28	26			
	135.28	10	27	25			
	154.02	9	25	24			
	179.37	8	25	25			
	192.18	7	23	23			

K77, m kg	AQS.					
s	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
3	57	58	59	64	67	71
KF: + 8.2 kg / KA: + -7.5 kg / KAF: + 0.40 kg						

K77, J_A / c_{TA}		AQS.					
		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	0.46	1.3	2.4	8.1	22.0	22.0
c_{TA}	Nm/'	0.15	0.3	0.7	3.0	7.0	7.0

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K..77							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	K	KF	KA	KAF	K	KF	KA	KAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
	7.24	820	1150	1390	213	17	13100	13800	2490	2490	17700	17700	16800	20000
	8.48	890	1160	1510	182	13	13500	14300	2430	2430	17600	17700	16800	20000
	9.56	940	1160	1590	161	10	13900	14700	2430	2430	17600	17700	16800	20000
	10.84	990	1170	1680	142	8.2	14400	15200	2460	2460	17600	17700	16700	20000
	12.36	1000	1170	1700	126	6.5	15100	16000	2820	2820	17600	17700	16700	20000
	13.52	1340	1550	2270	155	15	14800	15800	1850	1850	15400	16600	15300	20000
	15.84	1400	1550	2380	147	11	15500	16600	2030	2030	15400	16600	15300	20000
	17.87	1450	1550	2460	140	9.0	16100	16900	2160	2160	15400	16600	15300	20000
	20.25	1500	1550	2550	133	7.2	15700	16800	2330	2330	15400	16600	15300	20000
	23.08	1550	1550	2630	126	5.8	15400	16600	2550	2550	15400	16600	15300	20000
	25.62	1550	1550	2630	133	5.0	15400	16600	2990	2990	15400	16600	15300	20000
	29.27	1550	1550	2630	140	4.0	15400	16600	3590	3590	15400	16600	15300	20000
	30.89	1550	1550	2630	142	3.6	15400	16600	3840	3840	15400	16600	15300	20000
	35.20	1550	1550	2630	128	2.9	15400	16600	4460	4460	15400	16600	15300	20000
K77	38.39	1500	1550	2550	117	2.5	15700	16800	5210	5210	15400	16600	15300	20000
 3	40.04	1550	1550	2630	38	6.0	15400	16600	5100	5100	15400	16600	15300	20000
	45.16	1550	1550	2630	34	4.9	15400	16600	5720	5720	15400	16600	15300	20000
	51.18	1550	1550	2630	30	4.1	15400	16600	6390	6390	15400	16600	15300	20000
	58.34	1550	1550	2630	31	3.3	15400	16600	7130	7130	15400	16600	15300	20000
	64.75	1550	1550	2630	32	3.0	15400	16600	7740	7740	15400	16600	15300	20000
	73.99	1550	1550	2630	32	2.4	15400	16600	8550	8550	15400	16600	15300	20000
	78.07	1550	1550	2630	32	2.3	15400	16600	8890	8890	15400	16600	15300	20000
	88.97	1550	1550	2630	33	1.9	15400	16600	9730	9730	15400	16600	15300	20000
	97.05	1550	1550	2630	33	1.6	15400	16600	10300	10300	15400	16600	15300	20000
	113.56	1550	1550	2630	33	1.3	15400	16600	11400	11400	15400	16600	15300	20000
	128.52	1550	1550	2630	33	0.90	15400	16600	12300	12300	15400	16600	15300	20000
	135.28	1550	1550	2630	33	0.81	15400	16600	12700	12700	15400	16600	15300	20000
	154.02	1550	1550	2630	29	0.66	15400	16600	13700	13700	15400	16600	15300	20000
	179.37	1450	1550	2460	25	0.53	16100	16900	15600	15600	15400	16600	15300	20000
	192.18	1450	1550	2460	23	0.46	16100	16900	16200	16200	15400	16600	15300	20000

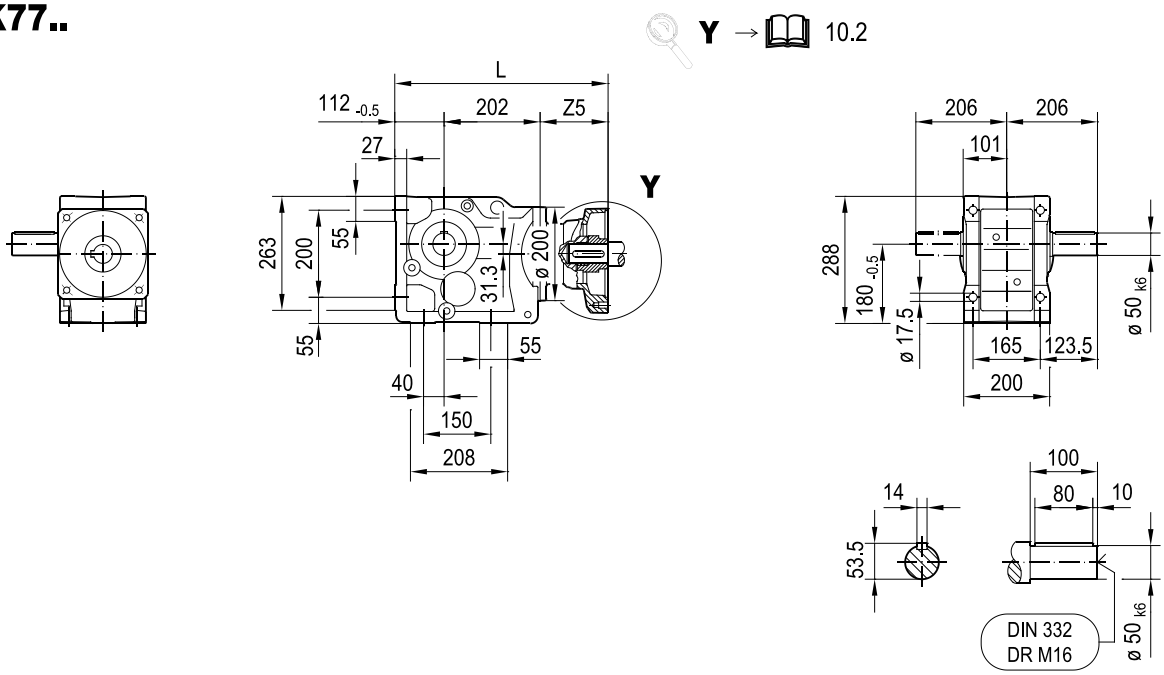
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K..77				c_{TG}				φ
	i	n_{epk} min^{-1}	η %	K Nm/'	KF Nm/'	KA Nm/'	KAF Nm/'	/R '
K77 3	7.24	4500	96	110	91	188	188	8
	8.48	4500	96	110	91	188	188	8
	9.56	4500	96	110	91	188	188	8
	10.84	4500	96	110	91	188	188	8
	12.36	4500	96	110	91	188	188	8
	13.52	4500	96	141	112	300	300	7
	15.84	4500	96	141	112	300	300	6
	17.87	4500	96	141	112	300	300	6
	20.25	4500	96	141	112	300	300	6
	23.08	4500	96	141	112	300	300	6
	25.62	4500	96	141	112	300	300	6
	29.27	4500	96	141	112	300	300	6
	30.89	4500	96	141	112	300	300	6
	35.20	4500	96	141	112	300	300	6
	38.39	4500	96	141	112	300	300	6
	40.04	4500	95	150	118	348	348	6
	45.16	4500	95	150	118	348	348	6
	51.18	4500	95	150	118	348	348	6
	58.34	4500	95	150	118	348	348	6
	64.75	4500	95	150	118	348	348	5
	73.99	4500	95	150	118	348	348	5
	78.07	4500	95	150	118	348	348	5
	88.97	4500	95	150	118	348	348	5
	97.05	4500	95	150	118	348	348	5
	113.56	4500	94	150	118	348	348	5
	128.52	4500	94	150	118	348	348	5
	135.28	4500	94	150	118	348	348	5
	154.02	4500	94	150	118	348	348	5
	179.37	4500	94	150	118	348	348	5
	192.18	4500	93	150	118	348	348	5

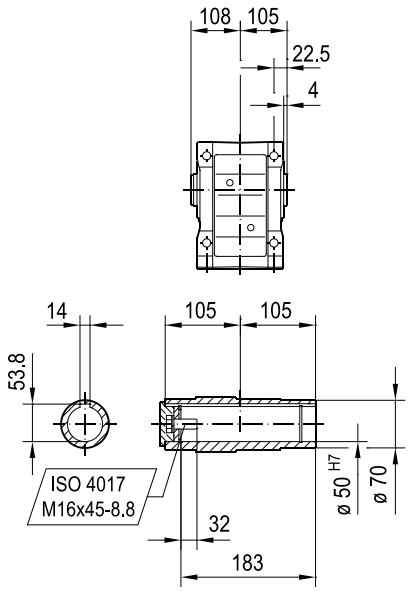
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33 059 00 21

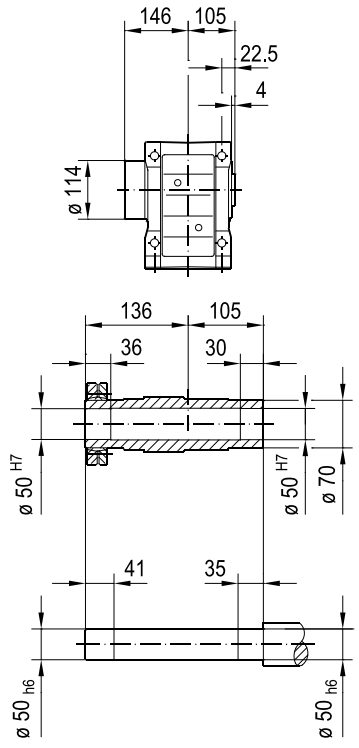
K77..



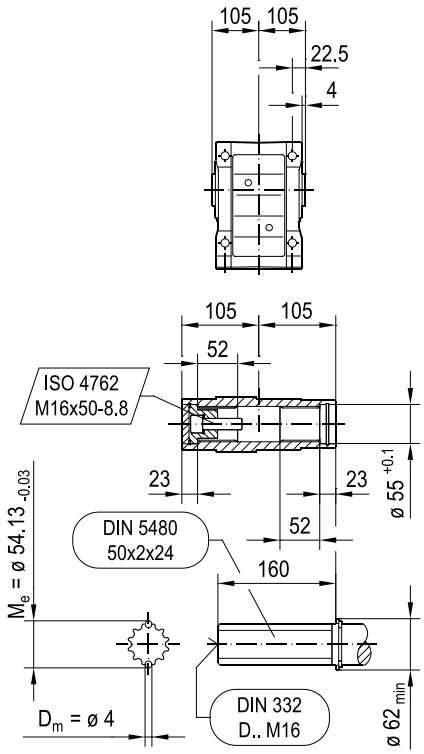
KA77B..



KH77B..



KV77B..

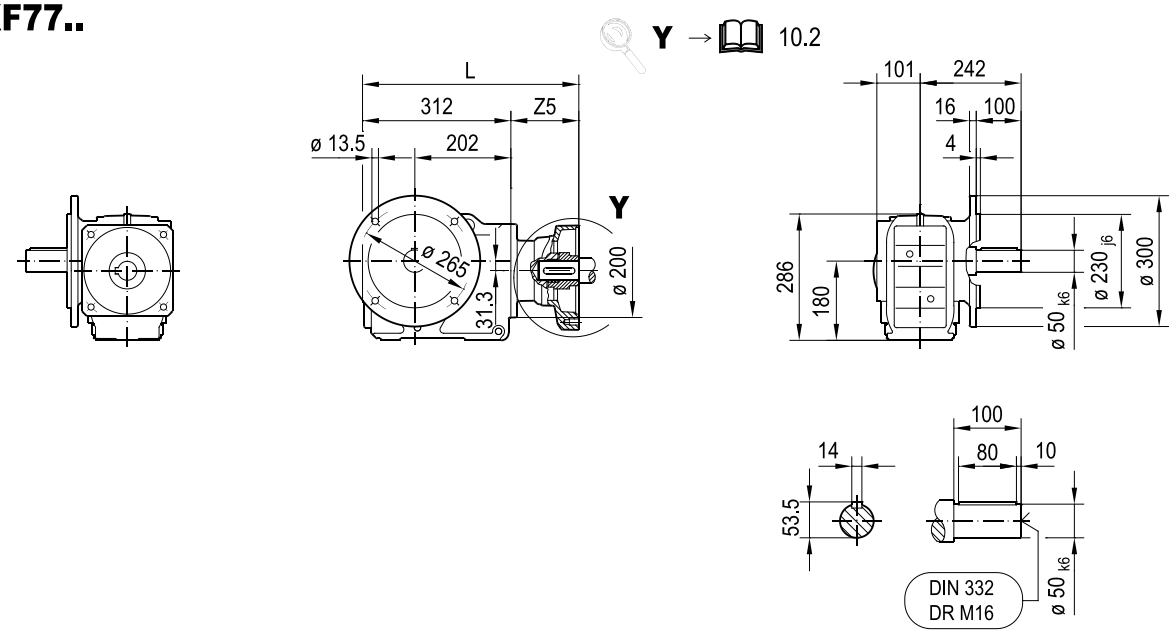


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	358	374	380	384	387	393	387	392	415	440	440	452

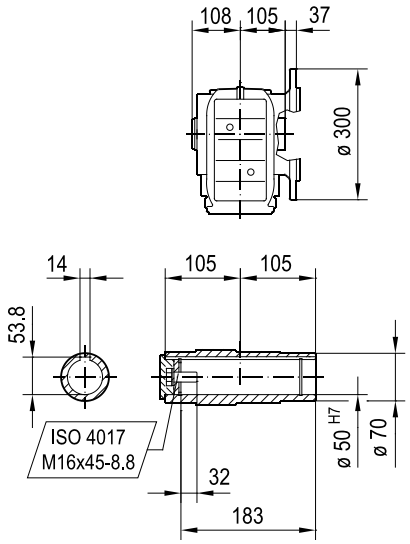
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33 060 00 21

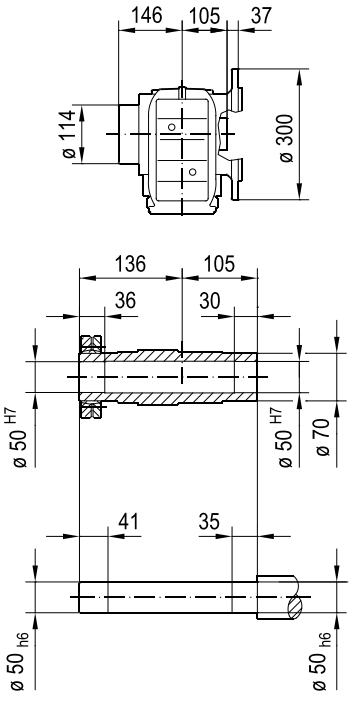
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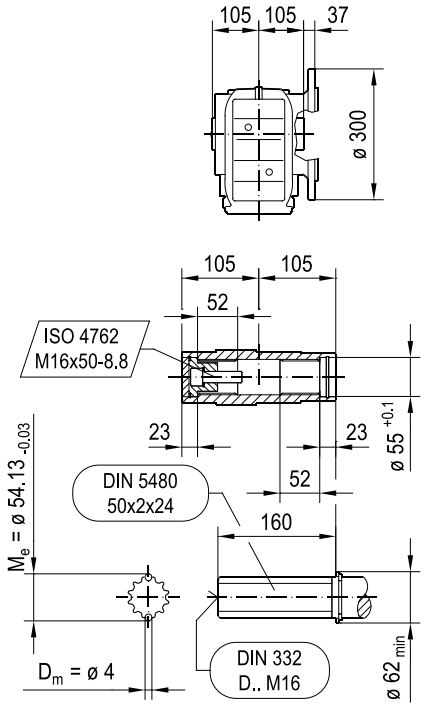
KAF77..



KHF77..



KVF77..

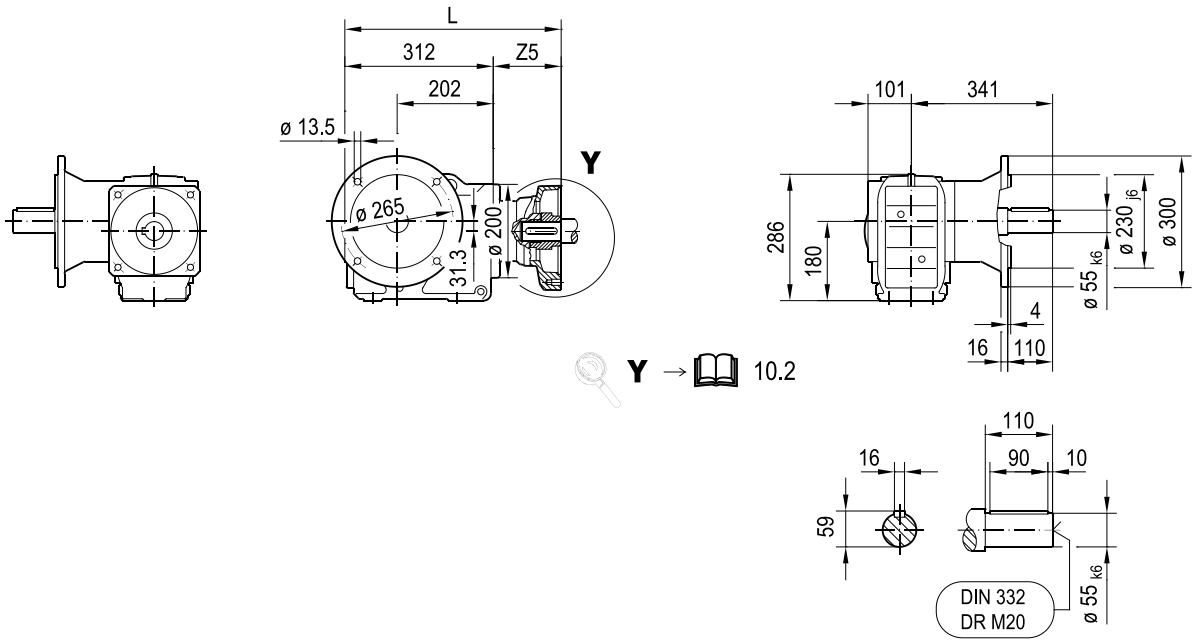


(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	356	372	378	382	385	391	385	390	413	438	438	450

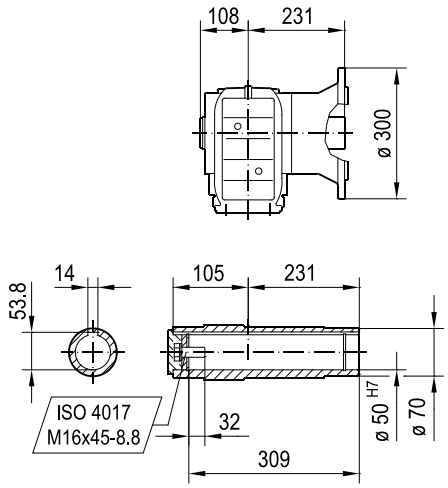
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33 061 00 21

KM77..



KAM77..

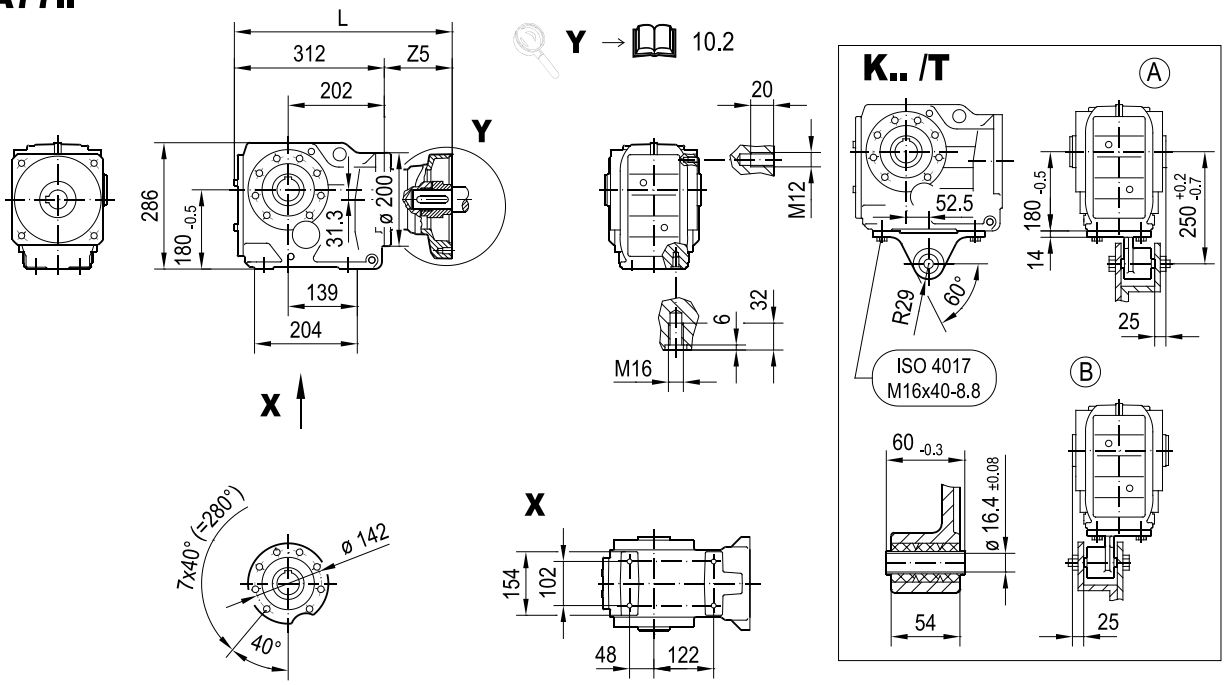


(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	356	372	378	382	385	391	385	390	413	438	438	450

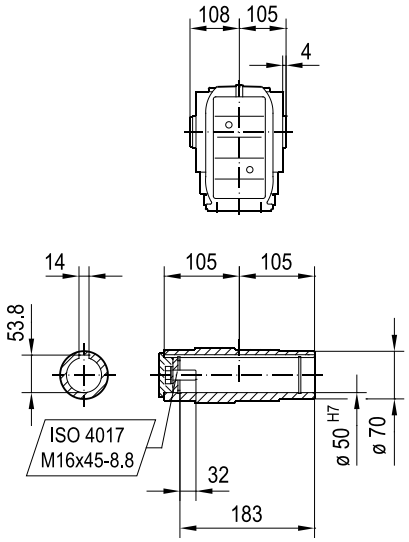
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KA77..

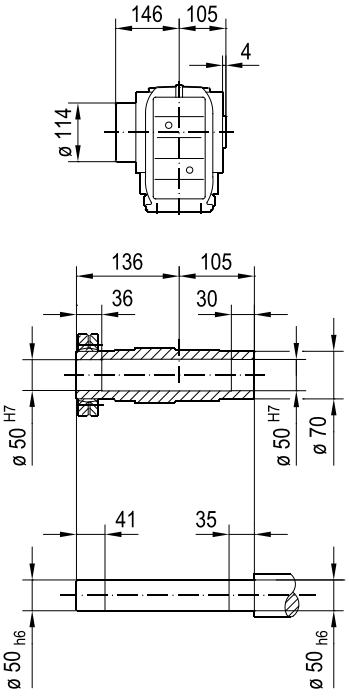
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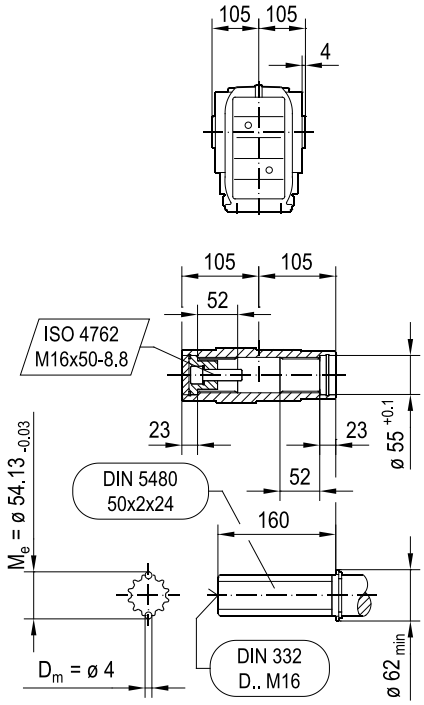
KA77..



KH77..



KV77..

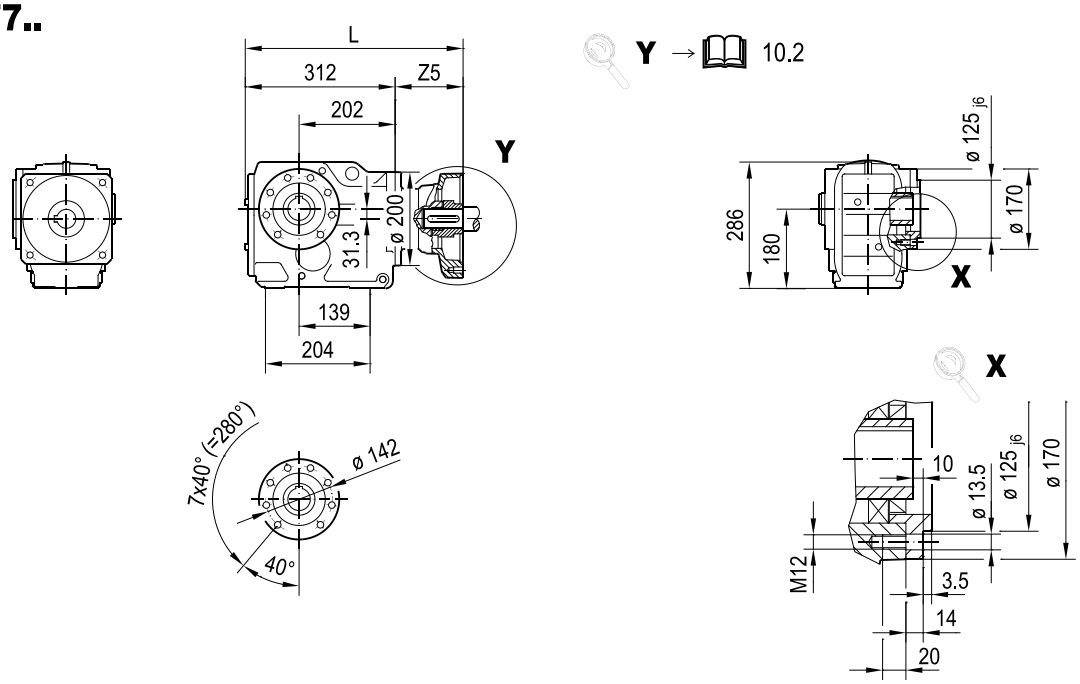


(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	356	372	378	382	385	391	385	390	413	438	438	450

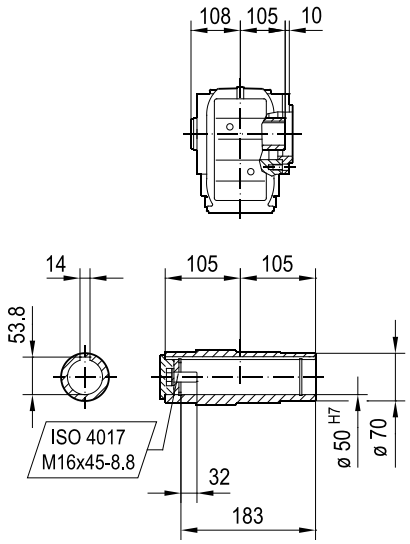
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33 063 00 21

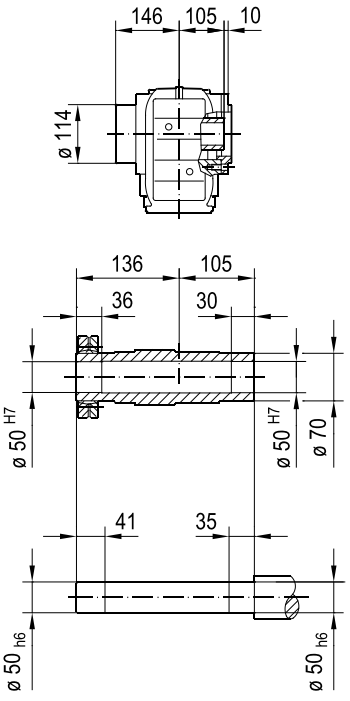
KAZ77..



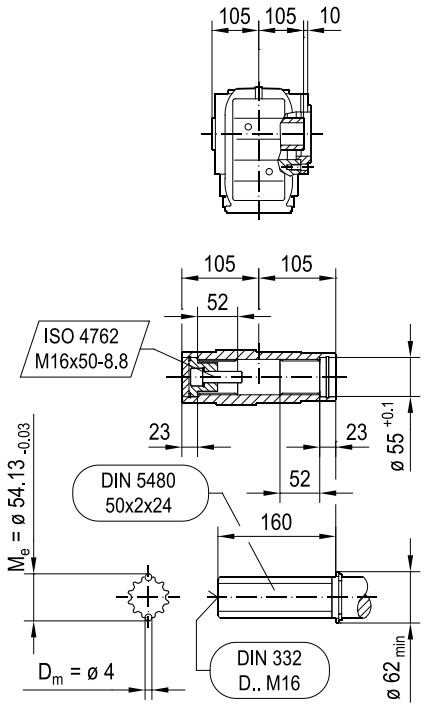
KAZ77..



KHZ77..



KVZ77..

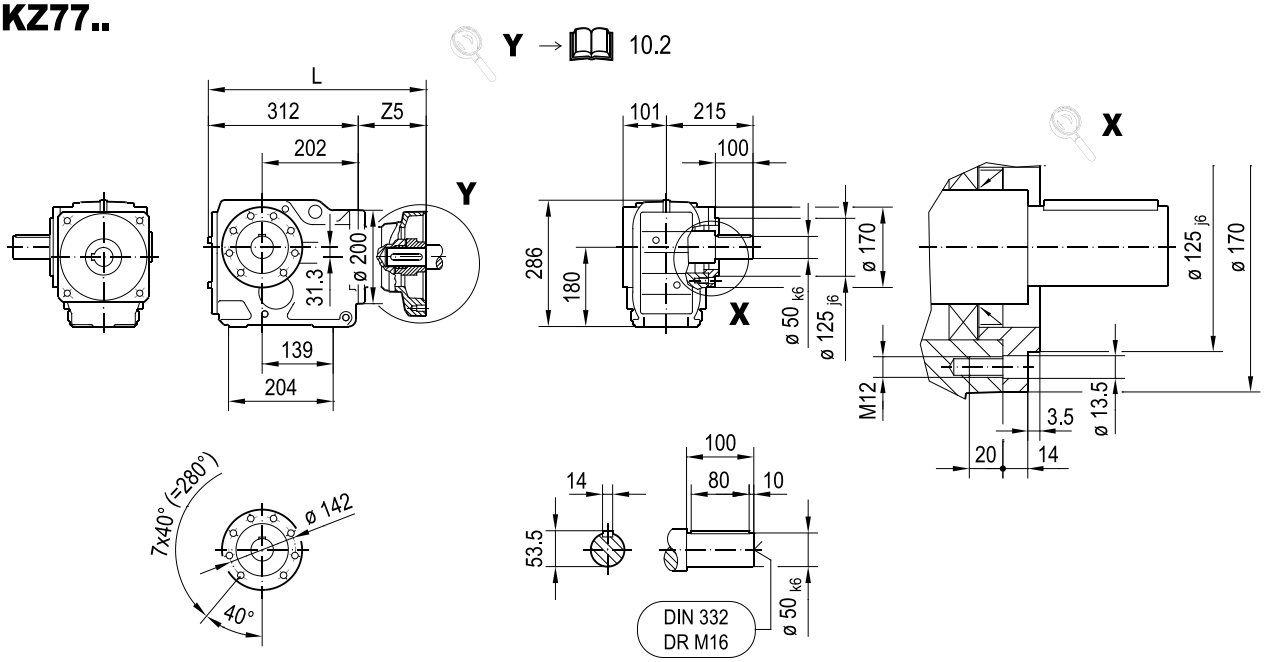


(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	356	372	378	382	385	391	385	390	413	438	438	450

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33 064 00 21

KZ77..

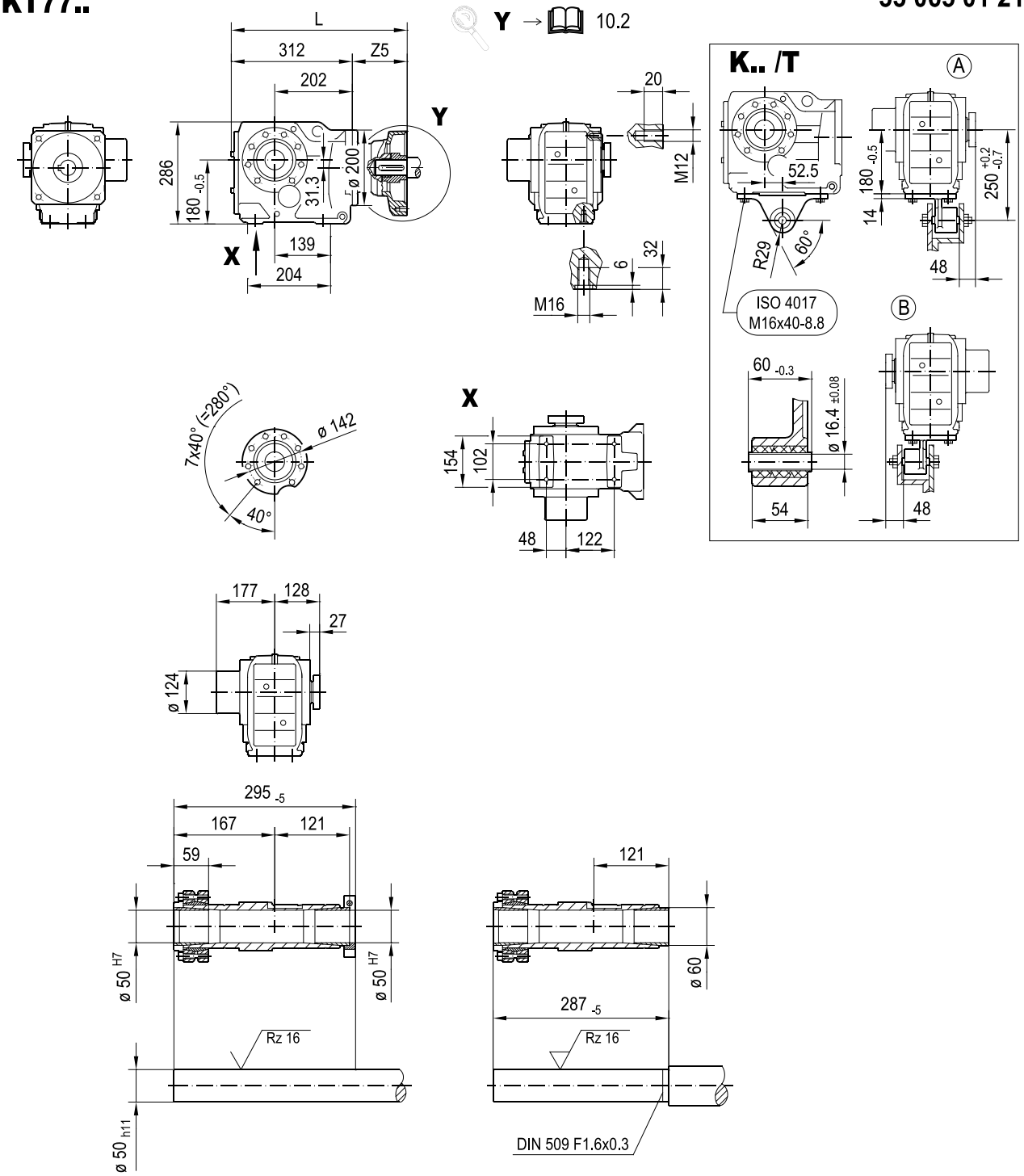


(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	356	372	378	382	385	391	385	390	413	438	438	450

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KT77..

33 065 01 21



(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	44	60	65.5	70	73	79	73	78	100.5	126	126	138
L	356	372	378	382	385	391	385	390	413	438	438	450

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10.1.10 K87 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$														
	i	100/3-7			115/1,3-6			140/1,3,5-6			160/1			190/1,3-6		
	7.21							725	860	1140	785	900	1330	1200	1510	1870
	8.29	245	245	350	355	390	510	760	990	1290	900	1030	1530	1260	1740	2140
	10.00	295	295	425	390	475	620	830	1160	1410	1090	1210	1850	1370	2060	2330
	11.17	330	330	475	410	530	690	870	1270	1480	1220	1320	2070	1430	2150	2430
	12.56							1260	1500	1980	1370	1580	2330	2000	2640	3260
	14.45	425	425	610	625	685	890	1330	1720	2260	1570	1800	2670	2100	3040	3570
	16.00	455	480	685	470	705	800	980	1470	1670	1620	1730	2750	1620	2270	2750
	17.42	515	515	740	685	820	1080	1450	2030	2470	1900	2110	3230	2200	3240	3740
	19.45	575	575	830	715	920	1210	1520	2220	2580	2120	2310	3600	2300	3240	3910
	22.41	665	665	960	760	1060	1290	1600	2400	2720	2300	2580	3910	2300	3240	3910
	24.92	745	745	1070	785	1160	1330	1660	2490	2820	2500	2790	4250	2500	3240	4250
	27.88	800	830	1200	810	1220	1380	1720	2580	2920	2600	3020	4420	2600	3240	4420
	31.39	830	940	1350	840	1260	1430	1780	2670	3030	2700	3240	4590	2700	3240	4590
K87 3	36.52	1060	1060	1530	1560	1710	2230	2500	3240	4250	2500	3240	4250	2500	3240	4250
	44.02	1290	1290	1850	1710	2070	2700	2600	3240	4420	2600	3240	4420	2600	3240	4420
	49.16	1440	1440	2070	1790	2310	3020	2700	3240	4590	2700	3240	4590	2700	3240	4590
	56.64	1670	1670	2390	1900	2670	3230	2700	3240	4590	2700	3240	4590	2700	3240	4590
	63.00	1860	1860	2670	1970	2920	3350	2700	3240	4590	2700	3240	4590	2700	3240	4590
	70.46	2000	2090	2990	2050	3080	3490	2700	3240	4590	2700	3240	4590	2700	3240	4590
	79.34	2070	2360	3370	2120	3180	3600	2700	3240	4590	2700	3240	4590	2700	3240	4590
	86.34	2130	2570	3620	2180	3240	3710	2700	3240	4590	2700	3240	4590	2700	3240	4590
	102.71	2230	3060	3790	2280	3240	3880	2700	3240	4590	2700	3240	4590	2700	3240	4590
	115.82	2270	3240	3860	2320	3240	3940	2700	3240	4590	2700	3240	4590			
	126.91	2310	3240	3930	2360	3240	4010	2700	3240	4590	2700	3240	4590			
	147.32	2370	3240	4030	2420	3240	4110	2700	3240	4590	2700	3240	4590			
	164.34	2430	3240	4130	2480	3240	4220									
	174.19	2450	3240	4170	2500	3240	4250									
	197.37	2490	3240	4230	2540	3240	4320									

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min^{-1}		AQS. n_{ak}				
	i	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
K87 3	7.21			196	607	198
	8.29	543	180	175	484	174
	10.00	388	148	146	297	146
	11.17	294	129	127	217	130
	12.56			114	349	136
	14.45	311	97	98	277	119
	16.00	93	88	92	88	88
	17.42	222	81	82	170	111
	19.45	169	74	72	125	99
	22.41	116	62	63	100	100
	24.92	69	58	57	78	78
	27.88	50	53	50	68	68
	31.39	45	47	45	60	60
	36.52	123	39	38	38	38
	44.02	87	32	35	35	35
	49.16	67	29	31	31	31
	56.64	45	25	32	32	32
	63.00	27	23	33	33	33
	70.46	20	20	33	33	33
	79.34	18	18	33	33	33
	86.34	16	16	34	34	34
	102.71	14	14	34	34	34
	115.82	12	12	34	34	
	126.91	11	11	35	35	
	147.32	10	10	31	31	
	164.34	9	9			
	174.19	8	8			
	197.37	7	7			

K87, m kg					
	AQS.				
s	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
3	94	95	100	105	110
KF: + 9.2 kg / KA: + -12 kg / KAF: + 1.1 kg					

K87, J_A / c_{TA}		AQS.				
		100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	1.3	2.4	8.1	22.0	22.0
c_{TA}	Nm/'	0.3	0.7	3.0	7.0	7.0

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K..87							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	K	KF	KA	KAF	K	KF	KA	KAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
K87 3	7.21	1300	1950	2210	259	46	13200	15100	4970	4970	28100	27000	28500	30000
	8.29	1400	2100	2380	214	35	13500	15600	4960	4960	27900	26900	27600	30000
	10.00	1500	2240	2550	186	26	14200	16400	5210	5210	27800	26700	26700	30000
	11.17	1500	2250	2550	193	22	14900	17100	5770	5770	27800	26700	26600	30000
	12.56	2000	3000	3400	225	42	14800	17000	5030	5030	26900	25900	24500	30000
	14.45	2100	3150	3570	201	32	15300	17700	5240	5240	26700	25700	23700	30000
	16.00	1800	2270	3060	118	12	16000	18500	5810	5810	27700	26700	26500	30000
	17.42	2200	3240	3740	189	24	16300	18800	5770	5770	26500	25600	23200	30000
	19.45	2300	3240	3910	170	20	16800	19300	5890	5890	26500	25600	23200	30000
	22.41	2300	3240	3910	179	16	17900	20600	6790	6790	26500	25600	23200	30000
	24.92	2500	3240	4250	140	14	18000	20700	6390	6390	26500	25600	23200	30000
	27.88	2600	3240	4420	123	12	18500	21400	6600	6600	26500	25600	23200	30000
	31.39	2700	3240	4590	108	9.6	19200	22100	6900	6900	26500	25600	23200	30000
	36.52	2500	3240	4250	43	20	21400	24500	9140	9140	26500	25600	23200	30000
	44.02	2600	3240	4420	39	16	22800	26000	10100	10100	26500	25600	23200	30000
	49.16	2700	3240	4590	35	14	23500	26300	10400	10400	26500	25600	23200	30000
	56.64	2700	3240	4590	36	11	25000	26300	11600	11600	26500	25600	23200	30000
	63.00	2700	3240	4590	36	9.8	26200	26300	12600	12600	26500	25600	23200	30000
	70.46	2700	3240	4590	37	8.4	27300	26300	13700	13700	26500	25600	23200	30000
	79.34	2700	3240	4590	37	7.1	27300	26300	14800	14800	26500	25600	23200	30000
	86.34	2700	3240	4590	37	6.3	27300	26300	15700	15700	26500	25600	23200	30000
	102.71	2700	3240	4590	38	4.9	27300	26300	17500	17500	26500	25600	23200	30000
	115.82	2700	3240	4590	38	4.0	27300	26300	18800	18800	26500	25600	23200	30000
	126.91	2700	3240	4590	35	3.5	27300	26300	19900	19900	26500	25600	23200	30000
	147.32	2700	3240	4590	31	2.8	27300	26300	21600	21600	26500	25600	23200	30000
	164.34	2700	3240	4590	27	1.8	27300	26300	23000	23000	26500	25600	23200	30000
	174.19	2700	3240	4590	26	1.6	27300	26300	23700	23700	26500	25600	23200	30000
	197.37	2700	3240	4590	23	1.3	27300	26300	25400	25400	26500	25600	23200	30000

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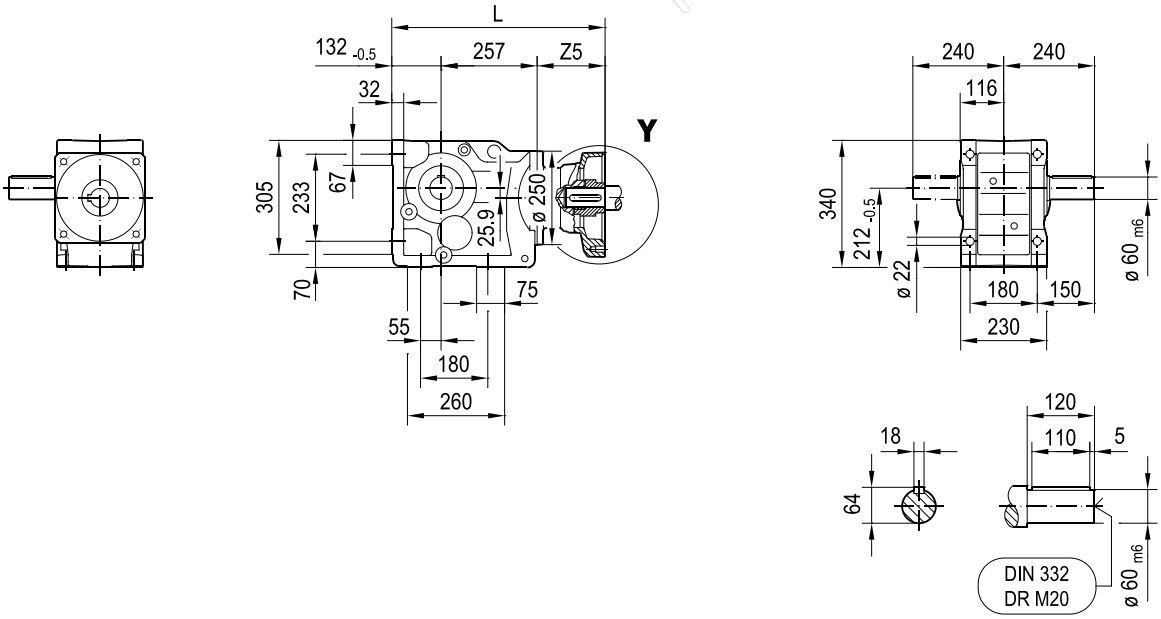
K..87				c_{TG}				φ
	i	n_{epk} min^{-1}	η %	K Nm/'	KF Nm/'	KA Nm/'	KAF Nm/'	/R '
K87 3	7.21	4378	96	169	156	411	411	7
	8.29	4500	96	169	156	411	411	7
	10.00	4500	96	169	156	411	411	7
	11.17	4500	96	169	156	411	411	7
	12.56	4378	96	198	181	640	640	6
	14.45	4500	96	198	181	640	640	6
	16.00	4500	96	169	156	411	411	6
	17.42	4500	96	198	181	640	640	6
	19.45	4500	96	198	181	640	640	6
	22.41	4500	96	198	181	640	640	6
	24.92	4500	96	198	181	640	640	6
	27.88	4500	96	198	181	640	640	6
	31.39	4500	96	198	181	640	640	6
	36.52	4500	95	207	188	744	744	6
	44.02	4500	95	207	188	744	744	6
	49.16	4500	95	207	188	744	744	5
	56.64	4500	95	207	188	744	744	5
	63.00	4500	95	207	188	744	744	5
	70.46	4500	95	207	188	744	744	5
	79.34	4500	95	207	188	744	744	5
	86.34	4500	95	207	188	744	744	5
	102.71	4500	95	207	188	744	744	5
	115.82	4500	95	207	188	744	744	5
	126.91	4500	95	207	188	744	744	5
	147.32	4500	94	207	188	744	744	5
	164.34	4500	94	207	188	744	744	5
	174.19	4500	94	207	188	744	744	5
	197.37	4500	94	207	188	744	744	5

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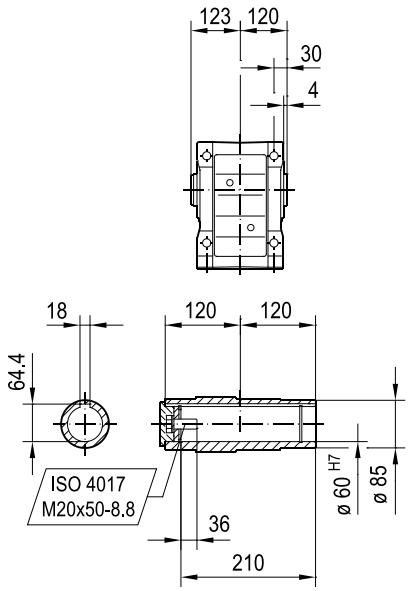
33 066 00 21

K87..

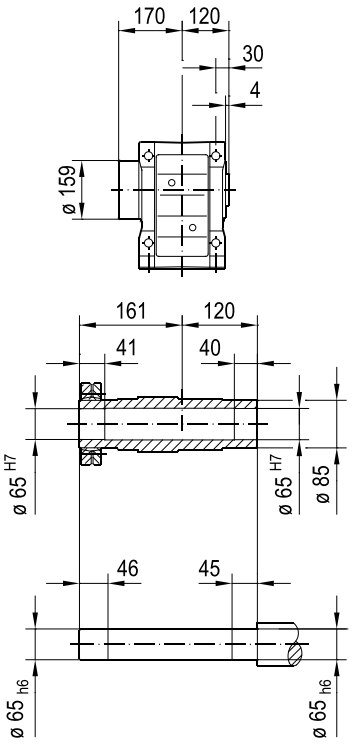
Y → 10.2



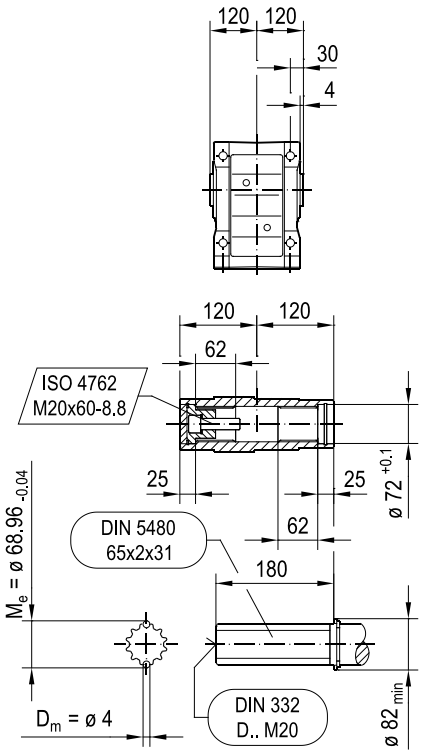
KA87B..



KH87B..



KV87B..

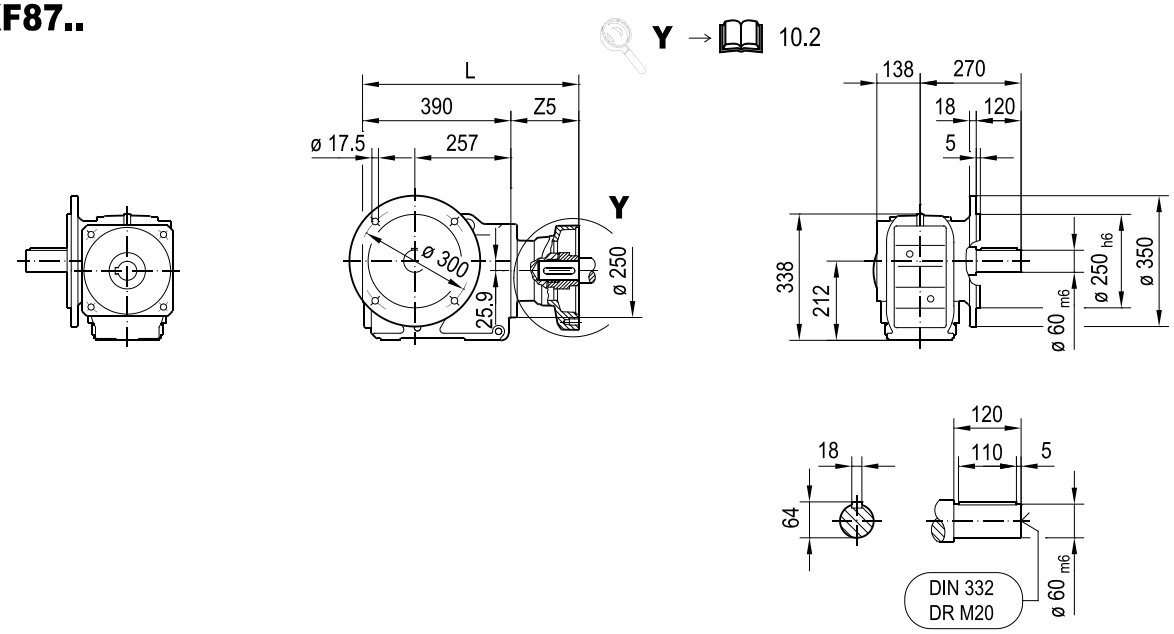


(→ 7.3.11)	AQS.										
	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	55	60.5	65	68	74	68	73	95.5	121	121	133
L	444	450	454	457	463	457	462	485	510	510	522

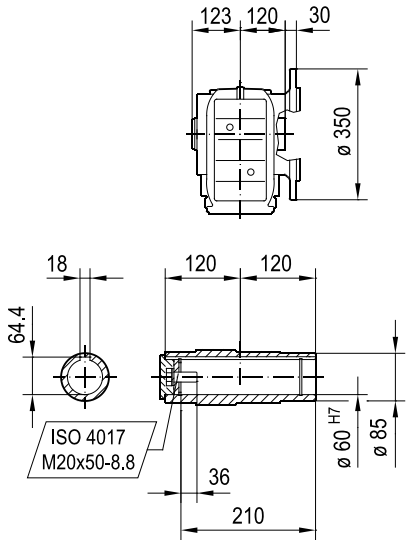
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33 067 00 21

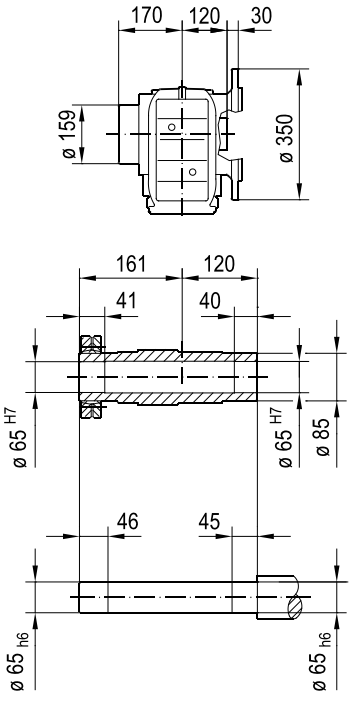
KF87..



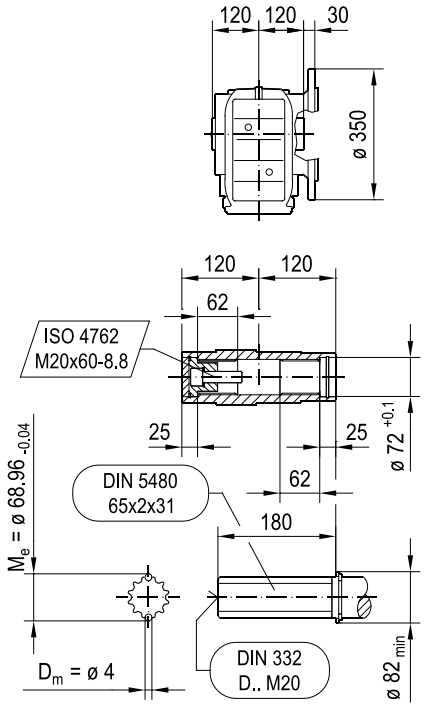
KAF87..



KHF87..



KVF87..

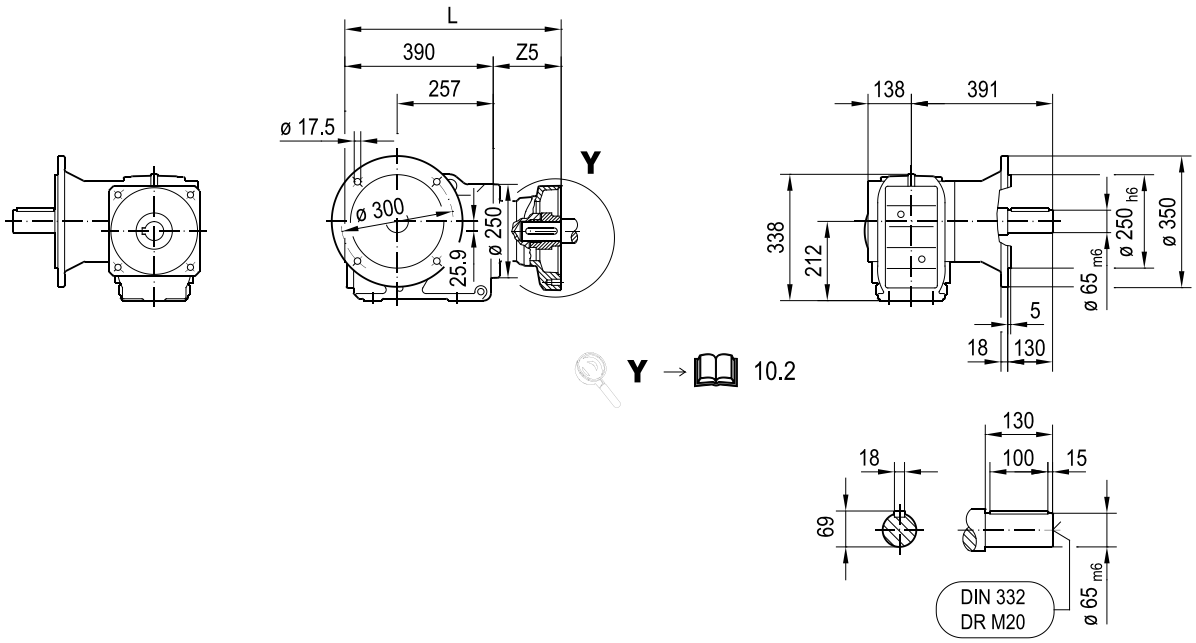


(→ 7.3.11)	AQS.										
	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	55	60.5	65	68	74	68	73	95.5	121	121	133
L	445	451	455	458	464	458	463	486	511	511	523

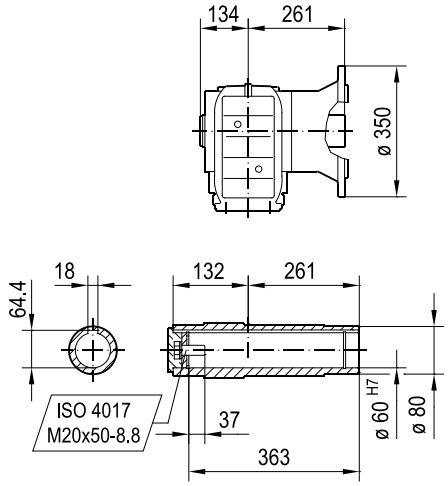
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33 068 00 21

KM87..



KAM87..

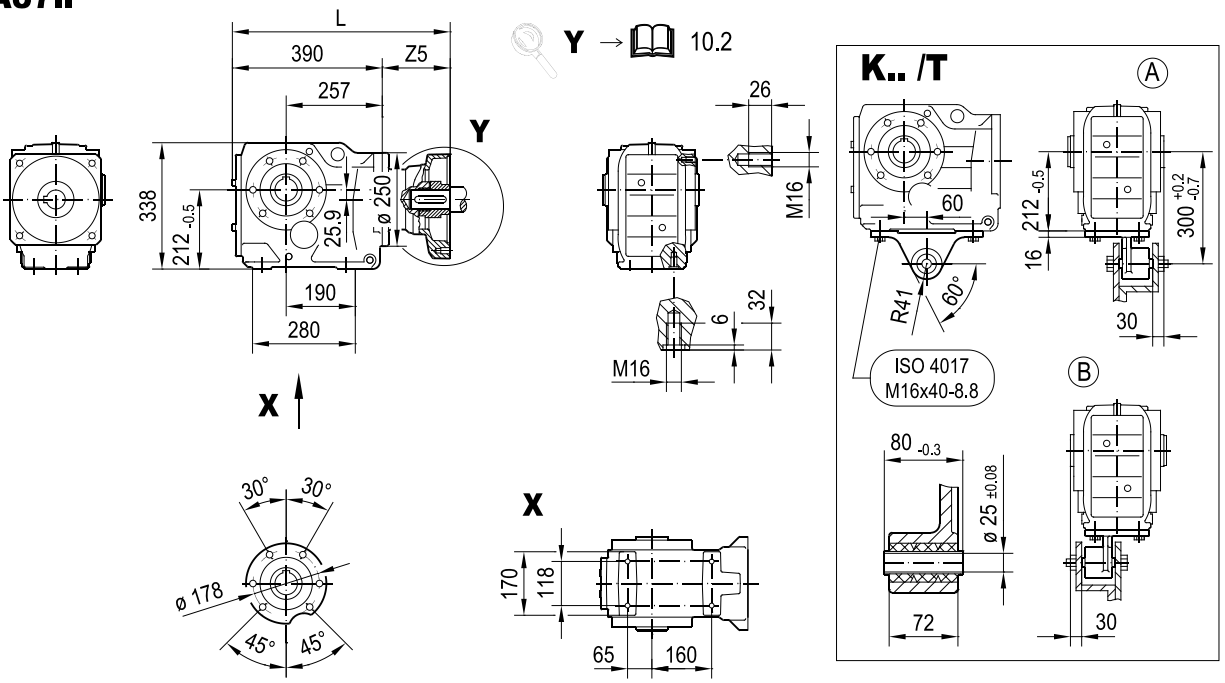


(→ 📖 7.3.11)	AQS.										
	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	55	60.5	65	68	74	68	73	95.5	121	121	133
L	445	451	455	458	464	458	463	486	511	511	523

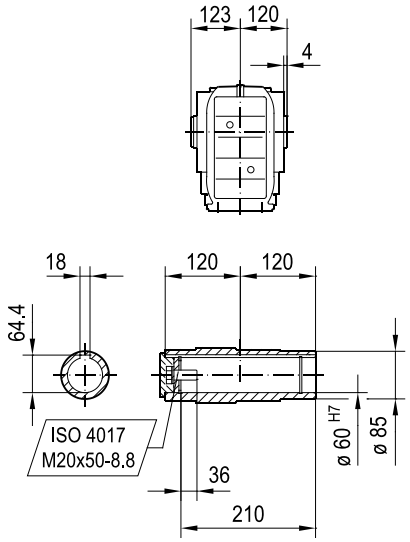
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KA87..

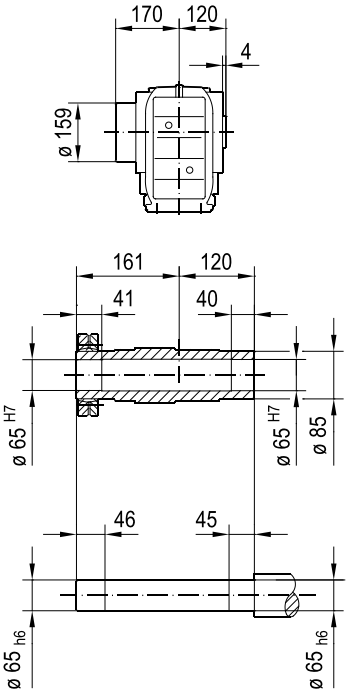
33 069 00 21



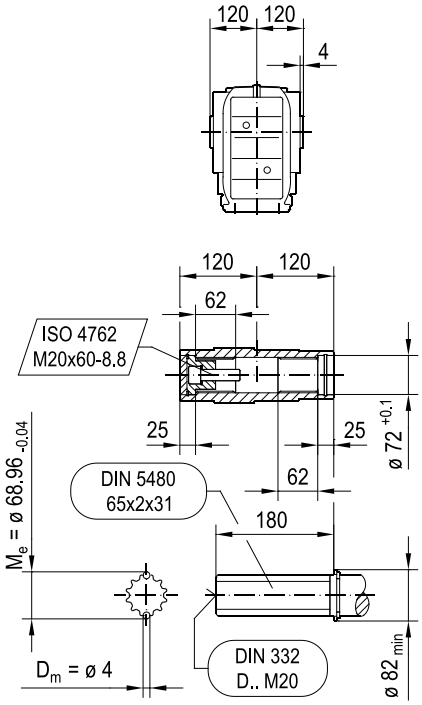
KA87..



KH87..



KV87..

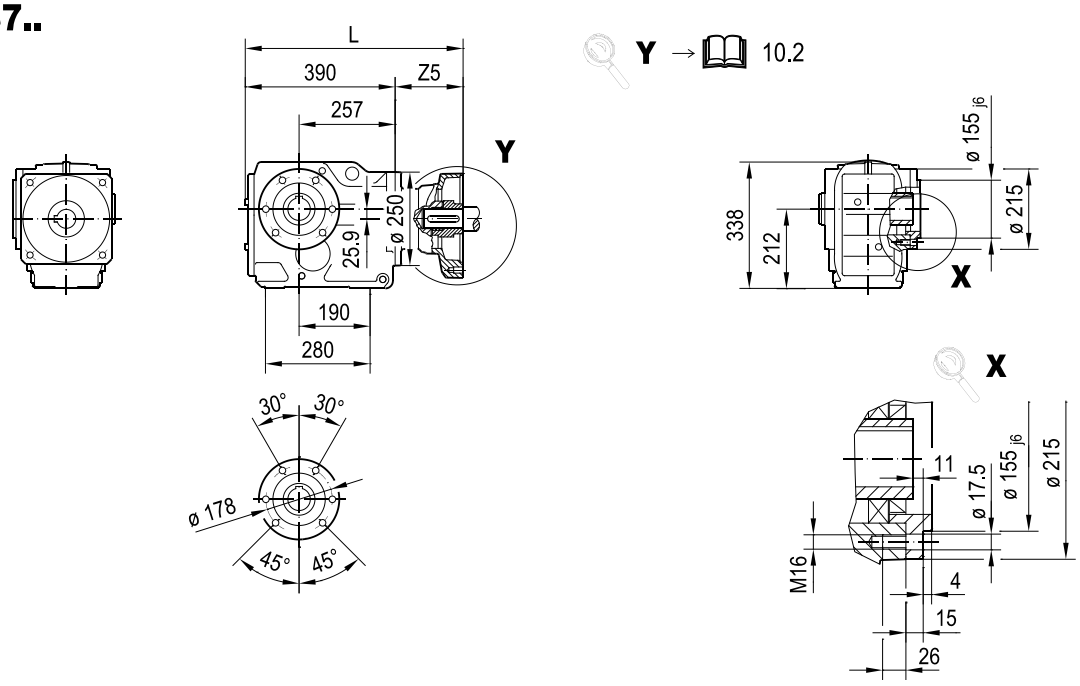


(→ 7.3.11)	AQS.										
	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	55	60.5	65	68	74	68	73	95.5	121	121	133
L	445	451	455	458	464	458	463	486	511	511	523

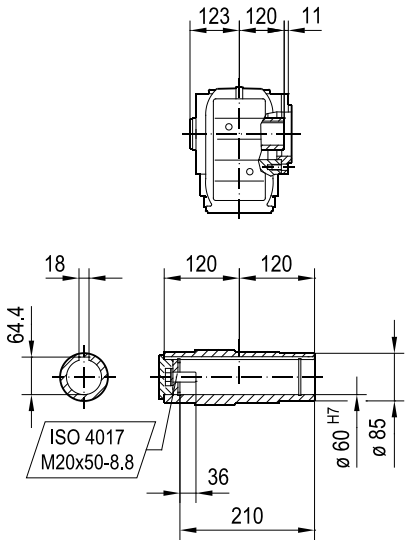
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33 070 00 21

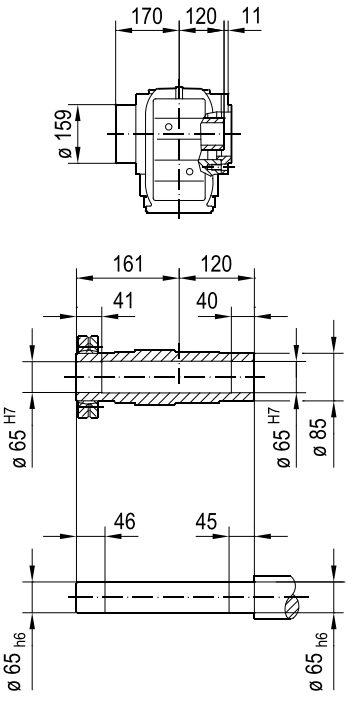
KAZ87..



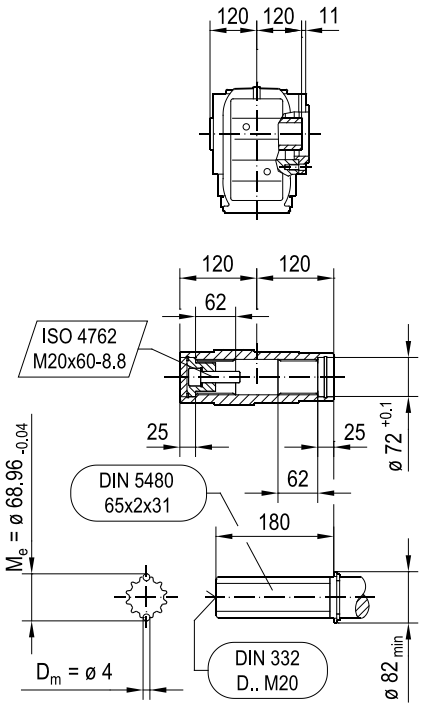
KAZ87..



KHZ87..



KVZ87..

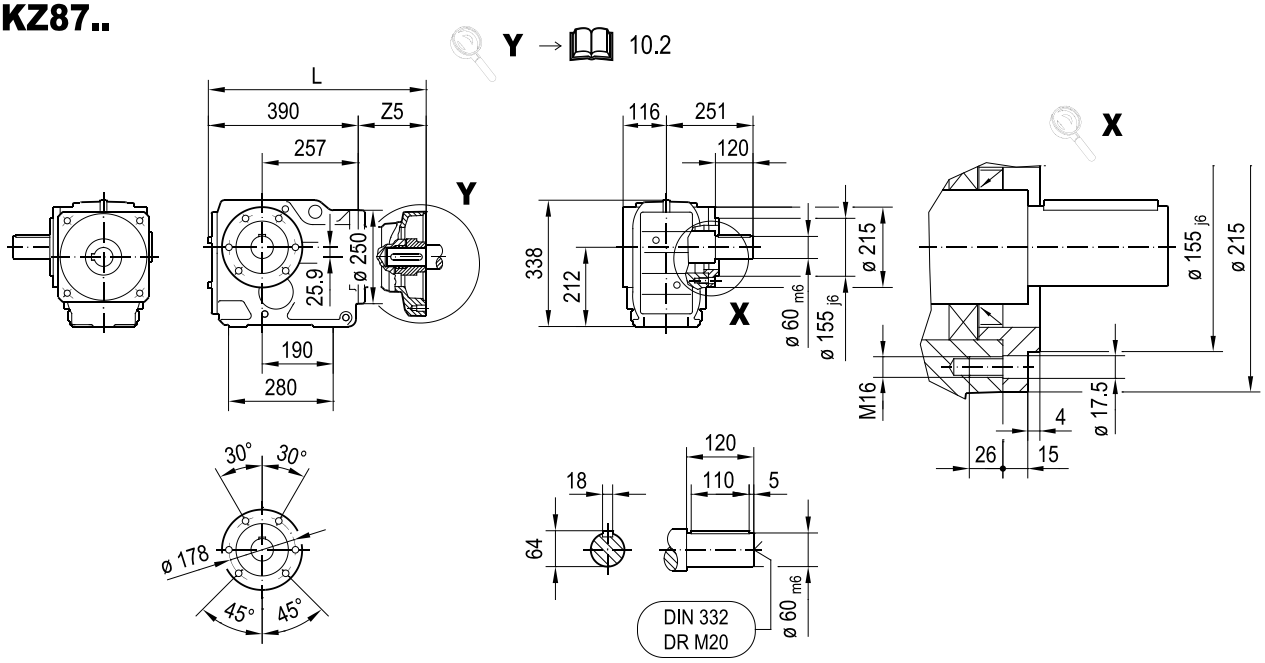


(→ 7.3.11)	AQS.										
	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	55	60.5	65	68	74	68	73	95.5	121	121	133
L	445	451	455	458	464	458	463	486	511	511	523

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33 071 00 21

KZ87..

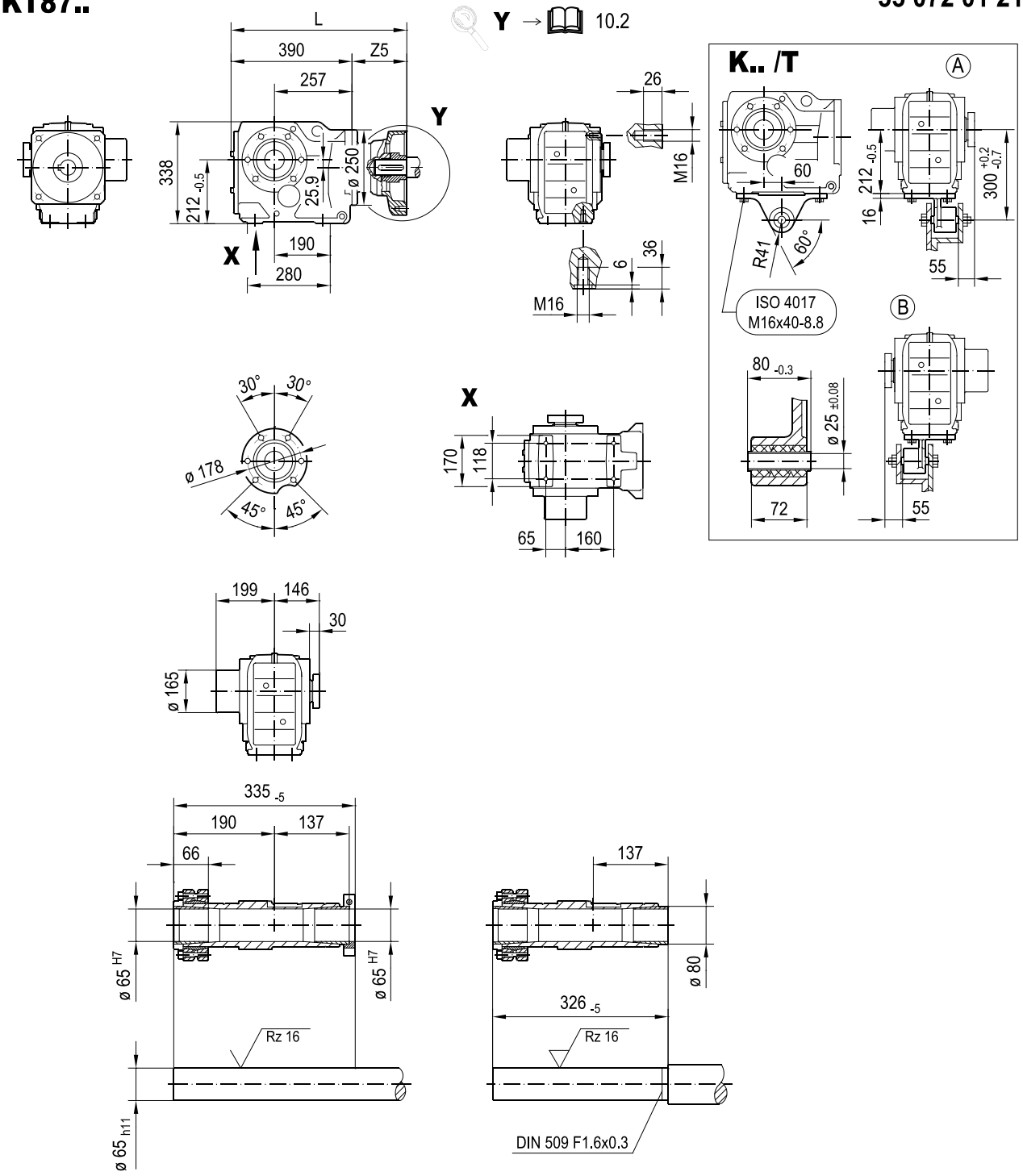


(→ 7.3.11)	AQS.										
	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	55	60.5	65	68	74	68	73	95.5	121	121	133
L	445	451	455	458	464	458	463	486	511	511	523

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KT87..

33 072 01 21



(→ 7.3.11)	AQS.										
	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	55	60.5	65	68	74	68	73	95.5	121	121	133
L	445	451	455	458	464	458	463	486	511	511	523

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10.1.11 K97 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$								
	i	140/1,3,5-6			160/1			190/1,3-6		
K97 3	7.54	800	880	1170	800	930	1360	1350	1560	1930
	8.71	920	1020	1350	930	1080	1580	1560	1810	2240
	10.41	1010	1220	1630	1120	1270	1900	1690	2170	2680
	11.99	1270	1400	1860	1270	1480	2160	2150	2490	3080
	13.85	1470	1630	2150	1480	1710	2520	2480	2880	3560
	16.56	1600	1940	2590	1780	2030	3030	2690	3450	4270
	18.96	1680	2180	2860	2040	2270	3470	2810	3960	4780
	22.37	1800	2500	3060	2420	2590	4110	3000	4500	5100
	24.75	1870	2700	3180	2680	2800	4560	3100	4650	5270
	27.91	1930	2900	3280	3030	3050	5150	3200	4710	5440
	30.82	1980	2970	3370	3270	3270	5560	3290	4710	5590
	34.23	2040	3060	3470	3380	3500	5750	3380	4710	5750
	38.30	2100	3150	3570	3470	3760	5900	3470	4710	5900
	41.87	4020	4710	6470	4300	4710	7310	4300	4710	7310
	47.93	4220	4710	7170	4300	4710	7310	4300	4710	7310
	56.55	4300	4710	7310	4300	4710	7310	4300	4710	7310
	62.55	4300	4710	7310	4300	4710	7310	4300	4710	7310
	70.54	4300	4710	7310	4300	4710	7310	4300	4710	7310
	77.89	4300	4710	7310	4300	4710	7310	4300	4710	7310
	86.52	4300	4710	7310	4300	4710	7310	4300	4710	7310
	96.80	4300	4710	7310	4300	4710	7310	4300	4710	7310
	105.13	4300	4710	7310	4300	4710	7310	4300	4710	7310
	123.93	4300	4710	7310	4300	4710	7310	4300	4710	7310
	140.28	4300	4710	7310	4300	4710	7310			
	153.21	4300	4710	7310	4300	4710	7310			
	176.05	4300	4710	7310	4300	4710	7310			

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min^{-1}		AQS. n_{ak}		
	i	140/1,3,5-6	160/1	190/1,3-6
K97 3	7.54	256	477	245
	8.71	170	451	161
	10.41	135	421	135
	11.99	162	300	154
	13.85	104	283	101
	16.56	87	264	85
	18.96	76	197	75
	22.37	64	125	63
	24.75	57	93	57
	27.91	51	63	51
	30.82	46	47	46
	34.23	41	41	41
	38.30	37	37	37
	41.87	34	33	33
	47.93	29	29	29
	56.55	28	28	28
	62.55	28	28	28
	70.54	29	29	29
	77.89	29	29	29
	86.52	29	29	29
	96.80	29	29	29
	105.13	28	30	30
	123.93	26	30	30
	140.28	25	30	
	153.21	24	29	
	176.05	22	26	

K97, m kg	AQS.		
s	140/1,3,5-6	160/1	190/1,3-6
3	160	165	170
KF: + 20 kg / KA: + -18 kg / KAF: + 6.7 kg			

K97, J_A / c_{TA}		AQS.		
		140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	8.1	22.0	22.0
c_{TA}	Nm/'	3.0	7.0	7.0

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K..97							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	K	KF	KA	KAF	K	KF	KA	KAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
K97 3	7.54[1)]	2400	3560	4080	290	120	15700	18100	10200	10200	40000	39300	40000	40000
	8.71[1)]	2660	3590	4520	222	94	15800	18200	9930	9930	40000	39300	40000	40000
	10.41	2870	3610	4870	187	71	16400	19000	10300	10300	40000	39300	40000	40000
	11.99[1)]	3890	4710	6610	172	115	16200	18800	9100	9100	40000	38300	40000	40000
	13.85[1)]	4300	4710	7310	132	91	16100	18900	8520	8520	40000	38300	40000	40000
	16.56	4300	4710	7310	144	69	17800	20700	10300	10300	40000	38300	40000	40000
	18.96	4300	4710	7310	151	55	19100	22100	11700	11700	40000	38300	40000	40000
	22.37	4300	4710	7310	161	43	20900	24000	13500	13500	40000	38300	40000	40000
	24.75	4300	4710	7310	166	37	22000	25200	14700	14700	40000	38300	40000	40000
	27.91	4300	4710	7310	161	30	23300	26600	16100	16100	40000	38300	40000	40000
	30.82	4300	4710	7310	146	26	24500	27800	17300	17300	40000	38300	40000	40000
	34.23	4300	4710	7310	131	22	25700	29200	18600	18600	40000	38300	40000	40000
	38.30	4300	4710	7310	117	18	27100	30700	20100	20100	40000	38300	40000	40000
	41.87	4300	4710	7310	37	42	28300	31900	21300	21300	40000	38300	40000	40000
	47.93	4300	4710	7310	32	35	30000	33800	23300	23300	40000	38300	40000	40000
	56.55	4300	4710	7310	31	28	32300	36300	25700	25700	40000	38300	40000	40000
	62.55	4300	4710	7310	32	25	33800	37800	27300	27300	40000	38300	40000	40000
	70.54	4300	4710	7310	32	21	35600	38700	29200	29200	40000	38300	40000	40000
	77.89	4300	4710	7310	32	18	37100	38700	30900	30900	40000	38300	40000	40000
	86.52	4300	4710	7310	32	16	38800	38700	32700	32700	40000	38300	40000	40000
	96.80	4300	4710	7310	33	13	40000	38700	34700	34700	40000	38300	40000	40000
	105.13	4300	4710	7310	33	12	40000	38700	36300	36300	40000	38300	40000	40000
	123.93	4300	4710	7310	33	9.3	40000	38700	39500	39500	40000	38300	40000	40000
	140.28	4300	4710	7310	32	5.9	40000	38700	40000	40000	40000	38300	40000	40000
	153.21	4300	4710	7310	29	5.2	40000	38700	40000	40000	40000	38300	40000	40000
	176.05	4300	4710	7310	26	4.0	40000	38700	40000	40000	40000	38300	40000	40000

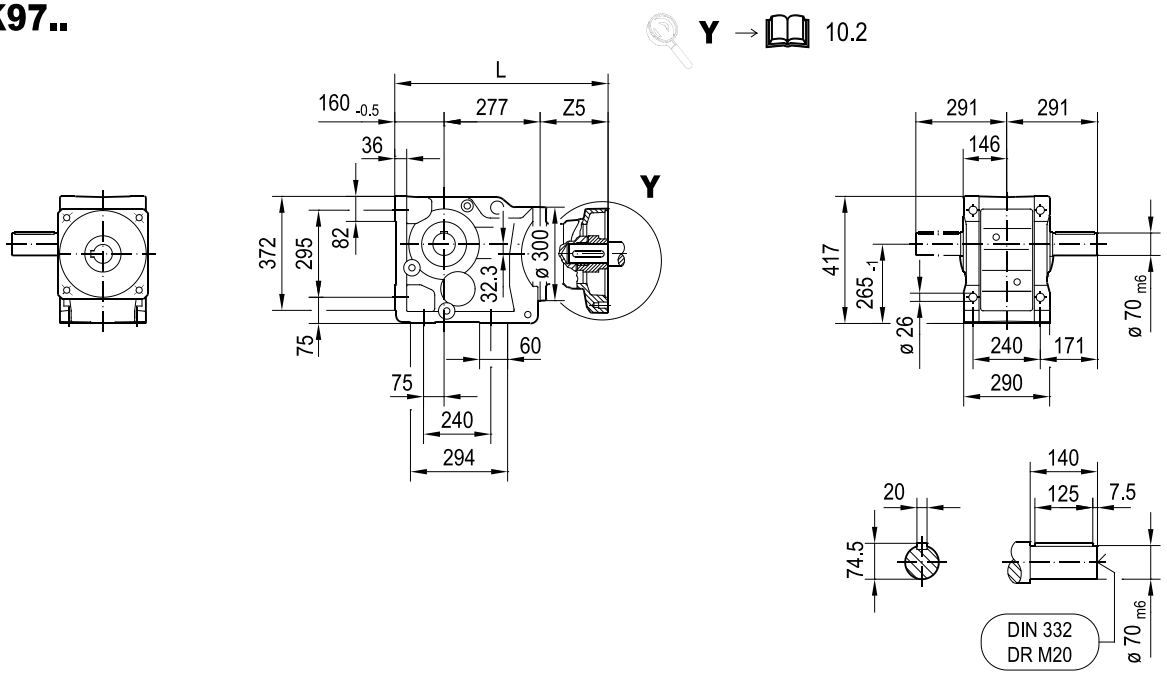
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K..97				c_{TG}				φ
	i	n_{epk} min^{-1}	η %	K Nm/'	KF Nm/'	KA Nm/'	KAF Nm/'	/R '
K97 3	7.54	3597	96	264	237	581	581	10
	8.71	3924	96	264	237	581	581	10
	10.41	4378	96	264	237	581	581	10
	11.99	3597	96	301	267	791	791	8
	13.85	3924	96	301	267	791	791	8
	16.56	4378	96	301	267	791	791	8
	18.96	4500	96	301	267	791	791	8
	22.37	4500	96	301	267	791	791	8
	24.75	4500	96	301	267	791	791	8
	27.91	4500	96	301	267	791	791	8
	30.82	4500	96	301	267	791	791	7
	34.23	4500	96	301	267	791	791	7
	38.30	4500	96	301	267	791	791	7
	41.87	4378	93	314	278	892	892	7
	47.93	4500	94	314	278	892	892	7
	56.55	4500	94	314	278	892	892	7
	62.55	4500	94	314	278	892	892	7
	70.54	4500	94	314	278	892	892	7
	77.89	4500	94	314	278	892	892	7
	86.52	4500	94	314	278	892	892	7
	96.80	4500	94	314	278	892	892	7
	105.13	4500	94	314	278	892	892	7
	123.93	4500	94	314	278	892	892	7
	140.28	4500	94	314	278	892	892	7
	153.21	4500	94	314	278	892	892	7
	176.05	4500	94	314	278	892	892	7

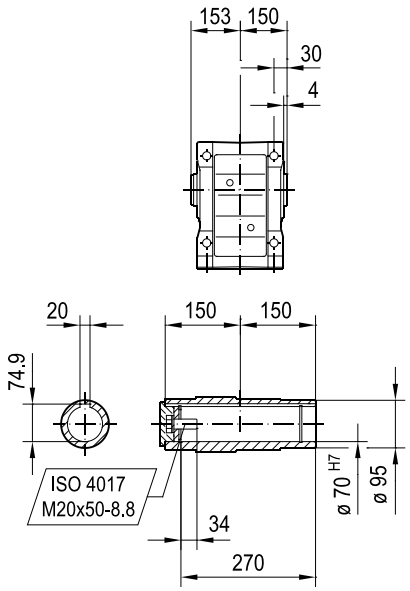
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33 073 00 21

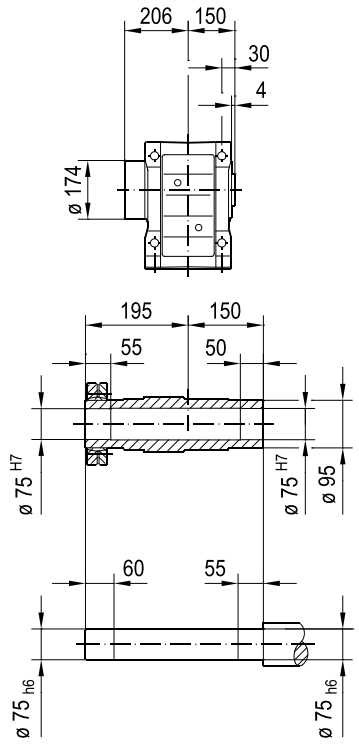
K97..



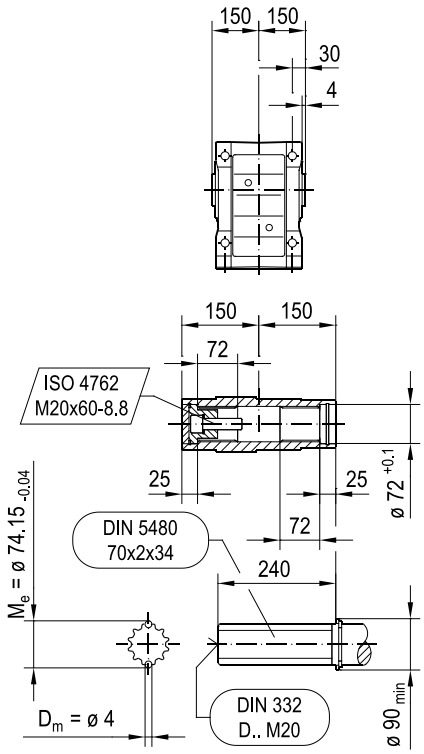
KA97B..



KH97B..



KV97B..

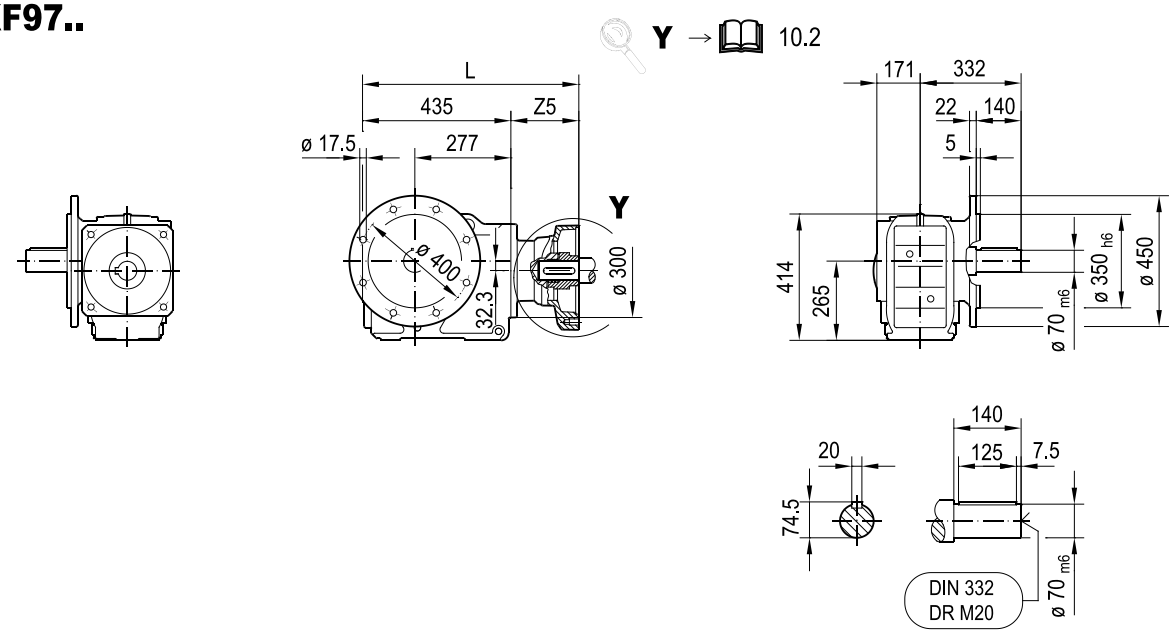


(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	90.5	116	116	128				
L	528	553	553	565				

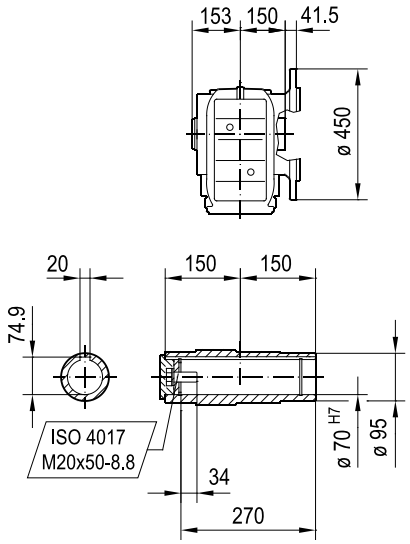
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33 074 00 21

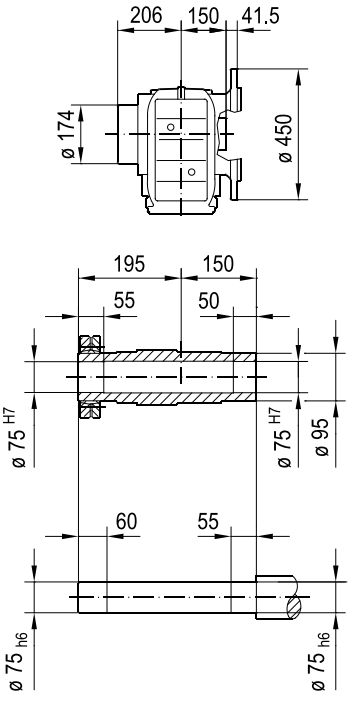
KF97..



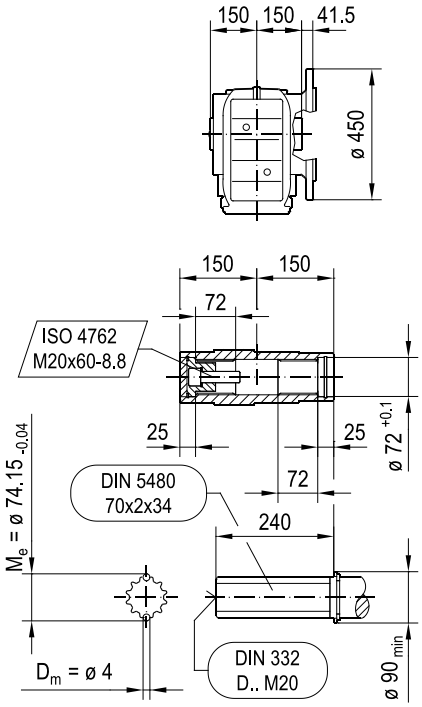
KAF97..



KHF97..



KVF97..

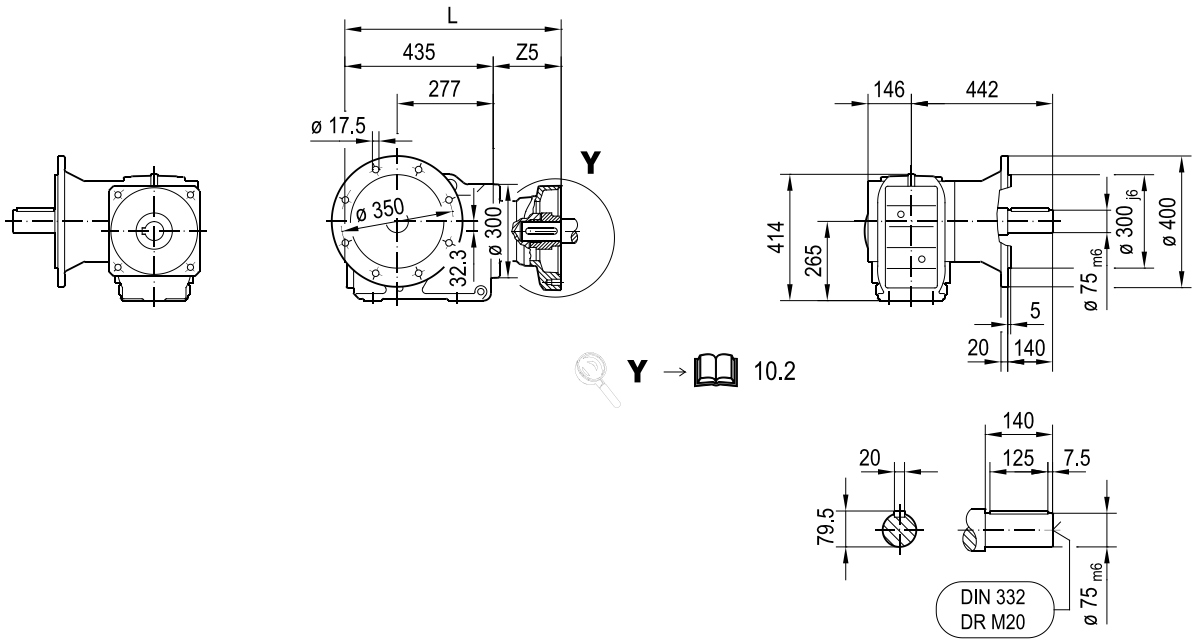


(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	90.5	116	116	128				
L	526	551	551	563				

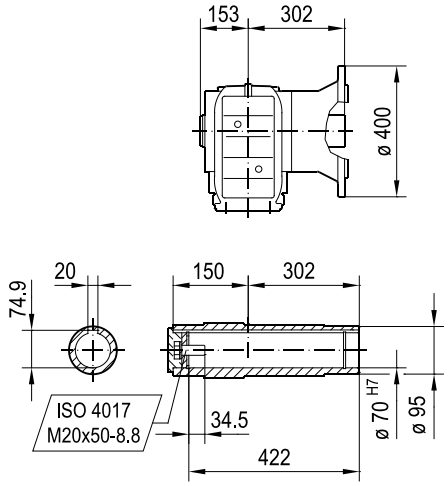
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33 075 00 21

KM97..



KAM97..

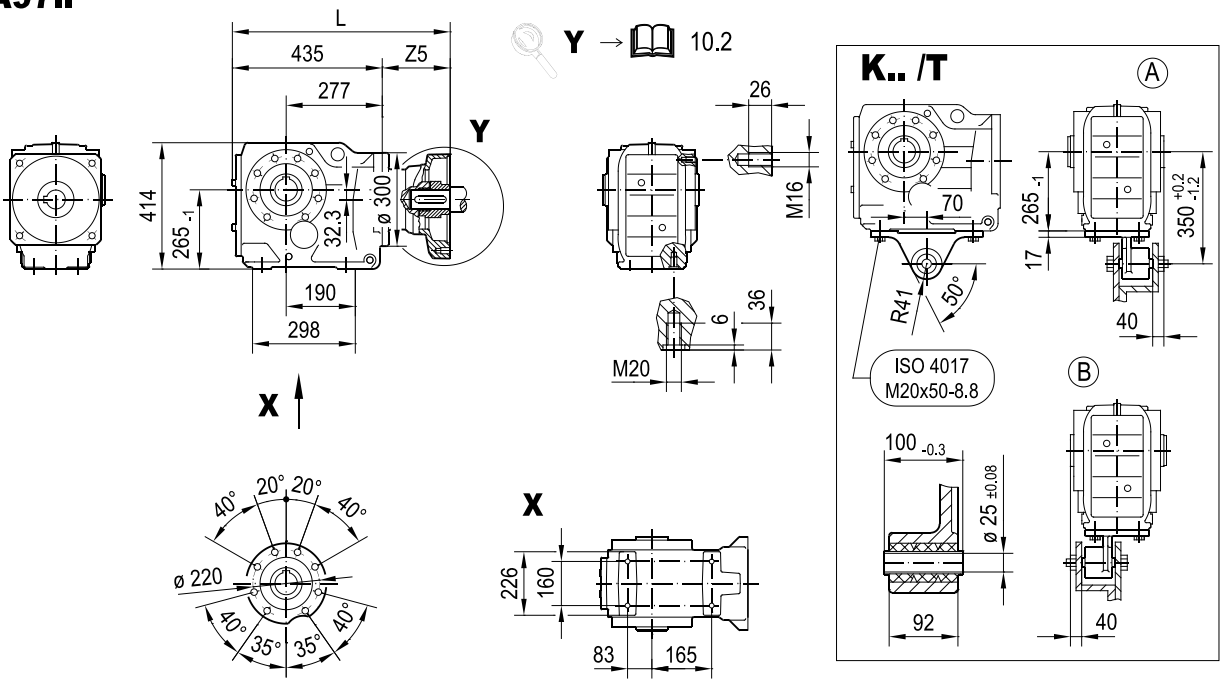


(→ 📖 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	90.5	116	116	128				
L	526	551	551	563				

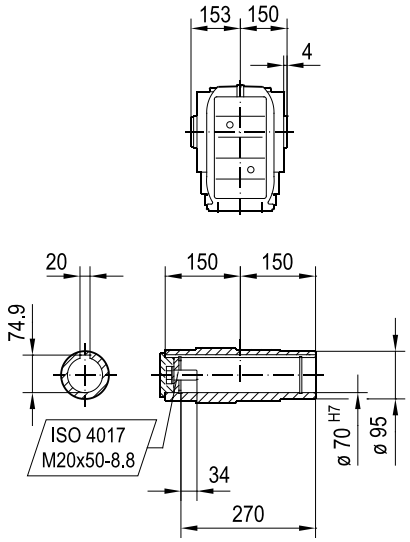
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KA97..

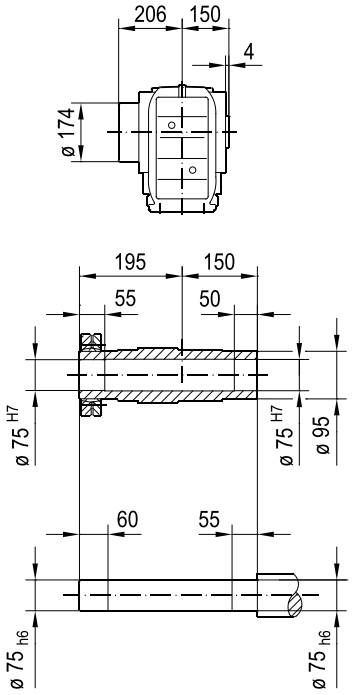
33 076 00 21



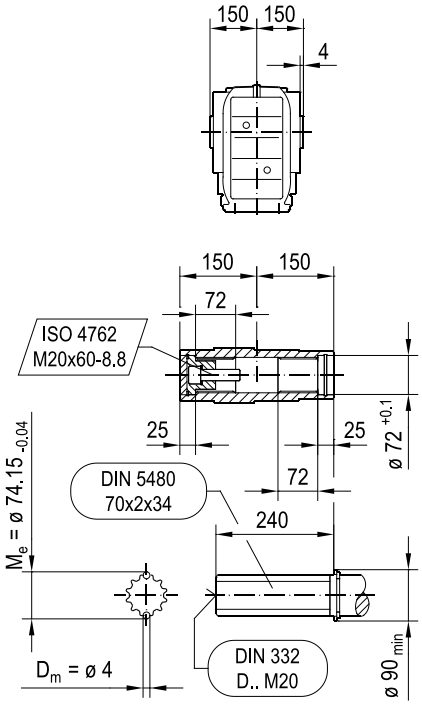
KA97..



KH97..



KV97..

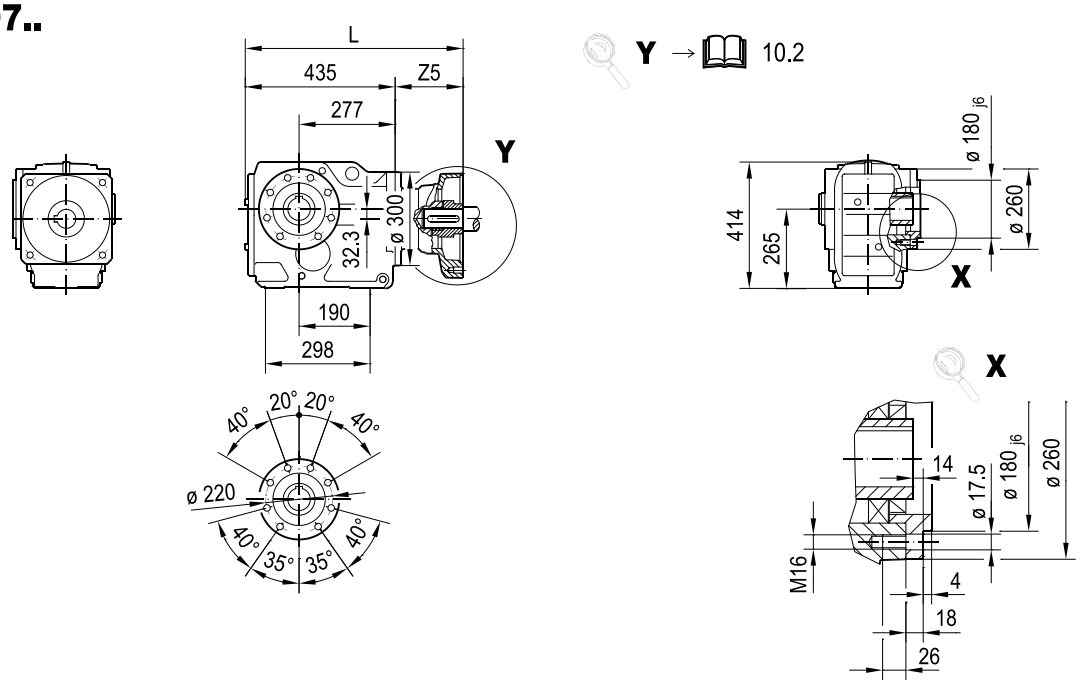


(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	90.5	116	116	128				
L	526	551	551	563				

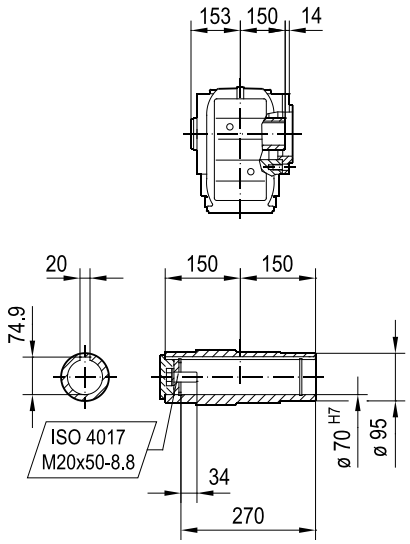
27788644/EN – 02/2024

33 077 00 21

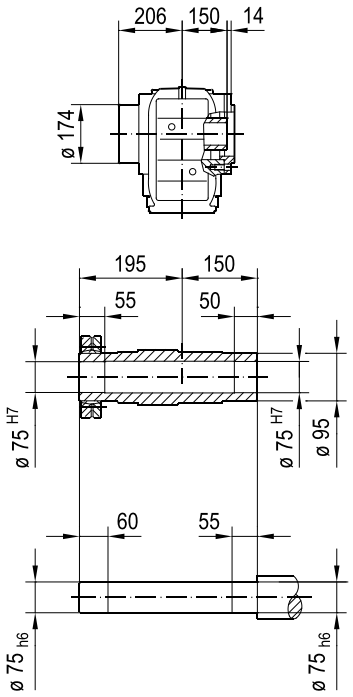
KAZ97..



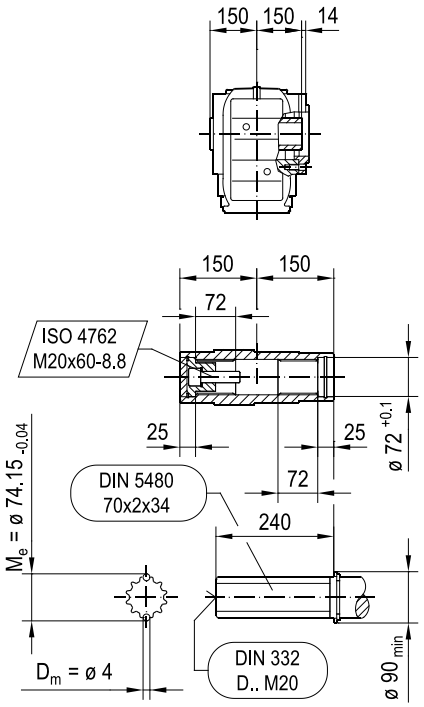
KAZ97..



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KVZ97..

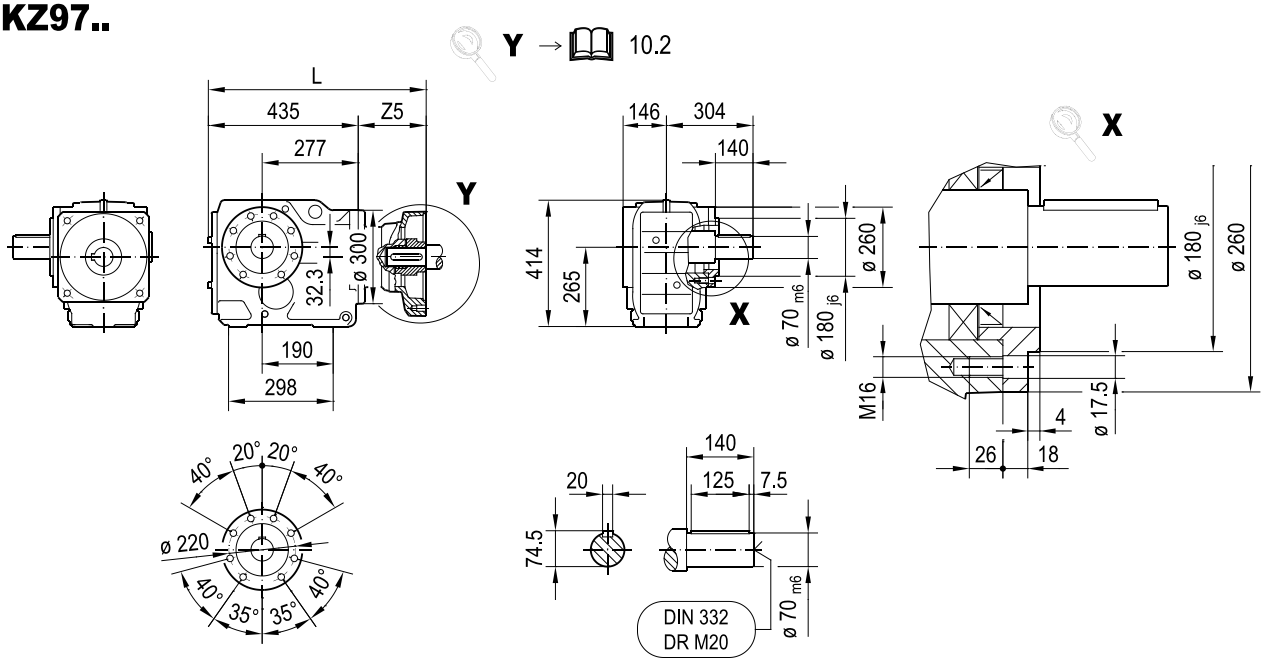


(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	90.5	116	116	128				
L	526	551	551	563				

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33 078 00 21

KZ97..

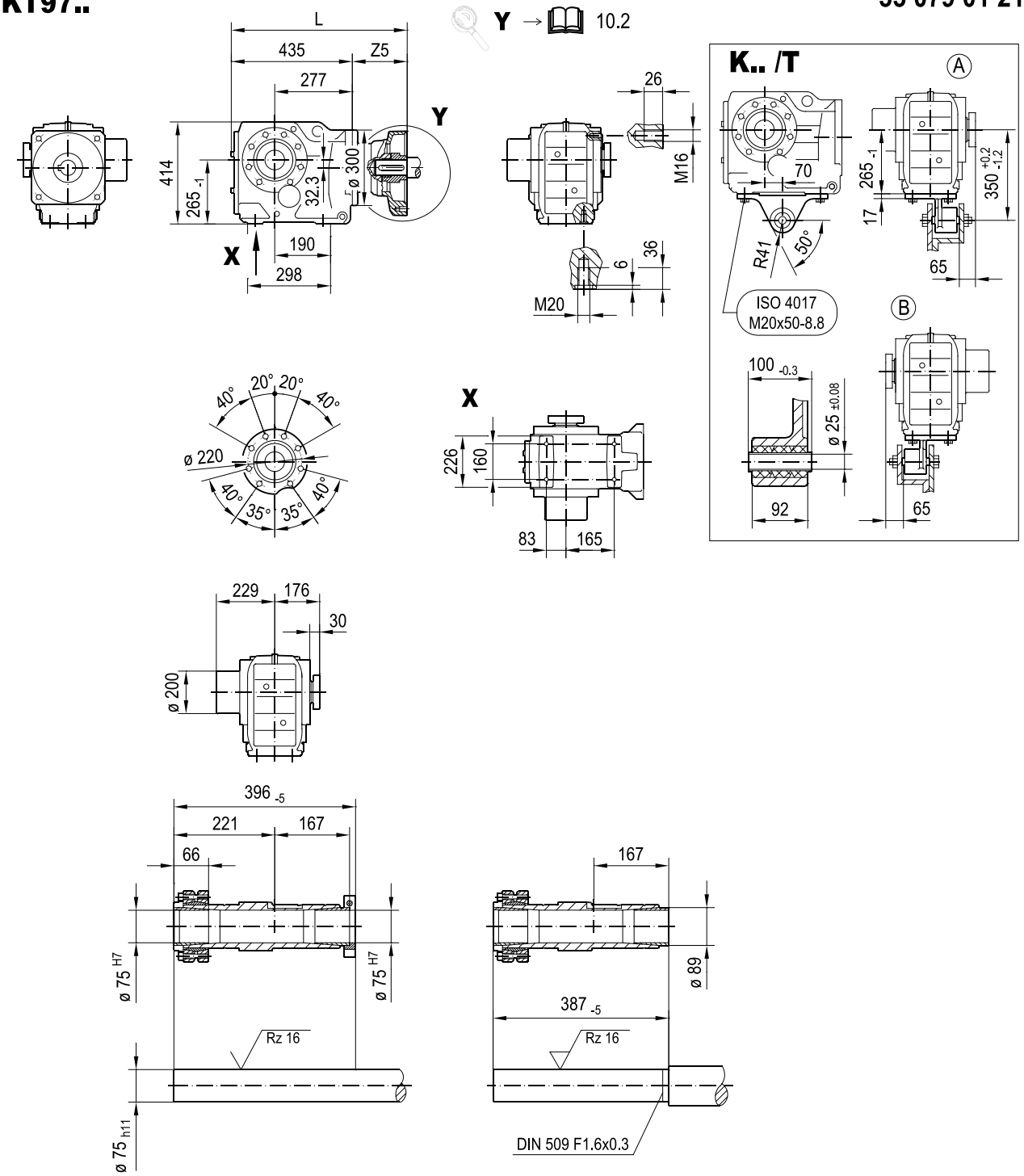


(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	90.5	116	116	128				
L	526	551	551	563				

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KT97..

33 079 01 21



(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	90.5	116	116	128				
L	526	551	551	563				

10.1.12 K107 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$								
	i	140/1,3,5-6			160/1			190/1,3-6		
K107 3	7.35							1310	1510	1870
	8.69	920	1010	1340	920	1060	1560	1550	1800	2220
	9.94	1020	1150	1540	1060	1200	1800	1720	2060	2550
	11.73	1100	1320	1820	1250	1380	2130	1840	2440	3020
	13.43	1150	1470	1960	1440	1530	2450	1930	2800	3280
	14.64	1550	1700	2260	1550	1800	2640	2620	3030	3750
	16.75	1730	1940	2590	1780	2020	3030	2910	3480	4300
	19.74	1850	2230	3070	2110	2320	3590	3110	4110	5080
	22.62	1950	2490	3320	2430	2580	4130	3260	4720	5540
	26.32	2060	2800	3500	2840	2900	4830	3430	5150	5830
	29.00	2120	3010	3600	3110	3110	5290	3530	5300	6000
	31.28							5520	6390	7890
	32.69	2190	3270	3720	3370	3370	5730	3640	5460	6190
	37.00	3880	4270	5650	3880	4500	6600	6560	7590	9370
	42.33	4330	4850	6490	4470	5070	7600	7280	8710	10800
	49.90	4650	5580	7680	5290	5820	8990	7780	9090	12700
	57.17	4880	6230	8300	6090	6470	10400	8000	9090	13600
	66.52	5150	7010	8760	7110	7260	12100	8000	9090	13600
	73.30	5310	7530	9030	7780	7780	13200	8000	9090	13600
	82.61	5490	8180	9330	8000	8430	13600	8000	9090	13600
	90.96	5630	8450	9570	8000	8970	13600	8000	9090	13600
	100.75	5830	8750	9910	8000	9090	13600	8000	9090	13600
	112.41	5970	8960	10100	8000	9090	13600	8000	9090	13600
	121.46	6080	9090	10300	8000	9090	13600	8000	9090	13600
	143.47	6300	9090	10700	8000	9090	13600	8000	9090	13600

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min^{-1}		AQS. n_{ak}		
	i	140/1,3,5-6	160/1	190/1,3-6
K107 3	7.35			310
	8.69	205	414	198
	9.94	147	395	145
	11.73	121	373	122
	13.43	109	259	106
	14.64	121	246	116
	16.75	84	234	84
	19.74	72	222	71
	22.62	62	153	62
	26.32	53	98	53
	29.00	49	75	48
	31.28			73
	32.69	43	58	43
	37.00	48	97	46
	42.33	33	93	33
	49.90	28	88	28
	57.17	25	60	27
	66.52	21	39	27
	73.30	19	30	27
	82.61	17	27	26
	90.96	15	26	26
	100.75	14	26	26
	112.41	13	25	25
	121.46	12	24	24
	143.47	10	22	22

K107, m kg	AQS.		
s	140/1,3,5-6	160/1	190/1,3-6
3	275	280	280
KF: + 12 kg / KA: + -27 kg / KAF: + -3.2 kg			

K107, J_A / c_{TA}		AQS.		
		140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	8.1	22.0	22.0
c_{TA}	Nm/'	3.0	7.0	7.0

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K..107							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	K	KF	KA	KAF	K	KF	KA	KAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
K107 3	7.35[1)]	3600	4720	6120	298	231	24400	28500	9900	47100	65000	65000	65000	65000
	8.69	4070	4780	6910	212	170	24600	29100	9270	48300	65000	65000	65000	65000
	9.94	4190	4840	7120	204	136	25800	30500	10000	50500	65000	65000	65000	65000
	11.73	4300	4910	7310	201	104	27500	32300	11100	53500	65000	65000	65000	65000
	13.43	4300	4940	7310	210	82	29200	34200	12600	56500	65000	65000	65000	65000
	14.64	6890	8060	11700	124	163	19500	23000	6180	51700	65000	65000	64300	65000
	16.75	7050	8160	11900	122	131	21000	24800	7080	54200	65000	65000	63900	65000
	19.74	7200	8270	12200	122	100	23200	27300	8440	57700	65000	65000	63400	65000
	22.62	7200	8320	12200	127	80	25800	30300	10100	61200	65000	65000	63300	65000
	26.32	7200	8370	12200	134	63	28800	33600	12100	65000	65000	65000	63100	65000
	29.00	7200	8400	12200	137	54	30700	35800	13400	65000	65000	65000	62900	65000
	31.28[1)]	6800	9090	11500	49	112	34200	39700	16100	65000	65000	65000	60200	65000
	32.69	7200	8430	12200	138	45	33200	38600	15100	65000	65000	65000	62800	65000
	37.00	7200	9090	12200	42	86	35800	41500	17000	65000	65000	65000	60200	65000
	42.33	7360	9090	12500	38	72	37900	44000	18400	65000	65000	65000	60200	65000
	49.90	7840	9090	13300	32	58	39300	45600	19200	65000	65000	65000	60200	65000
	57.17	8000	9090	13600	30	48	41700	48400	20900	65000	65000	65000	60200	65000
	66.52	8000	9090	13600	31	40	45400	52500	23600	65000	65000	65000	60200	65000
	73.30	8000	9090	13600	31	35	47900	55300	25400	65000	65000	65000	60200	65000
	82.61	8000	9090	13600	31	29	50900	58700	27700	65000	65000	65000	60200	65000
	90.96	8000	9090	13600	32	25	53500	61600	29600	65000	65000	65000	60200	65000
	100.75	8000	9090	13600	32	20	56200	64700	31700	65000	65000	65000	60200	65000
	112.41	8000	9090	13600	32	17	59300	65000	34000	65000	65000	65000	60200	65000
	121.46	8000	9090	13600	32	15	61500	65000	35700	65000	65000	65000	60200	65000
	143.47	8000	9090	13600	31	12	65000	65000	39600	65000	65000	65000	60200	65000

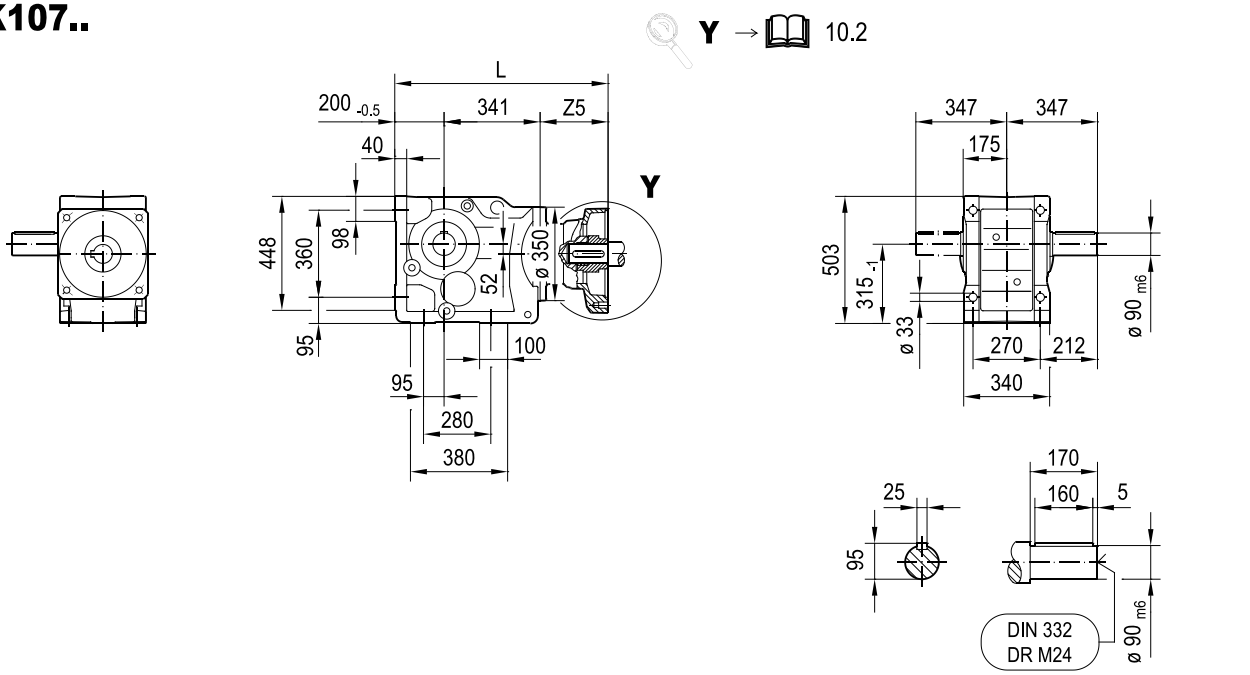
27788644/EN – 02/2024

K..107				c_{TG}				φ
	i	n_{epk} min^{-1}	η %	K Nm/'	KF Nm/'	KA Nm/'	KAF Nm/'	/R '
K107 3	7.35	3197	96	519	488	862	862	9
	8.69	3597	96	519	488	862	862	9
	9.94	3924	96	519	488	862	862	9
	11.73	4378	96	519	488	862	862	9
	13.43	4500	96	519	488	862	862	9
	14.64	3597	96	661	612	1341	1341	7
	16.75	3924	96	661	612	1341	1341	7
	19.74	4378	96	661	612	1341	1341	6
	22.62	4500	96	661	612	1341	1341	6
	26.32	4500	96	661	612	1341	1341	6
	29.00	4500	96	661	612	1341	1341	6
	31.28	3197	94	730	670	1660	1660	6
	32.69	4500	96	661	612	1341	1341	6
	37.00	3597	94	730	670	1660	1660	6
	42.33	3924	94	730	670	1660	1660	6
	49.90	4378	94	730	670	1660	1660	6
	57.17	4500	94	730	670	1660	1660	6
	66.52	4500	94	730	670	1660	1660	6
	73.30	4500	94	730	670	1660	1660	6
	82.61	4500	94	730	670	1660	1660	6
	90.96	4500	94	730	670	1660	1660	6
	100.75	4500	94	730	670	1660	1660	6
	112.41	4500	94	730	670	1660	1660	6
	121.46	4500	94	730	670	1660	1660	6
	143.47	4500	94	730	670	1660	1660	6

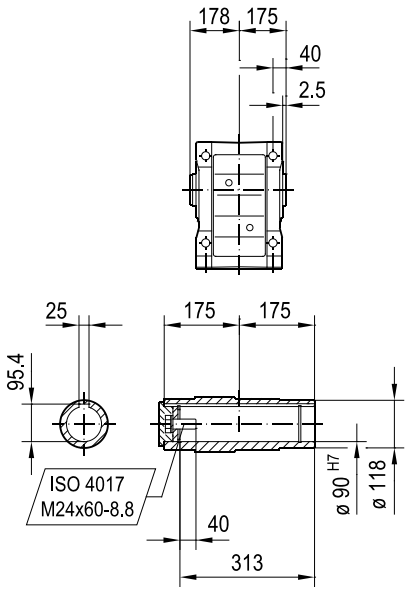
27788644/EN – 02/2024

33 080 00 21

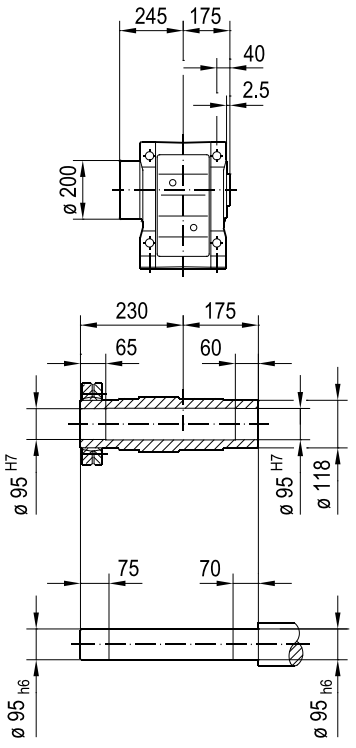
K107..



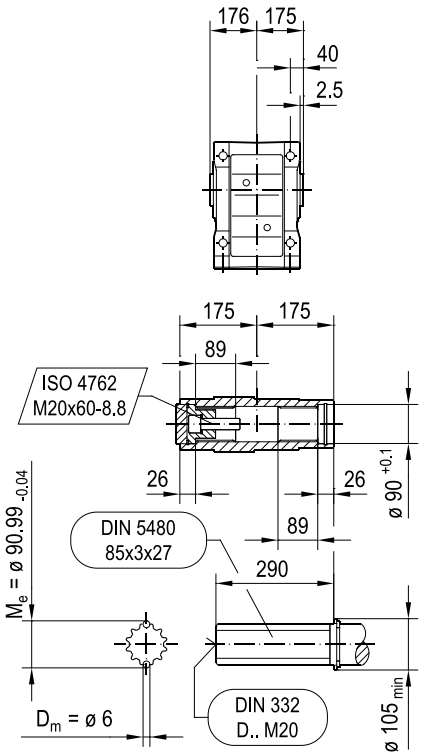
KA107B..



KH107B..



KV107B..

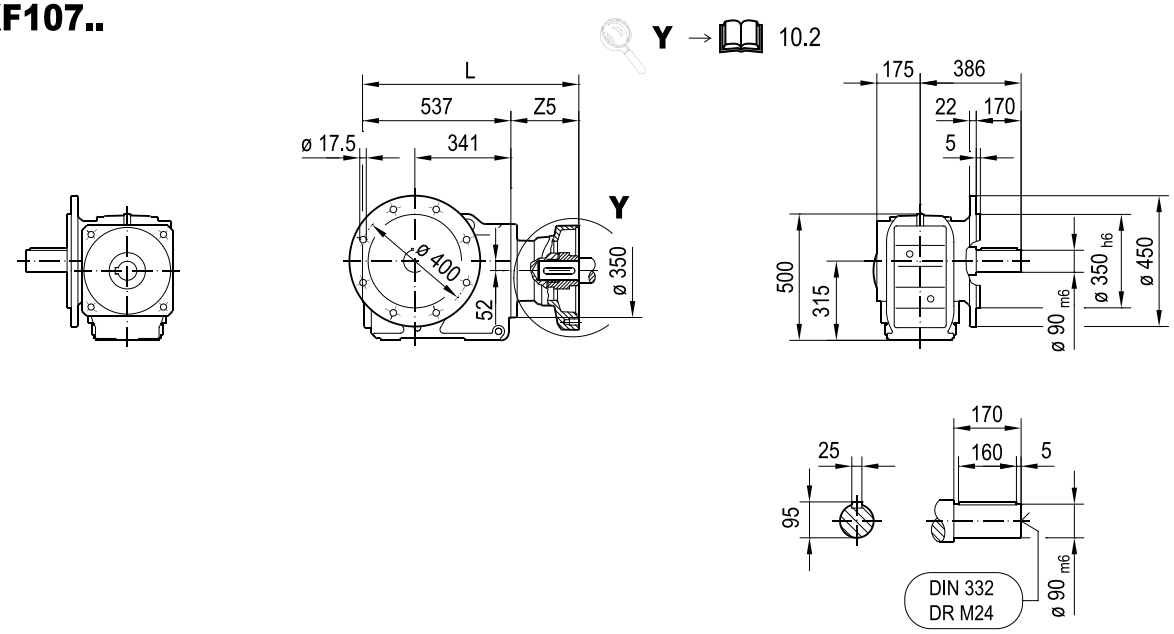


(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	84.5	110	110	122				
L	626	651	651	663				

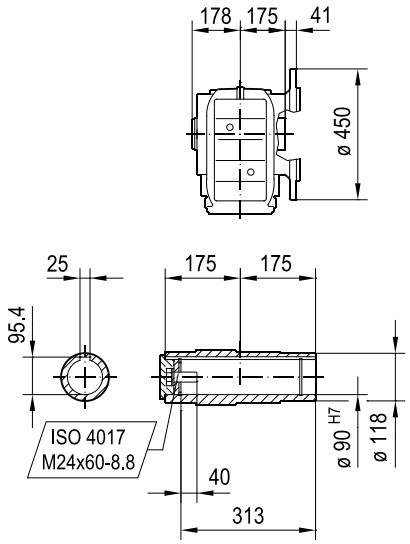
27788644/EN – 02/2024

33 081 00 21

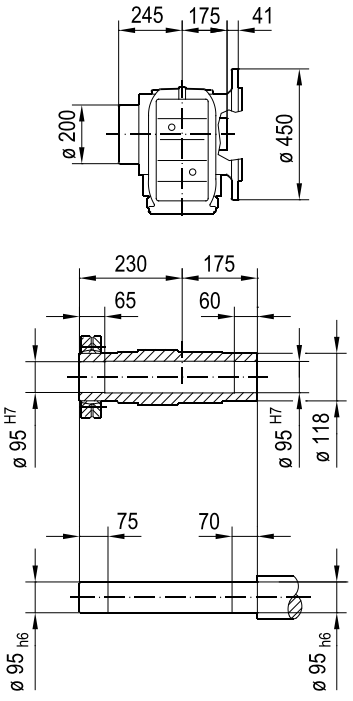
KF107..



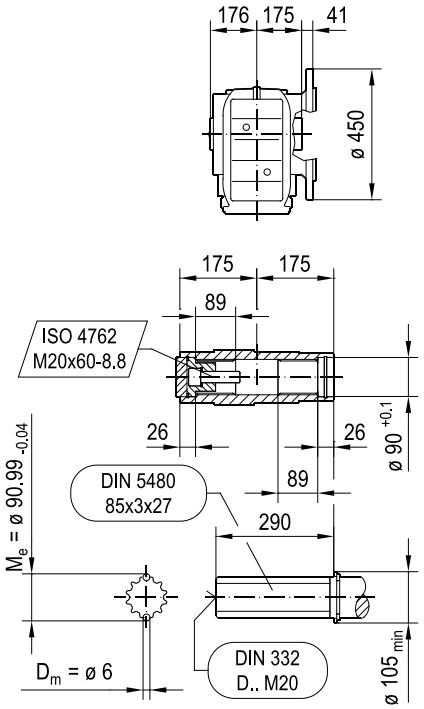
KAF107..



KHF107..



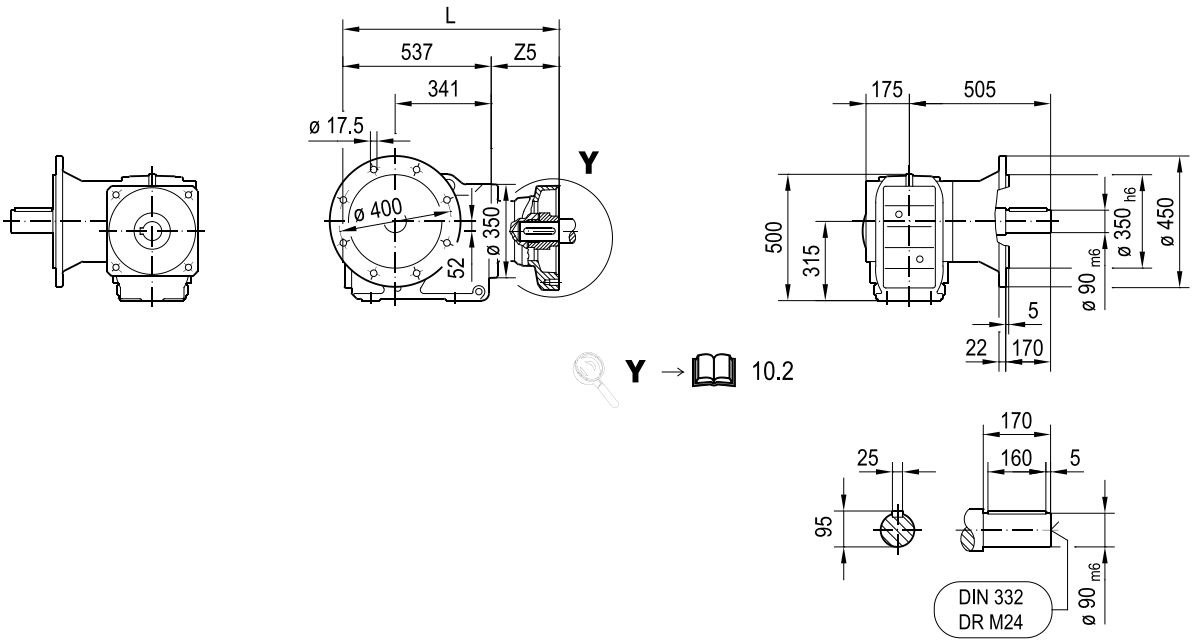
KVF107..



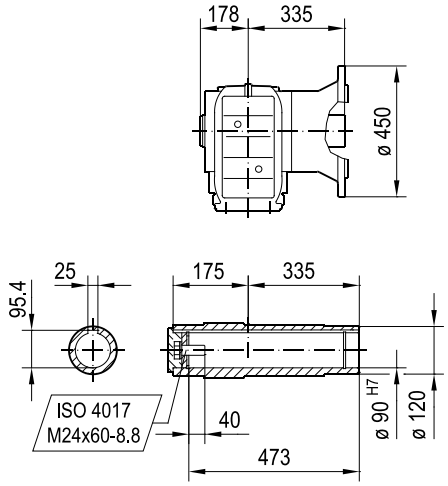
(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	84.5	110	110	122				
L	622	647	647	659				

33 082 00 21

KM107..



KAM107..

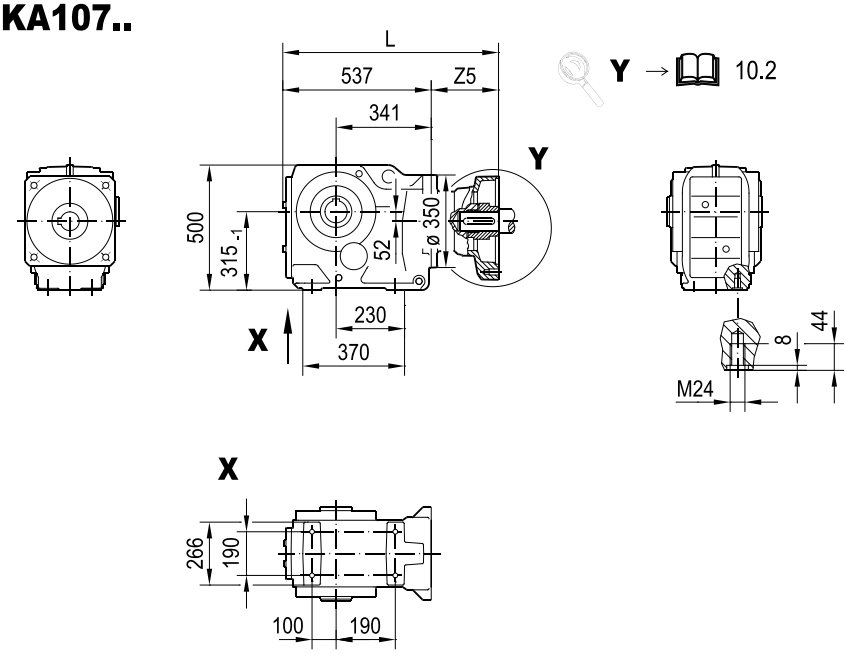


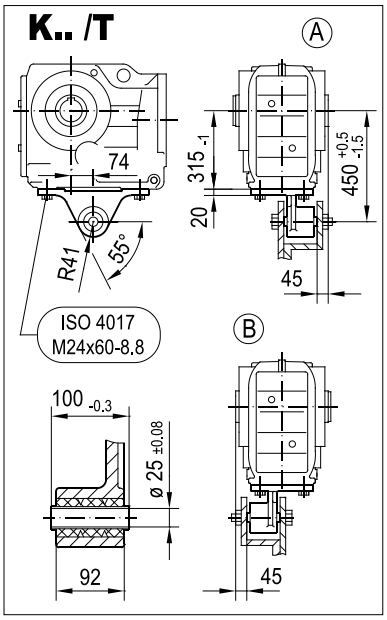
(→ 📖 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	84.5	110	110	122				
L	622	647	647	659				

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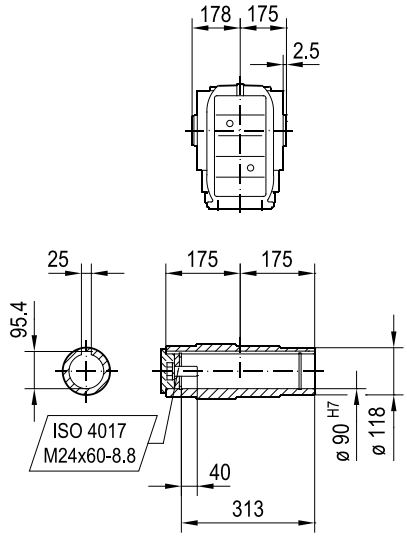
33 083 00 21

KA107..

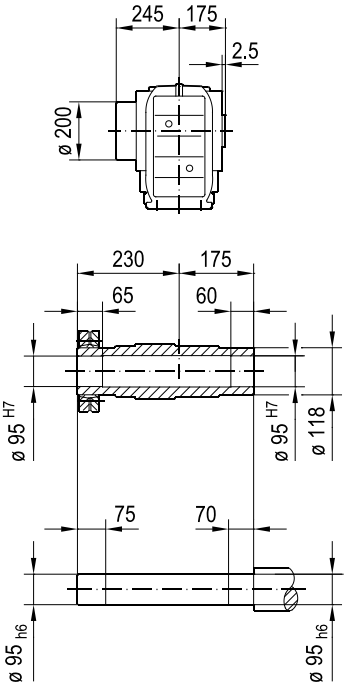




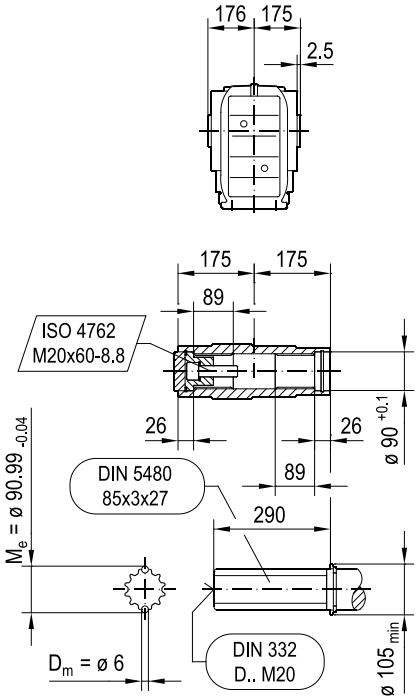
KA107..



KH107..



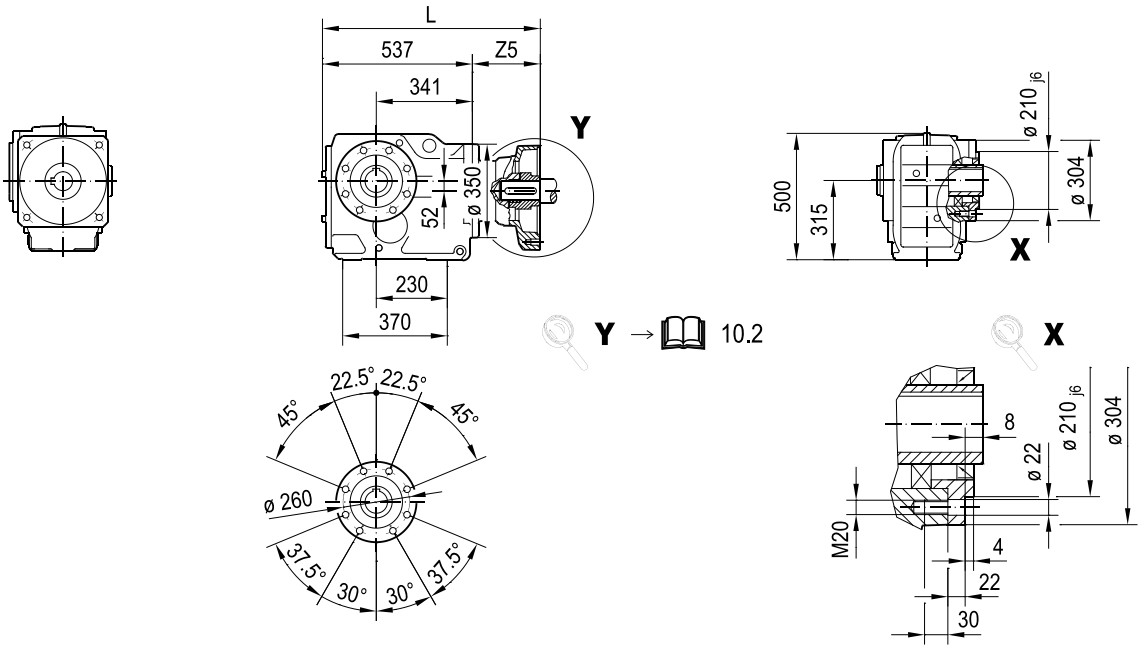
KV107..



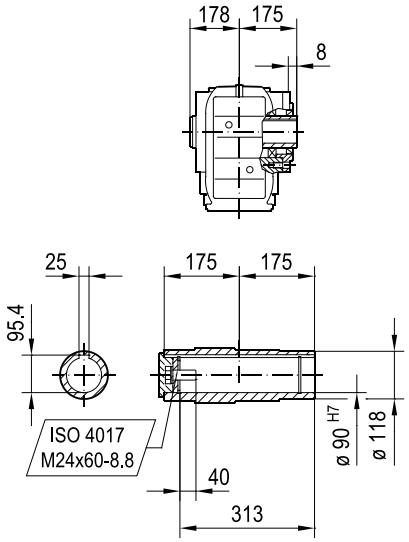
(→ 📖 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	84.5	110	110	122				
L	622	647	647	659				

33 084 00 21

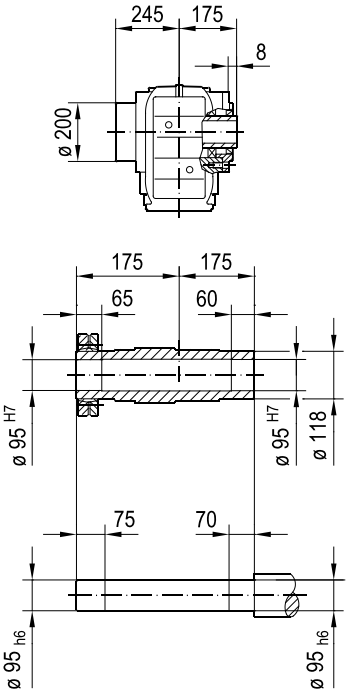
KAZ107..



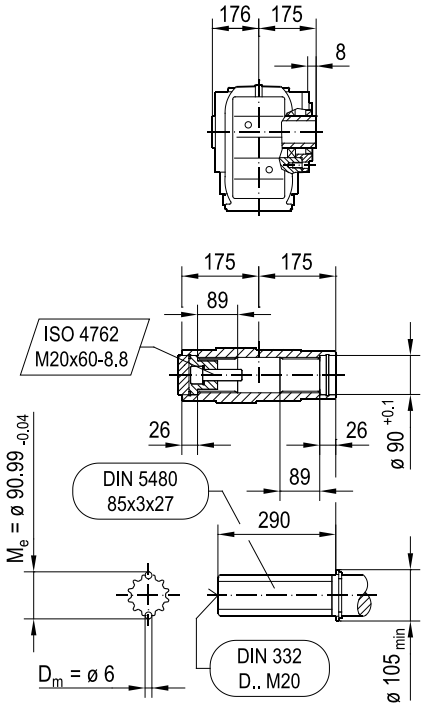
KAZ107..



KHZ107..



KVZ107..

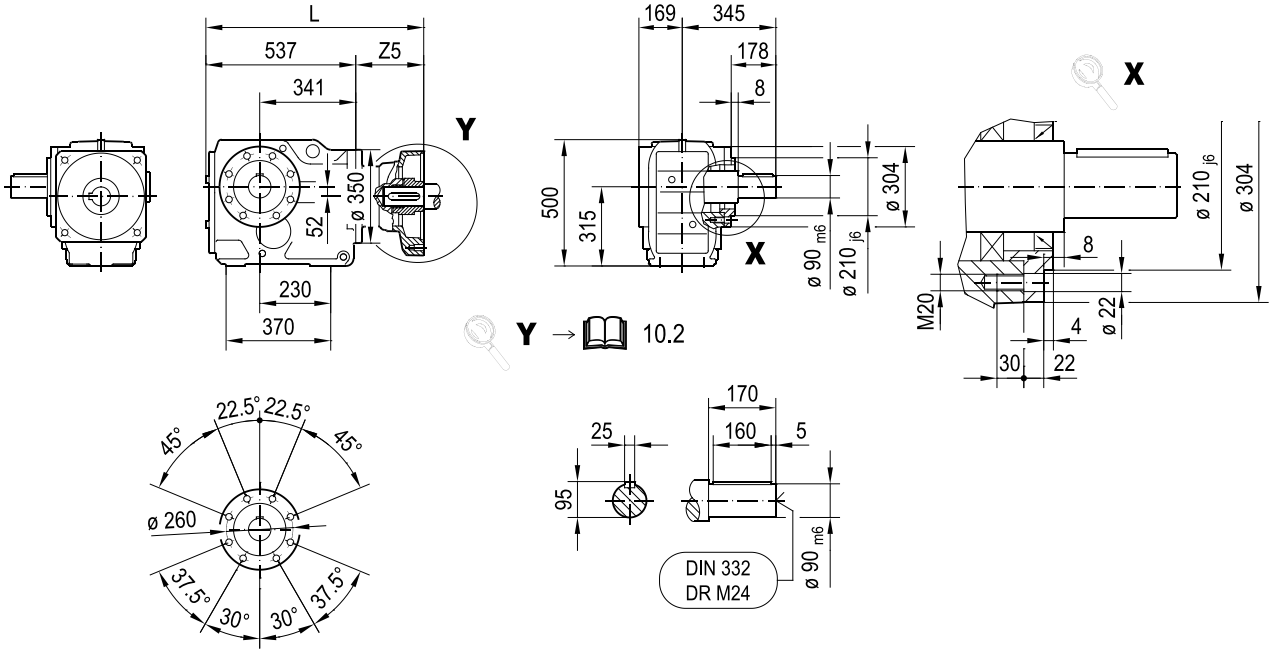


(→ 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	84.5	110	110	122				
L	622	647	647	659				

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KZ107..

33 085 00 21

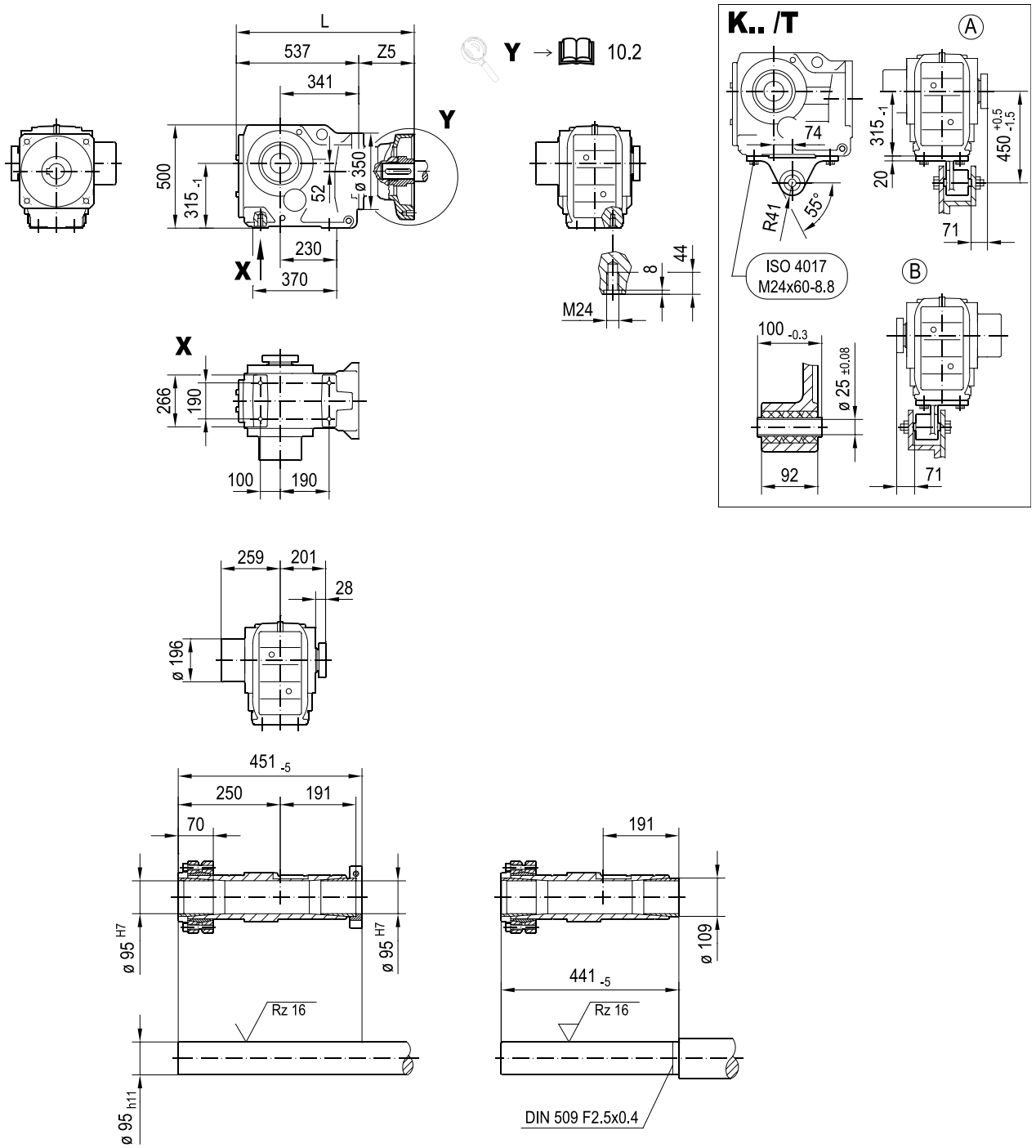


(→ 📖 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	84.5	110	110	122				
L	622	647	647	659				

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33 086 01 21

KT107..



(→ 📖 7.3.11)	AQS.							
	140/1, 3, 5-6	160/1	190/1, 3-5	190/6				
Z5	84.5	110	110	122				
L	622	647	647	659				

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10.1.13 K127 AQS..

Nm	i	AQS. M_{amax} | M_{apk} | $M_{aNotaus}$ 190/1,3-6		
K127 3	8.68			
	10.74	1890	2200	2720
	12.79	2270	2630	3250
	14.35			
	17.77	3140	3640	4500
	21.15	3760	4350	5380
	23.91	4170	4940	6100
	27.68	4380	5740	7090
	31.37	4540	6520	7720
	36.25	4750	7130	8080
	40.19	7030	8150	10100
	47.82	8420	9750	12000
	54.07	9340	11000	13700
	62.60	9820	12800	15900
	70.95	10100	14600	17200
	81.98	10600	14800	18000
	89.89	10900	14800	18500
	110.18	11500	14800	19600
	122.48	11900	14800	20200
	136.14	12100	14800	20600
	146.07	12200	13600	20700

min^{-1}	i	AQS. n_{ak} 190/1,3-6
K127 3	8.68	
	10.74	219
	12.79	137
	14.35	
	17.77	131
	21.15	82
	23.91	59
	27.68	51
	31.37	45
	36.25	39
	40.19	58
	47.82	36
	54.07	26
	62.60	22
	70.95	21
	81.98	17
	89.89	16
	110.18	13
	122.48	12
	136.14	11
	146.07	10

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K127, m kg	
s	AQS. 190/1,3-6
3	445
KF: + 42 kg / KA: + -28 kg / KAF: + 9.2 kg	

K127, J_A / c_{TA}		AQS. 190/1,3-6
J_A 10^{-4}	kgm^2	22.0
c_{TA}	Nm/'	7.0

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K..127							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	K	KF	KA	KAF	K	KF	KA	KAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
K127 3	8.68	7230	9390	12200	230	450	32500	39100	3750	56600	80900	82700	87600	90000
	10.74	8000	9560	13600	181	318	33900	41000	3100	59300	80800	82600	86900	90000
	12.79	8530	9680	14500	156	240	35400	42900	3080	62100	80800	82600	86500	90000
	14.35	12100	14800	20500	134	431	31000	36700	35	58100	76400	75700	73800	90000
	17.77	13000	14800	22100	116	305	32600	38600	39	61600	76400	75700	73800	90000
	21.15	13000	14800	22100	123	226	37200	44000	39	67200	76400	75700	73800	90000
	23.91	13000	14800	22100	128	187	39800	47900	575	71300	76400	75700	73800	90000
	27.68	13000	14800	22100	134	148	43000	52600	2830	76300	76400	75700	73800	90000
	31.37	13000	14800	22100	137	120	45900	55800	4840	80900	76400	75700	73800	90000
	36.25	13000	14800	22100	124	97	49400	59600	7280	86300	76400	75700	73800	90000
	40.19	13000	14800	22100	55	184	52000	62400	9090	90000	76400	75700	73800	90000
	47.82	13000	14800	22100	57	146	56500	67300	12300	90000	76400	75700	73800	90000
	54.07	13000	14800	22100	58	124	59800	70900	14700	90000	76400	75700	73800	90000
	62.60	13000	14800	22100	59	101	64000	75500	17600	90000	76400	75700	73800	90000
	70.95	13000	14800	22100	60	84	67700	79500	20300	90000	76400	75700	73800	90000
	81.98	13000	14800	22100	55	70	72100	80900	23400	90000	76400	75700	73800	90000
	89.89	13000	14800	22100	50	61	75100	80900	25600	90000	76400	75700	73800	90000
	110.18	13000	14800	22100	41	40	79200	80900	30500	90000	76400	75700	73800	90000
	122.48	13000	14800	22100	37	35	79200	80900	33200	90000	76400	75700	73800	90000
	136.14	13000	14800	22100	33	29	79200	80900	36000	90000	76400	75700	73800	90000
	146.07	13000	14800	22100	31	26	79200	80900	37900	90000	76400	75700	73800	90000

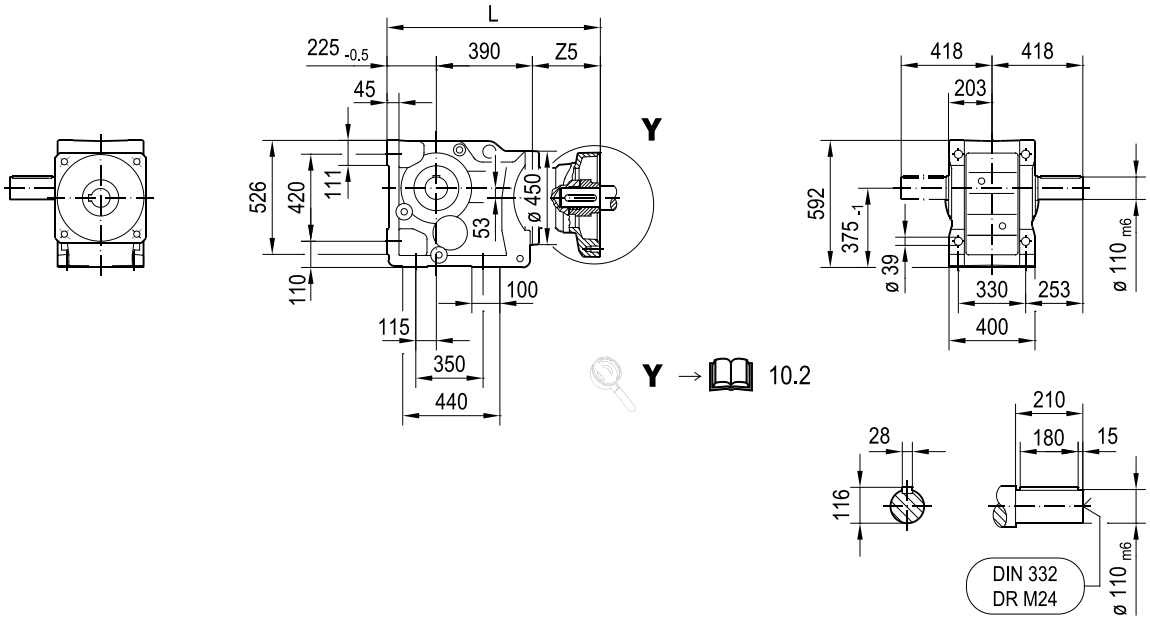
27788644/EN – 02/2024

K..127				c_{TG}				φ
	i	n_{epk} min^{-1}	η %	K Nm/'	KF Nm/'	KA Nm/'	KAF Nm/'	/R '
K127  3	8.68	2797	96	1033	967	1784	1784	8
	10.74	3197	96	1033	967	1784	1784	8
	12.79	3597	96	1033	967	1784	1784	8
	14.35	2797	96	1157	1075	2481	2481	6
	17.77	3197	96	1157	1075	2481	2481	6
	21.15	3597	96	1157	1075	2481	2481	6
	23.91	3924	96	1157	1075	2481	2481	6
	27.68	4378	96	1157	1075	2481	2481	6
	31.37	4500	96	1157	1075	2481	2481	6
	36.25	4500	96	1157	1075	2481	2481	6
	40.19	3197	94	1223	1131	2803	2803	5
	47.82	3597	94	1223	1131	2803	2803	5
	54.07	3924	94	1223	1131	2803	2803	5
	62.60	4378	94	1223	1131	2803	2803	5
	70.95	4500	94	1223	1131	2803	2803	5
	81.98	4500	94	1223	1131	2803	2803	5
	89.89	4500	94	1223	1131	2803	2803	5
	110.18	4500	94	1223	1131	2803	2803	5
	122.48	4500	94	1223	1131	2803	2803	5
	136.14	4500	94	1223	1131	2803	2803	5
	146.07	4500	94	1223	1131	2803	2803	5

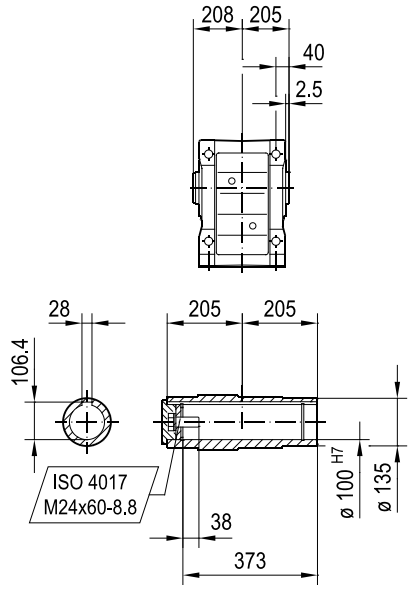
27788644/EN – 02/2024

33 087 00 21

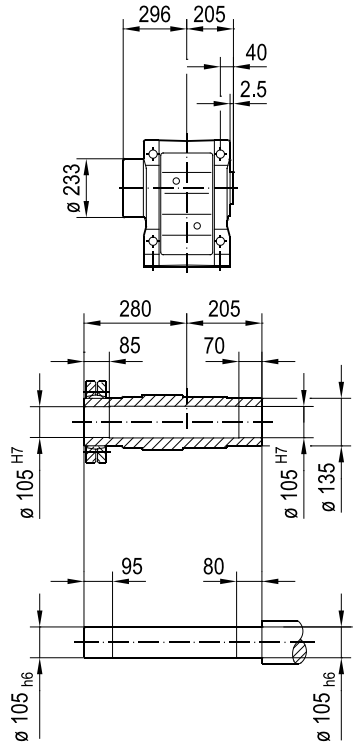
K127..



KA127B..



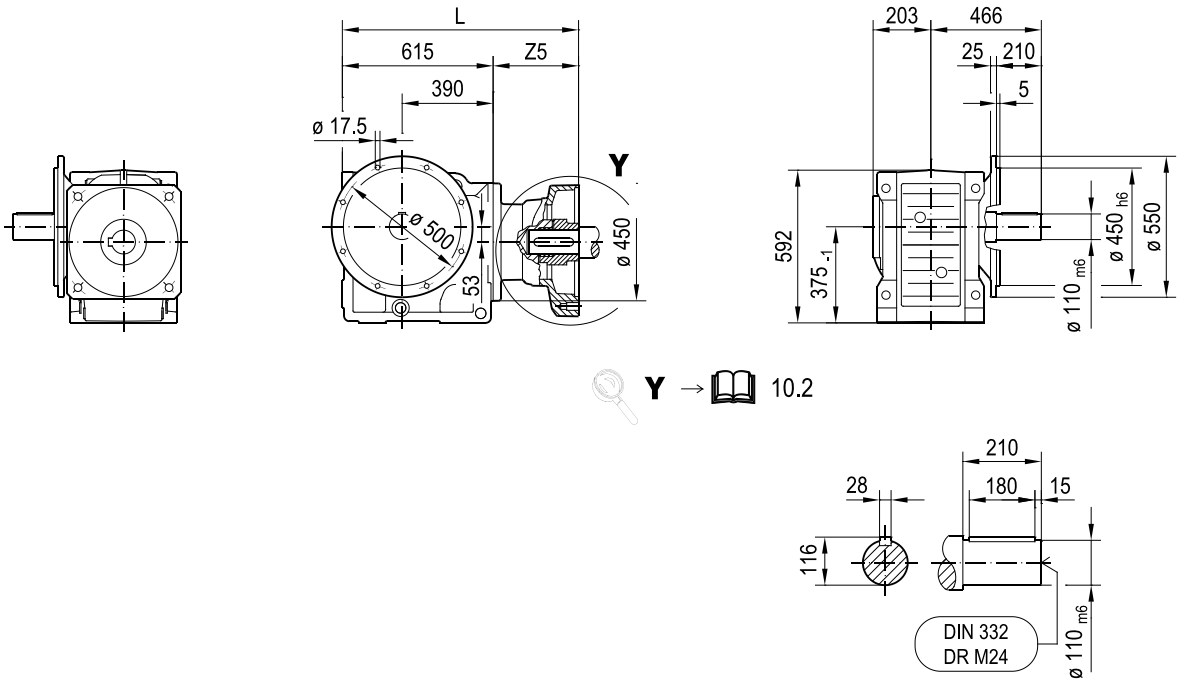
KH127B..



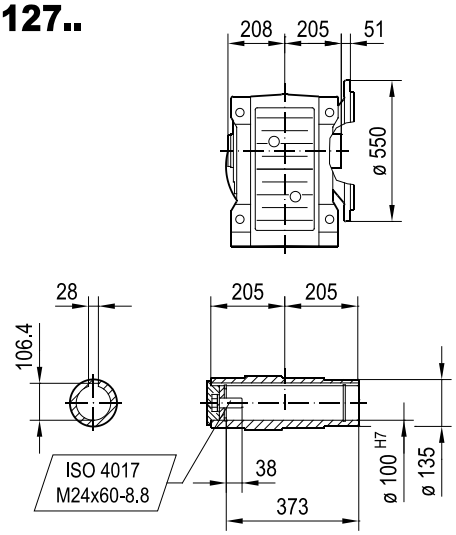
(→ 📖 7.3.11)	AQS.							
	190/1, 3-5	190/6						
Z5	95	107						
L	710	722						

33 088 00 21

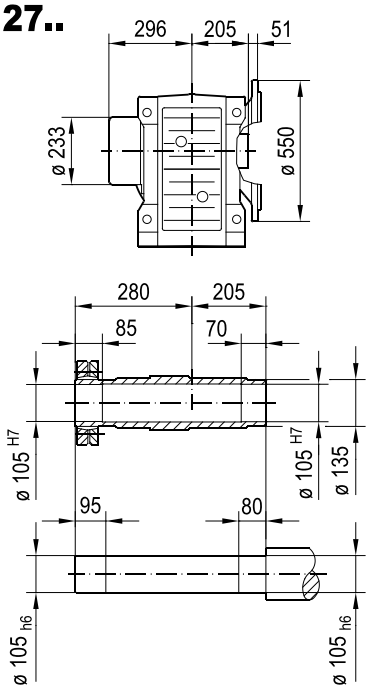
KF127..



KAF127..



KHF127..

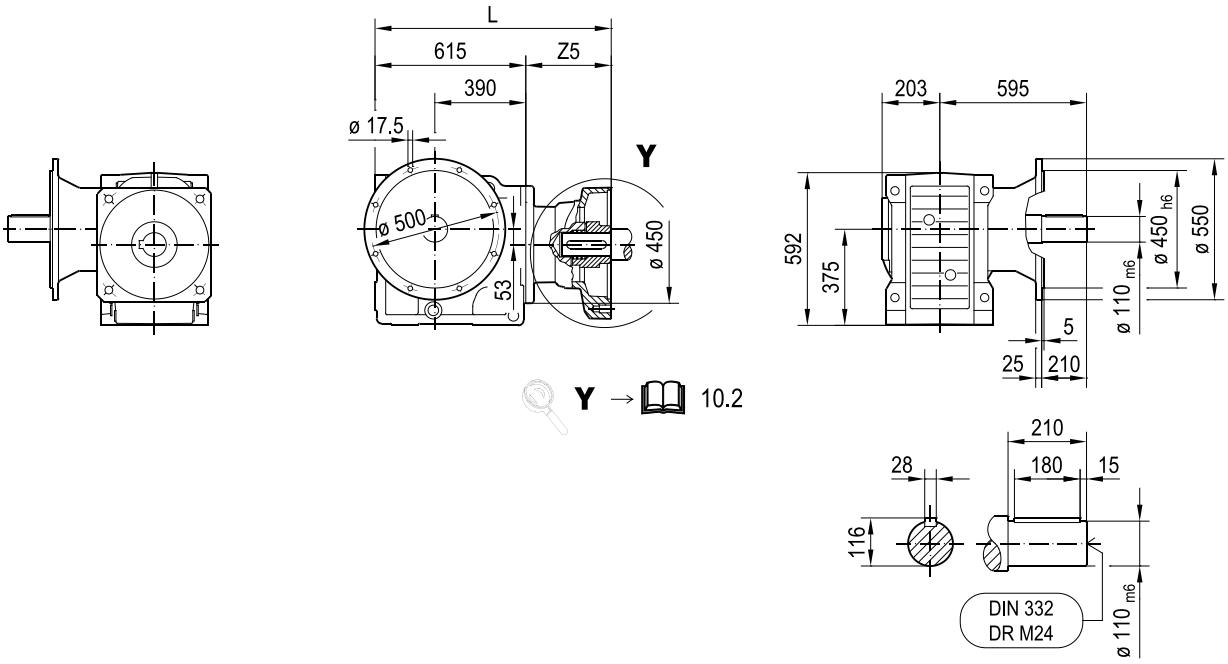


(→ 📖 7.3.11)	AQS.							
	190/1, 3-5	190/6						
Z5	95	107						
L	710	722						

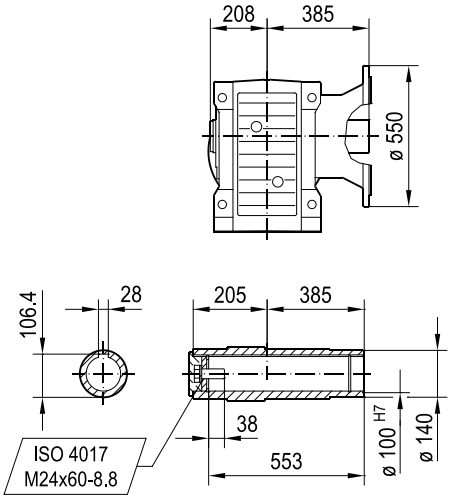
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33 089 00 21

KM127..



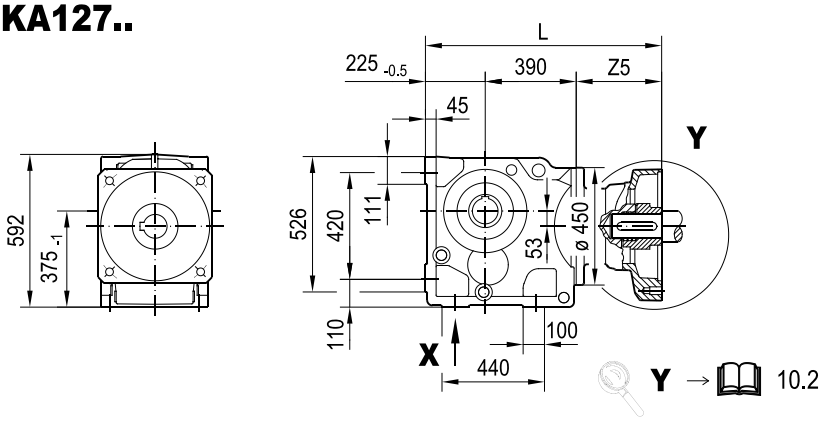
KAM127..

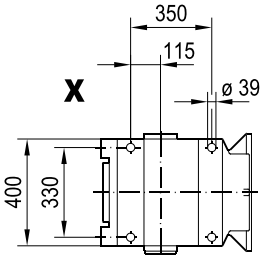


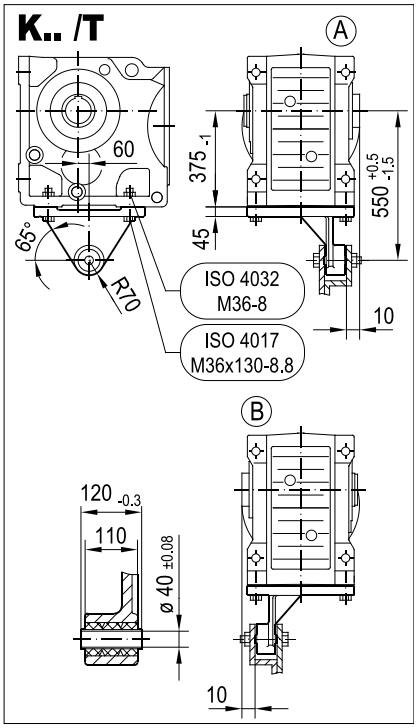
(→ 📖 7.3.11)	AQS.							
	190/1, 3-5	190/6						
Z5	95	107						
L	710	722						

KA127..

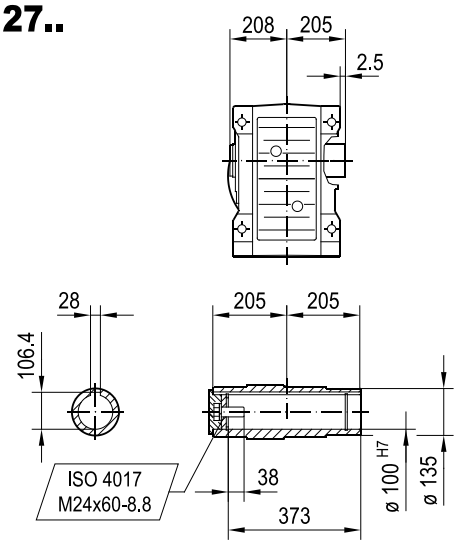
33 090 01 21



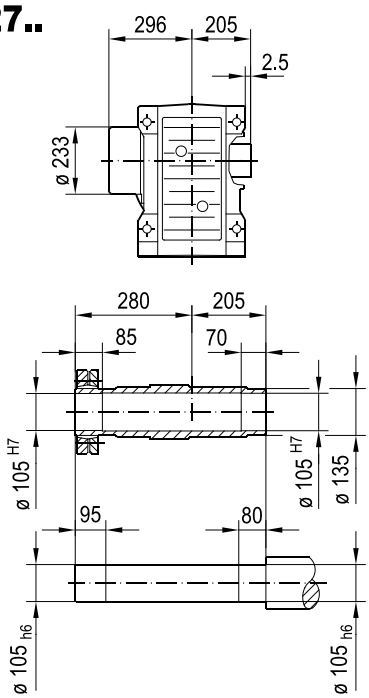




KA127..



KH127..

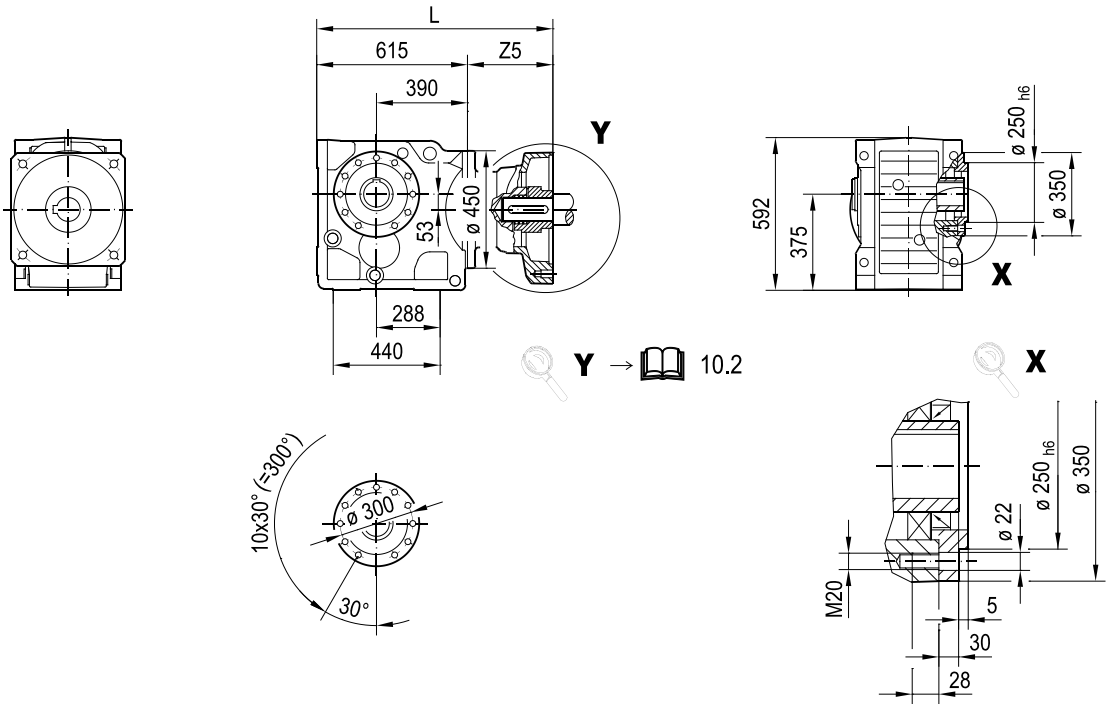


(→ 📖 7.3.11)	AQS.							
	190/1, 3-5	190/6						
Z5	95	107						
L	710	722						

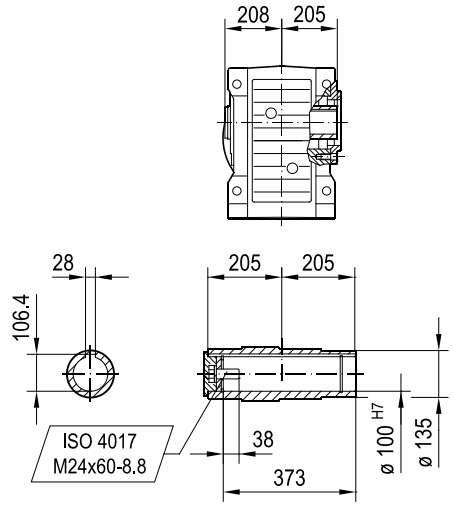
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33 091 00 21

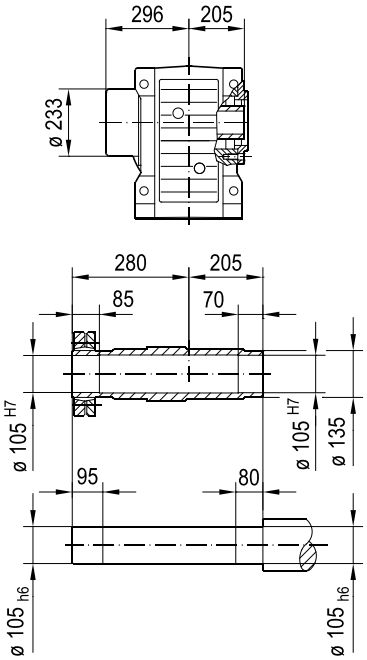
KAZ127..



KAZ127..



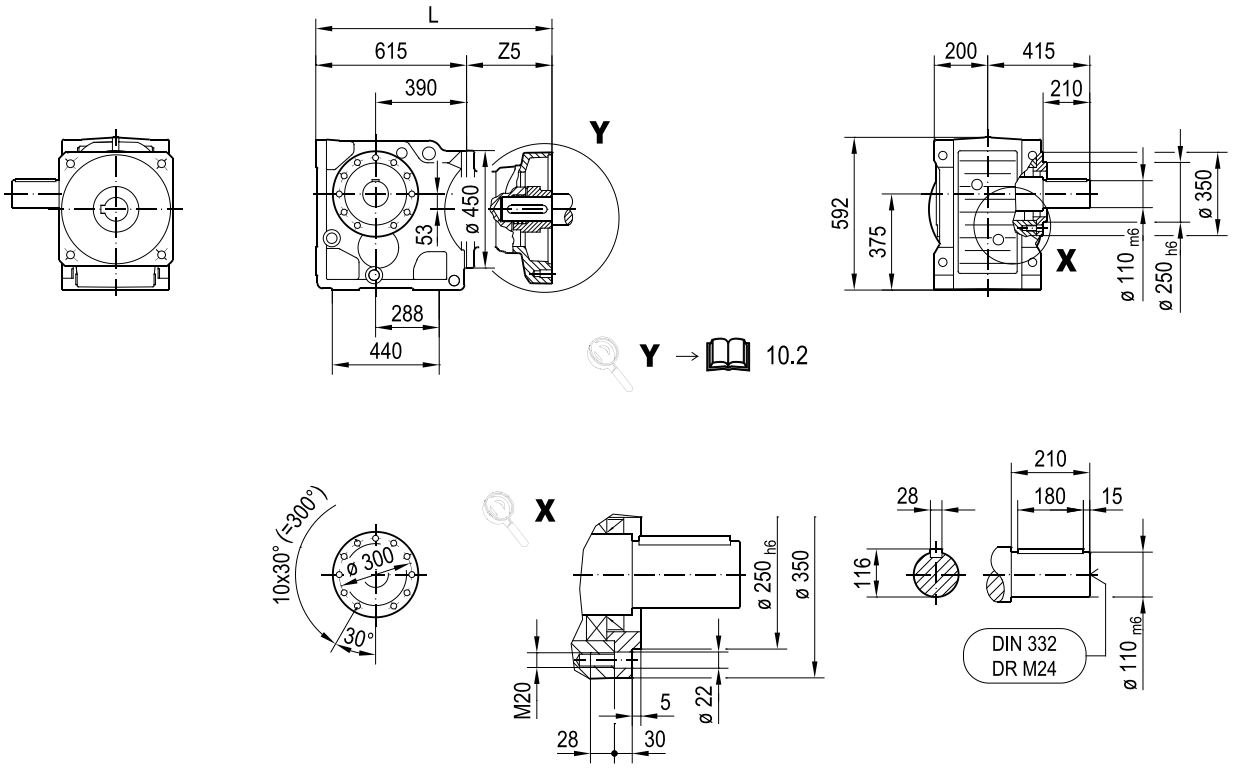
KHZ127..



(→ 7.3.11)	AQS.							
	190/1, 3-5	190/6						
Z5	95	107						
L	710	722						

33 092 00 21

KZ127..

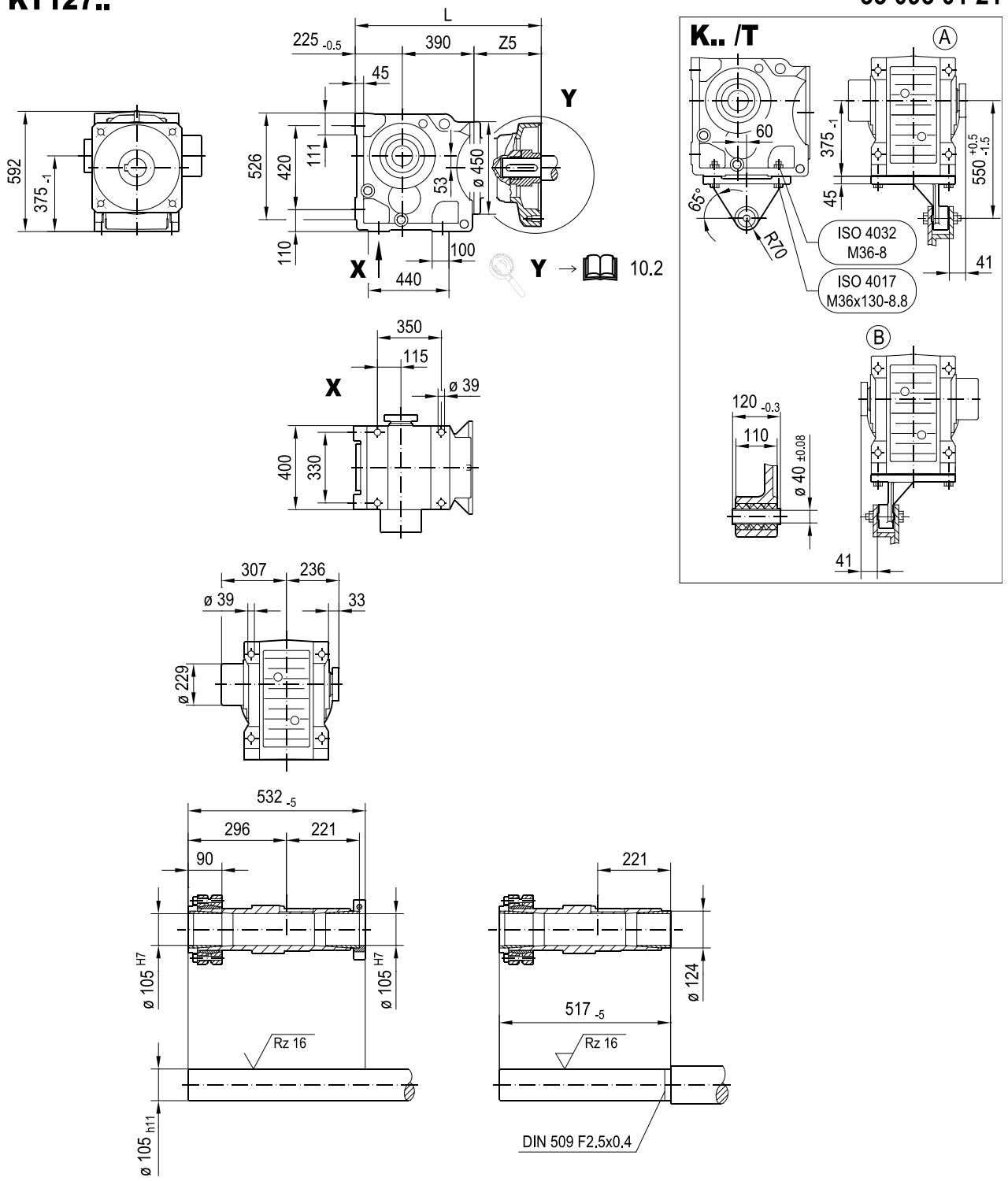


(→ 7.3.11)	AQS.							
	190/1, 3-5	190/6						
Z5	95	107						
L	710	722						

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KT127..

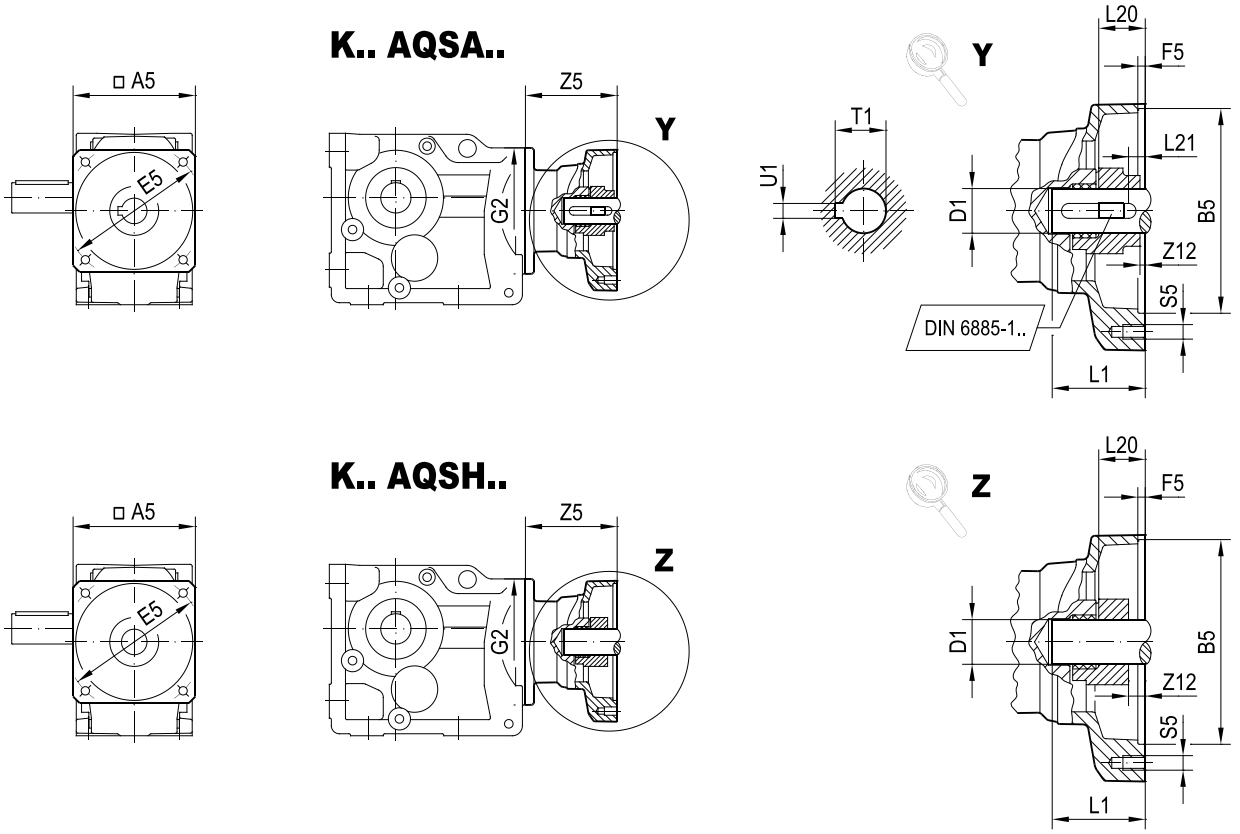
33 093 01 21



(→ 📖 7.3.11)	AQS.							
	190/1, 3-5	190/6						
Z5	95	107						
L	710	722						

10.2 Adapter K..AQS.. /mm

33 001 01 21

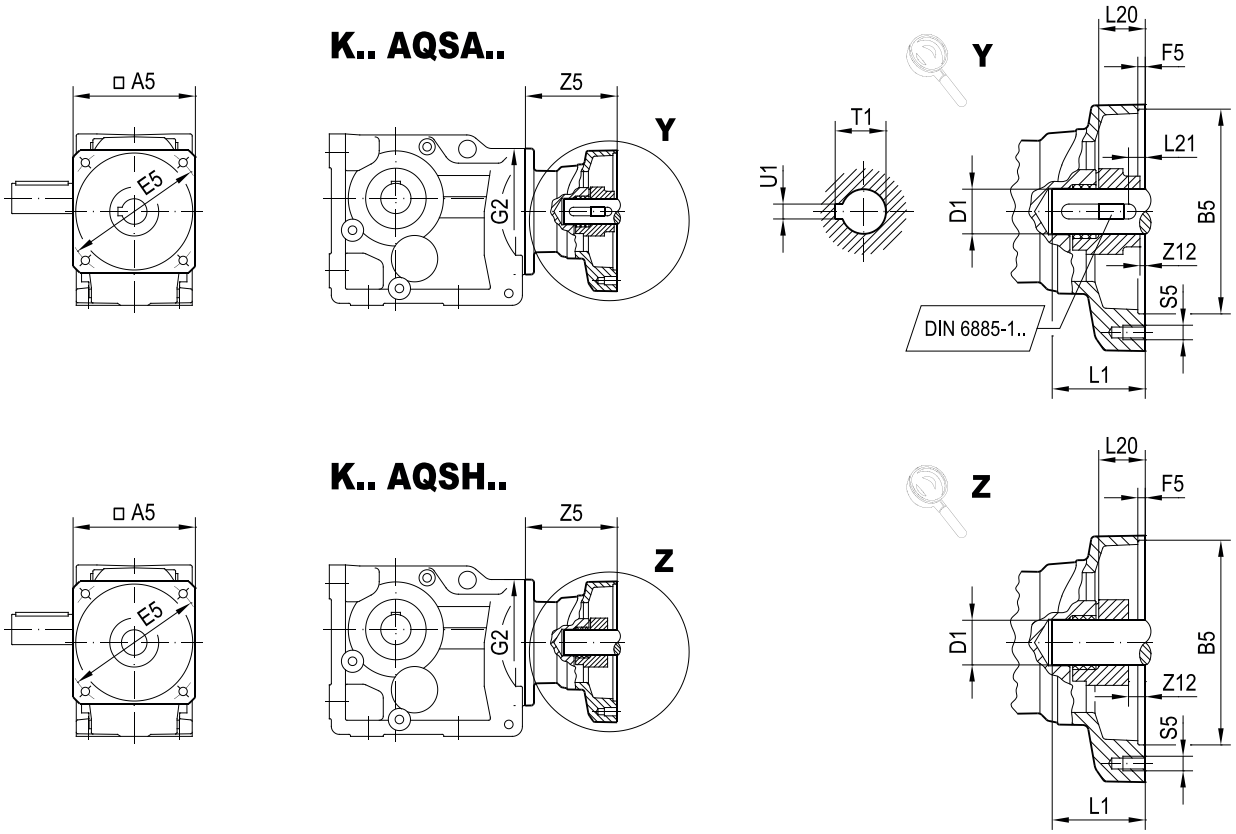


D1	T1	U1	AQS..							
			50/1 50/2	80/1 80/3 80/4 80/5	100/3 100/4 100/5 100/6[1] 100/7[1]	115/1 115/3 115/4 115/5 115/6[1]	140/1 140/3 140/5 140/6	160/1	190/1 190/3 190/4 190/5	190/6
mm	mm	mm								
8[2]	-	-	X							
9	10.4	3	X							
11	12.8	4		X						
14	16.3	5		X	X					
16	18.3	5			X					
19	21.8	6			X	X				
22	24.8	6				X				
	25.3	8				X				
24	27.3	8				X	X			
28	31.3	8					X	X	X	
32	35.3	10					X	X	X	
35	38.3	10						X[3]	X[3]	X
38	41.3	10						X	X	

1) Key design only (AQSA).
2) Terminal connection only (AQSH).
3) Only clamp connection (AQSH).

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33 001 01 21



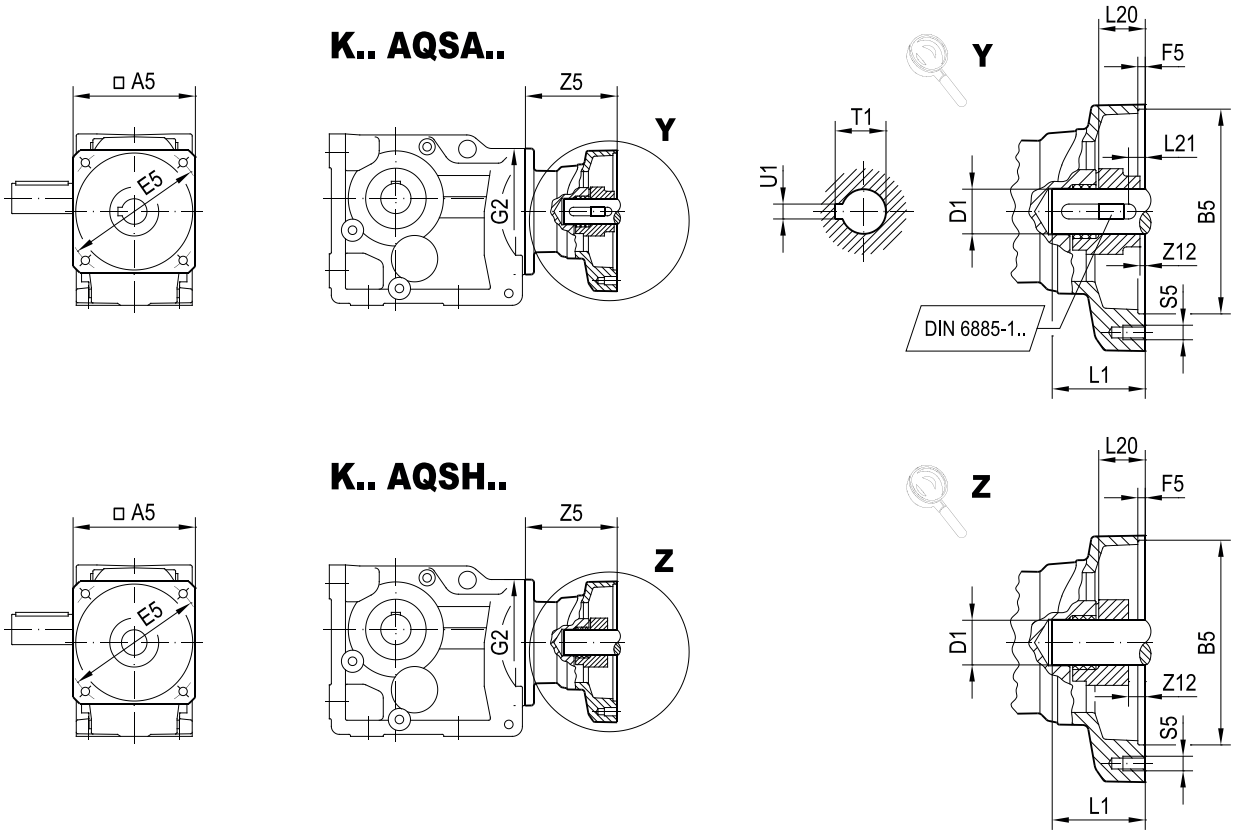
(→ 📖 7.3.11)	Dimensions in mm										
	D1	L20	L21 (ØD1: L21)	L1	B5	E5	A5	S5	Z12		F5
			AQSA						AQSA	AQSH	
AQS50/1	8 K7[1)]	14	Ø9: 7	25	30	46	40	M4 × 7	3	4	2.5
AQS50/2	9 H7	14	Ø9: 7	25	40	63	55	M4 × 7	3	4	2.5
AQS80/1	11 H7 14 H7	18 18	Ø11: 10 Ø14: 11	31	60	75	73	M5 × 8	4	6	3.5
AQS80/3				31	50	95	82	M6 × 10	4	6	3.5
AQS80/4				31	50	70	60	M5 × 8	4	6	3.5
AQS80/5				31	60	90	75	M5 × 8	4	6	3.5
AQS100/3	14 H7 16 H7 19 H7	20	Ø14,16,19: 13	45	80	100	94	M6 × 10	4	6	4
AQS100/6[2)]		25.5	Ø14,16,19: 18.5	50.5	80	100	94	M6 × 10	9.5	–	4
AQS100/4		20	Ø14,16,19: 13	45	95	115	105	M8 × 12	4	6	4
AQS100/7[2)]		30	Ø14,16,19: 23	55	95	115	105	M8 × 12	14	–	4
AQS100/5		20	Ø14,16,19: 13	45	70	90	94	M6 × 10	4	6	4
AQS115/1	19 H7 22 H7 24 H7	25	Ø19: 16 Ø22: 17 Ø24: 17	50	95	130	115	M8 × 14.5	0 Ø22: 9	9	5
AQS115/3		25		50	110	130	115	M8 × 14.5	0 Ø22: 9	9	5
AQS115/6[2)]		30	Ø19: 21 Ø22: 22 Ø24: 22	55	110	130	115	M8 × 14.5	5 Ø22: 14	–	5
AQS115/4		31	Ø19: 22 Ø22: 23 Ø24: 23	58	110	145	130	M8 × 14.5	6 Ø22: 15	15	6.5
AQS115/5		25	Ø19: 16 Ø22: 17 Ø24: 17	50	95	115	115	M8 × 14.5	0 Ø22: 9	9	5
AQS140/1	24 H7 28 H7 32 H7	30	Ø24: 11 Ø28: 19 Ø32: 19	60	110	165	140	M10 × 20	4	8	5
AQS140/3		30		60	130	165	140	M10 × 20	4	8	5
AQS140/5		30		60	180	215	190	M12 × 22	4	8	5
AQS140/6		30		80	130	165	140	M10 × 20	4	8	5

1) Only clamp connection (AQSH).

2) Key design only (AQSA).

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33 001 01 21

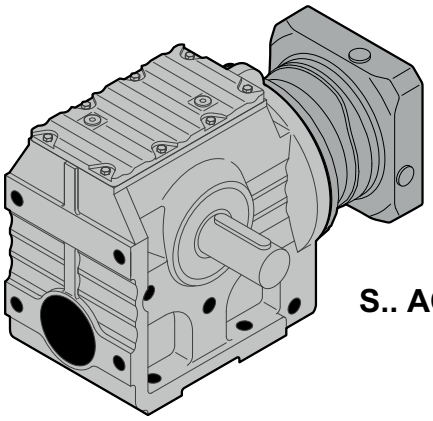


(→ 📖 7.3.11)	Dimensions in mm										
	D1	L20	L21 (ØD1: L21)	L1	B5	E5	A5	S5	Z12		F5
			AQSA						AQSA	AQSH	
AQS160/1	28 H7 32 H7 35 H7[1)] 38 H7	34	Ø28: 15 Ø32: 17 Ø38: 21	80	155	190	163	M10 × 20	0	8	5
AQS190/1	28 H7 32 H7 35 H7[1)] 38 H7	34	Ø28: 15 Ø32: 17 Ø38: 21	80	130	215	190	M12 × 22	0	8	5
AQS190/3		34		80	180	215	190	M12 × 22	0	8	5
AQS190/4		34		80	114.3	200	180	M12 × 22	0	8	5
AQS190/5		34		80	230	265	240	M12 × 22	0	8	5
AQS190/6	35 H7	46	Ø35: 31	80	114.3	200	180	M12 × 22	12	20	5

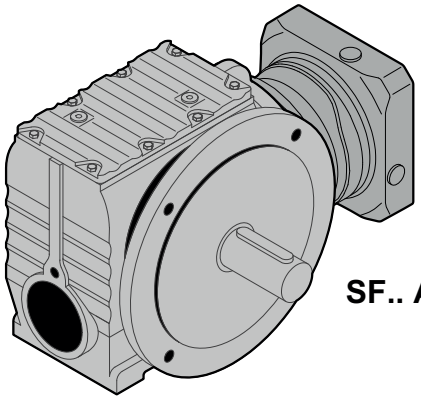
1) Only clamp connection (AQSH).

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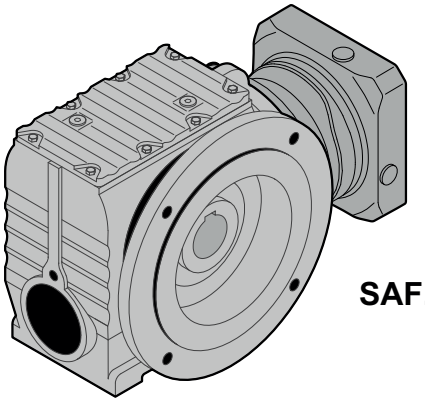
11 S.. helical-worm gear units



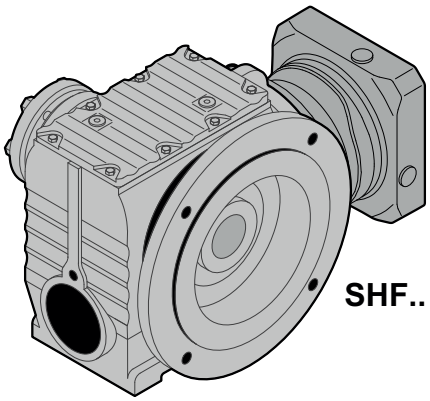
S.. AQS..



SF.. AQS..



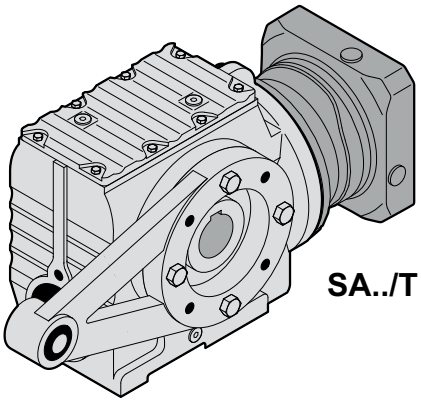
SAF.. AQS..



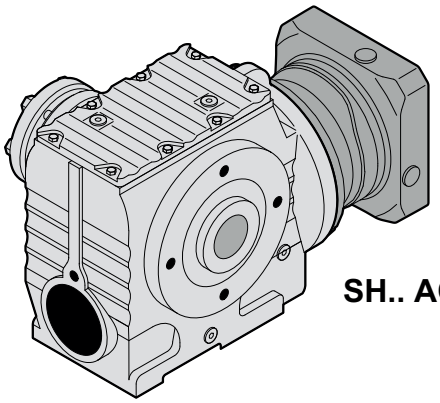
SHF.. AQS..

35095021579

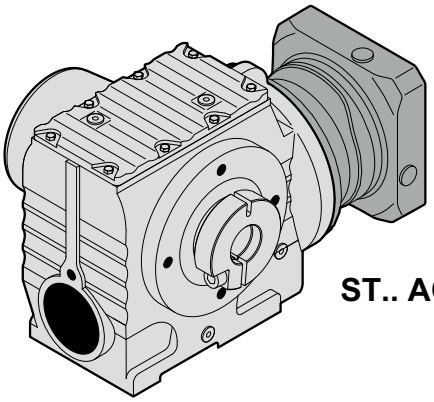
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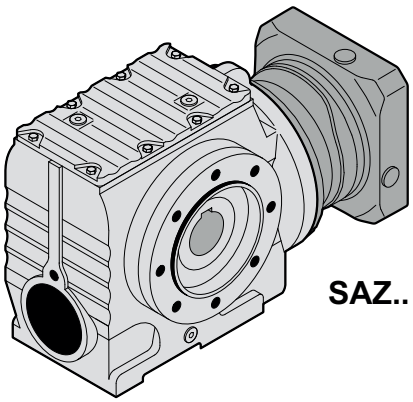
SA../T AQS..



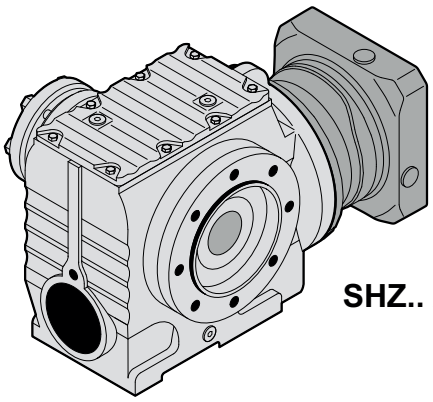
SH.. AQS..



ST.. AQS..



SAZ.. AQS..



SHZ.. AQS..

35095024011

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SEW EURODRIVE

11.1 S..AQS. – Selection tables and dimension sheets

11.1.1 S37/37p AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	50/1-2			80/1,3-5			100/3-7			115/1,3-6		
S37 2	3.97	24	24	31	32	48	54	32	48	54	32	48	54
	4.86	29	29	38	33	49	56	33	49	56	33	49	56
	5.38	32	32	42	34	51	58	34	51	58	34	51	58
	6.33	35	38	50	35	52	60	35	52	60	35	52	60
	6.80	40	41	53	43	60	73	43	60	73	43	60	73
	8.00	45	48	62	45	61	77	45	61	77	45	61	77
	9.02	46	54	70	46	62	78	46	62	78	46	62	78
	10.23	47	61	79	47	63	80	47	63	80	47	63	80
	10.91	48	64	82	48	64	82	48	64	82	48	64	82
	12.48	48	64	82	48	64	82	48	64	82	48	64	82
	13.39	49	65	83	49	65	83	49	65	83	49	65	83
	15.53	50	66	85	50	66	85	50	66	85	50	66	85
	18.24	52	67	88	52	67	88	52	67	88	52	67	88
	19.13	71	93	121	71	93	121	71	93	121	71	93	121
	19.89	52	68	88	52	68	88	52	68	88	52	68	88
	22.50	73	95	124	73	95	124	73	95	124	73	95	124
	25.38	74	96	126	74	96	126	74	96	126	74	96	126
	28.76	75	97	128	75	97	128	75	97	128	75	97	128
	30.68	76	98	129	76	98	129	76	98	129	76	98	129
	35.10	78	99	133	78	99	133	78	99	133	78	99	133
	37.66	79	100	134	79	100	134	79	100	134	79	100	134
	43.68	81	101	138	81	101	138	81	101	138	81	101	138
	51.30	81	103	138	81	103	138	81	103	138	81	103	138
	55.93	81	104	138	81	104	138	81	104	138	81	104	138

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min^{-1}		AQS. n_{ak}			
	i	50/1-2	80/1,3-5	100/3-7	115/1,3-6
S37 2	3.97	1134	1134	1134	1134
	4.86	926	926	926	926
	5.38	836	836	836	836
	6.33	711	711	711	711
	6.80	662	662	662	662
	8.00	563	563	563	563
	9.02	499	499	499	499
	10.23	440	440	440	440
	10.91	412	412	412	412
	12.48	361	361	361	361
	13.39	336	336	336	336
	15.53	290	290	290	290
	18.24	247	247	247	247
	19.13	127	127	127	127
	19.89	226	226	226	226
	22.50	118	118	118	118
	25.38	114	114	114	114
	28.76	110	110	110	110
	30.68	106	106	106	106
	35.10	99	99	99	99
	37.66	96	96	96	96
	43.68	90	90	90	90
	51.30	88	88	88	88
	55.93	80	80	80	80

S37, m kg	AQS.			
s	50/1-2	80/1,3-5	100/3-7	115/1,3-6
2	7.9	8.3	9.0	11
SF: + 1.3 kg / SA: + -0.25 kg / SAF: + 1.3 kg				

S37, J_A / c_{TA}		AQS.			
		50/1-2	80/1,3-5	100/3-7	115/1,3-6
J_A 10^{-4}	kgm^2	0.41	0.46	1.3	2.4
c_{TA}	Nm/'	0.15	0.15	0.3	0.7

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S..37							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	S	SF	SA	SAF	S	SF	SA	SAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
S37 2	3.97[1)]	32	48	72	1134	0.92	1400	1570	2010	2010	3000	3000	4000	4000
	4.86[1)]	33	49	74	926	0.67	1520	1700	2180	2180	3000	3000	4000	4000
	5.38[1)]	34	51	76	836	0.59	1570	1760	2260	2260	3000	3000	4000	4000
	6.33[1)]	35	52	78	711	0.44	1670	1870	2400	2400	3000	3000	4000	4000
	6.80[1)]	43	60	90	662	0.47	1630	1840	2360	2360	3000	3000	4000	4000
	8.00[1)]	45	61	77	563	0.36	1730	1950	2500	2500	3000	3000	4000	4000
	9.02[1)]	46	62	78	499	0.30	1810	2040	2610	2610	3000	3000	4000	4000
	10.23[1)]	47	63	80	440	0.24	1900	2140	2740	2740	3000	3000	4000	4000
	10.91[1)]	48	64	82	412	0.22	1940	2190	2800	2800	3000	3000	4000	4000
	12.48[1)]	48	64	82	361	0.18	2060	2320	2970	2970	3000	3000	4000	4000
	13.39[1)]	49	65	83	336	0.16	2110	2370	3040	3040	3000	3000	4000	4000
	15.53	50	66	85	290	0.13	2240	2510	3220	3220	3000	3000	4000	4000
	18.24	52	67	88	247	0.10	2380	2660	3410	3410	3000	3000	4000	4000
	19.13[1)]	71	93	121	127	0.43	2380	2670	3420	3420	3000	3000	4000	4000
	19.89	52	68	88	226	0.090	2470	2760	3540	3540	3000	3000	4000	4000
	22.50[1)]	73	95	124	118	0.32	2530	2840	3630	3630	3000	3000	4000	4000
	25.38[1)]	74	96	126	114	0.27	2660	2980	3810	3810	3000	3000	4000	4000
	28.76[1)]	75	97	128	110	0.22	2800	3000	4000	4000	3000	3000	4000	4000
	30.68[1)]	76	98	129	106	0.20	2860	3000	4000	4000	3000	3000	4000	4000
	35.10[1)]	78	99	133	99	0.16	3000	3000	4000	4000	3000	3000	4000	4000
	37.66[1)]	79	100	134	96	0.15	3000	3000	4000	4000	3000	3000	4000	4000
	43.68	81	101	138	90	0.12	3000	3000	4000	4000	3000	3000	4000	4000
	51.30	81	103	138	88	0.090	3000	3000	4000	4000	3000	3000	4000	4000
	55.93	81	104	138	80	0.080	3000	3000	4000	4000	3000	3000	4000	4000

S..37				c_{TG}			
		n_{epk}	η	S	SF	SA	SAF
	i	min^{-1}	%	Nm/'	Nm/'	Nm/'	Nm/'
S37 2	3.97	4500	88	-	-	-	-
	4.86	4500	88	-	-	-	-
	5.38	4500	88	-	-	-	-
	6.33	4500	87	-	-	-	-
	6.80	4500	87	-	-	-	-
	8.00	4500	86	-	-	-	-
	9.02	4500	86	-	-	-	-
	10.23	4500	86	-	-	-	-
	10.91	4500	86	-	-	-	-
	12.48	4500	85	-	-	-	-
	13.39	4500	85	-	-	-	-
	15.53	4500	84	-	-	-	-
	18.24	4500	84	-	-	-	-
	19.13	4500	78	-	-	-	-
	19.89	4500	84	-	-	-	-
	22.50	4500	77	-	-	-	-
	25.38	4500	76	-	-	-	-
	28.76	4500	76	-	-	-	-
	30.68	4500	76	-	-	-	-
	35.10	4500	75	-	-	-	-
	37.66	4500	75	-	-	-	-
	43.68	4500	74	-	-	-	-
	51.30	4500	73	-	-	-	-
	55.93	4500	73	-	-	-	-

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Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	50/1-2			80/1,3-5			100/3-7			115/1,3-6		
S37p 2	3.97	25	25	32	44	55	75	44	55	75	44	55	75
	4.86	30	31	40	48	58	82	48	58	82	48	58	82
	5.38	34	34	44	51	60	87	51	60	87	51	60	87
	6.33	40	40	52	56	62	95	56	62	95	56	62	95
	6.80	42	43	56	60	67	102	60	67	102	60	67	102
	8.00	50	50	66	66	69	112	66	69	112	66	69	112
	9.02	57	57	74	70	71	119	70	71	119	70	71	119
	10.23	64	65	84	73	73	124	73	73	124	73	73	124
	10.91	69	69	90	73	73	124	73	73	124	73	73	124
	12.48	74	75	102	74	75	126	74	75	126	74	75	126
	13.39	75	75	110	75	75	128	75	75	128	75	75	128
	15.53	76	77	127	76	77	129	76	77	129	76	77	129
	18.24	78	78	133	78	78	133	78	78	133	78	78	133
	19.13	89	114	148	89	114	151	89	114	151	89	114	151
	19.89	78	79	133	78	79	133	78	79	133	78	79	133
	22.50	95	118	162	95	118	162	95	118	162	95	118	162
	25.38	100	120	170	100	120	170	100	120	170	100	120	170
	28.76	105	123	179	105	123	179	105	123	179	105	123	179
	30.68	105	123	179	105	123	179	105	123	179	105	123	179
	35.10	105	123	179	105	123	179	105	123	179	105	123	179
	37.66	105	123	179	105	123	179	105	123	179	105	123	179
	43.68	105	123	179	105	123	179	105	123	179	105	123	179
	51.30	104	123	177	104	123	177	104	123	177	104	123	177
	55.93	104	123	177	104	123	177	104	123	177	104	123	177

min^{-1}		AQS. n_{ak}			
	i	50/1-2	80/1,3-5	100/3-7	115/1,3-6
S37p 2	3.97	1134	685	997	997
	4.86	926	607	872	872
	5.38	836	554	749	749
	6.33	711	434	592	592
	6.80	662	535	550	550
	8.00	563	416	429	429
	9.02	499	359	368	368
	10.23	440	322	328	328
	10.91	375	322	326	326
	12.48	308	308	313	313
	13.39	294	294	302	302
	15.53	276	276	289	289
	18.24	246	246	247	247
	19.13	74	74	74	74
	19.89	226	226	226	226
	22.50	63	63	63	63
	25.38	55	55	55	55
	28.76	49	49	49	49
	30.68	49	49	49	49
	35.10	48	48	48	48
	37.66	48	48	48	48
	43.68	48	48	48	48
	51.30	49	49	49	49
	55.93	49	49	49	49

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S37p, m kg					
		AQS.			
s		50/1-2	80/1,3-5	100/3-7	115/1,3-6
	2	7.9	8.3	9.0	11
SF: + 1.3 kg / SA: + -0.25 kg / SAF: + 1.3 kg					

S37p, J_A / c_{TA}		AQS.			
		50/1-2	80/1,3-5	100/3-7	115/1,3-6
J_A 10^{-4}	kgm^2	0.41	0.46	1.3	2.4
c_{TA}	Nm/'	0.15	0.15	0.3	0.7

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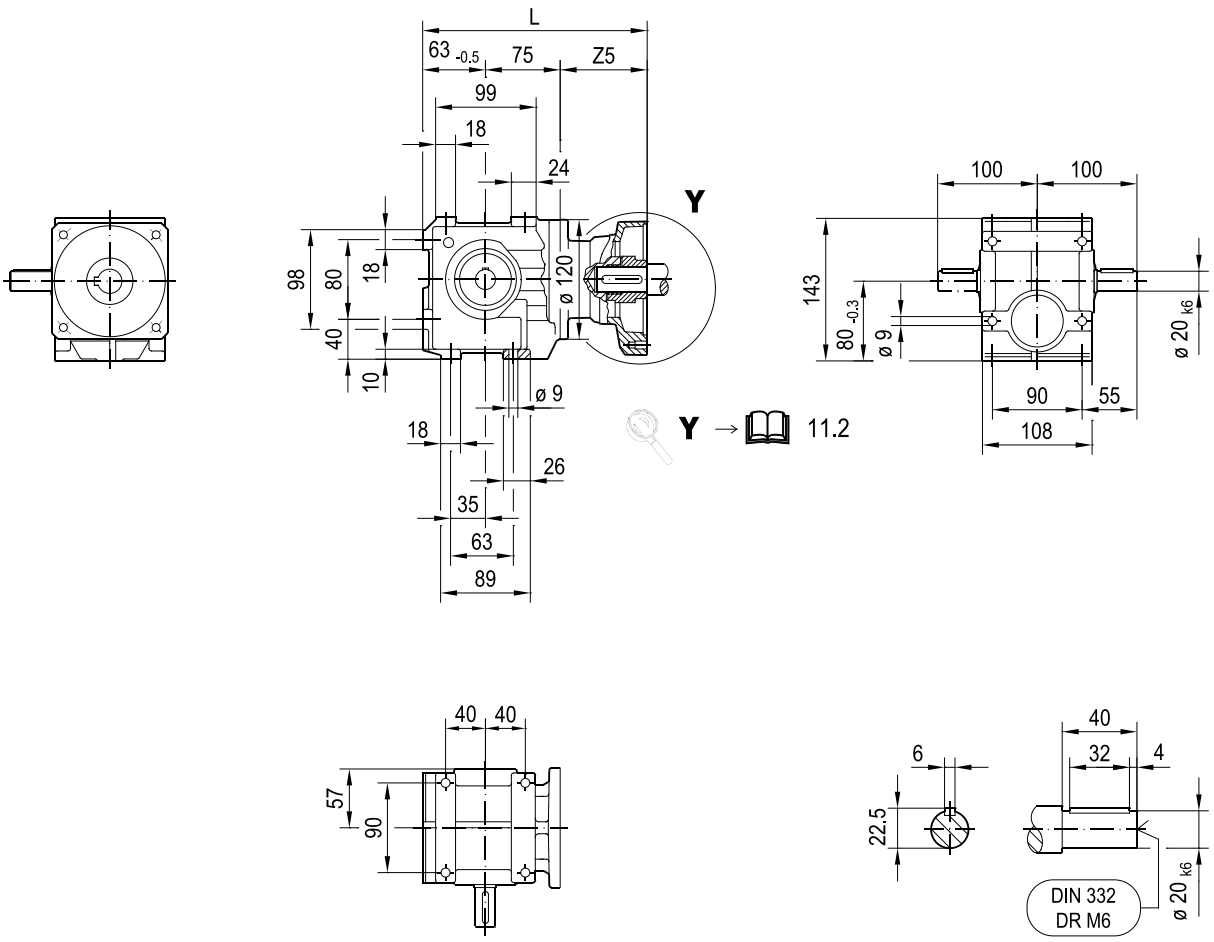
S..37p							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	S	SF	SA	SAF	S	SF	SA	SAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
S37p 2	3.97	44	55	72	997	0.92	1070	1260	1740	1740	3000	3000	4000	4000
	4.86	48	58	74	872	0.67	1140	1330	1840	1840	3000	3000	4000	4000
	5.38	51	60	76	749	0.59	1130	1340	1850	1850	3000	3000	4000	4000
	6.33	56	62	78	592	0.44	1120	1340	1870	1870	3000	3000	4000	4000
	6.80	60	67	90	550	0.47	1210	1440	1990	1990	3000	3000	4000	4000
	8.00	66	69	77	429	0.36	1200	1440	2000	2000	3000	3000	4000	4000
	9.02	70	71	78	368	0.30	1210	1470	2040	2040	3000	3000	4000	4000
	10.23	73	73	80	328	0.24	1280	1550	2150	2150	3000	3000	4000	4000
	10.91	73	73	82	326	0.22	1380	1660	2290	2290	3000	3000	4000	4000
	12.48	74	75	82	313	0.18	1560	1850	2540	2540	3000	3000	4000	4000
	13.39	75	75	83	302	0.16	1640	1930	2630	2630	3000	3000	4000	4000
	15.53	76	77	85	289	0.13	1860	2160	2810	2810	3000	3000	4000	4000
	18.24	78	78	88	247	0.10	2040	2360	3000	3000	3000	3000	4000	4000
	19.13	89	114	121	74	0.43	2170	2490	3170	3170	3000	3000	4000	4000
	19.89	78	79	88	226	0.090	2130	2460	3130	3130	3000	3000	4000	4000
	22.50	95	118	124	63	0.32	2280	2620	3330	3330	3000	3000	4000	4000
	25.38	100	120	126	55	0.27	2360	2710	3450	3450	3000	3000	4000	4000
	28.76	105	123	128	49	0.22	2450	2820	3580	3580	2970	2970	4000	4000
	30.68	105	123	129	49	0.20	2530	2910	3690	3690	2970	2970	4000	4000
	35.10	105	123	133	48	0.16	2700	3000	3930	3930	2970	2970	4000	4000
	37.66	105	123	134	48	0.15	2800	3000	4000	4000	2970	2970	4000	4000
	43.68	105	123	138	48	0.12	3000	3000	4000	4000	2970	2970	4000	4000
	51.30	104	123	138	49	0.090	3000	3000	4000	4000	2970	2970	4000	4000
	55.93	104	123	138	49	0.080	3000	3000	4000	4000	2970	2970	4000	4000

S..37p				c_{TG}			
		n_{epk}	η	S	SF	SA	SAF
	i	min^{-1}	%	Nm/'	Nm/'	Nm/'	Nm/'
S37p 2	3.97	4500	92	-	-	-	-
	4.86	4500	92	-	-	-	-
	5.38	4500	92	-	-	-	-
	6.33	4500	92	-	-	-	-
	6.80	4500	92	-	-	-	-
	8.00	4500	92	-	-	-	-
	9.02	4500	92	-	-	-	-
	10.23	4500	91	-	-	-	-
	10.91	4500	91	-	-	-	-
	12.48	4500	91	-	-	-	-
	13.39	4500	91	-	-	-	-
	15.53	4500	91	-	-	-	-
	18.24	4500	90	-	-	-	-
	19.13	4500	86	-	-	-	-
	19.89	4500	90	-	-	-	-
	22.50	4500	85	-	-	-	-
	25.38	4500	85	-	-	-	-
	28.76	4500	85	-	-	-	-
	30.68	4500	85	-	-	-	-
	35.10	4500	84	-	-	-	-
	37.66	4500	84	-	-	-	-
	43.68	4500	84	-	-	-	-
	51.30	4500	83	-	-	-	-
	55.93	4500	82	-	-	-	-

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02 008 00 21

S37/S37p..

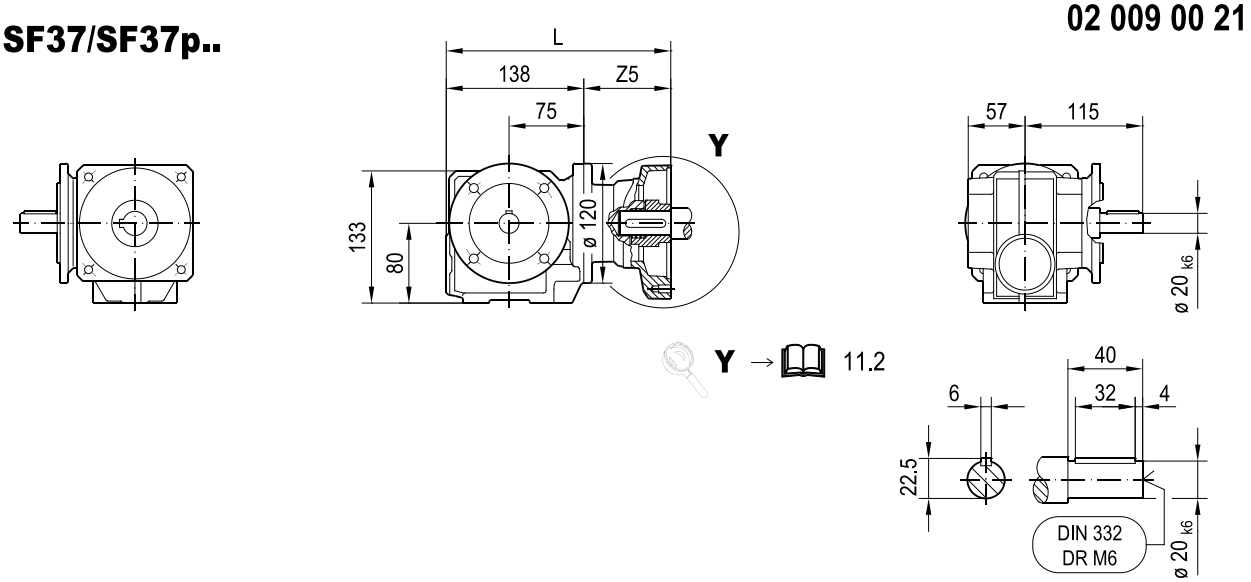


(→ 7.3.11)	AQS.								
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5
L	191	195	212	217	222	225	231	225	230

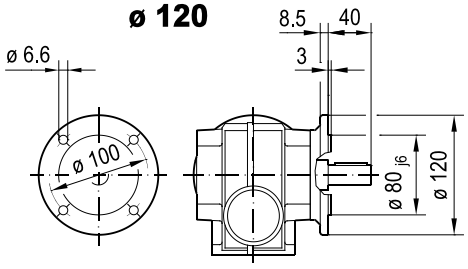
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SF37/SF37p..

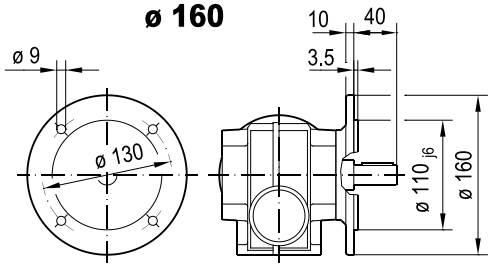
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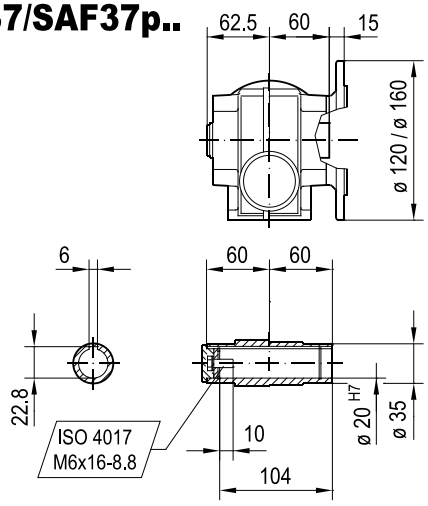
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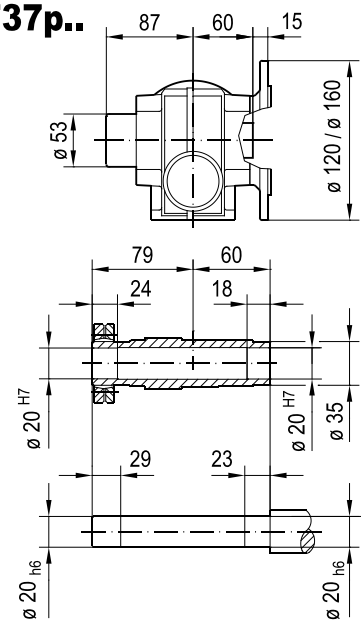
ø 160



SAF37/SAF37p..



SHF37/SHF37p..

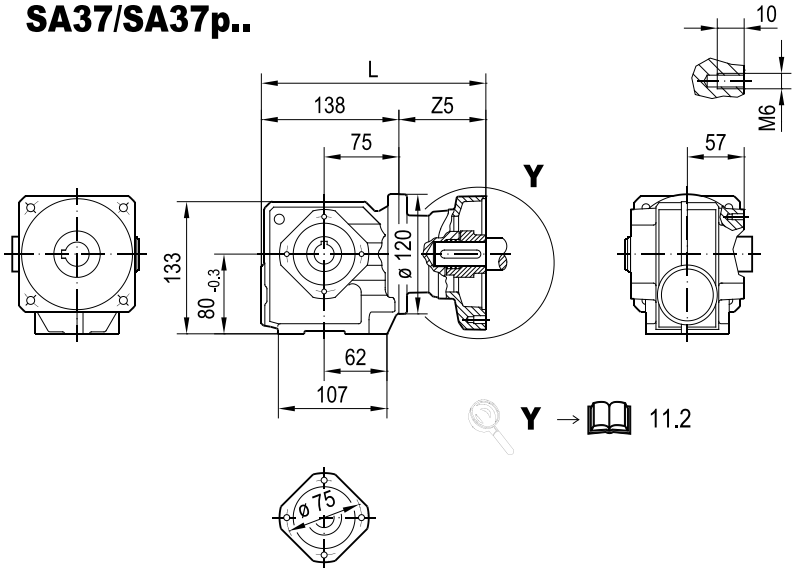


(→ 7.3.11)	AQS.								
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5
L	191	195	212	217	222	225	231	225	230

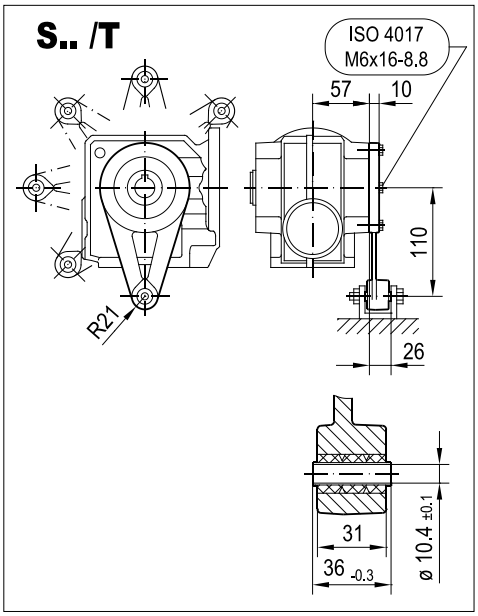
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02 010 01 21

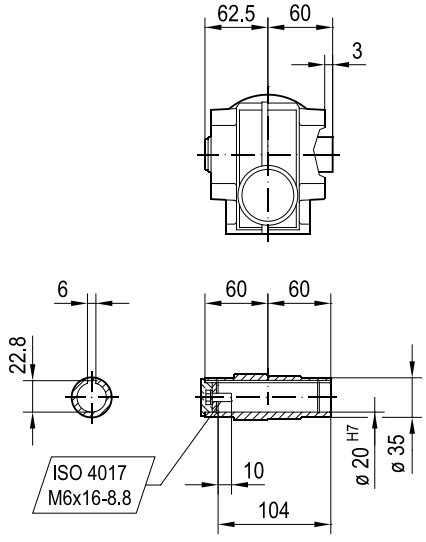
SA37/SA37p..



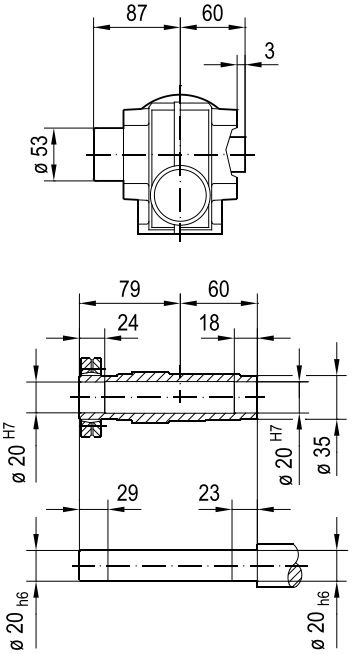
S.. /T



SA37/SA37p..

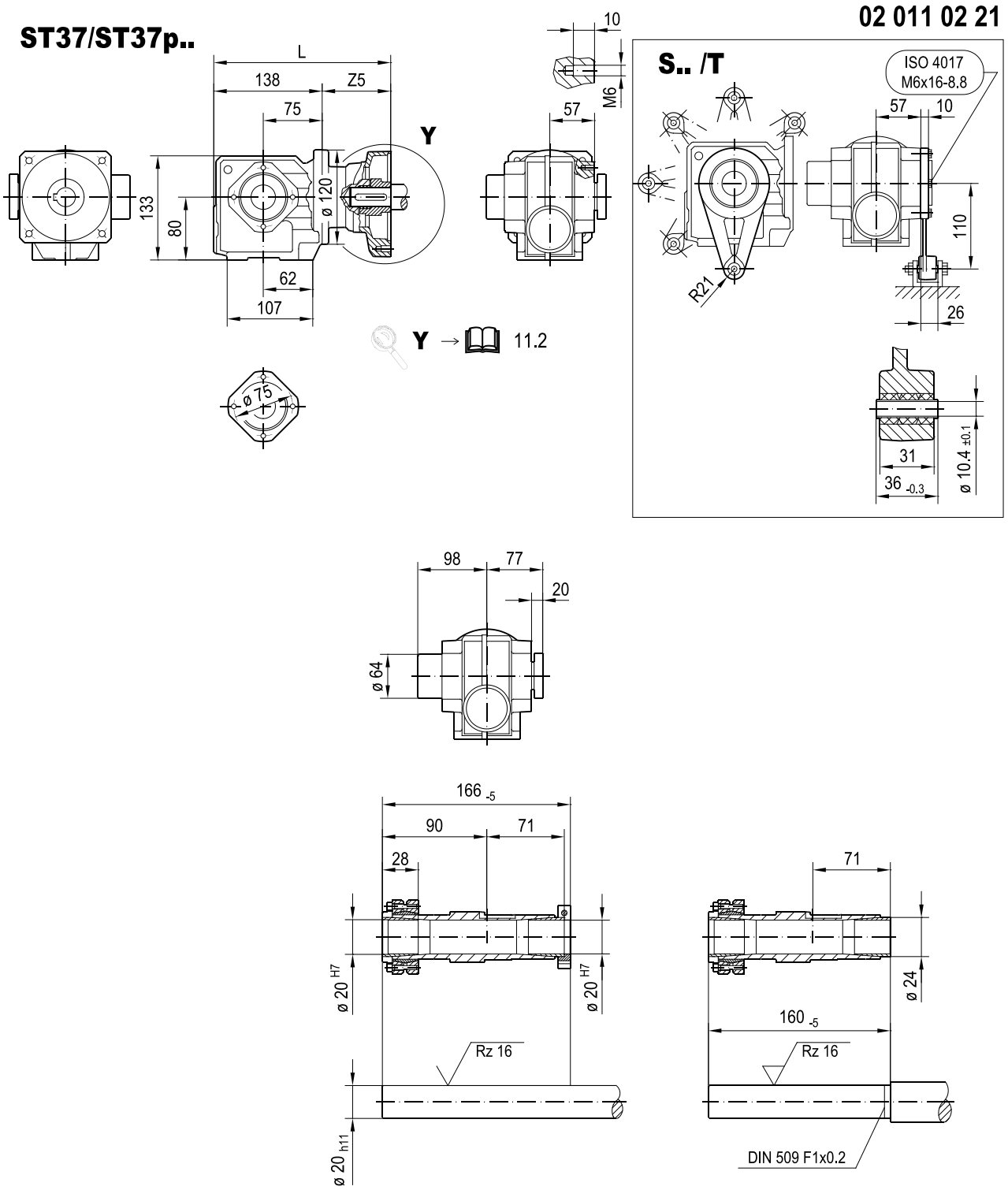


SH37/SH37p..



(→ 📖 7.3.11)	AQS.								
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5
L	191	195	212	217	222	225	231	225	230

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(→ 📖 7.3.11)	AQS.								
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5
L	191	195	212	217	222	225	231	225	230

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11.1.2 S47/47p AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$														
	i	50/1-2			80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6		
	4.00	24	24	31	55	60	94	61	72	104	61	72	104	61	72	104
	4.76	28	28	37	60	72	102	72	87	122	72	87	122	72	87	122
	5.39	32	32	42	65	81	111	74	97	126	74	97	126	74	97	126
	6.40	38	39	50	70	97	119	76	114	129	76	114	129	76	114	129
	6.83	41	41	54	72	103	122	78	117	133	78	117	133	78	117	133
	7.28	43	43	56	86	109	146	103	129	175	103	129	175	103	129	175
	8.64	51	51	67	93	129	158	109	146	185	109	146	185	109	146	185
	9.23	54	55	71	96	137	163	109	146	185	109	146	185	109	146	185
	10.80	64	64	83	101	145	172	109	145	185	109	145	185	109	145	185
	12.10	72	72	93	105	145	179	109	145	185	109	145	185	109	145	185
	14.24	84	85	110	109	144	185	110	144	187	110	144	187	110	144	187
S47	16.47	97	98	127	110	144	187	110	144	187	110	144	187			
 2	17.62	104	105	135	110	144	187	110	144	187	110	144	187			
	19.54				144	184	245	144	184	245	144	184	245	144	184	245
	20.33	110	121	156	110	143	187	110	143	187	110	143	187			
	23.20	126	127	163	152	200	260	152	200	260	152	200	260	152	200	260
	24.77	134	135	174	155	205	265	155	205	265	155	205	265	155	205	265
	29.00	155	157	205	155	215	265	155	215	265	155	215	265	155	215	265
	32.48	155	176	225	155	215	265	155	215	265	155	215	265	155	215	265
	38.23	155	205	265	155	215	265	155	215	265	155	215	265	155	215	265
	44.22	155	210	265	155	210	265	155	210	265	155	210	265			
	47.32	155	210	265	155	210	265	155	210	265	155	210	265			
	54.59	155	210	265	155	210	265	155	210	265	155	210	265			
	63.80	155	210	265	155	210	265	155	210	265	155	210	265			
	69.39	155	210	265	155	210	265	155	210	265	155	210	265			

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min^{-1}		AQS. n_{ak}				
	i	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
S47 2	4.00	1125	383	1125	1125	1125
	4.76	945	330	912	912	912
	5.39	835	262	835	835	835
	6.40	703	227	703	703	703
	6.83	659	211	659	659	659
	7.28	618	202	315	315	315
	8.64	521	170	271	271	271
	9.23	488	153	273	273	273
	10.80	417	136	278	278	278
	12.10	372	121	281	281	281
	14.24	298	103	275	275	275
	16.47	196	125	273	273	
	17.62	155	129	255	255	
	19.54		88	88	88	88
	20.33	125	125	221	221	
	23.20	134	75	75	75	75
	24.77	111	71	71	71	71
	29.00	72	72	72	72	72
	32.48	72	72	72	72	72
	38.23	72	72	72	72	72
	44.22	73	73	73	73	
	47.32	73	73	73	73	
	54.59	73	73	73	73	
	63.80	71	71	71	71	
	69.39	65	65	65	65	

S47, m kg	AQS.				
s	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
2	11	11	12	14	18
SF: + 3.6 kg / SA: + 1.1 kg / SAF: + 2.8 kg					

S47, J_A / c_{TA}		AQS.				
		50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
J_A 10^{-4}	kgm^2	0.41	0.46	1.3	2.4	8.1
c_{TA}	Nm/'	0.15	0.15	0.3	0.7	3.0

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S..47							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	S	SF	SA	SAF	S	SF	SA	SAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
S47 2	4.00[1)]	61	72	108	1125	2.5	1980	2420	2740	2740	5680	6160	7000	7000
	4.76[1)]	72	87	130	912	1.8	2010	2490	2780	2780	5610	6100	7000	7000
	5.39[1)]	74	97	146	835	1.5	2110	2600	2920	2920	5560	6050	7000	7000
	6.40[1)]	76	114	171	703	1.1	2260	2780	3120	3120	5470	5970	7000	7000
	6.83[1)]	78	117	176	659	1.0	2300	2840	3190	3190	5460	5960	7000	7000
	7.28[1)]	103	129	175	315	1.1	2110	2690	2940	2940	5410	5910	7000	7000
	8.64[1)]	109	146	185	271	0.83	2230	2840	3110	3110	5310	5820	7000	7000
	9.23[1)]	109	146	185	273	0.74	2310	2930	3210	3210	5310	5820	7000	7000
	10.80[1)]	109	145	185	278	0.57	2500	3150	3480	3480	5310	5820	7000	7000
	12.10[1)]	109	145	185	281	0.47	2650	3310	3670	3670	5310	5820	7000	7000
	14.24[1)]	110	144	187	275	0.35	2850	3540	3950	3950	5320	5830	7000	7000
	16.47	110	144	187	273	0.28	3060	3770	4230	4230	5320	5830	7000	7000
	17.62	110	144	187	255	0.26	3160	3880	4360	4360	5320	5830	7000	7000
	19.54[1)]	144	184	245	88	0.94	3370	4120	4660	4660	5220	5720	7000	7000
	20.33	110	143	187	221	0.20	3370	4130	4650	4650	5320	5830	7000	7000
	23.20[1)]	152	200	255	75	0.72	3570	4360	4940	4940	5130	5630	7000	7000
	24.77[1)]	155	205	260	71	0.65	3650	4460	5050	5050	5100	5600	7000	7000
	29.00[1)]	155	215	260	72	0.49	3920	4760	5420	5420	5030	5530	7000	7000
	32.48[1)]	155	215	260	72	0.41	4120	4990	5690	5690	5030	5530	7000	7000
	38.23[1)]	155	215	260	72	0.31	4420	5330	6100	6100	5030	5530	7000	7000
	44.22[1)]	155	210	260	73	0.25	4710	5660	6490	6490	5060	5570	7000	7000
	47.32[1)]	155	210	260	73	0.23	4850	5810	6680	6680	5060	5570	7000	7000
	54.59	155	210	260	73	0.18	5150	5870	7000	7000	5060	5570	7000	7000
	63.80	155	210	260	71	0.15	5370	5870	7000	7000	5060	5570	7000	7000
	69.39	155	210	260	65	0.13	5370	5870	7000	7000	5060	5570	7000	7000

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S..47				c_{TG}			
	i	n_{epk} min^{-1}	η %	S Nm/'	SF Nm/'	SA Nm/'	SAF Nm/'
S47 2	4.00	4500	90	-	-	-	-
	4.76	4500	90	-	-	-	-
	5.39	4500	89	-	-	-	-
	6.40	4500	89	-	-	-	-
	6.83	4500	89	-	-	-	-
	7.28	4500	87	-	-	-	-
	8.64	4500	87	-	-	-	-
	9.23	4500	87	-	-	-	-
	10.80	4500	87	-	-	-	-
	12.10	4500	87	-	-	-	-
	14.24	4500	86	-	-	-	-
	16.47	4500	86	-	-	-	-
	17.62	4500	86	-	-	-	-
	19.54	4500	79	-	-	-	-
	20.33	4500	85	-	-	-	-
	23.20	4500	79	-	-	-	-
	24.77	4500	79	-	-	-	-
	29.00	4500	78	-	-	-	-
	32.48	4500	77	-	-	-	-
	38.23	4500	77	-	-	-	-
	44.22	4500	76	-	-	-	-
	47.32	4500	75	-	-	-	-
	54.59	4500	75	-	-	-	-
	63.80	4500	74	-	-	-	-
	69.39	4500	73	-	-	-	-

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Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$														
	i	50/1-2			80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6		
S47p  2	4.00	24	25	32	57	62	97	75	102	128	75	102	128	75	102	128
	4.76	29	29	38	62	74	105	91	108	155	91	108	155	91	108	155
	5.39	33	34	44	67	84	114	104	113	177	104	113	177	104	113	177
	6.40	40	40	52	73	100	124	118	119	200	118	119	200	118	119	200
	6.83	42	43	56	75	107	128	120	121	205	120	121	205	120	121	205
	7.28	45	45	59	90	113	153	109	132	185	109	132	185	109	132	185
	8.64	53	54	70	97	135	165	131	146	225	131	146	225	131	146	225
	9.23	57	58	75	100	144	170	134	146	230	134	146	230	134	146	230
	10.80	67	68	88	106	145	180	142	145	240	142	145	240	142	145	240
	12.10	75	76	99	111	148	189	146	148	250	146	148	250	146	148	250
	14.24	89	90	116	116	152	197	152	152	260	152	152	260	152	152	260
	16.47	103	104	135	122	156	205	155	156	265	155	156	265			
	17.62	110	111	144	124	157	210	156	157	265	156	157	265			
	19.54				156	220	265	156	220	265	156	220	265	156	220	265
	20.33	128	129	166	129	160	220	160	160	270	160	160	270			
	23.20	137	138	178	165	230	280	165	230	280	165	230	280	165	230	280
	24.77	146	148	190	169	230	285	169	230	285	169	230	285	169	230	285
	29.00	172	173	225	179	240	305	179	240	305	179	240	305	179	240	305
	32.48	186	194	250	186	245	315	186	245	315	186	245	315	186	245	315
	38.23	196	225	295	196	250	335	196	250	335	196	250	335	196	250	335
	44.22	200	245	340	200	245	340	200	245	340	200	245	340			
	47.32	200	245	340	200	245	340	200	245	340	200	245	340			
	54.59	200	245	340	200	245	340	200	245	340	200	245	340			
	63.80	200	240	340	200	240	340	200	240	340	200	240	340			
	69.39	200	240	340	200	240	340	200	240	340	200	240	340			

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min^{-1}		AQS. n_{ak}				
	i	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
S47p 2	4.00	1125	365	785	785	785
	4.76	945	324	460	460	460
	5.39	835	267	317	317	317
	6.40	703	219	225	225	225
	6.83	659	206	215	215	215
	7.28	618	196	275	275	275
	8.64	521	172	162	162	162
	9.23	488	158	152	152	152
	10.80	417	137	130	130	130
	12.10	372	118	121	121	121
	14.24	279	98	107	107	107
	16.47	185	87	103	103	
	17.62	150	82	101	101	
	19.54		72	72	72	72
	20.33	73	69	94	94	
	23.20	107	61	61	61	61
	24.77	89	57	57	57	57
	29.00	54	48	48	48	48
	32.48	43	43	43	43	43
	38.23	37	37	37	37	37
	44.22	35	35	35	35	
	47.32	35	35	35	35	
	54.59	35	35	35	35	
	63.80	35	35	35	35	
	69.39	35	35	35	35	

S47p, m kg					
	AQS.				
s	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
2	11	11	12	14	18
SF: + 3.6 kg / SA: + 1.1 kg / SAF: + 2.8 kg					

S47p, J_A / c_{TA}		AQS.				
		50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
J_A 10^{-4}	kgm^2	0.41	0.46	1.3	2.4	8.1
c_{TA}	Nm/'	0.15	0.15	0.3	0.7	3.0

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S..47p							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	S	SF	SA	SAF	S	SF	SA	SAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
S47p 2	4.00	75	102	108	785	2.5	1860	2320	2580	2580	5540	6030	7000	7000
	4.76	91	108	130	460	1.8	1740	2220	2430	2430	5510	6010	7000	7000
	5.39	104	113	146	317	1.5	1540	2050	2180	2180	5480	5980	7000	7000
	6.40	118	119	171	225	1.1	1420	1960	2040	2040	5450	5950	7000	7000
	6.83	120	121	176	215	1.0	1490	2040	2120	2120	5440	5940	7000	7000
	7.28	109	132	175	275	1.1	2110	2690	2950	2950	5400	5900	7000	7000
	8.64	131	146	185	162	0.83	1820	2420	2570	2570	5240	5830	7000	7000
	9.23	134	146	185	152	0.74	1870	2490	2650	2650	5240	5830	7000	7000
	10.80	142	145	185	130	0.57	1990	2640	2810	2810	5250	5830	7000	7000
	12.10	146	148	185	121	0.47	2130	2820	3010	3010	5220	5820	7000	7000
	14.24	152	152	187	107	0.35	2350	3080	3310	3310	5170	5800	7000	7000
	16.47	155	156	187	103	0.28	2630	3400	3690	3690	5120	5770	7000	7000
	17.62	156	157	187	101	0.26	2720	3510	3810	3810	5110	5770	7000	7000
	19.54	156	220	245	72	0.94	3280	4050	4550	4550	4960	5460	7000	7000
	20.33	160	160	187	94	0.20	2890	3720	4040	4040	5080	5750	7000	7000
	23.20	165	230	255	61	0.72	3480	4290	4820	4820	4880	5140	7000	7000
	24.77	169	230	260	57	0.65	3550	4380	4930	4930	4880	5140	7000	7000
	29.00	179	240	260	48	0.49	3730	4610	5180	5180	4100	4100	7000	7000
	32.48	186	245	260	43	0.41	3880	4780	5380	5380	3440	3440	7000	7000
	38.23	196	250	260	37	0.31	4090	5050	5680	5680	2600	2600	7000	7000
	44.22	200	245	260	35	0.25	4350	5350	6030	6030	3440	3440	7000	7000
	47.32	200	245	260	35	0.23	4480	5500	6220	6220	3440	3440	7000	7000
	54.59	200	245	260	35	0.18	4790	5640	6630	6630	3440	3440	7000	7000
	63.80	200	240	260	35	0.15	5130	5640	7000	7000	4100	4100	7000	7000
	69.39	200	240	260	35	0.13	5130	5640	7000	7000	4100	4100	7000	7000

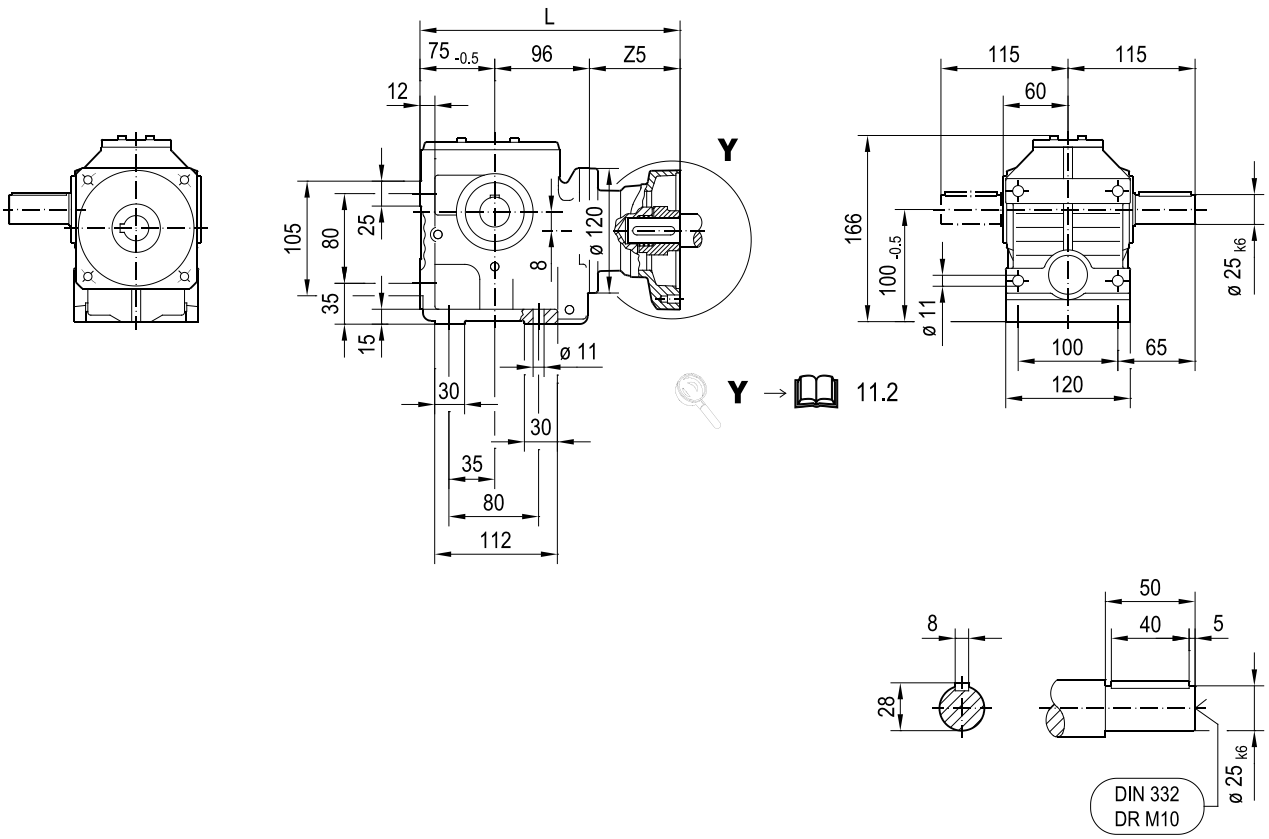
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S..47p				c_{TG}			
	i	n_{epk} min^{-1}	η %	S Nm/'	SF Nm/'	SA Nm/'	SAF Nm/'
S47p 2	4.00	4500	93	-	-	-	-
	4.76	4500	93	-	-	-	-
	5.39	4500	93	-	-	-	-
	6.40	4500	93	-	-	-	-
	6.83	4500	93	-	-	-	-
	7.28	4500	92	-	-	-	-
	8.64	4500	92	-	-	-	-
	9.23	4500	92	-	-	-	-
	10.80	4500	92	-	-	-	-
	12.10	4500	92	-	-	-	-
	14.24	4500	92	-	-	-	-
	16.47	4500	91	-	-	-	-
	17.62	4500	91	-	-	-	-
	19.54	4500	86	-	-	-	-
	20.33	4500	91	-	-	-	-
	23.20	4500	86	-	-	-	-
	24.77	4500	86	-	-	-	-
	29.00	4500	86	-	-	-	-
	32.48	4500	86	-	-	-	-
	38.23	4500	85	-	-	-	-
	44.22	4500	85	-	-	-	-
	47.32	4500	85	-	-	-	-
	54.59	4500	84	-	-	-	-
	63.80	4500	84	-	-	-	-
	69.39	4500	83	-	-	-	-

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02 012 00 21

S47/S47p..

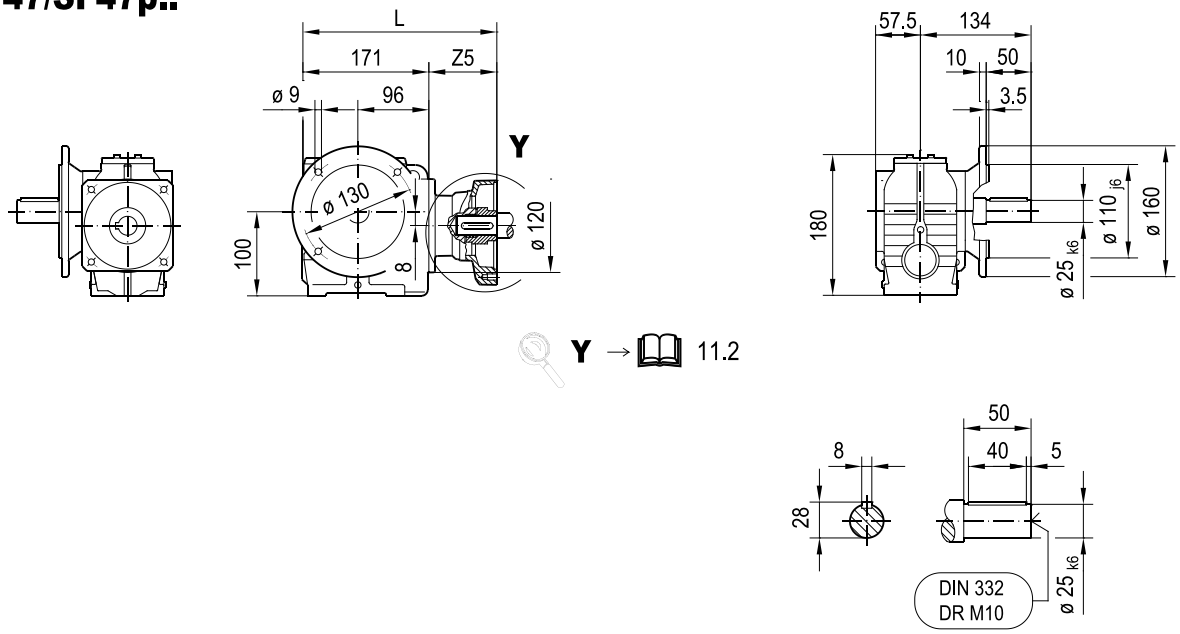


(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	224	228	245	250	255	258	264	258	263	280

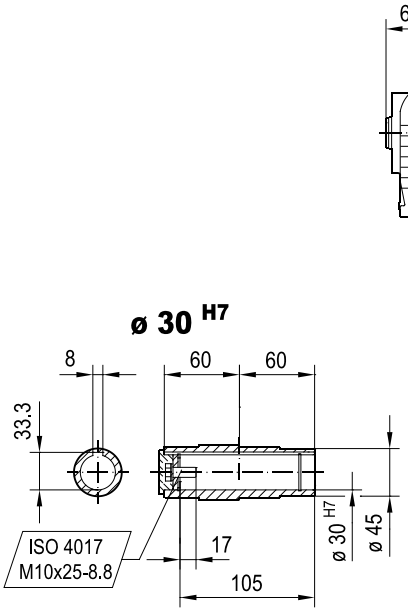
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02 013 00 21

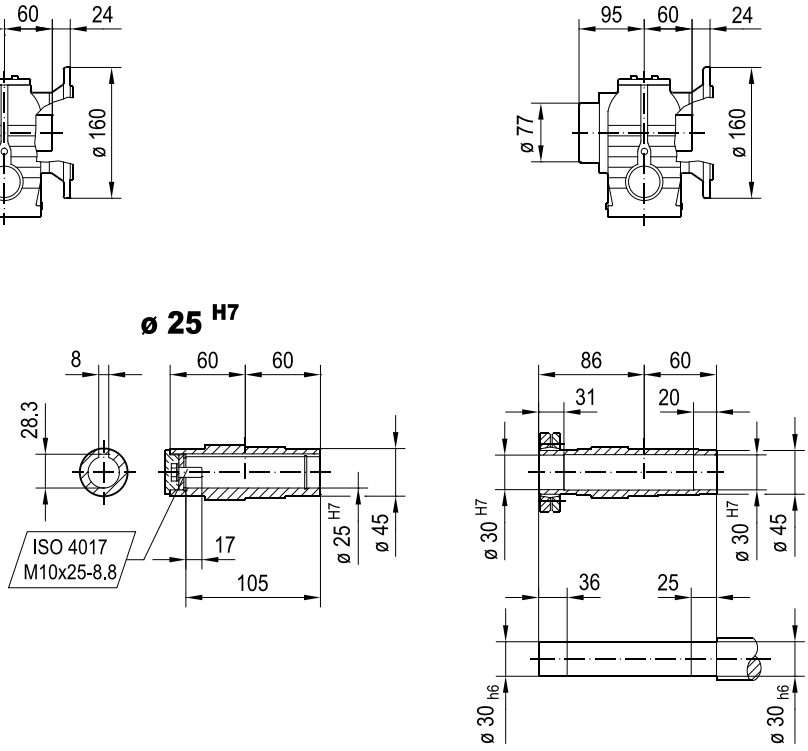
SF47/SF47p..



SAF47/SAF47p..



SHF47/SHF47p..

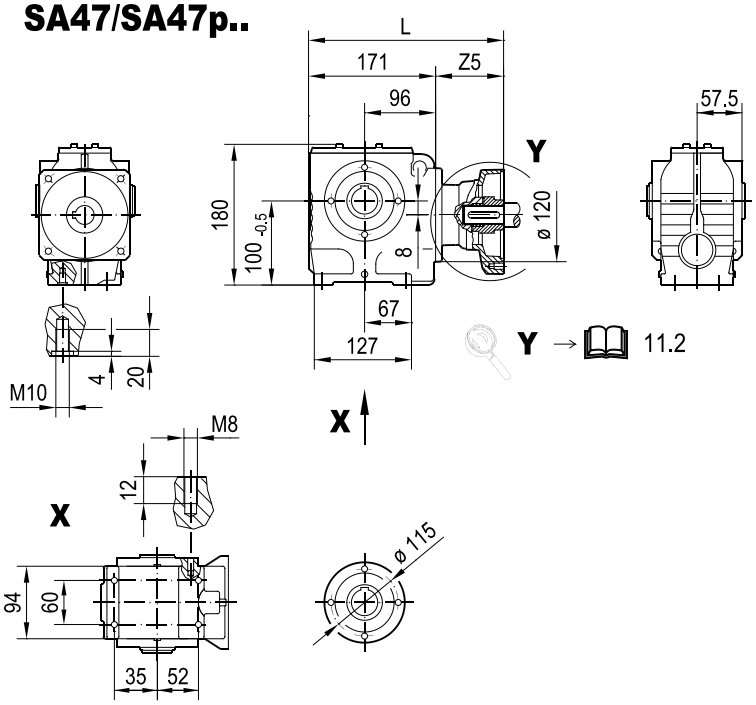


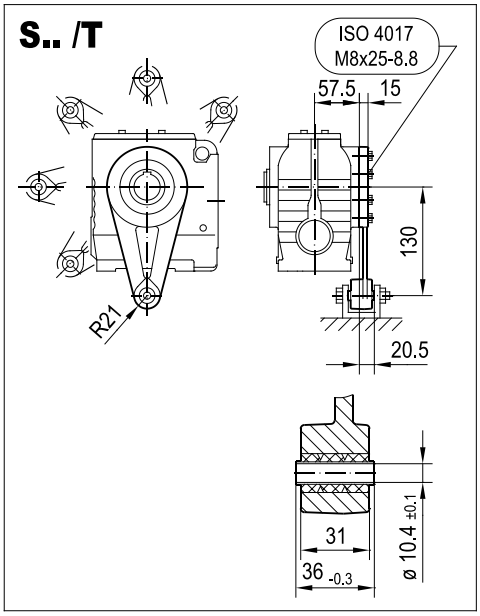
(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	224	228	245	250	255	258	264	258	263	280

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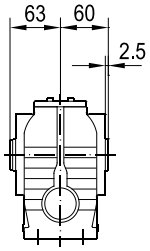
SA47/SA47p..

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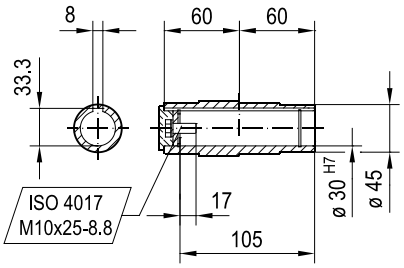




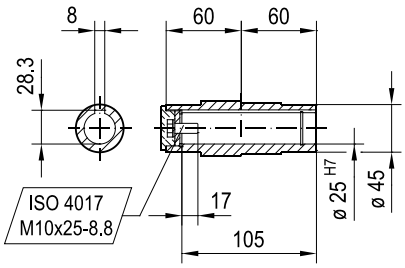
SA47/SA47p..



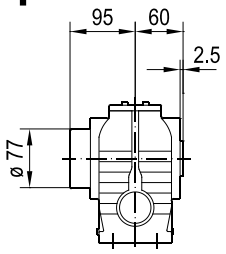
ø 30 H7

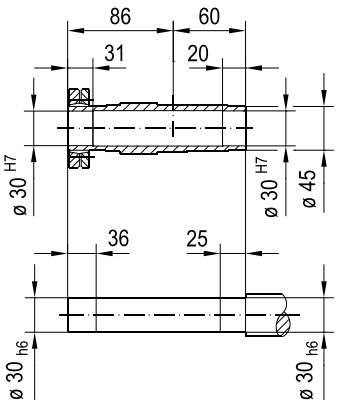


ø 25 H7



SH47/SH47p..



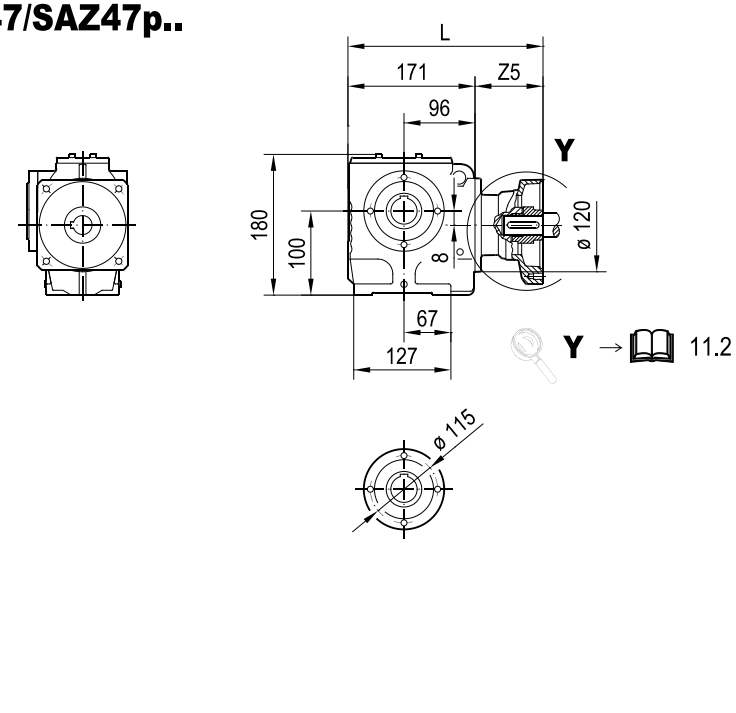


(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	224	228	245	250	255	258	264	258	263	280

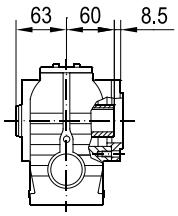
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02 015 00 21

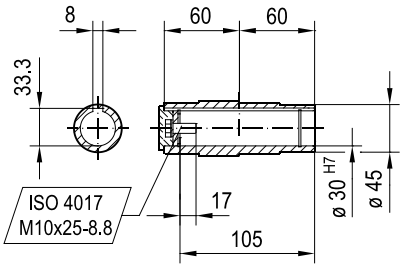
SAZ47/SAZ47p..



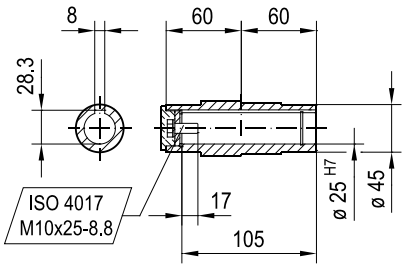
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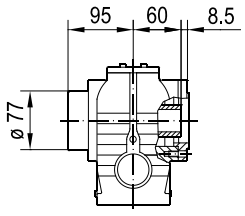
ø 30 H7

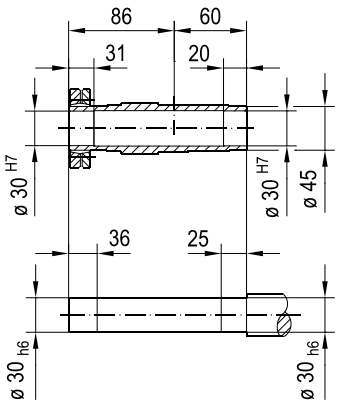


ø 25 H7



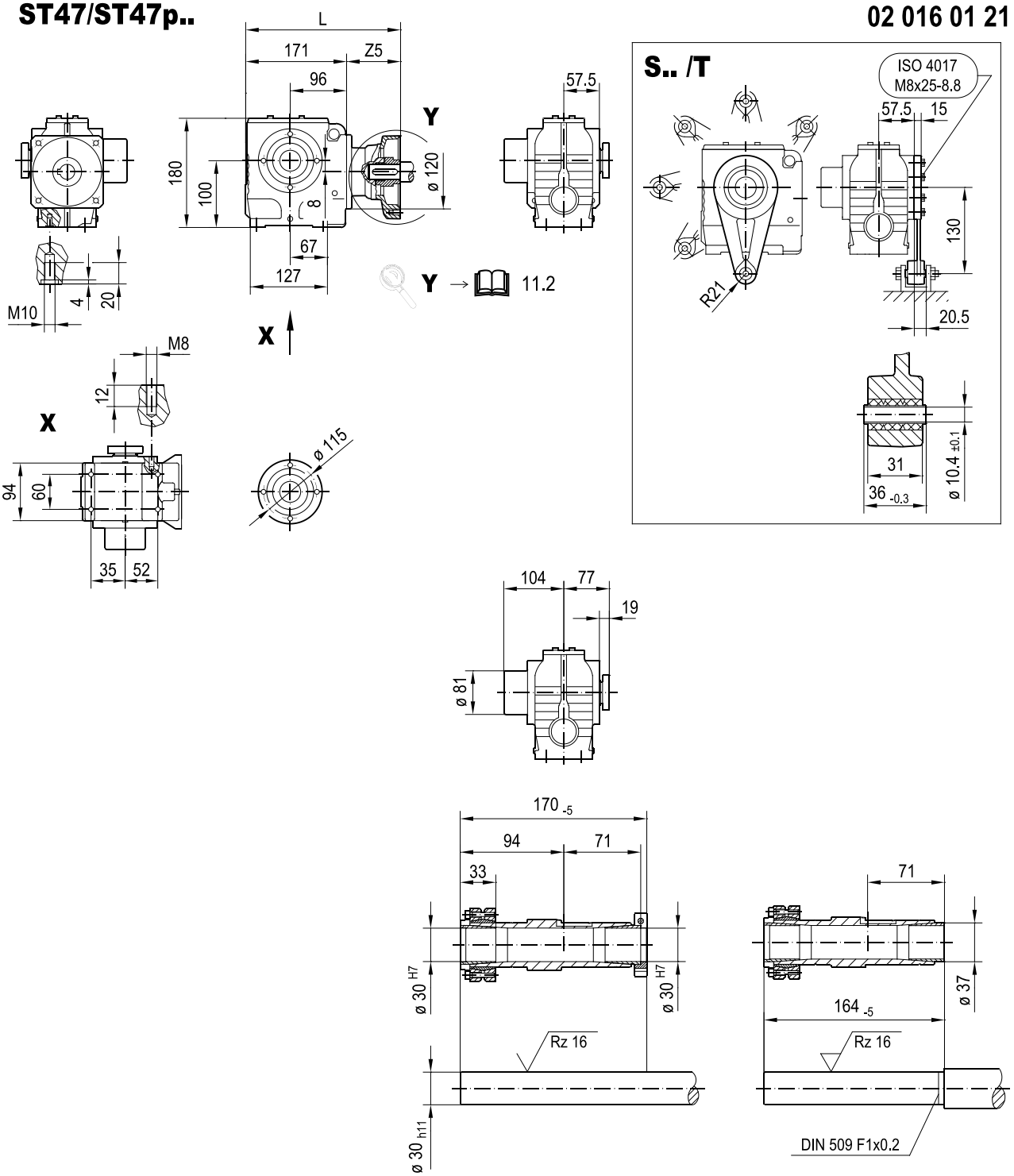
SHZ47/SHZ47p..





(→ 📖 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	224	228	245	250	255	258	264	258	263	280

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(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	224	228	245	250	255	258	264	258	263	280

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11.1.3 S57/57p AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$														
	i	50/1-2			80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6		
	4.00	24	24	31	54	60	92	88	106	150	88	106	150	88	106	150
	4.76	28	29	37	59	72	100	93	126	158	93	126	158	93	126	158
	5.39	32	32	42	63	82	107	95	142	162	95	142	162	95	142	162
	6.40	38	39	50	68	97	116	98	147	167	98	147	167	98	147	167
	6.83	41	41	54	70	103	119	100	150	170	100	150	170	100	150	170
	7.28	43	43	56	84	109	143	146	183	250	146	183	250	146	183	250
	8.64	51	52	67	91	129	155	166	211	280	166	211	280	166	211	280
	9.23	55	55	71	93	138	158	169	223	285	169	223	285	169	223	285
	10.80	64	65	84	99	149	168	169	220	285	169	220	285	169	220	285
	12.10	72	72	94	103	155	175	169	220	285	169	220	285	169	220	285
	14.24	84	85	110	107	161	182	169	220	285	169	220	285	169	220	285
S57	16.47	98	98	127	112	168	190	168	220	285	168	220	285			
 2	17.62	104	105	136	114	171	194	168	215	285	168	215	285			
	19.54				205	265	350	215	274	365	215	274	365	215	274	365
	20.33	118	121	156	118	177	200	168	215	285	168	215	285			
	23.20	127	128	165	225	315	385	245	315	415	245	315	415	245	315	415
	24.77	135	136	176	230	330	390	245	330	415	245	330	415	245	330	415
	29.00	158	159	205	240	360	410	245	360	415	245	360	415	245	360	415
	32.48	176	178	230	245	367	415	245	367	415	245	367	415	245	367	415
	38.23	205	205	270	245	367	415	245	367	415	245	367	415	245	367	415
	44.22	235	240	310	245	367	415	245	367	415	245	367	415			
	47.32	245	255	330	245	367	415	245	367	415	245	367	415			
	54.59	245	290	380	245	367	415	245	367	415	245	367	415			
	63.80	245	335	415	245	360	415	245	360	415	245	360	415			
	69.39	245	360	415	245	360	415	245	360	415	245	360	415			

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min^{-1}		AQS. n_{ak}				
	i	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
S57 2	4.00	1125	363	823	788	1125
	4.76	945	309	765	733	945
	5.39	835	273	770	737	835
	6.40	703	233	703	703	703
	6.83	659	215	659	659	659
	7.28	618	201	372	356	453
	8.64	521	166	235	256	318
	9.23	488	160	233	245	306
	10.80	417	131	261	249	313
	12.10	372	116	263	250	318
	14.24	275	98	251	239	316
	16.47	174	89	260	247	
	17.62	143	82	255	243	
	19.54		85	115	115	115
	20.33	69	69	221	221	
	23.20	194	61	78	78	78
	24.77	182	59	79	79	79
	29.00	155	55	80	80	80
	32.48	139	57	80	80	80
	38.23	109	61	81	81	81
	44.22	72	62	81	81	
	47.32	61	61	82	82	
	54.59	59	59	82	82	
	63.80	56	56	71	71	
	69.39	53	53	65	65	

S57, m kg	AQS.				
s	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
2	15	15	16	18	22
SF: + 3.8 kg / SA: + -0.30 kg / SAF: + 2.6 kg					

S57, J_A / c_{TA}		AQS.				
		50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
J_A 10^{-4}	kgm^2	0.41	0.46	1.3	2.4	8.1
c_{TA}	Nm/'	0.15	0.15	0.3	0.7	3.0

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S..57							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	S	SF	SA	SAF	S	SF	SA	SAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
S57 2	4.00[1)]	88	106	159	1125	4.5	3380	3320	2730	2730	8170	8170	10000	10000
	4.76[1)]	93	126	189	945	3.3	3590	3520	2900	2900	8110	8110	10000	10000
	5.39[1)]	95	142	210	835	2.6	3760	3690	3040	3040	8060	8060	10000	10000
	6.40[1)]	98	147	220	703	1.9	4010	3930	3250	3250	8040	8040	10000	10000
	6.83[1)]	100	150	225	659	1.7	4100	4010	3330	3330	8030	8030	10000	10000
	7.28[1)]	146	183	245	453	1.7	3790	3770	2620	2620	7880	7880	10000	10000
	8.64[1)]	166	210	280	318	1.3	3900	3890	2430	2430	7730	7730	10000	10000
	9.23[1)]	169	220	285	306	1.1	3990	3980	2530	2530	7660	7660	10000	10000
	10.80[1)]	169	220	285	313	0.85	4290	4270	3000	3000	7680	7680	10000	10000
	12.10[1)]	169	220	285	318	0.70	4520	4490	3360	3360	7680	7680	10000	10000
	14.24	169	220	285	316	0.51	4860	4820	3810	3810	7680	7680	10000	10000
	16.47	168	220	285	273	0.40	5200	5130	4120	4120	7680	7680	10000	10000
	17.62	168	215	285	255	0.36	5350	5280	4260	4260	7710	7710	10000	10000
	19.54[1)]	215	270	365	115	1.3	5720	5620	4610	4610	7300	7300	10000	10000
	20.33	168	215	285	221	0.28	5690	5600	4560	4560	7710	7710	10000	10000
	23.20[1)]	245	315	415	78	0.95	5930	5840	4710	4710	6950	6950	10000	10000
	24.77[1)]	245	330	415	79	0.85	6100	6000	4870	4870	6800	6800	10000	10000
	29.00[1)]	245	360	415	80	0.65	6520	6410	5250	5250	6470	6470	10000	10000
	32.48[1)]	245	365	415	80	0.54	6840	6710	5540	5540	6380	6380	10000	10000
	38.23[1)]	245	365	415	81	0.39	7320	7170	5970	5970	6380	6380	10000	10000
	44.22[1)]	245	365	415	81	0.32	7520	7520	6380	6380	6380	6380	10000	10000
	47.32[1)]	245	365	415	82	0.28	7520	7520	6580	6580	6380	6380	10000	10000
	54.59	245	365	415	82	0.23	7520	7520	7000	7000	6380	6380	10000	10000
	63.80	245	360	415	71	0.18	7520	7520	7500	7500	6470	6470	10000	10000
	69.39	245	360	415	65	0.15	7520	7520	7770	7770	6470	6470	10000	10000

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S..57				c_{TG}			
	i	n_{epk} min^{-1}	η %	S Nm/'	SF Nm/'	SA Nm/'	SAF Nm/'
S57 2	4.00	4500	90	-	-	-	-
	4.76	4500	90	-	-	-	-
	5.39	4500	90	-	-	-	-
	6.40	4500	89	-	-	-	-
	6.83	4500	89	-	-	-	-
	7.28	4500	89	-	-	-	-
	8.64	4500	88	-	-	-	-
	9.23	4500	88	-	-	-	-
	10.80	4500	88	-	-	-	-
	12.10	4500	88	-	-	-	-
	14.24	4500	87	-	-	-	-
	16.47	4500	87	-	-	-	-
	17.62	4500	86	-	-	-	-
	19.54	4500	81	-	-	-	-
	20.33	4500	86	-	-	-	-
	23.20	4500	81	-	-	-	-
	24.77	4500	80	-	-	-	-
	29.00	4500	80	-	-	-	-
	32.48	4500	79	-	-	-	-
	38.23	4500	78	-	-	-	-
	44.22	4500	78	-	-	-	-
	47.32	4500	77	-	-	-	-
	54.59	4500	77	-	-	-	-
	63.80	4500	76	-	-	-	-
	69.39	4500	75	-	-	-	-

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Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$														
	i	50/1-2			80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6		
S57p 2	4.00	24	25	32	55	62	94	107	117	168	108	156	184	108	156	184
	4.76	29	29	38	61	74	104	117	139	199	120	168	205	129	168	220
	5.39	33	33	44	65	84	111	125	158	215	128	176	220	147	176	250
	6.40	40	40	52	71	100	121	135	187	230	139	187	235	156	187	265
	6.83	42	43	56	73	107	124	139	191	235	142	191	240	162	191	275
	7.28	45	45	59	87	113	148	155	210	265	155	210	265	155	210	265
	8.64	53	54	70	95	135	162	182	220	310	186	220	315	187	220	320
	9.23	57	58	75	97	144	165	187	225	320	191	225	325	199	225	340
	10.80	67	68	88	103	155	175	198	235	335	200	235	340	225	235	385
	12.10	75	76	99	108	162	184	205	240	350	210	240	355	225	240	385
	14.24	89	90	116	112	168	190	210	250	355	215	250	365	225	250	385
	16.47	103	104	135	119	179	200	225	255	385	225	255	385			
	17.62	111	112	144	121	182	205	225	260	385	225	260	385			
	19.54				225	290	385	250	365	425	250	365	425	250	365	425
	20.33	125	129	166	125	188	215	225	265	385	225	265	385			
	23.20	137	139	179	240	345	410	270	385	460	270	385	460	270	385	460
	24.77	147	148	191	250	365	425	275	390	470	275	390	470	275	390	470
	29.00	172	174	225	265	400	450	290	405	495	290	405	495	290	405	495
	32.48	193	195	250	275	415	470	300	415	510	300	415	510	300	415	510
	38.23	225	230	295	285	430	485	320	430	545	320	430	545	320	430	545
	44.22	260	265	340	300	435	510	335	435	570	335	435	570			
	47.32	280	280	365	305	435	520	345	435	585	345	435	585			
	54.59	315	325	420	315	435	535	360	435	610	360	435	610			
	63.80	325	380	490	325	435	555	370	435	630	370	435	630			
	69.39	330	410	530	330	435	560	370	435	630	370	435	630			

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min^{-1}		AQS. n_{ak}				
	i	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
S57p 2	4.00	1125	383	358	398	1015
	4.76	945	300	303	303	634
	5.39	835	273	267	267	449
	6.40	703	219	228	220	394
	6.83	659	205	211	214	357
	7.28	618	205	327	326	390
	8.64	521	164	163	166	230
	9.23	488	161	153	155	193
	10.80	417	138	131	143	137
	12.10	372	117	121	120	139
	14.24	256	104	114	114	141
	16.47	170	86	88	103	
	17.62	135	81	93	109	
	19.54		72	75	75	75
	20.33	71	71	101	109	
	23.20	194	67	60	60	60
	24.77	182	57	57	57	57
	29.00	155	49	49	49	49
	32.48	139	45	45	45	45
	38.23	99	39	37	37	37
	44.22	66	34	33	33	
	47.32	52	32	30	30	
	54.59	28	28	26	26	
	63.80	23	23	24	24	
	69.39	21	21	24	24	

S57p, m kg	AQS.				
s	50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
2	15	15	16	18	22
SF: + 3.8 kg / SA: + -0.30 kg / SAF: + 2.6 kg					

S57p, J_A / c_{TA}		AQS.				
		50/1-2	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6
J_A 10^{-4}	kgm^2	0.41	0.46	1.3	2.4	8.1
c_{TA}	Nm/'	0.15	0.15	0.3	0.7	3.0

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S..57p							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	S	SF	SA	SAF	S	SF	SA	SAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
S57p 2	4.00	108	156	159	1015	4.5	3240	3200	2280	2280	8000	8000	10000	10000
	4.76	129	168	189	634	3.3	3290	3270	1940	1940	7950	7950	10000	10000
	5.39	147	176	210	449	2.6	3300	3300	1630	1630	7910	7910	10000	10000
	6.40	156	187	220	394	1.9	3490	3490	1770	1770	7860	7860	10000	10000
	6.83	162	191	225	357	1.7	3550	3550	1740	1740	7840	7840	10000	10000
	7.28	155	210	245	390	1.7	3790	3760	2550	2550	7740	7740	10000	10000
	8.64	187	220	280	230	1.3	3800	3800	2030	2030	7680	7680	10000	10000
	9.23	199	225	285	193	1.1	3800	3820	1850	1850	7650	7650	9970	9970
	10.80	225	235	285	137	0.85	3860	3900	1540	1540	7580	7580	9850	9850
	12.10	225	240	285	139	0.70	4090	4120	1910	1910	7550	7550	9790	9790
	14.24	225	250	285	141	0.51	4440	4450	2470	2470	7480	7480	9670	9670
	16.47	225	255	285	144	0.40	4760	4760	2990	2990	7450	7450	9610	9610
	17.62	225	260	285	145	0.36	4920	4910	3240	3240	7410	7410	9550	9550
	19.54	250	365	365	75	1.3	5500	5430	4320	4320	6410	6410	9290	9290
	20.33	225	265	285	146	0.28	5260	5240	3790	3790	7370	7370	9480	9480
	23.20	270	385	415	60	0.95	5780	5710	4520	4520	6160	6160	9100	9100
	24.77	275	390	415	57	0.85	5910	5840	4630	4630	6090	6090	9060	9060
	29.00	290	405	415	49	0.65	6230	6160	4880	4880	5880	5880	8920	8920
	32.48	300	415	415	45	0.54	6480	6400	5080	5080	4920	4920	8830	8830
	38.23	320	430	480	37	0.39	6820	6740	5330	5330	2600	2600	8690	8690
	44.22	335	435	500	33	0.32	6740	6740	5600	5600	900	900	8640	8640
	47.32	345	435	515	30	0.28	6640	6640	5710	5710	900	900	8640	8640
	54.59	360	435	540	26	0.23	6470	6470	6000	6000	900	900	8640	8640
	63.80	370	435	555	24	0.18	6350	6350	6400	6400	900	900	8630	8630
	69.39	370	435	555	24	0.15	6350	6350	6680	6680	900	900	8630	8630

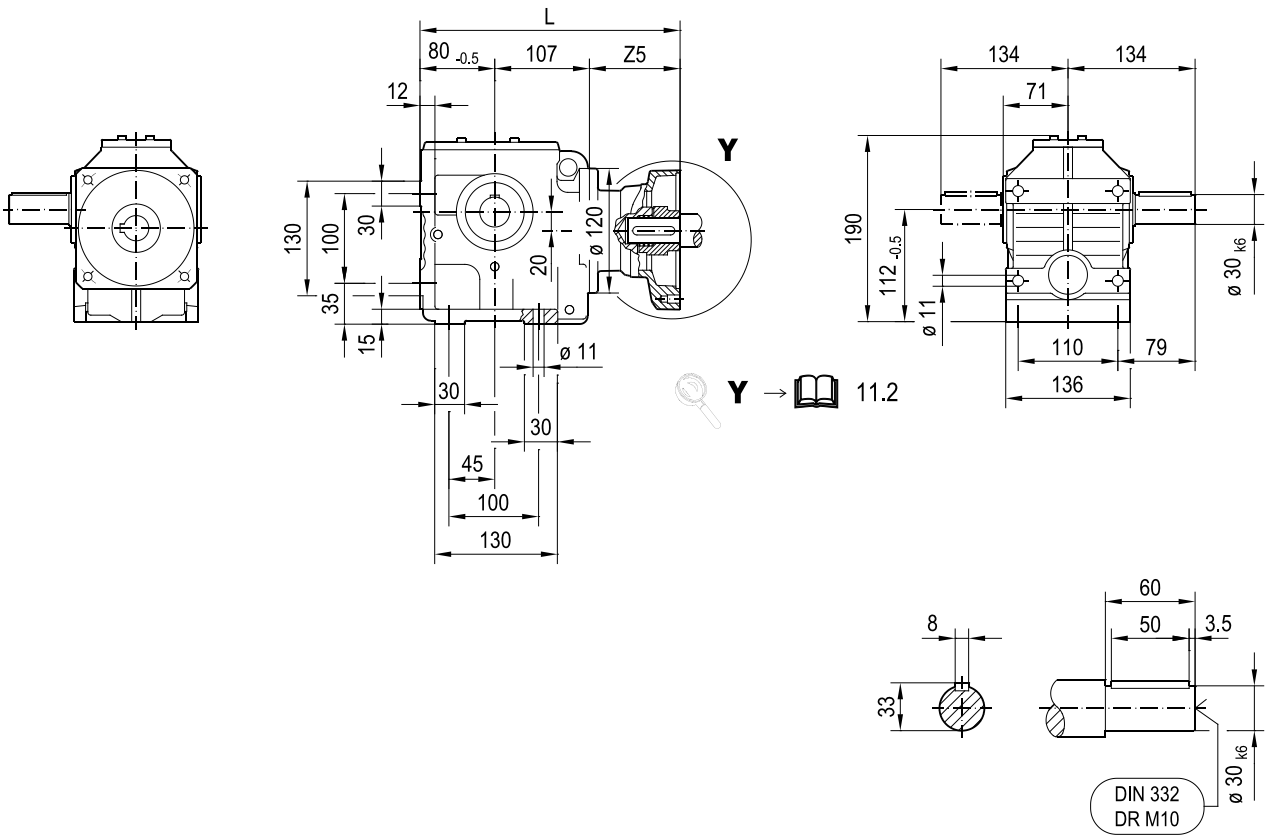
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S..57p				c_{TG}			
	i	n_{epk} min^{-1}	η %	S Nm/'	SF Nm/'	SA Nm/'	SAF Nm/'
S57p 2	4.00	4500	93	-	-	-	-
	4.76	4500	93	-	-	-	-
	5.39	4500	93	-	-	-	-
	6.40	4500	93	-	-	-	-
	6.83	4500	93	-	-	-	-
	7.28	4500	92	-	-	-	-
	8.64	4500	92	-	-	-	-
	9.23	4500	92	-	-	-	-
	10.80	4500	92	-	-	-	-
	12.10	4500	92	-	-	-	-
	14.24	4500	92	-	-	-	-
	16.47	4500	92	-	-	-	-
	17.62	4500	92	-	-	-	-
	19.54	4500	87	-	-	-	-
	20.33	4500	92	-	-	-	-
	23.20	4500	87	-	-	-	-
	24.77	4500	87	-	-	-	-
	29.00	4500	87	-	-	-	-
	32.48	4500	87	-	-	-	-
	38.23	4500	87	-	-	-	-
	44.22	4500	87	-	-	-	-
	47.32	4500	86	-	-	-	-
	54.59	4500	86	-	-	-	-
	63.80	4500	85	-	-	-	-
	69.39	4500	85	-	-	-	-

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02 017 00 21

S57/S57p..

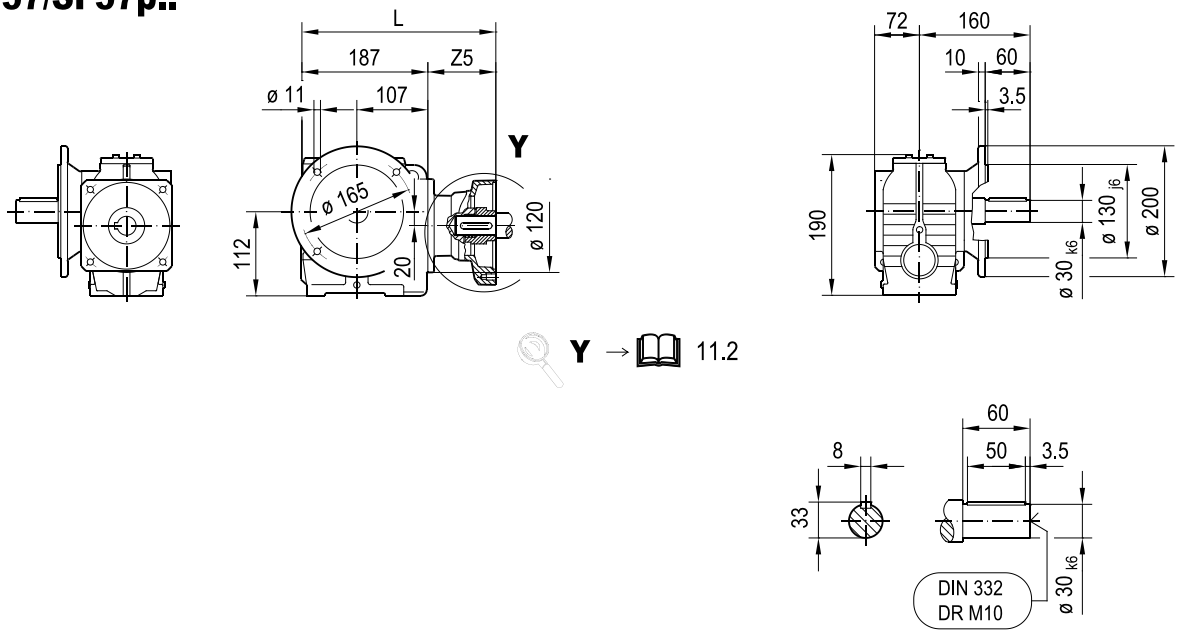


(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	240	244	261	266	271	274	280	274	279	296

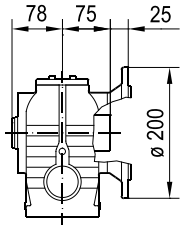
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02 018 00 21

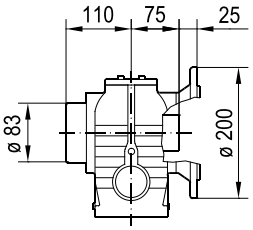
SF57/SF57p..

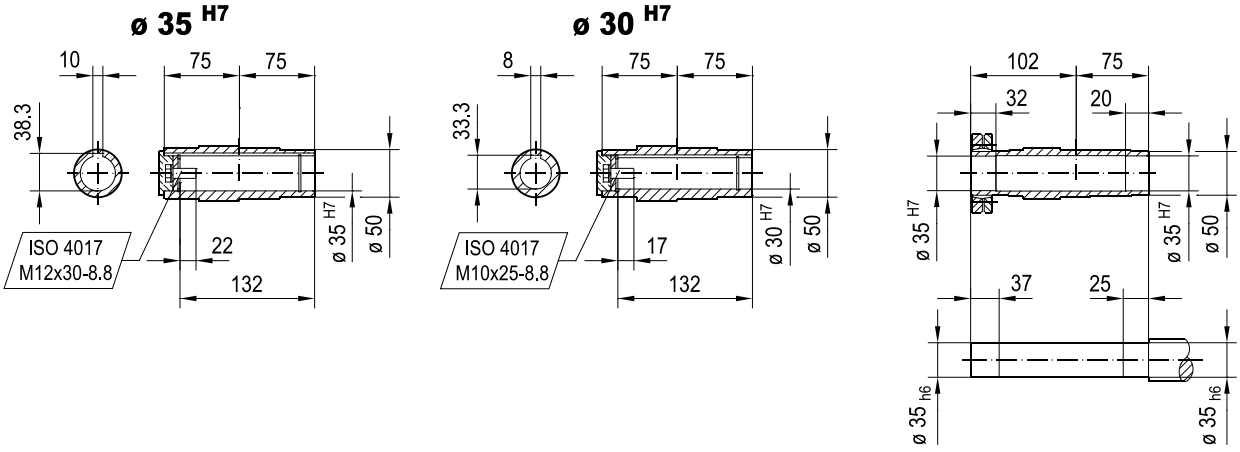


SAF57/SAF57p..



SHF57/SHF57p..



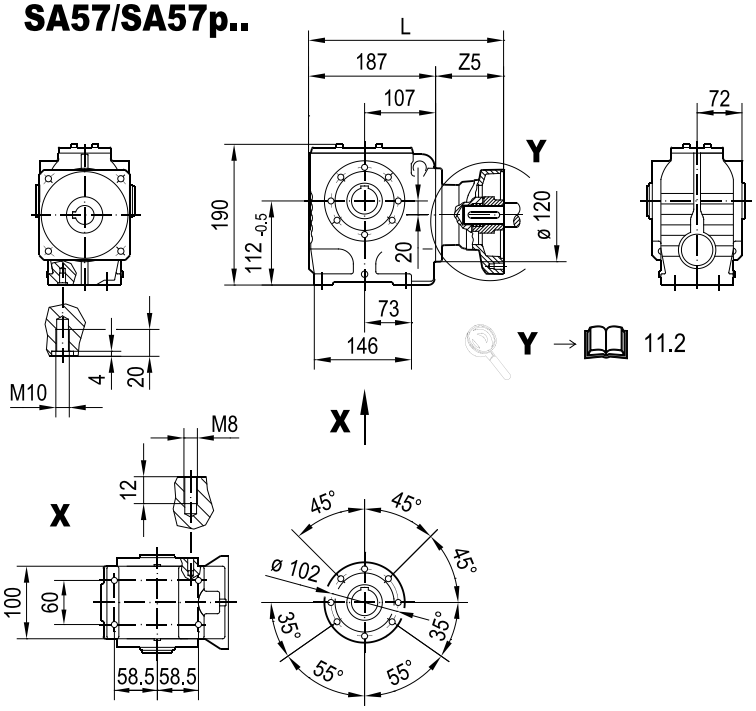


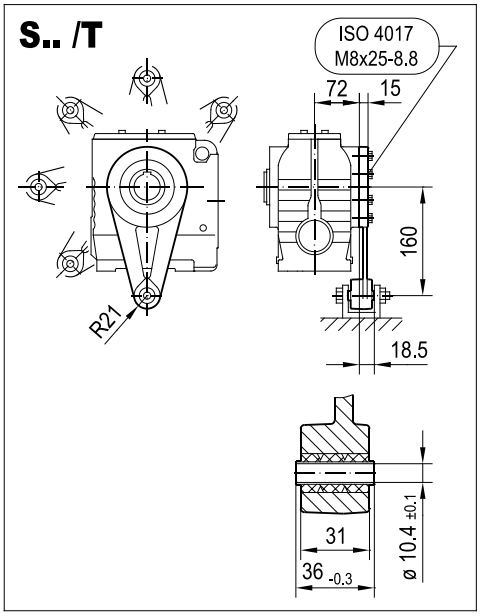
(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	240	244	261	266	271	274	280	274	279	296

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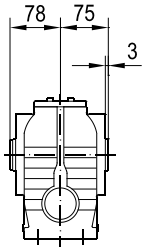
SA57/SA57p..

02 019 00 21

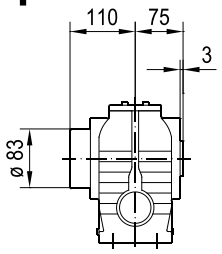


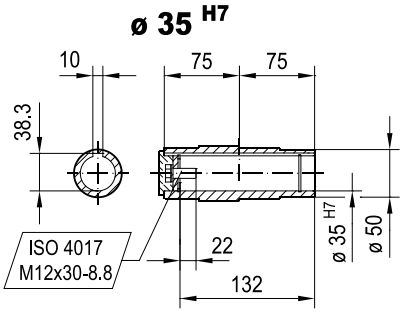


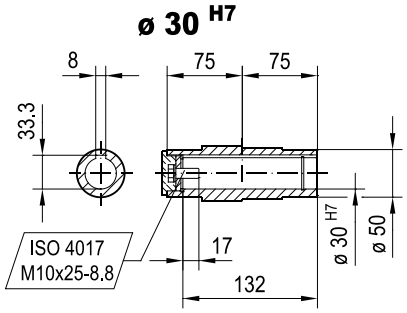
SA57/SA57p..

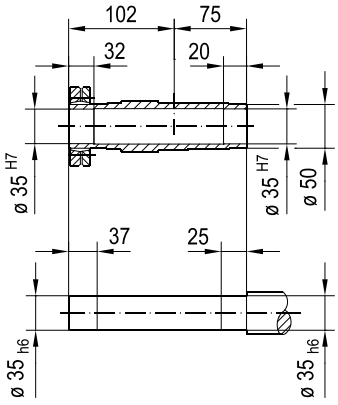


SH57/SH57p..







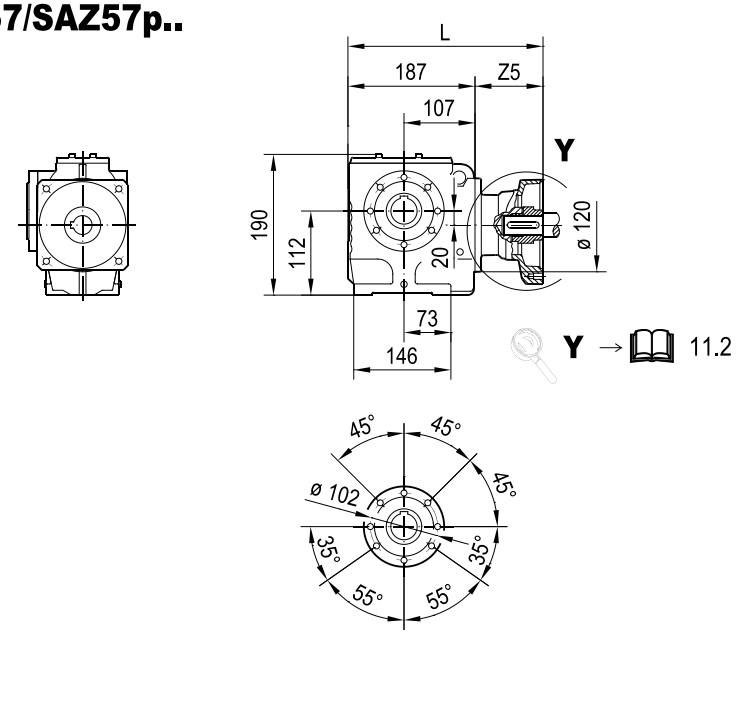


(→ 📖 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	240	244	261	266	271	274	280	274	279	296

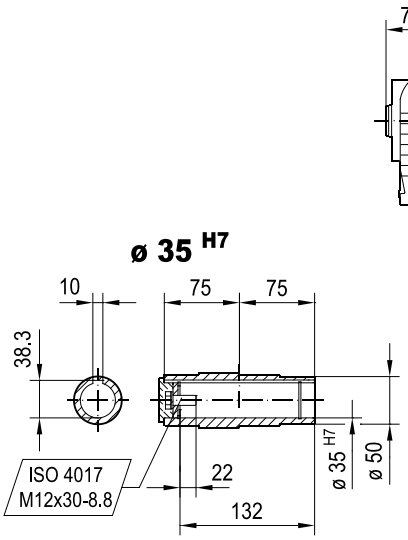
27788644/EN – 02/2024

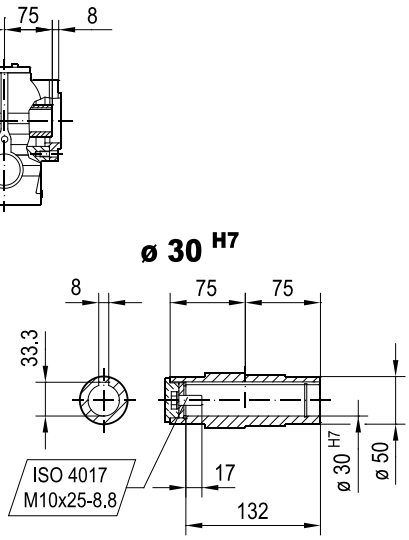
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SAZ57/SAZ57p..

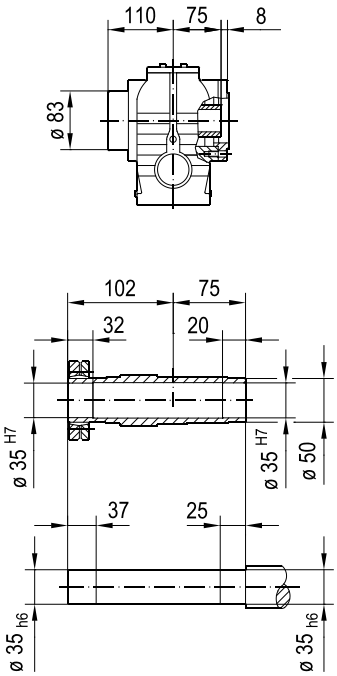


SAZ57/SAZ57p..





SHZ57/SHZ57p..

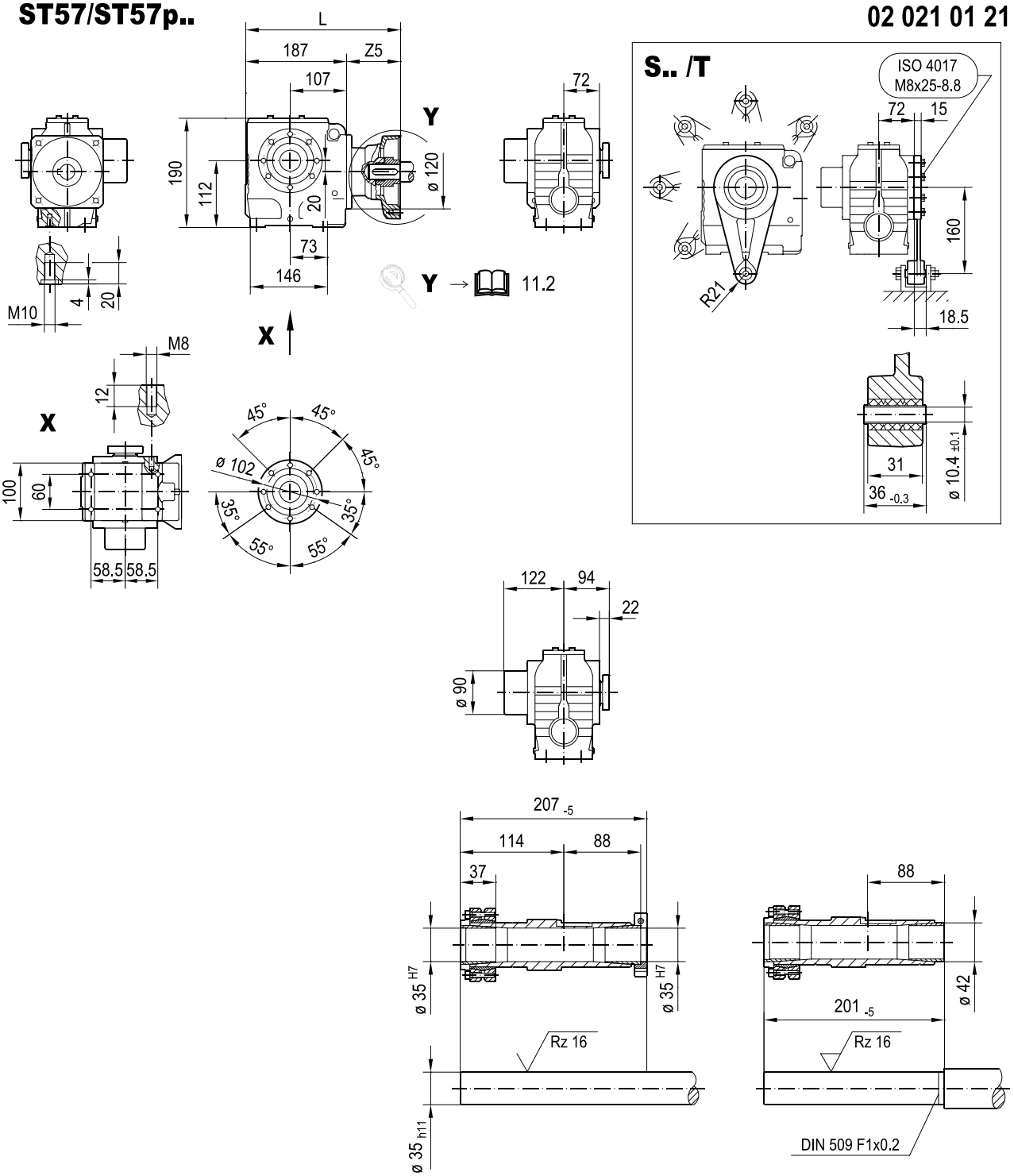


(→ 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	240	244	261	266	271	274	280	274	279	296

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ST57/ST57p..

02 021 01 21



(→ 📖 7.3.11)	AQS.									
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5	109
L	240	244	261	266	271	274	280	274	279	296

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11.1.4 S67/67p AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$																	
	i	80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6			160/1			190/1,3-6		
S67 2	7.56	107	112	182	210	210	305	215	310	365	295	375	500	295	375	500	295	375	500
	8.69	114	129	194	220	240	350	225	340	385	335	420	570	335	420	570	335	420	570
	10.03	121	149	205	235	280	400	240	360	410	340	450	580	340	450	580	340	450	580
	11.03	126	164	215	240	305	410	250	375	425	340	455	580	340	455	580	340	455	580
	12.96	135	192	230	260	360	440	265	400	450	340	455	580	340	455	580	340	455	580
	13.73	137	200	235	265	380	450	270	405	460	340	455	580	340	455	580	340	455	580
	15.60	141	210	240	270	405	460	275	415	470	340	455	580	340	455	580			
	17.28	145	220	245	280	420	475	285	430	485	340	455	580	340	455	580			
	20.30										425	490	725	425	490	725	425	490	725
	20.37	151	225	255	290	435	495	295	445	500	340	450	580	340	450	580			
	23.22	159	240	270	300	450	510	310	450	525									
	23.33				480	515	820	480	515	820	480	515	820	480	515	820	480	515	820
	24.44	159	240	270	300	450	510	310	450	525									
	26.93	300	365	510	480	535	820	480	535	820	480	535	820	480	535	820	480	535	820
	29.63	310	405	525	480	550	820	480	550	820	480	550	820	480	550	820	480	550	820
	34.80	330	470	560	480	575	820	480	575	820	480	575	820	480	575	820	480	575	820
	36.85	335	500	570	480	580	820	480	580	820	480	580	820	480	580	820	480	580	820
	41.89	345	520	585	480	595	820	480	595	820	480	595	820	480	595	820			
	46.40	355	535	605	480	610	820	480	610	820	480	610	820	480	610	820			
	54.70	365	550	620	480	625	820	480	625	820	480	625	820	480	625	820			
	62.35	385	580	655	480	640	820	480	640	820									
	65.63	385	580	655	480	645	820	480	645	820									
	75.06	390	585	665	480	655	820	480	655	820									

min^{-1}		AQS. n_{ak}					
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
S67 2	7.56	194	185	188	574	574	574
	8.69	169	177	181	414	414	414
	10.03	147	145	149	399	399	399
	11.03	131	145	130	399	399	399
	12.96	110	111	116	347	347	347
	13.73	106	104	109	328	328	328
	15.60	94	96	101	288	288	
	17.28	84	81	84	260	260	
	20.30				181	181	181
	20.37	72	70	74	221	221	
	23.22	60	66	61			
	23.33		126	126	126	126	126
	24.44	58	63	58			
	26.93	55	127	127	127	127	127
	29.63	51	128	128	128	128	128
	34.80	44	129	129	129	129	129
	36.85	42	122	122	122	122	122
	41.89	36	107	107	107	107	
	46.40	31	97	97	97	97	
	54.70	29	82	82	82	82	
	62.35	23	72	72			
	65.63	22	69	69			
	75.06	21	60	60			

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S67, m kg						
	AQS.					
s	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
2	26	27	29	33	36	40
SF: + 6.5 kg / SA: + 1.0 kg / SAF: + 5.5 kg						

S67, J_A / c_{TA}		AQS.					
		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	0.46	1.3	2.4	8.1	22.0	22.0
c_{TA}	Nm/'	0.15	0.3	0.7	3.0	7.0	7.0

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S..67							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	S	SF	SA	SAF	S	SF	SA	SAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
S67 2	7.56[1)]	295	375	500	574	5.4	3220	3890	2540	2540	9740	9740	12000	12000
	8.69[1)]	335	420	570	414	4.3	2860	3590	2020	2020	9460	9460	12000	12000
	10.03[1)]	340	450	575	399	3.3	3290	4050	2480	2480	9250	9250	12000	12000
	11.03[1)]	340	455	575	399	2.8	3660	4430	2890	2890	9210	9210	12000	12000
	12.96[1)]	340	455	575	347	2.2	4310	5110	3610	3610	9210	9210	12000	12000
	13.73[1)]	340	455	575	328	2.0	4510	5310	3870	3870	9210	9210	12000	12000
	15.60	340	455	575	288	1.5	4820	5640	4480	4480	9210	9210	12000	12000
	17.28	340	455	575	260	1.3	5080	5910	4990	4990	9210	9210	12000	12000
	20.30[1)]	425	490	720	181	4.0	5760	6650	6090	6090	8940	8940	12000	12000
	20.37	340	450	575	221	0.99	5520	6360	5700	5700	9250	9250	12000	12000
	23.22	340	450	575	194	0.71	5890	6740	6110	6110	9250	9250	12000	12000
	23.33[1)]	480	515	810	126	3.2	5810	6800	6120	6120	8720	8720	12000	12000
	24.44	340	450	575	184	0.63	6040	6900	6270	6270	9250	9250	12000	12000
	26.93[1)]	480	535	810	127	2.6	6240	7240	6590	6590	8540	8540	12000	12000
	29.63[1)]	480	550	810	128	2.2	6540	7540	6920	6920	8390	8390	12000	12000
	34.80[1)]	480	575	810	129	1.8	7060	8080	7490	7490	8140	8140	12000	12000
	36.85[1)]	480	580	810	122	1.6	7250	8280	7710	7710	8080	8080	12000	12000
	41.89[1)]	480	595	810	107	1.3	7690	8740	8200	8200	7920	7920	12000	12000
	46.40[1)]	480	610	810	97	1.1	8060	9020	8600	8600	7740	7740	12000	12000
	54.70	480	625	810	82	0.84	8670	9020	9280	9280	7560	7560	12000	12000
	62.35	480	640	810	72	0.59	9020	9020	9850	9850	7370	7370	12000	12000
	65.63	480	645	810	69	0.53	9020	9020	10100	10100	6930	7300	12000	12000
	75.06	480	655	810	60	0.43	9020	9020	10700	10700	5930	7170	12000	12000

S..67				c_{TG}			
	i	n_{epk} min^{-1}	η %	S Nm/'	SF Nm/'	SA Nm/'	SAF Nm/'
S67 2	7.56	4500	89	-	-	-	-
	8.69	4500	89	-	-	-	-
	10.03	4500	89	-	-	-	-
	11.03	4500	89	-	-	-	-
	12.96	4500	89	-	-	-	-
	13.73	4500	89	-	-	-	-
	15.60	4500	88	-	-	-	-
	17.28	4500	88	-	-	-	-
	20.30	4500	82	-	-	-	-
	20.37	4500	87	-	-	-	-
	23.22	4500	87	-	-	-	-
	23.33	4500	82	-	-	-	-
	24.44	4500	87	-	-	-	-
	26.93	4500	81	-	-	-	-
	29.63	4500	81	-	-	-	-
	34.80	4500	80	-	-	-	-
	36.85	4500	80	-	-	-	-
	41.89	4500	80	-	-	-	-
	46.40	4500	79	-	-	-	-
	54.70	4500	78	-	-	-	-
	62.35	4500	78	-	-	-	-
	65.63	4500	78	-	-	-	-
	75.06	4500	77	-	-	-	-

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Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$																	
	i	80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6			160/1			190/1,3-6		
S67p 2	7.56	111	115	189	215	215	315	220	320	375	330	375	560	330	375	560	330	375	560
	8.69	118	133	200	230	250	360	235	355	400	350	420	595	350	420	595	350	420	595
	10.03	126	154	215	245	290	415	250	375	425	365	450	620	365	450	620	365	450	620
	11.03	131	170	225	250	320	425	260	390	440	375	455	640	375	455	640	375	455	640
	12.96	141	200	240	270	375	460	275	415	470	390	455	665	390	455	665	390	455	665
	13.73	143	210	245	275	400	470	280	420	475	395	455	670	395	455	670	395	455	670
	15.60	148	220	250	285	430	485	290	435	495	410	455	695	410	455	695			
	17.28	152	230	260	290	435	495	300	450	510	415	455	705	415	455	705			
	20.30										450	560	765	450	560	765	450	560	765
	20.37	159	240	270	305	450	520	310	450	525	435	450	740	435	450	740			
	23.22	167	250	285	320	450	545	325	450	555									
	23.33				525	585	890	525	585	890	525	585	890	525	585	890	525	585	890
	24.44	168	250	285	320	450	545	325	450	555									
	26.93	320	395	545	600	610	1020	600	610	1020	600	610	1020	600	610	1020	600	610	1020
	29.63	335	435	570	620	625	1050	620	625	1050	620	625	1050	620	625	1050	620	625	1050
	34.80	360	510	610	640	650	1090	640	650	1090	640	650	1090	640	650	1090	640	650	1090
	36.85	365	545	620	655	660	1110	655	660	1110	655	660	1110	655	660	1110	655	660	1110
	41.89	375	565	640	670	675	1140	670	675	1140	670	675	1140	670	675	1140			
	46.40	390	585	665	680	690	1160	680	690	1160	680	690	1160	680	690	1160			
	54.70	405	610	690	705	705	1200	705	705	1200	705	705	1200	705	705	1200			
	62.35	425	640	725	720	720	1220	720	720	1220									
	65.63	425	640	725	720	725	1220	720	725	1220									
	75.06	435	655	740	720	740	1220	720	740	1220									

min^{-1}		AQS. n_{ak}					
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
S67p 2	7.56	188	194	198	450	450	450
	8.69	168	165	169	387	387	387
	10.03	143	140	144	348	348	348
	11.03	130	141	129	325	325	325
	12.96	108	113	118	295	295	295
	13.73	106	108	112	285	285	285
	15.60	91	90	94	260	260	
	17.28	84	88	82	252	252	
	20.30				155	155	155
	20.37	71	70	74	221	221	
	23.22	62	61	64			
	23.33		99	99	99	99	99
	24.44	58	58	61			
	26.93	56	66	66	66	66	66
	29.63	49	60	60	60	60	60
	34.80	41	55	55	55	55	55
	36.85	40	52	52	52	52	52
	41.89	36	48	48	48	48	
	46.40	30	47	47	47	47	
	54.70	27	42	42	42	42	
	62.35	23	39	39			
	65.63	22	39	39			
	75.06	20	40	39			

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S67p, m kg						
	AQS.					
s	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
2	26	27	29	33	36	40
SF: + 6.5 kg / SA: + 1.0 kg / SAF: + 5.5 kg						

S67p, J_A / c_{TA}		AQS.					
		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1	190/1,3-6
J_A 10^{-4}	kgm^2	0.46	1.3	2.4	8.1	22.0	22.0
c_{TA}	Nm/'	0.15	0.3	0.7	3.0	7.0	7.0

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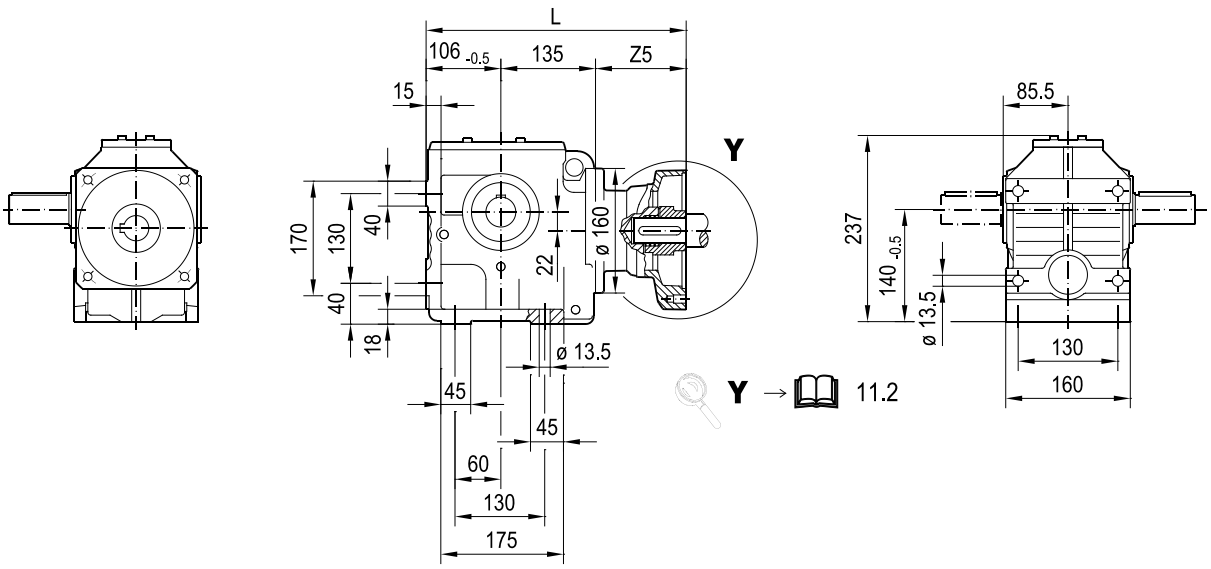
S..67p							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	S	SF	SA	SAF	S	SF	SA	SAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
S67p 2	7.56	330	375	500	450	5.4	2680	3360	1960	1960	10600	11700	12000	12000
	8.69	350	420	570	387	4.3	2780	3500	2010	2010	10300	11400	12000	12000
	10.03	365	450	575	348	3.3	3020	3770	2240	2240	10100	11200	12000	12000
	11.03	375	455	575	325	2.8	3190	3970	2420	2420	10000	11200	12000	12000
	12.96	390	455	575	295	2.2	3550	4370	2780	2780	10000	11200	12000	12000
	13.73	395	455	575	285	2.0	3690	4520	2930	2930	10000	11200	12000	12000
	15.60	410	455	575	260	1.5	3960	4820	3190	3190	10000	11200	12000	12000
	17.28	415	455	575	252	1.3	4320	5210	3580	3580	10000	11200	12000	12000
	20.30	450	560	720	155	4.0	5490	6410	5960	5960	10200	11500	12000	12000
	20.37	435	450	575	221	0.99	4700	5640	3960	3960	10000	11200	12000	12000
	23.22	420	450	575	194	0.71	5300	6230	5060	5060	10000	11200	12000	12000
	23.33	525	585	810	99	3.2	5440	6470	5840	5840	10000	11400	12000	12000
	24.44	415	450	575	184	0.63	5480	6410	5480	5480	10000	11200	12000	12000
	26.93	600	610	810	66	2.6	5410	6560	5770	5770	9900	11200	12000	12000
	29.63	620	625	810	60	2.2	5580	6770	5950	5950	9810	11200	12000	12000
	34.80	640	650	810	55	1.8	5970	7200	6380	6380	9670	11100	12000	12000
	36.85	655	660	810	52	1.6	6070	7330	6480	6480	9610	11000	12000	12000
	41.89	670	675	810	48	1.3	6420	7710	6860	6860	9520	10900	12000	12000
	46.40	680	690	810	47	1.1	6720	8040	7200	7200	9430	10900	12000	12000
	54.70	705	705	810	42	0.84	7170	8550	7700	7700	9340	10800	12000	12000
	62.35	720	720	810	39	0.59	7580	9000	8160	8160	9250	10700	12000	12000
	65.63	720	725	810	39	0.53	7790	9220	8390	8390	9220	10700	12000	12000
	75.06	720	740	810	40	0.43	8340	9780	9010	9010	9130	10600	12000	12000

S..67p				c_{TG}			
		n_{epk}	η	S	SF	SA	SAF
	i	min^{-1}	%	Nm/'	Nm/'	Nm/'	Nm/'
S67p 2	7.56	4500	93	-	-	-	-
	8.69	4500	93	-	-	-	-
	10.03	4500	93	-	-	-	-
	11.03	4500	93	-	-	-	-
	12.96	4500	93	-	-	-	-
	13.73	4500	93	-	-	-	-
	15.60	4500	93	-	-	-	-
	17.28	4500	92	-	-	-	-
	20.30	4500	87	-	-	-	-
	20.37	4500	92	-	-	-	-
	23.22	4500	92	-	-	-	-
	23.33	4500	88	-	-	-	-
	24.44	4500	92	-	-	-	-
	26.93	4500	88	-	-	-	-
	29.63	4500	88	-	-	-	-
	34.80	4500	88	-	-	-	-
	36.85	4500	87	-	-	-	-
	41.89	4500	87	-	-	-	-
	46.40	4500	87	-	-	-	-
	54.70	4500	87	-	-	-	-
	62.35	4500	87	-	-	-	-
	65.63	4500	87	-	-	-	-
	75.06	4500	86	-	-	-	-

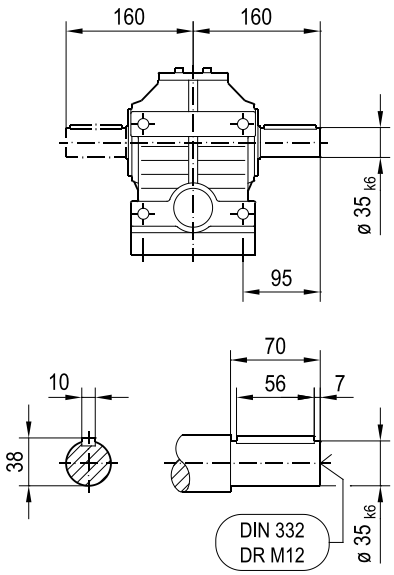
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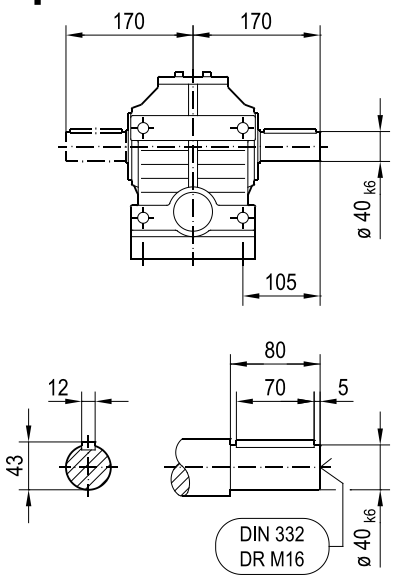
S67/S67p..



S67..



S67/S67p..

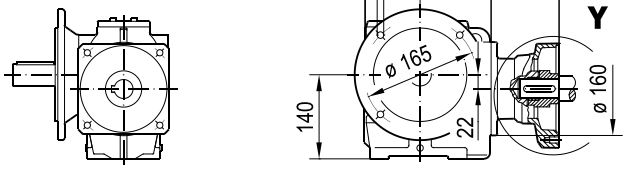


(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	291	308	314	318	321	327	321	326	350	375	375	387

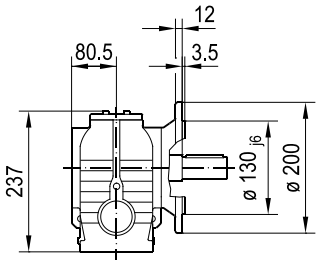
27788644/EN – 02/2024

02 023 00 21

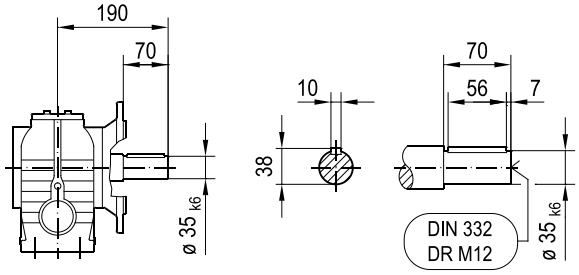
SF67/SF67p..



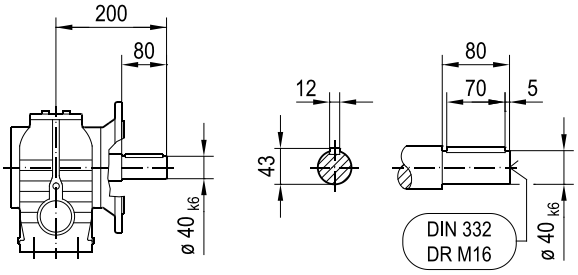
Y → 11.2



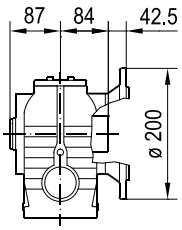
SF67..



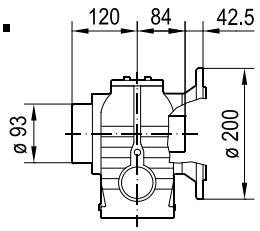
SF67/SF67p..

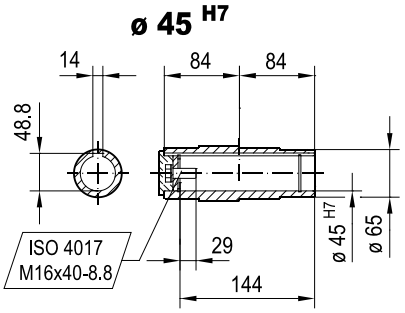


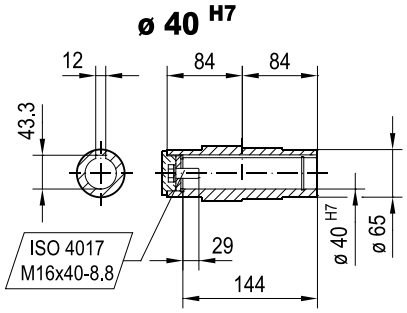
SAF67/SAF67p..

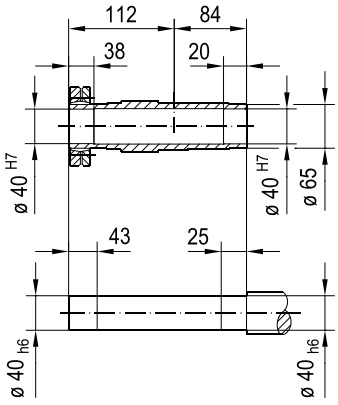


SHF67/SHF67p..







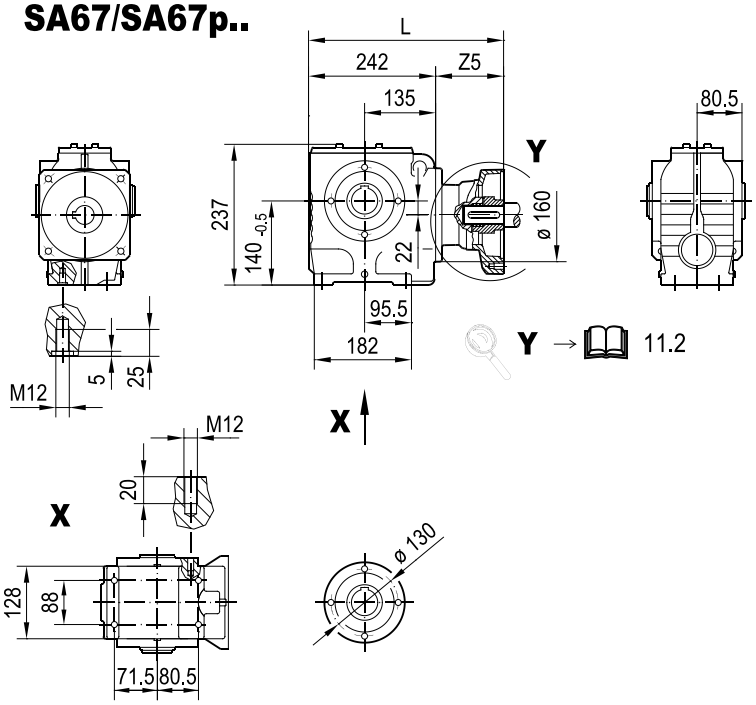


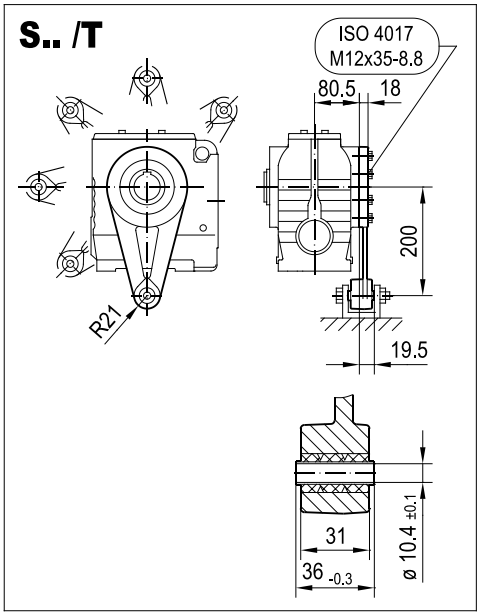
(→ 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	292	309	315	319	322	328	322	327	351	376	376	388

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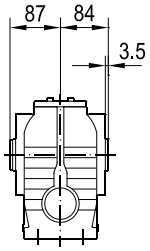
SA67/SA67p..

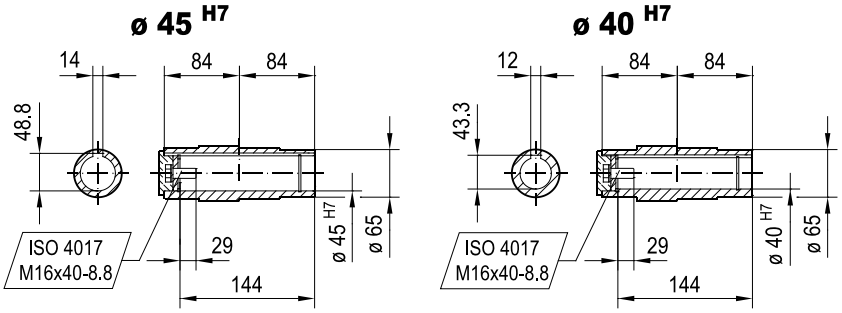
02 024 00 21



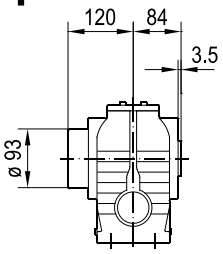


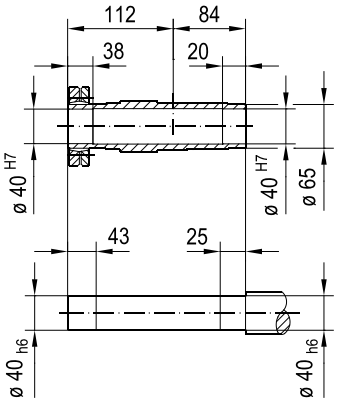
SA67/SA67p..





SH67/SH68p..



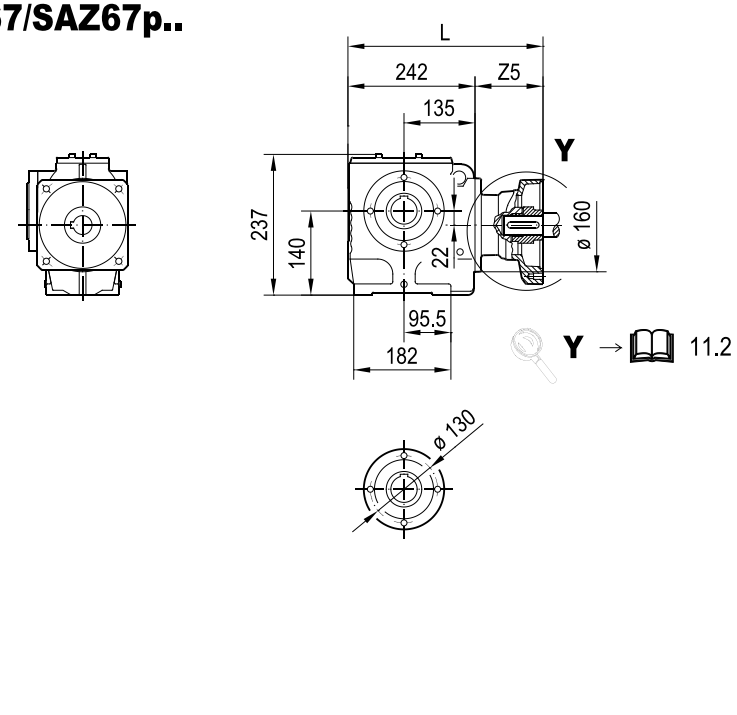


(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	292	309	315	319	322	328	322	327	351	376	376	388

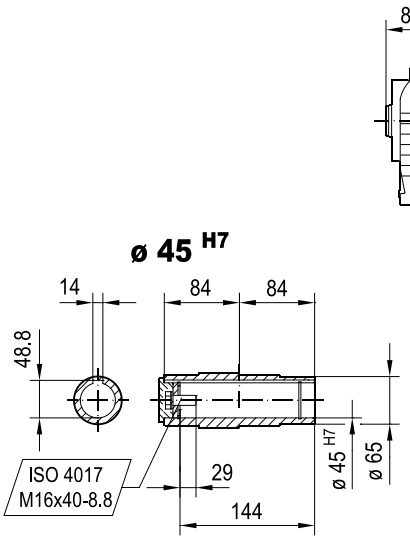
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02 025 00 21

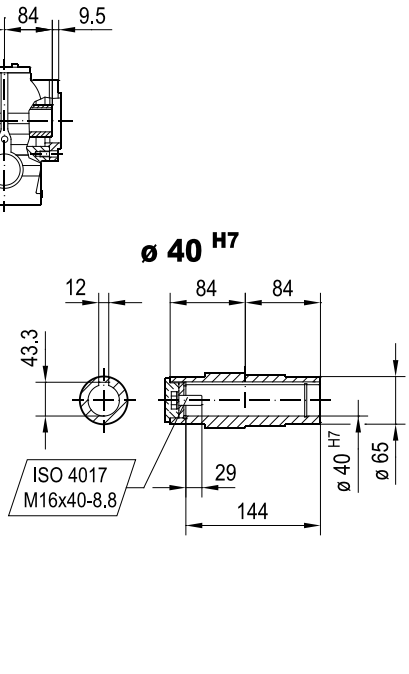
SAZ67/SAZ67p..



SAZ67/SAZ67p..

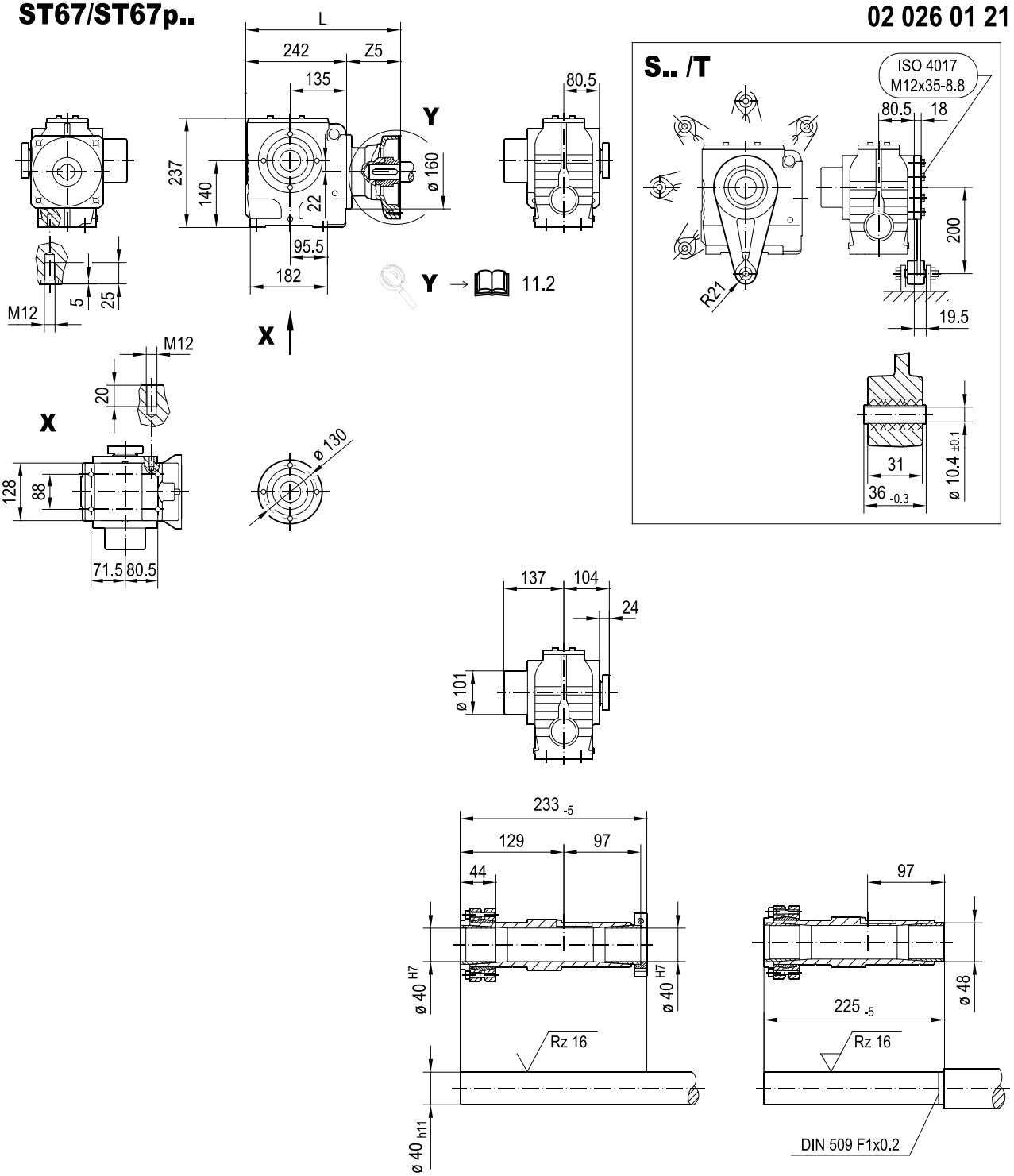


SHZ67/SHZ67p..



(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	292	309	315	319	322	328	322	327	351	376	376	388

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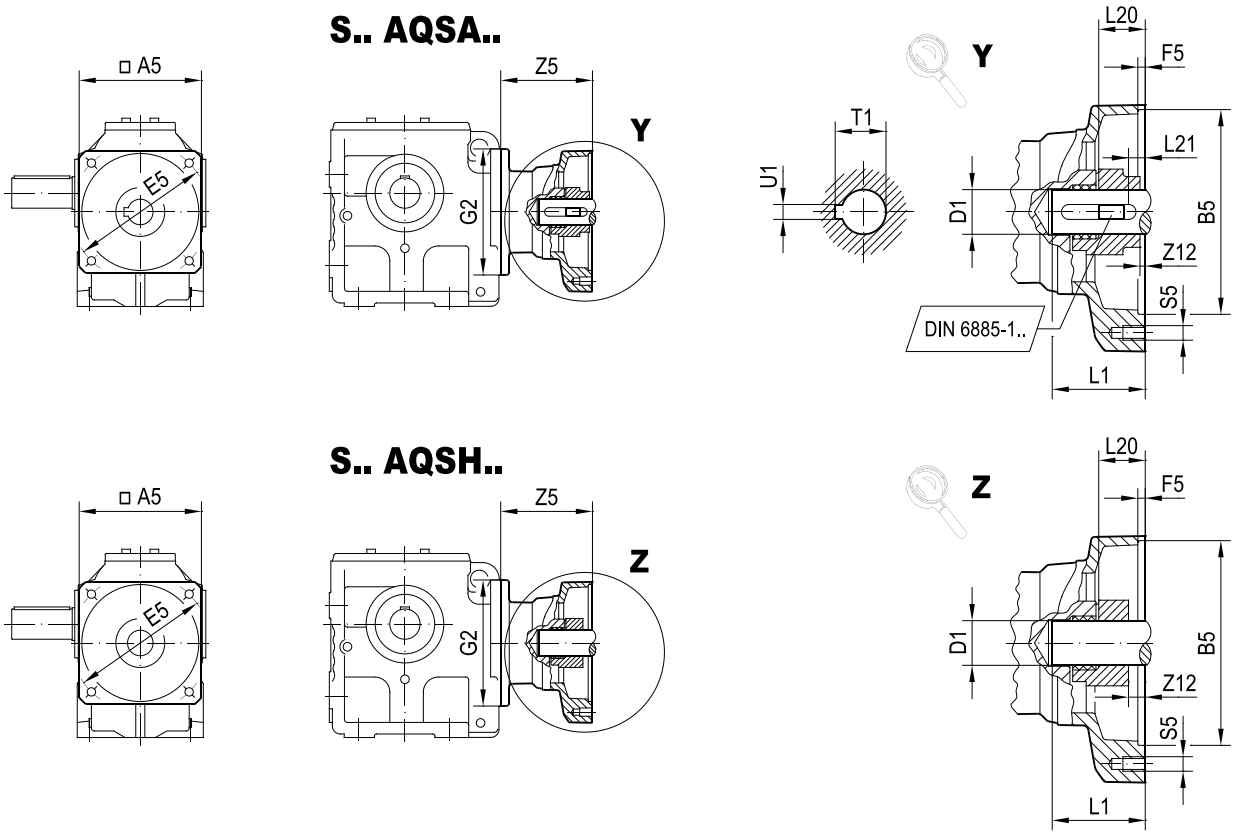


(→ 📖 7.3.11)	AQS.											
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1	190/1, 3-5	190/6
Z5	50	67	72.5	77	80	86	80	85	108.5	134	134	146
L	292	309	315	319	322	328	322	327	351	376	376	388

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11.2 Adapter S..AQS.. /mm

02 001 01 21



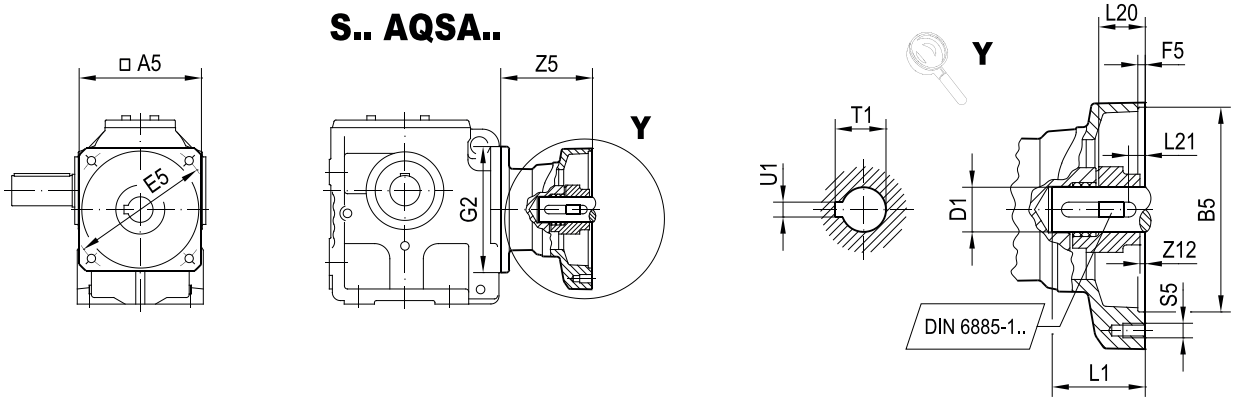
D1	T1	U1	AQS..							
			50/1 50/2	80/1 80/3 80/4 80/5	100/3 100/4 100/5 100/6[1] 100/7[1]	115/1 115/3 115/4 115/5 115/6[1]	140/1 140/3 140/5 140/6	160/1	190/1 190/3 190/4 190/5	190/6
mm	mm	mm								
8[2]	-	-	X							
9	10.4	3	X							
11	12.8	4		X						
14	16.3	5		X	X					
16	18.3	5			X					
19	21.8	6			X	X				
22	24.8	6				X				
	25.3	8				X				
24	27.3	8				X	X			
28	31.3	8					X	X	X	
32	35.3	10					X	X	X	
35	38.3	10						X[3]	X[3]	X
38	41.3	10						X	X	

1) Key design only (AQSA).
2) Terminal connection only (AQSH).
3) Only clamp connection (AQSH).

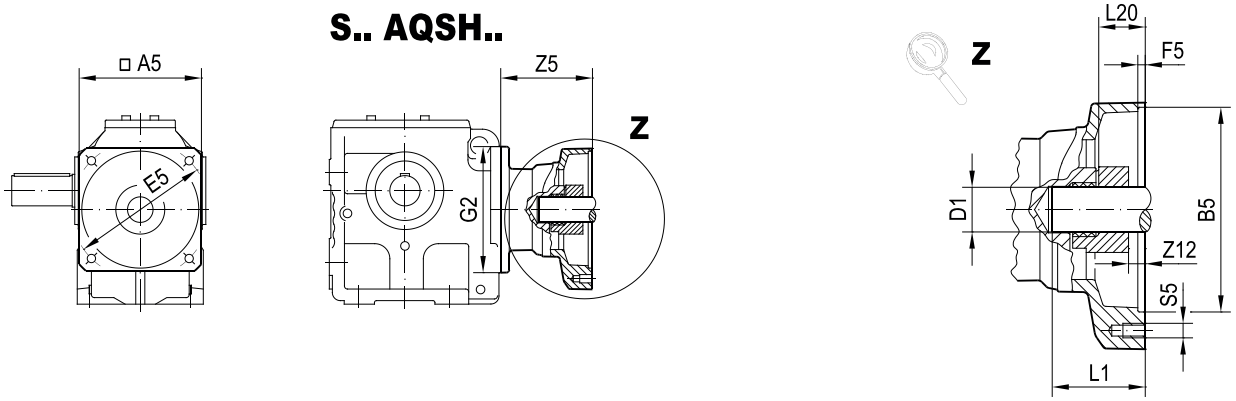
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02 001 01 21

S.. AQSA..



S.. AQSH..



(→ 📖 7.3.11)	Dimensions in mm										
	D1	L20	L21 (ØD1: L21)	L1	B5	E5	A5	S5	Z12		F5
			AQSA						AQSA	AQSH	
AQS50/1	8 K7[1]	14	Ø9: 7	25	30	46	40	M4 × 7	3	4	2.5
AQS50/2	9 H7	14	Ø9: 7	25	40	63	55	M4 × 7	3	4	2.5
AQS80/1	11 H7 14 H7	18 18	Ø11: 10 Ø14: 11	31	60	75	73	M5 × 8	4	6	3.5
AQS80/3				31	50	95	82	M6 × 10	4	6	3.5
AQS80/4				31	50	70	60	M5 × 8	4	6	3.5
AQS80/5				31	60	90	75	M5 × 8	4	6	3.5
AQS100/3	14 H7 16 H7 19 H7	20	Ø14,16,19: 13	45	80	100	94	M6 × 10	4	6	4
AQS100/6[2]		25.5	Ø14,16,19: 18.5	50.5	80	100	94	M6 × 10	9.5	–	4
AQS100/4		20	Ø14,16,19: 13	45	95	115	105	M8 × 12	4	6	4
AQS100/7[2]		30	Ø14,16,19: 23	55	95	115	105	M8 × 12	14	–	4
AQS100/5		20	Ø14,16,19: 13	45	70	90	94	M6 × 10	4	6	4
AQS115/1	19 H7 22 H7 24 H7	25	Ø19: 16 Ø22: 17 Ø24: 17	50	95	130	115	M8 × 14.5	0 Ø22: 9	9	5
AQS115/3		25		50	110	130	115	M8 × 14.5	0 Ø22: 9	9	5
AQS115/6[2]		30	Ø19: 21 Ø22: 22 Ø24: 22	55	110	130	115	M8 × 14.5	5 Ø22: 14	–	5
AQS115/4		31	Ø19: 22 Ø22: 23 Ø24: 23	58	110	145	130	M8 × 14.5	6 Ø22: 15	15	6.5
AQS115/5		25	Ø19: 16 Ø22: 17 Ø24: 17	50	95	115	115	M8 × 14.5	0 Ø22: 9	9	5
AQS140/1	24 H7 28 H7 32 H7	30	Ø24: 11 Ø28: 19 Ø32: 19	60	110	165	140	M10 × 20	4	8	5
AQS140/3		30		60	130	165	140	M10 × 20	4	8	5
AQS140/5		30		60	180	215	190	M12 × 22	4	8	5
AQS140/6		30		80	130	165	140	M10 × 20	4	8	5

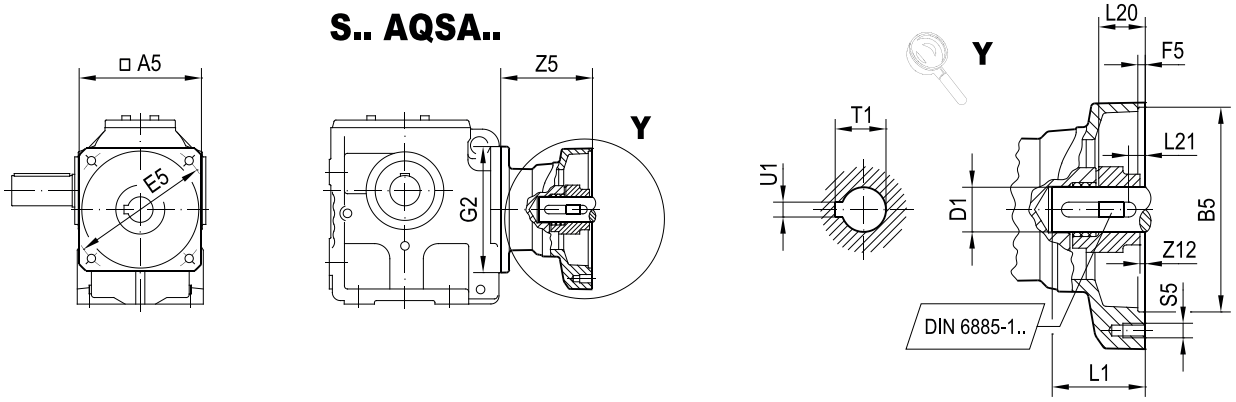
1) Only clamp connection (AQSH).

2) Key design only (AQSA).

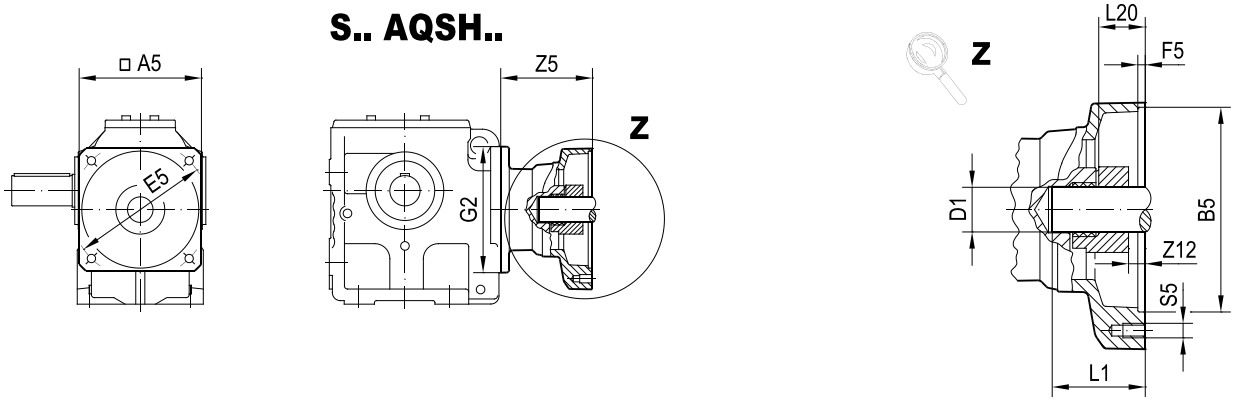
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02 001 01 21

S.. AQSA..



S.. AQSH..

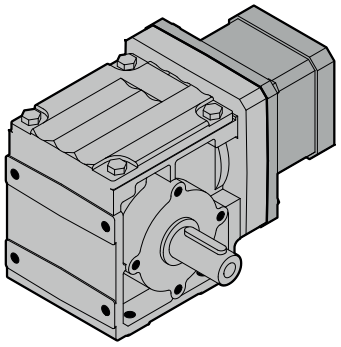


(→ 📖 7.3.11)	Dimensions in mm										
	D1	L20	L21 (ØD1: L21)	L1	B5	E5	A5	S5	Z12		F5
			AQSA						AQSA	AQSH	
AQS160/1	28 H7 32 H7 35 H7[1)] 38 H7	34	Ø28: 15 Ø32: 17 Ø38: 21	80	155	190	163	M10 × 20	0	8	5
AQS190/1	28 H7 32 H7 35 H7[1)] 38 H7	34	Ø28: 15 Ø32: 17 Ø38: 21	80	130	215	190	M12 × 22	0	8	5
AQS190/3		34		80	180	215	190	M12 × 22	0	8	5
AQS190/4		34		80	114.3	200	180	M12 × 22	0	8	5
AQS190/5		34		80	230	265	240	M12 × 22	0	8	5
AQS190/6	35 H7	46	Ø35: 31	80	114.3	200	180	M12 × 22	12	20	5

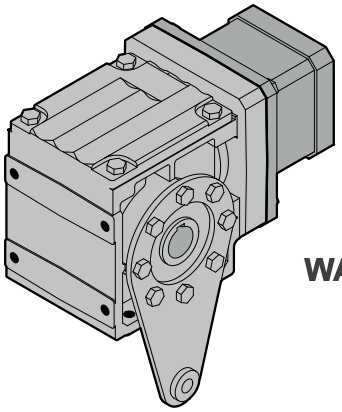
1) Only clamp connection (AQSH).

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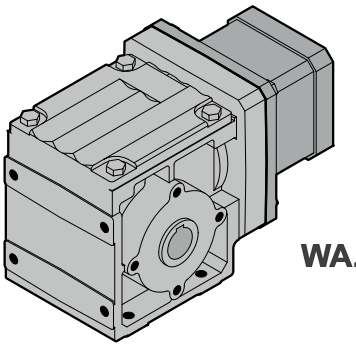
12 SPIROPLAN® right-angle gear units W..



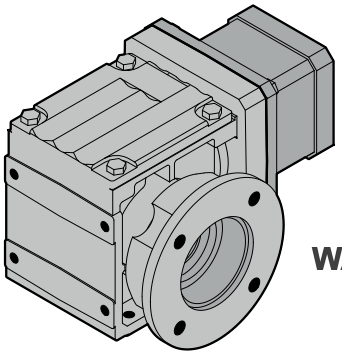
W..0 EWH..



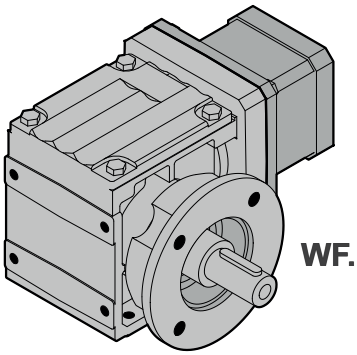
WA..0/T EWH..



WA..0 EWH..



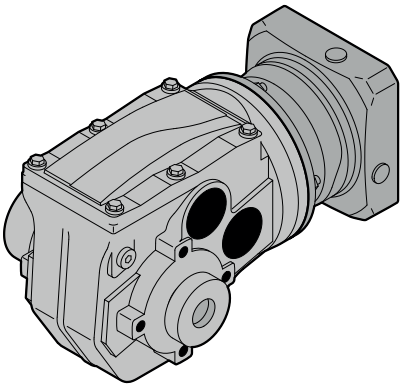
WAF..0 EWH..



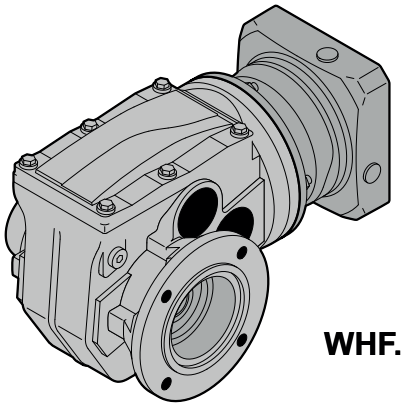
WF..0 EWH..

35111130123

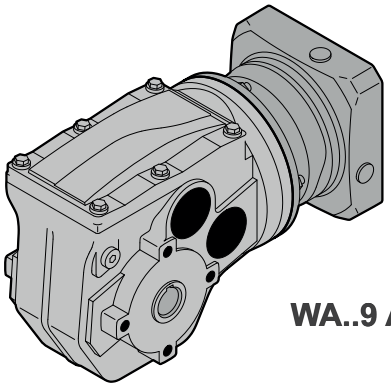
27788644/EN – 02/2024



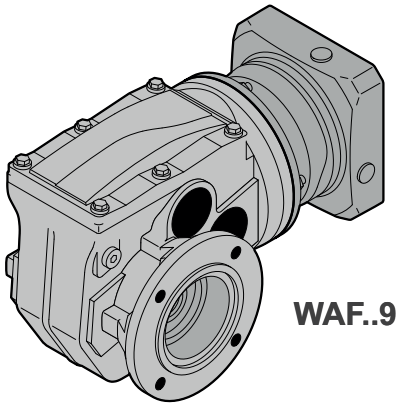
WT..9 AQS..



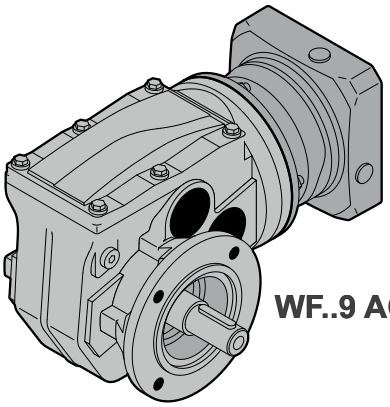
WHF..9 AQS..



WA..9 AQS..



WAF..9 AQS..



WF..9 AQS..

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SEW EURODRIVE

12.1 W.0 EWH.. – Selection tables and dimension sheets

12.1.1 W10 EWH..

Nm		EWH M_{amax} | M_{apk} | $M_{aNotaus}$		
	i	01		
W10 1	6.57	19	19	32
	8.20	23	23	39
	10.25	26	26	44
	14.33	24	24	41
	16.50	25	25	43
	19.50	24	24	41
	24.50	23	23	39
	27.50	23	23	39
	32.50	24	24	41
	39.00	24	24	41
	48.00	22	24	37
	60.00	21	23	36
	75.00	21	23	36

min^{-1}		EWH n_{ak}
	i	01
W10 1	6.57	685
	8.20	549
	10.25	375
	14.33	292
	16.50	215
	19.50	192
	24.50	160
	27.50	137
	32.50	109
	39.00	82
	48.00	79
	60.00	69
	75.00	54

W10, m kg	
	EWH
s	01
1	2.5
WF: + 0.20 kg / WA: + - kg / WAF: + 0.20 kg	

W10, J_A / c_{TA}		EWH
		01
J_A 10^{-4}	kgm^2	0.32
c_{TA}	Nm/'	-1.0

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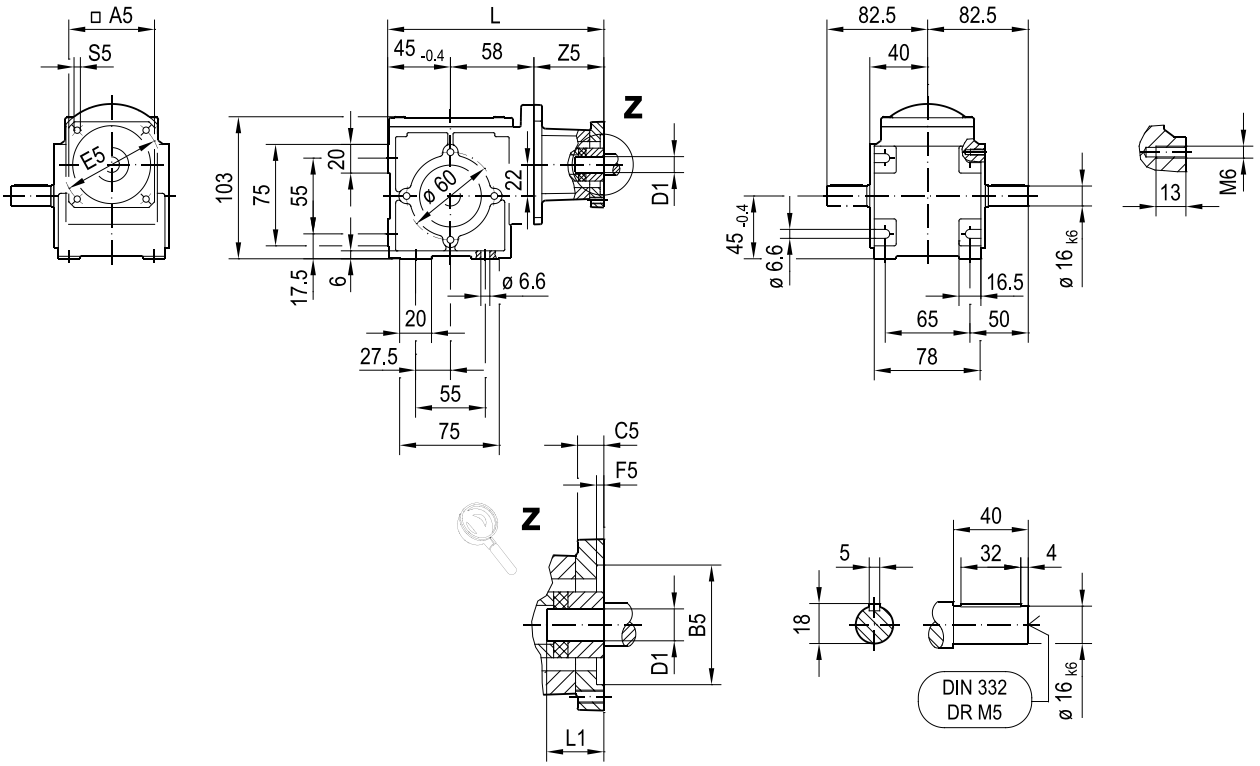
W..10							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	W	WF	WA	WAF	W	WF	WA	WAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
W10 1	6.57	19	19	28	685	0.058	1670	1320	1800	1800	1800	1800	1800	1800
	8.20	23	23	34	549	0.041	1730	1360	1800	1800	1800	1800	1800	1800
	10.25	28	28	42	439	0.030	1800	1430	1800	1800	1800	1800	1800	1800
	14.33	24	24	36	314	0.020	1800	1650	1800	1800	1800	1800	1800	1800
	16.50	27	27	40	273	0.019	1800	1700	1800	1800	1800	1800	1800	1800
	19.50	30	30	45	231	0.017	1800	1770	1800	1800	1800	1800	1800	1800
	24.50	25	25	37	184	0.015	1800	1800	1800	1800	1800	1800	1800	1800
	27.50	27	27	40	164	0.016	1800	1800	1800	1800	1800	1800	1800	1800
	32.50	28	28	42	138	0.012	1800	1800	1800	1800	1800	1800	1800	1800
	39.00	26	26	39	115	0.011	1800	1800	1800	1800	1800	1800	1800	1800
	48.00	25	25	37	94	0.014	1800	1800	1800	1800	1800	1800	1800	1800
	60.00	25	25	37	75	0.015	1800	1800	1800	1800	1800	1800	1800	1800
	75.00	25	25	37	60	0.015	1800	1800	1800	1800	1800	1800	1800	1800

W..10				c_{TG}			
		n_{epk}	η	W	WF	WA	WAF
	i	min^{-1}	%	Nm/'	Nm/'	Nm/'	Nm/'
W10 1	6.57	4500	91	-	-	-	-
	8.20	4500	88	-	-	-	-
	10.25	4500	86	-	-	-	-
	14.33	4500	80	-	-	-	-
	16.50	4500	78	-	-	-	-
	19.50	4500	74	-	-	-	-
	24.50	4500	68	-	-	-	-
	27.50	4500	65	-	-	-	-
	32.50	4500	62	-	-	-	-
	39.00	4500	57	-	-	-	-
	48.00	4500	51	-	-	-	-
	60.00	4500	45	-	-	-	-
	75.00	4500	41	-	-	-	-

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W10..

20 014 00 12

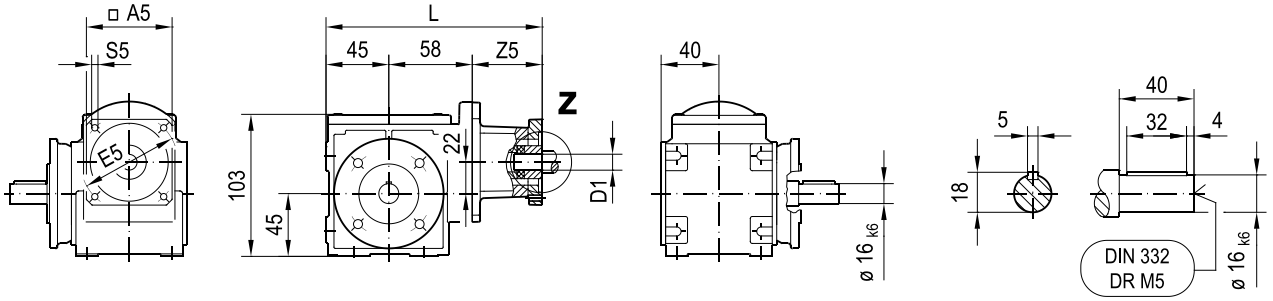


(→ 📖 7.3.11)	L	A5	B5	C5	E5	F5	S5	Z5	L1	D1 (→ 📖 12.2)
EWH01/01/..	156	55	40	9	63	3.5	M4	53	20	9
EWH01/08/..	161	73	60	14	75	3.5	M5	58	24	11

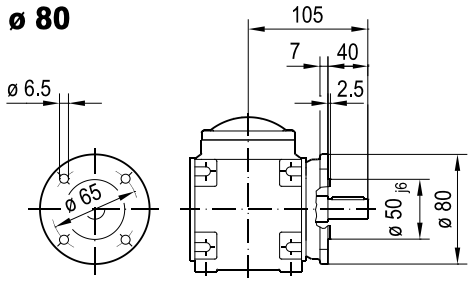
27788644/EN – 02/2024

WF10..

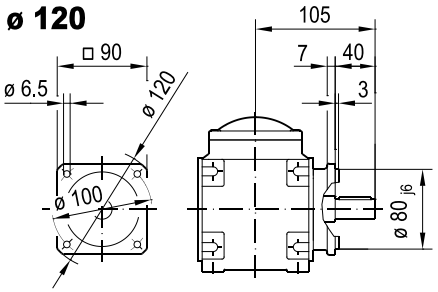
20 015 01 12

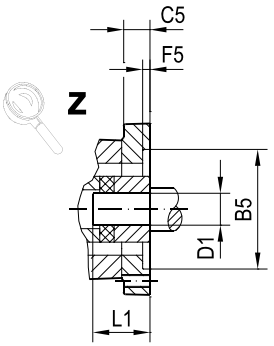


ø 80

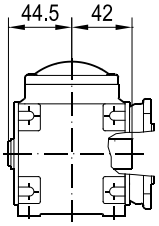


ø 120

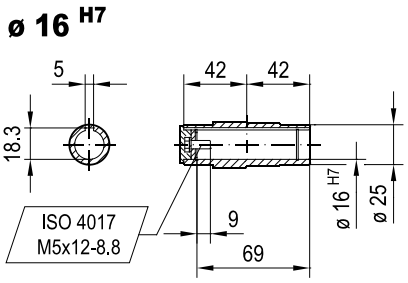




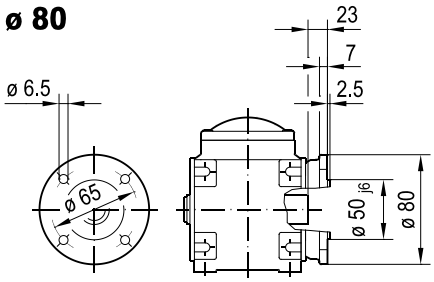
WAF10..



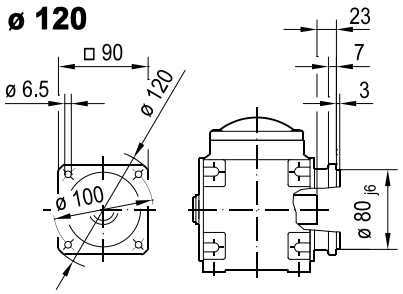
ø 16 H7



ø 80



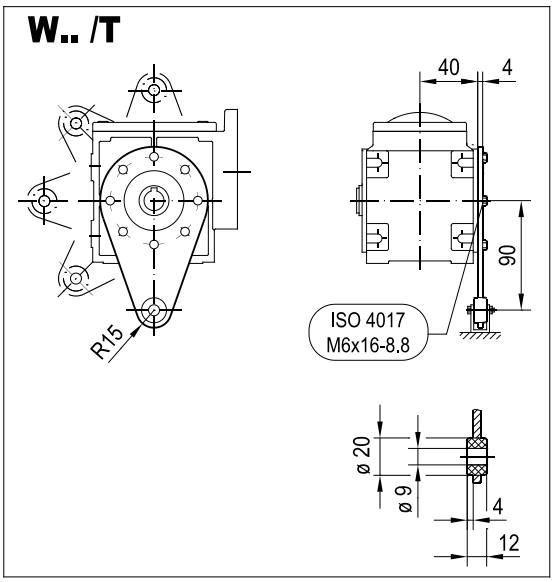
ø 120



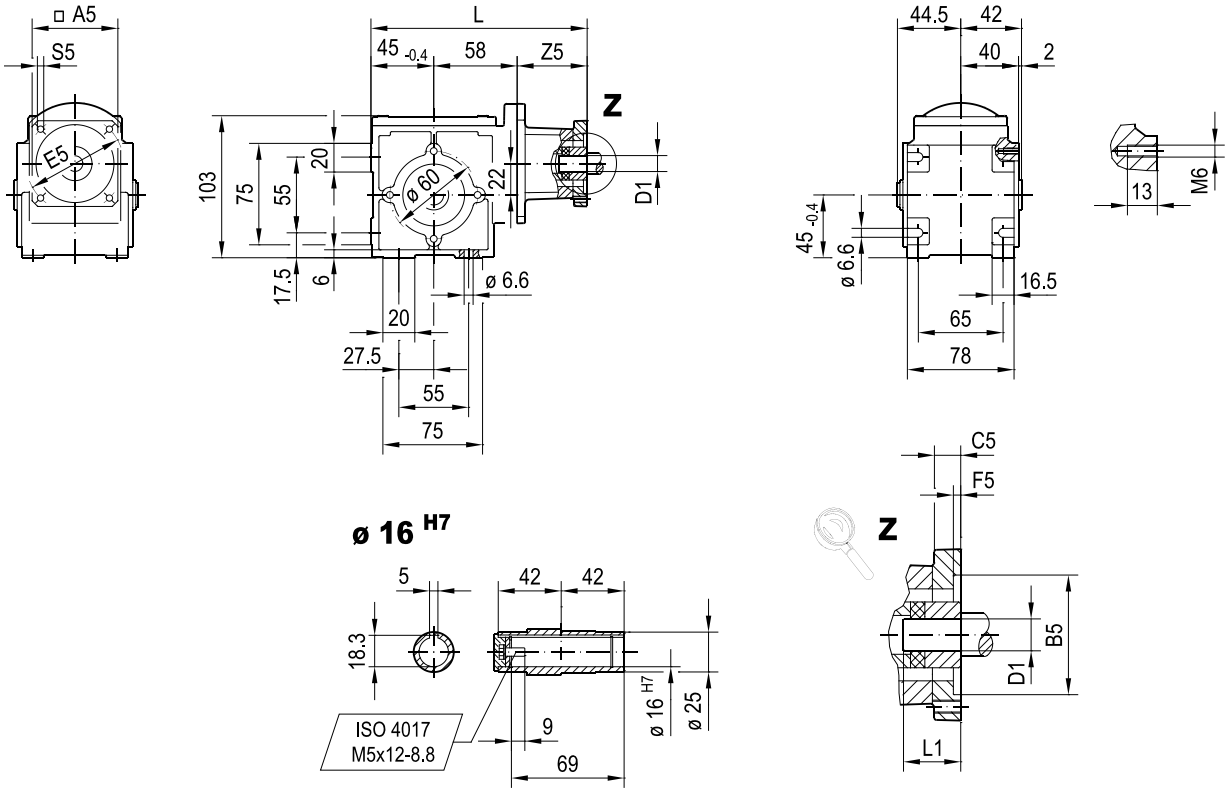
(→ 📖 7.3.11)	L	A5	B5	C5	E5	F5	S5	Z5	L1	D1 (→ 📖 12.2)
EWH01/01/..	156	55	40	9	63	3.5	M4	53	20	9
EWH01/08/..	161	73	60	14	75	3.5	M5	58	24	11

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20 016 02 12



WA10..



(→ 7.3.11)	L	A5	B5	C5	E5	F5	S5	Z5	L1	D1 (→ 12.2)
EWH01/01/..	156	55	40	9	63	3.5	M4	53	20	9
EWH01/08/..	161	73	60	14	75	3.5	M5	58	24	11

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12.1.2 W20 EWH..

Nm		EWH M_{amax} | M_{apk} | $M_{aNotaus}$		
	i	02		
W20 1	6.57	24	24	41
	8.20	29	29	49
	10.25	36	36	61
	14.33	45	45	77
	16.50	38	38	65
	19.50	42	42	71
	24.50	40	40	68
	27.50	40	40	68
	32.50	40	40	68
	39.00	40	40	68
	48.00	40	40	68
	60.00	40	40	68
	75.00	40	40	68

min^{-1}		EWH n_{ak}
	i	02
W20 1	6.57	685
	8.20	549
	10.25	439
	14.33	237
	16.50	268
	19.50	190
	24.50	166
	27.50	152
	32.50	137
	39.00	99
	48.00	78
	60.00	61
	75.00	54

W20, m kg	
s	EWH 02
1	3.9
WF: + 0.15 kg / WA: + -0.25 kg / WAF: + -0.25 kg	

W20, J_A / c_{TA}		EWH
		02
J_A 10^{-4}	kgm^2	0.968
c_{TA}	Nm/'	-1.0

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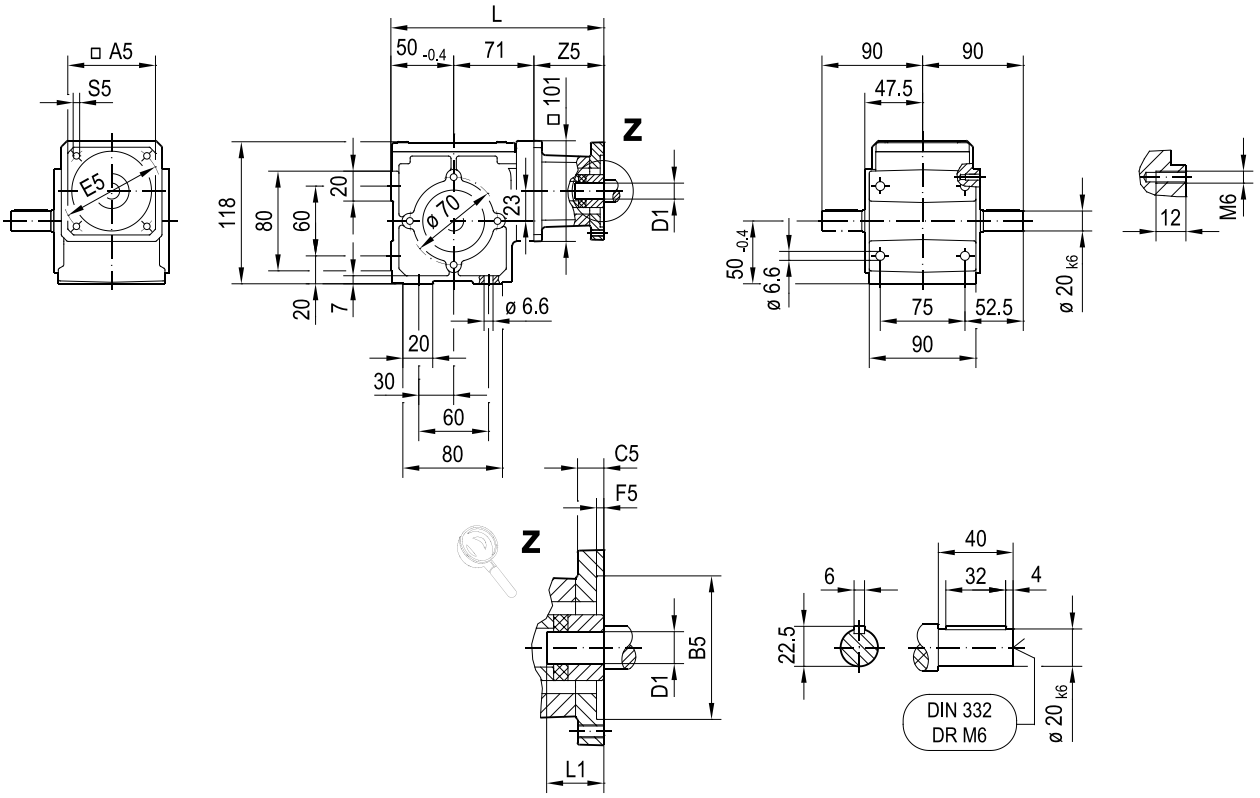
W..20							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	W	WF	WA	WAF	W	WF	WA	WAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
W20 1	6.57	24	24	36	685	0.21	1700	1310	2140	2140	2200	2200	2200	2200
	8.20	29	29	43	549	0.20	1730	1330	2170	2170	2200	2200	2200	2200
	10.25	36	36	54	439	0.17	1790	1370	2200	2200	2200	2200	2200	2200
	14.33	45	45	67	314	0.14	1920	1470	2200	2200	2200	2200	2200	2200
	16.50	38	38	57	273	0.15	2090	1600	2200	2200	2200	2200	2200	2200
	19.50	42	42	63	231	0.14	2190	1680	2200	2200	2200	2200	2200	2200
	24.50	40	40	60	184	0.13	2200	1850	2200	2200	2200	2200	2200	2200
	27.50	40	40	60	164	0.12	2200	1930	2200	2200	2200	2200	2200	2200
	32.50	40	40	60	138	0.12	2200	2080	2200	2200	2200	2200	2200	2200
	39.00	40	40	60	115	0.12	2200	2200	2200	2200	2200	2200	2200	2200
	48.00	40	40	60	94	0.13	2200	2200	2200	2200	2200	2200	2200	2200
	60.00	40	40	60	75	0.13	2200	2200	2200	2200	2200	2200	2200	2200
	75.00	40	40	60	60	0.12	2200	2200	2200	2200	2200	2200	2200	2200

W..20				c_{TG}			
		n_{epk}	η	W	WF	WA	WAF
	i	min^{-1}	%	Nm/'	Nm/'	Nm/'	Nm/'
W20 1	6.57	4500	91	-	-	-	-
	8.20	4500	87	-	-	-	-
	10.25	4500	84	-	-	-	-
	14.33	4500	80	-	-	-	-
	16.50	4500	76	-	-	-	-
	19.50	4500	73	-	-	-	-
	24.50	4500	68	-	-	-	-
	27.50	4500	67	-	-	-	-
	32.50	4500	67	-	-	-	-
	39.00	4500	57	-	-	-	-
	48.00	4500	51	-	-	-	-
	60.00	4500	44	-	-	-	-
	75.00	4500	41	-	-	-	-

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W20..

20 017 01 12

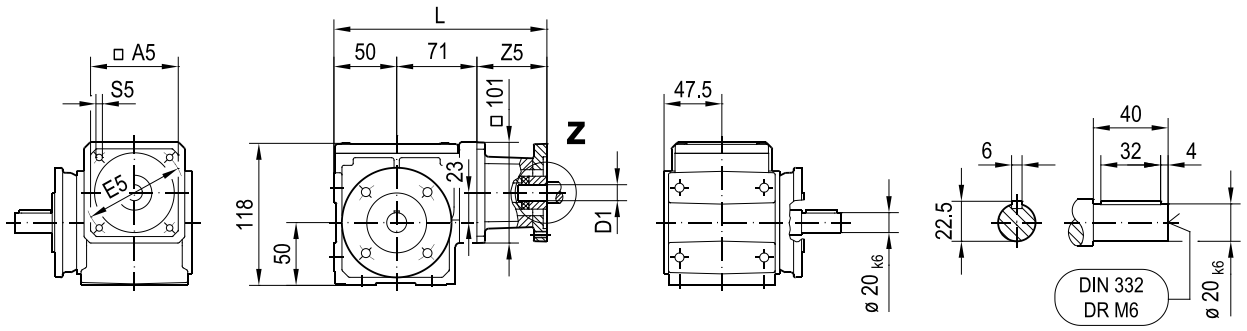


(→ 📖 7.3.11)	L	A5	B5	C5	E5	F5	S5	Z5	L1	D1 (→ 📖 12.2)
EWH02/08/..	190	73	60	14	75	3.5	M5	69	41	11, 14
EWH02/13/..	190	88	80	14	100	3.5	M6	69	41	14, 16

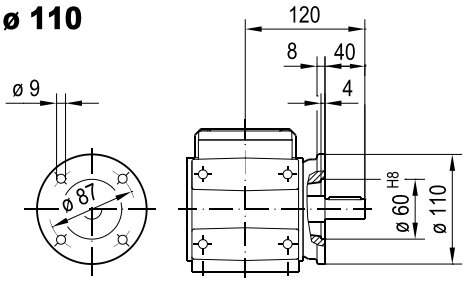
27788644/EN – 02/2024

WF20..

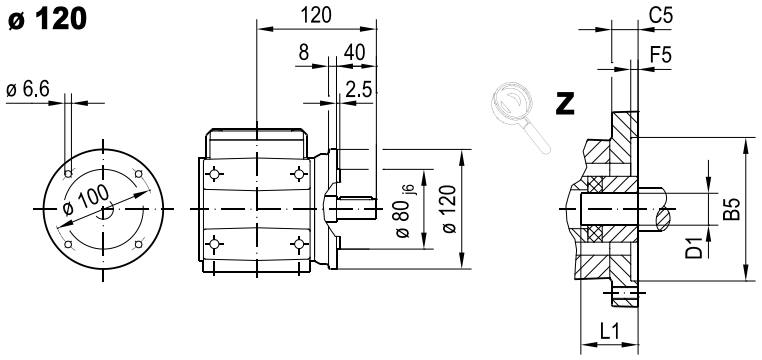
20 018 01 12



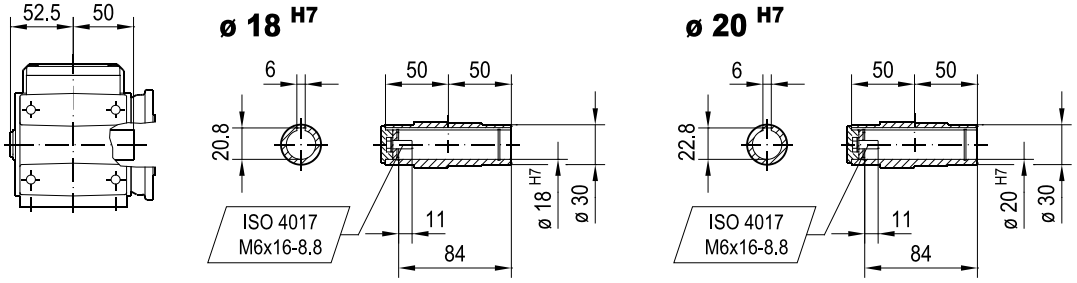
ø 110



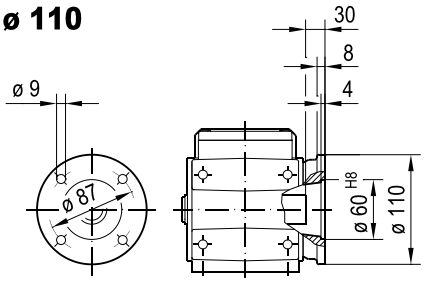
ø 120



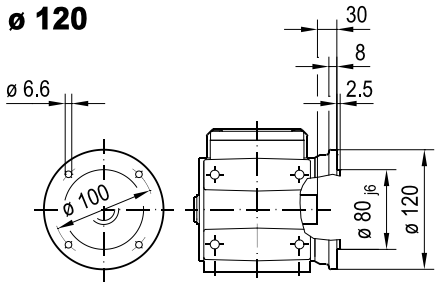
WAF20..



ø 110



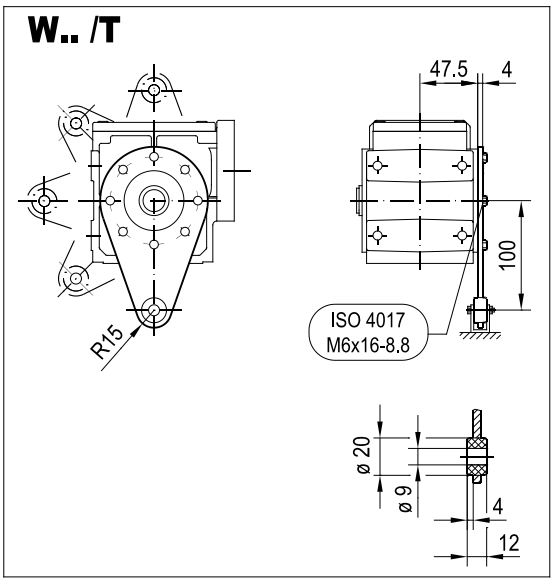
ø 120



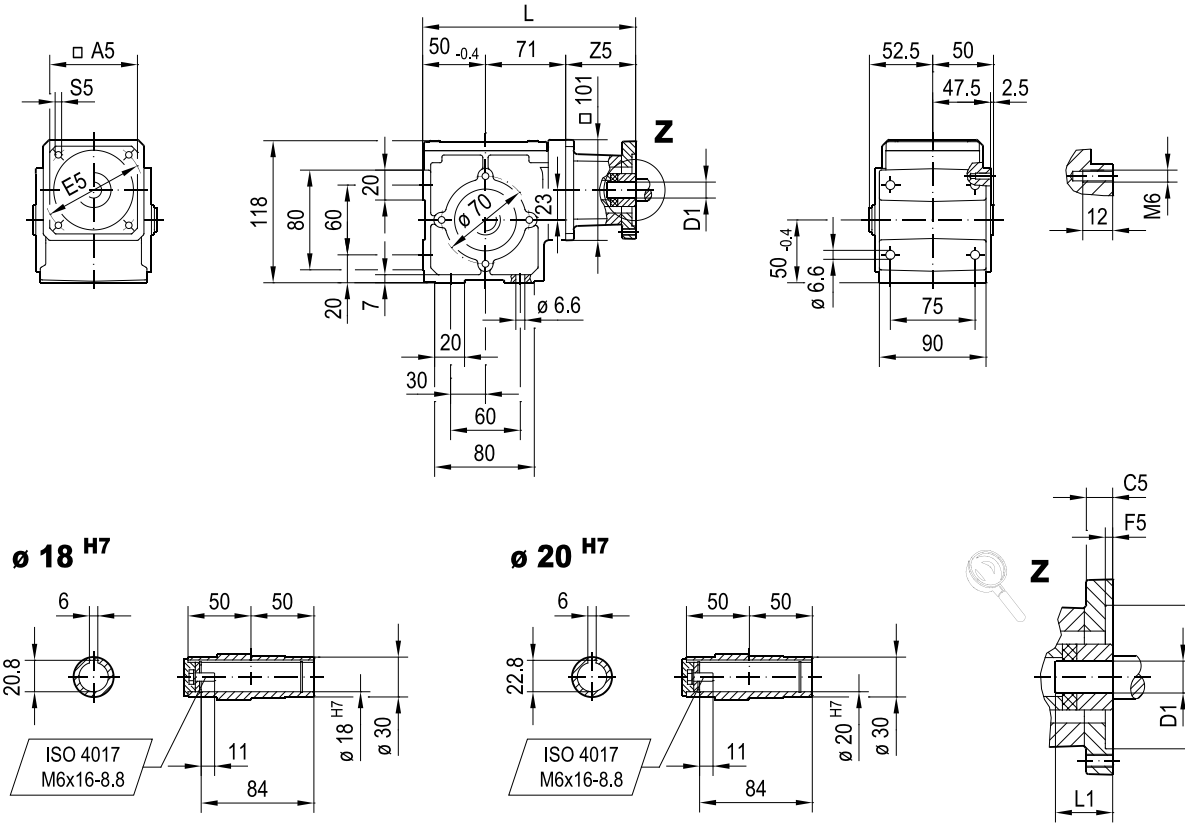
(→ 📖 7.3.11)	L	A5	B5	C5	E5	F5	S5	Z5	L1	D1 (→ 📖 12.2)
EWH02/08/..	190	73	60	14	75	3.5	M5	69	41	11, 14
EWH02/13/..	190	88	80	14	100	3.5	M6	69	41	14, 16

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20 019 02 12



WA20..



(→ 📖 7.3.11)	L	A5	B5	C5	E5	F5	S5	Z5	L1	D1 (→ 📖 12.2)
EWH02/08/..	190	73	60	14	75	3.5	M5	69	41	11, 14
EWH02/13/..	190	88	80	14	100	3.5	M6	69	41	14, 16

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12.1.3 W30 EWH..

Nm		EWH M_{amax} | M_{apk} | $M_{aNotaus}$		
	i	03		
W30 1	6.57	38	38	65
	8.20	45	45	77
	10.25	56	56	95
	14.33	69	69	117
	16.33	68	68	116
	19.50	70	70	119
	24.50	70	70	119
	27.50	70	70	119
	32.50	70	70	119
	39.00	70	70	119
	48.00	70	70	119
	60.00	70	70	119
	75.00	70	70	119

min^{-1}		EWH n_{ak}
	i	03
W30 1	6.57	685
	8.20	549
	10.25	439
	14.33	251
	16.33	219
	19.50	168
	24.50	122
	27.50	113
	32.50	103
	39.00	76
	48.00	61
	60.00	53
	75.00	41

W30, m kg		
	EWH	
s	03	
1	6.5	
WF: + 0.40 kg / WA: + -0.30 kg / WAF: + - kg		

W30, J_A / c_{TA}		EWH
		03
J_A 10^{-4}	kgm^2	1.26
c_{TA}	Nm/'	-1.0

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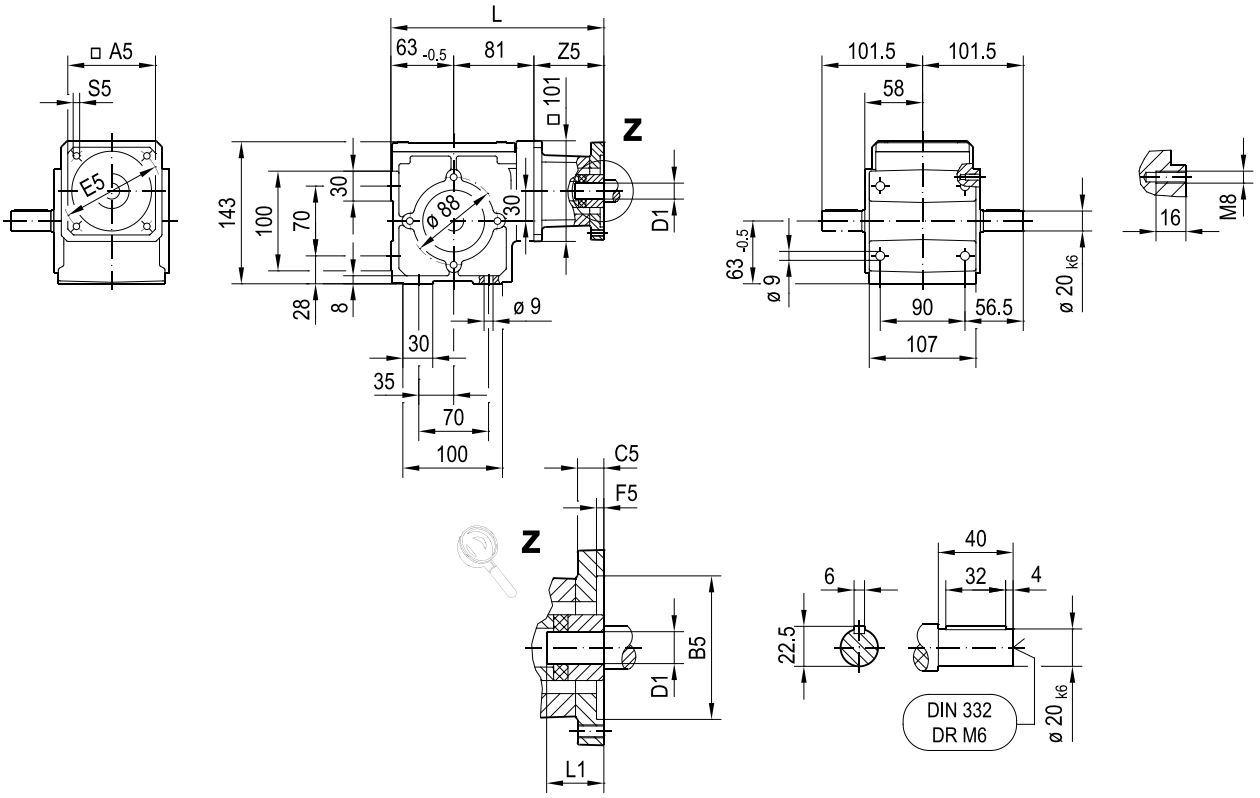
W..30							F_{Ramax}				F_{Rapk}			
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	W	WF	WA	WAF	W	WF	WA	WAF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N	N	N
W30 1	6.57	62	62	93	685	0.64	2450	2120	2980	2980	3000	3000	3000	3000
	8.20	65	65	97	549	0.51	2610	2260	3000	3000	3000	3000	3000	3000
	10.25	63	63	94	439	0.44	2860	2470	3000	3000	3000	3000	3000	3000
	14.33	69	69	103	314	0.37	3000	2720	3000	3000	3000	3000	3000	3000
	16.33	68	68	102	276	0.36	3000	2860	3000	3000	3000	3000	3000	3000
	19.50	70	70	105	231	0.34	3000	3000	3000	3000	3000	3000	3000	3000
	24.50	70	70	105	184	0.32	3000	3000	3000	3000	3000	3000	3000	3000
	27.50	70	70	105	164	0.33	3000	3000	3000	3000	3000	3000	3000	3000
	32.50	70	70	105	138	0.31	3000	3000	3000	3000	3000	3000	3000	3000
	39.00	70	70	105	115	0.31	3000	3000	3000	3000	3000	3000	3000	3000
	48.00	70	70	105	94	0.31	3000	3000	3000	3000	3000	3000	3000	3000
	60.00	70	70	105	75	0.30	3000	3000	3000	3000	3000	3000	3000	3000
	75.00	70	70	105	60	0.30	3000	3000	3000	3000	3000	3000	3000	3000

W..30				c_{TG}			
		n_{epk}	η	W	WF	WA	WAF
	i	min^{-1}	%	Nm/'	Nm/'	Nm/'	Nm/'
W30 1	6.57	4500	93	-	-	-	-
	8.20	4500	89	-	-	-	-
	10.25	4500	87	-	-	-	-
	14.33	4500	83	-	-	-	-
	16.33	4500	80	-	-	-	-
	19.50	4500	78	-	-	-	-
	24.50	4500	73	-	-	-	-
	27.50	4500	70	-	-	-	-
	32.50	4500	64	-	-	-	-
	39.00	4500	63	-	-	-	-
	48.00	4500	57	-	-	-	-
	60.00	4500	52	-	-	-	-
	75.00	4500	45	-	-	-	-

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W30..

20 020 01 12

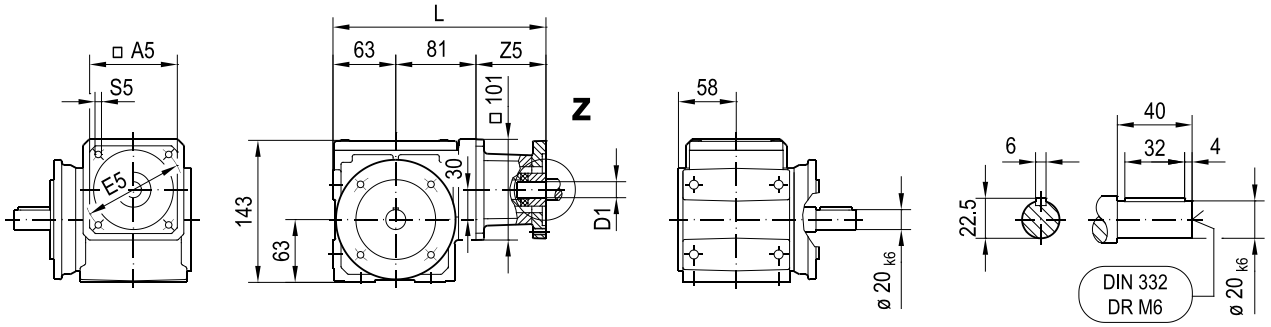


(→ 📖 7.3.11)	L	A5	B5	C5	E5	F5	S5	Z5	L1	D1 (→ 📖 12.2)
EWH03/08/..	214	73	60	14	75	3.5	M5	70	41	11, 14
EWH03/13/..	214	88	80	14	100	3.5	M6	70	41	14, 16

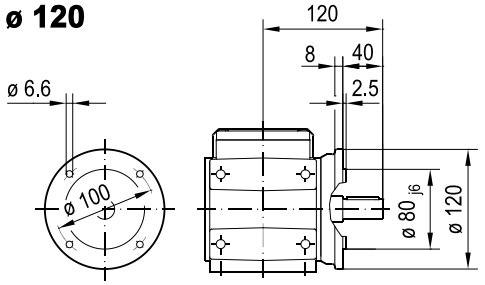
27788644/EN – 02/2024

WF30..

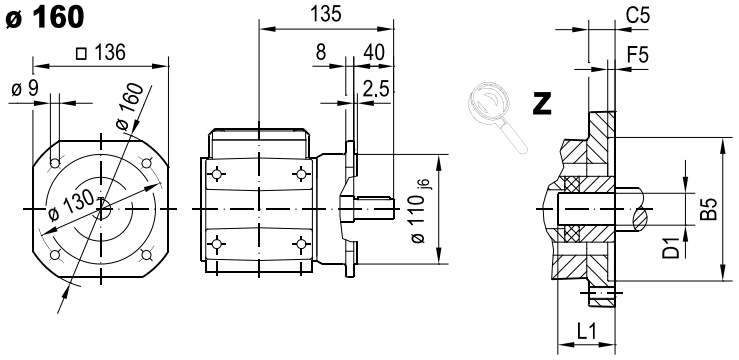
20 021 01 12



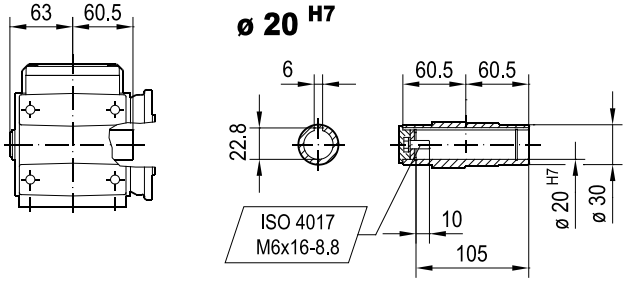
ø 120



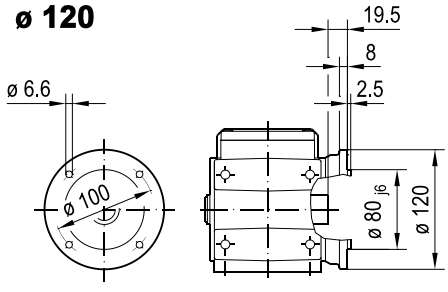
ø 160



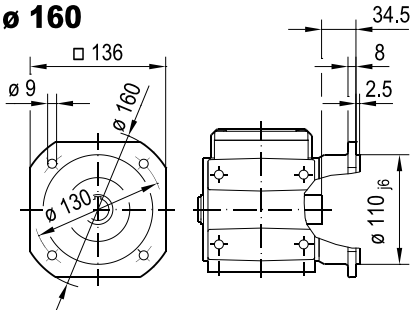
WAF30..



ø 120



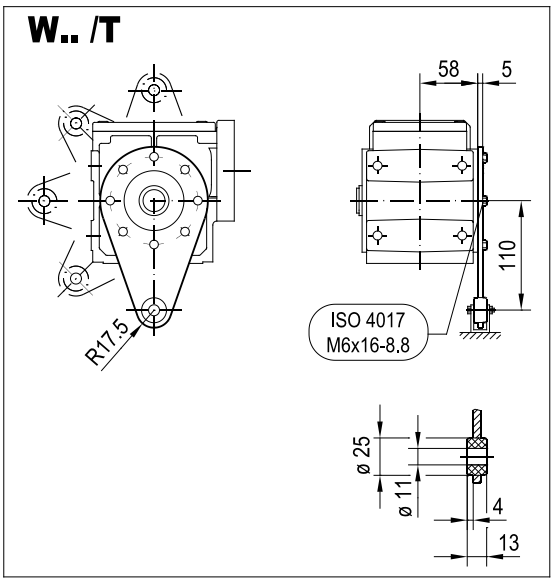
ø 160



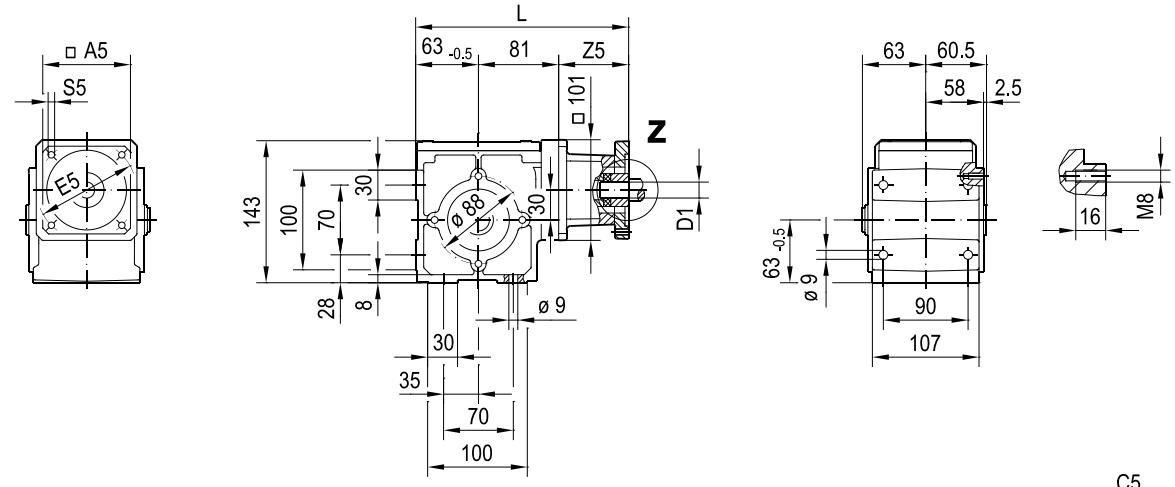
(→ 📖 7.3.11)	L	A5	B5	C5	E5	F5	S5	Z5	L1	D1 (→ 📖 12.2)
EWH03/08/..	214	73	60	14	75	3.5	M5	70	41	11, 14
EWH03/13/..	214	88	80	14	100	3.5	M6	70	41	14, 16

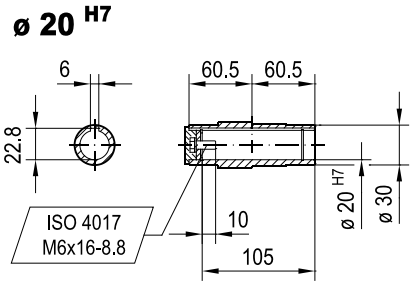
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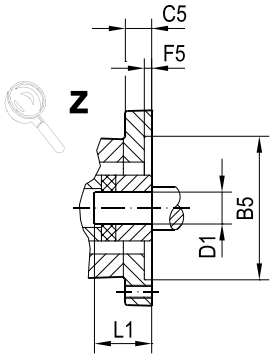
20 022 02 12



WA30..







(→ 📖 7.3.11)	L	A5	B5	C5	E5	F5	S5	Z5	L1	D1 (→ 📖 12.2)
EWH03/08/..	214	73	60	14	75	3.5	M5	70	41	11, 14
EWH03/13/..	214	88	80	14	100	3.5	M6	70	41	14, 16

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12.2 W.0 EWH.. → D1

	W.10	W.20	W.30
	EWH01	**EWH02**	**EWH03**
D1 /mm	**Code for mountable motor shaft diameters D1**		
9	2		
11	4	4	4
14		6	6
16		8	11

Example:

W..0 EWH 02 /08 /04	
W..0 EWH..	Gear units with adapter
02	Code for performance class of the adapter
/08	Code for flange geometry (centering, hole circle)
/04	**Code for mountable motor shaft diameters D1**

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12.3 W.9 AQS.. – Selection tables and dimension sheets

12.3.1 W19 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$								
	i	50/1-2			80/1,3-5			100/3-7		
WA19 2	5.90	32	34	50	32	34	51	34	34	51
	6.49	32	32	48	32	32	48	32	32	48
	7.62	42	44	65	42	44	66	43	44	66
	8.38	41	41	61	41	41	61	41	41	61
	9.31	50	53	79	50	53	80	50	53	80
	10.24	50	50	75	50	50	75	50	50	75
	12.16	56	67	95	56	67	95	56	67	95
	13.38	57	66	97	57	66	97	57	66	97
	16.16	62	74	105	62	74	105	62	74	105
	17.77	63	76	107	63	76	107	63	76	107
	20.86	59	61	92	59	61	92	61	61	92
	27.71	68	71	106	68	71	106	68	71	106
WA19 3	30.68	80	96	136	80	96	136	80	96	136
	33.74	80	96	136	80	96	136	80	96	136
	40.07	80	96	136	80	96	136	80	96	136
	44.07	80	96	136	80	96	136	80	96	136
	47.28	80	96	136	80	96	136	80	96	136
	52.61	80	96	136	80	96	136	80	96	136
	56.14	80	96	136	80	96	136	80	96	136
	61.75	80	96	136	80	96	136	80	96	136
	68.71	80	96	136	80	96	136	80	96	136
	74.57	80	96	136	80	96	136	80	96	136
	82.03	80	96	136	80	96	136	80	96	136
	90.04	80	96	136	80	96	136	80	96	136
	96.28	80	96	136	80	96	136	80	96	136
	119.61	80	96	136	80	96	136	80	96	136
	127.90	80	96	136	80	96	136	80	96	136
	167.59	80	96	136	80	96	136	80	96	136

min^{-1}		AQS. n_{ak}		
	i	50/1-2	80/1,3-5	100/3-7
WA19 2	5.90	283	283	319
	6.49	310	310	371
	7.62	196	196	184
	8.38	206	206	206
	9.31	150	150	150
	10.24	146	146	146
	12.16	118	118	118
	13.38	110	110	110
	16.16	87	87	87
	17.77	82	82	82
	20.86	67	67	68
	27.71	52	52	52

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min^{-1}		AQS. n_{ak}		
	i	50/1-2	80/1,3-5	100/3-7
WA19 3	30.68	77	77	77
	33.74	77	77	77
	40.07	75	75	75
	44.07	75	75	75
	47.28	78	78	78
	52.61	77	77	77
	56.14	76	76	76
	61.75	73	73	73
	68.71	65	65	65
	74.57	60	60	60
	82.03	55	55	55
	90.04	50	50	50
	96.28	47	47	47
	119.61	38	38	38
	127.90	35	35	35
	167.59	27	27	27

WA19, m kg			
	AQS.		
s	50/1-2	80/1,3-5	100/3-7
2	4.0	4.4	5.0
3	4.5	4.8	5.5
WAF: + 0.15 kg / WF: + 0.75 kg			

WA19, J_A / c_{TA}		AQS.		
		50/1-2	80/1,3-5	100/3-7
J_A 10^{-4}	kgm^2	0.41	0.46	1.3
c_{TA}	Nm/'	0.15	0.15	0.3

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W..19							F_{Ramax}			F_{Rapk}		
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	WA	WAF	WF	WA	WAF	WF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N
WA19 2	5.90	34	34	51	331	0.13	1850	1850	1130	2200	2200	2200
	6.49	32	32	48	384	0.10	1970	1970	1210	2200	2200	2200
	7.62	43	44	66	190	0.11	1970	1970	1200	2200	2200	2200
	8.38	41	41	61	214	0.087	2090	2090	1280	2200	2200	2200
	9.31	50	53	80	156	0.11	2140	2140	1310	2200	2200	2200
	10.24	50	50	75	152	0.090	2200	2200	1370	2200	2200	2200
	12.16	56	67	95	123	0.094	2200	2200	1460	2200	2200	2200
	13.38	57	66	97	114	0.076	2200	2200	1510	2200	2200	2200
	16.16	62	74	105	90	0.081	2200	2200	1620	2200	2200	2200
	17.77	63	76	107	84	0.065	2200	2200	1680	2200	2200	2200
	20.86	61	61	92	71	0.038	2200	2200	1800	2200	2200	2200
	27.71	68	71	106	54	0.034	2200	2200	2000	2200	2200	2200
WA19 3	30.68	80	96	136	80	0.070	2200	2200	1890	2200	2200	2200
	33.74	80	96	136	80	0.056	2200	2200	1980	2200	2200	2200
	40.07	80	96	136	78	0.069	2200	2200	2200	2200	2200	2200
	44.07	80	96	136	78	0.055	2200	2200	2200	2200	2200	2200
	47.28	80	96	136	81	0.050	2200	2200	2200	2200	2200	2200
	52.61	80	96	136	80	0.030	2200	2200	2200	2200	2200	2200
	56.14	80	96	136	79	0.062	2200	2200	2200	2200	2200	2200
	61.75	80	96	136	73	0.049	2200	2200	2200	2200	2200	2200
	68.71	80	96	136	65	0.029	2200	2200	2200	2200	2200	2200
	74.57	80	96	136	60	0.061	2200	2200	2200	2200	2200	2200
	82.03	80	96	136	55	0.048	2200	2200	2200	2200	2200	2200
	90.04	80	96	136	50	0.018	2200	2200	2200	2200	2200	2200
	96.28	80	96	136	47	0.027	2200	2200	2200	2200	2200	2200
	119.61	80	96	136	38	0.018	2200	2200	2200	2200	2200	2200
	127.90	80	96	136	35	0.027	2200	2200	2200	2200	2200	2200
	167.59	80	96	136	27	0.017	2200	2200	2200	2200	2200	2200

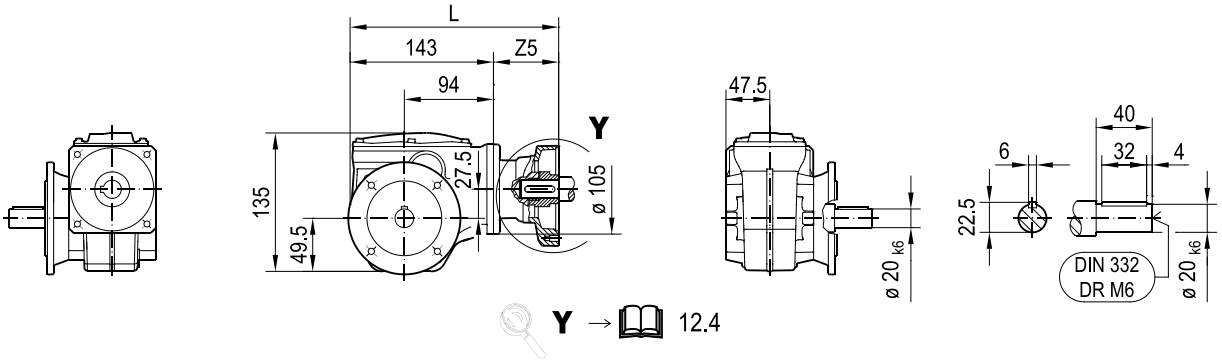
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W..19				c_{TG}		
	i	n_{epk} min^{-1}	η %	WA Nm/'	WAF Nm/'	WF Nm/'
WA19 2	5.90	4500	95	-	-	-
	6.49	4500	94	-	-	-
	7.62	4500	95	-	-	-
	8.38	4500	94	-	-	-
	9.31	4500	95	-	-	-
	10.24	4500	94	-	-	-
	12.16	4500	95	-	-	-
	13.38	4500	94	-	-	-
	16.16	4500	95	-	-	-
	17.77	4500	94	-	-	-
	20.86	4500	91	-	-	-
	27.71	4500	91	-	-	-
WA19 3	30.68	4500	94	-	-	-
	33.74	4500	93	-	-	-
	40.07	4500	94	-	-	-
	44.07	4500	93	-	-	-
	47.28	4500	93	-	-	-
	52.61	4500	90	-	-	-
	56.14	4500	94	-	-	-
	61.75	4500	93	-	-	-
	68.71	4500	90	-	-	-
	74.57	4500	94	-	-	-
	82.03	4500	93	-	-	-
	90.04	4500	87	-	-	-
	96.28	4500	90	-	-	-
	119.61	4500	87	-	-	-
	127.90	4500	90	-	-	-
	167.59	4500	87	-	-	-

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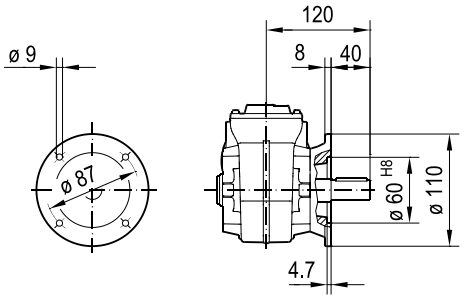
20 071 01 21

WF19..

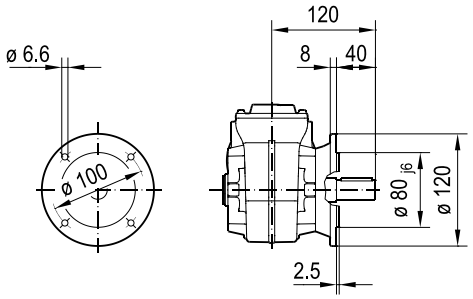


Y → 12.4

ø 110

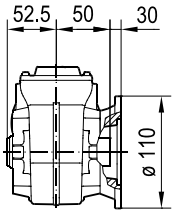


ø 120

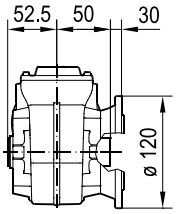


WAF19..

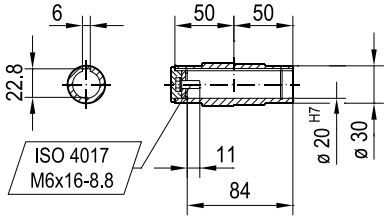
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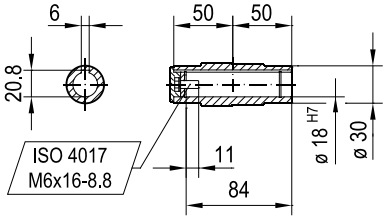
ø 120



ø 20 H7



ø 18 H7

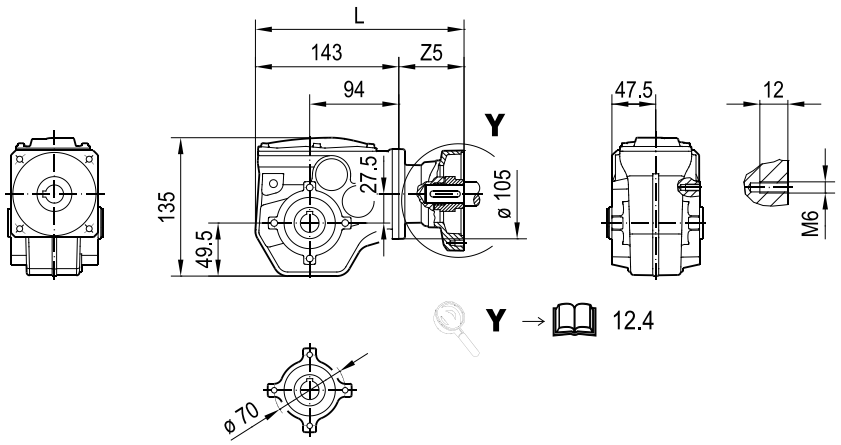


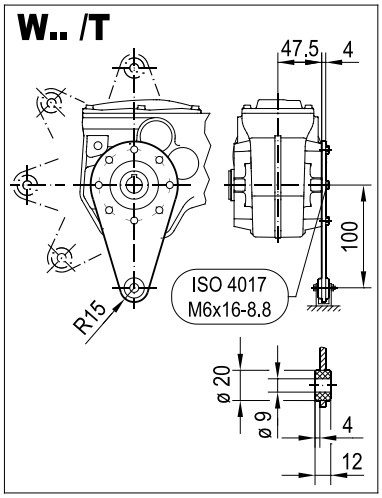
(→ 7.3.11)	AQS.							
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7			
Z5	52.5	56.5	73.5	79	83.5			
L	196	200	217	222	227			

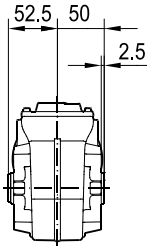
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20 072 02 21

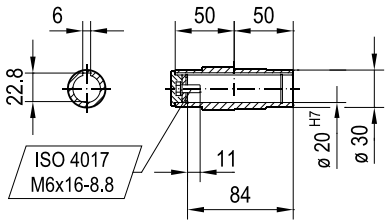
WA19..



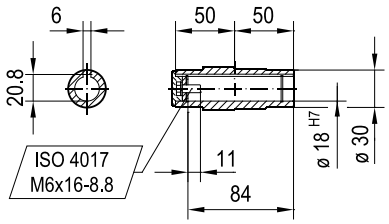




ø 20 H7



ø 18 H7



(→ 📖 7.3.11)	AQS.							
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7			
Z5	52.5	56.5	73.5	79	83.5			
L	196	200	217	222	227			

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12.3.2 W29 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	50/1-2			80/1,3-5			100/3-7			115/1,3-6		
WA29 2	4.68	26	30	40	26	31	44	43	43	65	43	43	65
	5.09	28	33	43	28	34	48	43	43	65	43	43	65
	5.60	28	34	47	28	34	48	41	41	57	41	41	57
	6.68	37	44	57	37	44	63	62	62	93	62	62	93
	7.27	40	47	62	40	48	68	62	62	93	62	62	93
	8.00	41	49	67	41	49	70	58	58	81	58	58	81
	9.66	53	63	82	53	64	90	89	89	134	89	89	134
	10.51	58	69	89	58	70	99	90	90	135	90	90	135
	11.56	59	71	97	59	71	100	85	85	119	85	85	119
	13.57	75	89	115	75	90	128	124	124	186	124	124	186
	14.77	81	97	125	81	97	138	126	126	189	126	126	189
	16.25	83	100	136	83	100	141	120	120	168	120	120	168
	19.45	108	128	165	108	130	184	130	156	220	130	156	220
	21.17	117	139	180	117	140	199	130	156	220	130	156	220
	23.29	120	144	195	120	144	205	130	156	220	130	156	220
WA29 3	25.89	130	156	220	130	156	220	130	156	220	130	156	220
	28.17	130	156	220	130	156	220	130	156	220	130	156	220
	30.99	130	156	220	130	156	220	130	156	220	130	156	220
	36.38	130	156	220	130	156	220	130	156	220	130	156	220
	38.73	130	156	220	130	156	220	130	156	220	130	156	220
	43.54	130	156	220	130	156	220	130	156	220	130	156	220
	49.58	130	156	220	130	156	220	130	156	220	130	156	220
	52.14	130	156	220	130	156	220	130	156	220	130	156	220
	56.74	130	156	220	130	156	220	130	156	220	130	156	220
	62.41	130	156	220	130	156	220	130	156	220	130	156	220
	69.68	130	156	220	130	156	220	130	156	220	130	156	220
	74.19	130	156	220	130	156	220	130	156	220	130	156	220
	78.02	130	156	220	130	156	220	130	156	220	130	156	220
	83.41	130	156	220	130	156	220	130	156	220	130	156	220
	93.58	130	156	220	130	156	220	130	156	220	130	156	220
	99.87	130	156	220	130	156	220	130	156	220	130	156	220
	108.68	130	156	220	130	156	220	130	156	220	130	156	220
	119.55	130	156	220	130	156	220	130	156	220	130	156	220
	131.50	130	156	220	130	156	220	130	156	220	130	156	220
	149.43	130	156	220	130	156	220	130	156	220	130	156	220
	188.47	130	156	220	130	156	220	130	156	220	130	156	220

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min^{-1}		AQS. n_{ak}			
	i	50/1-2	80/1,3-5	100/3-7	115/1,3-6
WA29 2	4.68	303	303	483	609
	5.09	283	283	507	701
	5.60	309	309	527	795
	6.68	219	219	331	415
	7.27	198	198	347	477
	8.00	183	183	378	563
	9.66	161	161	233	293
	10.51	134	134	237	326
	11.56	131	131	253	379
	13.57	110	110	139	139
	14.77	100	100	131	131
	16.25	92	92	149	149
	19.45	74	74	121	121
	21.17	66	66	120	120
	23.29	61	61	119	119
WA29 3	25.89	93	93	174	174
	28.17	109	109	160	160
	30.99	107	107	145	145
	36.38	124	124	124	124
	38.73	85	85	116	116
	43.54	103	103	103	103
	49.58	91	91	91	91
	52.14	86	86	86	86
	56.74	79	79	79	79
	62.41	72	72	72	72
	69.68	65	65	65	65
	74.19	61	61	61	61
	78.02	58	58	58	58
	83.41	54	54	54	54
	93.58	48	48	48	48
	99.87	45	45	45	45
	108.68	41	41	41	41
	119.55	38	38	38	38
	131.50	34	34	34	34
	149.43	30	30	30	30
	188.47	24	24	24	24

WA29, m kg	AQS.			
s	50/1-2	80/1,3-5	100/3-7	115/1,3-6
2	5.9	6.3	7.0	8.7
3	6.2	6.5	7.3	8.9
WAF: + 0.25 kg / WF: + 0.65 kg				

WA29, J_A / c_{TA}		AQS.			
		50/1-2	80/1,3-5	100/3-7	115/1,3-6
J_A 10^{-4}	kgm^2	0.41	0.46	1.3	2.4
c_{TA}	Nm/'	0.15	0.15	0.3	0.7

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W..29							F_{Ramax}			F_{Rapk}		
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	WA	WAF	WF	WA	WAF	WF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N
WA29 2	4.68	43	43	65	962	0.27	2640	2640	1720	3500	3500	3500
	5.09	43	43	65	884	0.23	2740	2740	1780	3500	3500	3500
	5.60	41	41	57	804	0.19	2890	2890	1880	3500	3500	3500
	6.68	62	62	93	674	0.20	2860	2860	1860	3500	3500	3500
	7.27	62	62	93	619	0.17	2960	2960	1930	3500	3500	3500
	8.00	58	58	81	563	0.14	3160	3160	2050	3500	3500	3500
	9.66	89	89	134	352	0.19	3190	3190	2070	3500	3500	3500
	10.51	90	90	135	340	0.16	3300	3300	2150	3500	3500	3500
	11.56	85	85	119	389	0.13	3510	3510	2280	3500	3500	3500
	13.57	124	124	186	144	0.14	3360	3360	2190	3500	3500	3500
	14.77	126	126	189	136	0.12	3480	3480	2260	3500	3500	3500
	16.25	120	120	168	154	0.099	3710	3710	2410	3500	3500	3500
	19.45	130	156	220	125	0.11	4000	4000	2600	3500	3500	3360
	21.17	130	156	220	125	0.095	4160	4160	2700	3500	3500	3360
	23.29	130	156	220	123	0.076	4340	4340	2820	3500	3500	3360
WA29 3	25.89	130	156	220	174	0.11	4350	4350	2830	3500	3500	3360
	28.17	130	156	220	160	0.097	4520	4520	2940	3500	3500	3360
	30.99	130	156	220	145	0.078	4720	4720	3070	3500	3500	3360
	36.38	130	156	220	124	0.11	5000	5000	3370	3500	3500	3360
	38.73	130	156	220	116	0.057	5000	5000	3390	3500	3500	3360
	43.54	130	156	220	103	0.073	5000	5000	3560	3500	3500	3360
	49.58	130	156	220	91	0.083	5000	5000	3560	3500	3500	3360
	52.14	130	156	220	86	0.10	5000	5000	3560	3500	3500	3360
	56.74	130	156	220	79	0.087	5000	5000	3560	3500	3500	3360
	62.41	130	156	220	72	0.070	5000	5000	3560	3500	3500	3360
	69.68	130	156	220	65	0.081	5000	5000	3560	3500	3500	3360
	74.19	130	156	220	61	0.044	5000	5000	3560	3500	3500	3360
	78.02	130	156	220	58	0.052	5000	5000	3560	3500	3500	3360
	83.41	130	156	220	54	0.056	5000	5000	3560	3500	3500	3360
	93.58	130	156	220	48	0.030	5000	5000	3560	3500	3500	3360
	99.87	130	156	220	45	0.080	5000	5000	3560	3500	3500	3360
	108.68	130	156	220	41	0.070	5000	5000	3560	3500	3500	3360
	119.55	130	156	220	38	0.055	5000	5000	3560	3500	3500	3360
	131.50	130	156	220	34	0.029	5000	5000	3560	3500	3500	3360
	149.43	130	156	220	30	0.043	5000	5000	3560	3500	3500	3360
	188.47	130	156	220	24	0.029	5000	5000	3560	3500	3500	3360

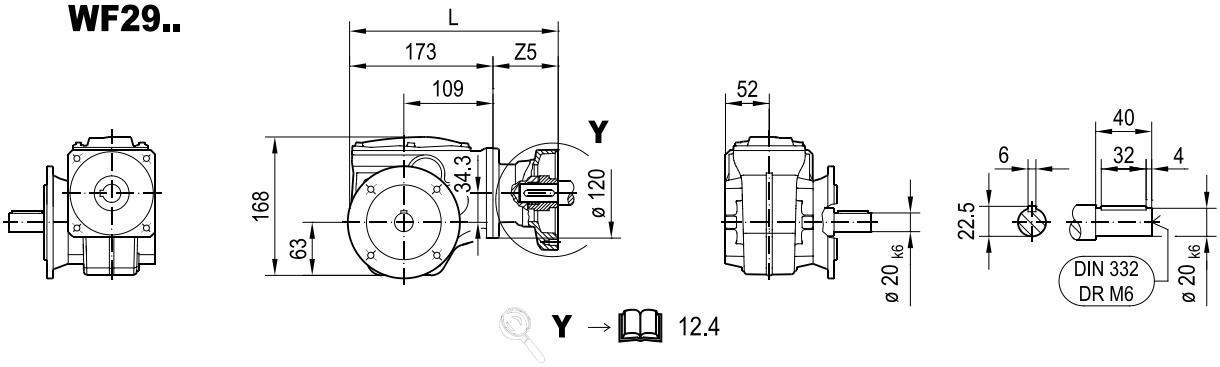
27788644/EN – 02/2024

W..29				c_{TG}		
	i	n_{epk} min^{-1}	η %	WA Nm/'	WAF Nm/'	WF Nm/'
WA29 2	4.68	4500	95	-	-	-
	5.09	4500	94	-	-	-
	5.60	4500	93	-	-	-
	6.68	4500	95	-	-	-
	7.27	4500	94	-	-	-
	8.00	4500	93	-	-	-
	9.66	4500	95	-	-	-
	10.51	4500	94	-	-	-
	11.56	4500	93	-	-	-
	13.57	4500	95	-	-	-
	14.77	4500	94	-	-	-
	16.25	4500	93	-	-	-
	19.45	4500	95	-	-	-
	21.17	4500	94	-	-	-
	23.29	4500	93	-	-	-
WA29 3	25.89	4500	93	-	-	-
	28.17	4500	93	-	-	-
	30.99	4500	92	-	-	-
	36.38	4500	93	-	-	-
	38.73	4500	91	-	-	-
	43.54	4500	92	-	-	-
	49.58	4500	93	-	-	-
	52.14	4500	93	-	-	-
	56.74	4500	93	-	-	-
	62.41	4500	92	-	-	-
	69.68	4500	93	-	-	-
	74.19	4500	91	-	-	-
	78.02	4500	91	-	-	-
	83.41	4500	92	-	-	-
	93.58	4500	90	-	-	-
	99.87	4500	93	-	-	-
	108.68	4500	93	-	-	-
	119.55	4500	92	-	-	-
	131.50	4500	90	-	-	-
	149.43	4500	91	-	-	-
	188.47	4500	90	-	-	-

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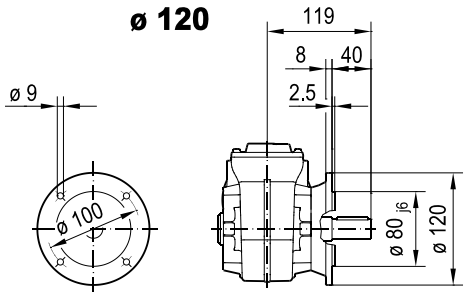
20 010 00 21

WF29..

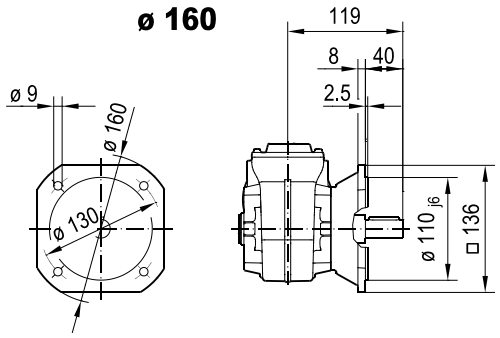


Y → 12.4

ø 120

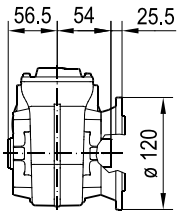


ø 160

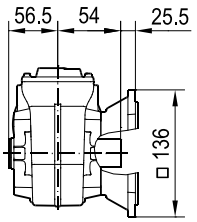


WAF29..

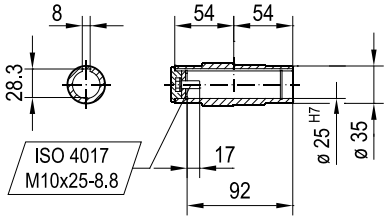
ø 120



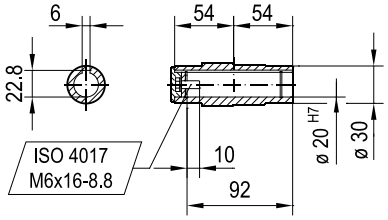
ø 160



ø 25 H7



ø 20 H7

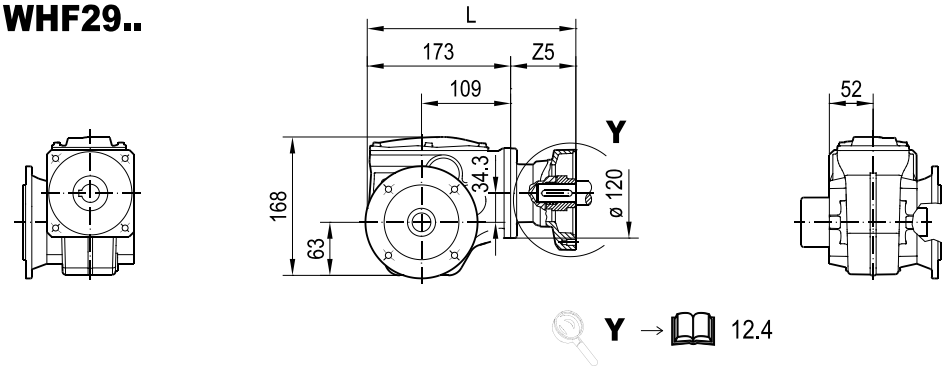


(→ 7.3.11)	AQS.								
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5
L	226	230	247	252	257	260	266	260	265

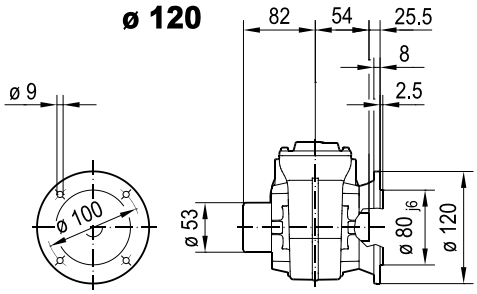
27788644/EN – 02/2024

20 011 01 21

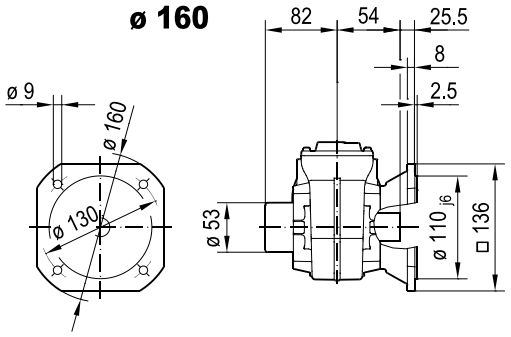
WHF29..

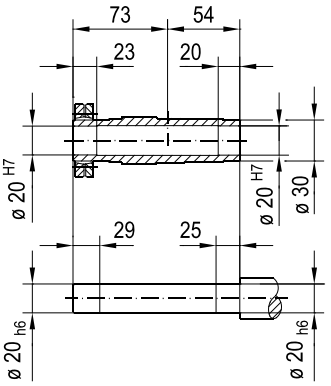


ø 120



ø 160



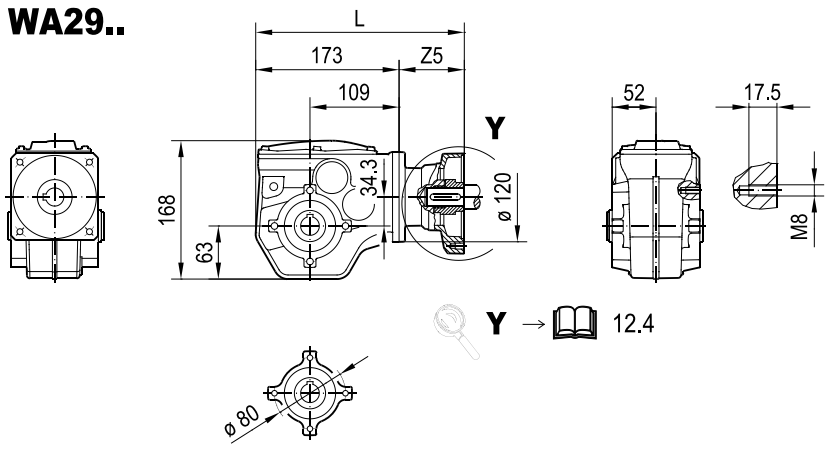


(→ 📖 7.3.11)	AQS.								
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5
L	226	230	247	252	257	260	266	260	265

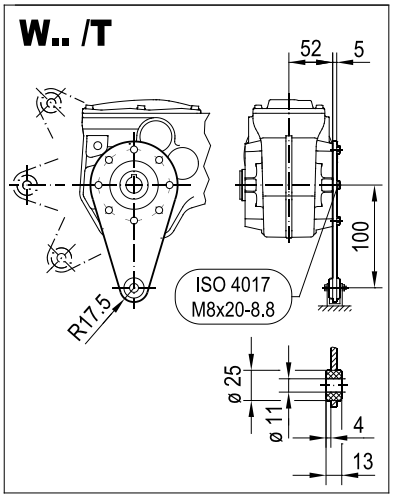
27788644/EN – 02/2024

20 012 03 21

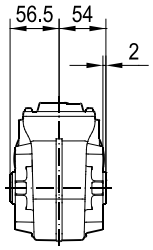
WA29..



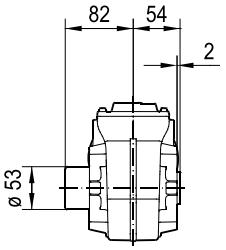
W.. /T



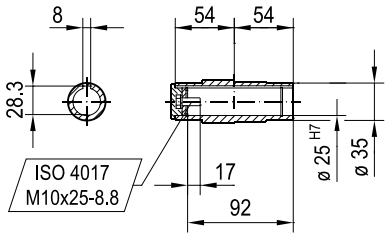
WA29..



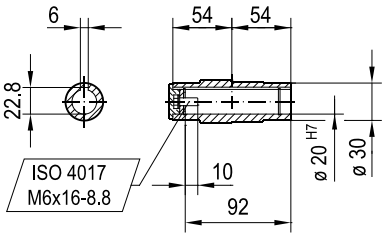
WH29..

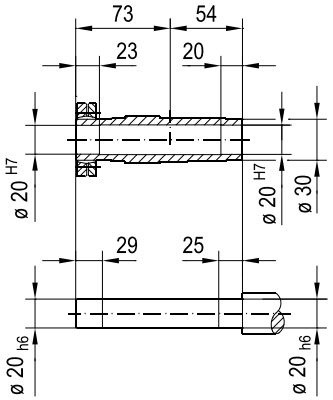


ø 25 H7



ø 20 H7

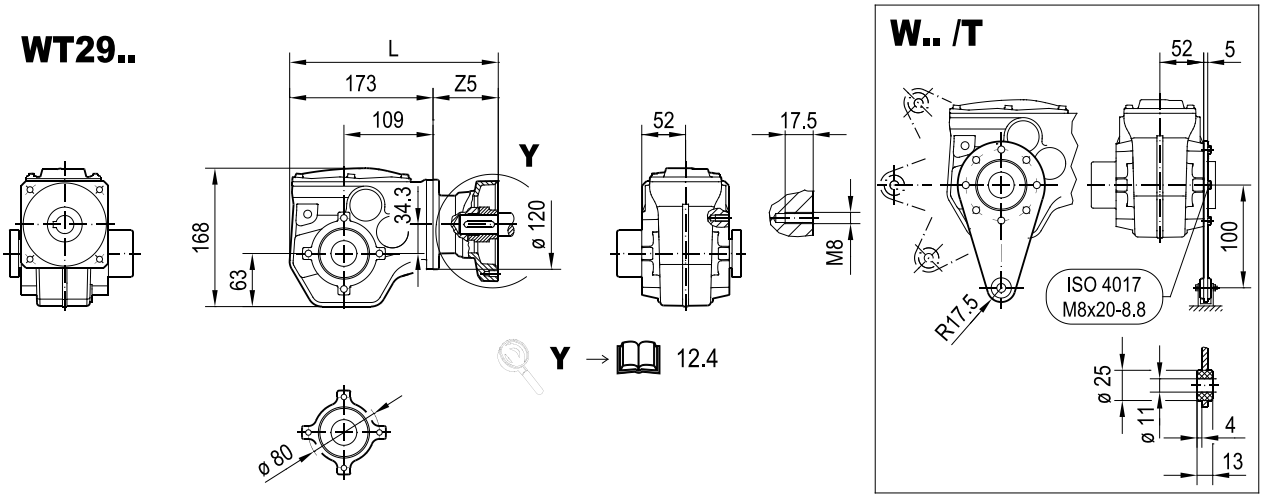


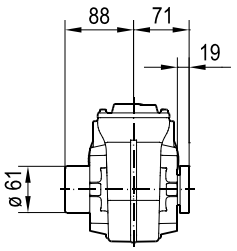


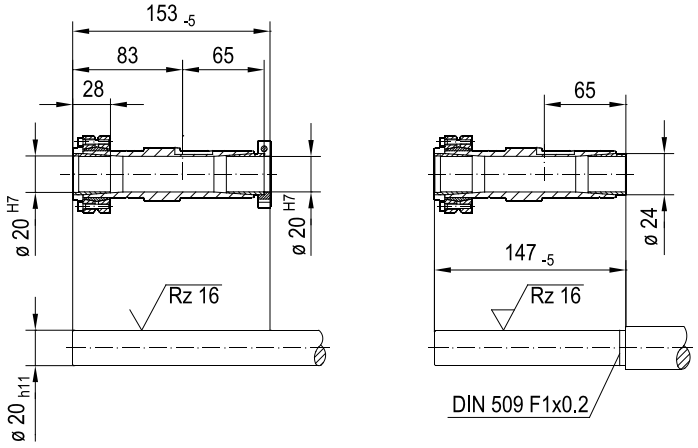
(→ 📖 7.3.11)	AQS.								
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5
L	226	230	247	252	257	260	266	260	265

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20 013 02 21







(→ 📖 7.3.11)	AQS.								
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5
L	226	230	247	252	257	260	266	260	265

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12.3.3 W39 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	50/1-2			80/1,3-5			100/3-7			115/1,3-6		
WA39 2	4.72	29	31	40	29	35	49	56	59	89	57	59	89
	5.14	30	34	44	30	36	51	58	59	89	59	59	89
	5.65	32	36	48	32	38	54	61	66	99	62	66	99
	6.35	39	42	54	39	47	66	76	80	120	77	80	120
	6.91	41	45	59	41	49	70	78	80	120	80	80	120
	7.61	43	49	64	43	52	73	82	88	132	84	88	132
	9.14	57	60	78	57	68	97	109	124	185	112	124	186
	9.94	59	65	85	59	71	100	112	127	190	115	127	191
	10.94	62	71	92	62	74	105	118	138	200	121	138	205
	13.27	83	88	113	83	100	141	158	183	270	162	183	275
	14.44	86	95	123	86	103	146	163	187	275	167	187	281
	15.89	90	103	134	90	108	153	170	202	285	170	202	285
	19.78	124	131	169	124	149	210	200	240	340	200	240	340
	21.53	128	142	183	128	154	220	200	240	340	200	240	340
	23.68	135	154	199	135	162	230	200	240	340	200	240	340
WA39 3	28.38	176	186	240	176	210	300	196	235	330	196	235	330
	30.88	181	200	260	181	215	310	196	235	330	196	235	330
	33.97	191	215	280	191	230	325	196	235	330	196	235	330
	41.22	200	240	340	200	240	340	200	240	340	200	240	340
	44.85	200	240	340	200	240	340	200	240	340	200	240	340
	49.34	200	240	340	200	240	340	200	240	340	200	240	340
	53.04	186	223	315	186	223	315	186	223	315	186	223	315
	58.34	186	223	315	186	223	315	186	223	315	186	223	315
	61.43	200	240	340	200	240	340	200	240	340	200	240	340
	66.85	200	240	340	200	240	340	200	240	340	200	240	340
	70.79	200	240	340	200	240	340	200	240	340	200	240	340
	73.53	200	240	340	200	240	340	200	240	340	200	240	340
	77.03	200	240	340	200	240	340	200	240	340	200	240	340
	84.74	200	240	340	200	240	340	200	240	340	200	240	340
	91.92	200	240	340	200	240	340	200	240	340	200	240	340
	97.24	186	223	315	186	223	315	186	223	315	186	223	315
	105.50	200	240	340	200	240	340	200	240	340	200	240	340
	114.81	200	240	340	200	240	340	200	240	340	200	240	340
	126.29	200	240	340	200	240	340	200	240	340	200	240	340
	141.23	200	240	340	200	240	340	200	240	340	200	240	340
	157.87	200	240	340	200	240	340	200	240	340	200	240	340
	210.49	200	240	340	200	240	340	200	240	340	200	240	340

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min^{-1}		AQS. n_{ak}			
	i	50/1-2	80/1,3-5	100/3-7	115/1,3-6
WA39 2	4.72	345	345	316	333
	5.14	313	313	276	290
	5.65	265	265	253	271
	6.35	258	258	220	239
	6.91	208	208	205	204
	7.61	198	198	188	191
	9.14	161	161	156	154
	9.94	145	145	145	143
	10.94	136	136	131	132
	13.27	109	109	109	109
	14.44	97	97	98	98
	15.89	94	94	92	111
	19.78	72	72	78	78
	21.53	65	65	77	77
	23.68	60	60	76	76
WA39 3	28.38	49	49	159	159
	30.88	47	47	146	146
	33.97	43	43	132	132
	41.22	94	94	109	109
	44.85	95	95	100	100
	49.34	91	91	91	91
	53.04	85	85	85	85
	58.34	77	77	77	77
	61.43	73	73	73	73
	66.85	67	67	67	67
	70.79	64	64	64	64
	73.53	61	61	61	61
	77.03	58	58	58	58
	84.74	53	53	53	53
	91.92	49	49	49	49
	97.24	46	46	46	46
	105.50	43	43	43	43
	114.81	39	39	39	39
	126.29	36	36	36	36
	141.23	32	32	32	32
	157.87	29	29	29	29
	210.49	21	21	21	21

WA39, m kg	AQS.			
s	50/1-2	80/1,3-5	100/3-7	115/1,3-6
2	7.4	7.8	8.5	9.7
3	8.2	8.6	9.3	10
WAF: + 0.80 kg / WF: + 1.7 kg				

WA39, J_A / c_{TA}		AQS.			
		50/1-2	80/1,3-5	100/3-7	115/1,3-6
J_A 10^{-4}	kgm^2	0.41	0.46	1.3	2.4
c_{TA}	Nm/"	0.15	0.15	0.3	0.7

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W..39							F_{Ramax}			F_{Rapk}		
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	WA	WAF	WF	WA	WAF	WF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N
WA39 2	4.72	59	59	89	953	0.55	2160	2160	1400	4500	4500	4500
	5.14	59	59	89	875	0.45	2250	2250	1460	4500	4500	4500
	5.65	66	66	99	796	0.38	2240	2240	1450	4500	4500	4500
	6.35	80	80	120	709	0.41	2280	2280	1480	4500	4500	4500
	6.91	80	80	120	651	0.34	2380	2380	1540	4500	4500	4500
	7.61	88	88	132	532	0.28	2380	2380	1540	4500	4500	4500
	9.14	124	124	186	284	0.37	2350	2350	1520	4500	4500	4500
	9.94	127	127	191	263	0.31	2430	2430	1570	4500	4500	4500
	10.94	125	138	205	268	0.26	2580	2580	1670	4500	4500	4500
	13.27	175	183	275	108	0.27	2350	2350	1520	4500	4500	4390
	14.44	175	187	280	107	0.22	2480	2480	1600	4500	4500	4360
	15.89	170	200	285	115	0.19	2690	2690	1740	4500	4500	4240
	19.78	200	240	340	81	0.22	2890	2890	1870	4500	4500	4130
	21.53	200	240	340	80	0.17	3030	3030	1960	4500	4500	4130
	23.68	200	240	340	79	0.15	3200	3200	2070	4500	4500	4130
WA39 3	28.38	196	235	330	159	0.19	3240	3240	2100	4500	4500	3880
	30.88	196	235	330	146	0.16	3400	3400	2200	4500	4500	3880
	33.97	196	235	330	132	0.13	3590	3590	2320	4500	4500	3880
	41.22	200	240	340	109	0.18	4090	4090	2650	4500	4500	3940
	44.85	200	240	340	100	0.15	4280	4280	2770	4500	4500	3940
	49.34	200	240	340	91	0.13	4490	4490	2910	4500	4500	3940
	53.04	186	220	315	85	0.12	4690	4690	3040	4500	4500	3980
	58.34	186	220	315	77	0.11	4920	4920	3180	4500	4500	3980
	61.43	200	240	340	73	0.18	5220	5220	3370	4500	4500	4130
	66.85	200	240	340	67	0.14	5430	5430	3510	4500	4500	4130
	70.79	200	240	340	64	0.15	5380	5380	3480	4500	4500	3940
	73.53	200	240	340	61	0.12	5680	5680	3670	4500	4500	4130
	77.03	200	240	340	58	0.12	5600	5600	3620	4500	4500	3940
	84.74	200	240	340	53	0.10	5860	5860	3790	4500	4500	3940
	91.92	200	240	340	49	0.075	6280	6280	4060	4500	4500	4130
	97.24	186	220	315	46	0.044	6270	6270	4060	4500	4500	3980
	105.50	200	240	340	43	0.15	6680	6680	4320	4500	4500	4130
	114.81	200	240	340	39	0.12	6820	6820	4410	4500	4500	4130
	126.29	200	240	340	36	0.10	6820	6820	4410	4500	4500	4130
	141.23	200	240	340	32	0.043	6620	6620	4280	4500	4500	3940
	157.87	200	240	340	29	0.063	6820	6820	4410	4500	4500	4130
	210.49	200	240	340	21	0.043	6820	6820	4410	4500	4500	4130

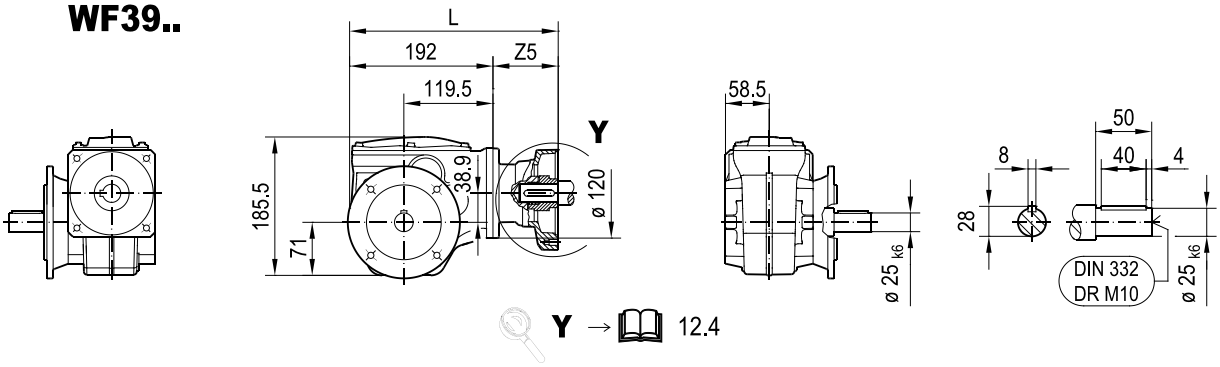
27788644/EN – 02/2024

W..39				c_{TG}		
	i	n_{epk} min^{-1}	η %	WA Nm/'	WAF Nm/'	WF Nm/'
WA39 2	4.72	4500	95	-	-	-
	5.14	4500	95	-	-	-
	5.65	4500	94	-	-	-
	6.35	4500	95	-	-	-
	6.91	4500	95	-	-	-
	7.61	4500	94	-	-	-
	9.14	4500	95	-	-	-
	9.94	4500	95	-	-	-
	10.94	4500	94	-	-	-
	13.27	4500	95	-	-	-
	14.44	4500	95	-	-	-
	15.89	4500	94	-	-	-
	19.78	4500	95	-	-	-
	21.53	4500	95	-	-	-
	23.68	4500	94	-	-	-
WA39 3	28.38	4500	94	-	-	-
	30.88	4500	94	-	-	-
	33.97	4500	92	-	-	-
	41.22	4500	94	-	-	-
	44.85	4500	94	-	-	-
	49.34	4500	92	-	-	-
	53.04	4500	94	-	-	-
	58.34	4500	92	-	-	-
	61.43	4500	94	-	-	-
	66.85	4500	94	-	-	-
	70.79	4500	94	-	-	-
	73.53	4500	92	-	-	-
	77.03	4500	94	-	-	-
	84.74	4500	92	-	-	-
	91.92	4500	93	-	-	-
	97.24	4500	89	-	-	-
	105.50	4500	94	-	-	-
	114.81	4500	94	-	-	-
	126.29	4500	92	-	-	-
	141.23	4500	89	-	-	-
	157.87	4500	93	-	-	-
	210.49	4500	89	-	-	-

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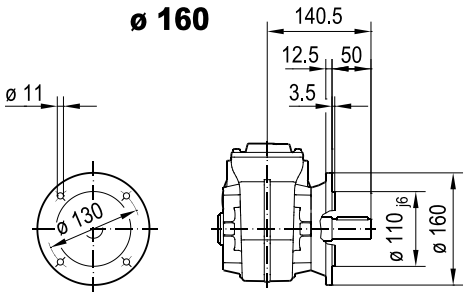
20 020 01 21

WF39..

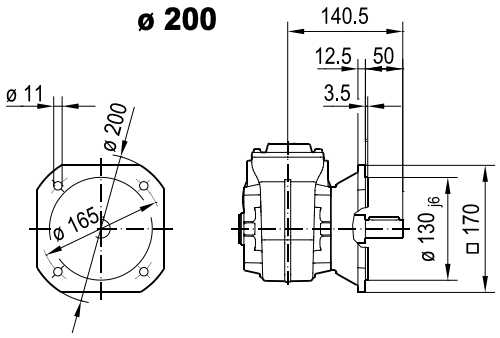


Y → 12.4

ø 160

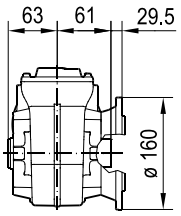


ø 200

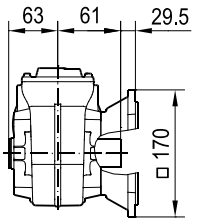


WAF39..

ø 160

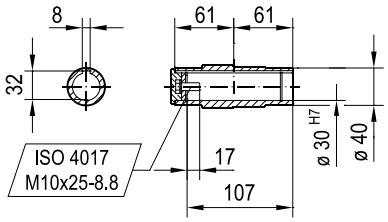


ø 200

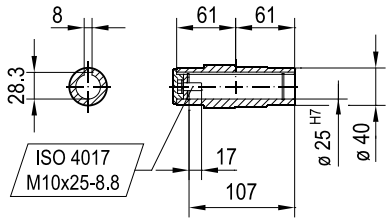


ø 30 H7

DIN 6885-3



ø 25 H7

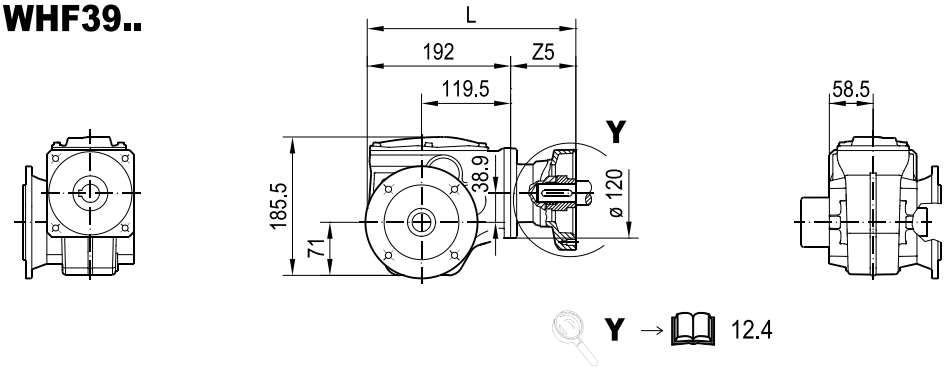


(→ 📖 7.3.11)	AQS.						AQSH	AQS.	
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5
L	245	249	266	271	276	279	285	279	284

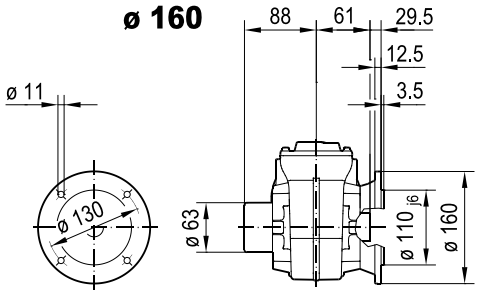
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20 021 02 21

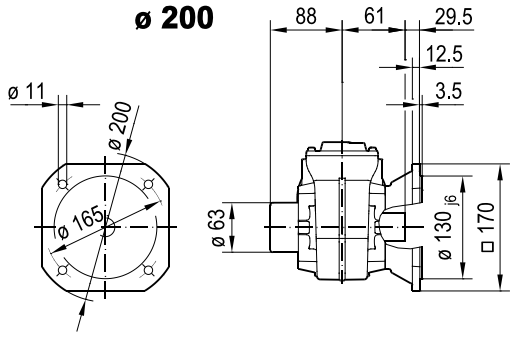
WHF39..

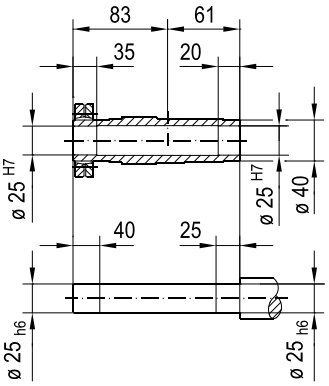


ø 160



ø 200



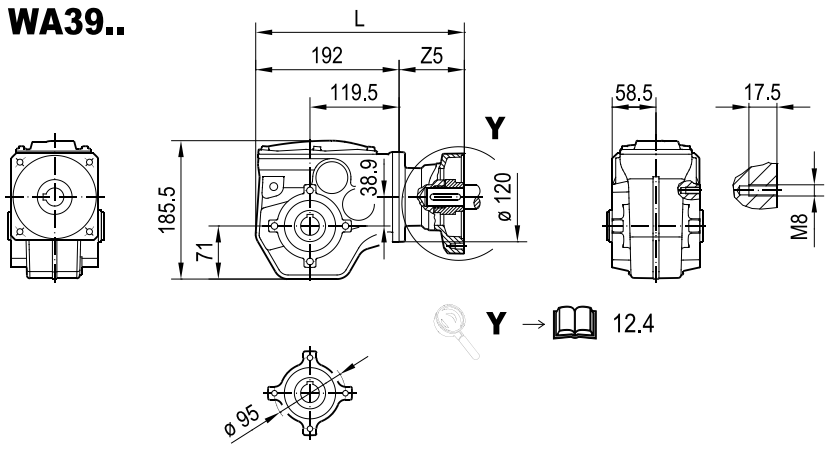


(→ 7.3.11)	AQS.						AQSH	AQS.	
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5
L	245	249	266	271	276	279	285	279	284

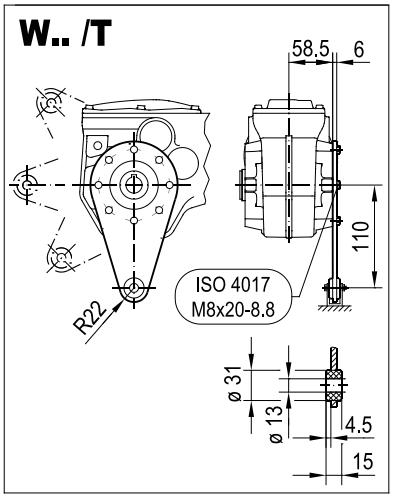
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20 022 03 21

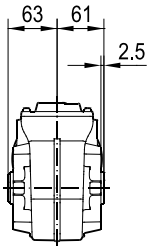
WA39..



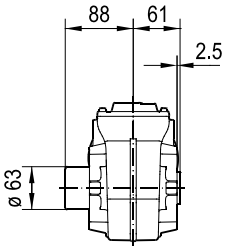
W.. /T

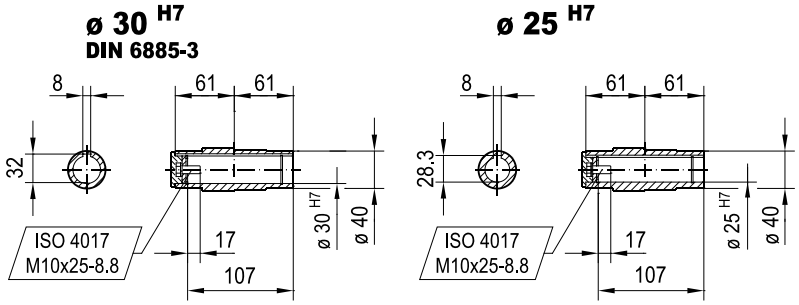


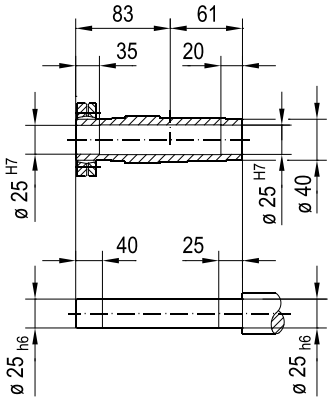
WA39..



WH39..



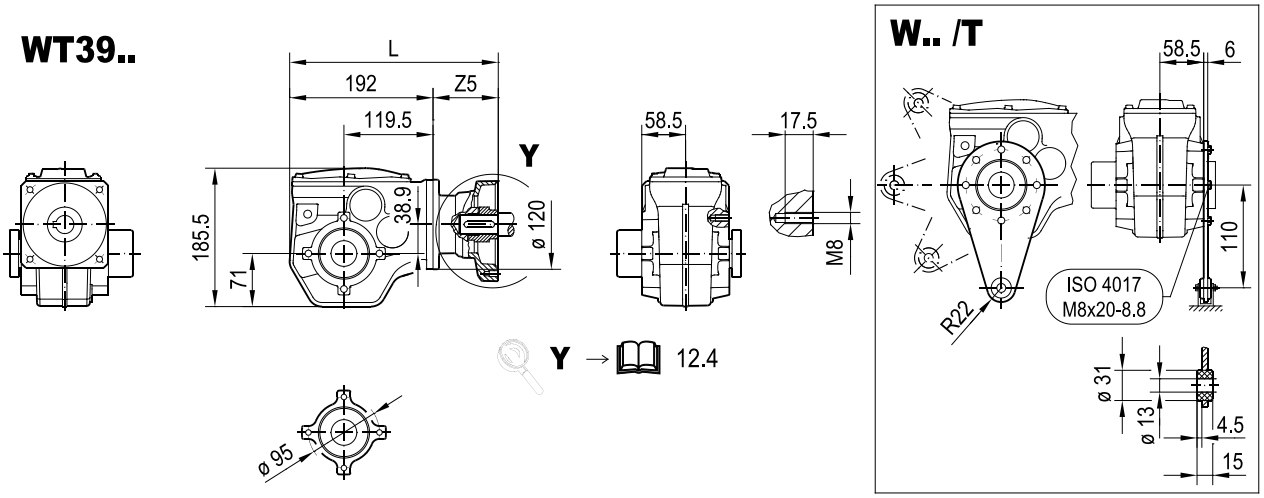


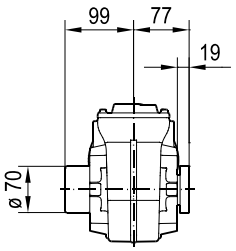


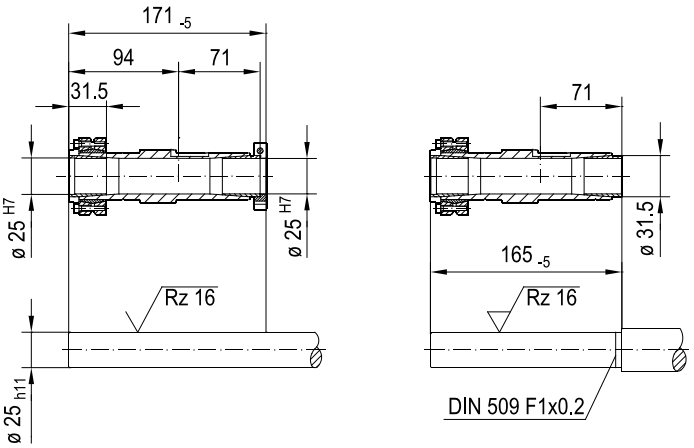
(→ 📖 7.3.11)	AQS.						AQSH	AQS.	
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5
L	245	249	266	271	276	279	285	279	284

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(→ 📖 7.3.11)	AQS.						AQSH	AQS.	
	50/1-2	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6
Z5	52.5	56.5	73.5	79	83.5	86.5	92.5	86.5	91.5
L	245	249	266	271	276	279	285	279	284

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12.3.4 W49 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$														
	i	80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6			160/1		
WA49 2	7.22	52	62	88	100	120	170	103	124	175	138	138	207	138	138	207
	7.88	55	66	94	104	125	177	107	128	182	149	149	224	149	149	224
	8.67	55	66	94	106	127	180	108	130	184	131	131	197	131	131	197
	10.13	74	89	126	141	169	240	144	173	245	193	193	290	193	193	290
	11.05	77	92	131	146	175	250	150	180	255	209	209	314	209	209	314
	12.16	78	94	133	148	178	250	152	182	260	184	184	276	184	184	276
	14.12	103	124	175	197	235	335	200	240	340	269	269	404	269	269	404
	15.40	107	128	182	200	240	340	205	245	350	290	290	435	290	290	435
	16.94	108	130	184	205	245	350	210	250	355	258	258	387	258	258	387
	18.91	138	166	235	260	310	440	270	325	460	327	354	532	327	354	532
	20.63	144	173	245	270	325	460	280	335	475	335	402	570	335	402	570
	22.69	145	174	245	275	330	470	285	340	485	342	343	515	342	343	515
WA49 3	26.11	189	225	320	360	430	610	365	440	620	378	455	643	378	455	643
	28.48	196	235	335	370	445	630	378	446	643	378	446	643	378	446	643
	31.33	198	240	335	378	455	643	378	455	643	378	455	643	378	455	643
	36.38	260	310	440	400	480	680	400	480	680	400	480	680	400	480	680
	39.69	270	325	460	400	480	680	400	480	680	400	480	680	400	480	680
	43.66	275	330	470	400	480	680	400	480	680	400	480	680	400	480	680
	48.73	350	420	595	396	475	673	396	475	673	396	475	673	396	475	673
	53.16	365	440	620	396	475	673	396	475	673	396	475	673	396	475	673
	58.48	370	445	630	396	475	673	396	475	673	396	475	673	396	475	673
	61.58	400	480	680	400	480	680	400	480	680	400	480	680	400	480	680
	67.73	400	480	680	400	480	680	400	480	680	400	480	680	400	480	680
	70.25	385	460	655	396	475	673	396	475	673						
	78.66	400	480	680	400	480	680	400	480	680	400	480	680	400	480	680
	85.81	400	480	680	400	480	680	400	480	680	400	480	680	400	480	680
	92.86	375	450	640	396	470	673	396	470	673						
	94.39	400	480	680	400	480	680	400	480	680	400	480	680	400	480	680
	105.36	396	475	673	396	475	673	396	475	673	396	475	673	396	475	673
	114.94	396	475	673	396	475	673	396	475	673	396	475	673	396	475	673
	126.43	396	475	673	396	475	673	396	475	673	396	475	673	396	475	673
	149.88	400	480	680	400	480	680	400	480	680						
	151.87	396	475	673	396	475	673	396	475	673						
	200.76	396	475	673	396	475	673	396	475	673						

min^{-1}		AQS. n_{ak}				
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1
WA49 2	7.22	219	204	198	623	623
	7.88	178	184	179	571	571
	8.67	176	163	170	519	519
	10.13	141	140	144	334	334
	11.05	129	131	129	257	257
	12.16	116	119	118	359	359
	14.12	102	99	106	132	132
	15.40	94	105	106	104	104
	16.94	87	87	90	142	142
	18.91	76	82	75	74	74
	20.63	68	75	69	68	68
	22.69	64	65	62	62	62

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min^{-1}		AQS. n_{ak}				
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1
WA49 3	26.11	54	54	58	58	58
	28.48	50	52	53	58	58
	31.33	46	46	54	58	58
	36.38	42	45	45	45	45
	39.69	39	45	45	45	45
	43.66	34	45	45	45	45
	48.73	30	42	42	42	42
	53.16	27	42	42	42	42
	58.48	24	42	42	42	42
	61.58	35	51	51	51	51
	67.73	34	50	50	50	50
	70.25	20	42	42		
	78.66	46	46	46	46	46
	85.81	46	46	46	46	46
	92.86	16	42	42		
	94.39	46	46	46	46	46
	105.36	42	42	42	42	42
	114.94	39	39	39	39	39
	126.43	36	36	36	36	36
	149.88	30	30	30		
	151.87	30	30	30		
	200.76	22	22	22		

WA49, m kg					
	AQS.				
s	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1
2	12	13	14	19	21
3	14	14	16	21	23
WAF: + 0.75 kg / WF: + 1.5 kg					

WA49, J_A / c_{TA}		AQS.				
		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1
J_A 10^{-4}	kgm^2	0.46	1.3	2.4	8.1	22.0
c_{TA}	Nm/'	0.15	0.3	0.7	3.0	7.0

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W..49							F_{Ramax}			F_{Rapk}		
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	WA	WAF	WF	WA	WAF	WF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N
WA49 2	7.22	138	138	205	623	0.97	3060	3060	3470	6000	6000	6000
	7.88	149	149	220	571	0.82	3070	3070	3510	6000	6000	6000
	8.67	131	131	197	519	0.68	3440	3440	3820	6000	6000	6000
	10.13	193	193	290	346	0.82	3140	3140	3690	6000	6000	6000
	11.05	205	205	310	267	0.69	3120	3120	3720	6000	6000	6000
	12.16	184	184	275	370	0.58	3570	3570	4090	6000	6000	6000
	14.12	265	265	400	137	0.64	3120	3120	3860	6000	6000	6000
	15.40	290	290	435	108	0.54	3080	3080	3880	6000	6000	6000
	16.94	255	255	385	147	0.45	3610	3610	4300	6000	6000	6000
	18.91	325	350	530	77	0.53	3300	3300	4160	6000	6000	6000
	20.63	335	400	570	70	0.44	3420	3420	4290	6000	6000	6000
	22.69	340	340	515	64	0.38	3560	3560	4460	6000	6000	6000
WA49 3	26.11	375	450	640	60	0.50	3040	3040	4190	6000	6000	6000
	28.48	375	445	640	60	0.42	3250	3250	4400	6000	6000	6000
	31.33	375	450	640	60	0.36	3490	3490	4640	6000	6000	6000
	36.38	400	480	680	47	0.47	3960	3960	5070	6000	6000	5990
	39.69	400	480	680	47	0.40	4200	4200	5310	6000	6000	5990
	43.66	400	480	680	47	0.34	4470	4470	5570	6000	6000	5990
	48.73	395	475	670	43	0.46	5040	5040	6000	6000	6000	6000
	53.16	395	475	670	43	0.39	5310	5310	6000	6000	6000	6000
	58.48	395	475	670	43	0.33	5600	5600	6000	6000	6000	6000
	61.58	400	480	680	52	0.31	5200	5200	6000	6000	6000	5920
	67.73	400	480	680	52	0.27	5510	5510	6000	6000	6000	5920
	70.25	395	475	670	43	0.19	6000	6000	6000	6000	6000	6000
	78.66	400	480	680	48	0.37	6000	6000	6000	6000	6000	5990
	85.81	400	480	680	48	0.31	6000	6000	6000	6000	6000	5990
	92.86	395	470	670	43	0.11	6000	6000	6000	6000	6000	6000
	94.39	400	480	680	48	0.26	6000	6000	6000	6000	6000	5990
	105.36	395	475	670	43	0.36	6000	6000	6000	6000	6000	6000
	114.94	395	475	670	39	0.31	6000	6000	6000	6000	6000	6000
	126.43	395	475	670	36	0.26	6000	6000	6000	6000	6000	6000
	149.88	400	480	680	30	0.089	6000	6000	6000	6000	6000	5990
	151.87	395	475	670	30	0.14	6000	6000	6000	6000	6000	6000
	200.76	395	475	670	22	0.088	6000	6000	6000	6000	6000	6000

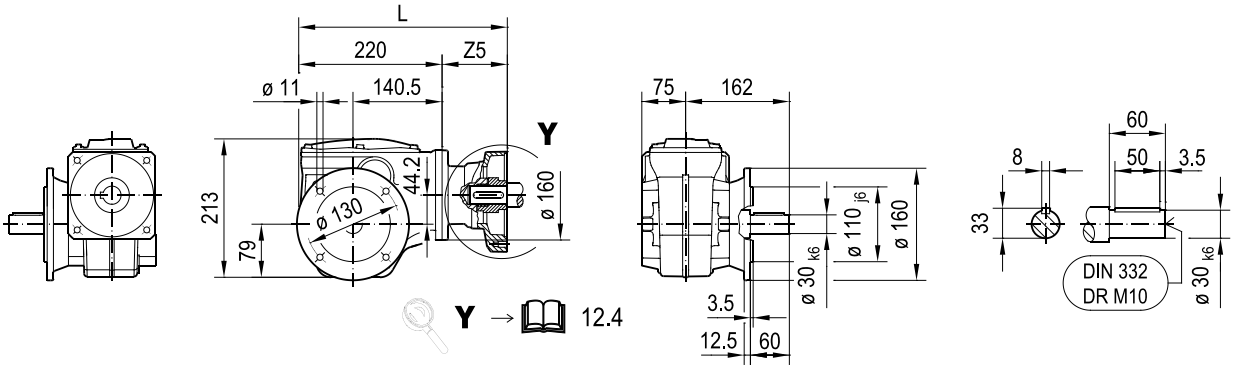
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W..49				c_{TG}		
	i	n_{epk} min^{-1}	η %	WA Nm/'	WAF Nm/'	WF Nm/'
WA49 2	7.22	4500	95	-	-	-
	7.88	4500	95	-	-	-
	8.67	4500	95	-	-	-
	10.13	4500	95	-	-	-
	11.05	4500	95	-	-	-
	12.16	4500	95	-	-	-
	14.12	4500	95	-	-	-
	15.40	4500	95	-	-	-
	16.94	4500	95	-	-	-
	18.91	4500	95	-	-	-
	20.63	4500	95	-	-	-
	22.69	4500	95	-	-	-
WA49 3	26.11	4500	94	-	-	-
	28.48	4500	93	-	-	-
	31.33	4500	93	-	-	-
	36.38	4500	94	-	-	-
	39.69	4500	93	-	-	-
	43.66	4500	93	-	-	-
	48.73	4500	94	-	-	-
	53.16	4500	93	-	-	-
	58.48	4500	93	-	-	-
	61.58	4500	93	-	-	-
	67.73	4500	93	-	-	-
	70.25	4500	94	-	-	-
	78.66	4500	94	-	-	-
	85.81	4500	93	-	-	-
	92.86	4500	92	-	-	-
	94.39	4500	93	-	-	-
	105.36	4500	94	-	-	-
	114.94	4500	93	-	-	-
	126.43	4500	93	-	-	-
	149.88	4500	92	-	-	-
	151.87	4500	94	-	-	-
	200.76	4500	92	-	-	-

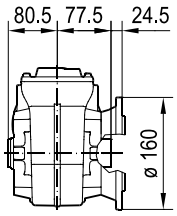
27788644/EN – 02/2024

20 073 02 21

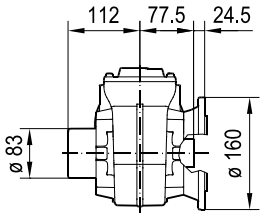
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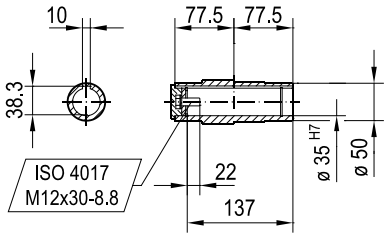
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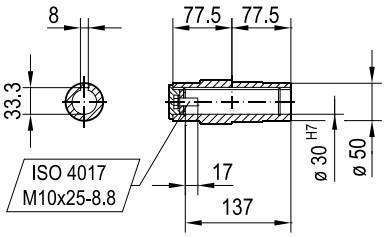
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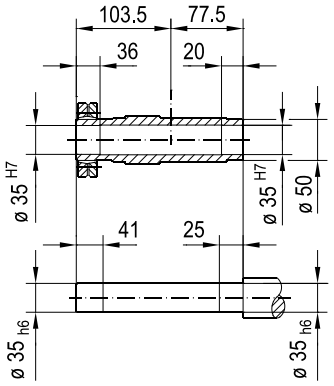


ø 35 H7



ø 30 H7



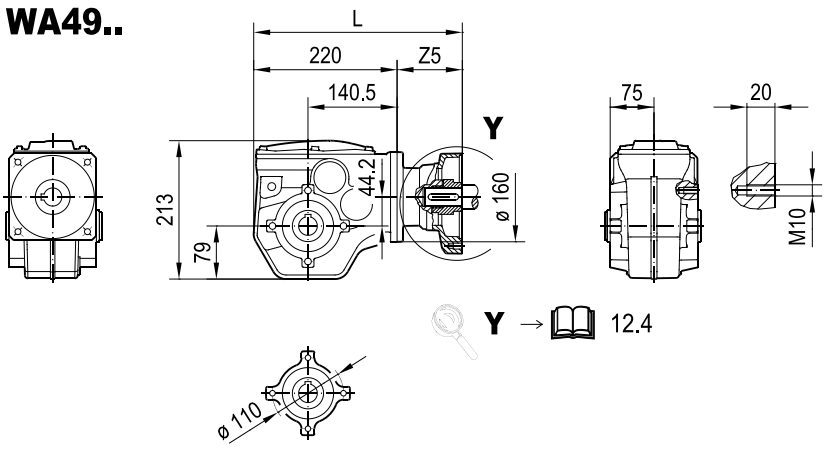


(→ 📖 7.3.11)	AQS.									
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1
Z5	50	67	72.5	77	80	86	80	85	108.5	134
L	270	287	293	297	300	306	300	305	329	354

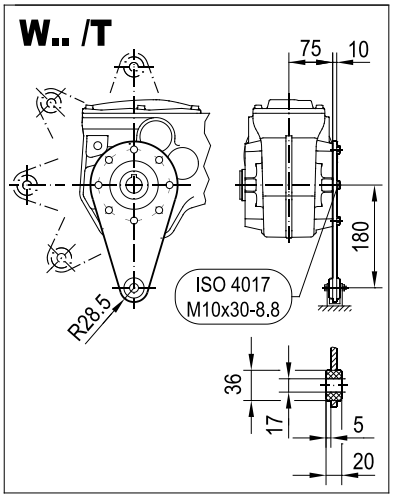
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20 074 03 21

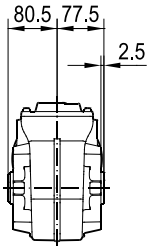
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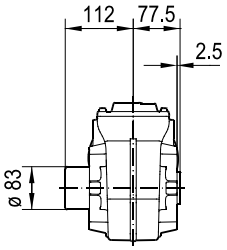
W.. /T



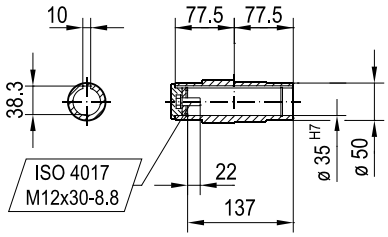
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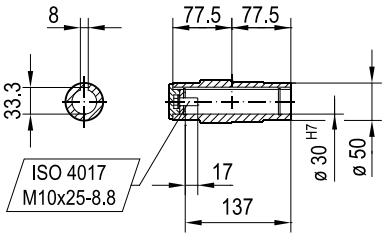
WH49..

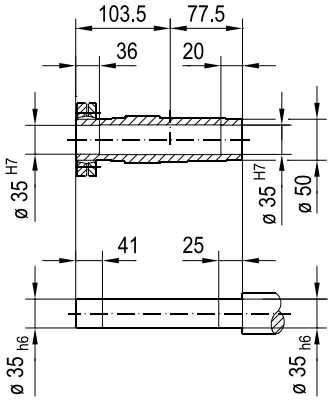


ø 35 H7



ø 30 H7

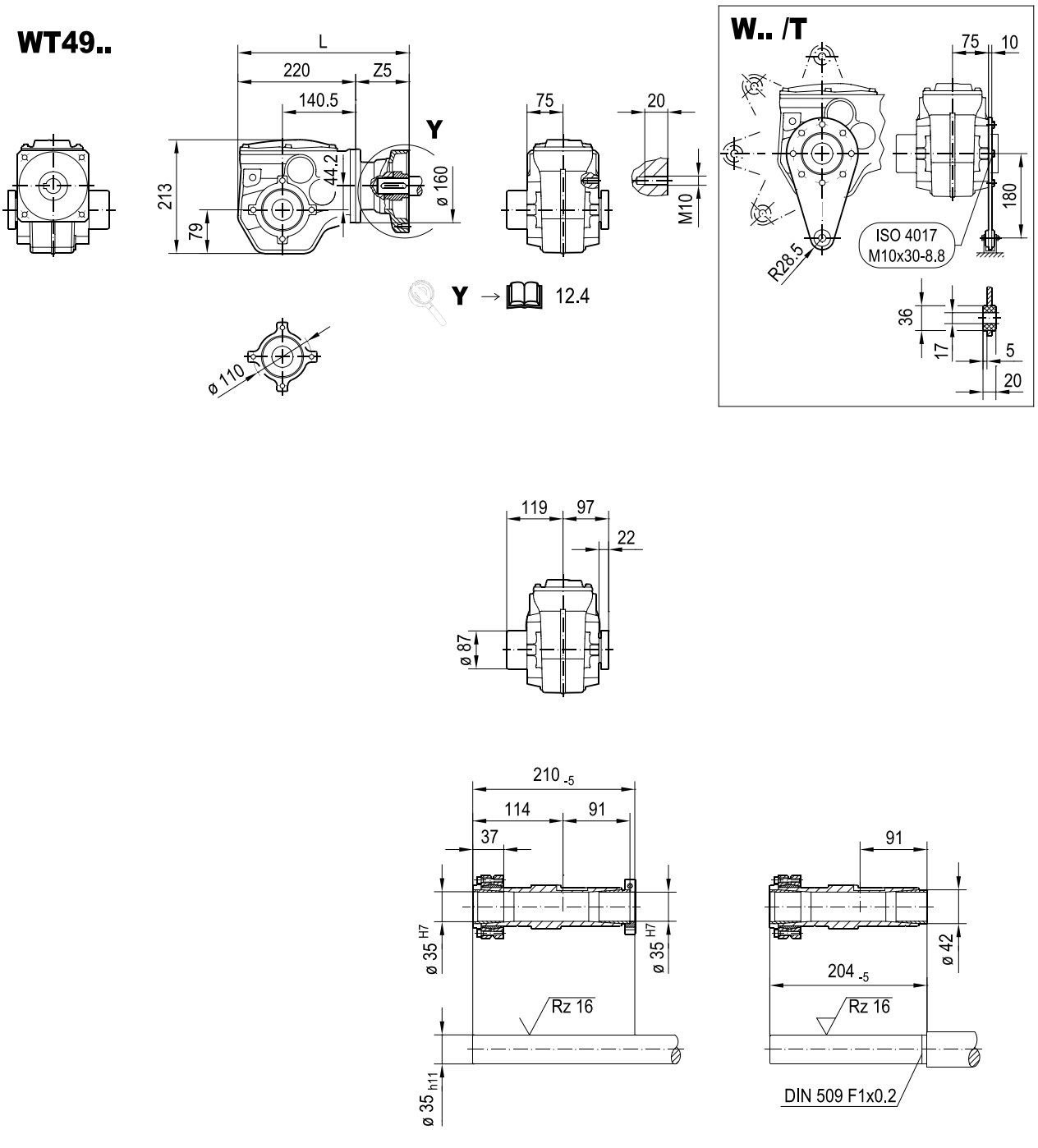




(→ 📖 7.3.11)	AQS.									
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1
Z5	50	67	72.5	77	80	86	80	85	108.5	134
L	270	287	293	297	300	306	300	305	329	354

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20 075 03 21



(→ 📖 7.3.11)	AQS.									
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1
Z5	50	67	72.5	77	80	86	80	85	108.5	134
L	270	287	293	297	300	306	300	305	329	354

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12.3.5 W59 AQS..

Nm		AQS. M_{amax} | M_{apk} | $M_{aNotaus}$														
	i	80/1,3-5			100/3-7			115/1,3-6			140/1,3,5-6			160/1		
WA59 2	6.76	54	65	92	104	125	177	107	128	182	172	172	290	172	172	290
	7.49	57	68	97	108	130	184	111	133	189	189	189	320	189	189	320
	8.18	58	70	99	110	132	187	113	136	192	157	157	265	157	157	265
	9.39	76	91	129	145	174	245	149	179	255	240	240	410	240	240	410
	10.41	79	95	134	150	180	255	154	185	260	262	262	445	262	262	445
	11.35	81	97	138	154	185	260	157	188	265	217	217	370	217	217	370
	13.31	107	128	182	205	245	350	210	250	355	357	357	605	357	357	605
	14.75	112	134	190	210	250	355	215	260	365	371	371	630	371	371	630
	16.09	115	138	196	215	260	365	220	265	375	310	310	525	310	310	525
	18.72	151	181	255	290	350	495	295	355	500	481	481	820	481	481	820
	20.74	158	190	270	300	360	510	305	365	520	515	524	880	515	524	880
	22.63	162	194	275	305	365	520	310	370	525	444	444	755	444	444	755
	24.89	160	192	270	305	365	520	310	370	525	387	387	660	387	387	660
WA59 3	27.81	220	265	375	425	510	725	435	520	740	505	606	860	505	606	860
	30.82	230	275	390	440	530	750	450	540	765	520	624	880	520	624	880
	33.62	235	280	400	450	540	765	460	550	780	520	617	880	520	617	880
	36.98	235	280	400	445	535	755	460	550	780	520	588	880	520	588	880
	39.41	315	380	535	550	660	940	550	660	940	550	660	940	550	660	940
	43.67	325	390	555	570	684	970	570	684	970	570	684	970	570	684	970
	47.64	335	400	570	590	708	1000	590	708	1000	590	708	1000	590	708	1000
	52.40	330	395	560	600	720	1020	600	720	1020	600	720	1020	600	720	1020
	55.44	440	530	750	600	720	1020	600	720	1020	600	720	1020	600	720	1020
	61.43	460	550	780	600	720	1020	600	720	1020	600	720	1020	600	720	1020
	67.02	470	565	800	600	720	1020	600	720	1020	600	720	1020	600	720	1020
	73.72	470	565	800	600	720	1020	600	720	1020	600	720	1020	600	720	1020
	76.29	600	720	1020	600	720	1020	600	720	1020	600	720	1020	600	720	1020
	84.54	600	720	1020	600	720	1020	600	720	1020	600	720	1020	600	720	1020
	92.23	600	720	1020	600	720	1020	600	720	1020	600	720	1020	600	720	1020
	101.45	600	720	1020	600	720	1020	600	720	1020	600	720	1020	600	720	1020
	107.33	600	720	1020	600	720	1020	600	720	1020	600	720	1020	600	720	1020
	118.93	600	720	1020	600	720	1020	600	720	1020	600	720	1020	600	720	1020
	129.74	600	720	1020	600	720	1020	600	720	1020	600	720	1020	600	720	1020
	142.72	600	720	1020	600	720	1020	600	720	1020	600	720	1020	600	720	1020
	151.56	600	720	1020	600	720	1020	600	720	1020						
	213.21	600	720	1020	600	720	1020	600	720	1020						

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min^{-1}		AQS. n_{ak}				
	i	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1
WA59 2	6.76	229	217	213	522	666
	7.49	192	195	190	386	546
	8.18	185	181	176	550	550
	9.39	150	152	150	371	479
	10.41	139	139	137	280	390
	11.35	128	123	127	396	396
	13.31	111	109	110	222	222
	14.75	98	106	108	196	196
	16.09	89	96	96	280	280
	18.72	77	75	79	84	84
	20.74	68	68	72	69	69
	22.63	63	65	68	111	111
	24.89	58	57	61	155	155
WA59 3	27.81	55	51	51	51	51
	30.82	49	46	47	46	46
	33.62	46	42	42	46	46
	36.98	39	39	38	47	47
	39.41	36	36	36	36	36
	43.67	35	32	32	32	32
	47.64	31	29	29	29	29
	52.40	29	28	28	28	28
	55.44	27	26	26	26	26
	61.43	24	26	26	26	26
	67.02	22	26	26	26	26
	73.72	19	26	26	26	26
	76.29	21	30	30	29	30
	84.54	25	30	30	29	30
	92.23	26	30	30	29	30
	101.45	23	30	30	29	30
	107.33	27	27	27	27	27
	118.93	27	27	27	27	27
	129.74	27	27	27	27	27
	142.72	27	27	27	27	27
	151.56	12	30	30		
	213.21	21	21	21		

WA59, m kg	AQS.				
s	80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1
2	15	16	18	22	25
3	18	18	20	25	27
WAF: + 1.3 kg / WF: + 2.8 kg					

WA59, J_A / c_{TA}		AQS.				
		80/1,3-5	100/3-7	115/1,3-6	140/1,3,5-6	160/1
J_A 10^{-4}	kgm^2	0.46	1.3	2.4	8.1	22.0
c_{TA}	Nm/'	0.15	0.3	0.7	3.0	7.0

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W..59							F_{Ramax}			F_{Rapk}		
n_e = 1400		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_G 10^{-4}	WA	WAF	WF	WA	WAF	WF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	N	N	N	N	N	N
WA59 2	6.76	172	172	255	666	1.9	4160	4160	3860	8000	8000	8000
	7.49	189	189	280	563	1.5	4180	4180	3910	8000	8000	8000
	8.18	157	157	235	550	1.3	4730	4730	4320	8000	8000	8000
	9.39	240	240	360	479	1.7	4350	4350	4110	8000	8000	8000
	10.41	260	260	390	402	1.3	4350	4350	4150	8000	8000	8000
	11.35	215	215	325	396	1.1	5040	5040	4650	8000	8000	8000
	13.31	355	355	535	231	1.2	4200	4200	4150	8000	8000	8000
	14.75	370	370	555	203	0.99	4330	4330	4280	8000	8000	8000
	16.09	310	310	465	280	0.80	5170	5170	4890	8000	8000	8000
	18.72	480	480	720	87	1.0	4080	4080	4220	8000	8000	8000
	20.74	515	520	785	71	0.83	4060	4060	4260	8000	8000	8000
	22.63	440	440	665	114	0.66	5000	5000	4940	8000	8000	8000
	24.89	385	385	580	160	0.54	5840	5840	5560	8000	8000	8000
WA59 3	27.81	505	605	850	52	0.91	4560	4560	4740	8000	8000	8000
	30.82	520	620	880	48	0.73	4740	4740	4930	8000	8000	8000
	33.62	520	615	880	48	0.58	5040	5040	5180	8000	8000	8000
	36.98	520	585	880	48	0.47	5380	5380	5470	8000	8000	8000
	39.41	550	660	930	37	0.87	5670	5670	5700	8000	8000	7920
	43.67	570	680	960	34	0.69	5860	5860	5900	8000	8000	7760
	47.64	590	705	1000	30	0.55	6000	6000	6050	8000	8000	7580
	52.40	600	720	1020	29	0.44	6280	6280	6300	8000	8000	7490
	55.44	600	720	1020	27	0.84	6730	6730	6650	8000	8000	7490
	61.43	600	720	1020	27	0.67	7160	7160	7020	8000	8000	7490
	67.02	600	720	1020	27	0.53	7540	7540	7340	8000	8000	7490
	73.72	600	720	1020	27	0.43	7960	7950	7700	8000	8000	7490
	76.29	600	720	1020	31	0.69	7900	7900	7680	8000	8000	7490
	84.54	600	720	1020	31	0.54	8000	7950	8000	8000	8000	7490
	92.23	600	720	1020	31	0.43	8000	7950	8000	8000	8000	7490
	101.45	600	720	1020	31	0.34	8000	7950	8000	8000	8000	7490
	107.33	600	720	1020	28	0.68	8000	7950	8000	8000	8000	7490
	118.93	600	720	1020	28	0.54	8000	7950	8000	8000	8000	7490
	129.74	600	720	1020	28	0.42	8000	7950	8000	8000	8000	7490
	142.72	600	720	1020	28	0.34	8000	7950	8000	8000	8000	7490
	151.56	600	720	1020	30	0.13	8000	7950	8000	8000	8000	7490
	213.21	600	720	1020	21	0.13	8000	7950	8000	8000	8000	7490

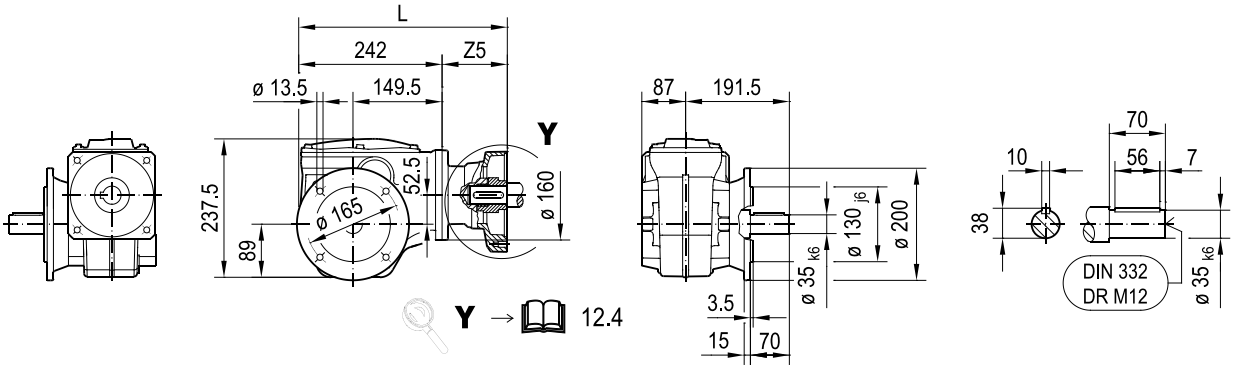
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W..59				c_{TG}		
	i	n_{epk} min^{-1}	η %	WA Nm/'	WAF Nm/'	WF Nm/'
WA59 2	6.76	4500	95	-	-	-
	7.49	4500	94	-	-	-
	8.18	4500	95	-	-	-
	9.39	4500	95	-	-	-
	10.41	4500	94	-	-	-
	11.35	4500	95	-	-	-
	13.31	4500	95	-	-	-
	14.75	4500	94	-	-	-
	16.09	4500	95	-	-	-
	18.72	4500	95	-	-	-
	20.74	4500	94	-	-	-
	22.63	4500	95	-	-	-
	24.89	4500	94	-	-	-
WA59 3	27.81	4500	94	-	-	-
	30.82	4500	93	-	-	-
	33.62	4500	93	-	-	-
	36.98	4500	93	-	-	-
	39.41	4500	94	-	-	-
	43.67	4500	93	-	-	-
	47.64	4500	93	-	-	-
	52.40	4500	93	-	-	-
	55.44	4500	94	-	-	-
	61.43	4500	93	-	-	-
	67.02	4500	93	-	-	-
	73.72	4500	93	-	-	-
	76.29	4500	94	-	-	-
	84.54	4500	93	-	-	-
	92.23	4500	93	-	-	-
	101.45	4500	93	-	-	-
	107.33	4500	94	-	-	-
	118.93	4500	93	-	-	-
	129.74	4500	93	-	-	-
	142.72	4500	93	-	-	-
	151.56	4500	93	-	-	-
	213.21	4500	93	-	-	-

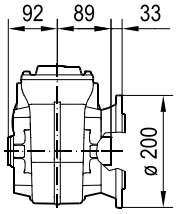
27788644/EN – 02/2024

20 016 02 22

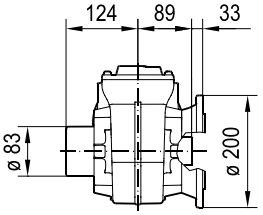
WF59..



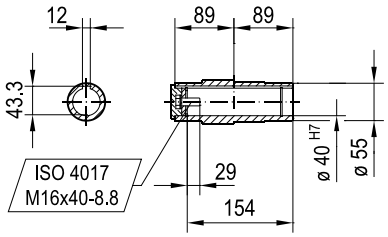
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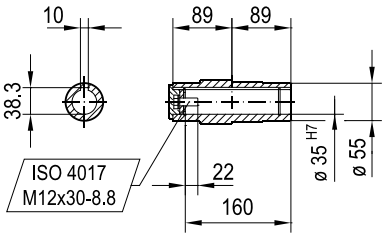
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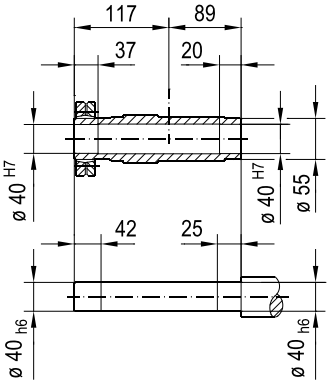


ø 40 H7



ø 35 H7



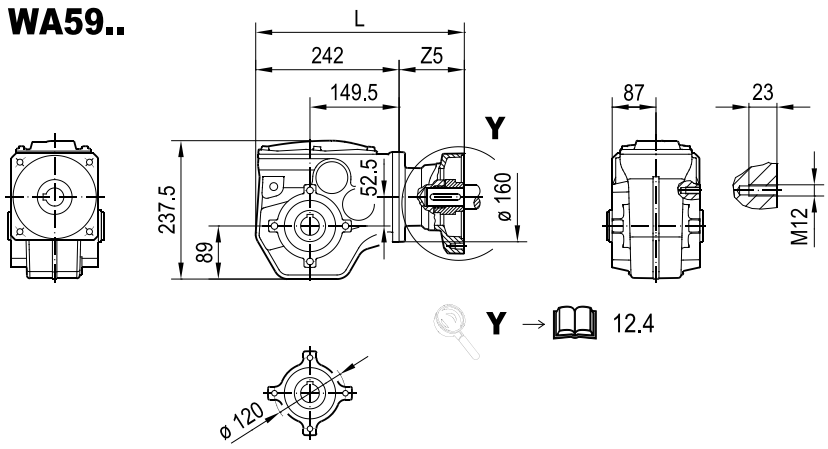


(→ 📖 7.3.11)	AQS.									
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1
Z5	50	67	72.5	77	80	86	80	85	108.5	134
L	292	309	315	319	322	328	322	327	351	376

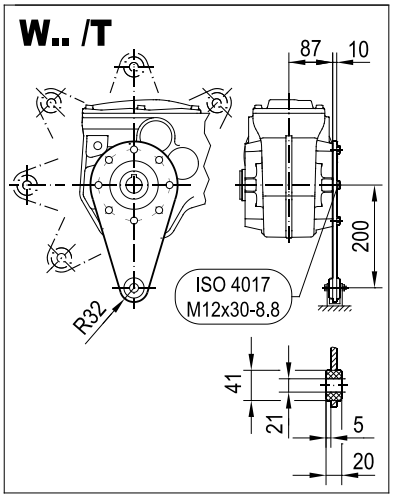
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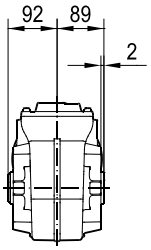
WA59..



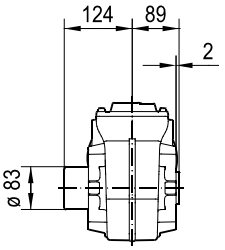
W.. /T



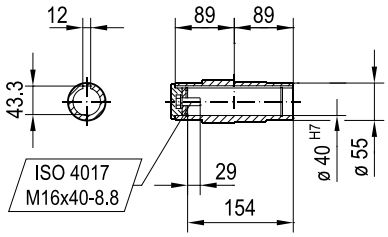
WA59..



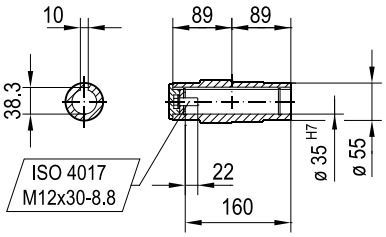
WH59..

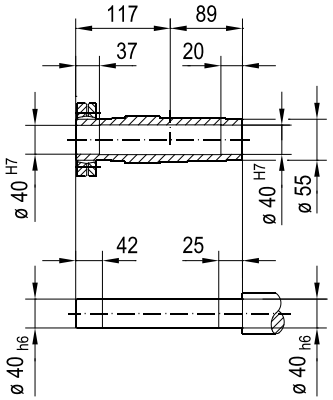


ø 40 H7



ø 35 H7

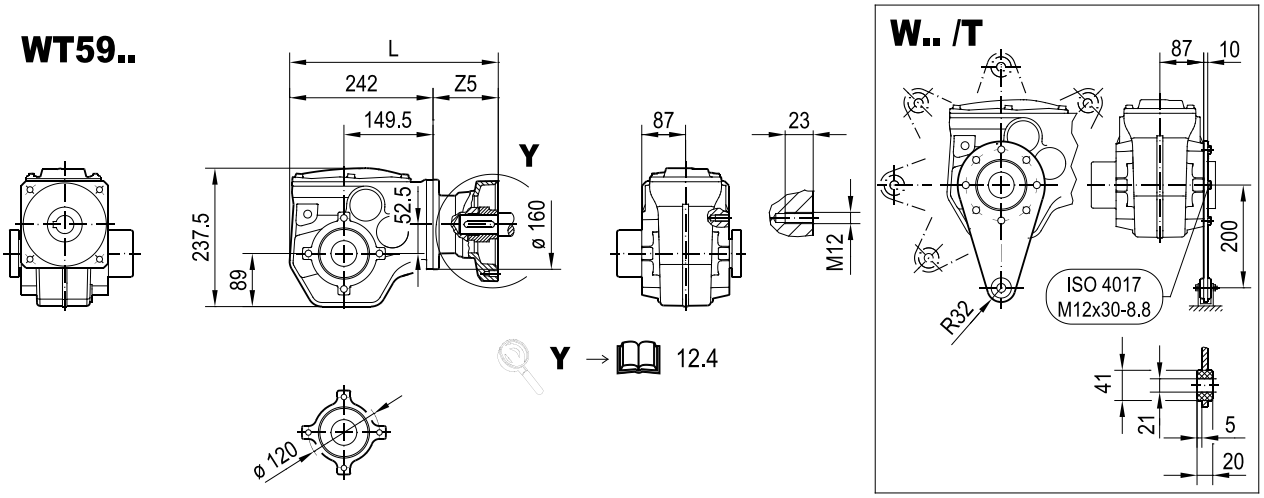


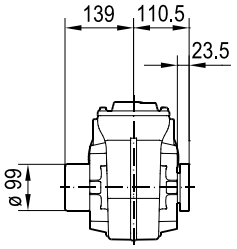


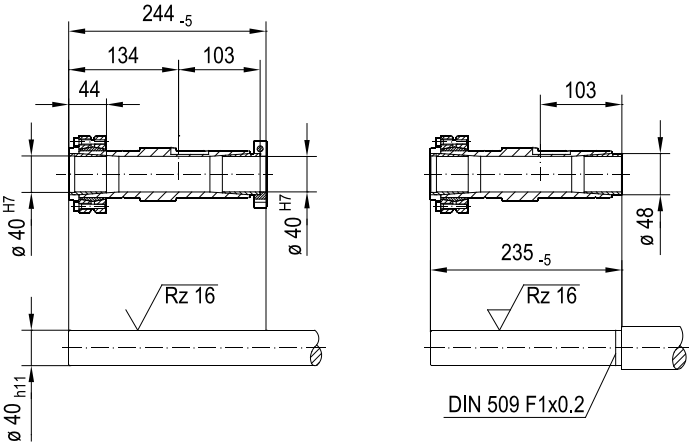
(→ 📖 7.3.11)	AQS.									
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1
Z5	50	67	72.5	77	80	86	80	85	108.5	134
L	292	309	315	319	322	328	322	327	351	376

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20 018 05 22





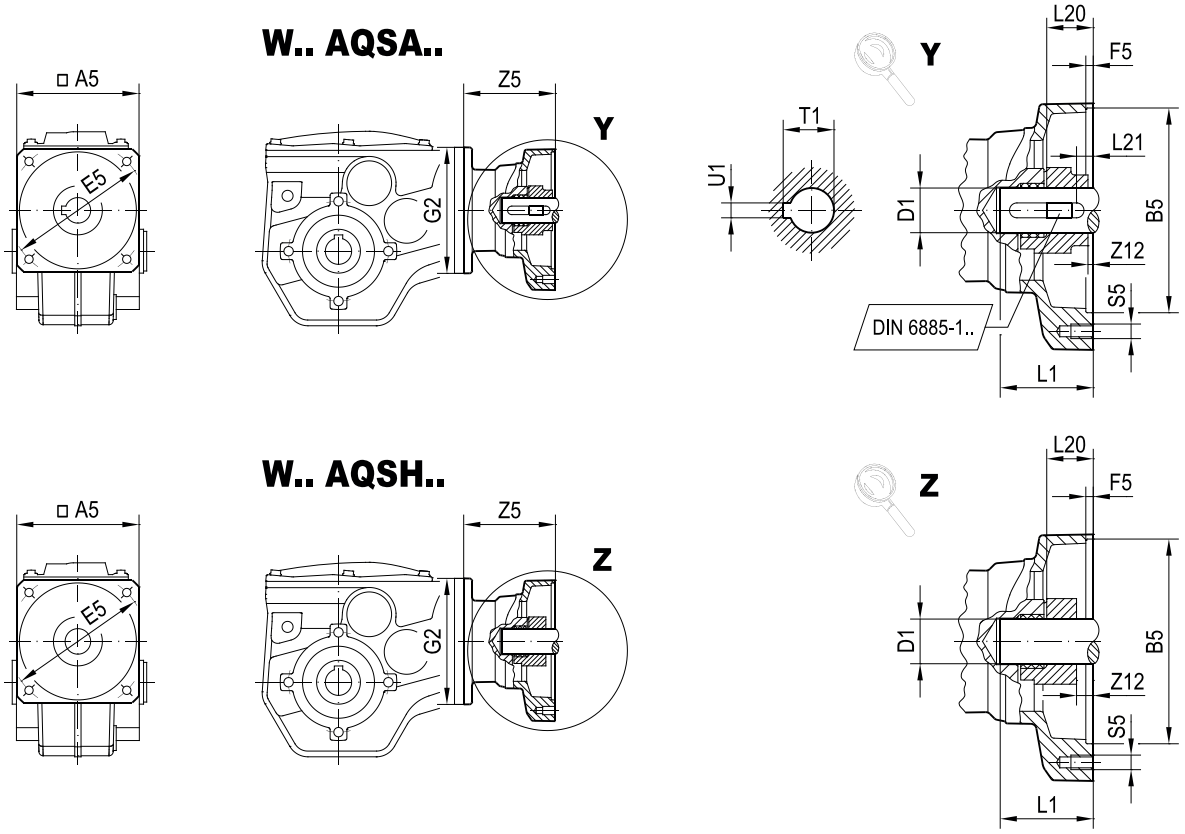


(→ 📖 7.3.11)	AQS.									
	80/1, 3-5	100/3-5	100/6	100/7	115/1, 3	115/4	115/5	115/6	140/1, 3, 5-6	160/1
Z5	50	67	72.5	77	80	86	80	85	108.5	134
L	292	309	315	319	322	328	322	327	351	376

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12.4 Adapter W.9 AQS.. /mm

20 006 01 21



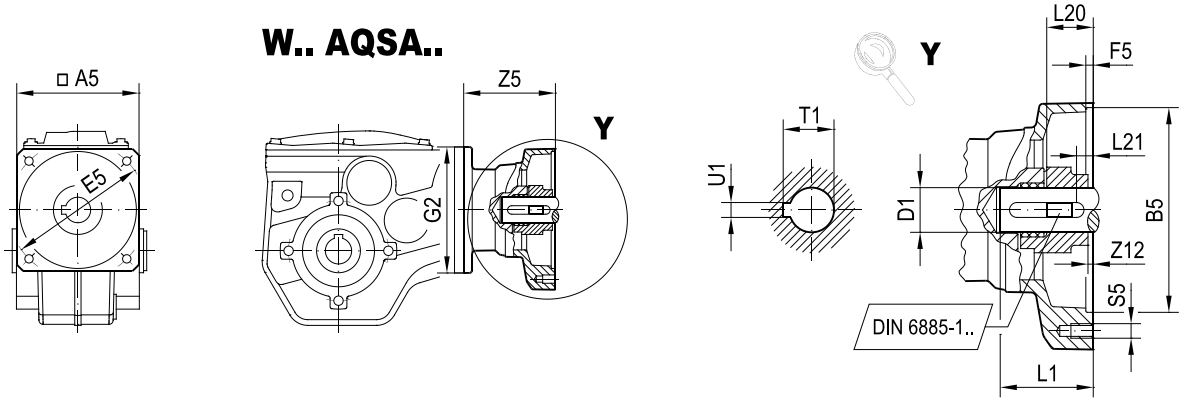
D1	T1	U1	AQS..							
			50/1 50/2	80/1 80/3 80/4 80/5	100/3 100/4 100/5 100/6[1] 100/7[1]	115/1 115/3 115/4 115/5 115/6[1]	140/1 140/3 140/5 140/6	160/1	190/1 190/3 190/4 190/5	190/6
mm	mm	mm								
8[2]	-	-	X							
9	10.4	3	X							
11	12.8	4		X						
14	16.3	5		X	X					
16	18.3	5			X					
19	21.8	6			X	X				
22	24.8	6				X				
	25.3	8				X				
24	27.3	8				X	X			
28	31.3	8					X	X	X	
32	35.3	10					X	X	X	
35	38.3	10						X[3]	X[3]	X
38	41.3	10						X	X	

1) Key design only (AQSA).
2) Terminal connection only (AQSH).
3) Only clamp connection (AQSH).

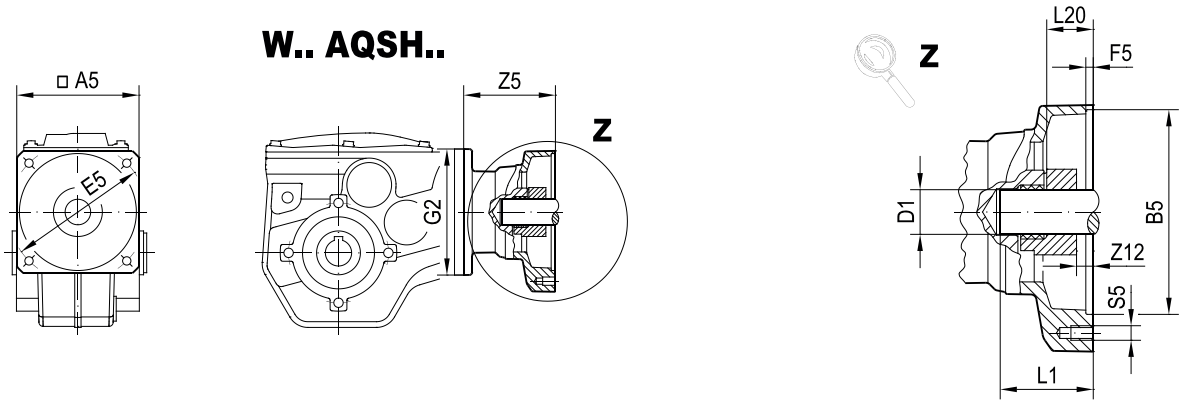
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20 006 01 21

W.. AQSA..



W.. AQSH..



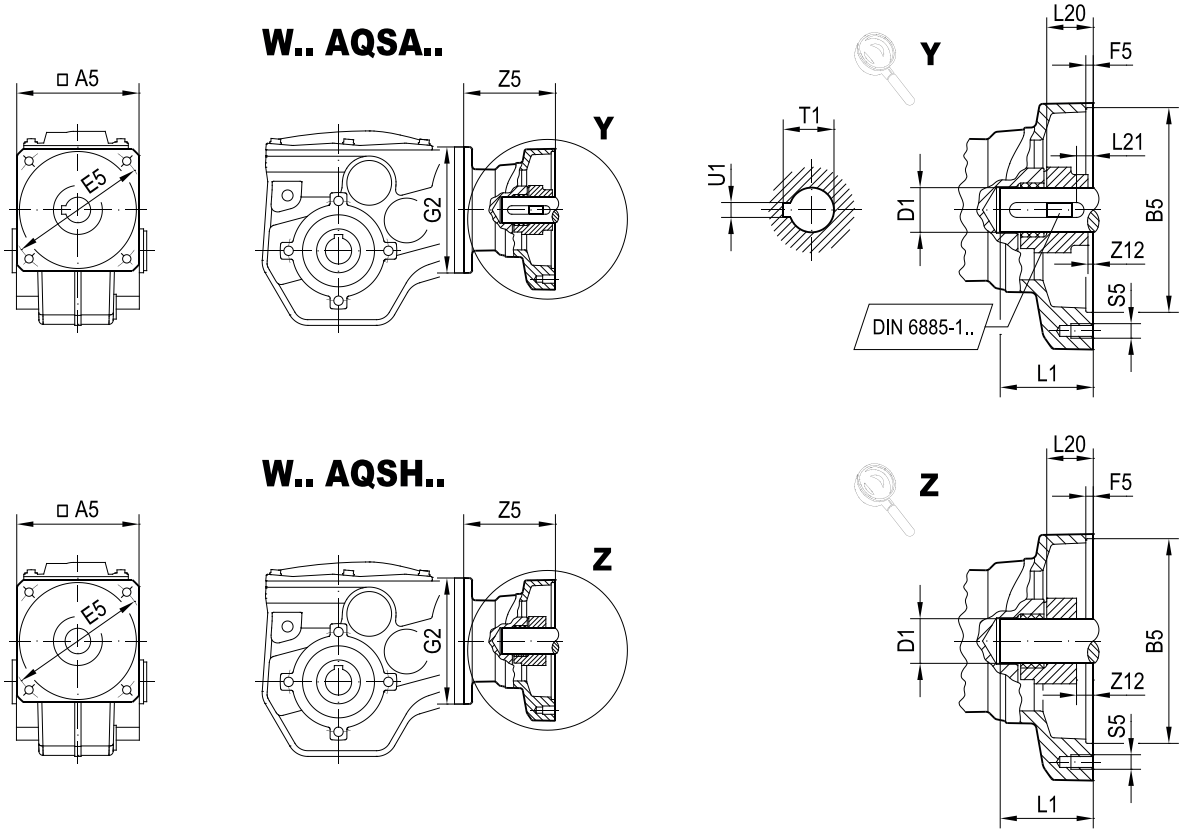
(→ 📖 7.3.11)	Dimensions in mm										
	D1	L20	L21 (ØD1: L21)	L1	B5	E5	A5	S5	Z12		F5
			AQSA						AQSA	AQSH	
AQS50/1	8 K7[1)]	14	Ø9: 7	25	30	46	40	M4 × 7	3	4	2.5
AQS50/2	9 H7	14	Ø9: 7	25	40	63	55	M4 × 7	3	4	2.5
AQS80/1	11 H7 14 H7	18 18	Ø11: 10 Ø14: 11	31	60	75	73	M5 × 8	4	6	3.5
AQS80/3				31	50	95	82	M6 × 10	4	6	3.5
AQS80/4				31	50	70	60	M5 × 8	4	6	3.5
AQS80/5				31	60	90	75	M5 × 8	4	6	3.5
AQS100/3	14 H7 16 H7 19 H7	20	Ø14,16,19: 13	45	80	100	94	M6 × 10	4	6	4
AQS100/6[2)]		25.5	Ø14,16,19: 18.5	50.5	80	100	94	M6 × 10	9.5	–	4
AQS100/4		20	Ø14,16,19: 13	45	95	115	105	M8 × 12	4	6	4
AQS100/7[2)]		30	Ø14,16,19: 23	55	95	115	105	M8 × 12	14	–	4
AQS100/5		20	Ø14,16,19: 13	45	70	90	94	M6 × 10	4	6	4
AQS115/1	19 H7 22 H7 24 H7	25	Ø19: 16 Ø22: 17 Ø24: 17	50	95	130	115	M8 × 14.5	0 Ø22: 9	9	5
AQS115/3		25		50	110	130	115	M8 × 14.5	0 Ø22: 9	9	5
AQS115/6[2)]		30	Ø19: 21 Ø22: 22 Ø24: 22	55	110	130	115	M8 × 14.5	5 Ø22: 14	–	5
AQS115/4		31	Ø19: 22 Ø22: 23 Ø24: 23	58	110	145	130	M8 × 14.5	6 Ø22: 15	15	6.5
AQS115/5		25	Ø19: 16 Ø22: 17 Ø24: 17	50	95	115	115	M8 × 14.5	0 Ø22: 9	9	5
AQS140/1	24 H7 28 H7 32 H7	30	Ø24: 11 Ø28: 19 Ø32: 19	60	110	165	140	M10 × 20	4	8	5
AQS140/3		30		60	130	165	140	M10 × 20	4	8	5
AQS140/5		30		60	180	215	190	M12 × 22	4	8	5
AQS140/6		30		80	130	165	140	M10 × 20	4	8	5

1) Only clamp connection (AQSH).

2) Key design only (AQSA).

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20 006 01 21

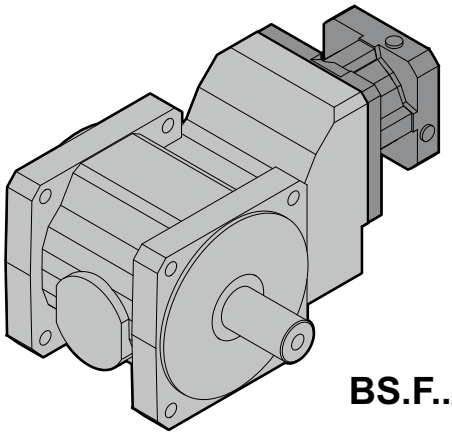


(→ 📖 7.3.11)	Dimensions in mm										
	D1	L20	L21 (ØD1: L21) AQSA	L1	B5	E5	A5	S5	Z12 AQSA	Z12 AQSH	F5
AQS160/1	28 H7 32 H7 35 H7[1)] 38 H7	34	Ø28: 15 Ø32: 17 Ø38: 21	80	155	190	163	M10 × 20	0	8	5
AQS190/1	28 H7 32 H7 35 H7[1)] 38 H7	34	Ø28: 15 Ø32: 17 Ø38: 21	80	130	215	190	M12 × 22	0	8	5
AQS190/3		34		80	180	215	190	M12 × 22	0	8	5
AQS190/4		34		80	114.3	200	180	M12 × 22	0	8	5
AQS190/5		34		80	230	265	240	M12 × 22	0	8	5
AQS190/6	35 H7	46	Ø35: 31	80	114.3	200	180	M12 × 22	12	20	5

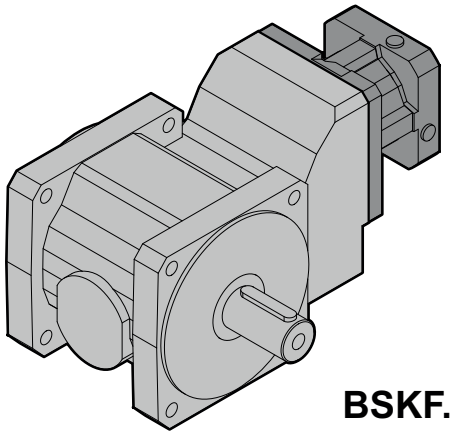
1) Only clamp connection (AQSH).

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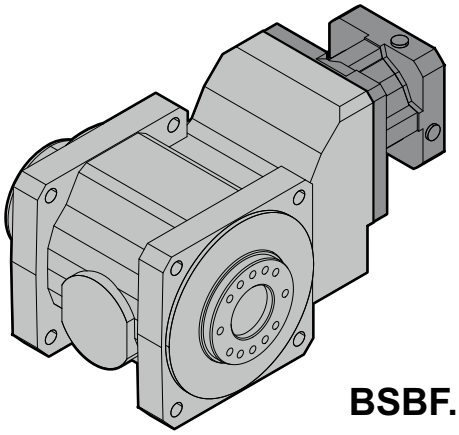
13 Helical-bevel gear units BS.F..



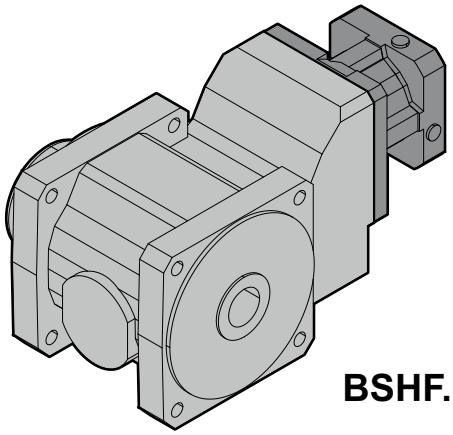
BS.F../EBH..



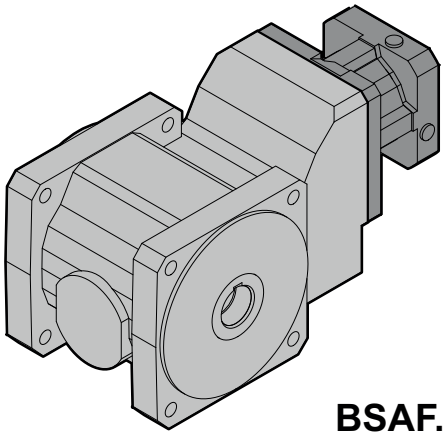
BSKF../EBH..



BSBF../EBH..



BSHF../EBH..

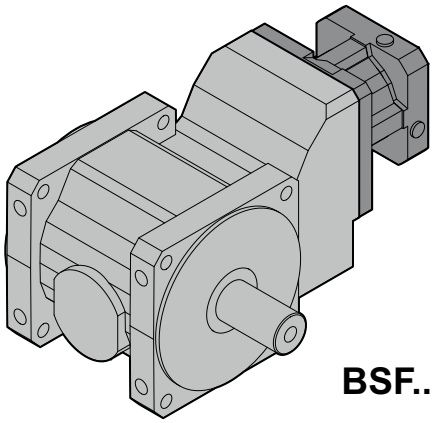


BSAF../EBH..

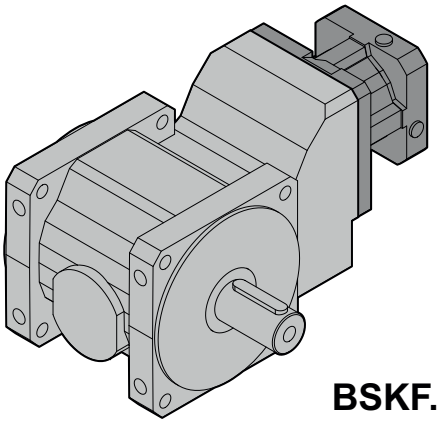
9007234415241739

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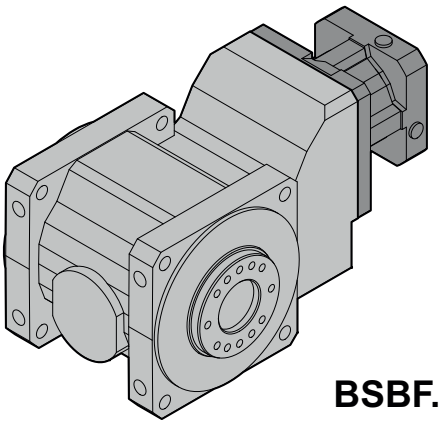
SEW EURODRIVE



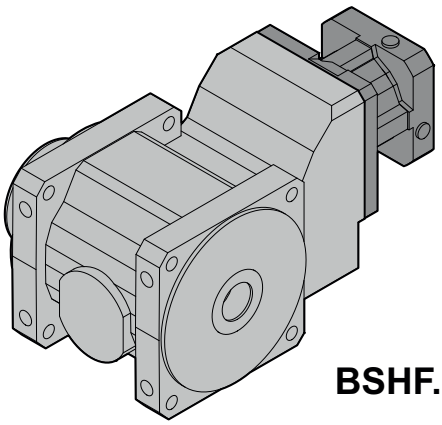
BSF..B/EBH..



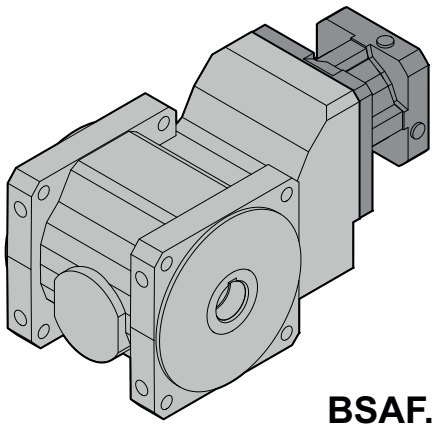
BSKF..B/EBH..



BSBF..B/EBH..



BSHF..B/EBH..



BSAF..B/EBH..

9007234415245067

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13.1 BS.F..EBH.. – Selection tables and dimension sheets

13.1.1 BS.F202 EBH..

Nm		EBH M_{amax} | M_{apk} | $M_{aNotaus}$					
	i	03			04		
BSF202 2	3.00	40	60	90	40	60	90
	4.00	40	60	90	40	60	90
	6.00	40	60	90	40	60	90
	8.00	40	60	90	40	60	90
	10.00	40	51	76	40	51	76
	15.00	40	51	76	40	51	76
	20.00	40	51	76	40	51	76
	25.00	40	51	76	40	51	76

BSF202, m kg		
	EBH	
s	03	04
2	5.3	5.3
BSBF: + - kg / BSHF: + - kg		

BS..202EBH03							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF202 2	3.00	40	60	90	667	1.8	1.8	2.0	2.0	2680	2970	4200	4200
	4.00	40	60	90	650	1.5	2.1	2.3	2.2	3000	3330	4200	4200
	6.00	40	60	90	650	1.3	2.3	2.6	2.5	3500	3880	4200	4200
	8.00	40	60	90	563	1.2	2.4	2.7	2.6	3900	4200	4200	4200
	10.00	40	51	76	330	1.3	3.7	4.7	4.4	4150	4200	4200	4200
	15.00	40	51	76	300	1.2	3.9	4.9	4.6	4200	4200	4200	4200
	20.00	40	51	76	225	1.1	3.9	5.0	4.6	4200	4200	4200	4200
	25.00	40	51	76	180	1.1	4.0	5.0	4.7	4200	4200	4200	4200

BS..202EBH04							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF202 2	3.00	40	60	90	667	1.8	1.9	2.1	2.0	2680	2970	4200	4200
	4.00	40	60	90	650	1.5	2.1	2.4	2.3	3000	3330	4200	4200
	6.00	40	60	90	650	1.3	2.3	2.7	2.6	3500	3880	4200	4200
	8.00	40	60	90	563	1.2	2.4	2.8	2.6	3900	4200	4200	4200
	10.00	40	51	76	330	1.3	3.8	4.7	4.4	4150	4200	4200	4200
	15.00	40	51	76	300	1.2	3.9	5.0	4.6	4200	4200	4200	4200
	20.00	40	51	76	225	1.1	3.9	5.0	4.6	4200	4200	4200	4200
	25.00	40	51	76	180	1.1	4.0	5.1	4.7	4200	4200	4200	4200

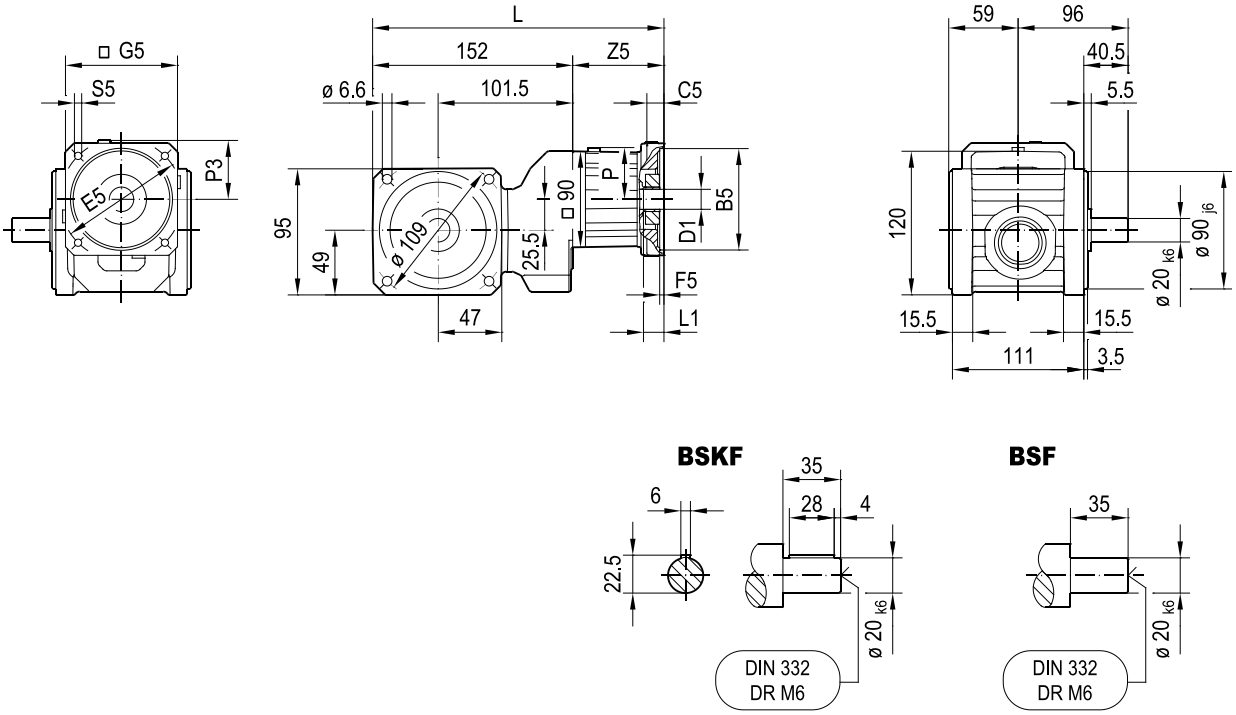
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BS..202				M1			M2;M4			M3;M5-6			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
BSF202 2	3.00	4500	94	4.10	-0.011	77457	14.47	-0.020	66498	6.12	-0.013	75323	6	3	-
	4.00	4500	94	4.26	-0.014	76815	20.11	-0.028	60846	7.52	-0.017	73532	6	3	-
	6.00	4500	94	4.50	-0.019	75905	30.66	-0.042	51203	10.05	-0.024	70662	6	3	-
	8.00	4500	94	4.70	-0.022	75309	37.13	-0.052	46240	12.10	-0.029	68596	6	3	-
	10.00	4500	90	3.31	-0.057	47656	52.73	-0.146	26432	19.70	-0.083	39837	6	3	-
	15.00	4500	90	4.09	-0.076	46683	56.52	-0.189	28536	31.62	-0.125	34857	6	3	-
	20.00	4500	90	3.77	-0.089	46508	53.03	-0.210	32477	42.49	-0.161	30764	6	3	-
	25.00	4500	91	3.67	-0.098	46334	47.99	-0.221	36133	51.81	-0.191	27469	6	3	-

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55 003 01 03

BSF202..

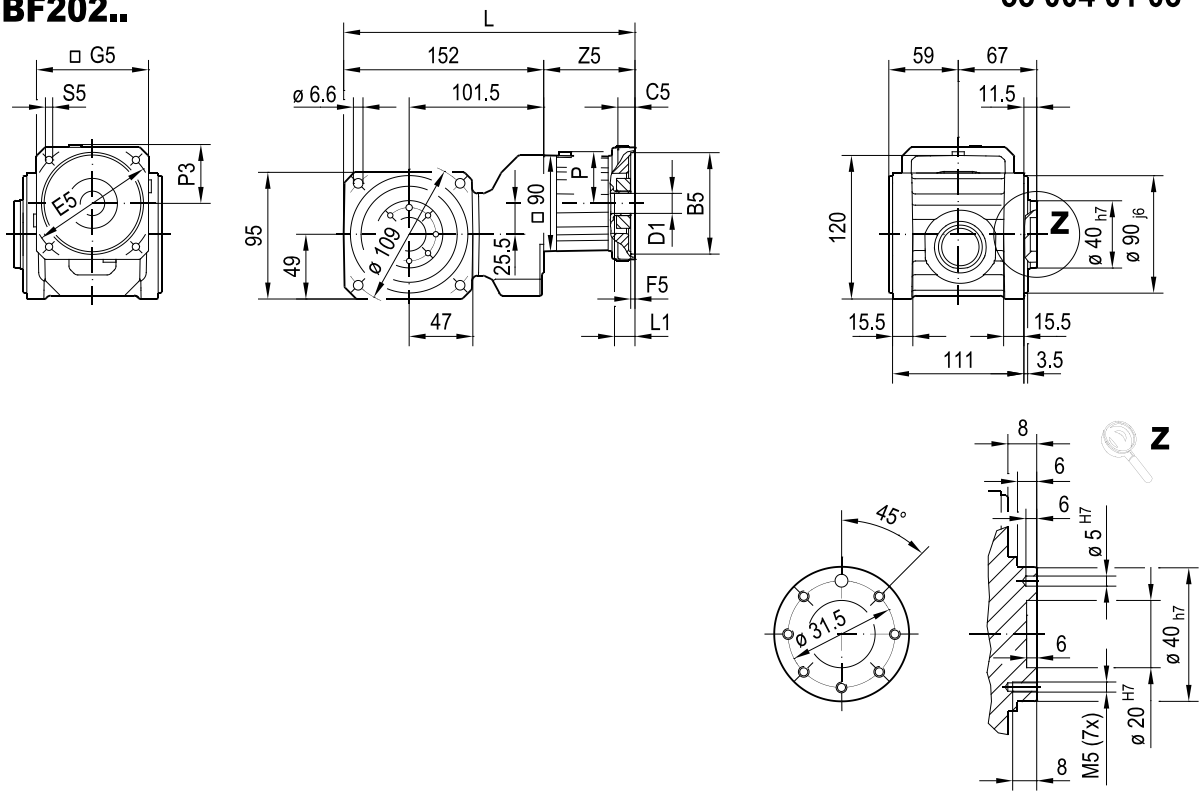


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	237	40	20	63	3.5	90	M4	85.5	41.5	45	47	8, 9, 10, 11, 12, 14
EBH03/03/..	237	50	20	60	3.5	90	M4	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/04/..	237	50	20	70	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/05/..	237	50	20	80	3.5	90	M4	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/06/..	237	50	20	95	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/07/..	237	50	20	100	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/08/..	237	60	20	75	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/09/..	237	60	20	90	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/10/..	237	70	20	85	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/11/..	237	70	20	90	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/13/..	237	80	20	100	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/14/..	237	95	16	115	4	105	M8	85.5	41	45	55	8, 9, 10, 11, 12, 14
EBH04/12/..	237	70	20	90	3.5	90	M6	85.5	41	45	47	11 ,12 ,14, 16, 19
EBH04/13/..	237	80	20	100	3.5	90	M6	85.5	41	45	47	11 ,12 ,14, 16, 19
EBH04/14/..	237	95	16	115	4	105	M8	85.5	41	45	55	11 ,12 ,14, 16, 19
EBH04/15/..	237	95	16	130	4	115	M8	85.5	41	45	60	11 ,12 ,14, 16, 19

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BSBF202..

55 004 01 03

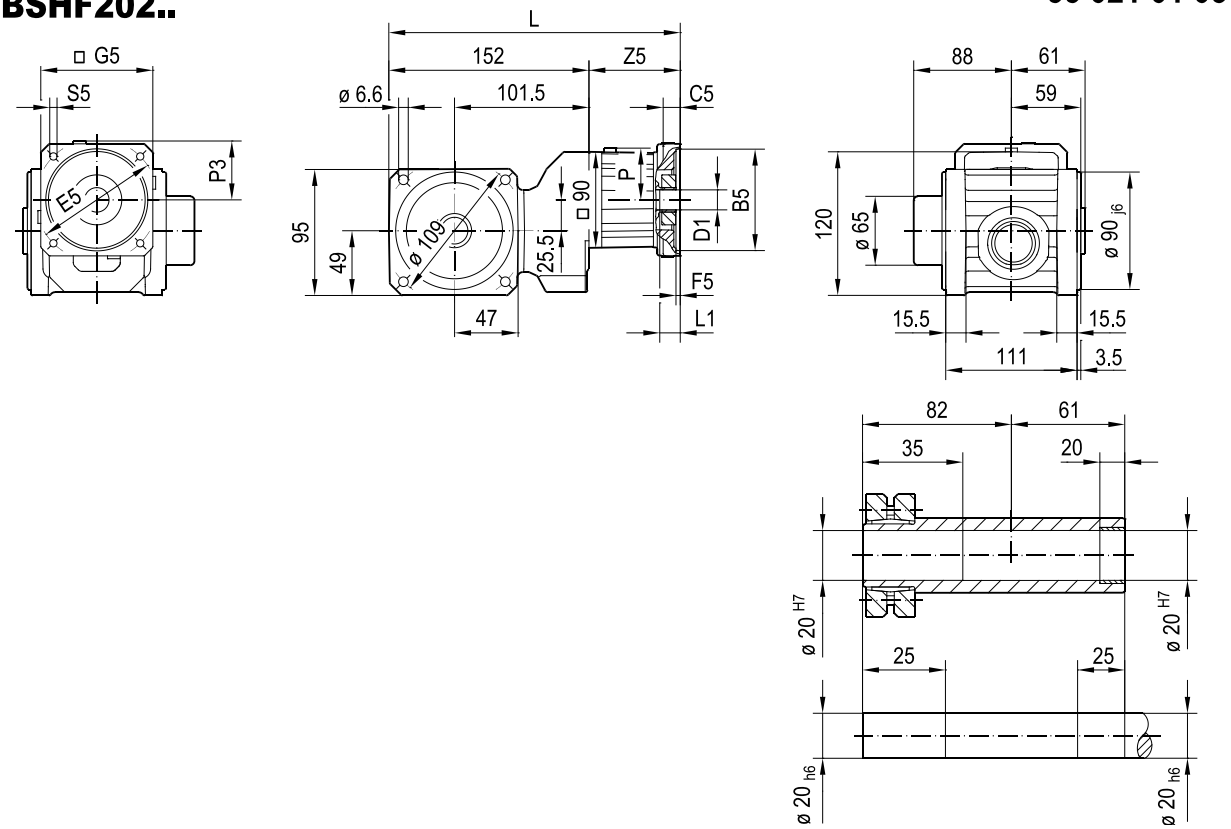


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	237	40	20	63	3.5	90	M4	85.5	41.5	45	47	8, 9, 10, 11, 12, 14
EBH03/03/..	237	50	20	60	3.5	90	M4	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/04/..	237	50	20	70	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/05/..	237	50	20	80	3.5	90	M4	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/06/..	237	50	20	95	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/07/..	237	50	20	100	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/08/..	237	60	20	75	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/09/..	237	60	20	90	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/10/..	237	70	20	85	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/11/..	237	70	20	90	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/13/..	237	80	20	100	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/14/..	237	95	16	115	4	105	M8	85.5	41	45	55	8, 9, 10, 11, 12, 14
EBH04/12/..	237	70	20	90	3.5	90	M6	85.5	41	45	47	11 ,12 ,14, 16, 19
EBH04/13/..	237	80	20	100	3.5	90	M6	85.5	41	45	47	11 ,12 ,14, 16, 19
EBH04/14/..	237	95	16	115	4	105	M8	85.5	41	45	55	11 ,12 ,14, 16, 19
EBH04/15/..	237	95	16	130	4	115	M8	85.5	41	45	60	11 ,12 ,14, 16, 19

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BSHF202..

55 021 01 03

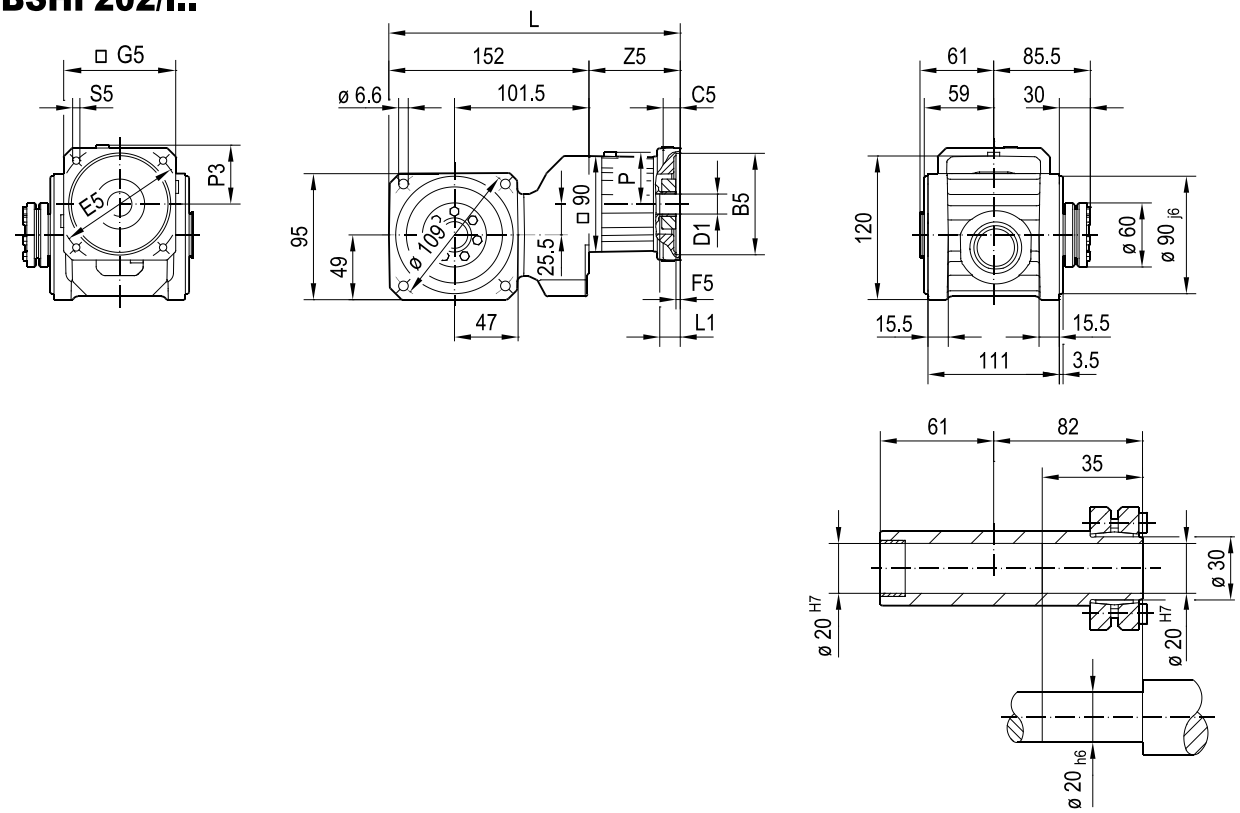


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	237	40	20	63	3.5	90	M4	85.5	41.5	45	47	8, 9, 10, 11, 12, 14
EBH03/03/..	237	50	20	60	3.5	90	M4	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/04/..	237	50	20	70	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/05/..	237	50	20	80	3.5	90	M4	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/06/..	237	50	20	95	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/07/..	237	50	20	100	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/08/..	237	60	20	75	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/09/..	237	60	20	90	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/10/..	237	70	20	85	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/11/..	237	70	20	90	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/13/..	237	80	20	100	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/14/..	237	95	16	115	4	105	M8	85.5	41	45	55	8, 9, 10, 11, 12, 14
EBH04/12/..	237	70	20	90	3.5	90	M6	85.5	41	45	47	11 ,12 ,14, 16, 19
EBH04/13/..	237	80	20	100	3.5	90	M6	85.5	41	45	47	11 ,12 ,14, 16, 19
EBH04/14/..	237	95	16	115	4	105	M8	85.5	41	45	55	11 ,12 ,14, 16, 19
EBH04/15/..	237	95	16	130	4	115	M8	85.5	41	45	60	11 ,12 ,14, 16, 19

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BSHF202/I..

55 005 01 03

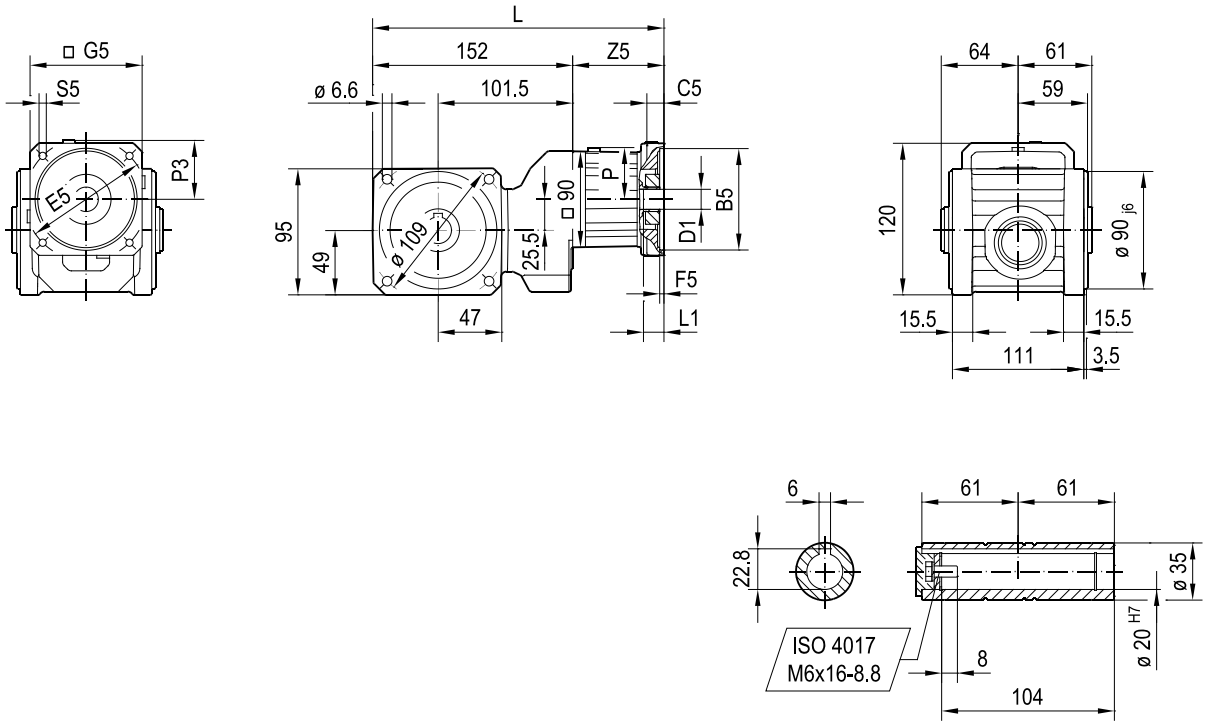


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	237	40	20	63	3.5	90	M4	85.5	41.5	45	47	8, 9, 10, 11, 12, 14
EBH03/03/..	237	50	20	60	3.5	90	M4	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/04/..	237	50	20	70	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/05/..	237	50	20	80	3.5	90	M4	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/06/..	237	50	20	95	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/07/..	237	50	20	100	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/08/..	237	60	20	75	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/09/..	237	60	20	90	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/10/..	237	70	20	85	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/11/..	237	70	20	90	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/13/..	237	80	20	100	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/14/..	237	95	16	115	4	105	M8	85.5	41	45	55	8, 9, 10, 11, 12, 14
EBH04/12/..	237	70	20	90	3.5	90	M6	85.5	41	45	47	11 ,12 ,14, 16, 19
EBH04/13/..	237	80	20	100	3.5	90	M6	85.5	41	45	47	11 ,12 ,14, 16, 19
EBH04/14/..	237	95	16	115	4	105	M8	85.5	41	45	55	11 ,12 ,14, 16, 19
EBH04/15/..	237	95	16	130	4	115	M8	85.5	41	45	60	11 ,12 ,14, 16, 19

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55 009 02 07

BSAF202..



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	237	40	20	63	3.5	90	M4	85.5	41.5	45	47	8, 9, 10, 11, 12, 14
EBH03/03/..	237	50	20	60	3.5	90	M4	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/04/..	237	50	20	70	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/05/..	237	50	20	80	3.5	90	M4	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/06/..	237	50	20	95	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/07/..	237	50	20	100	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/08/..	237	60	20	75	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/09/..	237	60	20	90	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/10/..	237	70	20	85	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/11/..	237	70	20	90	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/13/..	237	80	20	100	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/14/..	237	95	16	115	4	105	M8	85.5	41	45	55	8, 9, 10, 11, 12, 14
EBH04/12/..	237	70	20	90	3.5	90	M6	85.5	41	45	47	11 ,12 ,14, 16, 19
EBH04/13/..	237	80	20	100	3.5	90	M6	85.5	41	45	47	11 ,12 ,14, 16, 19
EBH04/14/..	237	95	16	115	4	105	M8	85.5	41	45	55	11 ,12 ,14, 16, 19
EBH04/15/..	237	95	16	130	4	115	M8	85.5	41	45	60	11 ,12 ,14, 16, 19

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13.1.2 BS.F302 EBH..

Nm		EBH M_{amax} | M_{apk} | $M_{aNotaus}$								
	i	03			04			05		
BSF302 2	3.00	56	82	123	56	82	123	68	82	123
	4.00	63	109	164	63	109	164	76	109	163
	6.00	74	111	166	74	111	166	80	120	180
	8.00	80	120	180	80	120	180	80	120	180
	10.00	72	108	162	72	108	162	72	108	162
	15.00	80	112	168	80	112	168	80	112	168
	20.00	80	112	168	80	112	168	80	112	168
	25.00	80	112	168	80	112	168			
	30.00	80	112	168	80	112	168			

BSF302, m kg			
	EBH		
s	03	04	05
2	7.3	7.3	8.8
BSBF: + 0.35 kg / BSHF: + -0.10 kg			

BS..302EBH03							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF302 2	3.00	56	82	123	900	2.7	3.3	3.7	3.5	4620	5090	5140	6000
	4.00	63	109	164	625	2.0	3.8	4.4	4.1	5070	5590	4820	6000
	6.00	74	111	166	250	1.5	4.5	5.3	4.9	5210	6000	4800	6000
	8.00	80	120	180	188	1.3	4.8	5.7	5.2	5160	6000	4660	6000
	10.00	72	108	162	150	1.6	7.5	10	8.8	5230	6000	4840	6000
	15.00	80	112	168	107	1.3	7.9	11	9.3	5160	6000	4780	6000
	20.00	80	112	168	110	1.2	8.0	11	9.6	5160	6000	4780	6000
	25.00	80	112	168	108	1.2	8.2	11	9.8	5160	6000	4780	6000
	30.00	80	112	168	117	1.1	8.2	11	9.7	5160	6000	4780	6000

BS..302EBH04							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF302 2	3.00	56	82	123	900	2.7	3.4	3.8	3.6	4620	5090	5140	6000
	4.00	63	109	164	625	2.0	3.9	4.5	4.2	5070	5590	4820	6000
	6.00	74	111	166	250	1.5	4.5	5.4	5.0	5210	6000	4800	6000
	8.00	80	120	180	188	1.3	4.8	5.8	5.3	5160	6000	4660	6000
	10.00	72	108	162	150	1.6	7.5	10	8.8	5230	6000	4840	6000
	15.00	80	112	168	107	1.3	7.9	11	9.4	5160	6000	4780	6000
	20.00	80	112	168	110	1.2	8.1	11	9.7	5160	6000	4780	6000
	25.00	80	112	168	108	1.2	8.2	12	9.8	5160	6000	4780	6000
	30.00	80	112	168	117	1.1	8.2	12	9.8	5160	6000	4780	6000

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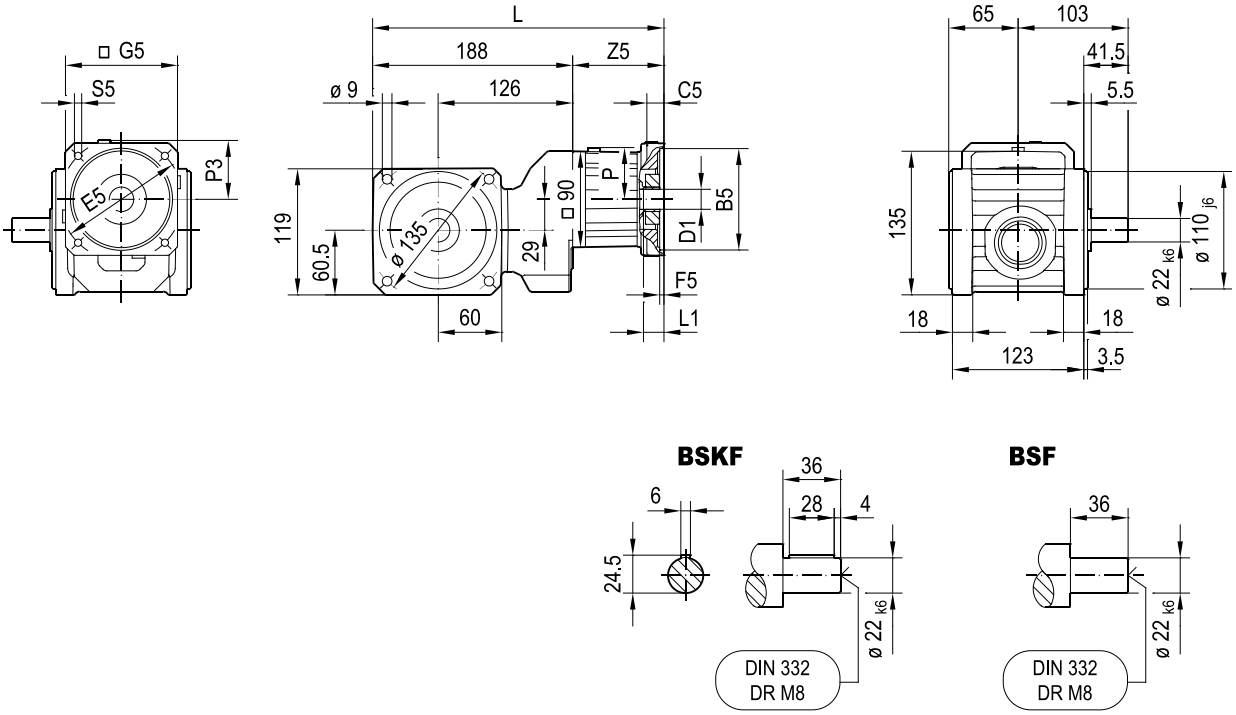
BS..302EBH05							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF302 2	3.00	68	82	123	500	6.5	3.8	4.4	4.1	4520	4980	5140	6000
	4.00	76	109	163	375	5.9	4.3	5.1	4.7	4960	5460	4820	6000
	6.00	80	120	180	333	5.4	4.8	5.9	5.4	5160	6000	4660	6000
	8.00	80	120	180	350	5.2	5.1	6.2	5.7	5160	6000	4660	6000
	10.00	72	108	162	150	5.5	7.8	11	9.3	5230	6000	4840	6000
	15.00	80	112	168	107	5.2	8.1	11	9.7	5160	6000	4780	6000
	20.00	80	112	168	110	5.1	8.2	12	9.9	5160	6000	4780	6000

BS..302				M1			M2;M4			M3;M5-6			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
BSF302 2	3.00	4500	94	10.61	-0.020	101982	29.34	-0.039	87407	16.53	-0.026	97370	6	3	-
	4.00	4500	94	11.44	-0.025	100944	39.04	-0.054	80239	20.24	-0.034	94323	6	3	-
	6.00	4500	94	12.77	-0.033	99436	48.54	-0.075	75064	26.76	-0.048	89388	6	3	-
	8.00	4500	94	13.72	-0.038	98463	54.94	-0.091	72074	31.93	-0.059	85770	6	3	-
	10.00	4500	91	17.47	-0.106	60873	82.08	-0.261	41142	61.94	-0.192	43856	6	3	-
	15.00	4500	91	23.30	-0.146	58348	101.6	-0.363	38252	94.43	-0.295	33419	6	3	-
	20.00	4500	91	28.02	-0.176	56577	122.0	-0.451	33554	108.9	-0.358	30285	6	3	-
	25.00	4500	91	30.93	-0.198	55589	137.5	-0.520	30171	119.7	-0.407	28099	6	3	-
	30.00	4500	91	33.58	-0.216	54719	149.6	-0.574	27671	128.0	-0.446	26539	6	3	-

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BSF302..

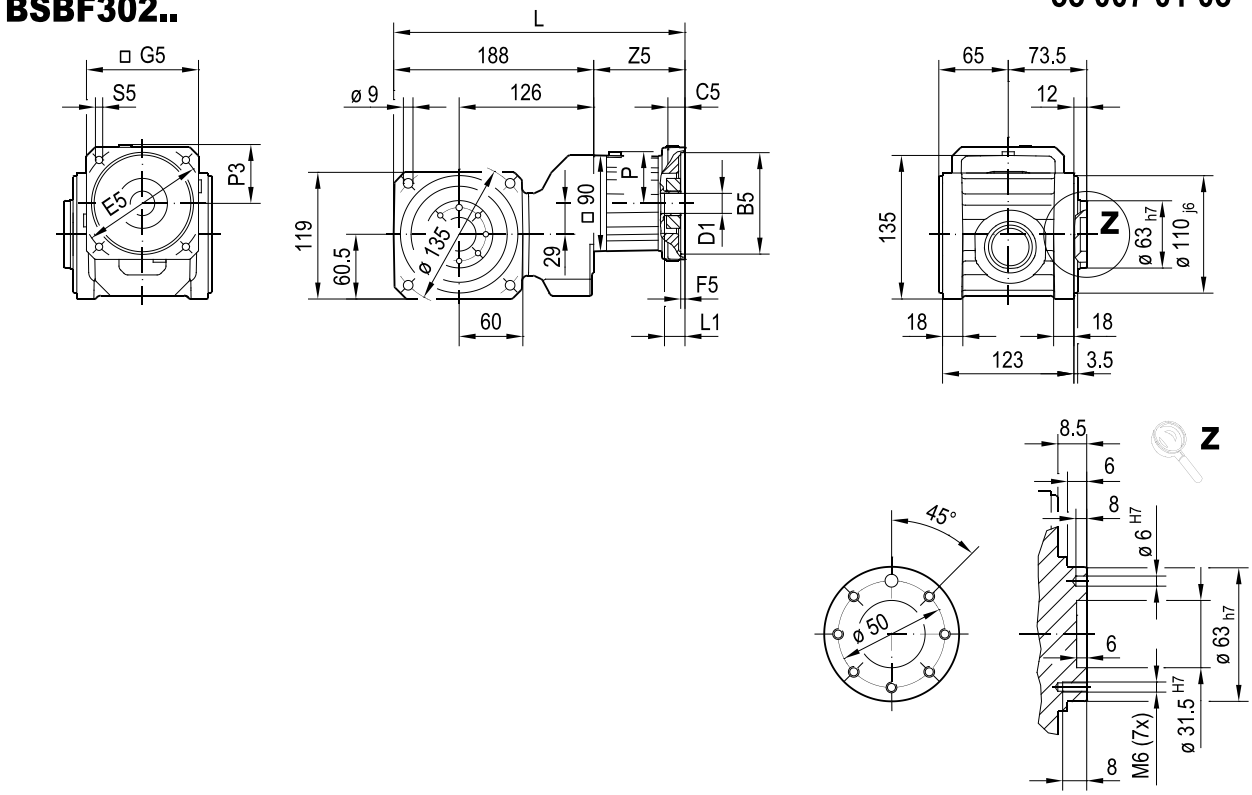


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	273	40	20	63	3.5	90	M4	85.5	41.5	45	47	8, 9, 10, 11, 12, 14
EBH03/03/..	273	50	20	60	3.5	90	M4	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/04/..	273	50	20	70	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/05/..	273	50	20	80	3.5	90	M4	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/06/..	273	50	20	95	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/07/..	273	50	20	100	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/08/..	273	60	20	75	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/09/..	273	60	20	90	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/10/..	273	70	20	85	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/11/..	273	70	20	90	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/13/..	273	80	20	100	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/14/..	273	95	16	115	4	105	M8	85.5	41	45	55	8, 9, 10, 11, 12, 14
EBH04/12/..	273	70	20	90	3.5	90	M6	85.5	41	45	47	11 ,12 ,14, 16, 19
EBH04/13/..	273	80	20	100	3.5	90	M6	85.5	41	45	47	11 ,12 ,14, 16, 19
EBH04/14/..	273	95	16	115	4	105	M8	85.5	41	45	55	11 ,12 ,14, 16, 19
EBH04/15/..	273	95	16	130	4	115	M8	85.5	41	45	60	11 ,12 ,14, 16, 19
EBH05/14/..	301	95	16	115	5	120	M8	113.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/15/..	301	95	16	130	5	120	M8	113.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/16/..	301	110	16	130	5	120	M8	113.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/17/..	301	110	16	145	7	120	M8	113.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/18/..	301	110	20	165	5	140	M10	113.5	56	56	72	14, 16, 17, 18, 19, 24
EBH05/20/..	301	130	20	165	5	140	M10	113.5	56	56	72	14, 16, 17, 18, 19, 24
EBH05/26/..	301	110	16	130	5	115	M8	113.5	56	56	61	14, 16, 17, 18, 19, 24

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BSBF302..

55 007 01 03

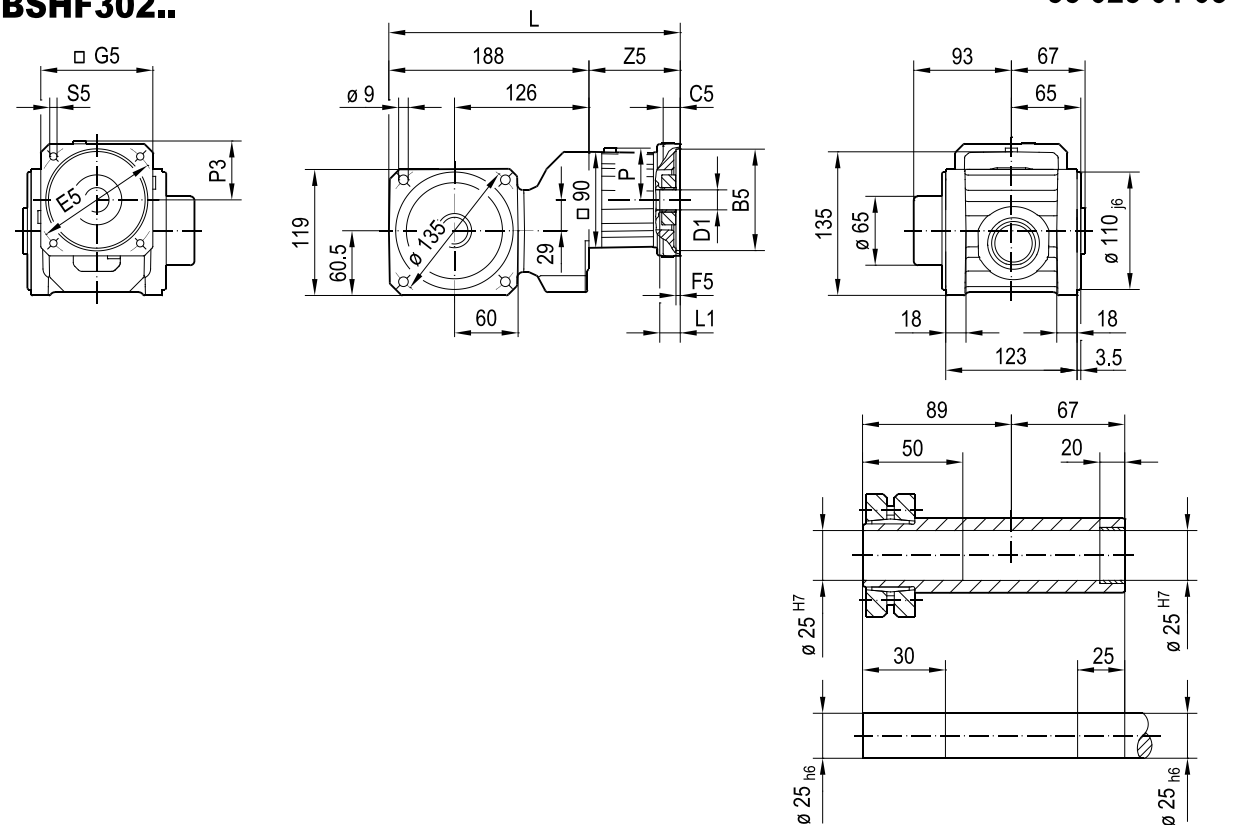


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	273	40	20	63	3.5	90	M4	85.5	41.5	45	47	8, 9, 10, 11, 12, 14
EBH03/03/..	273	50	20	60	3.5	90	M4	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/04/..	273	50	20	70	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/05/..	273	50	20	80	3.5	90	M4	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/06/..	273	50	20	95	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/07/..	273	50	20	100	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/08/..	273	60	20	75	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/09/..	273	60	20	90	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/10/..	273	70	20	85	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/11/..	273	70	20	90	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/13/..	273	80	20	100	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/14/..	273	95	16	115	4	105	M8	85.5	41	45	55	8, 9, 10, 11, 12, 14
EBH04/12/..	273	70	20	90	3.5	90	M6	85.5	41	45	47	11 ,12 ,14, 16, 19
EBH04/13/..	273	80	20	100	3.5	90	M6	85.5	41	45	47	11 ,12 ,14, 16, 19
EBH04/14/..	273	95	16	115	4	105	M8	85.5	41	45	55	11 ,12 ,14, 16, 19
EBH04/15/..	273	95	16	130	4	115	M8	85.5	41	45	60	11 ,12 ,14, 16, 19
EBH05/14/..	301	95	16	115	5	120	M8	113.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/15/..	301	95	16	130	5	120	M8	113.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/16/..	301	110	16	130	5	120	M8	113.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/17/..	301	110	16	145	7	120	M8	113.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/18/..	301	110	20	165	5	140	M10	113.5	56	56	72	14, 16, 17, 18, 19, 24
EBH05/20/..	301	130	20	165	5	140	M10	113.5	56	56	72	14, 16, 17, 18, 19, 24
EBH05/26/..	301	110	16	130	5	115	M8	113.5	56	56	61	14, 16, 17, 18, 19, 24

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BSHF302..

55 023 01 03

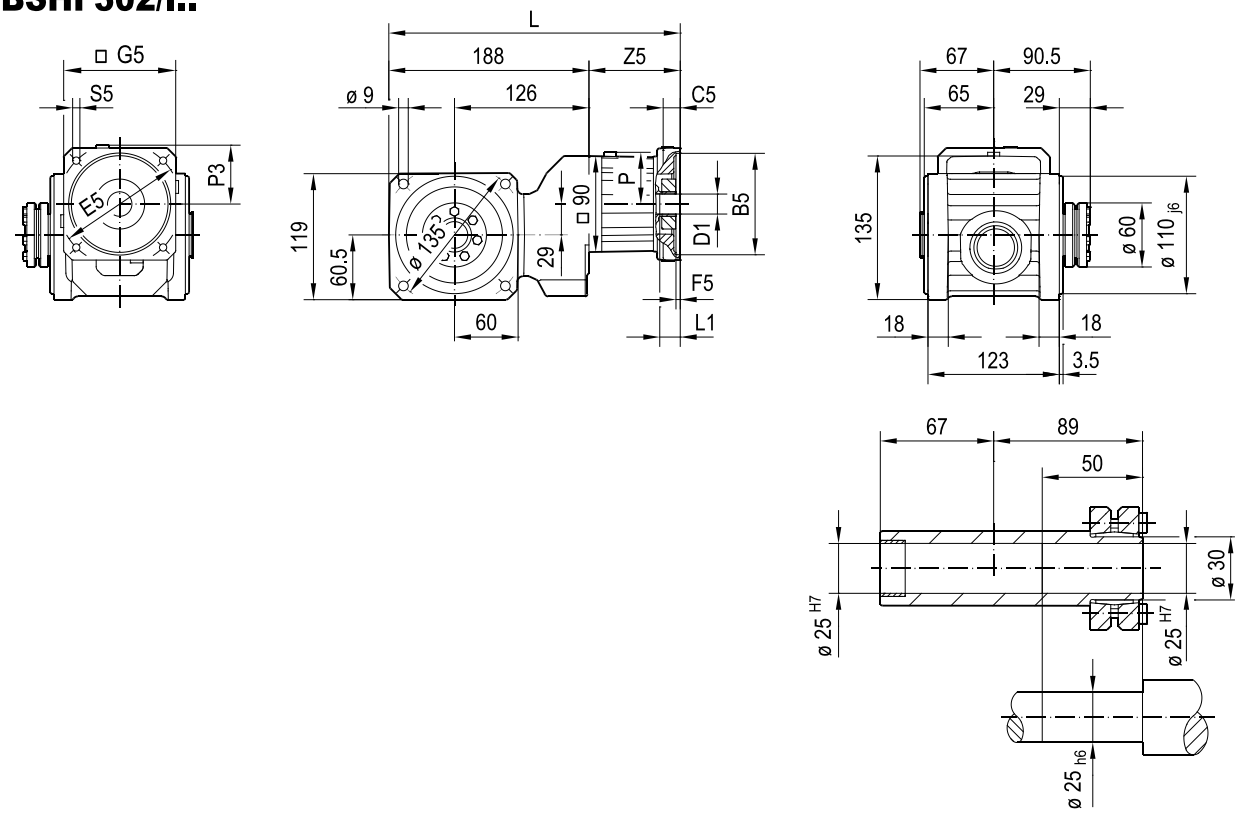


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	273	40	20	63	3.5	90	M4	85.5	41.5	45	47	8, 9, 10, 11, 12, 14
EBH03/03/..	273	50	20	60	3.5	90	M4	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/04/..	273	50	20	70	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/05/..	273	50	20	80	3.5	90	M4	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/06/..	273	50	20	95	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/07/..	273	50	20	100	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/08/..	273	60	20	75	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/09/..	273	60	20	90	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/10/..	273	70	20	85	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/11/..	273	70	20	90	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/13/..	273	80	20	100	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/14/..	273	95	16	115	4	105	M8	85.5	41	45	55	8, 9, 10, 11, 12, 14
EBH04/12/..	273	70	20	90	3.5	90	M6	85.5	41	45	47	11 ,12 ,14, 16, 19
EBH04/13/..	273	80	20	100	3.5	90	M6	85.5	41	45	47	11 ,12 ,14, 16, 19
EBH04/14/..	273	95	16	115	4	105	M8	85.5	41	45	55	11 ,12 ,14, 16, 19
EBH04/15/..	273	95	16	130	4	115	M8	85.5	41	45	60	11 ,12 ,14, 16, 19
EBH05/14/..	301	95	16	115	5	120	M8	113.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/15/..	301	95	16	130	5	120	M8	113.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/16/..	301	110	16	130	5	120	M8	113.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/17/..	301	110	16	145	7	120	M8	113.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/18/..	301	110	20	165	5	140	M10	113.5	56	56	72	14, 16, 17, 18, 19, 24
EBH05/20/..	301	130	20	165	5	140	M10	113.5	56	56	72	14, 16, 17, 18, 19, 24
EBH05/26/..	301	110	16	130	5	115	M8	113.5	56	56	61	14, 16, 17, 18, 19, 24

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BSHF302/I..

55 008 01 03

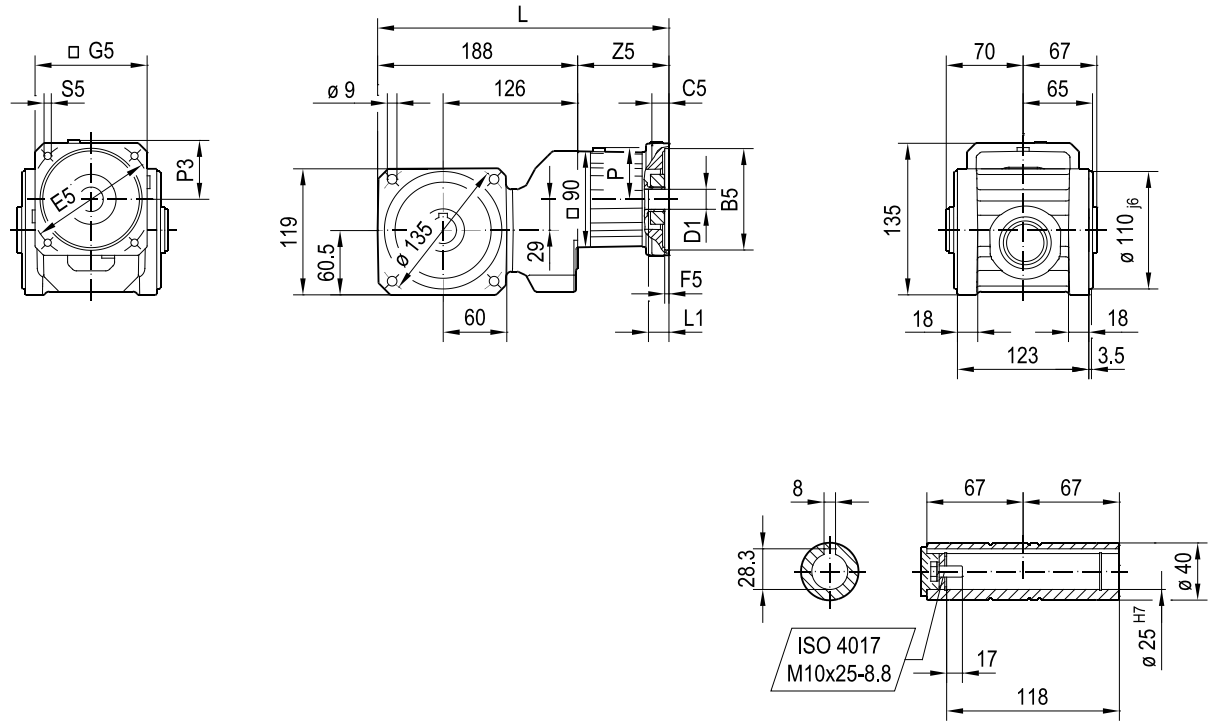


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	273	40	20	63	3.5	90	M4	85.5	41.5	45	47	8, 9, 10, 11, 12, 14
EBH03/03/..	273	50	20	60	3.5	90	M4	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/04/..	273	50	20	70	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/05/..	273	50	20	80	3.5	90	M4	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/06/..	273	50	20	95	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/07/..	273	50	20	100	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/08/..	273	60	20	75	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/09/..	273	60	20	90	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/10/..	273	70	20	85	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/11/..	273	70	20	90	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/13/..	273	80	20	100	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/14/..	273	95	16	115	4	105	M8	85.5	41	45	55	8, 9, 10, 11, 12, 14
EBH04/12/..	273	70	20	90	3.5	90	M6	85.5	41	45	47	11 ,12 ,14, 16, 19
EBH04/13/..	273	80	20	100	3.5	90	M6	85.5	41	45	47	11 ,12 ,14, 16, 19
EBH04/14/..	273	95	16	115	4	105	M8	85.5	41	45	55	11 ,12 ,14, 16, 19
EBH04/15/..	273	95	16	130	4	115	M8	85.5	41	45	60	11 ,12 ,14, 16, 19
EBH05/14/..	301	95	16	115	5	120	M8	113.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/15/..	301	95	16	130	5	120	M8	113.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/16/..	301	110	16	130	5	120	M8	113.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/17/..	301	110	16	145	7	120	M8	113.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/18/..	301	110	20	165	5	140	M10	113.5	56	56	72	14, 16, 17, 18, 19, 24
EBH05/20/..	301	130	20	165	5	140	M10	113.5	56	56	72	14, 16, 17, 18, 19, 24
EBH05/26/..	301	110	16	130	5	115	M8	113.5	56	56	61	14, 16, 17, 18, 19, 24

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BSAF302..



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	273	40	20	63	3.5	90	M4	85.5	41.5	45	47	8, 9, 10, 11, 12, 14
EBH03/03/..	273	50	20	60	3.5	90	M4	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/04/..	273	50	20	70	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/05/..	273	50	20	80	3.5	90	M4	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/06/..	273	50	20	95	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/07/..	273	50	20	100	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/08/..	273	60	20	75	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/09/..	273	60	20	90	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/10/..	273	70	20	85	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/11/..	273	70	20	90	3.5	90	M5	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/13/..	273	80	20	100	3.5	90	M6	85.5	41	45	47	8, 9, 10, 11, 12, 14
EBH03/14/..	273	95	16	115	4	105	M8	85.5	41	45	55	8, 9, 10, 11, 12, 14
EBH04/12/..	273	70	20	90	3.5	90	M6	85.5	41	45	47	11 ,12 ,14, 16, 19
EBH04/13/..	273	80	20	100	3.5	90	M6	85.5	41	45	47	11 ,12 ,14, 16, 19
EBH04/14/..	273	95	16	115	4	105	M8	85.5	41	45	55	11 ,12 ,14, 16, 19
EBH04/15/..	273	95	16	130	4	115	M8	85.5	41	45	60	11 ,12 ,14, 16, 19
EBH05/14/..	301	95	16	115	5	120	M8	113.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/15/..	301	95	16	130	5	120	M8	113.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/16/..	301	110	16	130	5	120	M8	113.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/17/..	301	110	16	145	7	120	M8	113.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/18/..	301	110	20	165	5	140	M10	113.5	56	56	72	14, 16, 17, 18, 19, 24
EBH05/20/..	301	130	20	165	5	140	M10	113.5	56	56	72	14, 16, 17, 18, 19, 24
EBH05/26/..	301	110	16	130	5	115	M8	113.5	56	56	61	14, 16, 17, 18, 19, 24

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13.1.3 BS.F402 EBH..

Nm		EBH M_{amax} | M_{apk} | $M_{aNotaus}$														
	i	03			04			05			06			07		
BSF402 2	3.00							122	183	275	122	183	270	122	183	270
	4.00	80	109	164	80	109	164	136	200	300	136	200	300	136	200	300
	6.00	95	164	245	95	164	245	156	205	305	156	205	305	156	205	305
	8.00	103	156	230	103	156	230	160	210	315	160	210	315	160	210	315
	10.00	124	186	275	124	186	275	124	186	275	124	186	275	124	186	275
	15.00	140	210	315	140	210	315	140	210	315	140	210	315	140	210	315
	20.00	152	220	330	152	220	330	152	220	330	152	220	330	152	220	330
	25.00	160	225	335	160	225	335	160	225	335	160	200	300	160	200	300
	30.00	160	225	335	160	225	335									

BSF402, m kg					
	EBH				
s	03	04	05	06	07
2	12	12	14	15	15
BSBF: + 0.50 kg / BSHF: + -0.60 kg					

BS..402EBH03							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF402 2	4.00	80	109	164	1125	4.2	6.4	7.0	6.8	7640	8770	9310	10800
	6.00	95	164	245	750	2.6	7.7	8.6	8.3	8720	10000	9130	10800
	8.00	103	156	230	563	2.0	8.5	9.5	9.2	9320	10800	9160	10800
	10.00[1)]	124	186	275	140	2.9	14	17	16	9270	10800	9040	10800
	15.00	140	210	315	100	2.0	15	19	17	9220	10800	8920	10800
	20.00	152	220	330	75	1.6	16	19	18	9170	10800	8870	10800
	25.00	160	225	335	64	1.5	16	20	18	9140	10800	8840	10800
	30.00	160	225	335	60	1.4	16	20	19	9140	10800	8840	10800

BS..402EBH04							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF402 2	4.00	80	109	164	1125	4.2	2.8	2.9	2.8	7640	8770	9310	10800
	6.00	95	164	245	750	2.6	4.2	4.4	4.3	8720	10000	9130	10800
	8.00	103	156	230	563	2.0	6.9	7.6	7.4	9320	10800	9160	10800
	10.00[1)]	124	186	275	140	2.9	8.9	10	9.7	9270	10800	9040	10800
	15.00	140	210	315	100	2.0	14	16	16	9220	10800	8920	10800
	20.00	152	220	330	75	1.6	15	18	17	9170	10800	8870	10800
	25.00	160	225	335	64	1.5	16	20	19	9140	10800	8840	10800
	30.00	160	225	335	60	1.4	16	21	19	9140	10800	8840	10800

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BS..402EBH05							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF402 2	3.00	122	183	275	433	10	6.6	7.2	7.0	6600	7580	9050	10800
	4.00	136	200	300	375	8.1	7.2	8.0	7.8	7250	8330	8970	10800
	6.00	156	205	305	250	6.5	8.5	9.6	9.2	8300	9530	8940	10800
	8.00	160	210	315	213	5.8	9.2	10	10	9140	10600	8920	10800
	10.00[1)]	124	186	275	140	6.8	15	18	17	9270	10800	9040	10800
	15.00	140	210	315	100	5.9	16	19	18	9220	10800	8920	10800
	20.00	152	220	330	75	5.5	16	20	19	9170	10800	8870	10800
	25.00	160	225	335	64	5.3	16	20	19	9140	10800	8840	10800

BS..402EBH06							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF402 2	3.00	122	183	270	500	14	7.6	8.4	8.2	6600	7580	9050	10800
	4.00	136	200	300	375	12	8.4	9.4	9.1	7250	8330	8970	10800
	6.00	156	205	305	250	10	9.3	11	10	8300	9530	8940	10800
	8.00	160	210	315	213	9.8	9.7	11	11	9140	10600	8920	10800
	10.00[1)]	124	186	275	140	11	15	19	18	9270	10800	9040	10800
	15.00	140	210	315	100	9.9	16	20	19	9220	10800	8920	10800
	20.00	152	220	330	75	9.5	16	20	19	9170	10800	8870	10800
	25.00	160	200	300	64	9.3	16	21	19	9140	10800	8970	10800

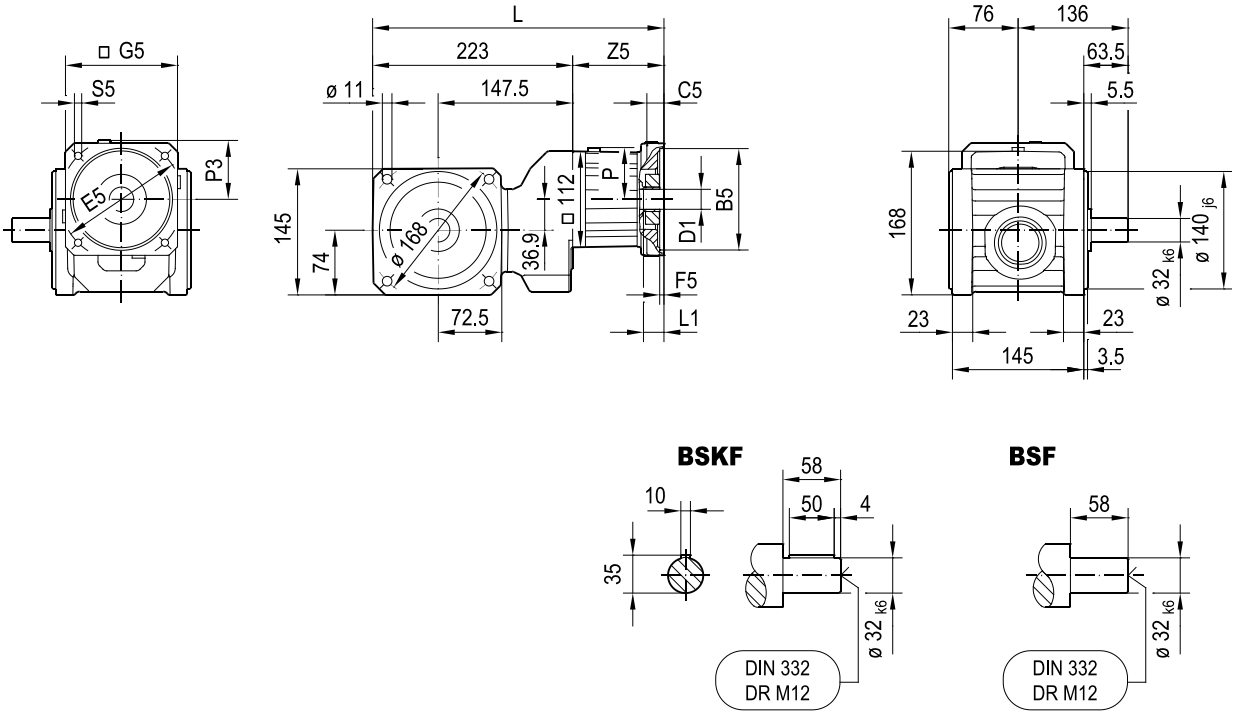
BS..402EBH07							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF402 2	3.00	122	183	270	500	14	7.6	8.4	8.2	6600	7580	9050	10800
	4.00	136	200	300	375	12	8.4	9.4	9.1	7250	8330	8970	10800
	6.00	156	205	305	250	10	9.3	11	10	8300	9530	8940	10800
	8.00	160	210	315	213	9.9	9.7	11	11	9140	10600	8920	10800
	10.00[1)]	124	186	275	140	11	15	19	18	9270	10800	9040	10800
	15.00	140	210	315	100	9.9	16	20	19	9220	10800	8920	10800
	20.00	152	220	330	75	9.5	16	20	19	9170	10800	8870	10800
	25.00	160	200	300	64	9.4	16	21	19	9140	10800	8970	10800

BS..402				M1			M2;M4			M3;M5-6			φ		
		n_{epk}	η	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2		/R	/M
	i	min^{-1}	%										'	'	'
BSF402 2	3.00	4500	94	16.64	-0.042	136375	23.96	-0.064	131323	16.80	-0.043	134151	6	3	-
	4.00	4500	94	17.96	-0.052	135265	27.92	-0.082	129034	18.77	-0.053	132596	6	3	-
	6.00	4500	94	19.78	-0.066	133791	33.62	-0.110	126042	21.69	-0.070	130498	6	3	-
	8.00	4500	94	21.09	-0.077	132801	37.83	-0.131	124010	23.79	-0.082	129114	6	3	-
	10.00	4500	90	22.39	-0.211	82904	53.97	-0.374	74730	28.11	-0.227	79870	6	3	-
	15.00	4500	91	29.19	-0.282	80694	74.18	-0.523	70371	37.70	-0.308	77196	6	3	-
	20.00	4500	91	34.34	-0.335	79192	89.99	-0.638	67275	45.42	-0.370	75192	6	3	-
	25.00	4500	91	38.33	-0.375	78100	101.1	-0.725	65289	51.01	-0.417	73859	6	3	-
	30.00	4500	91	41.83	-0.407	77194	110.3	-0.794	63679	55.87	-0.455	72752	6	3	-

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BSF402..

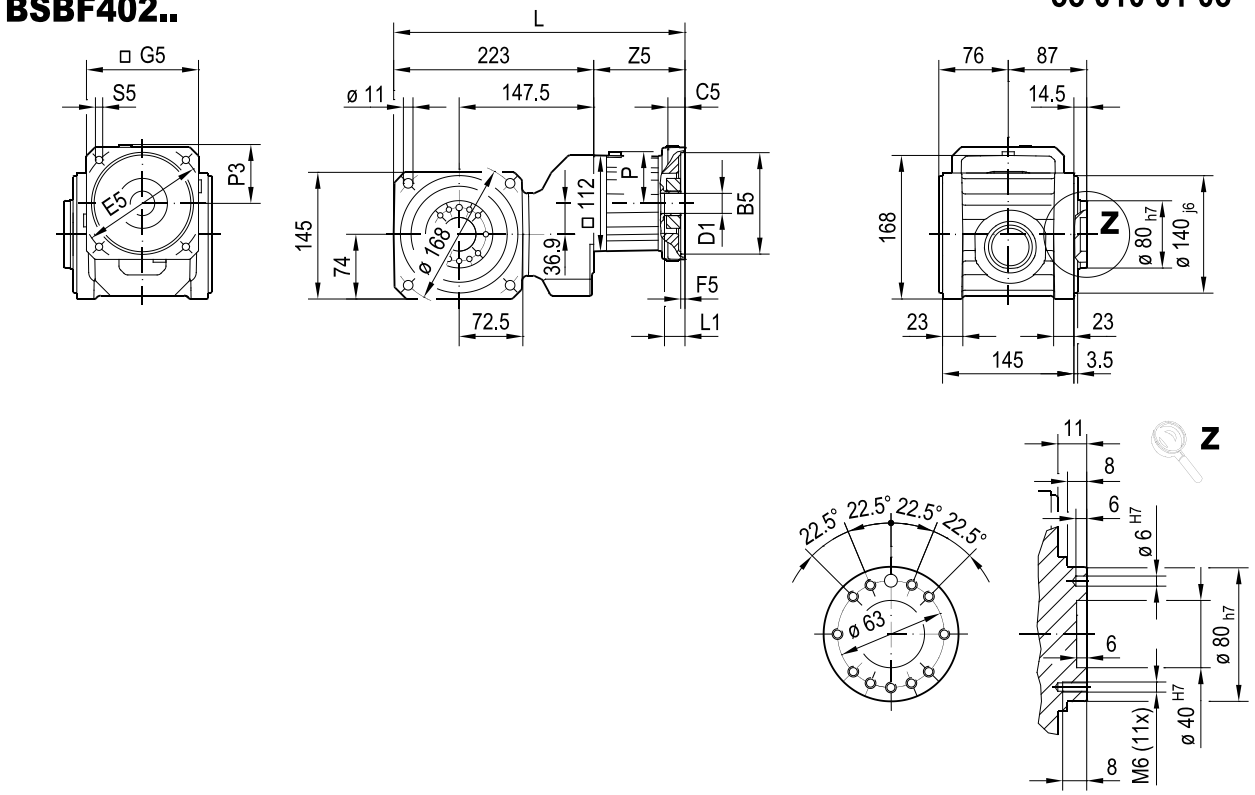


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	303	40	20	63	3.5	90	M4	79.5	41.5	58	47	8, 9, 10, 11, 12, 14
EBH03/03/..	303	50	20	60	3.5	90	M4	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/04/..	303	50	20	70	3.5	90	M5	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/05/..	303	50	20	80	3.5	90	M4	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/06/..	303	50	20	95	3.5	90	M6	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/07/..	303	50	20	100	3.5	90	M6	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/08/..	303	60	20	75	3.5	90	M5	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/09/..	303	60	20	90	3.5	90	M5	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/10/..	303	70	20	85	3.5	90	M6	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/11/..	303	70	20	90	3.5	90	M5	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/13/..	303	80	20	100	3.5	90	M6	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/14/..	303	95	16	115	4	105	M8	79.5	41	58	55	8, 9, 10, 11, 12, 14
EBH04/12/..	303	70	20	90	3.5	90	M6	79.5	41	58	47	11 ,12 ,14, 16, 19
EBH04/13/..	303	80	20	100	3.5	90	M6	79.5	41	58	47	11 ,12 ,14, 16, 19
EBH04/14/..	303	95	16	115	4	105	M8	79.5	41	58	55	11 ,12 ,14, 16, 19
EBH04/15/..	303	95	16	130	4	115	M8	79.5	41	58	60	11 ,12 ,14, 16, 19
EBH05/14/..	332	95	16	115	4	120	M8	108.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/15/..	332	95	16	130	4	120	M8	108.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/16/..	332	110	16	130	5	120	M8	108.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/17/..	332	110	16	145	7	120	M8	108.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/18/..	332	110	20	165	5	140	M10	108.5	56	56	72	14, 16, 17, 18, 19, 24
EBH05/20/..	332	130	20	165	5	140	M10	108.5	56	56	72	14, 16, 17, 18, 19, 24
EBH05/26/..	332	110	16	130	5	115	M8	108.5	56	56	61	14, 16, 17, 18, 19, 24
EBH06/19/..	371	114.3	24	200	5	174	M12	147.5	86	58	89	35
EBH07/20/..	351	130	24	165	5	155	M10	127.5	66	58	80	22, 24, 28, 32
EBH07/21/..	351	130	24	215	5	190	M12	127.5	66	58	97	22, 24, 28, 32
EBH07/22/..	351	180	24	215	5	190	M12	127.5	66	58	97	22, 24, 28, 32
EBH07/27/..	351	130	24	165	5	137	M10	127.5	66	58	72	22, 24, 28, 32
EBH07/28/..	351	155	24	190	5	162	M10	127.5	66	58	84	22, 24, 28, 32

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BSBF402..

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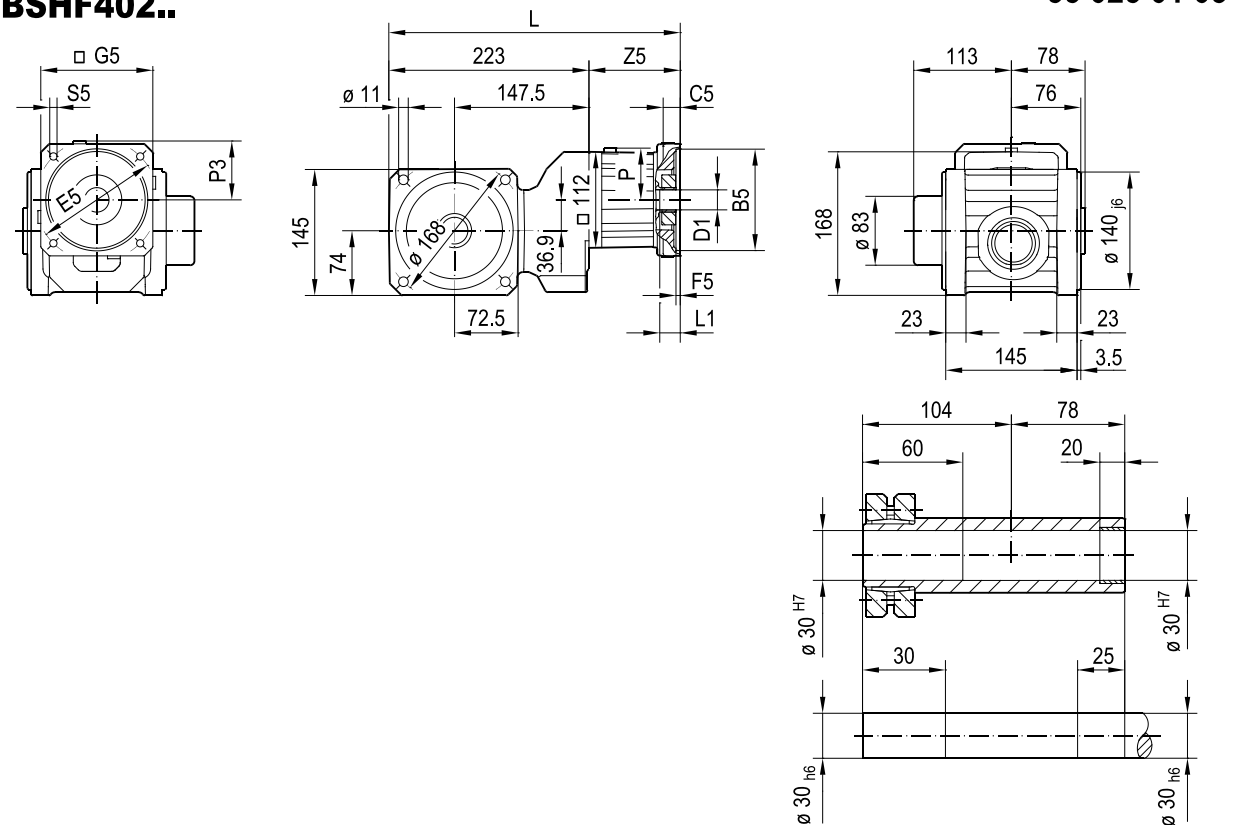


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	303	40	20	63	3.5	90	M4	79.5	41.5	58	47	8, 9, 10, 11, 12, 14
EBH03/03/..	303	50	20	60	3.5	90	M4	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/04/..	303	50	20	70	3.5	90	M5	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/05/..	303	50	20	80	3.5	90	M4	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/06/..	303	50	20	95	3.5	90	M6	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/07/..	303	50	20	100	3.5	90	M6	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/08/..	303	60	20	75	3.5	90	M5	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/09/..	303	60	20	90	3.5	90	M5	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/10/..	303	70	20	85	3.5	90	M6	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/11/..	303	70	20	90	3.5	90	M5	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/13/..	303	80	20	100	3.5	90	M6	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/14/..	303	95	16	115	4	105	M8	79.5	41	58	55	8, 9, 10, 11, 12, 14
EBH04/12/..	303	70	20	90	3.5	90	M6	79.5	41	58	47	11 ,12 ,14, 16, 19
EBH04/13/..	303	80	20	100	3.5	90	M6	79.5	41	58	47	11 ,12 ,14, 16, 19
EBH04/14/..	303	95	16	115	4	105	M8	79.5	41	58	55	11 ,12 ,14, 16, 19
EBH04/15/..	303	95	16	130	4	115	M8	79.5	41	58	60	11 ,12 ,14, 16, 19
EBH05/14/..	332	95	16	115	4	120	M8	108.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/15/..	332	95	16	130	4	120	M8	108.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/16/..	332	110	16	130	5	120	M8	108.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/17/..	332	110	16	145	7	120	M8	108.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/18/..	332	110	20	165	5	140	M10	108.5	56	56	72	14, 16, 17, 18, 19, 24
EBH05/20/..	332	130	20	165	5	140	M10	108.5	56	56	72	14, 16, 17, 18, 19, 24
EBH05/26/..	332	110	16	130	5	115	M8	108.5	56	56	61	14, 16, 17, 18, 19, 24
EBH06/19/..	371	114.3	24	200	5	174	M12	147.5	86	58	89	35
EBH07/20/..	351	130	24	165	5	155	M10	127.5	66	58	80	22, 24, 28, 32
EBH07/21/..	351	130	24	215	5	190	M12	127.5	66	58	97	22, 24, 28, 32
EBH07/22/..	351	180	24	215	5	190	M12	127.5	66	58	97	22, 24, 28, 32
EBH07/27/..	351	130	24	165	5	137	M10	127.5	66	58	72	22, 24, 28, 32
EBH07/28/..	351	155	24	190	5	162	M10	127.5	66	58	84	22, 24, 28, 32

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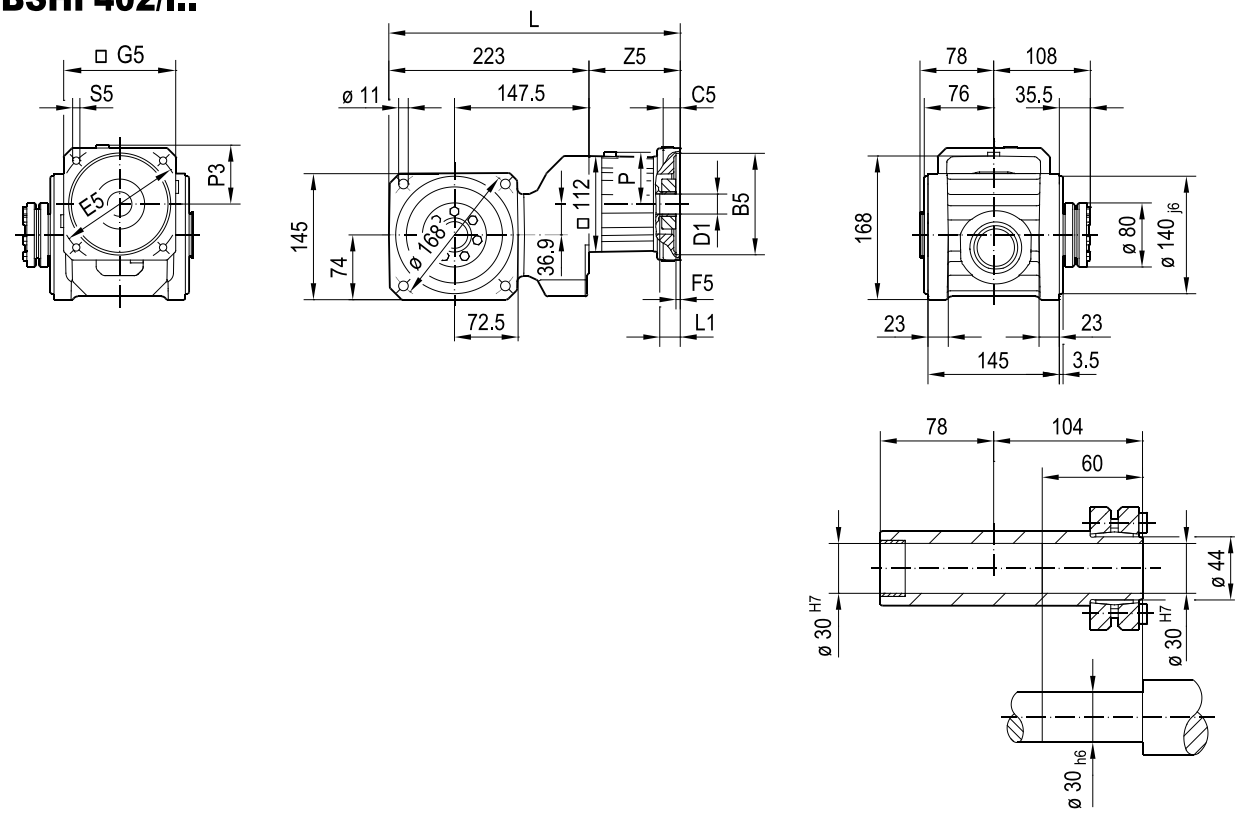


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	303	40	20	63	3.5	90	M4	79.5	41.5	58	47	8, 9, 10, 11, 12, 14
EBH03/03/..	303	50	20	60	3.5	90	M4	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/04/..	303	50	20	70	3.5	90	M5	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/05/..	303	50	20	80	3.5	90	M4	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/06/..	303	50	20	95	3.5	90	M6	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/07/..	303	50	20	100	3.5	90	M6	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/08/..	303	60	20	75	3.5	90	M5	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/09/..	303	60	20	90	3.5	90	M5	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/10/..	303	70	20	85	3.5	90	M6	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/11/..	303	70	20	90	3.5	90	M5	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/13/..	303	80	20	100	3.5	90	M6	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/14/..	303	95	16	115	4	105	M8	79.5	41	58	55	8, 9, 10, 11, 12, 14
EBH04/12/..	303	70	20	90	3.5	90	M6	79.5	41	58	47	11 ,12 ,14, 16, 19
EBH04/13/..	303	80	20	100	3.5	90	M6	79.5	41	58	47	11 ,12 ,14, 16, 19
EBH04/14/..	303	95	16	115	4	105	M8	79.5	41	58	55	11 ,12 ,14, 16, 19
EBH04/15/..	303	95	16	130	4	115	M8	79.5	41	58	60	11 ,12 ,14, 16, 19
EBH05/14/..	332	95	16	115	4	120	M8	108.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/15/..	332	95	16	130	4	120	M8	108.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/16/..	332	110	16	130	5	120	M8	108.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/17/..	332	110	16	145	7	120	M8	108.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/18/..	332	110	20	165	5	140	M10	108.5	56	56	72	14, 16, 17, 18, 19, 24
EBH05/20/..	332	130	20	165	5	140	M10	108.5	56	56	72	14, 16, 17, 18, 19, 24
EBH05/26/..	332	110	16	130	5	115	M8	108.5	56	56	61	14, 16, 17, 18, 19, 24
EBH06/19/..	371	114.3	24	200	5	174	M12	147.5	86	58	89	35
EBH07/20/..	351	130	24	165	5	155	M10	127.5	66	58	80	22, 24, 28, 32
EBH07/21/..	351	130	24	215	5	190	M12	127.5	66	58	97	22, 24, 28, 32
EBH07/22/..	351	180	24	215	5	190	M12	127.5	66	58	97	22, 24, 28, 32
EBH07/27/..	351	130	24	165	5	137	M10	127.5	66	58	72	22, 24, 28, 32
EBH07/28/..	351	155	24	190	5	162	M10	127.5	66	58	84	22, 24, 28, 32

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BSHF402/I..

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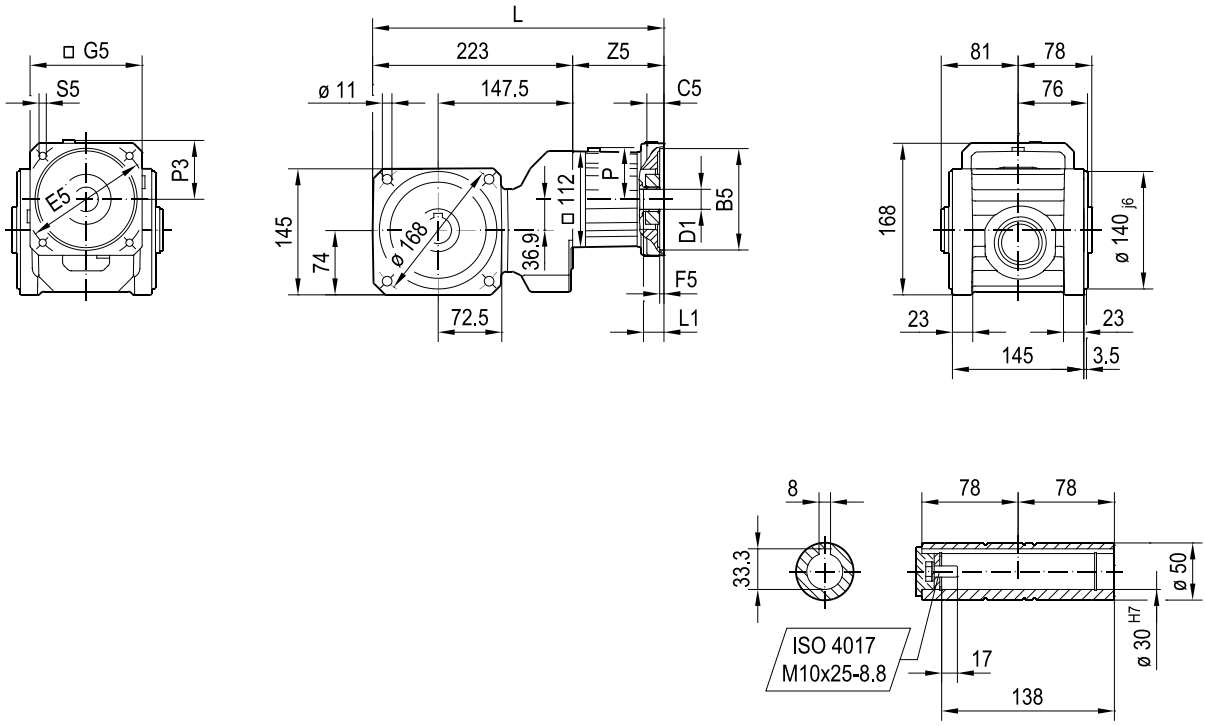


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	303	40	20	63	3.5	90	M4	79.5	41.5	58	47	8, 9, 10, 11, 12, 14
EBH03/03/..	303	50	20	60	3.5	90	M4	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/04/..	303	50	20	70	3.5	90	M5	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/05/..	303	50	20	80	3.5	90	M4	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/06/..	303	50	20	95	3.5	90	M6	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/07/..	303	50	20	100	3.5	90	M6	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/08/..	303	60	20	75	3.5	90	M5	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/09/..	303	60	20	90	3.5	90	M5	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/10/..	303	70	20	85	3.5	90	M6	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/11/..	303	70	20	90	3.5	90	M5	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/13/..	303	80	20	100	3.5	90	M6	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/14/..	303	95	16	115	4	105	M8	79.5	41	58	55	8, 9, 10, 11, 12, 14
EBH04/12/..	303	70	20	90	3.5	90	M6	79.5	41	58	47	11 ,12 ,14, 16, 19
EBH04/13/..	303	80	20	100	3.5	90	M6	79.5	41	58	47	11 ,12 ,14, 16, 19
EBH04/14/..	303	95	16	115	4	105	M8	79.5	41	58	55	11 ,12 ,14, 16, 19
EBH04/15/..	303	95	16	130	4	115	M8	79.5	41	58	60	11 ,12 ,14, 16, 19
EBH05/14/..	332	95	16	115	4	120	M8	108.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/15/..	332	95	16	130	4	120	M8	108.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/16/..	332	110	16	130	5	120	M8	108.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/17/..	332	110	16	145	7	120	M8	108.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/18/..	332	110	20	165	5	140	M10	108.5	56	56	72	14, 16, 17, 18, 19, 24
EBH05/20/..	332	130	20	165	5	140	M10	108.5	56	56	72	14, 16, 17, 18, 19, 24
EBH05/26/..	332	110	16	130	5	115	M8	108.5	56	56	61	14, 16, 17, 18, 19, 24
EBH06/19/..	371	114.3	24	200	5	174	M12	147.5	86	58	89	35
EBH07/20/..	351	130	24	165	5	155	M10	127.5	66	58	80	22, 24, 28, 32
EBH07/21/..	351	130	24	215	5	190	M12	127.5	66	58	97	22, 24, 28, 32
EBH07/22/..	351	180	24	215	5	190	M12	127.5	66	58	97	22, 24, 28, 32
EBH07/27/..	351	130	24	165	5	137	M10	127.5	66	58	72	22, 24, 28, 32
EBH07/28/..	351	155	24	190	5	162	M10	127.5	66	58	84	22, 24, 28, 32

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BSAF402..



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	303	40	20	63	3.5	90	M4	79.5	41.5	58	47	8, 9, 10, 11, 12, 14
EBH03/03/..	303	50	20	60	3.5	90	M4	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/04/..	303	50	20	70	3.5	90	M5	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/05/..	303	50	20	80	3.5	90	M4	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/06/..	303	50	20	95	3.5	90	M6	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/07/..	303	50	20	100	3.5	90	M6	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/08/..	303	60	20	75	3.5	90	M5	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/09/..	303	60	20	90	3.5	90	M5	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/10/..	303	70	20	85	3.5	90	M6	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/11/..	303	70	20	90	3.5	90	M5	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/13/..	303	80	20	100	3.5	90	M6	79.5	41	58	47	8, 9, 10, 11, 12, 14
EBH03/14/..	303	95	16	115	4	105	M8	79.5	41	58	55	8, 9, 10, 11, 12, 14
EBH04/12/..	303	70	20	90	3.5	90	M6	79.5	41	58	47	11 ,12 ,14, 16, 19
EBH04/13/..	303	80	20	100	3.5	90	M6	79.5	41	58	47	11 ,12 ,14, 16, 19
EBH04/14/..	303	95	16	115	4	105	M8	79.5	41	58	55	11 ,12 ,14, 16, 19
EBH04/15/..	303	95	16	130	4	115	M8	79.5	41	58	60	11 ,12 ,14, 16, 19
EBH05/14/..	332	95	16	115	4	120	M8	108.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/15/..	332	95	16	130	4	120	M8	108.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/16/..	332	110	16	130	5	120	M8	108.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/17/..	332	110	16	145	7	120	M8	108.5	56	56	62	14, 16, 17, 18, 19, 24
EBH05/18/..	332	110	20	165	5	140	M10	108.5	56	56	72	14, 16, 17, 18, 19, 24
EBH05/20/..	332	130	20	165	5	140	M10	108.5	56	56	72	14, 16, 17, 18, 19, 24
EBH05/26/..	332	110	16	130	5	115	M8	108.5	56	56	61	14, 16, 17, 18, 19, 24
EBH06/19/..	371	114.3	24	200	5	174	M12	147.5	86	58	89	35
EBH07/20/..	351	130	24	165	5	155	M10	127.5	66	58	80	22, 24, 28, 32
EBH07/21/..	351	130	24	215	5	190	M12	127.5	66	58	97	22, 24, 28, 32
EBH07/22/..	351	180	24	215	5	190	M12	127.5	66	58	97	22, 24, 28, 32
EBH07/27/..	351	130	24	165	5	137	M10	127.5	66	58	72	22, 24, 28, 32
EBH07/28/..	351	155	24	190	5	162	M10	127.5	66	58	84	22, 24, 28, 32

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13.1.4 BS.F502 EBH..

Nm		EBH M_{amax} | M_{apk} | $M_{aNotaus}$																	
	i	03			04			05			06			07			08		
BSF502 2	3.00							159	200	300	230	370	555	230	370	555	310	370	555
	4.00	93	109	164	93	109	164	182	265	400	270	400	600	270	400	600	320	400	600
	6.00	114	164	245	114	164	245	215	325	485	315	410	615	315	410	615	320	410	615
	8.00	126	215	325	126	215	325	235	355	530	320	420	630	320	420	630	320	420	630
	10.00	225	260	395	225	260	395	250	375	560	250	375	560	250	375	560	250	375	560
	12.00	137	205	305	137	205	305	260	325	485	280	325	485	280	325	485			
	15.00	250	375	560	250	375	560	250	375	560	250	375	560	250	375	560	250	375	560
	20.00	250	375	560	250	375	560	250	375	560	250	375	560	250	375	560	250	375	560
	25.00	250	375	560	250	375	560	250	375	560	250	375	560	250	375	560	250	375	560
	30.00	250	375	560	250	375	560	250	375	560	250	375	560	250	375	560			
	35.00	250	375	560	250	375	560												

BSF502, m kg						
	EBH					
s	03	04	05	06	07	08
2	30	30	32	35	35	39
BSBF: + 0.40 kg / BSHF: + -1.0 kg						

BS..502EBH03								c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF502 2	4.00	93	109	164	1125	8.1	10	11	11	12300	14400	12600	14400
	6.00	114	164	245	750	4.5	13	15	14	12600	14400	12500	14400
	8.00	126	215	325	563	3.1	15	17	16	12500	14400	12400	14400
	10.00	225	260	395	450	4.8	23	28	25	12400	14400	12300	14400
	12.00	137	205	305	375	2.1	17	19	18	12500	14400	12400	14400
	15.00	250	375	560	300	3.1	25	31	28	12300	14400	12000	14400
	20.00	250	375	560	135	2.3	26	33	29	12300	14400	12000	14400
	25.00	250	375	560	132	2.0	27	34	30	12300	14400	12000	14400
	30.00	250	375	560	117	1.7	27	34	30	12300	14400	12000	14400
	35.00	250	375	560	103	1.6	27	34	30	12300	14400	12000	14400

BS..502EBH04								c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF502 2	4.00	93	109	164	1125	8.1	11	11	11	12300	14400	12600	14400
	6.00	114	164	245	750	4.5	14	15	14	12600	14400	12500	14400
	8.00	126	215	325	563	3.1	15	17	16	12500	14400	12400	14400
	10.00	225	260	395	450	4.8	23	28	26	12400	14400	12300	14400
	12.00	137	205	305	375	2.1	17	19	18	12500	14400	12400	14400
	15.00	250	375	560	300	3.1	26	31	28	12300	14400	12000	14400
	20.00	250	375	560	135	2.3	27	33	30	12300	14400	12000	14400
	25.00	250	375	560	132	2.0	27	34	30	12300	14400	12000	14400
	30.00	250	375	560	117	1.7	27	34	31	12300	14400	12000	14400
	35.00	250	375	560	103	1.6	27	34	31	12300	14400	12000	14400

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BS..502EBH05							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF502 2	3.00	159	200	300	1500	17	12	13	12	10900	13100	12400	14400
	4.00	182	265	400	1125	12	14	15	15	11800	14200	12300	14400
	6.00	215	325	485	250	8.4	16	18	17	12400	14400	12200	14400
	8.00	235	355	530	188	7.0	17	20	18	12400	14400	12100	14400
	10.00	250	375	560	450	8.7	26	32	28	12300	14400	12000	14400
	12.00	260	325	485	375	6.0	18	21	19	12300	14400	12200	14400
	15.00	250	375	560	300	6.9	27	34	30	12300	14400	12000	14400
	20.00	250	375	560	225	6.2	28	35	31	12300	14400	12000	14400
	25.00	250	375	560	180	5.8	28	35	31	12300	14400	12000	14400
	30.00	250	375	560	150	5.6	28	35	31	12300	14400	12000	14400

BS..502EBH06							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF502 2	3.00	230	370	555	1333	21	13	14	14	10500	12700	12000	14400
	4.00	270	400	600	375	16	15	17	16	11400	13700	11900	14400
	6.00	315	410	615	433	12	17	20	18	12200	14400	11900	14400
	8.00	320	420	630	250	11	18	21	19	12200	14400	11800	14400
	10.00	250	375	560	450	13	26	33	29	12300	14400	12000	14400
	12.00	280	325	485	375	10.0	19	21	20	12300	14400	12200	14400
	15.00	250	375	560	300	11	28	35	31	12300	14400	12000	14400
	20.00	250	375	560	225	10	28	35	31	12300	14400	12000	14400
	25.00	250	375	560	180	9.8	28	36	32	12300	14400	12000	14400
	30.00	250	375	560	150	9.6	28	36	32	12300	14400	12000	14400

BS..502EBH07							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF502 2	3.00	230	370	555	1333	21	13	14	14	10500	12700	12000	14400
	4.00	270	400	600	375	16	15	17	16	11400	13700	11900	14400
	6.00	315	410	615	433	12	17	20	18	12200	14400	11900	14400
	8.00	320	420	630	250	11	18	21	19	12200	14400	11800	14400
	10.00	250	375	560	450	13	26	33	29	12300	14400	12000	14400
	12.00	280	325	485	375	10	19	21	20	12300	14400	12200	14400
	15.00	250	375	560	300	11	28	35	31	12300	14400	12000	14400
	20.00	250	375	560	225	10	28	35	31	12300	14400	12000	14400
	25.00	250	375	560	180	9.9	28	36	32	12300	14400	12000	14400
	30.00	250	375	560	150	9.6	28	36	32	12300	14400	12000	14400

BS..502EBH08							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF502 2	3.00	310	370	555	500	30	15	16	15	10100	12100	12000	14400
	4.00	320	400	600	425	26	17	19	18	11100	13400	11900	14400
	6.00	320	410	615	417	22	18	21	20	12200	14400	11900	14400
	8.00	320	420	630	400	21	19	22	21	12200	14400	11800	14400
	10.00	250	375	560	450	22	27	34	30	12300	14400	12000	14400
	15.00	250	375	560	300	21	28	36	32	12300	14400	12000	14400
	20.00	250	375	560	225	20	29	36	32	12300	14400	12000	14400
	25.00	250	375	560	180	20	29	37	32	12300	14400	12000	14400

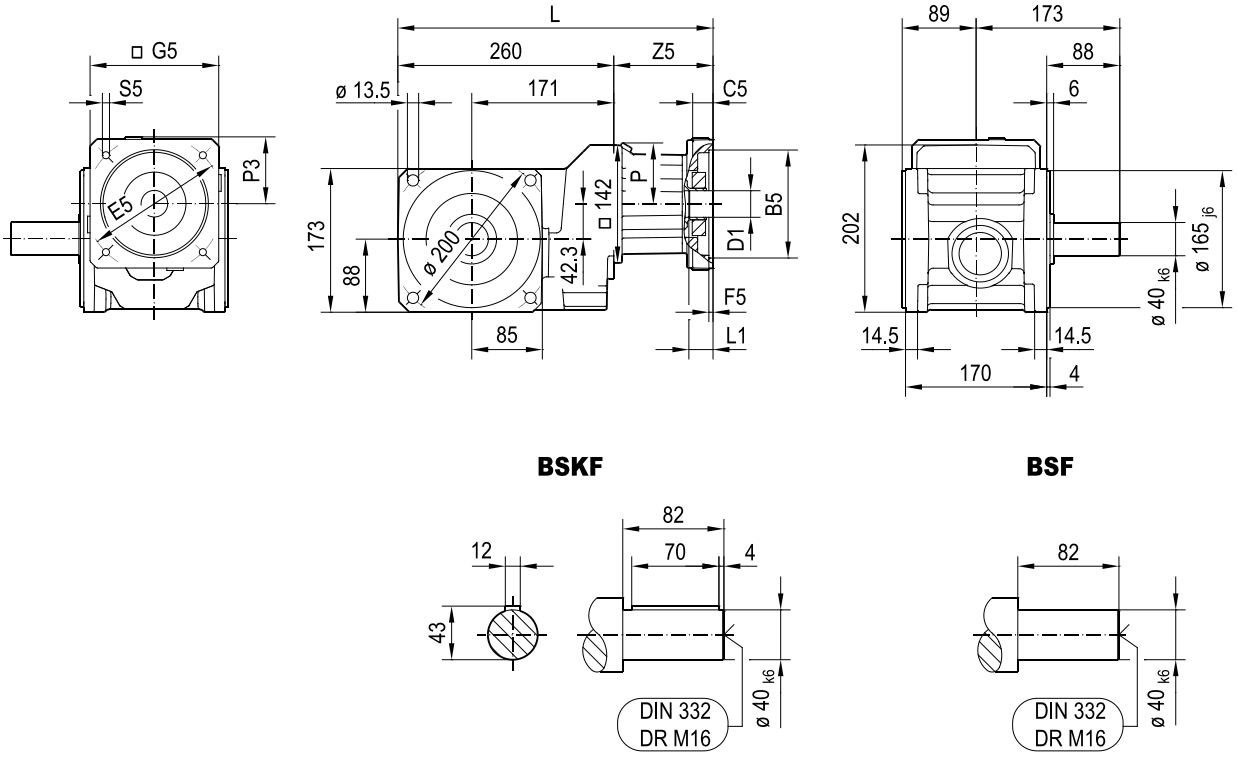
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BS..502				M1			M2;M4			M3;M5-6			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
BSF502 2	3.00	4500	94	21.29	-0.055	184165	18.47	-0.081	183632	32.71	-0.077	180058	6	3	-
	4.00	4500	94	20.57	-0.065	183623	16.99	-0.097	182939	34.95	-0.094	178708	6	3	-
	6.00	4500	94	19.77	-0.080	182775	14.92	-0.121	181967	37.60	-0.120	177200	6	3	-
	8.00	4500	94	19.26	-0.090	182213	13.39	-0.137	181401	39.07	-0.138	176411	6	3	-
	10.00	4500	91	-6.62	-0.203	120320	-17.47	-0.316	119454	22.51	-0.334	115909	6	3	-
	12.00	4500	94	18.42	-0.103	181624	11.52	-0.158	180702	40.77	-0.162	175563	6	3	-
	15.00	4500	91	-8.98	-0.257	119313	-22.97	-0.403	118384	27.69	-0.441	114160	6	3	-
	20.00	4500	91	-10.77	-0.295	118759	-26.04	-0.466	117558	31.72	-0.518	112896	6	3	-
	25.00	4500	91	-11.48	-0.324	118189	-28.42	-0.511	117063	34.29	-0.575	112134	6	3	-
	30.00	4500	91	-12.28	-0.345	117868	-30.16	-0.546	116700	36.58	-0.620	111510	6	3	-
	35.00	4500	91	-12.89	-0.362	117623	-31.46	-0.574	116419	38.29	-0.655	111052	6	3	-

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BSF502..

55 012 01 03

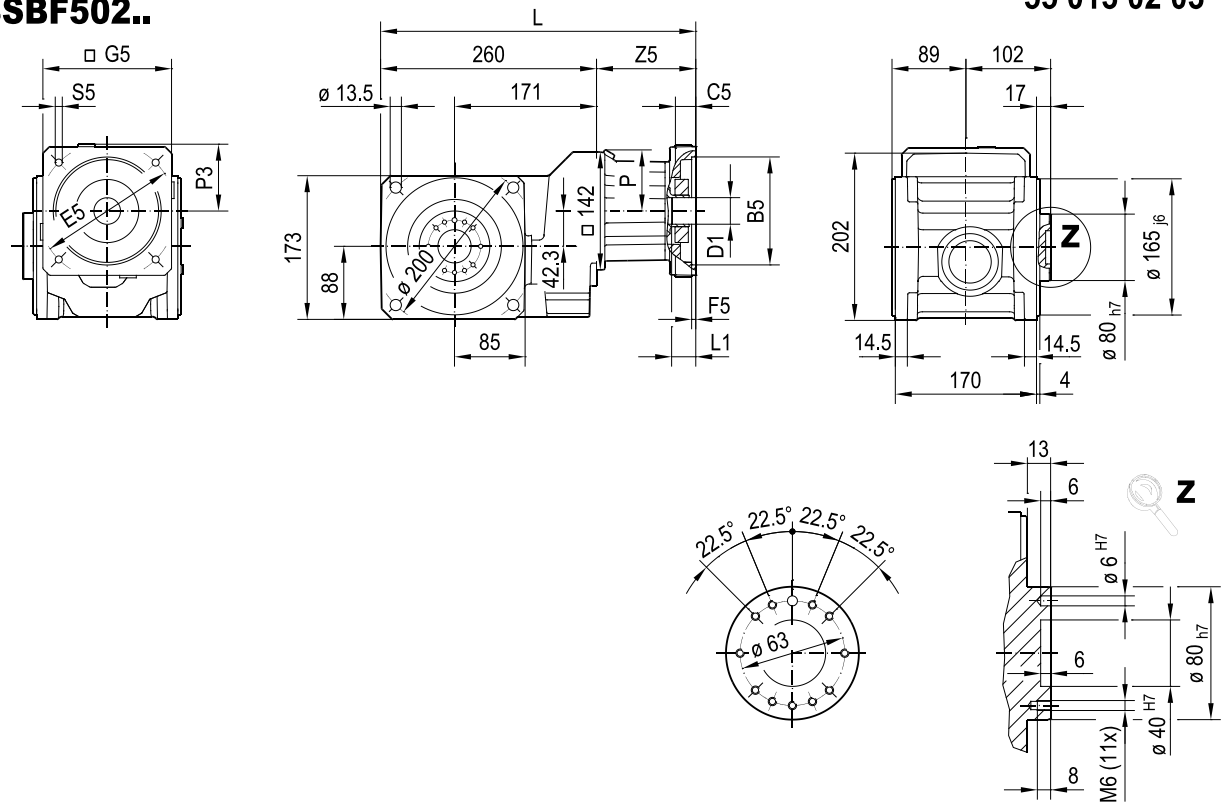


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	334	40	20	63	3.5	90	M4	73.5	41.5	72	47	8, 9, 10, 11, 12, 14
EBH03/03/..	334	50	20	60	3.5	90	M4	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/04/..	334	50	20	70	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/05/..	334	50	20	80	3.5	90	M4	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/06/..	334	50	20	95	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/07/..	334	50	20	100	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/08/..	334	60	20	75	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/09/..	334	60	20	90	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/10/..	334	70	20	85	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/11/..	334	70	20	90	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/13/..	334	80	20	100	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/14/..	334	95	16	115	4	105	M8	73.5	41	72	55	8, 9, 10, 11, 12, 14
EBH04/12/..	334	70	20	90	3.5	90	M6	73.5	41	72	47	11 ,12 ,14, 16, 19
EBH04/13/..	334	80	20	100	3.5	90	M6	73.5	41	72	47	11 ,12 ,14, 16, 19
EBH04/14/..	334	95	16	115	4	105	M8	73.5	41	72	55	11 ,12 ,14, 16, 19
EBH04/15/..	334	95	16	130	4	115	M8	73.5	41	72	60	11 ,12 ,14, 16, 19
EBH05/14/..	361	95	16	115	4	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/15/..	361	95	16	130	4	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/16/..	361	110	16	130	5	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/17/..	361	110	16	145	7	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/18/..	361	110	20	165	5	140	M10	100.5	56	72	72	14, 16, 17, 18, 19, 24
EBH05/20/..	361	130	20	165	5	140	M10	100.5	56	72	72	14, 16, 17, 18, 19, 24
EBH05/26/..	361	110	16	130	5	115	M8	100.5	56	72	61	14, 16, 17, 18, 19, 24
EBH06/19/..	400	114.3	24	200	5	174	M12	139.5	86	72	89	35
EBH07/20/..	380	130	24	165	5	155	M10	119.5	66	72	80	22, 24, 28, 32
EBH07/21/..	380	130	24	215	5	190	M12	119.5	66	72	97	22, 24, 28, 32
EBH07/22/..	380	180	24	215	5	190	M12	119.5	66	72	97	22, 24, 28, 32
EBH07/27/..	380	130	24	165	5	137	M10	119.5	66	72	72	22, 24, 28, 32
EBH07/28/..	380	155	24	190	5	162	M10	119.5	66	72	84	22, 24, 28, 32
EBH08/21/..	399	130	24	215	5	190	M12	138.5	82	72	97	32, 35, 38
EBH08/22/..	399	180	24	215	5	190	M12	138.5	82	72	97	32, 35, 38

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BSBF502..

55 013 02 03

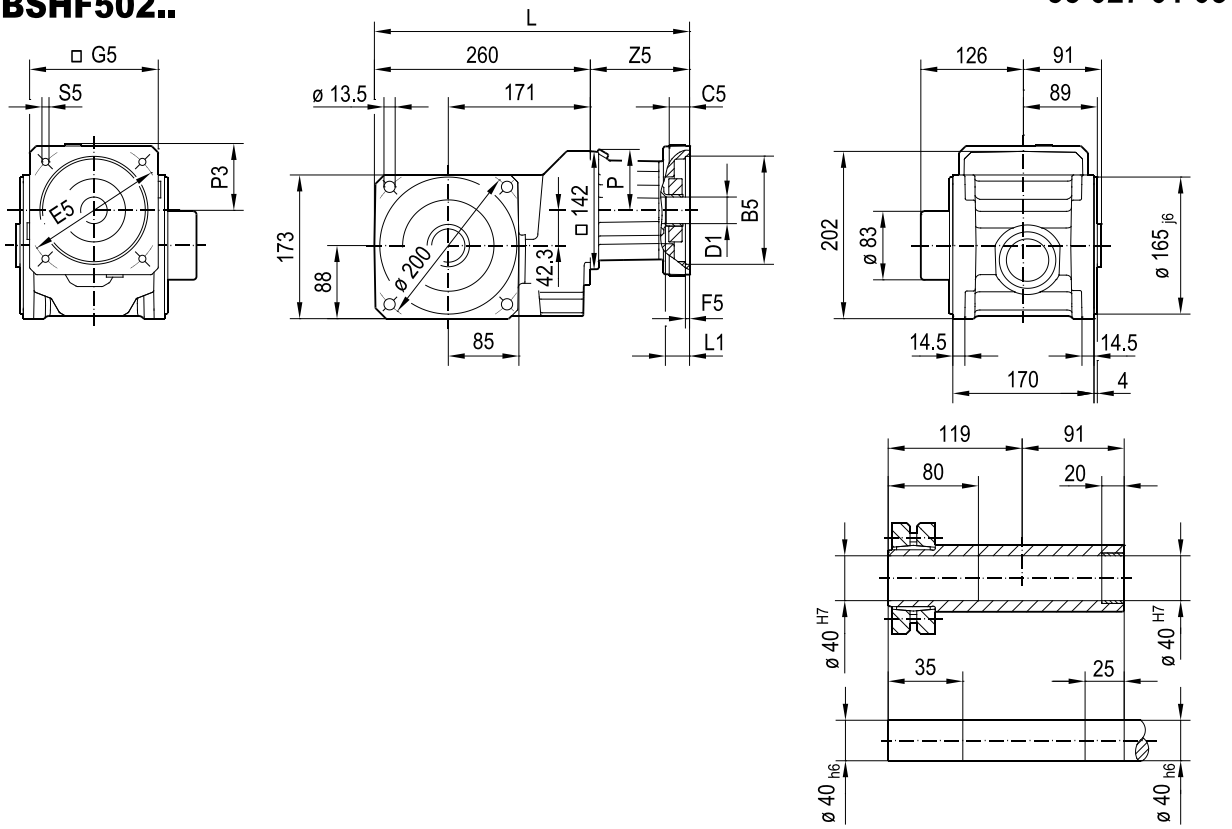


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	334	40	20	63	3.5	90	M4	73.5	41.5	72	47	8, 9, 10, 11, 12, 14
EBH03/03/..	334	50	20	60	3.5	90	M4	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/04/..	334	50	20	70	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/05/..	334	50	20	80	3.5	90	M4	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/06/..	334	50	20	95	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/07/..	334	50	20	100	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/08/..	334	60	20	75	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/09/..	334	60	20	90	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/10/..	334	70	20	85	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/11/..	334	70	20	90	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/13/..	334	80	20	100	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/14/..	334	95	16	115	4	105	M8	73.5	41	72	55	8, 9, 10, 11, 12, 14
EBH04/12/..	334	70	20	90	3.5	90	M6	73.5	41	72	47	11 ,12 ,14, 16, 19
EBH04/13/..	334	80	20	100	3.5	90	M6	73.5	41	72	47	11 ,12 ,14, 16, 19
EBH04/14/..	334	95	16	115	4	105	M8	73.5	41	72	55	11 ,12 ,14, 16, 19
EBH04/15/..	334	95	16	130	4	115	M8	73.5	41	72	60	11 ,12 ,14, 16, 19
EBH05/14/..	361	95	16	115	4	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/15/..	361	95	16	130	4	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/16/..	361	110	16	130	5	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/17/..	361	110	16	145	7	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/18/..	361	110	20	165	5	140	M10	100.5	56	72	72	14, 16, 17, 18, 19, 24
EBH05/20/..	361	130	20	165	5	140	M10	100.5	56	72	72	14, 16, 17, 18, 19, 24
EBH05/26/..	361	110	16	130	5	115	M8	100.5	56	72	61	14, 16, 17, 18, 19, 24
EBH06/19/..	400	114.3	24	200	5	174	M12	139.5	86	72	89	35
EBH07/20/..	380	130	24	165	5	155	M10	119.5	66	72	80	22, 24, 28, 32
EBH07/21/..	380	130	24	215	5	190	M12	119.5	66	72	97	22, 24, 28, 32
EBH07/22/..	380	180	24	215	5	190	M12	119.5	66	72	97	22, 24, 28, 32
EBH07/27/..	380	130	24	165	5	137	M10	119.5	66	72	72	22, 24, 28, 32
EBH07/28/..	380	155	24	190	5	162	M10	119.5	66	72	84	22, 24, 28, 32
EBH08/21/..	399	130	24	215	5	190	M12	138.5	82	72	97	32, 35, 38
EBH08/22/..	399	180	24	215	5	190	M12	138.5	82	72	97	32, 35, 38

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BSHF502..

55 027 01 03

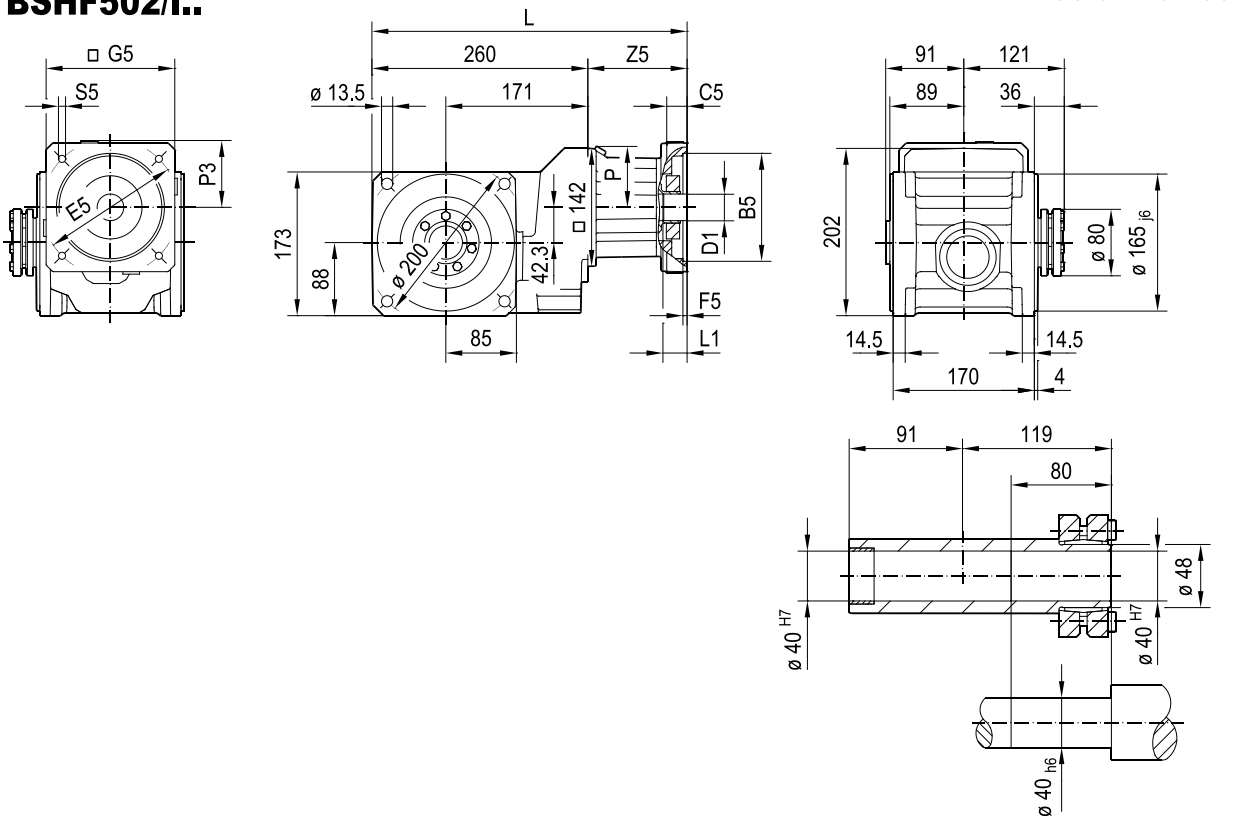


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	334	40	20	63	3.5	90	M4	73.5	41.5	72	47	8, 9, 10, 11, 12, 14
EBH03/03/..	334	50	20	60	3.5	90	M4	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/04/..	334	50	20	70	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/05/..	334	50	20	80	3.5	90	M4	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/06/..	334	50	20	95	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/07/..	334	50	20	100	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/08/..	334	60	20	75	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/09/..	334	60	20	90	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/10/..	334	70	20	85	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/11/..	334	70	20	90	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/13/..	334	80	20	100	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/14/..	334	95	16	115	4	105	M8	73.5	41	72	55	8, 9, 10, 11, 12, 14
EBH04/12/..	334	70	20	90	3.5	90	M6	73.5	41	72	47	11 ,12 ,14, 16, 19
EBH04/13/..	334	80	20	100	3.5	90	M6	73.5	41	72	47	11 ,12 ,14, 16, 19
EBH04/14/..	334	95	16	115	4	105	M8	73.5	41	72	55	11 ,12 ,14, 16, 19
EBH04/15/..	334	95	16	130	4	115	M8	73.5	41	72	60	11 ,12 ,14, 16, 19
EBH05/14/..	361	95	16	115	4	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/15/..	361	95	16	130	4	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/16/..	361	110	16	130	5	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/17/..	361	110	16	145	7	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/18/..	361	110	20	165	5	140	M10	100.5	56	72	72	14, 16, 17, 18, 19, 24
EBH05/20/..	361	130	20	165	5	140	M10	100.5	56	72	72	14, 16, 17, 18, 19, 24
EBH05/26/..	361	110	16	130	5	115	M8	100.5	56	72	61	14, 16, 17, 18, 19, 24
EBH06/19/..	400	114.3	24	200	5	174	M12	139.5	86	72	89	35
EBH07/20/..	380	130	24	165	5	155	M10	119.5	66	72	80	22, 24, 28, 32
EBH07/21/..	380	130	24	215	5	190	M12	119.5	66	72	97	22, 24, 28, 32
EBH07/22/..	380	180	24	215	5	190	M12	119.5	66	72	97	22, 24, 28, 32
EBH07/27/..	380	130	24	165	5	137	M10	119.5	66	72	72	22, 24, 28, 32
EBH07/28/..	380	155	24	190	5	162	M10	119.5	66	72	84	22, 24, 28, 32
EBH08/21/..	399	130	24	215	5	190	M12	138.5	82	72	97	32, 35, 38
EBH08/22/..	399	180	24	215	5	190	M12	138.5	82	72	97	32, 35, 38

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BSHF502/I..

55 014 02 03

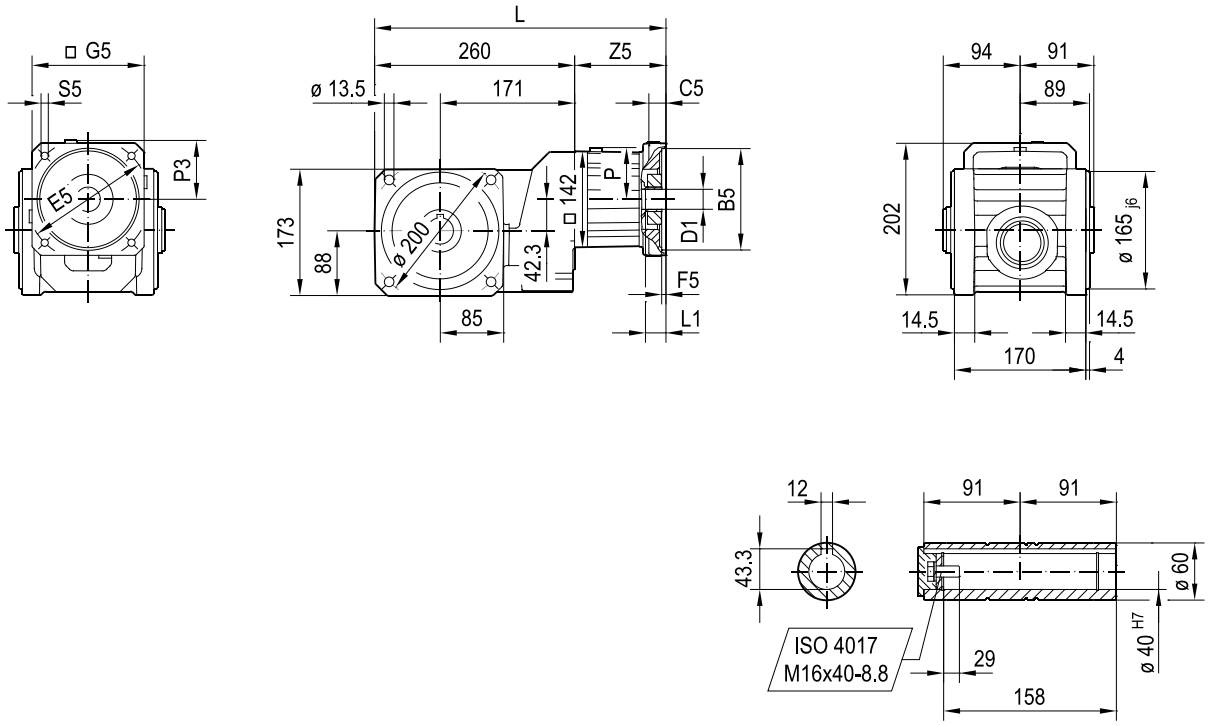


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	334	40	20	63	3.5	90	M4	73.5	41.5	72	47	8, 9, 10, 11, 12, 14
EBH03/03/..	334	50	20	60	3.5	90	M4	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/04/..	334	50	20	70	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/05/..	334	50	20	80	3.5	90	M4	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/06/..	334	50	20	95	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/07/..	334	50	20	100	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/08/..	334	60	20	75	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/09/..	334	60	20	90	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/10/..	334	70	20	85	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/11/..	334	70	20	90	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/13/..	334	80	20	100	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/14/..	334	95	16	115	4	105	M8	73.5	41	72	55	8, 9, 10, 11, 12, 14
EBH04/12/..	334	70	20	90	3.5	90	M6	73.5	41	72	47	11 ,12 ,14, 16, 19
EBH04/13/..	334	80	20	100	3.5	90	M6	73.5	41	72	47	11 ,12 ,14, 16, 19
EBH04/14/..	334	95	16	115	4	105	M8	73.5	41	72	55	11 ,12 ,14, 16, 19
EBH04/15/..	334	95	16	130	4	115	M8	73.5	41	72	60	11 ,12 ,14, 16, 19
EBH05/14/..	361	95	16	115	4	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/15/..	361	95	16	130	4	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/16/..	361	110	16	130	5	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/17/..	361	110	16	145	7	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/18/..	361	110	20	165	5	140	M10	100.5	56	72	72	14, 16, 17, 18, 19, 24
EBH05/20/..	361	130	20	165	5	140	M10	100.5	56	72	72	14, 16, 17, 18, 19, 24
EBH05/26/..	361	110	16	130	5	115	M8	100.5	56	72	61	14, 16, 17, 18, 19, 24
EBH06/19/..	400	114.3	24	200	5	174	M12	139.5	86	72	89	35
EBH07/20/..	380	130	24	165	5	155	M10	119.5	66	72	80	22, 24, 28, 32
EBH07/21/..	380	130	24	215	5	190	M12	119.5	66	72	97	22, 24, 28, 32
EBH07/22/..	380	180	24	215	5	190	M12	119.5	66	72	97	22, 24, 28, 32
EBH07/27/..	380	130	24	165	5	137	M10	119.5	66	72	72	22, 24, 28, 32
EBH07/28/..	380	155	24	190	5	162	M10	119.5	66	72	84	22, 24, 28, 32
EBH08/21/..	399	130	24	215	5	190	M12	138.5	82	72	97	32, 35, 38
EBH08/22/..	399	180	24	215	5	190	M12	138.5	82	72	97	32, 35, 38

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BSAF502..



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	334	40	20	63	3.5	90	M4	73.5	41.5	72	47	8, 9, 10, 11, 12, 14
EBH03/03/..	334	50	20	60	3.5	90	M4	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/04/..	334	50	20	70	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/05/..	334	50	20	80	3.5	90	M4	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/06/..	334	50	20	95	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/07/..	334	50	20	100	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/08/..	334	60	20	75	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/09/..	334	60	20	90	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/10/..	334	70	20	85	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/11/..	334	70	20	90	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/13/..	334	80	20	100	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/14/..	334	95	16	115	4	105	M8	73.5	41	72	55	8, 9, 10, 11, 12, 14
EBH04/12/..	334	70	20	90	3.5	90	M6	73.5	41	72	47	11 ,12 ,14, 16, 19
EBH04/13/..	334	80	20	100	3.5	90	M6	73.5	41	72	47	11 ,12 ,14, 16, 19
EBH04/14/..	334	95	16	115	4	105	M8	73.5	41	72	55	11 ,12 ,14, 16, 19
EBH04/15/..	334	95	16	130	4	115	M8	73.5	41	72	60	11 ,12 ,14, 16, 19
EBH05/14/..	361	95	16	115	4	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/15/..	361	95	16	130	4	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/16/..	361	110	16	130	5	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/17/..	361	110	16	145	7	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/18/..	361	110	20	165	5	140	M10	100.5	56	72	72	14, 16, 17, 18, 19, 24
EBH05/20/..	361	130	20	165	5	140	M10	100.5	56	72	72	14, 16, 17, 18, 19, 24
EBH05/26/..	361	110	16	130	5	115	M8	100.5	56	72	61	14, 16, 17, 18, 19, 24
EBH06/19/..	400	114.3	24	200	5	174	M12	139.5	86	72	89	35
EBH07/20/..	380	130	24	165	5	155	M10	119.5	66	72	80	22, 24, 28, 32
EBH07/21/..	380	130	24	215	5	190	M12	119.5	66	72	97	22, 24, 28, 32
EBH07/22/..	380	180	24	215	5	190	M12	119.5	66	72	97	22, 24, 28, 32
EBH07/27/..	380	130	24	165	5	137	M10	119.5	66	72	72	22, 24, 28, 32
EBH07/28/..	380	155	24	190	5	162	M10	119.5	66	72	84	22, 24, 28, 32
EBH08/21/..	399	130	24	215	5	190	M12	138.5	82	72	97	32, 35, 38
EBH08/22/..	399	180	24	215	5	190	M12	138.5	82	72	97	32, 35, 38

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13.1.5 BS.F602 EBH..

Nm		EBH M_{amax} | M_{apk} | $M_{aNotaus}$																	
	i	03			04			05			06			07			08		
BSF602 2	3.00																370	615	920
	4.00							210	265	400	310	495	740	310	495	740	430	645	960
	6.00	137	164	245	137	164	245	255	400	600	380	570	850	380	570	850	525	790	1180
	8.00	147	215	325	147	215	325	275	415	620	410	615	920	410	615	920	565	780	1170
	10.00							505	650	970	520	750	1120	520	750	1120	520	750	1120
	12.00	162	325	490	162	325	490	305	460	690	440	505	760	440	505	760	505	585	870
	15.00	330	400	600	330	400	600	520	750	1120	520	750	1120	520	750	1120	520	750	1120
	20.00	355	530	800	355	530	800	520	750	1120	520	750	1120	520	750	1120	520	750	1120
	25.00	375	665	1000	375	665	1000	520	750	1120	520	750	1120	520	750	1120	520	750	1120
	30.00	390	585	870	390	585	870	520	750	1120	520	750	1120	520	750	1120	520	750	1120
	35.00	395	595	890	395	595	890	520	750	1120	520	750	1120	520	750	1120			
	40.00	425	640	960	425	640	960	520	750	1120	520	750	1120	520	750	1120			

BSF602, m kg						
	EBH					
s	03	04	05	06	07	08
2	47	47	49	52	52	56
BSBF: + 0.30 kg / BSHF: + -2.9 kg						

BS..602EBH03							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF602 2	6.00	137	164	245	750	11	26	27	26	21100	24000	24000	24000
	8.00	147	215	325	563	7.0	31	33	31	23100	24000	24000	24000
	12.00	162	325	490	375	4.0	37	40	37	24000	24000	24000	24000
	15.00[1)]	330	400	600	300	6.0	51	56	52	24000	24000	24000	24000
	20.00	355	530	800	225	4.3	54	60	55	24000	24000	24000	24000
	25.00	375	665	1000	180	3.3	55	62	57	24000	24000	24000	24000
	30.00	390	585	870	50	2.8	56	64	58	24000	24000	24000	24000
	35.00	395	595	890	43	2.4	57	64	59	24000	24000	24000	24000
	40.00	425	640	960	38	2.1	58	66	60	24000	24000	24000	24000

BS..602EBH04							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF602 2	6.00	137	164	245	750	11	26	28	27	21100	24000	24000	24000
	8.00	147	215	325	563	7.0	31	34	32	23100	24000	24000	24000
	12.00	162	325	490	375	4.0	37	41	38	24000	24000	24000	24000
	15.00[1)]	330	400	600	300	6.0	51	57	53	24000	24000	24000	24000
	20.00	355	530	800	225	4.3	54	61	56	24000	24000	24000	24000
	25.00	375	665	1000	180	3.3	56	63	58	24000	24000	24000	24000
	30.00	390	585	870	50	2.8	57	64	59	24000	24000	24000	24000
	35.00	395	595	890	43	2.4	57	65	59	24000	24000	24000	24000
	40.00	425	640	960	38	2.1	59	67	61	24000	24000	24000	24000

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BS..602EBH05							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF602 2	4.00[1)]	210	265	400	1125	25	27	29	28	18300	20900	24000	24000
	6.00	255	400	600	750	15	36	39	37	20600	23500	24000	24000
	8.00	275	415	620	188	11	40	43	41	22400	24000	24000	24000
	10.00[1)]	505	650	970	220	14	51	57	53	22500	24000	24000	24000
	12.00	305	460	690	375	7.8	43	47	44	24000	24000	24000	24000
	15.00[1)]	520	750	1120	173	9.9	56	64	58	24000	24000	24000	24000
	20.00	520	750	1120	160	8.2	58	65	60	24000	24000	24000	24000
	25.00	520	750	1120	152	7.2	58	66	60	24000	24000	24000	24000
	30.00	520	750	1120	143	6.6	59	67	61	24000	24000	24000	24000
	35.00	520	750	1120	126	6.3	58	66	61	24000	24000	24000	24000
	40.00	520	750	1120	113	6.0	60	69	63	24000	24000	24000	24000

BS..602EBH06							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF602 2	4.00[1)]	310	495	740	1125	29	31	33	31	17800	20400	24000	24000
	6.00	380	570	850	250	19	40	43	41	20000	22800	24000	24000
	8.00	410	615	920	188	15	43	47	44	21800	24000	24000	24000
	10.00[1)]	520	750	1120	200	18	53	60	55	22400	24000	24000	24000
	12.00	440	505	760	375	12	45	49	46	24000	24000	24000	24000
	15.00[1)]	520	750	1120	187	14	58	66	60	24000	24000	24000	24000
	20.00	520	750	1120	190	12	59	67	61	24000	24000	24000	24000
	25.00	520	750	1120	180	11	60	68	62	24000	24000	24000	24000
	30.00	520	750	1120	150	11	60	68	62	24000	24000	24000	24000
	35.00	520	750	1120	129	10	59	68	61	24000	24000	24000	24000
	40.00	520	750	1120	113	10	61	70	63	24000	24000	24000	24000

BS..602EBH07							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF602 2	4.00[1)]	310	495	740	1125	29	31	33	31	17800	20400	24000	24000
	6.00	380	570	850	250	19	40	43	41	20000	22800	24000	24000
	8.00	410	615	920	188	15	43	47	44	21800	24000	24000	24000
	10.00[1)]	520	750	1120	200	18	53	60	55	22400	24000	24000	24000
	12.00	440	505	760	375	12	45	49	46	24000	24000	24000	24000
	15.00[1)]	520	750	1120	187	14	58	66	60	24000	24000	24000	24000
	20.00	520	750	1120	190	12	59	67	61	24000	24000	24000	24000
	25.00	520	750	1120	180	11	60	68	62	24000	24000	24000	24000
	30.00	520	750	1120	150	11	60	68	62	24000	24000	24000	24000
	35.00	520	750	1120	129	10	59	68	61	24000	24000	24000	24000
	40.00	520	750	1120	113	10	61	70	63	24000	24000	24000	24000

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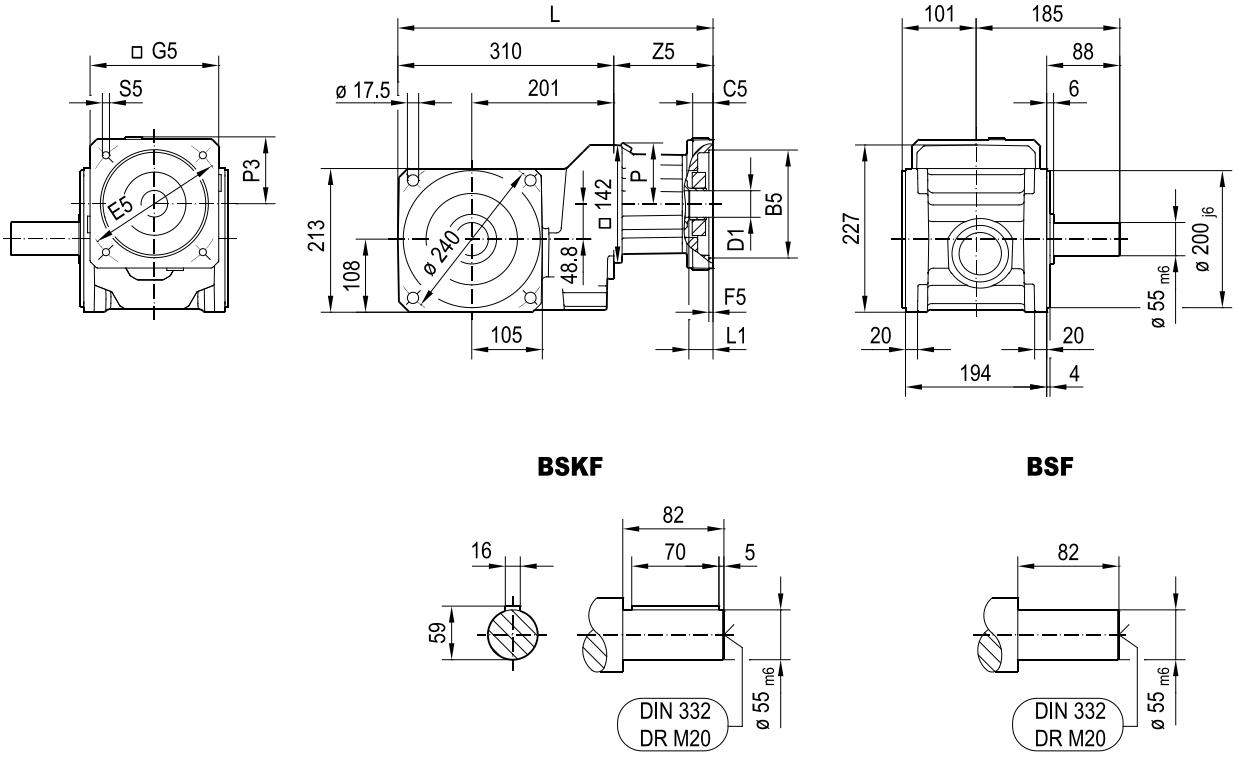
BS..602EBH08							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF602 2	3.00[1)]	370	615	920	1200	52	31	33	32	15900	18200	24000	24000
	4.00[1)]	430	645	960	375	39	37	40	38	17200	19700	24000	24000
	6.00	525	790	1180	250	28	45	50	46	19200	22000	24000	24000
	8.00	565	780	1170	188	25	47	52	48	21000	24000	24000	24000
	10.00[1)]	520	750	1120	200	28	57	64	59	22400	24000	24000	24000
	12.00	505	585	870	375	22	48	54	50	24000	24000	24000	24000
	15.00[1)]	520	750	1120	187	24	60	68	62	24000	24000	24000	24000
	20.00	520	750	1120	190	22	60	69	63	24000	24000	24000	24000
	25.00	520	750	1120	180	21	61	70	63	24000	24000	24000	24000
	30.00	520	750	1120	150	20	61	70	63	24000	24000	24000	24000

BS..602				M1			M2;M4			M3;M5-6			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
BSF602 2	3.00	4500	94	-1.22	-0.060	258182	17.38	-0.144	253939	36.73	-0.132	247267	6	3	-
	4.00	4500	94	-3.35	-0.071	257389	17.94	-0.178	252543	42.42	-0.166	244809	6	3	-
	6.00	4500	94	-6.35	-0.086	256315	18.50	-0.230	250689	50.09	-0.218	241723	6	3	-
	8.00	4500	94	-8.40	-0.097	255637	18.73	-0.267	249529	54.77	-0.255	239958	6	3	-
	10.00	4500	91	-47.50	-0.236	167324	-14.52	-0.678	162357	41.59	-0.662	155420	6	3	-
	12.00	4500	94	-11.01	-0.111	254840	18.58	-0.314	248244	60.30	-0.303	237995	6	3	-
	15.00	4500	91	-55.05	-0.294	166158	-15.40	-0.892	160319	47.82	-0.869	154910	6	3	-
	20.00	4500	91	-60.08	-0.333	165439	-17.90	-1.036	159395	52.82	-1.018	154092	6	3	-
	25.00	4500	91	-63.71	-0.362	164961	-18.71	-1.146	158560	57.42	-1.130	153134	6	3	-
	30.00	4500	91	-66.47	-0.383	164630	-19.57	-1.230	158019	60.84	-1.217	152406	6	3	-
	35.00	4500	91	-68.08	-0.402	164287	-20.31	-1.295	157620	64.77	-1.290	151662	6	3	-
	40.00	4500	91	-69.66	-0.415	164073	-20.99	-1.347	157322	67.10	-1.346	151214	6	3	-

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BSF602..

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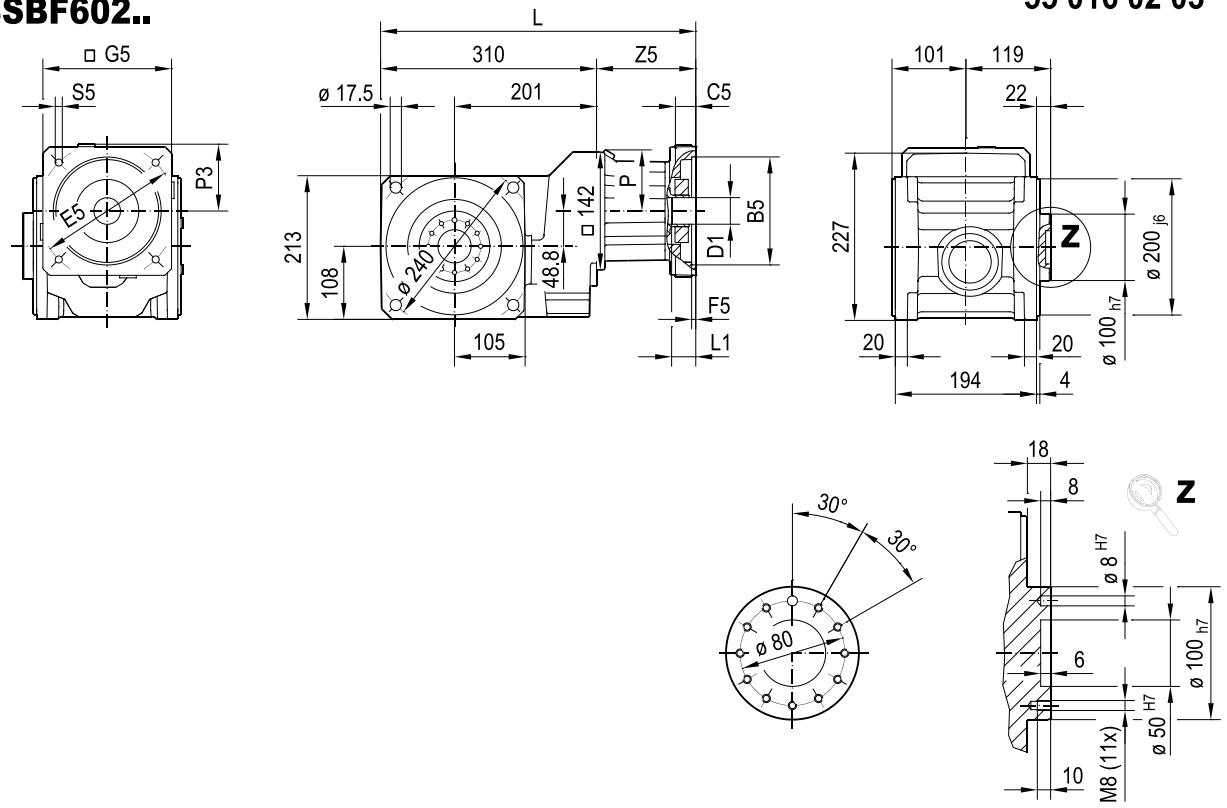


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	384	40	20	63	3.5	90	M4	73.5	41.5	72	47	8, 9, 10, 11, 12, 14
EBH03/03/..	384	50	20	60	3.5	90	M4	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/04/..	384	50	20	70	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/05/..	384	50	20	80	3.5	90	M4	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/06/..	384	50	20	95	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/07/..	384	50	20	100	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/08/..	384	60	20	75	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/09/..	384	60	20	90	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/10/..	384	70	20	85	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/11/..	384	70	20	90	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/13/..	384	80	20	100	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/14/..	384	95	16	115	4	105	M8	73.5	41	72	55	8, 9, 10, 11, 12, 14
EBH04/12/..	384	70	20	90	3.5	90	M6	73.5	41	72	47	11 ,12 ,14, 16, 19
EBH04/13/..	384	80	20	100	3.5	90	M6	73.5	41	72	47	11 ,12 ,14, 16, 19
EBH04/14/..	384	95	16	115	4	105	M8	73.5	41	72	55	11 ,12 ,14, 16, 19
EBH04/15/..	384	95	16	130	4	115	M8	73.5	41	72	60	11 ,12 ,14, 16, 19
EBH05/14/..	411	95	16	115	4	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/15/..	411	95	16	130	4	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/16/..	411	110	16	130	5	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/17/..	411	110	16	145	7	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/18/..	411	110	20	165	5	140	M10	100.5	56	72	72	14, 16, 17, 18, 19, 24
EBH05/20/..	411	130	20	165	5	140	M10	100.5	56	72	72	14, 16, 17, 18, 19, 24
EBH05/26/..	411	110	16	130	5	115	M8	100.5	56	72	61	14, 16, 17, 18, 19, 24
EBH06/19/..	450	114.3	24	200	5	174	M12	139.5	86	72	89	35
EBH07/20/..	430	130	24	165	5	155	M10	119.5	66	72	80	22, 24, 28, 32
EBH07/21/..	430	130	24	215	5	190	M12	119.5	66	72	97	22, 24, 28, 32
EBH07/22/..	430	180	24	215	5	190	M12	119.5	66	72	97	22, 24, 28, 32
EBH07/27/..	430	130	24	165	5	137	M10	119.5	66	72	72	22, 24, 28, 32
EBH07/28/..	430	155	24	190	5	162	M10	119.5	66	72	84	22, 24, 28, 32
EBH08/21/..	449	130	24	215	5	190	M12	138.5	82	72	97	32, 35, 38
EBH08/22/..	449	180	24	215	5	190	M12	138.5	82	72	97	32, 35, 38

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BSBF602..

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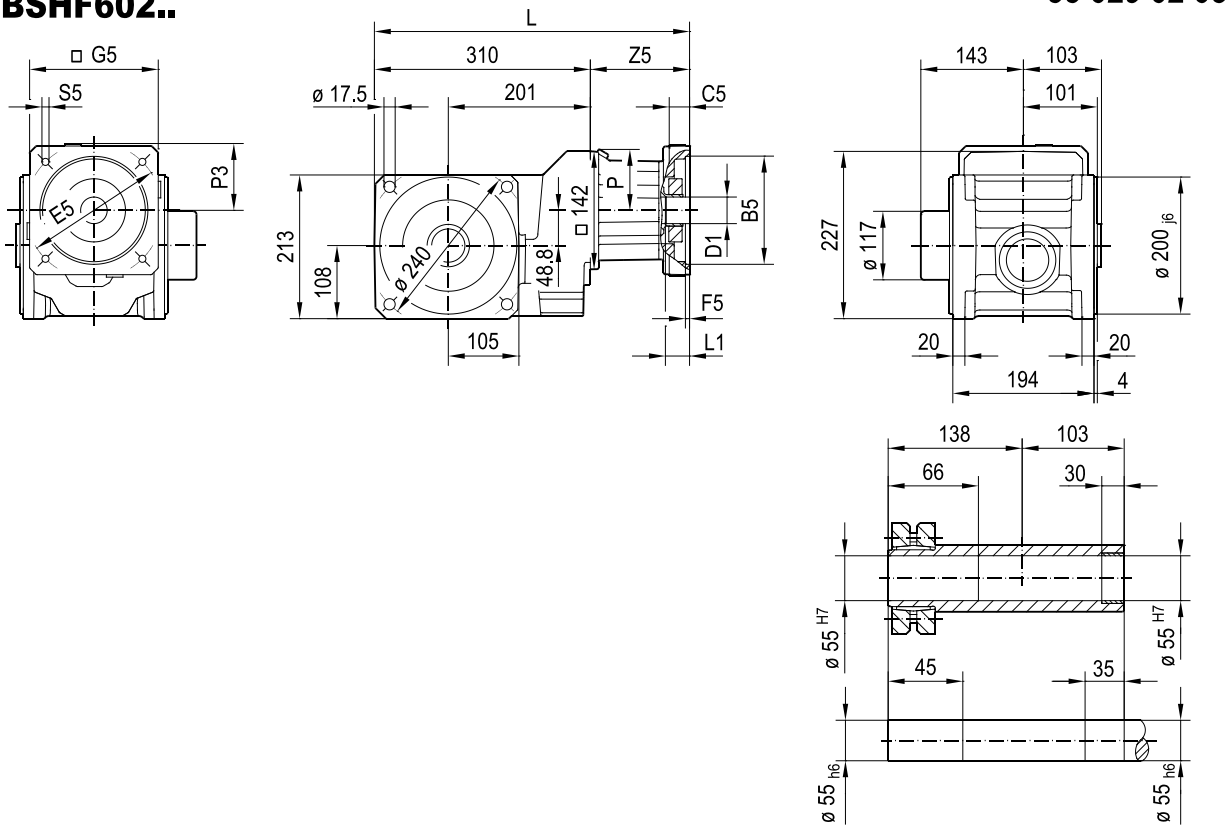


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	384	40	20	63	3.5	90	M4	73.5	41.5	72	47	8, 9, 10, 11, 12, 14
EBH03/03/..	384	50	20	60	3.5	90	M4	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/04/..	384	50	20	70	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/05/..	384	50	20	80	3.5	90	M4	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/06/..	384	50	20	95	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/07/..	384	50	20	100	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/08/..	384	60	20	75	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/09/..	384	60	20	90	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/10/..	384	70	20	85	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/11/..	384	70	20	90	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/13/..	384	80	20	100	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/14/..	384	95	16	115	4	105	M8	73.5	41	72	55	8, 9, 10, 11, 12, 14
EBH04/12/..	384	70	20	90	3.5	90	M6	73.5	41	72	47	11 ,12 ,14, 16, 19
EBH04/13/..	384	80	20	100	3.5	90	M6	73.5	41	72	47	11 ,12 ,14, 16, 19
EBH04/14/..	384	95	16	115	4	105	M8	73.5	41	72	55	11 ,12 ,14, 16, 19
EBH04/15/..	384	95	16	130	4	115	M8	73.5	41	72	60	11 ,12 ,14, 16, 19
EBH05/14/..	411	95	16	115	4	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/15/..	411	95	16	130	4	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/16/..	411	110	16	130	5	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/17/..	411	110	16	145	7	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/18/..	411	110	20	165	5	140	M10	100.5	56	72	72	14, 16, 17, 18, 19, 24
EBH05/20/..	411	130	20	165	5	140	M10	100.5	56	72	72	14, 16, 17, 18, 19, 24
EBH05/26/..	411	110	16	130	5	115	M8	100.5	56	72	61	14, 16, 17, 18, 19, 24
EBH06/19/..	450	114.3	24	200	5	174	M12	139.5	86	72	89	35
EBH07/20/..	430	130	24	165	5	155	M10	119.5	66	72	80	22, 24, 28, 32
EBH07/21/..	430	130	24	215	5	190	M12	119.5	66	72	97	22, 24, 28, 32
EBH07/22/..	430	180	24	215	5	190	M12	119.5	66	72	97	22, 24, 28, 32
EBH07/27/..	430	130	24	165	5	137	M10	119.5	66	72	72	22, 24, 28, 32
EBH07/28/..	430	155	24	190	5	162	M10	119.5	66	72	84	22, 24, 28, 32
EBH08/21/..	449	130	24	215	5	190	M12	138.5	82	72	97	32, 35, 38
EBH08/22/..	449	180	24	215	5	190	M12	138.5	82	72	97	32, 35, 38

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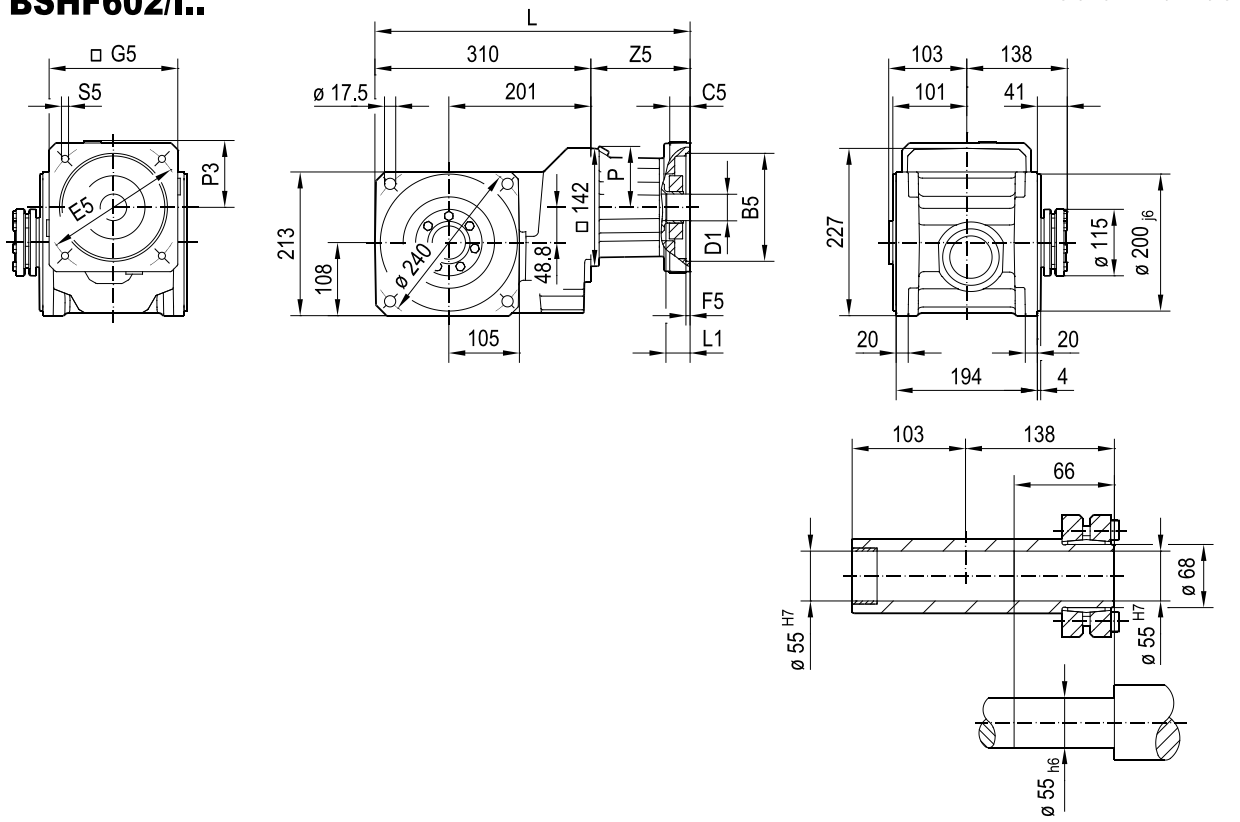


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	384	40	20	63	3.5	90	M4	73.5	41.5	72	47	8, 9, 10, 11, 12, 14
EBH03/03/..	384	50	20	60	3.5	90	M4	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/04/..	384	50	20	70	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/05/..	384	50	20	80	3.5	90	M4	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/06/..	384	50	20	95	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/07/..	384	50	20	100	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/08/..	384	60	20	75	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/09/..	384	60	20	90	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/10/..	384	70	20	85	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/11/..	384	70	20	90	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/13/..	384	80	20	100	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/14/..	384	95	16	115	4	105	M8	73.5	41	72	55	8, 9, 10, 11, 12, 14
EBH04/12/..	384	70	20	90	3.5	90	M6	73.5	41	72	47	11 ,12 ,14, 16, 19
EBH04/13/..	384	80	20	100	3.5	90	M6	73.5	41	72	47	11 ,12 ,14, 16, 19
EBH04/14/..	384	95	16	115	4	105	M8	73.5	41	72	55	11 ,12 ,14, 16, 19
EBH04/15/..	384	95	16	130	4	115	M8	73.5	41	72	60	11 ,12 ,14, 16, 19
EBH05/14/..	411	95	16	115	4	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/15/..	411	95	16	130	4	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/16/..	411	110	16	130	5	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/17/..	411	110	16	145	7	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/18/..	411	110	20	165	5	140	M10	100.5	56	72	72	14, 16, 17, 18, 19, 24
EBH05/20/..	411	130	20	165	5	140	M10	100.5	56	72	72	14, 16, 17, 18, 19, 24
EBH05/26/..	411	110	16	130	5	115	M8	100.5	56	72	61	14, 16, 17, 18, 19, 24
EBH06/19/..	450	114.3	24	200	5	174	M12	139.5	86	72	89	35
EBH07/20/..	430	130	24	165	5	155	M10	119.5	66	72	80	22, 24, 28, 32
EBH07/21/..	430	130	24	215	5	190	M12	119.5	66	72	97	22, 24, 28, 32
EBH07/22/..	430	180	24	215	5	190	M12	119.5	66	72	97	22, 24, 28, 32
EBH07/27/..	430	130	24	165	5	137	M10	119.5	66	72	72	22, 24, 28, 32
EBH07/28/..	430	155	24	190	5	162	M10	119.5	66	72	84	22, 24, 28, 32
EBH08/21/..	449	130	24	215	5	190	M12	138.5	82	72	97	32, 35, 38
EBH08/22/..	449	180	24	215	5	190	M12	138.5	82	72	97	32, 35, 38

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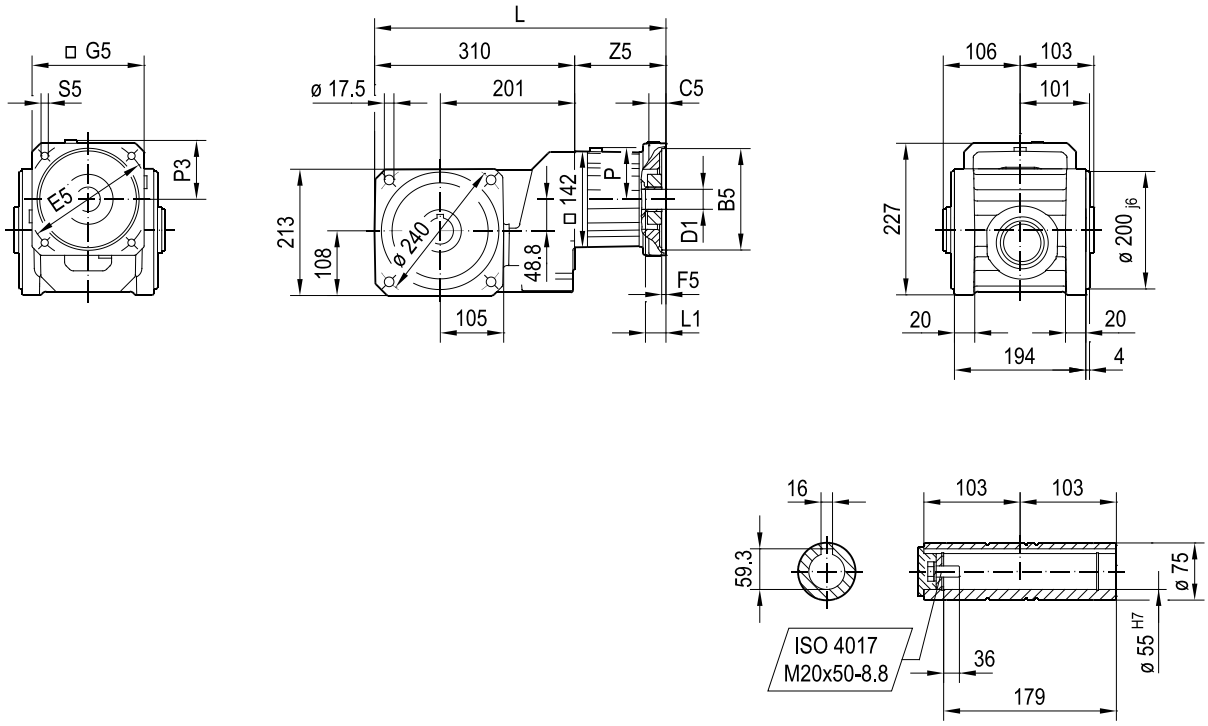


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	384	40	20	63	3.5	90	M4	73.5	41.5	72	47	8, 9, 10, 11, 12, 14
EBH03/03/..	384	50	20	60	3.5	90	M4	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/04/..	384	50	20	70	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/05/..	384	50	20	80	3.5	90	M4	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/06/..	384	50	20	95	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/07/..	384	50	20	100	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/08/..	384	60	20	75	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/09/..	384	60	20	90	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/10/..	384	70	20	85	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/11/..	384	70	20	90	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/13/..	384	80	20	100	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/14/..	384	95	16	115	4	105	M8	73.5	41	72	55	8, 9, 10, 11, 12, 14
EBH04/12/..	384	70	20	90	3.5	90	M6	73.5	41	72	47	11 ,12 ,14, 16, 19
EBH04/13/..	384	80	20	100	3.5	90	M6	73.5	41	72	47	11 ,12 ,14, 16, 19
EBH04/14/..	384	95	16	115	4	105	M8	73.5	41	72	55	11 ,12 ,14, 16, 19
EBH04/15/..	384	95	16	130	4	115	M8	73.5	41	72	60	11 ,12 ,14, 16, 19
EBH05/14/..	411	95	16	115	4	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/15/..	411	95	16	130	4	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/16/..	411	110	16	130	5	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/17/..	411	110	16	145	7	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/18/..	411	110	20	165	5	140	M10	100.5	56	72	72	14, 16, 17, 18, 19, 24
EBH05/20/..	411	130	20	165	5	140	M10	100.5	56	72	72	14, 16, 17, 18, 19, 24
EBH05/26/..	411	110	16	130	5	115	M8	100.5	56	72	61	14, 16, 17, 18, 19, 24
EBH06/19/..	450	114.3	24	200	5	174	M12	139.5	86	72	89	35
EBH07/20/..	430	130	24	165	5	155	M10	119.5	66	72	80	22, 24, 28, 32
EBH07/21/..	430	130	24	215	5	190	M12	119.5	66	72	97	22, 24, 28, 32
EBH07/22/..	430	180	24	215	5	190	M12	119.5	66	72	97	22, 24, 28, 32
EBH07/27/..	430	130	24	165	5	137	M10	119.5	66	72	72	22, 24, 28, 32
EBH07/28/..	430	155	24	190	5	162	M10	119.5	66	72	84	22, 24, 28, 32
EBH08/21/..	449	130	24	215	5	190	M12	138.5	82	72	97	32, 35, 38
EBH08/22/..	449	180	24	215	5	190	M12	138.5	82	72	97	32, 35, 38

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(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH03/01/..	384	40	20	63	3.5	90	M4	73.5	41.5	72	47	8, 9, 10, 11, 12, 14
EBH03/03/..	384	50	20	60	3.5	90	M4	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/04/..	384	50	20	70	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/05/..	384	50	20	80	3.5	90	M4	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/06/..	384	50	20	95	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/07/..	384	50	20	100	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/08/..	384	60	20	75	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/09/..	384	60	20	90	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/10/..	384	70	20	85	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/11/..	384	70	20	90	3.5	90	M5	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/13/..	384	80	20	100	3.5	90	M6	73.5	41	72	47	8, 9, 10, 11, 12, 14
EBH03/14/..	384	95	16	115	4	105	M8	73.5	41	72	55	8, 9, 10, 11, 12, 14
EBH04/12/..	384	70	20	90	3.5	90	M6	73.5	41	72	47	11 ,12 ,14, 16, 19
EBH04/13/..	384	80	20	100	3.5	90	M6	73.5	41	72	47	11 ,12 ,14, 16, 19
EBH04/14/..	384	95	16	115	4	105	M8	73.5	41	72	55	11 ,12 ,14, 16, 19
EBH04/15/..	384	95	16	130	4	115	M8	73.5	41	72	60	11 ,12 ,14, 16, 19
EBH05/14/..	411	95	16	115	4	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/15/..	411	95	16	130	4	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/16/..	411	110	16	130	5	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/17/..	411	110	16	145	7	120	M8	100.5	56	72	62	14, 16, 17, 18, 19, 24
EBH05/18/..	411	110	20	165	5	140	M10	100.5	56	72	72	14, 16, 17, 18, 19, 24
EBH05/20/..	411	130	20	165	5	140	M10	100.5	56	72	72	14, 16, 17, 18, 19, 24
EBH05/26/..	411	110	16	130	5	115	M8	100.5	56	72	61	14, 16, 17, 18, 19, 24
EBH06/19/..	450	114.3	24	200	5	174	M12	139.5	86	72	89	35
EBH07/20/..	430	130	24	165	5	155	M10	119.5	66	72	80	22, 24, 28, 32
EBH07/21/..	430	130	24	215	5	190	M12	119.5	66	72	97	22, 24, 28, 32
EBH07/22/..	430	180	24	215	5	190	M12	119.5	66	72	97	22, 24, 28, 32
EBH07/27/..	430	130	24	165	5	137	M10	119.5	66	72	72	22, 24, 28, 32
EBH07/28/..	430	155	24	190	5	162	M10	119.5	66	72	84	22, 24, 28, 32
EBH08/21/..	449	130	24	215	5	190	M12	138.5	82	72	97	32, 35, 38
EBH08/22/..	449	180	24	215	5	190	M12	138.5	82	72	97	32, 35, 38

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13.1.6 BS.F802 EBH..

Nm		EBH M_{amax} | M_{apk} | $M_{aNotaus}$																	
	i	05			06			07			08			09			10		
BSF802 2	4.00										540	820	1230	920	1370	2050	920	1370	2050
	6.00	320	400	600	475	740	1110	475	740	1110	660	990	1480	1120	1650	2480	1120	1680	2520
	8.00	345	530	800	515	775	1160	515	775	1160	710	1070	1600	1190	1720	2580	1190	1720	2580
	10.00										1220	1680	2520	1220	1680	2520	1220	1680	2520
	12.00	390	585	870	580	870	1300	580	870	1300	800	1160	1740						
	15.00	775	970	1460	1150	1680	2520	1150	1680	2520	1220	1680	2520	1220	1680	2520	1220	1680	2520
	20.00	830	1300	1950	1220	1680	2520	1220	1680	2520	1220	1680	2520	1220	1680	2520	1220	1680	2520
	25.00	910	1630	2440	1220	1680	2520	1220	1680	2520	1220	1680	2520						
	30.00	950	1430	2140	1220	1680	2520	1220	1680	2520	1220	1680	2520						
	35.00	960	1440	2160	1220	1680	2520	1220	1680	2520	1220	1680	2520						
	40.00	990	1490	2230	1220	1680	2520	1220	1680	2520	1220	1680	2520						

BSF802, m kg						
	EBH					
s	05	06	07	08	09	10
2	77	80	80	84	94	96
BSBF: + 1.1 kg / BSHF: + -3.5 kg						

BS..802EBH05							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF802 2	6.00	320	400	600	750	39	66	70	69	36000	36000	36000	36000
	8.00	345	530	800	563	26	75	81	80	36000	36000	36000	36000
	12.00	390	585	870	375	16	91	99	97	36000	36000	36000	36000
	15.00[1)]	775	970	1460	300	23	142	163	150	36000	36000	36000	36000
	20.00	830	1300	1950	225	17	149	172	157	36000	36000	36000	36000
	25.00	910	1630	2440	180	14	156	182	166	36000	36000	36000	36000
	30.00	950	1430	2140	50	12	159	186	169	36000	36000	36000	36000
	35.00	960	1440	2160	43	10	158	184	168	36000	36000	36000	36000
	40.00	990	1490	2230	38	9.2	160	187	170	36000	36000	36000	36000

BS..802EBH06							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF802 2	6.00	475	740	1110	750	43	74	80	79	36000	36000	36000	36000
	8.00	515	775	1160	188	30	83	90	89	36000	36000	36000	36000
	12.00	580	870	1300	375	20	99	108	106	36000	36000	36000	36000
	15.00[1)]	1150	1680	2520	227	27	149	172	158	36000	36000	36000	36000
	20.00	1220	1680	2520	80	21	154	180	164	36000	36000	36000	36000
	25.00	1220	1680	2520	84	18	161	189	172	36000	36000	36000	36000
	30.00	1220	1680	2520	77	16	164	193	174	36000	36000	36000	36000
	35.00	1220	1680	2520	69	14	162	190	172	36000	36000	36000	36000
	40.00	1220	1680	2520	65	13	163	192	174	36000	36000	36000	36000

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BS..802EBH07							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF802 2	6.00	475	740	1110	750	43	74	80	79	36000	36000	36000	36000
	8.00	515	775	1160	188	30	83	90	89	36000	36000	36000	36000
	12.00	580	870	1300	375	20	99	108	106	36000	36000	36000	36000
	15.00[1]	1150	1680	2520	227	27	149	172	158	36000	36000	36000	36000
	20.00	1220	1680	2520	80	21	154	180	164	36000	36000	36000	36000
	25.00	1220	1680	2520	84	18	161	189	172	36000	36000	36000	36000
	30.00	1220	1680	2520	77	16	164	193	174	36000	36000	36000	36000
	35.00	1220	1680	2520	69	14	162	190	172	36000	36000	36000	36000
	40.00	1220	1680	2520	65	13	163	192	174	36000	36000	36000	36000

BS..802EBH08							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF802 2	4.00[1]	540	820	1230	1125	88	69	73	72	32000	36000	36000	36000
	6.00	660	990	1480	250	53	88	96	94	36000	36000	36000	36000
	8.00	710	1070	1600	188	40	93	101	99	36000	36000	36000	36000
	10.00[1]	1220	1680	2520	190	51	144	166	153	36000	36000	36000	36000
	12.00	800	1160	1740	375	29	107	119	117	36000	36000	36000	36000
	15.00[1]	1220	1680	2520	187	36	158	185	168	36000	36000	36000	36000
	20.00	1220	1680	2520	190	30	161	188	171	36000	36000	36000	36000
	25.00	1220	1680	2520	180	27	168	198	179	36000	36000	36000	36000
	30.00	1220	1680	2520	150	25	169	199	180	36000	36000	36000	36000
	35.00	1220	1680	2520	129	24	166	196	177	36000	36000	36000	36000
	40.00	1220	1680	2520	113	23	168	198	179	36000	36000	36000	36000

BS..802EBH09							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF802 2	4.00[1]	920	1370	2050	1025	127	76	82	80	30700	36000	36000	36000
	6.00	1120	1650	2480	483	92	92	101	99	34400	36000	36000	36000
	8.00	1190	1720	2580	425	79	96	106	104	36000	36000	36000	36000
	10.00[1]	1220	1680	2520	190	90	148	171	157	36000	36000	36000	36000
	15.00[1]	1220	1680	2520	187	76	159	186	169	36000	36000	36000	36000
	20.00	1220	1680	2520	190	70	161	189	171	36000	36000	36000	36000

BS..802EBH10							c_T			F_{Ramax}		F_{Rapk}	
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	BSF	BSBF	BSHF	BSF	BSBF	BSF	BSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	Nm/'	Nm/'	N	N	N	N
BSF802 2	4.00[1]	920	1370	2050	1025	151	76	82	80	30700	36000	36000	36000
	6.00	1120	1680	2520	250	116	92	101	99	34400	36000	36000	36000
	8.00	1190	1720	2580	425	103	96	106	104	36000	36000	36000	36000
	10.00[1]	1220	1680	2520	190	114	148	171	157	36000	36000	36000	36000
	15.00[1]	1220	1680	2520	187	99	159	186	169	36000	36000	36000	36000
	20.00	1220	1680	2520	190	93	161	189	171	36000	36000	36000	36000

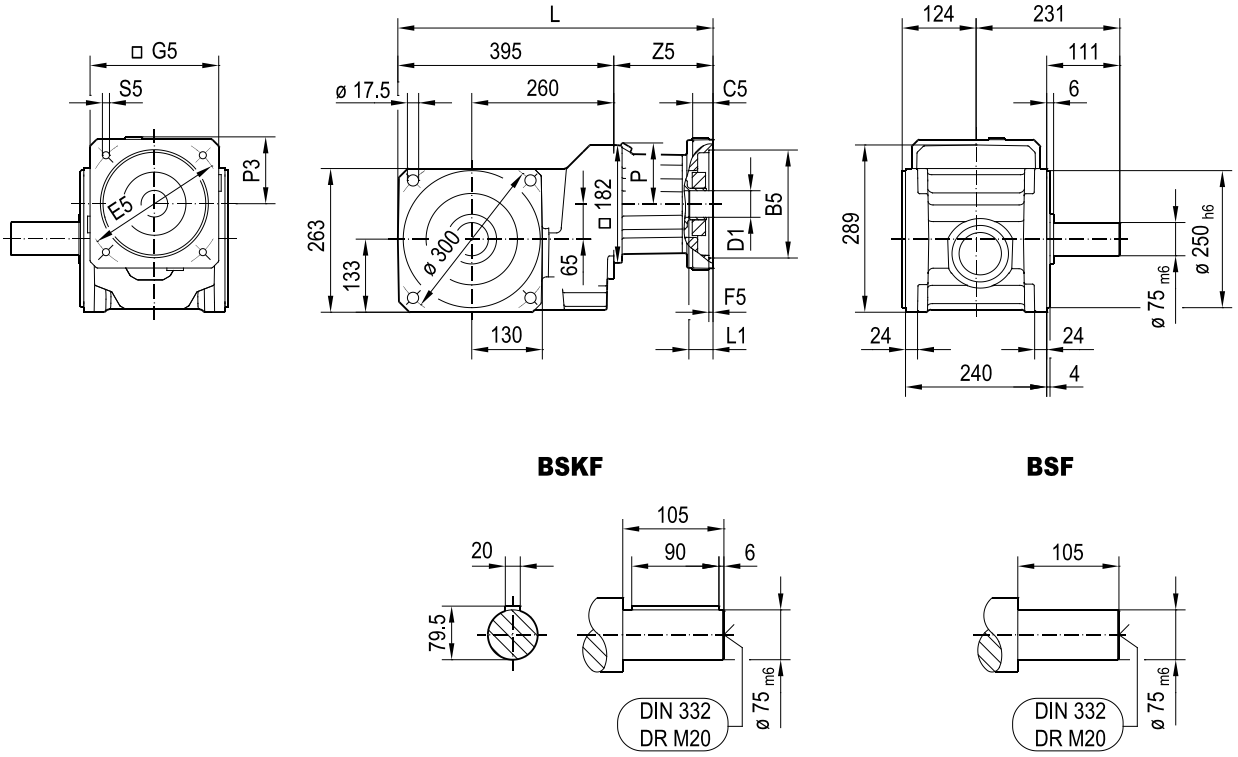
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BS..802				M1			M2;M4			M3;M5-6			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
BSF802 2	4.00	4500	94	36.53	-0.257	380872	85.55	-0.552	372271	94.47	-0.447	370986	6	3	-
	6.00	4500	94	38.78	-0.322	379127	97.23	-0.720	369115	110.3	-0.584	367673	6	3	-
	8.00	4500	94	40.01	-0.368	378029	104.5	-0.839	367166	120.4	-0.682	365688	6	3	-
	10.00	4500	91	-23.29	-0.920	247749	61.41	-2.162	238512	91.96	-1.769	237008	6	3	-
	12.00	4500	94	41.33	-0.427	376719	112.5	-0.993	364991	131.8	-0.808	363576	6	3	-
	15.00	4500	91	-23.52	-1.178	245862	79.26	-2.866	235221	119.0	-2.352	233398	6	3	-
	20.00	4500	91	-23.77	-1.359	244661	87.97	-3.354	233524	136.4	-2.767	231226	6	3	-
	25.00	4500	91	-24.68	-1.491	243925	94.41	-3.718	232349	148.6	-3.076	229783	6	3	-
	30.00	4500	91	-25.17	-1.592	243363	99.42	-3.997	231420	158.0	-3.315	228644	6	3	-
	35.00	4500	91	-25.61	-1.671	242945	102.3	-4.214	230843	165.1	-3.503	227831	6	3	-
	40.00	4500	91	-26.02	-1.735	242626	107.0	-4.402	230135	170.8	-3.656	227184	6	3	-

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BSF802..

55 018 02 03

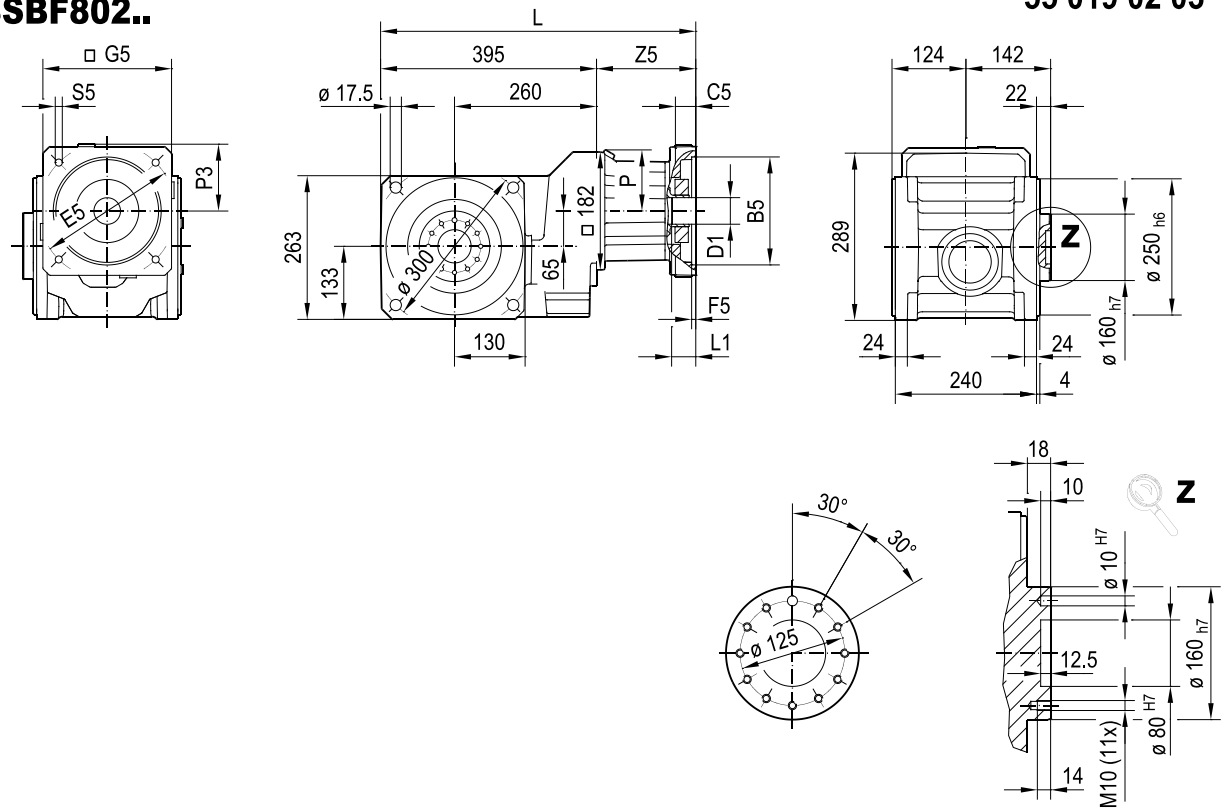


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH05/14/..	492	95	16	115	4	120	M8	96.5	56	92	62	14, 16, 17, 18, 19, 24
EBH05/15/..	492	95	16	130	4	120	M8	96.5	56	92	62	14, 16, 17, 18, 19, 24
EBH05/16/..	492	110	16	130	5	120	M8	96.5	56	92	62	14, 16, 17, 18, 19, 24
EBH05/17/..	492	110	16	145	7	120	M8	96.5	56	92	62	14, 16, 17, 18, 19, 24
EBH05/18/..	492	110	20	165	5	140	M10	96.5	56	92	72	14, 16, 17, 18, 19, 24
EBH05/20/..	492	130	20	165	5	140	M10	96.5	56	92	72	14, 16, 17, 18, 19, 24
EBH05/26/..	492	110	16	130	5	115	M8	96.5	56	92	61	14, 16, 17, 18, 19, 24
EBH06/19/..	531	114.3	24	200	5	174	M12	135.5	86	92	89	35
EBH07/20/..	511	130	24	165	5	155	M10	115.5	66	92	80	22, 24, 28, 32
EBH07/21/..	511	130	24	215	5	190	M12	115.5	66	92	97	22, 24, 28, 32
EBH07/22/..	511	180	24	215	5	190	M12	115.5	66	92	97	22, 24, 28, 32
EBH07/27/..	511	130	24	165	5	137	M10	115.5	66	92	72	22, 24, 28, 32
EBH07/28/..	511	155	24	190	5	162	M10	115.5	66	92	84	22, 24, 28, 32
EBH08/21/..	530	130	24	215	5	190	M12	134.5	82	92	97	32, 35, 38
EBH08/22/..	530	180	24	215	5	190	M12	134.5	82	92	97	32, 35, 38
EBH09/22/..	556	180	23	215	6	190	M12	161	85	92	97	32, 35, 38, 42
EBH09/23/..	586	230	30	265	6	240	M12	191	115	92	122	32, 35, 38, 42
EBH09/24/..	586	250	30	300	6	260	M16	191	115	92	132	32, 35, 38, 42
EBH09/25/..	586	300	30	350	6	310	M16	191	115	92	157	32, 35, 38, 42
EBH10/22/..	556	180	23	215	6	190	M12	161	85	92	97	48, 55
EBH10/23/..	586	230	30	265	6	240	M12	191	115	92	122	48, 55
EBH10/24/..	586	250	30	300	6	260	M16	191	115	92	132	48, 55
EBH10/25/..	586	300	30	350	6	310	M16	191	115	92	157	48, 55

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BSBF802..

55 019 02 03

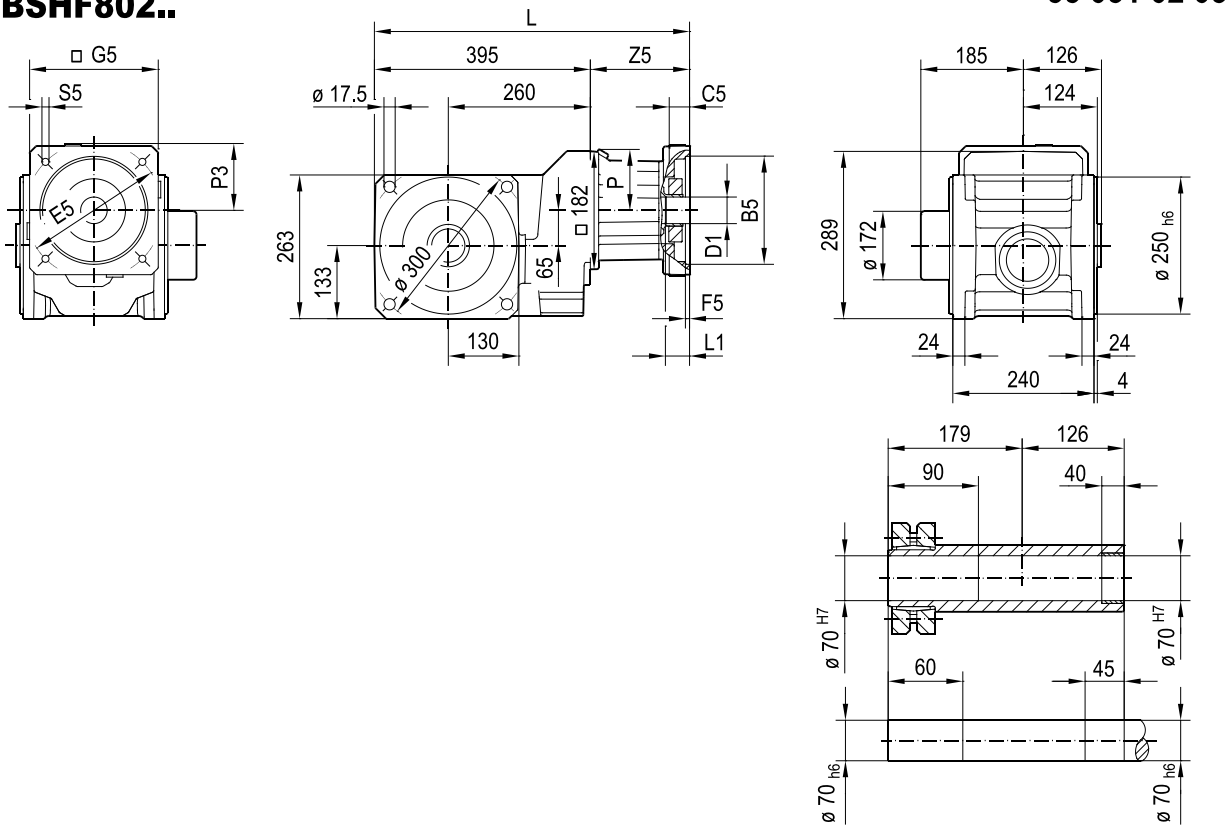


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH05/14/..	492	95	16	115	4	120	M8	96.5	56	92	62	14, 16, 17, 18, 19, 24
EBH05/15/..	492	95	16	130	4	120	M8	96.5	56	92	62	14, 16, 17, 18, 19, 24
EBH05/16/..	492	110	16	130	5	120	M8	96.5	56	92	62	14, 16, 17, 18, 19, 24
EBH05/17/..	492	110	16	145	7	120	M8	96.5	56	92	62	14, 16, 17, 18, 19, 24
EBH05/18/..	492	110	20	165	5	140	M10	96.5	56	92	72	14, 16, 17, 18, 19, 24
EBH05/20/..	492	130	20	165	5	140	M10	96.5	56	92	72	14, 16, 17, 18, 19, 24
EBH05/26/..	492	110	16	130	5	115	M8	96.5	56	92	61	14, 16, 17, 18, 19, 24
EBH06/19/..	531	114.3	24	200	5	174	M12	135.5	86	92	89	35
EBH07/20/..	511	130	24	165	5	155	M10	115.5	66	92	80	22, 24, 28, 32
EBH07/21/..	511	130	24	215	5	190	M12	115.5	66	92	97	22, 24, 28, 32
EBH07/22/..	511	180	24	215	5	190	M12	115.5	66	92	97	22, 24, 28, 32
EBH07/27/..	511	130	24	165	5	137	M10	115.5	66	92	72	22, 24, 28, 32
EBH07/28/..	511	155	24	190	5	162	M10	115.5	66	92	84	22, 24, 28, 32
EBH08/21/..	530	130	24	215	5	190	M12	134.5	82	92	97	32, 35, 38
EBH08/22/..	530	180	24	215	5	190	M12	134.5	82	92	97	32, 35, 38
EBH09/22/..	556	180	23	215	6	190	M12	161	85	92	97	32, 35, 38, 42
EBH09/23/..	586	230	30	265	6	240	M12	191	115	92	122	32, 35, 38, 42
EBH09/24/..	586	250	30	300	6	260	M16	191	115	92	132	32, 35, 38, 42
EBH09/25/..	586	300	30	350	6	310	M16	191	115	92	157	32, 35, 38, 42
EBH10/22/..	556	180	23	215	6	190	M12	161	85	92	97	48, 55
EBH10/23/..	586	230	30	265	6	240	M12	191	115	92	122	48, 55
EBH10/24/..	586	250	30	300	6	260	M16	191	115	92	132	48, 55
EBH10/25/..	586	300	30	350	6	310	M16	191	115	92	157	48, 55

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BSHF802..

55 031 02 03

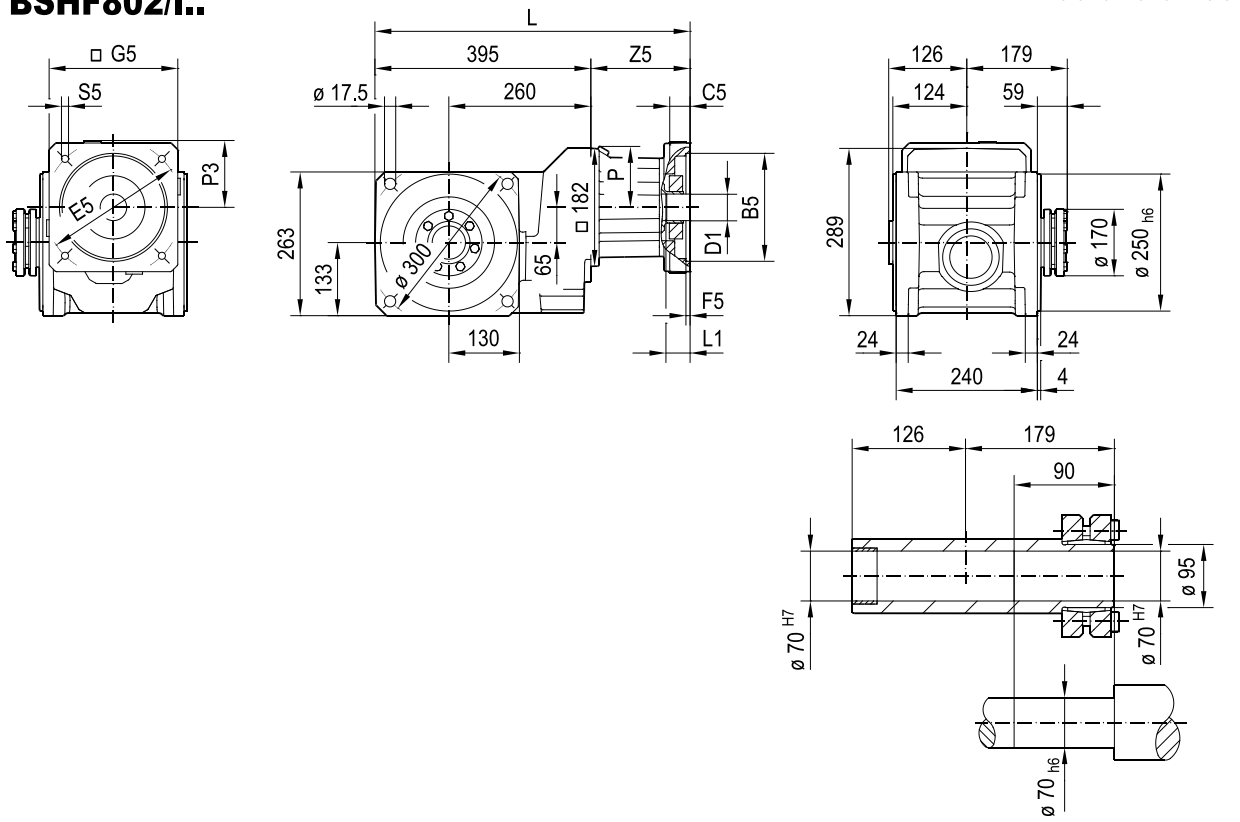


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH05/14/..	492	95	16	115	4	120	M8	96.5	56	92	62	14, 16, 17, 18, 19, 24
EBH05/15/..	492	95	16	130	4	120	M8	96.5	56	92	62	14, 16, 17, 18, 19, 24
EBH05/16/..	492	110	16	130	5	120	M8	96.5	56	92	62	14, 16, 17, 18, 19, 24
EBH05/17/..	492	110	16	145	7	120	M8	96.5	56	92	62	14, 16, 17, 18, 19, 24
EBH05/18/..	492	110	20	165	5	140	M10	96.5	56	92	72	14, 16, 17, 18, 19, 24
EBH05/20/..	492	130	20	165	5	140	M10	96.5	56	92	72	14, 16, 17, 18, 19, 24
EBH05/26/..	492	110	16	130	5	115	M8	96.5	56	92	61	14, 16, 17, 18, 19, 24
EBH06/19/..	531	114.3	24	200	5	174	M12	135.5	86	92	89	35
EBH07/20/..	511	130	24	165	5	155	M10	115.5	66	92	80	22, 24, 28, 32
EBH07/21/..	511	130	24	215	5	190	M12	115.5	66	92	97	22, 24, 28, 32
EBH07/22/..	511	180	24	215	5	190	M12	115.5	66	92	97	22, 24, 28, 32
EBH07/27/..	511	130	24	165	5	137	M10	115.5	66	92	72	22, 24, 28, 32
EBH07/28/..	511	155	24	190	5	162	M10	115.5	66	92	84	22, 24, 28, 32
EBH08/21/..	530	130	24	215	5	190	M12	134.5	82	92	97	32, 35, 38
EBH08/22/..	530	180	24	215	5	190	M12	134.5	82	92	97	32, 35, 38
EBH09/22/..	556	180	23	215	6	190	M12	161	85	92	97	32, 35, 38, 42
EBH09/23/..	586	230	30	265	6	240	M12	191	115	92	122	32, 35, 38, 42
EBH09/24/..	586	250	30	300	6	260	M16	191	115	92	132	32, 35, 38, 42
EBH09/25/..	586	300	30	350	6	310	M16	191	115	92	157	32, 35, 38, 42
EBH10/22/..	556	180	23	215	6	190	M12	161	85	92	97	48, 55
EBH10/23/..	586	230	30	265	6	240	M12	191	115	92	122	48, 55
EBH10/24/..	586	250	30	300	6	260	M16	191	115	92	132	48, 55
EBH10/25/..	586	300	30	350	6	310	M16	191	115	92	157	48, 55

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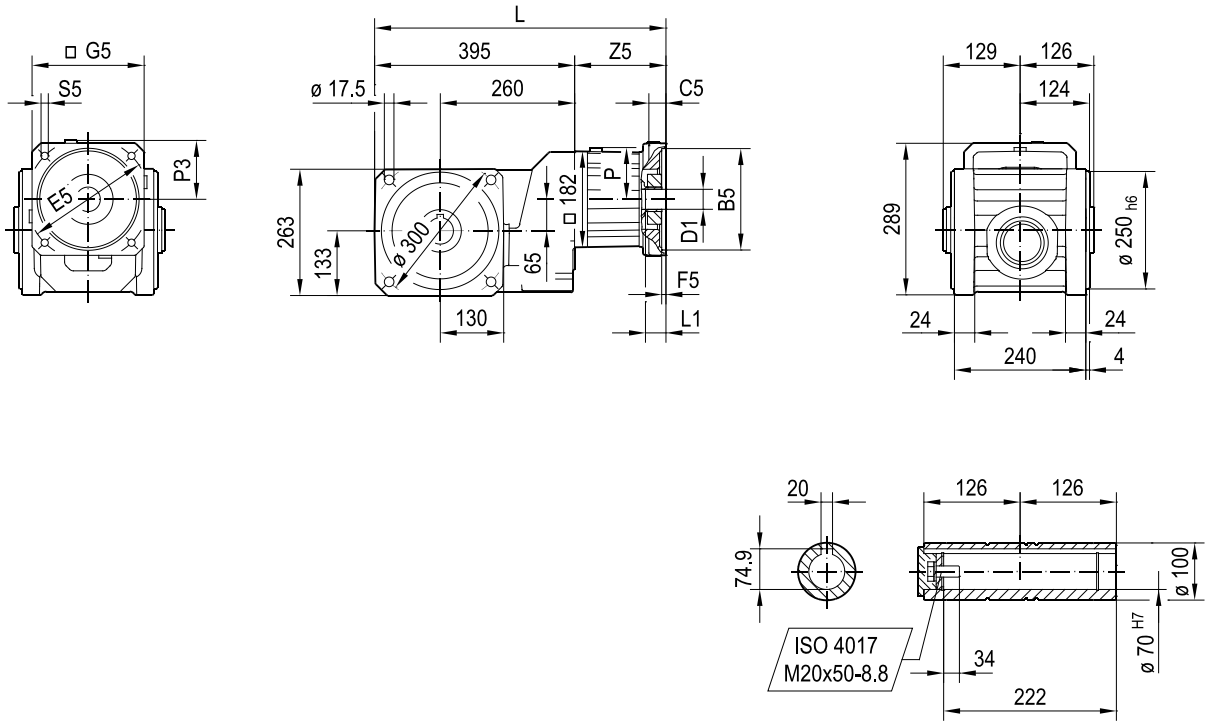


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH05/14/..	492	95	16	115	4	120	M8	96.5	56	92	62	14, 16, 17, 18, 19, 24
EBH05/15/..	492	95	16	130	4	120	M8	96.5	56	92	62	14, 16, 17, 18, 19, 24
EBH05/16/..	492	110	16	130	5	120	M8	96.5	56	92	62	14, 16, 17, 18, 19, 24
EBH05/17/..	492	110	16	145	7	120	M8	96.5	56	92	62	14, 16, 17, 18, 19, 24
EBH05/18/..	492	110	20	165	5	140	M10	96.5	56	92	72	14, 16, 17, 18, 19, 24
EBH05/20/..	492	130	20	165	5	140	M10	96.5	56	92	72	14, 16, 17, 18, 19, 24
EBH05/26/..	492	110	16	130	5	115	M8	96.5	56	92	61	14, 16, 17, 18, 19, 24
EBH06/19/..	531	114.3	24	200	5	174	M12	135.5	86	92	89	35
EBH07/20/..	511	130	24	165	5	155	M10	115.5	66	92	80	22, 24, 28, 32
EBH07/21/..	511	130	24	215	5	190	M12	115.5	66	92	97	22, 24, 28, 32
EBH07/22/..	511	180	24	215	5	190	M12	115.5	66	92	97	22, 24, 28, 32
EBH07/27/..	511	130	24	165	5	137	M10	115.5	66	92	72	22, 24, 28, 32
EBH07/28/..	511	155	24	190	5	162	M10	115.5	66	92	84	22, 24, 28, 32
EBH08/21/..	530	130	24	215	5	190	M12	134.5	82	92	97	32, 35, 38
EBH08/22/..	530	180	24	215	5	190	M12	134.5	82	92	97	32, 35, 38
EBH09/22/..	556	180	23	215	6	190	M12	161	85	92	97	32, 35, 38, 42
EBH09/23/..	586	230	30	265	6	240	M12	191	115	92	122	32, 35, 38, 42
EBH09/24/..	586	250	30	300	6	260	M16	191	115	92	132	32, 35, 38, 42
EBH09/25/..	586	300	30	350	6	310	M16	191	115	92	157	32, 35, 38, 42
EBH10/22/..	556	180	23	215	6	190	M12	161	85	92	97	48, 55
EBH10/23/..	586	230	30	265	6	240	M12	191	115	92	122	48, 55
EBH10/24/..	586	250	30	300	6	260	M16	191	115	92	132	48, 55
EBH10/25/..	586	300	30	350	6	310	M16	191	115	92	157	48, 55

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55 014 01 07

BSAF802..



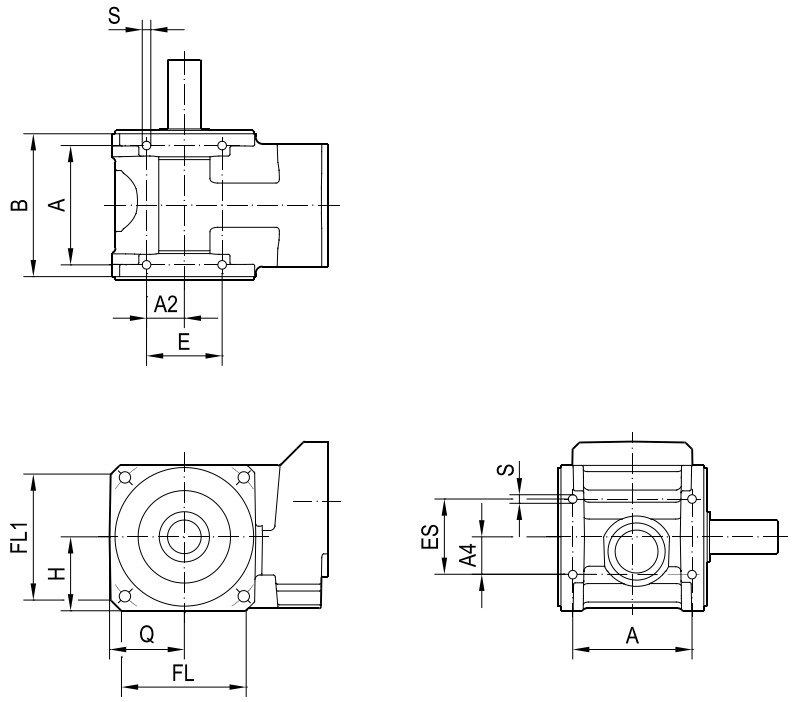
(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P	P3	D1 (→ 📖 13.5)
EBH05/14/..	492	95	16	115	4	120	M8	96.5	56	92	62	14, 16, 17, 18, 19, 24
EBH05/15/..	492	95	16	130	4	120	M8	96.5	56	92	62	14, 16, 17, 18, 19, 24
EBH05/16/..	492	110	16	130	5	120	M8	96.5	56	92	62	14, 16, 17, 18, 19, 24
EBH05/17/..	492	110	16	145	7	120	M8	96.5	56	92	62	14, 16, 17, 18, 19, 24
EBH05/18/..	492	110	20	165	5	140	M10	96.5	56	92	72	14, 16, 17, 18, 19, 24
EBH05/20/..	492	130	20	165	5	140	M10	96.5	56	92	72	14, 16, 17, 18, 19, 24
EBH05/26/..	492	110	16	130	5	115	M8	96.5	56	92	61	14, 16, 17, 18, 19, 24
EBH06/19/..	531	114.3	24	200	5	174	M12	135.5	86	92	89	35
EBH07/20/..	511	130	24	165	5	155	M10	115.5	66	92	80	22, 24, 28, 32
EBH07/21/..	511	130	24	215	5	190	M12	115.5	66	92	97	22, 24, 28, 32
EBH07/22/..	511	180	24	215	5	190	M12	115.5	66	92	97	22, 24, 28, 32
EBH07/27/..	511	130	24	165	5	137	M10	115.5	66	92	72	22, 24, 28, 32
EBH07/28/..	511	155	24	190	5	162	M10	115.5	66	92	84	22, 24, 28, 32
EBH08/21/..	530	130	24	215	5	190	M12	134.5	82	92	97	32, 35, 38
EBH08/22/..	530	180	24	215	5	190	M12	134.5	82	92	97	32, 35, 38
EBH09/22/..	556	180	23	215	6	190	M12	161	85	92	97	32, 35, 38, 42
EBH09/23/..	586	230	30	265	6	240	M12	191	115	92	122	32, 35, 38, 42
EBH09/24/..	586	250	30	300	6	260	M16	191	115	92	132	32, 35, 38, 42
EBH09/25/..	586	300	30	350	6	310	M16	191	115	92	157	32, 35, 38, 42
EBH10/22/..	556	180	23	215	6	190	M12	161	85	92	97	48, 55
EBH10/23/..	586	230	30	265	6	240	M12	191	115	92	122	48, 55
EBH10/24/..	586	250	30	300	6	260	M16	191	115	92	132	48, 55
EBH10/25/..	586	300	30	350	6	310	M16	191	115	92	157	48, 55

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13.2 BS..B.. /mm

BS..B

55 037 01 03



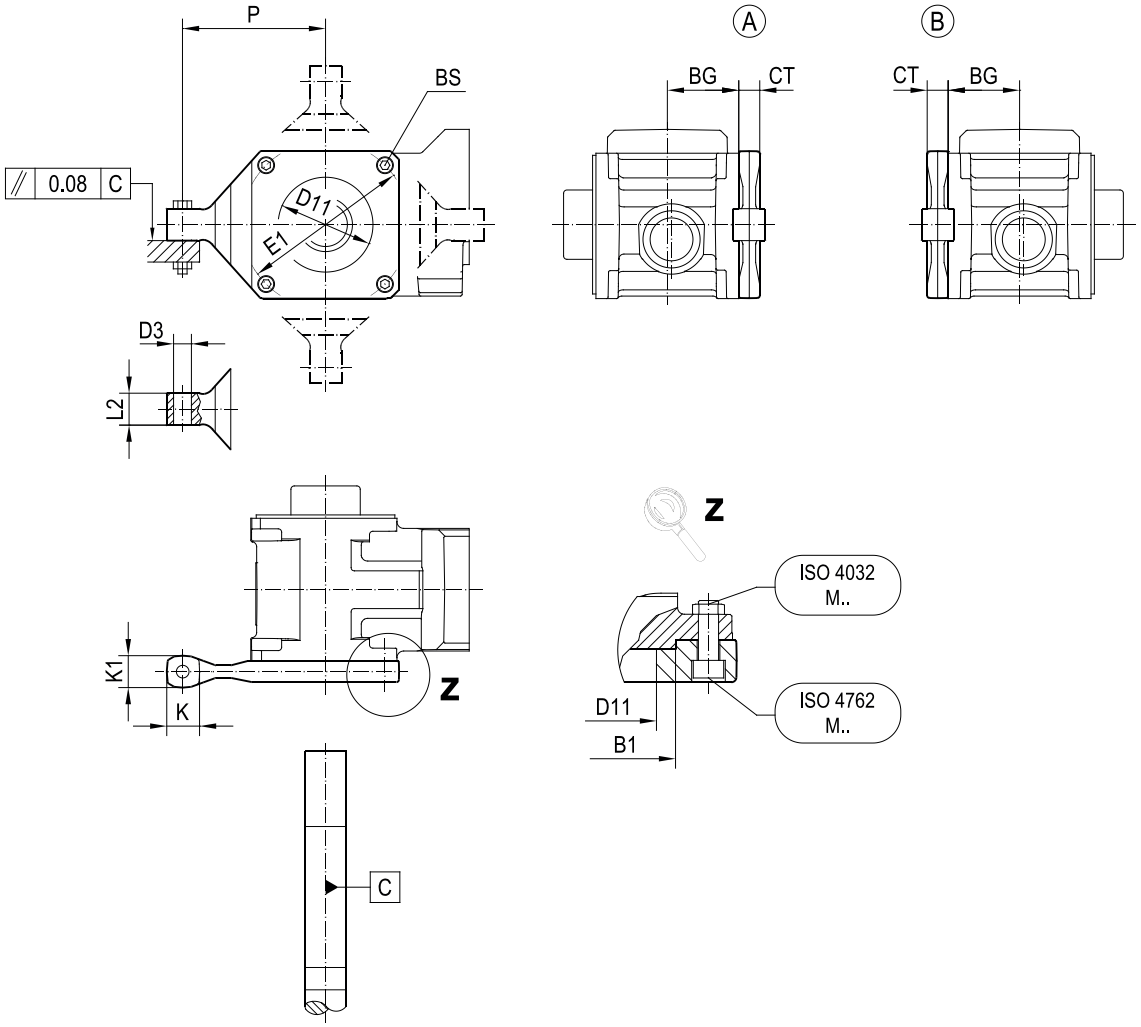
(→ 📖 7.3.11)	B	A	S	A2	E	FL	H	Q	FL1	ES	A4
BSF..202B	111	96	M8×14	30	60	80	$47_{-0.3}$	$47_{-0.3}$	78	60	30
BSF..302B	123	105	M10×18	37.5	75	101	$58.5_{-0.3}$	$58.5_{-0.3}$	98.5	75	37.5
BSF..402B	145	120	M12×22	46.5	93	127	$72_{-0.3}$	$72_{-0.3}$	125	93	46.5
BSF..502B	170	142	M12×16	45	90	151	$86_{-0.5}$	$86_{-0.5}$	151	90	45
BSF..602B	194	160	M16×20	50	100	182	$106_{-0.5}$	$106_{-0.5}$	183	100	50
BSF..802B	240	186	M20×25	65	130	239	$131_{-0.5}$	$131_{-0.5}$	237	130	65

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13.3 BSHF../T /mm

BSHF.. /T

55 038 01 03

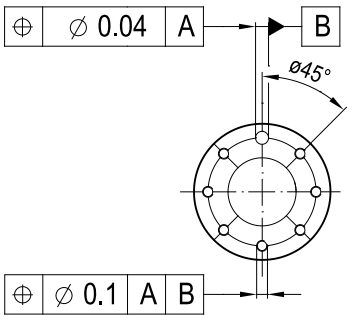


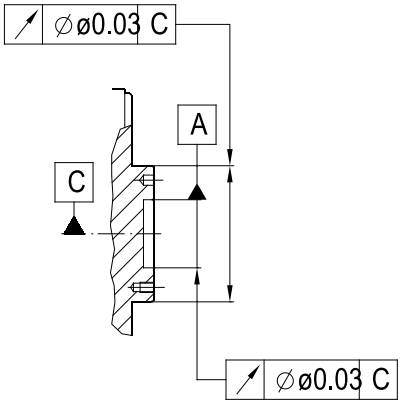
(→ 📖 7.3.11)	P	B1	E1	D11	BG	CT	K	K1	D3	L2	BS
BSHF202/T	110	90	109	75	55.5	18	34	35	14	20	M6×35
BSHF302/T	140	110	135	90	61.5	20	38	38	14	24	M8×40
BSHF402/T	158	140	168	115	72.5	22	38	38	14	28	M10×45
BSHF502/T	170	165	200	140	85	25	38	38	14	38	M12×40
BSHF602/T	198	200	240	140	97	35	58	58	22	50	M16×55
BSHF802/T	278	250	300	195	120	34	58	58	22	70	M16×55

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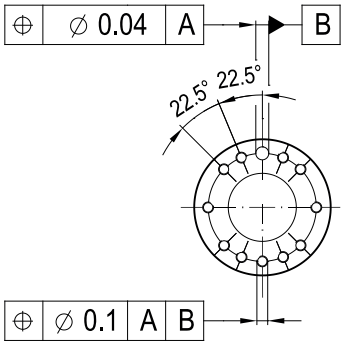
13.4 BSBF.. /mm

55 035 02 03

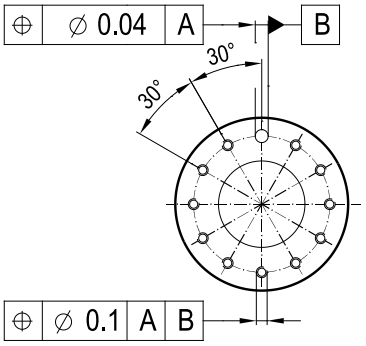




BSBF202 PSBF221/222
BSBF302 PSBF321/322

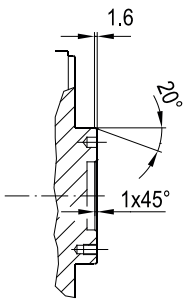


BSBF402 PSBF521/522
BSBF502



BSBF602 PSBF621/622
BSBF802 PSBF721/722
PSBF821/822

55 036 00 03



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13.5 BS.F.. EBH.. → D1

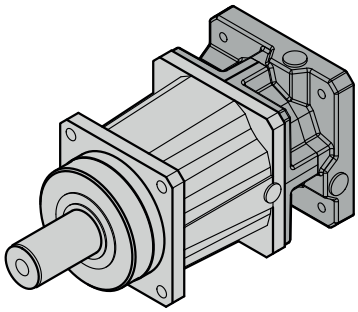
	BS.F202 BS.F302 BS.F402 BS.F502 BS.F602	BS.F202 BS.F302 BS.F402 BS.F502 BS.F602	BS.F302 BS.F402 BS.F502 BS.F602 BS.F802	BS.F402 BS.F502 BS.F602 BS.F802	BS.F402 BS.F502 BS.F602 BS.F802	BS.F502 BS.F602 BS.F802	BS.F802	BS.F802
	EBH03	**EBH04**	**EBH05**	**EBH06**	**EBH07**	**EBH08**	**EBH09**	**EBH10**
D1 /mm	**Code for mountable motor shaft diameters D1**							
8	1							
9	2							
10	3							
11	4	4						
12	5	5						
14	6	6	6					
16		8	8					
17			9					
18			10					
19		11	11					
22					12			
24			13		13			
28					14			
32					15	15	15	
35				16		16	16	
38						17	17	
42							18	
48								19
55								20

Example:

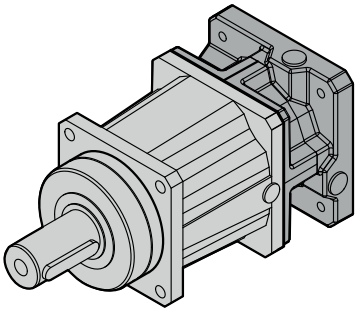
BS.F..EBH 07 /20 /13	
BS.F..EBH..	Gear units with adapter
07	Code for performance class of the adapter
/20	Code for flange geometry (centering, hole circle)
/13	**Code for mountable motor shaft diameters D1**

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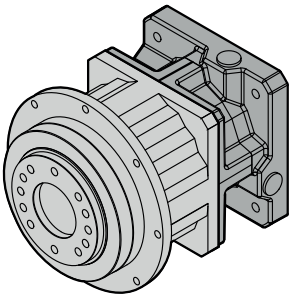
14 Planetary gear units PS.F..



PSF../EPH..



PSKF../EPH..



PSBF../EPH..

9007234415248395

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14.1 PS.F..EPH.. – Selection tables and dimension sheets

14.1.1 PS.F121 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$					
	i	01			02		
PSF121 1	3.00	20	23	34	20	36	54
	4.00	25	30	45	25	38	57
	5.00	25	35	52	25	35	52
	7.00	25	37	55	25	37	55
	10.00	25	26	39	25	26	39

PSF121, m kg		
	EPH	
s	01	02
1	1.8	2.1

PS..121EPH01 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSF	F_{Ramax} PSF	F_{Rapk} PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF121 1	3.00	20	23	34	542	0.28	1.6	2000	1990
	4.00	25	30	45	542	0.24	1.9	1980	1950
	5.00	25	35	52	500	0.22	2.0	1980	1910
	7.00	25	37	55	443	0.21	2.0	1980	1900
	10.00	25	26	39	405	0.20	1.7	1980	1970

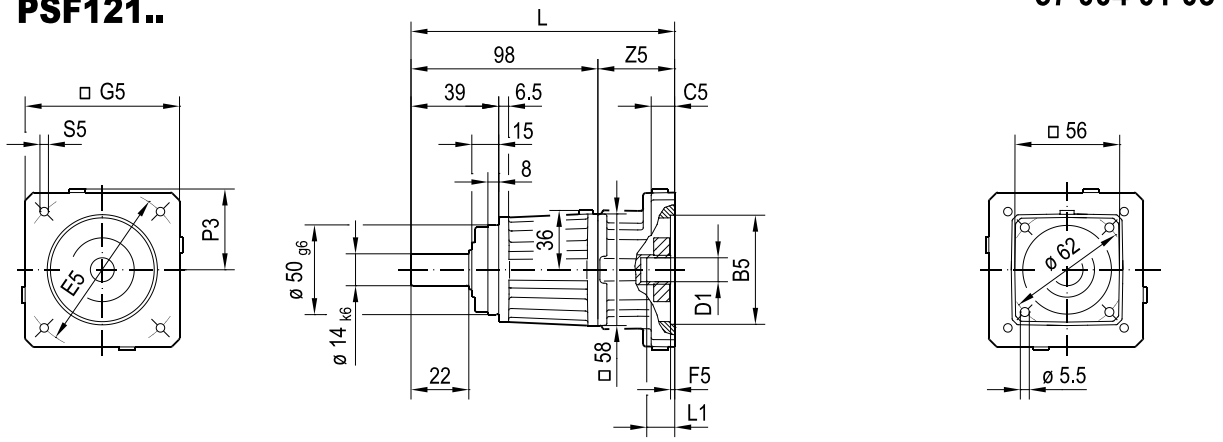
PS..121EPH02 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSF	F_{Ramax} PSF	F_{Rapk} PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF121 1	3.00	20	36	54	542	0.59	2.0	2000	1900
	4.00	25	38	57	542	0.54	2.2	1980	1890
	5.00	25	35	52	500	0.53	2.1	1980	1910
	7.00	25	37	55	443	0.51	2.0	1980	1900
	10.00	25	26	39	405	0.50	1.7	1980	1970

PS..121				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSF121 1	3.00	8000	99	74.82	-0.055	0	85.56	-0.079	0	88.79	-0.100	0	8	4	2
	4.00	8000	99	102.6	-0.083	0	119.7	-0.118	0	126.1	-0.150	0	8	4	2
	5.00	8000	99	107.1	-0.094	0	123.6	-0.130	0	127.2	-0.160	0	8	4	2
	7.00	8000	99	124.7	-0.131	0	138.2	-0.167	0	132.9	-0.186	0	8	4	2
	10.00	8000	99	128.7	-0.169	0	139.6	-0.204	0	134.7	-0.226	0	8	4	2

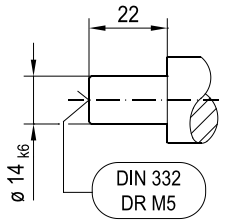
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PSF121..

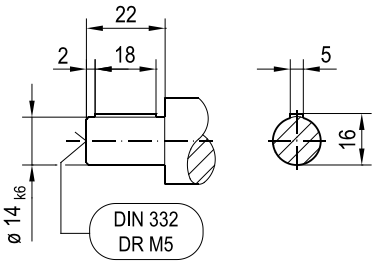
57 004 01 03



PSF



PSKF



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH01/01/..	142	40	13	63	3.5	58	M4	44	33	31	9, 11
EPH01/03/..	142	50	13	60	3.5	58	M4	44	33	31	9, 11
EPH02/04/..	142	50	10	70	3.5	80	M5	44	34	42	8, 9, 10, 11, 12, 14
EPH02/05/..	142	50	10	80	3.5	80	M4	44	34	42	8, 9, 10, 11, 12, 14
EPH02/06/..	142	50	10	95	3.5	80	M6	44	34	42	8, 9, 10, 11, 12, 14
EPH02/08/..	142	60	10	75	3.5	80	M5	44	34	42	8, 9, 10, 11, 12, 14
EPH02/09/..	142	60	10	90	3.5	80	M5	44	34	42	8, 9, 10, 11, 12, 14
EPH02/10/..	142	70	10	85	3.5	80	M6	44	34	42	8, 9, 10, 11, 12, 14
EPH02/11/..	142	70	10	90	3.5	80	M5	44	34	42	8, 9, 10, 11, 12, 14
EPH02/13/..	155	80	23	100	5	88	M6	57	47	44	8, 9, 10, 11, 12, 14

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14.1.2 PS.F122 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$					
	i	01			02		
PSF122 2	16.00	25	38	57	25	38	57
	20.00	25	35	52	25	35	52
	25.00	25	35	52	25	35	52
	28.00	25	33	49	25	33	49
	35.00	25	35	52	25	35	52
	40.00	25	32	48	25	32	48
	49.00	25	37	55	25	37	55
	70.00	25	37	55	25	37	55
	100.00	25	26	39	25	26	39

PSF122, m kg		
	EPH	
s	01	02
2	2.4	2.7

PS..122EPH01 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSF	F_{Ramax} PSF	F_{Rapk} PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF122 2	16.00	25	38	57	438	0.23	2.1	1980	1890
	20.00	25	35	52	350	0.23	2.1	1980	1910
	25.00	25	35	52	280	0.22	2.1	1980	1910
	28.00	25	33	49	250	0.21	2.1	1980	1930
	35.00	25	35	52	200	0.21	2.1	1980	1910
	40.00	25	32	48	175	0.20	2.1	1980	1930
	49.00	25	37	55	143	0.21	2.0	1980	1900
	70.00	25	37	55	100	0.20	2.0	1980	1900
	100.00	25	26	39	70	0.20	1.7	1980	1970

PS..122EPH02 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSF	F_{Ramax} PSF	F_{Rapk} PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF122 2	16.00	25	38	57	438	0.53	2.1	1980	1890
	20.00	25	35	52	350	0.53	2.1	1980	1910
	25.00	25	35	52	280	0.52	2.1	1980	1910
	28.00	25	33	49	250	0.51	2.1	1980	1930
	35.00	25	35	52	200	0.51	2.1	1980	1910
	40.00	25	32	48	175	0.50	2.1	1980	1930
	49.00	25	37	55	143	0.51	2.0	1980	1900
	70.00	25	37	55	100	0.50	2.0	1980	1900
	100.00	25	26	39	70	0.50	1.7	1980	1970

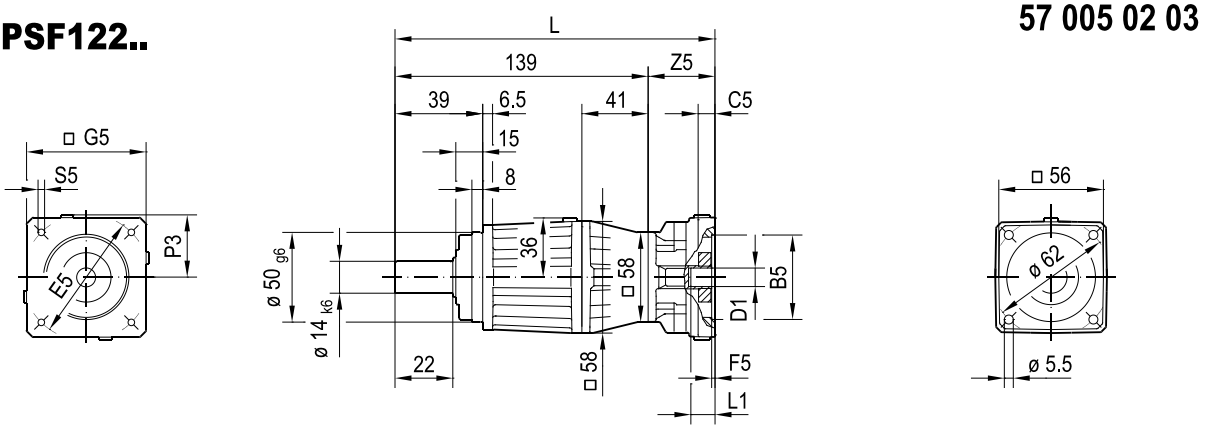
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PS..122				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSF122 2	16.00	8000	98	159.2	-0.379	0	211	-0.692	0	221	-0.766	0	10	6	3
	20.00	8000	98	189.2	-0.547	0	255	-1.024	0	265	-1.110	0	10	6	3
	25.00	8000	98	201	-0.650	0	264	-1.132	0	273	-1.221	0	10	6	3
	28.00	8000	98	188.7	-0.614	0	233	-0.941	0	242	-1.022	0	10	6	3
	35.00	8000	98	226	-0.905	0	281	-1.396	0	290	-1.488	0	10	6	3
	40.00	8000	98	228	-0.970	0	266	-1.312	0	274	-1.399	0	10	6	3
	49.00	8000	98	309	-1.697	0	387	-2.650	0	396	-2.771	0	10	6	3
	70.00	8000	98	378	-2.742	0	444	-3.737	0	451	-3.867	0	10	6	3
	100.00	8000	98	508	-5.217	0	601	-7.165	0	608	-7.346	0	10	6	3

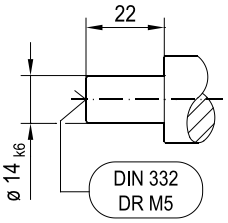
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PSF122..

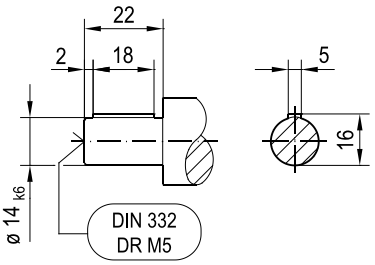
57 005 02 03



PSF



PSKF



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH01/01/..	183	40	13	63	3.5	58	M4	44	33	31	9, 11
EPH01/03/..	183	50	13	60	3.5	58	M4	44	33	31	9, 11
EPH02/04/..	183	50	10	70	3.5	80	M5	44	34	42	8, 9, 10, 11, 12, 14
EPH02/05/..	183	50	10	80	3.5	80	M4	44	34	42	8, 9, 10, 11, 12, 14
EPH02/06/..	183	50	10	95	3.5	80	M6	44	34	42	8, 9, 10, 11, 12, 14
EPH02/08/..	183	60	10	75	3.5	80	M5	44	34	42	8, 9, 10, 11, 12, 14
EPH02/09/..	183	60	10	90	3.5	80	M5	44	34	42	8, 9, 10, 11, 12, 14
EPH02/10/..	183	70	10	85	3.5	80	M6	44	34	42	8, 9, 10, 11, 12, 14
EPH02/11/..	183	70	10	90	3.5	80	M5	44	34	42	8, 9, 10, 11, 12, 14
EPH02/13/..	196	80	23	100	5	88	M6	57	47	44	8, 9, 10, 11, 12, 14

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14.1.3 PS.F221 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	01			02			03			04		
PSF221 1	3.00	23	23	34	40	53	75	40	53	75	40	65	97
	4.00	30	30	45	55	70	100	55	70	100	55	85	127
	5.00	38	38	56	55	80	120	55	80	120	55	80	120
	7.00	53	53	79	55	85	127	55	85	127	55	85	127
	10.00	55	62	93	55	62	93	55	62	93	55	62	93

PSF221, m kg				
	EPH			
s	01	02	03	04
1	2.7	2.8	3.0	3.1

PS..221EPH01							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF221 1	3.00	23	23	34	2333	0.43	2.3	2910	2930
	4.00	30	30	45	1750	0.31	2.7	2910	2910
	5.00	38	38	56	1400	0.27	3.0	2880	2880
	7.00	53	53	79	525	0.23	3.1	2720	2720
	10.00	55	62	93	420	0.21	3.0	2680	2520

PS..221EPH02							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF221 1	3.00	40	53	75	1890	0.73	3.1	2870	2720
	4.00	55	70	100	585	0.61	3.4	2680	2300
	5.00	55	80	120	530	0.53	3.5	2680	1950
	7.00	55	85	127	465	0.54	3.5	2680	1720
	10.00	55	62	93	420	0.52	3.0	2680	2520

PS..221EPH03							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF221 1	3.00	40	53	75	1890	0.81	3.1	2870	2720
	4.00	55	70	100	585	0.68	3.4	2680	2300
	5.00	55	80	120	530	0.64	3.5	2680	1950
	7.00	55	85	127	465	0.61	3.5	2680	1720
	10.00	55	62	93	420	0.59	3.0	2680	2520

PS..221EPH04							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF221 1	3.00	40	65	97	1890	0.98	3.5	2870	2440
	4.00	55	85	127	585	0.86	3.6	2680	1720
	5.00	55	80	120	530	0.82	3.6	2680	1950
	7.00	55	85	127	465	0.79	3.5	2680	1720
	10.00	55	62	93	420	0.76	3.0	2680	2520

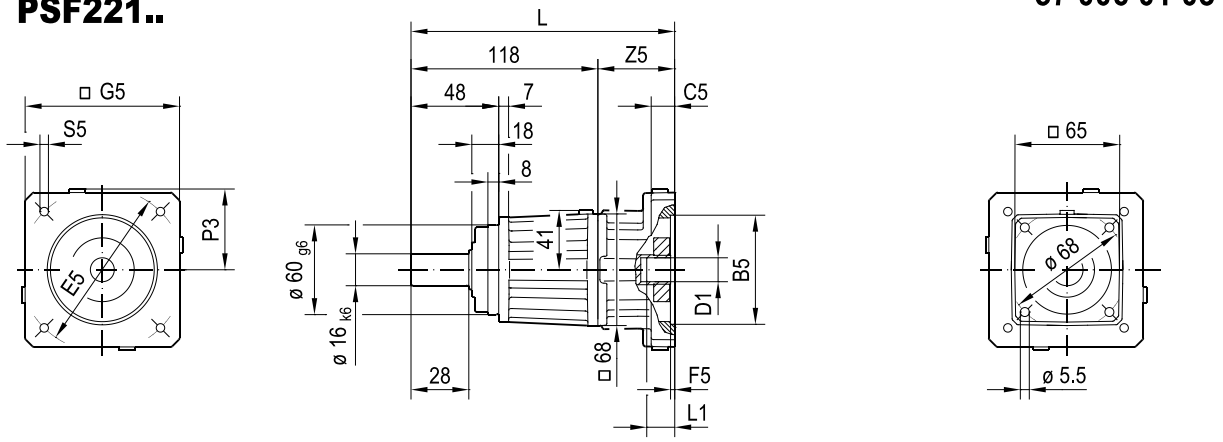
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PS..221				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSF221 1	3.00	7500	99	129.4	-0.110	0	148.7	-0.161	0	148.9	-0.191	0	6	3	1
	4.00	7500	99	189.1	-0.179	0	217	-0.252	0	214	-0.292	0	6	3	1
	5.00	7500	99	196.9	-0.208	0	224	-0.282	0	217	-0.316	0	6	3	1
	7.00	7500	99	229	-0.299	0	256	-0.382	0	263	-0.457	0	6	3	1
	10.00	7500	99	245	-0.420	0	271	-0.510	0	298	-0.646	0	6	3	1

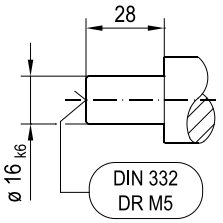
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PSF221..

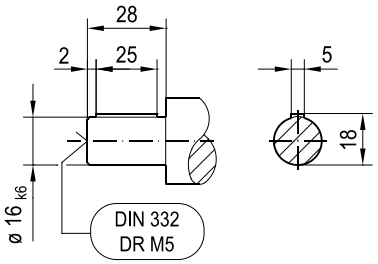
57 006 01 03



PSF



PSKF



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH01/01/..	156	40	13	63	4	73	M4	38	33	39	9, 11
EPH01/03/..	156	50	13	60	4	73	M4	38	33	39	9, 11
EPH02/04/..	156	50	13	70	4	73	M5	38	34	39	8, 9, 10, 11, 12, 14
EPH02/05/..	156	50	13	80	4	73	M4	38	34	39	8, 9, 10, 11, 12, 14
EPH02/08/..	156	60	13	75	4	73	M5	38	34	39	8, 9, 10, 11, 12, 14
EPH03/01/..	165	40	20	63	3.5	90	M4	46.5	38	47	8, 9, 10, 11, 12, 14
EPH03/03/..	165	50	20	60	3.5	90	M4	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/04/..	165	50	20	70	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/05/..	165	50	20	80	3.5	90	M4	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/06/..	165	50	20	95	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/07/..	165	50	20	100	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/08/..	165	60	20	75	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/09/..	165	60	20	90	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/10/..	165	70	20	85	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/11/..	165	70	20	90	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/12/..	165	70	20	90	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/13/..	165	80	20	100	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/14/..	165	95	16	115	4	105	M8	46.5	30	55	8, 9, 10, 11, 12, 14
EPH04/01/..	174	40	20	63	3.5	90	M4	56	42.75	47	11, 12, 14, 16, 19
EPH04/03/..	174	50	20	60	3.5	90	M4	56	41	47	11, 12, 14, 16, 19
EPH04/04/..	174	50	20	70	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/05/..	174	50	20	80	3.5	90	M4	56	41	47	11, 12, 14, 16, 19
EPH04/06/..	174	50	20	95	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/07/..	174	50	20	100	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/08/..	174	60	20	75	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/09/..	174	60	20	90	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/10/..	174	70	20	85	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/11/..	174	70	20	90	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/12/..	174	70	20	90	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/13/..	174	80	20	100	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/14/..	174	95	16	115	4	105	M8	56	41	55	11, 12, 14, 16, 19
EPH04/15/..	174	95	16	130	4	115	M8	56	41	60	11, 12, 14, 16, 19

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14.1.4 PS.F222 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$					
	i	01			02		
PSF222 2	16.00	55	85	127	55	85	127
	20.00	55	80	120	55	80	120
	25.00	55	80	120	55	80	120
	28.00	55	83	124	55	83	124
	35.00	55	80	120	55	80	120
	40.00	55	79	118	55	79	118
	49.00	55	85	127	55	85	127
	70.00	55	85	127	55	85	127
	100.00	55	62	93	55	62	93

PSF222, m kg		
	EPH	
s	01	02
2	3.2	3.5

PS..222EPH01 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSF	F_{Ramax} PSF	F_{Rapk} PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF222 2	16.00	55	85	127	438	0.23	3.5	2680	1720
	20.00	55	80	120	350	0.23	3.5	2680	1950
	25.00	55	80	120	280	0.22	3.6	2680	1950
	28.00	55	83	124	250	0.21	3.5	2680	1820
	35.00	55	80	120	200	0.21	3.5	2680	1950
	40.00	55	79	118	175	0.20	3.5	2680	1990
	49.00	55	85	127	143	0.21	3.5	2680	1720
	70.00	55	85	127	100	0.20	3.5	2680	1720
	100.00	55	62	93	70	0.20	3.0	2680	2520

PS..222EPH02 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSF	F_{Ramax} PSF	F_{Rapk} PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF222 2	16.00	55	85	127	438	0.54	3.6	2680	1720
	20.00	55	80	120	350	0.54	3.6	2680	1950
	25.00	55	80	120	280	0.52	3.6	2680	1950
	28.00	55	83	124	250	0.51	3.5	2680	1820
	35.00	55	80	120	200	0.51	3.6	2680	1950
	40.00	55	79	118	175	0.50	3.5	2680	1990
	49.00	55	85	127	143	0.51	3.5	2680	1720
	70.00	55	85	127	100	0.50	3.5	2680	1720
	100.00	55	62	93	70	0.50	3.0	2680	2520

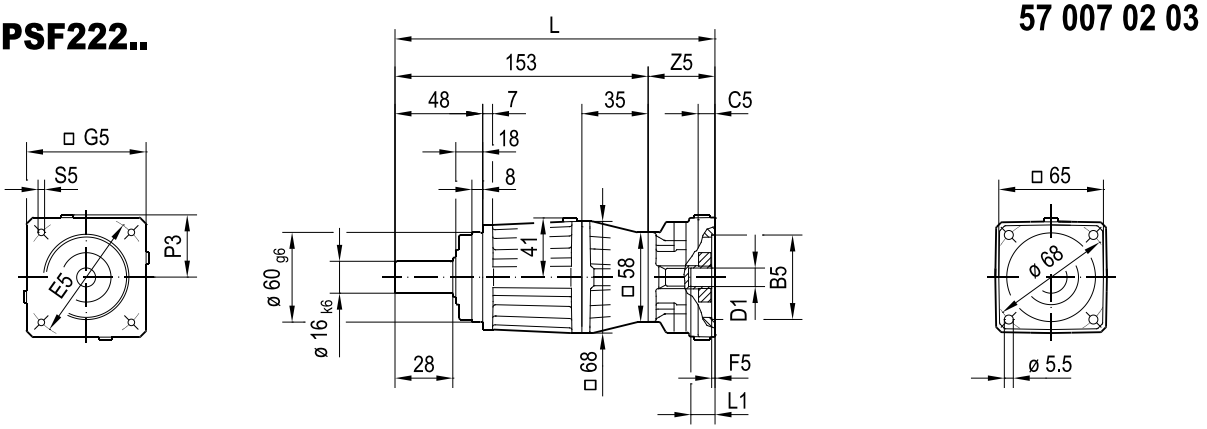
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PS..222				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSF222 2	16.00	8000	98	203	-0.448	0	256	-0.782	0	270	-0.895	0	8	4	2
	20.00	8000	98	230	-0.612	0	298	-1.105	0	312	-1.230	0	8	4	2
	25.00	8000	98	242	-0.714	0	307	-1.210	0	320	-1.339	0	8	4	2
	28.00	8000	98	238	-0.705	0	285	-1.059	0	299	-1.183	0	8	4	2
	35.00	8000	98	276	-0.996	0	335	-1.518	0	348	-1.656	0	8	4	2
	40.00	8000	98	267	-1.023	0	306	-1.373	0	318	-1.498	0	8	4	2
	49.00	8000	98	365	-1.801	0	450	-2.787	0	462	-2.958	0	8	4	2
	70.00	8000	98	423	-2.735	0	492	-3.717	0	503	-3.893	0	8	4	2
	100.00	8000	98	547	-5.001	0	645	-6.888	0	656	-7.115	0	8	4	2

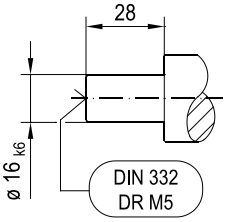
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PSF222..

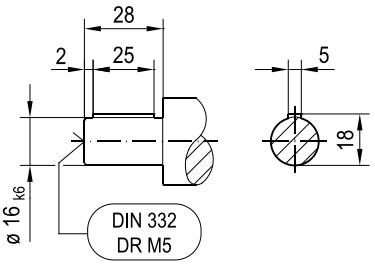
57 007 02 03



PSF



PSKF



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH01/01/..	197	40	13	63	3.5	58	M4	44	33	31	9, 11
EPH01/03/..	197	50	13	60	3.5	58	M4	44	33	31	9, 11
EPH02/04/..	197	50	10	70	3.5	80	M5	44	34	42	8, 9, 10, 11, 12, 14
EPH02/05/..	197	50	10	80	3.5	80	M4	44	34	42	8, 9, 10, 11, 12, 14
EPH02/06/..	197	50	10	95	3.5	80	M6	44	34	42	8, 9, 10, 11, 12, 14
EPH02/08/..	197	60	10	75	3.5	80	M5	44	34	42	8, 9, 10, 11, 12, 14
EPH02/09/..	197	60	10	90	3.5	80	M5	44	34	42	8, 9, 10, 11, 12, 14
EPH02/10/..	197	70	10	85	3.5	80	M6	44	34	42	8, 9, 10, 11, 12, 14
EPH02/11/..	197	70	10	90	3.5	80	M5	44	34	42	8, 9, 10, 11, 12, 14
EPH02/13/..	210	80	23	100	5	88	M6	57	47	44	8, 9, 10, 11, 12, 14

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14.1.5 PS.F321 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$					
	i	04			05		
PSF321 1	3.00	85	125	178	85	125	178
	4.00	110	170	235	110	170	235
	5.00	110	169	250	110	169	250
	7.00	110	168	250	110	168	250
	10.00	110	121	181	110	121	181

PSF321, m kg		
	EPH	
s	04	05
1	4.7	5.9

PS..321EPH04							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF321 1	3.00[1)]	85	125	178	600	1.5	10	4380	5280
	4.00	110	170	235	500	1.1	11	4770	4420
	5.00	110	169	250	460	1.00	11	5100	4450
	7.00	110	168	250	405	0.89	11	5480	4470
	10.00	110	121	181	368	0.80	8.0	5480	5330

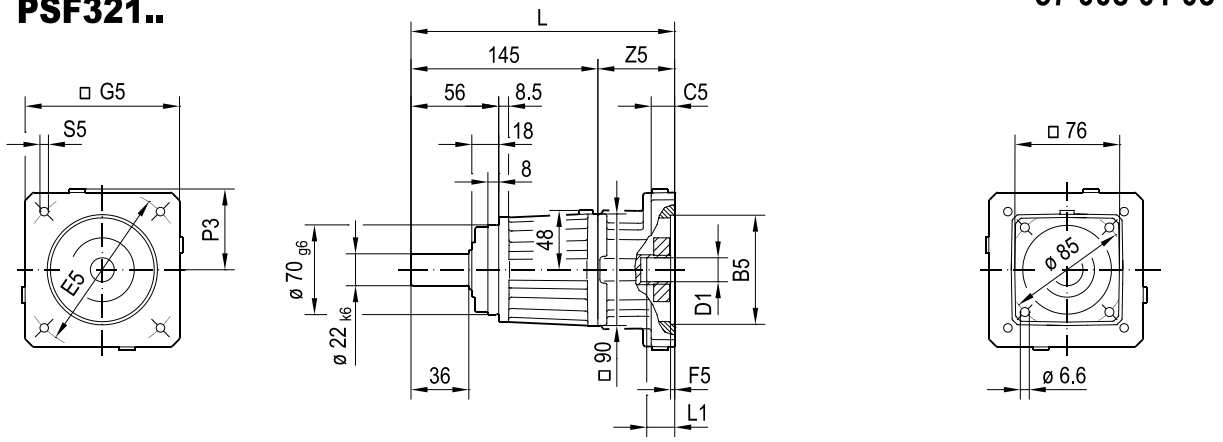
PS..321EPH05							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF321 1	3.00[1)]	85	125	178	600	3.2	10	4380	5280
	4.00	110	170	235	500	2.8	11	4770	4420
	5.00	110	169	250	460	2.7	11	5100	4450
	7.00	110	168	250	405	2.6	11	5480	4470
	10.00	110	121	181	368	2.5	8.0	5480	5330

PS..321				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSF321 1	3.00	7000	99	230	-0.230	0	264	-0.329	0	274	-0.433	0	6	3	1
	4.00	7000	99	311	-0.340	0	354	-0.472	0	393	-0.688	0	6	3	1
	5.00	7000	99	334	-0.402	0	378	-0.542	0	436	-0.831	0	6	3	1
	7.00	7000	99	351	-0.512	0	395	-0.666	0	472	-1.040	0	6	3	1
	10.00	7000	99	346	-0.663	0	378	-0.790	0	456	-1.186	0	6	3	1

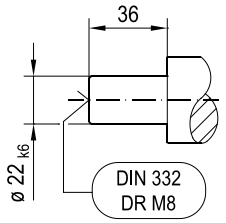
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PSF321..

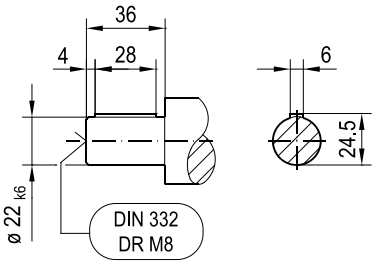
57 008 01 03



PSF



PSKF



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH04/01/..	196	40	20	63	3.5	90	M4	51	42.75	47	11, 12, 14, 16, 19
EPH04/03/..	196	50	20	60	3.5	90	M4	51	41	47	11, 12, 14, 16, 19
EPH04/04/..	196	50	20	70	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/05/..	196	50	20	80	3.5	90	M4	51	41	47	11, 12, 14, 16, 19
EPH04/06/..	196	50	20	95	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/07/..	196	50	20	100	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/08/..	196	60	20	75	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/09/..	196	60	20	90	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/10/..	196	70	20	85	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/11/..	196	70	20	90	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/12/..	196	70	20	90	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/13/..	196	80	20	100	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/14/..	196	95	16	115	4	105	M8	51	41	55	11, 12, 14, 16, 19
EPH04/15/..	196	95	16	130	4	115	M8	51	41	60	11, 12, 14, 16, 19
EPH05/14/..	212	95	16	115	4	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	212	95	16	130	4	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	212	110	16	130	5	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	212	110	16	145	7	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	212	110	20	165	5	140	M10	67	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	212	130	20	165	5	140	M10	67	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	212	110	16	130	5	115	M8	67	52	61	14, 16, 17, 18, 19, 24

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14.1.6 PS.F322 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	01			02			03			04		
PSF322 2	16.00	110	120	181	110	153	225	110	153	225	110	153	225
	20.00	110	150	225	110	169	250	110	169	250	110	169	250
	25.00	110	169	250	110	169	250	110	169	250	110	169	250
	28.00	110	145	215	110	145	215	110	145	215	110	145	215
	35.00	110	169	250	110	169	250	110	169	250	110	169	250
	40.00	110	142	210	110	142	210	110	142	210	110	142	210
	49.00	110	168	250	110	168	250	110	168	250	110	168	250
	70.00	110	168	250	110	168	250	110	168	250	110	168	250
	100.00	110	121	181	110	121	181	110	121	181	110	121	181

PSF322, m kg				
	EPH			
s	01	02	03	04
2	5.5	5.6	5.9	6.0

PS..322EPH01							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF322 2	16.00	110	120	181	438	0.31	10	5480	5350
	20.00	110	150	225	350	0.31	11	5480	4850
	25.00	110	169	250	280	0.27	11	5480	4450
	28.00	110	145	215	250	0.23	10	5480	4950
	35.00	110	169	250	200	0.23	11	5480	4450
	40.00	110	142	210	175	0.21	10	5480	5000
	49.00	110	168	250	143	0.23	10	5480	4470
	70.00	110	168	250	100	0.21	10	5480	4470
	100.00	110	121	181	70	0.21	8.0	5480	5330

PS..322EPH02							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF322 2	16.00	110	153	225	438	0.62	11	5480	4800
	20.00	110	169	250	350	0.61	11	5480	4450
	25.00	110	169	250	280	0.57	11	5480	4450
	28.00	110	145	215	250	0.54	11	5480	4950
	35.00	110	169	250	200	0.54	11	5480	4450
	40.00	110	142	210	175	0.52	10	5480	5000
	49.00	110	168	250	143	0.53	10	5480	4470
	70.00	110	168	250	100	0.52	10	5480	4470
	100.00	110	121	181	70	0.52	8.0	5480	5330

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PS..322EPH03							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF322 2	16.00	110	153	225	438	0.69	11	5480	4800
	20.00	110	169	250	350	0.68	11	5480	4450
	25.00	110	169	250	280	0.64	11	5480	4450
	28.00	110	145	215	250	0.61	11	5480	4950
	35.00	110	169	250	200	0.61	11	5480	4450
	40.00	110	142	210	175	0.59	10	5480	5000
	49.00	110	168	250	143	0.61	10	5480	4470
	70.00	110	168	250	100	0.59	10	5480	4470
	100.00	110	121	181	70	0.59	8.0	5480	5330

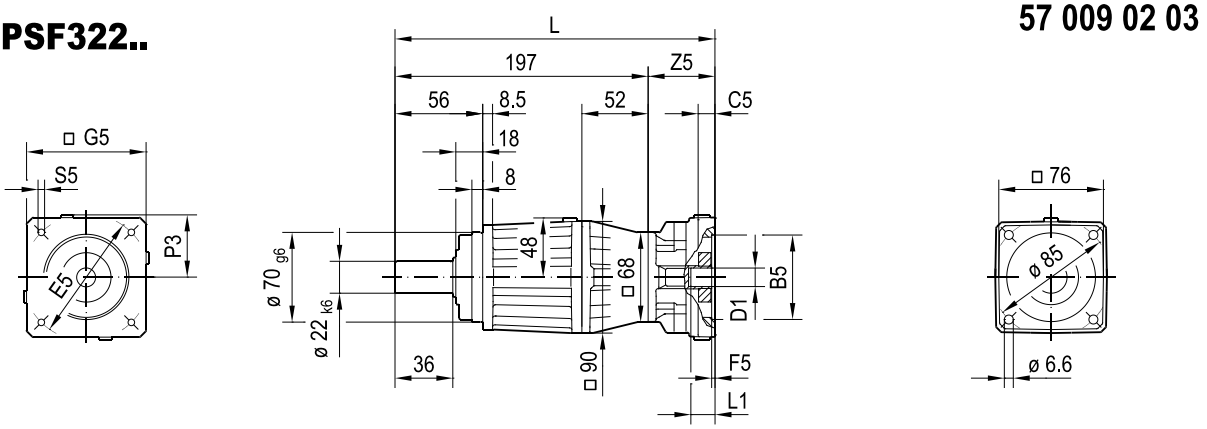
PS..322EPH04							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF322 2	16.00	110	153	225	438	0.87	11	5480	4800
	20.00	110	169	250	350	0.86	11	5480	4450
	25.00	110	169	250	280	0.82	11	5480	4450
	28.00	110	145	215	250	0.79	11	5480	4950
	35.00	110	169	250	200	0.79	11	5480	4450
	40.00	110	142	210	175	0.77	10	5480	5000
	49.00	110	168	250	143	0.79	10	5480	4470
	70.00	110	168	250	100	0.76	10	5480	4470
	100.00	110	121	181	70	0.76	8.0	5480	5330

PS..322				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSF322 2	16.00	7500	98	373	-0.998	0	462	-1.646	0	493	-1.932	0	8	4	2
	20.00	7500	98	444	-1.431	0	557	-2.408	0	586	-2.729	0	8	4	2
	25.00	7500	98	471	-1.705	0	577	-2.686	0	606	-3.018	0	8	4	2
	28.00	7500	98	446	-1.649	0	523	-2.332	0	550	-2.635	0	8	4	2
	35.00	7500	98	541	-2.444	0	637	-3.474	0	665	-3.826	0	8	4	2
	40.00	7500	98	509	-2.468	0	569	-3.132	0	590	-3.421	0	8	4	2
	49.00	7500	98	662	-4.087	0	789	-5.897	0	813	-6.297	0	8	4	2
	70.00	7500	98	776	-6.382	0	875	-8.149	0	889	-8.499	0	8	4	2
	100.00	7500	98	940	-10.916	0	1075	-14.161	0	1093	-14.645	0	8	4	2

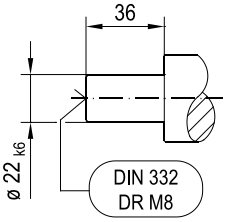
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PSF322..

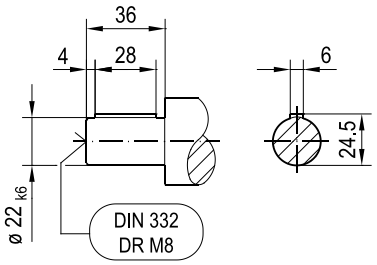
57 009 02 03



PSF



PSKF



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH01/01/..	235	40	13	63	4	73	M4	38	33	39	9, 11
EPH01/03/..	235	50	13	60	4	73	M4	38	33	39	9, 11
EPH02/04/..	235	50	13	70	4	73	M5	38	34	39	8, 9, 10, 11, 12, 14
EPH02/05/..	235	50	13	80	4	73	M4	38	34	39	8, 9, 10, 11, 12, 14
EPH02/08/..	235	60	13	75	4	73	M5	38	34	39	8, 9, 10, 11, 12, 14
EPH03/01/..	244	40	20	63	3.5	90	M4	46.5	38	47	8, 9, 10, 11, 12, 14
EPH03/03/..	244	50	20	60	3.5	90	M4	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/04/..	244	50	20	70	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/05/..	244	50	20	80	3.5	90	M4	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/06/..	244	50	20	95	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/07/..	244	50	20	100	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/08/..	244	60	20	75	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/09/..	244	60	20	90	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/10/..	244	70	20	85	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/11/..	244	70	20	90	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/12/..	244	70	20	90	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/13/..	244	80	20	100	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/14/..	244	95	16	115	4	105	M8	46.5	30	55	8, 9, 10, 11, 12, 14
EPH04/01/..	253	40	20	63	3.5	90	M4	56	42.75	47	11, 12, 14, 16, 19
EPH04/03/..	253	50	20	60	3.5	90	M4	56	41	47	11, 12, 14, 16, 19
EPH04/04/..	253	50	20	70	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/05/..	253	50	20	80	3.5	90	M4	56	41	47	11, 12, 14, 16, 19
EPH04/06/..	253	50	20	95	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/07/..	253	50	20	100	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/08/..	253	60	20	75	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/09/..	253	60	20	90	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/10/..	253	70	20	85	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/11/..	253	70	20	90	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/12/..	253	70	20	90	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/13/..	253	80	20	100	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/14/..	253	95	16	115	4	105	M8	56	41	55	11, 12, 14, 16, 19
EPH04/15/..	253	95	16	130	4	115	M8	56	41	60	11, 12, 14, 16, 19

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14.1.7 PS.F521 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	04			05			06			07		
PSF521 1	3.00				180	280	420	180	280	420	180	280	420
	4.00	170	170	235	300	385	575	300	385	575	300	385	575
	5.00	210	210	295	300	375	560	300	375	560	300	375	560
	7.00	300	305	455	300	360	540	300	360	540	300	360	540
	10.00	270	270	445	270	270	445	270	270	445	270	270	445

PSF521, m kg				
	EPH			
s	04	05	06	07
1	8.1	9.3	11	11

PS..521EPH04 n_e = 1500	i	M_{amax} Nm	M_{apk} Nm	$M_{aNotaus}$ Nm	n_{ak} min^{-1}	J_{GA} 10^{-4} $kg*m^2$	c_T PSF Nm/'	F_{Ramax} PSF N	F_{Rapk} PSF N
PSF521 1	4.00[1)]	170	170	235	1500	2.2	23	6700	10100
	5.00	210	210	295	1200	1.7	25	7170	9940
	7.00	300	305	455	375	1.3	27	7930	9370
	10.00	270	270	445	485	1.1	22	8820	9610

PS..521EPH05 n_e = 1500	i	M_{amax} Nm	M_{apk} Nm	$M_{aNotaus}$ Nm	n_{ak} min^{-1}	J_{GA} 10^{-4} $kg*m^2$	c_T PSF Nm/'	F_{Ramax} PSF N	F_{Rapk} PSF N
PSF521 1	3.00[1)]	180	280	420	1085	5.5	28	6150	9540
	4.00[1)]	300	385	575	463	4.0	31	6700	8680
	5.00	300	375	560	425	3.5	31	7170	8780
	7.00	300	360	540	375	3.0	29	7930	8920
	10.00	270	270	445	485	2.8	22	8820	9610

PS..521EPH06 n_e = 1500	i	M_{amax} Nm	M_{apk} Nm	$M_{aNotaus}$ Nm	n_{ak} min^{-1}	J_{GA} 10^{-4} $kg*m^2$	c_T PSF Nm/'	F_{Ramax} PSF N	F_{Rapk} PSF N
PSF521 1	3.00[1)]	180	280	420	1085	8.4	29	6150	9540
	4.00[1)]	300	385	575	463	6.8	32	6700	8680
	5.00	300	375	560	425	6.3	32	7170	8780
	7.00	300	360	540	375	5.9	29	7930	8920
	10.00	270	270	445	485	5.6	22	8820	9610

PS..521EPH07 n_e = 1500	i	M_{amax} Nm	M_{apk} Nm	$M_{aNotaus}$ Nm	n_{ak} min^{-1}	J_{GA} 10^{-4} $kg*m^2$	c_T PSF Nm/'	F_{Ramax} PSF N	F_{Rapk} PSF N
PSF521 1	3.00[1)]	180	280	420	1085	8.5	30	6150	9540
	4.00[1)]	300	385	575	463	6.9	32	6700	8680
	5.00	300	375	560	425	6.4	32	7170	8780
	7.00	300	360	540	375	6.0	29	7930	8920
	10.00	270	270	445	485	5.7	22	8820	9610

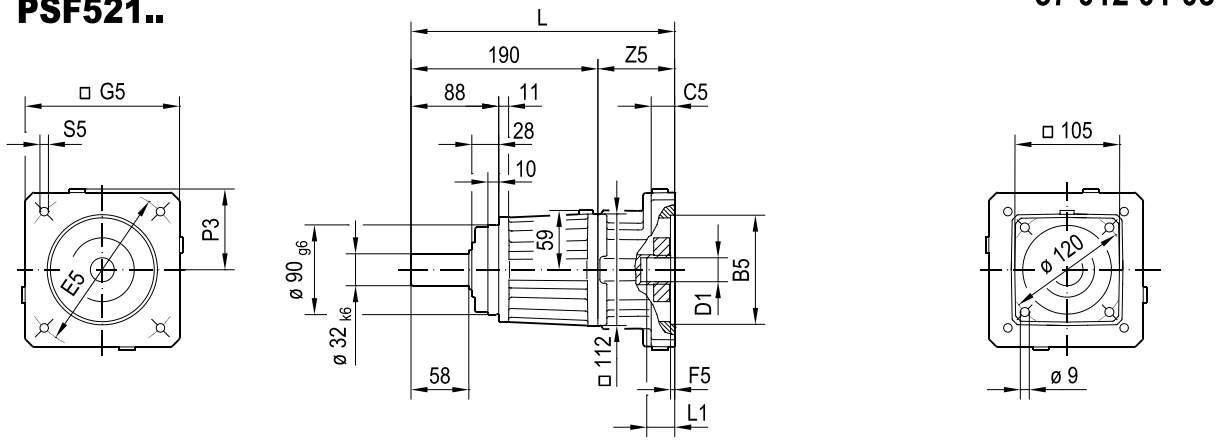
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PS..521				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSF521  1	3.00	6000	99	481	-0.552	0	557	-0.820	0	693	-1.490	0	6	3	1
	4.00	6000	99	684	-0.855	0	796	-1.269	0	1018	-2.349	0	6	3	1
	5.00	6000	99	703	-0.953	0	824	-1.401	0	1058	-2.552	0	6	3	1
	7.00	6000	99	783	-1.269	0	919	-1.793	0	1161	-3.051	0	6	3	1
	10.00	6000	99	807	-1.690	0	903	-2.113	0	1094	-3.223	0	6	3	1

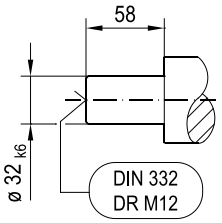
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PSF521..

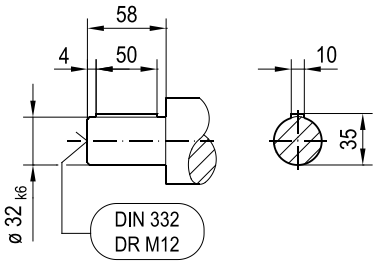
57 012 01 03



PSF



PSKF



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH04/01/..	236	40	20	63	3.5	90	M4	46	42.75	47	11, 12, 14, 16, 19
EPH04/03/..	236	50	20	60	3.5	90	M4	46	41	47	11, 12, 14, 16, 19
EPH04/04/..	236	50	20	70	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/05/..	236	50	20	80	3.5	90	M4	46	41	47	11, 12, 14, 16, 19
EPH04/06/..	236	50	20	95	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/07/..	236	50	20	100	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/08/..	236	60	20	75	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/09/..	236	60	20	90	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/10/..	236	70	20	85	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/11/..	236	70	20	90	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/12/..	236	70	20	90	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/13/..	236	80	20	100	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/14/..	236	95	16	115	4	105	M8	46	41	55	11, 12, 14, 16, 19
EPH04/15/..	236	95	16	130	4	115	M8	46	41	60	11, 12, 14, 16, 19
EPH05/14/..	252	95	16	115	4	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	252	95	16	130	4	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	252	110	16	130	5	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	252	110	16	145	7	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	252	110	20	165	5	140	M10	62	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	252	130	20	165	5	140	M10	62	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	252	110	16	130	5	115	M8	62	52	61	14, 16, 17, 18, 19, 24
EPH06/19/..	287	114.3	24	200	5	174	M12	97	82	89	35
EPH07/20/..	267	130	24	165	5	155	M10	77	62	80	22, 24, 28, 32
EPH07/21/..	267	130	24	215	5	190	M12	77	62	97	22, 24, 28, 32
EPH07/22/..	267	180	24	215	5	190	M12	77	62	97	22, 24, 28, 32
EPH07/27/..	267	130	24	165	5	137	M10	77	62	72	22, 24, 28, 32
EPH07/28/..	267	155	24	190	5	162	M10	77	62	84	22, 24, 28, 32

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14.1.8 PS.F522 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$					
	i	04			05		
PSF522 2	16.00	300	385	575	300	385	575
	20.00	300	375	560	300	375	560
	25.00	300	375	560	300	375	560
	28.00	300	385	575	300	385	575
	35.00	300	375	560	300	375	560
	40.00	300	385	575	300	385	575
	49.00	300	360	540	300	360	540
	70.00	300	360	540	300	360	540
	100.00	270	270	445	270	270	445

PSF522, m kg		
	EPH	
s	04	05
2	11	12

PS..522EPH04 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T	F_{Ramax}	F_{Rapk}
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	PSF Nm/'	PSF N	PSF N
PSF522 2	16.00	300	385	575	438	1.2	31	9400	8680
	20.00	300	375	560	350	1.1	31	9400	8780
	25.00	300	375	560	280	1.00	31	9400	8780
	28.00	300	385	575	250	0.90	31	9400	8680
	35.00	300	375	560	200	0.89	31	9400	8780
	40.00	300	385	575	175	0.81	29	9400	8680
	49.00	300	360	540	143	0.88	28	9400	8920
	70.00	300	360	540	100	0.80	28	9400	8920
	100.00	270	270	445	70	0.80	22	9610	9610

PS..522EPH05 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T	F_{Ramax}	F_{Rapk}
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	PSF Nm/'	PSF N	PSF N
PSF522 2	16.00	300	385	575	438	2.8	31	9400	8680
	20.00	300	375	560	350	2.8	31	9400	8780
	25.00	300	375	560	280	2.7	31	9400	8780
	28.00	300	385	575	250	2.6	31	9400	8680
	35.00	300	375	560	200	2.6	31	9400	8780
	40.00	300	385	575	175	2.5	29	9400	8680
	49.00	300	360	540	143	2.6	28	9400	8920
	70.00	300	360	540	100	2.5	28	9400	8920
	100.00	270	270	445	70	2.5	22	9610	9610

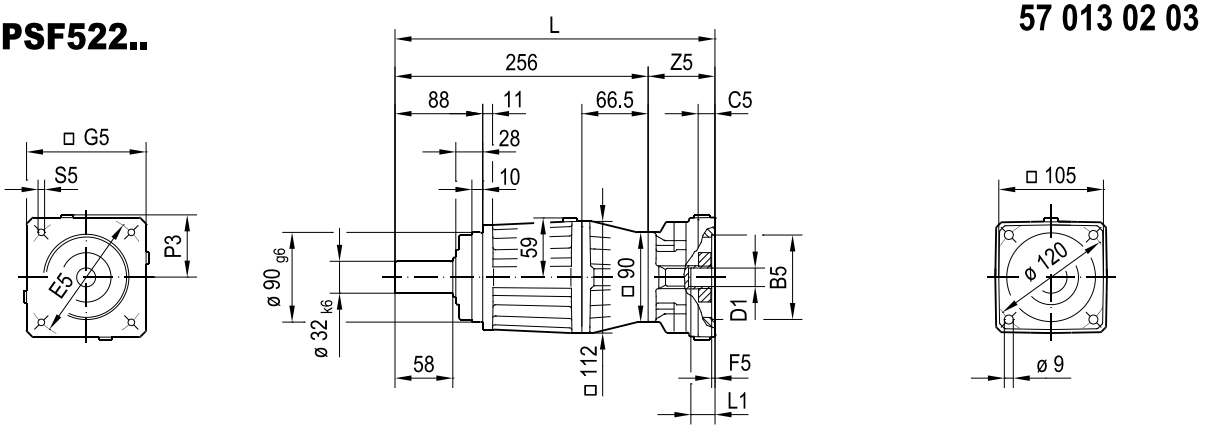
27788644/EN – 02/2024

PS..522				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSF522 2	16.00	7000	98	756	-2.148	0	918	-3.549	0	975	-4.204	0	8	4	2
	20.00	7000	98	844	-2.862	0	1055	-4.910	0	1117	-5.661	0	8	4	2
	25.00	7000	98	897	-3.363	0	1104	-5.463	0	1163	-6.234	0	8	4	2
	28.00	7000	98	854	-3.227	0	993	-4.651	0	1044	-5.331	0	8	4	2
	35.00	7000	98	972	-4.452	0	1150	-6.530	0	1198	-7.273	0	8	4	2
	40.00	7000	98	917	-4.449	0	1028	-5.792	0	1068	-6.437	0	8	4	2
	49.00	7000	98	1244	-7.733	0	1514	-11.703	0	1570	-12.695	0	8	4	2
	70.00	7000	98	1381	-11.230	0	1584	-14.933	0	1611	-15.723	0	8	4	2
	100.00	7000	98	1733	-19.846	0	2032	-26.989	0	2066	-28.081	0	8	4	2

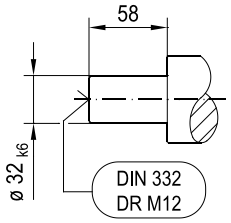
27788644/EN – 02/2024

PSF522..

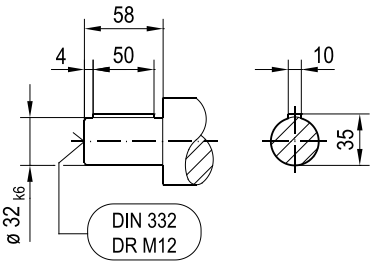
57 013 02 03



PSF



PSKF



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH04/01/..	307	40	20	63	3.5	90	M4	51	42.75	47	11, 12, 14, 16, 19
EPH04/03/..	307	50	20	60	3.5	90	M4	51	41	47	11, 12, 14, 16, 19
EPH04/04/..	307	50	20	70	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/05/..	307	50	20	80	3.5	90	M4	51	41	47	11, 12, 14, 16, 19
EPH04/06/..	307	50	20	95	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/07/..	307	50	20	100	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/08/..	307	60	20	75	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/09/..	307	60	20	90	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/10/..	307	70	20	85	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/11/..	307	70	20	90	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/12/..	307	70	20	90	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/13/..	307	80	20	100	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/14/..	307	95	16	115	4	105	M8	51	41	55	11, 12, 14, 16, 19
EPH04/15/..	307	95	16	130	4	115	M8	51	41	60	11, 12, 14, 16, 19
EPH05/14/..	323	95	16	115	4	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	323	95	16	130	4	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	323	110	16	130	5	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	323	110	16	145	7	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	323	110	20	165	5	140	M10	67	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	323	130	20	165	5	140	M10	67	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	323	110	16	130	5	115	M8	67	52	61	14, 16, 17, 18, 19, 24

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14.1.9 PS.F621 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	05			06			07			08		
PSF621 1	4.00	520	520	770	570	745	1110	570	745	1110	570	745	1110
	5.00	595	650	960	595	700	1050	595	700	1050	595	700	1050
	7.00	600	660	1020	600	660	1020	600	660	1020	600	660	1020
	10.00	500	500	850	500	500	850	500	500	850	500	500	850

PSF621, m kg				
	EPH			
s	05	06	07	08
1	18	19	19	24

PS..621EPH05 n_e = 1500	i	M_{amax} Nm	M_{apk} Nm	$M_{aNotaus}$ Nm	n_{ak} min^{-1}	J_{GA} 10^{-4} $kg*m^2$	c_T PSF Nm/'	F_{Ramax} PSF N	F_{Rapk} PSF N
PSF621 1	4.00[1)]	520	520	770	513	6.5	48	13400	14100
	5.00[1)]	595	650	960	300	5.1	50	13900	13700
	7.00	600	660	1020	260	3.9	49	13900	13700
	10.00	500	500	850	425	3.2	41	14200	14200

PS..621EPH06 n_e = 1500	i	M_{amax} Nm	M_{apk} Nm	$M_{aNotaus}$ Nm	n_{ak} min^{-1}	J_{GA} 10^{-4} $kg*m^2$	c_T PSF Nm/'	F_{Ramax} PSF N	F_{Rapk} PSF N
PSF621 1	4.00[1)]	570	745	1110	375	9.6	54	13400	13400
	5.00[1)]	595	700	1050	300	8.2	54	13900	13500
	7.00	600	660	1020	260	6.8	50	13900	13700
	10.00	500	500	850	425	6.1	41	14200	14200

PS..621EPH07 n_e = 1500	i	M_{amax} Nm	M_{apk} Nm	$M_{aNotaus}$ Nm	n_{ak} min^{-1}	J_{GA} 10^{-4} $kg*m^2$	c_T PSF Nm/'	F_{Ramax} PSF N	F_{Rapk} PSF N
PSF621 1	4.00[1)]	570	745	1110	375	9.7	54	13400	13400
	5.00[1)]	595	700	1050	300	8.3	54	13900	13500
	7.00	600	660	1020	260	6.9	50	13900	13700
	10.00	500	500	850	425	6.2	41	14200	14200

PS..621EPH08 n_e = 1500	i	M_{amax} Nm	M_{apk} Nm	$M_{aNotaus}$ Nm	n_{ak} min^{-1}	J_{GA} 10^{-4} $kg*m^2$	c_T PSF Nm/'	F_{Ramax} PSF N	F_{Rapk} PSF N
PSF621 1	4.00[1)]	570	745	1110	375	16	55	13400	13400
	5.00[1)]	595	700	1050	300	14	55	13900	13500
	7.00	600	660	1020	260	13	51	13900	13700
	10.00	500	500	850	425	12	41	14200	14200

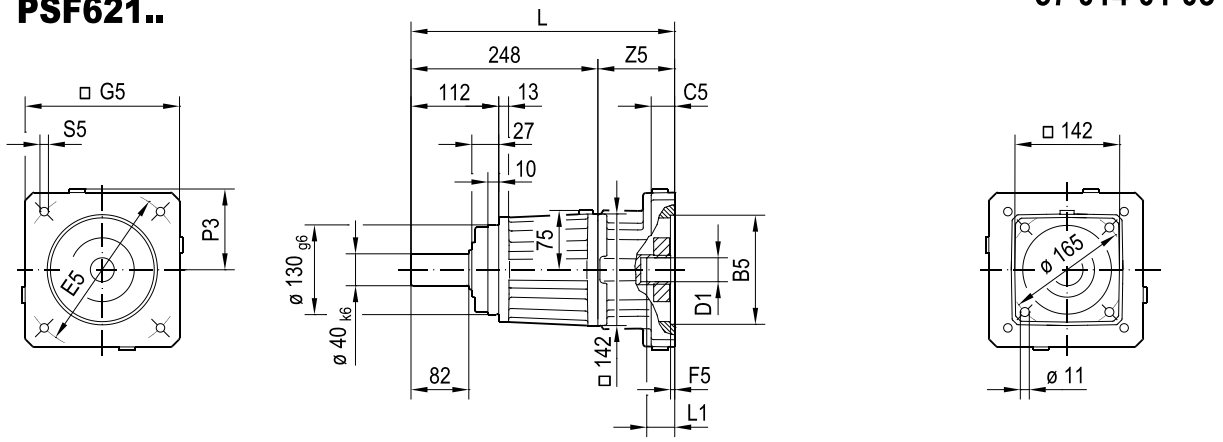
27788644/EN – 02/2024

PS..621				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSF621 1	4.00	6000	99	1268	-1.642	0	1482	-2.475	0	2013	-5.268	0	4	2	1
	5.00	6000	99	1268	-1.752	0	1501	-2.639	0	2029	-5.438	0	4	2	1
	7.00	6000	99	1376	-2.222	0	1642	-3.246	0	2170	-6.172	0	4	2	1
	10.00	6000	99	1437	-2.949	0	1633	-3.783	0	2084	-6.492	0	4	2	1

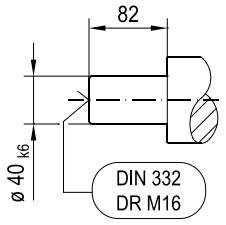
27788644/EN – 02/2024

PSF621..

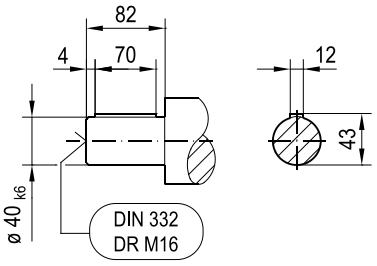
57 014 01 03



PSF



PSKF



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH05/14/..	302	95	16	115	4	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	302	95	16	130	4	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	302	110	16	130	5	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	302	110	16	145	7	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	302	110	20	165	5	140	M10	54	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	302	130	20	165	5	140	M10	54	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	302	110	16	130	5	115	M8	54	52	61	14, 16, 17, 18, 19, 24
EPH06/19/..	337	114.3	24	200	5	174	M12	89	82	89	35
EPH07/20/..	317	130	24	165	5	155	M10	69	62	80	22, 24, 28, 32
EPH07/21/..	317	130	24	215	5	190	M12	69	62	97	22, 24, 28, 32
EPH07/22/..	317	180	24	215	5	190	M12	69	62	97	22, 24, 28, 32
EPH07/27/..	317	130	24	165	5	137	M10	69	62	72	22, 24, 28, 32
EPH07/28/..	317	155	24	190	5	162	M10	69	62	84	22, 24, 28, 32
EPH08/21/..	342	130	24	215	5	190	M12	94	82	97	32, 35, 38
EPH08/22/..	342	180	24	215	5	190	M12	94	82	97	32, 35, 38

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14.1.10 PS.F622 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	04			05			06			07		
PSF622 2	16.00	600	680	940	600	745	1110	600	745	1110	600	745	1110
	20.00	600	700	1050	600	700	1050	600	700	1050	600	700	1050
	25.00	600	700	1050	600	700	1050	600	700	1050	600	700	1050
	28.00	600	745	1110	600	745	1110	600	745	1110	600	745	1110
	35.00	600	700	1050	600	700	1050	600	700	1050	600	700	1050
	40.00	600	745	1110	600	745	1110	600	745	1110	600	745	1110
	49.00	600	660	990	600	660	990	600	660	990	600	660	990
	70.00	600	660	990	600	660	990	600	660	990	600	660	990
	100.00	500	500	750	500	500	750	500	500	750	500	500	750

PSF622, m kg				
	EPH			
s	04	05	06	07
2	22	23	24	24

PS..622EPH04 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSF	F_{Ramax} PSF	F_{Rapk} PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF622 2	16.00	600	680	940	317	2.2	53	13900	13600
	20.00	600	700	1050	292	2.1	54	13900	13500
	25.00	600	700	1050	240	1.7	54	13900	13500
	28.00	600	745	1110	214	1.3	54	13900	13400
	35.00	600	700	1050	171	1.2	54	13900	13500
	40.00	600	745	1110	150	1.1	53	13900	13400
	49.00	600	660	990	122	1.2	50	13900	13700
	70.00	600	660	990	86	1.1	50	13900	13700
	100.00	500	500	750	60	1.1	41	14200	14200

PS..622EPH05 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSF	F_{Ramax} PSF	F_{Rapk} PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF622 2	16.00	600	745	1110	317	4.0	55	13900	13400
	20.00	600	700	1050	292	3.9	55	13900	13500
	25.00	600	700	1050	240	3.4	55	13900	13500
	28.00	600	745	1110	214	3.0	55	13900	13400
	35.00	600	700	1050	171	3.0	54	13900	13500
	40.00	600	745	1110	150	2.8	53	13900	13400
	49.00	600	660	990	122	3.0	51	13900	13700
	70.00	600	660	990	86	2.8	50	13900	13700
	100.00	500	500	750	60	2.8	41	14200	14200

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PS..622EPH06							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF622 2	16.00	600	745	1110	317	6.8	55	13900	13400
	20.00	600	700	1050	292	6.7	55	13900	13500
	25.00	600	700	1050	240	6.3	55	13900	13500
	28.00	600	745	1110	214	5.9	55	13900	13400
	35.00	600	700	1050	171	5.9	54	13900	13500
	40.00	600	745	1110	150	5.6	53	13900	13400
	49.00	600	660	990	122	5.8	51	13900	13700
	70.00	600	660	990	86	5.6	50	13900	13700
	100.00	500	500	750	60	5.6	41	14200	14200

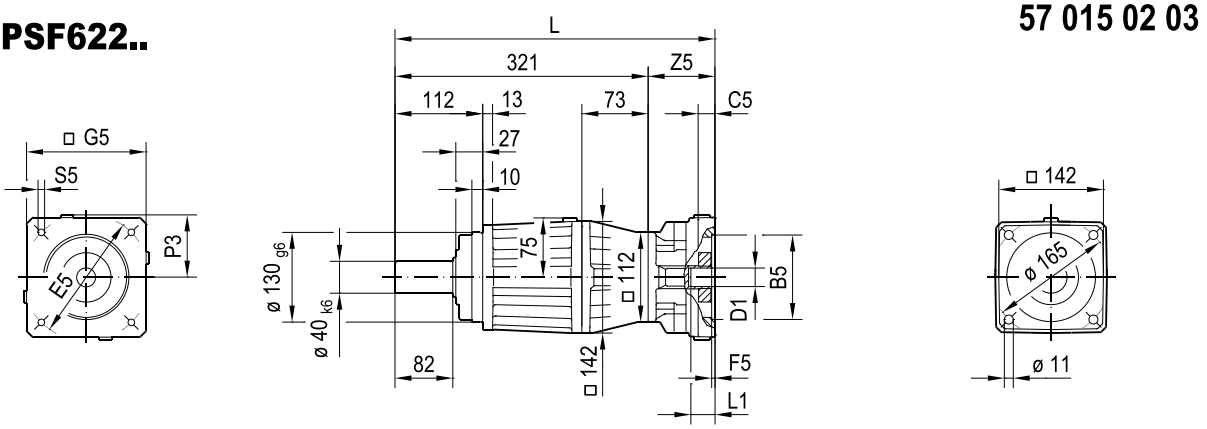
PS..622EPH07							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF622 2	16.00	600	745	1110	317	6.9	55	13900	13400
	20.00	600	700	1050	292	6.9	55	13900	13500
	25.00	600	700	1050	240	6.4	55	13900	13500
	28.00	600	745	1110	214	6.0	55	13900	13400
	35.00	600	700	1050	171	6.0	54	13900	13500
	40.00	600	745	1110	150	5.7	53	13900	13400
	49.00	600	660	990	122	5.9	51	13900	13700
	70.00	600	660	990	86	5.7	50	13900	13700
	100.00	500	500	750	60	5.7	41	14200	14200

PS..622				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSF622 2	16.00	6000	98	1464	-4.979	0	1791	-8.532	0	1896	-10.095	0	6	3	1
	20.00	6000	98	1628	-6.621	0	2059	-11.859	0	2150	-13.500	0	6	3	1
	25.00	6000	98	1693	-7.484	0	2106	-12.726	0	2196	-14.412	0	6	3	1
	28.00	6000	98	1655	-7.219	0	1960	-10.947	0	2060	-12.621	0	6	3	1
	35.00	6000	98	1868	-9.867	0	2257	-15.330	0	2339	-17.063	0	6	3	1
	40.00	6000	98	1804	-9.912	0	2070	-13.646	0	2181	-15.575	0	6	3	1
	49.00	6000	98	2402	-17.210	0	2986	-27.670	0	3047	-29.609	0	6	3	1
	70.00	6000	98	2686	-24.684	0	3161	-34.913	0	3224	-37.083	0	6	3	1
	100.00	6000	98	3446	-44.601	0	4067	-63.302	0	4086	-65.343	0	6	3	1

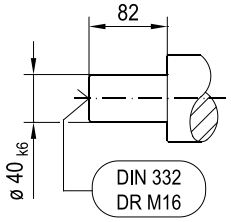
27788644/EN – 02/2024

PSF622..

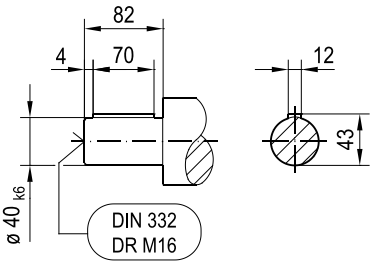
57 015 02 03



PSF



PSKF



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH04/01/..	367	40	20	63	3.5	90	M4	46	42.75	47	11, 12, 14, 16, 19
EPH04/03/..	367	50	20	60	3.5	90	M4	46	41	47	11, 12, 14, 16, 19
EPH04/04/..	367	50	20	70	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/05/..	367	50	20	80	3.5	90	M4	46	41	47	11, 12, 14, 16, 19
EPH04/06/..	367	50	20	95	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/07/..	367	50	20	100	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/08/..	367	60	20	75	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/09/..	367	60	20	90	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/10/..	367	70	20	85	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/11/..	367	70	20	90	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/12/..	367	70	20	90	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/13/..	367	80	20	100	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/14/..	367	95	16	115	4	105	M8	46	41	55	11, 12, 14, 16, 19
EPH04/15/..	367	95	16	130	4	115	M8	46	41	60	11, 12, 14, 16, 19
EPH05/14/..	383	95	16	115	4	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	383	95	16	130	4	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	383	110	16	130	5	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	383	110	16	145	7	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	383	110	20	165	5	140	M10	62	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	383	130	20	165	5	140	M10	62	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	383	110	16	130	5	115	M8	62	52	61	14, 16, 17, 18, 19, 24
EPH06/19/..	418	114.3	24	200	5	174	M12	97	82	89	35
EPH07/20/..	398	130	24	165	5	155	M10	77	62	80	22, 24, 28, 32
EPH07/21/..	398	130	24	215	5	190	M12	77	62	97	22, 24, 28, 32
EPH07/22/..	398	180	24	215	5	190	M12	77	62	97	22, 24, 28, 32
EPH07/27/..	398	130	24	165	5	137	M10	77	62	72	22, 24, 28, 32
EPH07/28/..	398	155	24	190	5	162	M10	77	62	84	22, 24, 28, 32

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14.1.11 PS.F721 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	05			06			07			08		
PSF721 1	4.00	520	520	770	950	950	1410	950	950	1410	1000	1550	1980
	5.00	650	650	960	1000	1190	1760	1000	1190	1760	1000	1540	2310
	7.00	1000	1010	1520	1000	1380	2070	1000	1380	2070	1000	1380	2070
	10.00	1000	1040	1550	1000	1040	1550	1000	1040	1550	1000	1040	1550

PSF721, m kg				
	EPH			
s	05	06	07	08
1	32	34	34	38

PS..721EPH05							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF721 1	4.00[1)]	520	520	770	1125	15	93	25700	37100
	5.00[1)]	650	650	960	900	10	108	27500	36500
	7.00	1000	1010	1520	378	6.8	112	30400	35900
	10.00	1000	1040	1550	345	4.7	93	33800	35800

PS..721EPH06							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF721 1	4.00[1)]	950	950	1410	555	18	121	25700	36500
	5.00[1)]	1000	1190	1760	430	14	130	27500	35500
	7.00	1000	1380	2070	378	9.9	124	30400	35000
	10.00	1000	1040	1550	345	7.5	94	33800	35800

PS..721EPH07							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF721 1	4.00[1)]	950	950	1410	555	18	121	25700	36500
	5.00[1)]	1000	1190	1760	430	14	130	27500	35500
	7.00	1000	1380	2070	378	10.0	124	30400	35000
	10.00	1000	1040	1550	345	7.7	95	33800	35800

PS..721EPH08							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF721 1	4.00[1)]	1000	1550	1980	465	24	130	25700	34800
	5.00[1)]	1000	1540	2310	430	19	136	27500	34500
	7.00	1000	1380	2070	378	16	127	30400	35000
	10.00	1000	1040	1550	345	14	95	33800	35800

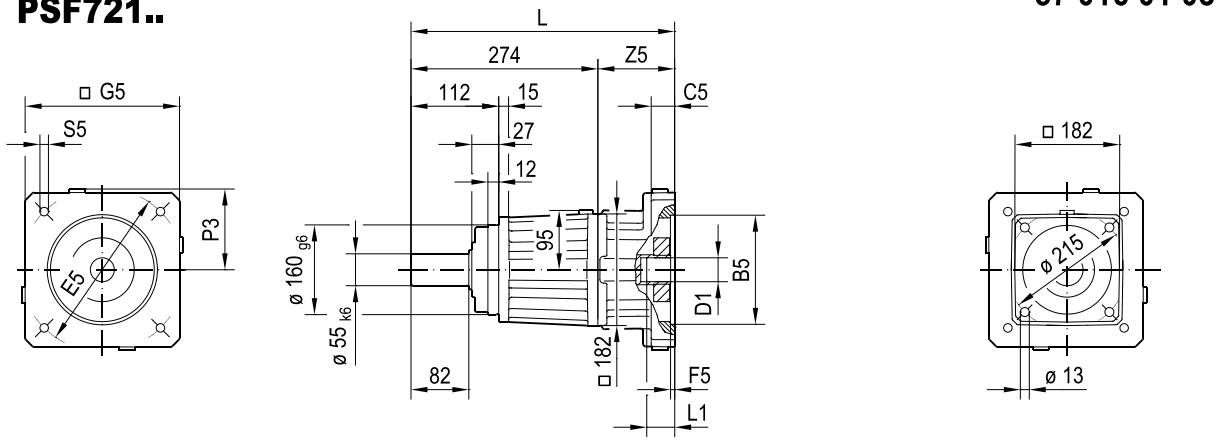
27788644/EN – 02/2024

PS..721				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSF721 1	4.00	4500	99	2407	-3.286	0	2865	-5.379	0	3769	-11.254	0	4	2	1
	5.00	4500	99	2434	-3.439	0	2904	-5.580	0	3808	-11.508	0	4	2	1
	7.00	4500	99	2439	-3.758	0	3008	-6.192	0	3976	-12.434	0	4	2	1
	10.00	4500	99	2373	-4.446	0	2830	-6.437	0	3716	-12.260	0	4	2	1

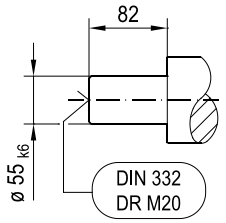
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PSF721..

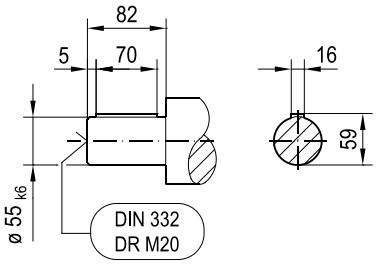
57 016 01 03



PSF



PSKF



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH05/14/..	324	95	16	115	4	120	M8	50	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	324	95	16	130	4	120	M8	50	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	324	110	16	130	5	120	M8	50	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	324	110	16	145	7	120	M8	50	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	324	110	20	165	5	140	M10	50	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	324	130	20	165	5	140	M10	50	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	324	110	16	130	5	115	M8	50	52	61	14, 16, 17, 18, 19, 24
EPH06/19/..	359	114.3	24	200	5	174	M12	85	82	89	35
EPH07/20/..	339	130	24	165	5	155	M10	65	62	80	22, 24, 28, 32
EPH07/21/..	339	130	24	215	5	190	M12	65	62	97	22, 24, 28, 32
EPH07/22/..	339	180	24	215	5	190	M12	65	62	97	22, 24, 28, 32
EPH07/27/..	339	130	24	165	5	137	M10	65	62	72	22, 24, 28, 32
EPH07/28/..	339	155	24	190	5	162	M10	65	62	84	22, 24, 28, 32
EPH08/21/..	364	130	24	215	5	190	M12	90	82	97	32, 35, 38
EPH08/22/..	364	180	24	215	5	190	M12	90	82	97	32, 35, 38

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14.1.12 PS.F722 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	04			05			06			07		
PSF722 2	16.00	680	680	940	1000	1470	2200	1000	1470	2200	1000	1470	2200
	20.00	850	850	1180	1000	1540	2310	1000	1540	2310	1000	1540	2310
	25.00	1000	1060	1480	1000	1540	2310	1000	1540	2310	1000	1540	2310
	28.00	1000	1220	1830	1000	1350	2020	1000	1350	2020	1000	1350	2020
	35.00	1000	1530	2290	1000	1540	2310	1000	1540	2310	1000	1540	2310
	40.00	1000	1080	1620	1000	1080	1620	1000	1080	1620	1000	1080	1620
	49.00	1000	1380	2070	1000	1380	2070	1000	1380	2070	1000	1380	2070
	70.00	1000	1380	2070	1000	1380	2070	1000	1380	2070	1000	1380	2070
	100.00	1000	1040	1550	1000	1040	1550	1000	1040	1550	1000	1040	1550

PSF722, m kg				
	EPH			
s	04	05	06	07
2	37	38	39	39

PS..722EPH04 n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T	F_{Ramax}	F_{Rapk}
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	PSF Nm/'	PSF N	PSF N
PSF722 2	16.00	680	680	940	375	2.7	122	36900	36900
	20.00	850	850	1180	300	2.5	131	36200	36200
	25.00	1000	1060	1480	240	1.9	135	35900	35800
	28.00	1000	1220	1830	172	1.4	132	36400	35800
	35.00	1000	1530	2290	171	1.4	138	35900	34500
	40.00	1000	1080	1620	150	1.2	123	36400	36200
	49.00	1000	1380	2070	122	1.3	124	35900	35000
	70.00	1000	1380	2070	86	1.1	122	35900	35000
	100.00	1000	1040	1550	60	1.1	94	35900	35800

PS..722EPH05 n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T	F_{Ramax}	F_{Rapk}
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	PSF Nm/'	PSF N	PSF N
PSF722 2	16.00	1000	1470	2200	212	4.5	139	36400	35100
	20.00	1000	1540	2310	300	4.2	142	35900	34500
	25.00	1000	1540	2310	240	3.6	141	35900	34500
	28.00	1000	1350	2020	172	3.2	135	36400	35500
	35.00	1000	1540	2310	171	3.1	139	35900	34500
	40.00	1000	1080	1620	150	2.9	123	36400	36200
	49.00	1000	1380	2070	122	3.0	125	35900	35000
	70.00	1000	1380	2070	86	2.8	122	35900	35000
	100.00	1000	1040	1550	60	2.8	94	35900	35800

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PS..722EPH06							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF722 2	16.00	1000	1470	2200	212	7.4	140	36400	35100
	20.00	1000	1540	2310	300	7.1	142	35900	34500
	25.00	1000	1540	2310	240	6.5	141	35900	34500
	28.00	1000	1350	2020	172	6.1	136	36400	35500
	35.00	1000	1540	2310	171	6.0	140	35900	34500
	40.00	1000	1080	1620	150	5.7	123	36400	36200
	49.00	1000	1380	2070	122	5.9	125	35900	35000
	70.00	1000	1380	2070	86	5.6	122	35900	35000
	100.00	1000	1040	1550	60	5.6	94	35900	35800

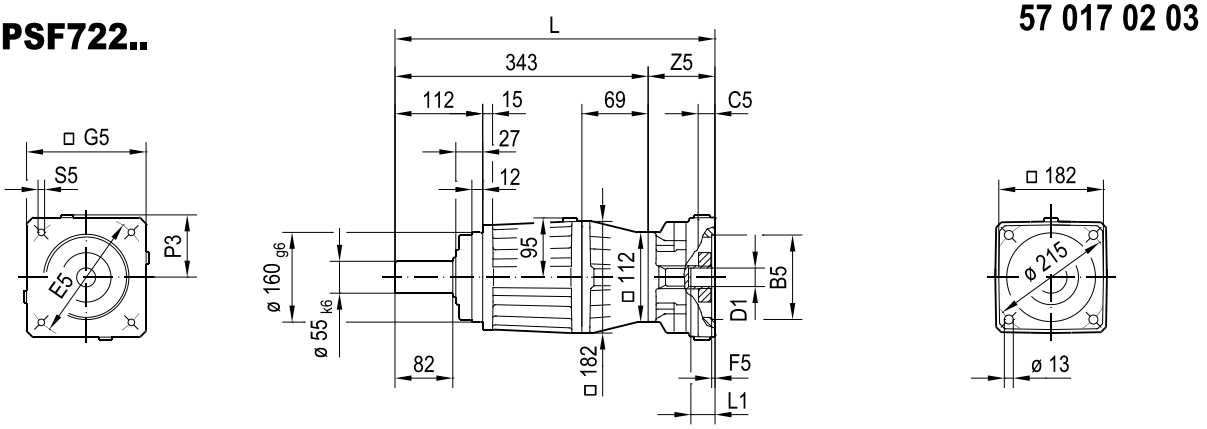
PS..722EPH07							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF722 2	16.00	1000	1470	2200	212	7.5	140	36400	35100
	20.00	1000	1540	2310	300	7.2	143	35900	34500
	25.00	1000	1540	2310	240	6.6	141	35900	34500
	28.00	1000	1350	2020	172	6.2	136	36400	35500
	35.00	1000	1540	2310	171	6.1	140	35900	34500
	40.00	1000	1080	1620	150	5.8	123	36400	36200
	49.00	1000	1380	2070	122	6.0	125	35900	35000
	70.00	1000	1380	2070	86	5.7	122	35900	35000
	100.00	1000	1040	1550	60	5.7	94	35900	35800

PS..722				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSF722 2	16.00	6000	98	2297	-7.125	0	2665	-11.355	0	2900	-14.760	0	6	3	1
	20.00	6000	98	2535	-9.141	0	3003	-15.115	0	3217	-18.662	0	6	3	1
	25.00	6000	98	2602	-10.054	0	3058	-16.027	0	3273	-19.656	0	6	3	1
	28.00	6000	98	2419	-9.204	0	2784	-13.539	0	3023	-17.134	0	6	3	1
	35.00	6000	98	2794	-12.580	0	3241	-18.839	0	3448	-22.550	0	6	3	1
	40.00	6000	98	2381	-11.070	0	2714	-15.199	0	2939	-18.742	0	6	3	1
	49.00	6000	98	3291	-19.617	0	3982	-30.852	0	4175	-35.084	0	6	3	1
	70.00	6000	98	3565	-26.732	0	4131	-37.512	0	4288	-41.578	0	6	3	1
	100.00	6000	98	4283	-44.680	0	5148	-65.195	0	5281	-69.761	0	6	3	1

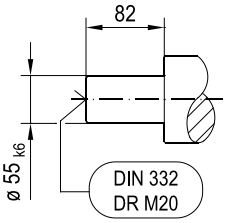
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PSF722..

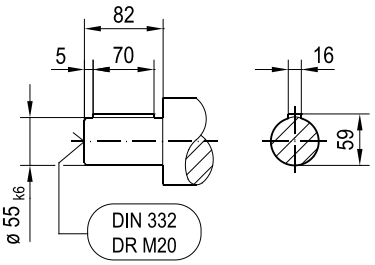
57 017 02 03



PSF



PSKF



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH04/01/..	389	40	20	63	3.5	90	M4	46	42.75	47	11, 12, 14, 16, 19
EPH04/03/..	389	50	20	60	3.5	90	M4	46	41	47	11, 12, 14, 16, 19
EPH04/04/..	389	50	20	70	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/05/..	389	50	20	80	3.5	90	M4	46	41	47	11, 12, 14, 16, 19
EPH04/06/..	389	50	20	95	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/07/..	389	50	20	100	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/08/..	389	60	20	75	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/09/..	389	60	20	90	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/10/..	389	70	20	85	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/11/..	389	70	20	90	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/12/..	389	70	20	90	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/13/..	389	80	20	100	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/14/..	389	95	16	115	4	105	M8	46	41	55	11, 12, 14, 16, 19
EPH04/15/..	389	95	16	130	4	115	M8	46	41	60	11, 12, 14, 16, 19
EPH05/14/..	405	95	16	115	4	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	405	95	16	130	4	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	405	110	16	130	5	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	405	110	16	145	7	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	405	110	20	165	5	140	M10	62	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	405	130	20	165	5	140	M10	62	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	405	110	16	130	5	115	M8	62	52	61	14, 16, 17, 18, 19, 24
EPH06/19/..	440	114.3	24	200	5	174	M12	97	82	89	35
EPH07/20/..	420	130	24	165	5	155	M10	77	62	80	22, 24, 28, 32
EPH07/21/..	420	130	24	215	5	190	M12	77	62	97	22, 24, 28, 32
EPH07/22/..	420	180	24	215	5	190	M12	77	62	97	22, 24, 28, 32
EPH07/27/..	420	130	24	165	5	137	M10	77	62	72	22, 24, 28, 32
EPH07/28/..	420	155	24	190	5	162	M10	77	62	84	22, 24, 28, 32

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14.1.13 PS.F821 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$					
	i	09			10		
PSF821 1	4.00	1750	2330	2330	1750	2500	3750
	5.00	1750	2500	2660	1750	2500	3750
	7.00	1750	2740	3720	1750	2740	4110
	10.00	1750	2060	3090	1750	2060	3090

PSF821, m kg		
	EPH	
s	09	10
1	58	61

PS..821EPH09							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF821 1	4.00	1750	2330	2330	314	68	345	33900	62000
	5.00	1750	2500	2660	290	52	372	36200	61700
	7.00	1750	2740	3720	255	37	364	40100	61200
	10.00	1750	2060	3090	233	29	293	44600	62400

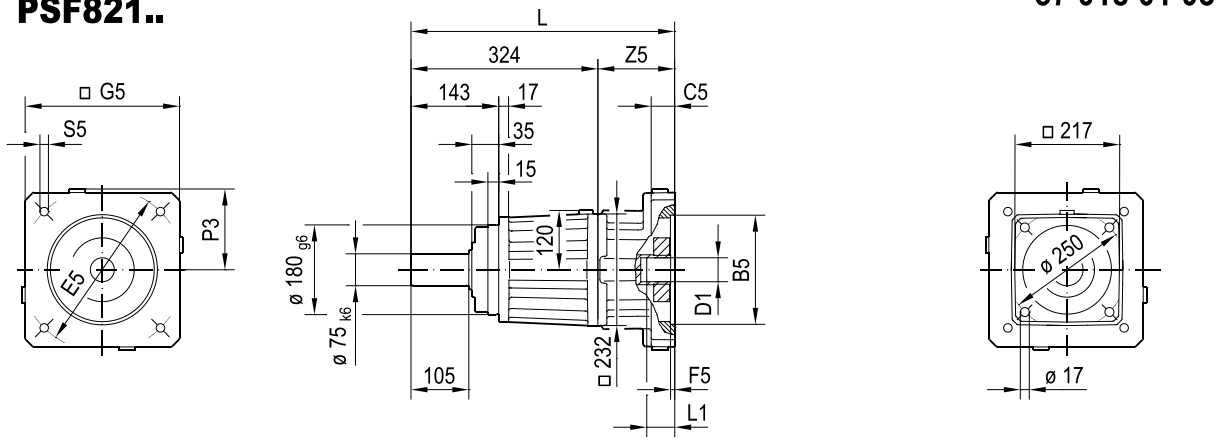
PS..821EPH10							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF821 1	4.00	1750	2500	3750	314	92	385	33900	61700
	5.00	1750	2500	3750	290	76	398	36200	61700
	7.00	1750	2740	4110	255	61	378	40100	61200
	10.00	1750	2060	3090	233	52	298	44600	62400

PS..821				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSF821 1	4.00	4500	99	4348	-7.655	0	5280	-12.461	0	6778	-24.172	0	4	2	1
	5.00	4500	99	4471	-8.247	0	5349	-12.863	0	6853	-24.727	0	4	2	1
	7.00	4500	99	5039	-10.347	0	5819	-14.853	0	7333	-27.386	0	4	2	1
	10.00	4500	99	4719	-11.159	0	5315	-14.717	0	6753	-26.550	0	4	2	1

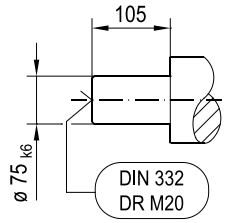
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PSF821..

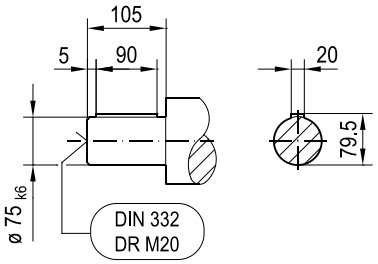
57 018 01 03



PSF



PSKF



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH09/22/..	423	180	36	215	5	190	M12	99	85	97	32, 35, 38, 42
EPH09/23/..	453	230	30	265	6	240	M12	129	115	122	32, 35, 38, 42
EPH09/24/..	453	250	30	300	6	260	M16	129	115	132	32, 35, 38, 42
EPH09/25/..	453	300	30	350	6	310	M16	129	115	157	32, 35, 38, 42
EPH10/22/..	423	180	36	215	5	190	M12	99	85	97	48, 55
EPH10/23/..	453	230	30	265	6	240	M12	129	115	122	48, 55
EPH10/24/..	453	250	30	300	6	260	M16	129	115	132	48, 55
EPH10/25/..	453	300	30	350	6	310	M16	129	115	157	48, 55

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14.1.14 PS.F822 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	05			06			07			08		
PSF822 2	16.00	1750	2080	3090	1750	2500	3750	1750	2500	3750	1750	2500	3750
	20.00	1750	2500	3750	1750	2500	3750	1750	2500	3750	1750	2500	3750
	25.00	1750	2500	3750	1750	2500	3750	1750	2500	3750	1750	2500	3750
	28.00	1750	2500	3750	1750	2500	3750	1750	2500	3750	1750	2500	3750
	35.00	1750	2500	3750	1750	2500	3750	1750	2500	3750	1750	2500	3750
	40.00	1750	2000	3000	1750	2000	3000	1750	2000	3000	1750	2000	3000
	49.00	1750	2740	4110	1750	2740	4110	1750	2740	4110	1750	2740	4110
	70.00	1750	2740	4110	1750	2740	4110	1750	2740	4110	1750	2740	4110
	100.00	1750	2060	3090	1750	2060	3090	1750	2060	3090	1750	2060	3090

PSF822, m kg				
	EPH			
s	05	06	07	08
2	58	59	59	63

PS..822EPH05 n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSF	F_{Ramax} PSF	F_{Rapk} PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF822 2	16.00	1750	2080	3090	228	8.8	364	51400	62300
	20.00	1750	2500	3750	290	7.8	386	54900	61700
	25.00	1750	2500	3750	240	6.0	391	58700	61700
	28.00	1750	2500	3750	185	4.7	373	60700	61700
	35.00	1750	2500	3750	171	4.3	389	62800	61700
	40.00	1750	2000	3000	150	3.6	335	62800	62500
	49.00	1750	2740	4110	122	4.1	375	62800	61200
	70.00	1750	2740	4110	86	3.3	364	62800	61200
	100.00	1750	2060	3090	60	3.2	295	62800	62400

PS..822EPH06 n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSF	F_{Ramax} PSF	F_{Rapk} PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF822 2	16.00	1750	2500	3750	228	12	388	51400	61700
	20.00	1750	2500	3750	290	11	399	54900	61700
	25.00	1750	2500	3750	240	9.1	400	58700	61700
	28.00	1750	2500	3750	185	7.5	375	60700	61700
	35.00	1750	2500	3750	171	7.2	390	62800	61700
	40.00	1750	2000	3000	150	6.5	336	62800	62500
	49.00	1750	2740	4110	122	6.9	376	62800	61200
	70.00	1750	2740	4110	86	6.2	364	62800	61200
	100.00	1750	2060	3090	60	6.1	295	62800	62400

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PS..822EPH07							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF822 2	16.00	1750	2500	3750	228	12	388	51400	61700
	20.00	1750	2500	3750	290	11	399	54900	61700
	25.00	1750	2500	3750	240	9.2	400	58700	61700
	28.00	1750	2500	3750	185	7.6	376	60700	61700
	35.00	1750	2500	3750	171	7.3	391	62800	61700
	40.00	1750	2000	3000	150	6.6	336	62800	62500
	49.00	1750	2740	4110	122	7.0	376	62800	61200
	70.00	1750	2740	4110	86	6.3	364	62800	61200
	100.00	1750	2060	3090	60	6.2	295	62800	62400

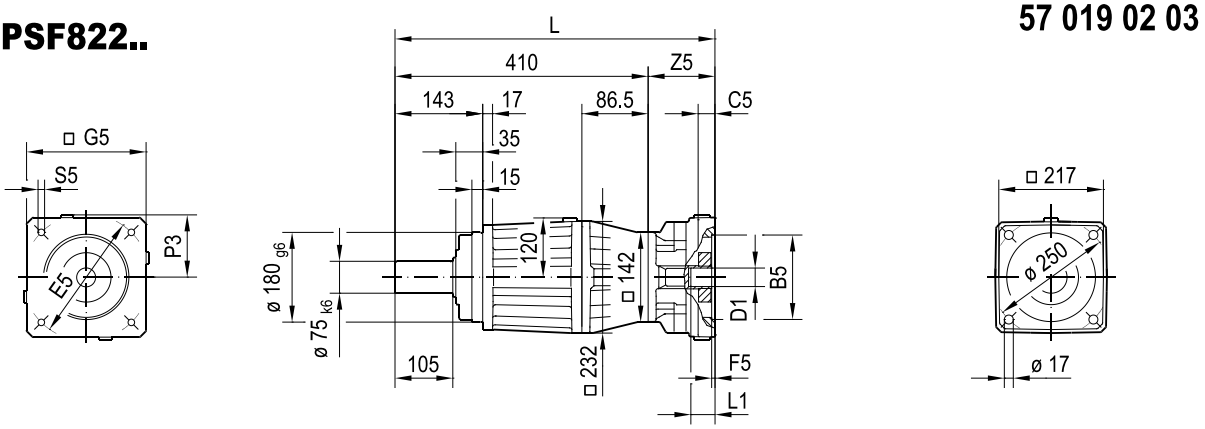
PS..822EPH08							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF822 2	16.00	1750	2500	3750	228	18	392	51400	61700
	20.00	1750	2500	3750	290	17	402	54900	61700
	25.00	1750	2500	3750	240	15	402	58700	61700
	28.00	1750	2500	3750	185	14	377	60700	61700
	35.00	1750	2500	3750	171	13	392	62800	61700
	40.00	1750	2000	3000	150	12	337	62800	62500
	49.00	1750	2740	4110	122	13	377	62800	61200
	70.00	1750	2740	4110	86	12	364	62800	61200
	100.00	1750	2060	3090	60	12	295	62800	62400

PS..822				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSF822 2	16.00	6000	98	4009	-13.670	0	4714	-22.313	0	5160	-29.446	0	6	3	1
	20.00	6000	98	4340	-17.068	0	5241	-29.146	0	5637	-36.486	0	6	3	1
	25.00	6000	98	4429	-18.390	0	5320	-30.520	0	5719	-38.026	0	6	3	1
	28.00	6000	98	4306	-17.314	0	5004	-26.339	0	5460	-33.993	0	6	3	1
	35.00	6000	98	4711	-22.195	0	5591	-34.838	0	5987	-42.665	0	6	3	1
	40.00	6000	98	4183	-19.943	0	4850	-28.681	0	5324	-36.631	0	6	3	1
	49.00	6000	98	5812	-35.853	0	7076	-58.495	0	7411	-67.243	0	6	3	1
	70.00	6000	98	6217	-46.856	0	7321	-69.143	0	7605	-77.705	0	6	3	1
	100.00	6000	98	7229	-75.259	0	8823	-115.6	0	9018	-124.5	0	6	3	1

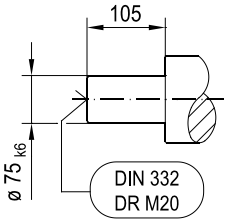
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PSF822..

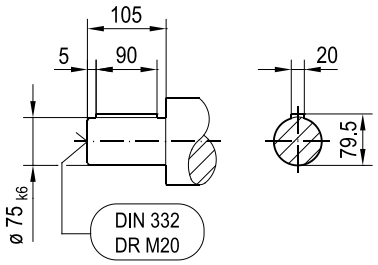
57 019 02 03



PSF



PSKF



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH05/14/..	465	95	16	115	4	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	465	95	16	130	4	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	465	110	16	130	5	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	465	110	16	145	7	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	465	110	20	165	5	140	M10	54	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	465	130	20	165	5	140	M10	54	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	465	110	16	130	5	115	M8	54	52	61	14, 16, 17, 18, 19, 24
EPH06/19/..	500	114.3	24	200	5	174	M12	89	82	89	35
EPH07/20/..	480	130	24	165	5	155	M10	69	62	80	22, 24, 28, 32
EPH07/21/..	480	130	24	215	5	190	M12	69	62	97	22, 24, 28, 32
EPH07/22/..	480	180	24	215	5	190	M12	69	62	97	22, 24, 28, 32
EPH07/27/..	480	130	24	165	5	137	M10	69	62	72	22, 24, 28, 32
EPH07/28/..	480	155	24	190	5	162	M10	69	62	84	22, 24, 28, 32
EPH08/21/..	505	130	24	215	5	190	M12	94	82	97	32, 35, 38
EPH08/22/..	505	180	24	215	5	190	M12	94	82	97	32, 35, 38

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14.1.15 PS.F921 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$					
	i	09			10		
PSF921 1	4.00				3000	4200	6230
	5.00				3000	4200	6300
	7.00	3000	4080	4080	3000	4200	6300
	10.00	3000	3230	4840	3000	3230	4840

PSF921, m kg		
	EPH	
s	09	10
1	73	76

PS..921EPH09							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF921 1	7.00	3000	4080	4080	218	53	467	42900	81800
	10.00	3000	3230	4840	199	36	399	47700	83000

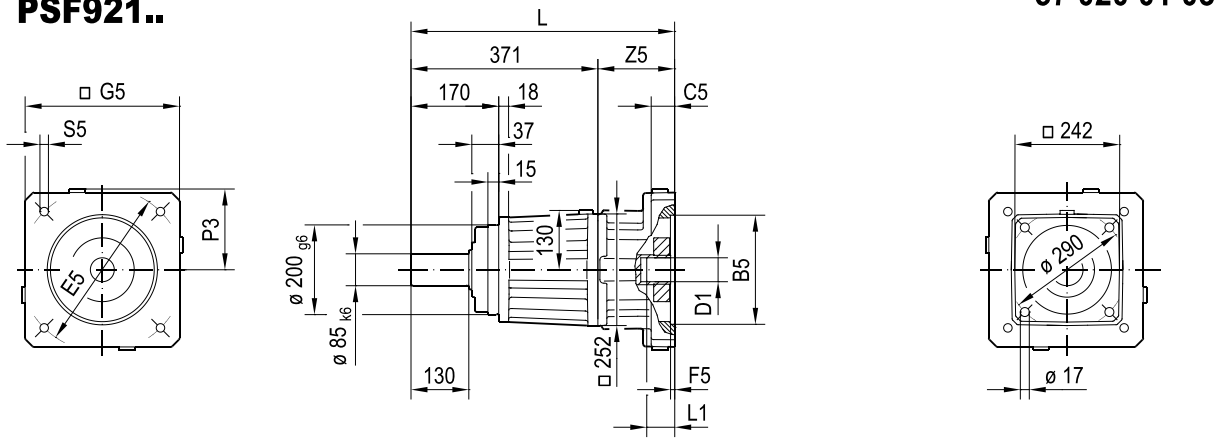
PS..921EPH10							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF921 1	4.00	3000	4200	6230	270	132	480	36300	81600
	5.00	3000	4200	6300	248	102	503	38800	81600
	7.00	3000	4200	6300	218	77	490	42900	81600
	10.00	3000	3230	4840	199	60	406	47700	83000

PS..921				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSF921 1	4.00	4500	99	9165	-29.587	0	9784	-35.216	0	11056	-49.413	0	4	2	1
	5.00	4500	99	8486	-24.118	0	9185	-29.905	0	10599	-44.485	0	4	2	1
	7.00	4500	99	8325	-21.820	0	9164	-28.252	0	10789	-44.025	0	4	2	1
	10.00	4500	99	7237	-18.956	0	8101	-25.125	0	9728	-40.131	0	4	2	1

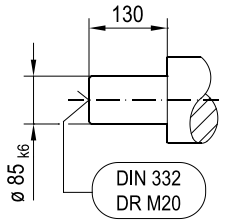
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PSF921..

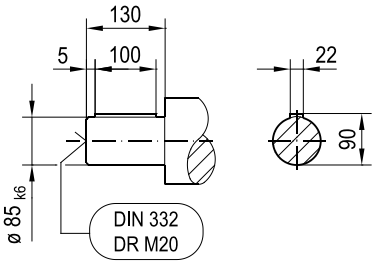
57 020 01 03



PSF



PSKF



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH09/22/..	464	180	36	215	5	190	M12	93	85	97	32, 35, 38, 42
EPH09/23/..	494	230	30	265	6	240	M12	123	115	122	32, 35, 38, 42
EPH09/24/..	494	250	30	300	6	260	M16	123	115	132	32, 35, 38, 42
EPH09/25/..	494	300	30	350	6	310	M16	123	115	157	32, 35, 38, 42
EPH10/22/..	464	180	36	215	5	190	M12	93	85	97	48, 55
EPH10/23/..	494	230	30	265	6	240	M12	123	115	122	48, 55
EPH10/24/..	494	250	30	300	6	260	M16	123	115	132	48, 55
EPH10/25/..	494	300	30	350	6	310	M16	123	115	157	48, 55

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14.1.16 PS.F922 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	05			06			07			08		
PSF922 2	16.00	2080	2080	3090	3000	3800	5650	3000	3800	5640	3000	4150	6230
	20.00	2600	2600	3860	3000	4200	6300	3000	4200	6300	3000	4200	6300
	25.00	3000	3250	4830	3000	4200	6300	3000	4200	6300	3000	4200	6300
	28.00	3000	4060	6090	3000	4200	6230	3000	4200	6230	3000	4200	6230
	35.00	3000	4200	6300	3000	4200	6300	3000	4200	6300	3000	4200	6300
	40.00	3000	4150	6230	3000	4150	6230	3000	4150	6230	3000	4150	6230
	49.00	3000	3310	4960	3000	3310	4960	3000	3310	4960	3000	3310	4960
	70.00	3000	4200	6300	3000	4200	6300	3000	4200	6300	3000	4200	6300
	100.00	3000	3230	4840	3000	3230	4840	3000	3230	4840	3000	3230	4840

PSF922, m kg				
	EPH			
s	05	06	07	08
2	80	82	82	86

PS..922EPH05 n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSF	F_{Ramax} PSF	F_{Rapk} PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF922 2	16.00	2080	2080	3090	281	17	454	55000	84200
	20.00	2600	2600	3860	225	16	484	58800	83700
	25.00	3000	3250	4830	180	11	501	62800	83000
	28.00	3000	4060	6090	161	7.6	494	65000	81900
	35.00	3000	4200	6300	129	7.1	511	69500	81600
	40.00	3000	4150	6230	113	5.1	468	72300	81700
	49.00	3000	3310	4960	92	6.5	486	76900	82900
	70.00	3000	4200	6300	64	4.6	485	83300	81600
	100.00	3000	3230	4840	45	4.4	405	83300	83000

PS..922EPH06 n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSF	F_{Ramax} PSF	F_{Rapk} PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF922 2	16.00	3000	3800	5650	269	20	502	55000	82300
	20.00	3000	4200	6300	225	19	519	58800	81600
	25.00	3000	4200	6300	180	14	522	62800	81600
	28.00	3000	4200	6230	161	11	505	65000	81600
	35.00	3000	4200	6300	129	10	519	69500	81600
	40.00	3000	4150	6230	113	8.0	469	72300	81700
	49.00	3000	3310	4960	92	9.6	492	76900	82900
	70.00	3000	4200	6300	64	7.4	484	83300	81600
	100.00	3000	3230	4840	45	7.3	405	83300	83000

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PS..922EPH07							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF922 2	16.00	3000	3800	5640	269	21	502	55000	82300
	20.00	3000	4200	6300	225	19	519	58800	81600
	25.00	3000	4200	6300	180	14	522	62800	81600
	28.00	3000	4200	6230	161	11	505	65000	81600
	35.00	3000	4200	6300	129	10	519	69500	81600
	40.00	3000	4150	6230	113	8.1	471	72300	81700
	49.00	3000	3310	4960	92	9.8	492	76900	82900
	70.00	3000	4200	6300	64	7.5	486	83300	81600
	100.00	3000	3230	4840	45	7.4	406	83300	83000

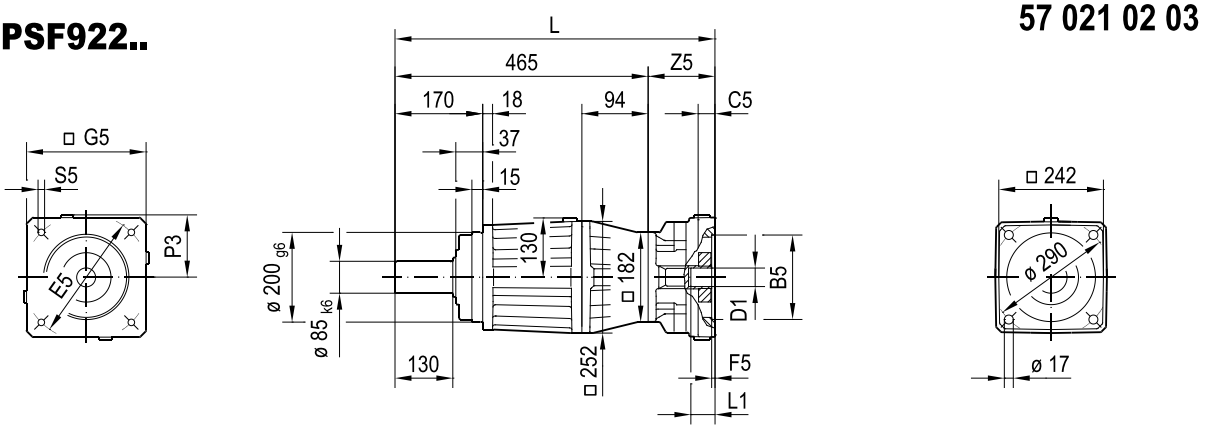
PS..922EPH08							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSF	PSF	PSF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSF922 2	16.00	3000	4150	6230	269	27	518	55000	81700
	20.00	3000	4200	6300	225	25	528	58800	81600
	25.00	3000	4200	6300	180	21	528	62800	81600
	28.00	3000	4200	6230	161	17	508	65000	81600
	35.00	3000	4200	6300	129	16	521	69500	81600
	40.00	3000	4150	6230	113	14	471	72300	81700
	49.00	3000	3310	4960	92	16	492	76900	82900
	70.00	3000	4200	6300	64	13	486	83300	81600
	100.00	3000	3230	4840	45	13	406	83300	83000

PS..922				M1;M3;M5-6			M2			M4			φ		
		n_{epk}	η	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2		/R	/M
	i	min^{-1}	%										'	'	'
PSF922 2	16.00	4500	98	6977	-32.319	0	8110	-50.603	0	8617	-60.811	0	6	3	1
	20.00	4500	98	7215	-35.078	0	8754	-61.277	0	9164	-70.960	0	6	3	1
	25.00	4500	98	7287	-36.364	0	8834	-62.807	0	9260	-72.835	0	6	3	1
	28.00	4500	98	7268	-36.498	0	8449	-55.900	0	8969	-66.637	0	6	3	1
	35.00	4500	98	7567	-40.632	0	9148	-68.317	0	9614	-79.237	0	6	3	1
	40.00	4500	98	7229	-39.932	0	8358	-59.193	0	8863	-69.933	0	6	3	1
	49.00	4500	98	8404	-55.967	0	10961	-106.3	0	11237	-116.6	0	6	3	1
	70.00	4500	98	9110	-69.709	0	11342	-119.6	0	11668	-131.2	0	6	3	1
	100.00	4500	98	10485	-109.0	0	13684	-199.1	0	13760	-208.8	0	6	3	1

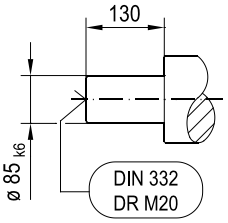
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PSF922..

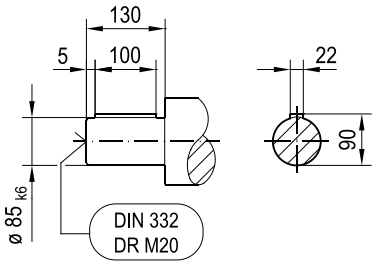
57 021 02 03



PSF



PSKF



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH05/14/..	515	95	16	115	4	120	M8	50	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	515	95	16	130	4	120	M8	50	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	515	110	16	130	5	120	M8	50	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	515	110	16	145	7	120	M8	50	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	515	110	20	165	5	140	M10	50	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	515	130	20	165	5	140	M10	50	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	515	110	16	130	5	115	M8	50	52	61	14, 16, 17, 18, 19, 24
EPH06/19/..	550	114.3	24	200	5	174	M12	85	82	89	35
EPH07/20/..	530	130	24	165	5	155	M10	65	62	80	22, 24, 28, 32
EPH07/21/..	530	130	24	215	5	190	M12	65	62	97	22, 24, 28, 32
EPH07/22/..	530	180	24	215	5	190	M12	65	62	97	22, 24, 28, 32
EPH07/27/..	530	130	24	165	5	137	M10	65	62	72	22, 24, 28, 32
EPH07/28/..	530	155	24	190	5	162	M10	65	62	84	22, 24, 28, 32
EPH08/21/..	555	130	24	215	5	190	M12	90	82	97	32, 35, 38
EPH08/22/..	555	180	24	215	5	190	M12	90	82	97	32, 35, 38

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14.1.17 PSBF221 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	01			02			03			04		
PSBF221 1	5.00	38	38	56	55	80	120	55	80	120	55	80	120
	7.00	53	53	79	55	85	127	55	85	127	55	85	127
	10.00	55	62	93	55	62	93	55	62	93	55	62	93

PSBF221, m kg				
	EPH			
s	01	02	03	04
1	2.2	2.2	2.5	2.6

PSB..221EPH01							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF221 1	5.00	38	38	56	1400	0.29	8.4	1530	5000
	7.00	53	53	79	525	0.24	10.0	1720	5000
	10.00	55	62	93	420	0.22	8.5	1930	5000

PSB..221EPH02							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF221 1	5.00	55	80	120	530	0.59	14	1530	5000
	7.00	55	85	127	465	0.55	14	1720	5000
	10.00	55	62	93	420	0.52	8.6	1930	5000

PSB..221EPH03							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF221 1	5.00	55	80	120	530	0.66	14	1530	5000
	7.00	55	85	127	465	0.62	14	1720	5000
	10.00	55	62	93	420	0.60	8.6	1930	5000

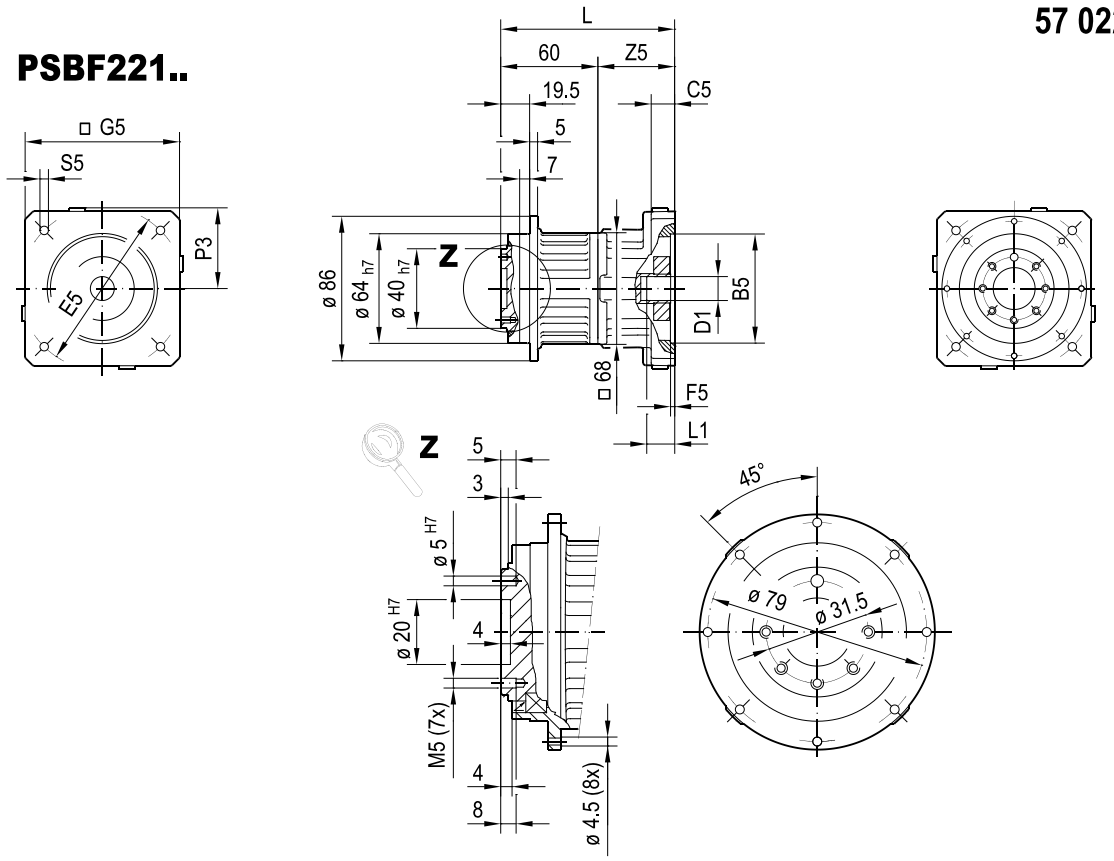
PSB..221EPH04							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF221 1	5.00	55	80	120	530	0.84	17	1530	5000
	7.00	55	85	127	465	0.80	15	1720	5000
	10.00	55	62	93	420	0.77	8.7	1930	5000

PSB..221				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSBF221 1	5.00	7500	99	198.3	-0.268	0	236	-0.359	0	258	-0.501	0	6	3	1
	7.00	7500	99	235	-0.385	0	273	-0.483	0	318	-0.713	0	6	3	1
	10.00	7500	99	264	-0.560	0	283	-0.614	0	341	-0.900	0	6	3	1

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PSBF221..



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH01/01/..	98	40	13	63	4	73	M4	38	33	39	9, 11
EPH01/03/..	98	50	13	60	4	73	M4	38	33	39	9, 11
EPH02/04/..	98	50	13	70	4	73	M5	38	34	39	8, 9, 10, 11, 12, 14
EPH02/05/..	98	50	13	80	4	73	M4	38	34	39	8, 9, 10, 11, 12, 14
EPH02/08/..	98	60	13	75	4	73	M5	38	34	39	8, 9, 10, 11, 12, 14
EPH03/01/..	106	40	20	63	3.5	90	M4	46.5	38	47	8, 9, 10, 11, 12, 14
EPH03/03/..	106	50	20	60	3.5	90	M4	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/04/..	106	50	20	70	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/05/..	106	50	20	80	3.5	90	M4	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/06/..	106	50	20	95	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/07/..	106	50	20	100	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/08/..	106	60	20	75	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/09/..	106	60	20	90	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/10/..	106	70	20	85	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/11/..	106	70	20	90	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/12/..	106	70	20	90	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/13/..	106	80	20	100	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/14/..	106	95	16	115	4	105	M8	46.5	30	55	8, 9, 10, 11, 12, 14
EPH04/01/..	116	40	20	63	3.5	90	M4	56	42.75	47	11, 12, 14, 16, 19
EPH04/03/..	116	50	20	60	3.5	90	M4	56	41	47	11, 12, 14, 16, 19
EPH04/04/..	116	50	20	70	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/05/..	116	50	20	80	3.5	90	M4	56	41	47	11, 12, 14, 16, 19
EPH04/06/..	116	50	20	95	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/07/..	116	50	20	100	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/08/..	116	60	20	75	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/09/..	116	60	20	90	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/10/..	116	70	20	85	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/11/..	116	70	20	90	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/12/..	116	70	20	90	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/13/..	116	80	20	100	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/14/..	116	95	16	115	4	105	M8	56	41	55	11, 12, 14, 16, 19
EPH04/15/..	116	95	16	130	4	115	M8	56	41	60	11, 12, 14, 16, 19

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14.1.18 PSBF222 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$					
	i	01			02		
PSBF222 2	20.00	55	80	120	55	80	120
	25.00	55	80	120	55	80	120
	35.00	55	80	120	55	80	120
	49.00	55	85	127	55	85	127
	70.00	55	85	127	55	85	127
	100.00	55	62	93	55	62	93

PSBF222, m kg		
	EPH	
s	01	02
2	2.5	2.8

PSB..222EPH01							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF222 2	20.00	55	80	120	350	0.23	15	2430	5000
	25.00	55	80	120	280	0.22	16	2620	5000
	35.00	55	80	120	200	0.21	16	2930	5000
	49.00	55	85	127	143	0.21	14	3280	5000
	70.00	55	85	127	100	0.20	14	3700	5000
	100.00	55	62	93	70	0.20	8.4	4160	5000

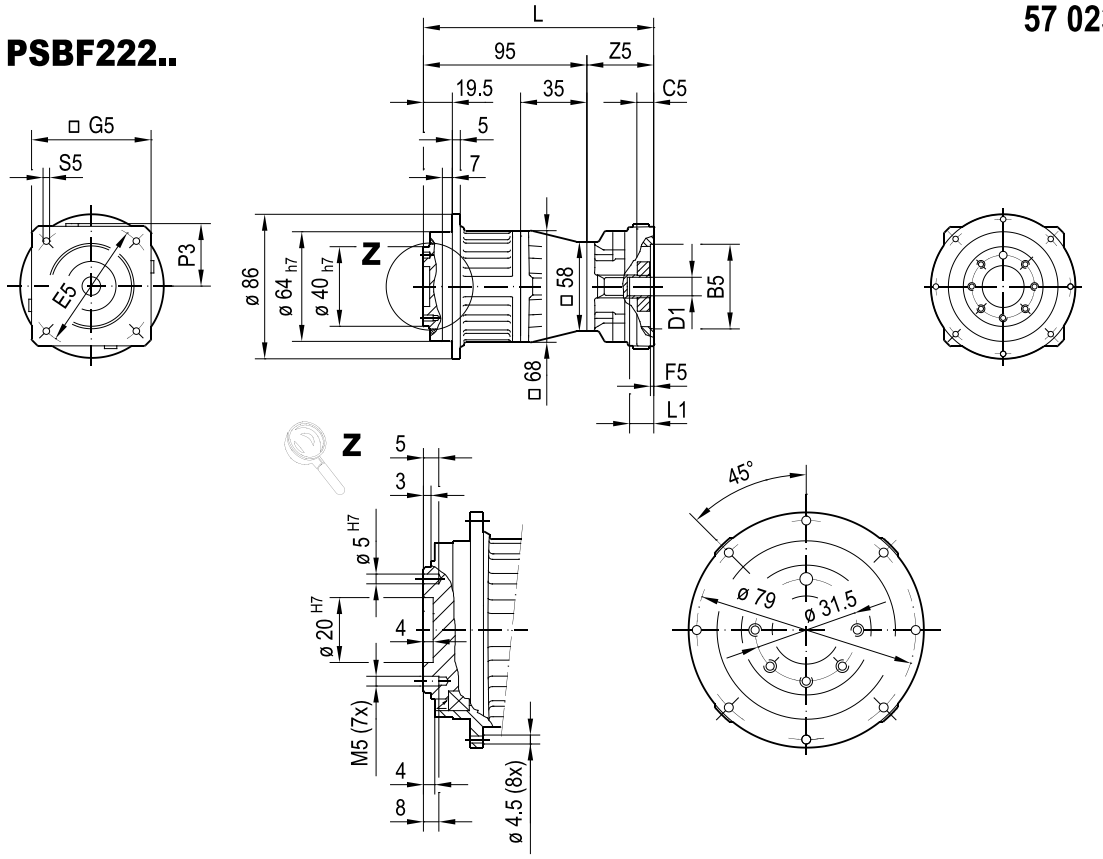
PSB..222EPH02							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF222 2	20.00	55	80	120	350	0.54	16	2430	5000
	25.00	55	80	120	280	0.52	16	2620	5000
	35.00	55	80	120	200	0.51	16	2930	5000
	49.00	55	85	127	143	0.51	14	3280	5000
	70.00	55	85	127	100	0.50	14	3700	5000
	100.00	55	62	93	70	0.50	8.4	4160	5000

PSB..222				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSBF222 2	20.00	8000	98	234	-0.703	0	295	-1.170	0	314	-1.356	0	8	4	2
	25.00	8000	98	246	-0.814	0	304	-1.282	0	323	-1.474	0	8	4	2
	35.00	8000	98	279	-1.117	0	332	-1.607	0	351	-1.811	0	8	4	2
	49.00	8000	98	365	-1.960	0	444	-2.913	0	461	-3.157	0	8	4	2
	70.00	8000	98	421	-2.937	0	486	-3.879	0	500	-4.129	0	8	4	2
	100.00	8000	98	541	-5.277	0	635	-7.120	0	648	-7.427	0	8	4	2

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PSBF222..

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(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH01/01/..	139	40	13	63	3.5	58	M4	44	33	31	9, 11
EPH01/03/..	139	50	13	60	3.5	58	M4	44	33	31	9, 11
EPH02/04/..	139	50	10	70	3.5	80	M5	44	34	42	8, 9, 10, 11, 12, 14
EPH02/05/..	139	50	10	80	3.5	80	M4	44	34	42	8, 9, 10, 11, 12, 14
EPH02/06/..	139	50	10	95	3.5	80	M6	44	34	42	8, 9, 10, 11, 12, 14
EPH02/08/..	139	60	10	75	3.5	80	M5	44	34	42	8, 9, 10, 11, 12, 14
EPH02/09/..	139	60	10	90	3.5	80	M5	44	34	42	8, 9, 10, 11, 12, 14
EPH02/10/..	139	70	10	85	3.5	80	M6	44	34	42	8, 9, 10, 11, 12, 14
EPH02/11/..	139	70	10	90	3.5	80	M5	44	34	42	8, 9, 10, 11, 12, 14
EPH02/13/..	152	80	23	100	5	88	M6	57	47	44	8, 9, 10, 11, 12, 14

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14.1.19 PSBF321 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$					
	i	04			05		
PSBF321 1	5.00	110	169	250	110	169	250
	7.00	110	168	250	110	168	250
	10.00	110	121	181	110	121	181

PSBF321, m kg		
	EPH	
s	04	05
1	4.7	5.9

PSB..321EPH04							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF321 1	5.00[1)]	110	169	250	460	1.3	34	8580	25000
	7.00	110	168	250	405	1.1	30	9500	25000
	10.00	110	121	181	368	0.89	16	10600	25000

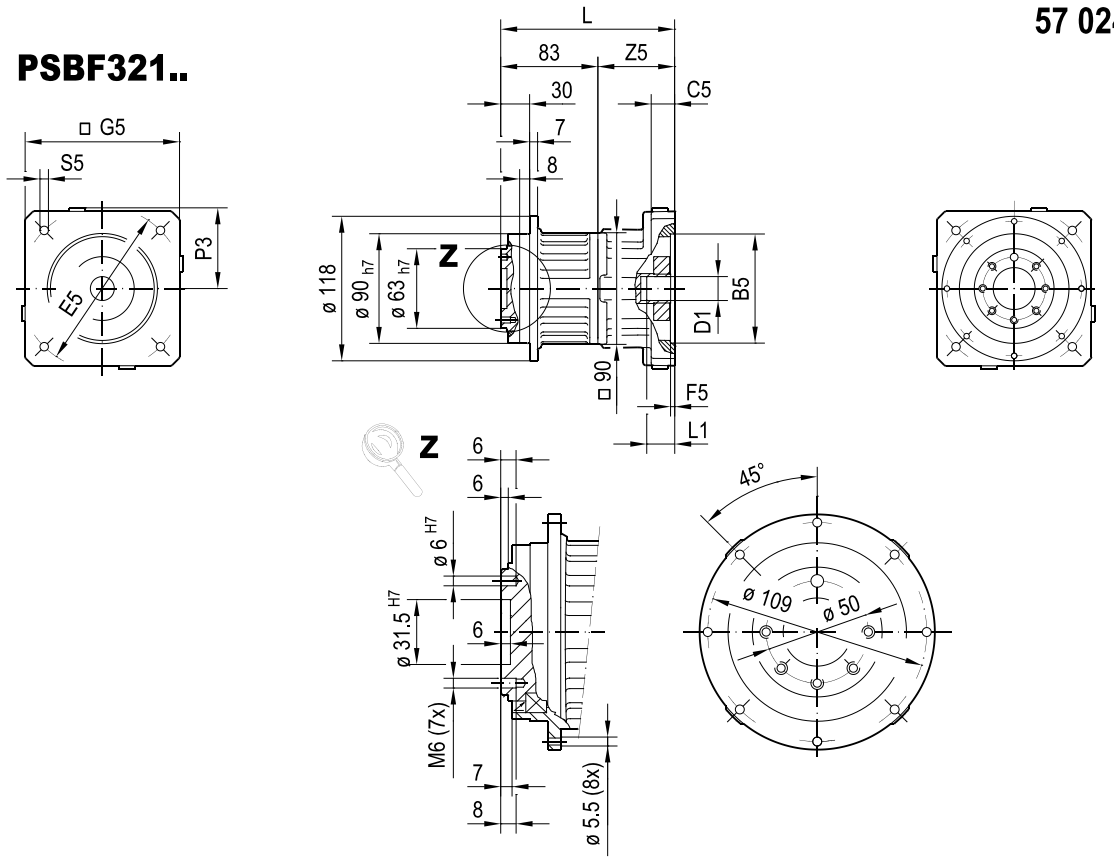
PSB..321EPH05							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF321 1	5.00[1)]	110	169	250	460	3.0	35	8580	25000
	7.00	110	168	250	405	2.8	30	9500	25000
	10.00	110	121	181	368	2.6	16	10600	25000

PSB..321				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSBF321 1	5.00	7000	99	371	-0.571	0	476	-0.849	0	722	-2.210	0	6	3	1
	7.00	7000	99	430	-0.817	0	480	-0.955	0	700	-2.261	0	6	3	1
	10.00	7000	99	435	-1.016	0	445	-1.032	0	631	-2.210	0	6	3	1

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PSBF321..



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH04/01/..	134	40	20	63	3.5	90	M4	51	42.75	47	11, 12, 14, 16, 19
EPH04/03/..	134	50	20	60	3.5	90	M4	51	41	47	11, 12, 14, 16, 19
EPH04/04/..	134	50	20	70	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/05/..	134	50	20	80	3.5	90	M4	51	41	47	11, 12, 14, 16, 19
EPH04/06/..	134	50	20	95	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/07/..	134	50	20	100	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/08/..	134	60	20	75	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/09/..	134	60	20	90	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/10/..	134	70	20	85	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/11/..	134	70	20	90	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/12/..	134	70	20	90	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/13/..	134	80	20	100	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/14/..	134	95	16	115	4	105	M8	51	41	55	11, 12, 14, 16, 19
EPH04/15/..	134	95	16	130	4	115	M8	51	41	60	11, 12, 14, 16, 19
EPH05/14/..	150	95	16	115	4	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	150	95	16	130	4	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	150	110	16	130	5	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	150	110	16	145	7	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	150	110	20	165	5	140	M10	67	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	150	130	20	165	5	140	M10	67	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	150	110	16	130	5	115	M8	67	52	61	14, 16, 17, 18, 19, 24

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14.1.20 PSBF322 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	01			02			03			04		
PSBF322 2	15.00	110	113	169	110	169	250	110	169	250	110	169	250
	20.00	110	150	225	110	169	250	110	169	250	110	169	250
	25.00	110	169	250	110	169	250	110	169	250	110	169	250
	35.00	110	169	250	110	169	250	110	169	250	110	169	250
	49.00	110	168	250	110	168	250	110	168	250	110	168	250
	70.00	110	168	250	110	168	250	110	168	250	110	168	250
	100.00	110	121	181	110	121	181	110	121	181	110	121	181

PSBF322, m kg				
	EPH			
s	01	02	03	04
2	5.5	5.6	5.9	6.0

PSB..322EPH01 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSBF	F_{Ramax} PSBF	F_{Rapk} PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF322 2	15.00	110	113	169	455	0.46	26	11900	25000
	20.00	110	150	225	350	0.33	30	13000	25000
	25.00	110	169	250	280	0.28	31	13900	25000
	35.00	110	169	250	200	0.24	32	15400	25000
	49.00	110	168	250	143	0.23	28	17000	25000
	70.00	110	168	250	100	0.21	28	18900	25000
	100.00	110	121	181	70	0.21	16	21100	25000

PSB..322EPH02 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSBF	F_{Ramax} PSBF	F_{Rapk} PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF322 2	15.00	110	169	250	455	0.77	29	11900	25000
	20.00	110	169	250	350	0.63	33	13000	25000
	25.00	110	169	250	280	0.58	33	13900	25000
	35.00	110	169	250	200	0.54	33	15400	25000
	49.00	110	168	250	143	0.54	29	17000	25000
	70.00	110	168	250	100	0.52	28	18900	25000
	100.00	110	121	181	70	0.52	16	21100	25000

PSB..322EPH03 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSBF	F_{Ramax} PSBF	F_{Rapk} PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF322 2	15.00	110	169	250	455	0.84	29	11900	25000
	20.00	110	169	250	350	0.71	33	13000	25000
	25.00	110	169	250	280	0.66	33	13900	25000
	35.00	110	169	250	200	0.62	33	15400	25000
	49.00	110	168	250	143	0.61	29	17000	25000
	70.00	110	168	250	100	0.59	28	18900	25000
	100.00	110	121	181	70	0.59	16	21100	25000

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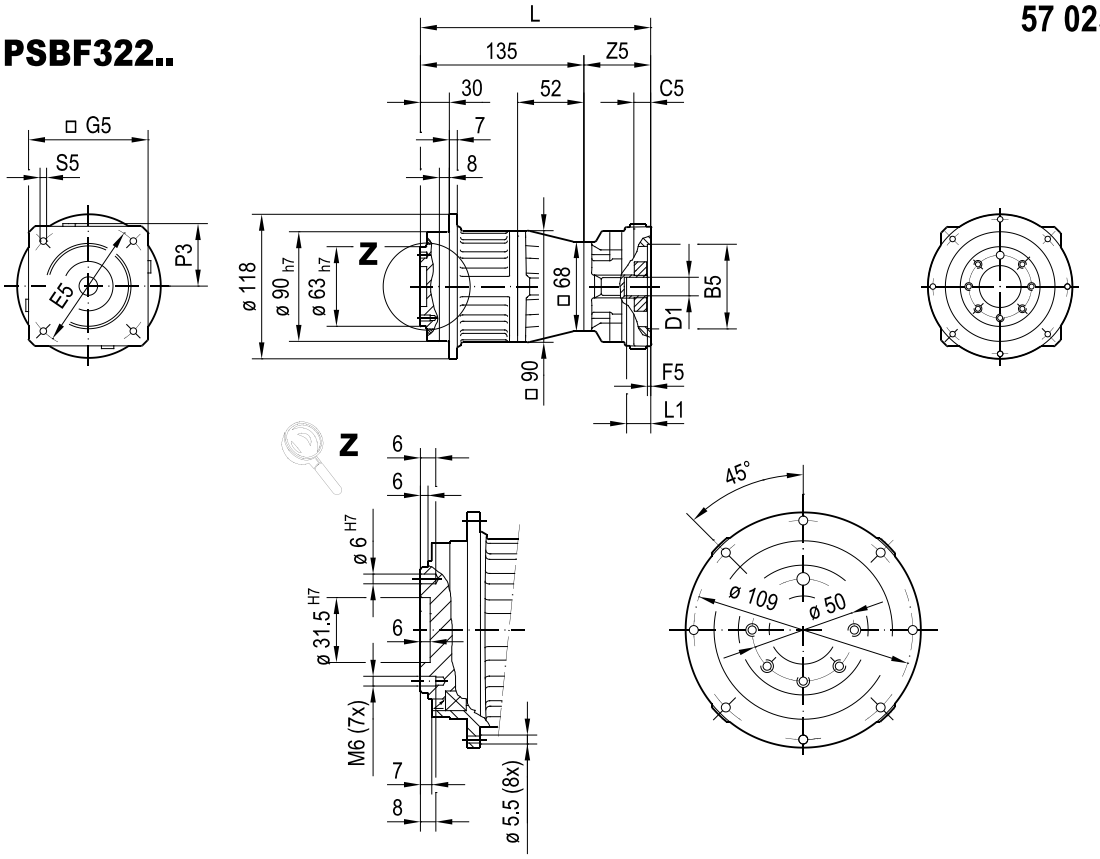
PSB..322EPH04 n_e = 1500	i	M_{amax} Nm	M_{apk} Nm	$M_{aNotaus}$ Nm	n_{ak} min^{-1}	J_{GA} 10^{-4} kg*m^2	c_T PSBF Nm/'	F_{Ramax} PSBF N	F_{Rapk} PSBF N
PSBF322 2	15.00	110	169	250	455	1.0	29	11900	25000
	20.00	110	169	250	350	0.88	33	13000	25000
	25.00	110	169	250	280	0.84	33	13900	25000
	35.00	110	169	250	200	0.79	33	15400	25000
	49.00	110	168	250	143	0.79	29	17000	25000
	70.00	110	168	250	100	0.76	28	18900	25000
	100.00	110	121	181	70	0.76	16	21100	25000

PSB..322				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSBF322 2	15.00	7500	98	415	-1.315	0	505	-2.075	0	573	-2.840	0	8	4	2
	20.00	7500	98	490	-1.704	0	594	-2.591	0	677	-3.521	0	8	4	2
	25.00	7500	98	517	-1.985	0	614	-2.871	0	696	-3.827	0	8	4	2
	35.00	7500	98	587	-2.736	0	676	-3.660	0	752	-4.657	0	8	4	2
	49.00	7500	98	707	-4.371	0	832	-6.068	0	897	-7.146	0	8	4	2
	70.00	7500	98	821	-6.632	0	922	-8.298	0	969	-9.322	0	8	4	2
	100.00	7500	98	987	-11.097	0	1127	-14.205	0	1171	-15.383	0	8	4	2

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PSBF322..

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(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH01/01/..	173	40	13	63	4	73	M4	38	33	39	9, 11
EPH01/03/..	173	50	13	60	4	73	M4	38	33	39	9, 11
EPH02/04/..	173	50	13	70	4	73	M5	38	34	39	8, 9, 10, 11, 12, 14
EPH02/05/..	173	50	13	80	4	73	M4	38	34	39	8, 9, 10, 11, 12, 14
EPH02/08/..	173	60	13	75	4	73	M5	38	34	39	8, 9, 10, 11, 12, 14
EPH03/01/..	182	40	20	63	3.5	90	M4	46.5	38	47	8, 9, 10, 11, 12, 14
EPH03/03/..	182	50	20	60	3.5	90	M4	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/04/..	182	50	20	70	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/05/..	182	50	20	80	3.5	90	M4	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/06/..	182	50	20	95	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/07/..	182	50	20	100	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/08/..	182	60	20	75	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/09/..	182	60	20	90	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/10/..	182	70	20	85	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/11/..	182	70	20	90	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/12/..	182	70	20	90	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/13/..	182	80	20	100	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/14/..	182	95	16	115	4	105	M8	46.5	30	55	8, 9, 10, 11, 12, 14
EPH04/01/..	191	40	20	63	3.5	90	M4	56	42.75	47	11, 12, 14, 16, 19
EPH04/03/..	191	50	20	60	3.5	90	M4	56	41	47	11, 12, 14, 16, 19
EPH04/04/..	191	50	20	70	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/05/..	191	50	20	80	3.5	90	M4	56	41	47	11, 12, 14, 16, 19
EPH04/06/..	191	50	20	95	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/07/..	191	50	20	100	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/08/..	191	60	20	75	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/09/..	191	60	20	90	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/10/..	191	70	20	85	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/11/..	191	70	20	90	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/12/..	191	70	20	90	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/13/..	191	80	20	100	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/14/..	191	95	16	115	4	105	M8	56	41	55	11, 12, 14, 16, 19
EPH04/15/..	191	95	16	130	4	115	M8	56	41	60	11, 12, 14, 16, 19

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14.1.21 PSBF521 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	04			05			06			07		
PSBF521 1	5.00	210	210	295	300	375	560	300	375	560	300	375	560
	7.00	300	305	455	300	360	540	300	360	540	300	360	540
	10.00	270	270	445	270	270	445	270	270	445	270	270	445

PSBF521, m kg				
	EPH			
s	04	05	06	07
1	6.9	8.2	9.8	9.8

PSB..521EPH04 n_e = 1500	i	M_{amax} Nm	M_{apk} Nm	$M_{aNotaus}$ Nm	n_{ak} min^{-1}	J_{GA} 10^{-4} $kg*m^2$	c_T PSBF Nm/'	F_{Ramax} PSBF N	F_{Rapk} PSBF N
PSBF521 1	5.00[1)]	210	210	295	1200	2.0	59	13900	40000
	7.00[1)]	300	305	455	375	1.4	65	15400	40000
	10.00	270	270	445	485	1.2	43	17200	40000

PSB..521EPH05 n_e = 1500	i	M_{amax} Nm	M_{apk} Nm	$M_{aNotaus}$ Nm	n_{ak} min^{-1}	J_{GA} 10^{-4} $kg*m^2$	c_T PSBF Nm/'	F_{Ramax} PSBF N	F_{Rapk} PSBF N
PSBF521 1	5.00[1)]	300	375	560	425	3.7	101	13900	40000
	7.00[1)]	300	360	540	375	3.2	78	15400	40000
	10.00	270	270	445	485	2.9	43	17200	40000

PSB..521EPH06 n_e = 1500	i	M_{amax} Nm	M_{apk} Nm	$M_{aNotaus}$ Nm	n_{ak} min^{-1}	J_{GA} 10^{-4} $kg*m^2$	c_T PSBF Nm/'	F_{Ramax} PSBF N	F_{Rapk} PSBF N
PSBF521 1	5.00[1)]	300	375	560	425	6.6	105	13900	40000
	7.00[1)]	300	360	540	375	6.0	81	15400	40000
	10.00	270	270	445	485	5.7	43	17200	40000

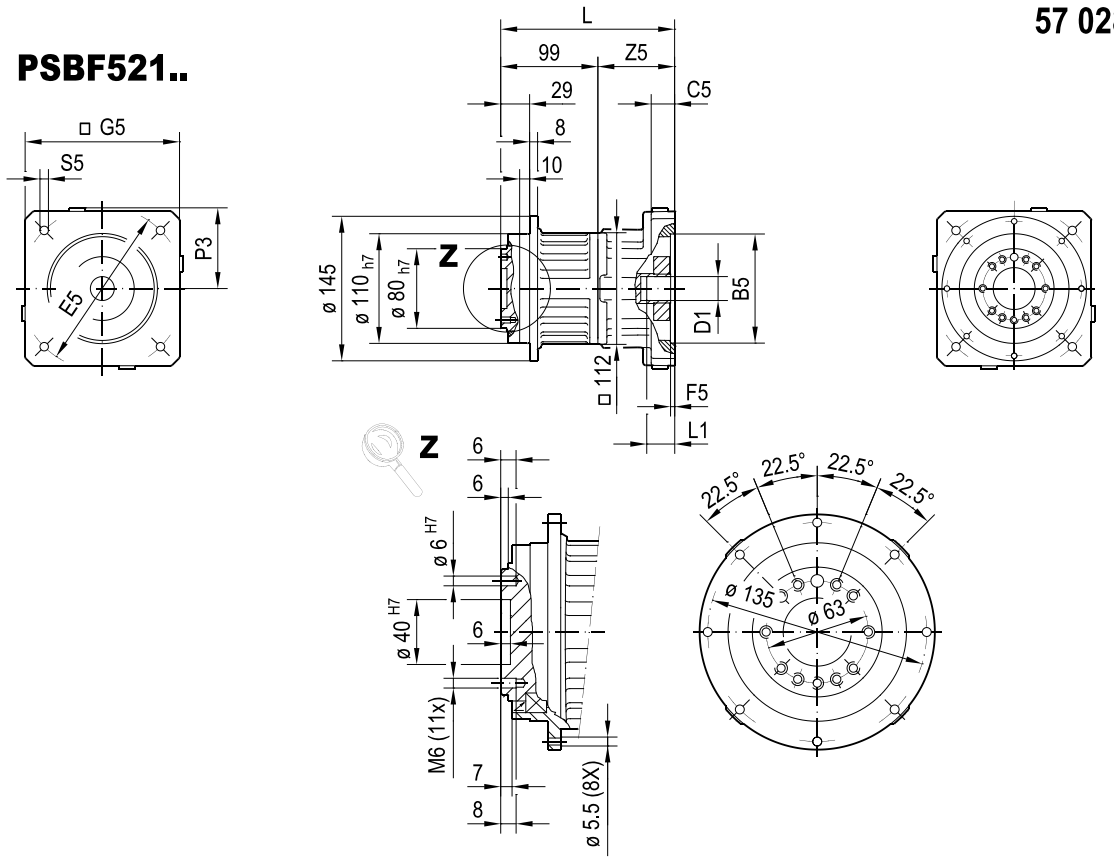
PSB..521EPH07 n_e = 1500	i	M_{amax} Nm	M_{apk} Nm	$M_{aNotaus}$ Nm	n_{ak} min^{-1}	J_{GA} 10^{-4} $kg*m^2$	c_T PSBF Nm/'	F_{Ramax} PSBF N	F_{Rapk} PSBF N
PSBF521 1	5.00[1)]	300	375	560	425	6.7	109	13900	40000
	7.00[1)]	300	360	540	375	6.1	81	15400	40000
	10.00	270	270	445	485	5.8	43	17200	40000

PSB..521				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSBF521 1	5.00	6000	99	888	-1.844	0	968	-2.125	0	1421	-5.260	0	6	3	1
	7.00	6000	99	1021	-2.429	0	1055	-2.543	0	1526	-5.923	0	6	3	1
	10.00	6000	99	991	-2.738	0	1003	-2.767	0	1421	-5.928	0	6	3	1

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PSBF521..



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH04/01/..	145	40	20	63	3.5	90	M4	46	42.75	47	11, 12, 14, 16, 19
EPH04/03/..	145	50	20	60	3.5	90	M4	46	41	47	11, 12, 14, 16, 19
EPH04/04/..	145	50	20	70	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/05/..	145	50	20	80	3.5	90	M4	46	41	47	11, 12, 14, 16, 19
EPH04/06/..	145	50	20	95	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/07/..	145	50	20	100	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/08/..	145	60	20	75	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/09/..	145	60	20	90	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/10/..	145	70	20	85	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/11/..	145	70	20	90	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/12/..	145	70	20	90	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/13/..	145	80	20	100	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/14/..	145	95	16	115	4	105	M8	46	41	55	11, 12, 14, 16, 19
EPH04/15/..	145	95	16	130	4	115	M8	46	41	60	11, 12, 14, 16, 19
EPH05/14/..	161	95	16	115	4	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	161	95	16	130	4	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	161	110	16	130	5	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	161	110	16	145	7	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	161	110	20	165	5	140	M10	62	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	161	130	20	165	5	140	M10	62	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	161	110	16	130	5	115	M8	62	52	61	14, 16, 17, 18, 19, 24
EPH06/19/..	196	114.3	24	200	5	174	M12	97	82	89	35
EPH07/20/..	176	130	24	165	5	155	M10	77	62	80	22, 24, 28, 32
EPH07/21/..	176	130	24	215	5	190	M12	77	62	97	22, 24, 28, 32
EPH07/22/..	176	180	24	215	5	190	M12	77	62	97	22, 24, 28, 32
EPH07/27/..	176	130	24	165	5	137	M10	77	62	72	22, 24, 28, 32
EPH07/28/..	176	155	24	190	5	162	M10	77	62	84	22, 24, 28, 32

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14.1.22 PSBF522 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$					
	i	04			05		
PSBF522 2	15.00	300	375	560	300	375	560
	20.00	300	375	560	300	375	560
	25.00	300	375	560	300	375	560
	35.00	300	375	560	300	375	560
	49.00	300	360	540	300	360	540
	70.00	300	360	540	300	360	540
	100.00	270	270	445	270	270	445

PSBF522, m kg		
	EPH	
s	04	05
2	9.6	11

PSB..522EPH04 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSBF	F_{Ramax} PSBF	F_{Rapk} PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF522 2	15.00	300	375	560	425	1.5	98	19400	40000
	20.00	300	375	560	350	1.1	100	21100	40000
	25.00	300	375	560	280	1.0	100	22600	40000
	35.00	300	375	560	200	0.90	98	25000	40000
	49.00	300	360	540	143	0.89	77	27600	40000
	70.00	300	360	540	100	0.80	73	30800	40000
	100.00	270	270	445	70	0.80	42	34200	40000

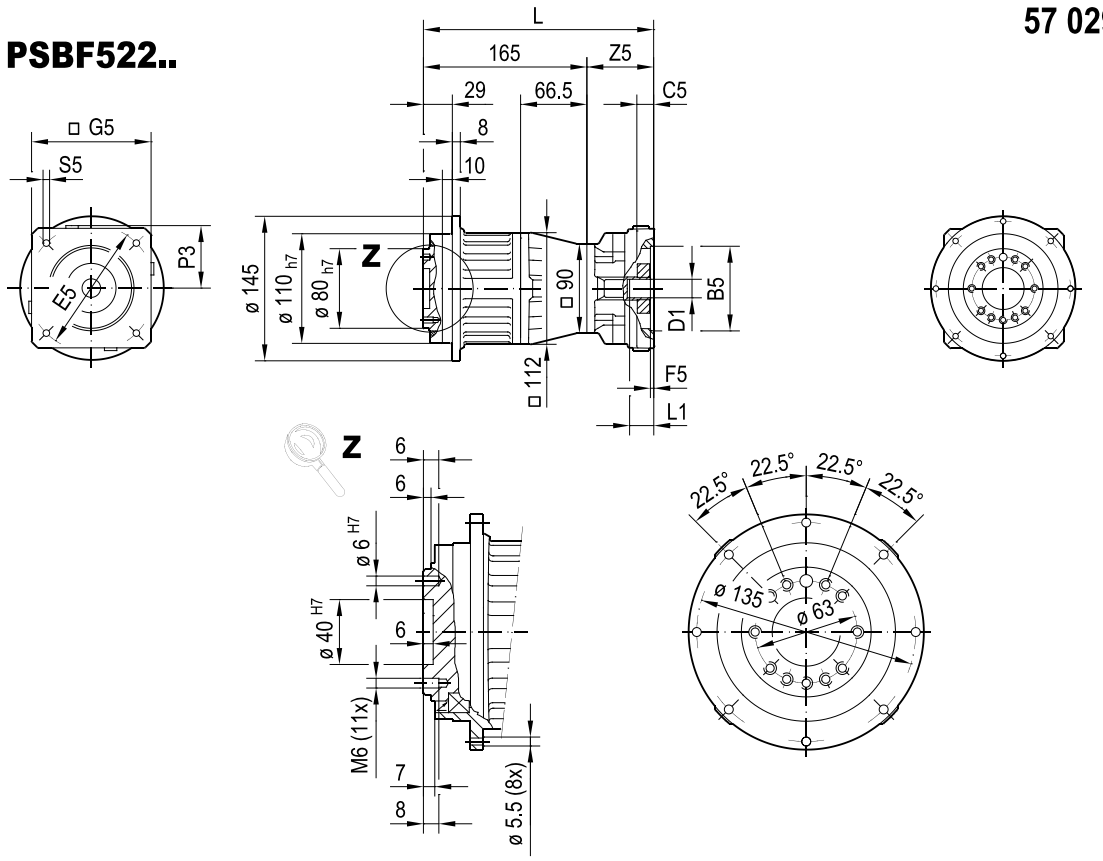
PSB..522EPH05 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSBF	F_{Ramax} PSBF	F_{Rapk} PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF522 2	15.00	300	375	560	425	3.2	99	19400	40000
	20.00	300	375	560	350	2.8	100	21100	40000
	25.00	300	375	560	280	2.7	100	22600	40000
	35.00	300	375	560	200	2.6	98	25000	40000
	49.00	300	360	540	143	2.6	77	27600	40000
	70.00	300	360	540	100	2.5	73	30800	40000
	100.00	270	270	445	70	2.5	42	34200	40000

PSB..522				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSBF522 2	15.00	7000	98	801	-2.867	0	966	-4.523	0	1079	-6.117	0	8	4	2
	20.00	7000	98	900	-3.479	0	1085	-5.353	0	1221	-7.250	0	8	4	2
	25.00	7000	98	954	-4.026	0	1134	-5.932	0	1270	-7.909	0	8	4	2
	35.00	7000	98	1023	-5.150	0	1178	-7.025	0	1301	-9.002	0	8	4	2
	49.00	7000	98	1292	-8.563	0	1543	-12.318	0	1662	-14.653	0	8	4	2
	70.00	7000	98	1418	-12.088	0	1608	-15.566	0	1690	-17.664	0	8	4	2
	100.00	7000	98	1765	-20.861	0	2052	-27.719	0	2118	-30.027	0	8	4	2

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PSBF522..

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(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH04/01/..	216	40	20	63	3.5	90	M4	51	42.75	47	11, 12, 14, 16, 19
EPH04/03/..	216	50	20	60	3.5	90	M4	51	41	47	11, 12, 14, 16, 19
EPH04/04/..	216	50	20	70	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/05/..	216	50	20	80	3.5	90	M4	51	41	47	11, 12, 14, 16, 19
EPH04/06/..	216	50	20	95	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/07/..	216	50	20	100	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/08/..	216	60	20	75	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/09/..	216	60	20	90	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/10/..	216	70	20	85	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/11/..	216	70	20	90	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/12/..	216	70	20	90	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/13/..	216	80	20	100	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/14/..	216	95	16	115	4	105	M8	51	41	55	11, 12, 14, 16, 19
EPH04/15/..	216	95	16	130	4	115	M8	51	41	60	11, 12, 14, 16, 19
EPH05/14/..	232	95	16	115	4	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	232	95	16	130	4	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	232	110	16	130	5	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	232	110	16	145	7	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	232	110	20	165	5	140	M10	67	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	232	130	20	165	5	140	M10	67	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	232	110	16	130	5	115	M8	67	52	61	14, 16, 17, 18, 19, 24

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14.1.23 PSBF621 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	05			06			07			08		
PSBF621 1	5.00	595	650	960	595	700	1050	595	700	1050	595	700	1050
	7.00	600	660	1020	600	660	1020	600	660	1020	600	660	1020
	10.00	500	500	850	500	500	850	500	500	850	500	500	850

PSBF621, m kg				
	EPH			
s	05	06	07	08
1	13	14	14	19

PSB..621EPH05							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF621 1	5.00[1)]	595	650	960	300	6.5	170	20800	60000
	7.00[1)]	600	660	1020	260	4.6	162	23000	60000
	10.00[1)]	500	500	850	425	3.6	94	25500	60000

PSB..621EPH06							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF621 1	5.00[1)]	595	700	1050	300	9.6	227	20800	60000
	7.00[1)]	600	660	1020	260	7.5	167	23000	60000
	10.00[1)]	500	500	850	425	6.4	96	25500	60000

PSB..621EPH07							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF621 1	5.00[1)]	595	700	1050	300	9.7	227	20800	60000
	7.00[1)]	600	660	1020	260	7.6	172	23000	60000
	10.00[1)]	500	500	850	425	6.6	93	25500	60000

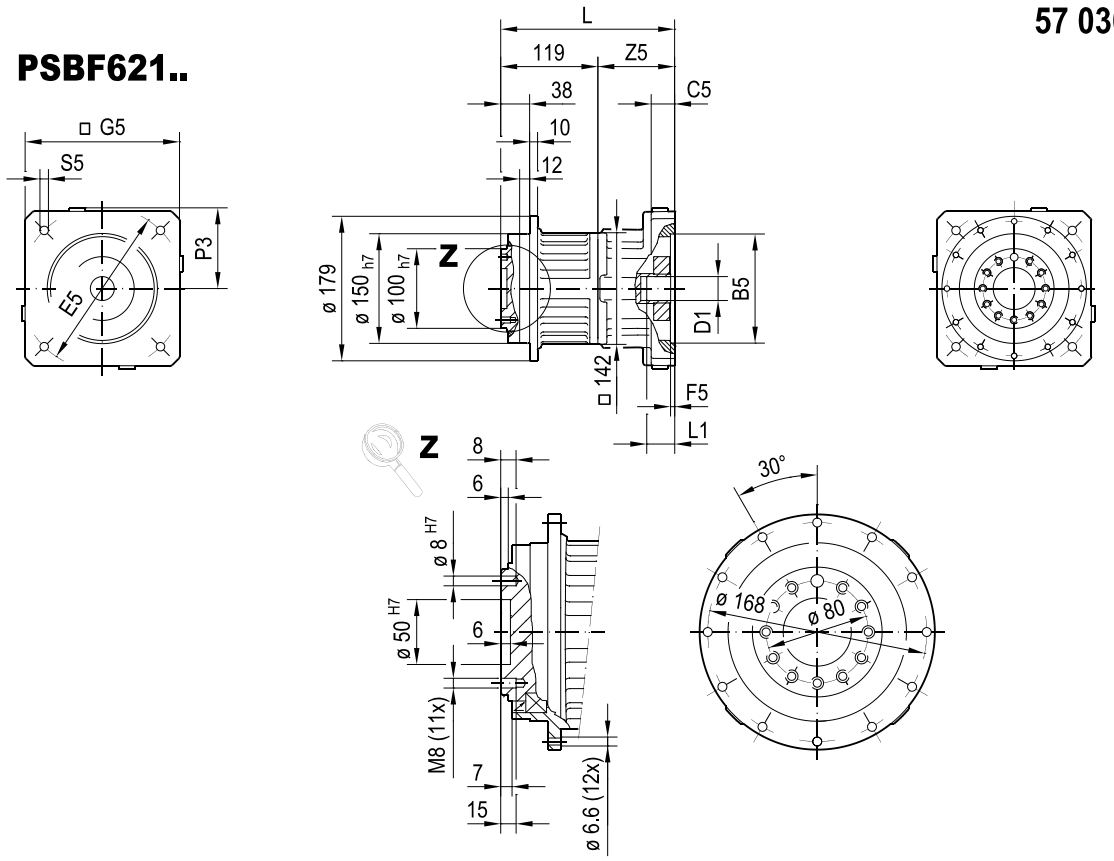
PSB..621EPH08							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF621 1	5.00[1)]	595	700	1050	300	16	243	20800	60000
	7.00[1)]	600	660	1020	260	14	175	23000	60000
	10.00[1)]	500	500	850	425	12	96	25500	60000

PSB..621				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSBF621 1	5.00	6000	99	1747	-4.514	0	1741	-4.390	0	2648	-12.070	0	4	2	1
	7.00	6000	99	1871	-5.210	0	1863	-5.066	0	2831	-13.383	0	4	2	1
	10.00	6000	99	1802	-5.613	0	1793	-5.459	0	2703	-13.520	0	4	2	1

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57 030 01 03

PSBF621..



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH05/14/..	173	95	16	115	4	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	173	95	16	130	4	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	173	110	16	130	5	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	173	110	16	145	7	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	173	110	20	165	5	140	M10	54	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	173	130	20	165	5	140	M10	54	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	173	110	16	130	5	115	M8	54	52	61	14, 16, 17, 18, 19, 24
EPH06/19/..	208	114.3	24	200	5	174	M12	89	82	89	35
EPH07/20/..	188	130	24	165	5	155	M10	69	62	80	22, 24, 28, 32
EPH07/21/..	188	130	24	215	5	190	M12	69	62	97	22, 24, 28, 32
EPH07/22/..	188	180	24	215	5	190	M12	69	62	97	22, 24, 28, 32
EPH07/27/..	188	130	24	165	5	137	M10	69	62	72	22, 24, 28, 32
EPH07/28/..	188	155	24	190	5	162	M10	69	62	84	22, 24, 28, 32
EPH08/21/..	213	130	24	215	5	190	M12	94	82	97	32, 35, 38
EPH08/22/..	213	180	24	215	5	190	M12	94	82	97	32, 35, 38

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14.1.24 PSBF622 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	04			05			06			07		
PSBF622 2	20.00	600	700	1050	600	700	1050	600	700	1050	600	700	1050
	25.00	600	700	1050	600	700	1050	600	700	1050	600	700	1050
	35.00	600	700	1050	600	700	1050	600	700	1050	600	700	1050
	49.00	600	660	990	600	660	990	600	660	990	600	660	990
	70.00	600	660	990	600	660	990	600	660	990	600	660	990
	100.00	500	500	750	500	500	750	500	500	750	500	500	750

PSBF622, m kg				
	EPH			
s	04	05	06	07
2	17	18	20	20

PSB..622EPH04							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF622 2	20.00	600	700	1050	292	2.2	220	31500	60000
	25.00	600	700	1050	240	1.7	227	33600	60000
	35.00	600	700	1050	171	1.3	227	37200	60000
	49.00	600	660	990	122	1.2	174	41200	60000
	70.00	600	660	990	86	1.1	169	45800	60000
	100.00	500	500	750	60	1.1	95	51000	60000

PSB..622EPH05							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF622 2	20.00	600	700	1050	292	4.0	239	31500	60000
	25.00	600	700	1050	240	3.5	239	33600	60000
	35.00	600	700	1050	171	3.0	232	37200	60000
	49.00	600	660	990	122	3.0	175	41200	60000
	70.00	600	660	990	86	2.8	169	45800	60000
	100.00	500	500	750	60	2.8	95	51000	60000

PSB..622EPH06							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF622 2	20.00	600	700	1050	292	6.8	241	31500	60000
	25.00	600	700	1050	240	6.3	240	33600	60000
	35.00	600	700	1050	171	5.9	233	37200	60000
	49.00	600	660	990	122	5.8	175	41200	60000
	70.00	600	660	990	86	5.6	169	45800	60000
	100.00	500	500	750	60	5.6	95	51000	60000

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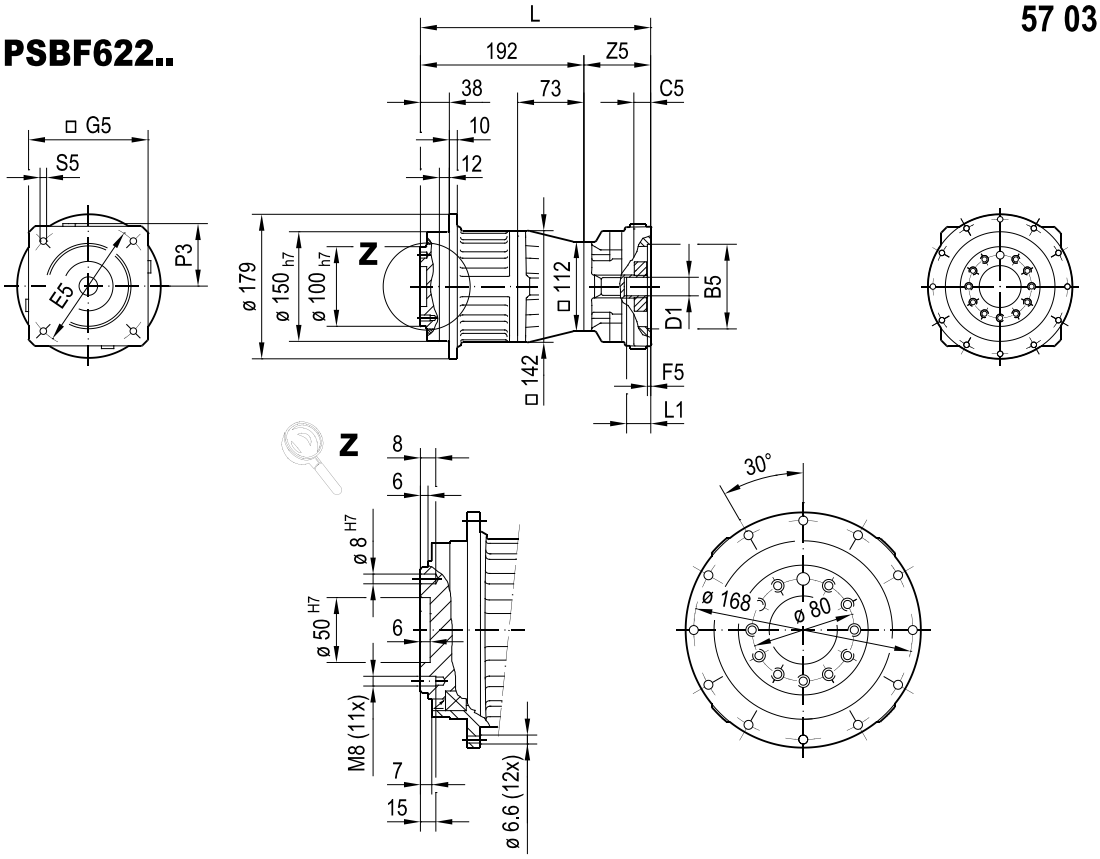
PSB..622EPH07							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF622 2	20.00	600	700	1050	292	6.9	242	31500	60000
	25.00	600	700	1050	240	6.4	241	33600	60000
	35.00	600	700	1050	171	6.0	233	37200	60000
	49.00	600	660	990	122	6.0	175	41200	60000
	70.00	600	660	990	86	5.7	169	45800	60000
	100.00	500	500	750	60	5.7	95	51000	60000

PSB..622				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSBF622 2	20.00	6000	98	1684	-8.269	0	2031	-13.015	0	2276	-17.729	0	6	3	1
	25.00	6000	98	1745	-9.229	0	2083	-13.997	0	2346	-19.042	0	6	3	1
	35.00	6000	98	1912	-11.855	0	2235	-16.821	0	2523	-22.509	0	6	3	1
	49.00	6000	98	2415	-19.665	0	2908	-29.398	0	3121	-35.239	0	6	3	1
	70.00	6000	98	2670	-27.475	0	3124	-37.628	0	3349	-44.215	0	6	3	1
	100.00	6000	98	3353	-47.752	0	3989	-67.069	0	4151	-74.029	0	6	3	1

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PSBF622..

57 031 01 03



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH04/01/..	238	40	20	63	3.5	90	M4	46	42.75	47	11, 12, 14, 16, 19
EPH04/03/..	238	50	20	60	3.5	90	M4	46	41	47	11, 12, 14, 16, 19
EPH04/04/..	238	50	20	70	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/05/..	238	50	20	80	3.5	90	M4	46	41	47	11, 12, 14, 16, 19
EPH04/06/..	238	50	20	95	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/07/..	238	50	20	100	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/08/..	238	60	20	75	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/09/..	238	60	20	90	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/10/..	238	70	20	85	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/11/..	238	70	20	90	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/12/..	238	70	20	90	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/13/..	238	80	20	100	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/14/..	238	95	16	115	4	105	M8	46	41	55	11, 12, 14, 16, 19
EPH04/15/..	238	95	16	130	4	115	M8	46	41	60	11, 12, 14, 16, 19
EPH05/14/..	254	95	16	115	4	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	254	95	16	130	4	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	254	110	16	130	5	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	254	110	16	145	7	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	254	110	20	165	5	140	M10	62	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	254	130	20	165	5	140	M10	62	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	254	110	16	130	5	115	M8	62	52	61	14, 16, 17, 18, 19, 24
EPH06/19/..	289	114.3	24	200	5	174	M12	97	82	89	35
EPH07/20/..	269	130	24	165	5	155	M10	77	62	80	22, 24, 28, 32
EPH07/21/..	269	130	24	215	5	190	M12	77	62	97	22, 24, 28, 32
EPH07/22/..	269	180	24	215	5	190	M12	77	62	97	22, 24, 28, 32
EPH07/27/..	269	130	24	165	5	137	M10	77	62	72	22, 24, 28, 32
EPH07/28/..	269	155	24	190	5	162	M10	77	62	84	22, 24, 28, 32

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14.1.25 PSBF721 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	05			06			07			08		
PSBF721 1	5.00	650	650	960	1000	1190	1760	1000	1190	1760	1000	1540	2310
	7.00	1000	1010	1520	1000	1380	2070	1000	1380	2070	1000	1380	2070
	10.00	1000	1040	1550	1000	1040	1550	1000	1040	1550	1000	1040	1550

PSBF721, m kg				
	EPH			
s	05	06	07	08
1	30	31	31	35

PSB..721EPH05							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF721 1	5.00[1)]	650	650	960	900	27	215	37900	120000
	7.00[1)]	1000	1010	1520	378	15	231	41900	120000
	10.00[1)]	1000	1040	1550	345	8.9	163	46600	120000

PSB..721EPH06							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF721 1	5.00[1)]	1000	1190	1760	430	30	322	37900	120000
	7.00[1)]	1000	1380	2070	378	18	286	41900	120000
	10.00[1)]	1000	1040	1550	345	12	165	46600	120000

PSB..721EPH07							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF721 1	5.00[1)]	1000	1190	1760	430	30	322	37900	120000
	7.00[1)]	1000	1380	2070	378	19	286	41900	120000
	10.00[1)]	1000	1040	1550	345	12	168	46600	120000

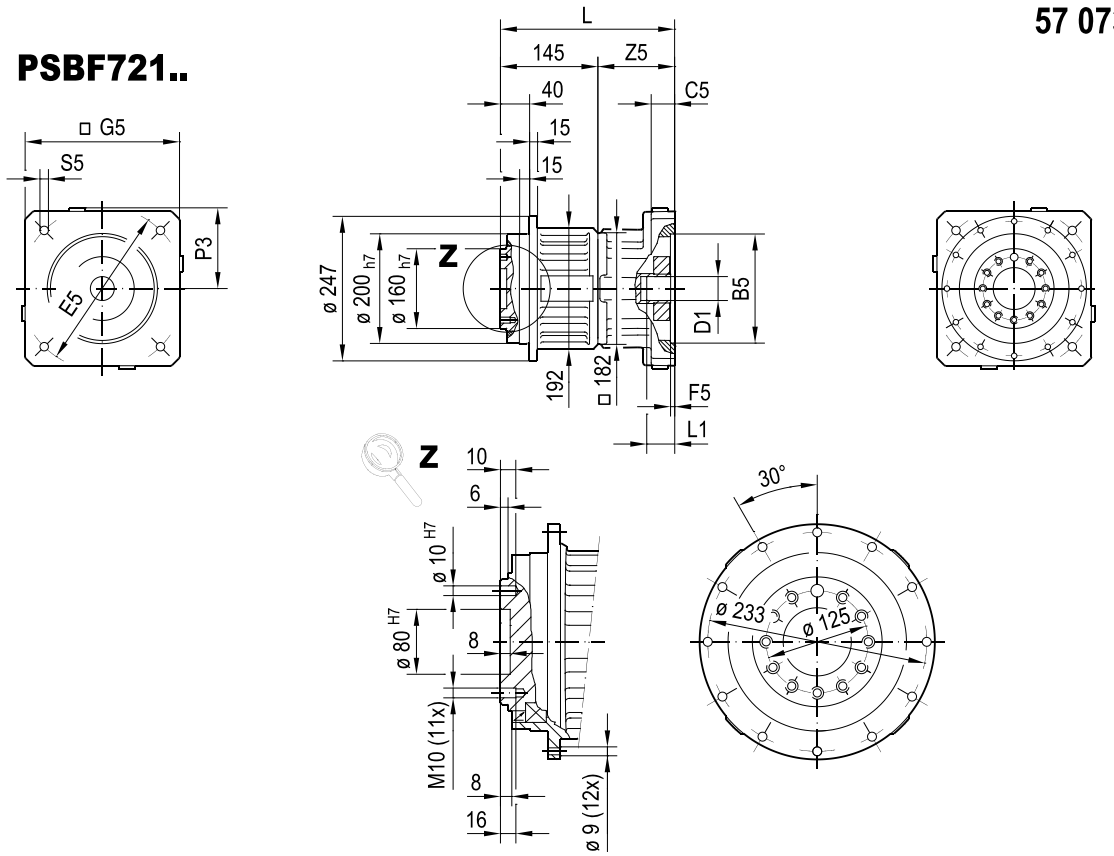
PSB..721EPH08							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF721 1	5.00[1)]	1000	1540	2310	430	36	361	37900	120000
	7.00[1)]	1000	1380	2070	378	24	306	41900	120000
	10.00[1)]	1000	1040	1550	345	18	169	46600	120000

PSB..721				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSBF721 1	5.00	4500	99	3406	-10.384	0	3372	-10.008	0	5088	-28.117	0	4	2	1
	7.00	4500	99	3530	-11.209	0	3495	-10.820	0	5370	-30.271	0	4	2	1
	10.00	4500	99	3286	-11.116	0	3251	-10.740	0	5045	-29.327	0	4	2	1

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57 073 03 07

PSBF721..



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH05/14/..	195	95	16	115	4	120	M8	50	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	195	95	16	130	4	120	M8	50	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	195	110	16	130	5	120	M8	50	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	195	110	16	145	7	120	M8	50	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	195	110	20	165	5	140	M10	50	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	195	130	20	165	5	140	M10	50	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	195	110	16	130	5	115	M8	50	52	61	14, 16, 17, 18, 19, 24
EPH06/19/..	230	114.3	24	200	5	174	M12	85	82	89	35
EPH07/20/..	210	130	24	165	5	155	M10	65	62	80	22, 24, 28, 32
EPH07/21/..	210	130	24	215	5	190	M12	65	62	97	22, 24, 28, 32
EPH07/22/..	210	180	24	215	5	190	M12	65	62	97	22, 24, 28, 32
EPH07/27/..	210	130	24	165	5	137	M10	65	62	72	22, 24, 28, 32
EPH07/28/..	210	155	24	190	5	162	M10	65	62	84	22, 24, 28, 32
EPH08/21/..	235	130	24	215	5	190	M12	90	82	97	32, 35, 38
EPH08/22/..	235	180	24	215	5	190	M12	90	82	97	32, 35, 38

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14.1.26 PSBF722 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	04			05			06			07		
PSBF722 2	20.00	850	850	1180	1000	1540	2310	1000	1540	2310	1000	1540	2310
	25.00	1000	1060	1480	1000	1540	2310	1000	1540	2310	1000	1540	2310
	35.00	1000	1530	2290	1000	1540	2310	1000	1540	2310	1000	1540	2310
	49.00	1000	1380	2070	1000	1380	2070	1000	1380	2070	1000	1380	2070
	70.00	1000	1380	2070	1000	1380	2070	1000	1380	2070	1000	1380	2070
	100.00	1000	1040	1550	1000	1040	1550	1000	1040	1550	1000	1040	1550

PSBF722, m kg				
	EPH			
s	04	05	06	07
2	34	35	37	37

PSB..722EPH04							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF722 2	20.00	850	850	1180	300	3.5	330	57400	120000
	25.00	1000	1060	1480	240	2.5	355	61400	120000
	35.00	1000	1530	2290	171	1.7	374	67900	120000
	49.00	1000	1380	2070	122	1.4	288	75100	120000
	70.00	1000	1380	2070	86	1.2	276	83600	120000
	100.00	1000	1040	1550	60	1.1	166	93100	120000

PSB..722EPH05							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF722 2	20.00	1000	1540	2310	300	5.3	405	57400	120000
	25.00	1000	1540	2310	240	4.3	399	61400	120000
	35.00	1000	1540	2310	171	3.5	388	67900	120000
	49.00	1000	1380	2070	122	3.2	293	75100	120000
	70.00	1000	1380	2070	86	2.9	276	83600	120000
	100.00	1000	1040	1550	60	2.8	166	93100	120000

PSB..722EPH06							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF722 2	20.00	1000	1540	2310	300	8.2	409	57400	120000
	25.00	1000	1540	2310	240	7.2	401	61400	120000
	35.00	1000	1540	2310	171	6.3	390	67900	120000
	49.00	1000	1380	2070	122	6.1	293	75100	120000
	70.00	1000	1380	2070	86	5.7	276	83600	120000
	100.00	1000	1040	1550	60	5.6	167	93100	120000

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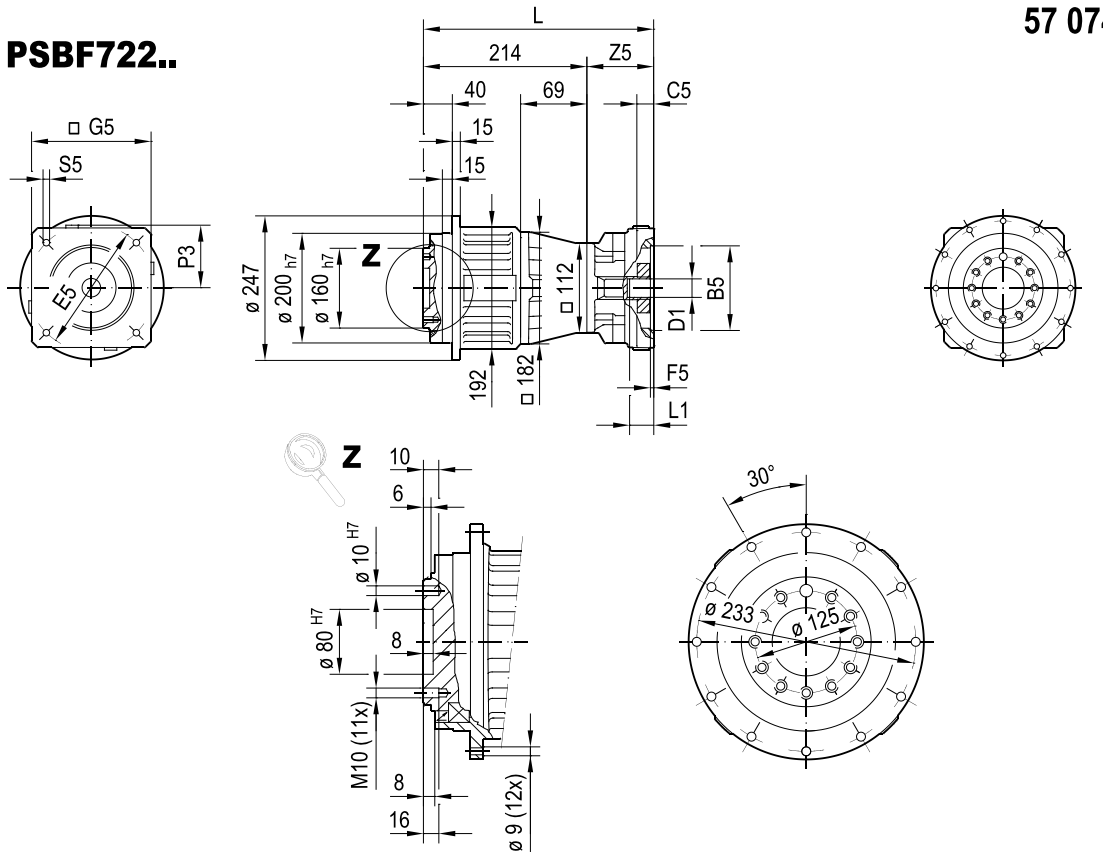
PSB..722EPH07							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF722 2	20.00	1000	1540	2310	300	8.3	413	57400	120000
	25.00	1000	1540	2310	240	7.3	403	61400	120000
	35.00	1000	1540	2310	171	6.4	390	67900	120000
	49.00	1000	1380	2070	122	6.2	293	75100	120000
	70.00	1000	1380	2070	86	5.8	276	83600	120000
	100.00	1000	1040	1550	60	5.7	167	93100	120000

PSB..722				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSBF722 2	20.00	6000	98	2746	-13.534	0	3072	-18.387	0	3652	-29.627	0	6	3	1
	25.00	6000	98	2812	-14.637	0	3131	-19.458	0	3718	-31.002	0	6	3	1
	35.00	6000	98	2997	-17.575	0	3310	-22.549	0	3910	-34.812	0	6	3	1
	49.00	6000	98	3452	-25.225	0	3994	-35.185	0	4496	-47.683	0	6	3	1
	70.00	6000	98	3688	-32.842	0	4141	-42.368	0	4629	-55.477	0	6	3	1
	100.00	6000	98	4350	-51.863	0	5050	-70.474	0	5372	-82.804	0	6	3	1

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PSBF722..

57 074 03 07



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH04/01/..	260	40	20	63	3.5	90	M4	46	42.75	47	11, 12, 14, 16, 19
EPH04/03/..	260	50	20	60	3.5	90	M4	46	41	47	11, 12, 14, 16, 19
EPH04/04/..	260	50	20	70	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/05/..	260	50	20	80	3.5	90	M4	46	41	47	11, 12, 14, 16, 19
EPH04/06/..	260	50	20	95	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/07/..	260	50	20	100	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/08/..	260	60	20	75	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/09/..	260	60	20	90	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/10/..	260	70	20	85	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/11/..	260	70	20	90	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/12/..	260	70	20	90	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/13/..	260	80	20	100	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/14/..	260	95	16	115	4	105	M8	46	41	55	11, 12, 14, 16, 19
EPH04/15/..	260	95	16	130	4	115	M8	46	41	60	11, 12, 14, 16, 19
EPH05/14/..	276	95	16	115	4	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	276	95	16	130	4	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	276	110	16	130	5	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	276	110	16	145	7	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	276	110	20	165	5	140	M10	62	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	276	130	20	165	5	140	M10	62	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	276	110	16	130	5	115	M8	62	52	61	14, 16, 17, 18, 19, 24
EPH06/19/..	311	114.3	24	200	5	174	M12	97	82	89	35
EPH07/20/..	291	130	24	165	5	155	M10	77	62	80	22, 24, 28, 32
EPH07/21/..	291	130	24	215	5	190	M12	77	62	97	22, 24, 28, 32
EPH07/22/..	291	180	24	215	5	190	M12	77	62	97	22, 24, 28, 32
EPH07/27/..	291	130	24	165	5	137	M10	77	62	72	22, 24, 28, 32
EPH07/28/..	291	155	24	190	5	162	M10	77	62	84	22, 24, 28, 32

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14.1.27 PSBF821 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$					
	i	09			10		
PSBF821 1	5.00	1750	2500	2660	1750	2500	3750
	7.00	1750	2740	3720	1750	2740	4110
	10.00	1750	2060	3090	1750	2060	3090

PSBF821, m kg		
	EPH	
s	09	10
1	50	53

PSB..821EPH09							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF821 1	5.00	1750	2500	2660	290	67	953	62100	180000
	7.00	1750	2740	3720	255	44	908	68700	180000
	10.00	1750	2060	3090	233	32	567	76500	180000

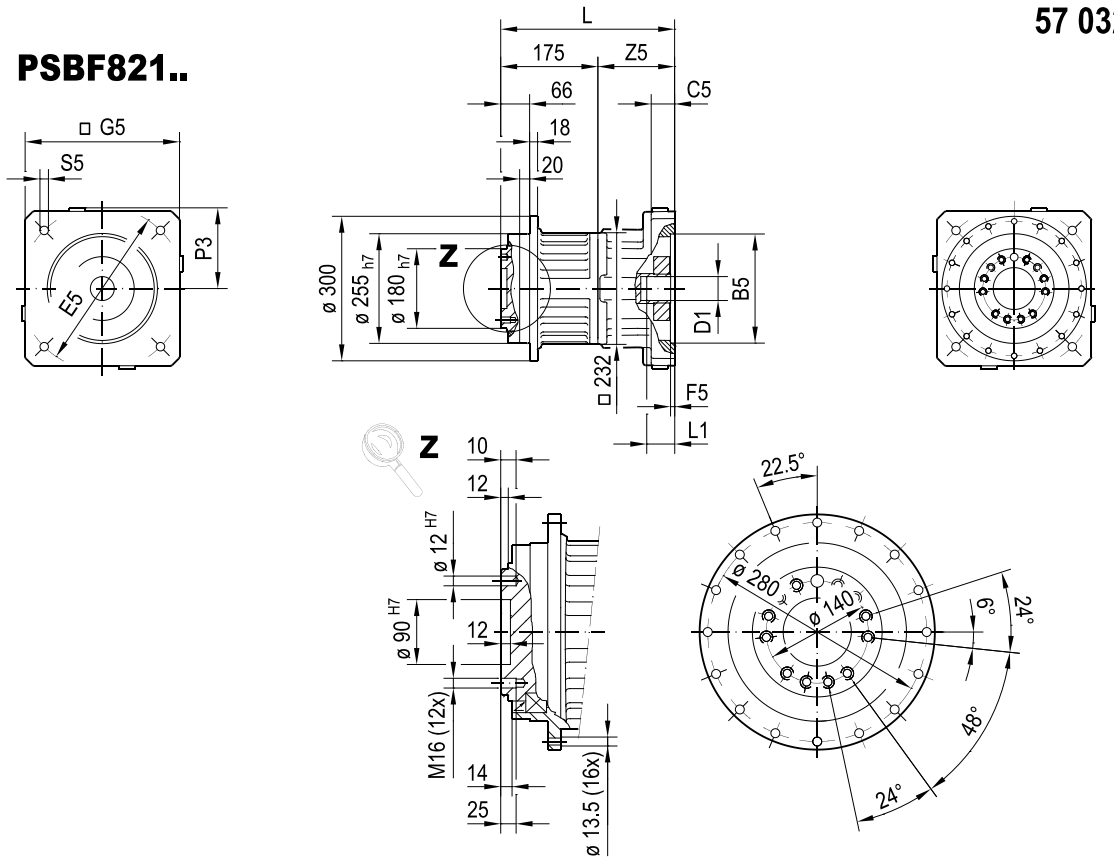
PSB..821EPH10							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF821 1	5.00	1750	2500	3750	290	91	1152	62100	180000
	7.00	1750	2740	4110	255	68	994	68700	180000
	10.00	1750	2060	3090	233	56	584	76500	180000

PSB..821				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSBF821 1	5.00	4500	99	5887	-21.067	0	5878	-20.626	0	8957	-58.485	0	4	2	1
	7.00	4500	99	6343	-23.662	0	6338	-23.233	0	9506	-63.357	0	4	2	1
	10.00	4500	99	5799	-23.075	0	5792	-22.643	0	8806	-60.525	0	4	2	1

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57 032 01 03

PSBF821..



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH09/22/..	274	180	36	215	5	190	M12	99	85	97	32, 35, 38, 42
EPH09/23/..	304	230	30	265	6	240	M12	129	115	122	32, 35, 38, 42
EPH09/24/..	304	250	30	300	6	260	M16	129	115	132	32, 35, 38, 42
EPH09/25/..	304	300	30	350	6	310	M16	129	115	157	32, 35, 38, 42
EPH10/22/..	274	180	36	215	5	190	M12	99	85	97	48, 55
EPH10/23/..	304	230	30	265	6	240	M12	129	115	122	48, 55
EPH10/24/..	304	250	30	300	6	260	M16	129	115	132	48, 55
EPH10/25/..	304	300	30	350	6	310	M16	129	115	157	48, 55

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14.1.28 PSBF822 EPH..

Nm		EPH M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	05			06			07			08		
PSBF822 2	20.00	1750	2500	3750	1750	2500	3750	1750	2500	3750	1750	2500	3750
	25.00	1750	2500	3750	1750	2500	3750	1750	2500	3750	1750	2500	3750
	35.00	1750	2500	3750	1750	2500	3750	1750	2500	3750	1750	2500	3750
	49.00	1750	2740	4110	1750	2740	4110	1750	2740	4110	1750	2740	4110
	70.00	1750	2740	4110	1750	2740	4110	1750	2740	4110	1750	2740	4110
	100.00	1750	2060	3090	1750	2060	3090	1750	2060	3090	1750	2060	3090

PSBF822, m kg				
	EPH			
s	05	06	07	08
2	50	51	52	56

PSB..822EPH05							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF822 2	20.00	1750	2500	3750	290	8.7	1052	94200	180000
	25.00	1750	2500	3750	240	6.6	1092	100700	180000
	35.00	1750	2500	3750	171	4.6	1076	111400	180000
	49.00	1750	2740	4110	122	4.2	977	123200	180000
	70.00	1750	2740	4110	86	3.4	902	137100	180000
	100.00	1750	2060	3090	60	3.3	572	152600	180000

PSB..822EPH06							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF822 2	20.00	1750	2500	3750	290	12	1159	94200	180000
	25.00	1750	2500	3750	240	9.7	1163	100700	180000
	35.00	1750	2500	3750	171	7.5	1084	111400	180000
	49.00	1750	2740	4110	122	7.1	981	123200	180000
	70.00	1750	2740	4110	86	6.2	905	137100	180000
	100.00	1750	2060	3090	60	6.1	573	152600	180000

PSB..822EPH07							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF822 2	20.00	1750	2500	3750	290	12	1160	94200	180000
	25.00	1750	2500	3750	240	9.8	1163	100700	180000
	35.00	1750	2500	3750	171	7.6	1093	111400	180000
	49.00	1750	2740	4110	122	7.2	985	123200	180000
	70.00	1750	2740	4110	86	6.4	905	137100	180000
	100.00	1750	2060	3090	60	6.2	573	152600	180000

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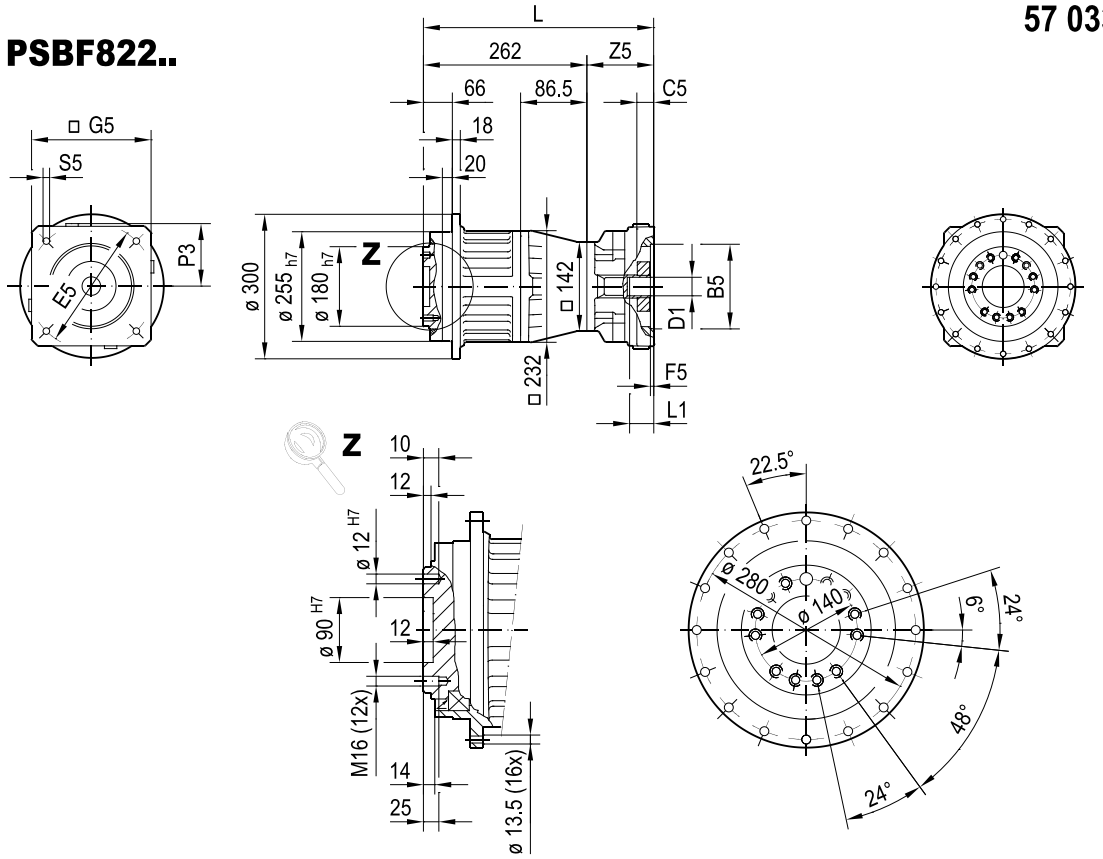
PSB..822EPH08							c_T	F_{Ramax}	F_{Rapk}
n_e = 1000		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSBF	PSBF	PSBF
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSBF822 2	20.00	1750	2500	3750	290	18	1184	94200	180000
	25.00	1750	2500	3750	240	16	1179	100700	180000
	35.00	1750	2500	3750	171	14	1098	111400	180000
	49.00	1750	2740	4110	122	13	986	123200	180000
	70.00	1750	2740	4110	86	12	905	137100	180000
	100.00	1750	2060	3090	60	12	573	152600	180000

PSB..822				M1;M3;M5-6			M2			M4			φ		
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'	/R '	/M '
PSBF822 2	20.00	6000	98	4922	-23.206	0	5651	-33.074	0	6802	-54.798	0	6	3	1
	25.00	6000	98	5016	-24.663	0	5735	-34.520	0	6911	-56.854	0	6	3	1
	35.00	6000	98	5306	-28.758	0	6022	-39.003	0	7244	-62.787	0	6	3	1
	49.00	6000	98	6412	-42.933	0	7552	-63.014	0	8541	-87.568	0	6	3	1
	70.00	6000	98	6781	-53.792	0	7786	-73.441	0	8732	-98.665	0	6	3	1
	100.00	6000	98	7812	-82.295	0	9379	-120.3	0	10055	-145.0	0	6	3	1

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PSBF822..

57 033 01 03

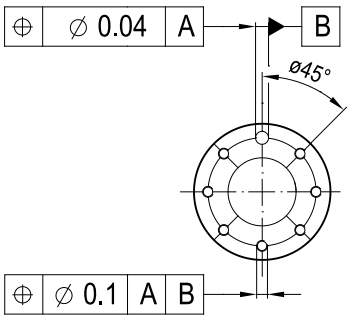


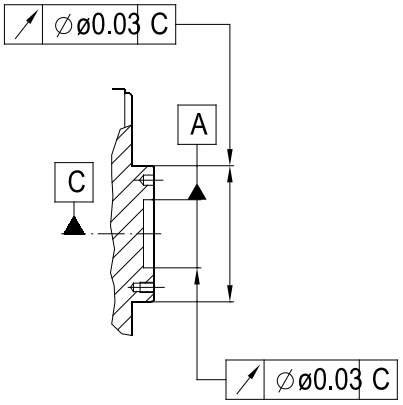
(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 14.2)
EPH05/14/..	316	95	16	115	4	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	316	95	16	130	4	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	316	110	16	130	5	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	316	110	16	145	7	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	316	110	20	165	5	140	M10	54	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	316	130	20	165	5	140	M10	54	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	316	110	16	130	5	115	M8	54	52	61	14, 16, 17, 18, 19, 24
EPH06/19/..	351	114.3	24	200	5	174	M12	89	82	89	35
EPH07/20/..	331	130	24	165	5	155	M10	69	62	80	22, 24, 28, 32
EPH07/21/..	331	130	24	215	5	190	M12	69	62	97	22, 24, 28, 32
EPH07/22/..	331	180	24	215	5	190	M12	69	62	97	22, 24, 28, 32
EPH07/27/..	331	130	24	165	5	137	M10	69	62	72	22, 24, 28, 32
EPH07/28/..	331	155	24	190	5	162	M10	69	62	84	22, 24, 28, 32
EPH08/21/..	356	130	24	215	5	190	M12	94	82	97	32, 35, 38
EPH08/22/..	356	180	24	215	5	190	M12	94	82	97	32, 35, 38

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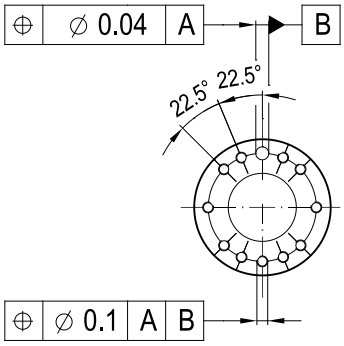
14.2 PSBF.. /mm

55 035 02 03

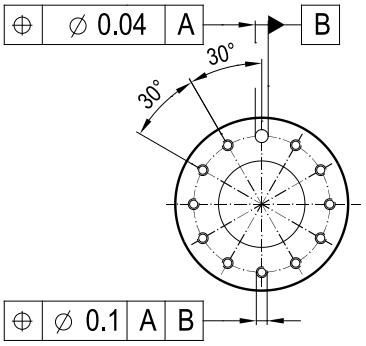




BSBF202 PSBF221/222
BSBF302 PSBF321/322

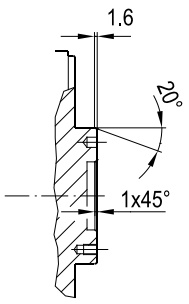


BSBF402 PSBF521/522
BSBF502



BSBF602 PSBF621/622
BSBF802 PSBF721/722
PSBF821/822

55 036 00 03



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14.3 PS.F.. EPH.. → D1

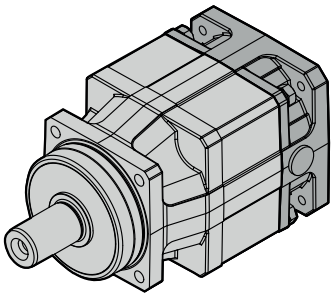
	PS.F121 PS.F122 PS.F221 PS.F222 PS.F322	PS.F121 PS.F122 PS.F221 PS.F222 PS.F322	PS.F221 PS.F322	PS.F221 PS.F321 PS.F322 PS.F521 PS.F522 PS.F622 PS.F722	PS.F321 PS.F521 PS.F522 PS.F621 PS.F622 PS.F721 PS.F722 PS.F822 PS.F922	PS.F521 PS.F621 PS.F622 PS.F721 PS.F722 PS.F822 PS.F922	PS.F521 PS.F621 PS.F622 PS.F721 PS.F722 PS.F822 PS.F922	PS.F621 PS.F721 PS.F822 PS.F922	PS.F821 PS.F921	PS.F821 PS.F921
	EPH01	**EPH02**	**EPH03**	**EPH04**	**EPH05**	**EPH06**	**EPH07**	**EPH08**	**EPH09**	**EPH10**
D1 /mm	**Code for mountable motor shaft diameters D1**									
8		1	1							
9	2	2	2							
10		3	3							
11	4	4	4	4						
12		5	5	5						
14		6	6	6	6					
16				8	8					
17					9					
18					10					
19				11	11					
22							12			
24					13		13			
28							14			
32							15	15	15	
35						16		16	16	
38								17	17	
42									18	
48										19
55										20

Example:

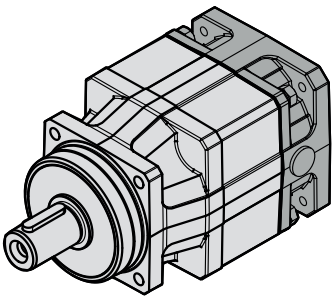
PS.F..EPH 05 /14 /11	
PS.F..EPH..	Gear units with adapter
05	Code for performance class of the adapter
/14	Code for flange geometry (centering, hole circle)
/11	**Code for mountable motor shaft diameters D1**

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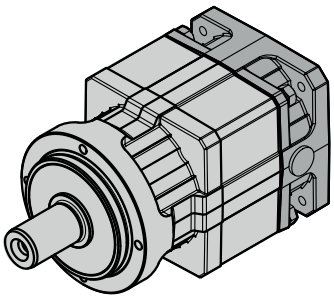
15 Planetary gear units PS.C..



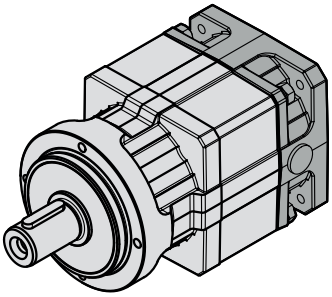
PSC../ECH..



PSKC../ECH..



PSCZ../ECH

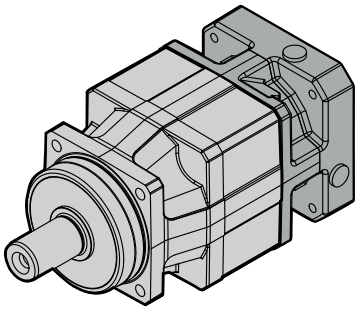


PSKCZ../ECH..

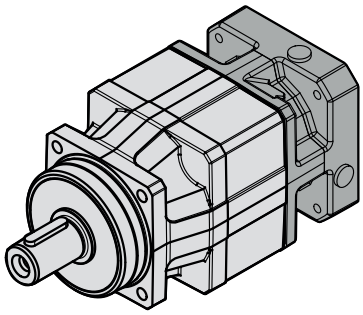
35161197323

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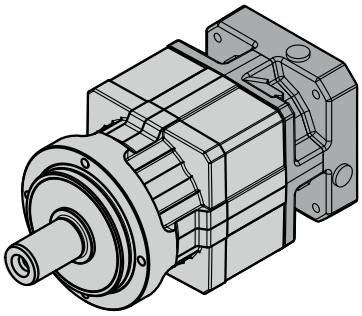
SEW EURODRIVE



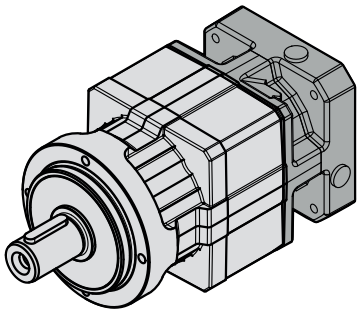
PSC../EPH..



PSKC../EPH..



PSCZ../EPH



PSKCZ../EPH..

35161200651

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15.1 PS.C..EPH.. – Selection tables and dimension sheets

15.1.1 PS.C221 ECH../EPH..

Nm		ECH M_{amax} | M_{apk} | $M_{aNotaus}$			EPH M_{amax} | M_{apk} | $M_{aNotaus}$												
	i	02			01			02			03			04			
PSC221 1	3.00				23	23	34	29	40	60	29	40	60	29	40	60	
	5.00				34	42	63	34	42	63	34	42	63	34	42	63	
	7.00				32	39	59	32	39	59	32	39	59	32	39	59	
	10.00				30	37	56	30	37	56	30	37	56	30	37	56	

PSC221, m kg					
	ECH	EPH			
s	02	01	02	03	04
1	1.8	2.4	2.5	2.8	2.9

PSC..221ECH02 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSC	F_{Ramax} PSC	F_{Rapk} PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC221 1	3.00	29	40	57	1500	0.37	3.1	1170	2000
	5.00	34	42	63	723	0.26	3.3	1390	2000
	7.00	32	39	59	809	0.23	3.2	1550	2000
	10.00	30	37	56	700	0.22	2.9	1750	2000

PSC..221EPH01 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSC	F_{Ramax} PSC	F_{Rapk} PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC221 1	3.00	23	23	34	2333	0.35	3.4	1170	2000
	5.00	34	42	63	723	0.24	3.4	1390	2000
	7.00	32	39	59	809	0.22	3.3	1550	2000
	10.00	30	37	56	700	0.21	3.0	1750	2000

PSC..221EPH02 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSC	F_{Ramax} PSC	F_{Rapk} PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC221 1	3.00	29	40	60	1500	0.66	3.4	1170	2000
	5.00	34	42	63	723	0.55	3.4	1390	2000
	7.00	32	39	59	809	0.52	3.3	1550	2000
	10.00	30	37	56	700	0.51	3.0	1750	2000

PSC..221EPH03 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSC	F_{Ramax} PSC	F_{Rapk} PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC221 1	3.00	29	40	60	1500	0.73	3.4	1170	2000
	5.00	34	42	63	723	0.62	3.4	1390	2000
	7.00	32	39	59	809	0.60	3.3	1550	2000
	10.00	30	37	56	700	0.58	3.0	1750	2000

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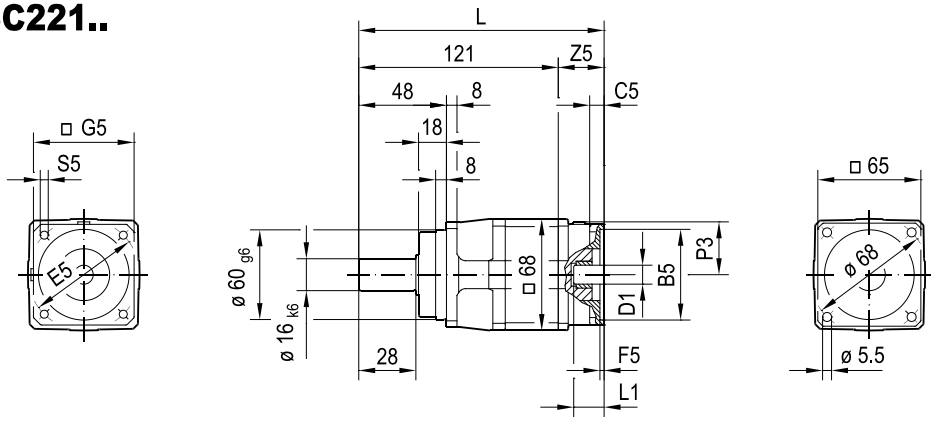
PSC..221EPH04 n_e = 1500	i	M_{amax} Nm	M_{apk} Nm	$M_{aNotaus}$ Nm	n_{ak} min^{-1}	J_{GA} 10^{-4} kg*m^2	c_T PSC Nm/'	F_{Ramax} PSC N	F_{Rapk} PSC N
PSC221 1	3.00	29	40	60	1500	0.91	3.4	1170	2000
	5.00	34	42	63	723	0.80	3.4	1390	2000
	7.00	32	39	59	809	0.78	3.3	1550	2000
	10.00	30	37	56	700	0.76	3.0	1750	2000

PSC..221				M1;M3;M5-6			M2			M4			φ
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'
PSC221 1	3.00	7000	99	115.0	-0.090	0	122.0	-0.101	0	124.0	-0.107	0	10
	5.00	7000	99	186.0	-0.183	0	191.0	-0.191	0	195.0	-0.200	0	10
	7.00	7000	99	225	-0.272	0	228	-0.279	0	232	-0.289	0	10
	10.00	7000	99	244	-0.383	0	246	-0.389	0	244	-0.391	0	10

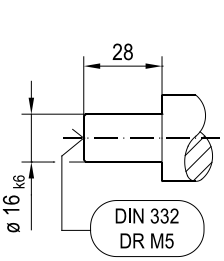
27788644/EN – 02/2024

57 015 01 07

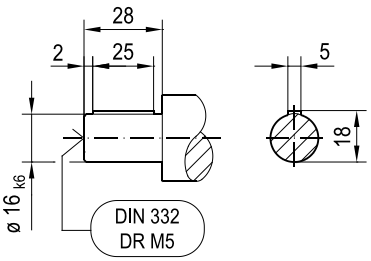
PSC221..



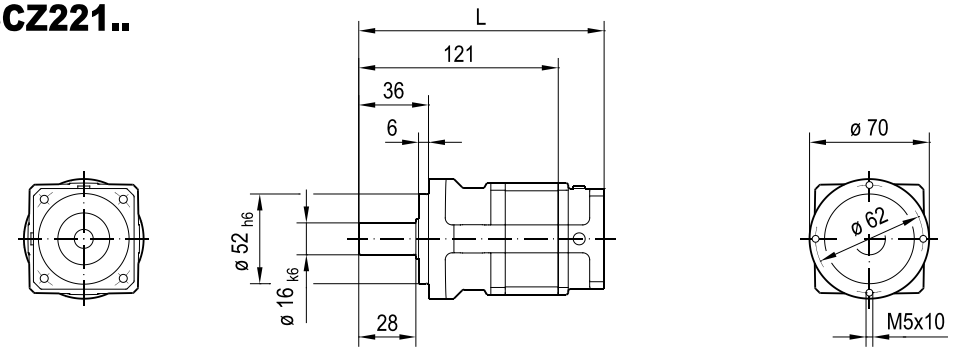
PSC / PSCZ



PSKC / PSKCZ



PSCZ221..

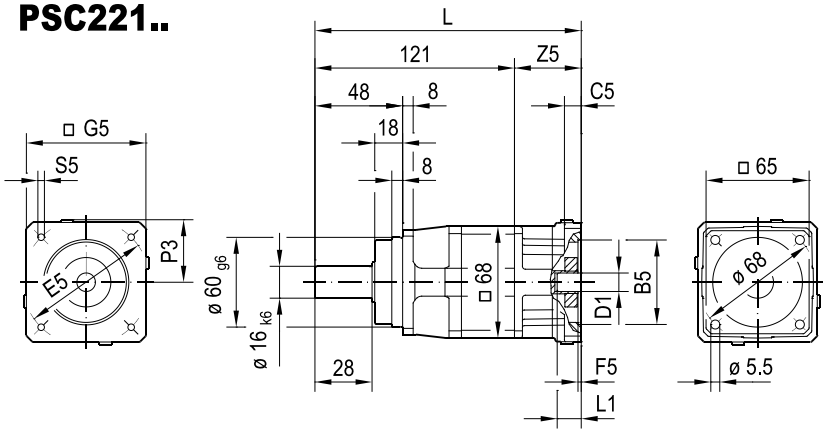


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 15.2)
ECH02/01/..	149	40	8	63	5	55	M4	28	25	30	9, 11
ECH02/08/..	152	60	9	75	5	73	M5	31	28	35	9, 11

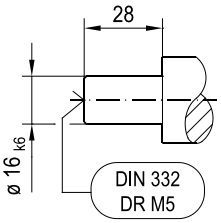
27788644/EN – 02/2024

57 023 01 07

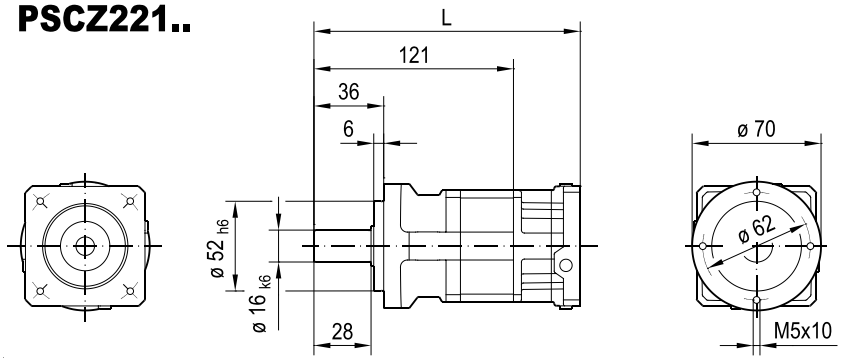
PSC221..



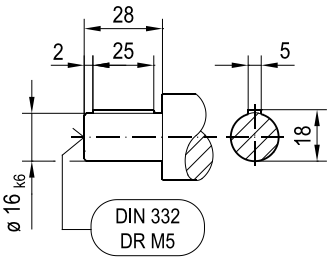
PSC / PSCZ



PSCZ221..



PSKC / PSKCZ



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 15.3)
EPH01/01/..	159	40	13	63	4	73	M4	38	33	39	9, 11
EPH01/03/..	159	50	13	60	4	73	M4	38	33	39	9, 11
EPH02/04/..	159	50	13	70	4	73	M5	38	34	39	8, 9, 10, 11, 12, 14
EPH02/05/..	159	50	13	80	4	73	M4	38	34	39	8, 9, 10, 11, 12, 14
EPH02/08/..	159	60	13	75	4	73	M5	38	34	39	8, 9, 10, 11, 12, 14
EPH03/01/..	168	40	20	63	3.5	90	M4	46.5	38	47	8, 9, 10, 11, 12, 14
EPH03/03/..	168	50	20	60	3.5	90	M4	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/04/..	168	50	20	70	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/05/..	168	50	20	80	3.5	90	M4	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/06/..	168	50	20	95	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/07/..	168	50	20	100	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/08/..	168	60	20	75	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/09/..	168	60	20	90	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/10/..	168	70	20	85	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/11/..	168	70	20	90	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/12/..	168	70	20	90	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/13/..	168	80	20	100	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/14/..	168	95	16	115	4	105	M8	46.5	30	55	8, 9, 10, 11, 12, 14
EPH04/01/..	177	40	20	63	3.5	90	M4	56	42.75	47	11, 12, 14, 16, 19
EPH04/03/..	177	50	20	60	3.5	90	M4	56	41	47	11, 12, 14, 16, 19
EPH04/04/..	177	50	20	70	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/05/..	177	50	20	80	3.5	90	M4	56	41	47	11, 12, 14, 16, 19
EPH04/06/..	177	50	20	95	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/07/..	177	50	20	100	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/08/..	177	60	20	75	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/09/..	177	60	20	90	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/10/..	177	70	20	85	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/11/..	177	70	20	90	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/12/..	177	70	20	90	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/13/..	177	80	20	100	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/14/..	177	95	16	115	4	105	M8	56	41	55	11, 12, 14, 16, 19
EPH04/15/..	177	95	16	130	4	115	M8	56	41	60	11, 12, 14, 16, 19

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15.1.2 PS.C222 ECH../EPH..

Nm		ECH M_{amax} | M_{apk} | $M_{aNotaus}$			EPH M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	02			01			02			03			04		
PSC222 2	15.00				29	40	60	29	40	60	29	40	60	29	40	60
	21.00				29	40	60	29	40	60	29	40	60	29	40	60
	25.00				34	42	63	34	42	63	34	42	63	34	42	63
	30.00				29	40	60	29	40	60	29	40	60	29	40	60
	35.00				34	42	63	34	42	63	34	42	63	34	42	63
	49.00				32	39	59	32	39	59	32	39	59	32	39	59
	50.00				34	42	63	34	42	63	34	42	63	34	42	63
	70.00				32	39	59	32	39	59	32	39	59	32	39	59
	100.00				30	37	56	30	37	56	30	37	56	30	37	56

PSC222, m kg					
	ECH	EPH			
s	02	01	02	03	04
2	2.5	3.1	3.1	3.4	3.5

PSC..222ECH02 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSC	F_{Ramax} PSC	F_{Rapk} PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC222 2	15.00	29	40	60	467	0.26	3.0	2000	2000
	21.00	29	40	60	333	0.23	3.0	2000	2000
	25.00	34	42	63	280	0.25	3.2	2000	2000
	30.00	29	40	60	233	0.22	2.9	2000	2000
	35.00	34	42	63	200	0.23	3.2	2000	2000
	49.00	32	39	59	143	0.23	3.2	2000	2000
	50.00	34	42	63	140	0.22	3.2	2000	2000
	70.00	32	39	59	100	0.22	3.2	2000	2000
	100.00	30	37	56	70	0.22	2.9	2000	2000

PSC..222EPH01 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSC	F_{Ramax} PSC	F_{Rapk} PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC222 2	15.00	29	40	60	467	0.24	3.0	2000	2000
	21.00	29	40	60	333	0.22	3.0	2000	2000
	25.00	34	42	63	280	0.24	3.3	2000	2000
	30.00	29	40	60	233	0.21	3.0	2000	2000
	35.00	34	42	63	200	0.22	3.2	2000	2000
	49.00	32	39	59	143	0.22	3.2	2000	2000
	50.00	34	42	63	140	0.21	3.2	2000	2000
	70.00	32	39	59	100	0.21	3.2	2000	2000
	100.00	30	37	56	70	0.21	2.9	2000	2000

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PSC..222EPH02							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC222 2	15.00	29	40	60	467	0.55	3.0	2000	2000
	21.00	29	40	60	333	0.52	3.0	2000	2000
	25.00	34	42	63	280	0.54	3.3	2000	2000
	30.00	29	40	60	233	0.51	3.0	2000	2000
	35.00	34	42	63	200	0.52	3.2	2000	2000
	49.00	32	39	59	143	0.52	3.2	2000	2000
	50.00	34	42	63	140	0.51	3.2	2000	2000
	70.00	32	39	59	100	0.51	3.2	2000	2000
	100.00	30	37	56	70	0.51	2.9	2000	2000

PSC..222EPH03							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC222 2	15.00	29	40	60	467	0.62	3.0	2000	2000
	21.00	29	40	60	333	0.60	3.0	2000	2000
	25.00	34	42	63	280	0.61	3.3	2000	2000
	30.00	29	40	60	233	0.58	3.0	2000	2000
	35.00	34	42	63	200	0.60	3.2	2000	2000
	49.00	32	39	59	143	0.59	3.2	2000	2000
	50.00	34	42	63	140	0.58	3.2	2000	2000
	70.00	32	39	59	100	0.58	3.2	2000	2000
	100.00	30	37	56	70	0.58	2.9	2000	2000

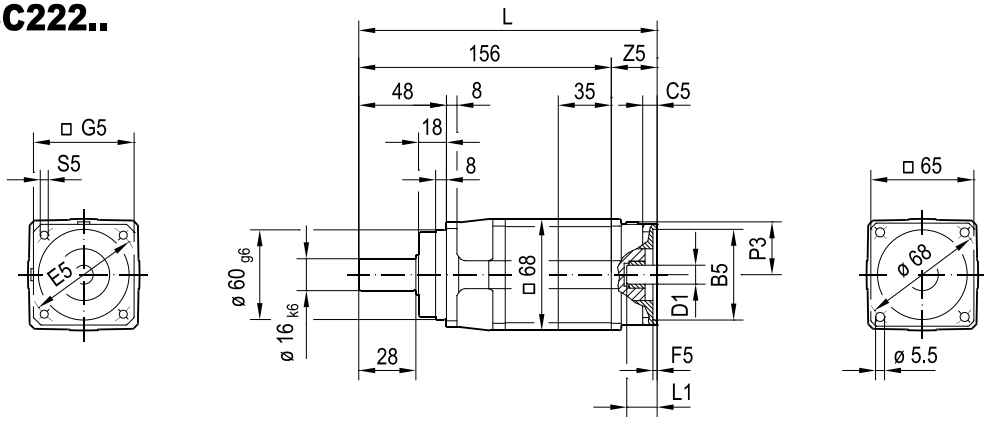
PSC..222EPH04							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC222 2	15.00	29	40	60	467	0.80	3.0	2000	2000
	21.00	29	40	60	333	0.77	3.0	2000	2000
	25.00	34	42	63	280	0.79	3.3	2000	2000
	30.00	29	40	60	233	0.76	3.0	2000	2000
	35.00	34	42	63	200	0.77	3.2	2000	2000
	49.00	32	39	59	143	0.77	3.2	2000	2000
	50.00	34	42	63	140	0.76	3.2	2000	2000
	70.00	32	39	59	100	0.76	3.2	2000	2000
	100.00	30	37	56	70	0.76	2.9	2000	2000

PSC..222				M1;M3;M5-6			M2			M4			φ
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'
PSC222 2	15.00	7000	98	221	-0.660	0	222	-0.670	0	223	-0.679	0	15
	21.00	7000	98	247	-0.905	0	247	-0.912	0	248	-0.922	0	15
	25.00	7000	98	415	-1.997	0	417	-2.037	0	418	-2.050	0	15
	30.00	7000	98	279	-1.323	0	278	-1.329	0	279	-1.340	0	15
	35.00	7000	98	468	-2.789	0	468	-2.820	0	469	-2.833	0	15
	49.00	7000	98	630	-5.217	0	630	-5.280	0	631	-5.294	0	15
	50.00	7000	98	531	-4.125	0	529	-4.149	0	529	-4.163	0	15
	70.00	7000	98	716	-7.759	0	714	-7.805	0	715	-7.821	0	15
	100.00	7000	98	908	-13.997	0	905	-14.089	0	905	-14.104	0	15

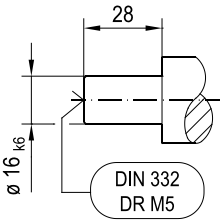
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57 016 01 07

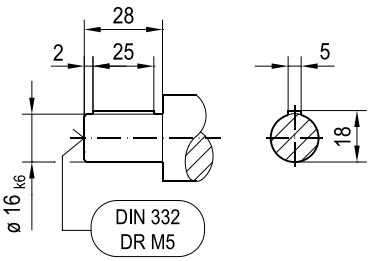
PSC222..



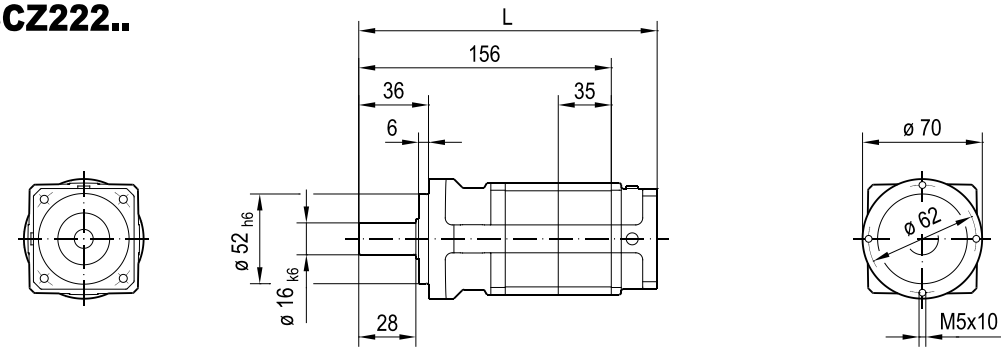
PSC / PSCZ



PSKC / PSKCZ



PSCZ222..

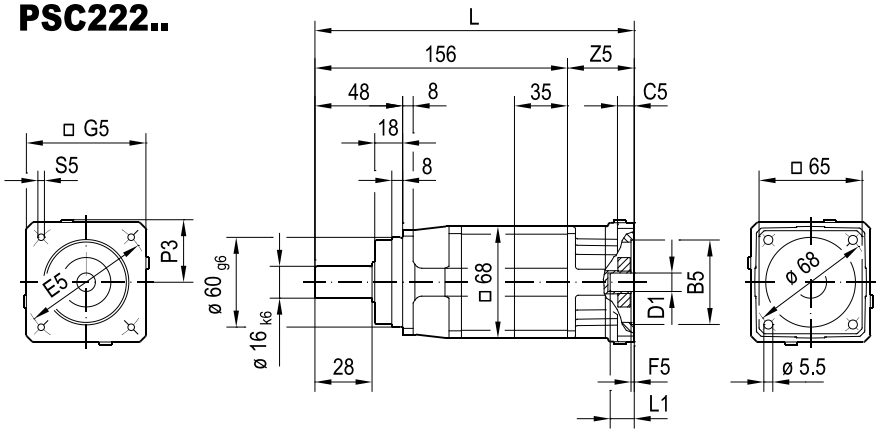


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 15.2)
ECH02/01/..	184	40	8	63	5	55	M4	28	25	30	9, 11
ECH02/08/..	187	60	9	75	5	73	M5	31	28	35	9, 11

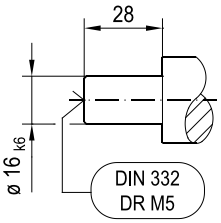
27788644/EN – 02/2024

57 024 01 07

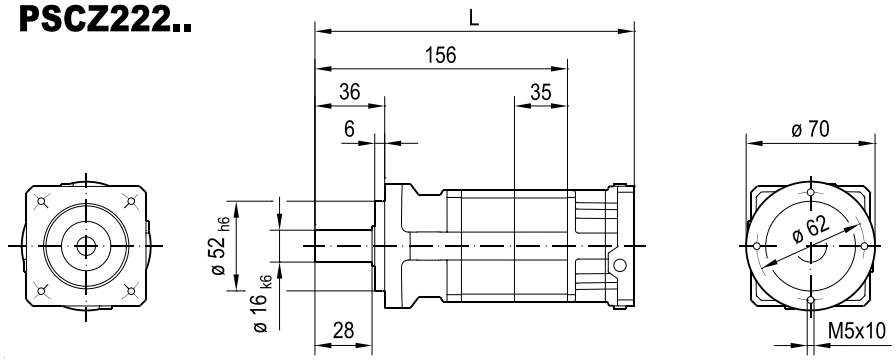
PSC222..



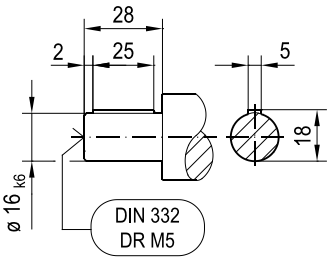
PSC / PSCZ



PSCZ222..



PSKC / PSKCZ



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 15.3)
EPH01/01/..	194	40	13	63	4	73	M4	38	33	39	9, 11
EPH01/03/..	194	50	13	60	4	73	M4	38	33	39	9, 11
EPH02/04/..	194	50	13	70	4	73	M5	38	34	39	8, 9, 10, 11, 12, 14
EPH02/05/..	194	50	13	80	4	73	M4	38	34	39	8, 9, 10, 11, 12, 14
EPH02/08/..	194	60	13	75	4	73	M5	38	34	39	8, 9, 10, 11, 12, 14
EPH03/01/..	203	40	20	63	3.5	90	M4	46.5	38	47	8, 9, 10, 11, 12, 14
EPH03/03/..	203	50	20	60	3.5	90	M4	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/04/..	203	50	20	70	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/05/..	203	50	20	80	3.5	90	M4	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/06/..	203	50	20	95	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/07/..	203	50	20	100	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/08/..	203	60	20	75	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/09/..	203	60	20	90	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/10/..	203	70	20	85	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/11/..	203	70	20	90	3.5	90	M5	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/12/..	203	70	20	90	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/13/..	203	80	20	100	3.5	90	M6	46.5	30	47	8, 9, 10, 11, 12, 14
EPH03/14/..	203	95	16	115	4	105	M8	46.5	30	55	8, 9, 10, 11, 12, 14
EPH04/01/..	212	40	20	63	3.5	90	M4	56	42.75	47	11, 12, 14, 16, 19
EPH04/03/..	212	50	20	60	3.5	90	M4	56	41	47	11, 12, 14, 16, 19
EPH04/04/..	212	50	20	70	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/05/..	212	50	20	80	3.5	90	M4	56	41	47	11, 12, 14, 16, 19
EPH04/06/..	212	50	20	95	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/07/..	212	50	20	100	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/08/..	212	60	20	75	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/09/..	212	60	20	90	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/10/..	212	70	20	85	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/11/..	212	70	20	90	3.5	90	M5	56	41	47	11, 12, 14, 16, 19
EPH04/12/..	212	70	20	90	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/13/..	212	80	20	100	3.5	90	M6	56	41	47	11, 12, 14, 16, 19
EPH04/14/..	212	95	16	115	4	105	M8	56	41	55	11, 12, 14, 16, 19
EPH04/15/..	212	95	16	130	4	115	M8	56	41	60	11, 12, 14, 16, 19

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15.1.3 PS.C321 ECH../EPH..

Nm		ECH M_{amax} | M_{apk} | $M_{aNotaus}$			EPH M_{amax} | M_{apk} | $M_{aNotaus}$					
	i	03			04			05		
PSC321 1	3.00				62	86	129	62	86	129
	5.00				74	91	136	74	91	136
	7.00				69	85	128	69	85	128
	10.00				66	81	122	66	81	122

PSC321, m kg			
	ECH	EPH	
s	03	04	05
1	3.6	4.4	5.7

PSC..321ECH03							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC321 1	3.00	62	86	129	662	1.2	9.4	1710	4000
	5.00	74	91	136	305	0.92	11	2030	4000
	7.00	69	85	128	341	0.85	10	2270	4000
	10.00	66	73	110	364	0.81	8.1	2560	4000

PSC..321EPH04							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC321 1	3.00	62	86	129	662	1.2	10.0	1710	4000
	5.00	74	91	136	305	0.92	10	2030	4000
	7.00	69	85	128	341	0.85	10	2270	4000
	10.00	66	81	122	364	0.79	8.6	2560	4000

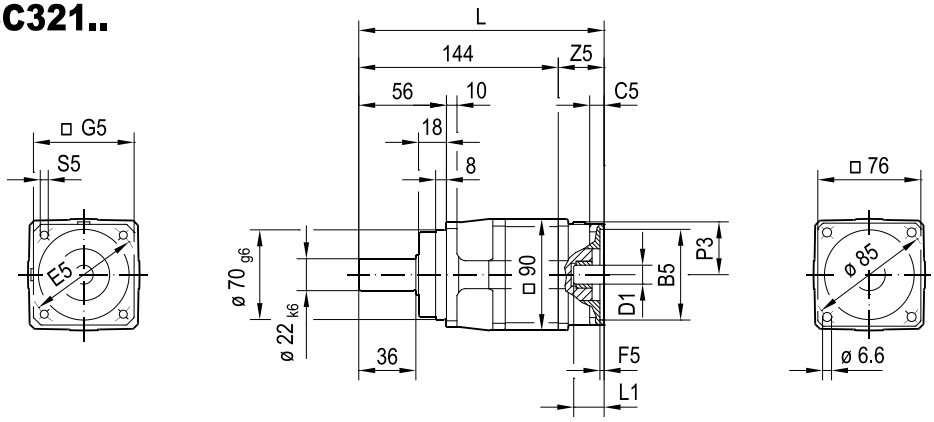
PSC..321EPH05							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC321 1	3.00	62	86	129	662	2.9	10.0	1710	4000
	5.00	74	91	136	305	2.6	10	2030	4000
	7.00	69	85	128	341	2.5	10	2270	4000
	10.00	66	81	122	364	2.5	8.6	2560	4000

PSC..321				M1;M3;M5-6			M2			M4			φ
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'
PSC321 1	3.00	6500	99	214	-0.202	0	224	-0.220	0	231	-0.236	0	10
	5.00	6500	99	316	-0.363	0	323	-0.375	0	331	-0.398	0	10
	7.00	6500	99	327	-0.452	0	332	-0.461	0	329	-0.469	0	10
	10.00	6500	99	331	-0.585	0	334	-0.589	0	334	-0.605	0	10

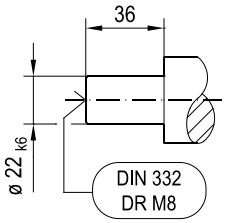
27788644/EN – 02/2024

57 017 01 07

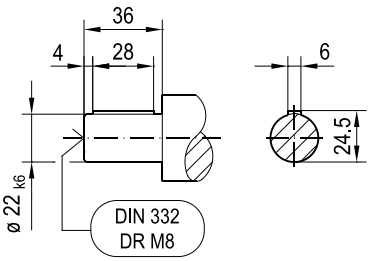
PSC321..



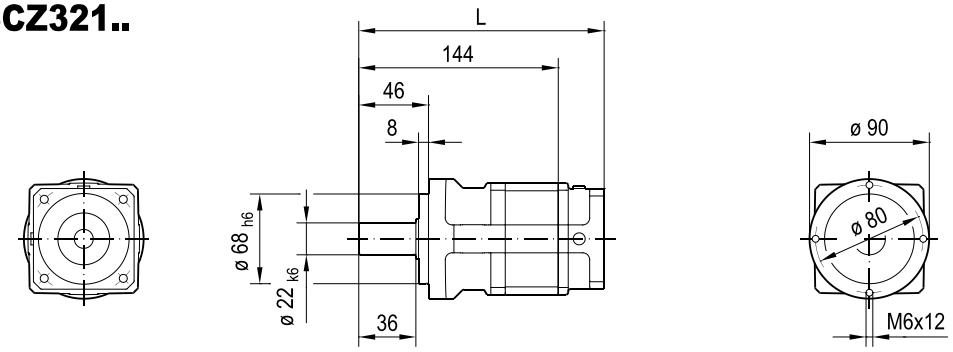
PSC / PSCZ



PSKC / PSKCZ



PSCZ321..

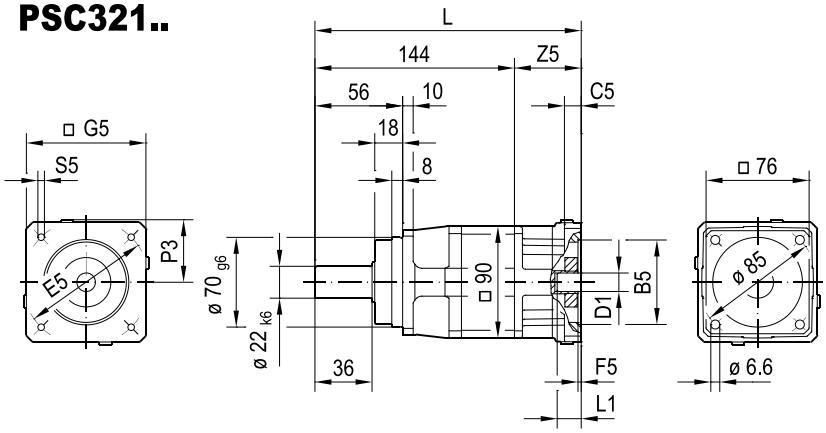


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 15.2)
ECH03/08/..	172	60	9	75	5	73	M5	28	28	38	11, 14
ECH03/13/..	183	80	14	100	5	90	M6	39	40	47	11, 14, 16

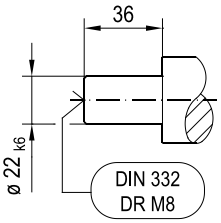
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57 025 01 07

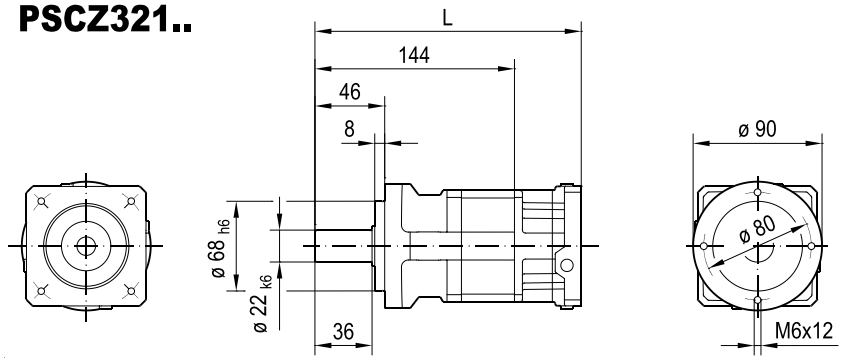
PSC321..



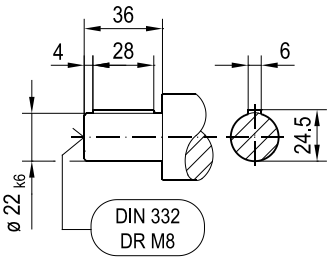
PSC / PSCZ



PSCZ321..



PSKC / PSKCZ



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 15.3)
EPH04/01/..	195	40	20	63	3.5	90	M4	51	42.75	47	11, 12, 14, 16, 19
EPH04/03/..	195	50	20	60	3.5	90	M4	51	41	47	11, 12, 14, 16, 19
EPH04/04/..	195	50	20	70	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/05/..	195	50	20	80	3.5	90	M4	51	41	47	11, 12, 14, 16, 19
EPH04/06/..	195	50	20	95	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/07/..	195	50	20	100	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/08/..	195	60	20	75	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/09/..	195	60	20	90	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/10/..	195	70	20	85	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/11/..	195	70	20	90	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/12/..	195	70	20	90	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/13/..	195	80	20	100	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/14/..	195	95	16	115	4	105	M8	51	41	55	11, 12, 14, 16, 19
EPH04/15/..	195	95	16	130	4	115	M8	51	41	60	11, 12, 14, 16, 19
EPH05/14/..	211	95	16	115	4	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	211	95	16	130	4	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	211	110	16	130	5	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	211	110	16	145	7	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	211	110	20	165	5	140	M10	67	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	211	130	20	165	5	140	M10	67	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	211	110	16	130	5	115	M8	67	52	61	14, 16, 17, 18, 19, 24

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15.1.4 PS.C322 ECH../EPH..

Nm		ECH M_{amax} | M_{apk} | $M_{aNotaus}$			EPH M_{amax} | M_{apk} | $M_{aNotaus}$					
	i	03			04			05		
PSC322 2	15.00				62	86	129	62	86	129
	21.00				62	86	129	62	86	129
	25.00				74	91	136	74	91	136
	30.00				62	86	129	62	86	129
	35.00				74	91	136	74	91	136
	49.00				69	85	128	69	85	128
	50.00				74	91	136	74	91	136
	70.00				69	85	128	69	85	128
	100.00				66	81	122	66	81	122

PSC322, m kg			
	ECH	EPH	
s	03	04	05
2	5.0	5.8	7.1

PSC..322ECH03 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSC	F_{Ramax} PSC	F_{Rapk} PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC322 2	15.00	62	86	129	433	0.91	8.9	2930	4000
	21.00	62	86	129	310	0.84	8.9	3280	4000
	25.00	74	91	136	260	0.89	10	3470	4000
	30.00	62	86	129	217	0.80	8.7	3690	4000
	35.00	74	91	136	186	0.83	10	3880	4000
	49.00	69	85	128	133	0.83	10	4000	4000
	50.00	74	91	136	130	0.80	10	4000	4000
	70.00	69	85	128	93	0.80	9.9	4000	4000
	100.00	66	81	122	65	0.80	8.5	4000	4000

PSC..322EPH04 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSC	F_{Ramax} PSC	F_{Rapk} PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC322 2	15.00	62	86	129	433	0.91	9.0	2930	4000
	21.00	62	86	129	310	0.84	8.9	3280	4000
	25.00	74	91	136	260	0.89	10	3470	4000
	30.00	62	86	129	217	0.78	8.7	3690	4000
	35.00	74	91	136	186	0.84	10	3880	4000
	49.00	69	85	128	133	0.84	10	4000	4000
	50.00	74	91	136	130	0.78	10	4000	4000
	70.00	69	85	128	93	0.78	10.0	4000	4000
	100.00	66	81	122	65	0.78	8.6	4000	4000

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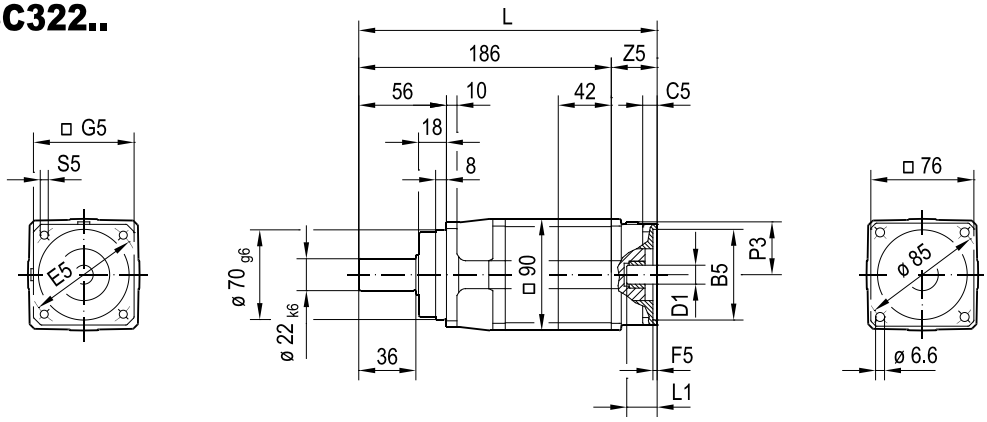
PSC..322EPH05 n_e = 1500	i	M_{amax} Nm	M_{apk} Nm	$M_{aNotaus}$ Nm	n_{ak} min^{-1}	J_{GA} 10^{-4} kg*m^2	c_T PSC Nm/'	F_{Ramax} PSC N	F_{Rapk} PSC N
PSC322 2	15.00	62	86	129	433	2.6	9.0	2930	4000
	21.00	62	86	129	310	2.5	8.9	3280	4000
	25.00	74	91	136	260	2.6	10	3470	4000
	30.00	62	86	129	217	2.5	8.7	3690	4000
	35.00	74	91	136	186	2.5	10	3880	4000
	49.00	69	85	128	133	2.5	10	4000	4000
	50.00	74	91	136	130	2.5	10	4000	4000
	70.00	69	85	128	93	2.5	10.0	4000	4000
	100.00	66	81	122	65	2.5	8.6	4000	4000

PSC..322				M1;M3;M5-6			M2			M4			φ
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'
PSC322 2	15.00	6500	98	406	-1.398	0	406	-1.404	0	409	-1.429	0	15
	21.00	6500	98	434	-1.798	0	434	-1.800	0	436	-1.825	0	15
	25.00	6500	98	739	-4.082	0	741	-4.124	0	743	-4.157	0	15
	30.00	6500	98	469	-2.467	0	469	-2.475	0	471	-2.501	0	15
	35.00	6500	98	792	-5.306	0	792	-5.334	0	794	-5.368	0	15
	49.00	6500	98	1003	-9.318	0	1003	-9.375	0	1005	-9.410	0	15
	50.00	6500	98	855	-7.340	0	856	-7.376	0	857	-7.410	0	15
	70.00	6500	98	1087	-12.974	0	1089	-13.050	0	1090	-13.085	0	15
	100.00	6500	98	1349	-22.902	0	1352	-23.048	0	1352	-23.081	0	15

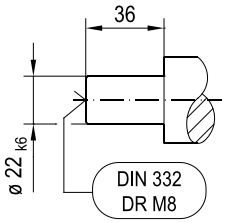
27788644/EN – 02/2024

57 018 01 07

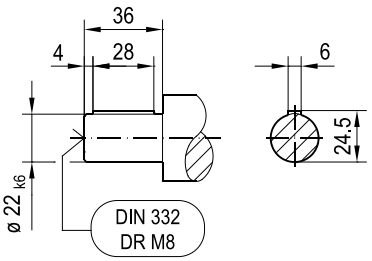
PSC322..



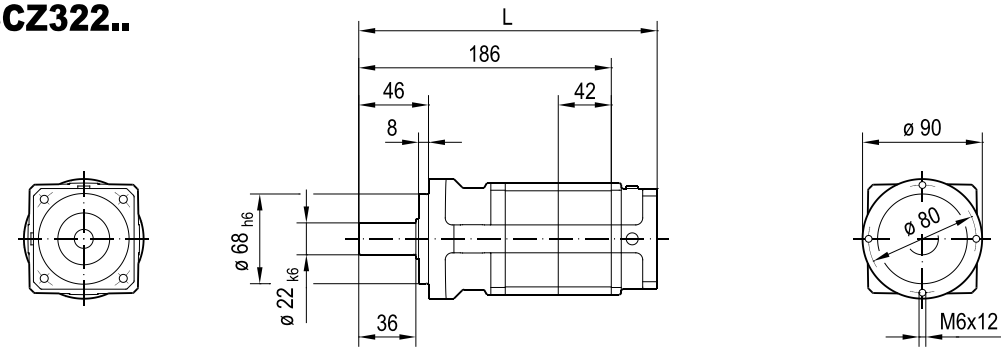
PSC / PSCZ



PSKC / PSKCZ



PSCZ322..

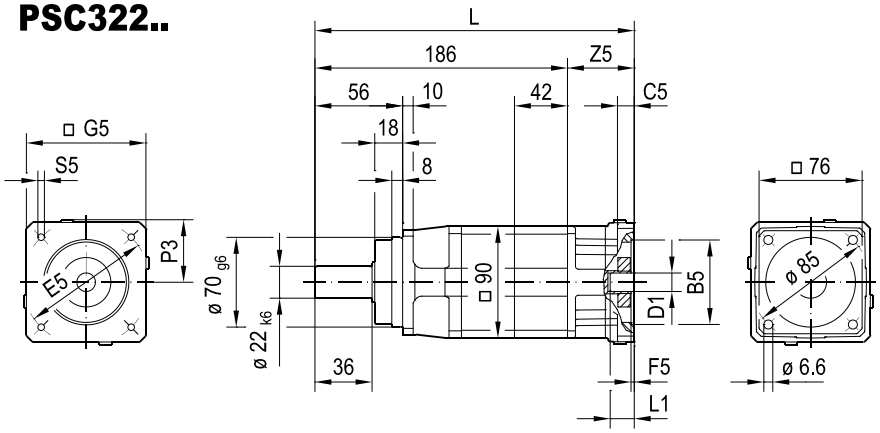


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 15.2)
ECH03/08/..	214	60	9	75	5	73	M5	28	28	38	11, 14
ECH03/13/..	225	80	14	100	5	90	M6	39	40	47	11, 14, 16

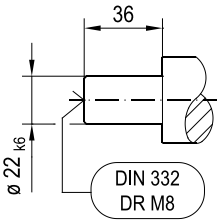
27788644/EN – 02/2024

57 026 01 07

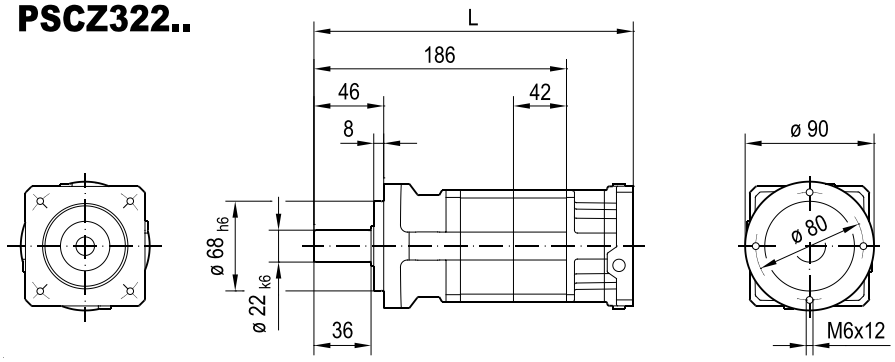
PSC322..



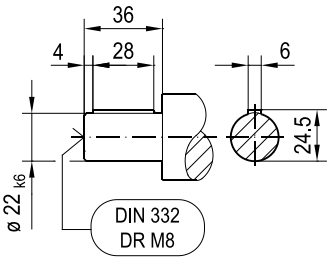
PSC / PSCZ



PSCZ322..



PSKC / PSKCZ



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 15.3)
EPH04/01/..	237	40	20	63	3.5	90	M4	51	42.75	47	11, 12, 14, 16, 19
EPH04/03/..	237	50	20	60	3.5	90	M4	51	41	47	11, 12, 14, 16, 19
EPH04/04/..	237	50	20	70	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/05/..	237	50	20	80	3.5	90	M4	51	41	47	11, 12, 14, 16, 19
EPH04/06/..	237	50	20	95	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/07/..	237	50	20	100	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/08/..	237	60	20	75	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/09/..	237	60	20	90	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/10/..	237	70	20	85	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/11/..	237	70	20	90	3.5	90	M5	51	41	47	11, 12, 14, 16, 19
EPH04/12/..	237	70	20	90	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/13/..	237	80	20	100	3.5	90	M6	51	41	47	11, 12, 14, 16, 19
EPH04/14/..	237	95	16	115	4	105	M8	51	41	55	11, 12, 14, 16, 19
EPH04/15/..	237	95	16	130	4	115	M8	51	41	60	11, 12, 14, 16, 19
EPH05/14/..	253	95	16	115	4	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	253	95	16	130	4	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	253	110	16	130	5	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	253	110	16	145	7	120	M8	67	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	253	110	20	165	5	140	M10	67	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	253	130	20	165	5	140	M10	67	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	253	110	16	130	5	115	M8	67	52	61	14, 16, 17, 18, 19, 24

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15.1.5 PS.C521 ECH../EPH..

Nm		ECH M_{amax} | M_{apk} | $M_{aNotaus}$			EPH M_{amax} | M_{apk} | $M_{aNotaus}$												
	i	05			04			05			06			07			
PSC521 1	3.00				119	119	178	147	200	305	147	200	305	147	200	305	
	5.00				181	198	295	181	220	330	181	220	330	181	220	330	
	7.00				169	205	310	169	205	310	169	205	310	169	205	310	
	10.00				161	199	295	161	199	295	161	199	295	161	199	295	

PSC521, m kg					
	ECH	EPH			
s	05	04	05	06	07
1	7.4	7.7	9.0	11	11

PSC..521ECH05							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC521 1	3.00	147	200	290	911	4.2	26	2900	6750
	5.00	181	220	330	375	3.0	27	3440	6750
	7.00	169	205	310	417	2.7	26	3850	6750
	10.00	161	163	245	447	2.5	21	4330	6750

PSC..521EPH04							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC521 1	3.00	119	119	178	1856	2.7	25	2900	6750
	5.00	181	198	295	375	1.4	26	3440	6750
	7.00	169	205	310	417	1.1	26	3850	6750
	10.00	161	199	295	447	0.94	22	4330	6750

PSC..521EPH05							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC521 1	3.00	147	200	305	911	4.4	25	2900	6750
	5.00	181	220	330	375	3.2	26	3440	6750
	7.00	169	205	310	417	2.9	26	3850	6750
	10.00	161	199	295	447	2.6	22	4330	6750

PSC..521EPH06							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC521 1	3.00	147	200	305	911	7.3	25	2900	6750
	5.00	181	220	330	375	6.0	26	3440	6750
	7.00	169	205	310	417	5.7	26	3850	6750
	10.00	161	199	295	447	5.5	22	4330	6750

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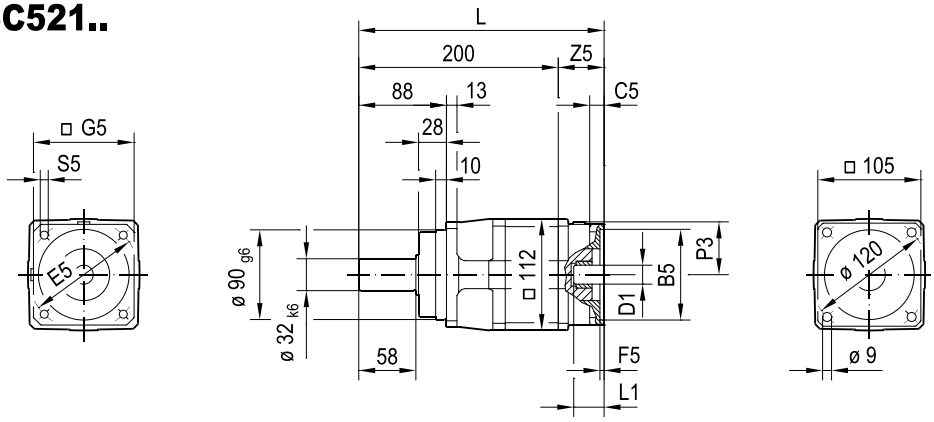
PSC..521EPH07 n_e = 1500	i	M_{amax} Nm	M_{apk} Nm	$M_{aNotaus}$ Nm	n_{ak} min^{-1}	J_{GA} 10^{-4} kg*m^2	c_T PSC Nm/'	F_{Ramax} PSC N	F_{Rapk} PSC N
PSC521 1	3.00	147	200	305	911	7.4	25	2900	6750
	5.00	181	220	330	375	6.1	26	3440	6750
	7.00	169	205	310	417	5.8	26	3850	6750
	10.00	161	199	295	447	5.6	22	4330	6750

PSC..521				M1;M3;M5-6			M2			M4			φ
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'
PSC521 1	3.00	6000	99	453	-0.483	0	470	-0.524	0	472	-0.549	0	10
	5.00	6000	99	689	-0.864	0	704	-0.897	0	702	-0.928	0	10
	7.00	6000	99	778	-1.147	0	794	-1.177	0	775	-1.184	0	10
	10.00	6000	99	910	-1.663	0	936	-1.730	0	936	-1.788	0	10

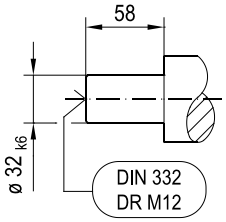
27788644/EN – 02/2024

57 019 01 07

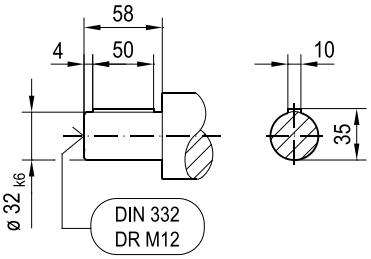
PSC521..



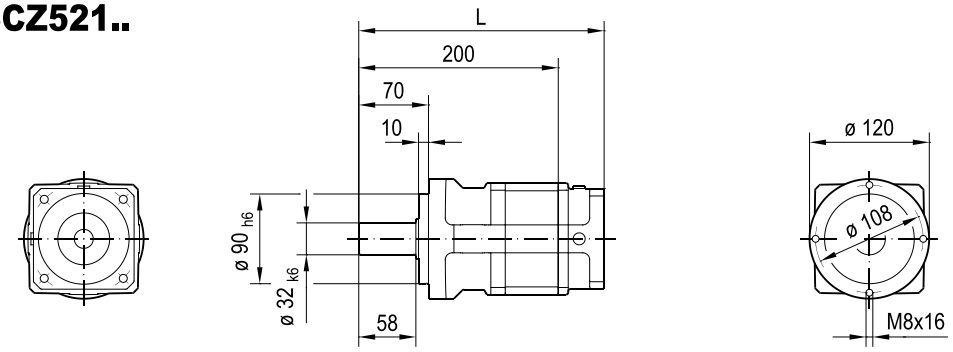
PSC / PSCZ



PSKC / PSKCZ



PSCZ521..

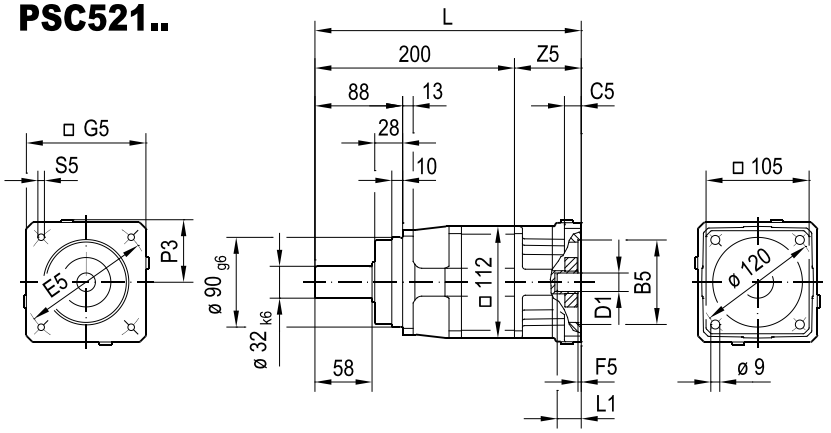


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 15.2)
ECH05/13/..	241	80	15	100	5	88	M6	40	40	47	14, 16, 19
ECH05/14/..	247	95	15	115	5	105	M8	46	45	55	14, 19

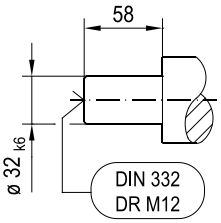
27788644/EN – 02/2024

57 027 01 07

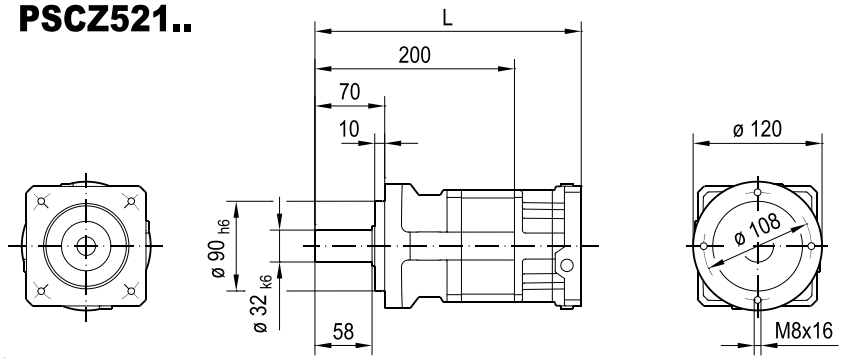
PSC521..



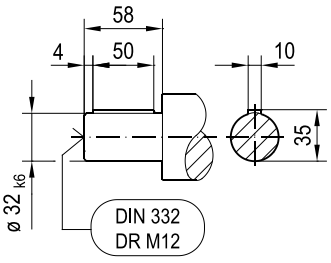
PSC / PSCZ



PSCZ521..



PSKC / PSKCZ



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 15.3)
EPH04/01/..	247	40	20	63	3.5	90	M4	46	42.75	47	11, 12, 14, 16, 19
EPH04/03/..	247	50	20	60	3.5	90	M4	46	41	47	11, 12, 14, 16, 19
EPH04/04/..	247	50	20	70	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/05/..	247	50	20	80	3.5	90	M4	46	41	47	11, 12, 14, 16, 19
EPH04/06/..	247	50	20	95	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/07/..	247	50	20	100	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/08/..	247	60	20	75	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/09/..	247	60	20	90	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/10/..	247	70	20	85	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/11/..	247	70	20	90	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/12/..	247	70	20	90	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/13/..	247	80	20	100	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/14/..	247	95	16	115	4	105	M8	46	41	55	11, 12, 14, 16, 19
EPH04/15/..	247	95	16	130	4	115	M8	46	41	60	11, 12, 14, 16, 19
EPH05/14/..	263	95	16	115	4	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	263	95	16	130	4	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	263	110	16	130	5	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	263	110	16	145	7	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	263	110	20	165	5	140	M10	62	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	263	130	20	165	5	140	M10	62	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	263	110	16	130	5	115	M8	62	52	61	14, 16, 17, 18, 19, 24
EPH06/19/..	298	114.3	24	200	5	174	M12	97	82	89	35
EPH07/20/..	278	130	24	165	5	155	M10	77	62	80	22, 24, 28, 32
EPH07/21/..	278	130	24	215	5	190	M12	77	62	97	22, 24, 28, 32
EPH07/22/..	278	180	24	215	5	190	M12	77	62	97	22, 24, 28, 32
EPH07/27/..	278	130	24	165	5	137	M10	77	62	72	22, 24, 28, 32
EPH07/28/..	278	155	24	190	5	162	M10	77	62	84	22, 24, 28, 32

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15.1.6 PS.C522 ECH../EPH..

Nm		ECH M_{amax} | M_{apk} | $M_{aNotaus}$			EPH M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	05			04			05			06			07		
PSC522 2	15.00				147	200	305	147	200	305	147	200	305	147	200	305
	21.00				147	200	305	147	200	305	147	200	305	147	200	305
	25.00				181	220	330	181	220	330	181	220	330	181	220	330
	30.00				147	200	305	147	200	305	147	200	305	147	200	305
	35.00				181	220	330	181	220	330	181	220	330	181	220	330
	49.00				169	205	310	169	205	310	169	205	310	169	205	310
	50.00				181	220	330	181	220	330	181	220	330	181	220	330
	70.00				169	205	310	169	205	310	169	205	310	169	205	310
	100.00				161	199	295	161	199	295	161	199	295	161	199	295

PSC522, m kg					
	ECH	EPH			
s	05	04	05	06	07
2	10	11	12	14	14

PSC..522ECH05 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSC	F_{Ramax} PSC	F_{Rapk} PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC522 2	15.00	147	200	305	400	2.9	25	4960	6750
	21.00	147	200	305	286	2.7	25	5550	6750
	25.00	181	220	330	240	2.9	26	5880	6750
	30.00	147	200	305	200	2.5	24	6250	6750
	35.00	181	220	330	171	2.6	26	6580	6750
	49.00	169	205	310	122	2.6	26	6750	6750
	50.00	181	220	330	120	2.5	26	6750	6750
	70.00	169	205	310	86	2.5	26	6750	6750
	100.00	161	199	295	60	2.5	18	6750	6750

PSC..522EPH04 n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	c_T PSC	F_{Ramax} PSC	F_{Rapk} PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC522 2	15.00	147	200	305	400	1.3	25	4960	6750
	21.00	147	200	305	286	1.1	25	5550	6750
	25.00	181	220	330	240	1.3	26	5880	6750
	30.00	147	200	305	200	0.93	24	6250	6750
	35.00	181	220	330	171	1.1	26	6580	6750
	49.00	169	205	310	122	1.0	26	6750	6750
	50.00	181	220	330	120	0.91	26	6750	6750
	70.00	169	205	310	86	0.91	26	6750	6750
	100.00	161	199	295	60	0.91	18	6750	6750

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PSC..522EPH05							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC522 2	15.00	147	200	305	400	3.1	25	4960	6750
	21.00	147	200	305	286	2.8	25	5550	6750
	25.00	181	220	330	240	3.0	26	5880	6750
	30.00	147	200	305	200	2.6	24	6250	6750
	35.00	181	220	330	171	2.8	26	6580	6750
	49.00	169	205	310	122	2.8	26	6750	6750
	50.00	181	220	330	120	2.6	26	6750	6750
	70.00	169	205	310	86	2.6	26	6750	6750
	100.00	161	199	295	60	2.6	18	6750	6750

PSC..522EPH06							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC522 2	15.00	147	200	305	400	6.0	25	4960	6750
	21.00	147	200	305	286	5.7	25	5550	6750
	25.00	181	220	330	240	5.9	26	5880	6750
	30.00	147	200	305	200	5.4	24	6250	6750
	35.00	181	220	330	171	5.7	26	6580	6750
	49.00	169	205	310	122	5.7	26	6750	6750
	50.00	181	220	330	120	5.4	26	6750	6750
	70.00	169	205	310	86	5.4	26	6750	6750
	100.00	161	199	295	60	5.4	18	6750	6750

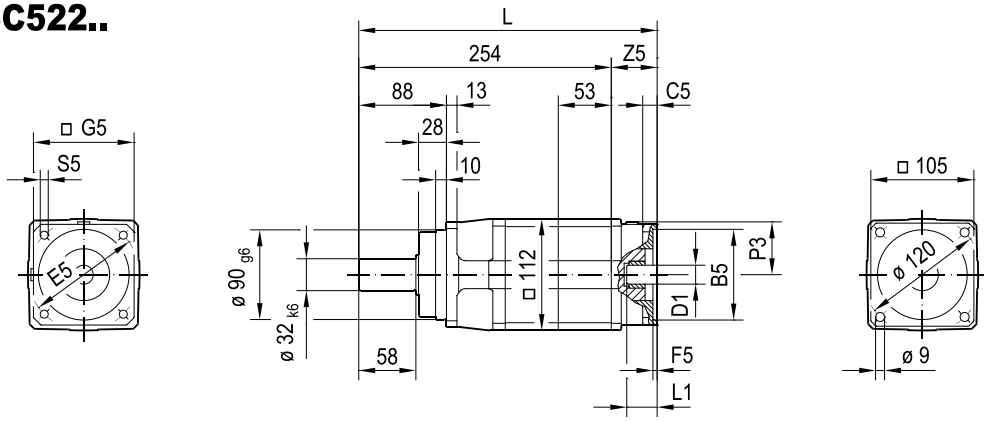
PSC..522EPH07							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC522 2	15.00	147	200	305	400	6.1	25	4960	6750
	21.00	147	200	305	286	5.8	25	5550	6750
	25.00	181	220	330	240	6.0	26	5880	6750
	30.00	147	200	305	200	5.6	24	6250	6750
	35.00	181	220	330	171	5.8	26	6580	6750
	49.00	169	205	310	122	5.8	26	6750	6750
	50.00	181	220	330	120	5.5	26	6750	6750
	70.00	169	205	310	86	5.5	26	6750	6750
	100.00	161	199	295	60	5.5	18	6750	6750

PSC..522				M1;M3;M5-6			M2			M4			φ
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'
PSC522 2	15.00	6000	98	890	-3.449	0	889	-3.466	0	895	-3.528	0	15
	21.00	6000	98	958	-4.348	0	956	-4.359	0	962	-4.424	0	15
	25.00	6000	98	1672	-10.357	0	1673	-10.464	0	1677	-10.551	0	15
	30.00	6000	98	1054	-5.892	0	1055	-5.923	0	1059	-5.992	0	15
	35.00	6000	98	1812	-13.262	0	1811	-13.350	0	1816	-13.441	0	15
	49.00	6000	98	2421	-24.558	0	2421	-24.735	0	2424	-24.834	0	15
	50.00	6000	98	2008	-18.259	0	2010	-18.396	0	2014	-18.493	0	15
	70.00	6000	98	2690	-33.982	0	2694	-34.270	0	2697	-34.375	0	15
	100.00	6000	98	3590	-64.445	0	3595	-65.022	0	3598	-65.133	0	15

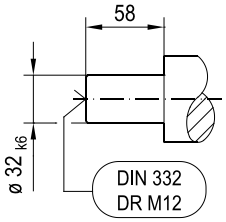
27788644/EN – 02/2024

57 020 01 07

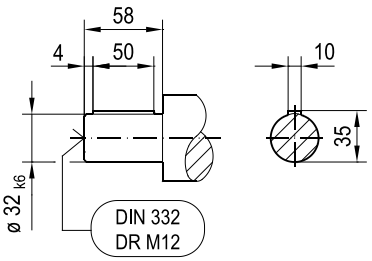
PSC522..



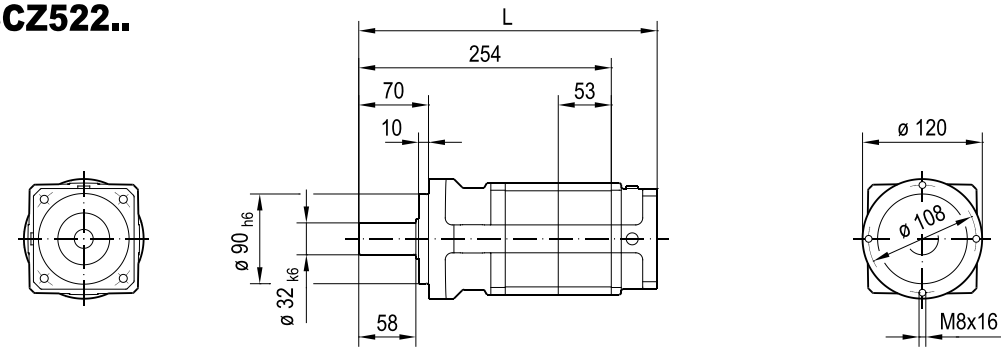
PSC / PSCZ



PSKC / PSKCZ



PSCZ522..

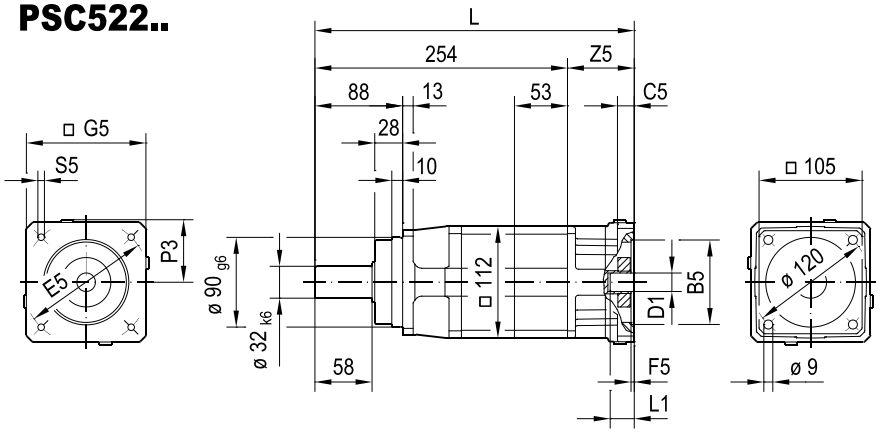


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 15.2)
ECH05/13/..	294	80	15	100	5	88	M6	40	40	47	14, 16, 19
ECH05/14/..	300	95	15	115	5	105	M8	46	45	55	14, 19

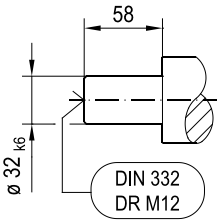
27788644/EN – 02/2024

57 028 01 07

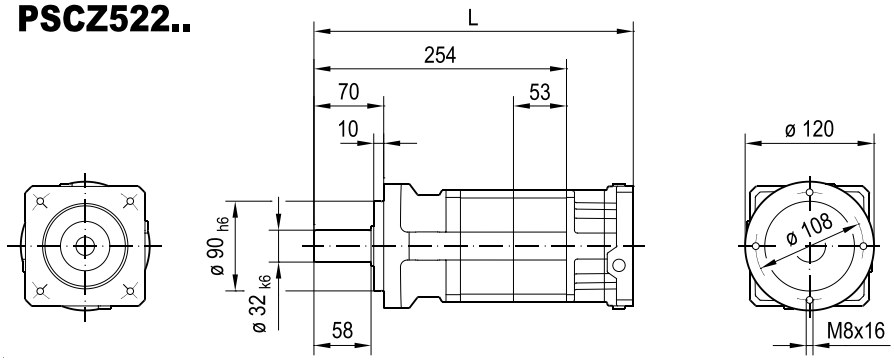
PSC522..



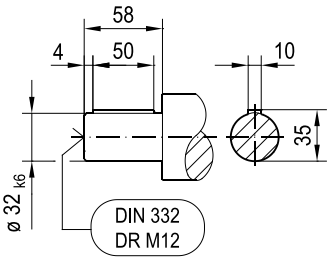
PSC / PSCZ



PSCZ522..



PSKC / PSKCZ



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 15.3)
EPH04/01/..	300	40	20	63	3.5	90	M4	46	42.75	47	11, 12, 14, 16, 19
EPH04/03/..	300	50	20	60	3.5	90	M4	46	41	47	11, 12, 14, 16, 19
EPH04/04/..	300	50	20	70	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/05/..	300	50	20	80	3.5	90	M4	46	41	47	11, 12, 14, 16, 19
EPH04/06/..	300	50	20	95	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/07/..	300	50	20	100	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/08/..	300	60	20	75	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/09/..	300	60	20	90	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/10/..	300	70	20	85	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/11/..	300	70	20	90	3.5	90	M5	46	41	47	11, 12, 14, 16, 19
EPH04/12/..	300	70	20	90	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/13/..	300	80	20	100	3.5	90	M6	46	41	47	11, 12, 14, 16, 19
EPH04/14/..	300	95	16	115	4	105	M8	46	41	55	11, 12, 14, 16, 19
EPH04/15/..	300	95	16	130	4	115	M8	46	41	60	11, 12, 14, 16, 19
EPH05/14/..	316	95	16	115	4	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	316	95	16	130	4	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	316	110	16	130	5	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	316	110	16	145	7	120	M8	62	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	316	110	20	165	5	140	M10	62	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	316	130	20	165	5	140	M10	62	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	316	110	16	130	5	115	M8	62	52	61	14, 16, 17, 18, 19, 24
EPH06/19/..	351	114.3	24	200	5	174	M12	97	82	89	35
EPH07/20/..	331	130	24	165	5	155	M10	77	62	80	22, 24, 28, 32
EPH07/21/..	331	130	24	215	5	190	M12	77	62	97	22, 24, 28, 32
EPH07/22/..	331	180	24	215	5	190	M12	77	62	97	22, 24, 28, 32
EPH07/27/..	331	130	24	165	5	137	M10	77	62	72	22, 24, 28, 32
EPH07/28/..	331	155	24	190	5	162	M10	77	62	84	22, 24, 28, 32

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15.1.7 PS.C621 ECH../EPH..

Nm		ECH M_{amax} | M_{apk} | $M_{aNotaus}$			EPH M_{amax} | M_{apk} | $M_{aNotaus}$												
	i	06			05			06			07			08			
PSC621 1	5.00				345	425	640	345	425	640	345	425	640	345	425	640	
	7.00				320	395	595	320	395	595	320	395	595	320	395	595	
	10.00				305	380	570	305	380	570	305	380	570	305	380	570	

PSC621, m kg						
	ECH	EPH				
s	06	05	06	07	08	
1	13	14	15	15	20	

PSC..621ECH06							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC621 1	5.00	345	425	520	836	7.9	57	5390	11000
	7.00	320	395	595	714	7.0	53	6030	11000
	10.00	305	380	570	500	6.5	45	6790	11000

PSC..621EPH05							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC621 1	5.00	345	425	640	836	4.4	58	5390	11000
	7.00	320	395	595	714	3.6	54	6030	11000
	10.00	305	380	570	500	3.1	46	6790	11000

PSC..621EPH06							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC621 1	5.00	345	425	640	836	7.6	58	5390	11000
	7.00	320	395	595	714	6.4	54	6030	11000
	10.00	305	380	570	500	5.9	46	6790	11000

PSC..621EPH07							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC621 1	5.00	345	425	640	836	7.7	58	5390	11000
	7.00	320	395	595	714	6.5	58	6030	11000
	10.00	305	380	570	500	6.0	58	6790	11000

PSC..621EPH08							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC621 1	5.00	345	425	640	836	14	54	5390	11000
	7.00	320	395	595	714	12	46	6030	11000
	10.00	305	380	570	500	12	46	6790	11000

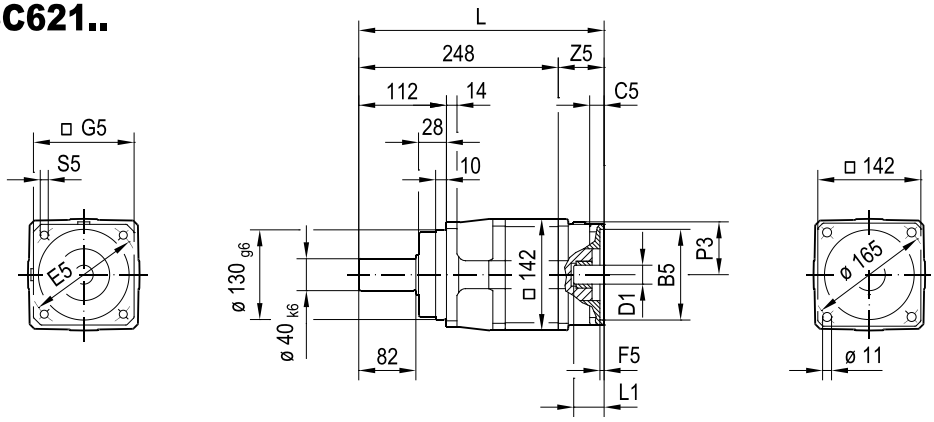
27788644/EN – 02/2024

PSC..621				M1;M3;M5-6			M2			M4			φ
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'
PSC621  1	5.00	5000	99	1157	-1.547	0	1184	-1.614	0	1161	-1.659	0	10
	7.00	5000	99	1277	-1.954	0	1304	-2.016	0	1292	-2.099	0	10
	10.00	5000	99	1368	-2.549	0	1385	-2.588	0	1402	-2.751	0	10

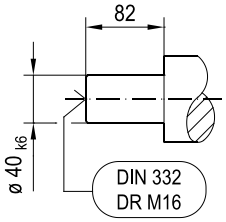
27788644/EN – 02/2024

57 021 01 07

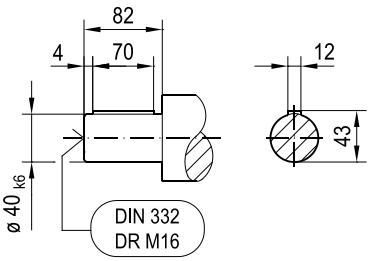
PSC621..



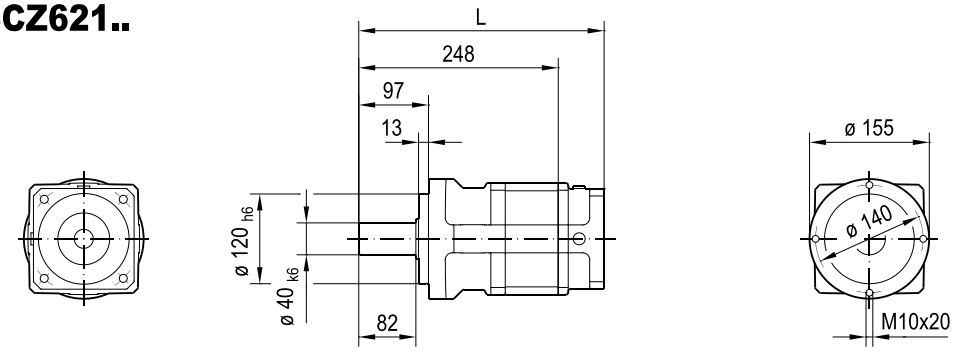
PSC / PSCZ



PSKC / PSKCZ



PSCZ621..

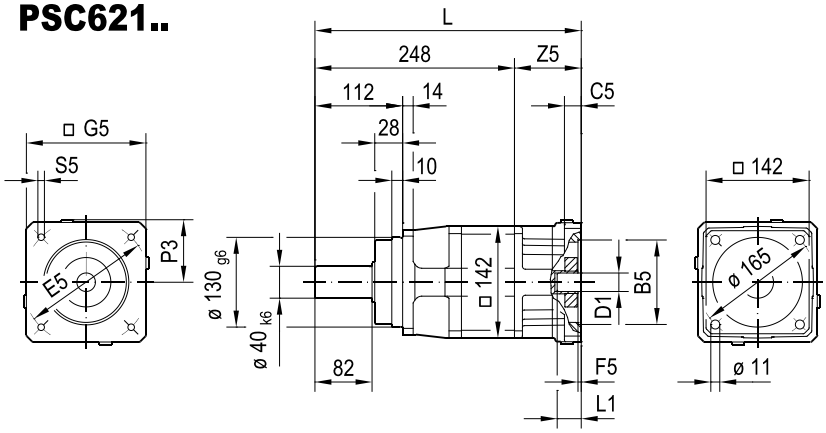


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 15.2)
ECH06/14/..	291	95	15	115	5	105	M8	43	48	55	19, 24
ECH06/20/..	301	130	18	165	5	142	M10	53	58	73	19, 24

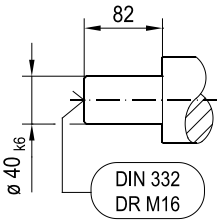
27788644/EN – 02/2024

57 029 01 07

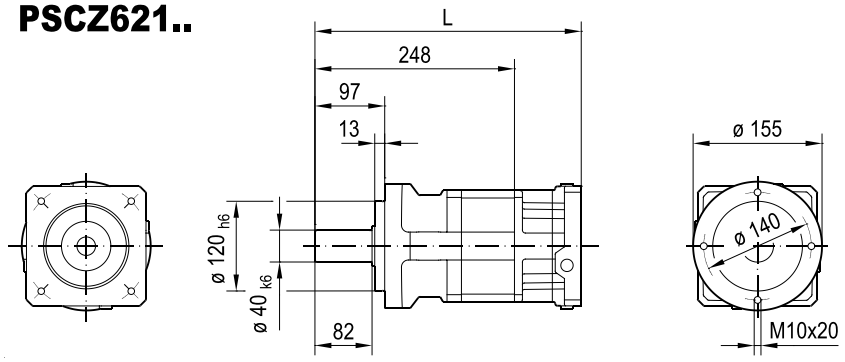
PSC621..



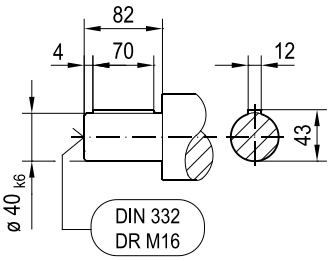
PSC / PSCZ



PSCZ621..



PSKC / PSKCZ



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 15.3)
EPH05/14/..	302	95	16	115	4	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	302	95	16	130	4	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	302	110	16	130	5	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	302	110	16	145	7	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	302	110	20	165	5	140	M10	54	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	302	130	20	165	5	140	M10	54	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	302	110	16	130	5	115	M8	54	52	61	14, 16, 17, 18, 19, 24
EPH06/19/..	337	114.3	24	200	5	174	M12	89	82	89	35
EPH07/20/..	317	130	24	165	5	155	M10	69	62	80	22, 24, 28, 32
EPH07/21/..	317	130	24	215	5	190	M12	69	62	97	22, 24, 28, 32
EPH07/22/..	317	180	24	215	5	190	M12	69	62	97	22, 24, 28, 32
EPH07/27/..	317	130	24	165	5	137	M10	69	62	72	22, 24, 28, 32
EPH07/28/..	317	155	24	190	5	162	M10	69	62	84	22, 24, 28, 32
EPH08/21/..	342	130	24	215	5	190	M12	94	82	97	32, 35, 38
EPH08/22/..	342	180	24	215	5	190	M12	94	82	97	32, 35, 38

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15.1.8 PS.C622 ECH../EPH..

Nm		ECH M_{amax} | M_{apk} | $M_{aNotaus}$			EPH M_{amax} | M_{apk} | $M_{aNotaus}$											
	i	06			05			06			07			08		
PSC622 2	25.00				345	425	640	345	425	640	345	425	640	345	425	640
	35.00				345	425	640	345	425	640	345	425	640	345	425	640
	49.00				320	395	595	320	395	595	320	395	595	320	395	595
	50.00				345	425	640	345	425	640	345	425	640	345	425	640
	70.00				320	395	595	320	395	595	320	395	595	320	395	595
	100.00				305	380	565	305	380	565	305	380	565	305	380	565

PSC622, m kg					
	ECH	EPH			
s	06	05	06	07	08
2	18	19	21	21	25

PSC..622ECH06							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC622 2	25.00	345	425	640	200	7.5	57	9220	11000
	35.00	345	425	640	143	6.8	56	10300	11000
	49.00	320	395	595	102	6.8	54	11000	11000
	50.00	345	425	640	100	6.4	56	11000	11000
	70.00	320	395	595	71	6.4	54	11000	11000
	100.00	305	380	565	50	6.4	46	11000	11000

PSC..622EPH05							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC622 2	25.00	345	425	640	200	4.1	57	9220	11000
	35.00	345	425	640	143	3.4	56	10300	11000
	49.00	320	395	595	102	3.4	54	11000	11000
	50.00	345	425	640	100	3.0	56	11000	11000
	70.00	320	395	595	71	3.0	54	11000	11000
	100.00	305	380	565	50	3.0	46	11000	11000

PSC..622EPH06							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC622 2	25.00	345	425	640	200	7.2	57	9220	11000
	35.00	345	425	640	143	6.2	56	10300	11000
	49.00	320	395	595	102	6.2	54	11000	11000
	50.00	345	425	640	100	5.8	56	11000	11000
	70.00	320	395	595	71	5.8	54	11000	11000
	100.00	305	380	565	50	5.8	46	11000	11000

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PSC..622EPH07							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC622 2	25.00	345	425	640	200	7.3	57	9220	11000
	35.00	345	425	640	143	6.3	56	10300	11000
	49.00	320	395	595	102	6.3	54	11000	11000
	50.00	345	425	640	100	5.9	56	11000	11000
	70.00	320	395	595	71	5.9	54	11000	11000
	100.00	305	380	565	50	5.9	46	11000	11000

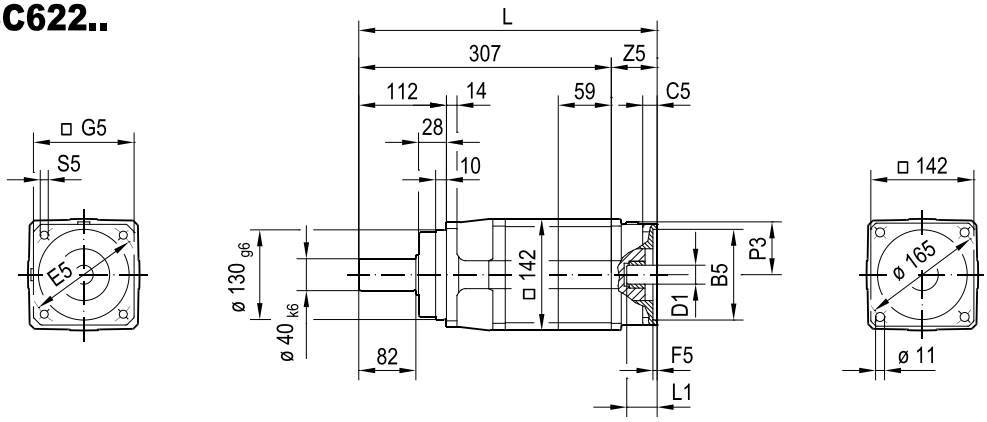
PSC..622EPH08							c_T	F_{Ramax}	F_{Rapk}
n_e = 1500		M_{amax}	M_{apk}	$M_{aNotaus}$	n_{ak}	J_{GA} 10^{-4}	PSC	PSC	PSC
	i	Nm	Nm	Nm	min^{-1}	$kg*m^2$	Nm/'	N	N
PSC622 2	25.00	345	425	640	200	13	57	9220	11000
	35.00	345	425	640	143	12	56	10300	11000
	49.00	320	395	595	102	12	54	11000	11000
	50.00	345	425	640	100	12	56	11000	11000
	70.00	320	395	595	71	12	54	11000	11000
	100.00	305	380	565	50	12	46	11000	11000

PSC..622				M1;M3;M5-6			M2			M4			φ
	i	n_{epk} min^{-1}	η %	a_0	a_1	a_2	a_0	a_1	a_2	a_0	a_1	a_2	'
PSC622 2	25.00	5000	98	2990	-20.033	0	3003	-20.516	0	3013	-20.730	0	15
	35.00	5000	98	3183	-24.552	0	3195	-25.017	0	3206	-25.260	0	15
	49.00	5000	98	4245	-45.266	0	4257	-46.030	0	4265	-46.294	0	15
	50.00	5000	98	3394	-31.850	0	3409	-32.380	0	3418	-32.617	0	15
	70.00	5000	98	4538	-59.027	0	4564	-60.189	0	4571	-60.447	0	15
	100.00	5000	98	5831	-107.7	0	5863	-109.8	0	5868	-110.0	0	15

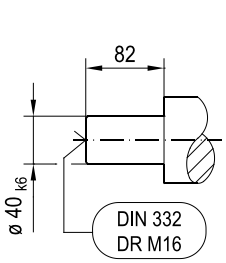
27788644/EN – 02/2024

57 022 01 07

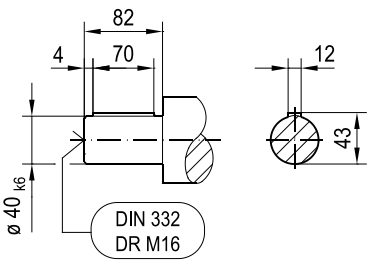
PSC622..



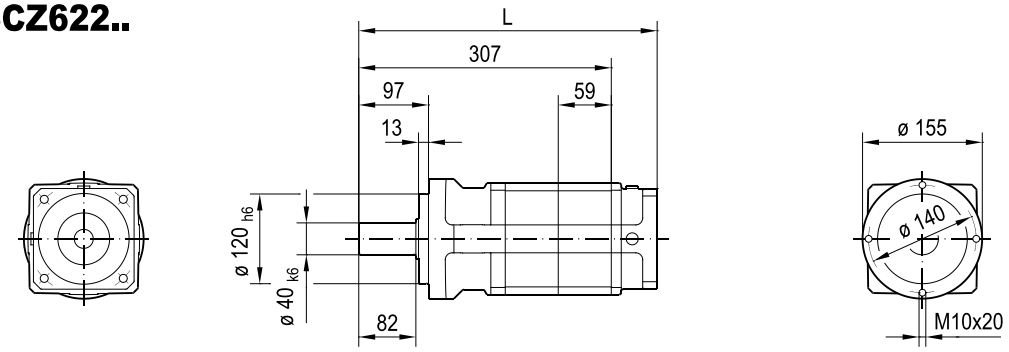
PSC / PSCZ



PSKC / PSKCZ



PSCZ622..

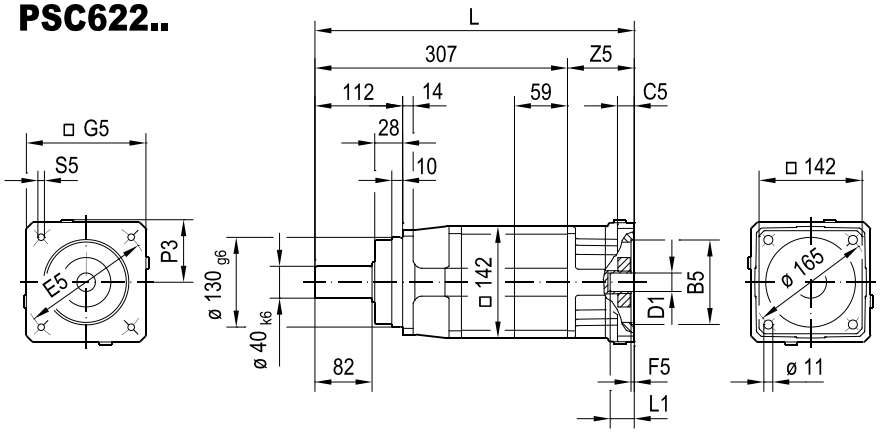


(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 15.2)
ECH06/14/..	350	95	15	115	5	105	M8	43	48	55	19, 24
ECH06/20/..	360	130	18	165	5	142	M10	53	58	73	19, 24

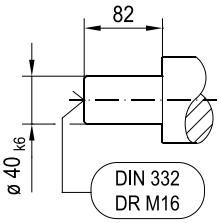
27788644/EN – 02/2024

57 030 01 07

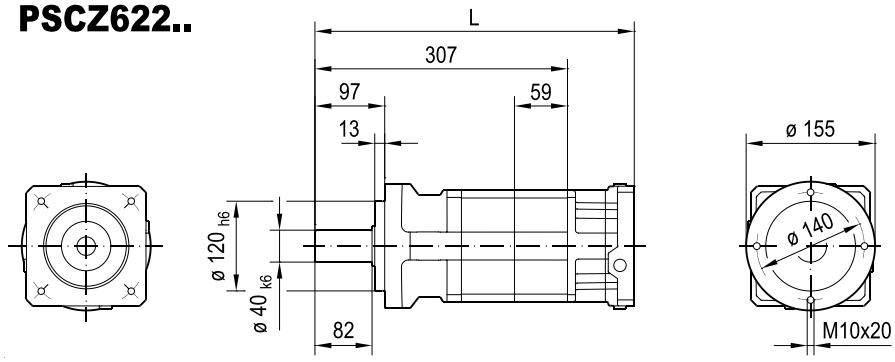
PSC622..



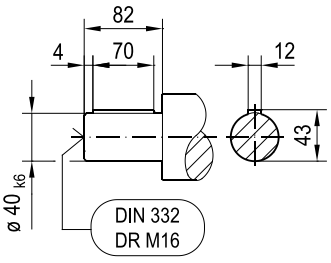
PSC / PSCZ



PSCZ622..



PSKC / PSKCZ



(→ 📖 7.3.11)	L	B5	C5	E5	F5	G5	S5	Z5	L1	P3	D1 (→ 📖 15.3)
EPH05/14/..	361	95	16	115	4	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/15/..	361	95	16	130	4	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/16/..	361	110	16	130	5	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/17/..	361	110	16	145	7	120	M8	54	52	62	14, 16, 17, 18, 19, 24
EPH05/18/..	361	110	20	165	5	140	M10	54	52	72	14, 16, 17, 18, 19, 24
EPH05/20/..	361	130	20	165	5	140	M10	54	52	72	14, 16, 17, 18, 19, 24
EPH05/26/..	361	110	16	130	5	115	M8	54	52	61	14, 16, 17, 18, 19, 24
EPH06/19/..	396	114.3	24	200	5	174	M12	89	82	89	35
EPH07/20/..	376	130	24	165	5	155	M10	69	62	80	22, 24, 28, 32
EPH07/21/..	376	130	24	215	5	190	M12	69	62	97	22, 24, 28, 32
EPH07/22/..	376	180	24	215	5	190	M12	69	62	97	22, 24, 28, 32
EPH07/27/..	376	130	24	165	5	137	M10	69	62	72	22, 24, 28, 32
EPH07/28/..	376	155	24	190	5	162	M10	69	62	84	22, 24, 28, 32
EPH08/21/..	401	130	24	215	5	190	M12	94	82	97	32, 35, 38
EPH08/22/..	401	180	24	215	5	190	M12	94	82	97	32, 35, 38

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15.2 PS.C..ECH.. → D1

	PS.C221 PS.C222	PS.C321 PS.C322	PS.C521 PS.C522	PS.C621 PS.C622
	ECH02	**ECH03**	**ECH05**	**ECH06**
D1 /mm	**Code for mountable motor shaft diameters D1**			
9	2			
11	4	4		
14		6	6	
19			11	11
24				13

Example:

PS.C..ECH 05 /14 /11	
PS.C..ECH..	Gear units with adapter
05	Code for performance class of the adapter
/14	Code for flange geometry (centering, hole circle)
/11	**Code for mountable motor shaft diameters D1**

15.3 PS.C..EPH.. → D1

	PS.C221 PS.C222	PS.C221 PS.C222	PS.C221 PS.C222	PS.C221 PS.C222 PS.C321 PS.C322 PS.C521 PS.C522	PS.C321 PS.C322 PS.C521 PS.C522 PS.C621 PS.C622	PS.C521 PS.C522 PS.C621 PS.C622	PS.C521 PS.C522 PS.C621 PS.C622	PS.C621 PS.C622
	EPH01	**EPH02**	**EPH03**	**EPH04**	**EPH05**	**EPH06**	**EPH07**	**EPH08**
D1 /mm	**Code for mountable motor shaft diameters D1**							
8		1	1					
9	2	2	2					
10		3	3					
11	4	4	4	4				
12		5	5	5				
14		6	6	6	6			
16				8	8			
17					9			
18					10			
19				11	11			
22							12	
24					13		13	
28							14	
32							15	15
35						16		16
38								17

Example:

PS.C..EPH 07 /21 /13	
PS.C..EPH..	Gear units with adapter
07	Code for performance class of the adapter
/21	Code for flange geometry (centering, hole circle)
/13	**Code for mountable motor shaft diameters D1**

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16 Address directory SEW-EURODRIVE

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Great Britain

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Service Competence Center	Southern England	SEW-EURODRIVE Ltd. Unit 41 Easter Park Benyon Road Silchester Reading Berkshire RG7 2PQ	Tel. +44 1189 701-699 Fax +44 1189 701-021
Technical Offices	Midlands	SEW-EURODRIVE Ltd. 5 Sugar Brook court Aston Road Bromsgrove Worcs. B60 3EX	Tel. +44 1527 877-319 Fax +44 1527 575-245
	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
Drive Center	Scotland	SEW-EURODRIVE Ltd. 133-135 Deerdykes View Cumbernauld G68 9HF	Tel. +44 17 8647-8730
Greece			
Sales	Athens	Christ. Boznos & Son S.A. 12, K. Mavromichali Street P.O. Box 80136 18545 Piraeus	Tel. +30 2 1042 251-34 Fax +30 2 1042 251-59 http://www.boznos.gr info@boznos.gr
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
Hungary			
Sales Service	Budapest	SEW-EURODRIVE Kft. Csillaghegyí út 13. 1037 Budapest	Tel. +36 1 437 06-58 Fax +36 1 437 06-50 http://www.sew-eurodrive.hu office@sew-eurodrive.hu
Iceland			
Sales	Reykjavik	Varma & Vélaverk ehf. Knarrarvogi 4 104 Reykjavík	Tel. +354 585 1070 Fax +354 585)1071 https://vov.is/ vov@vov.is
India			
Registered Office Assembly Sales Service	Vadodara	SEW-EURODRIVE India Private Limited 302, NOTUS IT PARK, Sarabhai Campus, Beside Notus Pride, Genda Circle, Vadodara 390023 Gujarat	Tel. +91 265 3045200 Fax +91 265 3045300 https://www.seweurodriveindia.com salesvadodara@seweurodriveindia.com
Assembly Sales Service	Chennai	SEW-EURODRIVE India Private Limited Plot No. K3/1, Sipcot Industrial Park Phase II Mambakkam Village Sriperumbudur - 602105 Kancheepuram Dist, Tamil Nadu	Tel. +91 44 37188888 Fax +91 44 37188811 saleschennai@seweurodriveindia.com
	Pune	SEW-EURODRIVE India Private Limited Plant: Plot No. D236/1, Chakan Industrial Area Phase- II, Warale, Tal- Khed, Pune-410501, Maharashtra	Tel. +91 21 35 628700 Fax +91 21 35 628715 salespune@seweurodriveindia.com
	Tapukara	SEW-EURODRIVE India Private Limited Plot No SP-6-46, Tapukara, Karoli Industrial Area, No. 1, district : Alwar , Rajasthan - 301707	Tel. +91 265 3045200 Fax +91 265 3045300 tapukara.plant@seweurodriveindia.com

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India			
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Drive Center	Raipur	SEW-EURODRIVE India Private Limited Plot unit no. 129/17 P.O. GSI-Mandhar District: Raipur, State: Chhattisgarh	Tel. +91 8294630772 salesraipur@seweurodriveindia.com
Technical Offices	Ahmedabad	SEW-EURODRIVE India Private Limited 306, Shaan office complex, Behind Sakar-IV, Ellisebridge, Ashram Road Ahmedabad – 380006, Gujarat	Tel. +91 79 40072067 / 68 Fax +91 79 40072069 salesahmedabad@seweurodriveindia.com
	Aurangabad	SEW-EURODRIVE India Private Limited Flat.No.403 , Prism Appt. The Venus Housing Society. Beed Bypass Road, Behind Nishant Park Hotel, Aurangabad – 431005, Maharashtra.	Tel. +91 86000 12333 salesaurangabad@seweurodriveindia.com
	Bangalore	SEW-EURODRIVE India Private Limited Sy.no:41-P3, Peenya1, Phase 1A, Peenya Village, Yeswanthapura Hobli, Bangalore North Taluk, Bangalore - 560058, Karnataka	Tel. +91 80 28370664 Fax +91 80 28370665 salesbangalore@seweurodriveindia.com
	Bangalore	SEW-EURODRIVE India Private Limited # C-104, 3rd Block, KSSIDC Complex, Electronic City. Bangalore – 560100, Karnataka	Tel. +91 80 28522662 / 28522663 salesbangalore@seweurodriveindia.com
	Bellary	SEW-EURODRIVE India Private Limited Door no-56/279 Ward No-15, Sindhigi compound, Near Raghavendra talkies, Bellary-583101, Karnataka	Tel. +91 77609 88668 salesbellary@seweurodriveindia.com
	Chandigarh	SEW-EURODRIVE India Private Limited #5358/59, Gali No.-4, SBS Nagar, Adjoining Utsav Palace, Rupnagar - 140001 Ropar, Punjab	Tel. +91 81462 67606 saleschandigarh@seweurodriveindia.com
	Chennai	SEW-EURODRIVE India Private Limited 2nd Floor, Josmans Complex, No. 5, McNichols Road, Chetpet Chennai - 600031, Tamil Nadu	Tel. +91 44 42849812 / 13 / 14 / 15 Fax +91 44 42849816 saleschennai@seweurodriveindia.com
	Coimbatore	SEW-EURODRIVE India Private Limited JK Center No,55, offc No.1, I Floor Sowripalayam Pirivu Road, Opp.Kannapiran Mills Coimbatore - 641028, Tamil Nadu	Tel. +91 422 2322420 Fax +91 422 2323988 salescoimbatore@seweurodriveindia.com
	Cuttack	SEW-EURODRIVE India Private Limited Sekhar Galaxy Flat No-302, 3rd Floor GGP Colony,Bhubaneswar Dist-Khordha State-Odisha-751025	Tel. +91 9937446333 salescuttack@seweurodriveindia.com
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	Faridabad	SEW-EURODRIVE India Private Limited H.No.:-1172 ,Sector-9 , Near St Anthony School Faridabad 121006	Tel. +91 99580 09275 salesfaridabad@seweurodriveindia.com
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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
	Surabaya	PT. TRIAGRI JAYA ABADI Jl. Sukosemolo No. 63, Galaxi Bumi Permai G6 No. 11 Surabaya 60111	Tel. +62 31 5990128 Fax +62 31 5962666 sales@triagri.co.id http://www.triagri.co.id
	Surabaya	CV. Multi Mas Jl. Raden Saleh 43A Kav. 18 Surabaya 60174	Tel. +62 31 5458589 Fax +62 31 5317220 sianhwa@sby.centrin.net.id http://www.cvmultimas.com
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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
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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
	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
	Turin	SEW-EURODRIVE S.a.s. di SEW S.r.l. & Co. Filiale Torino c.so Unione Sovietica 612/15 - int. C 10135 Torino	Tel. +39 011 3473780 Fax +39 02 96 980 799 torino@sew-eurodrive.it
	Verona	SEW-EURODRIVE S.a.s. di SEW S.r.l. & Co. Via Antonio Meucci, 5 37042 - Caldiero (VR)	Tel. +39 045 89-239-11 Fax +39 02 96 980 814 verona@sew-eurodrive.it
Ivory Coast			
Sales	Abidjan	SEW-EURODRIVE SARL Ivory Coast Rue des Pêcheurs, Zone 3 26 BP 916 Abidjan 26	Tel. +225 27 21 21 81 05 Fax +225 27 21 25 30 47 info@sew-eurodrive.ci http://www.sew-eurodrive.ci
Japan			
Assembly Sales Service	Iwata	SEW-EURODRIVE JAPAN CO., LTD 250-1, Shimoman-no, Iwata Shizuoka 438-0818	Tel. +81 538 373811 Fax +81 538 373814 http://www.sew-eurodrive.co.jp sewjapan@sew-eurodrive.co.jp
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	Tokio	SEW-EURODRIVE JAPAN CO., LTD Renai Partire Shiodome 5th floor 2-18-3 Higashi-Shinbashi, Minato-Ku, Tokyo 105-0021	Tel. +81 3 5408-0521 Fax +81 3 5408-7550 tokyo@sew-eurodrive.co.jp
	Nagoya	SEW-EURODRIVE JAPAN CO., LTD Nagoya Toho building, 1-2-7, Sakae, Naka-ku Nagoya 460-0008, Aichi	Tel. +81 52-228-8608 Fax +81 52-203-2820 nagoya@sew-eurodrive.co.jp
	Osaka	SEW-EURODRIVE JAPAN CO., LTD Higobashi Shimizu Bldg. 10th flor 1-3-7 Tosabori, Nishi-ku Osaka, 550-0001	Tel. +81 6 6444--8330 Fax +81 6 6444--8338 osaka@sew-eurodrive.co.jp
	Fukuoka	SEW-EURODRIVE JAPAN CO., LTD 8th-floor, Imon-Hakata-Bldg.-East. 2-2-1, Sumiyoshi, Hakata-ku Fukuoka, 812-0018	Tel. +81 92 291-3600 Fax +81 92 291-3602 fukuoka@sew-eurodrive.co.jp
Kazakhstan			
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	Tashkent	Representative Office SEW-EURODRIVE Representative office in Uzbekistan 95A Amir Temur ave, office 401/3 100084 Tashkent	Tel. +998 97 134 01 99 http://www.sew-eurodrive.uz sew@sew-eurodrive.uz
	Ulaanbaatar	IM Trading LLC Olympic street 28B/3 Sukhbaatar district, Ulaanbaatar 14230, MN	Tel. +976-77109997 Fax +976-77109997 imt@imt.mn

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	Oskemen	SEW-EURODRIVE LLP Gorkiy str. 21, office 200 B 070000, Ust-Kamenogorsk	Tel. +7 (723) 291 37 48 (ext 760) Fax +7 (727) 350 5156 (ext 709) ust-Kamenogorsk@sew-eurodrive.com
	Aktobe	SEW-EURODRIVE LLP 52/1 Marat Ospanov str., office 11 030000, Aktobe	Tel. +7 (771) 993 0915 aktobe@sew-eurodrive.com
	Pavlodar	SEW-EURODRIVE LLP 6/2, Lunacharsky str., office 46 140000, Pavlodar	Tel. +7 (771) 993 09 16 pavlodar@sew-eurodrive.com
Latvia			
Sales	Riga	SIA Alas-Kuul Katlakalna 11C 1073 Riga	Tel. +371 6 7139253 Fax +371 6 7139386 http://www.alas-kuul.lv info@alas-kuul.com
Lebanon			
Sales (Lebanon)	Beirut	Gabriel Acar & Fils sarl B. P. 80484 Bourj Hammoud, Beirut	Tel. +961 1 510 532 Fax +961 1 494 971 ssacar@inco.com.lb
Sales (Jordan, Kuwait , Saudi Arabia, Syria)	Beirut	Middle East Drives S.A.L. (offshore) Sin El Fil. B. P. 55-378 Beirut	Tel. +961 1 494 786 Fax +961 1 494 971 http://www.medrives.com info@medrives.com
Lithuania			
Sales	Alytus	UAB Irseva Statybininku 106C 63431 Alytus	Tel. +370 315 79204 Fax +370 315 56175 http://www.irseva.lt irmantas@irseva.lt
Luxembourg			
Representation: Belgium			
Macedonia			
Sales	Skopje	Boznos DOOEL Dime Anicin 2A/7A 1000 Skopje	Tel. +389 23256553 Fax +389 23256554 http://www.boznos.mk
Malaysia			
Assembly Sales Service	Johor	SEW-EURODRIVE SDN BHD No. 95, Jalan Seroja 39, Taman Johor Jaya 81000 Johor Bahru, Johor West Malaysia	Tel. +60 7 3549409 Fax +60 7 3541404 sales@sew-eurodrive.com.my
Technical Offices	Kuala Lumpur	SEW-EURODRIVE SDN BHD No. 2, Jalan Anggerik Mokara 31/46 Kota Kemuning Seksyen 31 40460 Shah Alam Selangor Darul Ehsan West Malaysia	Tel. +60 3 51229633 Fax +60 3 51229622 sewsa@sew-eurodrive.com.my
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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: ____

Output speed: _____ 1/min **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: IP65 ☐ IP66 ☐

Surface/corrosion protection: KS ☐ OS1 ☐ OS2 ☐ OS3 ☐ OS4 ☐

Line voltage: _____ V

Control range: _____

Required options:

☐ Brake: Voltage _____ V Braking torque: _____ Nm
☐ Manual brake release: ☐ HR
☐ Forced cooling fan: ____
☐ Motor protection: ☐ TF or ☐ PK
☐ Encoder: _____
☐ Plug connector connection: _____
☐ Inverter: _____
☐ RAL 9005 or ☐ RAL _____

Further options:

Special ambient conditions:

Temperature: from _____ °C to _____ °C | ☐ Operation outdoors | ☐ Installation altitude >1000m above NN
Further environmental conditions: _____

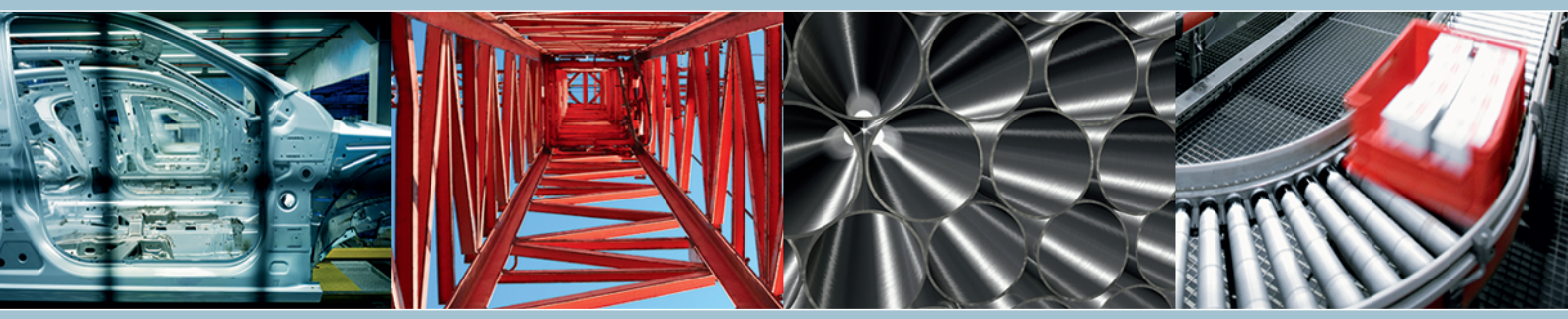
Miscellaneous: _____

1) see back

Place, date _____ **Signature:** _____

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