



SEW
EURODRIVE

Catalog



**EDRN.. Explosion-Protected Gearmotors (IE3, 50 Hz) in
ATEX and IECEx**



Table of Contents

1	Introduction.....	6
1.1	What do we stand for?	6
1.2	Where can you find us?	7
1.3	What do we offer?	8
1.4	What are the goals we want to reach with you?	9
1.5	Why should you choose SEW-EURODRIVE?	10
1.6	Documentation.....	12
1.7	Product names and trademarks.....	13
1.8	Decimal separator in numerical values	13
1.9	Copyright notice	13
2	Product description.....	14
2.1	Explosion protection.....	14
2.2	Product features.....	41
2.3	Corrosion and surface protection.....	49
2.4	Sealing systems.....	52
2.5	Extended storage.....	53
2.6	Oil expansion tank	55
2.7	Agitator designs	56
3	Overview of types and type designations	65
3.1	Variants and gear unit options	65
3.2	Designs and options for the EDRN.. motor series	68
3.3	Type designation of an EDRN.. gearmotor	73
3.4	Nameplates on the explosion-protected gearmotor	74
3.5	Gearmotor types	81
4	Project planning for drives	95
4.1	Legend for the project planning of drives.....	95
4.2	Additional documentation on project planning	95
4.3	Drive and gear unit selection data	96
4.4	Project planning procedure – EDRN.. gearmotors.....	97
4.5	Project planning notes – R.., F.., K.., S.., W.. gear units.....	101
4.6	Service factor	104
4.7	Overhung and axial loads of R.., F.., K.., S.., W.. gear units	108
4.8	Multi-stage gearmotors	114
5	Mounting position of the gearmotors and order information.....	116
5.1	General mounting position information for R..-, F..-, K..-, S..-, W.. gear units	116
5.2	Order information	121
5.3	Mounting position sheets	126
5.4	Mounting positions of AC motors	159
6	Design and operating notes	160
6.1	Lubricants	160
6.2	Sealing systems.....	179
6.3	Gear unit venting.....	181
6.4	Reduced backlash gear unit design /R	182

6.5	Assembly/disassembly of gear units with hollow shaft and key	183
6.6	Gear units with hollow shaft	193
6.7	TorqLOC® mounting system for gear units with hollow shaft	195
6.8	Shouldered hollow shaft option with shrink disk	197
6.9	Notes on stainless shrink disk or output shaft.....	203
6.10	Gear unit dimensions with reinforced bearings.....	204
6.11	Adapters for mounting IEC and NEMA motors	205
6.12	Adapters for mounting servomotors.....	214
6.13	Gear unit mounting	224
6.14	Torque arms.....	225
6.15	Flange contours of RF.. and R..F gear units.....	227
6.16	Flange contours of FF.., KF.., SF.. and WF.. gear units	229
6.17	Flange contours of FAF.., KAF.., SAF.. and WAF.. gear units.....	231
6.18	Optional output shafts	233
6.19	Safety covers	241
6.20	Pt100 temperature sensor, screw-in, connection head form J.....	243
6.21	Pt1000 temperature sensor	244
7	Important information on selection tables and dimension drawings.....	245
7.1	Selection tables for explosion-protected gearmotors.....	245
7.2	Dimension sheet information	246
8	Selection tables for motors 0.12 – 15 kW, category 2 and 3 // EPL .b and .c.....	251
8.1	Selection tables helical gearmotors	251
8.2	Selection tables parallel-shaft helical gearmotors.....	300
8.3	Selection tables helical-bevel gearmotors	327
8.4	Selection tables helical-worm gearmotors	359
8.5	Selection tables for SPIROPLAN® gearmotors	391
9	Selection tables for motors > 15 kW, category 2D and 3 // EPL Db and .c.....	405
9.1	Selection tables helical gearmotors	405
9.2	Selection tables parallel-shaft helical gearmotors.....	414
9.3	Selection tables helical-bevel gearmotors	420
9.4	Selection tables helical-worm gearmotors	429
10	Selection tables for motors > 15 kW, category 2G, T3 // EPL Gb.....	430
10.1	Selection tables helical gearmotors	430
10.2	Selection tables parallel-shaft helical gearmotors.....	437
10.3	Selection tables helical-bevel gearmotors	442
10.4	Selection tables helical-worm gearmotors	450
11	Selection tables for motors > 15 kW, category 2G, T2 // EPL Gb.....	451
11.1	Selection tables helical gearmotors	451
11.2	Selection tables parallel-shaft helical gearmotors.....	459
11.3	Selection tables helical-bevel gearmotors	465
11.4	Selection tables for helical-worm gearmotors	473
12	Dimension sheets of explosion-protected EDRN.. gearmotors	474
12.1	Helical gearmotors	474
12.2	Parallel-shaft helical gearmotors.....	529

12.3	Helical-bevel gearmotors	606
12.4	Helical-worm gearmotors	706
12.5	SPIROPLAN® gearmotors	771
13	Technical data of the motors.....	793
13.1	Identification.....	793
13.2	Overview of 50 Hz motors.....	794
13.3	Key to the data tables	796
13.4	EDRN., 400 V, 50 Hz, 3GD, 3GD-c, T3/T120 °C.....	797
13.5	EDRN., 400 V, 50 Hz, 2D, 2D-b, T120 °C	799
13.6	EDRN., 400 V, 50 Hz, 2G, 2G-b, T3, 2GD, 2GD-b, T3/T120 °C.....	801
13.7	EDRN., 400 V, 50 Hz, 2G, 2G-b, T2	803
13.8	EDRN., 400 V, 50 Hz, 2G, 2G-b, T3, (DIN V 42673-2).....	805
13.9	EDRN., 400 V, 50 Hz, 2G, 2G-b, T4	806
13.10	EDRN., 400 V, 50 Hz, 2D, 2D-b, T120 °C, duty type S1, S4/50%.....	807
13.11	EDRN., 400 V, 50 Hz, 2G, 2G-b, T3, 2GD, 2GD-b, T3/T120 °C, duty type S1, S4/50% .. 808	
13.12	EDRN., 400 V, 50 Hz, 2G, 2G-b, T2, 2GD, 2GD-b, T2/T120 °C, duty type S1, S4/50% .. 808	
13.13	Mass moment of inertia for designs 2G, 2G-b, 3G and 3G-c.....	809
14	Inquiry form for explosion-protected drives.....	810
15	Address directory SEW-EURODRIVE	811
	Index	831

1 Introduction

1.1 What do we stand for?

For a reliable partnership!

For more than 90 years, the owner-operated family business SEW-EURODRIVE has stood for a diverse range of values, including everything from a personal, partnership-based approach, solutions and services to responsibility, quality, tradition, innovation and a whole lot more besides.

As a market leader in drive and automation technology, we don't just power countless applications in virtually every industry. With over 20000 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?

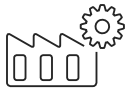
We are always nearby!

Our 17 production plants and 88 Drive Technology Centers in 54 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.



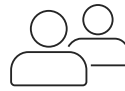
54
Countries



17
Production
plants



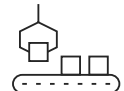
88
Drive
Technology
Centers



> 20000
employees



Global
service



Countless
industries

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?

						
Gear units	Gearmotors	Motors	Industrial gear units	Decentralized drives/mechatronics	Inverter technology	Servo drives
						
Industrial communication	Control technology	Software	Safety technology	Energy transfer/power supply	Services	

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.

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. 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.

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

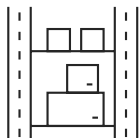
We want to take you to the top!

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 don't 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?

1.5 Why should you choose SEW-EURODRIVE?

Because these ten reasons speak for themselves:



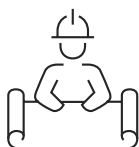
1. You will be more flexible

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.



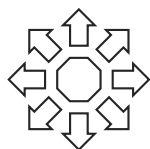
2. You will be more satisfied

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.



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.



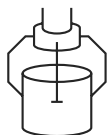
5. You will be more successful

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.



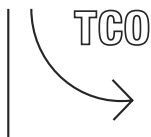
6. You will be more energy efficient

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.

1.6 Documentation

1.6.1 Content of this documentation

This "EDRN.. Explosion-Protected Gearmotors (IE3) in ATEX and IECEx" catalog describes the following product groups from SEW-EURODRIVE in detail:

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

The following gearmotor designs are described in this catalog:

- Explosion-protected drives of equipment category 3GD, 3G and 3D in temperature class T3 and a maximum surface temperature of 120 °C or 140 °C
- Explosion-protected drives of equipment category 2GD in temperature class T3 and a maximum surface temperature of 120 °C or 140 °C
- Explosion-protected drives of equipment category 2G in temperature class T3 or T2
- Explosion-protected drives of equipment category 2D with a maximum surface temperature of 120 °C or 140 °C

1.6.2 Additional documentation

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

Catalogs

- Explosion-protected AC motors
- Inquiry form for explosion-protected gearmotors

Drive Engineering – Practical Implementation

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

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

Manuals

Project planning for BE.. brakes

1.7 Product names and trademarks

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

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 Copyright notice

© 2023 SEW-EURODRIVE. All rights reserved. Unauthorized reproduction, modification, distribution or any other use of the whole or any part of this documentation is strictly prohibited.

2 Product description

2.1 Explosion protection

2.1.1 Why explosion protection?

Operating systems and machines in areas with potentially explosive air/gas or air/dust mixtures require special measures. When the formation of potentially explosive atmospheres cannot be avoided, drives with special protection must be used in these hazardous areas.

Corresponding standards and regulations govern the options for using equipment within established hazard zones. These standards also prescribe the requirements for the construction of such drives that must be adhered to by system manufacturers.

2.1.2 Directives, standards and regulations

In many countries, country-specific regulations apply to the use of electrical and mechanical products in areas with potentially explosive atmospheres.

The basic standards for explosion protection are those of the IEC 60079 series for electrical equipment and ISO 80079 for non-electrical equipment. The series of standards IEC 60079 serves as basis for national standards in countries that recognize the IEC standards. In Europe, the IEC standards have been introduced almost unchanged as EN standards.

In addition, authoritative guideline and local requirements from the regulation for operating areas apply.

Three important rule sets that regulate the use of electrical drives in potentially explosive atmospheres are listed below:

- IECEx: Countries that approve the IECEx agreement.
- ATEX: EU Europe and countries that recognize ATEX.
- HazLoc-NA®: Valid for the North American market, based on the class division system.

2.1.3 Explosion protection according to the IECEx agreement

The IECEx certification agreement is a global platform for the mutual recognition and acceptance of tests and certifications for explosion-protected electrical equipment.

The following 2 rule sets serve as basis for this:

- IECEx 01 IEC Scheme for the Certification to Standards for Electrical Equipment for Explosive Atmospheres (IECEx Scheme) – Basic Rules
- IECEx 02 IEC Scheme for the Certification to Standards for Electrical Equipment for Explosive Atmospheres (IECEx Scheme) – Rules of Procedure

The agreement serves to promote international trade with explosion-protected electrical equipment by eliminating double tests and certifications, which were required so far. The fundamental purpose of the agreement is to verify compliance with the IEC standards for electrical equipment in potentially explosive atmospheres in an internationally recognized form.

This ensures the adherence to these standards certified by test laboratories (ExTL, Ex-Testing Laboratories) and certification bodies (ExCB, Ex-Certification Bodies). This means the product assessment procedure in regard of compliance with the standards has the same result in each country.

Currently, Australia and New Zealand accept drives with IECEx certification without further registration.



EDRS., EDRE.. and EDRN.. motors by SEW-EURODRIVE are IECEx certified by the "Physikalisch-Technische Bundesanstalt" (PTB) and this approved for operation in potentially explosive atmospheres. Certified motors are marked with the depicted logo.

The certificate according to IECEx (CoC = Certificate of Conformity) serves as basis for other country-specific registrations and certifications, e.g. in Korea or Brazil.

The IECEx CoC can be found on the website www.iecex.ch.

Equipment protection level EPL

The EPL (Equipment Protection Level) is defined in the standard IEC 60079-0. In parallel to the categories in the European Directive on explosion protection, this EPL categorization marks the use of equipment according to the zone classification for potentially explosive areas.

The following table lists the assignment of EPL and zones for the products described in this document:

IEC/EN 60079-0		Directive 2014/34/EU		IEC/EN 60079-10-X	Protection type
EPL	Group	Equipment group	Equipment category	Zone	
Gb	II	II	2G	1	Ex eb
Gc			3G	2	Ex ec
Db	III		2D	21	Ex tb
Dc			3D	22	Ex tc

"IEC 60079-10-1; Explosive atmospheres – Part 10-1: Classification of areas – Explosive gas atmospheres"

"IEC 60079-10-2; Explosive atmospheres – Part 10-2: Classification of areas – Explosive dust atmospheres"

2.1.4 Explosion protection according to EU Directives (ATEX)

EU directive 1999/92/EC

The requirements for production plants, division into zones and the assignment of equipment categories to zones are defined in EU Directive 1999/92/EC. This is binding for the operator.

According to the Directive, the operator of the equipment must divide potentially explosive atmospheres into zones.

Zone		Probability of a potentially explosive atmosphere	Relevant for drives from SEW-EURODRIVE
Gas	Dust		
0	20	Continuous, long-term, frequent, predominant in time	–
1	21	Occasionally, in normal operation	x
2	22	Seldom, short-term	x

If not otherwise specified in the explosion protection document (based on a risk estimation), equipment and protective systems in potentially explosive atmospheres according to the categories of Directive 2014/34/EU must be selected.

The following equipment categories must be used in these zones as long as they are suitable for combustible gases, vapors, mist and/or dust.

- in Zone 0 or Zone 20: Equipment in category 1
- in Zone 1 or Zone 21: Equipment in category 1 or category 2
- in Zone 2 or Zone 22: Equipment in category 1, category 2 or category 3.

EU Directive 2014/34/EU

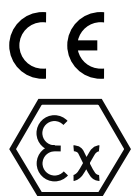
EU Directive 2014/34/EU defines binding minimum requirements for devices and protective systems for use in potentially explosive atmospheres within the European Union. The minimum requirements are defined in the European standards. These standards are identical with the international EX standards on the IEC level.

The motors meet the requirements of Directive 2014/34/EU and even the requirements of international standards. In relation to drives, the criteria of both standards cover motors as well as all other electrical and mechanical components such as gear units, mechanical variable-speed gear units, brakes, forced cooling fans, integrated frequency inverters, sensors, and actuators.

Directive 2014/34/EU defines the minimum requirements for equipment and divides the equipment into categories.

Naturally, EU Directive 2014/34/EU also applies to all products which are manufactured outside the EU, imported into the EU and operated in the EU. Explosion-protected equipment is marked with the CE mark and the Ex mark on the nameplate as a visual sign for conformity with the Directive.

The requirements for production plants, division into zones and the assignment of equipment categories to zones are defined in EU Directive 1999/92/EC.



Division of explosion-protected equipment into categories

According to EU Directive 2014/34/EU, explosion-protected equipment is divided into categories. The category specifies the degree of protection of the equipment, describes the operating conditions and facilitates the assignment between zone and permitted equipment. In addition to the degree of protection (normal, high, very high), a distinction is also made between potentially explosive atmospheres G (gas) and D (dust).

Category	Degree of protection	Guarantee of protection	Operating conditions	Relevant for drives from SEW-EURODRIVE
M1	Very high	- With 2 independent protective measures 2 faults may occur independently of each other	Equipment remains in operation in an explosive atmosphere.	–
1	Very high	- With 2 independent protective measures 2 faults may occur independently of each other	Equipment remains in operation in an explosive atmosphere.	–
M2	High	Suitable for normal operation and severe operating conditions	Equipment is switched off in an explosive atmosphere.	–
2	High	- With 2 protective measure, suitable for normal operation and frequently expected malfunctions 1 fault may occur	Equipment remains in operation in an explosive atmosphere.	x
3	Normal	Suitable for normal operation	Equipment remains in operation in an explosive atmosphere.	x

Categories and protection types

Category 1 – very high safety

SEW-EURODRIVE does not manufacture gear units and motors in category 1.

As a result, drives from SEW-EURODRIVE must not be used in zones 0 and 20 in which potentially explosive mixtures are expected continuously or for a long time.

Category 2 – high safety

Drives according to category 2 are safe in the event of expected device malfunctions and are primarily designed for zones 1 and 21. These drives can also be used for zones 2 and 22.

Category 3 – normal safety

Equipment according to category 3 is safe with intended use and foreseeable overload. These devices are designed for zones 2 and 22.

Overview of explosion-protected equipment

The following table describes the categorization of explosion-protected operating resources in equipment group I and II, as well as the assignment of equipment category, zone and protection type.

	Equipment group II					
	Other potentially explosive areas due to gas or dust					
Equipment category	1		2		3	
Potentially explosive atmosphere ¹⁾	G	D	G	D	G	D
Zone	0	20	1	21	2	22
Protection type						
Motor	–		d (db), e (eb)	t (tb)	e (ec)	t (tc)
Brakemotor ²⁾	–		d (db)	t (tb)	e (ec)	t (tc)
Gear unit	–		h (c, k ...)	h (c, k ...)	h (c, k ...)	h (c, k ...)

1) G = gaseous atmosphere, D = dusty atmosphere.

2) EDRN.. motors are available with BE.. brake in equipment category 3 only.

All gear units and motors offered by SEW-EURODRIVE for potentially explosive atmospheres belong to equipment group II. SEW-EURODRIVE does not supply any drives for use in equipment group I (mining).

2.1.5 Protection types for equipment category 2/EPL .b

Equipment in category 1 is approved for use in zones 1 and 21.

Motors

Protection type d – Flameproof enclosure (IEC/EN 60079-1)

The housing is able to withstand the pressure even if an explosion occurs inside the motor. Gas which may escape from the motor is sufficiently cooled so it will not ignite a potentially explosive atmosphere outside the motor. This is achieved by ignition gaps, which also reduce the pressure that builds up in the event of an explosion.

Protection type e – Increased safety (IEC/EN 60079-7)

No source of ignition is present in normal operation. This safety is achieved by design measures at the motor, such as higher quality insulation systems or larger air gaps. Normal operation is operation including the usual equipment malfunctions.

Depending on the equipment category, units are marked with eb (suitable for zone 1).

Protection type t – Protection by enclosure (IEC/EN 60079-31)

Protection type t is for motors that are used in areas with ignitable dusts. Depending on the equipment category, units are marked with tb (suitable for zone 21).

In this case, explosion protection is realized by preventing the ingress of ignitable dust and the occurrence of impermissibly high temperatures on the surface.

For units with protection type t, a difference is made between:

- Non-conducting dust
- Conducting dust

Depending on the dust classification, the equipment must be designed at least with degree of protection IP5x or IP6x according to EN 60529.

Gear units

Protection type c – Constructional safety (EN ISO 80079-37)

Protection type c (constructional safety) is achieved by means of structural measures that ensure sufficient protection against possible ignition due to hot surfaces, sparks, and adiabatic compression. The units are marked with "h" according to the equipment category.

Protection type k – Liquid immersion (EN ISO 80079-37)

Protection type k (liquid immersion) is obtained by partial or complete immersion in a protective liquid, or by constant wetting of an ignitable surface with a protective liquid. These measures guarantee a separation of ignitable atmospheres or deactivation of potential sources of ignition. The units are marked with "h" according to the equipment category.

2.1.6 Protection types for equipment category 3/EPL .c

Equipment in category 2 is approved for use in zones 1 and 22.

Motors

Protection type e – Increased safety (IEC/EN 60079-7)

An example of typical electrical drives for zone 2 (gas) are motors of protection level ec (old: nA - non-sparking). The requirements of protection level ec largely correspond to the requirements of protection type eb, but for operation without malfunctions.

Protection type t – Protection by enclosure (IEC/EN 60079-31)

Protection type t is for motors that are to be used in areas with ignitable dusts. The units are designated with tc (suitable for zone 22) according to the equipment category.

In this case, explosion protection is realized by preventing the ingress of ignitable dust and the occurrence of impermissibly high temperatures on the surface.

For equipment with protection type t, a difference is made between:

- Non-conducting dust
- Conducting dust

Depending on the dust classification, the units must be designed at least with degree of protection IP5x or IP6x according to EN 60529.

Gear units

Gear units by SEW-EURODRIVE are suitable for operation in zone 1 and 21. For this reason, they can also be operated in zones 2 and 22.

2.1.7 Normative motor protection requirements

Motor protection must be carried out according to the required approvals. There are 2 basic types of motor protection:

1. Current-controlled safety device for temperature limitation e.g. motor circuit breakers
2. Temperature limitation (or monitoring) via temperature sensors e.g. PTC thermistors (PTC resistor: Option designation /TF)

Combinations are possible but must be listed in the approval especially for protection type e and protection level eb.

The following table shows the type of motor protection required by the approval and standard:

Equipment category	2			3		
EPL	EPL .b			EPL .c		
Design	2G, 2D, 2GD, 2G-b, 2D-b, 2GD-b			3G, 3D, 3GD, 3G-c, 3D-c, 3GD-c		
Operation	Supply system	Inverter	Cyclic, switching operation	Supply system	Inverter	Cyclic, switching operation
Duty type (on nameplate)	S1	S1	S4 – 50%	S1	S1	S1
Identification (nameplate)	t_E time I_A/I_N	Identification, nameplate with inverter data	Time t_A , additional identification	No additional specifications	Identification, nameplate with inverter data	No additional specifications
Motor protection according to	1	2	2	1	2	2

Information

In general, only motors intended for continuous duty may be monitored using current-dependent protection devices. The continuous duty includes easy startups that do not occur frequently. With these startups, no significant additional heating occurs.

Motors for heavy startup conditions or for high switching frequencies may only be operated with safety equipment to ensure that the permitted limit temperature is not exceeded.

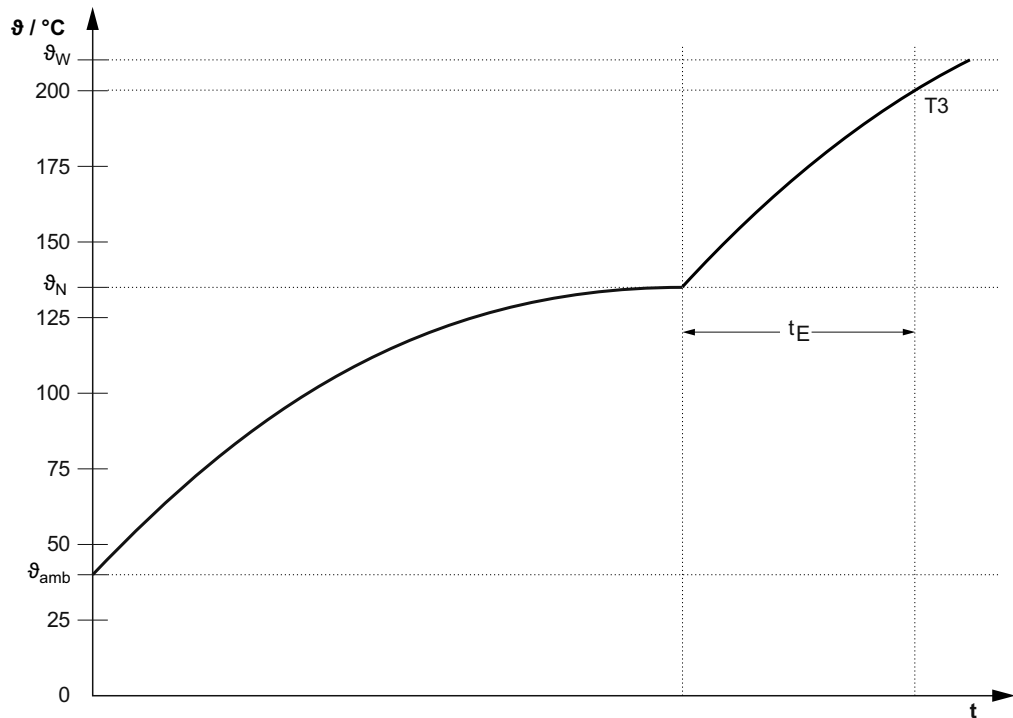
Heavy starting is present when the current-dependent delayed safety device selected for normal operational conditions already switches off the motor during the motor start-up time. This is the case if the run-up time is more than 1.7 times the time t_E .

After comprehensive calculations and tests, all specifications were adhered to when the technical data were defined. This is especially necessary for motors in protection level ec operated in zone 2 in switching operation.

Protection using current-depending safety equipment for temperature limitation

Special features of protection type e – increased safety and protection level eb

The following graph shows a sample temperature profile on a motor with a blocked shaft. The temperature rises from the nominal operating temperature ϑ_N to the maximum permitted surface temperature $T_3 = 200\text{ °C}$ during the time t_E .

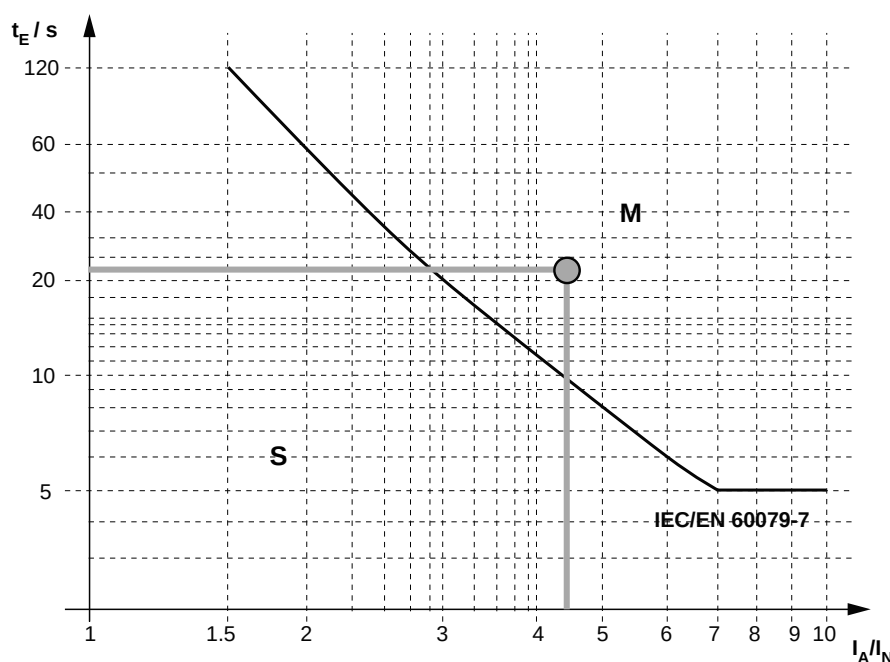


9007203987990923

A special circuit breaker must switch the motor off within the time t_E if a malfunction occurs. This ensures that the equipment does not reach the critical temperature (in this example 200 °C in temperature class T3).

To ensure that the motor circuit breaker (S) reacts reliably according to IEC/EN 60079-7, the time ratio t_E and the ratio between starting and nominal current (I_A/I_N) must be above the limit characteristic curve for motors (M) with protection type "e" in protection level "eb", see the following diagram.

To protect the motors against overtemperature, the motor circuit breakers (S) must be switched in a way that the time ratio t_E and the ratio between starting and nominal current (I_A/I_N) are below the limit characteristic curve, see the following diagram.



18014403243028235

Temperature protection at protection level ec

The thermal protection for machines in protection level ec is provided by the general industry requirements if malfunctions are expected. No additional safety devices are required to maintain explosion protection.

IECEx currently does not contain a standard for complex safety devices with regard to the risk of explosion. For this reason, protective devices can only be ATEX-certified. National regulations must also be observed.

For permitted procedures to ensure thermal protection, refer to chapter "Normative motor protection requirements" (→ 21).

2.1.8 Identification of explosion-protected drives

Designation according to EU directive

At least the following information must be attached visibly and permanently to each unit and protection system:



- Name, registered trade name, or registered trade brand, and manufacturer's address.
- CE marking (see annex II to regulation (EC) no. 765/2008).
- Designation of the series and type.
- If applicable, batch number or serial number.
- Year of manufacture, hexagonal explosion protection mark, and the mark for equipment group and equipment category.
- For equipment group II, the letter G (for areas with potentially explosive gas, vapor or mist/air mixtures).
- The letter D (for areas in which dust could produce potentially explosive atmospheres).

In addition, all safety-relevant information must be attached to the equipment before operation.

Marking in accordance with directives and standards

According to EU Directive 2014/34/EU, the protection types are linked to the equipment groups, categories, potentially explosive atmospheres, minimum protection types and temperature classes, and are specified on the nameplate.

The identification according to the standard includes the following symbols:

- The Ex symbol indicates that the electrical equipment meets the requirements of one or more protection types.
- Symbol for the relevant protection type.
- Symbol for the group plus information on gas or dust.

Information

The IECEx identification consists of the normative part.

Example of explosion-protected motors

Example 1: Operating resources in protection type e for increased safety:
0102 II 2G Ex eb IIC T3 Gb

Example 2: Operating resources in protection type t for dust explosion protection
provided by the enclosure: II 3D Ex tc IIIC T120 °C Dc

Example 1	Example 2		Meaning
		Designation according to EU directive	CE marking
0102			Identification number of the notified body (here: PTB), for category 2 only
			Explosion protection mark
II			Equipment group
2	3		Equipment category
G	D		- G for areas containing potentially explosive mixtures of gas, steam, fog, and air. - D for areas where dust may create potentially explosive atmospheres.
Ex		Designation according to standard	Symbol indicating that the equipment complies with one or more protection types.
eb	tc		Information on protection type/protection level - eb: Increased safety - tc: Protection by enclosure
IIC	IIIC		Following information: - IIC: Gas group - IIIC: Dust group
T3	T120 °C		T3: Temperature class T120 °C: Maximum surface temperature in degrees Celsius
Gb	Dc		Equipment protection level (EPL)

Example of explosion-protected gear units

Example 1	Example 2		Meaning
		Designation according to EU directive	CE marking
			Explosion protection mark
II			Equipment group
2			Equipment category
G	D	Designation according to standard	- G for areas containing potentially explosive mixtures of gas, steam, fog, and air. - D for areas where dust may create potentially explosive atmospheres.
Ex			Symbol indicating that the equipment complies with one or more protection types.
h			Non-electrical equipment for use in potentially explosive atmospheres
IIC	IIIC		Following information: - IIC: Gas group - IIIC: Dust group
T4	T120 °C		T4: Temperature class T120 °C: Maximum surface temperature in degrees Celsius
Gb	Db		Equipment protection level (EPL)

Identification for potentially explosive gas atmospheres

Example	Ex eb	Symbol for protection type/protection level
	IIC	Classification of the gas group
	T3	Temperature class
	Gb	Equipment protection level

Classification of the gas group

Electrical equipment of group II is intended for operation in areas in which potentially explosive gas atmospheres are expected, with the exception of mine openings with a risk of firedamp.

Electrical equipment of group II is subdivided according to the characteristics of the potentially explosive atmosphere that they will be used in.

Subgroups of group II:

- IIA, typical gas is propane.
- IIB, typical gas is ethylene.
- IIC, typical gas is hydrogen.

Equipment labeled with IIB is suitable for applications requiring equipment for group IIA. Accordingly, equipment labeled with IIC is suitable for applications requiring equipment for group IIA or group IIB.

Indication of temperature class

The ignition temperature of the gas medium affects the selection of explosion-protected equipment. The table below lists how the maximum surface temperatures for electrical equipment of group II is categorized, and the assignment of the ignition temperature.

Temperature class	Maximum surface temperature in °C	Ignition temperature of the gas medium in relation to the limit temperature in °C
T1	450	> 450
T2	300	300 – 450
T3	200	200 – 300
T4	135	135 – 200
T5	100	100 – 135
T6	85	85 – 100

Identification for potentially explosive dust atmospheres

Example	Ex tc	Symbol for explosion protection with protection type/protection level
	IIIC	Classification of the dust group
	T120 °C	Maximum surface temperature in °C
	Dc	Equipment protection level

Classification of the dust group

In addition, equipment group III has been split up into three subgroups A, B and C depending on the type of dust. This also includes a minimum requirement on the degree of protection according to IEC/EN 60529:

Equipment group	Approved for atmospheres with	Minimum degree of protection IP
IIIA	Inflammable fluffing	5x
IIIB	Non-conducting dust	5x
IIIC	Conductive dust	6x

x Placeholder

2.1.9 Standards and regulations

AC motors

AC motors from SEW-EURODRIVE comply with the IEC 60034/EN 60034 international series of product standards and also comply with other standards for special topics.

- **IEC 60034-1, EN 60034-1**
Rotating electrical machines, rating and performance
- **IEC 60034-2-1, EN 60034-2-1**
Rotating electrical machines, standard methods for determining losses and efficiency from tests
- **IEC 60034-5, EN 60034-5**
Rotating electrical machines, degrees of protection provided by integral design of rotating electrical machines (IP code)
- **IEC 60034-7, EN 60034-7**
Rotating electrical machines: Classification of types of construction, mounting arrangements and terminal box position (IM code)
- **IEC 60034-9, EN 60034-9**
Rotating electrical machines, noise limits
- **IEC 60034-14, EN 60034-14**
Rotating electrical machines, mechanical vibrations
- **IEC 60034-29, EN 60034-29**
Rotating Electrical Machines – Part 29: Equivalent loading and superposition techniques – Indirect testing to determine temperature rise
- **IEC 60034-30-1, EN 60034-30-1**
Rotating electrical machines, efficiency classes of line operated AC motors (IE code)
- **IEC 60072**
Dimensions and output series for rotating electrical machines
- **EN 50347**
General purpose three-phase induction motors having standard dimensions and outputs
- **IEC 60079-0, EN 60079-0**
Potentially explosive atmospheres – Part 0: Equipment – General requirements
- **IEC 60079-7, EN 60079-7**
Explosive atmospheres – Part 7: Equipment protection by increased safety e
- **IEC 60079-31, EN 60079-31**
Explosive atmospheres – Part 31: Equipment dust explosion protection by enclosure "t"
- **IEC 60079-14, EN 60079-14**
Explosive atmospheres – Part 14: Project planning, selection and setup of electrical machinery

- **EC 60079-17, EN 60079-17**

Explosive atmospheres – Part 17: Testing and maintenance of electrical machinery

- **IEC 60079-19, EN 60079-19**

Explosive atmospheres – Part 19: Equipment repair, overhaul and reclamation

In connection with functional safety:

- **EN ISO 13849-1**

Safety of machines – Safety-related parts of control systems – Part 1: General design principles

- **EN ISO 12100**

Safety of machinery – Basic terminology, general design principles

- **EN 61800-5-2**

Electrical power drive systems with adjustable speed – Part 5.2: Safety requirements – Functional safety

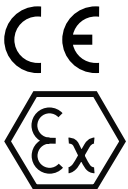
Worldwide usability

The motors can be used in every country in the world.

SEW-EURODRIVE provides the latest information on efficiency regulations online via "www.ie-guide.com" as well as via the Online Support under "Engineering & selection – Energy efficiency tools" on the website "www.sew-eurodrive.com".

Approvals and certifications

Europe



The EU declaration of conformity documents that EDRN.. motors comply with Directive 2014/34/EU.

The EU declaration of conformity of explosion-protected motors is included in each motor delivery. The following applies to the declaration of conformity and the operating instructions: If a large number of products is delivered to the same customer, a single copy may be included in the relevant batch or delivery.

Motors in category 2

Directive 2014/34/EU stipulates the following:

In case of motors with internal combustion and of electrical equipment in these groups and categories, the EU type examination according to annex III of the Directive must be performed in combination with the following procedure:

- Conformity with the prototype based on internal manufacturing control with monitored product testing according to annex VI.
- Conformity with the prototype based on quality assurance aspects for the product described in annex VII.

The EU type examination is part of the conformity assessment procedure, where a notified body examines and tests the technical prototype for a product, and certifies that the prototype meets all requirements of the Directive applicable to the product.

The conformity for motors of category 2 was evaluated by the PTB (Physikalisch-Technische Bundesanstalt – notified body no. 0102). This includes all conformity assessment modules specified in the standard, such as type examinations, as well as the recognition of the QM systems by SEW-EURODRIVE.

SEW-EURODRIVE decided to use this quality assurance procedure as it includes high-quality demands and all certifications according to ISO 9001. The quality assurance system for EDR.. motors has also been evaluated by the PTB. The evaluation is renewed every 5 years.

Gear units in category 2

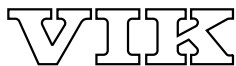
For mechanical units, apply the internal production control according to annex VIII. The technical documents according to annex VIII No. 2 must be transmitted to a certified body, who immediately confirms receiving them and stores the documents.

Motors in category 3

Directive 2014/34/EU stipulates that the internal production control according to Annex VIII must be applied to equipment group II and equipment category 3.

Internal production control is the conformity assessment procedure by which the manufacturer fulfills the obligations for technical documentation, for manufacturing and CE marking, for EU declaration of conformity and certificate of conformity, and ensures and declares on his own responsibility that the products concerned meet the requirements of this directive that apply to them.

Germany



If requested, motors for operation in power plants and refineries according to the German "VIK Recommendation 1 – AC Asynchronous Motors – Technical Requirements" can be delivered.

The motors mainly adhere to this recommendation and are marked with the logo.

International markets

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

The following countries have special requirements for motors. The country-specific requirements apply to the motor in general, the efficiency and to the explosion protection. Some countries, such as the European Union, have requirements on the gear unit. The relevant marking is attached to the gear unit if these requirements are met.

Australia/New Zealand

Australia and New Zealand recognize the IECEx Certificate of Conformity (COC) without additional certification or registration. The motors must be MEPS-approved ($IE2 \geq 0.75 \text{ kW}$) and must be registered.

The EDRN.. motors meet these requirements.

For mechanical components (e.g. gear units), no legal requirements for explosion protection are known.

Eurasian Customs Union

The Eurasian Customs Union has adopted a number of European directives, with some modifications.

In the field of explosion protection, TR CU 012/2011, which is based on EU Directive 94/9/EC, has replaced the GOST regulations.

For products in potentially explosive atmospheres, the EAC marking (Eurasian conformity) alone is not sufficient. The products must be certified according to the technical regulation "TR CU 012/2011: Safety of equipment for operation in explosive environments" and also receive an EX marking in addition to the EAC label.

The EACEx certification was created on the basis of the ATEX certification.

SEW-EURODRIVE asynchronous motors and asynchronous gearmotors are delivered with both labels.

The ATEX markings remain unchanged and the motor or gearmotor is equipped with a second nameplate with the EACEx specifications. The second nameplate is always attached to the motor.

Stand-alone gear units are not to be shipped with both labels. The main nameplate is to be modified to fulfill all requirements of technical regulation TR CU 012/2011.

Unlike other countries, gear units, motors, and gearmotors are individually certified in the Eurasian Economic Union. EDRN.. gearmotors meet these requirements.

Ukraine

The Ukraine has adopted some of the European directives with modifications.

In the field of explosion protection, Regulation no. 1055 from December 2016 laid down technical standards for equipment and protective systems to be used in potentially explosive atmospheres. Gearmotors for the Ukrainian market are certified according to the "Ukrainian Technical Regulations" (UA TR) and are marked accordingly.

EDRN.. gearmotors meet these requirements.

China



In accordance with the Chinese energy efficiency regulation GB18613, explosion-protected motors must also meet the requirements of at least Chinese Grade 3. The motors are marked with the CEL (Chinese Energy Label).

As of June 1, 2021, the new GB 18613-2020 prescribes Grade 3, equivalent to energy efficiency class IE3 for 0.12 kW and higher. According to the CEL007/2021 implementation ordinance, only motors from 0.75 kW to 375 kW require marking.

As of October 1, 2020, products that are intended for use in potentially explosive atmospheres must be certified and meet the requirements of the "China Compulsory Product Certification CCC for Explosion-proof Electrical Products". Without this certification, they may not be delivered, sold, imported, or used in other business activities.

The CCC Certification is based on the CNCA-C23-01:2019 implementation rules and the Chinese standards. The term typically used is CCCEx.

EDRN.. motors from SEW-EURODRIVE have been developed and manufactured according to the latest IEC standards. Therefore, they bear the identifications according to IEC and IECEx.

The standards currently valid in the PR China correspond to the editions of the international IEC standards.

In order to meet the requirements of Chinese standards and authorities, the motors are provided with their own nameplate. In this case, this is the main nameplate. In addition, the motor receives the associated IECEx plate.

This indicates that the motors are approved under both CCCEx and IECEx.

EDRN.. motors meet these requirements.

For mechanical components such as gear units, no legal requirements on explosion protection are known.

India

In India, there are two important standards for determining and selecting electrical equipment:

- IS 5571: Guide for Selection and Installation of Electrical Equipment for Hazardous Areas (other than mines). This standard is based on IEC 60079-14.
- IS 5572-2009: Classification of hazardous areas (other than mines) having flammable gases and vapors for electrical installation. This standard quotes IEC 60079-10.

Operating resources in protection type "n" (non-sparking) and "e" (increased safety) are permitted in zone 2 only. For zone 1, motors in flameproof enclosure protection type "d" must be used.

For operating resources in potentially explosive areas with gas atmosphere, the approval by the Chief Controller of Explosives (CCE or CCoE) is often prescribed.

Approval from the Chief Controller of Explosives (CCoE) is mandatory for all electrical equipment installed in potentially explosive atmospheres. Rule 106 of the Petroleum Rules 2002 specifies that all electrical equipment used in potentially explosive atmospheres require CCoE approval. Approval for such equipment is therefore only limited to areas covered by the "Petroleum and Explosives Safety Organization" (PESO).

As of Jan 1, 2018, motors must meet the requirements of the Indian standard IS 12615 "Line Operated Three Phase A.C. Motors (IE CODE), Efficiency Classes and Performance Specification". Therefore, motors must at least meet the requirements of energy efficiency class IE2.

However, motors designed for use in potentially explosive areas are not subject to the requirements of IS 12615.

For mechanical components such as gear units, no legal requirements on explosion protection are known.

Brazil



9007231634174731

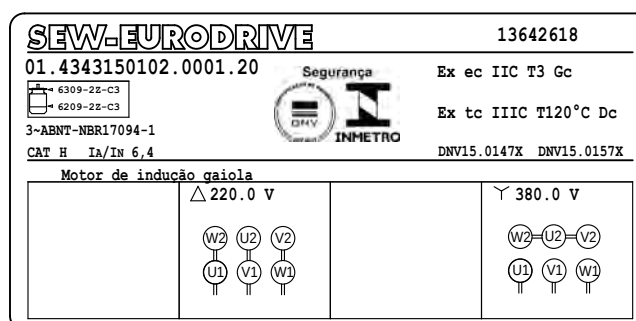
Brazilian regulation requires a certificate of conformity (CoC) issued by the National Institute of Metrology, Quality and Technology (INMETRO). The IECEx CoC is not valid in Brazil, even though ExTRs are recognized and form part of the INMETRO-CoC.

Areas exposed to explosion hazards are defined for the Brazilian market in the regulations N° 179, from May 2010, and N° 89, from February 2012.

EDR.. motors are certified by the DNV certification authority based on the IECEx certification according to the requirements of the Brazilian authority INMETRO. This also includes the certification of production sites.

The motors are provided with an additional nameplate with additional information according to INMETRO.

The nameplate depicted below is an example:



38665272075

EDRN.. motors meet these requirements.

For mechanical components such as gear units, no legal requirements on explosion protection are known.

South Korea



According to articles 34 and 35 of the Occupational Safety & Health Act, in South Korea products in potentially explosive atmospheres must be KOSHA (Korea Occupational Safety and Health Agency) certified.

The Republic of Korea has joined the IECEx agreement. Test reports required for the IECEx certification of EDRN.. motors are approved by KOSHA. However, individual certificates for the respective motors are issued.

South Korean regulations are guided by the series of standards IEC 60079 for gas and IEC 13463. Potentially explosive atmospheres are classified according to the Korean standard KS C IEC 60079-10. Devices are selected according to KS C IEC 60079-14.

Certified motors are marked with the KCs logo and the certification number.

In addition, the marking according to the old edition of the Korean standards is specified. The texts with the certification number and the marking have Korean characters. The data is supplemented with KOSHA as approval authority.

The EDRN.. motors meet these requirements. For mechanical components such as gear units, no legal requirements on explosion protection are known.

As of October 1, 2018, explosion-protected motors with 0.75 kW and more must also correspond to the minimum efficiency level IE3. The EDRN.. motors meet these requirements and are equipped with the KEL (Korean Energy Label) according to the Korean efficiency levels.

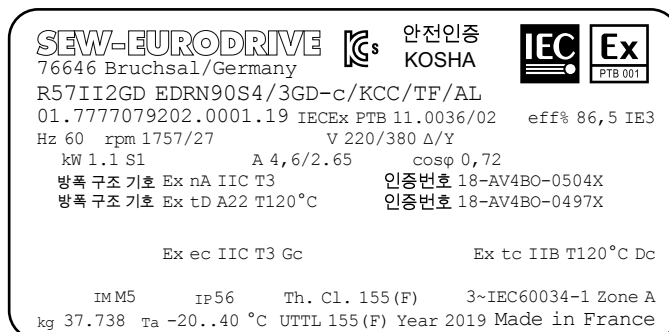
The standards currently valid in South Korea currently do not match the editions of the IEC standards. For this reason, certifications according to KOSHA include the explosion protection identifications valid for Korea. EDRN.. motors have been developed and manufactured according to the latest IEC standards. Therefore, the motors are marked with the IEC identification. South Korean authorities recognize these identifications. In addition, the identifications according to the Korean standard are marked on the nameplate.

The following table shows the comparison and available explosion-protected designs for Korea. The temperature classes T2 and T4 are not available for gas atmospheres. The surface temperature T 140 °C is not available for dust atmospheres.

EDRN..	Identification according to Korean standards	Identification according to IEC
2G-b	Ex e II T3	Ex eb IIC T3 Gb
3G-c	Ex nA II T3	Ex nA IIC T3 Gc
2D-b	Ex tD A21 IP65 T120 °C	Ex tb IIIC T120 °C Db
3GD-c	Ex tD A22 IP54 T120 °C	Ex tc IIIB T120 °C Dc
	Ex tD A22 IP65 T120 °C	Ex tc IIIC T120 °C Dc



The certification considers the motor voltages. With motors of equipment protection level EPL .b, each voltage needs to be certified individually. For this reason, mainly motors for 380 V and 440 V line voltage have been certified. The frequency is always 60 Hz. The nameplate depicted below is an example:



18014429807598475

Great Britain



Motors for great Britain are certified in accordance with the "STATUTORY INSTRUMENTS (SI) 2016 No. 1107 HEALTH AND SAFETY The Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016".

For motors, there is the UK declaration of conformity and for category 2 motors, there is the "UK Type Examination Certification".

They are marked analogously to the European rules but with the UKCA marking.

When it comes to product labeling, the countries of England, Scotland and Wales are classed as the UK. Due to the Northern Ireland Protocol, the CE marking will continue to be used for Northern Ireland.

SI 2016 No. 1107 stipulates that mechanical equipment in explosion-protected design must also be used in Great Britain and is labeled accordingly.

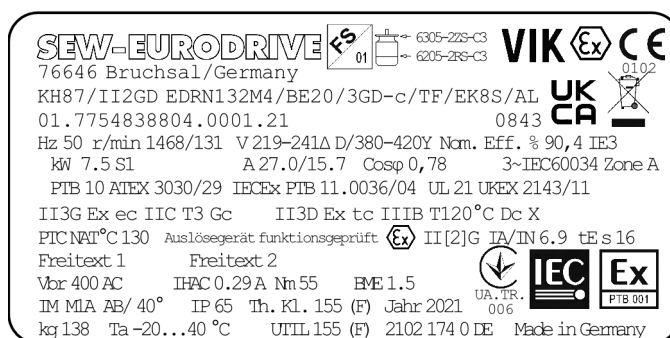
Motors with multiple certification

SEW-EURODRIVE has succeeded in labeling EDRN.. motors/gearmotors with 50 Hz for many markets at the same time.

Motors with the following nameplates comply with European directives and the requirements of the IECEx certification agreement.

They also meet the requirements for China (additional nameplate), Great Britain, and Ukraine.

The following figure shows an example nameplate with the maximum specifications. The specifications vary depending on the category/EPL/rule set and the options selected for the motor.



38665407371

Gear units

- **EN ISO 80079-36**

Explosive atmospheres – Part 36: Non-electrical equipment for use in potentially explosive atmospheres – Basics and requirements

- **EN ISO 80079-37**

Explosive atmospheres – Part 37: Non-electrical equipment for explosive atmospheres – Non-electrical type of protection constructional safety "c", control of ignition sources "b", liquid immersion "k".

Worldwide usability

The following applies to motors in connection with an gear unit in explosion-protected design:

EN ISO 80079-36 and -37, and EN 60529:1991/A2:2013/AC:2019-02, see declaration of conformity.

2.2 Product features

2.2.1 Operating temperatures

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

Gear units

The nominal data of the gear units and gearmotors specified in the catalog refer to an ambient temperature of -20 °C to + 40 °C.

Gear units in explosion-protected design are filled with the following lubricants as standard:

Gear unit	Filled with
K..19 – K..49	CLP PG VG460
K..37 – K..187 RX.57 – RX.107 R..07 – R..167 F..27 – F..157	CLP HC VG220
S..37 – S..97	CLP HC VG460
S..37p – S..97p	CLP PG VG460
W..10 – W..30	CLP PG VG460
W..19 – W..59	CLP PG VG220

For information on churning losses and thermal rating, refer to chapter "Churning losses and thermal rating" (→ 103).

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. The project planning must take into account the special operating conditions and adapt the drive to the ambient conditions by selecting suitable lubricants and seals.

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

Motors

Motors from SEW-EURODRIVE are designed for use in a temperature range between -20 °C and +40 °C.

This expands the standardized temperature range required by IEC 60034.

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

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

2.2.2 Installation altitude

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

2.2.3 Power and torque

The specified power ratings and torques refer to mounting position M1 and comparable mounting positions in which the input stage does not completely run under oil. In addition, the gearmotors are assumed to be standard versions with standard lubrication and under normal ambient conditions.

2.2.4 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.

2.2.5 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 EN 60034 for motors.

2.2.6 Painting

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

Gear unit	Painting
R, F, K, S, W gear units	Blue gray RAL 7031

The coating system from SEW-EURODRIVE meets the requirements of a non-metallic layer according to IEC EN 60079-0 and ISO 80079-36.

In case of painting by the customer, the applicable standards and guidelines on explosion protection must be observed. Contact SEW-EURODRIVE, if necessary.

2.2.7 Surface and anti-corrosion protection

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

2.2.8 Heat dissipation and accessibility

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

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

2.2.9 Weights

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

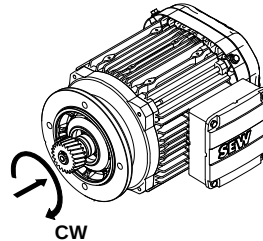
2.2.10 Directions of rotation

Direction of rotation of the motor shaft

In accordance with the standard IEC 60034-8 defined as standard:

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

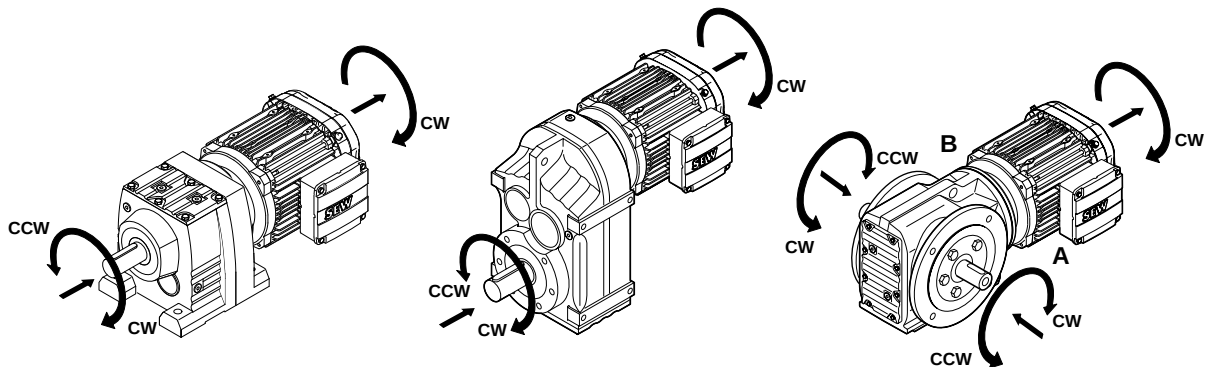
Prerequisite: Connection U1-V1-W1



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.. 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.

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 – 167	2		CW
		3		CCW
F	27 – 157	2		CW
		3		CCW

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 – 187	3	A	CCW	
			AB	CCW	CW
			B		CCW
S	37 – 97	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

1) CW = clockwise; CCW = counterclockwise.

2.2.11 Backlash reduction

Helical, parallel-shaft helical and helical-bevel gear units with reduced backlash (only K..7) are available as of gear unit size 37.

The rotational clearance of these gear units is considerably less than that of the standard designs so that positioning tasks can be solved with great precision. For further information, refer to chapter "Reduced backlash gear unit design /R" (→ 182) and to the catalogs for gearmotors. Contact SEW-EURODRIVE, if necessary.

2.2.12 Multi-stage gearmotors

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

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

2.2.13 Gear units and gearmotors for agitators and mixers

A special design variant of the helical gear, parallel-shaft and helical-bevel gear units are gear units and gearmotors equipped with an extended output bearing hub (RM../FM../FAM../KM.. and KAM..). These units are designed especially for agitator and mixer applications and allow for high bending moments as well as overhung and axial loads. The remaining data corresponds to that of standard gear units and gearmotors. For further information on gear unit and gearmotor designs for agitators and mixers, refer to chapter "Agitator designs" (→ 56).

2.2.14 SPIROPLAN® gearmotors

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

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

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

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

2.2.15 Brakemotors

On request, the motors and gearmotors of equipment category 3 or equipment protection level .c can be supplied with an integrated mechanical brake.

The SEW-EURODRIVE brake is an electromagnetic disk brake with a DC coil that releases electrically and brakes using spring force. Due to its operating principle, the brake is applied if the power fails. It meets the basic safety requirements. The brake can also be released mechanically if equipped with manual brake release. Included in the delivery is either an automatic disengaging hand lever or an adjustable setscrew. The brake is controlled by a brake control that is installed in either the motor wiring space or the control cabinet.

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

2.2.16 Components on the input side

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

- **Input shaft assemblies** with input shaft end, optionally with
 - Centering shoulder
 - Backstop
 - Motor platform
- **Adapters**
 - For mounting IEC or NEMA motors with the option of a backstop
 - For mounting servomotors with a square flange
 - With safety slipping coupling optionally with speed monitor or slip monitor
 - With hydraulic start-up coupling, also with disk brake or backstop

Refer to the "Gear Units" catalog for more information.

2.2.17 Swing base

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

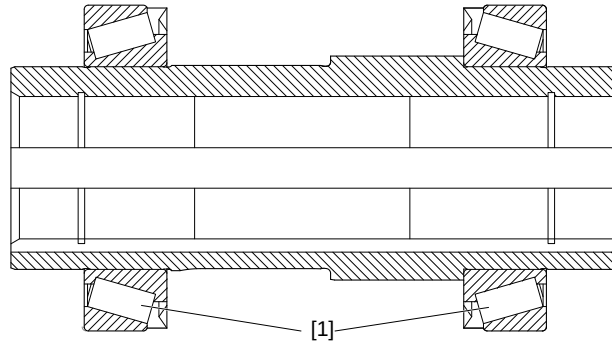
Motor swings are available with the following optional accessories:

- Torque arm
- Mechanical thermal monitoring device
- Contactless thermal monitoring device

Contact SEW-EURODRIVE for additional information.

2.2.18 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

2.3 Corrosion and surface protection

2.3.1 General information

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

- KS corrosion protection for motors
- 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.

2.3.2 KS corrosion protection

KS corrosion protection for motors comprises the following measures:

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

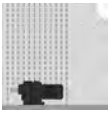
A sticker labeled "KORROSIONSSCHUTZ" (corrosion protection) on the fan guard indicates that special treatment has been applied.

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

- Forced cooling fan /VE
- Add-on encoders of type series 7 and 8

2.3.3 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 rooms indoors with neutral atmospheres. Based on corrosivity category ³⁾ • C1 (negligible)	- Machines and systems in the automotive industry - Transport systems in logistics - Conveyor belts at airports
OS1		Suitable for environments prone to condensation and atmospheres with low humidity or contamination, such as applications outdoors under roof or with protection device. Based on corrosivity category ³⁾ : • C2 (low)	- Systems in saw mills - Hall gates - Agitators and mixers
OS2		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 ambient conditions.

2.3.4 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.

Measure	Protection principle	Suitable for
Output shaft made of stainless steel	Surface protection with high-quality material	Particularly demanding applications with regard to corrosion

2.3.5 NOCO® fluid

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

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

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

2.4 Sealing systems

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

High-quality sealing systems made of FKM are used as standard for the standard temperature range (-20 °C to +40 °C).

For further information on sealing systems, refer to chapter "Sealing systems" (→  179).

2.5 Extended storage

2.5.1 Design

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

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 gear units, the extended storage option is not available.

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

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.

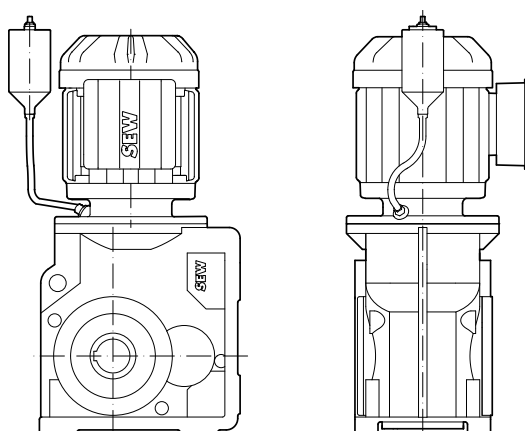
2.6 Oil expansion tank

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 $> 2000 \text{ min}^{-1}$
- For sizes 77 to 97 and input speeds $> 1800 \text{ min}^{-1}$
- For gear units and gearmotors from size 107

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



18014434216323467

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

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

If you require further information, contact SEW-EURODRIVE.

2.7 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, please 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 is 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 / 167	67 / 77 / 87 / 97 / 107 / 127 / 157	67 / 77 / 87 / 97 / 107 / 127 / 157
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:

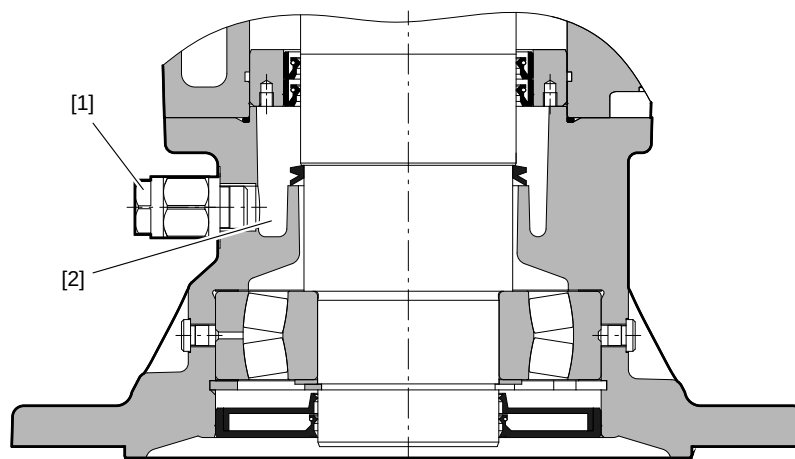
- Double oil seal on the output end for additional protection against leakage
- Grease nipple for relubrication of output shaft bearings
- The gear units use series housings and series gearing components. The special flange is bolted to the output end of the standard gear unit.
- Energy efficiency classes IE1 – IE4 for gearmotors
- Motor power range of 0.12 to 200 kW
- Motor adapter AMS.. 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.

2.7.1 Drywell with oil sight glass

The following specifications apply to gear units in agitator design with oil sight glass in mounting position M4 for FM.., FAM and in mounting position M5A, M6B for KM.., KAM..



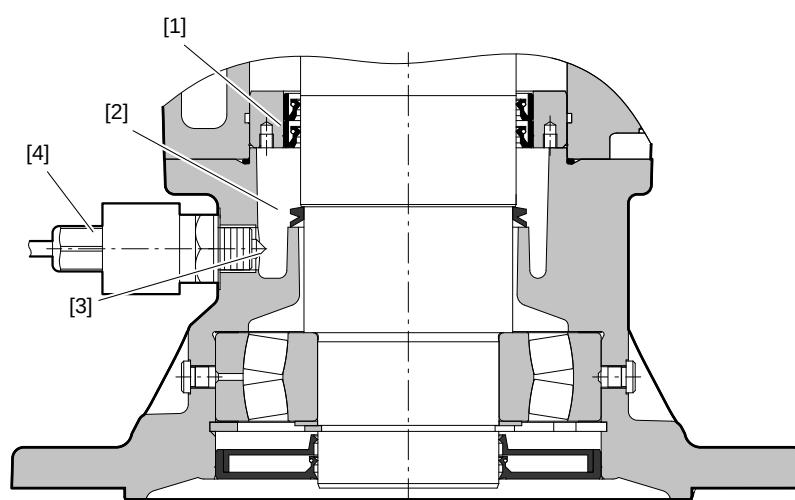
The oil sight glass [1] makes it possible to visually check if gear unit oil has accumulated in the collecting space [2] of the output flange.

2.7.2 Drywell with oil level sensor

The following specifications apply to gear units in agitator design with oil level sensor with intrinsically safe repeater power supply (type IS barrier) in mounting position M4 for FM.., FAM, and in mounting position M5A, M6B for KM.., KAM..

The Drywell design with oil level switch (consisting of sensor and switch electronics) prevents customer products from being contaminated by leaking gear unit oil in case of a leakage.

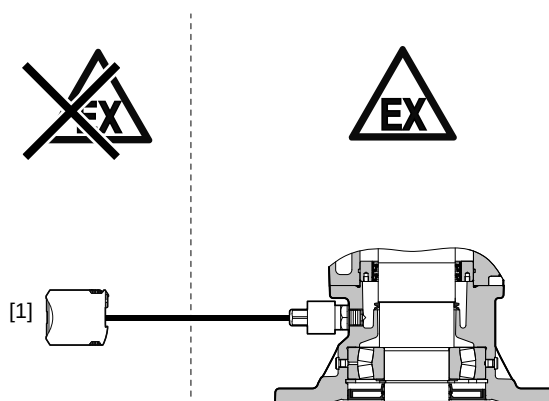
In case of a leakage of the oil seal [1] between gear unit and output flange, an axially acting seal [2] prevents the gear unit oil from reaching the output end. The gear unit oil collects in the collecting space [3] of the output flange. The oil level switch [4] switches if the sensor detects gear unit oil.



- [1] Radial oil seal
- [2] Seal (axial)
- [3] Collecting space
- [4] Oil level switch

Operating principle

The sensor of the Drywell design signals if there is a leakage at the axial oil seal (oil at the spherical roller bearing).



9007233405088139

[1] Repeater power supply

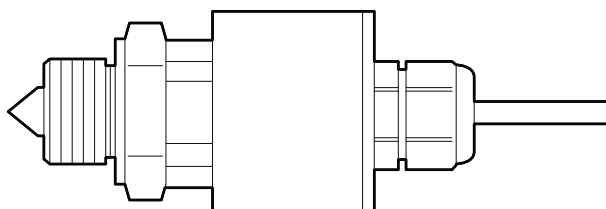
Scope of delivery

The delivery of the gear unit includes:

- Optoelectronic level switch model OLS-C51 with 5 m connection cable
- Intrinsically safe repeater power supply model IS Barrier

The gear unit is delivered without a display unit.

Optoelectronic level switch model OLS-C51



34150354443

The optoelectronic level switch model OLS-C51 is used to monitor the filling level of liquids. The optoelectronic sensor consists of an infrared LED and a light detector.

The level switch of type OLS-C51 in explosion-protected design is suitable for zone 0 and 1 with temperatures of the measured medium of -30 °C to +135 °C.

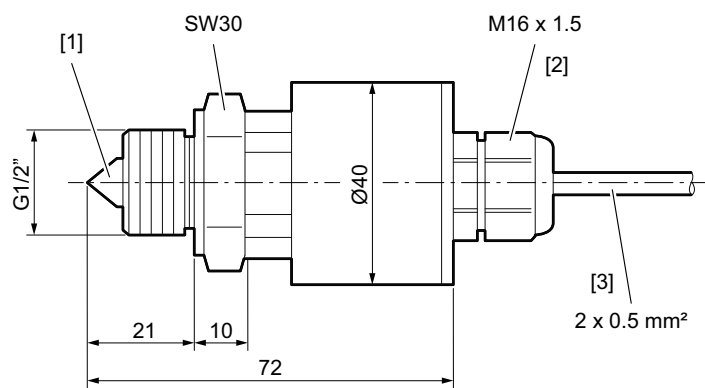
Technical data

General data	
Measuring accuracy	± 2 mm
Minimum distance of the glass tip to an opposite surface	≥ 10 mm (≥ 20 mm for polished surfaces)
Mounting position	Any
Process connection	Male thread G1/2

27782913/EN – 02/2023

Project planning data	
Response sensitivity	Preset for detecting liquids and oils
Temperature of the measured medium	-30 °C to +135 °C
Ambient temperature	-30 °C to +80 °C
Operating pressure	40 bar (4.0 MPa)
Materials	
Fiber optic cable	Borosilicate glass, fixed with epoxy resin
Housing	Stainless steel 14305 (non-wetted parts)
Process connection	Stainless steel 14571
Electrical data	
Power supply	DC 7.5 to 30 V
Safety-related maximum values	$I_o = 100 \text{ mA}$ $U_o = 30 \text{ V}$ $P = 1 \text{ W}$
Output	4 to 20 mA, polarity reversal protected Closed: $\geq 4 \text{ mA}$ to $< 10 \text{ mA}$ Open: $\geq 12 \text{ mA}$ to 18 mA In the event of an error: $< 4 \text{ mA}$, $> 20 \text{ mA}$
Electrical connection	- PUR cable halogen-free - Cable length freely definable - Diameter $2 \times 0.5 \text{ mm}^2$
Output function	NO contact (closed in medium) or NC contact (open in medium)
Degree of protection	IP65
Number of switching points	1

Dimension sheet in mm



34150352011

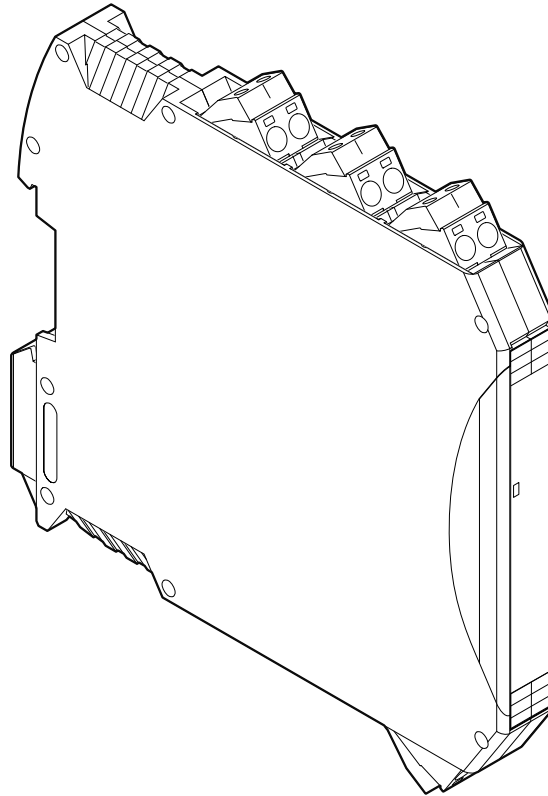
- [1] Borosilicate glass
- [2] Cable gland
- [3] Cable

Electrical connection diagram

Cable assignment	
U ₊	1
U ₋	2

Approvals

Logo	Description	Country
 	EU declaration of conformity • EMC Directive: EN 61326 Emission (Group 1, Class B) and interference immunity (industrial sector) • RoHS Directive • ATEX Directive: potentially explosive atmospheres (approved type designation OPG 051) Ex i Zone 0/1 Gas II 1/2G Ex ia IIC T4 Ga/Gb	European Union
 	IECEx Potentially explosive atmospheres (approved type designation OPG 051) Ex i Zone 0/1 Gas Ex ia IIC T4 Ga/Gb	International

Intrinsically safe repeater power supply model IS Barrier

34150349579

The intrinsically safe repeater power supply (model IS Barrier) is designed for use in combination with intrinsically safe 4-20 mA sensors. By using different terminals, both 2-conductor and 4-conductor measuring transducers can be connected.

The analog measured value is transmitted from the area at risk of explosion to the area not at risk of explosion in a galvanically isolated manner. At the output end, the repeater power supply can be operated in supplying and non-supplying mode. The test sockets contained in the COMBICON connectors enable the direct connection of HART communicators. The repeater power supply enables safe operation of these products in intrinsically safe circuits.

Dimensions

- W × H × D: 12.5 × 99 × 114.5 mm (without terminals)

Input

- Active current input, intrinsically safe
- Input signal: 4 to 20 mA
- Current limiting: 25 mA
- Transmitter power supply:
 - > DC 16 V (at 20 mA)
 - > DC 15.3 V (at 22.5 mA)
- Underload and overload signal range: 0 to 24 mA (extended transmission range for diagnostics)

27782913/EN – 02/2023

Output

- Current output (active and passive)
- Transfer 1:1 to input signal
- Underload and overload signal range: 0 to 24 mA (extended transmission range for diagnostics)
- Load
 - < 1000 ohms at 20 mA
 - < 825 ohms at 24 mA
- Output ripple: < 20 mV_{eff}

Voltage supply

- Power supply
 - Nominal voltage: DC 24 V
 - Voltage range: DC 19.2 to 30 V
- Maximum current consumption
 - < 76 mA (DC 24 V/20 mA/1000 Ω)
 - < 55 mA (DC 24 V/20 mA/250 Ω)
- Output power loss
 - Active: < 1.1 W (DC 24 V/20 mA/1000 Ω), < 0.95 W (DC 24 V/20 mA/250 Ω)
 - Passive: < 1.2 W (DC 24 V/20 mA/0 Ω)
- Power consumption (output active)
 - < 1.8 W (20 mA/1000 Ω)
 - < 1.3 W (20 mA/250 Ω)

Accuracy specifications

- Transfer error
 - < 0.05% of end value (typical)
 - < 0.10% of end value (maximum)
- Temperature coefficient
 - < 0.004%/K (typical)
 - < 0.01%/K (maximum)
- Step response (10 to 90%)
 - < 200 μs (with step 4 to 20 mA, load 600 Ω) < 600 μs (with step 0 to 20 mA, load 600 Ω)

Approvals

Logo	Description	Country
	EU Declaration of Conformity • EMC Directive 2014/30/EU, interference immunity according to EN 61000-6-2. There may be slight deviations during interference. Radiated emissions according to EN 61000-6-4 • ATEX Directive 94/9/EC – II (1) G [EX ia Ga] IIC/IIB – II (1) G [EX ia Da] IIC – II 3(1) G Ex nA [ia Ga] IIC/IIB T4 Gc – I (M1) [EX ia Ma] I	European Union
	IECEx • Potentially explosive atmospheres – [EX ia Ga] IIC/IIB – [EX ia Da] IIIC – Ex nA [ia Ga] IIC/IIB T4 Gc – [EX ia Ma] I	IECEx member states
	UL Safety (e.g. electrical safety, excess pressure) Potentially explosive atmospheres • Class I, Div.2, Groups A, B, C, D T4 • Class I, Div.2, Groups IIC, IIB, IIA T4 • Associated apparatus for use in class I, Division 1, Groups A, B, C, D • Associated apparatus for use in class II, Div.1, Groups E, F, D • Associated apparatus for use in class III, Division 1 • Associated apparatus for use in class I, Zone 0, 1, 2, Groups IIC, IIB, IIA	USA and Canada

3 Overview of types and type designations

3.1 Variants and gear unit options

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

3.1.1 Helical gear units

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

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

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

3.1.5 SPIROPLAN® gear units

Designation	Description
W..	Foot-mounted design, output shaft with key
WF..	B5 flange-mounted design, output shaft with key
WAF..	B5 flange-mounted design and hollow shaft with keyway
WA..	Hollow shaft with keyway
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 Explosion-protected gear units according to ATEX

The following table shows the possible explosion protection categories:

ATEX design	Option
/II2GD	Gear units according to Directive 2014/34/EU, category 2 (gas/dust)

3.2 Designs and options for the EDRN.. motor series

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

3.2.1 Designation of the motors

EDRN..	Explosion-protected AC motor, premium efficiency IE3
63 – 315	Sizes: 63, 71, 80, 90, 100, 112, 132, 160, 180, 200, 225, 250, 280, 315
S, MK, MS, M, ME, LS, LM, L, H	Lengths
4	Number of poles

3.2.2 Explosion-protected motors according to ATEX

The following table shows the possible explosion protection categories:

Design	Option
/2G	Motors according to Directive 2014/34/EU, category 2 (gas) for zone 1
/2D	Motors according to Directive 2014/34/EU, category 2 (dust) for zone 21
/2GD	Motors according to Directive 2014/34/EU, category 2 (gas/dust) for zone 1/zone 21
/3G	Motors according to Directive 2014/34/EU, category 3 (gas) for zone 2
/3D	Motors according to Directive 2014/34/EU, category 3 (dust) for zone 22
/3GD	Motors according to Directive 2014/34/EU, category 3 (gas/dust) for zone 2/zone 22

3.2.3 Explosion-protected motors according to IECEx

The following table shows the possible explosion protection categories:

Design	Option
/2G-b	Motors according to IEC 60079, EPL Gb (gas) for zone 1
/2D-b	Motors according to IEC 60079, EPL Db (dust) for zone 21
/2GD-b	Motors according to IEC 60079, EPL Gb/Db (gas/dust) for zone 1/zone 21
/3G-c	Motors according to IEC 60079, EPL Gc (gas) for zone 2
/3D-c	Motors according to IEC 60079, EPL Dc (dust) for zone 22
/3GD-c	Motors according to IEC 60079, EPL Gc/Dc (gas/dust) for zone 2/zone 22

3.2.4 Output types

The following table shows possible output designs:

Designation	Design	Option
/FI	/2G, /2D, /2GD, /3G, /3D, /3GD /2G-b, /2D-b, /2GD-b, /3G-c, /3D-c, /3GD-c	IEC foot-mounted motor
/F.A, /F.B		Universal foot-mounted design
/FG		Gear unit mounted motor, as stand-alone motor
/FF		IEC flange-mounted motor with bore
/FT		IEC flange-mounted motor with threads
/FL		General flange-mounted motor (other than IEC)
/FM		Integral motor with IEC feet
/FE		IEC flange-mounted motor with bore and IEC feet
/FY		IEC flange-mounted motor with thread and IEC feet
/FK		General flange-mounted motor (other than IEC) with feet
/2W		2nd shaft end on the motor/brakemotor

3.2.5 Mechanical attachments

The following table shows the design options for mechanical attachments:

Designation	Design	Option
/BE.. ¹⁾	/3G, /3D, /3GD /3G-c, /3D-c, /3GD-c	Spring-loaded brake with specification of size
HR		Manual brake release, with automatic re-engaging
HF		Manual brake release, lockable
/RS	/2G, /2D, /2GD, /3G, /3D, /3GD /2G-b, /2D-b, /2GD-b, /3G-c, /3D-c, /3GD-c	Backstop

1) Also available in design for functional safety.

3.2.6 Temperature sensor/temperature detection

The following table shows the design options for thermal protection:

Designation	Design	Option
/TF	/2G, /2D, /2GD, /3G, /3D, /3GD	Temperature sensor (PTC thermistor or PTC resistor)
/PK		Pt1000 temperature sensor
/PT	/2G-b, /2D-b, /2GD-b, /3G-c, /3D-c, /3GD-c	1 or 3 Pt100 sensor(s)

3.2.7 Add-on encoders

Designation	Design	Option	Size
/EK8S ¹⁾	/3G, /3D, /3GD, /3G-c, /3D-c, /3GD-c	Add-on encoder with sin/cos interface	71MS – 315H
/EV8S			71MS – 315H
/EK8R		Add-on encoder with TTL (RS422) interface	71MS – 315H
/EV8R			71MS – 315H
/EK8C		Add-on encoder with HTL interface	71MS – 315H
/EV8C			71MS – 315H
/AK8W ¹⁾		Add-on absolute encoder with sin/cos and RS485 interface (multi-turn)	71MS – 315H
/AV8W			71MS – 315H
/AK8Y ¹⁾		Add-on absolute encoder with sin/cos and SSI interface (multi-turn)	71MS – 315H
/AV8Y			71MS – 315H
/AK8H		Add-on absolute encoder with sin/cos and RS485 interface and HIPERFACE® protocol	71MS – 315H
/AV8H			71MS – 315H

1) Also available in design for functional safety.

Designation	Design	Option	Size
/EG7S ¹⁾	/3G, /3D, /3GD /3G-c, /3D-c, /3GD-c	Add-on encoder with sin/cos interface	132M – 280M
/ES7S ¹⁾			80M – 132S
/EV7S			80M – 280M
/EH7S			315S – 315H
/ES7R		Add-on encoder with TTL (RS422) interface	80M – 132S
/EG7R			132M – 280M
/EV7R			80M – 280M
/EH7R			315S – 315H
/AS7W ¹⁾		Add-on multi-turn absolute encoder with sin/cos and RS485 interface (multi-turn)	80M – 132S
/AG7W ¹⁾			132M – 280M
/AV7W			80M – 280M
/AS7Y ¹⁾		Add-on multi-turn absolute encoder with sin/cos and SSI interface (multi-turn)	80M – 132S
/AG7Y ¹⁾			132M – 280M
/AV7Y			80M – 280M
/AH7Y			315S – 315H
/ES7C		Add-on encoder with HTL interface	80M – 132S
/EG7C			132M – 280M
/EV7C			80M – 280M
/EH7C			315S – 315H
/EH7T		Add-on encoder with TTL (RS422) interface	315S – 315H

1) Also available in design for functional safety.

3.2.8 Encoder mounting adapters

Designation	Design	Description	Size
/EK8A	/3G, /3D, /3GD /3G-c, /3D-c, /3GD-c	Mounting adapter for encoders from the product range of SEW-EURODRIVE	71MS – 315H
/EG7A		Mounting adapter for encoders from the product range of SEW-EURODRIVE	132M – 280M
/ES7A		Mounting adapter for encoders from the product range of SEW-EURODRIVE	80M – 132S
/XV.A		Mounting adapter for third-party encoders	71MS – 280M
/XV..		Mounted third-party encoder	71MS – 280M

3.2.9 Connection options

The following table shows alternative designs of the power connection. Designs with terminal board do not have an extra type designation.

Designation	Design	Included in the scope of delivery
/KCC	/2G, /2D, /2GD, /3G, /3D, /3GD 2G-b, 2GD-b 2D-b, 2GD-b 3G-c, 3D-c, 3GD-c	Terminal strip with cage clamps (EDR..71 – 132, EDRN80 – 132S motors)

3.2.10 Ventilation

The following table shows the design options for ventilation:

Designation	Design	Option
/VE	/3G, /3D, /3GD /3G-c, /3D-c, /3GD-c	Forced cooling fan
/AL	/2D, /2GD, 3D, /3GD /2D-b, /2GD-b, 3D-c, /3GD-c	Metal fan
None	/2G, /3G /2G-b, /3G-c	Standard fan (plastic)
/C	/2G, /2D, /2GD, /3G, /3D, /3GD /2G-b, /2D-b, /2GD-b, /3G-c, /3D-c, /3GD-c	Canopy for the fan guard

3 Overview of types and type designations

Designs and options for the EDRN.. motor series

3.2.11 Bearings

The following table shows possible bearings for motors:

Designation	Design	Option
/NS	/2G, /2D, /2GD, /3G, /3D, /3GD	Relubrication device
/ERF		Reinforced bearings on A-side with rolling bearing
/NIB	/2G-b, /2D-b, /2GD-b, /3G-c, /3D-c, /3GD-c	Insulated bearing B-side

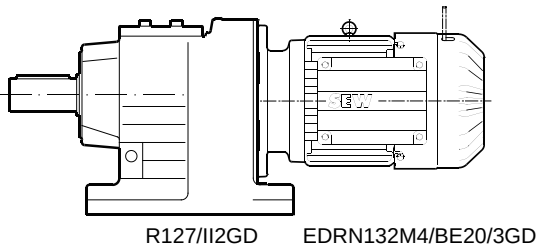
27782913/EN – 02/2023

3.3 Type designation of an EDRN.. gearmotor

The type designation of a gearmotor starts from the component on the output end.
For example, an explosion-protected helical gearmotor has the following type designation:

R127/II2GD EDRN132M4 /BE20 /3GD /TF /AL	
R127/II2GD	Helical gear unit in size 127 and explosion-protected design
E	Explosion-protected motor design
DR	Motor product family
Once	Labeling of the motor product line
132M	Size and length
4	Number of poles
/BE20	Brake
/3GD	Explosion protection design
/TF	Thermal motor protection
/AL	Metal fan

Exemplary representation of an EDRN.. gearmotor:



9007227544813835

3 Overview of types and type designations

Nameplates on the explosion-protected gearmotor

3.4 Nameplates on the explosion-protected gearmotor

An explosion-protected gearmotor has 2 nameplates: a gear unit nameplate and a nameplate on the motor. In case of inverter operation, an additional nameplate listing all necessary FI data is attached to the terminal box.

The example depicts the nameplates for a R127/II2GD EDRN132M4/BE20/3GD/TF/AL gearmotor.

The catalog designation and the serial number are indicated on all nameplates as connecting element.

3.4.1 Gear unit nameplate

Nameplate 1

[1]	SEW-EURODRIVE	CE	[1]
[2]	78646 Bruchsal/Germany		[2]
[3]	R127/II2GD EDRN132M4/BE20/3GD/TF/AL		[3]
[4]	01.8005477166.0001.22		[4]
[5]	na r/min 29	ne max r/min 1800	i 62,13
[6]	Ma Nm 3030	Me max Nm 49.0	kg 294.000
[7]	Fia max N 43000		Fb 1.8
[8]			IP 65
[9]	II 2G Ex h IIC T4 Gb	Ta -20 ... +40 °C	IM M1
[10]	II 2D Ex h IIIC T120°C Db	Made in Germany	
	CLP HC 220 Synth.Öl/5.8 l	641 590 3 DE	

9007222483819659

Line	Information
[1]	- Manufacturer; address - Explosion protection mark, CE mark The "marks" on the upper edge of the nameplate are only present when the motor has been certified accordingly or when it includes the relevant components.
[2]	Type designation
[3]	Serial number
[4]	- Output speed - Maximum input speed - Gear unit ratio
[5]	- Output torque - Maximum input torque - Gearmotor weight
[6]	- Maximum overhung load acting on the output shaft - SEW-EURODRIVE service factor
[7]	Degree of protection
[8]	Mounting position
[9]	- Information on explosion protection - Permitted ambient temperature range of the gearmotor
[10]	Oil type and oil fill volume

Nameplate 2



18014432148567307

The QR code on the product gives you quick access to the digital services from SEW-EURODRIVE.

In addition to being able to enter the QR code with the camera of your mobile device or an appropriate app, you can also use the "Product ID Plus" app from SEW-EURODRIVE. After scanning, you will see the technical data to identify the product directly.

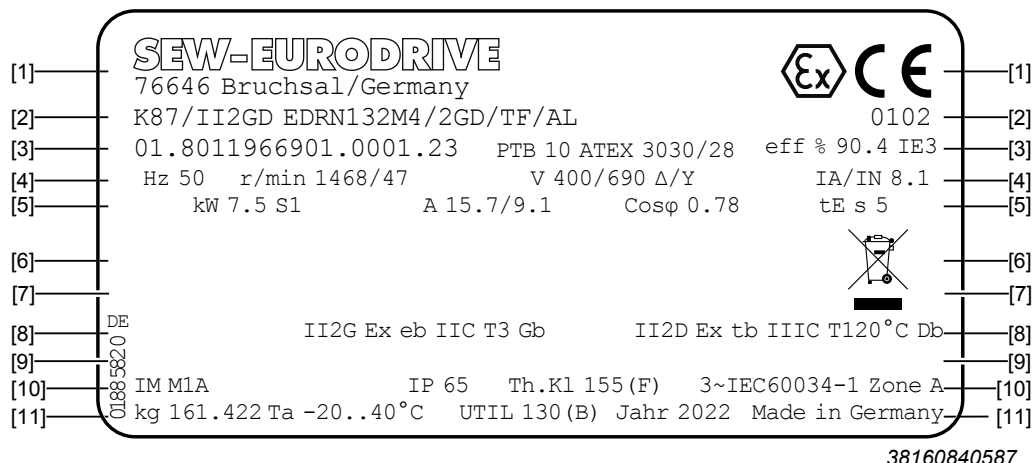
In addition, the search for product-specific spare parts and documentation, as well as fault diagnostics and direct service requests are simple and fast.

3.4.2 Motor nameplate

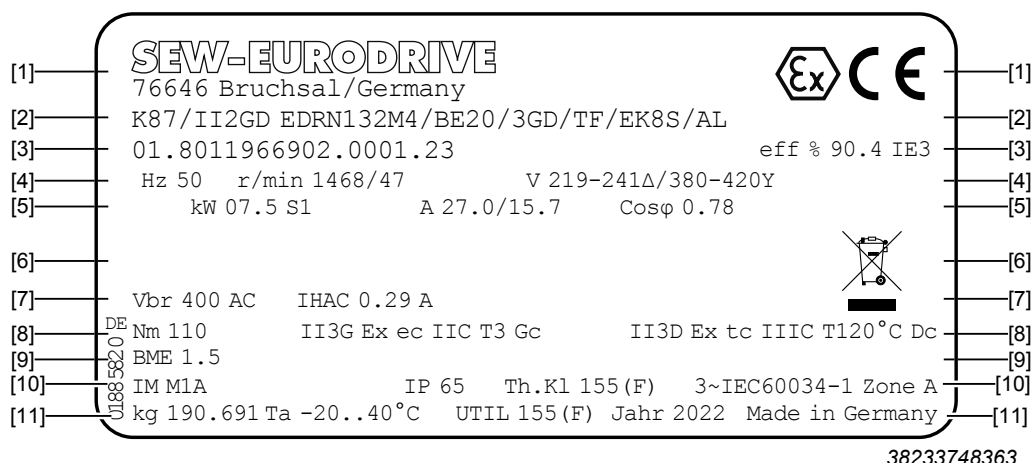
EDRN.. motor nameplate ATEX categories 2 and 3

The following figures show an example of the nameplates of an EDRN.. motor in 2GD and 3GD design:

ATEX category 2:



ATEX category 3:



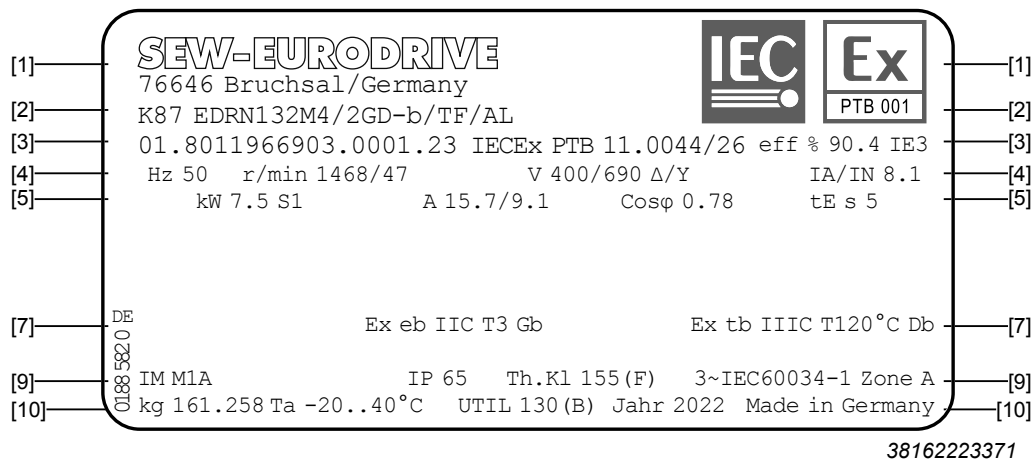
Line	Information
[1]	- Manufacturer; address - Explosion protection mark, CE mark The "Markings" on the upper edge of the nameplate are only present when the motor has been certified accordingly or when it includes the relevant components.
[2]	- Type designation - Number of the approval authority (only for category 2)
[3]	- Serial number - EU type examination certificate for line operation (only for category 2) - Rated efficiency and IE class for motors within the validity of the IEC 60034-30-1 standard
[4]	- Rated frequency - Rated motor speed/gear unit output speed - Nominal voltage - Ratio of starting current to rated current (only for category 2)
[5]	- Rated power, operating mode - Rated current - Power factor for AC motors - Heating time (only for category 2)
[6]	WEEE mark
[7]	- Brake voltage - Brake holding current

Line	Information
[8]	- Braking torque - Indicates gas explosion protection - II = Equipment group II (above ground) 2 = Equipment category 2 - G = Areas containing potentially explosive mixtures of gas, steam, fog, and air. - Ex eb / Ex ec = Protection type - IIC = Gas group - T3 = Temperature class (gas) - Gb/Gc = EPL (Equipment Protection Level) - Indicates dust explosion protection - II = Equipment group II (above ground) 2 = Equipment category 2 - D = For areas where dust may create potentially explosive atmospheres - Ex tb / Ex tc = Protection type - IIIC = Dust group - T120 °C = Surface temperature (dust) - Db / Dc = EPL (Equipment Protection Level), protection level
[9]	- Brake control 2 free text cells
[10]	- Mounting position - Degree of protection according to IEC/EN 60034-5 - Thermal class - Number of phases and underlying rating and performance standards (IEC/EN 60034X and/or equivalent national standard) - Zone A = Section A from IEC/EN 60034-1
[11]	- Weight of (gear)motor - Ambient temperature - Thermal capacity utilization of the motor - Year of manufacture - Country of manufacture

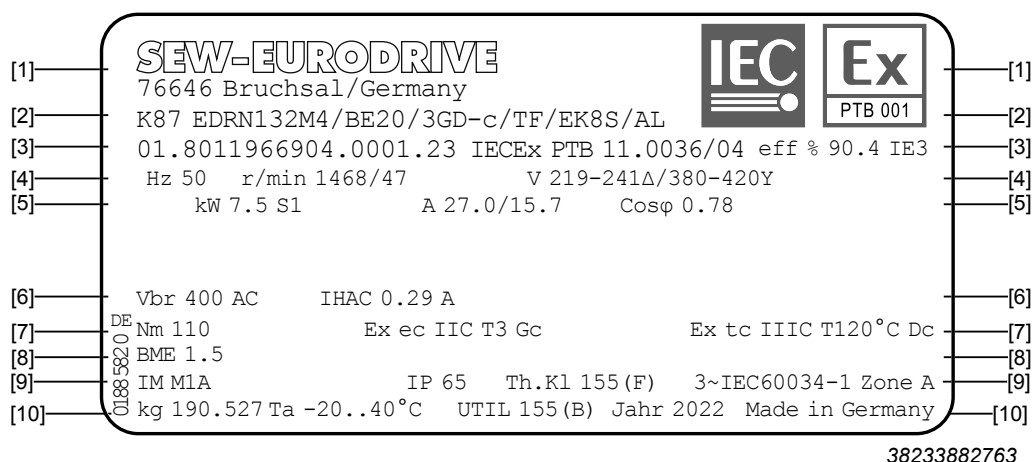
EDRN.. motor nameplate IECEx EPL .b and EPL .c

The following figures show an example of the nameplates of an EDRN.. motor in 2GD-b and 3GD-c designs:

IECEx EPL .b



IECEx EPL .c



Line	Information
[1]	- Manufacturer, address - IECEx conformity mark The "Markings" on the upper edge of the nameplate are only present when the motor has been certified accordingly or when it includes the relevant components.
[2]	Type designation
[3]	- Serial number - IECEx certificate number for line operation - Rated efficiency and IE class for motors within the validity of the IEC 60034-30-1 standard
[4]	- Rated frequency - Rated motor speed/gear unit output speed - Nominal voltage and switching type - Relation between starting current and rated current
[5]	- Rated power, operating mode - Rated current - Power factor for AC motors - Heating time
[6]	- Brake voltage - Brake holding current

Line	Information
[7]	- Braking torque - Indicates gas explosion protection Ex eb / Ex ec = Protection type IIC = Gas group T3 = Temperature class (gas) Gb/Gc = EPL (Equipment Protection Level) - Indicates dust explosion protection Ex tb / Ex tc = Protection type IIIC = Dust group T120 °C = Surface temperature (dust) Db / Dc = EPL (Equipment Protection Level), protection level
[8]	- Brake control 2 free text cells
[9]	- Mounting position - Degree of protection according to IEC/EN 60034-5 - Thermal class - Number of phases and underlying rating and performance standards (IEC/EN 60034X and/or equivalent national standard) - Zone A = Section A from IEC/EN 60034-1
[10]	- Weight of (gear)motor - Ambient temperature - Thermal capacity utilization of the motor - Year of manufacture - Country of manufacture

3 Overview of types and type designations

Nameplates on the explosion-protected gearmotor

3.4.3 Additional nameplate data of the inverter

SEW-EURODRIVE

76646 Bruchsal/Germany

R127/II2GD EDRN132M4/BE20/3GD/TF/AL

01.8005477166.0001.22

U_{sys} 400 V

Versorgung durch Umrichter

f_P ≥ 3 kHz VPWM

△ VFC

Imax 41.0 A

Hz	n/min	V	A	Nm
5,0	126	26	22.0	31.0
10	275	46	23.0	39.0
25	717	115	26.5	49.0
61	1800	282	26.5	49.0

Y VFC

Imax 23.5 A

Hz	n/min	V	A	Nm
5,0	126	45	12.8	31.0
10	275	80	13.3	39.0
25	717	200	15.3	49.0
50	1465	400	15.3	49.0
62	1800	400	15.7	39.5

37317744907

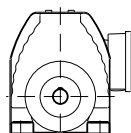
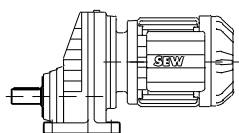
Line	Information
[1]	System voltage – line voltage of the inverter
[2]	(Voltage Mode Flux Control) Voltage-controlled control mode of the inverter
[3]	Information on operation on the inverter according to IEC 60079-0
[4]	Maximum permitted peak current, e.g. when accelerating with VFC control mode
[A]	The additional nameplate lists the thermal limit characteristic curve of the motor (points A – E) considering voltage and frequency. The minimum and maximum frequency can differ depending on the option.
[B]	
[C]	
[D]	
[E]	

3.5 Gearmotor types

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

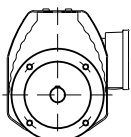
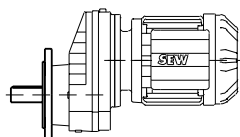
3.5.1 Helical gearmotors

The following designs of helical gearmotors are available:



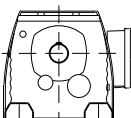
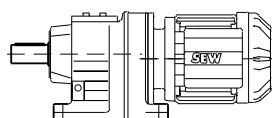
RX..DRN..

Single-stage, helical gearmotor in foot-mounted design



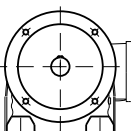
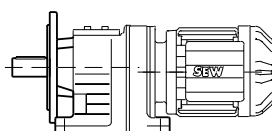
RXF..DRN..

Single-stage helical gearmotor in B5 flange-mounted design



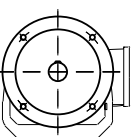
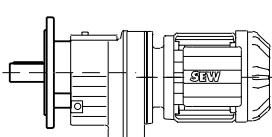
R..DRN..

Helical gearmotor in foot-mounted design



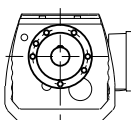
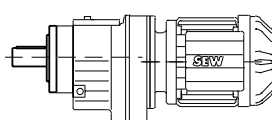
R..F DRN..

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



RF..DRN..

Helical gearmotor in B5 flange-mounted design

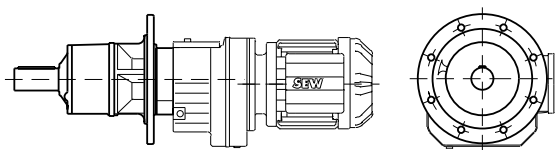


RZ..DRN..

Helical gearmotor in B14 flange-mounted design

3 Overview of types and type designations

Gearmotor types

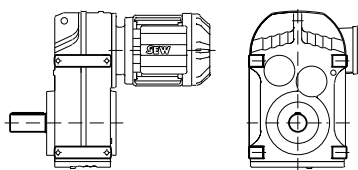


RM..DRN..

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

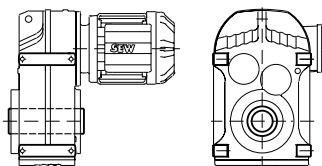
3.5.2 Parallel-shaft helical gearmotors

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



F..DRN..

Parallel-shaft helical gearmotor in foot-mounted design

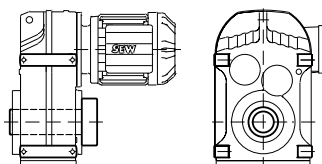


FA..B DRN..

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

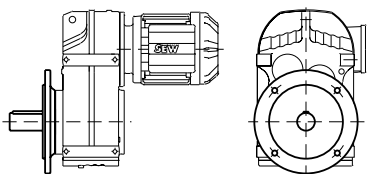
FV..B DRN..

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



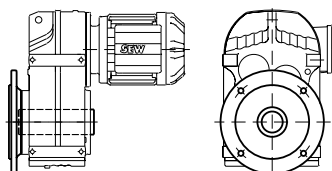
FH..B DRN..

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



FF..DRN..

Parallel-shaft helical gearmotor in B5 flange-mounted design

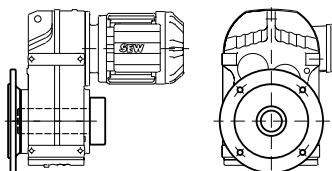


FAF..DRN..

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

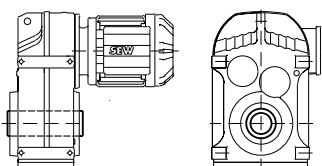
FVF..DRN..

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



FHF..DRN..

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

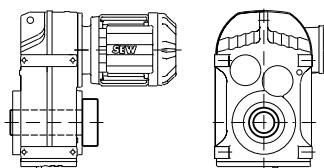


FA..DRN..

Parallel-shaft helical gearmotor with hollow shaft

FV..DRN..

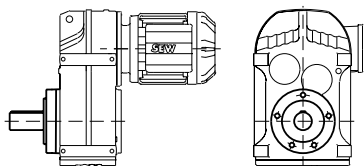
Parallel-shaft helical gearmotor with splined hollow shaft according to DIN 5480

**FH..DRN..**

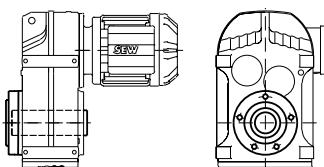
Parallel-shaft helical gearmotor with hollow shaft and shrink disk

FT..DRN..

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

**FZ..DRN..**

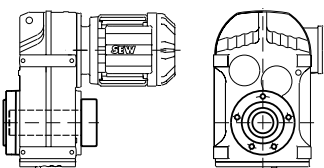
Parallel-shaft helical gearmotor in B14 flange-mounted design

**FAZ..DRN..**

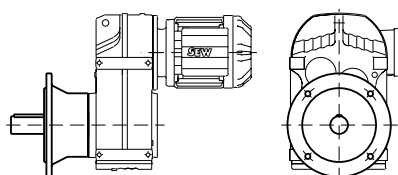
Parallel-shaft helical gearmotor in B14 flange-mounted design with hollow shaft

FVZ..DRN..

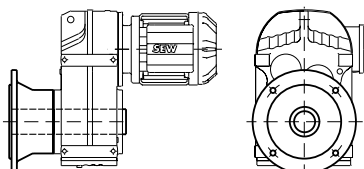
Parallel-shaft helical gearmotor in B14 flange-mounted design with splined hollow shaft to DIN 5480

**FHZ..DRN..**

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

**FM.. DRN..**

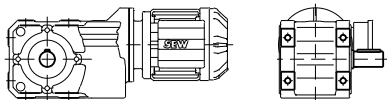
Parallel-shaft helical gearmotor in B5 flange-mounted design with extended bearing hub, output shaft with key

**FAM.. DRN..**

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

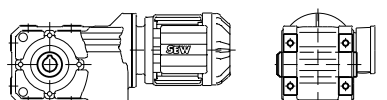
3.5.3 Helical-bevel gearmotors, gear unit sizes K..19 and K..29

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



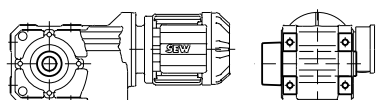
K19 DRN.., K29 DRN..

Helical-bevel gearmotor in foot-mounted design



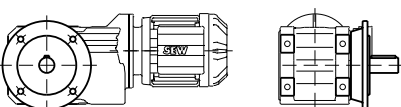
KA19B DRN.., KA29B DRN..

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



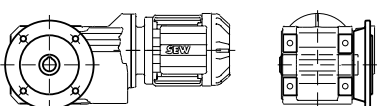
KH19B DRN.., KH29B DRN..

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



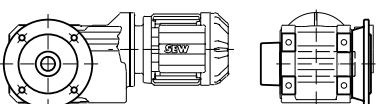
KF19B DRN.., KF29B DRN..

Foot-mounted helical-bevel gearmotor in B5 flange-mounted design



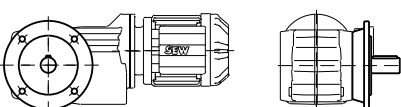
KAF19B DRN.., KAF29B DRN..

Foot-mounted helical-bevel gearmotor in B5 flange-mounted design with hollow shaft



KHF19B DRN.., KHF29B DRN..

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

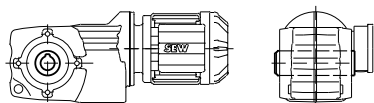


KF19 DRN.., KF29 DRN..

Helical-bevel gearmotor in B5 flange-mounted design

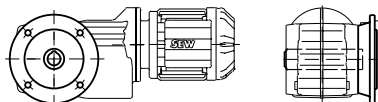
3 Overview of types and type designations

Gearmotor types



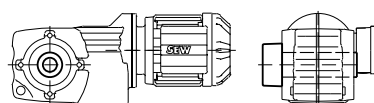
KA19 DRN..., KA29 DRN..

Helical-bevel gearmotor with hollow shaft



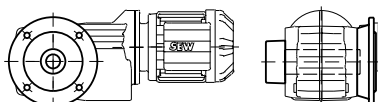
KAF19 DRN..., KAF29 DRN..

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



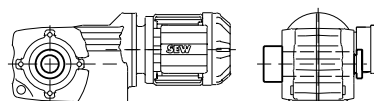
KH19 DRN..., KH29 DRN..

Helical-bevel gearmotor with hollow shaft and shrink disk



KHF19 DRN..., KHF29 DRN..

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

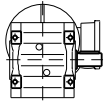
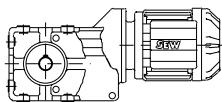


KT19 DRN..., KT29 DRN..

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

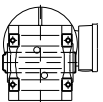
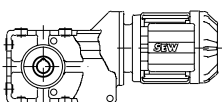
3.5.4 Helical-bevel gearmotors, gear unit sizes K..39 and K..49

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



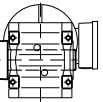
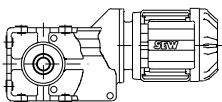
K39 DRN..., K49 DRN..

Helical-bevel gearmotor in foot-mounted design



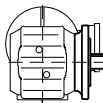
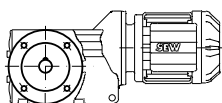
KA39B DRN..., KA49B DRN..

Helical-bevel gearmotor in foot-mounted design



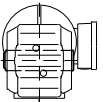
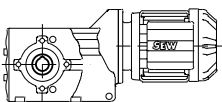
KH39B DRN..., KH49B DRN..

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



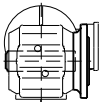
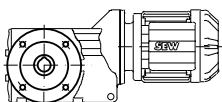
KF39 DRN..., KF49 DRN..

Helical-bevel gearmotor in B5 flange-mounted design



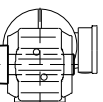
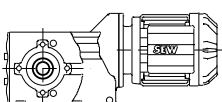
KA39 DRN..., KA49 DRN..

Helical-bevel gearmotor with hollow shaft



KAF39 DRN..., KAF49 DRN..

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

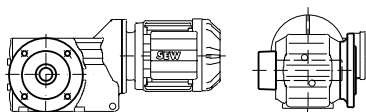


KH39 DRN..., KH49 DRN..

Helical-bevel gearmotor with hollow shaft and shrink disk

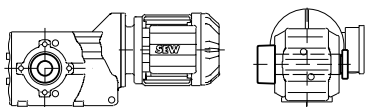
3 Overview of types and type designations

Gearmotor types



KHF39 DRN..., KHF49 DRN..

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

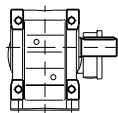
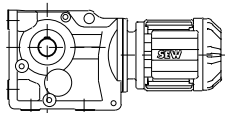


KT39 DRN..., KT49 DRN..

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

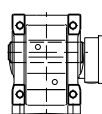
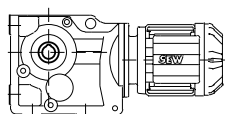
3.5.5 Helical-bevel gearmotors, gear unit sizes K..7

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



K..7 DRN..

Helical-bevel gearmotor in foot-mounted design

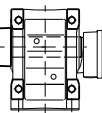
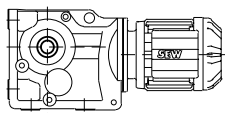


KA..7B DRN..

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

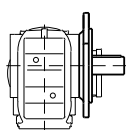
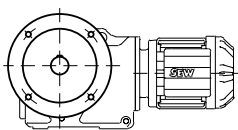
KV..7B DRN..

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



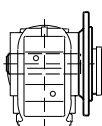
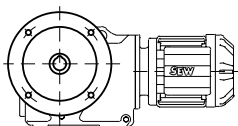
KH..7B DRN..

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



KF..7 DRN..

Helical-bevel gearmotor in B5 flange-mounted design

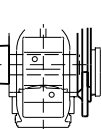
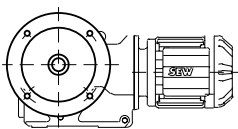


KAF..7 DRN..

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

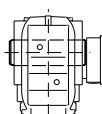
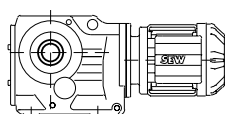
KVF..7 DRN..

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



KHF..7 DRN..

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

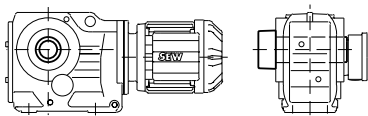


KA..7 DRN..

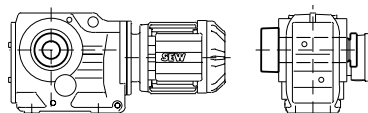
Helical-bevel gearmotor with hollow shaft

KV..7 DRN..

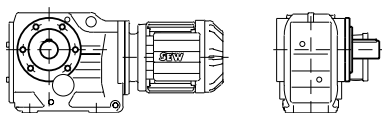
Helical-bevel gearmotor with hollow shaft and splined hollow shaft according to DIN 5480

**KH..7 DRN..**

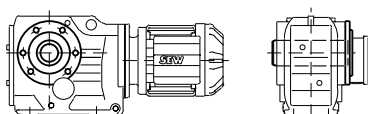
Helical-bevel gearmotor with hollow shaft and shrink disk

**KT..7 DRN..**

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

**KZ..7 DRN..**

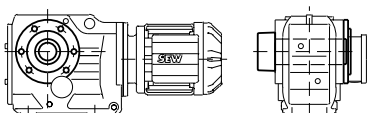
Helical-bevel gearmotor in B14 flange-mounted design

**KAZ..7 DRN..**

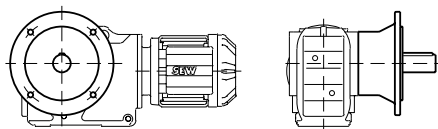
Helical-bevel gearmotor in B14 flange-mounted design with hollow shaft

KVZ..7 DRN..

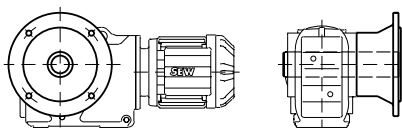
Helical-bevel gearmotor in B14 flange-mounted design with splined hollow shaft to DIN 5480

**KHZ..7 DRN..**

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

**KM..7 DRN..**

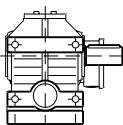
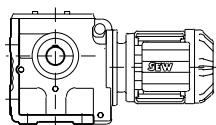
Helical-bevel gearmotor in B5 flange-mounted design with extended bearing hub, output shaft with key

**KAM..7 DRN..**

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

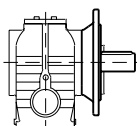
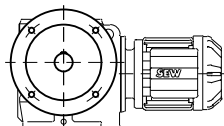
3.5.6 Helical-worm gearmotors

The following designs of helical-worm gearmotors are available:



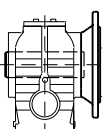
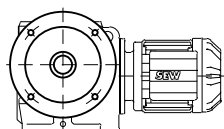
S..DRN..

Helical-worm gearmotor in foot-mounted design



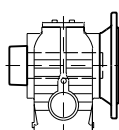
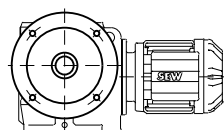
SF..DRN..

Helical-worm gearmotor in B5 flange-mounted design



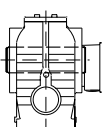
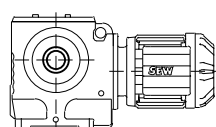
SAF..DRN..

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



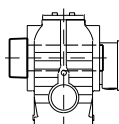
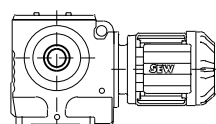
SHF..DRN..

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



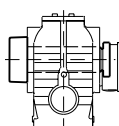
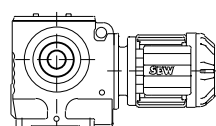
SA..DRN..

Helical-worm gearmotor with hollow shaft



SH..DRN..

Helical-worm gearmotor with hollow shaft and shrink disk

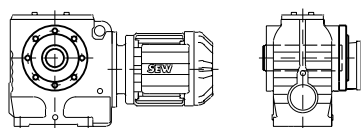


ST..DRN..

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

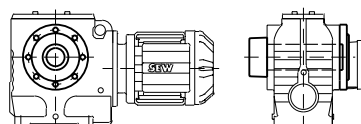
3 Overview of types and type designations

Gearmotor types



SAZ..DRN..

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

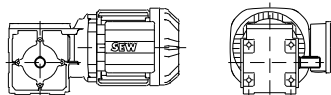


SHZ..DRN..

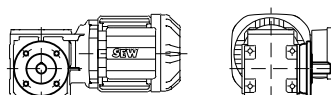
Helical-worm gearmotor in B14 flange-mounted design with hollow shaft and shrink disk

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

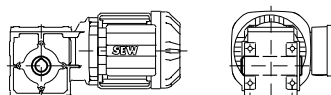
The following designs of SPIROPLAN® gearmotors with gear units in sizes W..10, W..20, and W..30 are available:



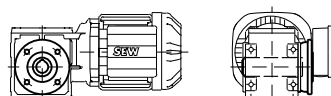
W10 DRN.., W20 DRN.., W30 DRN..,
Foot-mounted SPIROPLAN® gearmotor



WF10 DRN.., WF20 DRN.., WF30 DRN..
SPIROPLAN® gearmotor in B5 flange
mounted design



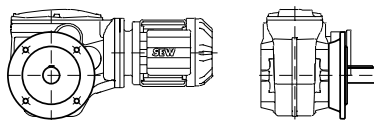
WA10 DRN.., WA20 DRN.., WA30 DRN..
SPIROPLAN® gearmotor with hollow shaft



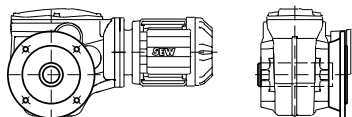
**WAF10 DRN.., WAF20 DRN.., WAF30
DRN..**
SPIROPLAN® gearmotor in B5 flange-
mounted design with hollow shaft

3.5.8 SPIROPLAN® gearmotors, gear unit size W..9

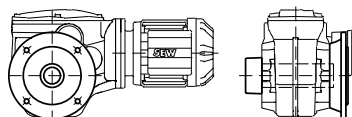
The following designs of SPIROPLAN® gearmotors of sizes W..9 are available:

**WF.9 DRN..**

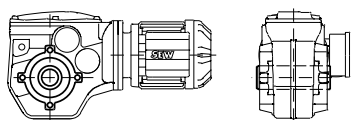
SPIROPLAN® gearmotor in B5 flange mounted design

**WAF.9 DRN..**

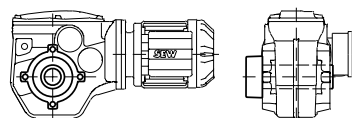
SPIROPLAN® gearmotor in B5 flange-mounted design with hollow shaft

**WHF.9 DRN..**

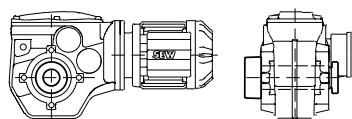
SPIROPLAN® gearmotor in B5 flange-mounted design with hollow shaft and shrink disk

**WA.9 DRN..**

SPIROPLAN® gearmotor with hollow shaft

**WH.9 DRN..**

SPIROPLAN® gearmotor with hollow shaft and shrink disk

**WT.9 DRN..**

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

4 Project planning for drives

4.1 Legend for the project planning of drives

Designation	Meaning	Unit
i	Gear ratio	-
f_B	Service factor	-
f_{B_req}	Required service factor	-
f_{B_L}	Application service factor	-
M_{amax}	Maximum permitted output torque	Nm
M_a	Gearmotor output torque ($M_{Mot} \times i_G$)	Nm
M_{eff}	Effective motor torque	Nm
n_{em}	Mean input speed	min ⁻¹
n_{am}	Mean output speed	min ⁻¹
P_{Mot}	Input motor power	kW
T_{amb}	Ambient temperature	°C
Z	Switching frequency – or exact load cycle can be specified	h ⁻¹

4.2 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:

- Drive Engineering – Practical Implementation
 - EMC in Drive Engineering – Basic Theoretical Principles and EMC-Compliant Installation in Practice
- Manuals
 - Project planning for BE.. brakes

4.3 Drive and gear unit selection data

Determining application data To select the proper drive, you first need the data (weight, speed, setting range, etc.) of the machine to be driven. This data helps determine the required power, torque and speed. Refer to the documentation "Drive Engineering – Practical Implementation, Project Planning" or the SEW-Workbench project planning software for assistance.

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

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

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

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

Application data required for project planning:

Designation	Meaning	Unit
F_{Aa}	Axial load (tension and compression) on the output shaft	N
f_{line}	Line frequency	Hz
F_{Ra}	Overhung load acting on the output shaft	N
h	Installation altitude	m above sea level
IP..	Degree of protection	-
J_L	Mass moment of inertia to be driven	10^{-4} kgm^2
M_a at n_{amax}	Output torque at maximum output speed	Nm
M_a at n_{amin}	Output torque at minimum output speed	Nm
M_B	Required braking torque	Nm
n_{amax}	Maximum output speed	min^{-1}
n_{amin}	Minimum output speed	min^{-1}
P_a at n_{amax}	Output power at maximum output speed	kW
P_a at n_{amin}	Output power at minimum output speed	kW
R, F, K, S, W M1 – M6	Required gear unit type and mounting position	-
S.., ..% cdf	Operating mode and cyclic duration factor cdf – the exact load cycle can be entered instead	-
T_{amb}	Ambient temperature	°C
U_B	Brake operating voltage	V
U_{Mot}	Motor operating voltage	V
Z	Switching frequency – or exact load cycle can be specified	h^{-1}
For inverter operation: required control mode and setting range.		

4.3.1 Service factor for combinations with explosion-protected motors

The service factor for gear units and compound gear units in combination with explosion-protected motors must be ≥ 1.0 .

4.4 Project planning procedure – EDRN.. gearmotors

4.4.1 Drive selection – non-controlled operation

The following flow diagram shows the project planning procedure for a non-controlled drive. The drive consists of a gearmotor that is operated on the supply system.

Required information about the machine to be driven

- Information about the zone, temperature class/maximum surface temperature as well as of the gas/dust group (inquiry forms for explosion-protected gearmotors)
- Technical data
- Required duty type
- Travel cycle and switching frequency
- Other specifications (such as minimum or maximum acceleration, run-up time, etc.)
- Ambient conditions
- Country of use, voltage and frequency
- Required approvals and certifications
- Installation situation, available space



Calculate the relevant application data

- Travel diagram (acceleration, maximum speed, deceleration, pauses)
- Motor speeds on 50 Hz or 60 Hz supply system
- Static and dynamic torques
- Static and dynamic overhung loads
- Static and dynamic power requirements



Motor selection

- Select the equipment category, temperature class/maximum surface temperature, and gas/dust group
- Specify motor voltage and motor frequency
- Identify the efficiency class demanded in the country of use, and required approvals and certifications
- Static and maximum torque
- Take account of derating due to installation altitude
- Take account of ambient temperature
- Permitted overhung load
- Permitted switching frequency
- Maximum speed
- Number of poles
- Duty type
- Select the mounting position
- Motor options (brake, ventilation, motor protection, degree of protection, painting, etc.)



Optional: Brake selection

- Determine brake size and braking torque
- Brake control
- Braking work
- Number of braking operations per hour
- Braking distance
- Braking time



Ensure that all requirements have been met.

**Gear unit selection**

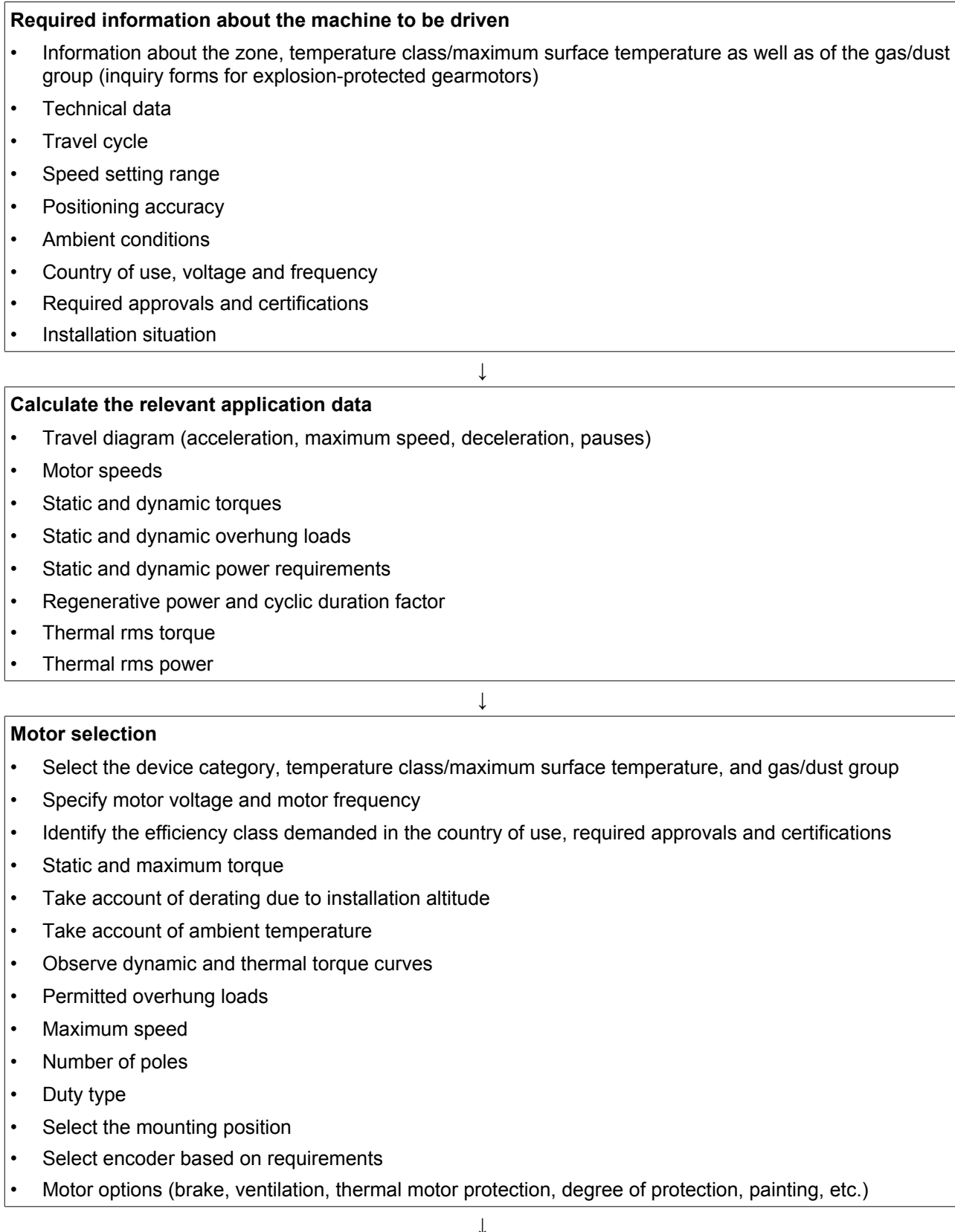
- Define the gear unit type, gear unit size, gear unit ration, and gear unit design
- Check the positioning accuracy
- Check the service factor f_B



Ensure that all requirements have been met.

4.4.2 Drive selection – controlled operation

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



Optional: Brake selection

- Determine brake size and braking torque
- Brake control
- Braking work
- Number of braking operations per hour
- Braking distance
- Braking time

**Inverter selection**

- Motor/inverter assignment
- Continuous current and peak current for current-controlled inverters/axes
- Select additional inverter options according to functional requirements

**Select the braking resistor**

- Based on the calculated regenerative power
- Based on the cyclic duration factor and peak braking power

**Inverter options**

- EMC measures
- Operation/communication
- Additional functions
- Functional safety technology, if required

**Ensure that all requirements have been met.****Gear unit selection**

- Define the gear unit type, gear unit size, gear unit ration, and gear unit design
- Check the positioning accuracy
- Check the gear unit load ($M_{amax} \geq M_a$)
- Check the input speed (churning losses)

**Ensure that all requirements have been met.**

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 factor is especially pronounced in the case of helical-worm and SPIROPLAN® right-angle gear units.

For information on churning losses and thermal rating, refer to chapter "Churning losses and thermal rating" (→ 103).

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

Other factors influencing the efficiency:

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

Helical-worm gear units from SEW-EURODRIVE are helical gear/worm combinations that are significantly more efficient than plain 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, please 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® 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 unit	
	i range	η reduction
1-speed	Approx. 50 – 280	Approx. 12%
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%

i range	SPIROPLAN® gear units W..10 to W..30	
	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 respective mounting positions of the gear units are marked with * in chapter "Mounting position sheets" (→  126).
- A high mean input speed and consequently a high circumferential speed of the gear wheels of the input gear stage.

If one or both of these conditions apply, determine the requirements from the application and the corresponding operating conditions (see chapter "Data for calculating the thermal rating" (→  103)) and consult 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}
- 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 $^{\circ}\text{C}$
- 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

4.6 Service factor

4.6.1 Service factor for combinations with explosion-protected motors

The service factor for gear units and compound gear units in combination with explosion-protected motors must be ≥ 1.0 .

4.6.2 Service factor f_B

The determination of the maximum permitted output torque M_{amax} and the resulting operating factor $f_B = M_{amax}/M_a$ is not standardized and very much dependent on the manufacturer. With a service factor $f_B = 1$, the gear units from SEW-EURODRIVE offer a maximum of safety and reliability in the area of fatigue strength (exceptions: low temperatures and wear of the worm gear with helical-worm gear units). The service factor might not be comparable to the specifications of other gear unit manufacturers. Contact SEW-EURODRIVE if necessary.

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

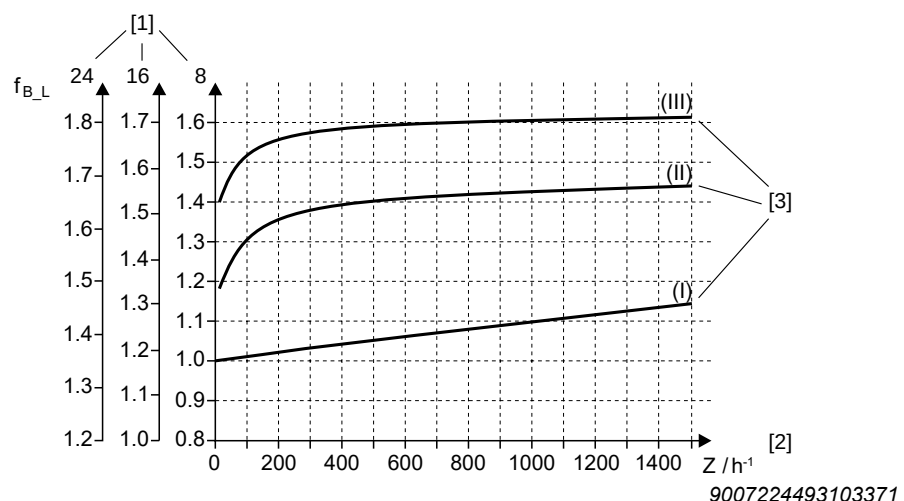
4.6.3 Required service factor f_{B_req}

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

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

4.6.4 Application service factor

The effect of the driven machine on the gear unit is taken into account to a sufficient level of accuracy using the application service factor f_{B_L} . The service factor is determined according to the daily operating time and the switching frequency Z . Three load classifications are taken into account depending on the mass acceleration factor. You can read the service factor applicable to your application from the following diagram.



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

Definition of the load classification

The following 3 load classifications are distinguished:

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

Mass acceleration factor

The mass acceleration factor is calculated as follows:

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

9007223243041803

f_a = Mass acceleration factor

J_{Lx} = Load moment of inertia reduced to the motor shaft $[J_{Lx}] = \text{kgm}^2$

J_{Mot} = Motor moment of inertia $[J_{Mot}] = \text{kgm}^2$

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

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

Reducing the mass moment of inertia to the motor shaft

The reduction to the motor speed is calculated using the following formula:

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

9007223243044747

J_{Lx} = Load moment of inertia reduced to the motor shaft $[J_{Lx}] = \text{kgm}^2$

J_L = Mass moment of inertia with reference to the output speed of the gear unit $[J_L] = \text{kgm}^2$

i_G = Gear unit ratio

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

4.6.5 Service factor at low temperatures

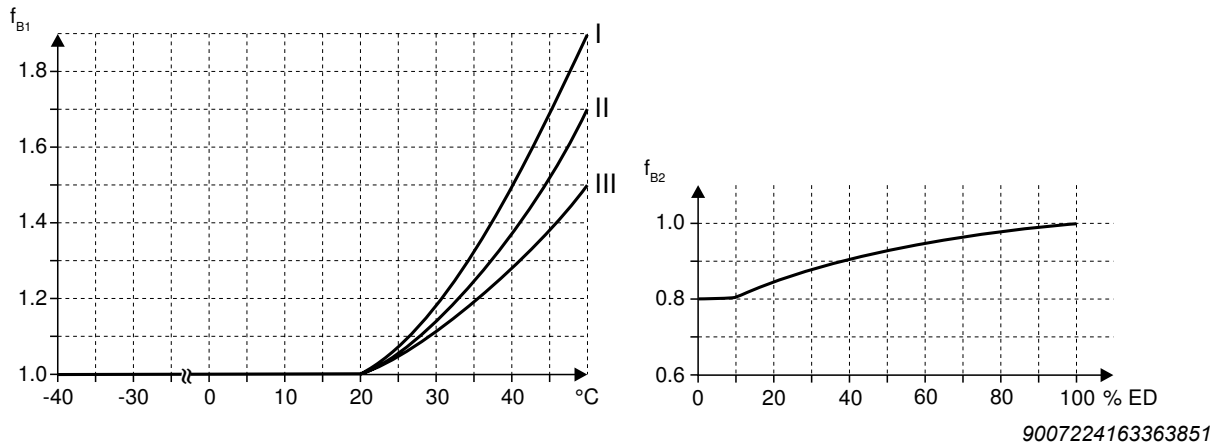
At an ambient temperature of $< -30^\circ\text{C}$, observe the additional service factor $f_{B3} = 1.2$.

4.6.6 Service factors for helical-worm gear units

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

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

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



Cyclic duration
factor

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

27021602297443083

ED = Cyclic duration factor
 t_L = Time under load

[cdf] = %
[t_{L_tot}] = min h⁻¹

4.6.7 Conditions for selecting gear units based on the service factor

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

See also chapter "Structure of the selection tables".

$$f_{B_req} \leq f_B$$

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

or

$$M_a \times f_{B_req} \leq M_{a\max}$$

$$M_a \times F_{B_L} \times [f_{B1} \times f_{B2} \times f_{B3}] \leq M_{a\max}$$

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

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

4.6.8 Examples

- An application with mass acceleration factor 2.5 (load classification II), 14 hours daily operating time (read at 16 h/day) and 300 cycles/h results in the service factor $f_{B_L} = 1.5$ according to the diagram. The f_B value of the required gearmotor must therefore be ≥ 1.5 .

If the gearmotor is intended for operation at $-35\text{ }^{\circ}\text{C}$, the following applies:

$$f_{B_req} = f_{B_L} \times f_{B3} = 1.5 \times 1.2 = 1.8$$

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

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

$$\rightarrow f_{B1} = 1.36 \text{ (read off at load classification II (} \rightarrow \text{ 106))}$$

$$\text{Time under load} = 40 \text{ min/h} \rightarrow \text{cdf} = 66.67\% \rightarrow f_{B2} = 0.95$$

The required service factor is:

$$f_{B_req} = f_{B_L} \times f_{B1} \times f_{B2} = 1.5 \times 1.36 \times 0.95 = 1.94$$

The selected helical-worm gearmotor requires a service factor $f_B \geq 1.94$.

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

4.7.1 Determining the overhung load

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

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

$$F_R = \frac{M_{\max} \times 2000}{d_0} \times f_z \times f_{z1}$$

27021602276628491

F_R = Overhung load

$[F_R] = \text{N}$

$M_{\max}$ = Torque

$[M_{\max}] = \text{Nm}$

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

$[d] = \text{mm}$

4.7.2 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.

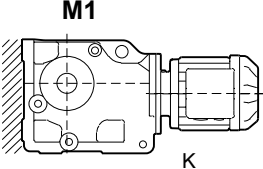
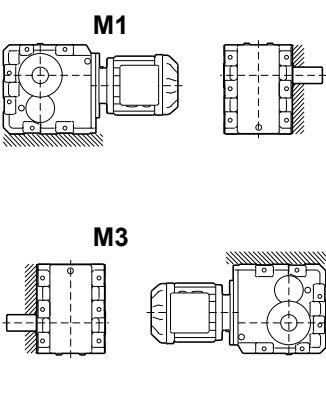
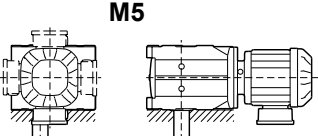
The permitted overhung loads F_{Ra} for the output shafts of foot-mounted gear units with a solid shaft are listed in the selection tables for gearmotors. For other designs, please contact SEW-EURODRIVE.

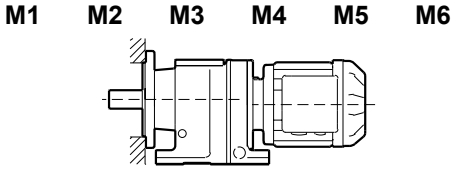
The overhung load data refers to a force application at the center of the output shaft $0.5 \times l$. With right-angle gear units, the application point is assumed to be at the A-side.

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	Restriction
	K37 – K157 S37 – S97 S37p – S97p	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).
	K167 K187	M1 M2 M3 M4	No reduction when the unit is mounted using the gray-shaded feet. In case of deviating mounting, a maximum of 50% of the overhung load F_{Ra} specified in the selection tables is permitted.
	K167 K187	M5 M6	No reduction when the unit is mounted using the gray-shaded feet. In case of deviating mounting, contact SEW-EURODRIVE.

Mounting surface	Gear unit	Mounting position	Restriction
	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.

4.7.3 Higher permitted overhung loads

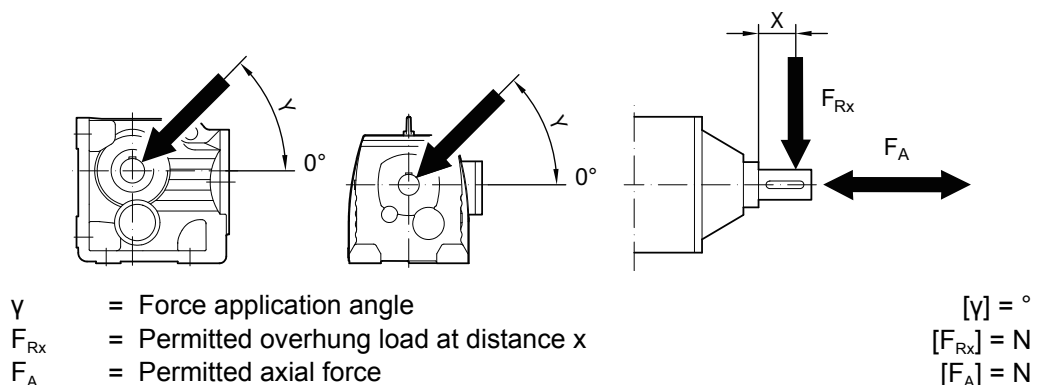
Exactly considering the force application angle γ and the direction of rotation makes it possible to achieve a higher overhung load than listed in the selection tables.

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

Contact SEW-EURODRIVE in such cases.

4.7.4 Definition of the force application

Force application is defined according to the following figure:



4.7.5 Permitted axial forces

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

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

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.

4.7.6 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.

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

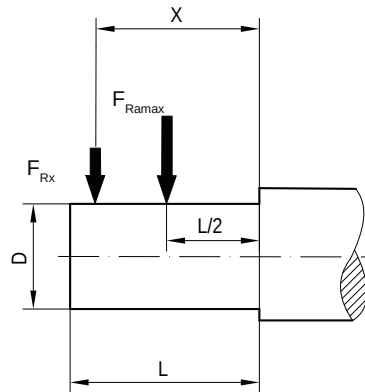
The permitted overhung loads must be calculated according to the selection tables using the following formulas in the event of force application to areas other than the center of the shaft end. The smaller of the two values F_{Rb} (according to bearing service life) and F_{Rw} (according to shaft strength) 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 $0.5 \times L$ (solid shaft).

The following conditions must be met:

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

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

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	$[x] = mm$
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
R167	450	345	1.26×10^7	0	120	210
F27	109.5	84.5	1.13×10^5	0	25	50
F37	123.5	98.5	1.07×10^5	0	25	50
F47	153.5	123.5	1.40×10^5	0	30	60
F57	170.7	135.7	2.70×10^5	0	35	70
F67	181.3	141.3	4.12×10^5	0	40	80
F77	215.8	165.8	7.87×10^5	0	50	100
F87	263	203	1.06×10^6	0	60	120
F97	350	280	2.09×10^6	0	70	140
F107	373.5	288.5	4.23×10^6	0	90	170
F127	442.5	337.5	9.45×10^6	0	110	210
F157	512	407	1.05×10^7	0	120	210
K19	103.7	83.7	8.66×10^4	0	20	40
K29	124.5	99.5	1.26×10^5	0	25	50
K37	123.5	98.5	1.30×10^5	0	25	50

Gear unit type	a mm	b mm	c Nmm	f mm	d mm	l mm
K39	155.5	125.5	2.25×10^5	0	30	60
K47	153.5	123.5	1.40×10^5	0	30	60
K49	183.5	148.5	2.63×10^5	0	35	70
K57	169.7	134.7	2.70×10^5	0	35	70
K67	181.3	141.3	4.12×10^5	0	40	80
K77	215.8	165.8	7.69×10^5	0	50	100
K87	252	192	1.64×10^6	0	60	120
K97	319	249	2.80×10^6	0	70	140
K107	373.5	288.5	5.53×10^6	0	90	170
K127	443.5	338.5	8.31×10^6	0	110	210
K157	509	404	1.18×10^7	0	120	210
K167	621.5	496.5	1.88×10^7	0	160	250
K187	720.5	560.5	3.04×10^7	0	190	320
S37	118.5	98.5	6.0×10^4	0	20	40
S47	130	105	1.33×10^5	0	25	50
S57	150	120	2.14×10^5	0	30	60
S67	184	149	3.04×10^5	0	35	70
S77	224	179	5.26×10^5	0	45	90
S87	281.5	221.5	1.68×10^6	0	60	120
S97	326.3	256.3	2.54×10^6	0	70	140

Values for designs not listed are available on request.

4.8 Multi-stage gearmotors

4.8.1 General information

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

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

4.8.2 Limiting the motor power

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

You can calculate the maximum permitted motor torque as follows:

Maximum permitted motor torque

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

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

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

Take appropriate measures to prevent the continuous current consumption of the motor from exceeding the previously determined value for the motor torque M_{Mot} . A suitable measure, for example, is to set the tripping current of the motor circuit breaker to this maximum current value. A motor circuit breaker also offers the option of bridging a short-term overload, for example during the motor startup phase. A suitable measure for inverter drives is to limit the output current of the inverter according to the determined motor current.

4.8.3 Checking brake torques

If you use a compound gear unit brakemotor, you have to limit the braking torque (M_B) according to the maximum permitted motor torque M_{Mot} . The maximum permitted braking torque is 200% M_{Mot} .

Maximum braking torque

$$M_B \leq 200\% M_{Mot}$$

M_B	Maximum braking torque in Nm
M_{Mot}	Maximum permitted motor torque in Nm

If you are unclear about the permitted switching frequency of the compound gear unit brakemotor, contact SEW-EURODRIVE.

4.8.4 Preventing blocking

Blocking of the compound gear unit or the compound gearmotor on the output side is not permitted. In this case, undetermined torques and uncontrolled overhung and axial loads can occur. This can destroy the gear units.

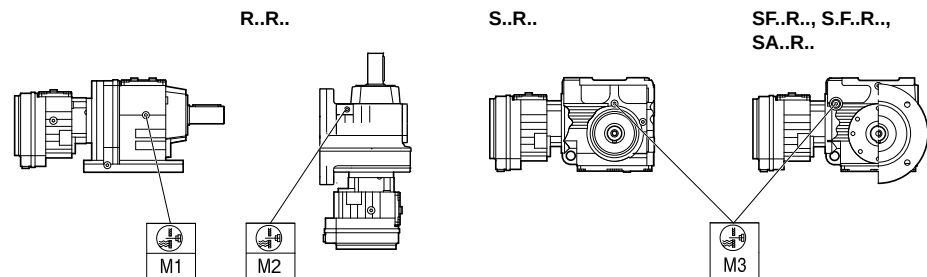
If you cannot rule out the blocking of the compound gear unit or the compound gear-motor due to the application, contact SEW-EURODRIVE.

4.8.5 Position of the oil level plug of compound gear units

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

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

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



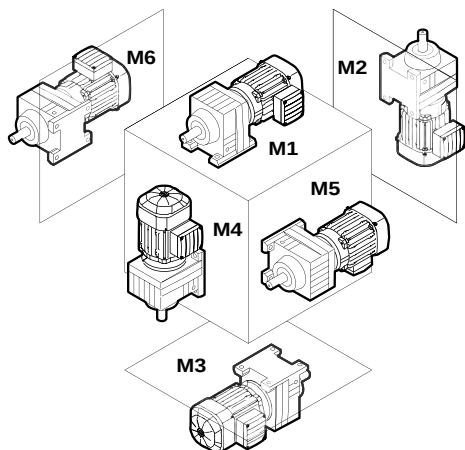
15987248395

Symbol	Meaning
	Oil level plug

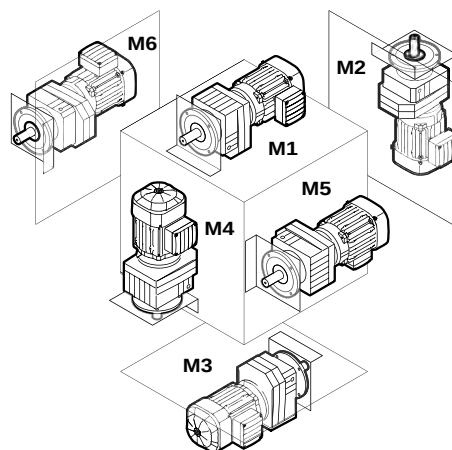
5 Mounting position of the gearmotors and order information

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

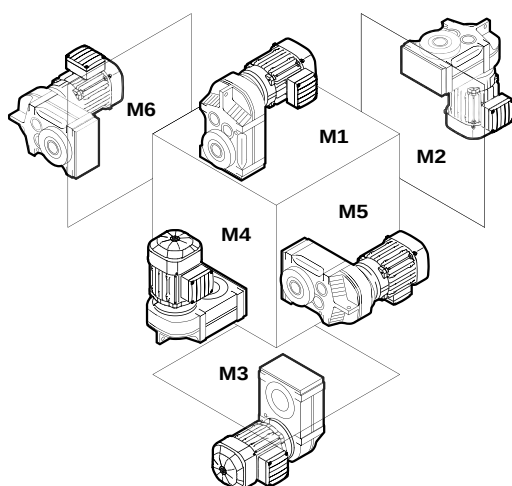
The following illustration shows the SEW-EURODRIVE mounting positions M1 – M6:



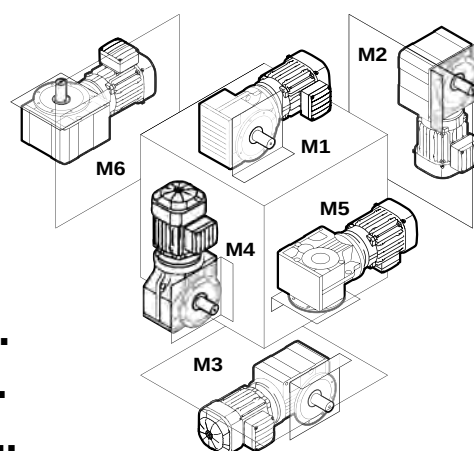
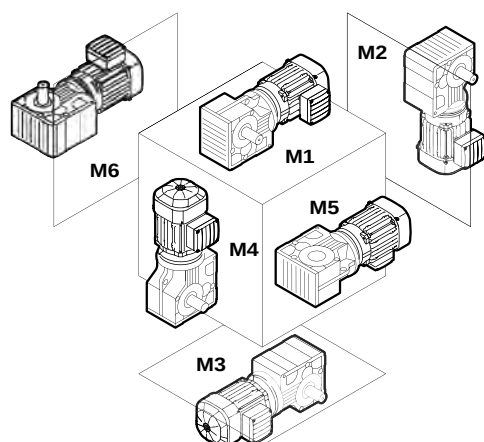
R..



F..



**K..
S..
W..**



15649312267

27782913/EN – 02/2023

5.1.1 Change of mounting position

Do not change the mounting position without prior consultation with SEW-EURODRIVE.

The information on the nameplate applies. The declaration of conformity and the guarantee no longer apply if the mounting position is changed without prior consultation with SEW-EURODRIVE. Changes to the mounting position must be configured and indicated on the nameplate.

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 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.

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

As shown in the mounting position sheets in chapter "Mounting position sheets" (→ 126), the position of the breather valve and oil drain plug depends on the mounting position of the gearmotor.

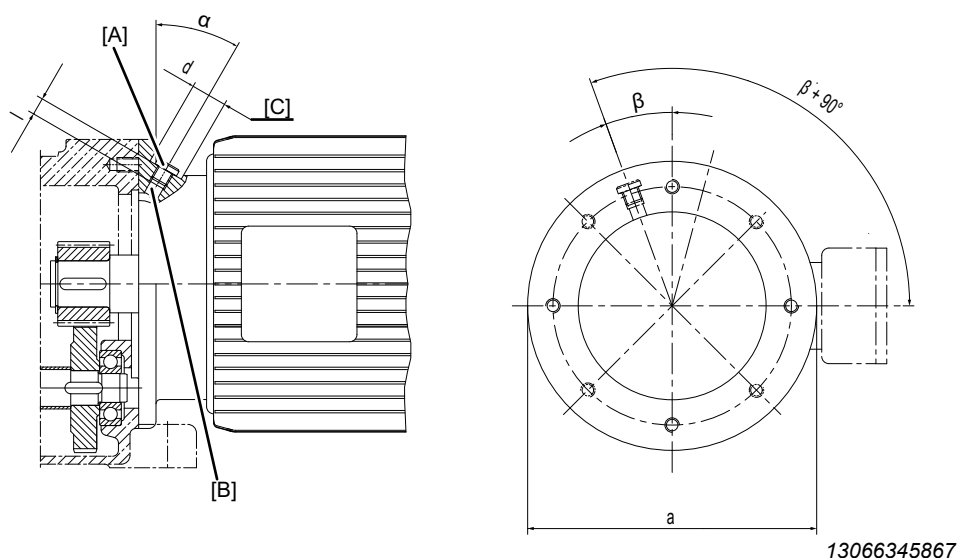
The following table shows the position of the breather valve or oil drain plug depending on the mounting position:

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

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

The position of the breather valve / oil drain plug in the mounting position sheets in chapter "Mounting position sheets" (→ 126) always refers to the standard terminal box position 0°. Note that the position of the breather valve/oil drain plug is changed depending on the possible terminal box positions (90°, 180°, 270°).

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



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

Dimension tables

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

Motor	a in mm	α in °	β in °	Thread designation	Ø d in mm	l in mm
EDRN63 EDRN71	105 ¹⁾	0°	45°	M10 × 1	—	10
	120	30°	22.5°			
	120 ¹⁾	0°	45°			
	160	30°	22.5°			
	160 ¹⁾	0°	45°			
	200	30°	22.5°	M12 × 1.5	18	12
	250			M22 × 1.5	28	14
EDRN80	105	0°	45°	M10 × 1	—	10
	120	30°				
	120 ¹⁾	15°				
	160	30°	22.5°			
	160 ¹⁾					
	200					
	250	M12 × 1.5	18	12		
300	M22 × 1.5	28	14			
EDRN90	120	30°	22.5°	M10 × 1	15	12
	120 ¹⁾	0°	45°			
	160	30°	22.5°			
	160 ¹⁾	0°	45°			
	160	30°	22.5°	M12 × 1.5	15	16
	200				18	12
	250			M22 × 1.5	28	14
	300					
EDRN100	120	30°	22.5°	M10 × 1	15	10
	160			M12 × 1.5	18	12
	200					
	250			M22 × 1.5	28	14
	300					
	350					
EDRN112M EDRN132S	160	30°	22.5°	M10 × 1	15	10
	200			M12 × 1.5	18	12
	250			M22 × 1.5	28	14
	300					10
	350	45°		M33 × 2	40	16
	400			M10 × 1	15	10
	450					
EDRN132M/L	160	30°	22.5°	M12 × 1.5	18	14
	200	15°		M22 × 1.5	28	12
	250	30°				14
	300					13
	350			M33 × 2	40	16
	400					
	450	75°				
	550	90°		M42 × 2	50	18

Motor	a in mm	α in °	β in °	Thread designation	$\varnothing d$ in mm	l in mm
EDRN160	200	30°	22.5°	M10 × 1	15	17
	250			M12 × 1.5	18	15
	300			M22 × 1.5	28	12
	350					
	400			M33 × 2	40	16
	450					
	550	90°	M42 × 2	50		
EDRN180	250	30°	22.5°	M12 × 1.5	18	15
	300			M22 × 1.5	28	
	350					M33 × 2
	400					
	450			M42 × 2	50	17
	550	90°				
EDRN200	250	30°	22.5°	M12 × 1.5	18	15
	300			M22 × 1.5	28	
	350					M33 × 2
	400					
	450			M42 × 2	50	19
	550					
EDRN225	300	30°	22.5°	M22 × 1.5	28	15
	350					14
	400					16
	450			M33 × 2	40	17
	550			M42 × 2	50	29
EDRN250 EDRN280	350	15°	22.5°	M22 × 1.5	28	14
	400		21°			
	450		22.5°	M33 × 2	40	16
	550			M42 × 2	50	
EDRN315	450	30°	22.5°	M33 × 2	40	30
	550		11.25°	M42 × 2	50	20

5.2 Order information

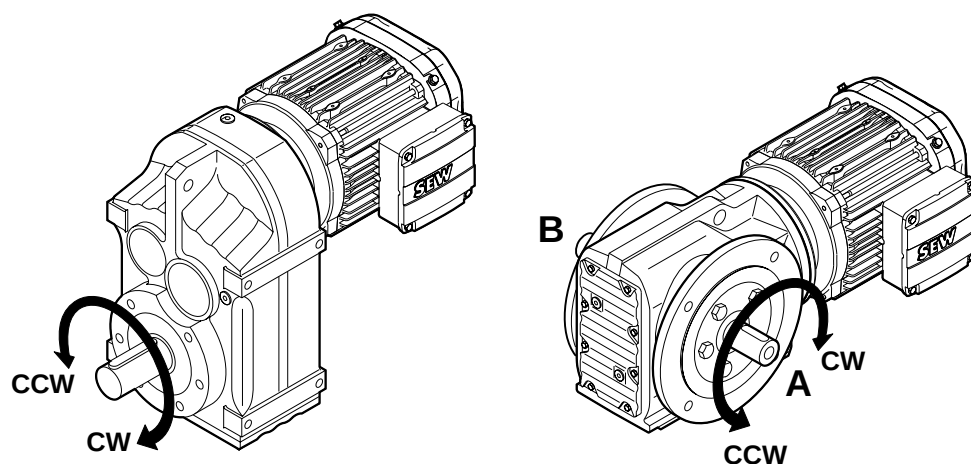
The following order information is required for R, F, K, S, and W gear units or gearmotors in addition to the mounting position. This information is also required for gearmotors that do not depend on a particular mounting position.

5.2.1 Output direction of rotation with backstop

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

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

- CW rotation
- CCW rotation



4579708555

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

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



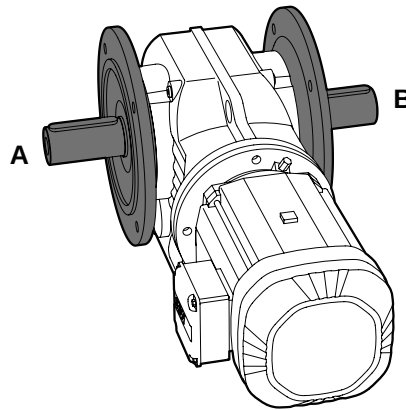
15985405835

A replacement label is enclosed for the customer.

5.2.2 Position of the output shaft and the output flange

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

- A or B or AB

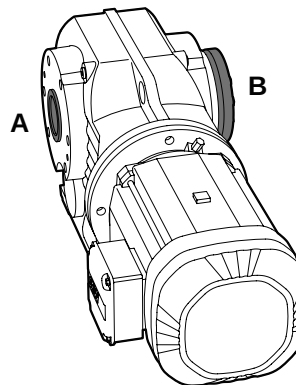


36483223691

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

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

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



36483221259

For the permitted mounting surfaces (hatched area), refer to the mounting position sheets (see chapter "Mounting position sheets" (→ 126)).

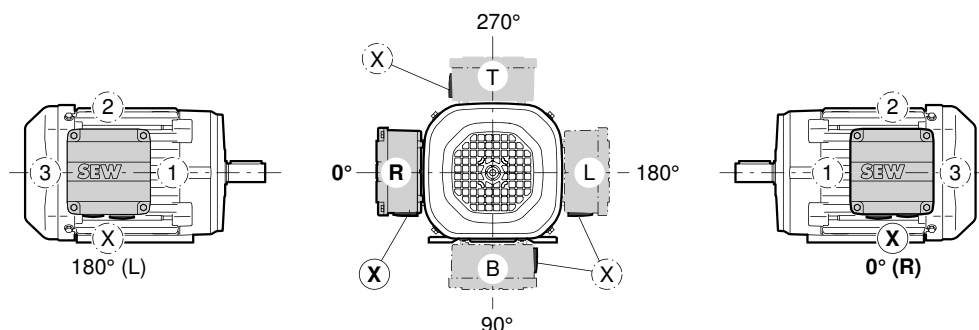
5.2.4 Position of motor terminal box and cable entry

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

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

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

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



3975310859

Without special information on the terminal box, the 0° version is supplied with cable entry "X". For mounting position M3, SEW-EURODRIVE recommends selecting cable entry "2".

For EDR63.. motors, only cable entries "X" and "2" are possible.

Exception: This restriction does not apply with IS plug connector.

With terminal box position 90° (B), check whether the gearmotor must be supported.

Software support

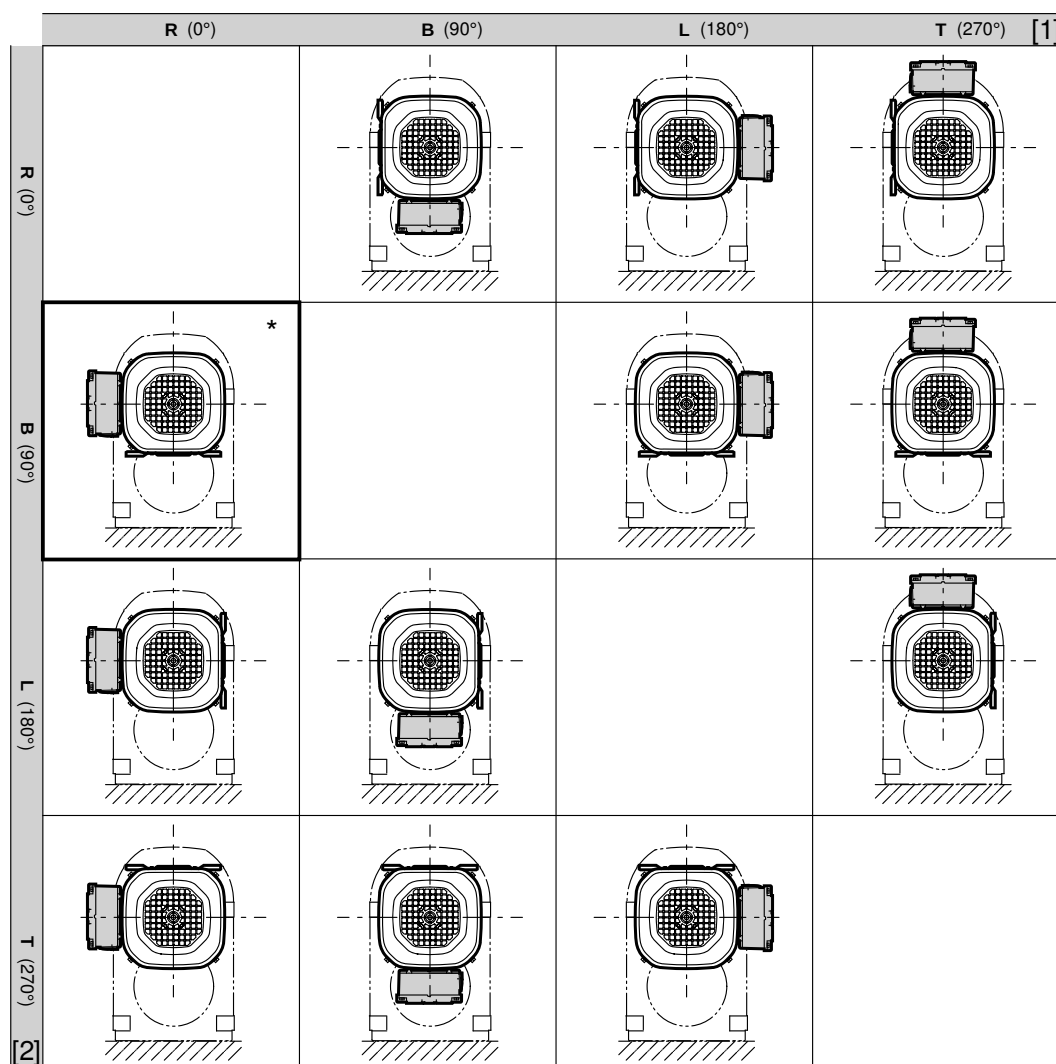
Not all cable entry positions X, 1, 2, 3 and terminal box positions 0°(R), 90°(B), 180°(L), 270°(T) are possible in any case. Some additional features for the motor require a connection inside the terminal box, which means this terminal box is larger than the standard terminal box due to the normative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

Dimensions not listed in the dimension sheets are available on the SEW-EURODRIVE website via the respective CAD data.

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

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

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



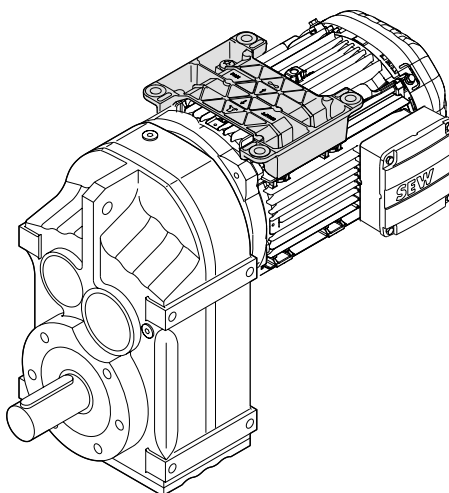
[1] Terminal box positions

[2] Foot positions

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

For motors in size 63 the foot is always positioned at 90° and the terminal box at 270°. The foot on the motor is not suited to attach a complete gearmotor.

Example: Gearmotor with motor option /FM:



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

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

5.2.6 Sample orders

Type (examples)	Mounting position	Shaft position	Flange position	Terminal box position	Cable entry position	Output direction of rotation
K47 DRN71M4/RS	M2	A	-	0°	"X"	CW
SF77 DR2S90L4	M6	AB	AB	90°	"3"	-
KA97/II2GD EDRN132M4/2GD	M4	B	-	270°	"2"	-
KH107 DRN160M4	M1	A	-	180°	"3"	-
KAF67AM90	M3	A	B	-	-	-
K47 DRE90MJ4	M2	A	-	0°	"X"	-
R67 DR2S80M4	M1	-	-	90°	"X"	-
KA29/II2GD EDRN90L4/3G	M4	B	-	270°	"2"	-

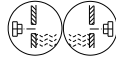
5.3 Mounting position sheets

5.3.1 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's shaft is shown as a dashed line. The output end (output shaft position) is always shown on the A-side.
Gear units W..0	SPIROPLAN® 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. For better orientation, mounting positions M1 to M6 are also shown for these SPIROPLAN® gearmotors.
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® gearmotors W..9 are equipped with breather valves in mounting position M4 and with an oil drain plug in mounting position M2.

Symbols used

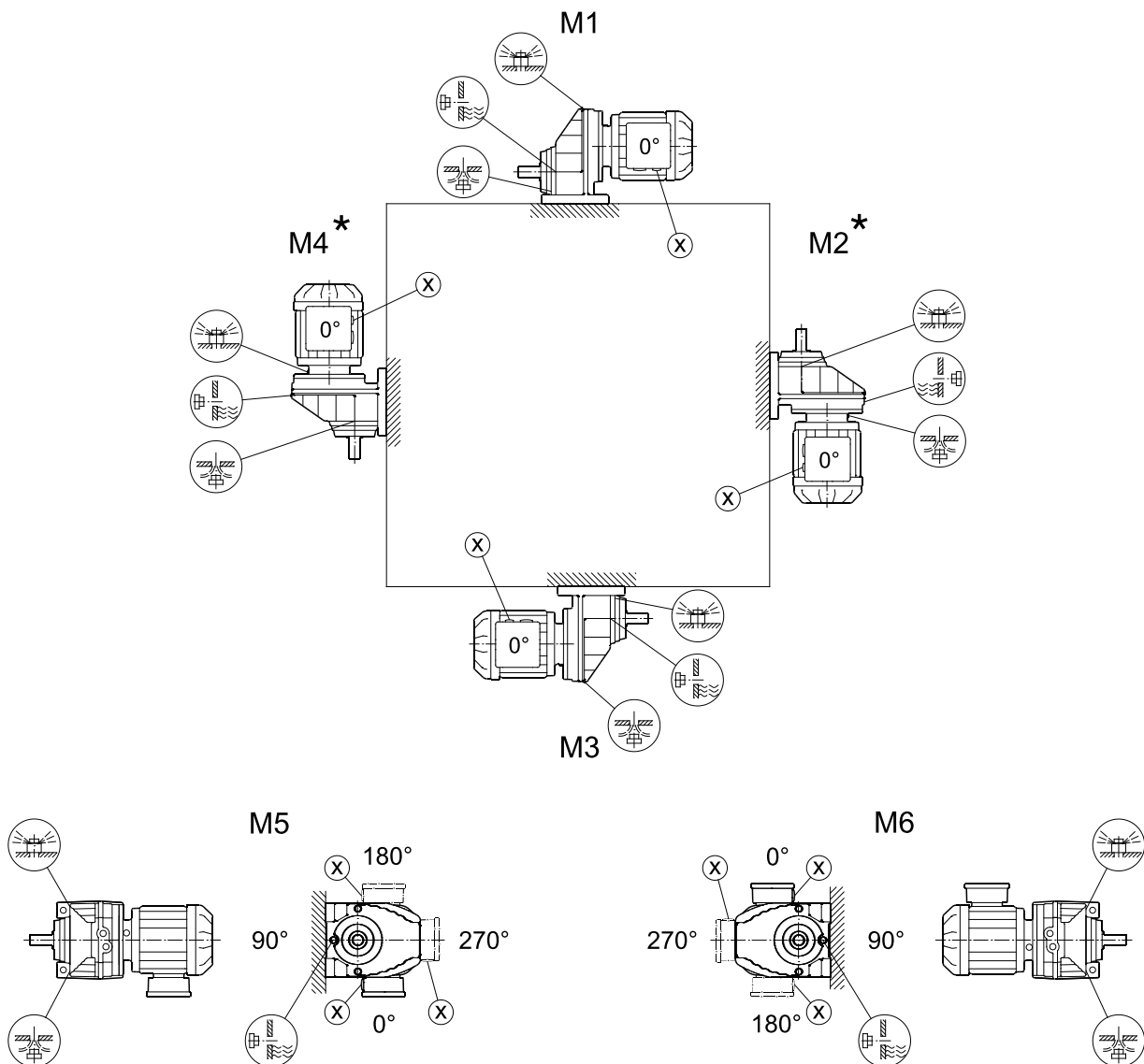
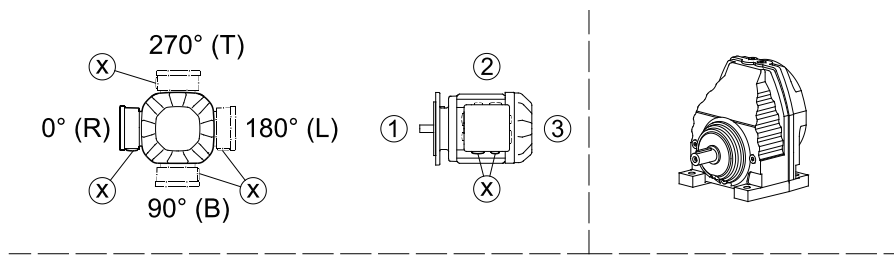
The following table shows the symbols used in the mounting position sheets.

Symbol	Meaning
	Breather valve
	Oil level plug
	Oil drain plug

Mounting positions of helical gear units

RX57 – RX107

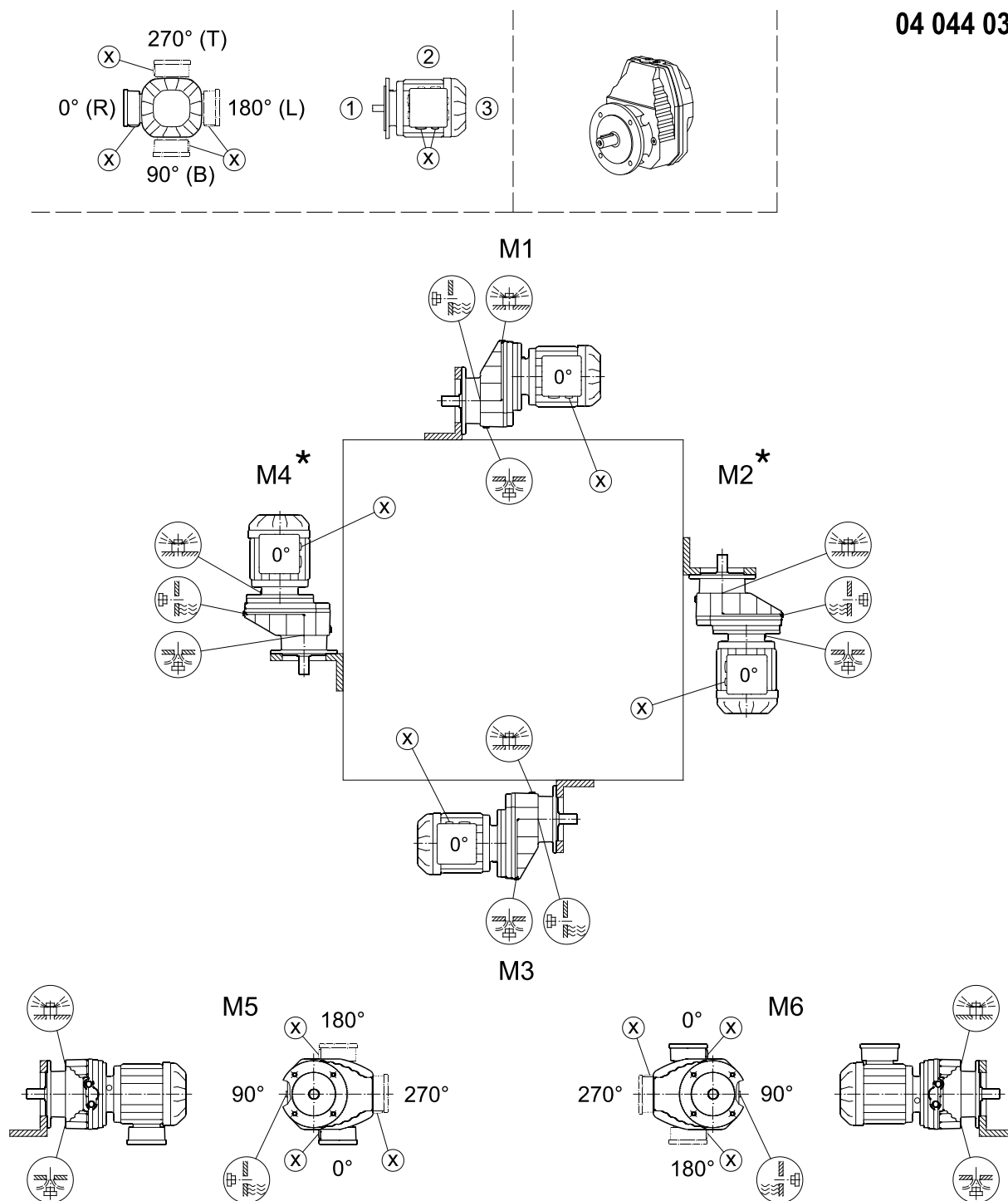
04 043 03 00



* (→ 103)

RXF57 – RXF107

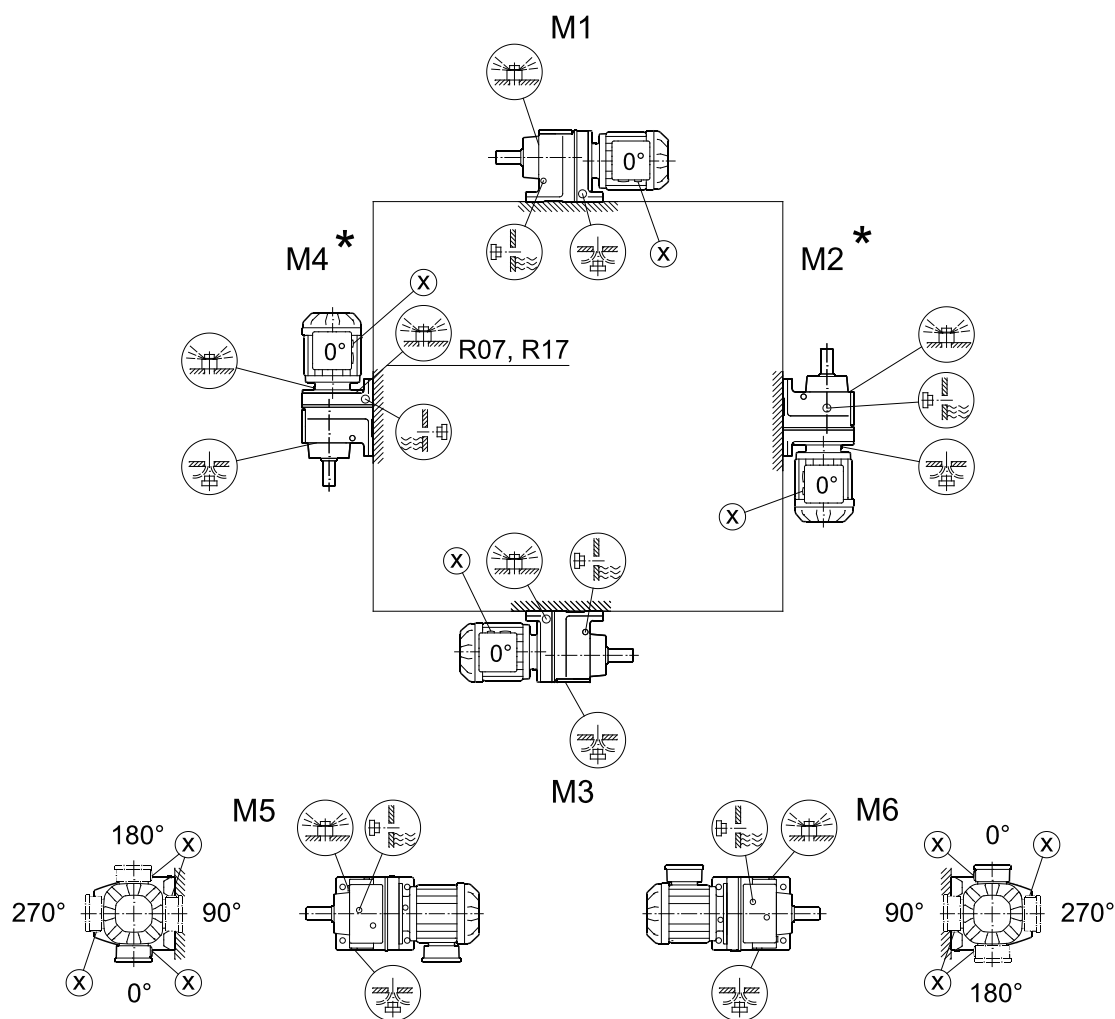
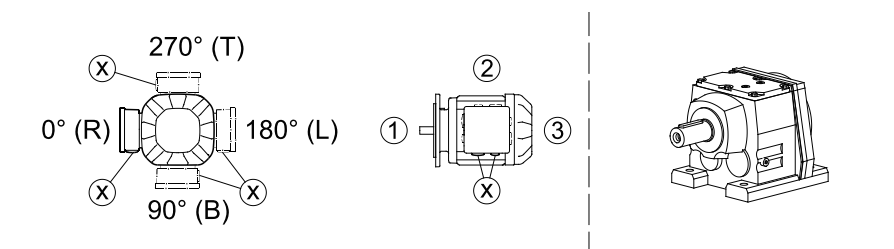
04 044 03 00



* (→ 103)

R07 – R167

04 040 04 00



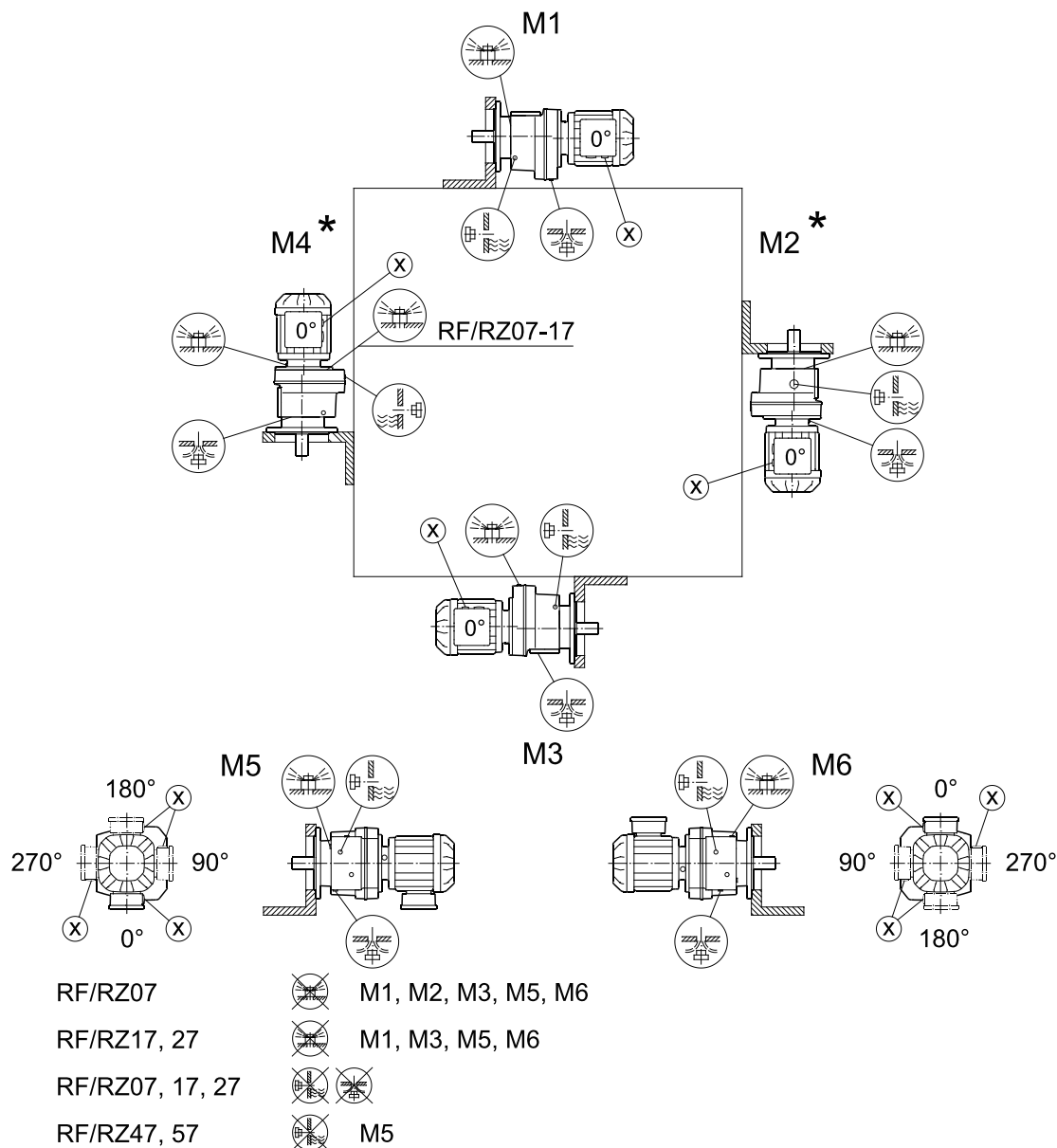
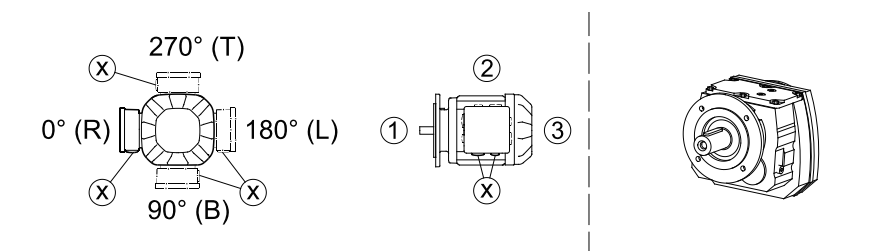
R07		M1, M2, M3, M5, M6
R17, R27		M1, M3, M5, M6
R07, R17, R27		
R47, R57		M5

* (→ 103)

Observe the information in chapter "Overhung and axial loads of R..., F..., K..., S..., W... gear units" (→ 108).

RF07 – RF167, RZ07 – RZ87, RM57 – RM167

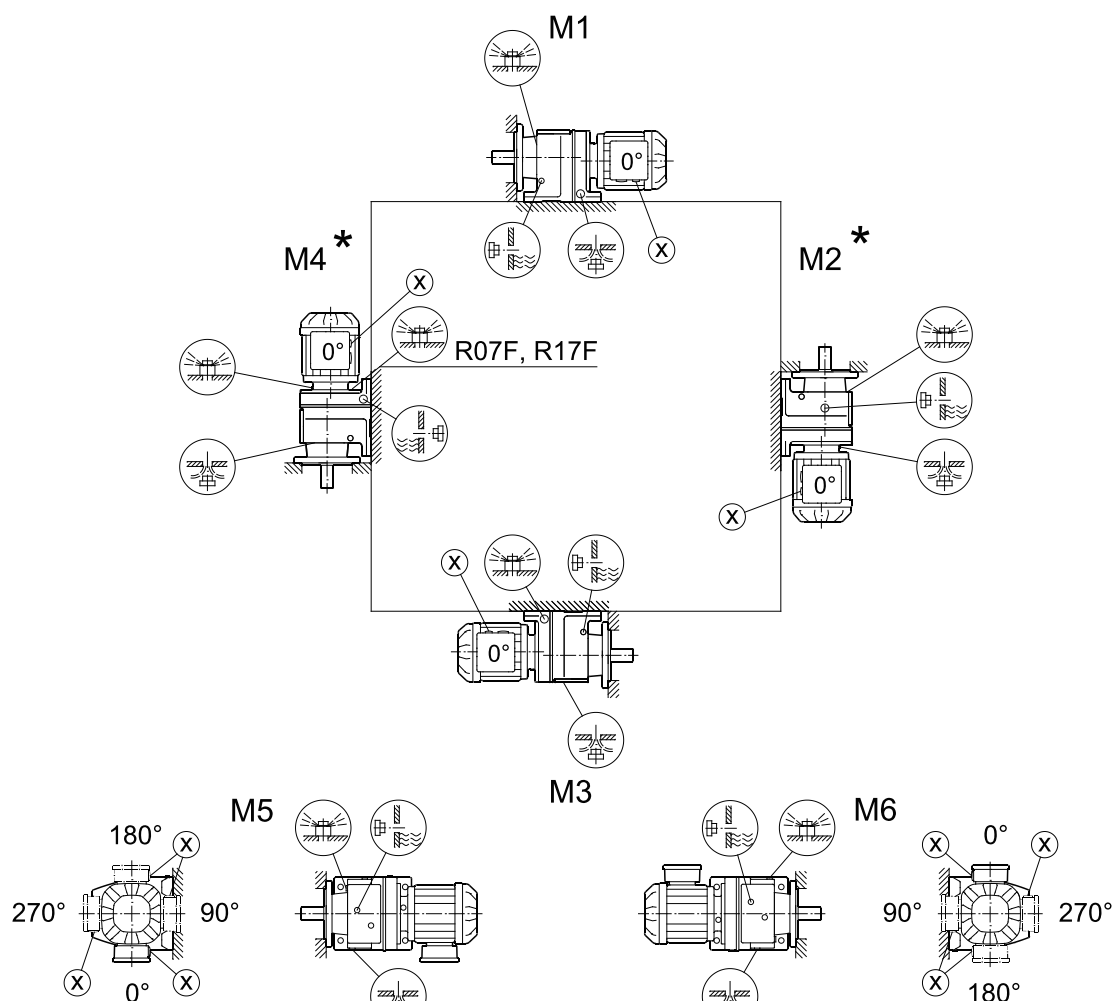
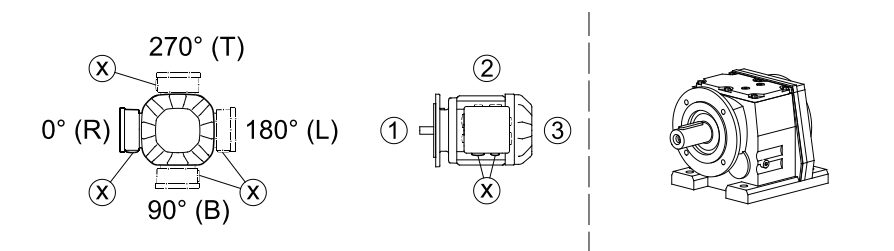
04 041 04 00



* (→ 103)

R07F – R87F

04 042 04 00



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

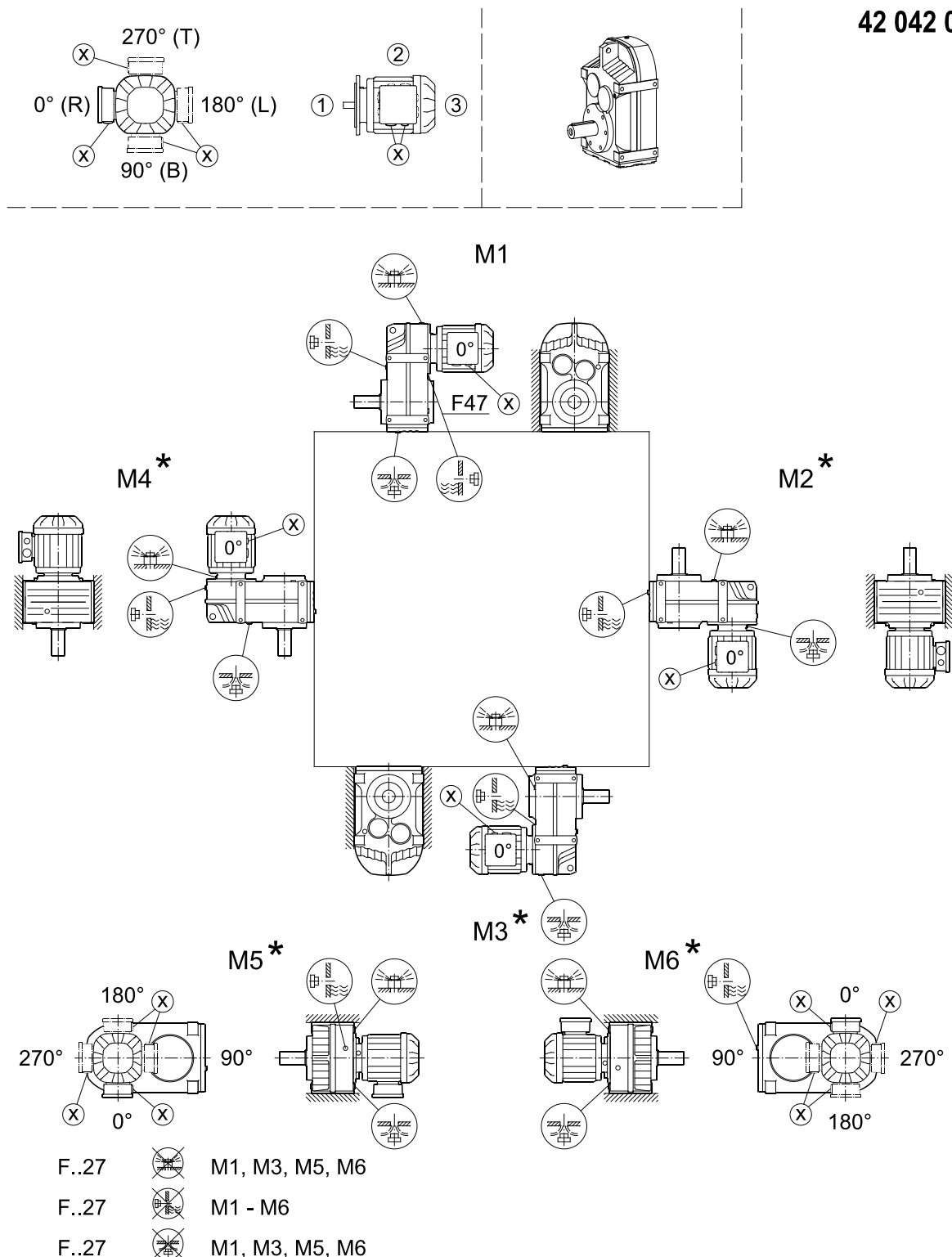
* (→ 103)

Observe the information in chapter "Overhung and axial loads of R..., F..., K..., S..., W... gear units" (→ 108).

Mounting positions of parallel-shaft helical gear units

F/FA..B/FH27B – 157B, FV27B – 107B

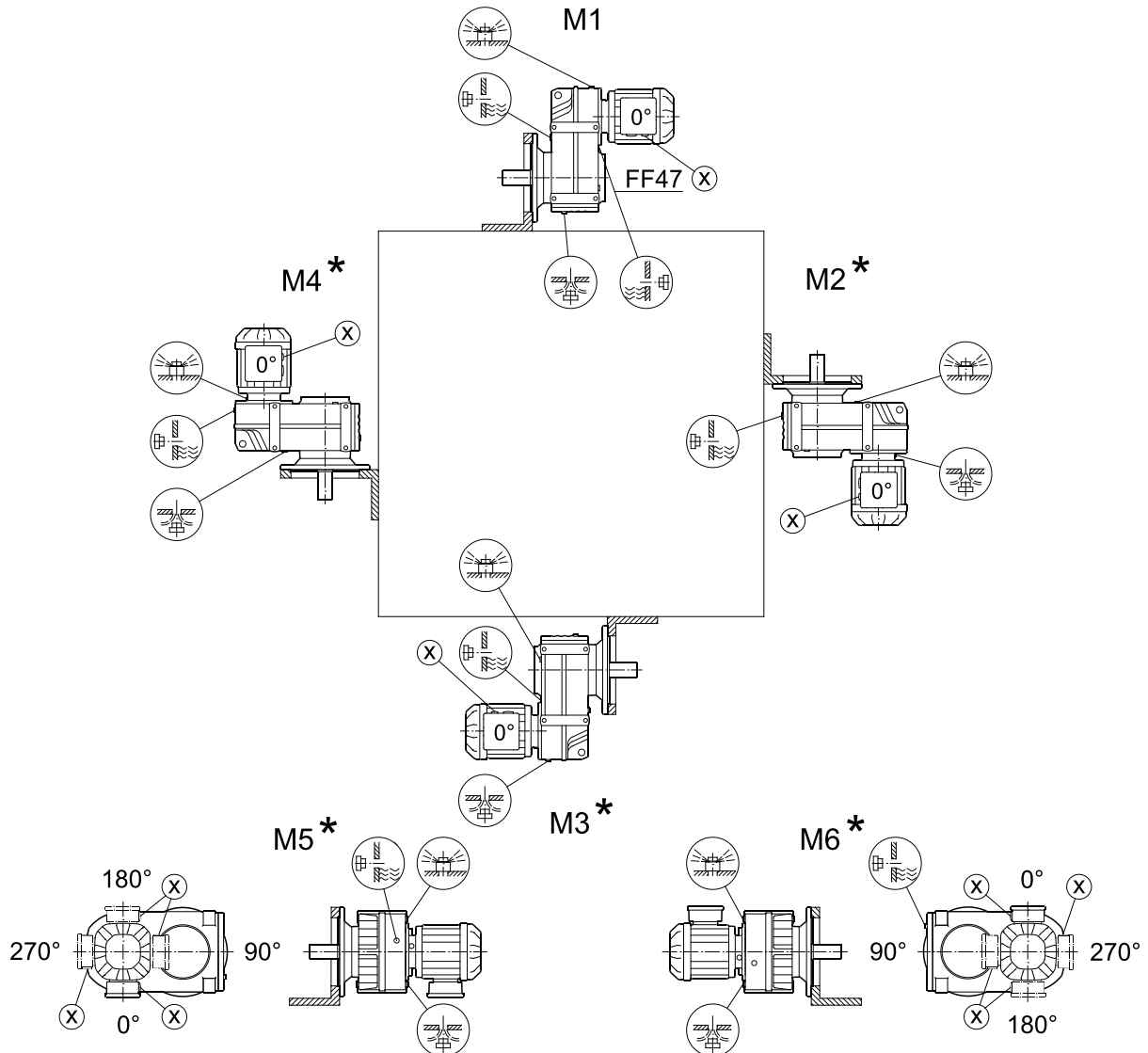
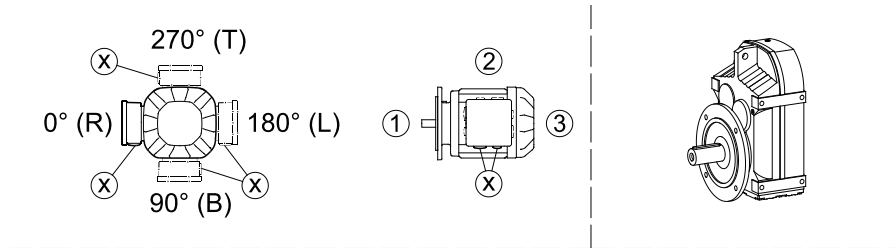
42 042 04 00



* (→ 103)

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

42 043 04 00

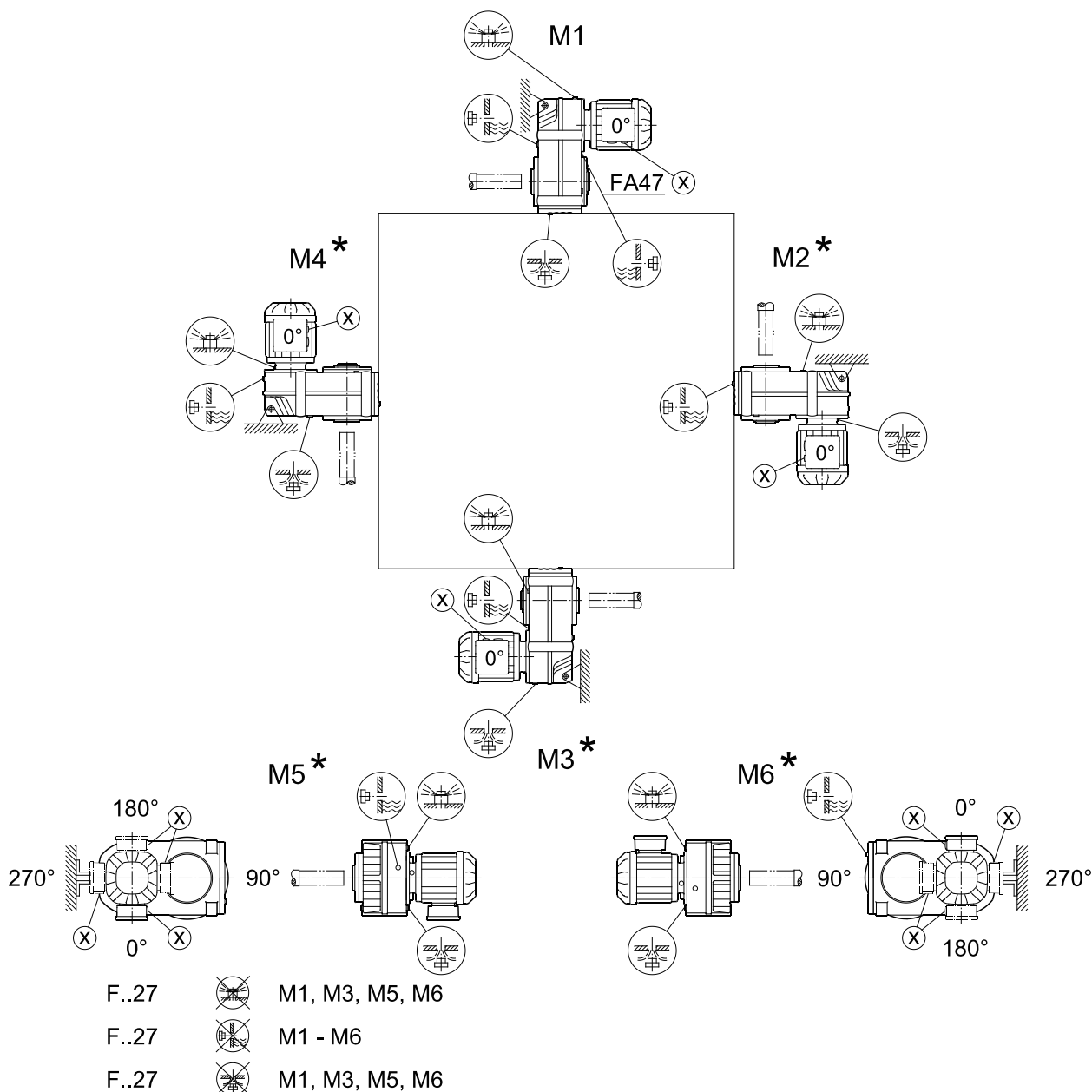
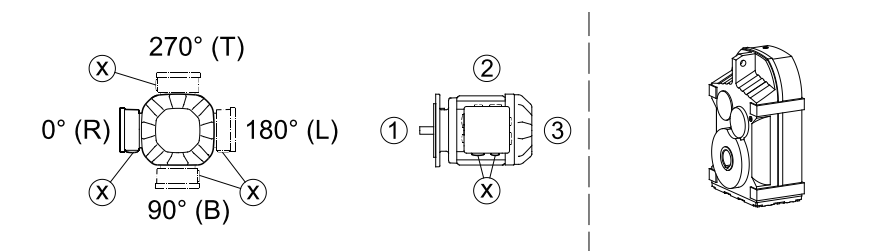


- | | | |
|-------|--|----------------|
| F..27 | | M1, M3, M5, M6 |
| F..27 | | M1 - M6 |
| F..27 | | M1, M3, M5, M6 |

* (→ 103)

FA/FH27 – 157, FV27 – 107, FT37 – 157

42 044 04 00

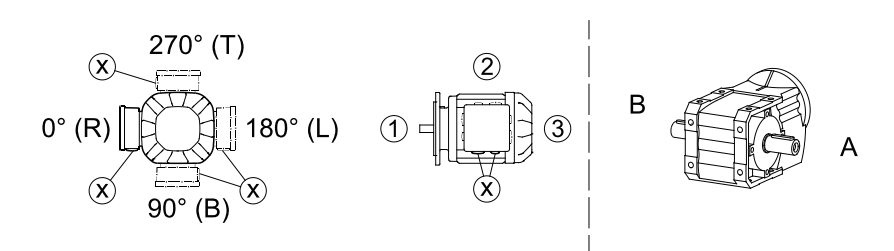


* (→ 103)

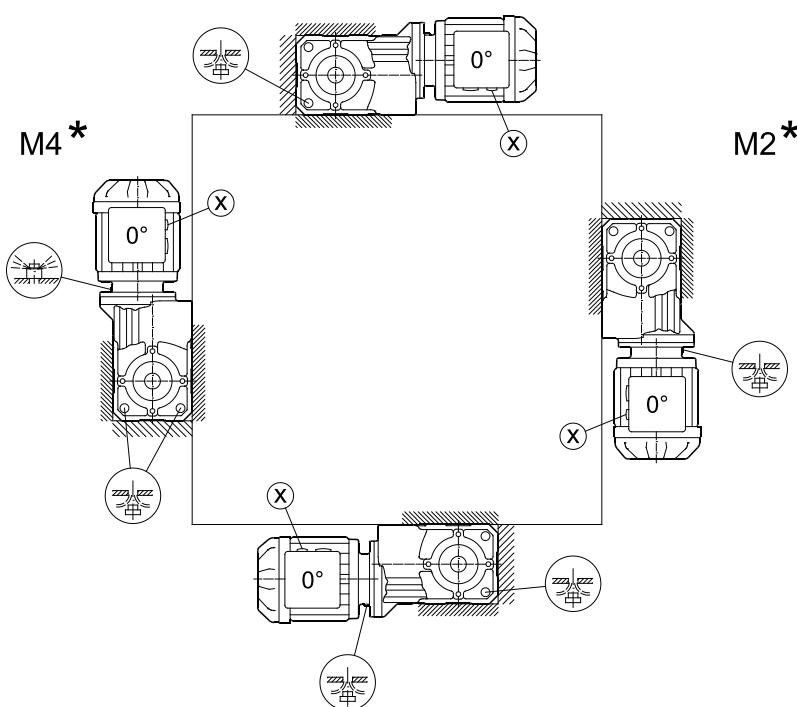
Mounting positions of helical-bevel gear units

K/KA..B/KH19B – 29B

33 023 00 15

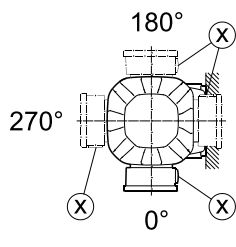


M1

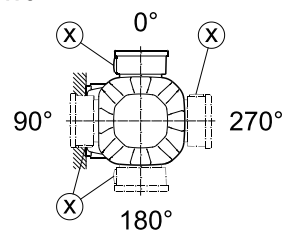


M3

M5



M6

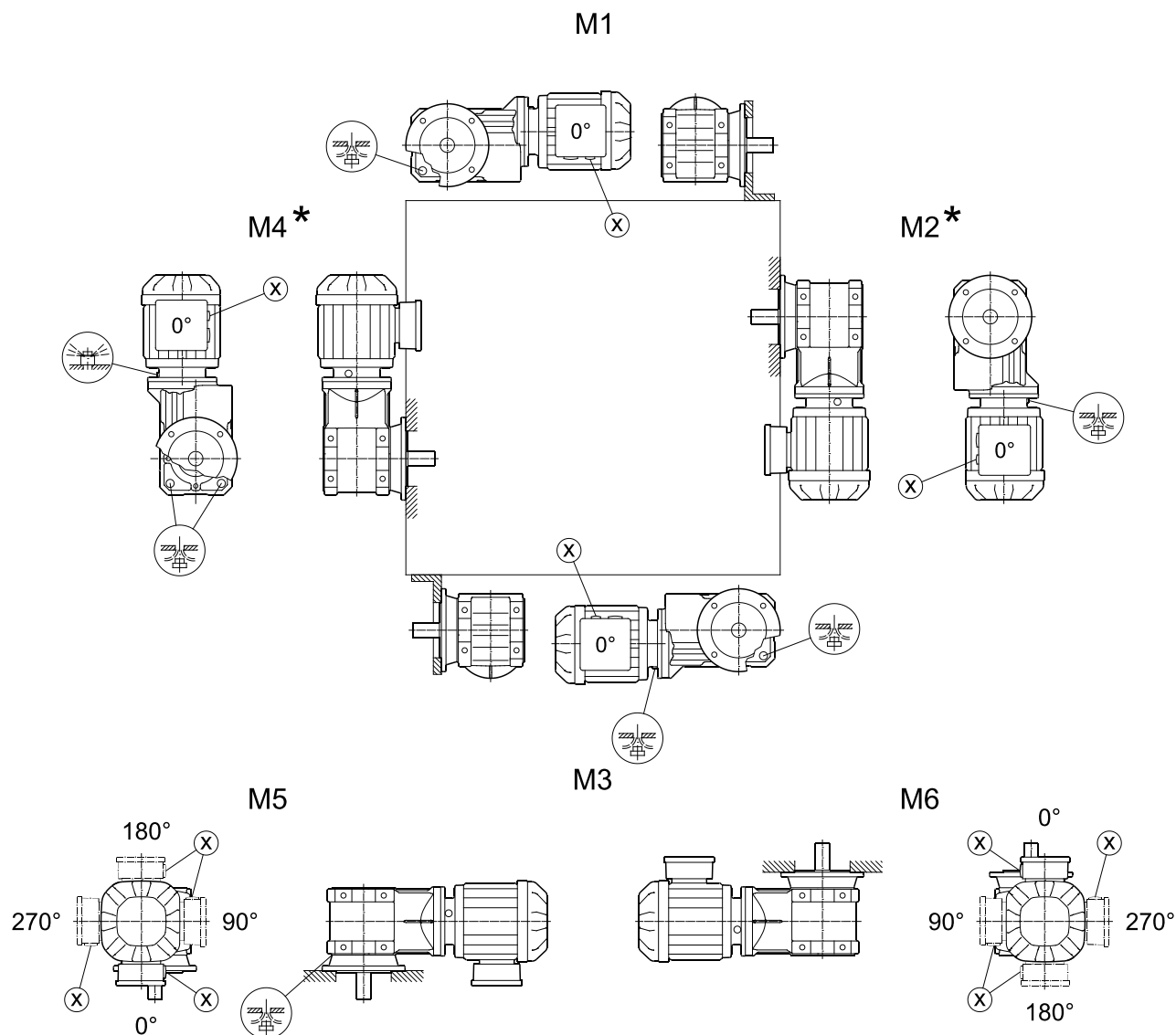
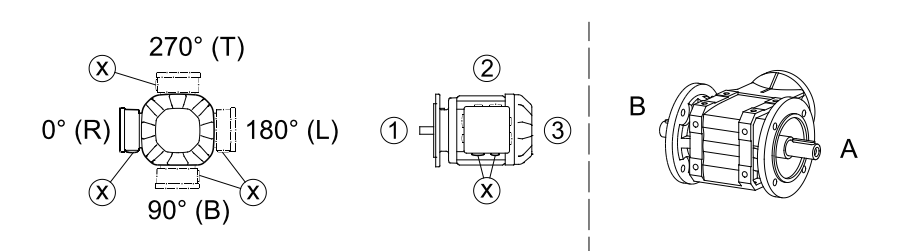


* (→ 103)

Observe the information in chapter "Overhung and axial loads of R.., F.., K.., S.., W.. gear units" (→ 108).

KF..B/KAF..B/KHF19B – 29B

33 024 00 15



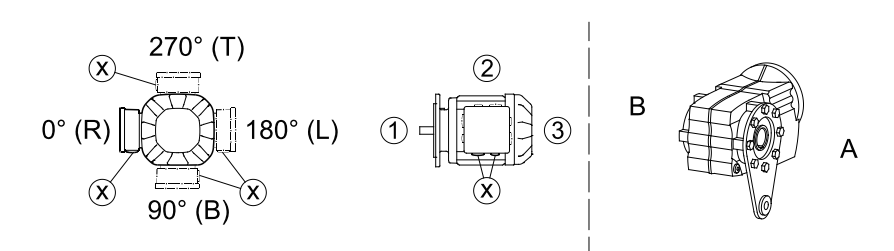
* (→ 103)

Observe the information in chapter "Overhung and axial loads of R.., F.., K.., S.., W.. gear units" (→ 108).

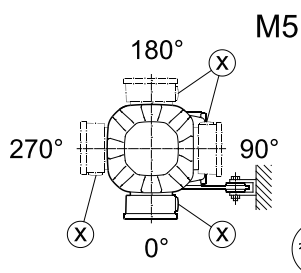
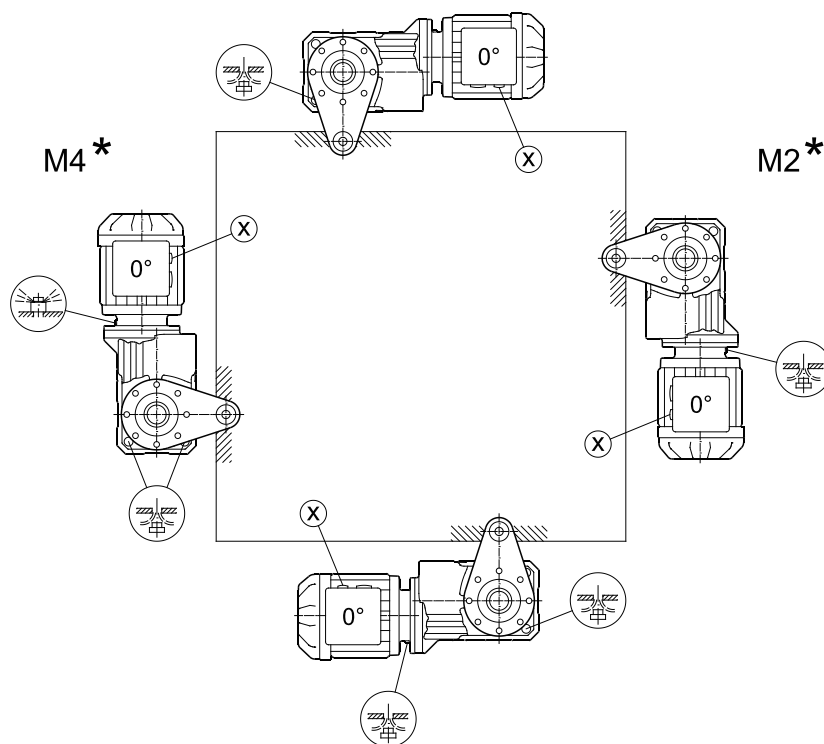
27782913/EN – 02/2023

KA..B/KH19B – 29B

33 025 00 15



M1

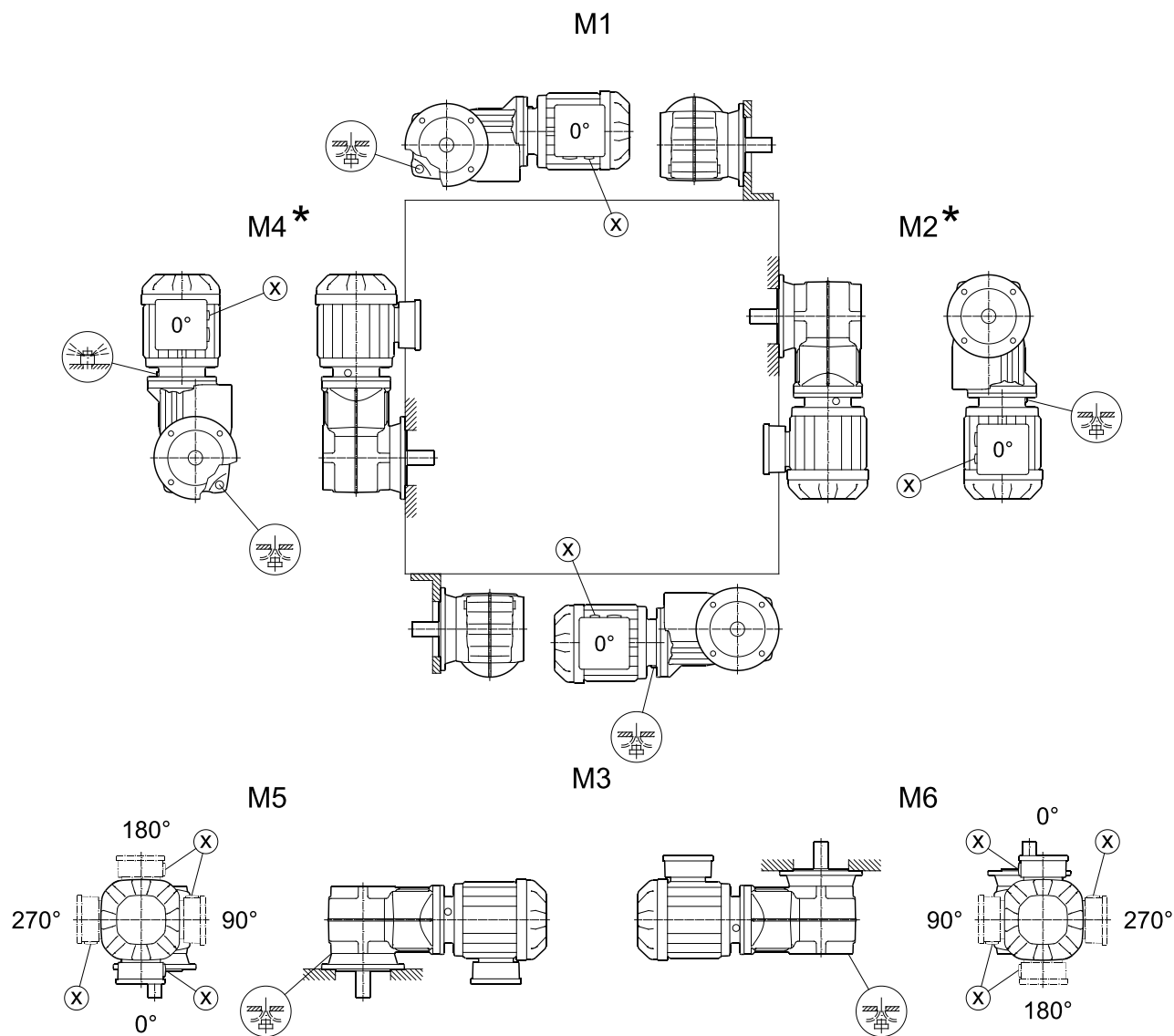
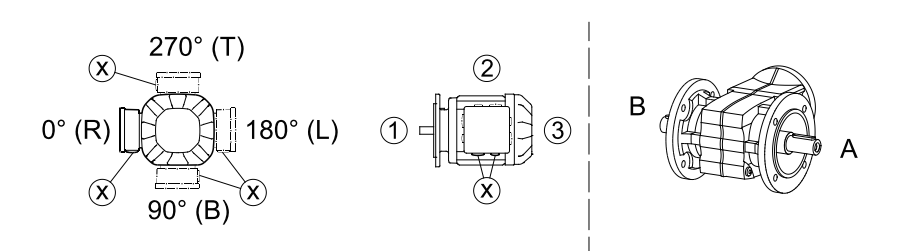


* (→ 103)

Observe the information in chapter "Overhung and axial loads of R.., F.., K.., S.., W.. gear units" (→ 108).

KF/KAF/KHF19 – 29

33 026 00 15



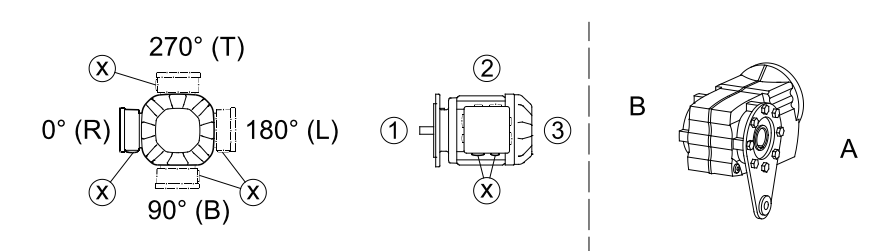
* (→ 103)

Observe the information in chapter "Overhung and axial loads of R., F., K., S., W.. gear units" (→ 108).

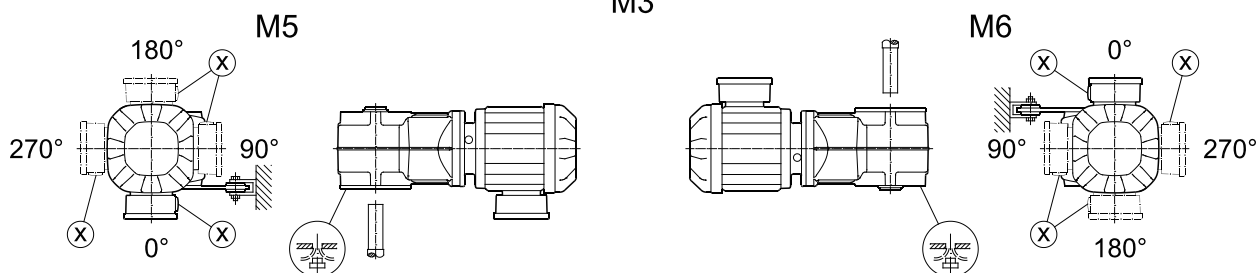
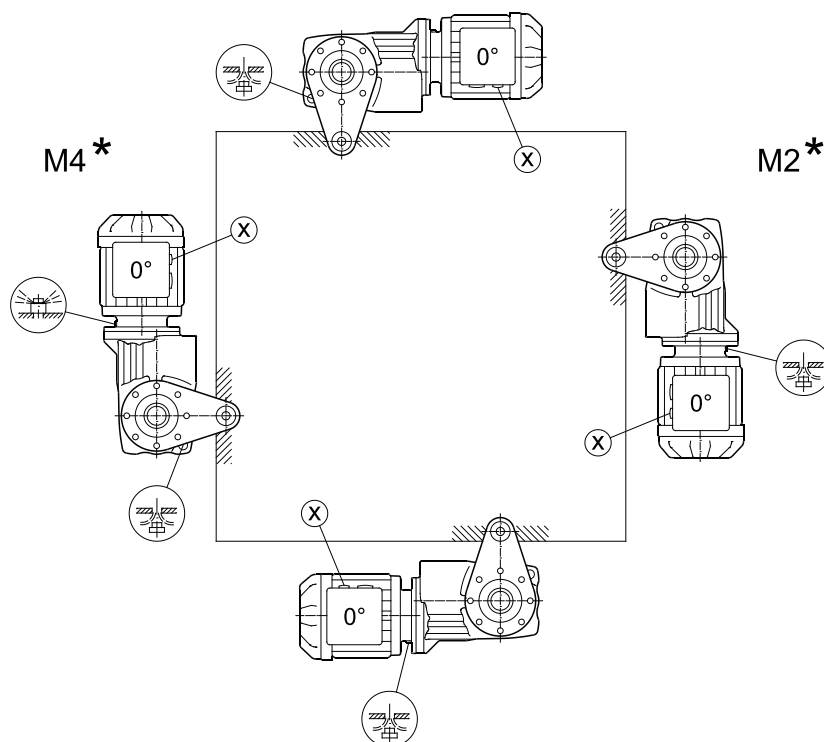
27782913/EN – 02/2023

KA/KH/KT19 – 29

33 027 00 15



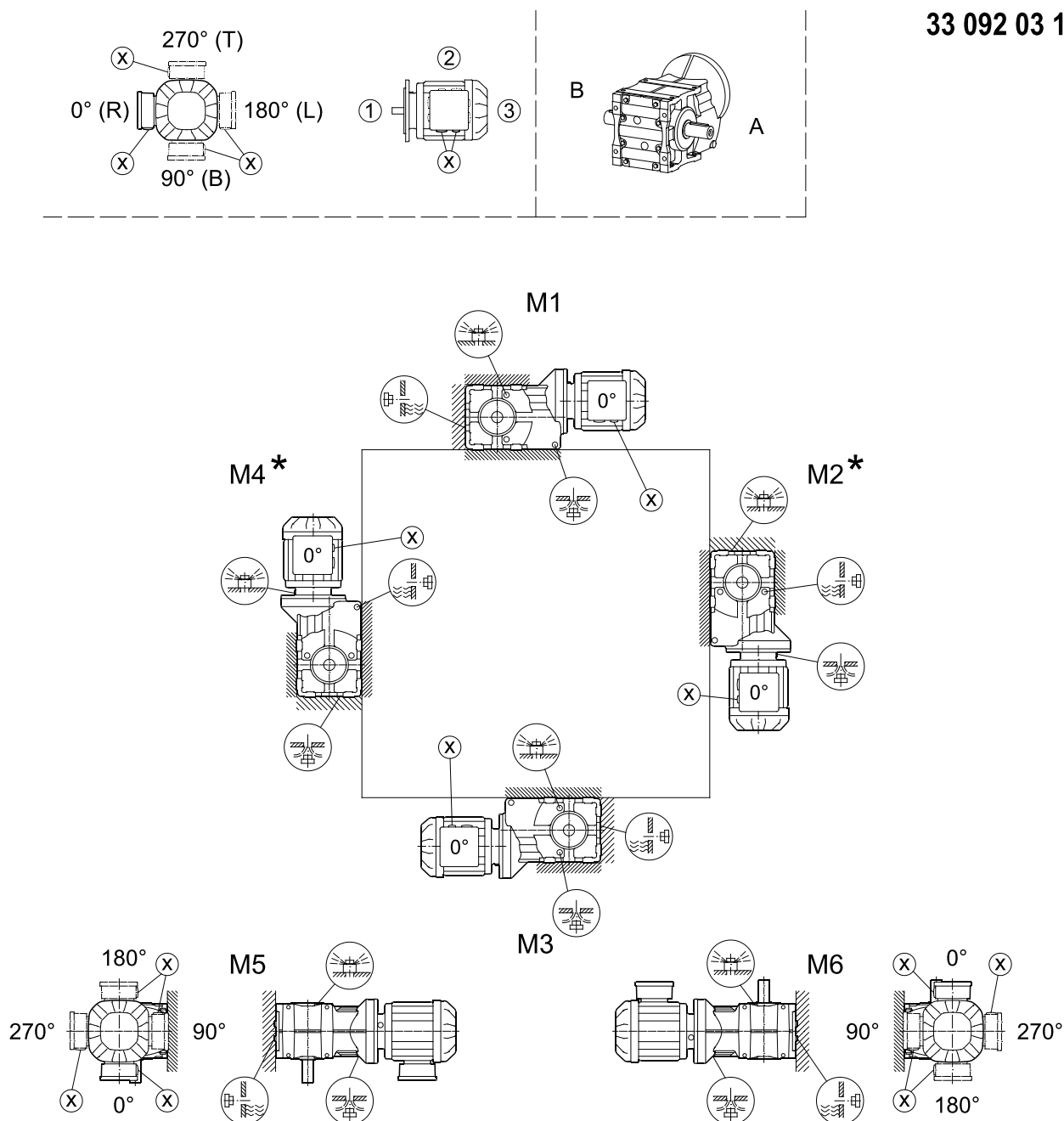
M1



* (→ 103)

K/KA...B39 – 49

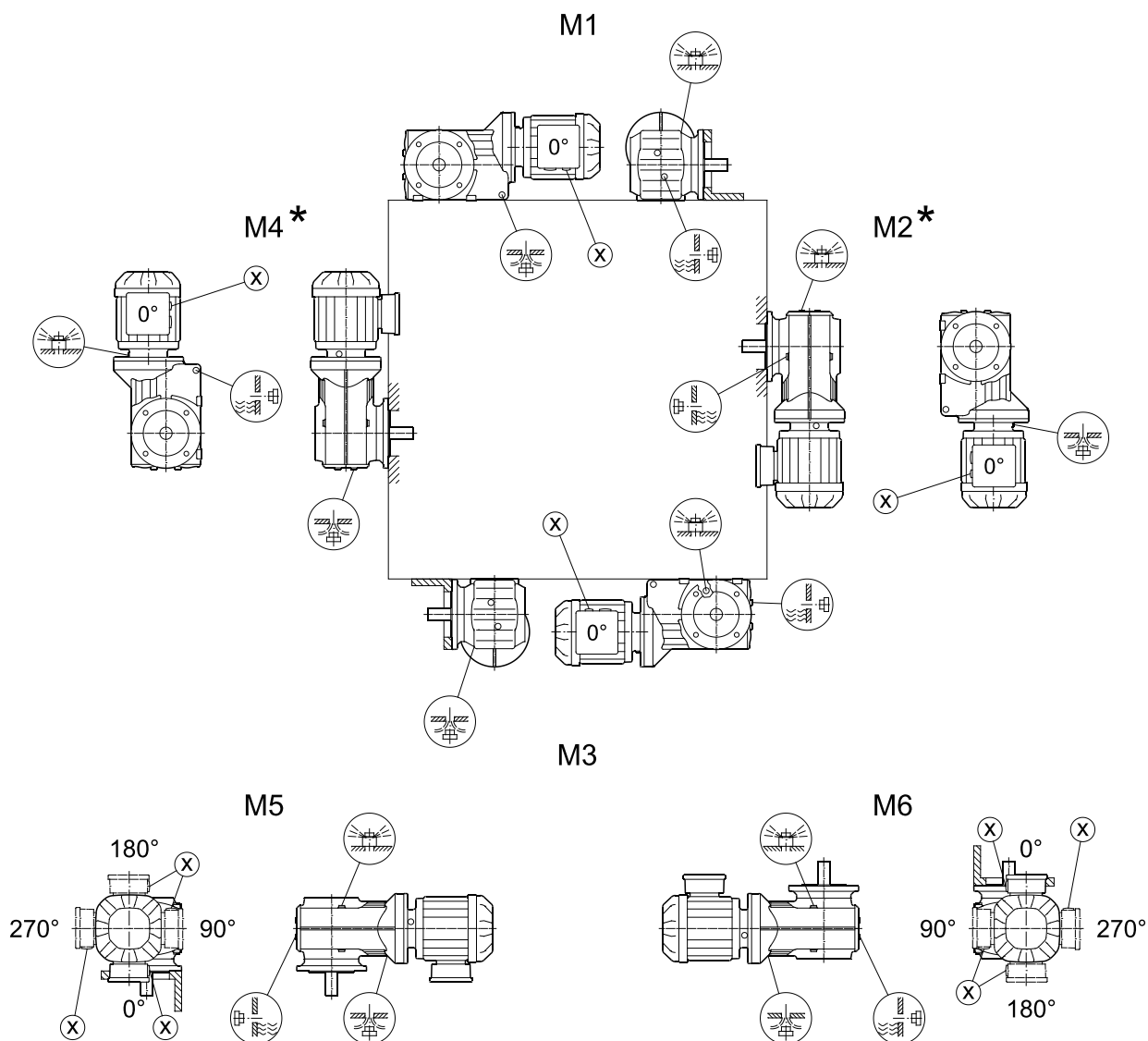
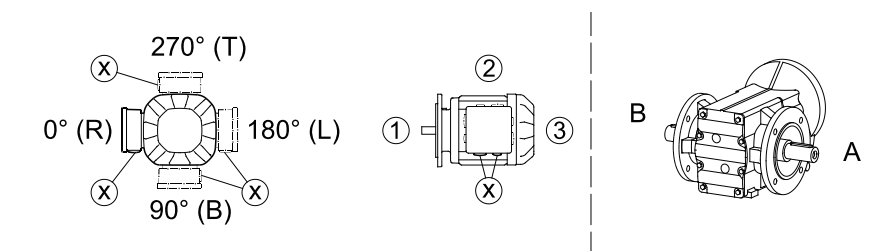
33 092 03 14



* (→ 103)

KF/KAF/KHF39 – 49

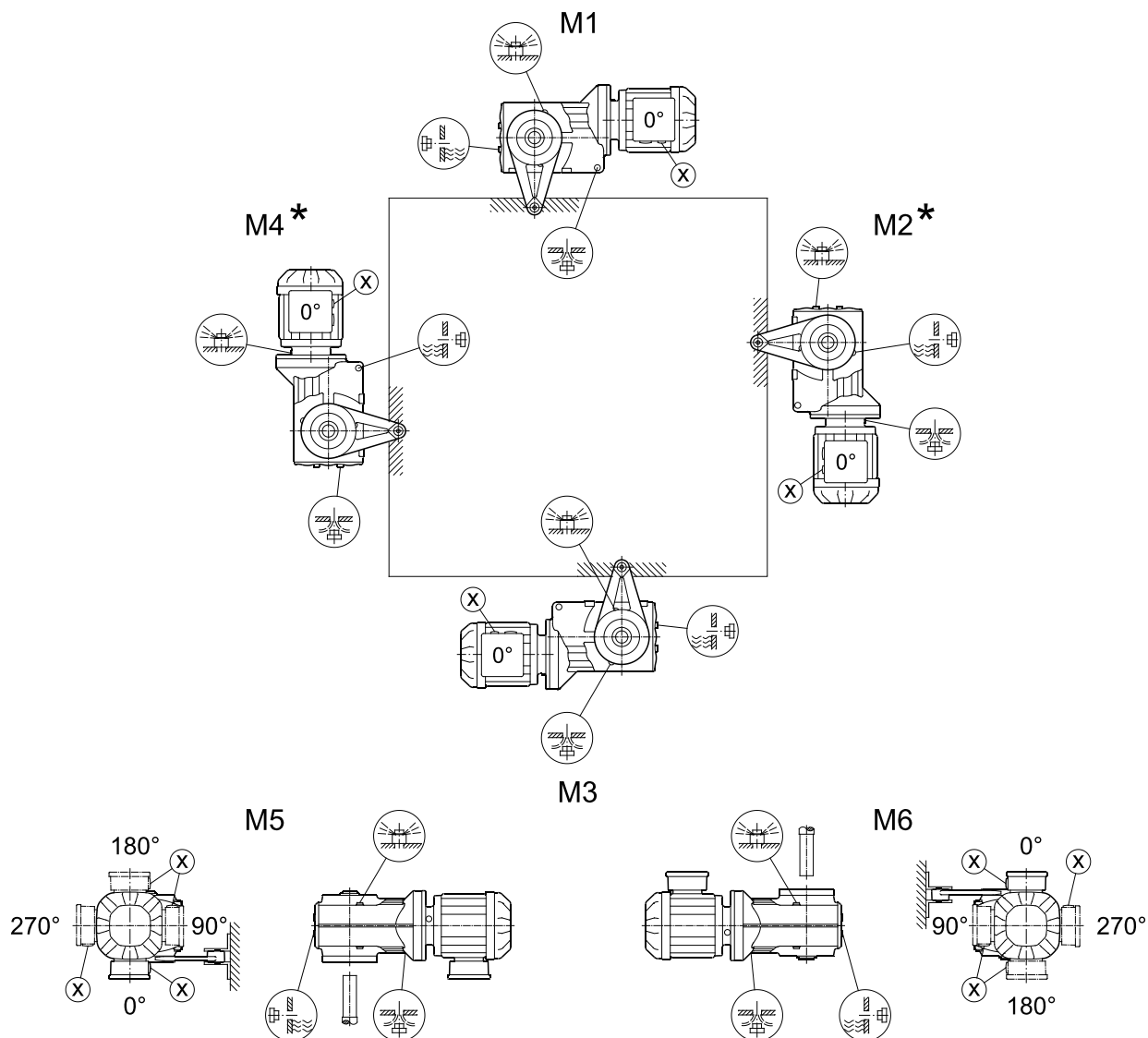
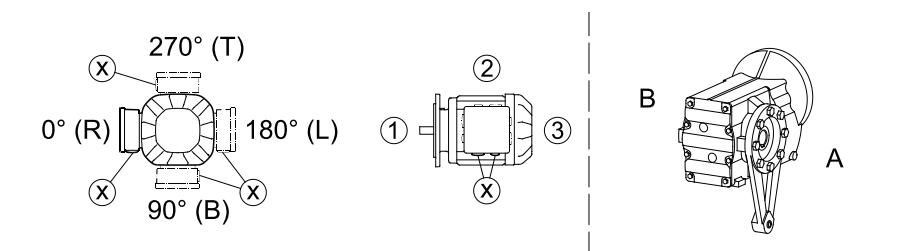
33 093 01 14



* (→ 103)

KA/KH/KT39 – 49

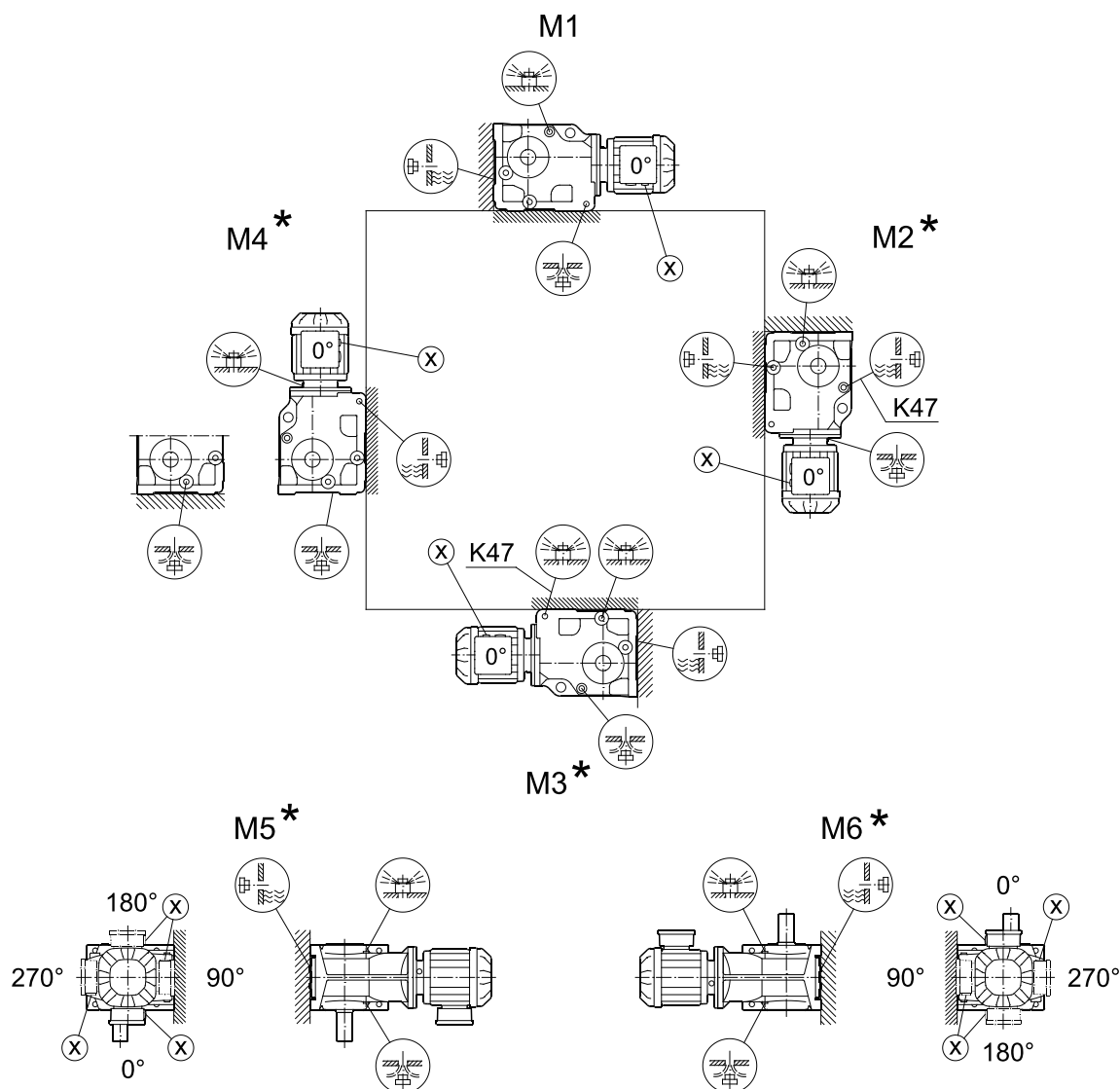
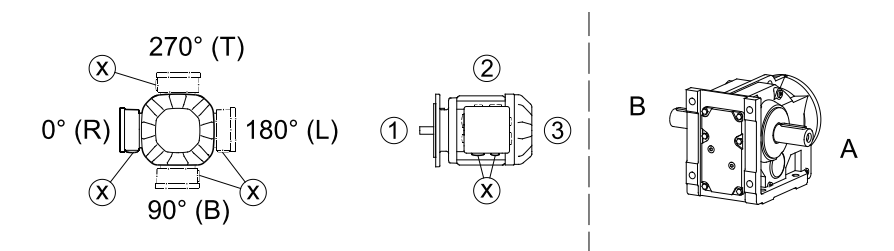
33 094 01 14



* (→ 103)

K37 – 157, KA..B/KH47B – 157B, KV47B – 107B

34 025 05 00

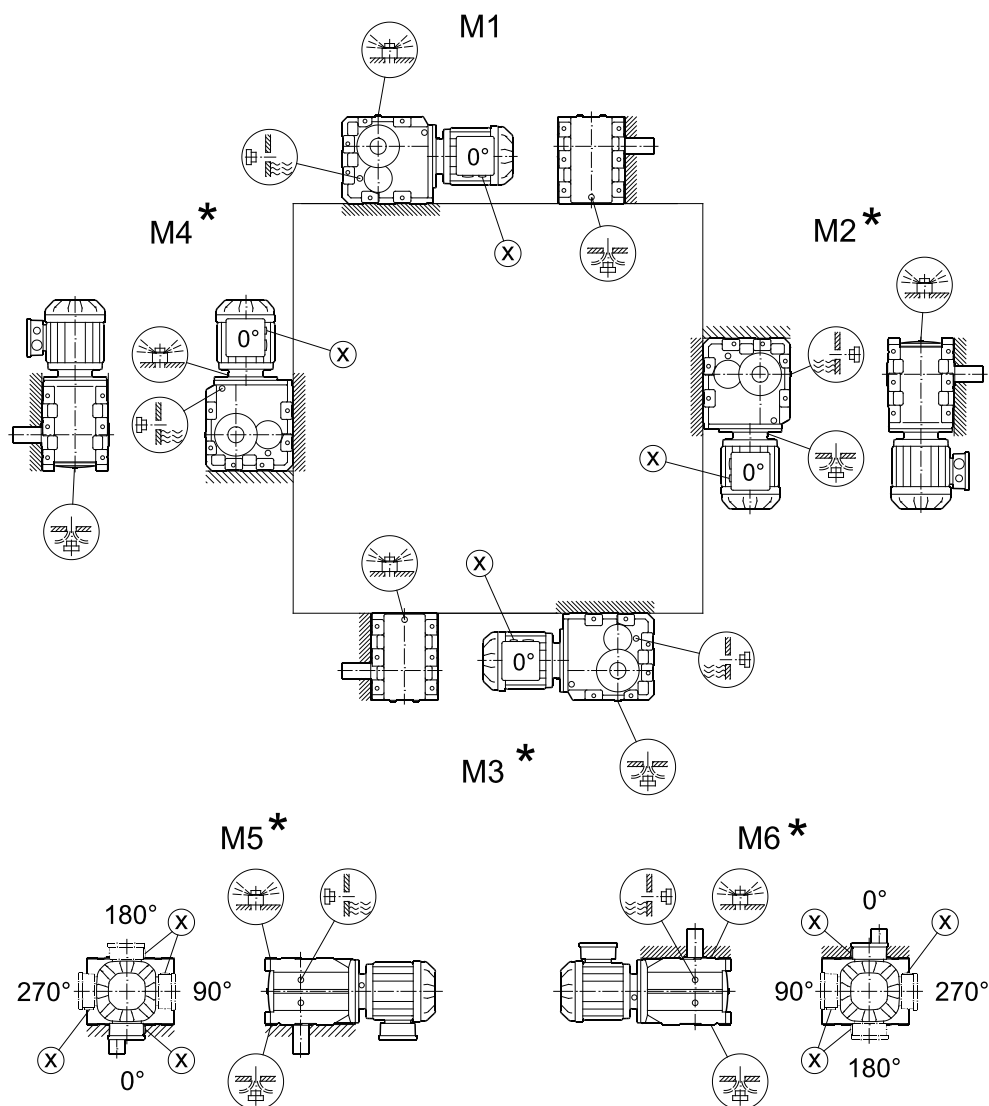
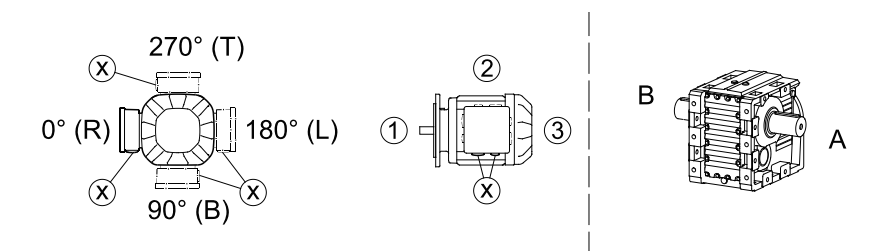


* (→ 103)

Observe the information in chapter "Overhung and axial loads of R., F., K., S., W.. gear units" (→ 108).

K167 – 187, KH167B – 187B

34 026 05 00

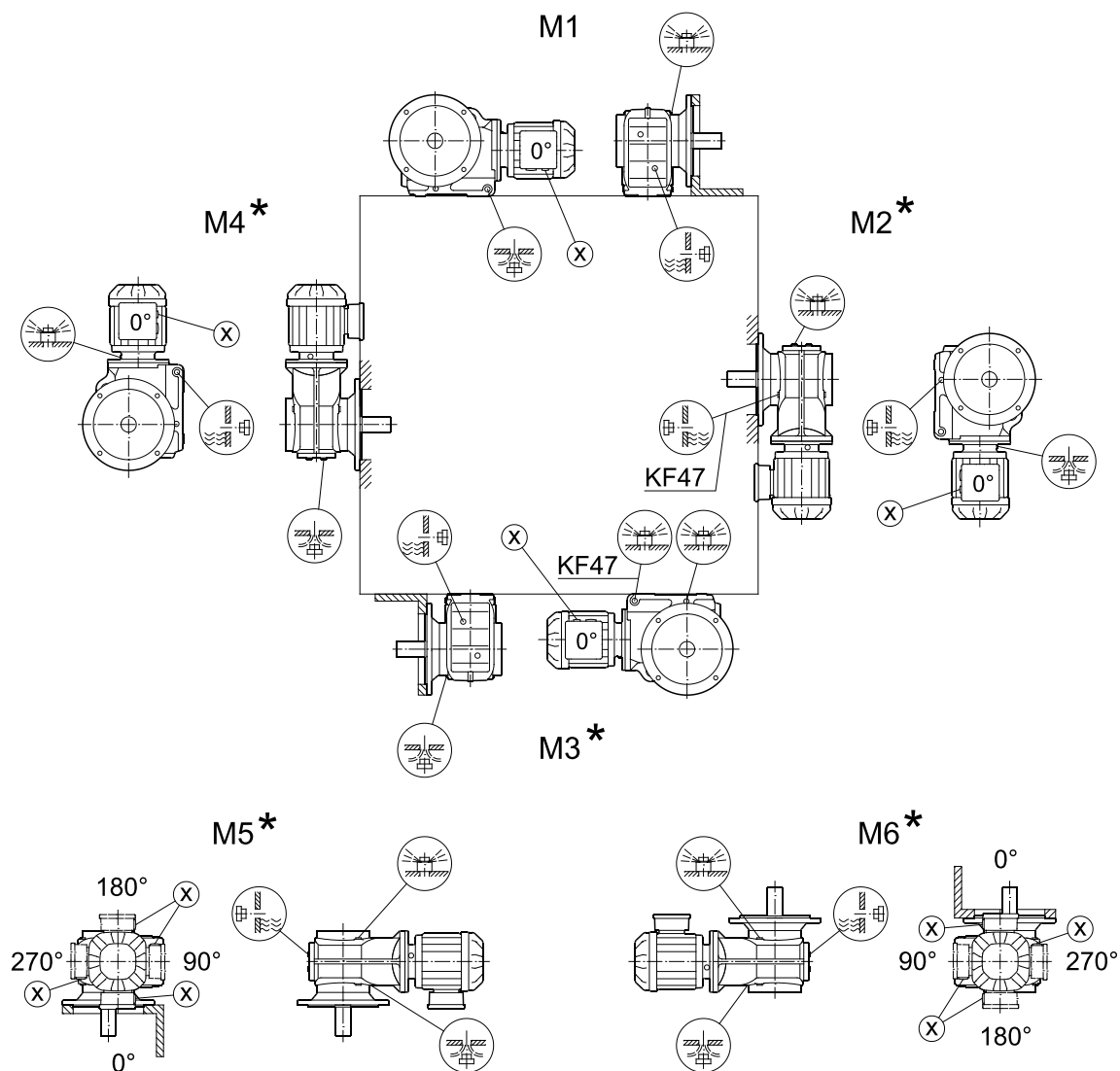
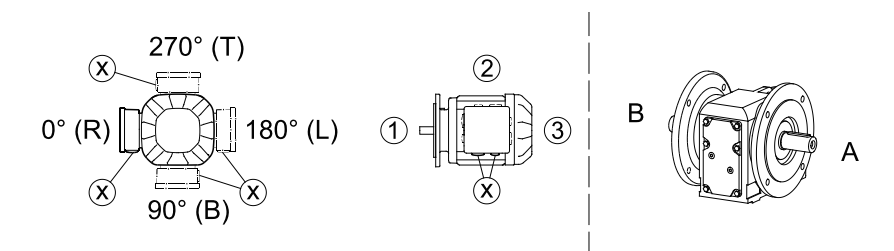


* (→ 103)

Observe the information in chapter "Overhung and axial loads of R..., F..., K..., S..., W... gear units" (→ 108).

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

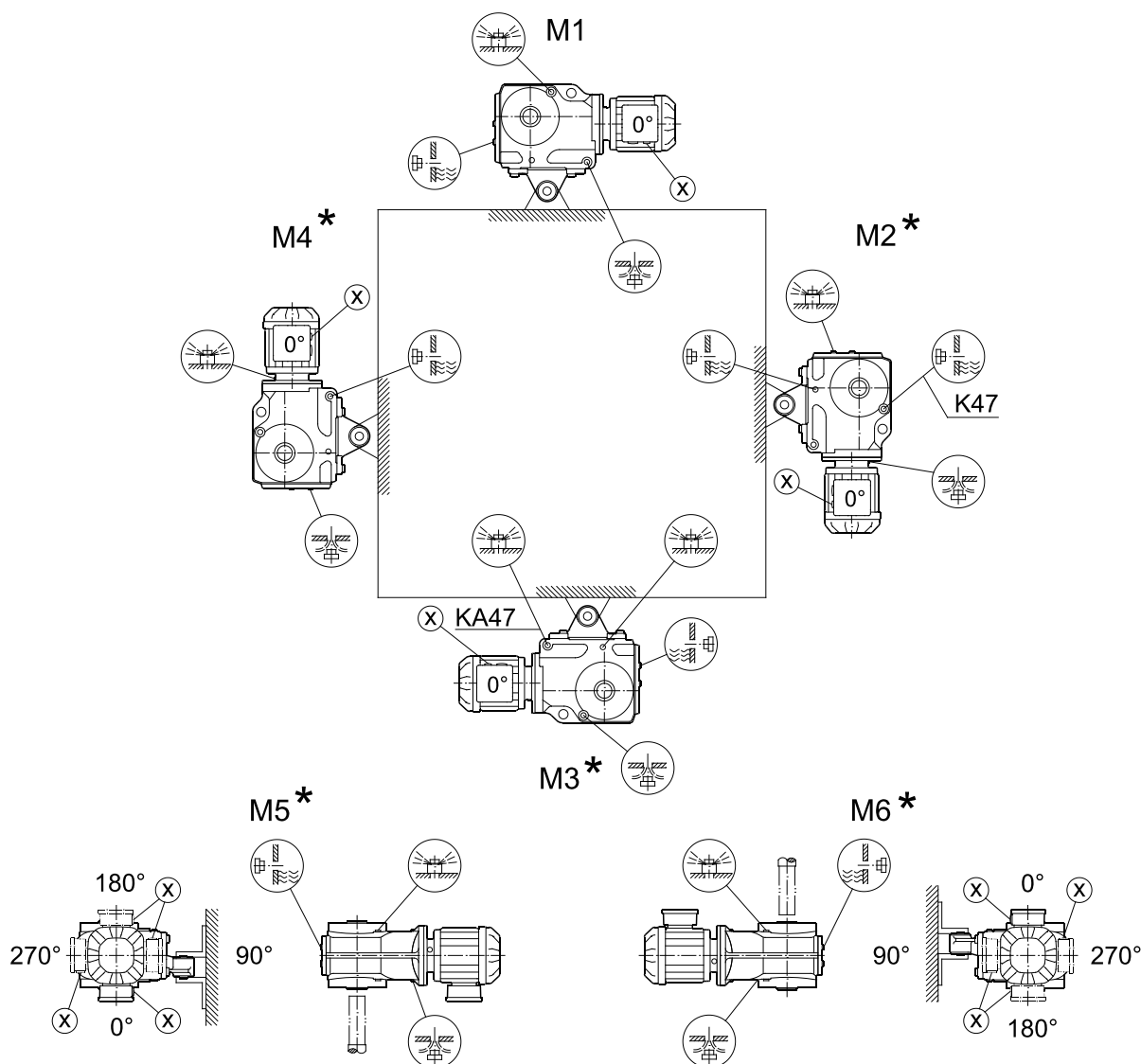
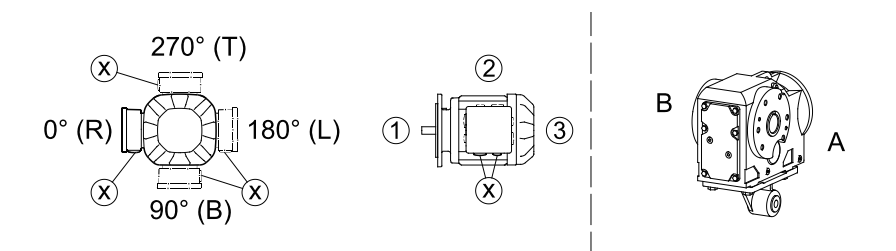
34 027 04 00



* (→ 103)

KA/KH37 – 157, KV37 – 107, KT37 – 157

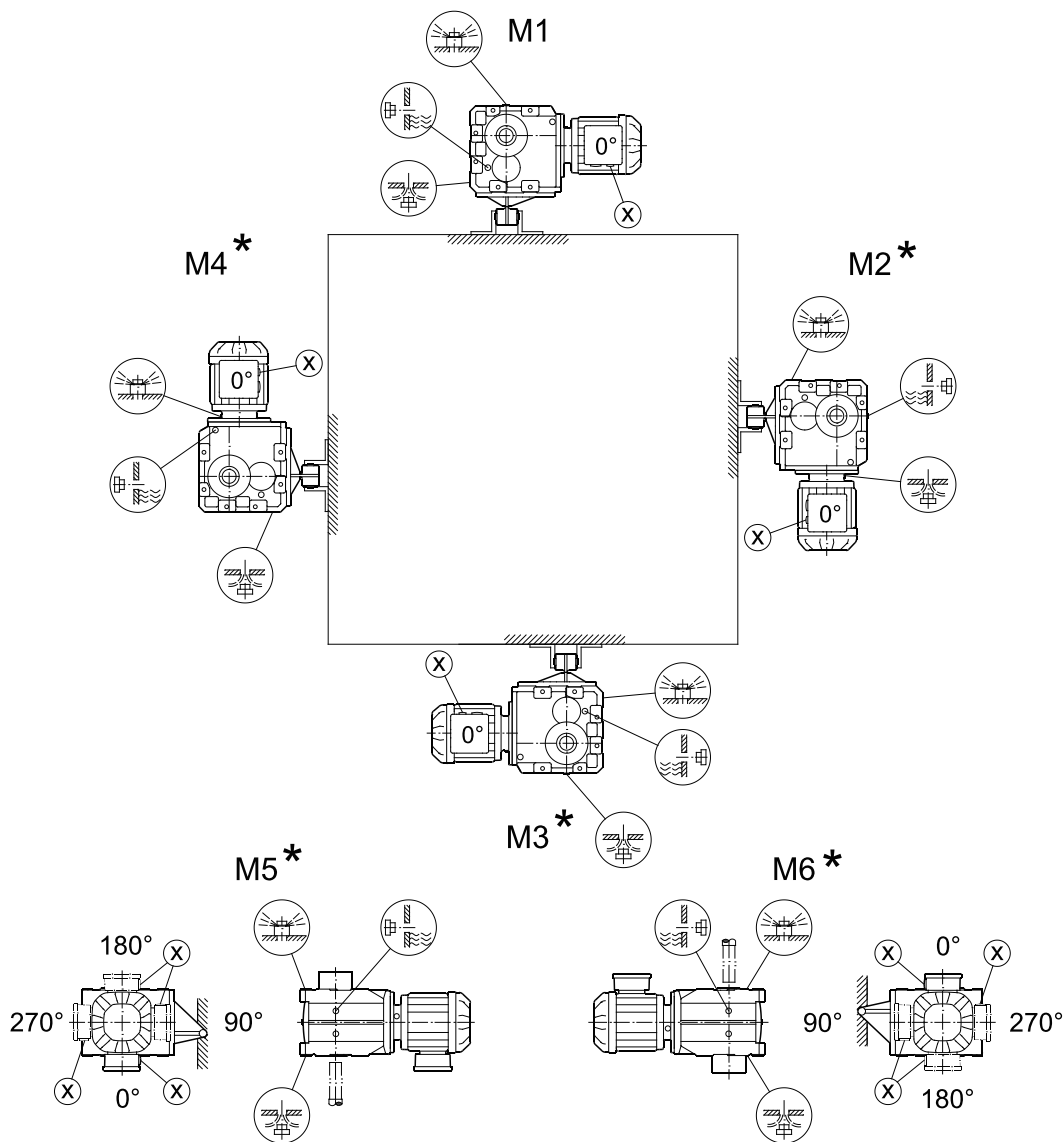
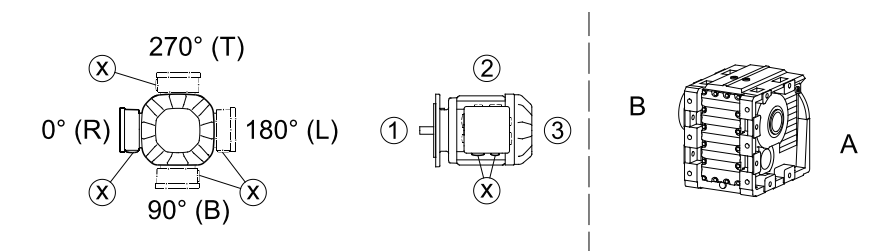
39 025 05 00



* (→ 103)

KH167 – 187

39 026 05 00

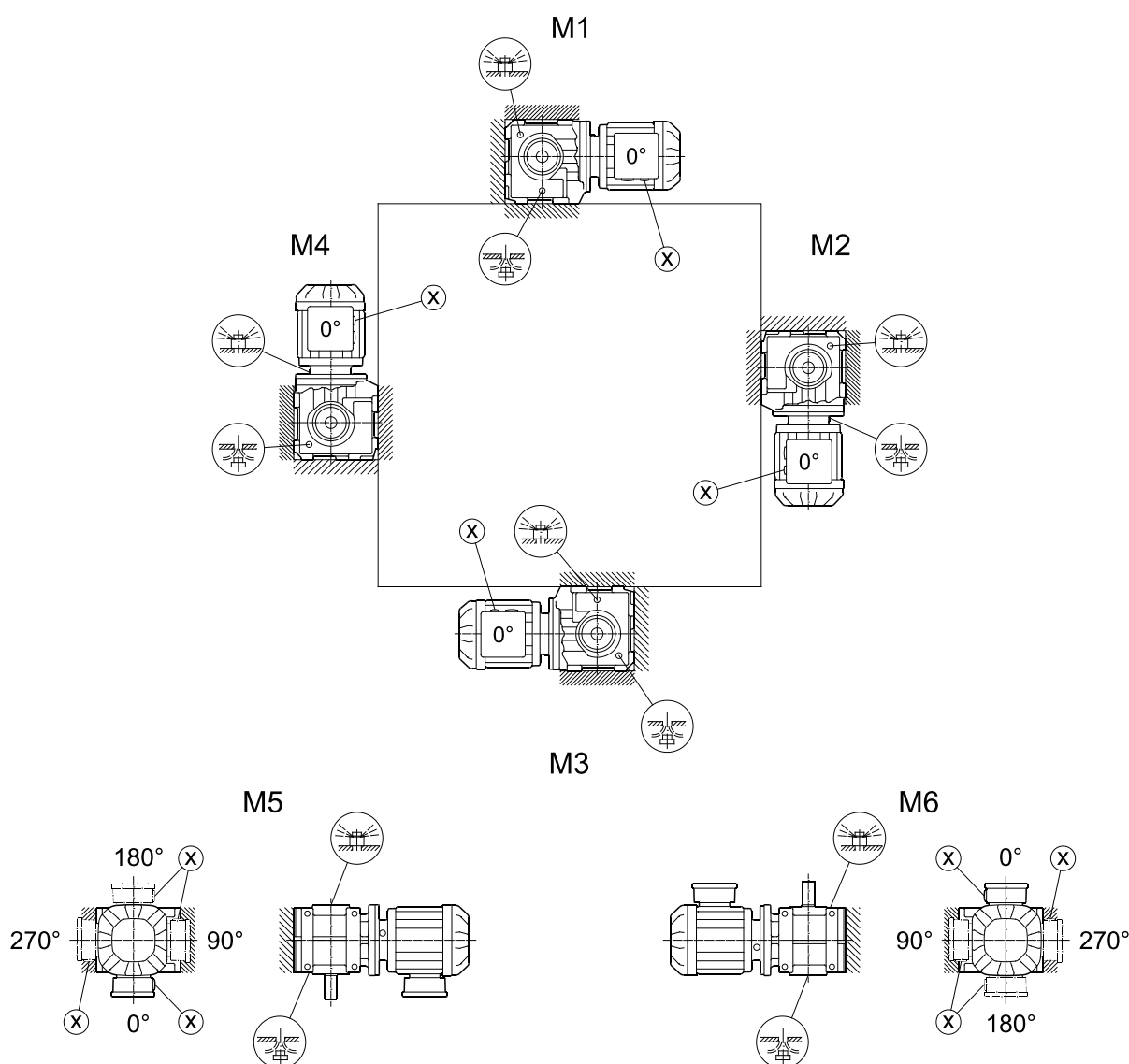
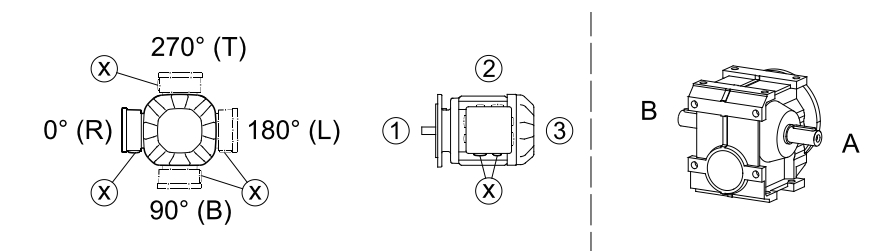


* (→ 103)

Mounting positions of helical-worm gear units

S37

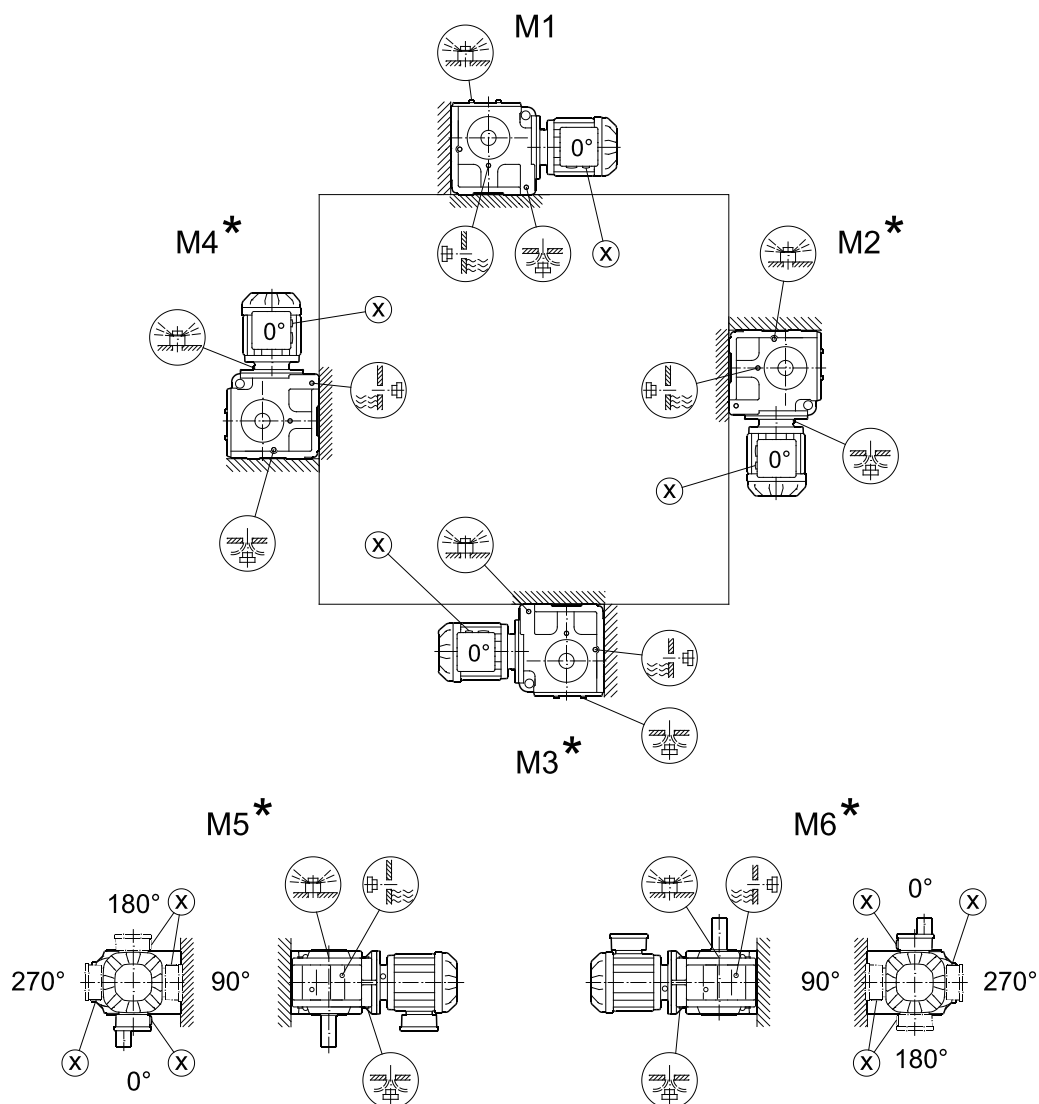
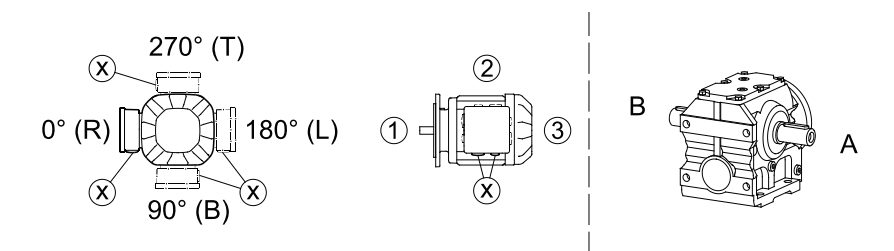
05 025 05 00



Observe the notes in chapter "Overhung and axial loads of R.., F.., K.., S.., W.. gear units" (→ 108).

S47 – S97

05 026 04 00

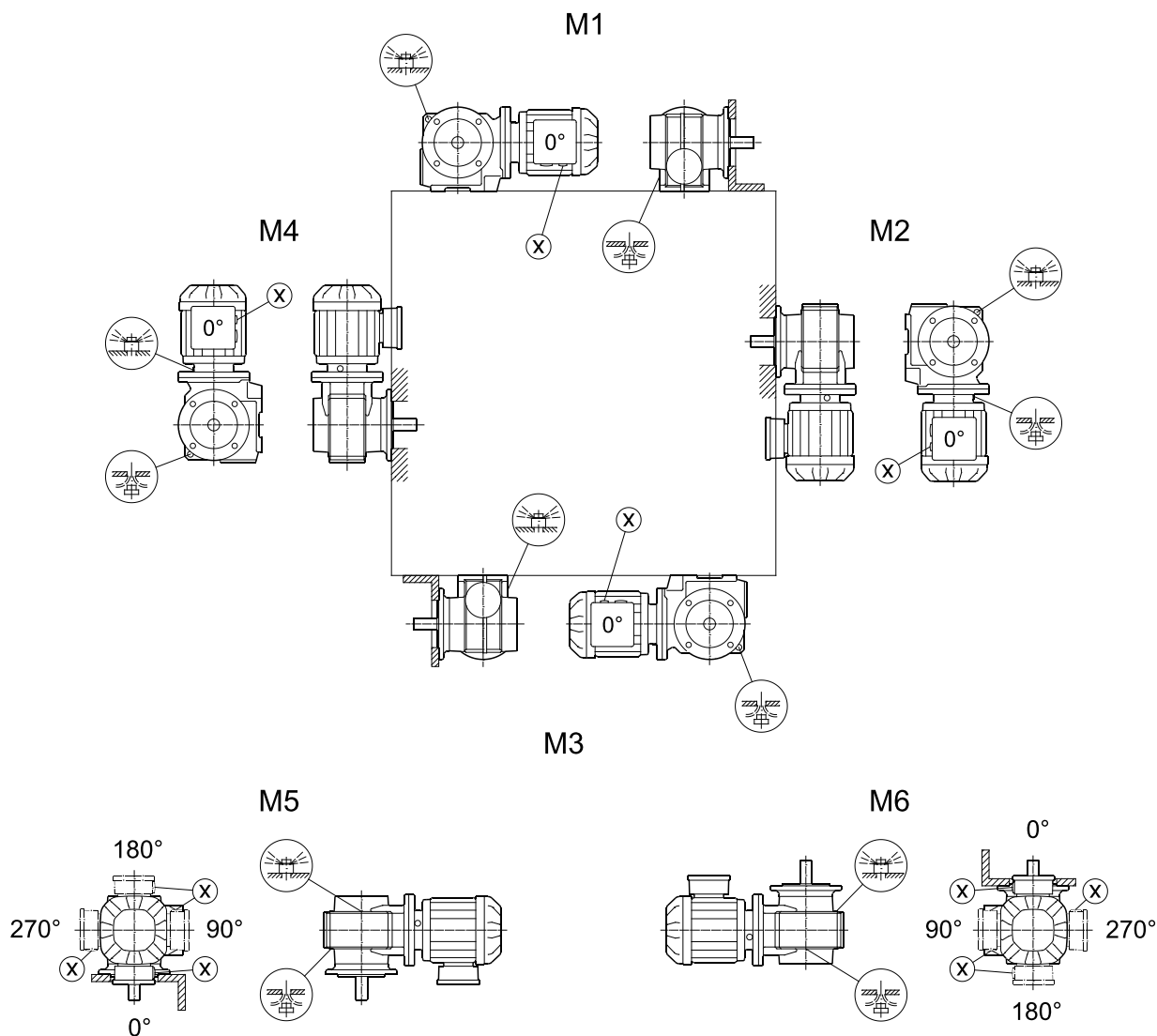
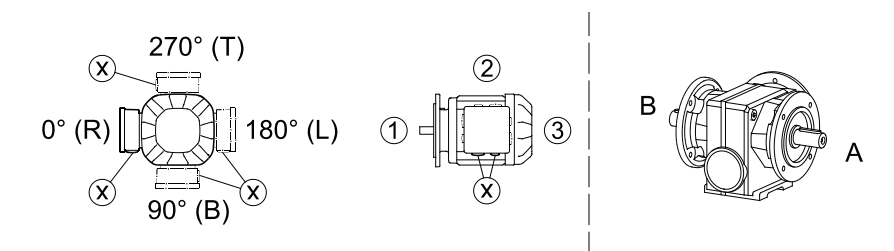


* (→ 103)

Observe the notes in chapter "Overhung and axial loads of R., F., K., S., W.. gear units" (→ 108).

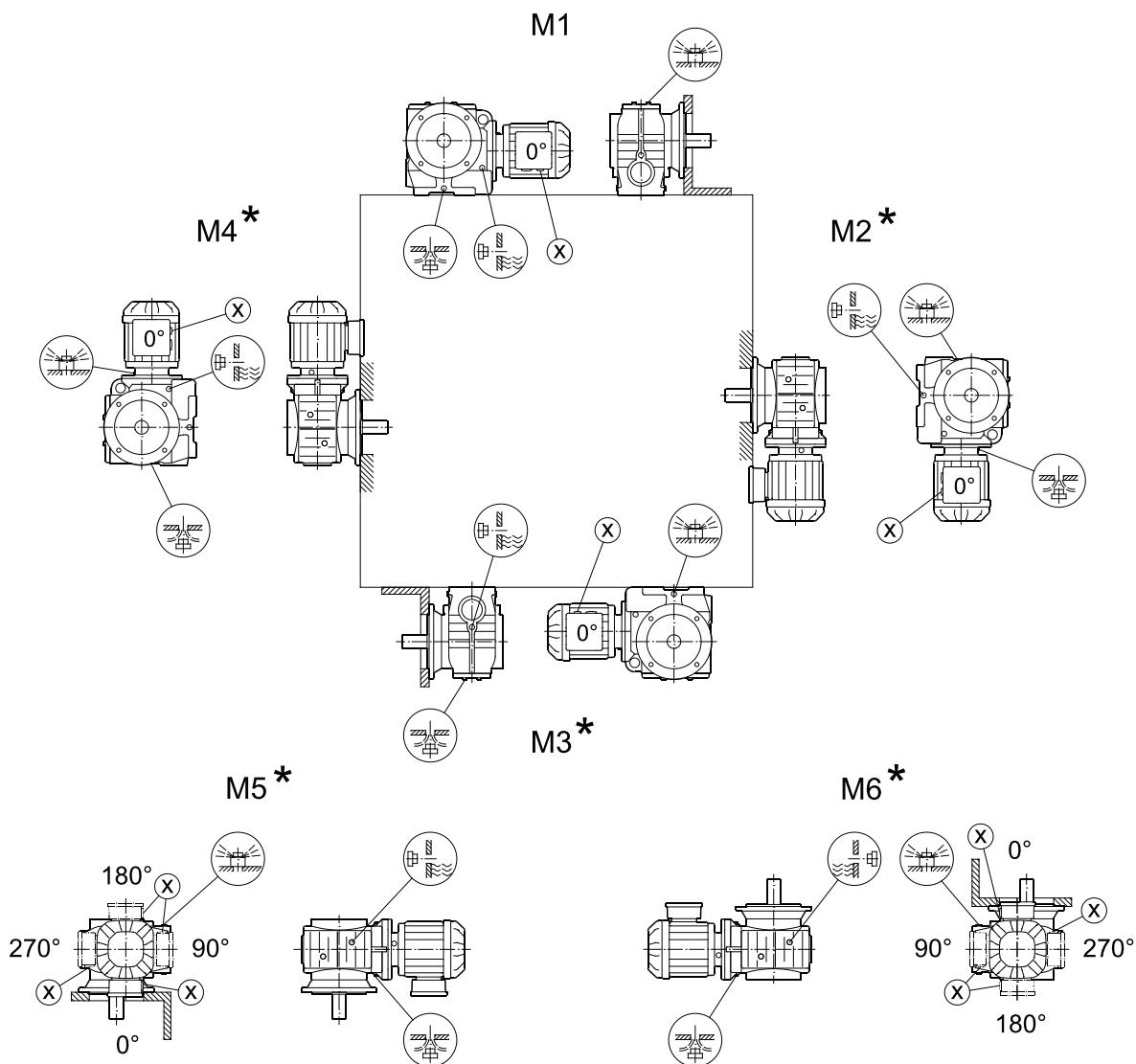
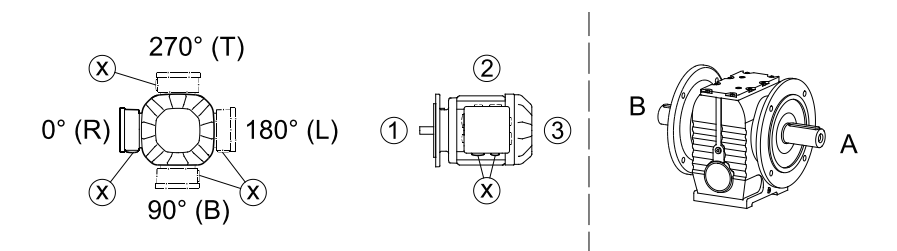
SF/SAF/SHF37

05 027 05 00



SF/SAF/SHF/SAZ/SHZ47 – 97

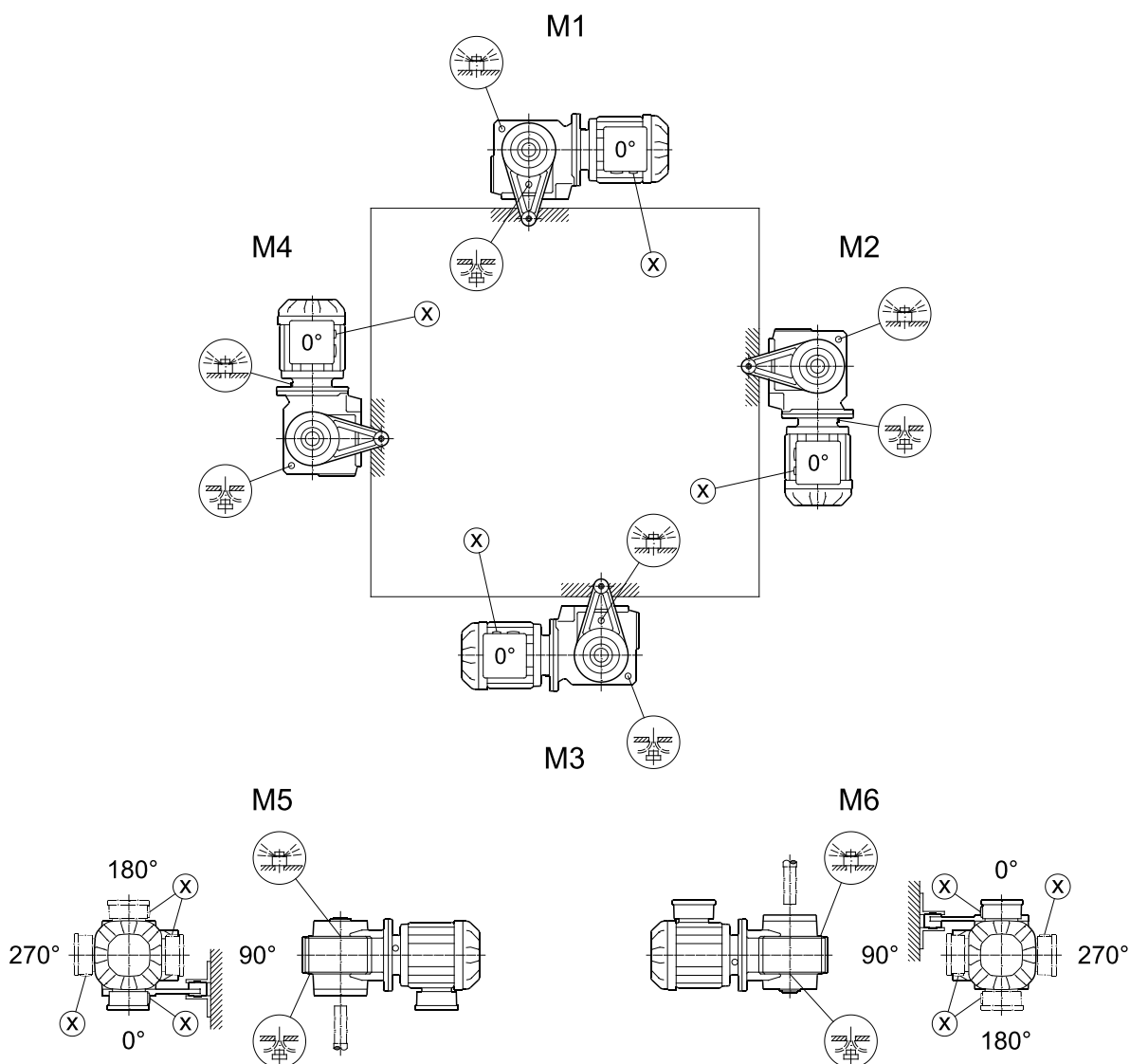
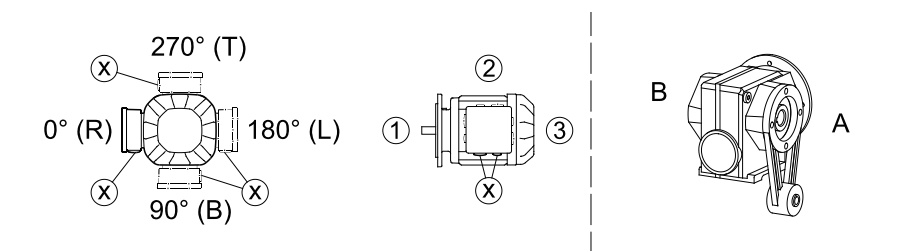
05 028 04 00



* (→ 103)

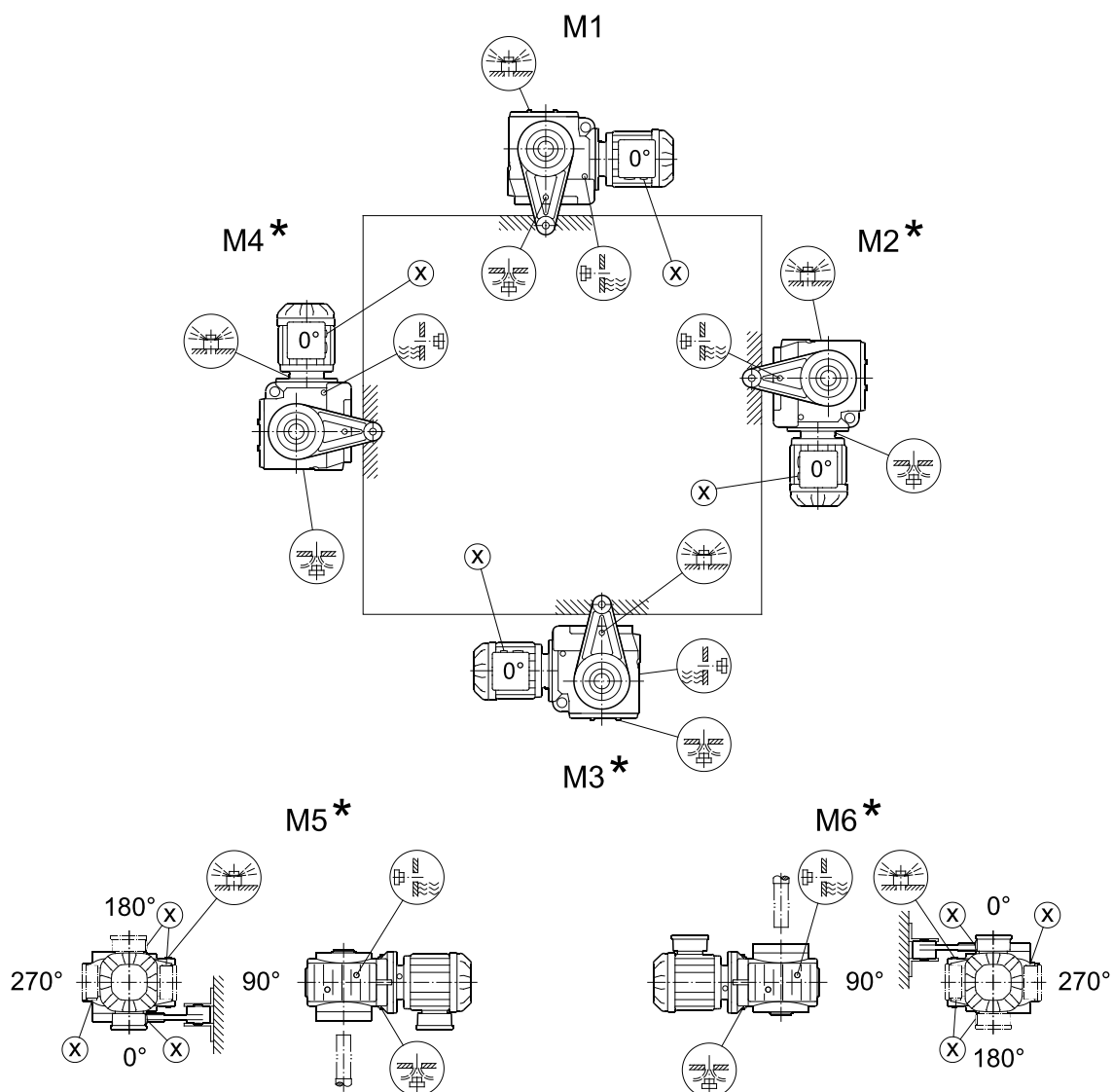
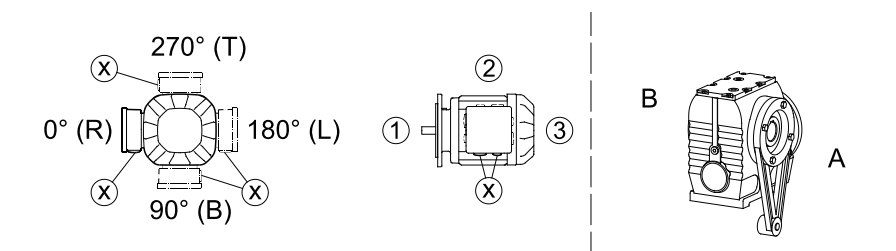
SA/SH/ST37

28 020 06 00



SA/SH/ST47 – 97

28 021 04 00

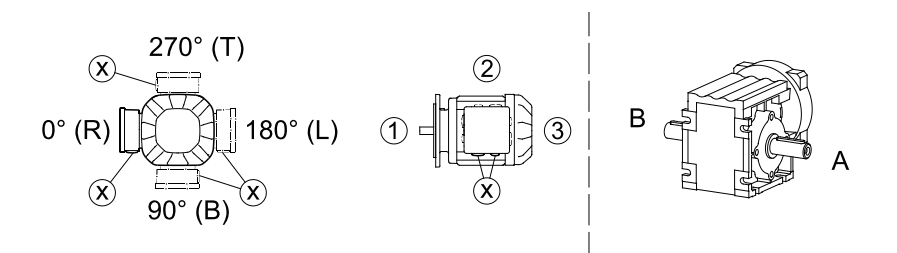


* (→ 103)

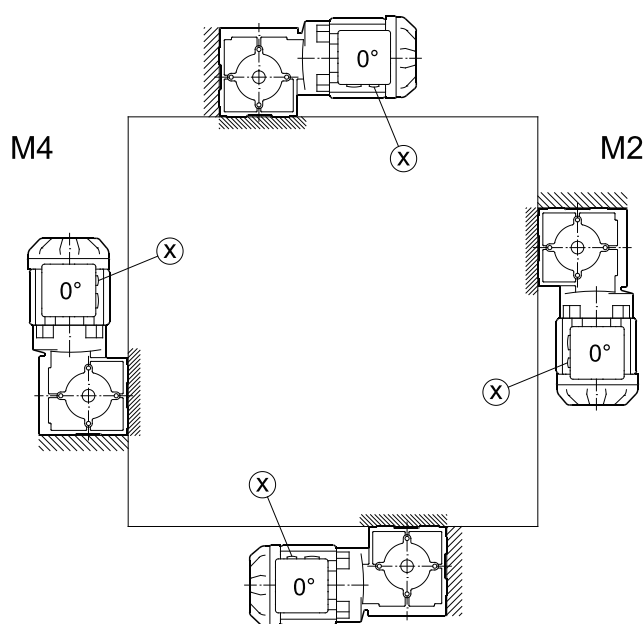
Mounting positions of SPIROPLAN® gear units

W10 – 30

20 001 02 02

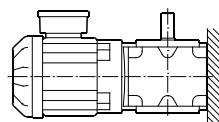
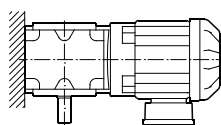
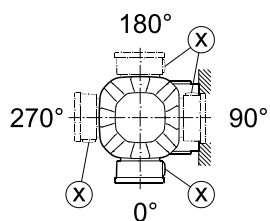


M1

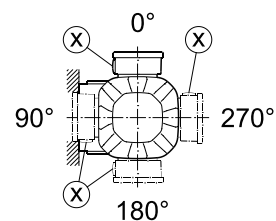


M3

M5

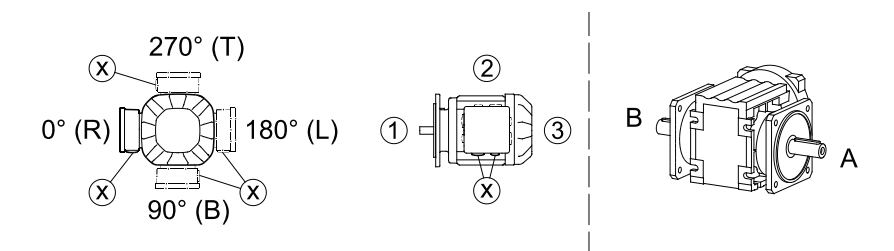


M6

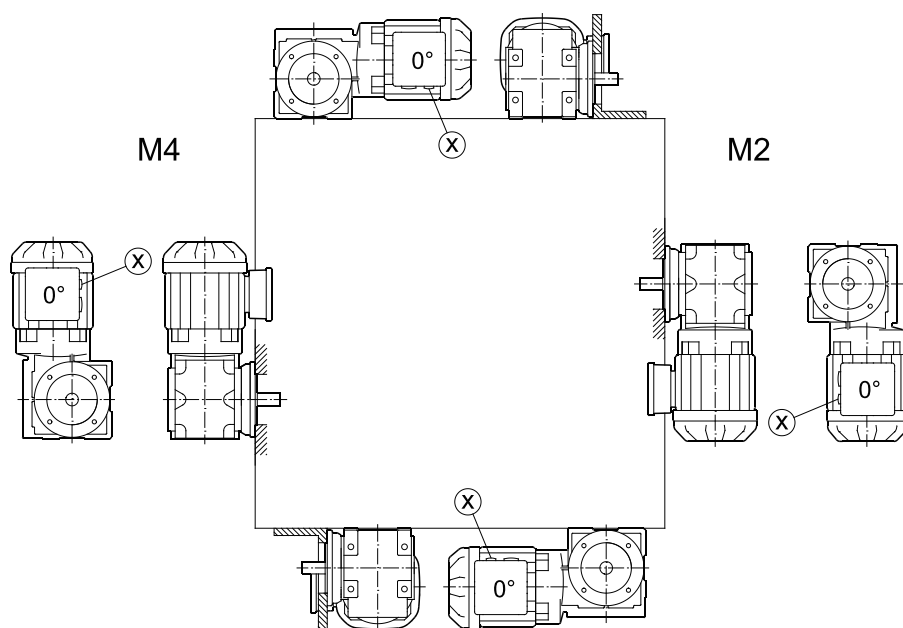


WF10 – 30

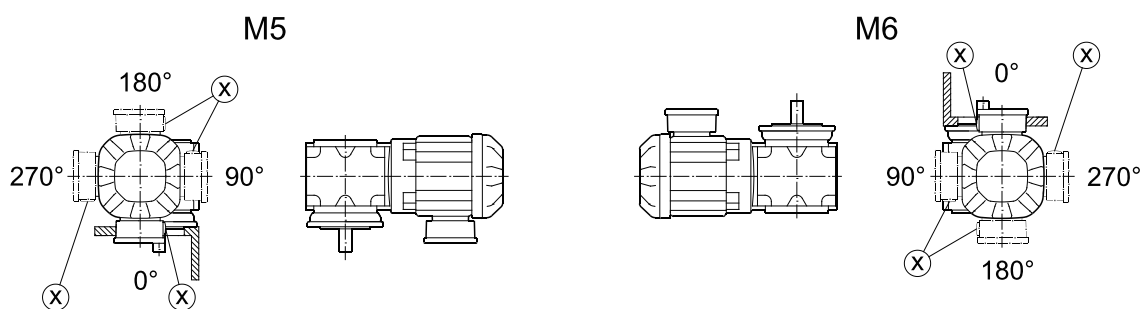
20 002 02 02



M1

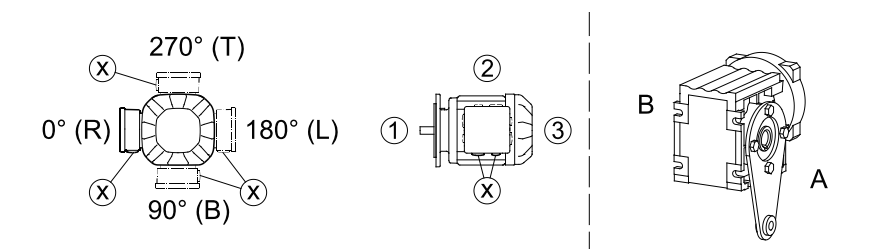


M3

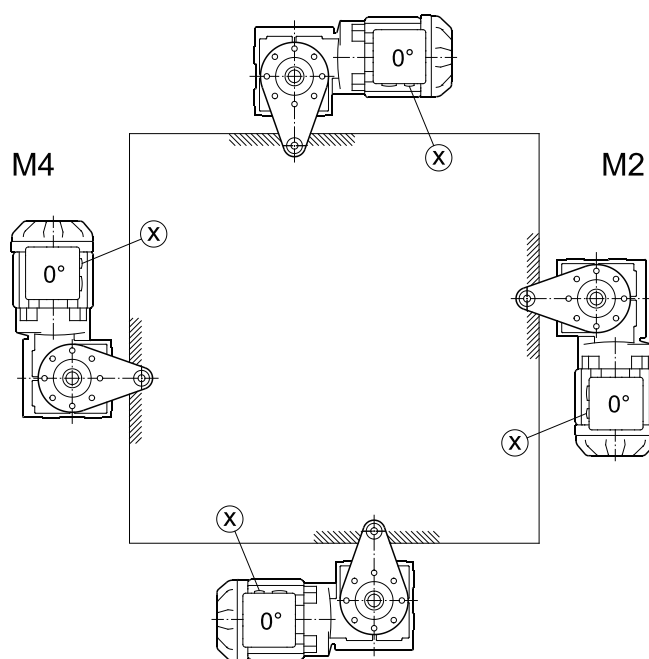


WA10 – 30

20 003 03 02

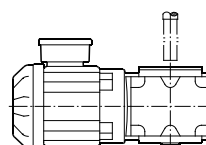
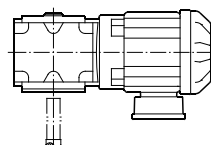
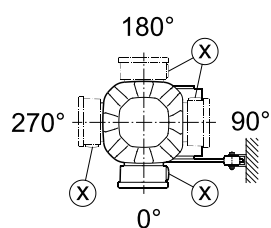


M1

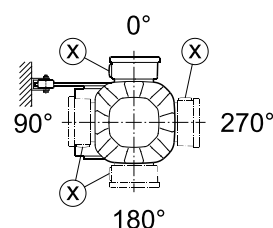


M3

M5

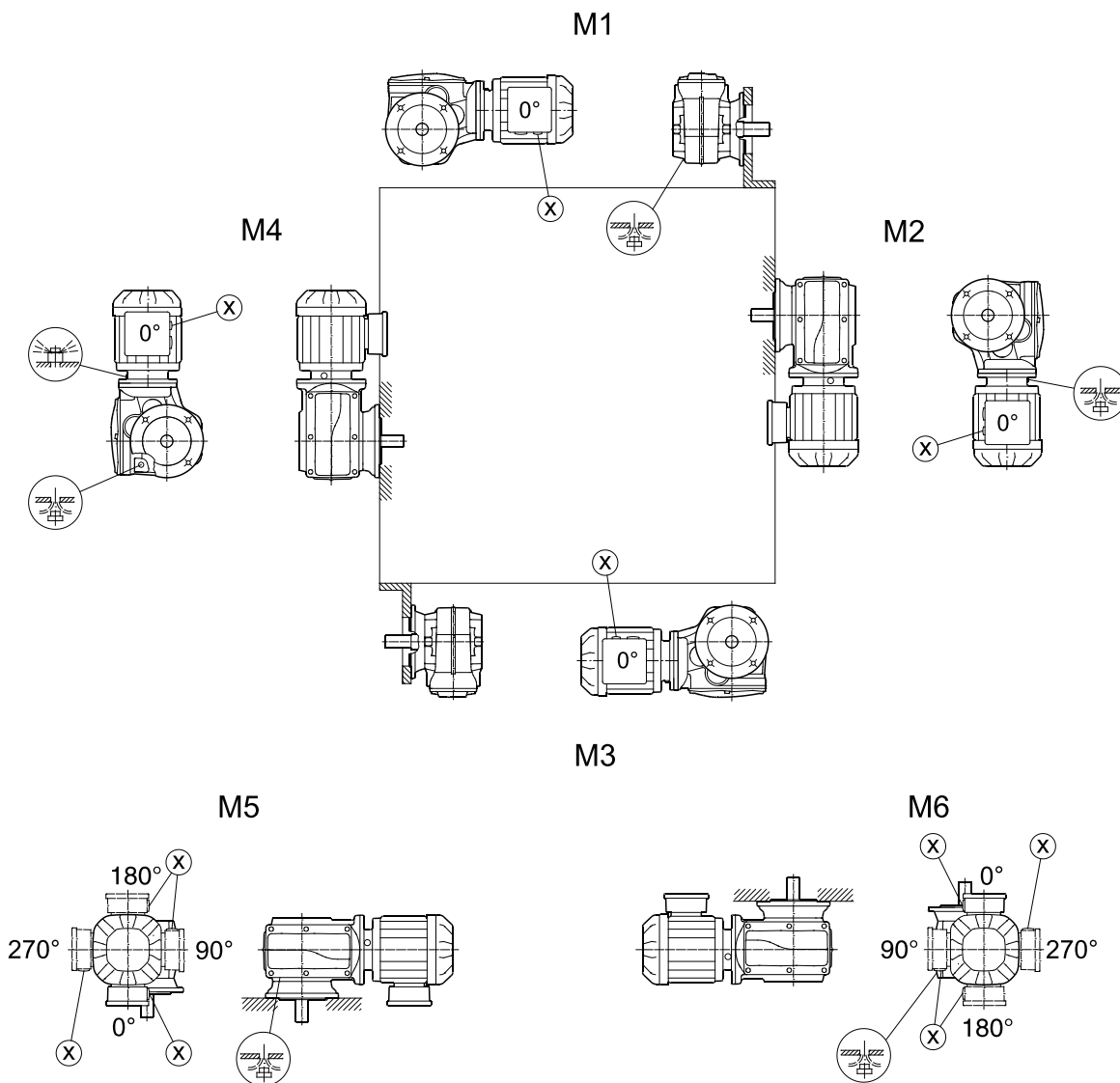
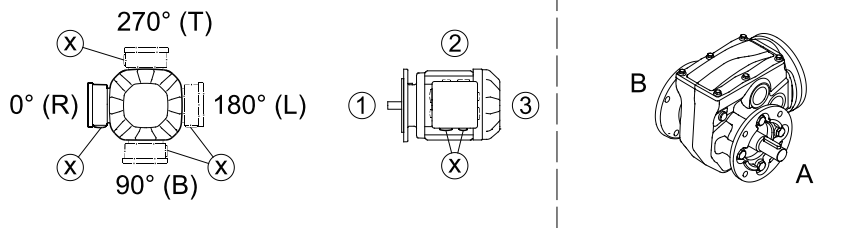


M6



WF/WAF19 – 59, WHF29 – 59

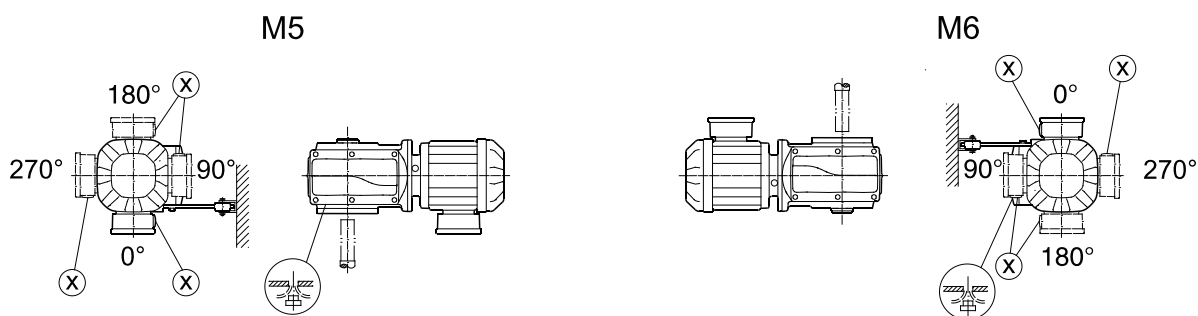
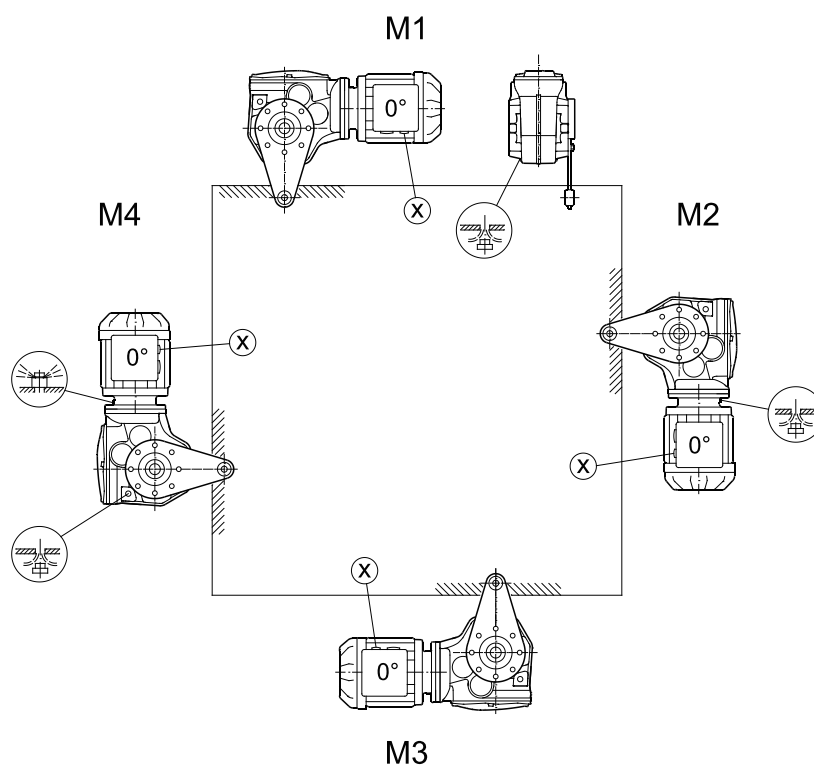
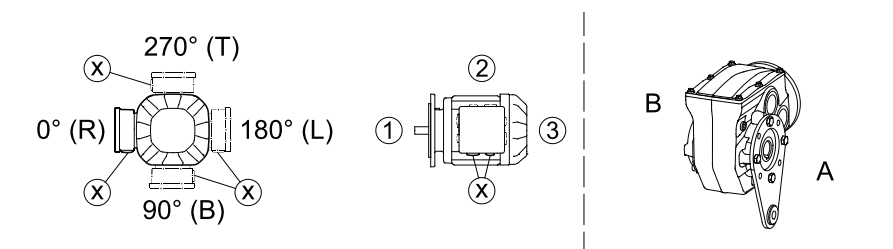
20 175 00 20



27782913/EN – 02/2023

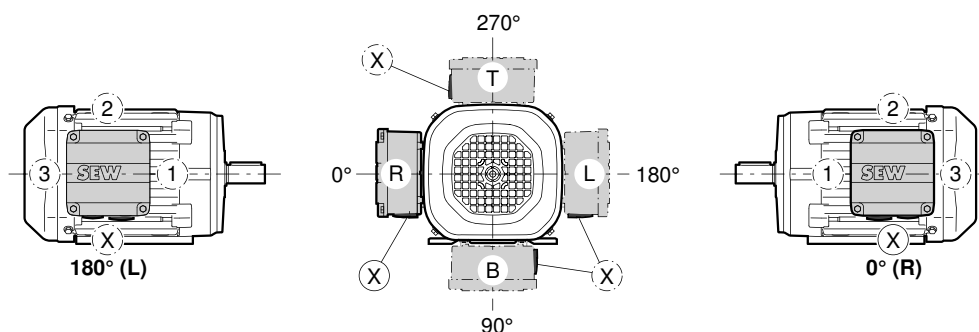
WA19 – 59, WH/WT29 – 59

20 176 00 20



5.4 Mounting positions of AC motors

5.4.1 Motor terminal box position and cable entry



5.4.2 Mounting positions

B3 	B6 	B7
B8 	V5 	V6
B5 	V1 	V15
B35 	V3 	V36
B14 	V18 	V17
B34 	V19 	V37
B65 	B75 	B85

6 Design and operating notes

6.1 Lubricants

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

6.1.1 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 seals 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.

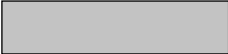
Refer to the following table for the amounts available to order and the respective part numbers:

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

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, please refer to the lubricant tables, see chapter "Lubricant table" (→ 164). Technical data sheets and safety data sheets are available from SEW-EURODRIVE on request.

6.1.2 GearFluid by SEW-EURODRIVE – CO₂-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 bio-waste 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 CO₂ 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 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 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.

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



= Lubricant suitable for the food and feed industry

39507923979

For further information on the use of GearOil lubricants and their essential technical properties, please refer to the lubricant tables, see chapter "Lubricant table" (→ 164). Technical data sheets and safety data sheets are available from SEW-EURODRIVE on request.

6.1.3 Grease by SEW-EURODRIVE – lubricant for rolling bearings

Lubricant	500 g cartridge
Grease HL2 E1	03041476
Grease HL2 H1 E1	03041484



= Lubricant suitable for the food and feed industry

39507923979

6.1.4 Bearing greases

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

The table shows the lubricants recommended by SEW-EURODRIVE:

Area of 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
 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.

The following grease quantities are required:

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

6.1.5 Lubricant table

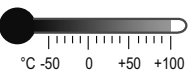
The lubricant recommendation provided in the lubricant table in no way represents a guarantee as to the quality of the lubricant delivered by each respective supplier. Each lubricant manufacturer is responsible for the quality of their product.

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

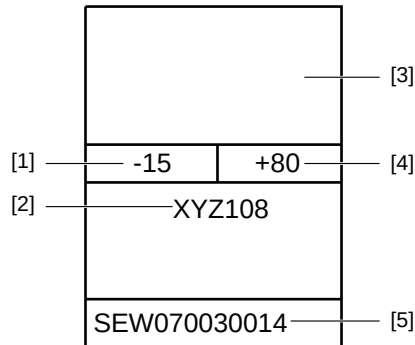
[1] 	[2] 		[3] ISO, SAE NLGI	
R..	-15	+40	CLP HC - NSF H1 - PSS 	VG 460
	-25	+30		VG 220
			[4]	[5]

18014416412986635

- [1] Gear unit type
- [2] Ambient temperature range
- [3] Viscosity class
- [4] Note on 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.

Approved application temperature range of the oil seals

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

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

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

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

Examples:

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

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

Key

The following table shows the symbols and abbreviations used in the 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.
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.

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 limit of the oil seal material, see chapter "Lubricant compatibility with oil seals" (→ 165).

[3] °C -50 0 +50 +100	[1]	[2]	ISO SAE NLGI	SEW EURODRIVE	brenner & lauritzen	Castrol	FUCHS	Mobil	LUBBERSYTH	Shell	SINOPEC	TOTAL
[4] -25	+80	CLP PG	VG 220	GearOil Poly 220 E1 SEW070040313		Optigear Synthetic 800/220	Renolin PG220	Mobil Glycole 220	Klubersynth GH 6-220	Shell Omala S4 WE 220		Cater SY 220
-30	+70		VG 150	GearOil Poly 150 E1 SEW070040313					Klubersynth GH 6-150			
[4] -25	+80	CLP PG (PSS)	VG 220	GearOil Poly 220 E1 SEW070040313					Klubersynth GH 6-220			
-30	+70		VG 150	GearOil Poly 150 E1 SEW070040313					Klubersynth UH1 6-150			
-25	+80	CLP PG PCF (PSS)	VG 220	GearFluid Poly 220 E1 SEW070040313								
[4] -25	+40	CLP PG NSF H1 (PSS)	VG 220	GearOil Poly 220 H1 E1 SEW070040313					Klubersynth UH1 6-220			
-20	+80		VG 460	GearOil Poly 460 H1 E1 SEW070040313					Klubersynth UH1 6-460			
-30	+30		VG 150	GearOil Poly 150 H1 E1 SEW070040313					Klubersynth UH1 6-50			

R..
RES
K..7
KES
HK..
F..



- [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 limit of the oil seal material, see chapter "Lubricant compatibility with oil seals" (→ 165).

[3] °C -50 0 +50 +100	[1] 	[2] CLP HC	ISO SAE NLGI	SEW EURODRIVE	b bremer & leguit		FUCHS	Mobil®		Shell	SINOPEC	
[4] -25			3) VG 220	GearOil Synth 220 E1/US1 SEW070040313			Renolin Unisyn CLP220	Mobil SHC 630	Klüber GEM 4-220 N	Shell Omala S4 GX 220		-25 +110 Cater SH 220
-30			3) VG 150	GearOil Synth 150 E1/US1 SEW070040313			Renolin Unisyn CLP150	Mobil SHC 629	Klüber GEM 4-150 N	Shell Omala S4 GX 150		-30 +95 Cater SH 150
-35			VG 68				Renolin Unisyn CLP68	Mobil SHC 626		Shell Omala S4 GX 68		
-40			VG 32				Renolin Unisyn OL32	Mobil SHC 624				-40 +50 Dacnis SH 32
[4] -25			3) VG 220	GearOil Synth 220 E1/US1 SEW070040313				Mobil SHC 630				
-30			3) VG 150	GearOil Synth 150 E1/US1 SEW070040313				Mobil SHC 629				

R.: RES

K.: 7

KES

HK.: F.



[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 limit of the oil seal material, see chapter "Lubricant compatibility with oil seals" (→ 165).

[3] [°C -50 0 +50 +100] [4]	[1] [2]	ISO SAE NLGI	SEW EURODRIVE	brenner & leguit	Castrol	FUCHS	Mobil	KLOBER LUBRICATION	Shell	SINOPEC	TOTAL
[4] -15 +40	[1] [2] CLP HC NSF H1	VG 460	GearOil Synth 460 H1 E1/US1 SEW070040313	Cassida Fluid GL 460 SEW070040313	Optileb GT 460 SEW070040313	Cassida Fluid GL 460		Küberoil 4UH1-460 N			
[4] -25 +30	[1] [2] CLP HC NSF H1	VG 220	GearOil Synth 220 H1 E1/US1 SEW070040313	Cassida Fluid GL 220 SEW070040313	Optileb GT 220 SEW070040313	Cassida Fluid GL 220		Küberoil 4UH1-220 N			
[4] -35 0	[1] [2] CLP HC NSF H1	VG 68		Cassida Fluid HF 68 SEW070040313	Optileb HY 68 SEW070040313	Cassida Fluid HF 68		Küberoil 4UH1-68 N			
[4] -40 -10	[1] [2] CLP HC NSF H1 (PSS)	VG 32		Cassida Fluid HF 32 SEW070040313	Optileb HY 32 SEW070040313	Cassida Fluid HF 32		Küberoil HySynFG32			
[4] -15 +40	[1] [2] CLP HC NSF H1 (PSS)	VG 460	GearOil Synth 460 H1 E1/US1 SEW070040313	Cassida Fluid GL 460 SEW070040313	Optileb GT 460 SEW070040313	Cassida Fluid GL 460					
[4] -25 +30	[1] [2] CLP HC NSF H1 (PSS)	VG 220	GearOil Synth 220 H1 E1/US1 SEW070040313	Cassida Fluid GL 220 SEW070040313	Optileb GT 220 SEW070040313	Cassida Fluid GL 220					
[4] -15 +50	[1] [2] E	VG 460				Plantogear 460 S S2					
[4] -20 +40	[1] [2] E	VG 320				Plantogear 320 S S2		Küberbio EG2-320 S2			

[1] Note on special approvals

[2] Oil type

[3] Ambient temperature range

[4] Standard

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 limit of the oil seal material, see chapter "Lubricant compatibility with oil seals" (→ 165).

[3] °C -50 0 +50 +100 [4]	[1]	[2]	ISO SAE NLGI	SEW EURODRIVE	Dreier & leguit	Castrol	FUCHS	Mobil	Klubersynth	Shell	SINOPEC	TOTAL
			VG 460	GearOil Poly 460 E1 SEW 070040313					Klubersynth GH 6-460			
			VG 680						Klubersynth GH 6-680			
			VG 220	GearOil Poly 220 E1 SEW 070040313					Klubersynth GH 6-220			
			VG 150	GearOil Poly 150 E1 SEW 070040313					Klubersynth GH 6-150			
			VG 220	GearFluid Poly 220 E1 SEW 070040313								
			VG 460	GearOil Poly 460 H1 E1 SEW 070040313					Klubersynth UH1 6-460			
			VG 680						Klubersynth UH1 6-680			
			VG 220	GearOil Poly 220 H1 E1 SEW 070040313					Klubersynth UH1 6-220			
			VG 150	GearOil Poly 150 H1 E1 SEW 070040313					Klubersynth UH1 6-150			



[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 limit of the oil seal material, see chapter "Lubricant compatibility with oil seals" (→ 165).

[3] °C -50 0 +50 +100 [4]	[1] [Ex]	[2] CLP PG	ISO SAE NLGI	SEW EURODRIVE	brenner & laeugli	Castrol	FUCHS	Mobil	KLOBER LUBRICATION	Shell	SINOPEC	TOTAL
+80	[Ex]	CLP PG (PSS)	VG 460 ⁽¹⁾			Optigear Synthetic 800/220	Renolin PG 220	Mobile Glygole 220	Klübersynth GH 6-220	Shell Omala S4 WE 220		Carter SY 220
+60			VG 220 ⁽¹⁾									
+40			VG 150 ⁽¹⁾									
+80	[Ex]	CLP PG (PSS)	VG 460 ⁽¹⁾						Klübersynth GH 6-150			
+60			VG 220 ⁽¹⁾									
+40			VG 150 ⁽¹⁾									
+80	[Ex]	CLP PG NSF H1 (PSS)	VG 460			GearOil Poly 460 H1 E1 SEW070040313			Klübersynth UH1 6-460			
+60			VG 220									
+40			VG 150									
+80	[Ex]	CLP PG NSF H1 (PSS)	VG 460			GearOil Poly 220 H1 E1 SEW070040313			Klübersynth UH1 6-220			
+60			VG 220									
+40			VG 150									
+80	[Ex]	CLP PG NSF H1 (PSS)	VG 460			GearOil Poly 150 H1 E1 SEW070040313			Klübersynth UH1 6-150			
+60			VG 220									
+40			VG 150									



- [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 limit of the oil seal material, see chapter "Lubricant compatibility with oil seals" (→ 165).

[3] °C -50 0 +50 +100 [4]	[1]	[2]	ISO/SAE NLGI	SEW EURODRIVE	brenner & laeugli	Castrol	FUCHS	Mobil	KILBER LUBRICATION	Shell	SINOPEC	TOTAL
[4] -15	[4] -15	[4] -15	VG 460	GearOil Synth 460 ETUS1 SEW070040313			Renolin Unisyn CLP 460	Mobil SHC 634	Klubersynth GEM 4-460 N	Shell Omala S4 GX 460		Carter SH 460
-30	-30	-30	VG 150	GearOil Synth 150 ETUS1 SEW070040313			Renolin Unisyn CLP 150	Mobil SHC 629	Klubersynth GEM 4-150 N	Shell Omala S4 GX 150		Carter SH 150
-35	-35	-35	VG 68				Renolin Unisyn CLP 68	Mobil SHC 626		Shell Omala S4 GX 68		
-40	-40	-40	VG 32				Renolin Unisyn OL 32	Mobil SHC 624				Dachis SH 32
[4] -15	[4] -15	[4] -15	VG 460	GearOil Synth 460 ETUS1 SEW070040313				Mobil SHC 634				
-30	-30	-30	VG 150	GearOil Synth 150 ETUS1 SEW070040313				Mobil SHC 629				

S.
HS.



- [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 limit of the oil seal material, see chapter "Lubricant compatibility with oil seals" (→ 165).

[3] °C -50 0 +50 +100 [4]	[1] [2]	ISO SAE NLGI	SEW EURODRIVE	brenner & reguit	Castrol	FUCHS	Mobil	Klüber Lubrication	Shell	SINOPEC	TOTAL
-20	+95	VG 460	GearOil Synth 460 H1 EUUS1	-15 +85 Cassida Fluid GL 460	-15 +90 Optileb GT 460	-15 +85 Cassida Fluid GL 460		-15 +90 Klüberoil 4UH1-460 N			
-30	+75	VG 220	GearOil Synth 460 H1 EUUS1	-25 +75 Cassida Fluid GL 220	-25 +70 Optileb GT 220	-25 +75 Cassida Fluid GL 220		-25 +70 Klüberoil 4UH1-220 N			
-35	+40	VG 68	SEW070040313	-35 +40 Cassida Fluid HF 68	-40 +40 Optileb HY 68	-35 +40 Cassida Fluid HF 68		-35 +40 Klüberoil 4UH1-68 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			
-15	+40	VG 460	GearOil Synth 460 H1 EUUS1	-15 +85 Cassida Fluid GL 460	-15 +90 Optileb GT 460	-15 +85 Cassida Fluid GL 460					
-30	+75	VG 220	GearOil Synth 220 H1 EUUS1	-25 +75 Cassida Fluid GL 220	-25 +70 Optileb GT 220	-25 +75 Cassida Fluid GL 220					
-15	+50	VG 460	SEW070040313		-15 +95 Plantogear 460 S	-15 +95 Plantogear 460 S					
-20	+40	VG 320				-20 +85 Plantogear 320 S		-20 +85 Klüberbio EG2-320			

[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 limit of the oil seal material, see chapter "Lubricant compatibility with oil seals" (→ 165).

[3] [4]	[1]	[2]	ISO, SAE NLGI	SEW EURODRIVE	bremner & leguit	Castrol	FUCHS	Mobil	KLUBER LUBRICATION	Shell	SINOPEC	TOTAL
S.7p	[1]	[2]	ISO, SAE NLGI	SEW EURODRIVE	bremner & leguit	Castrol	FUCHS	Mobil	KLUBER LUBRICATION	Shell	SINOPEC	TOTAL
S.7p	[1]	[2]	ISO, SAE NLGI	SEW EURODRIVE	bremner & leguit	Castrol	FUCHS	Mobil	KLUBER LUBRICATION	Shell	SINOPEC	TOTAL
S.7p	[1]	[2]	ISO, SAE NLGI	SEW EURODRIVE	bremner & leguit	Castrol	FUCHS	Mobil	KLUBER LUBRICATION	Shell	SINOPEC	TOTAL

- [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 limit of the oil seal material, see chapter "Lubricant compatibility with oil seals" (→ 165).

W.. HW..	[3] °C -50 0 +50 +100	[1] Ex	[2] CLP PG	ISO, SAE NLGI	SEW EURODRIVE	b remer & leguit	Castrol	FUCHS	Mobil	KLOBER LUBRICATION	Shell	SINOPEC	TOTAL
[4] -20	+60	Ex	(PSS)	VG 460	GearOil Poly 460 W E1 SEW070040313					-20 +115 Klubersynth UH1 6-460			
-30	+20	Ex	CLP PG NSF H1 (PSS)	VG 150 ¹⁾	GearOil Poly 150 H1 E1 SEW070040313					-30 +65 Klubersynth UH1 6-150			
-40	+10	Ex	APL GL5	SAE 75W/90 (~VG 100)					-40 +65 Mobil Synthetic Gear Oil 75 W90				

[1] Note on special approvals
[2] Oil type

[3] Ambient temperature range
[4] Standard

27782913/EN – 02/2023

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 limit of the oil seal material, see chapter "Lubricant compatibility with oil seals" (→ 165).

[3] °C -50 0 +50 +100 [4]	[1]	[2]	ISO, SAE NLGI	SEW EURODRIVE	brenner & laeugli	Castrol	FUCHS	Mobil	KLÜBER LUBRICATION	Shell	SINOPEC	TOTAL
-25	+60	CLP PG (PSS)	VG 220	GearOil Poly 220 E1					-25	+100		
				SEW070040313								
-20	+80	CLP PG (PSS)	VG 460	GearOil Poly 460 E1					-20	+115		
				SEW070040313								
-30	+40	CLP PG (PSS)	VG 150	GearOil Poly 150 HT E1					-30	+85		
				SEW070040313								
-25	+60	CLP PG rPCF (PSS)	VG 220	GearFluid Poly 220 E1					-25	+100		
				SEW070040313								
[4] -25	+40	CLP PG NSF H1 (PSS)	VG 220	GearOil Poly 220 HT E1					-25	+80		
				SEW070040313								
-20	+70	CLP PG NSF H1 (PSS)	VG 460	GearOil Poly 460 HT E1					-20	+110		
				SEW070040313								
-30	+20	CLP PG NSF H1 (PSS)	VG 150	GearOil Poly 150 HT E1					-30	+65		
				SEW070040313								

W9



- [1] Note on special approvals
[2] Oil type

- [3] Ambient temperature range
[4] Standard

6.1.6 Lubricant fill quantities

Do not change the mounting position without prior consultation with SEW-EURODRIVE.

The information on the nameplate applies. The declaration of conformity and the guarantee no longer apply if the mounting position is changed without prior consultation with SEW-EURODRIVE. Changes to the mounting position must be configured and indicated on the nameplate.

6.2 Sealing systems

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

Acrylonitrile butadiene rubber, fluorocarbon rubber: According to SEW-EURODRIVE specification 97 118 __15.

6.2.1 Input seals

Sealing system	Recommended use	Sealing system design	Recommended maintenance interval	Material
FKM Sealing system for increased rotational speeds and/or increased temperatures	- Speeds up to 4500 min⁻¹ - Temperature range from -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)
Premium Sine Seal¹⁾ Premium sealing system for longer service life	- Speeds up to 4500 min⁻¹ - Temperature range from -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)

1) Premium Sine Seal is designated only for the A-side of the motor. On the B-side, an FKM oil seal is used.

☹ = Oil side



Fig. 1

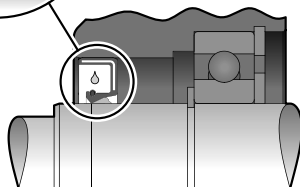
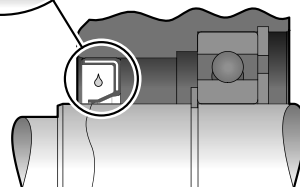


Fig. 2



39958592523

6.2.2 Output seals

Sealing system	Recommended use	Sealing system design	Recommended maintenance interval	Material
FKM Sealing system for elevated temperatures	- Temperature range from -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)
FKM/FKM Combination seal – premium sealing system for longer service life at elevated temperatures	- Temperature range from -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)

 = Oil side

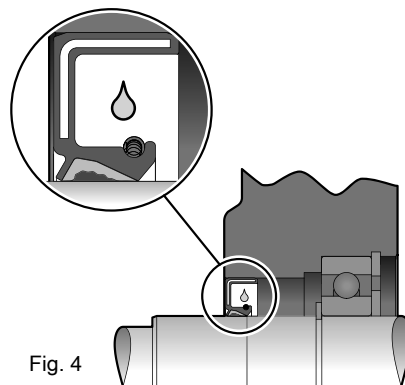


Fig. 4

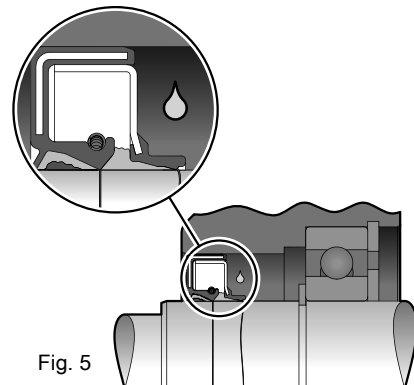


Fig. 5

39958596107

6.3 Gear unit venting

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

6.4 Reduced backlash gear unit design /R

Helical, parallel-shaft helical and helical-bevel gear units with reduced backlash are available from 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 reduced backlash design is possible for the following gear units:

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

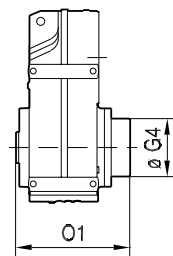
With the exception of reduced backlash parallel-shaft helical gear units FH.87 and FH.57, the dimensions of low-backlash gear units are identical with the dimensions of the standard designs.

For further information, refer to the gearmotor catalogs or contact SEW-EURODRIVE.

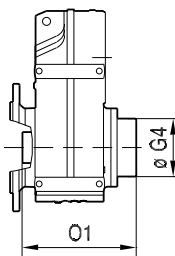
The following figure shows the deviating dimensions of the reduced backlash gear units FS.87 and FS.97:

42 001 00 17

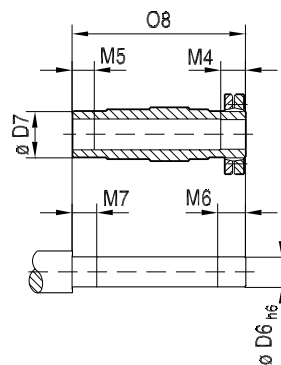
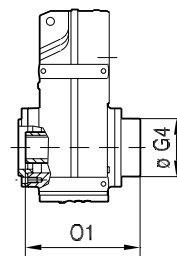
FH../R
FH..B/R



FHF../R



FHZ../R



19558337931

Type	Dimensions in mm								
	D6	D7	G4	M4	M5	M6	M7	O1	O8
FH.87/R	Ø 65 _{h6}	Ø 85	Ø 165	41	40	46	45	339	299.5
FH.97/R	Ø 75 _{h6}	Ø 95	Ø 200	55	50	60	55	400.5	367

6.5 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.

6.5.1 Assembly using supplied fastening parts

The following fastening parts are provided as standard:

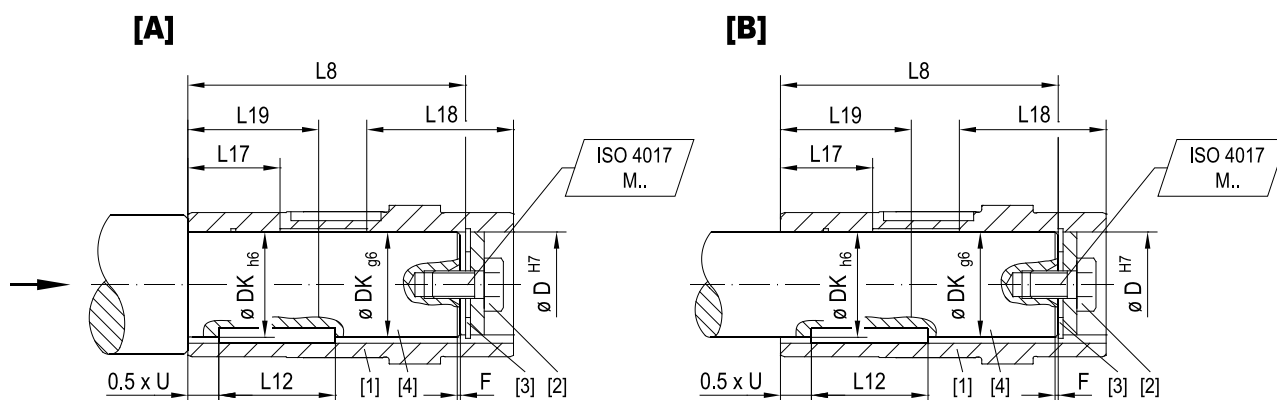
- Retaining screw with washer [2]
- Retaining ring [3]

Note the following information concerning the customer shaft:

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

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

00 001 02 02



27021619247083659

- D Hollow shaft diameter
 DK Customer shaft diameter
 F Shaft end chamfer
 L8 Customer shaft length
 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
 U 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	U 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
FA..157, KA..157	120		2	460	180	180	32	200	M24 × 60
FAM67, KAM67	40		1	278	50	60	12	40	M16 × 40

27782913/EN – 02/2023

Gear unit type	D ^{H7} mm	DK mm	F mm	L8 mm	L17 mm	L18 mm	U 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
FAM157, KAM157	120		2	691	180	180	32	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..29	30		1	107	35	35	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
SA..77	50		1	180	63	75	14	40	M16 × 45
SA..77	60		1	180	72	90	18	80	M20 × 50
SA..87	60		1	220	75	90	18	80	M20 × 50
SA..87	70		2	220	90	105	20	80	M20 × 50
SA..97	70		2	260	90	105	20	80	M20 × 50
SA..97	90		2	255	110	125	25	200	M24 × 60
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

27782913/EN – 02/2023

Gear unit type	D^{H7} mm	DK mm	F mm	L8 mm	L17 mm	L18 mm	U mm	MS Nm	ISO 4017 M..
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

6.5.2 Mounting/dismounting using the optional assembly/disassembly kit

Assembly

You can 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]

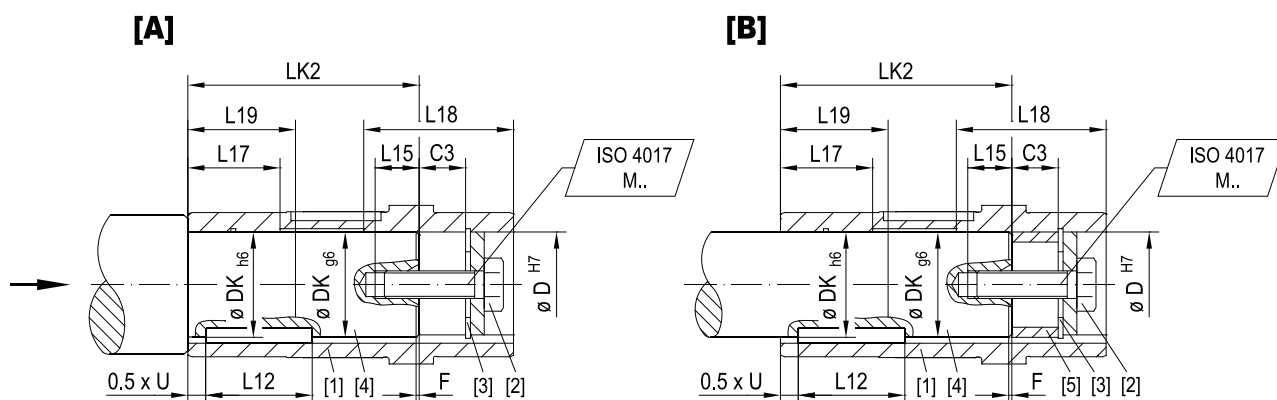
The short retaining screw delivered as standard is not required.

Note the following information concerning the customer shaft:

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

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

00 002 02 02



54043199837413003

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

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

Type	C3 mm	D ^{H7} mm	DK mm	L15 mm	L17 mm	L18 mm	LK2 mm	U mm	MS Nm	ISO 4017 M..	Part number of the as- sembly/disassembly kit
FA..27	16	25		22	30	30	73	8	20	M10 × 35	06436846
FA..37	16	30		22	39	45	89	8	20	M10 × 35	06436854
FA..47	18	35		28	45	52	114	10	20	M12 × 45	06436862
FA..57	18	40		36	50	60	124	12	40	M16 × 50	06436870
FA..67	18	40		36	50	60	138	12	40	M16 × 50	06436870
FA..77	18	50		36	65	75	165	14	40	M16 × 50	06436897
FA..87	22	60		42	75	90	188	18	80	M20 × 60	06436900
FA..97	22	70		42	90	105	248	20	80	M20 × 60	06436919
FA..107	26	90		50	110	125	287	25	200	M24 × 70	06436927
FA..127	26	100		50	120	150	347	28	200	M24 × 70	06436935

Type	C3 mm	D ^{H7} mm	DK mm	L15 mm	L17 mm	L18 mm	LK2 mm	U mm	MS Nm	ISO 4017 M..	Part number of the as- sembly/disassembly kit
FA..157	26	120		50	180	180	434	32	200	M24 × 70	06436943
FAM67	18	40		36	50	60	260	12	40	M16 × 50	06436870
FAM77	18	50		36	65	75	291	14	40	M16 × 50	06436897
FAM87	22	60		42	75	90	341	18	80	M20 × 60	06436900
FAM97	22	70		42	90	105	400	20	80	M20 × 60	06436919
FAM107	26	90		50	110	125	447	25	200	M24 × 70	06436927
FAM127	26	100		50	120	150	527	28	200	M24 × 70	06436935
FAM157	26	120		50	180	180	665	32	200	M24 × 70	06436943
KA..19	12	20		16	28	30	80	6	8	M6 × 25	06436838
KA..29	16	25		22	30	38	91	8	20	M10 × 35	06436846
KA..29	16	30		22	35	35	91	8	20	M10 × 35	06436854
KA..37	16	30		22	39	45	89	8	20	M10 × 35	06436854
KA..39	16	30		22	35	45	121	8	20	M10 × 35	06436854
KA..39	18	35		28	35	45	119	10	20	M12 × 45	06436862
KA..47	18	35		28	45	52	114	10	20	M12 × 45	06436862
KA..49	18	35		28	35	45	142	10	20	M12 × 45	06436862
KA..49	18	40		36	35	45	136	12	40	M16 × 50	06436870
KA..57	18	40		36	50	60	124	12	40	M16 × 50	06436870
KA..67	18	40		36	50	60	138	12	40	M16 × 50	06436870
KA..77	18	50		36	65	75	165	14	40	M16 × 50	06436897
KA..87	22	60		42	75	90	188	18	80	M20 × 60	06436900
KA..97	22	70		42	90	105	248	20	80	M20 × 60	06436919
KA..107	26	90		50	110	125	287	25	200	M24 × 70	06436927
KA..127	26	100		50	120	150	347	28	200	M24 × 70	06436935
KA..157	26	120		50	180	180	434	32	200	M24 × 70	06436943
KAM77	18	50		36	65	75	291	14	40	M16 × 50	06436897
KAM67	18	40		36	50	60	260	12	40	M16 × 50	06436870
KAM87	22	60		42	75	90	341	18	80	M20 × 60	06436900
KAM97	22	70		42	90	105	400	20	80	M20 × 60	06436919
KAM107	26	90		50	110	125	447	25	200	M24 × 70	06436927
KAM127	26	100		50	120	150	527	28	200	M24 × 70	06436935
KAM157	26	120		50	180	180	665	32	200	M24 × 70	06436943
SA..37	12	20		16	40	40	92	6	8	M6 × 25	06436838
SA..47	16	25		22	38	38	89	8	20	M10 × 35	06436846
SA..47	16	30		22	39	45	89	8	20	M10 × 35	06436854
SA..57	16	30		22	39	45	116	8	20	M10 × 35	06436854

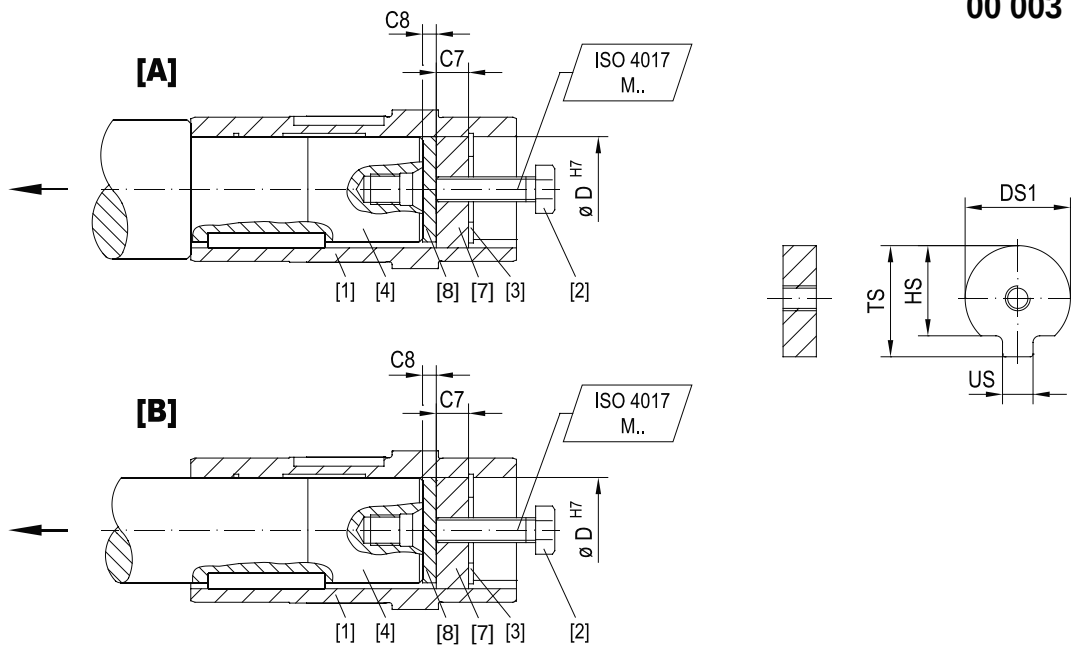
Type	C3 mm	D ^{H7} mm	DK mm	L15 mm	L17 mm	L18 mm	LK2 mm	U mm	MS Nm	ISO 4017 M..	Part number of the as- sembly/disassembly kit
SA..57	18	35		28	45	52	114	10	20	M12 × 45	06436862
SA..67	18	40		36	50	60	126	12	40	M16 × 50	06436870
SA..67	18	45		36	50	60	126	14	40	M16 × 50	06436889
SA..77	18	50		36	63	75	165	14	40	M16 × 50	06436897
SA..77	22	60		42	72	90	158	18	80	M20 × 60	06436900
SA..87	22	60		42	75	90	198	18	80	M20 × 60	06436900
SA..87	22	70		42	90	105	198	20	80	M20 × 60	06436919
SA..97	22	70		42	90	105	238	20	80	M20 × 60	06436919
SA..97	26	90		50	110	125	229	25	200	M24 × 70	06436927
WA..10	11	16		12.5	24	24	58	5	8	M5 × 50	06437125
WA..19	12	18		16	27	27	72	6	8	M6 × 25	0643682X
WA..19	12	20		16	26	30	72	6	8	M6 × 25	06436838
WA..20	12	18		16	27	27	72	6	8	M6 × 25	0643682X
WA..20	12	20		16	26	30	72	6	8	M6 × 25	06436838
WA..29	12	20		16	28	30	80	6	8	M6 × 16	06436838
WA..29	16	25		22	28	30	91	8	20	M10 × 35	06436846
WA..29	16	30		22	28	30	76	8	20	M10 × 35	06436854
WA..30	12	20		16	30	30	93	6	8	M6 × 25	06436838
WA..39	16	25		22	30	38	91	8	20	M10 × 35	06436846
WA..39	16	30		22	35	35	91	8	20	M10 × 35	06436854
WA..49	16	30		22	35	45	121	8	20	M10 × 35	06436854
WA..49	18	35		28	35	45	119	10	20	M12 × 45	06436862
WA..59	18	35		28	35	45	142	10	20	M12 × 45	06436862
WA..59	18	40		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.

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



54043204711118091

- 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
US 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	US mm	TS mm	DS1 mm	ISO 4017 M..	Part number of the as- sembly/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
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

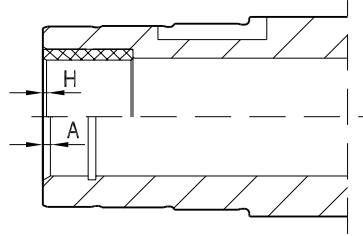
27782913/EN – 02/2023

Gear unit	D^{H7} mm	C8 mm	C7 mm	HS mm	US mm	TS mm	DS1 mm	ISO 4017 M..	Part number of the as- sembly/disassembly kit
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
FA..127, KA..127	100	5	20	89	27.5	106	99.7	M24 × 70	06436935
FA..157, KA..157	120	5	20	107	31	127	119.7	M24 × 70	06436943

6.6 Gear units with hollow shaft

6.6.1 Chamfers on hollow shafts

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



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

Gear unit	Design	
	with hollow shaft (A)	with hollow shaft and shrink disk (H)
W..10	$1.5 \times 30^\circ$	-
W..19, W..20, W..30	$2 \times 30^\circ$	-
F..27	$2 \times 30^\circ$	$0.5 \times 45^\circ$
K..19, W..29	$2 \times 30^\circ$	$0.5 \times 45^\circ$
K..29, W..39	$2 \times 30^\circ$	$0.5 \times 45^\circ$
F../K../S..37	$2 \times 30^\circ$	$0.5 \times 45^\circ$
K..39, W..49	$2 \times 30^\circ$	$0.5 \times 45^\circ$
F../K../S..47	$2 \times 30^\circ$	$0.5 \times 45^\circ$
K..49, W..59	$2 \times 30^\circ$	$0.5 \times 45^\circ$
S..57	$2 \times 30^\circ$	$0.5 \times 45^\circ$
F../K..57	$2 \times 30^\circ$	$0.5 \times 45^\circ$
F../K../S..67	$2 \times 30^\circ$	$0.5 \times 45^\circ$
F../K../S..77	$2 \times 30^\circ$	$0.5 \times 45^\circ$
F../K../S..87	$3 \times 30^\circ$	$0.5 \times 45^\circ$
F../K../S..97	$3 \times 30^\circ$	$0.5 \times 45^\circ$
F../K..107	$3 \times 30^\circ$	$0.5 \times 45^\circ$
F../K..127	$5 \times 30^\circ$	$0.5 \times 45^\circ$
F../K..157	$5 \times 30^\circ$	$0.5 \times 45^\circ$
KH167	-	$0.5 \times 45^\circ$
KH187	-	$0.5 \times 45^\circ$

6.6.2 Special motor/gear unit combinations

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

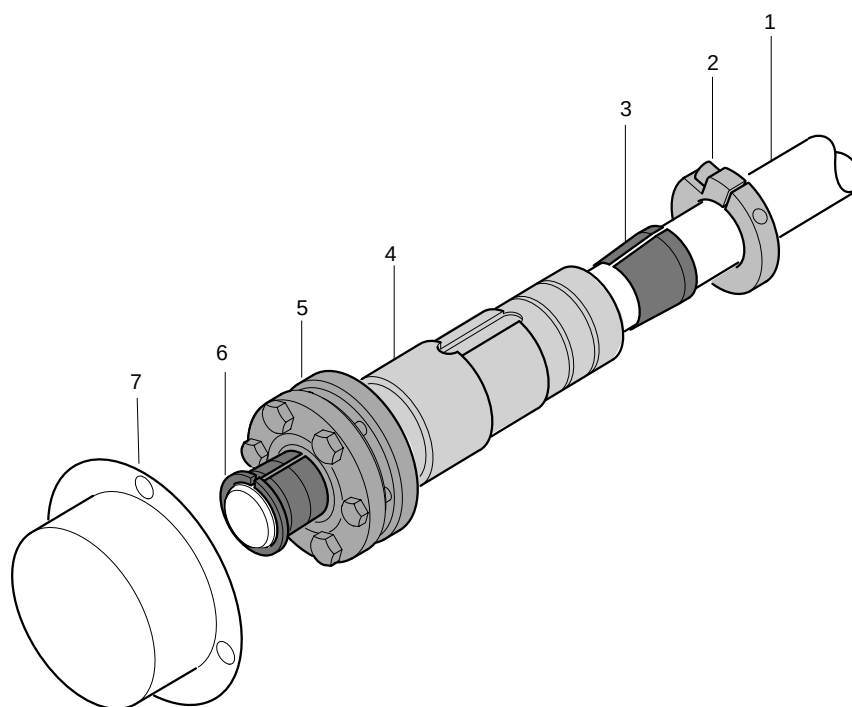
- If you are using a customer shaft pushed through on the motor end, there may be a collision when a "small gear unit" is used in combination with a "large motor."
- Check the motor dimension AC to decide whether there will be a collision with a pushed-through customer shaft.

6.7 TorqLOC® mounting system for gear units with hollow shaft

6.7.1 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:



4309625867

- [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

6.7.2 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.

6.7.3 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 – FT157)
- 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® 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:

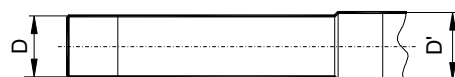
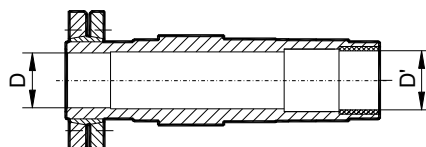
- For helical-bevel, worm and SPIROPLAN® gear units (KT..., ST..., WT.9..): "Torque arm" option (../T).
- For parallel-shaft helical gear units (FT..): "Rubber buffer" option (../G).

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 – 157
- Helical-bevel gear units KH/KHF/KHZ37 – 157
- Helical-worm gear units SH/SHF47 – 97

As standard, $D' = D$.



9007204241796363

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

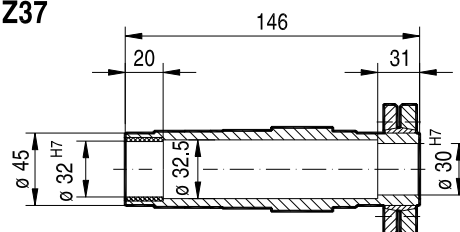
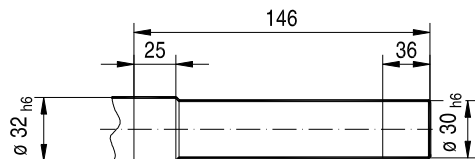
Gear units with shouldered hollow shaft (optional bore diameter D') must be ordered with specification of the diameters D/D' .

6.8.1 Sample order

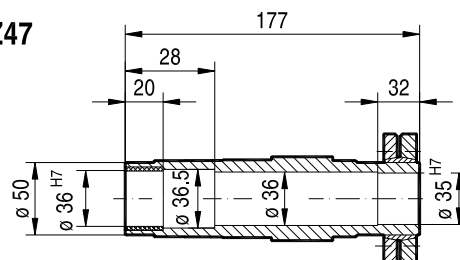
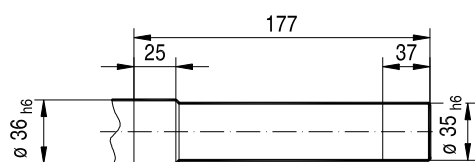
FH37 EDRN80M4 with hollow shaft 30/32 mm

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

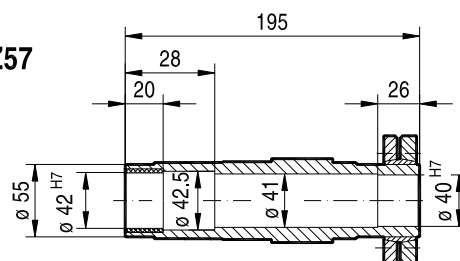
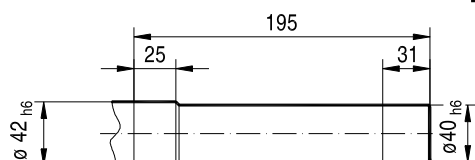
FH / FHF / FHZ37

 $\emptyset 30^{H7} / \emptyset 32^{H7}$ 

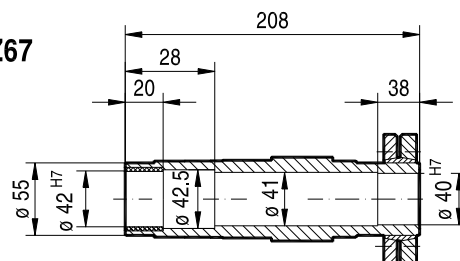
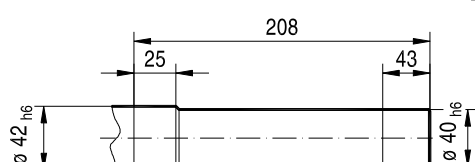
FH / FHF / FHZ47

 $\emptyset 35^{H7} / \emptyset 36^{H7}$ 

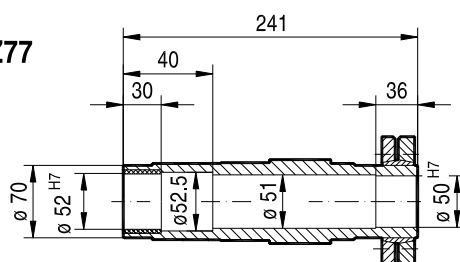
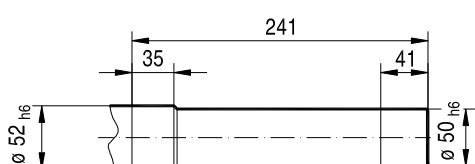
FH / FHF / FHZ57

 $\emptyset 40^{H7} / \emptyset 42^{H7}$ 

FH / FHF / FHZ67

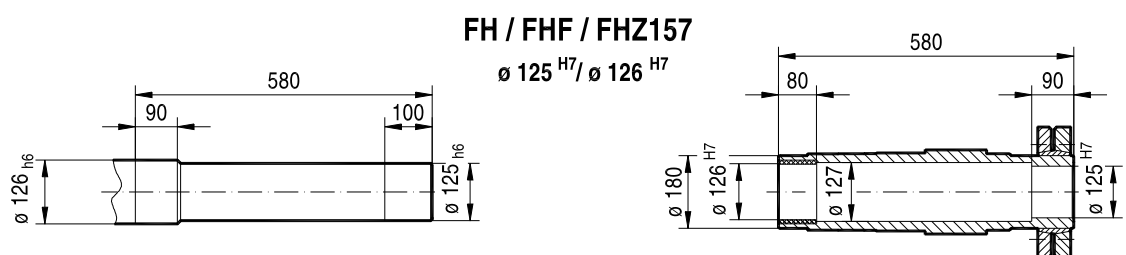
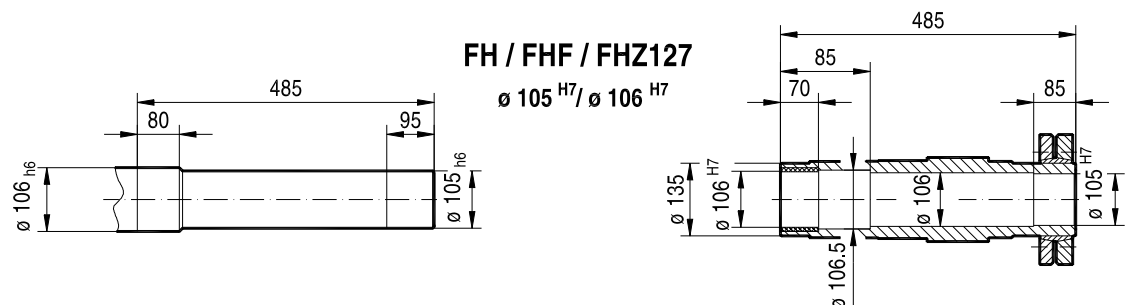
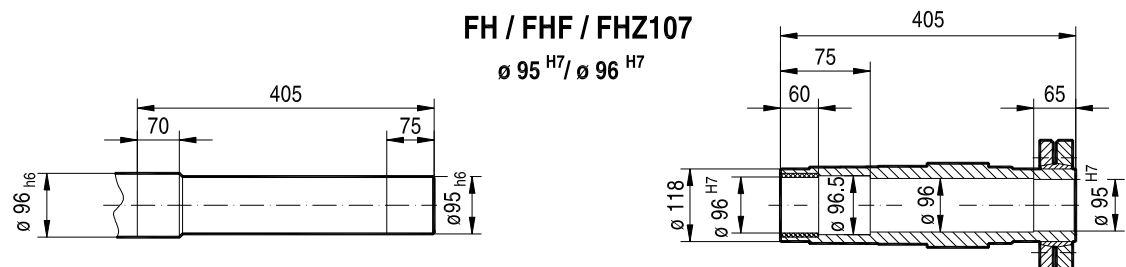
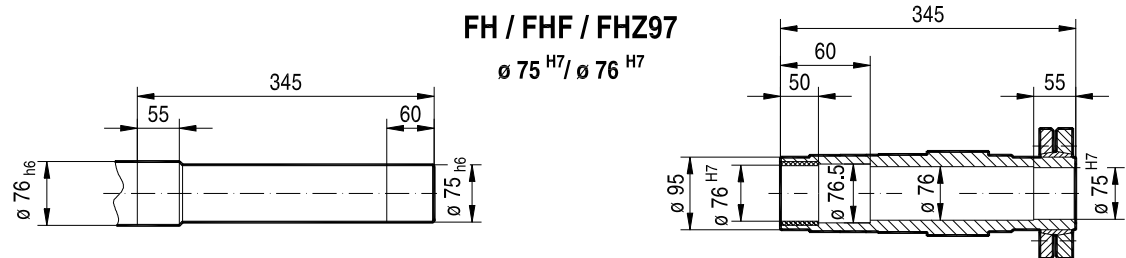
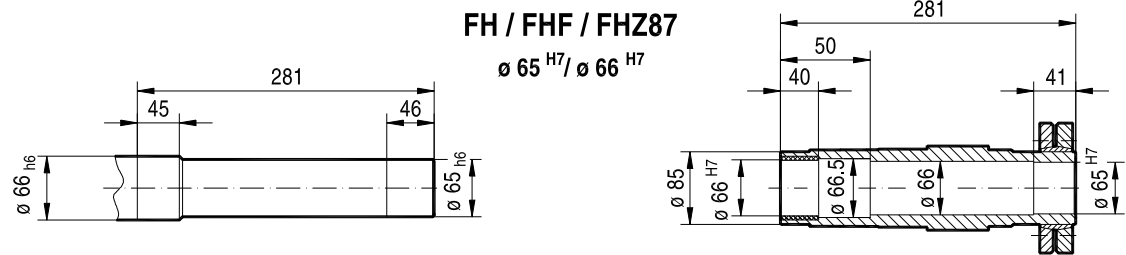
 $\emptyset 40^{H7} / \emptyset 42^{H7}$ 

FH / FHF / FHZ77

 $\emptyset 50^{H7} / \emptyset 52^{H7}$ 

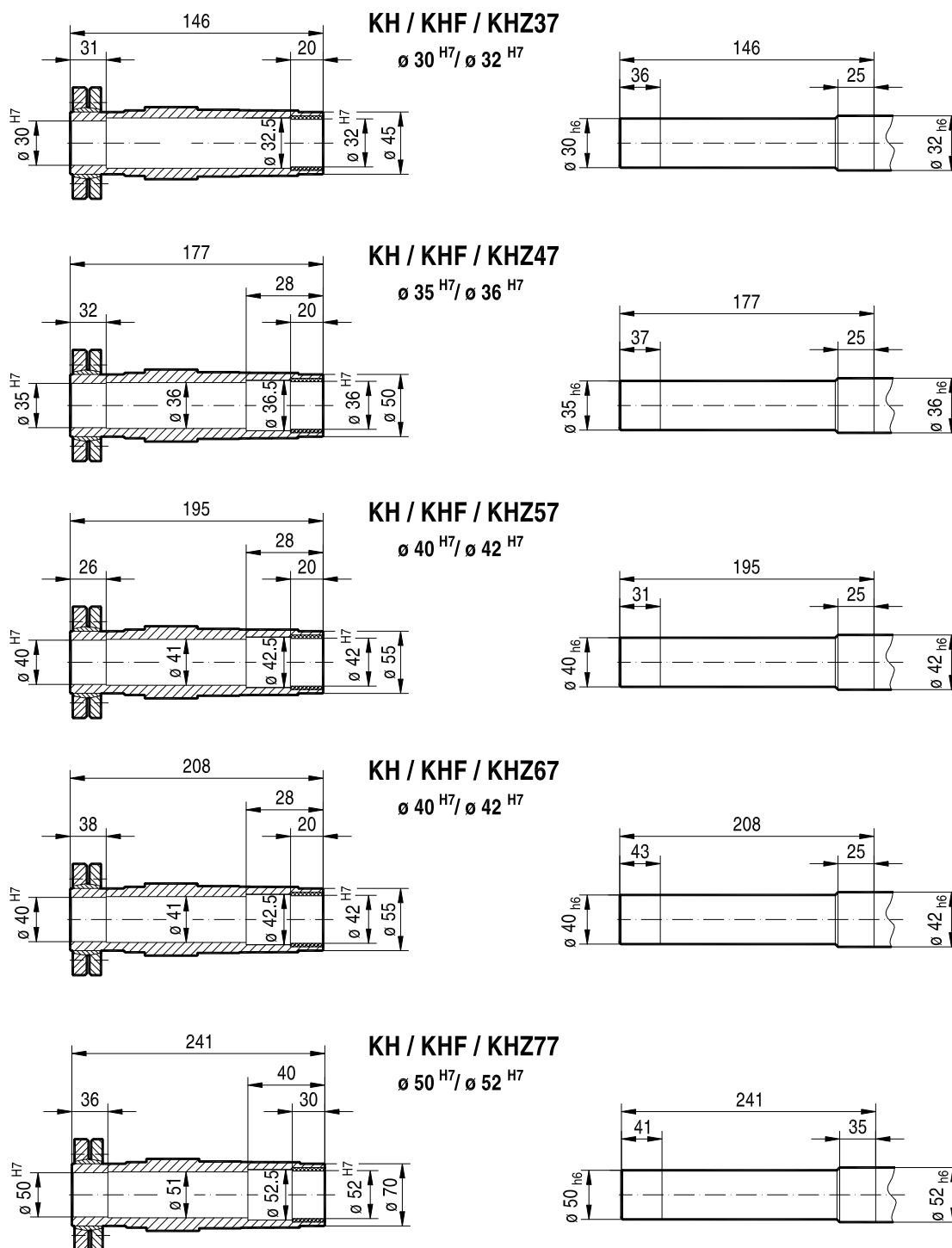
4987059083

27782913/EN – 02/2023



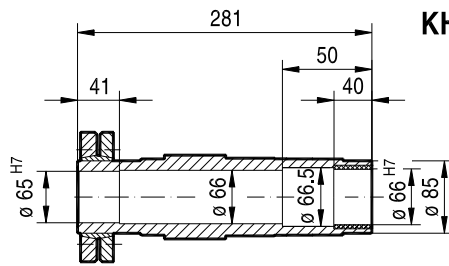
4987060747

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

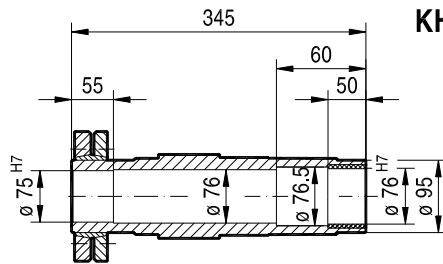
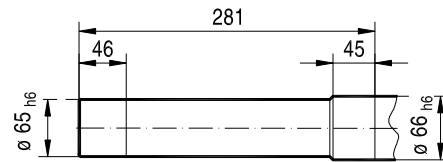


4987063435

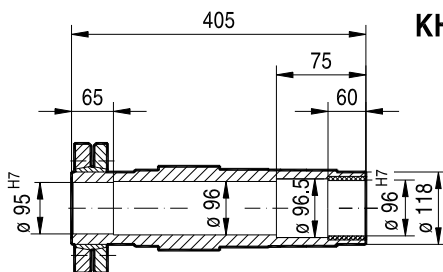
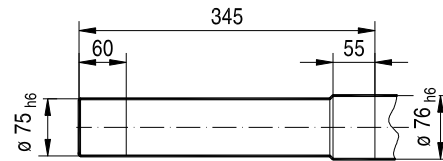
27782913/EN – 02/2023



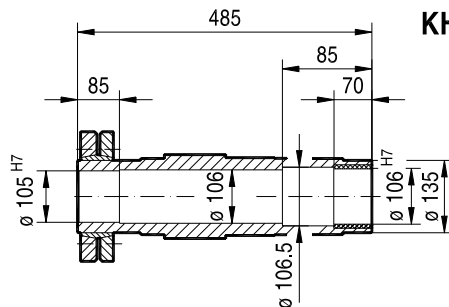
KH / KHF / KHZ87
 $\varnothing 65^{H7} / \varnothing 66^{H7}$



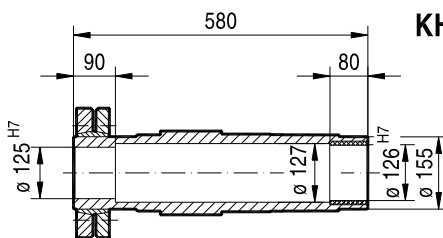
KH / KHF / KHZ97
 $\varnothing 75^{H7} / \varnothing 76^{H7}$



KH / KHF / KHZ107
 $\varnothing 95^{H7} / \varnothing 96^{H7}$



KH / KHF / KHZ127
 $\varnothing 105^{H7} / \varnothing 106^{H7}$

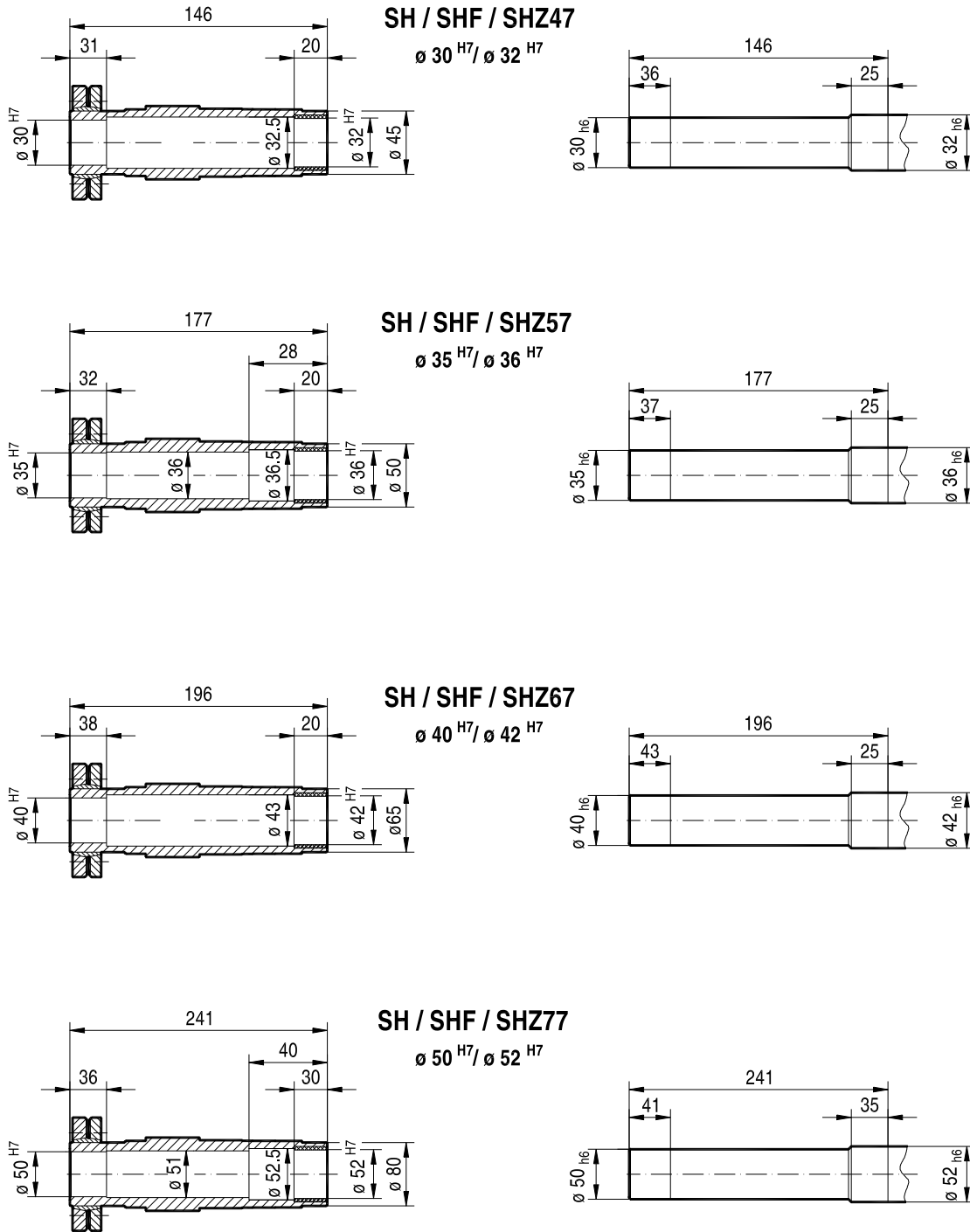


KH / KHF / KHZ157
 $\varnothing 125^{H7} / \varnothing 126^{H7}$



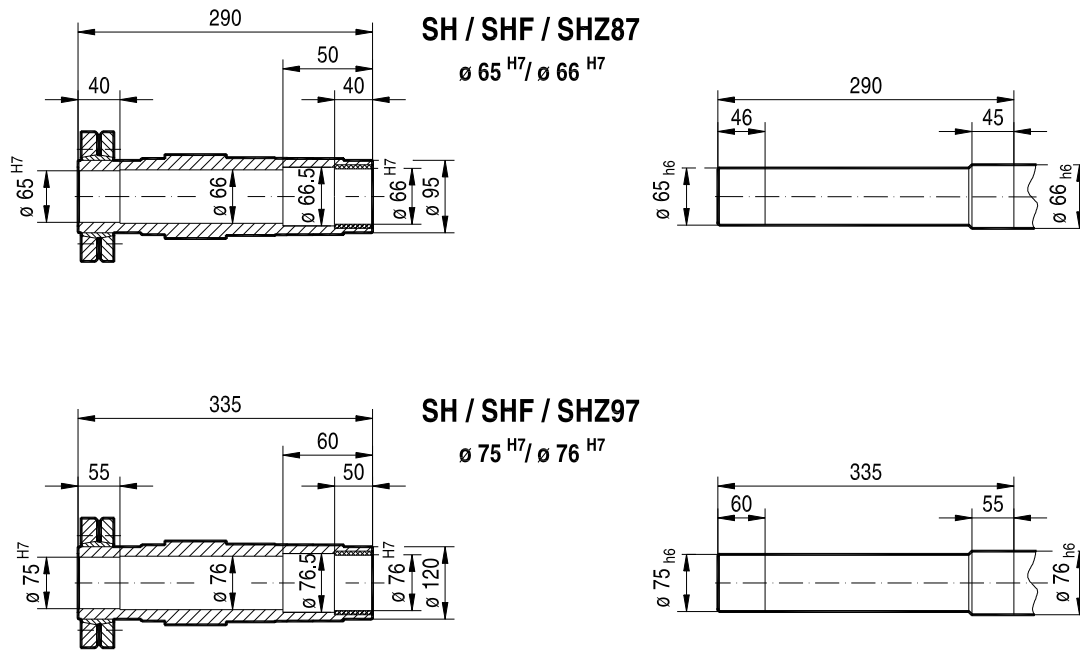
4987065099

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



4987067787

27782913/EN – 02/2023



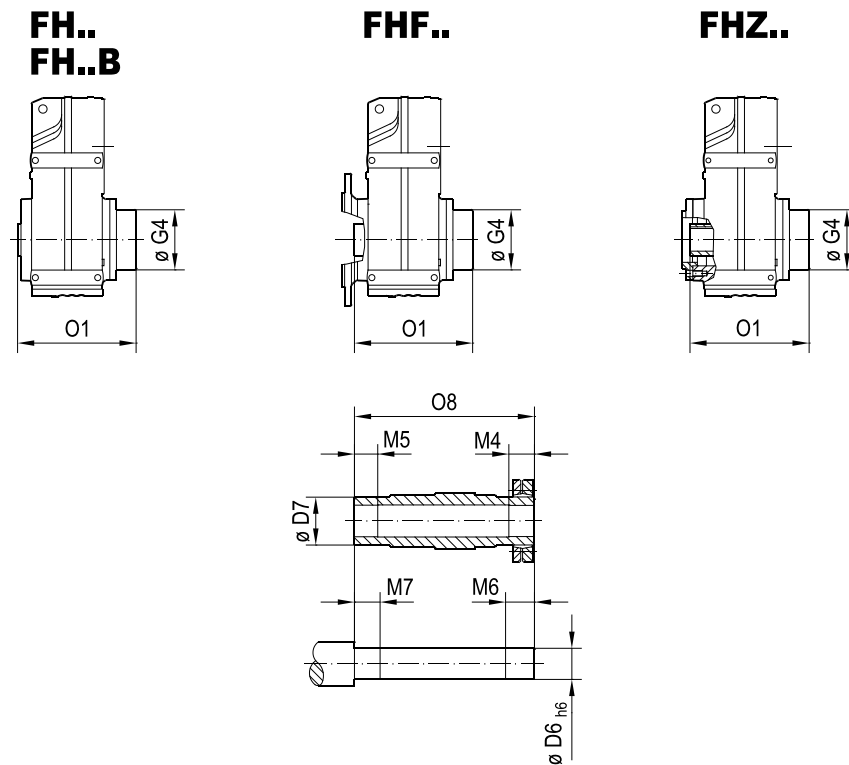
4987069451

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.

6.10 Gear unit dimensions with reinforced bearings

With the exception of the FH.87 and 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 figure shows the differing dimensions of FH.87 and FH.97 gear units with reinforced bearings:



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

6.11 Adapters for mounting IEC and NEMA motors

6.11.1 Description of AMS.. adapter

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

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

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

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

An extended adapter is used for certain AMS.. adapter combinations with parallel-shaft helical gear units to avoid collisions with the safety cover. This changes the dimension Z5, see dimension sheet "Dimensional deviations for certain AMS.. adapter combinations with parallel-shaft helical gear units".

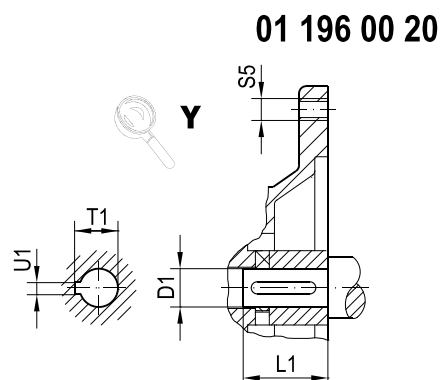
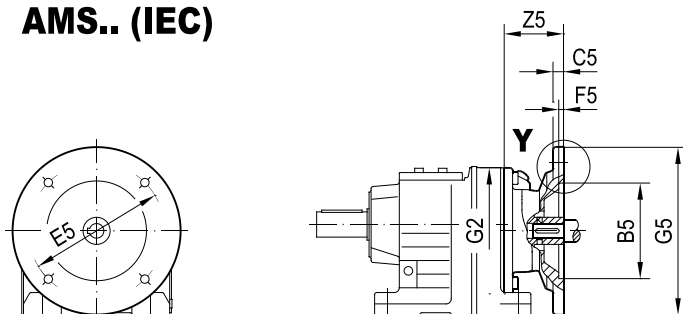
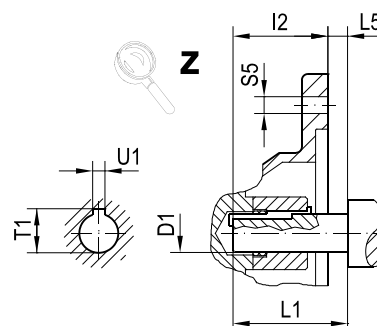
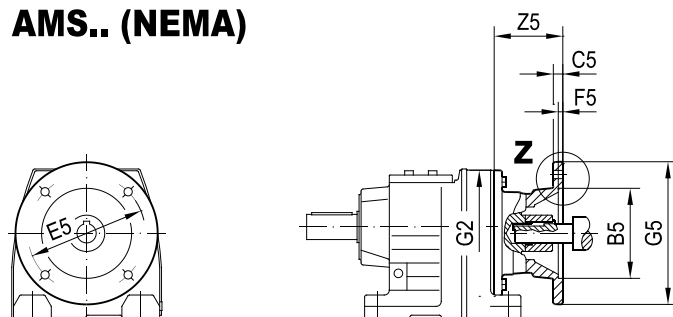
AMS.. adapter with backstop option (RS)

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

The backstop is completely integrated in the adapter.

6.11.2 Dimension sheets of AMS.. adapters

Key

AMS.. (IEC)**AMS.. (NEMA)**

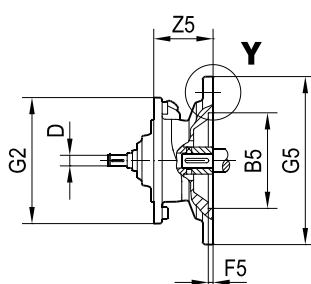
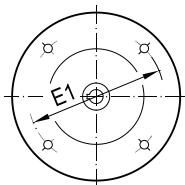
35485603339

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

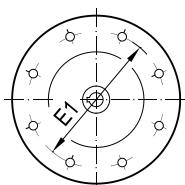
Adapters for mounting IEC motors

23 001 01 21

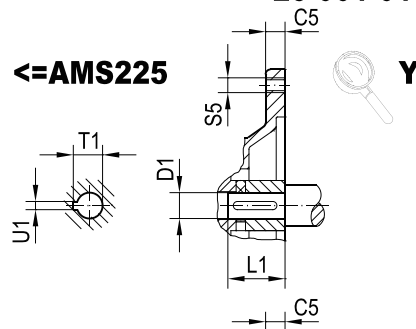
≤AMS200



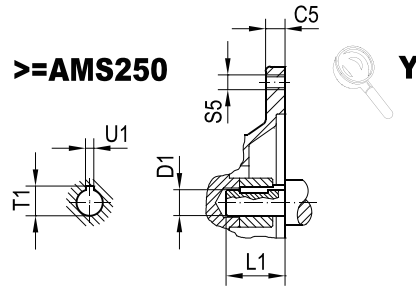
≥AMS225



≤AMS225



≥AMS250

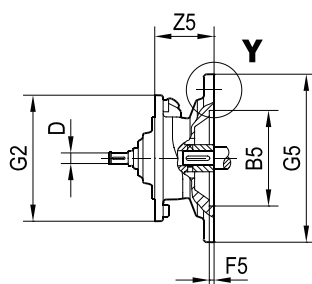
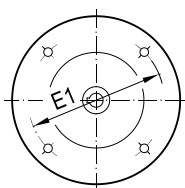


Gear unit type	Adapter type	Dimensions in mm												
		B5	C5	D	D1	E5	F5	G2	G5	L1	S5	T1	U1	Z5 ¹⁾
R..07, R..17 W..19	AMS63 ²⁾	95	10	10	11	115	3.5	105	140	23	M8	12.8	4	56.5
	AMS71 ²⁾	110	10	10	14	130	4	105	160	30	M8	16.3	5	56.5
	AMS80 ²⁾	130	12	12	19	165	4.5	105	200	40	M10	21.8	6	73.5
R..27, R..37 F..27, F..37, F..47 K..19, K..29, K..37 S..37, S..47, S..57 S..37p, S..47p, S..57p W..29, W..39	AMS63	95	10	10	11	115	3.5	120	140	23	M8	12.8	4	56.5
	AMS71 ³⁾	110	10	10	14	130	4	120	160	30	M8	16.3	5	56.5
	AMS80 ²⁾³⁾	130	12	12	19	165	4.5	120	200	40	M10	21.8	6	73.5
	AMS90 ²⁾³⁾	130	12	14	24	165	4.5	120	200	50	M10	27.3	8	86.5
RX..57, RX..67 R..47, R..57, R..67 F..57, F..67 K..39, K..47, K..57, K..67 S..67, S..67p W..49, W..59	AMS63	95	10	10	11	115	3.5	160	140	23	M8	12.8	4	50
	AMS71	110	10	10	14	130	4	160	160	30	M8	16.3	5	50
	AMS80 ³⁾	130	12	12	19	165	4.5	160	200	40	M10	21.8	6	67
	AMS90 ³⁾	130	12	14	24	165	4.5	160	200	50	M10	27.3	8	80
	AMS100 ²⁾³⁾	180	15	16	28	215	5	160	250	60	M12	31.3	8	108.5
	AMS112 ²⁾³⁾	180	15	18	28	215	5	160	250	60	M12	31.3	8	108.5
	AMS132S/M ²⁾	230	16	22	38	265	5	160	300	80	M12	41.3	10	134
RX..77 R..77 F..77 K..49, K..77 S..77, S..77p	AMS63	95	10	10	11	115	3.5	200	140	23	M8	12.8	4	44
	AMS71	110	10	10	14	130	4	200	160	30	M8	16.3	5	44
	AMS80	130	12	12	19	165	4.5	200	200	40	M10	21.8	6	60
	AMS90	130	12	14	24	165	4.5	200	200	50	M10	27.3	8	73
	AMS100 ²⁾	180	15	16	28	215	5	200	250	60	M12	31.3	8	100.5
	AMS112 ²⁾	180	15	18	28	215	5	200	250	60	M12	31.3	8	100.5
	AMS132S/M ²⁾³⁾	230	16	22	38	265	5	200	300	80	M12	41.3	10	126
	AMS132ML ²⁾³⁾	230	16	28	38	265	5	200	300	80	M12	41.3	10	126

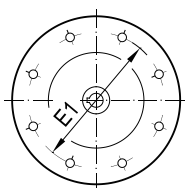
- 1) For the dimensions Z5 for the RS and DH options, refer to the "Gear units" catalog. The adapter does not have any additional length because of the reinforced bearings. An exception is the AMS80/VL adapter. It has the same length as the AMS90 adapter.
- 2) Check dimension 1/2 G5 because the component may protrude beyond the foot mounting surface when mounted on an R, K, S, or W foot-mounted gear unit.
- 3) F.37/47/57/77, the adapter length Z5 may change depending on the gear unit design, see next chapter.

23 001 01 21

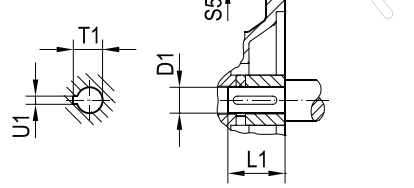
<=AMS200



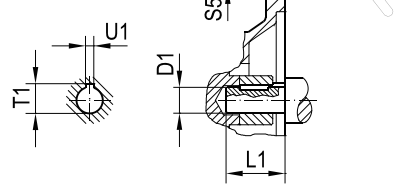
>=AMS225



<=AMS225



>=AMS250



Gear unit type	Adapter type	Dimensions in mm												
		B5	C5	D	D1	E5	F5	G2	G5	L1	S5	T1	U1	Z5 ¹⁾
RX..87 R..87 F..87 K..87 S..87 ²⁾ , S..87p ²⁾	AMS80	130	12	12	19	165	4.5	250	200	40	M10	21.8	6	55
	AMS90	130	12	14	24	165	4.5	250	200	50	M10	27.3	8	68
	AMS100	180	15	16	28	215	5	250	250	60	M12	31.3	8	95.5
	AMS112	180	15	18	28	215	5	250	250	60	M12	31.3	8	95.5
	AMS132S/M	230	16	22	38	265	5	250	300	80	M12	41.3	10	121
	AMS132ML	230	16	28	38	265	5	250	300	80	M12	41.3	10	121
	AMS160	250	18	28	42	300	6	250	350	110	M16	45.3	12	184
RX..97 ³⁾ R..97 ³⁾ F..97 K..97 S..97/S..97p	AMS180	250	18	32	48	300	6	250	350	110	M16	51.8	14	184
	AMS100	180	15	16	28	215	5	300	250	60	M12	31.3	8	90.5
	AMS112	180	15	18	28	215	5	300	250	60	M12	31.3	8	90.5
	AMS132S/M	230	16	22	38	265	5	300	300	80	M12	41.3	10	116
	AMS132ML	230	16	28	38	265	5	300	300	80	M12	41.3	10	116
	AMS160	250	18	28	42	300	6	300	350	110	M16	45.3	12	179
	AMS180	250	18	32	48	300	6	300	350	110	M16	51.8	14	179
RX..107 R..107, R..127 F..107 K..107	AMS200	300	20	38	55	350	7	300	400	110	M16	59.3	16	240
	AMS225	350	22	38	60	400	7	300	450	140	M16	64.4	18	255
	AMS100	180	15	16	28	215	5	350	250	60	M12	31.3	8	84.5
	AMS112	180	15	18	28	215	5	350	250	60	M12	31.3	8	84.5
	AMS132S/M	230	16	22	38	265	5	350	300	80	M12	41.3	10	110
	AMS132ML	230	16	28	38	265	5	350	300	80	M12	41.3	10	110
	AMS160	250	18	28	42	300	6	350	350	110	M16	45.3	12	173
R..137	AMS180	250	18	32	48	300	6	350	350	110	M16	51.8	14	173
	AMS200	300	20	38	55	350	7	350	400	110	M16	59.3	16	234
	AMS225	350	22	38	60	400	7	350	450	140	M16	64.4	18	249
	AMS132S/M	230	16	22	38	265	5	400	300	80	M12	41.3	10	103
	AMS132ML	230	16	28	38	265	5	400	300	80	M12	41.3	10	103
	AMS160	250	18	28	42	300	6	400	350	110	M16	45.3	12	166
	AMS180	250	18	32	48	300	6	400	350	110	M16	51.8	14	166
	AMS200	300	20	38	55	350	7	400	400	110	M16	59.3	16	227
	AMS225	350	22	38	60	400	7	400	450	140	M16	64.4	18	242

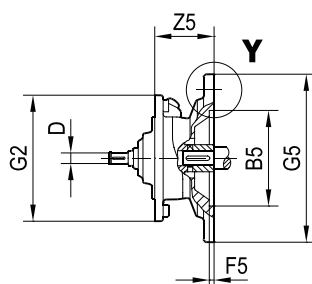
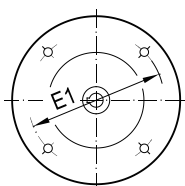
1) For the dimensions Z5 for the RS and DH options, refer to the "Gear units" catalog. The adapter does not have any additional length because of the reinforced bearings. An exception is the AMS80/VL adapter. It has the same length as the AMS90 adapter.

2) Not with AMS180.

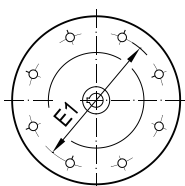
3) Not with AMS225.

23 001 01 21

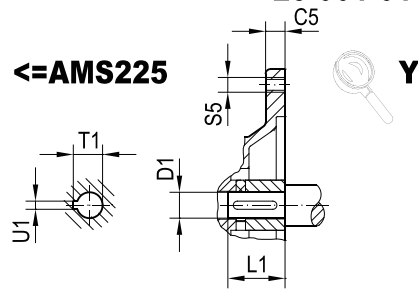
≤AMS200



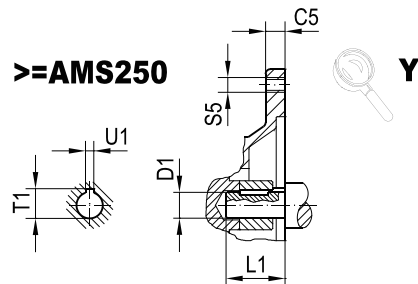
≥AMS225



≤AMS225



≥AMS250

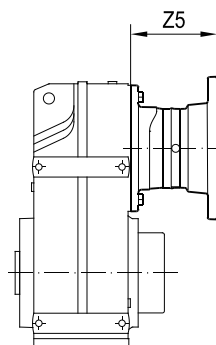


Gear unit type	Adapter type	Dimensions in mm												
		B5	C5	D	D1	E5	F5	G2	G5	L1	S5	T1	U1	Z5 ¹⁾
R..147 F..127 K..127	AMS132S/M	230	16	22	38	265	5	450	300	80	M12	41.3	10	95
	AMS132ML	230	16	28	38	265	5	450	300	80	M12	41.3	10	95
	AMS160	250	18	28	42	300	6	450	350	110	M16	45.3	12	158
	AMS180	250	18	32	48	300	6	450	350	110	M16	51.8	14	158
	AMS200	300	20	38	55	350	7	450	400	110	M16	59.3	16	219
	AMS225	350	22	38	60	400	7	450	450	140	M16	64.4	18	234
	AMS250	450	25	48	65	500	7	450	550	140	M16	69.4	18	297.5
R..167 F..157 K..157, K..187	AMS280	450	25	48	75	500	7	450	550	140	M16	79.9	20	297.5
	AMS160	250	18	28	42	300	6	550	350	110	M16	45.3	12	150
	AMS180	250	18	32	48	300	6	550	350	110	M16	51.8	14	150
	AMS200	300	20	38	55	350	7	550	400	110	M16	59.3	16	211
	AMS225	350	22	38	60	400	7	550	450	140	M16	64.4	18	226
	AMS250	450	25	48	65	500	7	550	550	140	M16	69.4	18	289.5
	AMS280	450	25	48	75	500	7	550	550	140	M16	79.9	20	289.5

1) For the dimensions Z5 for the RS and DH options, refer to the "Gear units" catalog. The adapter does not have any additional length because of the reinforced bearings. An exception is the AMS80/VL adapter. It has the same length as the AMS90 adapter.

Dimensional deviations for certain AMS.. adapter combinations with parallel-shaft helical gear units

42 072 01 22



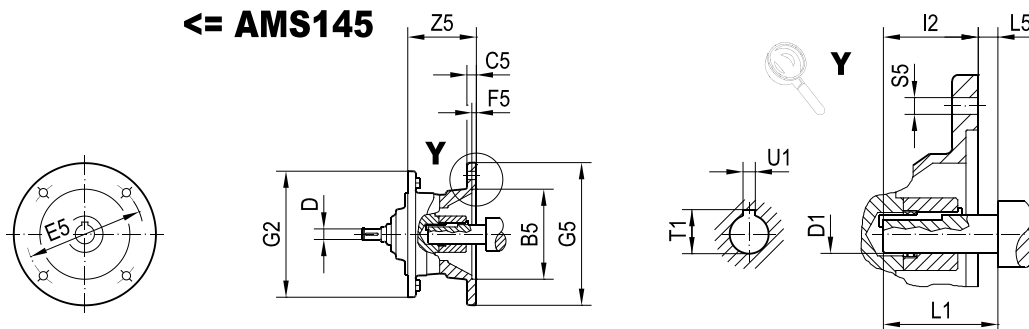
Gear units	Adapter with fixed safety cover made of sheet metal	Z5 ¹⁾
FA37	AMS71	78.5
FH37	AMS71	78.5
FT37	AMS71	78.5
FH37	AMS80	97.5
FT37	AMS80	97.5
FH37	AMS90	109
FT37	AMS90	109
FA47	AMS80	97.5
FH47	AMS80	97.5
FT47	AMS80	97.5
FH47	AMS90	109
FT47	AMS90	109
FA/FH57	AMS80	91
FT57	AMS80	91
FA/FH57	AMS90	102.5
FT57	AMS90	102.5
FH57	AMS100	153
FT57	AMS100	153
FH57	AMS112	153
FT57	AMS112	153
FT77	AMS132S/M	173.5
FT77	AMS132ML	173.5

1) For the dimensions Z5 for the RS and DH options, refer to the "Gear units" catalog. The adapter does not have any additional length because of the reinforced bearing in the AMS.. adapter. An exception is the AMS80 adapter with reinforced bearing. It has the same length as the AMS90 adapter.

Adapters for mounting NEMA motors

23 002 01 21

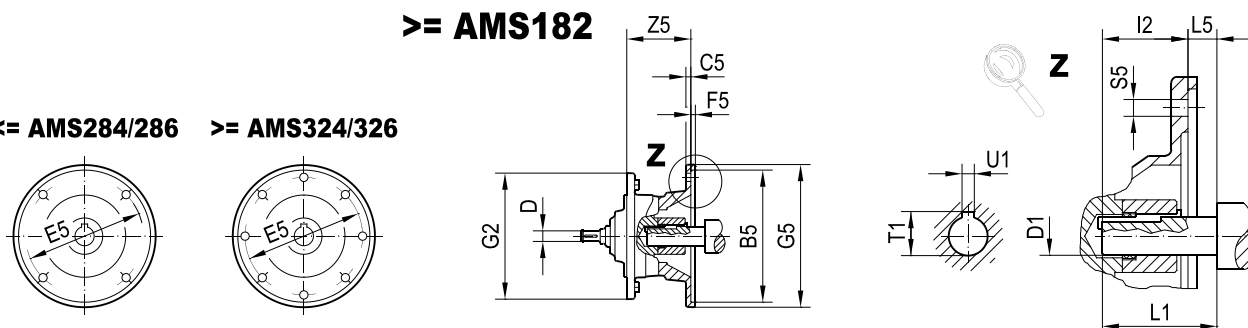
<= AMS145



>= AMS182

<= AMS284/286

>= AMS324/326

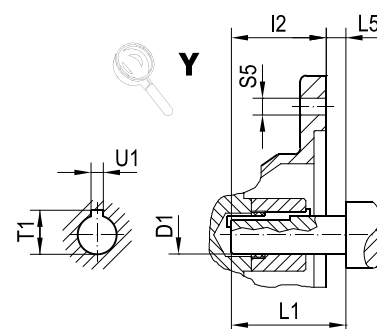
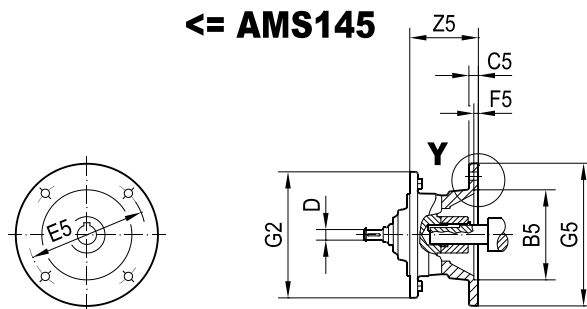


Gear unit type	Adapter type	Dimensions in mm														
		B5	C5	D	D1	E5	F5	G2	G5	I2	L1	L5	S5	T1	U1	Z5 ¹⁾
R..07 R..17 W..19	AMS56	114.3	11	10	15.875	149.2	4.5	105	170	52.3	48	-4.6	10.5	18.1	4.76	81.4
R..27, R..37 F..27, F..37, F..47 K..19, K..29, K..37 K..19, K..29, K..37 S..37, S..47, S..57 S..37p, S..47p, S..57p W..29, W..39	AMS56	114.3	11	10	15.875	149.2	4.5	120	170	52.3	48	-4.6	10.5	18.1	4.76	81.4
	AMS143	114.3	12	12	22.225	149.2	4.5	120	170	53.9	57	3.3	10.5	24.7	4.76	93.6
	AMS145	114.3	12	14	22.225	149.2	4.5	120	170	53.9	57	3.3	10.5	24.7	4.76	93.6
RX..57, RX..67 R..47, R..57, R..67 F..57, F..67 K..39, K..47, K..57, K..67 S..67/S..67p W..49, W..59	AMS56	114.3	11	10	15.875	149.2	4.5	160	170	52.3	48	-4.6	10.5	18.1	4.76	74.9
	AMS143	114.3	12	12	22.225	149.2	4.5	160	170	53.9	57	3.3	10.5	24.7	4.76	87.1
	AMS145	114.3	12	14	22.225	149.2	4.5	160	170	53.9	57	3.3	10.5	24.7	4.76	87.1
	AMS182	215.9	10	16	28.575	184.0	5	160	228	66.6	70	3.3	15	31.7	6.35	114.1
	AMS184	215.9	10	18	28.575	184.0	5	160	228	66.6	70	3.3	15	31.7	6.35	114.1
	AMS213/215	215.9	11	22	34.925	184.0	5	160	228	79.3	86	6.6	15	38.7	7.94	138.5
RX..77 R..77 F..77 K..49, K..77 S..77, S..77p	AMS56	114.3	11	10	15.875	149.2	4.5	200	170	52.3	48	-4.6	10.5	18.1	4.76	67.9
	AMS143	114.3	12	12	22.225	149.2	4.5	200	170	53.9	57	3.3	10.5	24.7	4.76	80.1
	AMS145	114.3	12	14	22.225	149.2	4.5	200	170	53.9	57	3.3	10.5	24.7	4.76	80.1
	AMS182	215.9	10	16	28.575	184.0	5	200	228	66.6	70	3.3	15	31.7	6.35	106.1
	AMS184	215.9	10	18	28.575	184.0	5	200	228	66.6	70	3.3	15	31.7	6.35	106.1
	AMS213/215	215.9	11	22	34.925	184.0	5	200	228	79.3	86	6.6	15	38.7	7.94	130.5

1) For the dimensions Z5 for the RS and DH options, refer to the "Gear units" catalog. The adapter does not have any additional length because of the reinforced bearings.

23 002 01 21

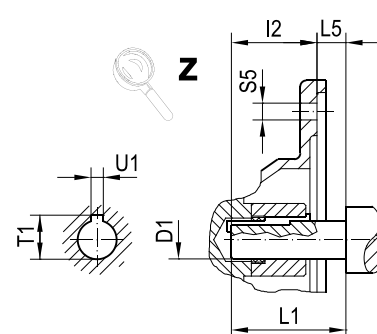
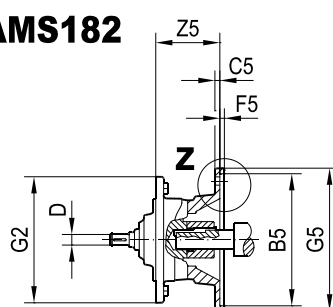
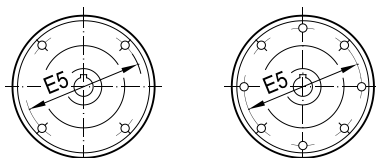
<= AMS145



>= AMS182

<= AMS284/286

>= AMS324/326



Gear unit type	Adapter type	Dimensions in mm														
		B5	C5	D	D1	E5	F..5	G2	G5	I2	L1	L5	S5	T1	U1	Z5 ¹⁾
RX..87 R..87 F..87 K..87 S..87 ²⁾ , S..87p ²⁾	AMS143	114.3	12	12	22.225	149.2	4.5	250	170	53.9	57	3.3	10.5	24.7	4.76	75.1
	AMS145	114.3	12	14	22.225	149.2	4.5	250	170	53.9	57	3.3	10.5	24.7	4.76	75.1
	AMS182	215.9	10	16	28.575	184.0	5	250	228	66.6	70	3.3	15	31.7	6.35	101.1
	AMS184	215.9	10	18	28.575	184.0	5	250	228	66.6	70	3.3	15	31.7	6.35	101.1
	AMS213/215	215.9	11	22	34.925	184.0	5	250	228	79.3	86	6.6	15	38.7	7.94	125.5
	AMS254/256	215.9	12	28	41.275	184.0	5	250	228	95.3	102	6.4	15	45.8	9.53	184.9
	AMS284/286	266.7	15	32	47.625	228.6	5	250	286	111.3	117	6.1	15	53.4	12.7	191.5
RX..97 ³⁾ R..97 ³⁾ F..97 K..97 S..97, S..97p	AMS182	215.9	10	16	28.575	184.0	5	300	228	66.6	70	3.3	15	31.7	6.35	96.1
	AMS184	215.9	10	18	28.575	184.0	5	300	228	66.6	70	3.3	15	31.7	6.35	96.1
	AMS213/215	215.9	11	22	34.925	184.0	5	300	228	79.3	86	6.6	15	38.7	7.94	120.5
	AMS254/256	215.9	12	28	41.275	184.0	5	300	228	95.3	102	6.4	15	45.8	9.53	179.9
	AMS284/286	266.7	15	32	47.625	228.6	5	300	286	111.3	117	6.1	15	53.4	12.7	186.5
	AMS324/326	317.5	17	38	53.975	279.4	5	300	356	127.0	133	6.4	17.5	60.0	12.7	252.4
	AMS364/365	317.5	17	38	60.325	279.4	5	300	356	142.8	149	6.6	17.5	67.6	15.88	252.4
RX..107 R..107, R..127 F..107 K..107	AMS182	215.9	10	16	28.575	184.0	5	350	228	66.6	70	3.3	15	31.7	6.35	90.1
	AMS184	215.9	10	18	28.575	184.0	5	350	228	66.6	70	3.3	15	31.7	6.35	90.1
	AMS213/215	215.9	11	22	34.925	184.0	5	350	228	79.3	86	6.6	15	38.7	7.94	114.5
	AMS254/256	215.9	12	28	41.275	184.0	5	350	228	95.3	102	6.4	15	45.8	9.53	173.9
	AMS284/286	266.7	15	32	47.625	228.6	5	350	286	111.3	117	6.1	15	53.4	12.7	180.5
	AMS324/326	317.5	17	38	53.975	279.4	5	350	356	127.0	133	6.4	17.5	60.0	12.7	246.4
	AMS364/365	317.5	17	38	60.325	279.4	5	350	356	142.8	149	6.6	17.5	67.6	15.88	246.4

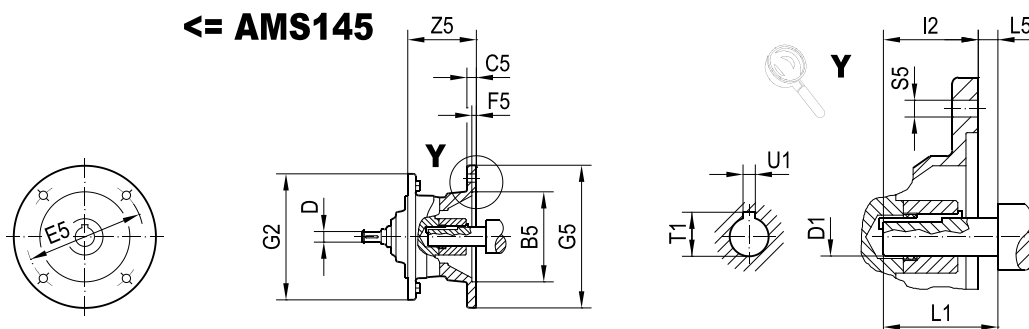
1) For the dimensions Z5 for the RS and DH options, refer to the "Gear units" catalog. The adapter does not have any additional length because of the reinforced bearings.

2) Not with AMS284/286.

3) Not with AMS364/365.

23 002 01 21

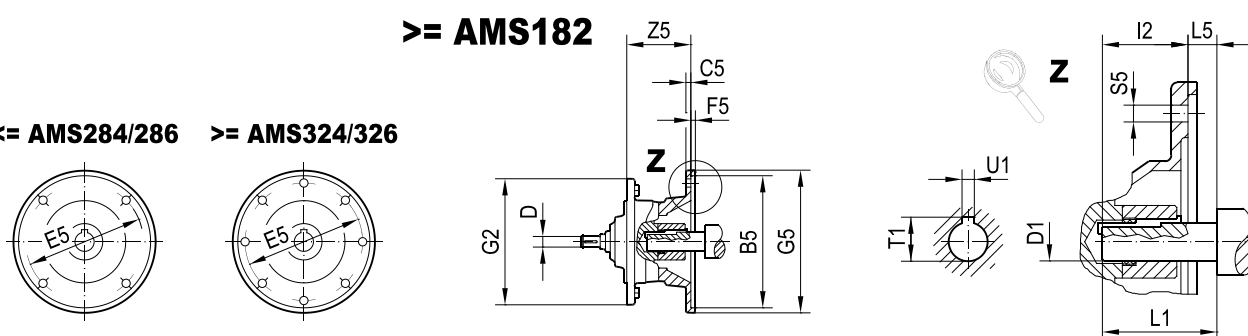
<= AMS145



>= AMS182

<= AMS284/286

>= AMS324/326



Gear unit type	Adapter type	Dimensions in mm														
		B5	C5	D	D1	E5	F5	G2	G5	I2	L1	L5	S5	T1	U1	Z5 ¹⁾
R..137	AMS213/215	215.9	11	22	34.925	184.0	5	400	228	79.3	86	6.6	15	38.7	7.94	107.5
	AMS254/256	215.9	12	28	41.275	184.0	5	400	228	95.3	102	6.4	15	45.8	9.53	166.9
	AMS284/286	266.7	15	32	47.625	228.6	5	400	286	111.3	117	6.1	15	53.4	12.7	173.5
	AMS324/326	317.5	17	38	53.975	279.4	5	400	356	127.0	133	6.4	17.5	60.0	12.7	239.4
	AMS364/365	317.5	17	38	60.325	279.4	5	400	356	142.8	149	6.6	17.5	67.6	15.88	239.4
R..147 F..127 K..127	AMS213/215	215.9	11	22	34.925	184.0	5	450	228	79.3	86	6.6	15	38.7	7.94	99.5
	AMS254/256	215.9	12	28	41.275	184.0	5	450	228	95.3	102	6.4	15	45.8	9.53	158.9
	AMS284/286	266.7	15	32	47.625	228.6	5	450	286	111.3	117	6.1	15	53.4	12.7	165.5
	AMS324/326	317.5	17	38	53.975	279.4	5	450	356	127.0	133	6.4	17.5	60.0	12.7	231.4
	AMS364/365	317.5	17	38	60.325	279.4	5	450	356	142.8	149	6.6	17.5	67.6	15.88	231.4
R..167 F..157 K..157, K..167, K..187	AMS254/256	215.9	12	28	41.275	184.0	5	550	228	95.3	102	6.4	15	45.8	9.53	150.9
	AMS284/286	266.7	15	32	47.625	228.6	5	550	286	111.3	117	6.1	15	53.4	12.7	157.5
	AMS324/326	317.5	17	38	53.975	279.4	5	550	356	127.0	133	6.4	17.5	60.0	12.7	223.4
	AMS364/365	317.5	17	38	60.325	279.4	5	550	356	142.8	149	6.6	17.5	67.6	15.88	223.4

1) For the dimensions Z5 for the RS and DH options, refer to the "Gear units" catalog. The adapter does not have any additional length because of the reinforced bearings.

6.12 Adapters for mounting servomotors

6.12.1 AQS.. adapter description

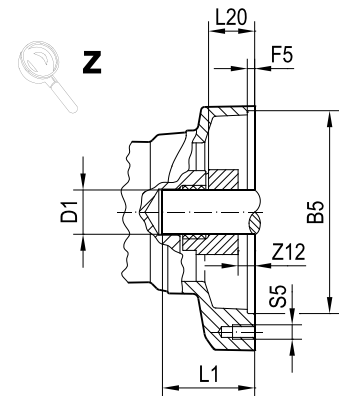
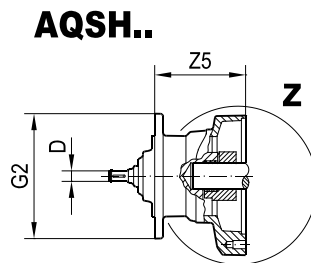
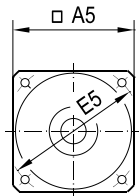
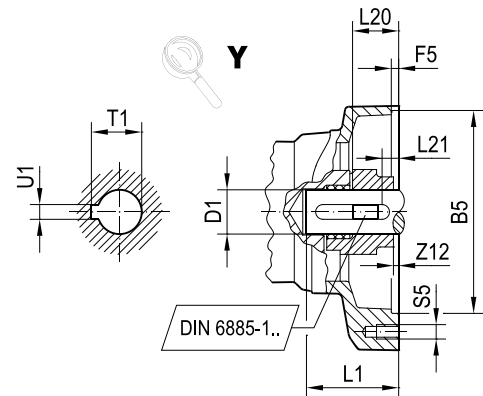
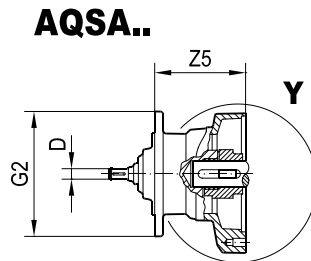
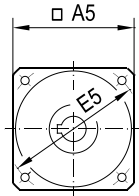
An adapter with square flange is used for mounting servomotors to R, F, K, S, and W.9 gear units.

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.

The coupling half on the motor side is available with a clamping ring hub (non-positive, for smooth motor shafts) in the AQSH.. design as well as with a keyway (positive) in the AQSA.. design.

6.12.2 Key

23 003 02 21

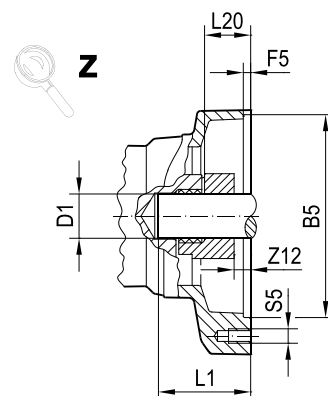
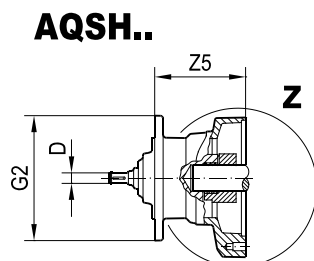
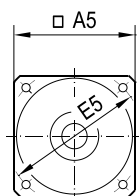
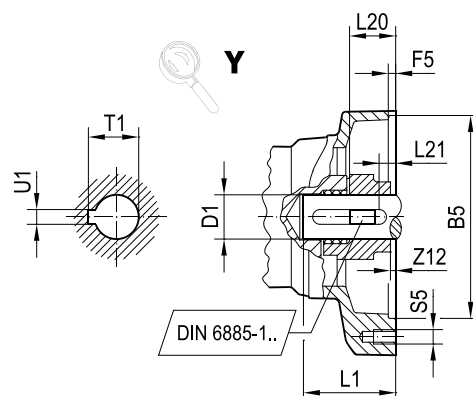
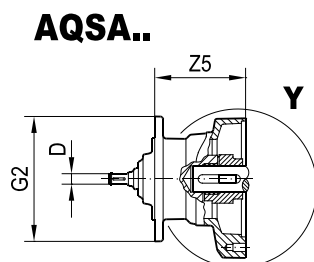
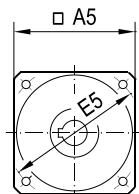


27021633788017163

- 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

6.12.3 Dimension sheets for AQS.. adapters

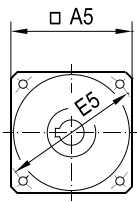
23 003 02 21



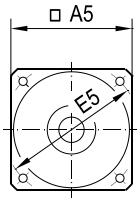
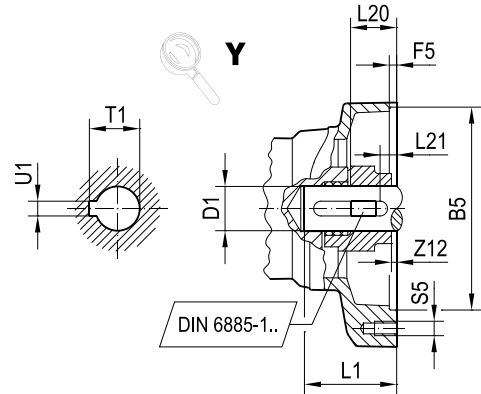
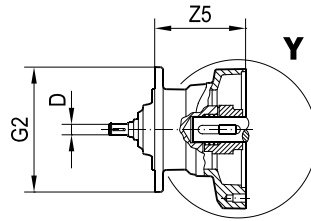
D1	T1	U1	AQS..							
			50/1 50/2	80/1 80/3 80/4 80/5	100/3 100/4 100/5	115/1 115/3 115/4 115/5	140/1 140/3 140/5 140/6	160/1	190/1 190/3 190/4 190/5	190/6
mm	mm	mm								
8 ¹⁾	-	-	X							
9	10.4	3	X							
11	12.8	4		X						
14	16.3	5		X	X					
16	18.3	5			X					
19	21.8	6			X	X				
22 ¹⁾	-	-				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 ¹⁾	X ¹⁾	X
38	41.3	10						X	X	

1) Terminal connection only (AQSH).

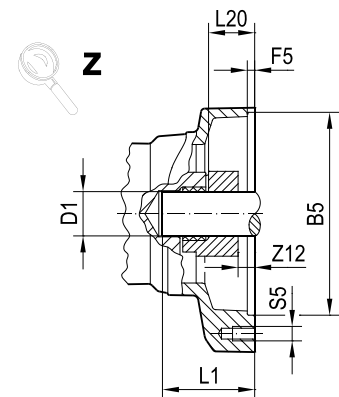
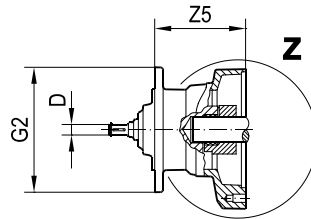
23 003 02 21



AQSA..



AQSH..



Gear unit type	Adapter type	Dimensions in mm													
		D1	L20	L21	A5	B5	D	E5	F5	G2	L1	S5	Z5	Z12	
				AQSA										AQSA	AQSH
R..07, R..17 W..19	AQS. 50/1	8 K7 ¹⁾	14	7	40	30	10	46	2.5	105	25	M4 × 7	52.5	3	4
	AQS. 50/2	9 H7	14	7	55	40	10	63	2.5	105	25	M4 × 7	52.5	3	4
	AQS. 80/1	11 H7 14 H7	18	11	73	60	10/12	75	3.5	105	31	M5 × 8	56.5	4	6
	AQS. 80/3			11	82	50	10/12	95	3.5	105	31	M6 × 10	56.5	4	6
	AQS. 80/4			11	60	50	10/12	70	3.5	105	31	M5 × 8	56.5	4	6
	AQS. 80/5	14 H7 16 H7 19 H7	20	11	75	60	10/12	90	3.5	105	31	M5 × 8	56.5	4	6
	AQS. 100/3			13	94	80	10/12	100	4	105	45	M6 × 10	73.7	4	6
	AQS. 100/4			13	105	95	10/12	115	4	105	45	M8 × 12	73.7	4	6
	AQS. 100/5	19 H7	20	13	94	70	10/12	90	4	105	45	M6 × 10	73.7	4	6

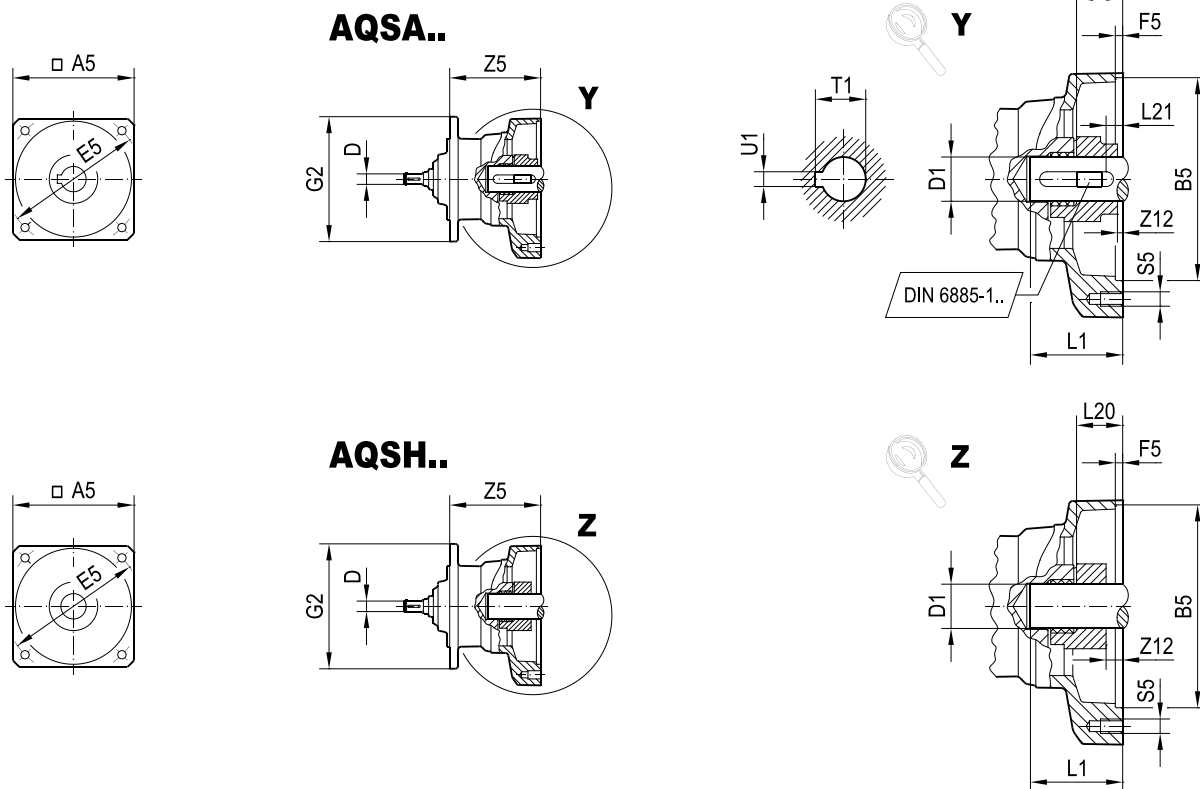
6 Design and operating notes

Adapters for mounting servomotors

Gear unit type	Adapter type	Dimensions in mm													
		D1	L20	L21	A5	B5	D	E5	F5	G2	L1	S5	Z5	Z12	
				AQSA										AQSA	AQSH
R..27, R..37 F..27, F..37, F..47 K..19, K..29, K..37 S..37, S..47, S..57 S..37p, S..47p, S..57p W..29, W..39	AQS. 50/1	8 K7 ¹⁾	14	7	40	30	10	46	2.5	120	25	M4 × 7	52.5	3	4
	AQS. 50/2	9 H7	14	7	55	40	10	63	2.5	120	25	M4 × 7	52.5	3	4
	AQS. 80/1	11 H7 14 H7	18	11	73	60	10/12	75	3.5	120	31	M5 × 8	56.5	4	6
	AQS. 80/3			11	82	50	10/12	95	3.5	120	31	M6 × 10	56.5	4	6
	AQS. 80/4			11	60	50	10/12	70	3.5	120	31	M5 × 8	56.5	4	6
	AQS. 80/5			11	75	60	10/12	90	3.5	120	31	M5 × 8	56.5	4	6
	AQS. 100/3	14 H7	20	13	94	80	10/12	100	4	120	45	M6 × 10	73.7	4	6
	AQS. 100/4	16 H7 19 H7	20	13	105	95	10/12	115	4	120	45	M8 × 12	73.7	4	6
	AQS. 100/5	19 H7	20	13	94	70	10/12	90	4	120	45	M6 × 10	73.7	4	6
	AQS. 115/1	19 H7 22 H7 ¹⁾ 24 H7	25	16	115	95	10/12/14/16	130	5	120	50	M8 × 14.5	86.25	0	9
	AQS. 115/3		25	16	115	110	10/12/14/16	130	5	120	50	M8 × 14.5	86.25	0	9
	AQS. 115/4		31	23	130	110	10/12/14/16	145	6.5	120	58	M8 × 14.5	92.25	6	15
	AQS. 115/5		25	16	115	95	10/12/14/16	115	5	120	50	M8 × 14.5	86.25	0	9
	AQS. 140/1	24 H7	30	24 H7 → 11	140	110	16	165	5	120	60	M10 × 20	108.9	4	8
	AQS. 140/3	28 H7	30	28 H7 → 19	140	130	16	165	5	120	60	M10 × 20	108.9	4	8
	AQS. 140/5	32 H7	30	32 H7 → 19	190	180	16	215	5	120	60	M12 × 22	108.9	4	8

1) Only clamp connection (AQSH).

23 003 02 21

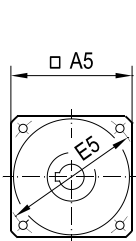


27782913/EN – 02/2023

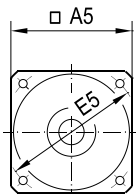
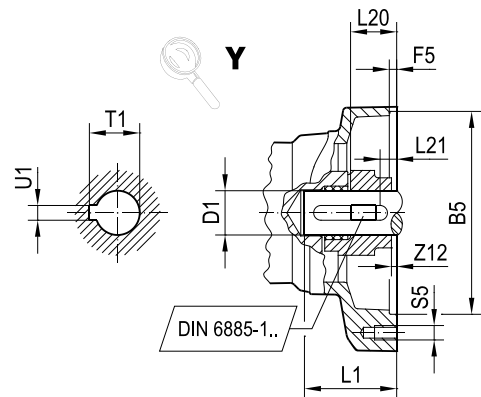
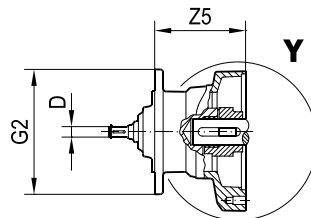
Gear unit type	Adapter type	Dimensions in mm													
		D1	L20	L21	A5	B5	D	E5	F5	G2	L1	S5	Z5	Z12	
				AQSA										AQSA	AQSH
RX..57, RX..67 R..47, R..57, R..67 F..57, F..67 K..39, K..47, K..57, K..67 S..67, S..67p W..49, W..59	AQS. 80/1			11	73	60	10/12	75	3.5	160	31	M5 × 8	56.5	4	6
	AQS. 80/3	11 H7	18	11	82	50	10/12	95	3.5	160	31	M6 × 10	56.5	4	6
	AQS. 80/4	14 H7	18	11	60	50	10/12	70	3.5	160	31	M5 × 8	56.5	4	6
	AQS. 80/5			11	75	60	10/12	90	3.5	160	31	M5 × 8	56.5	4	6
	AQS. 100/3	14 H7	20	13	94	80	10/12	100	4	160	45	M6 × 10	73.7	4	6
	AQS. 100/4	16 H7 19 H7	20	13	105	95	10/12	115	4	160	45	M8 × 12	73.7	4	6
	AQS. 100/5	19 H7	20	13	94	70	10/12	90	4	160	45	M6 × 10	73.7	4	6
	AQS. 115/1		25	16	115	95	10/12/14/16	130	5	160	50	M8 × 14.5	86.25	0	9
	AQS. 115/3	19 H7 22 H7 ¹⁾	25	16	115	110	10/12/14/16	130	5	160	50	M8 × 14.5	86.25	0	9
	AQS. 115/4	24 H7	31	23	130	110	10/12/14/16	145	6.5	160	58	M8 × 14.5	92.25	6	15
	AQS. 115/5		25	16	115	95	10/12/14/16	115	5	160	50	M8 × 14.5	86.25	0	9
	AQS. 140/1		30		140	110	16/18/22	165	5	160	60	M10 × 20	108.4	4	8
	AQS. 140/3	24 H7	30	24 H7 → 11	140	130	16/18/22	165	5	160	60	M10 × 20	108.4	4	8
	AQS. 140/5	28 H7 32 H7	30	28 H7 → 19 32 H7 → 19	190	180	16/18/22	215	5	160	60	M12 × 22	108.4	4	8
	AQS. 140/6		30		140	130	16/18/22	165	5	160	80	M10 × 20	108.4	4	8
	AQS. 160/1	28 H7 32 H7 35 H7 ¹⁾ 38 H7	34	28 H7 → 15 32 H7 → 17 38 H7 → 21	163	155	16/18/22	190	5	160	60	M10 × 20	133.8	0	8
	AQS. 190/1		34		190	130	22	215	5	160	80	M12 × 22	133.8	0	8
	AQS. 190/3	28 H7 32 H7	34	28 H7 → 15 32 H7 → 17	190	180	22	215	5	160	80	M12 × 22	133.8	0	8
	AQS. 190/4	35 H7 ¹⁾	34	32 H7 → 17 38 H7 → 21	180	114.3	22	200	5	160	80	M12 × 22	133.8	0	8
	AQS. 190/5	38 H7	34		240	230	22	265	5	160	80	M12 × 22	133.8	0	8
	AQS. 190/6	35 H7	46	31	180	114.3	22	200	5	160	80	M12 × 22	145.8	12	20

1) Only clamp connection (AQSH).

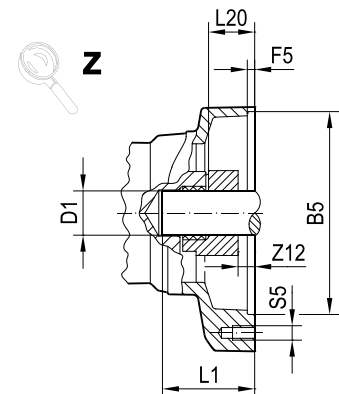
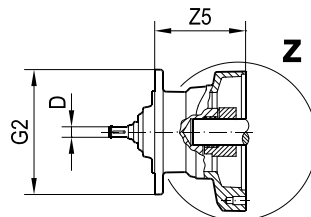
23 003 02 21



AQSA..



AQSH..



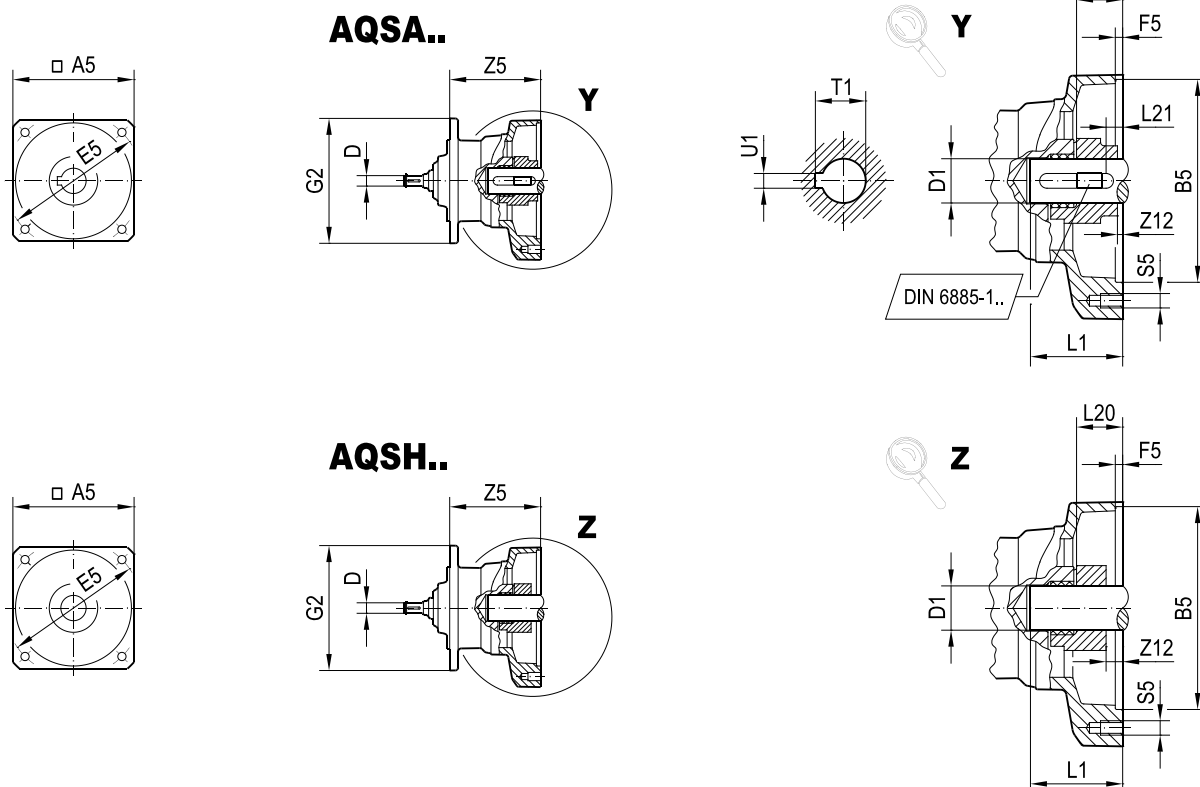
6 Design and operating notes

Adapters for mounting servomotors

Gear unit type	Adapter type	Dimensions in mm													
		D1	L20	L21	A5	B5	D	E5	F5	G2	L1	S5	Z5	Z12	
				AQSA										AQSA	AQSH
RX..77 R..77 F..77 K..49 K..77 S..77, S..77p	AQS. 80/1	11 H7 14 H7	18	11	73	60	10/12	75	3.5	200	31	M5 × 8	56.5	4	6
	AQS. 80/3			11	82	50	10/12	95	3.5	200	31	M6 × 10	56.5	4	6
	AQS. 80/4			11	60	50	10/12	70	3.5	200	31	M5 × 8	56.5	4	6
	AQS. 80/5			11	75	60	10/12	90	3.5	200	31	M5 × 8	56.5	4	6
	AQS. 100/3	14 H7 16 H7 19 H7	20	13	94	80	10/12	100	4	200	45	M6 × 10	73.7	4	6
	AQS. 100/4	19 H7 22 H7 ¹⁾ 24 H7	20	13	105	95	10/12	115	4	200	45	M8 × 12	73.7	4	6
	AQS. 100/5		20	13	94	70	10/12	90	4	200	45	M6 × 10	73.7	4	6
	AQS. 115/1		25	16	115	95	10/12/14/16	130	5	200	50	M8 × 14.5	86.25	0	9
	AQS. 115/3		25	16	115	110	10/12/14/16	130	5	200	50	M8 × 14.5	86.25	0	9
	AQS. 115/4	24 H7 28 H7 32 H7 38 H7	31	23	130	110	10/12/14/16	145	6.5	200	58	M8 × 14.5	92.25	6	15
	AQS. 115/5		25	16	115	95	10/12/14/16	115	5	200	50	M8 × 14.5	86.25	0	9
	AQS. 140/1		30	24 H7 → 11 28 H7 → 19 32 H7 → 19	140	110	16/18/22	165	5	200	60	M10 × 20	108.4	4	8
	AQS. 140/3		30		140	130	16/18/22	165	5	200	60	M10 × 20	108.4	4	8
	AQS. 140/5		30		190	180	16/18/22	215	5	200	60	M12 × 22	108.4	4	8
	AQS. 140/6		30		140	130	16/18/22	165	5	200	80	M10 × 20	108.4	4	8
	AQS. 160/1	28 H7 32 H7 35 H7 ¹⁾ 38 H7	34	28 H7 → 15 32 H7 → 17 38 H7 → 21	163	155	16/18/22	190	5	200	60	M10 × 20	133.8	0	8
	AQS. 190/1	28 H7 32 H7 35 H7 ¹⁾ 38 H7	34	28 H7 → 15 32 H7 → 17 38 H7 → 21	190	130	22/28	215	5	200	80	M12 × 22	133.8	0	8
	AQS. 190/3		34		190	180	22/28	215	5	200	80	M12 × 22	133.8	0	8
	AQS. 190/4		34		180	114.3	22/28	200	5	200	80	M12 × 22	133.8	0	8
	AQS. 190/5		34		240	230	22/28	265	5	200	80	M12 × 22	133.8	0	8
	AQS. 190/6	35 H7	46	31	180	114.3	22/28	200	5	200	80	M12 × 22	145.8	12	20

1) Only clamp connection (AQSH).

23 003 02 21

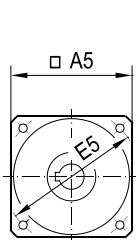


27782913/EN – 02/2023

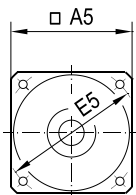
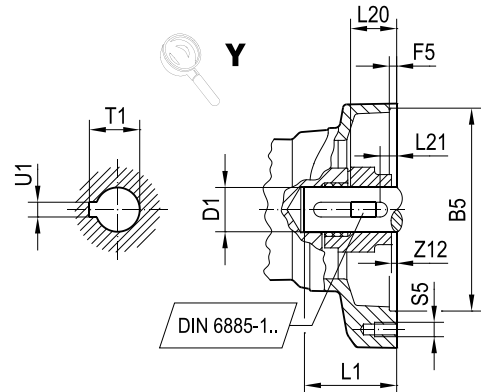
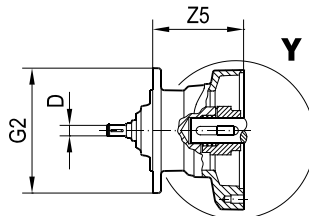
Gear unit type	Adapter type	Dimensions in mm													
		D1	L20	L21	A5	B5	D	E5	F5	G2	L1	S5	Z5	Z12	
				AQSA										AQSA	AQSH
RX..87 R..87 F..87 K..87 S..87, S..87p	AQS. 100/3	14 H7	20	13	94	80	10/12	100	4	250	45	M6 × 10	73.7	4	6
	AQS. 100/4	16 H7 19 H7	20	13	105	95	10/12	115	4	250	45	M8 × 12	73.7	4	6
	AQS. 100/5	19 H7	20	13	94	70	10/12	90	4	250	45	M6 × 10	73.7	4	6
	AQS. 115/1	19 H7 22 H7 ¹⁾ 24 H7	25	16	115	95	10/12/14/16	130	5	250	50	M8 × 14.5	86.25	0	9
	AQS. 115/3		25	16	115	110	10/12/14/16	130	5	250	50	M8 × 14.5	86.25	0	9
	AQS. 115/4		31	23	130	110	10/12/14/16	145	6.5	250	58	M8 × 14.5	92.25	6	15
	AQS. 115/5		25	16	115	95	10/12/14/16	115	5	250	50	M8 × 14.5	86.25	0	9
	AQS. 140/1	24 H7 28 H7 32 H7	30	24 H7→ 11 28 H7→ 19 32 H7→ 19	140	110	16/18/22	165	5	250	60	M10 × 20	108.4	4	8
	AQS. 140/3		30		140	130	16/18/22	165	5	250	60	M10 × 20	108.4	4	8
	AQS. 140/5		30		190	180	16/18/22	215	5	250	60	M12 × 22	108.4	4	8
	AQS. 140/6		30		140	130	16/18/22	165	5	250	80	M10 × 20	108.4	4	8
	AQS. 160/1	28 H7 32 H7 35 H7 ¹⁾ 38 H7	34	28 H7→ 15 32 H7→ 17 38 H7→ 21	163	155	16/18/22	190	5	250	60	M10 × 20	133.8	0	8
	AQS. 190/1	28 H7 32 H7 35 H7 ¹⁾ 38 H7	34	28 H7→ 15 32 H7→ 17 38 H7→ 21	190	130	22/28	215	5	250	80	M12 × 22	133.8	0	8
	AQS. 190/3		34		190	180	22/28	215	5	250	80	M12 × 22	133.8	0	8
	AQS. 190/4		34		180	114.3	22/28	200	5	250	80	M12 × 22	133.8	0	8
	AQS. 190/5		34		240	230	22/28	265	5	250	80	M12 × 22	133.8	0	8
	AQS. 190/6		46		31	180	114.3	22/28	200	5	250	80	M12 × 22	145.8	12

1) Only clamp connection (AQSH).

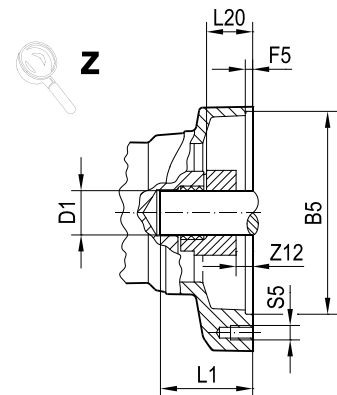
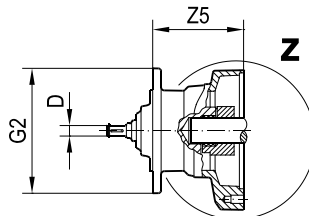
23 003 02 21



AQSA..



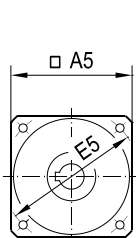
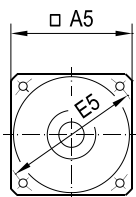
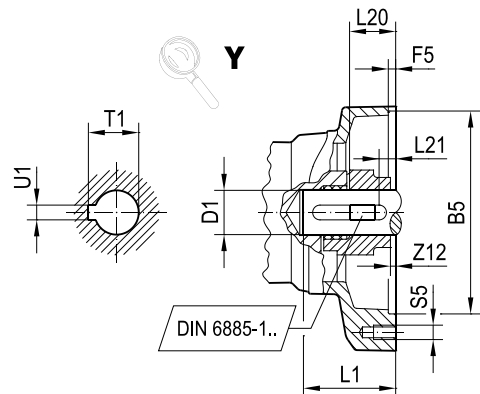
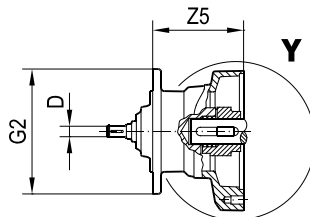
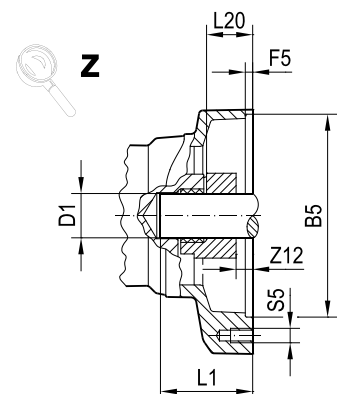
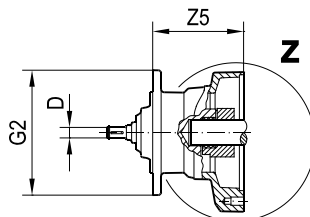
AQSH..



Gear unit type	Adapter type	Dimensions in mm													
		D1	L20	L21	A5	B5	D	E5	F5	G2	L1	S5	Z5	Z12	
				AQSA										AQSA	AQSH
RX..97 R..97 F..97 K..97 S..97, S..97p	AQS. 140/1		30		140	110	16/18/22	165	5	300	60	M10 × 20	108.4	4	8
	AQS. 140/3	24 H7	30	24 H7→ 11	140	130	16/18/22	165	5	300	60	M10 × 20	108.4	4	8
	AQS. 140/5	28 H7 32 H7	30	28 H7→19 32 H7→ 19	190	180	16/18/22	215	5	300	60	M12 × 22	108.4	4	8
	AQS. 140/6		30		140	130	16/18/22	165	5	300	80	M10 × 20	108.4	4	8
	AQS. 160/1	28 H7 32 H7 35 H7 ¹⁾ 38 H7	34	28 H7→ 15 32 H7→17 38 H7→ 21	163	155	16/18/22	190	5	300	60	M10 × 20	133.8	0	8
	AQS. 190/1	28 H7	34	28 H7→ 15 32 H7→17 38 H7→ 21	190	130	22/28	215	5	300	80	M12 × 22	133.8	0	8
	AQS. 190/3	32 H7	34		190	180	22/28	215	5	300	80	M12 × 22	133.8	0	8
	AQS. 190/4	35 H7 ¹⁾	34		180	114.3	22/28	200	5	300	80	M12 × 22	133.8	0	8
	AQS. 190/5	38 H7	34		240	230	22/28	265	5	300	80	M12 × 22	133.8	0	8
	AQS. 190/6	35 H7	46	31	180	114.3	22/28	200	5	300	80	M12 × 22	145.8	12	20
RX..107 R..107 R..127 F..107 K..107	AQS. 140/1		30		140	110	16/18/22	165	5	350	60	M10 × 20	108.4	4	8
	AQS. 140/3	24 H7	30	24 H7→ 11	140	130	16/18/22	165	5	350	60	M10 × 20	108.4	4	8
	AQS. 140/5	28 H7 32 H7	30	28 H7→19 32 H7→ 19	190	180	16/18/22	215	5	350	60	M12 × 22	108.4	4	8
	AQS. 140/6		30		140	130	16/18/22	165	5	350	80	M10 × 20	108.4	4	8
	AQS. 160/1	28 H7 32 H7 35 H7 ¹⁾ 38 H7	34	28 H7→ 15 32 H7→17 38 H7→ 21	163	155	16/18/22	190	5	350	60	M10 × 20	133.8	0	8
	AQS. 190/1	28 H7	34	28 H7→ 15 32 H7→17 38 H7→ 21	190	130	22/28	215	5	350	80	M12 × 22	133.8	0	8
	AQS. 190/3	32 H7	34		190	180	22/28	215	5	350	80	M12 × 22	133.8	0	8
	AQS. 190/4	35 H7 ¹⁾	34		180	114.3	22/28	200	5	350	80	M12 × 22	133.8	0	8
	AQS. 190/5	38 H7	34		240	230	22/28	265	5	350	80	M12 × 22	133.8	0	8
	AQS. 190/6	35 H7	46	31	180	114.3	22/28	200	5	350	80	M12 × 22	145.8	12	20

1) Only clamp connection (AQSH).

23 003 02 21

**AQSA..****AQSH..**

Gear unit type	Adapter type	Dimensions in mm													
		D1	L20	L21	A5	B5	D	E5	F5	G2	L1	S5	Z5	Z12	
				AQSA										AQSA	AQSH
R..137	AQS. 190/1		34		190	130	22/28	215	5	400	80	M12 × 22	133.8	0	8
	AQS. 190/3	28 H7 32 H7	34	28 H7 → 15 32 H7 → 17	190	180	22/28	215	5	400	80	M12 × 22	133.8	0	8
	AQS. 190/4	35 H7 ¹⁾	34	38 H7 → 21	180	114.3	22/28	200	5	400	80	M12 × 22	133.8	0	8
	AQS. 190/5	38 H7	34		240	230	22/28	265	5	400	80	M12 × 22	133.8	0	8
	AQS. 190/6	35 H7	46	31	180	114.3	22/28	200	5	400	80	M12 × 22	145.8	12	20
R..147 F..127 K..127	AQS. 190/1		34		190	130	22/28	215	5	450	80	M12 × 22	133.8	0	8
	AQS. 190/2	28 H7	34		190	180	22/28	215	5	450	80	M12 × 22	133.8	0	8
	AQS. 190/3	32 H7 35 H7 ¹⁾	34	28 H7 → 15 32 H7 → 17	190	180	22/28	215	5	450	80	M12 × 22	133.8	0	8
	AQS. 190/4	38 H7	34	38 H7 → 21	180	114.3	22/28	200	5	450	80	M12 × 22	133.8	0	8
	AQS. 190/5		34		240	230	22/28	265	5	450	80	M12 × 22	133.8	0	8
	AQS. 190/6	35 H7	46	31	180	114.3	22/28	200	5	450	80	M12 × 22	145.8	12	20

1) Only clamp connection (AQSH).

6.13 Gear unit mounting

Strength class of the screws

Always mount gearmotors using screws of strength class 8.8. The gearmotors in flange-mounted design and in foot/flange-mounted design listed in the following table are an exception. Always use screws of strength class 10.9 for these gearmotors. Use suitable washers.

Gear unit	Flange Ø mm	Strength class of the screws
RF37/R37F SF37p	120	10.9
RF47/R47F	140	
RF57/R57F	160	
SF67p	200	
FF/FAF77 KF/KAF77 SF77p	250	
FM/FAM67, FM/FAM77 KM/KAM67, KM/KAM77	300	
FM/FAM87 KM/KAM87 SF87p	350	
FM/FAM97 KM/KAM97	400	
RF147 FM/FAM107 KM/KAM107	450	
RF167 FM/FAM127 KM/KAM127	550	
FM/FAM157 KM/KAM157	660	
RZ37 to RZ87	60ZR to 130ZR	

6.14 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.

6.14.1 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	6442463
FA, FH, FV, FT Rubber buffer (2 pieces)	0133485	0133485	0133485	0133485	0133485	0133493

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

Gear units	Size			
	10	19	20	29
WA, WH, WT	10610219	01680730	01680730	10684115

Gear unit	Size			
	30	39	49	59
WA, WH, WT	1680110	10684107	29226015	29226430

6.14.2 Stainless steel torque arm

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

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

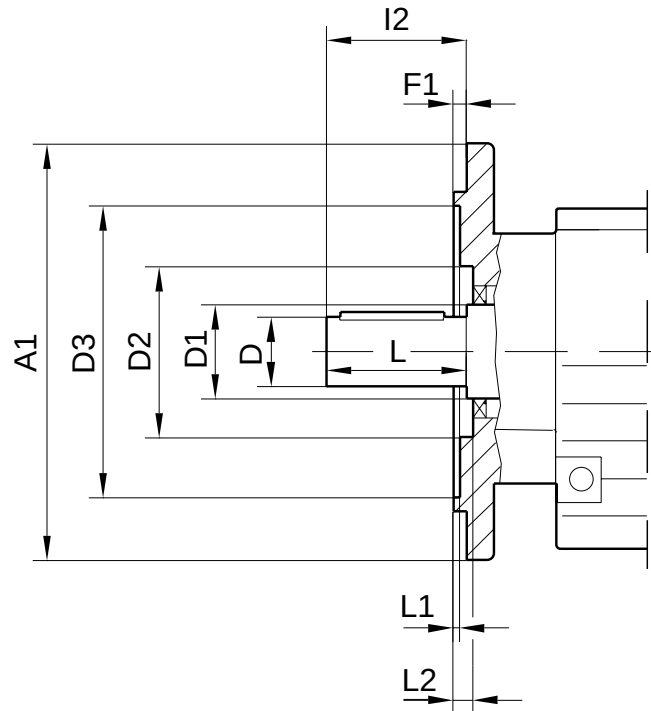
Gear unit	Size			
	10	19	20	29
WA, WH, WT	10638024	10638032	10638032	10638008

Gear unit	Size			
	30	39	49	59
WA, WH, WT	10638040	10638016	18762611	18762638

6.14.3 Torque arms for KH167.., KH187..

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

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

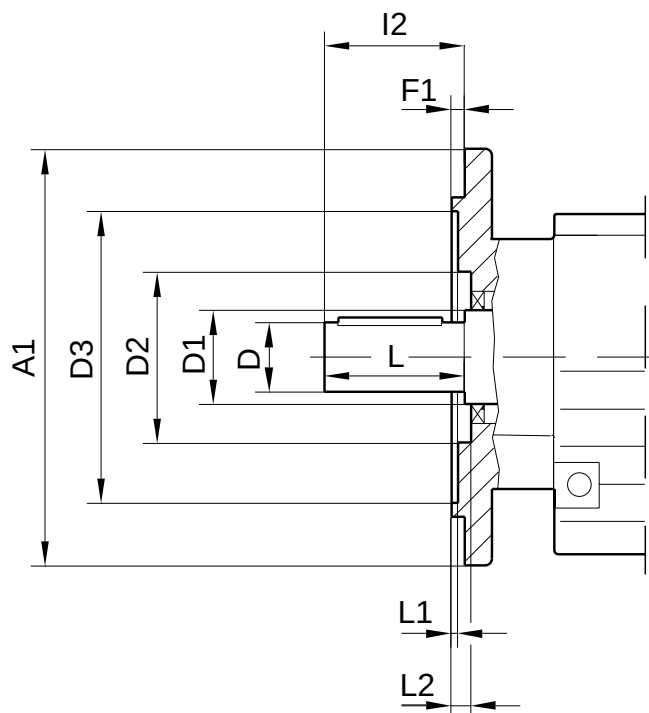


45036000583876363

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

Type	Dimensions in mm											
	A1	D	D1	D2		D3	F1	I2	L	L1		L2
				RF	R..F					RF	R..F	
RF07, R07F	120	20	22	38	38	72	3	40	40	2	2	6
	140 ¹⁾	20	22	38	—	85	3	40	40	2	—	6
	160 ¹⁾	20	22	38	—	100	3.5	40	40	2.5	—	6.5
RF17, R17F	120	20	25	46	46	65	3	40	40	1	1	5
	140	20	25	46	—	78	3	40	40	1	—	5
	160 ¹⁾	20	25	46	—	95	3.5	40	40	1	—	6
RF27, R27F	120	25	30	54	54	66	3	50	50	1	1	6
	140	25	30	54	—	79	3	50	50	3	—	7
	160	25	30	54	—	92	3.5	50	50	3	—	7
RF37, R37F	120	25	35	60	63	70	3	50	50	5	4	7
	160	25	35	60	—	96	3.5	50	50	1	—	7.5
	200 ¹⁾	25	35	60	—	119	3.5	50	50	1	—	7.5
RF47, R47F	140	30	35	72	64	82	3	60	60	4	1	6
	160	30	35	72	—	96	3.5	60	60	0.5	—	6.5
	200	30	35	72	—	116	3.5	60	60	0.5	—	6.5
RF57, R57F	160	35	40	76	75	96	3.5	70	70	4	2.5	5
	200	35	40	76	—	116	3.5	70	70	0	—	5
	250 ¹⁾	35	40	76	—	160	4	70	70	0.5	—	5.5
RF67, R67F	200	35	50	90	90	118	3.5	70	70	2	4	7
	250	35	50	90	—	160	4	70	70	1	—	7.5

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



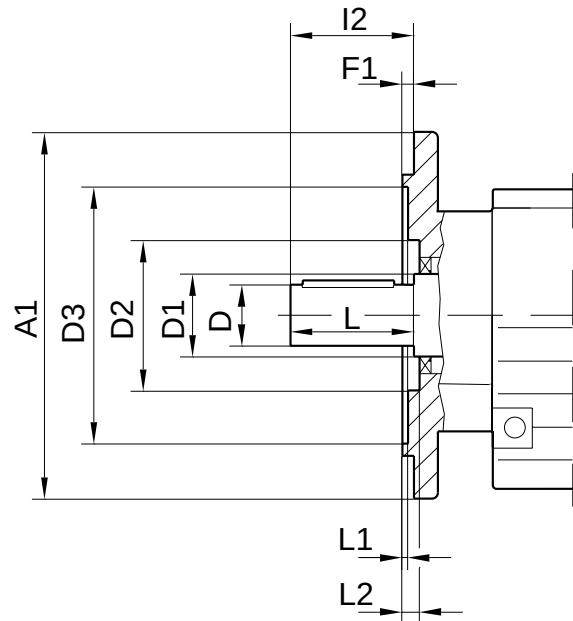
45036000583876363

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
RF167	550	120	145	290		416	5	210	210	1		10
	660	120	145	290		517	6	210	210	2		11

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

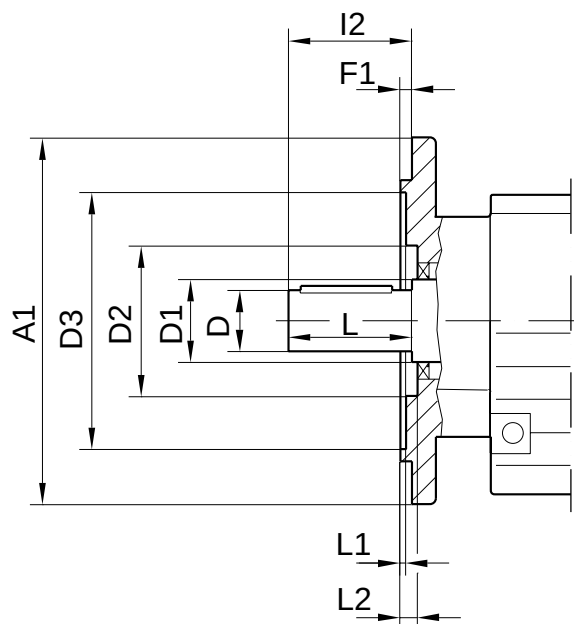
6.16 Flange contours of FF..., KF..., SF... and WF... gear units



36028801329138443

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

Type	Dimensions in mm									
	A1	D	D1	D2	D3	F1	I2	L	L1	L2
FF27	160	25	40	66	96	3.5	50	50	3	18.5
FF37	160	25	30	70	94	3.5	50	50	2	6
FF47	200	30	40	72	115	3.5	60	60	3.5	7.5
FF57	250	35	40	84	155	4	70	70	4	9
FF67	250	40	50	84	155	4	80	80	4	9
FF77	300	50	55	82	205	4	100	100	5	9
FF87	350	60	65	115	220	5	120	120	5	9
FF97	450	70	75	112	320	5	140	140	8	10
FF107	450	90	100	159	318	5	170	170	16	9
FF127	550	110	118	-	420	5	210	210	10	-
FF157	660	120	135	190	520	6	210	210	8	14
KF19	120	20	25	-	70	2.5	40	40	-	11.5
	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	-
KF157	660	120	135	190	520	6	210	210	8	14

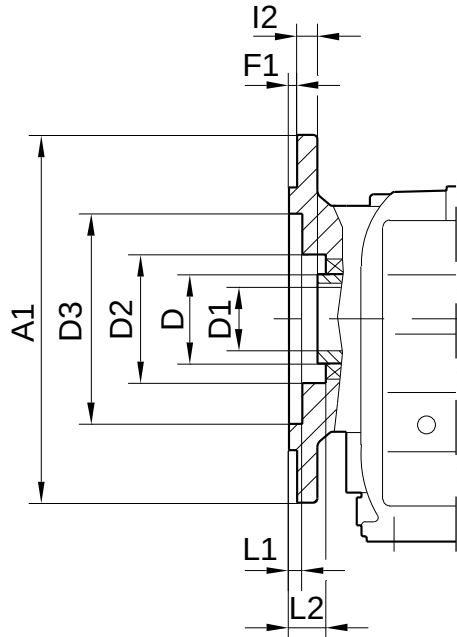


36028801329138443

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	-
SF77	250	45	55	108	160	4	90	90	8	9
SF87	350	60	65	130	220	5	120	120	6	10
SF97	450	70	75	150	320	5	140	140	8.5	10
WF10	80	16	25	-	39	2.5	40	40	30	-
	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

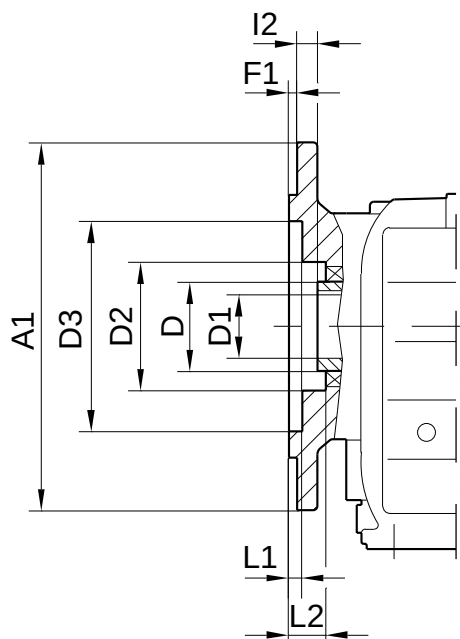
6.17 Flange contours of FAF..., KAF..., SAF.. and WAF.. gear units



45036000584108811

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

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



45036000584108811

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

Type	Dimensions in mm								
	A1	D	D1	D2	D3	F1	I2	L1	L2
SAF37	120	35	20	-	68	3	15	6	-
	160	35	20	-	96	3.5	15	5.5	-
SAF47	160	45	30 / 25	62	94	3.5	24	2	30
SAF57	200	50	35 / 30	70	115	3.5	25	3.5	31.5
SAF67	200	65	45 / 40	91	115	3.5	42.5	4	48.5
SAF77	250	80	60 / 50	112	164	4	45.5	5	53.5
SAF87	350	95	70 / 60	131	220	5	52.5	6	62.5
SAF97	450	120	90 / 70	160	320	5	60	6.5	69
WAF10	80	25	16	-	39	2.5	23	30	-
	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

6.18 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} of the gear unit as shown in the catalog. Further shaft dimensions are available on request.

6.18.1 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	167
Solid shaft in mm	60×120 ¹⁾²⁾	70×140 ¹⁾²⁾	90×170 ²⁾	90×170 ¹⁾²⁾	110×210 ¹⁾²⁾	120×210
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	4.75×8.27

1) Optional stainless steel X17CrNi16-2+QT900.

2) Optional solid shaft without key (smooth).

6.18.2 F series parallel-shaft helical gear units

F 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⁾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).

F series parallel-shaft helical gear units					
Gear unit size	87	97	107	127	157
Solid shaft in mm	60×120 ¹⁾²⁾	70×140 ¹⁾	90×170	110×210	120×210
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	4.75×8.27
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).

6.18.3 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⁾	1.25×2.76 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	157
Solid shaft in mm	60×120 ¹⁾	70×140 ¹⁾	90×170	110×210	120×210 ²⁾
Solid shaft in inches	2.375×4.72 ¹⁾	2.875×5.51 ¹⁾	3.625×6.69	4.375×8.27	4.75×8.27

1) Optional stainless steel X17CrNi16-2+QT900.

2) Optional solid shaft without key (smooth).

6.18.4 FZ series parallel-shaft helical gear units

FZ series 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	157
Solid shaft in mm	60×120	70×140	90×170 ¹⁾	110×210	120×210

1) Optional stainless steel X17CrNi16-2+QT900.

6.18.5 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	157
Hollow shaft in mm	60 ¹⁾²⁾³⁾	70 ¹⁾²⁾³⁾	80 ¹⁾²⁾³⁾ 90 ¹⁾²⁾³⁾	100 ¹⁾²⁾³⁾	120 ¹⁾
Hollow shaft in inches	2.375 ¹⁾ 2.438	2.75 ¹⁾ 2.938	3.25 3.438 3.625	4	4.5

1) Optional stainless steel X17CrNi16-2+QT900.

2) Optional with reinforced bearings.

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

6.18.6 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	157
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⁾	125 ¹⁾ 125/126

1) Optional stainless steel X17CrNi16-2+QT900.

2) Optional with reinforced bearings.

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

6.18.7 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	N30	N35	N35	N45	N50	N65 ¹⁾	N70	N85
Splined hollow shaft								

1) Optional stainless steel X17CrNi16-2+QT900.

6.18.8 FT parallel-shaft helical gear units**FT parallel-shaft helical gear units**

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

1) Optional stainless steel X17CrNi16-2+QT900.

FT parallel-shaft helical gear units

Gear unit size	87	97	107	127	157
Hollow shaft in mm	50	60	80 ¹⁾	90	110 ¹⁾
With TorqLOC®	51 ¹⁾	62 ¹⁾	85 ¹⁾	95 ¹⁾	120
With TorqLOC® Plus	55	65	90 ¹⁾	100 ¹⁾	125 ¹⁾
	60 ¹⁾	70 ¹⁾	92 ¹⁾	105 ¹⁾	127 ¹⁾
	62 ¹⁾	75 ¹⁾	95 ¹⁾		
	65 ¹⁾				
Hollow shaft in inches	1.938 ¹⁾	2.438 ¹⁾	3.25 ¹⁾	3.438 ¹⁾	4.438 ¹⁾
With TorqLOC®	2 ¹⁾	2.75 ¹⁾	3.438 ¹⁾	3.75 ¹⁾	4.5 ¹⁾
With TorqLOC® Plus	2.375 ¹⁾	2.938 ¹⁾	3.625 ¹⁾	3.938 ¹⁾	4.938 ¹⁾
	2.438 ¹⁾		3.75 ¹⁾	4 ¹⁾	5 ¹⁾
				4.188 ¹⁾	

1) Optional stainless steel X17CrNi16-2+QT900.

6.18.9 K series helical-bevel gear units

K series helical-bevel gear units								
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).

K series helical-bevel gear units								
Gear unit size	77	87	97	107	127	157	167	187
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⁾	120×210 ²⁾	160×250 ²⁾ 140×250	190×320 ²⁾ 160×300
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⁾	120×210 ²⁾	160×250	190×320 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	4.75×8.27	6.25×9.84	7.5×12.6
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	4.75×8.27	6.25×9.84	7.5×12.6

1) Optional stainless steel X17CrNi16-2+QT900.

2) Optional solid shaft without key (smooth).

6.18.10 KF helical-bevel gear units

KF 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	0.75×1.57 ¹⁾	1×1.97 ¹⁾	1×1.97 ¹⁾ 1.25×2.36 ¹⁾	1.375×2.76 ¹⁾	1×1.97 ¹⁾	1.25×2.76 ¹⁾	1.375×2.76 ¹⁾

1) Optional stainless steel X17CrNi16-2+QT900.

2) Optional solid shaft without key (smooth).

KF helical-bevel gear units							
Gear unit size	67	77	87	97	107	127	157
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	120×210 ²⁾
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	4.75×8.27

1) Optional stainless steel X17CrNi16-2+QT900.

2) Optional solid shaft without key (smooth).

6.18.11 KZ helical-bevel gear units

KZ 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 helical-bevel gear units					
Gear unit size	87	97	107	127	157
Solid shaft in mm	60×120	70×140	90×170 ¹⁾	110×210	120×210

1) Optional stainless steel X17CrNi16-2+QT900.

6.18.12 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	157
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⁾	120 ¹⁾
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⁾	4.5

1) Optional stainless steel X17CrNi16-2+QT900.

2) Optional with reinforced bearings.

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

6.18.13 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	157	167	187
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⁾	125 ¹⁾ 125/126	135/140 ¹⁾	155/160 ¹⁾ 135/140

1) Optional stainless steel X17CrNi16-2+QT900.

2) Optional with reinforced bearings.

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

6.18.14 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.

6.18.15 KT helical-bevel gear units

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

1) Optional stainless steel X17CrNi16-2+QT900.

KT helical-bevel gear units							
Gear unit size	67	77	87	97	107	127	157
Hollow shaft in mm with TorqLOC®	35 ¹⁾	40	50	60	80 ¹⁾	90	110 ¹⁾
with TorqLOC® Plus	38 ¹⁾	42	51 ¹⁾	62 ¹⁾	85 ¹⁾	95 ¹⁾	120
	40 ¹⁾	45	55	65	90 ¹⁾	100 ¹⁾	125 ¹⁾
		50 ¹⁾	60 ¹⁾	70 ¹⁾	92 ¹⁾	105 ¹⁾	127 ¹⁾
		51	62 ¹⁾	75 ¹⁾	95 ¹⁾		
			65 ¹⁾				
Hollow shaft in inch with TorqLOC®	1.375 ¹⁾	1.625 ¹⁾	1.938 ¹⁾	2.438 ¹⁾	3.25 ¹⁾	3.438 ¹⁾	4.438 ¹⁾
with TorqLOC® Plus	1.438 ¹⁾	1.688	2 ¹⁾	2.75 ¹⁾	3.438 ¹⁾	3.75 ¹⁾	4.5 ¹⁾
	1.5 ¹⁾	1.75 ¹⁾	2.375 ¹⁾	2.938 ¹⁾	3.625 ¹⁾	3.938 ¹⁾	4.938 ¹⁾
	1.625 ¹⁾	1.938 ¹⁾	2.438 ¹⁾		3.75 ¹⁾	4 ¹⁾	5 ¹⁾
	1.688	2 ¹⁾				4.188 ¹⁾	

1) Optional stainless steel X17CrNi16-2+QT900.

6.18.16 S helical-worm gear units

S helical-worm gear units							
Gear unit size	37	47	57	67	77	87	97
Solid shaft in mm	20×40 ¹⁾²⁾	25×50 ¹⁾²⁾	30×60 ¹⁾²⁾	35×70 ¹⁾²⁾ 40×80 ¹⁾	45×90 ¹⁾²⁾ 50×100 ¹⁾	60×120 ¹⁾	70×140 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	45×90 ¹⁾ 50×100	60×120	70×140 ¹⁾
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	1.75×3.54 ¹⁾ 2×3.94	2.375×4.72 ¹⁾	2.875×5.51 ¹⁾
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	1.75×3.54 2×3.94	2.375×4.72	2.875×5.51

1) Optional stainless steel X17CrNi16-2+QT900.

2) Optional solid shaft without key (smooth).

6.18.17 SF. helical-worm gear units

SF. helical-worm gear units							
Gear unit size	37	47	57	67	77	87	97
Solid shaft in mm	20×40 ¹⁾²⁾	25×50 ¹⁾²⁾	30×60 ¹⁾²⁾	35×70 ¹⁾²⁾ 40×80 ¹⁾	45×90 ¹⁾²⁾ 50×100 ¹⁾	60×120 ¹⁾	70×140 ¹⁾
Solid shaft in mm 2nd shaft end	20×40 ¹⁾	25×50 ¹⁾	30×60	35×70	45×90	60×120	70×140
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	1.75×3.54 ¹⁾ 2×3.94	2.375×4.72 ¹⁾	2.875×5.51 ¹⁾

1) Optional stainless steel X17CrNi16-2+QT900.

2) Optional solid shaft without key (smooth).

6.18.18 SA, SAF, SAZ helical-worm gear units

SA, SAF, SAZ helical-worm gear units							
Gear unit size	37	47	57	67	77	87	97
Hollow shaft in mm	20 ¹⁾	25 ¹⁾ 30 ¹⁾	30 ¹⁾ 35 ¹⁾	40 ¹⁾ 45 ¹⁾	50 ¹⁾ 60 ¹⁾	60 ¹⁾ 70 ¹⁾	70 ¹⁾ 90 ¹⁾
Hollow shaft in inches	0.75 ¹⁾	1.25 ¹⁾	1.188 1.25 ¹⁾ 1.375 ¹⁾	1.5 ¹⁾	2 ¹⁾	2.375 ¹⁾	2.75 ¹⁾

1) Optional stainless steel X17CrNi16-2+QT900.

6.18.19 SH, SHF, SHZ helical-worm gear units

SH, SHF, SHZ helical-worm gear units							
Gear unit size	37	47	57	67	77	87	97
Hollow shaft in mm	20 ¹⁾	30 ¹⁾ 30/32 ¹⁾	35 ¹⁾ 35/36 ¹⁾	40 ¹⁾ 40/42	50 ¹⁾ 50/52	65 ¹⁾ 65/66	75 ¹⁾ 75/76

1) Optional stainless steel X17CrNi16-2+QT900.

6.18.20 ST. helical-worm gear units

ST. helical-worm gear units							
Gear unit size	37	47	57	67	77	87	97
Hollow shaft in mm	16 ¹⁾	25 ¹⁾	25	35 ¹⁾	40	50	60
With TorqLOC®	19 ¹⁾	30 ¹⁾	30 ¹⁾	38 ¹⁾	50 ¹⁾	60 ¹⁾	62 ¹⁾
With TorqLOC® Plus	20 ¹⁾	30 ¹⁾	35 ¹⁾	40 ¹⁾	51 ¹⁾	62 ¹⁾	70 ¹⁾
						65 ¹⁾	75 ¹⁾
Hollow shaft in inches	0.625 ¹⁾	1 ¹⁾	1.188 ¹⁾	1.375 ¹⁾	1.625 ¹⁾	1.938 ¹⁾	2.438 ¹⁾
With TorqLOC®	0.688 ¹⁾	1.188 ¹⁾	1.25 ¹⁾	1.438 ¹⁾	1.688	2 ¹⁾	2.75 ¹⁾
With TorqLOC® Plus	0.75 ¹⁾	1.25 ¹⁾	1.375 ¹⁾	1.5 ¹⁾	1.75 ¹⁾	2.375 ¹⁾	2.875 ¹⁾
			1.438 ¹⁾	1.625 ¹⁾	1.938 ¹⁾	2.438 ¹⁾	2.938 ¹⁾
				1.688	2 ¹⁾		

1) Optional stainless steel X17CrNi16-2+QT900.

6.18.21 SPIROPLAN® gear units W10, W20, W30

SPIROPLAN® 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).

6.18.22 SPIROPLAN® gear units WF

SPIROPLAN® 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.

6.18.23 SPIROPLAN® gear units WA, WAF

SPIROPLAN® 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.

6.18.24 SPIROPLAN® gear units WH, WHF

SPIROPLAN® 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.

6.18.25 SPIROPLAN® gear units WT

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

1) Optional stainless steel X17CrNi16-2+QT900.

6.19 Safety covers

6.19.1 Fixed sheet metal safety cover

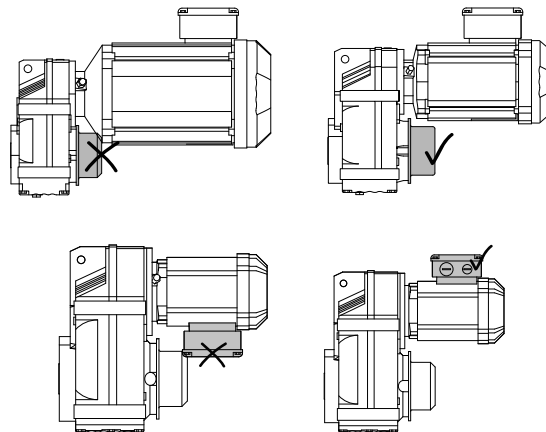
The following gear unit types with hollow shaft and shrink disk are equipped with a fixed sheet metal safety cover as standard:

Gear unit type	Sizes
KH..	157, 167 and 187
FH..	157
FT.., KT.., ST.., WT.. (with TorqLOC® hollow shaft mounting system)	All available sizes
Explosion-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.

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

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



18545083275

18557415179

To simplify assembly and maintenance, SEW-EURODRIVE recommends a terminal box position $\neq 90^\circ$ for parallel-shaft helical gear units with high safety cover. If necessary, check the configuration in the product configurator on the SEW-EURODRIVE website.

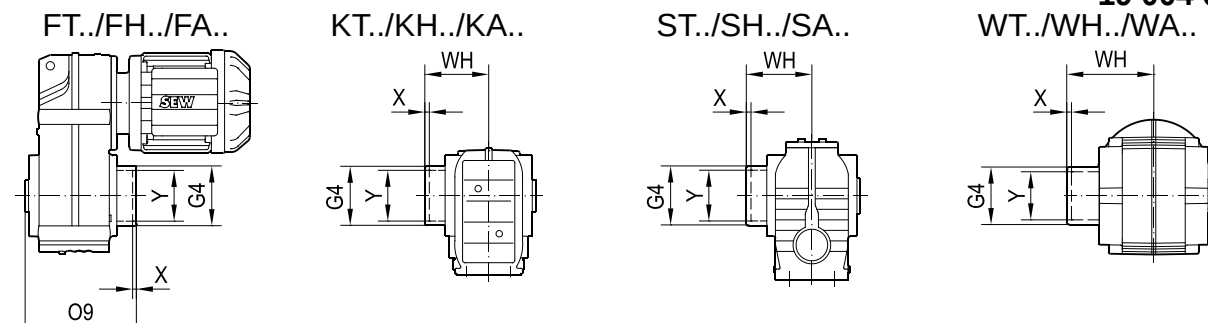
Fixed sheet metal safety cover

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

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

6.19.3 Part numbers and dimensions for fixed sheet metal covers

19 004 00 18



Parallel-shaft helical gearmotors	FT/FH/FA ..37	FT/FH/FA ..47	FT/FH/FA ..57	FT/FH/FA ..67	FT/FH/FA ..77	FT/FH/FA ..87	FT/FH/FA ..97	FT/FH/FA ..107	FT/FH/FA ..127	FT/FH/FA ..157
Part number	0643584X	06435858	06435866	06435866	06435874	06435882	06435890	06421814	06421822	06421830
G4 in mm	81	90	101	101	124	165	200	196	229	275
O9 in mm	166	199	222	236	285	322	382	421	502	605
X in mm	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Y in mm	78	87	98	98	121	162	197	193	226	272

Helical-bevel 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

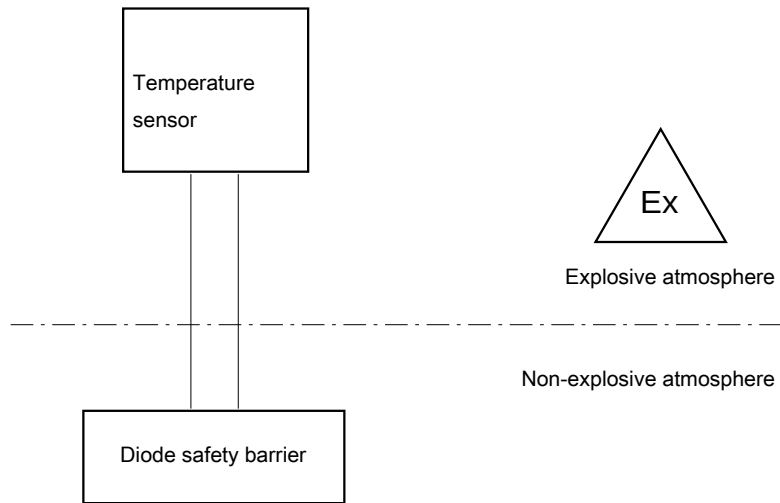
Helical-bevel gearmotors ¹⁾	KT/KH/ KA ..37	KT/KH/ KA ..47	KT/KH/ KA ..57	KT/KH/ KA ..67	KT/KH/ KA ..77	KT/KH/ KA ..87	KT/KH/ KA ..97	KT/KH/ KA ..107	KT/KH/ KA ..127	KT/KH/ KA ..157
Part number	0643584X	06435858	06435866	06435866	06435874	06435882	06435890	06421814	06421822	06421849
G4 in mm	81	90	101	101	124	165	200	196	229	275
WH in mm	104	122	137	143	177	229	382	246	297	375
X in mm	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Y in mm	78	87	98	98	121	162	197	193	226	272

1) Not possible 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	ST/SH/SA ..77	ST/SH/SA ..87	ST/SH/SA ..97
Part number	06444768	0643584X	06435858	06435866	06435874	06435882	06435882
G4 in mm	64	81	90	101	124	165	165
WH in mm	98	104	122	137	177	203	223
X in mm	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Y in mm	61	78	87	98	121	162	162

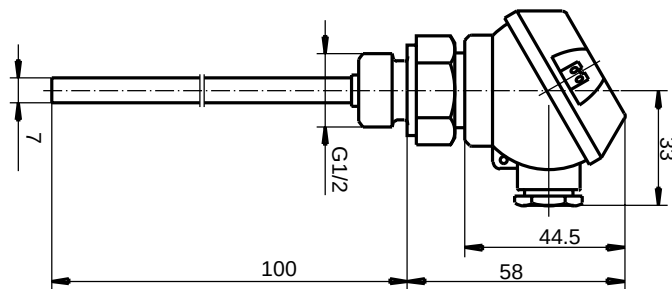
SPIROPLAN® gearmotors	WH/WA ..29	WT ..29	WH/WA ..39	WT ..39	WT/WH/ WA ..49	WT/WH/ WA ..59
Part number	10686320	29225299	10686339	29225086	29225612	29226147
G4 in mm	60	61	68	70	87	97
WH in mm	84.5	87	91.5	98	119	138
X in mm	1.5	1.5	1.5	1.5	1.5	1.0
Y in mm	50	58	60	67	84	95

6.20 Pt100 temperature sensor, screw-in, connection head form J



35361648139

6.20.1 Pt100 dimension drawing

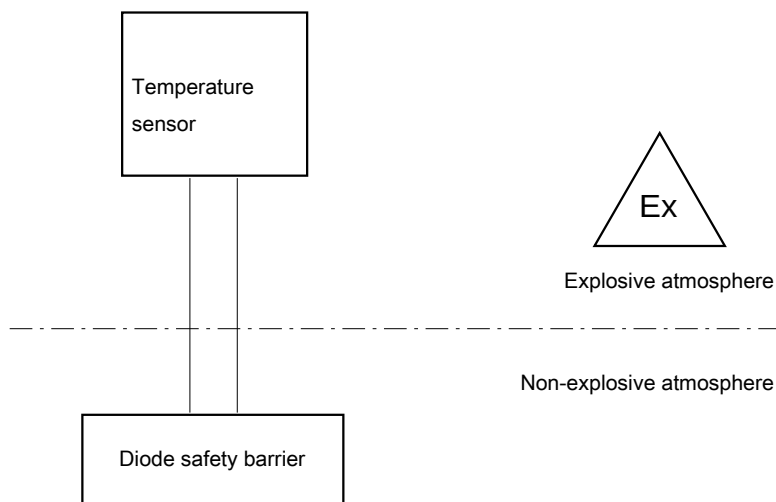


4139976587

6.20.2 Pt100 technical data

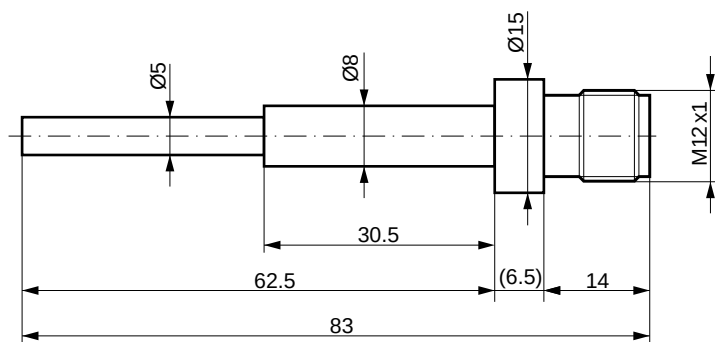
Technical data	Value
Area of application	For temperature monitoring of oil
Operating temperature	-50 °C to 400 °C
Ambient temperature	-40 °C to 100 °C
Thermowell	Stainless steel (1.4571)
Connection element	Shape J, aluminum die casting, M16 × 1.5, IP54
External pipe thread	G1/2 A-cylindrical according to DIN EN ISO 228
Measuring insert	According to DIN EN 60751 class B in two-wire circuit, without measuring transducer
Manufacturer	JUMO (JUM according to W93DE)
SEW-EURODRIVE part number	13274171

6.21 Pt1000 temperature sensor



35361648139

6.21.1 Dimension drawing Pt1000



9007214369752075

6.21.2 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

27782913/EN – 02/2023

7 Important information on selection tables and dimension drawings

7.1 Selection tables for explosion-protected gearmotors

7.1.1 Structure of the selection tables

The two figures below illustrate the structure of the selection tables for gearmotors.

There are two types of selection tables:

1. For standard output speeds, sorted by the rated power P_m of the driving motor in kW.
2. For extremely low output speeds, always compound gearmotors sorted by the maximum permitted output torque M_{a_max} in Nm.

Table for standard output speeds:

P_m n_a min^{-1}	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B			m kg	
Rated power of driving motor	Output torque	Gear unit ratio ²⁾	Permitted overhung load output end with M_a	Service factor	Gear unit type	Motor type	Weight	Page number dimension sheet
Output speed								

25524649995

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

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

7.2 Dimension sheet information

7.2.1 Inch output shafts

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

7.2.2 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.

7.2.3 Tolerances

Shaft heights

The following tolerances apply to the specified dimensions:

- $h \leq 250 \text{ mm} \rightarrow -0.5 \text{ mm}$
- $h > 250 \text{ mm} \rightarrow -1 \text{ mm}$

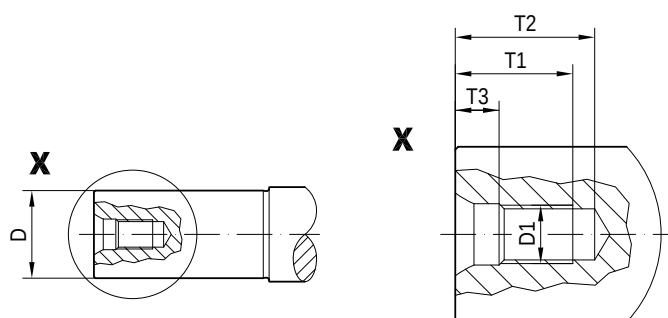
Foot-mounted gear unit: The mounted motor could protrude under the mounting surface, please check.

Shaft ends

Diameter tolerance:

- $\varnothing \leq 50 \text{ mm} \rightarrow \text{ISO k6}$
- $\varnothing > 50 \text{ mm} \rightarrow \text{ISO m6}$

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

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® 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.

7.2.4 Eyebolts, lifting eyes

R..07 – R..27 helical gear units, K..167 – K..187 helical-bevel gear units, motors up to DRN90 and SPIROPLAN® gearmotors W..10 – W..30 are delivered without special transportation fixtures. All other gear units and motors are equipped with cast-on lifting eyes, screw-on lifting eyes or screw-on lifting eyebolts.

Gear unit/motor type	Screw-on		Cast-on lifting eyes
	lifting eyebolts	lifting eyes	
R..37 – R..57	—	X	—
R..67 – R..167	X	—	—
RX57/RX67	—	X	—
RX77 – RX107	X	—	—
F..27 – F..157	—	—	X
K..19 – K..49	—	X	—
K..37 – K..157	—	—	X
S..37/S47	—	X	—
S..47 – S..97	—	—	X
W..19 – W..59	—	X	—
≥ (E)DRN100L	X	—	—

— = not available, X = available

7.2.5 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.

7.2.6 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 $R_z \leq 16 \mu\text{m}$
- Elastic limit of the customer shaft material R_e and/or $R_{p0.2} \geq 305 \text{ N/mm}^2$
- Design of the customer shaft as solid shaft

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

7.2.7 Splined hollow shaft

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

7.2.8 Rubber buffer for FA/FH/FV/FT

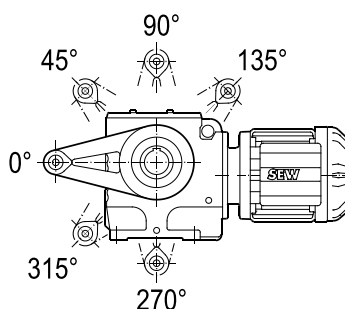
The depictions on the dimension sheets show the rubber buffers for FA/FH/FV/FT gear units in loose state. Preload rubber buffer by the indicated value ΔL . The characteristic curve of spring for the rubber buffer is available upon request from SEW-EURODRIVE.

7.2.9 Position of the torque arm

The following figure shows the possible positions of the torque arm with the corresponding angle specifications for the helical-worm gear units, K..9 helical-bevel gear units, and SPIROPLAN® gear units.

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°

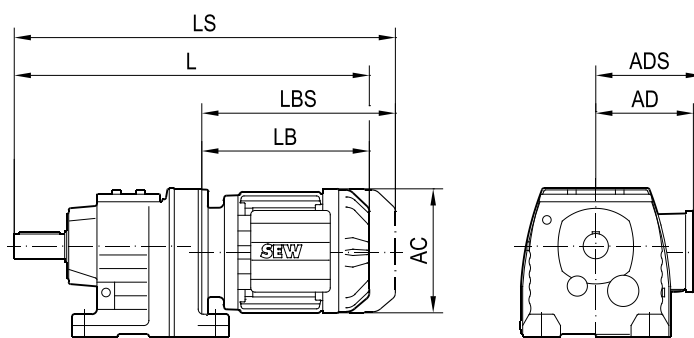


18014403492200459

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

7.2.10 Gearmotor dimension drawings

The dimensions of the gearmotors are described below:



36907376651

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

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

Note that the terminal box dimensions of special designs may differ from the standard.

8 Selection tables for motors 0.12 – 15 kW, category 2 and 3 // EPL .b and .c

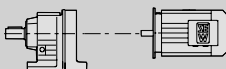
Category 2: 2G, T3; 2D, T120 °C/140 °C; 2GD, T3/T120 °C/140 °C

Category 3: 3G, T3; 3D, T120/140 °C; 3GD, T3/T120 °C/140 °C

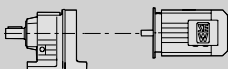
EPL .b: 2G-b, T3; 2D-b, T120 °C/140 °C; 2GD-b, T3/T120 °C/140 °C

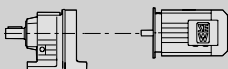
EPL .c: 3G-c, T3; 3D-c, T120/140 °C; 3GD-c, T3/T120 °C/140 °C

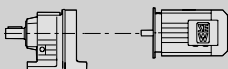
8.1 Selection tables helical gearmotors

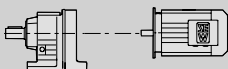
P _m = 0.12 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.07	11500	18210	65300	1.10	R RF RM	147R77 147R77 147R77	EDRN EDRN EDRN	63MS4 63MS4 63MS4	420 430 600	525 525 525
0.09	10100	15923	67600	1.30						
0.10	8930	14075	69200	1.45						
0.11	7790	12344	70500	1.65						
0.12	6870	11143	71400	1.90						
0.14	6150	9743	72100	2.1						
0.16	4930	8443	73000	2.6						
0.19	4270	7307	73400	3.0						
0.21	3760	6447	73700	3.5	R RF RM	137R77 137R77 137R77	EDRN EDRN EDRN	63MS4 63MS4 63MS4	290 310 425	525 525 525
0.24	3250	5568	73900	4.0						
0.12	7390	11712	54600	1.10						
0.13	6510	10573	56200	1.25						
0.15	5130	8784	58200	1.55						
0.18	4180	7479	59300	1.90						
0.21	4140	6559	59400	1.95						
0.23	3260	5834	60100	2.5						
0.27	3230	5116	60200	2.5	R RF RM	127R77 127R77 127R77	EDRN EDRN EDRN	63MS4 63MS4 63MS4	260 270 365	525 525 525
0.15	5550	9013	43000	1.05						
0.16	5210	8771	43000	1.15						
0.16	4840	8282	43000	1.25						
0.18	4710	7639	43000	1.25						
0.19	3940	7053	43000	1.50						
0.20	3990	6722	43000	1.50						
0.21	3710	6347	43000	1.60						
0.22	3900	6185	43000	1.50						
0.24	3530	5592	43000	1.70						
0.29	2990	4740	43000	2.0						
0.31	2630	4441	43000	2.2						
0.34	2200	3949	43000	2.7						
0.36	2230	3764	43000	2.7						
0.38	1990	3571	43000	3.0						
0.39	2240	3495	43000	2.6	R RF RM	127R77 127R77 127R77	EDRN EDRN EDRN	63MS4 63MS4 63MS4	245 265 360	525 525 525
0.44	1960	3056	43000	3.0						
0.47	1860	2903	43000	3.2						
0.20	3770	6743	32000	1.15	R RF RM	107R77 107R77 107R77	EDRN EDRN EDRN	63MS4 63MS4 63MS4	200 210 295	525 525 525
0.23	3730	5914	32200	1.15						
0.26	2890	5168	35300	1.50						
0.31	2590	4435	36000	1.65						
0.35	2310	3896	36400	1.85						
0.45	1910	3039	36900	2.2						
0.35	2510	3918	36100	1.70	R RF RM	107R77 107R77 107R77	EDRN EDRN EDRN	63MS4 63MS4 63MS4	195 200 290	525 525 525
0.41	2140	3343	36600	2.0						
0.45	1940	3034	36800	2.2						
0.51	1700	2653	37100	2.5						
0.60	1460	2280	37300	2.9						
0.66	1320	2067	37400	3.3						
0.34	2610	4004	17600	1.15	R RF RM	97R57 97R57 97R57	EDRN EDRN EDRN	63MS4 63MS4 63MS4	130 145 195	525 525 525
0.39	2310	3481	21200	1.30						

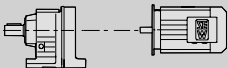
P _m = 0.12 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.37	2600	3702	23500	1.15	R RF RM	97R57	EDRN	63MS4	125	525
0.45	2110	3019	25900	1.40						
0.51	1830	2668	27000	1.65						
0.61	1500	2245	27600	2.0						
0.67	1330	2016	27900	2.2						
0.78	1210	1733	28000	2.5						
0.44	2150	3065	23000	1.40	R RF RM	97R57	EDRN	63MS4	130	525
0.50	1910	2722	25900	1.55						
0.59	1610	2311	27500	1.85						
0.65	1450	2078	27700	2.1						
0.75	1250	1823	28000	2.4						
0.86	1090	1583	28100	2.8						
0.97	920	1396	28300	3.2						
1.1	785	1228	28400	3.8						
0.69	1320	1961	18300	1.15	R	87R57	EDRN	63MS4	86	525
					RF	87R57	EDRN	63MS4	93	525
					RM	87R57	EDRN	63MS4	125	525
0.64	1450	2129	17600	1.05	R	87R57	EDRN	63MS4	85	525
0.70	1290	1930	18500	1.20	RF	87R57	EDRN	63MS4	92	525
0.79	1140	1733	19200	1.35	RM	87R57	EDRN	63MS4	120	525
0.78	1160	1737	18100	1.35	R RF RM	87R57	EDRN	63MS4	85	525
0.89	1020	1524	19700	1.50						
1.0	820	1303	20000	1.85						
1.2	725	1143	20000	2.1						
1.5	590	885	20000	2.6						
1.8	520	776	20000	3.0						
2.0	460	685	20000	3.4						
2.3	365	599	20000	4.2						
1.2	810	1124	9990	1.00	R	77R37	EDRN	63MS4	45	525
1.3	750	1047	10500	1.10	RF	77R37	EDRN	63MS4	51	525
1.5	645	915	11300	1.25	RM	77R37	EDRN	63MS4	76	525
1.2	750	1084	10500	1.10	R RF RM	77R37	EDRN	63MS4	46	525
1.4	670	940	11100	1.20						
1.7	530	821	11900	1.55						
1.9	485	731	12100	1.70						
2.1	465	646	12200	1.75						
2.6	385	520	12500	2.1	R RF RM	77R37	EDRN	63MS4	45	525
3.0	330	451	12700	2.5						
3.2	305	422	12800	2.7						
3.7	260	365	12900	3.1						
1.9	510	730	8450	1.15	R RF RM	67R37	EDRN	63MS4	40	525
2.1	445	644	9000	1.35						
2.4	390	571	9390	1.55						
2.8	325	486	9760	1.85						
1.8	500	750	8550	1.20	R RF RM	67R37	EDRN	63MS4	41	525
2.1	445	646	9000	1.35						
2.4	405	574	9290	1.45						
2.8	350	495	9630	1.70						
3.1	290	438	9920	2.0						
2.2	415	604	7230	1.05	R RF RM	57R37	EDRN	63MS4	34	525
2.5	380	537	7380	1.20						
2.9	330	471	7530	1.35						
3.8	245	357	7760	1.80						
4.3	215	319	7820	2.1						
3.8	260	359	7720	1.70	R RF RM	57R37	EDRN	63MS4	33	525
4.2	235	324	7780	1.90						
4.7	205	290	7840	2.2						
5.2	188	262	7870	2.4						
5.5	173	246	7890	2.6						
6.2	152	220	7920	3.0						
3.1	290	436	5170	1.05	R RF	47R37	EDRN	63MS4	29	525
3.3	270	408	5560	1.10						
4.0	220	344	5770	1.35						

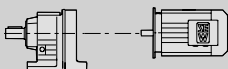
P _m = 0.12 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
3.7	270	372	5560	1.10	R RF	47R37 47R37	EDRN EDRN	63MS4 63MS4	28	525
3.9	250	348	5650	1.20					29	525
4.5	215	301	5800	1.40						
5.3	179	255	5920	1.65						
6.0	158	228	5980	1.90						
7.0	132	195	6040	2.3						
5.3	187	259	4600	1.05	R RF	37R17 37R17	EDRN EDRN	63MS4 63MS4	18	525
6.0	165	228	5220	1.20					19	525
6.8	142	199	5530	1.40						
7.9	124	172	5670	1.60						
5.1	195	265	4370	1.00	R RF	37R17 37R17	EDRN EDRN	63MS4 63MS4	17	525
6.0	159	226	5390	1.25					19	525
6.7	145	202	5500	1.35						
7.6	127	179	5650	1.55						
7.7	123	177	3720	1.05	R RF	27R17 27R17	EDRN EDRN	63MS4 63MS4	12	525
8.2	118	166	3850	1.10					12	525
7.6	127	179	3600	1.00	R RF	27R17 27R17	EDRN EDRN	63MS4 63MS4	11	525
8.7	107	156	4010	1.20					11	525
7.0	164	195.24*	13000	5.0	R RF RM	77 77 77	EDRN EDRN EDRN	63MS4 63MS4 63MS4	37	507
8.2	140	166.59	13000	5.8					43	508
9.3	122	145.67	13000	6.7					68	508
6.8	168	199.81	10300	3.6	R RF RM	67 67 67	EDRN EDRN EDRN	63MS4 63MS4 63MS4	30	504
7.4	155	184.07	10400	3.9					33	505
8.6	133	158.14	10400	4.5					49	505
9.9	116	137.67	10400	5.2						
11	108	128.97	10500	5.5						
12	96	113.94	10500	6.2						
7.3	157	186.89	7920	2.9	R RF RM	57 57 57	EDRN EDRN EDRN	63MS4 63MS4 63MS4	23	501
7.9	145	172.17	7930	3.1					27	502
9.2	124	147.92	7960	3.6					39	502
11	108	128.77	7970	4.2						
11	101	120.63	7980	4.4						
13	89	106.58	7990	5.0						
14	83	98.99	8000	5.4						
7.7	149	176.88	6000	2.0	R RF	47 47	EDRN EDRN	63MS4 63MS4	18	498
8.3	137	162.94	6020	2.2					18	499
9.7	117	139.99	6060	2.5						
11	102	121.87	6090	2.9						
12	96	114.17	6100	3.1						
13	84	100.86	6120	3.5						
15	78	93.68	6130	3.8						
10	113	134.82	5740	1.75	R RF	37 37	EDRN EDRN	63MS4 63MS4	14	495
11	104	123.66	5790	1.90					16	496
13	88	105.28	5870	2.2						
15	76	90.77	5930	2.6						
16	71	84.61	5950	2.8						
18	62	73.96	5980	3.2						
10	113	135.09	3960	1.15	R RF	27 27	EDRN EDRN	63MS4 63MS4	8.4	492
11	104	123.91	4030	1.25					8.4	493
13	88	105.49	4100	1.45						
15	76	90.96	4160	1.70						
16	71	84.78	4190	1.80						
18	62	74.11	4230	2.1						
20	58	69.47	4250	2.2						
22	51	61.30	4290	2.5						
24	47	55.87	4290	2.8						
28	40	48.17	4110	3.2						
30	37	44.90	4020	3.4						

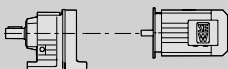
P _m = 0.12 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
17	68	81.64	2410	1.25	R RF	17 17	EDRN EDRN	63MS4 63MS4	8.1	489
19	59	70.39	2480	1.45					8.0	490
21	55	65.61	2500	1.55						
24	48	57.35	2500	1.75						
25	45	53.76	2500	1.90						
29	39	47.44	2500	2.1						
31	37	44.18	2500	2.3						
35	32	38.61	2440	2.6						
38	30	36.20	2400	2.8						
43	26	31.94	2320	3.1						
48	23	28.32	2240	3.4						
56	20	24.07	2140	3.8						
26	43	51.52	1300	1.15	R RF	07 07	EDRN EDRN	63MS4 63MS4	6.9	486
28	40	47.78	1290	1.25					6.9	487
31	37	44.16	1270	1.35						
33	34	41.31	1260	1.45						
34	33	40.34	1250	1.45						
35	32	38.51	1240	1.55						
40	28	34.05	1210	1.75						
47	24	29.08	1170	2.0						
50	22	26.97	1150	2.2						
58	19	23.32	1110	2.5						
63	18	21.73	1090	2.7						
74	15	18.31	1040	3.2	R RF	07 07	EDRN EDRN	63MS4 63MS4	6.8	486
81	14	16.73	1020	3.5					6.8	487
96	11	14.12	970	4.0						
113	10	12.06	930	4.5						
122	9.0	11.18	910	4.8						
141	8.0	9.67	880	5.3						
151	7.0	9.01	860	5.5						
173	6.0	7.85	820	6.2						
182	6.0	7.48	810	6.2						
199	5.0	6.83	790	6.6						
236	4.0	5.76	750	7.4						
276	4.0	4.92	715	8.2						
298	3.0	4.57	700	8.6						
344	3.0	3.95	670	9.3						
370	3.0	3.68	655	9.7						
424	2.0	3.21	630	10						
224	5.0	6.07	4280	8.4	RX RXF	67 67	EDRN EDRN	63MS4 63MS4	16	476
263	4.0	5.18	4070	17					20	477
300	3.0	4.53	3890	22						
316	3.0	4.30*	3830	22						
247	4.0	5.50*	3380	8.4	RX RXF	57 57	EDRN EDRN	63MS4 63MS4	14	474
268	4.0	5.07	3290	8.4					16	475
312	3.0	4.35	3130	19						
359	3.0	3.79	2990	22						
383	2.0	3.55*	2930	23						
434	2.0	3.14	2810	25						
467	2.0	2.91	2740	27						
515	2.0	2.64*	2660	31						
574	2.0	2.37	2560	35						
666	1.0	2.04	2440	40						
708	1.0	1.92*	2390	43						
823	1.0	1.65	2270	50						

P _m = 0.18 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.11	12400	12344	63700	1.05	R RF RM	147R77	EDRN	63M4	420	525
0.12	11000	11143	66100	1.15						
0.14	9840	9743	68000	1.30						
0.16	8130	8443	70200	1.60						
0.19	7030	7307	71300	1.85						
0.21	6200	6447	72000	2.1						
0.25	5360	5568	72700	2.4						
0.28	4900	4926	73000	2.6						
0.32	4200	4325	73400	3.1						
0.37	3730	3754	73700	3.5						
0.42	3210	3302	73900	4.0						
0.18	7010	7479	55300	1.15	R RF RM	137R77	EDRN	63M4	290	525
0.21	6620	6559	56000	1.20						
0.24	5470	5834	57800	1.45						
0.27	5160	5116	58200	1.55						
0.31	4290	4464	59200	1.85						
0.35	3780	3928	59700	2.1						
0.29	4830	4709	58600	1.65	R RF RM	137R77	EDRN	63M4	280	525
0.34	4120	4018	59400	1.95						
0.39	3600	3514	59900	2.2						
0.41	3420	3338	60000	2.3						
0.47	3000	2929	60300	2.7						
0.25	5640	5592	43000	1.05	R RF RM	127R77	EDRN	63M4	260	525
0.29	4780	4740	43000	1.25						
0.31	4320	4441	43000	1.40						
0.35	3700	3949	43000	1.60						
0.37	3660	3764	43000	1.60						
0.39	3340	3571	43000	1.80						
0.44	2770	3110	43000	2.1						
0.49	2500	2812	43000	2.4						
0.58	2120	2383	43000	2.8						
0.71	1880	1934	43000	3.2						
0.75	1720	1835	43000	3.5						
0.39	3580	3495	43000	1.65	R RF RM	127R77	EDRN	63M4	245	525
0.45	3130	3056	43000	1.90						
0.47	2980	2903	43000	2.0						
0.54	2610	2547	43000	2.3						
0.64	2200	2161	43000	2.7						
0.70	1960	1951	43000	3.0						
0.80	1680	1716	43000	3.5						
0.55	2560	2506	43000	2.3	R RF RM	127R77	EDRN	63M4	260	525
0.61	2310	2266	43000	2.6						
0.68	1980	2016	43000	3.0						
0.72	1960	1920	43000	3.0						
0.75	1790	1823	43000	3.3						
0.35	3780	3896	32000	1.15	R RF RM	107R77	EDRN	63M4	205	525
0.45	3060	3039	34700	1.40						
0.35	4020	3918	30900	1.05	R RF RM	107R77	EDRN	63M4	195	525
0.41	3430	3343	33400	1.25						
0.45	3110	3034	34600	1.40						
0.52	2720	2653	35800	1.60						
0.60	2330	2280	36400	1.85						
0.67	2110	2067	36600	2.0						
0.69	2000	1987	36800	2.1	R RF RM	107R77	EDRN	63M4	200	525
0.75	1780	1827	37000	2.4						
0.86	1510	1599	37200	2.8						
0.98	1360	1400	37300	3.1						
1.1	1160	1226	37500	3.7						

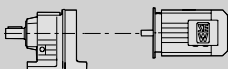
P _m = 0.18 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.52	2860	2668	21900	1.05	R RF RM	97R57 97R57 97R57	EDRN EDRN EDRN	63M4 63M4 63M4	125 145 195	525 525 525
0.61	2370	2245	24700	1.25						
0.68	2100	2016	26000	1.45						
0.79	1880	1733	26800	1.60						
0.85	1750	1623	27200	1.70						
0.96	1530	1434	27600	1.95						
1.1	1270	1207	27900	2.4						
1.3	1130	1084	28100	2.6						
1.5	950	934	28300	3.1						
1.6	890	878	28300	3.4						
1.8	750	755	28400	4.0						
0.59	2500	2311	18900	1.20	R	97R57	EDRN	63M4	130	525
0.66	2250	2078	21900	1.35	RF	97R57	EDRN	63M4	145	525
					RM	97R57	EDRN	63M4	195	525
1.1	1320	1232	18300	1.15	R RF RM	87R57 87R57 87R57	EDRN EDRN EDRN	63M4 63M4 63M4	86 93 120	525 525 525
1.2	1220	1145	18900	1.25						
1.3	1090	1037	19400	1.40						
1.5	970	931	19900	1.60						
1.7	820	802	20000	1.90						
1.1	1320	1303	15800	1.15	R	87R57	EDRN	63M4	86	525
1.2	1160	1143	18100	1.35	RF	87R57	EDRN	63M4	93	525
1.6	930	885	20000	1.65	RM	87R57	EDRN	63M4	125	525
1.8	810	776	20000	1.90						
2.0	715	671	10800	1.15	R	77R37	EDRN	63M4	46	525
2.4	600	571	11500	1.35	RF	77R37	EDRN	63M4	52	525
					RM	77R37	EDRN	63M4	77	525
1.9	765	731	10400	1.05	R RF RM	77R37 77R37 77R37	EDRN EDRN EDRN	63M4 63M4 63M4	47 53 78	525 525 525
2.1	710	646	10800	1.15						
2.5	615	560	11400	1.30						
2.8	525	488	12000	1.55						
3.1	465	436	12200	1.75						
3.7	400	373	12500	2.0						
4.2	350	327	12600	2.3						
4.8	315	289	12800	2.6						
2.8	510	486	8470	1.15	R	67R37	EDRN	63M4	41	525
					RF	67R37	EDRN	63M4	44	525
					RM	67R37	EDRN	63M4	60	525
2.8	540	495	8200	1.10	R RF RM	67R37 67R37 67R37	EDRN EDRN EDRN	63M4 63M4 63M4	42 45 61	525 525 525
3.1	455	438	8920	1.30						
3.5	405	388	9290	1.45						
4.0	375	344	9490	1.55						
4.7	300	294	9870	2.0						
5.3	275	261	9980	2.1						
3.4	430	410	7180	1.05	R	57R37	EDRN	63M4	34	525
					RF	57R37	EDRN	63M4	38	525
					RM	57R37	EDRN	63M4	50	525
3.9	385	357	7360	1.15	R RF RM	57R37 57R37 57R37	EDRN EDRN EDRN	63M4 63M4 63M4	35 39 51	525 525 525
4.3	340	319	7510	1.30						
5.0	285	273	7660	1.55						
5.7	245	241	7760	1.80						
6.4	220	215	7810	2.0						
3.8	400	359	7300	1.10	R RF RM	57R37 57R37 57R37	EDRN EDRN EDRN	63M4 63M4 63M4	34 38 50	525 525 525
4.2	360	324	7440	1.25						
4.7	320	290	7570	1.40						
5.2	285	262	7660	1.55						
5.6	265	246	7710	1.65						
6.2	235	220	7780	1.90						
7.3	200	188	7850	2.2						
8.7	168	159	7900	2.7						
5.4	275	255	5510	1.10	R	47R37	EDRN	63M4	29	525
6.0	245	228	5680	1.20	RF	47R37	EDRN	63M4	29	525
7.1	205	195	5820	1.45						
8.0	190	172	4510	1.05	R	37R17	EDRN	63M4	18	525
9.2	165	150	5220	1.20	RF	37R17	EDRN	63M4	20	525

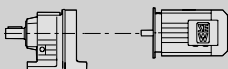
P_m = 0.18 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
8.8	167	156	5150	1.20	R	37R17	EDRN	63M4	18	525
					RF	37R17	EDRN	63M4	20	525
12	119	110	3820	1.10	R	27R17	EDRN	63M4	13	525
15	99	94	4050	1.30	RF	27R17	EDRN	63M4	12	525
13	115	104	3920	1.10	R	27R17	EDRN	63M4	12	525
15	99	90	4050	1.30	RF	27R17	EDRN	63M4	12	525
7.0	240	195.24*	12900	3.4						
8.2	205	166.59	13000	3.9	R	77	EDRN	63M4	38	507
9.4	182	145.67	13000	4.5	RF	77	EDRN	63M4	44	508
9.9	173	138.39	13000	4.7	RM	77	EDRN	63M4	69	508
11	151	121.42	13000	5.4						
6.9	245	199.81	10100	2.4						
7.5	230	184.07	10200	2.6						
8.7	197	158.14	10300	3.0						
10.0	172	137.67	10300	3.5						
11	161	128.97	10400	3.7	R	67	EDRN	63M4	31	504
12	142	113.94	10400	4.2	RF	67	EDRN	63M4	34	505
13	132	105.83	10400	4.5	RM	67	EDRN	63M4	50	505
14	119	95.91	10400	5.0						
16	107	86.11	10500	5.3						
19	92	74.17	10500	5.8						
20	87	69.75	10500	6.0						
7.4	230	186.89	7790	1.95						
8.0	215	172.17	7820	2.1						
9.3	184	147.92	7880	2.4	R	57	EDRN	63M4	24	501
11	160	128.77	7910	2.8	RF	57	EDRN	63M4	27	502
11	150	120.63	7930	3.0	RM	57	EDRN	63M4	39	502
13	133	106.58	7950	3.4						
14	123	98.99	7960	3.6						
15	112	89.71	7970	4.0						
7.8	220	176.88	5780	1.35						
8.4	200	162.94	5840	1.45						
9.8	175	139.99	5930	1.70						
11	152	121.87	5990	1.95	R	47	EDRN	63M4	19	498
12	142	114.17	6010	2.1	RF	47	EDRN	63M4	19	499
14	126	100.86	6050	2.4						
15	117	93.68	6070	2.6						
16	106	84.90	6090	2.8						
18	95	76.23	6100	3.1						
10	168	134.82	5130	1.20						
11	154	123.66	5430	1.30						
13	131	105.28	5620	1.50						
15	113	90.77	5740	1.75						
16	105	84.61	5780	1.90	R	37	EDRN	63M4	15	495
19	92	73.96	5860	2.2	RF	37	EDRN	63M4	17	496
20	86	69.33	5880	2.3						
22	76	61.18	5930	2.6						
25	69	55.76	5950	2.9						
29	60	48.08	5890	3.3						
15	113	90.96	3960	1.15						
16	105	84.78	4020	1.25						
19	92	74.11	4090	1.40						
20	86	69.47	4110	1.50						
22	76	61.30	4160	1.70						
25	69	55.87	4170	1.85						
29	60	48.17	4000	2.2	R	27	EDRN	63M4	9.3	492
31	56	44.90	3920	2.3	RF	27	EDRN	63M4	9.2	493
35	49	39.25	3770	2.6						
37	45	36.79	3700	2.8						
42	40	32.47	3560	3.1						
48	35	28.78	3440	3.4						
56	30	24.47	3270	3.9						

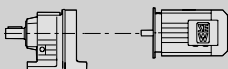
P _m = 0.18 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
48	35	28.37	3420	3.7	R RF	27 27	EDRN EDRN	63M4 63M4	9.0 8.9	492 493
53	32	26.09	3340	3.9						
62	27	22.32	3180	4.4						
71	24	19.35	3050	4.8						
76	22	18.08	2980	5.0						
88	19	15.63	2850	5.6						
104	16	13.28*	2710	6.3						
21	82	65.61	1950	1.05	R RF	17 17	EDRN EDRN	63M4 63M4	8.9 8.8	489 490
24	71	57.35	2390	1.20						
26	67	53.76	2420	1.25						
29	59	47.44	2420	1.45						
31	55	44.18	2390	1.55						
36	48	38.61	2320	1.75						
38	45	36.20	2280	1.90						
43	39	31.94	2210	2.1						
49	35	28.32	2150	2.3						
57	30	24.07	2060	2.6						
54	31	25.23	2080	2.6	R RF	17 17	EDRN EDRN	63M4 63M4	8.6 8.5	489 490
59	28	23.15	2040	2.8						
70	24	19.71	1950	3.1						
81	21	16.99	1870	3.4						
36	48	38.51	1120	1.05	R RF	07 07	EDRN EDRN	63M4 63M4	7.8 7.8	486 487
40	42	34.05	1100	1.15						
47	36	29.08	1070	1.40						
51	33	26.97	1060	1.50						
59	29	23.32	1030	1.70						
63	27	21.73	1020	1.85						
75	22	18.31	980	2.2	R RF	07 07	EDRN EDRN	63M4 63M4	7.6 7.6	486 487
82	20	16.73	960	2.4						
97	17	14.12	920	2.7						
114	15	12.06	890	3.0						
123	13	11.18	870	3.2						
142	12	9.67	840	3.6						
153	11	9.01	830	3.7						
175	9.0	7.85	795	4.2						
184	9.0	7.48	790	4.2						
201	8.0	6.83	770	4.5						
239	7.0	5.76	730	5.0						
279	6.0	4.92	700	5.5						
301	5.0	4.57	685	5.8						
348	4.0	3.95	655	6.3						
374	4.0	3.68	640	6.5						
429	4.0	3.21	615	7.0						
227	7.0	6.07	4250	5.7	RX RXF	67 67	EDRN EDRN	63M4 63M4	17 21	476 477
266	6.0	5.18	4040	12						
304	5.0	4.53	3860	14						
320	5.0	4.30*	3800	15						
364	4.0	3.77	3640	18						
430	4.0	3.20*	3450	25						
476	3.0	2.89	3340	29						
541	3.0	2.54	3200	37						
573	3.0	2.40*	3140	41						
673	2.0	2.04	2980	50						
250	6.0	5.50*	3350	5.7	RX RXF	57 57	EDRN EDRN	63M4 63M4	15 16	474 475
271	6.0	5.07	3260	5.7						
316	5.0	4.35	3110	12						
363	4.0	3.79	2970	15						
387	4.0	3.55*	2910	16						
438	3.0	3.14	2790	17						
472	3.0	2.91	2720	18						
521	3.0	2.64*	2640	21						
580	2.0	2.37	2540	23						
673	2.0	2.04	2420	27						
716	2.0	1.92*	2380	29						
832	2.0	1.65	2260	33						

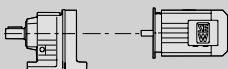
P _m = 0.25 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.17	11600	8443	65100	1.10	R RF RM	147R77	EDRN	71MS4	420	525
0.19	10100	7307	67600	1.30						
0.22	8930	6447	69200	1.45						
0.25	7710	5568	70600	1.70						
0.28	6980	4926	71300	1.85						
0.32	6030	4325	72200	2.1						
0.37	5320	3754	72700	2.4						
0.42	4600	3302	73200	2.8						
0.48	4010	2898	73500	3.2						
0.24	7930	5834	53500	1.00	R RF RM	137R77	EDRN	71MS4	290	525
0.27	7330	5116	54700	1.10						
0.31	6180	4464	56700	1.30						
0.36	5440	3928	57800	1.45						
0.30	6850	4709	55600	1.15	R RF RM	137R77	EDRN	71MS4	280	525
0.35	5840	4018	57300	1.35						
0.40	5110	3514	58300	1.55						
0.42	4850	3338	58600	1.65						
0.48	4260	2929	59200	1.90						
0.53	3850	2658	59600	2.1	R RF RM	137R77	EDRN	71MS4	290	525
0.58	3490	2412	60000	2.3						
0.68	3000	2073	60300	2.7						
0.76	2570	1839	60600	3.1						
1.0	2000	1397	60900	4.0						
1.1	1730	1226	61000	4.6						
0.35	5370	3949	43000	1.10	R RF RM	127R77	EDRN	71MS4	260	525
0.37	5250	3764	43000	1.15						
0.39	4850	3571	43000	1.20						
0.45	4080	3110	43000	1.45						
0.50	3690	2812	43000	1.60						
0.59	3130	2383	43000	1.90						
0.72	2690	1934	43000	2.2						
0.76	2490	1835	43000	2.4						
0.90	2110	1555	43000	2.8						
0.97	1890	1444	43000	3.1						
0.40	5080	3495	43000	1.15	R RF RM	127R77	EDRN	71MS4	245	525
0.46	4440	3056	43000	1.35						
0.48	4220	2903	43000	1.40						
0.55	3700	2547	43000	1.60						
0.65	3130	2161	43000	1.90						
0.72	2800	1951	43000	2.1						
0.82	2420	1716	43000	2.5						
0.86	2270	1620	43000	2.6						
1.0	1900	1380	43000	3.1						
1.2	1750	1210	43000	3.4						
0.56	3630	2506	43000	1.65	R RF RM	127R77	EDRN	71MS4	260	525
0.62	3280	2266	43000	1.80						
0.69	2840	2016	43000	2.1						
0.73	2780	1920	43000	2.1						
0.77	2570	1823	43000	2.3						
0.84	2300	1673	43000	2.6						
0.91	2180	1545	43000	2.7						
0.93	2080	1512	43000	2.9						
0.70	2850	1987	35400	1.50	R RF RM	107R77	EDRN	71MS4	200	525
0.77	2560	1827	36100	1.70						
0.88	2200	1599	36500	1.95						
1.0	1960	1400	36800	2.2						
1.1	1680	1226	37100	2.5						
1.5	1310	939	37400	3.3						
1.7	1130	822	37500	3.8						
0.81	2620	1733	23400	1.15	R RF RM	97R57	EDRN	71MS4	125	525
0.86	2450	1623	24300	1.20						

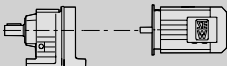
P _m = 0.25 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.77	2730	1823	16200	1.10	R RF RM	97R57	EDRN	71MS4	130	525
0.88	2370	1583	20400	1.25						
1.0	2050	1396	24200	1.45						
1.1	1780	1228	27200	1.70						
1.3	1610	1069	27500	1.85						
1.5	1400	938	27800	2.1						
1.7	1190	824	28000	2.5						
1.9	1070	737	28200	2.8						
2.2	910	632	28300	3.3						
1.4	1530	1037	17000	1.00	R	87R57	EDRN	71MS4	86	525
1.5	1370	931	18100	1.15	RF	87R57	EDRN	71MS4	93	525
1.8	1160	802	19100	1.35	RM	87R57	EDRN	71MS4	125	525
1.6	1310	885	18400	1.20	R RF RM	87R57	EDRN	71MS4	87	525
1.8	1150	776	19200	1.35						
2.0	1010	685	19800	1.50						
2.3	850	599	20000	1.80						
2.7	745	525	20000	2.1						
3.1	655	456	20000	2.4						
5.2	380	268	20000	4.1						
2.9	735	488	10600	1.10	R RF RM	77R37	EDRN	71MS4	48	525
3.2	650	436	11200	1.25						
3.8	560	373	11800	1.45						
4.3	490	327	12100	1.65						
4.8	435	289	12300	1.85						
5.4	390	260	12500	2.1						
6.2	325	224	12700	2.5						
3.6	570	388	7860	1.05	R RF RM	67R37	EDRN	71MS4	42	525
4.1	520	344	8370	1.15						
4.8	425	294	9140	1.40						
5.4	390	261	9400	1.50						
6.0	350	234	9630	1.70						
7.0	295	200	9900	2.0						
8.0	255	176	10100	2.3						
8.9	230	158	10200	2.6						
3.6	595	384	7600	1.00	R RF RM	67R37	EDRN	71MS4	41	525
3.9	555	359	8050	1.10						
4.5	475	310	8770	1.25						
5.3	400	264	9320	1.50						
6.0	355	235	9600	1.70						
7.0	300	201	9880	2.0						
7.7	270	181	10000	2.2						
5.1	400	273	7290	1.10	R RF RM	57R37	EDRN	71MS4	36	525
5.8	350	241	7480	1.30						
6.5	310	215	7590	1.45						
7.5	275	187	7690	1.60						
8.5	240	164	7770	1.85						
9.9	205	142	7830	2.1						
4.8	445	290	7120	1.00	R RF RM	57R37	EDRN	71MS4	35	525
5.3	400	262	7300	1.10						
5.7	375	246	7390	1.20						
6.4	330	220	7530	1.35						
7.2	290	195	5180	1.05	R RF	47R37	EDRN	71MS4	30	525
7.7	270	182	5560	1.10						
9.1	225	154	5750	1.30						
11	195	130	4380	1.00	R RF	37R17	EDRN	71MS4	19	525
11	185	124	4650	1.10						
13	164	110	5240	1.20						
15	139	94	5550	1.45						
11	197	127	4310	1.00	R RF	37R17	EDRN	71MS4	19	525
13	160	104	5360	1.25						
16	138	90	5560	1.45						

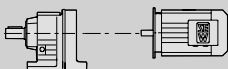
P _m = 0.25 kW											
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg		
7.2	330	195.24*	12700	2.5	R RF RM	77	EDRN	71MS4	38	507	
8.4	280	166.59	12800	2.9		77	EDRN	71MS4	44	508	
9.6	245	145.67	12900	3.3		77	EDRN	71MS4	69	508	
10	235	138.39	12900	3.5							
12	205	121.42	13000	4.0							
7.0	340	199.81	9680	1.75	R RF RM	67	EDRN	71MS4	31	504	
7.6	310	184.07	9820	1.90		67	EDRN	71MS4	34	505	
8.8	265	158.14	10000	2.2		67	EDRN	71MS4	50	505	
10	230	137.67	10100	2.6							
11	215	128.97	10200	2.7							
12	194	113.94	10300	3.1							
13	180	105.83	10300	3.3							
15	163	95.91	10400	3.6							
16	146	86.11	10400	3.9							
7.5	315	186.89	7580	1.40	R RF RM	57	EDRN	71MS4	25	501	
8.1	290	172.17	7650	1.55		57	EDRN	71MS4	28	502	
9.5	250	147.92	7750	1.80		57	EDRN	71MS4	40	502	
11	215	128.77	7820	2.0							
12	205	120.63	7840	2.2							
13	181	106.58	7880	2.5							
14	168	98.99	7900	2.7							
16	152	89.71	7920	2.9							
17	137	80.55	7940	3.3							
20	118	69.23	7960	3.8							
8.6	275	162.94	5530	1.10	R RF	47	EDRN	71MS4	19	498	
10	235	139.99	5710	1.25		47	EDRN	71MS4	20	499	
11	205	121.87	5820	1.45							
12	194	114.17	5870	1.55							
14	172	100.86	5940	1.75							
15	159	93.68	5970	1.90							
16	144	84.90	6010	2.1							
18	129	76.23	6040	2.3							
20	116	68.54	6070	2.6							
22	109	64.21	6080	2.7							
25	96	56.73	6100	3.1							
27	89	52.69	6110	3.3							
29	81	47.75	5940	3.7							
13	179	105.28	4820	1.10	R RF	37	EDRN	71MS4	16	495	
15	154	90.77	5430	1.30		37	EDRN	71MS4	17	496	
17	144	84.61	5520	1.40							
19	126	73.96	5660	1.60							
20	118	69.33	5710	1.70							
23	104	61.18	5790	1.90							
25	95	55.76	5840	2.1							
29	81	48.08	5750	2.4							
31	76	44.81	5630	2.6							
36	66	39.17	5420	2.8							
38	62	36.72	5310	3.0							
43	55	32.40	5120	3.2							
19	126	74.11	3630	1.05	R RF	27	EDRN	71MS4	9.8	492	
20	118	69.47	3840	1.10		27	EDRN	71MS4	9.8	493	
23	104	61.30	4030	1.25							
25	95	55.87	4010	1.35							
29	82	48.17	3860	1.60							
31	76	44.90	3790	1.70							
36	66	39.25	3660	1.95							
38	62	36.79	3590	2.1							
43	55	32.47	3470	2.3							
49	49	28.78	3350	2.5							
57	41	24.47	3200	2.8							

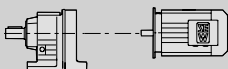
P _m = 0.25 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
49	48	28.37	3340	2.7	R RF	27 27	EDRN EDRN	71MS4 71MS4	9.6 9.5	492 493
54	44	26.09	3260	2.9						
63	38	22.32	3110	3.2						
72	32	19.35	2980	3.5						
77	30	18.08	2930	3.7						
90	26	15.63	2800	4.1						
105	22	13.28*	2660	4.6						
118	20	11.86	2570	5.0						
138	17	10.13	2450	5.7						
149	16	9.41	2380	5.6						
172	13	8.16	2280	6.2						
184	13	7.63*	2230	6.5						
212	11	6.59	2130	7.1						
250	9.0	5.60*	2030	8.0						
280	8.0	5.00*	1960	8.6						
328	7.0	4.27	1860	9.6						
350	6.0	4.00*	1820	10						
415	5.0	3.37	1720	11						
30	80	47.44	2010	1.05	R RF	17 17	EDRN EDRN	71MS4 71MS4	9.4 9.4	489 490
32	75	44.18	2230	1.15						
36	65	38.61	2170	1.30						
39	61	36.20	2150	1.40						
44	54	31.94	2090	1.50						
49	48	28.32	2040	1.70						
58	41	24.07	1970	1.90						
55	43	25.23	1990	1.90	R RF	17 17	EDRN EDRN	71MS4 71MS4	9.2 9.1	489 490
60	39	23.15	1950	2.0						
71	33	19.71	1870	2.3						
82	28	16.99	1800	2.5						
88	27	15.84	1770	2.6						
101	23	13.84	1710	2.9						
108	22	12.98	1680	3.0						
122	19	11.45	1620	3.3						
48	49	29.08	960	1.00	R RF	07 07	EDRN EDRN	71MS4 71MS4	8.3 8.3	486 487
52	45	26.97	960	1.10						
60	39	23.32	940	1.25						
64	37	21.73	940	1.35						
76	31	18.31	910	1.60	R RF	07 07	EDRN EDRN	71MS4 71MS4	8.2 8.2	486 487
84	28	16.73	900	1.75						
99	24	14.12	870	2.0						
116	20	12.06	840	2.2						
125	19	11.18	830	2.4						
145	16	9.67	800	2.6						
155	15	9.01	790	2.7						
178	13	7.85	765	3.1						
187	12	7.48	755	3.1						
205	11	6.83	740	3.3						
243	9.0	5.76	710	3.7						
284	8.0	4.92	680	4.0						
307	7.0	4.57	665	4.2						
355	6.0	3.95	640	4.6						
380	6.0	3.68	625	4.8						
437	5.0	3.21	600	5.1						
231	10	6.07	4210	4.2	RX RXF	67 67	EDRN EDRN	71MS4 71MS4	18 22	476 477
270	8.0	5.18	4000	8.5						
309	7.0	4.53	3830	11						
326	7.0	4.30*	3760	11						
371	6.0	3.77	3610	14						
438	5.0	3.20*	3420	18						
485	4.0	2.89	3310	22						
551	4.0	2.54	3170	27						
583	4.0	2.40*	3110	30						
685	3.0	2.04	2950	37						

P _m = 0.25 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
255	9.0	5.50*	3310	4.2	RX RXF	57 57	EDRN EDRN	71MS4 71MS4	15 17	474 475
276	8.0	5.07	3230	4.2						
322	7.0	4.35	3070	9.2						
369	6.0	3.79	2940	11						
394	6.0	3.55*	2880	11						
446	5.0	3.14	2760	12						
481	4.0	2.91	2700	13						
530	4.0	2.64*	2610	15						
591	4.0	2.37	2520	17						
686	3.0	2.04	2400	20						
729	3.0	1.92*	2350	21						
847	2.0	1.65	2240	24						

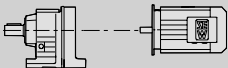
P _m = 0.37 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.25	11900	5568	64700	1.10	R RF RM	147R77 147R77 147R77	EDRN EDRN EDRN	71M4 71M4 71M4	425 430 600	525 525 525
0.29	10600	4926	66700	1.20						
0.32	9290	4325	68700	1.40						
0.37	8140	3754	70100	1.60						
0.43	7090	3302	71200	1.85						
0.48	6190	2898	72000	2.1						
0.40	7780	3514	53800	1.05	R RF RM	137R77 137R77 137R77	EDRN EDRN EDRN	71M4 71M4 71M4	280 305 415	525 525 525
0.42	7400	3338	54600	1.10						
0.48	6490	2929	56200	1.25						
0.57	5490	2484	57800	1.45						
0.63	4920	2242	58500	1.60						
0.53	5880	2658	57200	1.35	R RF RM	137R77 137R77 137R77	EDRN EDRN EDRN	71M4 71M4 71M4	290 315 425	525 525 525
0.58	5330	2412	58000	1.50						
0.68	4580	2073	58900	1.75						
0.76	3980	1839	59500	2.0						
1.0	3060	1397	60300	2.6						
1.1	2660	1226	60600	3.0						
1.3	2390	1090	60700	3.3						
1.5	2090	951	60900	3.8						
0.50	5810	2812	43000	1.00	R RF RM	127R77 127R77 127R77	EDRN EDRN EDRN	71M4 71M4 71M4	260 275 370	525 525 525
0.59	4920	2383	43000	1.20						
0.73	4150	1934	43000	1.45						
0.77	3870	1835	43000	1.55						
0.90	3280	1555	43000	1.80						
0.97	2980	1444	43000	2.0						
1.1	2530	1224	43000	2.4						
0.55	5640	2547	43000	1.05	R RF RM	127R77 127R77 127R77	EDRN EDRN EDRN	71M4 71M4 71M4	245 265 360	525 525 525
0.65	4780	2161	43000	1.25						
0.72	4280	1951	43000	1.40						
0.82	3730	1716	43000	1.60						
0.87	3500	1620	43000	1.70						
1.0	2950	1380	43000	2.0						
1.2	2670	1210	43000	2.2						
1.5	2090	961	43000	2.9						

P _m = 0.37 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.56	5540	2506	43000	1.05	R RF RM	127R77 127R77 127R77	EDRN EDRN EDRN	71M4 71M4 71M4	260 270 365	525 525 525
0.62	5010	2266	43000	1.20						
0.70	4380	2016	43000	1.35						
0.73	4240	1920	43000	1.40						
0.77	3960	1823	43000	1.50						
0.84	3570	1673	43000	1.65						
0.91	3350	1545	43000	1.75						
0.93	3230	1512	43000	1.85						
1.1	2760	1322	43000	2.1						
1.1	2740	1282	43000	2.2						
1.2	2500	1195	43000	2.4						
1.2	2570	1164	43000	2.3						
1.4	2110	1013	43000	2.8						
1.4	2180	987	43000	2.7						
1.5	2030	936	43000	2.9						
1.7	1760	830	43000	3.4						
1.8	1720	794	43000	3.5						
1.8	1660	777	43000	3.6						
0.83	3710	1693	32300	1.15	R RF RM	107R77 107R77 107R77	EDRN EDRN EDRN	71M4 71M4 71M4	200 205 290	525 525 525
0.91	3350	1550	33700	1.30						
1.0	3040	1407	34800	1.40						
1.2	2610	1209	36000	1.65						
1.3	2280	1055	36400	1.90						
0.77	3950	1827	31200	1.10	R RF RM	107R77 107R77 107R77	EDRN EDRN EDRN	71M4 71M4 71M4	205 210 300	525 525 525
0.88	3420	1599	33500	1.25						
1.0	3030	1400	34800	1.40						
1.1	2620	1226	36000	1.65						
1.5	2030	939	36700	2.1						
1.7	1750	822	37000	2.5	R RF RM	97R57 97R57 97R57	EDRN EDRN EDRN	71M4 71M4 71M4	130 145 195	525 525 525
1.2	2710	1207	22900	1.10						
1.3	2420	1084	24500	1.25						
1.1	2720	1228	16300	1.10						
1.3	2430	1069	24400	1.25						
1.5	2120	938	25900	1.40	R RF RM	97R57 97R57 97R57	EDRN EDRN EDRN	71M4 71M4 71M4	130 145 200	525 525 525
1.7	1820	824	26900	1.65						
1.9	1630	737	27400	1.85						
2.2	1400	632	27800	2.1						
3.3	960	431	28300	3.1						
3.7	840	379	28400	3.6						
4.2	750	336	28400	4.0						
2.2	1420	649	17800	1.10						
2.4	1300	599	16000	1.20						
2.7	1140	525	18300	1.35						
3.1	1000	456	19800	1.55						
5.2	585	268	20000	2.6						
6.0	515	236	20000	3.0	R RF RM	87R57 87R57 87R57	EDRN EDRN EDRN	71M4 71M4 71M4	87 94 125	525 525 525
2.6	1230	538	18800	1.25						
3.0	1080	472	19500	1.45						
3.5	900	400	20000	1.70						
3.9	810	361	20000	1.90						
4.3	740	327	10600	1.10	R RF RM	77R37 77R37 77R37	EDRN EDRN EDRN	71M4 71M4 71M4	49 55 80	525 525 525
4.9	655	289	11200	1.25						
5.4	585	260	11600	1.40						
6.3	495	224	12100	1.65						
7.2	435	197	12300	1.90						
8.3	380	169	12600	2.1						
9.4	330	149	12700	2.5						
6.0	525	234	8320	1.10	R RF RM	67R37 67R37 67R37	EDRN EDRN EDRN	71M4 71M4 71M4	44 47 62	525 525 525
7.0	445	200	9000	1.30						

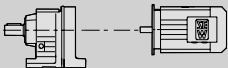
P _m = 0.37 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
4.8	725	289.74	28400	4.1	R	97	EDRN	71M4	110	513
5.5	640	255.71	28500	4.7		97	EDRN	71M4	125	514
5.8	605	241.25	28500	4.9		97	EDRN	71M4	175	514
6.5	540	216.28	28500	5.5						
5.7	615	246.54	20000	2.5	R	87	EDRN	71M4	66	510
6.5	540	216.54	20000	2.9		87	EDRN	71M4	73	511
6.8	515	205.71	20000	3.0		87	EDRN	71M4	105	511
7.7	455	181.77	20000	3.4						
9.0	390	155.34	20000	4.0						
9.9	355	142.41	20000	4.3						
7.2	490	195.24*	12100	1.65	R	77	EDRN	71M4	40	507
8.4	415	166.59	12400	1.95		77	EDRN	71M4	45	508
9.7	365	145.67	12600	2.2		77	EDRN	71M4	70	508
10	345	138.39	12700	2.4						
12	305	121.42	12800	2.7						
14	255	102.99	12900	3.2						
15	230	92.97	13000	3.4						
7.0	500	199.81	8560	1.20	R	67	EDRN	71M4	32	504
7.6	460	184.07	8890	1.30		67	EDRN	71M4	36	505
8.9	395	158.14	9350	1.50		67	EDRN	71M4	51	505
10	345	137.67	9650	1.75						
11	320	128.97	9770	1.85						
12	285	113.94	9940	2.1						
13	265	105.83	10000	2.2						
15	240	95.91	10100	2.5						
16	215	86.11	10200	2.6						
19	186	74.17	10300	2.9						
20	175	69.75	10300	3.0						
23	154	61.26	10400	3.0						
25	143	56.89	10400	3.2						
8.2	430	172.17	7180	1.05	R	57	EDRN	71M4	26	501
9.5	370	147.92	7410	1.20		57	EDRN	71M4	29	502
11	320	128.77	7560	1.40		57	EDRN	71M4	41	502
12	300	120.63	7620	1.50						
13	265	106.58	7710	1.70						
14	245	98.99	7750	1.80						
16	225	89.71	7800	2.0						
17	200	80.55	7850	2.2						
20	174	69.23	7890	2.6						
22	163	64.85	7910	2.8						
25	144	57.29	7720	3.1						
26	133	53.22	7560	3.2						
29	121	48.23	7340	3.5						
12	285	114.17	5310	1.05	R	47	EDRN	71M4	21	498
14	250	100.86	5640	1.20		47	EDRN	71M4	21	499
15	235	93.68	5720	1.25						
17	210	84.90	5800	1.40						
18	191	76.23	5880	1.55						
20	172	68.54	5940	1.75						
22	161	64.21	5970	1.85						
25	142	56.73	6010	2.1						
27	132	52.69	5960	2.3						
29	120	47.75	5790	2.5						
33	107	42.87	5620	2.8						
38	92	36.93	5380	3.1						
40	87	34.73	5290	3.2						
42	84	33.79	5240	2.8	R	47	EDRN	71M4	20	498
45	78	31.12	5120	2.8		47	EDRN	71M4	20	499
53	67	26.74	4890	3.9						
60	58	23.28	4690	4.3						
64	54	21.81	4600	4.5						

P _m = 0.37 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
19	185	73.96	4640	1.10	R RF	37 37	EDRN EDRN	71M4 71M4	17 18	495 496
20	174	69.33	4960	1.15						
23	153	61.18	5230	1.30						
25	140	55.76	5320	1.45						
29	120	48.08	5420	1.65						
31	112	44.81	5450	1.75						
36	98	39.17	5260	1.95						
38	92	36.72	5170	2.0						
43	81	32.40	4990	2.2						
49	72	28.73	4820	2.4						
58	61	24.42	4600	2.6						
50	71	28.32	4800	2.6	R RF	37 37	EDRN EDRN	71M4 71M4	17 18	495 496
54	65	26.03	4690	2.8						
63	56	22.27	4480	3.1						
73	48	19.31	4290	3.4						
78	45	18.05	4210	3.6						
90	39	15.60	4030	4.0						
106	33	13.25	3830	4.4						
119	29	11.83	3700	4.8						
29	121	48.17	3620	1.05	R RF	27 27	EDRN EDRN	71M4 71M4	11 11	492 493
31	112	44.90	3610	1.15						
36	98	39.25	3500	1.30						
38	92	36.79	3440	1.40						
43	81	32.47	3340	1.55						
49	72	28.78	3230	1.70						
57	61	24.47	3100	1.90						
50	71	28.37	3220	1.80	R RF	27 27	EDRN EDRN	71M4 71M4	11 11	492 493
54	65	26.09	3150	1.95						
63	56	22.32	3020	2.2						
73	48	19.35	2900	2.4						
78	45	18.08	2850	2.5						
90	39	15.63	2740	2.8						
106	33	13.28*	2610	3.1						
44	80	31.94	1900	1.05	R RF	17 17	EDRN EDRN	71M4 71M4	11 11	489 490
50	71	28.32	1870	1.15						
58	60	24.07	1820	1.25						
56	63	25.23	1840	1.30	R RF	17 17	EDRN EDRN	71M4 71M4	10 10	489 490
61	58	23.15	1810	1.35						
71	49	19.71	1760	1.55						
83	42	16.99	1700	1.70						
89	39	15.84	1680	1.80						
102	34	13.84	1630	2.0						
108	32	12.98	1600	2.0						
123	28	11.45	1560	2.3						
138	25	10.15	1510	2.5						
163	21	8.63	1450	2.9						
186	18	7.55	1370	2.4						
200	17	7.04	1340	2.5						
228	15	6.15	1300	2.8						
244	14	5.76	1270	2.9						
276	12	5.09	1230	3.1						
312	11	4.51	1190	3.4						
367	9.0	3.83	1140	3.9						

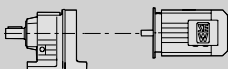
P_m = 0.37 kW

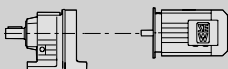
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
77	46	18.31	800	1.10	R RF	07 07	EDRN EDRN	71M4 71M4	9.4 9.4	486 487
84	42	16.73	795	1.20						
100	35	14.12	785	1.35						
117	30	12.06	770	1.50						
126	28	11.18	760	1.60						
145	24	9.67	745	1.75						
156	22	9.01	735	1.85						
179	19	7.85	715	2.1						
188	18	7.48	710	2.1						
206	17	6.83	700	2.2						
244	14	5.76	675	2.5						
285	12	4.92	650	2.8						
308	11	4.57	635	2.9						
356	9.0	3.95	615	3.1						
382	9.0	3.68	605	3.2						
438	8.0	3.21	580	3.5						
232	15	6.07	4180	2.8	RX RXF	67 67	EDRN EDRN	71M4 71M4	19 23	476 477
271	13	5.18	3970	5.8						
310	11	4.53	3800	7.2						
327	10	4.30*	3740	7.4						
372	9.0	3.77	3580	9.2						
439	8.0	3.20*	3400	12						
486	7.0	2.89	3290	15						
553	6.0	2.54	3150	18						
585	6.0	2.40*	3090	20						
688	5.0	2.04	2940	25						
255	13	5.50*	3280	2.8	RX RXF	57 57	EDRN EDRN	71M4 71M4	16 18	474 475
277	12	5.07	3190	2.8						
323	10	4.35	3040	6.2						
371	9.0	3.79	2910	7.2						
396	8.0	3.55*	2850	7.7						
448	7.0	3.14	2740	8.2						
482	7.0	2.91	2680	9.2						
532	6.0	2.64*	2590	10						
593	5.0	2.37	2500	12						
688	5.0	2.04	2390	13						
732	4.0	1.92*	2340	14						
850	4.0	1.65	2230	17						

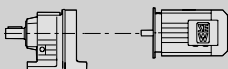
P_m = 0.55 kW

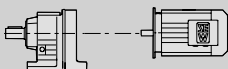
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.26	16600	5407	120000	1.20	R	167R97	EDRN	80MK4	760	526
0.31	14100	4650	120000	1.40	RF	167R97	EDRN	80MK4	760	526
0.35	12300	4129	120000	1.60	RM	167R97	EDRN	80MK4	960	526
0.38	12100	3754	64200	1.05	R	147R77	EDRN	80MK4	425	525
0.43	10600	3302	66800	1.20	RF	147R77	EDRN	80MK4	435	525
0.49	9310	2898	68700	1.40	RM	147R77	EDRN	80MK4	600	525
0.56	8430	2555	69800	1.55	R RF RM	147R77 147R77 147R77	EDRN EDRN EDRN	80MK4 80MK4 80MK4	425 435 600	525 525 525
0.65	7300	2211	71000	1.80						
0.73	6440	1951	71800	2.0						
0.84	5500	1705	72600	2.4						
0.93	4930	1536	73000	2.6						
1.1	4260	1329	73400	3.0						
1.2	3710	1166	73700	3.5						
0.69	6840	2073	55600	1.15	R RF RM	137R77 137R77 137R77	EDRN EDRN EDRN	80MK4 80MK4 80MK4	295 315 425	525 525 525
0.78	5980	1839	57100	1.35						
0.89	5120	1598	58200	1.55						
1.0	4590	1397	58900	1.75						
1.2	4000	1226	59500	2.0						
1.3	3580	1090	59900	2.2						
1.5	3120	951	60200	2.6						
1.7	2660	831	60600	3.0						

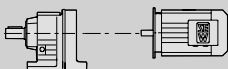
P _m = 0.55 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.78	5850	1835	43000	1.00	R RF RM	127R77	EDRN	80MK4	265	525
0.92	4960	1555	43000	1.20		127R77	EDRN	80MK4	275	525
0.99	4540	1444	43000	1.30		127R77	EDRN	80MK4	370	525
1.2	3840	1224	43000	1.55						
0.83	5600	1716	43000	1.05	R RF RM	127R77	EDRN	80MK4	250	525
0.88	5270	1620	43000	1.15		127R77	EDRN	80MK4	270	525
1.0	4450	1380	43000	1.35		127R77	EDRN	80MK4	365	525
1.2	3990	1210	43000	1.50						
1.5	3130	961	43000	1.90						
1.9	2490	773	43000	2.4						
2.4	1930	608	43000	3.1						
0.78	5940	1823	43000	1.00	R RF RM	127R77	EDRN	80MK4	265	525
0.86	5390	1673	43000	1.10		127R77	EDRN	80MK4	275	525
0.93	5040	1545	43000	1.20		127R77	EDRN	80MK4	370	525
0.95	4880	1512	43000	1.20						
1.1	4200	1322	43000	1.40						
1.1	4130	1282	43000	1.45						
1.2	3800	1195	43000	1.55						
1.2	3840	1164	43000	1.55						
1.4	3220	1013	43000	1.85						
1.4	3250	987	43000	1.85						
1.5	3050	936	43000	1.95						
1.7	2660	830	43000	2.2						
1.8	2590	794	43000	2.3						
1.8	2500	777	43000	2.4						
1.9	2400	750	43000	2.5						
2.2	2120	659	43000	2.8						
2.2	2040	636	43000	2.9						
2.3	1950	614	43000	3.0						
1.2	3930	1209	31300	1.10	R RF RM	107R77	EDRN	80MK4	200	525
1.4	3430	1055	33400	1.25		107R77	EDRN	80MK4	205	525
1.6	3000	919	34900	1.45		107R77	EDRN	80MK4	295	525
1.8	2670	815	35900	1.60						
2.0	2340	717	36400	1.85						
2.3	2040	626	36700	2.1						
1.2	3950	1226	31200	1.10	R RF RM	107R77	EDRN	80MK4	205	525
1.3	3540	1104	33000	1.20		107R77	EDRN	80MK4	210	525
1.5	3050	939	34800	1.40		107R77	EDRN	80MK4	300	525
1.7	2650	822	36000	1.60						
1.7	2720	824	16300	1.10	R RF RM	97R57	EDRN	80MK4	135	525
1.9	2430	737	19700	1.25		97R57	EDRN	80MK4	150	525
2.3	2080	632	26000	1.45		97R57	EDRN	80MK4	200	525
2.5	1810	560	27100	1.65						
3.0	1580	484	27500	1.90						
3.3	1430	431	27700	2.1						
3.8	1250	379	28000	2.4						
4.2	1110	336	28100	2.7						
4.8	970	296	28200	3.1						
5.7	810	249	28400	3.7						
3.1	1500	456	17300	1.05	R RF RM	87R57	EDRN	80MK4	90	525
3.6	1290	398	18500	1.20		87R57	EDRN	80MK4	98	525
4.1	1150	352	19200	1.35		87R57	EDRN	80MK4	125	525
4.7	980	305	19900	1.55						
3.6	1350	400	18200	1.15	R RF RM	87R57	EDRN	80MK4	89	525
4.0	1210	361	18900	1.30		87R57	EDRN	80MK4	96	525
						87R57	EDRN	80MK4	125	525
6.0	795	236	10100	1.05	R RF RM	77R37	EDRN	80MK4	50	525
6.5	745	221	10600	1.10		77R37	EDRN	80MK4	56	525
7.7	620	186	11400	1.30		77R37	EDRN	80MK4	81	525
4.9	1060	289.74	28200	2.8	R RF RM	97	EDRN	80MK4	110	513
5.6	930	255.71	28300	3.2		97	EDRN	80MK4	125	514
5.9	880	241.25	28300	3.4		97	EDRN	80MK4	180	514
6.6	790	216.28	28400	3.8						

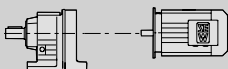
P _m = 0.55 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
5.8	900	246.54	20000	1.70	R RF RM	87 87 87	EDRN EDRN EDRN	80MK4 80MK4 80MK4	68 75 105	510 511 511
6.6	795	216.54	20000	1.95						
7.0	755	205.71	20000	2.0						
7.9	665	181.77	20000	2.3						
9.2	570	155.34	20000	2.7						
10	520	142.41	20000	3.0						
11	455	124.97	20000	3.4						
12	430	118.43*	20000	3.6						
14	380	103.65	20000	4.1						
8.6	610	166.59	11500	1.35	R RF RM	77 77 77	EDRN EDRN EDRN	80MK4 80MK4 80MK4	42 48 73	507 508 508
9.8	535	145.67	11900	1.55						
10	505	138.39	12000	1.60						
12	445	121.42	12300	1.85						
14	375	102.99	12600	2.2						
15	340	92.97	12700	2.3						
17	300	81.80	12800	2.5						
19	280	77.24	12800	2.6						
22	240	65.77	12900	2.9						
9.0	580	158.14	7780	1.05	R RF RM	67 67 67	EDRN EDRN EDRN	80MK4 80MK4 80MK4	35 38 54	504 505 505
10	505	137.67	8530	1.20						
11	470	128.97	8800	1.25						
13	415	113.94	9210	1.45						
14	385	105.83	9410	1.55						
15	350	95.91	9620	1.70						
17	315	86.11	9810	1.80						
19	270	74.17	10000	2.0						
20	255	69.75	10100	2.0						
23	220	61.26	10200	2.1						
25	205	56.89	10200	2.2						
12	440	120.63	7130	1.00	R RF RM	57 57 57	EDRN EDRN EDRN	80MK4 80MK4 80MK4	28 32 44	501 502 502
13	390	106.58	7340	1.15						
14	360	98.99	7440	1.25						
16	325	89.71	7540	1.35						
18	295	80.55	7640	1.50						
21	250	69.23	7740	1.75						
22	235	64.85	7680	1.90						
25	210	57.29	7430	2.1						
27	195	53.22	7290	2.2						
30	177	48.23	7100	2.4						
33	159	43.30	6890	2.5						
38	136	37.30*	6600	2.9						
41	128	35.07	6490	3.0						
54	96	26.31	5970	4.5	R RF RM	57 57 57	EDRN EDRN EDRN	80MK4 80MK4 80MK4	27 31 43	501 502 502
57	91	24.99*	5880	4.6						
65	80	21.93	5660	5.1						
77	68	18.60*	5380	5.8						
19	275	76.23	5480	1.05	R RF	47 47	EDRN EDRN	80MK4 80MK4	23 23	498 499
21	250	68.54	5650	1.20						
22	235	64.21	5720	1.25						
25	205	56.73	5800	1.45						
27	193	52.69	5700	1.55						
30	175	47.75	5560	1.70						
33	157	42.87	5400	1.90						
39	135	36.93	5190	2.1						
41	127	34.73	5110	2.2						
48	109	29.88	4900	2.5						
53	98	26.74	4750	2.6	R RF	47 47	EDRN EDRN	80MK4 80MK4	22 23	498 499
61	85	23.28	4560	2.9						
66	80	21.81	4480	3.1						
30	176	48.08	3790	1.15	R RF	37 37	EDRN EDRN	80MK4 80MK4	19 21	495 496
32	164	44.81	3930	1.20						
37	143	39.17	4140	1.30						
39	134	36.72	4220	1.35						
44	119	32.40	4340	1.50						
50	105	28.73	4420	1.60						
59	89	24.42	4440	1.80						

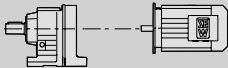
P _m = 0.55 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
64	81	22.27	4330	2.1	R RF	37 37	EDRN EDRN	80MK4 80MK4	19 20	495 496
74	70	19.31	4160	2.3						
79	66	18.05	4080	2.4						
92	57	15.60	3920	2.7						
108	48	13.25	3740	3.0						
121	43	11.83	3610	3.3						
44	119	32.47	2800	1.05	R RF	27 27	EDRN EDRN	80MK4 80MK4	13 13	492 493
50	105	28.78	2920	1.15						
58	89	24.47	2940	1.30						
64	81	22.32	2880	1.50	R RF	27 27	EDRN EDRN	80MK4 80MK4	13 13	492 493
74	71	19.35	2780	1.65						
79	66	18.08	2730	1.70						
91	57	15.63	2630	1.90						
108	48	13.28*	2520	2.1						
121	43	11.86	2440	2.3						
141	37	10.13	2340	2.6						
152	34	9.41	2260	2.6						
175	29	8.16	2170	2.9						
188	28	7.63*	2130	3.0						
217	24	6.59	2040	3.3						
255	20	5.60*	1950	3.7						
286	18	5.00*	1890	4.0						
335	15	4.27	1800	4.5						
358	14	4.00*	1760	4.7						
424	12	3.37	1680	5.3						
73	72	19.71	1580	1.05	R RF	17 17	EDRN EDRN	80MK4 80MK4	13 12	489 490
84	62	16.99	1550	1.15						
90	58	15.84	1530	1.20						
103	50	13.84	1500	1.35						
110	47	12.98	1480	1.40						
125	42	11.45	1450	1.55						
141	37	10.15	1420	1.70						
166	31	8.63	1370	1.95						
189	27	7.55	1280	1.65						
203	25	7.04	1260	1.75						
233	22	6.15	1220	1.90						
248	21	5.76	1210	2.0						
281	18	5.09	1170	2.1						
317	16	4.51	1140	2.4						
373	14	3.83	1090	2.7						
276	19	5.18	3910	3.9	RX RXF	67 67	EDRN EDRN	80MK4 80MK4	21 25	476 477
316	16	4.53	3740	4.9						
333	15	4.30*	3680	5.1						
379	13	3.77	3530	6.3						
447	11	3.20*	3350	8.5						
495	10	2.89	3240	10.0						
563	9.0	2.54	3110	13						
596	8.0	2.40*	3060	14						
700	7.0	2.04	2900	17						
770	6.0	1.86	2810	18						
889	5.0	1.61	2680	19						
329	15	4.35	2990	4.2	RX RXF	57 57	EDRN EDRN	80MK4 80MK4	19 21	474 475
377	13	3.79	2860	5.0						
403	13	3.55*	2800	5.3						
456	11	3.14	2700	5.6						
491	10	2.91	2640	6.3						
542	9.0	2.64*	2550	7.1						
603	8.0	2.37	2470	7.9						
700	7.0	2.04	2350	9.2						
745	7.0	1.92*	2310	9.8						
866	6.0	1.65	2200	11						
969	5.0	1.48	2120	13						
1095	4.0	1.30	2040	13						

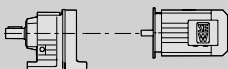
P _m = 0.75 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.31	19700	4650	120000	1.00	R RF RM	167R97	EDRN	80M4	760	526
0.35	17300	4129	120000	1.15		167R97	EDRN	80M4	770	526
						167R97	EDRN	80M4	960	526
0.54	11500	2657	120000	1.75	R RF RM	167R97	EDRN	80M4	760	526
0.62	10000	2333	120000	2.0		167R97	EDRN	80M4	760	526
0.69	8850	2085	120000	2.3		167R97	EDRN	80M4	960	526
1.0	6250	1438	120000	3.2		167R97	EDRN	80M4	960	526
0.50	12800	2898	63000	1.00	R	147R77	EDRN	80M4	430	525
					RF	147R77	EDRN	80M4	435	525
					RM	147R77	EDRN	80M4	600	525
0.56	11500	2555	65300	1.10	R RF RM	147R77	EDRN	80M4	430	525
0.65	10000	2211	67800	1.30						
0.74	8830	1951	69300	1.45						
0.84	7590	1705	70700	1.70						
0.94	6810	1536	71500	1.90						
1.1	5890	1329	72300	2.2						
1.2	5130	1166	72800	2.5						
0.91	7060	1586	55200	1.15						
1.0	6290	1391	56600	1.25	RF	137R77	EDRN	80M4	310	525
1.1	5660	1256	57500	1.40	RM	137R77	EDRN	80M4	420	525
0.90	7080	1598	55200	1.15	R RF RM	137R77	EDRN	80M4	295	525
1.0	6300	1397	56600	1.25						
1.2	5500	1226	57700	1.45						
1.3	4910	1090	58500	1.65						
1.5	4290	951	59200	1.85						
1.7	3680	831	59800	2.2						
2.0	3210	730	60200	2.5						
1.2	5320	1224	43000	1.10	R	127R77	EDRN	80M4	265	525
					RF	127R77	EDRN	80M4	280	525
					RM	127R77	EDRN	80M4	375	525
1.2	5470	1210	43000	1.10	R RF RM	127R77	EDRN	80M4	250	525
1.5	4310	961	43000	1.40						
1.9	3440	773	43000	1.75						
2.4	2680	608	43000	2.2						
1.1	5820	1322	43000	1.00	R RF RM	127R77	EDRN	80M4	265	525
1.1	5700	1282	43000	1.05						
1.2	5260	1195	43000	1.15						
1.2	5270	1164	43000	1.15						
1.4	4490	1034	43000	1.30						
1.4	4460	1013	43000	1.35						
1.5	4460	987	43000	1.35						
1.5	4200	936	43000	1.40						
1.5	4060	935	43000	1.45						
1.7	3680	830	43000	1.60						
1.8	3560	794	43000	1.65						
1.8	3440	792	43000	1.75						
1.9	3450	777	43000	1.70						
1.9	3320	750	43000	1.80						
2.2	2930	659	43000	2.0						
2.2	2810	642	43000	2.1						
2.3	2820	636	43000	2.1						
2.4	2700	614	43000	2.2						
2.5	2540	581	43000	2.3						
2.8	2290	521	43000	2.6						
2.9	2150	492	43000	2.8						
3.0	2080	480	43000	2.9						
3.5	1760	407	43000	3.4						
3.7	1700	386	43000	3.5						
2.9	2240	490	43000	2.6	R	127R77	EDRN	80M4	250	525
3.6	1790	394	43000	3.3	RF	127R77	EDRN	80M4	270	525
4.4	1470	327	43000	4.0	RM	127R77	EDRN	80M4	365	525
1.6	4120	919	30400	1.05	R	107R77	EDRN	80M4	205	525
1.8	3670	815	32400	1.15	RF	107R77	EDRN	80M4	210	525
					RM	107R77	EDRN	80M4	300	525

P _m = 0.75 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
1.5	4200	939	30000	1.00	R RF RM	107R77	EDRN	80M4	210	525
1.8	3650	822	32500	1.20		107R77	EDRN	80M4	215	525
3.9	1630	369	37100	2.6		107R77	EDRN	80M4	305	525
4.5	1420	323	37300	3.0						
2.3	2860	632	21900	1.05	R RF RM	97R57	EDRN	80M4	135	525
2.6	2500	560	24100	1.20		97R57	EDRN	80M4	155	525
3.0	2170	484	22800	1.40		97R57	EDRN	80M4	205	525
3.3	1960	431	26500	1.55						
3.8	1710	379	27300	1.75						
4.3	1520	336	27600	1.95						
4.9	1340	296	27900	2.2						
5.8	1110	249	28100	2.7						
4.7	1360	305	18100	1.15	R	87R57	EDRN	80M4	94	525
5.4	1200	268	18900	1.30	RF	87R57	EDRN	80M4	100	525
6.1	1060	236	19600	1.45	RM	87R57	EDRN	80M4	130	525
4.8	1370	300	18100	1.15	R	87R57	EDRN	80M4	92	525
5.6	1160	256	19100	1.35	RF	87R57	EDRN	80M4	100	525
					RM	87R57	EDRN	80M4	130	525
5.0	1440	289.74	27700	2.1	R RF RM	97	EDRN	80M4	115	513
5.6	1270	255.71	27900	2.4		97	EDRN	80M4	130	514
6.0	1190	241.25	28000	2.5		97	EDRN	80M4	180	514
6.7	1070	216.28	28200	2.8						
7.7	920	186.30	28300	3.2						
8.5	840	170.02	28400	3.5						
5.8	1220	246.54	17200	1.25	R RF RM	87	EDRN	80M4	72	510
6.7	1070	216.54	19400	1.45		87	EDRN	80M4	79	511
7.0	1020	205.71	19700	1.50		87	EDRN	80M4	110	511
7.9	900	181.77	20000	1.70						
9.3	770	155.34	20000	2.0						
10	705	142.41	20000	2.2						
12	620	124.97	20000	2.5						
12	585	118.43*	20000	2.6						
14	515	103.65	20000	3.0						
15	460	93.38	20000	3.3						
9.9	720	145.67	10700	1.15	R	77	EDRN	80M4	46	507
10	685	138.39	11000	1.20	RF	77	EDRN	80M4	51	508
					RM	77	EDRN	80M4	76	508
12	600	121.42	11500	1.35	R RF RM					
14	510	102.99	12000	1.60						
15	460	92.97	12200	1.75						
18	405	81.80	12500	1.90						
19	380	77.24	12500	1.95		77	EDRN	80M4	46	507
22	325	65.77	12700	2.2		77	EDRN	80M4	51	508
25	285	57.68	12800	2.7		77	EDRN	80M4	76	508
28	255	52.07	12900	2.9						
31	225	45.81	13000	3.2						
33	215	43.26	13000	3.3						
13	565	113.94	7940	1.05	R RF RM					
14	525	105.83	8340	1.15						
15	475	95.91	8780	1.25						
17	425	86.11	9140	1.35						
19	365	74.17	9530	1.45		67	EDRN	80M4	38	504
21	345	69.75	9650	1.50		67	EDRN	80M4	41	505
24	300	61.26	9860	1.55		67	EDRN	80M4	57	505
25	280	56.89	9960	1.65						
28	255	51.56	10100	1.70						
31	230	46.29	10200	1.85						
16	445	89.71	7120	1.00	R RF RM	57	EDRN	80M4	32	501
18	400	80.55	7300	1.10		57	EDRN	80M4	35	502
21	340	69.23	7460	1.30		57	EDRN	80M4	47	502
22	320	64.85	7360	1.40						
25	280	57.29	7150	1.60						

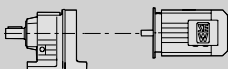
P _m = 0.75 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
27	260	53.22	7020	1.65	R	57	EDRN	80M4	32	501						
30	235	48.23	6850	1.75												
33	215	43.30	6670	1.90												
39	185	37.30*	6410	2.1												
41	174	35.07	6310	2.2												
48	150	30.18	6060	2.4												
53	134	26.97	5870	2.6	RF	57	EDRN	80M4	35	502						
55	130	26.31	5830	3.3												
58	124	24.99*	5750	3.4												
66	109	21.93	5540	3.8												
77	92	18.60*	5280	4.3												
77	92	18.60*	5280	4.3												
25	280	56.73	5220	1.05	RM	57	EDRN	80M4	47	502						
25	280	56.73	5220	1.05												
27	260	52.69	5420	1.15	R	47	EDRN	80M4	26	498						
30	235	47.75	5320	1.25												
34	210	42.87	5190	1.40												
39	183	36.93	5000	1.55												
41	172	34.73	4930	1.60												
48	148	29.88	4740	1.80												
54	132	26.70	4610	1.95												
61	117	23.59	4460	2.1												
54	132	26.74	4610	1.95	RF	47	EDRN	80M4	26	499						
62	115	23.28	4440	2.2												
66	108	21.81	4360	2.3												
75	95	19.27	4220	2.5												
80	89	17.89	4130	2.6												
89	80	16.22	4020	2.8												
39	182	36.72	2850	1.00	R	37	EDRN	80M4	23	495						
44	161	32.40	3130	1.10												
50	142	28.73	3340	1.20												
59	121	24.42	3560	1.35												
65	110	22.27	3650	1.55	RF	37	EDRN	80M4	24	496						
75	96	19.31	3750	1.75												
80	89	18.05	3790	1.80												
92	77	15.60	3810	2.0												
109	65	13.25	3640	2.2												
122	58	11.83	3530	2.4												
142	50	10.11	3380	2.8												
152	47	9.47	3310	2.9												
65	111	22.32	2300	1.10	R	27	EDRN	80M4	16	492						
74	96	19.35	2450	1.20												
80	89	18.08	2500	1.25												
92	77	15.63	2520	1.40												
108	66	13.28*	2430	1.55												
121	58	11.86	2360	1.70												
142	50	10.13	2260	1.95												
153	46	9.41	2180	1.90												
177	40	8.16	2110	2.1												
189	37	7.63*	2070	2.2												
218	32	6.59	1990	2.4												
257	27	5.60*	1900	2.7												
288	24	5.00*	1840	2.9												
104	68	13.84	1370	1.00							RF	17	EDRN	80M4	15	490
111	64	12.98	1360	1.05												
126	56	11.45	1340	1.15												
142	50	10.15	1320	1.25												
167	42	8.63	1280	1.45												
191	37	7.55	1190	1.25												
205	34	7.04	1180	1.30												
234	30	6.15	1150	1.40												
250	28	5.76	1140	1.45												
283	25	5.09	1110	1.60												
319	22	4.51	1080	1.75												
376	19	3.83	1040	2.0												

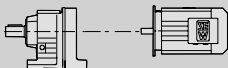
P _m = 0.75 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
278	25	5.18	3850	2.9	RX RXF	67 67	EDRN EDRN	80M4 80M4	25 29	476 477
318	22	4.53	3700	3.6						
335	21	4.30*	3640	3.7						
382	18	3.77	3490	4.6						
450	15	3.20*	3320	6.3						
498	14	2.89	3210	7.4						
567	12	2.54	3080	9.3						
600	11	2.40*	3030	10						
705	10	2.04	2880	13						
775	9.0	1.86	2790	13						
895	8.0	1.61	2660	14						
331	21	4.35	2940	3.1	RX RXF	57 57	EDRN EDRN	80M4 80M4	22 24	474 475
380	18	3.79	2820	3.7						
406	17	3.55*	2760	3.9						
459	15	3.14	2660	4.2						
494	14	2.91	2600	4.6						
545	13	2.64*	2520	5.3						
608	11	2.37	2440	5.8						
705	10	2.04	2330	6.8						
750	9.0	1.92*	2280	7.2						
872	8.0	1.65	2180	8.4						
975	7.0	1.48	2100	9.3						
1105	6.0	1.30	2020	9.7						

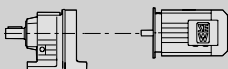
P _m = 1.1 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.55	17100	2657	120000	1.15	R RF RM	167R97 167R97 167R97	EDRN EDRN EDRN	90S4 90S4 90S4	760 770 960	526 526 526
0.62	14900	2333	120000	1.35						
0.70	13200	2085	120000	1.50						
0.78	11800	1877	120000	1.70						
0.87	10500	1670	120000	1.90						
1.0	9290	1438	120000	2.1						
1.1	8270	1279	120000	2.4						
1.3	7200	1123	120000	2.8						
0.75	12900	1951	62700	1.00	R RF RM	147R77 147R77 147R77	EDRN EDRN EDRN	90S4 90S4 90S4	435 440 610	525 525 525
0.85	11100	1705	65900	1.15						
0.95	10000	1536	67700	1.30						
1.1	8700	1329	69500	1.50						
1.2	7600	1166	70700	1.70						
1.4	6670	1029	71600	1.95						
1.6	5790	889	72400	2.2						
1.9	5080	784	72900	2.5						
2.1	4490	695	73300	2.9						
1.3	7290	1105	54800	1.10	R RF RM	137R77 137R77 137R77	EDRN EDRN EDRN	90S4 90S4 90S4	290 315 425	525 525 525
1.4	6870	1043	55600	1.15						
1.6	5830	888	57300	1.35						
1.3	7210	1090	55000	1.10	R RF RM	137R77 137R77 137R77	EDRN EDRN EDRN	90S4 90S4 90S4	300 325 435	525 525 525
1.5	6300	951	56600	1.25						
1.8	5440	831	57800	1.45						
2.0	4750	730	58700	1.70						
2.3	4060	629	59400	1.95						
2.6	3670	560	59800	2.2						
3.0	3160	490	60200	2.5						
1.9	5070	773	43000	1.15	R RF RM	127R77 127R77 127R77	EDRN EDRN EDRN	90S4 90S4 90S4	255 275 375	525 525 525
2.4	3960	608	43000	1.50						

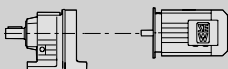
P _m = 1.1 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
1.8	5430	830	43000	1.10	R RF RM	127R77	EDRN	90S4	270	525
1.8	5240	794	43000	1.15						
1.8	5110	792	43000	1.15						
1.9	5100	777	43000	1.15						
1.9	4910	750	43000	1.20						
2.2	4320	659	43000	1.40						
2.3	4170	642	43000	1.45						
2.3	4160	636	43000	1.45						
2.4	4000	614	43000	1.50						
2.5	3770	581	43000	1.60						
2.8	3390	521	43000	1.75						
3.0	3190	492	43000	1.85						
3.0	3100	480	43000	1.90						
3.6	2630	407	43000	2.3						
3.8	2520	386	43000	2.4						
4.9	1930	298	43000	3.1						
5.8	1640	253	43000	3.6						
3.0	3290	490	43000	1.80	R	127R77	EDRN	90S4	255	525
3.7	2630	394	43000	2.3	RF	127R77	EDRN	90S4	275	525
4.5	2170	327	43000	2.7	RM	127R77	EDRN	90S4	370	525
5.6	1700	259	43000	3.5						
2.4	3980	614	31100	1.10	R RF RM	107R77	EDRN	90S4	215	525
2.7	3510	544	33100	1.20						
3.0	3180	492	34300	1.35						
3.5	2690	417	35800	1.60						
4.0	2410	369	36300	1.80						
4.5	2100	323	36700	2.0						
5.1	1850	285	36900	2.3						
5.8	1630	253	37100	2.6						
3.4	2870	431	21800	1.05	R RF RM	97R57	EDRN	90S4	140	525
3.8	2510	379	24000	1.20						
4.3	2240	336	25400	1.35						
4.9	1960	296	26500	1.55						
5.8	1640	249	27400	1.80						
6.2	1530	234	27600	1.95						
7.0	1360	209	27800	2.2						
7.0	1360	209	18100	1.15	R	87R57	EDRN	90S4	100	525
					RF	87R57	EDRN	90S4	105	525
					RM	87R57	EDRN	90S4	135	525
6.3	1550	232	16900	1.00	R	87R57	EDRN	90S4	99	525
7.5	1310	195	18400	1.20	RF	87R57	EDRN	90S4	105	525
					RM	87R57	EDRN	90S4	135	525
5.7	1840	255.71	26700	1.65	R RF RM	97	EDRN	90S4	120	513
6.0	1740	241.25	27300	1.70						
6.7	1560	216.28	27600	1.90						
7.8	1340	186.30	27800	2.2						
8.6	1220	170.02	28000	2.4						
9.7	1080	150.78	28100	2.8						
11	910	126.75	28300	3.3						
12	840	116.48	28400	3.6						
7.1	1480	205.71	13500	1.05	R	87	EDRN	90S4	77	510
8.0	1310	181.77	16000	1.20	RF	87	EDRN	90S4	84	511
					RM	87	EDRN	90S4	115	511
9.4	1120	155.34	18700	1.40	R RF RM	87	EDRN	90S4	77	510
10	1020	142.41	19700	1.50						
12	900	124.97	20000	1.70						
12	850	118.43*	20000	1.80						
14	745	103.65	20000	2.1						
16	670	93.38	20000	2.3						
18	590	81.92	20000	2.6						
20	520	72.57	20000	2.9						
23	455	63.68*	20000	3.2						
24	435	60.35*	20000	3.3						
28	380	52.82	20000	3.6						

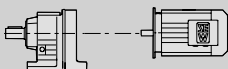
P _m = 1.1 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
14	740	102.99	10600	1.10	R	77	EDRN	90S4	50	507
16	670	92.97	11100	1.20	RF	77	EDRN	90S4	56	508
					RM	77	EDRN	90S4	81	508
18	590	81.80	11600	1.30	R	77	EDRN	90S4	50	507
19	555	77.24	11800	1.35						
22	470	65.77	12200	1.50						
25	415	57.68	12400	1.85						
28	375	52.07	12600	2.0						
32	330	45.81	12700	2.2						
34	310	43.26	12800	2.3						
40	265	36.83	12900	2.5						
43	240	33.47	12900	2.7						
20	535	74.17	8250	1.00	R	67	EDRN	90S4	45	504
21	500	69.75	8550	1.05						
24	440	61.26	9040	1.05						
26	410	56.89	9270	1.10						
28	370	51.56	9510	1.20						
31	330	46.29	9720	1.25						
36	285	39.88*	9940	1.40						
39	270	37.50	10000	1.50						
45	230	32.27	10200	1.65						
50	205	28.83	10200	1.80						
52	200	28.13	10100	2.6	R	67	EDRN	90S4	44	504
54	192	26.72	10000	2.7	RF	67	EDRN	90S4	47	505
62	169	23.44	9620	3.0	RM	67	EDRN	90S4	63	505
73	143	19.89	9160	3.3						
25	410	57.29	6660	1.10	R	57	EDRN	90S4	38	501
					RF	57	EDRN	90S4	41	502
					RM	57	EDRN	90S4	53	502
27	380	53.22	6560	1.15	R	57	EDRN	90S4	38	501
30	345	48.23	6440	1.20						
34	310	43.30	6290	1.30						
39	265	37.30*	6090	1.45						
41	250	35.07	6000	1.50						
48	215	30.18	5790	1.70						
54	194	26.97	5630	1.80						
55	189	26.31	5600	2.3	R	57	EDRN	90S4	37	501
58	180	24.99*	5530	2.4						
66	158	21.93	5340	2.6						
78	134	18.60*	5110	2.9						
87	121	16.79	4970	3.2						
39	265	36.93	3940	1.05	R	47	EDRN	90S4	33	498
42	250	34.73	4120	1.10						
49	215	29.88	4480	1.25						
54	192	26.70	4370	1.35						
62	170	23.59	4250	1.45						
62	168	23.28	4240	1.50	R	47	EDRN	90S4	32	498
67	157	21.81	4170	1.55						
76	139	19.27	4040	1.75						
81	129	17.89	3970	1.80						
90	117	16.22	3870	1.90						
100	105	14.56	3760	2.1						
116	90	12.54	3620	2.3						
123	85	11.79	3550	2.5						
143	73	10.15	3410	2.8						
160	65	9.07	3300	3.1						
75	139	19.31	2500	1.20	R	37	EDRN	90S4	28	495
81	130	18.05	2620	1.25						
93	112	15.60	2820	1.40						

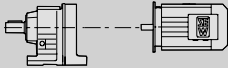
P _m = 1.1 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
110	95	13.25	2980	1.55	R	37	EDRN	90S4	28	495
123	85	11.83	3060	1.65						
144	72	10.11	3130	1.90						
154	68	9.47	3150	2.0						
182	57	7.97	3060	2.3						
218	48	6.67	2890	2.2						
257	40	5.67	2760	2.5						
288	36	5.06	2670	2.7	RF	37	EDRN	90S4	30	496
110	95	13.28*	1860	1.10	R	27	EDRN	90S4	22	492
123	85	11.86	1960	1.20						
144	73	10.13	2080	1.35						
155	67	9.41	1640	1.30						
178	58	8.16	1760	1.45						
191	55	7.63*	1800	1.55						
221	47	6.59	1880	1.70						
260	40	5.60*	1820	1.90						
291	36	5.00*	1770	2.0						
341	30	4.27	1700	2.3						
364	28	4.00*	1670	2.4						
432	24	3.37	1600	2.7						
258	40	5.63	5610	2.7	RX	77	EDRN	90S4	41	478
272	38	5.35*	5520	2.7	RXF	77	EDRN	90S4	43	479
308	34	4.73	5320	3.6	RX	67	EDRN	90S4	31	476
321	32	4.53	3620	2.5						
338	31	4.30*	3560	2.6						
386	27	3.77	3430	3.2						
455	23	3.20*	3260	4.3						
504	20	2.89	3160	5.1						
572	18	2.54	3040	6.4						
606	17	2.40*	2980	7.1						
712	14	2.04	2840	8.7						
783	13	1.86	2750	9.2						
904	11	1.61	2630	9.8						
1040	10	1.40*	2510	10						
384	27	3.79	2750	2.5	RX	57	EDRN	90S4	29	474
410	25	3.55*	2700	2.7						
464	22	3.14	2600	2.9						
499	21	2.91	2540	3.2						
551	19	2.64*	2470	3.6						
614	17	2.37	2390	4.0						
713	14	2.04	2280	4.7						
758	13	1.92*	2240	5.0						
881	11	1.65	2140	5.8						
986	10	1.48	2060	6.4						
1115	9.0	1.30	1990	6.7						

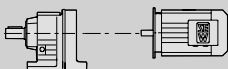
P _m = 1.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.70	18300	2085	120000	1.10	R RF RM	167R97	EDRN	90L4	760	526
0.78	16300	1877	120000	1.20						
0.87	14500	1670	120000	1.35						
1.0	12700	1438	120000	1.55						
1.1	11300	1279	120000	1.75						
1.3	9930	1123	120000	2.0						
1.5	8840	999	120000	2.3						
3.4	3770	426	73600	3.5	R	147R87	EDRN	90L4	455	525
4.0	3250	368	73900	4.0	RF	147R87	EDRN	90L4	465	525
					RM	147R87	EDRN	90L4	630	525

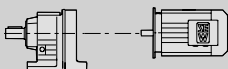
P _m = 1.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
1.1	11900	1329	64700	1.10	R RF RM	147R77 147R77 147R77	EDRN EDRN EDRN	90L4 90L4 90L4	435 445 610	525 525 525
1.2	10400	1166	67100	1.25						
1.4	9180	1029	68900	1.40						
1.6	7950	889	70400	1.65						
1.9	6990	784	71300	1.85						
2.1	6180	695	72100	2.1						
2.4	5570	619	72500	2.3						
2.6	5010	558	72900	2.6						
1.6	7990	888	53400	1.00	R	137R77	EDRN	90L4	295	525
2.1	6260	699	56600	1.30	RF	137R77	EDRN	90L4	320	525
2.4	5430	609	57800	1.45	RM	137R77	EDRN	90L4	430	525
1.8	7460	831	54500	1.05	R RF RM	137R77 137R77 137R77	EDRN EDRN EDRN	90L4 90L4 90L4	305 325 440	525 525 525
2.0	6520	730	56200	1.25						
2.3	5590	629	57600	1.45						
2.6	5040	560	58300	1.60						
3.0	4360	490	59100	1.85						
3.4	3800	428	59700	2.1						
3.8	3430	381	60000	2.3						
4.5	2910	323	60400	2.8						
2.4	5440	608	43000	1.10	R RF RM	127R77 127R77 127R77	EDRN EDRN EDRN	90L4 90L4 90L4	260 280 375	525 525 525
2.2	5920	659	43000	1.00	R RF RM	127R77 127R77 127R77	EDRN EDRN EDRN	90L4 90L4 90L4	275 285 380	525 525 525
2.3	5730	642	43000	1.05						
2.3	5710	636	43000	1.05						
2.4	5490	614	43000	1.10						
2.5	5180	581	43000	1.15						
2.8	4650	521	43000	1.30						
3.0	4390	492	43000	1.35						
3.0	4270	480	43000	1.40						
3.6	3620	407	43000	1.65						
3.8	3460	386	43000	1.70						
4.9	2660	298	43000	2.2						
5.8	2250	253	43000	2.6						
3.0	4500	490	43000	1.30	R RF RM	127R77 127R77 127R77	EDRN EDRN EDRN	90L4 90L4 90L4	260 280 375	525 525 525
3.7	3600	394	43000	1.65						
4.5	2980	327	43000	2.0						
5.7	2340	259	43000	2.5						
7.2	1820	202	43000	3.3						
9.0	1470	162	43000	4.0						
3.5	3710	417	32300	1.15	R	107R77	EDRN	90L4	220	525
4.0	3310	369	33900	1.30	RF	107R77	EDRN	90L4	225	525
4.5	2890	323	35300	1.50	RM	107R77	EDRN	90L4	310	525
3.1	4300	469	29400	1.00	R RF RM	107R77 107R77 107R77	EDRN EDRN EDRN	90L4 90L4 90L4	210 215 305	525 525 525
4.9	2680	296	23000	1.10	R RF RM	97R57 97R57 97R57	EDRN EDRN EDRN	90L4 90L4 90L4	145 165 215	525 525 525
5.9	2250	249	25300	1.35						
6.2	2100	234	26000	1.45						
7.0	1870	209	26800	1.60						
5.7	2500	255.71	18900	1.20	R RF RM	97 97 97	EDRN EDRN EDRN	90L4 90L4 90L4	120 140 190	513 514 514
6.1	2360	241.25	20600	1.25						
6.8	2120	216.28	23400	1.40						
7.8	1820	186.30	26900	1.65						
8.6	1660	170.02	27400	1.80						
9.7	1470	150.78	27700	2.0						
12	1240	126.75	28000	2.4						
13	1140	116.48	28100	2.6						
14	1010	103.44	28200	3.0						
16	900	92.48	28300	3.3						
9.4	1520	155.34	12900	1.00	R RF RM	87 87 87	EDRN EDRN EDRN	90L4 90L4 90L4	80 87 115	510 511 511
10	1390	142.41	14800	1.10						
12	1220	124.97	17200	1.25						
12	1160	118.43*	18200	1.35						
14	1010	103.65	19800	1.55						

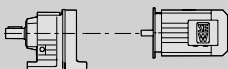
P _m = 1.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
16	910	93.38	20000	1.70	R	87	EDRN	90L4	80	510
18	800	81.92	20000	1.95						
20	710	72.57	20000	2.2						
23	620	63.68*	20000	2.4						
24	590	60.35*	20000	2.5						
28	515	52.82	20000	2.7						
31	465	47.58	20000	2.9						
35	405	41.74	20000	3.2						
40	360	36.84*	19400	3.5	RF	87	EDRN	90L4	87	511
					RM	87	EDRN	90L4	115	511
22	640	65.77	11300	1.10	R	77	EDRN	90L4	54	507
					RF	77	EDRN	90L4	59	508
					RM	77	EDRN	90L4	84	508
25	565	57.68	11700	1.35	R	77	EDRN	90L4	54	507
28	510	52.07	12000	1.45						
32	445	45.81	12300	1.60						
34	420	43.26	12400	1.65						
40	360	36.83	12600	1.85						
44	325	33.47	12700	2.0						
50	280	29.00	12400	2.2						
58	245	25.23	11900	2.5						
62	225	23.37	11600	2.7	R	77	EDRN	90L4	52	507
68	210	21.43	11400	2.9	RF	77	EDRN	90L4	58	508
78	184	18.80	10900	3.2	RM	77	EDRN	90L4	83	508
37	390	39.88*	9390	1.05	R	67	EDRN	90L4	48	504
39	365	37.50	9530	1.10						
45	315	32.27	9810	1.20						
51	280	28.83	9960	1.30						
52	275	28.13	9890	1.90	R	67	EDRN	90L4	47	504
55	260	26.72	9760	1.95						
62	225	23.44	9410	2.2						
73	194	19.89	8980	2.4						
81	176	17.95	8720	2.6	RF	67	EDRN	90L4	50	505
					RM	67	EDRN	90L4	66	505
39	365	37.30*	5730	1.05	R	57	EDRN	90L4	41	501
42	340	35.07	5670	1.10						
48	295	30.18	5500	1.25						
54	260	26.97	5380	1.35						
56	255	26.31	5350	1.65	R	57	EDRN	90L4	40	501
58	245	24.99*	5290	1.75						
67	215	21.93	5130	1.90						
79	182	18.60*	4930	2.2						
87	164	16.79	4810	2.3						
99	144	14.77*	4650	2.5						
105	136	13.95*	4580	2.7						
123	116	11.88	4390	3.1						
62	230	23.59	3340	1.10	R	47	EDRN	90L4	36	498
					RF	47	EDRN	90L4	36	499
63	225	23.28	3380	1.10	R	47	EDRN	90L4	35	498
67	210	21.81	3540	1.15						
76	188	19.27	3790	1.25						
82	175	17.89	3800	1.30						
90	159	16.22	3710	1.40						
100	142	14.56	3620	1.55						
116	122	12.54	3490	1.70						
124	115	11.79	3440	1.80						
144	99	10.15	3310	2.1						
161	88	9.07	3210	2.2						
182	78	8.01	3110	2.5						
188	76	7.76*	3040	2.1						
210	68	6.96	2950	2.3						
244	58	6.00	2830	2.6						
259	55	5.64*	2780	2.7						
301	47	4.85	2670	3.0						
337	42	4.34	2590	3.3						
381	37	3.83	2500	3.6						

P _m = 1.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
94	152	15.60	1670	1.00	R RF	37 37	EDRN EDRN	90L4 90L4	31 33	495 496
110	129	13.25	2000	1.15	R RF	37 37	EDRN EDRN	90L4 90L4	31 33	495 496
123	116	11.83	2190	1.25						
145	99	10.11	2380	1.40						
154	92	9.47	2450	1.50						
183	78	7.97	2580	1.70						
219	65	6.67	2350	1.65						
258	55	5.67	2440	1.85						
289	49	5.06	2480	2.0						
338	42	4.32	2490	2.2						
361	39	4.05	2450	2.3						
429	33	3.41	2330	2.6						
179	79	8.16	1040	1.10	R RF	27 27	EDRN EDRN	90L4 90L4	25 25	492 493
192	74	7.63*	1140	1.10						
222	64	6.59	1300	1.25						
261	54	5.60*	1450	1.40						
292	49	5.00*	1520	1.50						
342	41	4.27	1600	1.65						
365	39	4.00*	1610	1.75						
434	33	3.37	1540	2.0						
259	55	5.63	5520	2.0	RX RXF	77 77	EDRN EDRN	90L4 90L4	44 46	478 479
273	52	5.35*	5440	1.95						
309	46	4.73	5240	2.6						
362	39	4.04*	4990	3.6						
394	36	3.70	4860	4.2						
450	31	3.25*	4670	5.7						
474	30	3.08*	4590	6.4						
542	26	2.70	4400	8.1						
602	23	2.43	4260	8.6						
323	44	4.53	3540	1.85	RX RXF	67 67	EDRN EDRN	90L4 90L4	34 38	476 477
340	42	4.30*	3490	1.90						
387	36	3.77	3360	2.4						
457	31	3.20*	3200	3.2						
506	28	2.89	3100	3.7						
575	24	2.54	2990	4.7						
609	23	2.40*	2940	5.2						
715	20	2.04	2790	6.4						
787	18	1.86	2710	6.8						
908	15	1.61	2590	7.2						
1045	13	1.40*	2480	7.6						
386	37	3.79	2670	1.85	RX RXF	57 57	EDRN EDRN	90L4 90L4	32 34	474 475
412	34	3.55*	2620	2.0						
466	30	3.14	2540	2.1						
502	28	2.91	2480	2.4						
553	25	2.64*	2410	2.7						
616	23	2.37	2340	3.0						
716	20	2.04	2240	3.5						
761	18	1.92*	2200	3.7						
884	16	1.65	2100	4.3						
990	14	1.48	2030	4.7						
1120	12	1.30	1960	4.9						

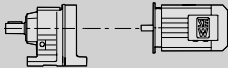
P _m = 2.2 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
1.1	17000	1279	120000	1.15	R RF RM	167R97 167R97 167R97	EDRN EDRN EDRN	100LS4 100LS4 100LS4	770 780 970	526 526 526
1.3	14800	1123	120000	1.35						
1.4	13200	999	120000	1.50						
1.7	11400	861	120000	1.75						
1.9	10100	760	120000	2.0						
2.2	8460	656	120000	2.4						

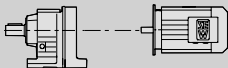
P _m = 2.2 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
2.7	6980	533	71300	1.85	R RF RM	147R87	EDRN	100LS4	460	525
3.1	6010	462	72200	2.2		147R87	EDRN	100LS4	470	525
3.4	5650	426	72500	2.3		147R87	EDRN	100LS4	640	525
3.9	4880	368	73000	2.7						
4.5	4310	326	73400	3.0						
1.6	11800	889	64800	1.10	R RF RM	147R77	EDRN	100LS4	440	525
1.9	10400	784	67100	1.25		147R77	EDRN	100LS4	450	525
2.1	9240	695	68800	1.40		147R77	EDRN	100LS4	620	525
2.3	8300	619	70000	1.55						
2.6	7470	558	70900	1.75						
3.0	6540	489	71700	2.0						
2.6	7510	560	54400	1.05	R RF RM	137R77	EDRN	100LS4	310	525
3.0	6520	490	56200	1.25		137R77	EDRN	100LS4	330	525
3.4	5690	428	57500	1.40		137R77	EDRN	100LS4	445	525
3.8	5110	381	58300	1.55						
4.5	4330	323	59200	1.85						
5.0	3900	291	59600	2.0						
5.7	3410	255	60000	2.3						
6.5	2980	223	60300	2.7						
3.6	5410	407	43000	1.10	R RF RM	127R77	EDRN	100LS4	280	525
3.8	5160	386	43000	1.15		127R77	EDRN	100LS4	290	525
4.9	3980	298	43000	1.50		127R77	EDRN	100LS4	385	525
5.7	3370	253	43000	1.75						
3.7	5360	394	43000	1.10	R RF RM	127R77	EDRN	100LS4	260	525
4.4	4440	327	43000	1.35		127R77	EDRN	100LS4	285	525
5.6	3490	259	43000	1.70		127R77	EDRN	100LS4	380	525
7.2	2720	202	43000	2.2						
8.9	2200	162	43000	2.7						
12	1690	126	43000	3.5						
5.1	3800	285	31900	1.15	R RF RM	107R77	EDRN	100LS4	220	525
5.7	3360	253	33700	1.30		107R77	EDRN	100LS4	230	525
6.8	2850	214	35400	1.50		107R77	EDRN	100LS4	315	525
6.9	2790	209	22300	1.05	R RF RM	97R57	EDRN	100LS4	150	525
						97R57	EDRN	100LS4	165	525
						97R57	EDRN	100LS4	220	525
5.5	3800	262.65	43000	1.60	R RF RM					
6.0	3480	240.48	43000	1.70						
6.8	3070	212.46	43000	1.95						
8.1	2610	180.23	43000	2.3		127	EDRN	100LS4	240	517
8.7	2400	165.95	43000	2.5		127	EDRN	100LS4	250	518
9.8	2140	148.33	43000	2.8		127	EDRN	100LS4	345	518
11	1930	133.53	43000	3.1						
12	1750	120.92	43000	3.4						
14	1550	107.23	43000	3.7						
5.8	3630	251.15	32600	1.20	R RF RM	107	EDRN	100LS4	185	515
6.3	3330	229.95	33800	1.30		107	EDRN	100LS4	190	516
7.1	2940	203.16	35100	1.45		107	EDRN	100LS4	275	516
8.4	2490	172.34	36200	1.70	R RF RM					
9.1	2290	158.68	36400	1.85						
10	2050	141.83	36700	2.1		107	EDRN	100LS4	185	515
11	1840	127.68	36900	2.3		107	EDRN	100LS4	190	516
13	1670	115.63	37100	2.6		107	EDRN	100LS4	275	516
14	1480	102.53	37200	2.9						
16	1340	92.70	37400	3.2						
7.8	2690	186.30	16600	1.10	R RF RM	97	EDRN	100LS4	125	513
8.5	2460	170.02	19400	1.20		97	EDRN	100LS4	145	514
						97	EDRN	100LS4	195	514

P _m = 2.2 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
9.6	2180	150.78	22700	1.35	R RF RM	97	EDRN EDRN EDRN	100LS4 100LS4 100LS4	125 145 195	513 514 514
11	1830	126.75	26800	1.65						
12	1680	116.48	27400	1.80						
14	1490	103.44	27600	2.0						
16	1330	92.48	27900	2.2						
17	1200	83.15	28000	2.5						
20	1040	72.17	28200	2.9						
22	940	65.21	27500	3.0						
24	860	59.92	26800	3.2						
27	770	53.21	25900	3.5						
30	685	47.58	25000	3.9						
14	1500	103.65	13200	1.05	R	87	EDRN	100LS4	85	510
16	1350	93.38	14500	1.15	RF	87	EDRN	100LS4	92	511
18	1180	81.92	15500	1.30	RM	87	EDRN	100LS4	120	511
20	1050	72.57	16100	1.45	R RF RM	87	EDRN EDRN EDRN	100LS4 100LS4 100LS4	85 92 120	510 511 511
23	920	63.68*	16700	1.60						
24	870	60.35*	16800	1.65						
27	765	52.82	17100	1.80						
30	685	47.58	17300	1.95						
35	600	41.74	17300	2.1						
39	530	36.84*	17300	2.3						
44	470	32.66*	17200	2.6						
42	495	34.40*	17200	2.7	R RF RM	87	EDRN EDRN EDRN	100LS4 100LS4 100LS4	83 90 120	510 511 511
46	450	31.40	17100	2.9						
52	400	27.84*	16900	3.2						
62	335	23.40	16600	3.6						
67	310	21.51	16200	3.9						
32	660	45.81	10900	1.10	R	77	EDRN	100LS4	58	507
					RF	77	EDRN	100LS4	64	508
					RM	77	EDRN	100LS4	88	508
34	625	43.26	11100	1.15	R RF RM	77	EDRN EDRN EDRN	100LS4 100LS4 100LS4	58 64 88	507 508 508
39	530	36.83	11500	1.25						
43	485	33.47	11600	1.35						
50	420	29.00	11700	1.50						
57	365	25.23	11600	1.65						
62	335	23.37	11400	1.85	R RF RM	77	EDRN EDRN EDRN	100LS4 100LS4 100LS4	57 62 87	507 508 508
68	310	21.43	11100	1.95						
77	270	18.80	10700	2.2						
81	255	17.82*	10500	2.2						
93	225	15.60	10100	2.5						
103	200	14.05	9830	2.7						
62	335	23.44	9070	1.45	R RF RM	67	EDRN EDRN EDRN	100LS4 100LS4 100LS4	51 54 70	504 505 505
73	285	19.89	8700	1.65						
81	260	17.95	8470	1.80						
92	225	15.79	8180	1.95						
97	215	14.91	8050	2.1						
114	183	12.70	7700	2.4						
126	167	11.54	7500	2.6						
145	144	10.00	7190	2.8						
167	126	8.70*	6910	3.1						
186	112	7.79	6700	2.6						
66	315	21.93	4780	1.30	R RF RM	57	EDRN EDRN EDRN	100LS4 100LS4 100LS4	44 48 60	501 502 502
78	265	18.60*	4630	1.45						
86	240	16.79	4540	1.60						
98	210	14.77*	4420	1.75						
104	200	13.95*	4360	1.85						
122	172	11.88	4210	2.1						
134	156	10.79	4110	2.3						
155	135	9.35	3970	2.6						
160	131	9.06	3950	2.4						
182	115	7.97	3820	2.6						

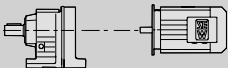
P _m = 2.2 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
100	210	14.56	2520	1.05	R RF	47 47	EDRN EDRN	100LS4 100LS4	39 39	498 499
116	181	12.54	2860	1.15						
123	170	11.79	2980	1.25						
143	147	10.15	3140	1.40						
160	131	9.07	3070	1.50						
181	116	8.01	2980	1.70						
187	112	7.76*	2890	1.45						
208	100	6.96	2820	1.55						
242	86	6.00	2720	1.75						
257	81	5.64*	2680	1.80						
299	70	4.85	2580	2.0						
334	62	4.34	2510	2.2						
378	55	3.83	2430	2.4						
153	137	9.47	1210	1.00	R RF	37 37	EDRN EDRN	100LS4 100LS4	35 37	495 496
182	115	7.97	1540	1.15						
217	96	6.67	1330	1.10						
256	82	5.67	1570	1.25						
287	73	5.06	1700	1.35						
336	62	4.32	1840	1.50						
358	58	4.05	1890	1.60						
425	49	3.41	1980	1.80						
290	72	5.00*	745	1.00	R RF	27 27	EDRN EDRN	100LS4 100LS4	29 29	492 493
340	61	4.27	940	1.15						
362	57	4.00*	1000	1.20						
430	48	3.37	1140	1.35						
307	68	4.73	5140	1.80	RX RXF	77 77	EDRN EDRN	100LS4 100LS4	48 50	478 479
359	58	4.04*	4910	2.4						
392	53	3.70	4780	2.9						
446	47	3.25*	4600	3.9						
471	44	3.08*	4530	4.3						
538	39	2.70	4350	5.5						
597	35	2.43	4210	5.8						
681	30	2.13	4040	6.5						
771	27	1.88*	3890	6.9						
870	24	1.67	3740	7.2						
1020	20	1.42	3560	7.5						
384	54	3.77	3250	1.60	RX RXF	67 67	EDRN EDRN	100LS4 100LS4	38 42	476 477
453	46	3.20*	3110	2.2						
502	41	2.89	3020	2.5						
570	36	2.54	2920	3.2						
604	34	2.40*	2870	3.5						
710	29	2.04	2740	4.3						
781	26	1.86	2660	4.6						
901	23	1.61	2550	4.9						
1035	20	1.40*	2440	5.1						
462	45	3.14	2290	1.45	RX RXF	57 57	EDRN EDRN	100LS4 100LS4	36 37	474 475
549	38	2.64*	2330	1.80						
612	34	2.37	2260	2.0						
710	29	2.04	2170	2.3						
755	27	1.92*	2130	2.5						
878	23	1.65	2040	2.9						
982	21	1.48	1980	3.2						
1110	18	1.30	1910	3.3						

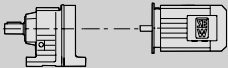
P _m = 3.0 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
1.5	18100	999	120000	1.10						
1.7	15600	861	120000	1.30						
1.9	13800	760	120000	1.45						
2.2	11600	656	120000	1.70						
2.9	8940	503	120000	2.2						

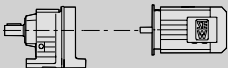
P _m = 3.0 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
2.7	9590	533	68300	1.35	R RF RM	147R87	EDRN	100L4	470	525
3.1	8260	462	70000	1.55						
3.4	7730	426	70600	1.70						
4.0	6680	368	71600	1.95						
4.5	5910	326	72300	2.2						
5.2	5010	280	72900	2.6					640	525
2.1	12600	695	63400	1.05	R RF RM	147R77	EDRN	100L4	445	525
2.4	11300	619	65700	1.15						
2.6	10100	558	67500	1.25						
3.4	7780	428	53800	1.05	R RF RM	137R77	EDRN	100L4	315	525
3.8	6970	381	55400	1.15						
4.5	5910	323	57200	1.35						
5.0	5320	291	58000	1.50						
5.7	4650	255	58800	1.70						
6.5	4070	223	59400	1.95					450	525
4.9	5430	298	43000	1.10	R RF RM	127R77	EDRN	100L4	285	525
5.8	4600	253	43000	1.30						
5.6	4770	259	43000	1.25	R RF RM	127R77	EDRN	100L4	270	525
7.2	3720	202	43000	1.60						
9.0	3000	162	43000	2.0						
12	2310	126	43000	2.6						
6.8	3900	214	31500	1.10	R RF RM	107R77	EDRN	100L4	230	525
7.8	3400	187	33500	1.25						
5.5	5160	262.65	43000	1.15	R RF RM	127	EDRN	100L4	245	517
6.0	4730	240.48	43000	1.25						
6.8	4180	212.46	43000	1.45						
8.1	3540	180.23	43000	1.70						
8.8	3260	165.95	43000	1.85						
9.8	2910	148.33	43000	2.1						
11	2620	133.53	43000	2.3						
12	2370	120.92	43000	2.5						
14	2100	107.23	43000	2.7						
15	1900	96.95	43000	3.0						
17	1670	85.26	43000	3.6						
18	1610	82.17	43000	3.4						
19	1490	76.21	43000	3.9					355	518
7.2	3990	203.16	31000	1.10	R RF RM	107	EDRN	100L4	190	515
8.4	3390	172.34	33600	1.25						
9.2	3120	158.68	34500	1.40						
10	2790	141.83	35600	1.55						
11	2510	127.68	36100	1.70						
13	2270	115.63	36500	1.90						
14	2010	102.53	36800	2.1						
16	1820	92.70	36900	2.4						
19	1540	78.57	35500	2.8						
20	1430	72.88	34800	3.0					285	516
9.7	2960	150.78	13400	1.00	R RF RM	97	EDRN	100L4	135	513
11	2490	126.75	19000	1.20						
12	2290	116.48	21400	1.30						
14	2030	103.44	23200	1.45						
16	1810	92.48	24000	1.65						
18	1630	83.15	24600	1.85						
20	1410	72.17	25100	2.1						
22	1280	65.21	25400	2.2						
24	1170	59.92	25500	2.4						
27	1040	53.21	25300	2.6						
31	930	47.58	24500	2.9						
34	840	42.78	23800	3.1						
39	730	37.13	22800	3.5						
44	650	33.25	22100	3.8					200	514
20	1420	72.57	10700	1.10	R RF RM	87	EDRN	100L4	92	510
23	1250	63.68*	11900	1.15						
						87	EDRN	100L4	130	511

P _m = 3.0 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
24	1180	60.35*	12300	1.20	R RF RM	87 87 87	EDRN EDRN EDRN	100L4 100L4 100L4	92 99 130	510 511 511
28	1030	52.82	13100	1.35						
31	930	47.58	13700	1.45						
35	820	41.74	14200	1.60						
40	720	36.84*	14500	1.70						
45	640	32.66*	14700	1.90						
52	545	27.88	14800	2.1						
42	675	34.40*	14600	2.0	R RF RM	87 87 87	EDRN EDRN EDRN	100L4 100L4 100L4	90 97 125	510 511 511
46	615	31.40	14700	2.1						
52	545	27.84*	14800	2.3						
62	460	23.40	14800	2.6						
68	420	21.51	14700	2.8						
76	375	19.10	14600	3.1						
85	335	17.08*	14500	3.4						
95	300	15.35	14300	3.7						
44	655	33.47	8860	1.00	R RF RM	77 77 77	EDRN EDRN EDRN	100L4 100L4 100L4	65 71 96	507 508 508
50	570	29.00	9340	1.10	R	77	EDRN	100L4	65	507
58	495	25.23	9670	1.20	RF RM	77 77	EDRN EDRN	100L4 100L4	71 96	508 508
62	455	23.37	9800	1.35	R RF RM	77 77 77	EDRN EDRN EDRN	100L4 100L4 100L4	64 70 94	507 508 508
68	420	21.43	9920	1.45						
77	365	18.80	10000	1.60						
82	350	17.82*	10000	1.65						
93	305	15.60	9880	1.80						
104	275	14.05	9600	2.0						
118	240	12.33	9250	2.2						
134	210	10.88	8930	2.5						
151	189	9.64	8620	2.8						
169	169	8.59	8400	2.9						
188	152	7.74	8140	3.2						
214	133	6.79	7830	3.6						
62	460	23.44	7140	1.10	R RF RM	67 67 67	EDRN EDRN EDRN	100L4 100L4 100L4	58 61 77	504 505 505
73	390	19.89	7660	1.20						
81	350	17.95	7890	1.30						
92	310	15.79	7900	1.45						
98	290	14.91	7790	1.50						
115	245	12.70	7470	1.75						
126	225	11.54	7290	1.90						
146	196	10.00	7010	2.1						
78	365	18.60*	3300	1.10	R	57	EDRN	100L4	51	501
87	330	16.79	3630	1.15	RF RM	57 57	EDRN EDRN	100L4 100L4	55 67	502 502
99	290	14.77*	3970	1.25	R RF RM	57 57 57	EDRN EDRN EDRN	100L4 100L4 100L4	51 55 67	501 502 502
104	270	13.95*	4100	1.35						
123	230	11.88	3980	1.55						
135	210	10.79	3900	1.65						
156	183	9.35	3790	1.90						
161	178	9.06	3780	1.75						
183	156	7.97	3670	1.90						
193	148	7.53	3620	2.0						
227	126	6.41	3480	2.2						
250	114	5.82	3400	2.3						
289	99	5.05	3270	2.6						
332	86	4.39	3160	2.8						
143	199	10.15	1910	1.05	R RF	47 47	EDRN EDRN	100L4 100L4	46 46	498 499
161	178	9.07	2180	1.10						
182	157	8.01	2430	1.25						
188	152	7.76*	2040	1.05						
209	137	6.96	2250	1.15						
243	118	6.00	2480	1.30						
258	110	5.64*	2550	1.35						
300	95	4.85	2470	1.50						
336	85	4.34	2410	1.65						
380	75	3.83	2340	1.80						

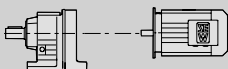
27782913/EN – 02/2023

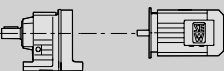
P_m = 3.0 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
337	85	4.32	1100	1.10	R	37	EDRN	100L4	42	495
360	79	4.05	1190	1.15					44	496
427	67	3.41	1390	1.30						
432	66	3.37	555	1.00	R	27	EDRN	100L4	37	492
									37	493
226	127	6.45	7050	1.50	RX	87	EDRN	100L4	72	480
262	109	5.56*	6760	2.1					77	481
287	99	5.07	6580	2.5						
324	88	4.50*	6350	3.3						
385	74	3.78	6030	4.1	RX	77	EDRN	100L4	55	478
308	93	4.73	5000	1.30					57	479
360	79	4.04*	4780	1.80						
393	72	3.70	4670	2.1						
448	63	3.25*	4500	2.9						
473	60	3.08*	4430	3.2	RX	67	EDRN	100L4	45	476
386	74	3.77	3120	1.15					49	477
455	62	3.20*	3000	1.60						
504	56	2.89	2920	1.85						
573	50	2.54	2820	2.4						
607	47	2.40*	2780	2.6						
713	40	2.04	2660	3.2						
784	36	1.86	2590	3.4						
905	31	1.61	2480	3.6						
1040	27	1.40*	2380	3.8						
464	61	3.14	1380	1.05	RX	57	EDRN	100L4	43	474
552	51	2.64*	1540	1.35					45	475
614	46	2.37	1610	1.50						
713	40	2.04	1690	1.70						
758	37	1.92*	1710	1.85						
881	32	1.65	1740	2.1						
986	29	1.48	1740	2.3						
1115	25	1.30	1770	2.5						

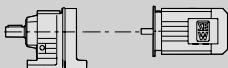
P_m = 4.0 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
1.9	18400	760	120000	1.10	R	167R97	EDRN	112M4	780	526
2.2	15600	656	120000	1.30					790	526
2.9	11900	503	120000	1.65					990	526
3.9	8970	376	120000	2.2						
4.4	7980	335	120000	2.5						
2.8	12800	533	63000	1.00	R	147R87	EDRN	112M4	475	525
3.2	11000	462	66200	1.20					485	525
3.4	10300	426	67300	1.25					650	525
4.0	8900	368	69200	1.45						
4.5	7870	326	70400	1.65						
5.2	6700	280	71600	1.95						
5.9	5910	247	72300	2.2						
6.9	5110	214	72900	2.5						
7.8	4520	189	73200	2.9	R	147R77	EDRN	112M4	455	525
9.2	3790	159	73600	3.4					465	525
3.0	11800	489	64800	1.10					630	525
3.5	10000	415	67700	1.30	R	137R77	EDRN	112M4	325	525
4.5	7870	323	53700	1.00					350	525
5.0	7080	291	55200	1.15					460	525
5.8	6190	255	56700	1.30						
6.5	5420	223	57800	1.45	R	137R77	EDRN	112M4	315	525
4.9	7300	297	54800	1.10					340	525
									450	525

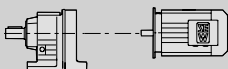
P_m = 4.0 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
7.2	4960	202	43000	1.20	R	127R77	EDRN	112M4	280	525
9.0	3990	162	43000	1.50	RF	127R77	EDRN	112M4	300	525
12	3080	126	43000	1.95	RM	127R77	EDRN	112M4	395	525
8.5	4240	172	29800	1.00	R	107R77	EDRN	112M4	230	525
					RF	107R77	EDRN	112M4	240	525
					RM	107R77	EDRN	112M4	325	525
6.9	5540	212.46	43000	1.10	R	127	EDRN	112M4	255	517
8.1	4700	180.23	43000	1.30						
8.8	4320	165.95	43000	1.40						
9.9	3870	148.33	43000	1.55						
11	3480	133.53	43000	1.70						
12	3150	120.92	43000	1.85						
14	2790	107.23	43000	2.1						
15	2520	96.95	43000	2.2						
17	2220	85.26	43000	2.7						
18	2140	82.17	43000	2.6						
19	1980	76.21	43000	3.0						
21	1790	68.61*	43000	3.2						
24	1620	62.13	43000	3.5						
9.2	4140	158.68	30300	1.05	R	107	EDRN	112M4	200	515
10	3700	141.83	32300	1.15						
11	3330	127.68	33800	1.30						
13	3010	115.63	34900	1.45						
14	2670	102.53	35900	1.60						
16	2410	92.70	36200	1.80						
19	2050	78.57	34600	2.1						
20	1900	72.88	33900	2.3						
22	1710	65.60*	33000	2.5						
25	1550	59.41	32100	2.8						
28	1370	52.68	31000	3.1						
14	2690	103.44	15300	1.10	R	97	EDRN	112M4	140	513
16	2410	92.48	16900	1.25						
18	2160	83.15	18200	1.40						
20	1880	72.17	19600	1.60						
22	1700	65.21	20300	1.70						
24	1560	59.92	20800	1.80						
28	1380	53.21	21400	1.95						
31	1240	47.58	21700	2.2						
34	1110	42.78	21900	2.4						
39	960	37.13	22100	2.6						
44	860	33.25	21600	2.9						
46	830	32.05	21400	2.8	R	97	EDRN	112M4	140	513
54	705	27.19	20400	3.1						
58	650	25.03	20000	3.3						
65	580	22.37	19300	3.6						
73	525	20.14	18700	3.9	RM	97	EDRN	112M4	205	514
28	1370	52.82	8190	1.00	R	87	EDRN	112M4	100	510
					RF	87	EDRN	112M4	110	511
					RM	87	EDRN	112M4	140	511
31	1240	47.58	9200	1.10	R	87	EDRN	112M4	100	510
35	1080	41.74	10200	1.20						
40	960	36.84*	11000	1.30						
45	850	32.66*	11600	1.40						
52	725	27.88	12200	1.60						
43	890	34.40*	11400	1.50	R	87	EDRN	112M4	99	510
47	810	31.40	11800	1.60						
53	725	27.84*	12200	1.75						
63	610	23.40	12600	2.0						
68	560	21.51	12700	2.1						
77	495	19.10	12800	2.3						
86	445	17.08*	12800	2.6						
95	400	15.35	12800	2.8						
110	345	13.33	12700	3.2						
123	310	11.93	12600	3.5						

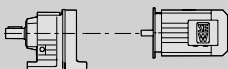
27782913/EN – 02/2023

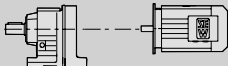
P _m = 4.0 kW																						
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg													
63	605	23.37	7430	1.00	R	77	EDRN	112M4	73	507												
68	555	21.43	7740	1.10																		
78	490	18.80	8100	1.20																		
82	460	17.82*	8230	1.25																		
94	405	15.60	8460	1.35																		
104	365	14.05	8580	1.50																		
119	320	12.33	8680	1.70																		
135	280	10.88	8700	1.90																		
152	250	9.64	8420	2.1																		
170	220	8.59	8080	2.2																		
189	200	7.74	8000	2.4																		
216	177	6.79	7700	2.7	RF	77	EDRN	112M4	79	508												
244	156	5.99*	7420	3.0																		
276	138	5.31*	7160	3.2																		
93	410	15.79	6080	1.10							RM	77	EDRN	112M4	105	508						
98	385	14.91	6270	1.15																		
115	330	12.70	6680	1.30																		
127	300	11.54	6860	1.45																		
146	260	10.00	6790	1.55																		
168	225	8.70*	6550	1.70																		
188	200	7.79	6390	1.45																		
199	192	7.36*	6290	1.50																		
234	163	6.27	6020	1.60																		
257	148	5.70	5860	1.75																		
297	128	4.93	5630	1.90																		
341	112	4.29	5410	2.1																		
105	360	13.95*	2380	1.00	R	67	EDRN	112M4	67	504												
123	305	11.88	2930	1.15																		
136	280	10.79	3190	1.25																		
157	240	9.35	3500	1.45																		
162	235	9.06	2830	1.35																		
184	205	7.97	3120	1.45																		
194	196	7.53	3230	1.50																		
228	167	6.41	3330	1.65																		
251	151	5.82	3260	1.75																		
290	131	5.05	3160	1.95																		
333	114	4.39	3050	2.1																		
260	147	5.64*	1560	1.00	RF	67	EDRN	112M4	67	505												
302	126	4.85	1850	1.15																		
338	113	4.34	2020	1.25																		
382	99	3.83	2180	1.35																		
263	145	5.56*	6580	1.55							RM	67	EDRN	112M4	86	505						
289	132	5.07	6420	1.90																		
325	117	4.50*	6210	2.5																		
387	98	3.78	5910	3.1																		
362	105	4.04*	4510	1.35													R	57	EDRN	112M4	61	501
395	96	3.70	4530	1.60																		
450	84	3.25*	4370	2.1																		
475	80	3.08*	4310	2.4																		
543	70	2.70	4150	3.1																		
603	63	2.43	4030	3.2																		
687	55	2.13	3880	3.6																		
779	49	1.88*	3740	3.8																		
878	43	1.67	3620	4.0																		
1030	37	1.42	3450	4.2																		
260	147	5.64*	1560	1.00	RF	57	EDRN	112M4	64	478												
302	126	4.85	1850	1.15																		
338	113	4.34	2020	1.25																		
382	99	3.83	2180	1.35																		
263	145	5.56*	6580	1.55							RM	57	EDRN	112M4	67	479						
289	132	5.07	6420	1.90																		
325	117	4.50*	6210	2.5																		
387	98	3.78	5910	3.1																		
362	105	4.04*	4510	1.35													R	47	EDRN	112M4	56	498
395	96	3.70	4530	1.60																		
450	84	3.25*	4370	2.1																		
475	80	3.08*	4310	2.4																		
543	70	2.70	4150	3.1																		
603	63	2.43	4030	3.2																		
687	55	2.13	3880	3.6																		
779	49	1.88*	3740	3.8																		
878	43	1.67	3620	4.0																		
1030	37	1.42	3450	4.2																		
260	147	5.64*	1560	1.00	RF	47	EDRN	112M4	56	499												
302	126	4.85	1850	1.15																		
338	113	4.34	2020	1.25																		
382	99	3.83	2180	1.35																		
263	145	5.56*	6580	1.55							R	87	EDRN	112M4	81	480						
289	132	5.07	6420	1.90																		
325	117	4.50*	6210	2.5																		
387	98	3.78	5910	3.1																		
362	105	4.04*	4510	1.35													RX	87	EDRN	112M4	86	481
395	96	3.70	4530	1.60																		
450	84	3.25*	4370	2.1																		
475	80	3.08*	4310	2.4																		
543	70	2.70	4150	3.1																		
603	63	2.43	4030	3.2																		
687	55	2.13	3880	3.6																		
779	49	1.88*	3740	3.8																		
878	43	1.67	3620	4.0																		
1030	37	1.42	3450	4.2																		
260	147	5.64*	1560	1.00	RX	67	EDRN	112M4	55	476												
302	126	4.85	1850	1.15																		
338	113	4.34	2020	1.25																		
382	99	3.83	2180	1.35																		
263	145	5.56*	6580	1.55							RXF	67	EDRN	112M4	59	477						
289	132	5.07	6420	1.90																		
325	117	4.50*	6210	2.5																		
387	98	3.78	5910	3.1																		
362	105	4.04*	4510	1.35																		
395	96	3.70	4530	1.60																		
450	84	3.25*	4370	2.1																		
475	80	3.08*	4310	2.4																		
543	70	2.70	4150	3.1																		
603	63	2.43	4030	3.2																		
687	55	2.13	3880	3.6																		
779	49	1.88*	3740	3.8																		
878	43	1.67	3620	4.0																		
1030	37	1.42	3450	4.2																		
458	83	3.20*	2630	1.20	RX	67	EDRN	112M4	55	476												
507	75	2.89	2710	1.40																		
576	66	2.54	2710	1.80																		
610	62	2.40*	2670	1.95																		
716	53	2.04	2560	2.4																		
788	48	1.86	2500	2.5																		
910	41	1.61	2400	2.7																		
1045	36	1.40*	2310	2.9																		
458	83	3.20*	2630	1.20							RXF	67	EDRN	112M4	59	477						
507	75	2.89	2710	1.40																		
576	66	2.54	2710	1.80																		
610	62	2.40*	2670	1.95																		
716	53	2.04	2560	2.4																		
788	48	1.86	2500	2.5																		
910	41	1.61	2400	2.7																		
1045	36	1.40*	2310	2.9																		

P _m = 4.0 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
555	68	2.64*	565	1.00	RX	57	EDRN	112M4	52	474
618	61	2.37	710	1.10						
717	53	2.04	880	1.30						
762	50	1.92*	930	1.40						
886	43	1.65	1040	1.60						
992	38	1.48	1090	1.75						
1120	34	1.30	1170	1.85						
					RXF	57	EDRN	112M4	54	475

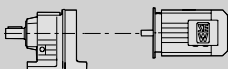
P _m = 5.5 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
2.5	19000	579	120000	1.05	R RF RM	167R97 167R97 167R97	EDRN EDRN EDRN	132S4 132S4 132S4	800 800 1000	526 526 526						
2.9	16600	503	120000	1.20												
3.4	14100	432	120000	1.40												
3.9	12400	376	120000	1.60												
4.4	11000	335	120000	1.80												
4.8	9930	303	120000	2.0												
5.2	9150	279	120000	2.2												
4.0	12300	368	64000	1.05	R RF RM	147R87 147R87 147R87	EDRN EDRN EDRN	132S4 132S4 132S4	490 495 660	525 525 525						
4.5	10900	326	66400	1.20												
5.2	9300	280	68700	1.40												
5.9	8210	247	70100	1.60												
6.8	7090	214	71200	1.85												
7.7	6270	189	72000	2.1												
9.0	5520	162	43000	1.10							R RF RM	127R77 127R77 127R77	EDRN EDRN EDRN	132S4 132S4 132S4	290 310 405	525 525 525
12	4260	126	43000	1.40												
6.6	8000	222.60*	53400	1.00	R RF RM	137 137 137	EDRN EDRN EDRN	132S4 132S4 132S4	295 320 430	519 520 520						
7.8	6770	188.45	55800	1.20												
8.4	6260	174.40*	56600	1.30												
9.3	5610	156.31	57600	1.40												
10	5070	141.12*	58300	1.60												
11	4600	128.18	58900	1.75	R RF RM	137 137 137	EDRN EDRN EDRN	132S4 132S4 132S4	295 320 430	519 520 520						
13	4080	113.72	59400	1.95												
14	3700	103.20*	59800	2.2												
16	3180	88.70*	60200	2.5												
18	2900	80.91*	60400	2.8												
20	2640	73.49	60600	3.0												
22	2340	65.20	60800	3.4												
25	2120	59.17*	60900	3.8												
29	1820	50.86*	61000	4.3												
8.8	5960	165.95	43000	1.00	R RF RM	127 127 127	EDRN EDRN EDRN	132S4 132S4 132S4	265 280 375	517 518 518						
9.8	5330	148.33	43000	1.15												
11	4800	133.53	43000	1.25												
12	4340	120.92	43000	1.35												
14	3850	107.23	43000	1.50												
15	3480	96.95	43000	1.65												
17	3060	85.26	43000	1.95												
18	2950	82.17	43000	1.85												
19	2730	76.21	43000	2.1												
21	2460	68.61*	43000	2.3												
24	2230	62.13	43000	2.5												
27	1980	55.09	43000	2.8												
29	1790	49.81	43000	3.0												
35	1510	42.22*	43000	3.5												
13	4150	115.63	30200	1.05							R RF RM	107 107 107	EDRN EDRN EDRN	132S4 132S4 132S4	210 215 305	515 516 516
14	3680	102.53	32400	1.15												
16	3330	92.70	33800	1.30												
19	2820	78.57	33400	1.50												
20	2610	72.88	32800	1.65												
22	2350	65.60*	31900	1.80												
25	2130	59.41	31100	2.0												
28	1890	52.68	30200	2.3												
31	1710	47.63	29400	2.5												
36	1450	40.37*	28100	3.0												

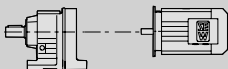
P _m = 5.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
18	2980	83.15	8560	1.00	R RF RM	97 97 97	EDRN EDRN EDRN	132S4 132S4 132S4	155 170 220	513 514 514
20	2590	72.17	11200	1.15						
22	2340	65.21	24600	1.20						
24	2150	59.92	24100	1.30						
27	1910	53.21	23500	1.40						
31	1710	47.58	22900	1.55						
34	1530	42.78	22400	1.70						
39	1330	37.13	21600	1.95						
44	1190	33.25	18200	2.1						
53	990	27.58	18700	2.4						
46	1150	32.05	18300	2.0	R RF RM	97 97 97	EDRN EDRN EDRN	132S4 132S4 132S4	150 165 220	513 514 514
54	970	27.19	18700	2.3						
58	890	25.03	18800	2.4						
65	800	22.37	18800	2.6						
73	720	20.14	18300	2.9						
80	655	18.24	17800	3.1						
90	580	16.17	17200	3.4						
45	1170	32.66*	16600	1.05	R RF RM	87 87 87	EDRN EDRN EDRN	132S4 132S4 132S4	110 120 150	510 511 511
52	1000	27.88	16100	1.15						
52	1000	27.84*	16000	1.30	R RF RM	87 87 87	EDRN EDRN EDRN	132S4 132S4 132S4	110 120 150	510 511 511
62	840	23.40	15400	1.45						
68	770	21.51	15100	1.55						
76	685	19.10	14600	1.70						
86	610	17.08*	14200	1.85						
95	550	15.35	10700	2.0						
110	475	13.33	10800	2.3						
122	425	11.93	10900	2.5						
148	355	9.90*	10900	3.0						
160	325	9.14*	10300	3.0						
178	295	8.22	10300	3.2						
205	255	7.13	10200	3.5						
104	505	14.05	6430	1.10	R RF RM	77 77 77	EDRN EDRN EDRN	132S4 132S4 132S4	84 90 115	507 508 508
119	440	12.33	6780	1.25						
134	390	10.88	7040	1.40						
152	345	9.64	7220	1.55						
170	305	8.59	6560	1.60						
189	275	7.74	6700	1.75						
215	240	6.79	6810	2.0						
244	215	5.99*	6870	2.2						
275	190	5.31*	6890	2.4						
127	410	11.54	4630	1.05	R RF RM	67 67 67	EDRN EDRN EDRN	132S4 132S4 132S4	79 82 98	504 505 505
146	355	10.00	5120	1.15						
168	310	8.70*	5490	1.25						
187	280	7.79	4950	1.05						
199	260	7.36*	5090	1.10						
233	225	6.27	5390	1.20						
257	200	5.70	5530	1.25						
296	177	4.93	5480	1.40						
340	154	4.29	5280	1.50						
156	335	9.35	1760	1.05						
183	285	7.97	1390	1.05						
194	270	7.53	1600	1.10						
228	230	6.41	2090	1.20						
251	205	5.82	2330	1.25						
290	181	5.05	2620	1.40						
333	157	4.39	2840	1.50						
221	235	6.63*	10400	1.95	RX RXF	107 107	EDRN EDRN	132S4 132S4	150 165	484 485
260	200	5.61	9920	2.3						
281	186	5.19	9700	3.7						
314	167	4.65	9400	4.2						

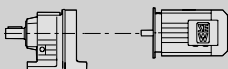
P _m = 5.5 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
252	205	5.79	8330	2.0	RX	97	EDRN	132S4	115	482						
297	176	4.91	7960	2.2												
323	162	4.52	7780	3.7												
361	145	4.04	7530	4.1												
401	130	3.64*	7310	4.5												
443	118	3.30	7100	5.0												
500	105	2.92	6850	5.7												
553	95	2.64	6650	6.3												
652	80	2.24*	6320	7.4												
747	70	1.96	6070	8.1												
893	58	1.64	5740	8.6	RXF	97	EDRN	132S4	125	483						
1030	50	1.42	5490	8.9												
325	161	4.50*	6000	1.80							RX	87	EDRN	132S4	92	480
386	135	3.78	5740	2.2												
420	124	3.48	5610	3.2												
473	110	3.09	5430	3.6												
529	99	2.76*	5260	4.1												
589	89	2.48	5100	4.5												
678	77	2.15	4900	4.8												
450	116	3.25*	3420	1.55												
474	110	3.08*	3460	1.75												
542	96	2.70	3530	2.2												
602	87	2.43	3530	2.4												
686	76	2.13	3540	2.6												
777	67	1.88*	3530	2.8												
877	59	1.67	3500	2.9												
1025	51	1.42	3360	3.0												
575	91	2.54	1610	1.30	RXF	67	EDRN	132S4	66	476						
609	86	2.40*	1680	1.45												
715	73	2.04	1800	1.75												
787	66	1.86	1870	1.85												
908	57	1.61	1940	1.95												
1045	50	1.40*	1980	2.1												
761	69	1.92*	-	1.00							RX	57	EDRN	132S4	64	474
884	59	1.65	-	1.15												
990	53	1.48	97	1.30												
1120	46	1.30	270	1.35												

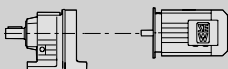
P _m = 7.5 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
3.4	19400	432	120000	1.05	R RF RM	167R97	EDRN	132M4	810	526						
3.9	17000	376	120000	1.20												
4.4	15100	335	120000	1.30												
4.8	13500	303	120000	1.45												
5.3	12500	279	120000	1.60												
5.2	12600	280	63300	1.00	R RF RM	147R87	EDRN	132M4	510	525						
5.9	11200	247	65900	1.15												
6.9	9670	214	68200	1.35												
7.8	8550	189	69700	1.50												
9.2	7190	159	71100	1.80												
12	5800	126	43000	1.00	R	127R77	EDRN	132M4	310	525						
					RF	127R77	EDRN	132M4	330	525						
					RM	127R77	EDRN	132M4	425	525						
9.4	7620	156.31	54200	1.05	R RF RM	137	EDRN	132M4	315	519						
10	6880	141.12*	55600	1.15							RF	137	EDRN	132M4	335	520
											RM	137	EDRN	132M4	445	520

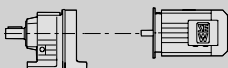
P _m = 7.5 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
11	6250	128.18	56600	1.30	R	137	EDRN	132M4	315	519						
13	5540	113.72	57700	1.45												
14	5030	103.20*	58400	1.60												
17	4320	88.70*	59200	1.85												
18	3940	80.91*	59500	2.0												
20	3580	73.49	59900	2.2												
23	3180	65.20	60200	2.5												
25	2880	59.17*	60400	2.8												
29	2480	50.86*	60700	3.1	RF	137	EDRN	132M4	335	520						
					RM	137	EDRN	132M4	445	520						
12	5890	120.92	43000	1.00	R	127	EDRN	132M4	285	517						
14	5230	107.23	43000	1.10												
15	4720	96.95	43000	1.20												
17	4150	85.26	43000	1.45												
18	4000	82.17	43000	1.35												
19	3710	76.21	43000	1.60												
21	3340	68.61*	43000	1.70												
24	3030	62.13	43000	1.85												
27	2680	55.09	43000	2.1												
29	2430	49.81	43000	2.2												
35	2050	42.22*	43000	2.6												
40	1790	36.88	43000	2.9												
48	1500	30.84	43000	3.4	RF	127	EDRN	132M4	295	518						
					RM	127	EDRN	132M4	390	518						
46	1570	32.18	43000	3.7	R	127	EDRN	132M4	270	517						
					RF	127	EDRN	132M4	290	518						
					RM	127	EDRN	132M4	385	518						
19	3830	78.57	31600	1.10	R	107	EDRN	132M4	230	515						
20	3550	72.88	31100	1.20												
22	3200	65.60*	30500	1.35												
25	2890	59.41	29800	1.50												
28	2570	52.68	29000	1.65												
31	2320	47.63	28300	1.85												
36	1960	40.37*	27200	2.2												
42	1720	35.26	26200	2.4												
50	1430	29.49	25000	2.8	RF	107	EDRN	132M4	235	516						
					RM	107	EDRN	132M4	320	516						
48	1500	30.77	25300	2.9	R	107	EDRN	132M4	220	515						
53	1340	27.58	24600	3.2												
59	1210	24.90*	23900	3.5												
65	1100	22.62	23300	3.9												
					RF	107	EDRN	132M4	230	516						
					RM	107	EDRN	132M4	315	516						
28	2590	53.21	22100	1.05	R	97	EDRN	132M4	170	513						
31	2320	47.58	21600	1.15												
34	2080	42.78	21200	1.25												
40	1810	37.13	20600	1.40												
					RF	97	EDRN	132M4	190	514						
					RM	97	EDRN	132M4	240	514						
44	1620	33.25	13100	1.55	R	97	EDRN	132M4	170	513						
53	1340	27.58	14400	1.80												
											RF	97	EDRN	132M4	190	514
											RM	97	EDRN	132M4	240	514
46	1560	32.05	13400	1.50	R	97	EDRN	132M4	170	513						
54	1320	27.19	14500	1.70												
59	1220	25.03	14900	1.80												
66	1090	22.37	15400	1.95												
73	980	20.14	15700	2.1												
80	880	18.24	15900	2.3												
					RF	97	EDRN	132M4	185	514						
					RM	97	EDRN	132M4	235	514						
63	1140	23.40	14600	1.05	R	87	EDRN	132M4	130	510						
68	1040	21.51	14400	1.15												
77	930	19.10	14000	1.25												
86	830	17.08*	13700	1.35												
96	745	15.35	7780	1.50												
110	650	13.33	8350	1.70												
123	580	11.93	8690	1.85												
148	480	9.90*	9090	2.2												
161	445	9.14*	8300	2.2												
179	400	8.22	8490	2.4												
206	345	7.13	8670	2.6												
230	310	6.39	8750	2.9												
277	255	5.30*	8780	3.2												
											RF	87	EDRN	132M4	135	511
					RM	87	EDRN	132M4	165	511						

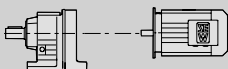
P _m = 7.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
135	530	10.88	4840	1.00	R	77	EDRN	132M4	100	507
152	470	9.64	5260	1.15						
171	415	8.59	4540	1.20						
190	375	7.74	4880	1.30						
216	330	6.79	5210	1.45						
245	290	5.99*	5460	1.60						
276	255	5.31*	5640	1.75	RM	77	EDRN	132M4	135	508
298	240	4.93	4230	1.00	R	67	EDRN	132M4	97	504
342	205	4.29	4500	1.10	RF	67	EDRN	132M4	100	505
					RM	67	EDRN	132M4	115	505
291	245	5.05	1180	1.05	R	57	EDRN	132M4	91	501
334	210	4.39	1590	1.10	RF	57	EDRN	132M4	94	502
					RM	57	EDRN	132M4	105	502
222	320	6.63*	10000	1.40	RX	107	EDRN	132M4	165	484
262	270	5.61	9620	1.65						
283	250	5.19	9420	2.7						
316	225	4.65	9140	3.1						
350	200	4.20*	8890	3.7						
					RXF	107	EDRN	132M4	185	485
253	280	5.79	8030	1.50	RX	97	EDRN	132M4	135	482
299	235	4.91	7700	1.65						
325	220	4.52	7530	2.7						
363	197	4.04	7310	3.0						
403	177	3.64*	7110	3.4						
445	160	3.30	6910	3.7						
502	142	2.92	6680	4.2						
326	215	4.50*	5720	1.30	RX	87	EDRN	132M4	110	480
388	184	3.78	5500	1.65						
422	169	3.48	5380	2.4						
476	150	3.09	5230	2.7						
532	134	2.76*	5080	3.0						
592	121	2.48	4940	3.3						
682	105	2.15	4750	3.6						
761	94	1.93	4610	3.8						
918	78	1.60*	4370	4.0						
1055	67	1.39	4200	4.3						
					RXF	87	EDRN	132M4	115	481
452	158	3.25*	1910	1.15	RX	77	EDRN	132M4	94	478
477	150	3.08*	2020	1.30						
545	131	2.70	2230	1.65						
604	118	2.43	2310	1.75						
689	103	2.13	2440	1.90						
781	91	1.88*	2520	2.0						
881	81	1.67	2570	2.1						
1030	69	1.42	2600	2.2						
					RXF	77	EDRN	132M4	96	479
612	117	2.40*	168	1.05	RX	67	EDRN	132M4	85	476
718	99	2.04	435	1.30						
790	90	1.86	595	1.35						
913	78	1.61	780	1.45						
1050	68	1.40*	920	1.50						

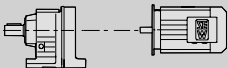
P _m = 9.2 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
4.4	18600	335	120000	1.05	R	167R97	EDRN	132L4	820	526
4.9	16700	303	120000	1.20	RF	167R97	EDRN	132L4	830	526
5.3	15400	279	120000	1.30	RM	167R97	EDRN	132L4	1020	526
6.9	11800	214	64800	1.10	R	147R87	EDRN	132L4	510	525
7.8	10500	189	67000	1.25	RF	147R87	EDRN	132L4	520	525
9.3	8830	159	69300	1.45	RM	147R87	EDRN	132L4	690	525
9.0	9760	163.31	68100	1.35	R	147	EDRN	132L4	450	521
10	8770	146.91	69400	1.50	RF	147	EDRN	132L4	455	522
12	7160	119.86	71200	1.80	RM	147	EDRN	132L4	620	522

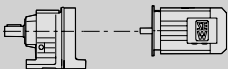
P _m = 9.2 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
13	6530	109.31	71800	2.0	R RF RM	147	EDRN	132L4	450	521
16	5650	94.60*	72500	2.3		147	EDRN	132L4	455	522
18	4980	83.47	72900	2.6		147	EDRN	132L4	620	522
20	4300	72.09	73400	3.0						
22	4000	66.99	73500	3.2						
11	7660	128.18	54100	1.05	R RF RM	137	EDRN	132L4	320	519
13	6790	113.72	55700	1.20		137	EDRN	132L4	345	520
						137	EDRN	132L4	455	520
14	6160	103.20*	56800	1.30						
17	5300	88.70*	58000	1.50						
18	4830	80.91*	58600	1.65	R RF RM	137	EDRN	132L4	320	519
20	4390	73.49	59100	1.80		137	EDRN	132L4	345	520
23	3890	65.20	59600	2.0		137	EDRN	132L4	455	520
25	3530	59.17*	59900	2.3						
29	3030	50.86*	60300	2.6						
33	2650	44.39	60600	2.9						
17	5090	85.26	43000	1.20	R RF RM					
18	4910	82.17	43000	1.10						
19	4550	76.21	43000	1.30						
21	4100	68.61*	43000	1.40						
24	3710	62.13	43000	1.50		127	EDRN	132L4	295	517
27	3290	55.09	43000	1.70		127	EDRN	132L4	305	518
30	2970	49.81	43000	1.85		127	EDRN	132L4	400	518
35	2520	42.22*	43000	2.1						
40	2200	36.88	43000	2.4						
48	1840	30.84	43000	2.8						
46	1920	32.18	43000	3.0	R RF RM	127	EDRN	132L4	275	517
51	1720	28.84	43000	3.4		127	EDRN	132L4	300	518
56	1550	26.04*	43000	3.6		127	EDRN	132L4	395	518
22	3920	65.60*	29200	1.10	R RF RM					
25	3550	59.41	28700	1.20						
28	3140	52.68	28000	1.35		107	EDRN	132L4	235	515
31	2840	47.63	27400	1.50		107	EDRN	132L4	245	516
36	2410	40.37*	26400	1.80		107	EDRN	132L4	330	516
42	2100	35.26	25600	1.95						
50	1760	29.49	24500	2.2						
48	1830	30.77	24700	2.3	R RF RM	107	EDRN	132L4	230	515
53	1640	27.58	24000	2.6		107	EDRN	132L4	235	516
59	1480	24.90*	23400	2.9		107	EDRN	132L4	325	516
65	1350	22.62	22800	3.2						
73	1190	20.07	22100	3.6						
34	2550	42.78	20200	1.05	R RF RM	97	EDRN	132L4	180	513
						97	EDRN	132L4	195	514
						97	EDRN	132L4	250	514
40	2210	37.13	19800	1.15	R RF RM	97	EDRN	132L4	180	513
44	1980	33.25	19300	1.25		97	EDRN	132L4	195	514
53	1640	27.58	18600	1.45		97	EDRN	132L4	250	514
59	1490	25.03	18200	1.45	R RF RM					
66	1330	22.37	17800	1.60						
73	1200	20.14	17300	1.70		97	EDRN	132L4	175	513
81	1090	18.24	16900	1.85		97	EDRN	132L4	195	514
91	960	16.17	16400	2.1		97	EDRN	132L4	245	514
101	870	14.62	16000	2.2						
119	740	12.39	14500	2.6						
77	1140	19.10	13500	1.00	R RF RM					
86	1020	17.08*	13200	1.10						
96	910	15.35	12900	1.25						
110	795	13.33	12500	1.40						
123	710	11.93	12200	1.55		87	EDRN	132L4	135	510
148	590	9.90*	11600	1.80		87	EDRN	132L4	145	511
161	545	9.14*	11600	1.80		87	EDRN	132L4	175	511
179	490	8.22	11300	1.95						
206	425	7.13	10900	2.1						
230	380	6.39	10500	2.3						

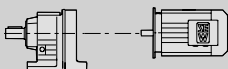
P _m = 9.2 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
190	460	7.74	3330	1.05	R	77	EDRN	132L4	110	507						
216	405	6.79	3860	1.20		RF	77	EDRN	132L4	115	508					
245	355	5.99*	4260	1.30		RM	77	EDRN	132L4	140	508					
277	315	5.31*	4580	1.40												
283	310	5.19	9200	2.2	RX	107	EDRN	132L4	175	484						
316	275	4.65	8940	2.5		RXF	107	EDRN	132L4	190	485					
350	250	4.20*	8710	3.0												
385	225	3.81	8490	3.5												
434	200	3.38	8220	4.1												
325	270	4.52	7330	2.2	RX	97	EDRN	132L4	140	482						
364	240	4.04	7130	2.5												
404	215	3.64*	6940	2.7												
446	197	3.30	6760	3.0												
503	174	2.92	6550	3.4												
556	157	2.64	6370	3.8												
656	133	2.24*	6080	4.4												
751	116	1.96	5850	4.9												
898	97	1.64	5560	5.2												
1040	84	1.42	5320	5.4												
423	205	3.48	5050	1.95	RX	87	EDRN	132L4	120	480						
476	184	3.09	5060	2.2												
533	164	2.76*	4930	2.5												
592	148	2.48	4800	2.7												
682	128	2.15	4630	2.9												
762	115	1.93	4500	3.1												
919	95	1.60*	4270	3.3												
1055	83	1.39	4110	3.5												
605	145	2.43	1280	1.40							RX	77	EDRN	132L4	100	478
690	127	2.13	1500	1.55												
782	112	1.88*	1660	1.65												
882	99	1.67	1780	1.75												
1035	85	1.42	1890	1.80												

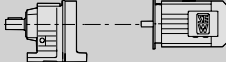
P _m = 11.0 kW															
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg						
5.0	19100	295	120000	1.05	R RF RM	167R107	EDRN	160M4	900	526					
5.5	17800	270	120000	1.10		167R107	EDRN	160M4	910	526					
6.4	15000	229	120000	1.35		167R107	EDRN	160M4	1100	526					
7.3	13000	200	120000	1.55											
8.7	11000	169	120000	1.80											
5.1	19500	291	120000	1.05	R	167R107	EDRN	160M4	900	526					
					RF	167R107	EDRN	160M4	900	526					
					RM	167R107	EDRN	160M4	1100	526					
4.9	20000	303	120000	1.00	R	167R97	EDRN	160M4	860	526					
					RF	167R97	EDRN	160M4	860	526					
					RM	167R97	EDRN	160M4	1060	526					
7.8	12500	189	63500	1.05	R	147R87	EDRN	160M4	550	525					
					RF	147R87	EDRN	160M4	560	525					
					RM	147R87	EDRN	160M4	720	525					
6.4	16300	229.71	120000	1.20	R	167	EDRN	160M4	730	523					
					RF	167	EDRN	160M4	730	524					
					RM	167	EDRN	160M4	930	524					
9.6	10900	153.07	120000	1.85	R RF RM	167	EDRN	160M4	730	523					
											11	9980	139.98	120000	2.0
											12	8680	121.81*	120000	2.3
											14	7660	107.49	120000	2.6
											16	6640	93.19	120000	3.0
											18	5910	82.91*	120000	3.4
9.0	11600	163.31	65200	1.10	R	147	EDRN	160M4	480	521					
					RF	147	EDRN	160M4	490	522					
					RM	147	EDRN	160M4	660	522					

P _m = 11.0 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
13	7790	109.31	70500	1.65	R RF RM	147 147 147	EDRN EDRN EDRN	160M4 160M4 160M4	480 490 660	521 522 522
16	6740	94.60*	71600	1.95						
18	5950	83.47	72200	2.2						
20	5140	72.09	72800	2.5						
22	4770	66.99	73100	2.7						
24	4350	61.09	73300	2.9						
28	3770	52.87	73700	3.3						
14	7350	103.20*	54700	1.10	R RF RM	137 137 137	EDRN EDRN EDRN	160M4 160M4 160M4	355 375 485	519 520 520
17	6320	88.70*	56500	1.25						
18	5760	80.91*	57400	1.40						
20	5240	73.49	58100	1.55						
23	4640	65.20	58800	1.70						
25	4210	59.17*	59300	1.90						
29	3620	50.86*	59800	2.1						
33	3160	44.39	60200	2.4						
39	2680	37.65	60600	2.7						
45	2340	32.91	60800	3.0						
19	5430	76.21	43000	1.10	R RF RM	127 127 127	EDRN EDRN EDRN	160M4 160M4 160M4	325 335 435	517 518 518
21	4890	68.61*	43000	1.15						
24	4430	62.13	43000	1.25						
27	3920	55.09	43000	1.40						
30	3550	49.81	43000	1.55						
35	3010	42.22*	43000	1.75						
40	2620	36.88	43000	2.0						
48	2190	30.84	43000	2.3						
46	2290	32.18	43000	2.5	R RF RM	127 127 127	EDRN EDRN EDRN	160M4 160M4 160M4	310 330 425	517 518 518
51	2050	28.84	43000	2.8						
57	1850	26.04*	43000	3.0						
62	1680	23.65	43000	3.2						
70	1490	20.98	43000	3.6						
25	4230	59.41	27500	1.00	R RF RM	107 107 107	EDRN EDRN EDRN	160M4 160M4 160M4	270 275 365	515 516 516
28	3750	52.68	27000	1.15						
31	3390	47.63	26500	1.25						
36	2870	40.37*	25600	1.50						
42	2510	35.26	24900	1.65						
50	2100	29.49	23900	1.90						
48	2190	30.77	24100	1.95	R RF RM	107 107 107	EDRN EDRN EDRN	160M4 160M4 160M4	265 270 355	515 516 516
53	1960	27.58	23500	2.2						
59	1770	24.90*	22900	2.4						
65	1610	22.62	22400	2.7						
73	1430	20.07	21700	3.0						
81	1290	18.21	21200	3.3						
44	2370	33.25	18600	1.05						
53	1960	27.58	18000	1.20						
59	1780	25.03	17600	1.20	R RF RM	97 97 97	EDRN EDRN EDRN	160M4 160M4 160M4	210 225 275	513 514 514
66	1590	22.37	17200	1.35						
73	1430	20.14	16800	1.45						
81	1300	18.24	16500	1.55	R RF RM	97 97 97	EDRN EDRN EDRN	160M4 160M4 160M4	210 225 275	513 514 514
91	1150	16.17	16000	1.75						
101	1040	14.62	15600	1.90						
119	880	12.39	12800	2.2						
136	770	10.83	13100	2.5						
159	660	9.29	12000	2.5						
175	595	8.39	12100	2.7						
207	505	7.12	12300	3.0						
237	440	6.21	12300	3.3						
96	1090	15.35	12500	1.05	R RF RM	87 87 87	EDRN EDRN EDRN	160M4 160M4 160M4	170 175 205	510 511 511
111	950	13.33	12100	1.15						
123	850	11.93	11800	1.30						
149	705	9.90*	11300	1.50						
161	650	9.14*	11400	1.50						
179	585	8.22	11100	1.60						
206	505	7.13	10700	1.80						
231	455	6.39	10400	1.95						
278	375	5.30*	9850	2.2						

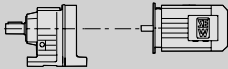
P_m = 11.0 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
217	480	6.79	2430	1.00	R	77	EDRN	160M4	140	507
246	425	5.99*	3000	1.10	RF	77	EDRN	160M4	150	508
277	375	5.31*	3460	1.20	RM	77	EDRN	160M4	175	508
284	370	5.19	8950	1.90	RX	107	EDRN	160M4	210	484
317	330	4.65	8720	2.1						
351	295	4.20*	8510	2.5						
386	270	3.81	8300	2.9						
435	240	3.38	8050	3.4						
480	215	3.07	7840	3.8						
558	188	2.64*	7530	4.4						
326	320	4.52	7120	1.85	RX	97	EDRN	160M4	175	482
364	285	4.04	6940	2.1						
405	255	3.64*	6770	2.3						
447	235	3.30	6600	2.5						
504	205	2.92	6410	2.9						
557	188	2.64	6240	3.2						
658	159	2.24*	5970	3.7						
753	139	1.96	5750	4.1	RX	87	EDRN	160M4	150	480
900	116	1.64	5470	4.3						
1040	101	1.42	5240	4.5						
424	245	3.48	3970	1.65						
477	220	3.09	4160	1.85						
534	196	2.76*	4300	2.1						
594	176	2.48	4390	2.3						
684	153	2.15	4450	2.4	RX	87	EDRN	160M4	150	480
764	137	1.93	4380	2.6						
921	114	1.60*	4170	2.8						
1060	99	1.39	4020	2.9						
607	173	2.43	187	1.20						
691	151	2.13	505	1.30						
784	134	1.88*	755	1.40						
884	118	1.67	940	1.45	RX	77	EDRN	160M4	135	478
1035	101	1.42	1130	1.55						

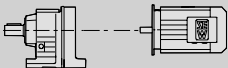
P_m = 15.0 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
7.4	17900	200	120000	1.10	R	167R107	EDRN	160L4	920	526
8.7	15100	169	120000	1.30	RF	167R107	EDRN	160L4	920	526
					RM	167R107	EDRN	160L4	1120	526
7.5	18000	198	120000	1.10	R	167R107	EDRN	160L4	910	526
					RF	167R107	EDRN	160L4	920	526
					RM	167R107	EDRN	160L4	1110	526
7.9	18100	186.93*	120000	1.10	R	167	EDRN	160L4	740	523
					RF	167	EDRN	160L4	750	524
					RM	167	EDRN	160L4	940	524
9.6	14800	153.07	120000	1.35	R	167	EDRN	160L4	740	523
11	13600	139.98	120000	1.45						
12	11800	121.81*	120000	1.70						
14	10400	107.49	120000	1.90						
16	9050	93.19	120000	2.2						
18	8050	82.91*	120000	2.5						
20	7160	73.70*	120000	2.8						
22	6540	67.40	120000	3.0	R	147	EDRN	160L4	495	521
12	11600	119.86	65200	1.10						
13	10600	109.31	66900	1.20						

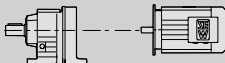
P _m = 15.0 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
16	9190	94.60*	68900	1.40	R RF RM	147 147 147	EDRN EDRN EDRN	160L4 160L4 160L4	495 500 670	521 522 522
18	8110	83.47	70200	1.60						
20	7000	72.09	71300	1.85						
22	6500	66.99	71800	2.0						
24	5930	61.09	72300	2.2						
28	5130	52.87	72800	2.4						
32	4530	46.65	73200	2.7						
18	7860	80.91*	53700	1.00	R	137	EDRN	160L4	370	519
20	7140	73.49	55100	1.10	RF	137	EDRN	160L4	390	520
					RM	137	EDRN	160L4	500	520
23	6330	65.20	56500	1.25	R RF RM	137 137 137	EDRN EDRN EDRN	160L4 160L4 160L4	370 390 500	519 520 520
25	5740	59.17*	57400	1.40						
29	4940	50.86*	58500	1.60						
33	4310	44.39	59200	1.75						
39	3650	37.65	59800	2.0						
45	3190	32.91	60200	2.2						
53	2700	27.83	60500	2.5						
27	5350	55.09	43000	1.05	R RF RM	127 127 127	EDRN EDRN EDRN	160L4 160L4 160L4	340 355 450	517 518 518
30	4840	49.81	43000	1.15						
35	4100	42.22*	43000	1.30						
40	3580	36.88	43000	1.45						
48	2990	30.84	43000	1.70						
46	3120	32.18	43000	1.85	R RF RM	127 127 127	EDRN EDRN EDRN	160L4 160L4 160L4	325 345 440	517 518 518
51	2800	28.84	43000	2.1						
57	2530	26.04*	43000	2.2						
62	2290	23.65	43000	2.4						
70	2030	20.98	43000	2.6						
77	1850	19.04	43000	2.9						
90	1590	16.37*	43000	3.3						
37	3920	40.37*	23900	1.10	R	107	EDRN	160L4	285	515
42	3420	35.26	23400	1.20	RF	107	EDRN	160L4	290	516
50	2860	29.49	22600	1.40	RM	107	EDRN	160L4	380	516
48	2990	30.77	22800	1.45	R RF RM	107 107 107	EDRN EDRN EDRN	160L4 160L4 160L4	280 285 375	515 516 516
53	2680	27.58	22300	1.60						
59	2410	24.90*	21800	1.80						
65	2190	22.62	21400	1.95						
73	1940	20.07	20800	2.2						
81	1760	18.21	20400	2.4						
94	1520	15.65	19600	2.8						
108	1320	13.66	19000	3.2						
73	1950	20.14	15800	1.05	R RF RM	97 97 97	EDRN EDRN EDRN	160L4 160L4 160L4	225 240 295	513 514 514
81	1770	18.24	15500	1.15						
91	1570	16.17	15200	1.25						
101	1420	14.62	14900	1.40						
119	1200	12.39	8960	1.60						
136	1050	10.83	9740	1.80						
159	900	9.29	8650	1.80						
176	810	8.39	9140	1.95						
207	690	7.12	9760	2.2						
237	600	6.21	10100	2.5						
149	960	9.90*	10700	1.10	R RF RM	87 87 87	EDRN EDRN EDRN	160L4 160L4 160L4	185 190 220	510 511 511
161	880	9.14*	10900	1.10						
179	795	8.22	10700	1.20						
207	690	7.13	10300	1.30						
231	620	6.39	10000	1.45						
278	515	5.30*	9570	1.60						
284	500	5.19	8420	1.40	RX RXF	107 107	EDRN EDRN	160L4 160L4	225 240	484 485
317	450	4.65	8240	1.55						
351	405	4.20*	8080	1.85						
386	370	3.81	7910	2.2						

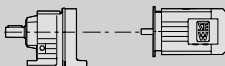
P _m = 15.0 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
436	325	3.38	7690	2.5	RX	107	EDRN	160L4	225	484
480	295	3.07	7520	2.8						
558	255	2.64*	7240	3.2						
640	220	2.30	6990	3.7						
754	189	1.95	6690	4.0						
863	166	1.71	6450	4.2						
1020	140	1.44	6150	4.6	RXF	107	EDRN	160L4	240	485
326	435	4.52	5410	1.35	RX	97	EDRN	160L4	190	482
365	390	4.04	5700	1.50						
405	350	3.64*	5910	1.70						
447	320	3.30	6060	1.85						
504	280	2.92	6100	2.1						
558	255	2.64	5960	2.3						
658	215	2.24*	5720	2.7						
753	190	1.96	5530	3.0						
901	159	1.64	5280	3.2						
1040	137	1.42	5080	3.3						
424	335	3.48	1540	1.20	RX	87	EDRN	160L4	165	480
477	295	3.09	1960	1.35						
534	265	2.76*	2280	1.50						
594	240	2.48	2530	1.65						
684	205	2.15	2770	1.80						
764	187	1.93	2920	1.90	RX	87	EDRN	160L4	165	480
921	155	1.60*	3050	2.0						
1060	135	1.39	3190	2.1						

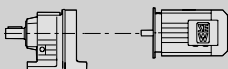
8.2 Selection tables parallel-shaft helical gearmotors

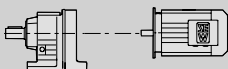
P _m = 0.12 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.08	10500	16656	90000	1.15	FA FAF F FF	127R77	EDRN	63MS4	425	602
0.09	9340	14722	90000	1.30		127R77	EDRN	63MS4	465	602
0.11	8150	12912	90000	1.45		127R77	EDRN	63MS4	460	602
0.12	7180	11656	90000	1.65		127R77	EDRN	63MS4	460	602
0.13	6430	10191	90000	1.85		127R77	EDRN	63MS4	510	602
0.12	7200	11348	51100	1.05	FA FAF F FF	107R77	EDRN	63MS4	275	602
0.14	5860	10039	54300	1.30						
0.16	4780	8548	56800	1.60						
0.18	4840	7674	56600	1.60						
0.20	4170	6767	58100	1.85						
0.23	3530	5954	59300	2.2						
0.26	3050	5223	60300	2.5						
0.30	2890	4567	60600	2.6						
0.39	2170	3521	61900	3.5						
0.21	4220	6469	30100	1.00	FA	97R57	EDRN	63MS4	185	602
0.24	3880	5615	31100	1.10	FAF	97R57	EDRN	63MS4	205	602
0.27	3370	4961	32400	1.25	F	97R57	EDRN	63MS4	190	602
0.31	2950	4333	33400	1.45	FF	97R57	EDRN	63MS4	225	602
0.35	2730	3906	33900	1.55	FA	97R57	EDRN	63MS4	185	602
0.41	2350	3352	34700	1.80	FAF	97R57	EDRN	63MS4	205	602
0.47	1950	2907	35500	2.2	F	97R57	EDRN	63MS4	190	602
0.53	1780	2553	35800	2.4	FF	97R57	EDRN	63MS4	225	602
0.32 0.37	2810	4245	23600	1.05	FA	87R57	EDRN	63MS4	120	602
	2260	3721	25600	1.35	FAF	87R57	EDRN	63MS4	130	602
					F	87R57	EDRN	63MS4	125	602
					FF	87R57	EDRN	63MS4	140	602
0.42	2280	3244	25500	1.30	FA FAF F FF	87R57	EDRN	63MS4	115	602
0.47	2020	2881	26400	1.50						
0.53	1810	2576	27000	1.65						
0.62	1540	2199	27700	1.95						
0.70	1330	1930	28200	2.2						
0.80	1190	1709	28500	2.5						
0.91	1050	1493	28900	2.9						
1.1	830	1300	29300	3.6						
1.2	755	1148	29500	4.0						
0.67	1410	2029	16300	1.05	FA	77R37	EDRN	63MS4	66	602
					FAF	77R37	EDRN	63MS4	72	602
					F	77R37	EDRN	63MS4	69	602
					FF	77R37	EDRN	63MS4	80	602
0.79	1200	1728	17400	1.25	FA FAF F FF	77R37	EDRN	63MS4	65	602
0.88	1100	1544	17900	1.35						
1.0	970	1354	18400	1.55						
1.1	860	1200	18800	1.75						
1.3	755	1053	19100	2.0						
1.5	645	910	19400	2.3						
1.7	535	810	19600	2.8						
1.9	470	710	19700	3.2						
1.2	735	1102	11000	1.10	FA FAF F FF	67R37	EDRN	63MS4	43	602
1.4	650	970	11600	1.25						
1.6	570	858	12100	1.45						
1.8	500	755	12400	1.65						
2.1	425	641	12700	1.90						
2.4	395	572	12800	2.1						
2.7	335	509	13000	2.4						
3.1	290	437	13000	2.8						
1.8	530	738	9690	1.15	FA	57R37	EDRN	63MS4	39	602
2.1	460	646	10200	1.30	FAF	57R37	EDRN	63MS4	45	602
2.4	395	558	10600	1.50	F	57R37	EDRN	63MS4	39	602
2.7	350	506	10800	1.70	FF	57R37	EDRN	63MS4	46	602
3.0	300	452	11100	2.0						

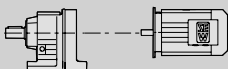
P_m = 0.12 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
3.2	315	426	11100	1.90	FA	57R37	EDRN	63MS4	39	602
3.6	275	382	11300	2.2	FAF	57R37	EDRN	63MS4	44	602
4.1	235	330	11500	2.5	F	57R37	EDRN	63MS4	39	602
4.6	210	298	11500	2.8	FF	57R37	EDRN	63MS4	45	602
5.2	188	262	11500	3.2						
2.5	390	543	6010	1.00	FA	47R17	EDRN	63MS4	24	602
2.9	335	475	6680	1.20	FAF	47R17	EDRN	63MS4	27	602
3.2	295	419	7100	1.35	F	47R17	EDRN	63MS4	25	602
					FF	47R17	EDRN	63MS4	28	602
2.6	385	524	6100	1.05						
2.8	355	489	6460	1.10	FA	47R17	EDRN	63MS4	24	602
3.2	305	427	6970	1.30	FAF	47R17	EDRN	63MS4	26	602
3.6	270	381	7280	1.45	F	47R17	EDRN	63MS4	24	602
4.1	240	334	7520	1.65	FF	47R17	EDRN	63MS4	27	602
4.6	205	295	7720	1.90						
5.4	174	253	7900	2.3						
4.9	195	278	4360	1.00	FA	37R17	EDRN	63MS4	19	602
5.6	165	242	4720	1.20	FAF	37R17	EDRN	63MS4	21	602
6.2	158	221	4800	1.25	F	37R17	EDRN	63MS4	20	602
					FF	37R17	EDRN	63MS4	22	602
5.4	180	250	4550	1.10	FA	37R17	EDRN	63MS4	19	602
6.2	158	219	4790	1.25	FAF	37R17	EDRN	63MS4	21	602
7.3	134	186	5020	1.50	F	37R17	EDRN	63MS4	20	602
8.1	120	167	5120	1.65	FF	37R17	EDRN	63MS4	22	602
7.9	121	172	4500	1.05	FA	27R17	EDRN	63MS4	13	602
8.9	106	153	4500	1.25	FAF	27R17	EDRN	63MS4	14	602
10	88	130	4500	1.45	F	27R17	EDRN	63MS4	14	602
					FF	27R17	EDRN	63MS4	15	602
9.6	104	142	4500	1.25	FA	27R17	EDRN	63MS4	13	602
11	89	124	4500	1.45	FAF	27R17	EDRN	63MS4	14	602
13	78	109	4500	1.65	F	27R17	EDRN	63MS4	14	602
14	68	96	4500	1.90	FF	27R17	EDRN	63MS4	14	602
5.9	192	228.99	13000	4.2	FA	67	EDRN	63MS4	32	555
7.0	164	195.39	13000	5.0	FAF	67	EDRN	63MS4	38	554
8.0	143	170.85	13000	5.7	F	67	EDRN	63MS4	35	553
8.4	136	162.31	13000	6.0	FF	67	EDRN	63MS4	41	554
9.6	119	142.40	13000	6.8						
6.8	168	199.70	11500	3.6	FA	57	EDRN	63MS4	28	549
7.4	154	183.60	11500	3.9	FAF	57	EDRN	63MS4	34	548
8.7	132	157.09	11500	4.5	F	57	EDRN	63MS4	28	547
10.0	114	136.16	11500	5.2	FF	57	EDRN	63MS4	35	548
11	107	127.27	11500	5.6						
7.1	160	190.76	7960	2.5						
7.8	147	175.38	8010	2.7						
9.1	126	150.06	8090	3.2	FA	47	EDRN	63MS4	21	543
10	109	130.07	8140	3.6	FAF	47	EDRN	63MS4	24	542
11	102	121.57	8160	3.9	F	47	EDRN	63MS4	22	541
13	88	105.09	8200	4.5	FF	47	EDRN	63MS4	25	542
15	75	89.29	8220	5.3						
17	67	79.72	8240	6.0						
11	108	128.51	5200	1.85	FA	37	EDRN	63MS4	16	537
12	99	117.88	5260	2.0	FAF	37	EDRN	63MS4	18	536
14	84	100.36	5340	2.4	F	37	EDRN	63MS4	17	535
16	72	86.53	5390	2.7	FF	37	EDRN	63MS4	19	536
17	67	80.65	5410	2.9						

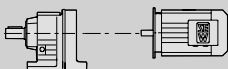
P _m = 0.12 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
9.7	118	140.74	4500	1.10						
11	108	129.09	4500	1.20						
12	92	109.90	4500	1.40						
14	79	94.76	4500	1.65						
15	74	88.32	4500	1.75						
18	65	77.21	4500	2.0						
19	60	72.37	4500	2.1						
21	53	63.86	4500	2.4						
24	47	56.62	4500	2.7						
27	42	50.19	4500	3.1						
29	39	46.78	4500	3.3						
33	34	40.89	4500	3.8						
35	32	38.33	4450	4.0						
40	28	33.83	4290	4.6						
46	24	29.56	4120	5.2						
50	22	27.18	4020	5.7						
58	19	23.25	3830	6.6						
67	16	20.15	3670	7.7						
72	15	18.84	3590	8.2						
84	13	16.28	3440	9.5						
98	11	13.84	3270	11						
110	10	12.35	3150	12						
129	8.0	10.55	3000	14						
138	8.0	9.88	2940	15						
145	7.0	9.40	2880	13						
167	6.0	8.13	2760	14						
197	5.0	6.91	2620	16						
221	5.0	6.17	2520	17						
258	4.0	5.27	2400	19						
276	4.0	4.93	2350	20						
327	3.0	4.16	2220	23						

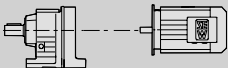
P _m = 0.18 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.12	11600	11656	90000	1.05	FA FAF F FF	127R77	EDRN	63M4	425	602
0.13	10200	10191	90000	1.15		127R77	EDRN	63M4	465	602
0.16	8500	8831	90000	1.40		127R77	EDRN	63M4	465	602
0.18	7360	7643	90000	1.65		127R77	EDRN	63M4	510	602
0.20	6800	6715	90000	1.75						
0.20	6730	6767	52200	1.15	FA FAF F FF	107R77	EDRN	63M4	275	602
0.23	5790	5954	54500	1.35		107R77	EDRN	63M4	295	602
0.26	5030	5223	56200	1.55		107R77	EDRN	63M4	290	602
0.30	4630	4567	57100	1.65		107R77	EDRN	63M4	320	602
0.39	3500	3521	59400	2.2						
0.45	3100	3037	60200	2.5	FA FAF F FF	107R77	EDRN	63M4	275	602
0.50	2810	2756	60700	2.7		107R77	EDRN	63M4	295	602
0.58	2420	2369	61400	3.2		107R77	EDRN	63M4	290	602
0.66	2110	2068	62000	3.6		107R77	EDRN	63M4	320	602
0.41	3640	3352	31700	1.20	FA FAF F FF	97R57	EDRN	63M4	185	602
0.47	3060	2907	33200	1.40						
0.54	2760	2553	33800	1.55						
0.61	2430	2245	34500	1.75						
0.70	2110	1970	35200	2.0						
0.80	1870	1722	35600	2.3						
0.90	1660	1527	36000	2.6						
1.0	1360	1327	36500	3.2						
1.2	1270	1171	36600	3.4						

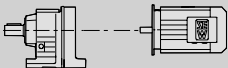
P _m = 0.18 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.53	2800	2576	23700	1.05	FA FAF F FF	87R57	EDRN	63M4	120	602
0.63	2380	2199	25200	1.25						
0.71	2070	1930	26200	1.45						
0.80	1850	1709	26900	1.60						
0.92	1620	1493	27500	1.85						
1.1	1330	1300	28200	2.2						
1.2	1190	1148	28500	2.5						
1.4	1030	1010	28900	2.9						
1.6	920	887	29100	3.2						
1.8	800	780	29400	3.8						
1.1	1320	1200	16800	1.15	FA FAF F FF	77R37	EDRN	63M4	66	602
1.3	1150	1053	17600	1.30						
1.5	990	910	18300	1.50						
1.7	840	810	18800	1.75						
1.9	740	710	19100	2.0						
2.2	660	615	19400	2.3					81	602
1.8	790	755	10600	1.05	FA FAF F FF	67R37	EDRN	63M4	44	602
2.1	670	641	11500	1.20						
2.4	615	572	11800	1.35						
2.7	530	509	12200	1.55						
3.1	460	437	12600	1.80						
3.6	410	384	12800	2.0						
2.8	550	500	12200	1.50	FA FAF F FF	67R37	EDRN	63M4	43	602
3.0	505	454	12400	1.60						
3.5	430	392	12700	1.90						
4.1	360	333	12900	2.2						
4.6	320	297	13000	2.5						
5.3	280	261	13000	2.9						
5.8	250	238	13000	3.2						
6.9	205	200	13000	3.9						
2.7	545	506	9600	1.10	FA FAF F FF	57R37	EDRN	63M4	40	602
3.0	475	452	10100	1.25						
3.6	405	386	10500	1.45						
4.1	350	338	10800	1.70						
3.2	480	426	10100	1.25	FA FAF F FF	57R37	EDRN	63M4	39	602
3.6	425	382	10400	1.40						
4.2	365	330	10800	1.65						
4.6	325	298	11000	1.80						
5.2	290	262	11200	2.1						
6.1	240	226	11400	2.5						
6.9	210	200	11500	2.8						
4.2	355	324	6440	1.10						
4.8	310	288	6940	1.30						
5.5	265	249	7340	1.50						
4.1	370	334	6320	1.10	FA FAF F FF	47R17	EDRN	63M4	24	602
4.7	320	295	6830	1.25						
5.4	270	253	7290	1.45						
6.3	240	217	7500	1.65						
7.2	210	190	7710	1.85						
7.7	197	178	7780	1.95						
8.2	185	167	4490	1.10	FA FAF F FF	37R17	EDRN	63M4	20	602
9.4	163	145	4740	1.20						
11	144	129	4930	1.40						
					FA FAF F FF	27R17	EDRN	63M4	14	602
13	120	109	4500	1.10						
14	105	96	4500	1.25						
4.9	350	281.71	19900	4.3	FA FAF F FF	77	EDRN	63M4	57	562
5.2	325	262.93	19900	4.6						
6.1	280	225.79	20000	5.3						

P _m = 0.18 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
6.0	285	228.99	13000	2.9	FA	67	EDRN	63M4	33	555
7.0	240	195.39	13000	3.4	FAF	67	EDRN	63M4	39	554
8.1	210	170.85	13000	3.8	F	67	EDRN	63M4	36	553
					FF	67	EDRN	63M4	42	554
6.9	245	199.70	11400	2.4						
7.5	225	183.60	11500	2.6	FA	57	EDRN	63M4	29	549
8.8	196	157.09	11500	3.1	FAF	57	EDRN	63M4	34	548
10	170	136.16	11500	3.5	F	57	EDRN	63M4	29	547
11	159	127.27	11500	3.8	FF	57	EDRN	63M4	36	548
12	137	110.01	11500	4.4						
7.2	235	190.76	7540	1.70	FA	47	EDRN	63M4	22	543
7.8	215	175.38	7660	1.80	FAF	47	EDRN	63M4	25	542
9.2	187	150.06	7840	2.1	F	47	EDRN	63M4	23	541
11	162	130.07	7950	2.5	FF	47	EDRN	63M4	26	542
11	151	121.57	8000	2.6						
11	160	128.51	4770	1.25						
12	147	117.88	4900	1.35						
14	125	100.36	5080	1.60	FA	37	EDRN	63M4	17	537
16	108	86.53	5200	1.85	FAF	37	EDRN	63M4	19	536
17	100	80.65	5250	2.0	F	37	EDRN	63M4	17	535
20	88	70.50	5320	2.3	FF	37	EDRN	63M4	19	536
21	82	66.09	5350	2.4						
24	72	58.32	5390	2.7						
15	118	94.76	4500	1.10						
16	110	88.32	4500	1.20						
18	96	77.21	4500	1.35						
19	90	72.37	4500	1.45	FA	27	EDRN	63M4	11	532
22	79	63.86	4500	1.65	FAF	27	EDRN	63M4	12	531
24	70	56.62	4500	1.85	F	27	EDRN	63M4	11	530
27	62	50.19	4500	2.1	FF	27	EDRN	63M4	12	531
29	58	46.78	4500	2.2						
34	51	40.89	4360	2.5						
36	47	38.33	4290	2.7						
41	42	33.83	4150	3.1						
47	36	29.56	4000	3.5						
51	33	27.18	3900	3.8						
59	29	23.25	3730	4.5						
68	25	20.15	3580	5.2						
73	23	18.84	3510	5.5						
84	20	16.28	3360	6.4						
99	17	13.84	3200	7.5						
111	15	12.35	3100	8.2	FA	27	EDRN	63M4	11	532
130	13	10.55	2950	9.3	FAF	27	EDRN	63M4	11	531
139	12	9.88	2890	9.9	F	27	EDRN	63M4	11	530
146	11	9.40	2840	8.9	FF	27	EDRN	63M4	12	531
169	10	8.13	2710	9.7						
199	8.0	6.91	2580	11						
223	7.0	6.17	2490	12						
261	6.0	5.27	2370	13						
279	6.0	4.93	2320	14						
331	5.0	4.16	2200	15						

P _m = 0.25 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.18	10500	7643	90000	1.15	FA	127R77	EDRN	71MS4	425	602
0.21	9650	6715	90000	1.25	FAF	127R77	EDRN	71MS4	465	602
0.24	8510	5925	90000	1.40	F	127R77	EDRN	71MS4	465	602
0.27	7300	5153	90000	1.65	FF	127R77	EDRN	71MS4	510	602
0.31	6320	4533	90000	1.90						
0.27	7230	5223	51000	1.05	FA	107R77	EDRN	71MS4	275	602
0.31	6560	4567	52700	1.15	FAF	107R77	EDRN	71MS4	295	602
0.40	4990	3521	56300	1.55	F	107R77	EDRN	71MS4	295	602
					FF	107R77	EDRN	71MS4	320	602

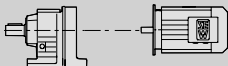
P _m = 0.25 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.46	4400	3037	57600	1.75	FA FAF F FF	107R77	EDRN	71MS4	275	602
0.51	3990	2756	58400	1.90						
0.59	3430	2369	59500	2.2						
0.68	2990	2068	60400	2.6						
0.88	2290	1597	61700	3.4						
1.0	1970	1401	62200	3.9						
0.48	4310	2907	29900	1.00	FA FAF F FF	97R57	EDRN	71MS4	185	602
0.55	3860	2553	31100	1.10						
0.62	3390	2245	32400	1.25						
0.71	2950	1970	33400	1.45						
0.81	2610	1722	34200	1.65						
0.92	2310	1527	34800	1.85						
1.1	1920	1327	35500	2.2						
1.2	1770	1171	35800	2.4						
1.4	1540	1022	36200	2.8						
0.73	2890	1930	23300	1.05	FA FAF F FF	87R57	EDRN	71MS4	120	602
0.82	2580	1709	24500	1.15						
0.94	2260	1493	25600	1.35						
1.1	1890	1300	26800	1.60						
1.2	1690	1148	27300	1.75						
1.4	1460	1010	27900	2.0						
1.6	1300	887	28300	2.3						
1.8	1130	780	28700	2.6						
2.1	960	674	29100	3.1						
1.5	1380	910	16500	1.10	FA FAF F FF	77R37	EDRN	71MS4	67	602
1.7	1190	810	17500	1.25						
2.0	1040	710	18100	1.45						
2.3	920	615	18600	1.60						
2.6	810	538	19000	1.85						
2.9	715	480	19200	2.1						
3.4	605	413	19500	2.5						
2.8	750	509	10900	1.10	FA FAF F FF	67R37	EDRN	71MS4	45	602
3.2	645	437	11600	1.25						
2.8	770	500	10700	1.05	FA FAF F FF	67R37	EDRN	71MS4	43	602
3.1	700	454	11200	1.15						
3.6	600	392	11900	1.35						
4.2	505	333	12400	1.60						
4.7	450	297	12600	1.80						
5.4	395	261	12800	2.1						
5.9	355	238	13000	2.3						
3.6	570	386	9410	1.05	FA FAF F FF	57R37	EDRN	71MS4	41	602
4.2	495	338	9930	1.20						
5.5	375	255	10700	1.60						
3.7	590	382	9260	1.00	FA FAF F FF	57R37	EDRN	71MS4	40	602
4.2	505	330	9870	1.20						
4.7	455	298	10200	1.30						
5.3	400	262	10500	1.50						
6.2	340	226	10900	1.75						
7.0	295	200	11100	2.0						
8.2	255	170	11400	2.4						
5.6	370	249	6290	1.05	FA FAF F FF	47R17	EDRN	71MS4	26	602
6.4	330	218	6770	1.20						
7.2	290	193	7140	1.35						
8.0	260	175	7350	1.50						
5.5	380	253	6160	1.05	FA FAF F FF	47R17	EDRN	71MS4	25	602
6.5	335	217	6690	1.20						
7.4	290	190	7120	1.35						
7.9	270	178	7280	1.40						
9.4	225	149	7600	1.60						
11	200	131	7770	1.80						

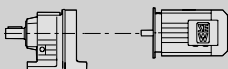
P_m = 0.25 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
11	200	129	4290	1.00	FA	37R17	EDRN	71MS4	21	602
12	182	118	4520	1.10	FAF	37R17	EDRN	71MS4	22	602
14	151	98	4860	1.30	F	37R17	EDRN	71MS4	21	602
16	132	87	5030	1.50	FF	37R17	EDRN	71MS4	23	602
5.0	480	281.71	19700	3.1	FA	77	EDRN	71MS4	57	562
5.3	445	262.93	19800	3.4	FAF	77	EDRN	71MS4	64	561
6.2	385	225.79	19900	3.9	F	77	EDRN	71MS4	61	560
7.1	335	198.31	19900	4.4	FF	77	EDRN	71MS4	72	561
7.4	320	188.40	20000	4.7						
6.1	390	228.99	12800	2.1	FA	67	EDRN	71MS4	33	555
7.2	330	195.39	13000	2.5	FAF	67	EDRN	71MS4	40	554
8.2	290	170.85	13000	2.8	F	67	EDRN	71MS4	36	553
8.6	275	162.31	13000	3.0	FF	67	EDRN	71MS4	42	554
9.8	240	142.40	13000	3.4						
7.0	340	199.70	10900	1.75	FA	57	EDRN	71MS4	30	549
7.6	310	183.60	11100	1.90	FAF	57	EDRN	71MS4	35	548
8.9	265	157.09	11300	2.2	F	57	EDRN	71MS4	30	547
10	230	136.16	11500	2.6	FF	57	EDRN	71MS4	36	548
11	215	127.27	11500	2.8						
13	187	110.01	11500	3.2						
7.3	325	190.76	6820	1.25	FA	47	EDRN	71MS4	22	543
8.0	295	175.38	7070	1.35	FAF	47	EDRN	71MS4	25	542
9.3	255	150.06	7420	1.55	F	47	EDRN	71MS4	23	541
11	220	130.07	7640	1.80	FF	47	EDRN	71MS4	26	542
12	205	121.57	7730	1.95						
13	179	105.09	7880	2.2						
16	152	89.29	8000	2.6						
14	171	100.36	4660	1.15						
16	147	86.53	4900	1.35						
17	137	80.65	4990	1.45						
20	120	70.50	5120	1.65						
21	112	66.09	5180	1.75	FA	37	EDRN	71MS4	18	537
24	99	58.32	5260	2.0	FAF	37	EDRN	71MS4	19	536
26	93	54.54	5290	2.1	F	37	EDRN	71MS4	18	535
27	88	51.70	5320	2.3	FF	37	EDRN	71MS4	20	536
30	80	47.02	5360	2.5						
32	74	43.83	5380	2.7						
37	65	38.31	5420	3.1						
39	61	35.91	5430	3.2						
44	54	31.69	5460	3.5						
19	123	72.37	4500	1.05	FA	27	EDRN	71MS4	11	532
22	108	63.86	4500	1.20	FAF	27	EDRN	71MS4	12	531
25	96	56.62	4480	1.35	F	27	EDRN	71MS4	12	530
28	85	50.19	4370	1.50	FF	27	EDRN	71MS4	13	531
30	79	46.78	4300	1.65						
34	69	40.89	4170	1.85						
37	65	38.33	4110	2.0						
41	57	33.83	3980	2.2						
47	50	29.56	3850	2.6	FA	27	EDRN	71MS4	11	532
52	46	27.18	3770	2.8	FAF	27	EDRN	71MS4	12	531
60	39	23.25	3620	3.3	F	27	EDRN	71MS4	12	530
69	34	20.15	3480	3.8	FF	27	EDRN	71MS4	13	531
74	32	18.84	3410	4.0						
86	27	16.28	3280	4.7						
101	23	13.84	3130	5.5						
113	21	12.35	3030	6.0						
133	17	10.55	2890	6.8						
142	16	9.88	2830	7.2						
149	16	9.40	2780	6.5						
172	13	8.13	2660	7.1						
203	11	6.91	2530	7.9						
227	10	6.17	2450	8.6						
266	8.0	5.27	2330	9.6						
284	8.0	4.93	2280	10.0						
337	7.0	4.16	2170	11						

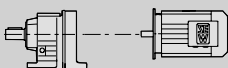
P_m = 0.37 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
0.27	11100	5153	90000	1.05	FA	127R77	EDRN	71M4	430	602
0.31	9730	4533	90000	1.25	FAF	127R77	EDRN	71M4	465	602
0.36	8520	3926	90000	1.40	F	127R77	EDRN	71M4	465	602
0.41	7420	3454	90000	1.60	FF	127R77	EDRN	71M4	510	602
0.46	6480	3031	90000	1.85						
0.46	6720	3037	52300	1.15	FA	107R77	EDRN	71M4	275	602
0.51	6090	2756	53800	1.25	FAF	107R77	EDRN	71M4	295	602
0.59	5240	2369	55800	1.45	F	107R77	EDRN	71M4	295	602
0.68	4570	2068	57200	1.70	FF	107R77	EDRN	71M4	320	602
0.88	3500	1597	59400	2.2						
0.82	3920	1722	31000	1.10	FA	97R57	EDRN	71M4	185	602
0.92	3470	1527	32200	1.25	FAF	97R57	EDRN	71M4	205	602
1.1	2940	1327	33400	1.45	F	97R57	EDRN	71M4	195	602
1.2	2660	1171	34100	1.60	FF	97R57	EDRN	71M4	225	602
1.4	2320	1022	34800	1.85						
1.6	1960	898	35500	2.2						
1.1	2880	1300	23400	1.05	FA	87R57	EDRN	71M4	120	602
1.2	2560	1148	24600	1.15	FAF	87R57	EDRN	71M4	135	602
1.4	2230	1010	25700	1.35	F	87R57	EDRN	71M4	125	602
1.6	1980	887	26500	1.50	FF	87R57	EDRN	71M4	140	602
1.8	1720	780	27200	1.75						
2.1	1470	674	27900	2.0						
2.3	1340	609	28200	2.2						
2.7	1130	515	28700	2.6						
3.1	1000	452	29000	3.0						
2.3	1390	615	16400	1.10	FA	77R37	EDRN	71M4	68	602
2.6	1220	538	17300	1.25	FAF	77R37	EDRN	71M4	75	602
2.9	1080	480	18000	1.40	F	77R37	EDRN	71M4	72	602
3.4	920	413	18600	1.60	FF	77R37	EDRN	71M4	82	602
3.8	820	367	18900	1.80						
4.4	735	323	19200	2.0						
4.2	770	338	10700	1.05	FA	67R37	EDRN	71M4	46	602
4.6	690	305	11300	1.20	FAF	67R37	EDRN	71M4	52	602
5.5	575	257	12000	1.40	F	67R37	EDRN	71M4	49	602
6.1	510	231	12400	1.60	FF	67R37	EDRN	71M4	55	602
5.5	570	255	9410	1.05	FA	57R37	EDRN	71M4	42	602
7.0	445	201	10300	1.35	FAF	57R37	EDRN	71M4	47	602
7.8	405	181	10500	1.50	F	57R37	EDRN	71M4	42	602
					FF	57R37	EDRN	71M4	49	602
6.2	515	226	9800	1.15	FA	57R37	EDRN	71M4	41	602
7.0	450	200	10200	1.30	FAF	57R37	EDRN	71M4	47	602
8.3	385	170	10600	1.55	F	57R37	EDRN	71M4	41	602
9.2	340	152	10900	1.75	FF	57R37	EDRN	71M4	48	602
10	300	134	11100	2.0						
9.6	330	147	6720	1.20	FA	47R17	EDRN	71M4	27	602
11	295	130	7100	1.35	FAF	47R17	EDRN	71M4	30	602
					F	47R17	EDRN	71M4	28	602
					FF	47R17	EDRN	71M4	31	602
5.2	680	270.68	29600	4.4	FA	87	EDRN	71M4	98	569
5.5	640	255.37	29700	4.7	FAF	87	EDRN	71M4	110	568
6.1	575	228.93	29800	5.2	F	87	EDRN	71M4	105	567
					FF	87	EDRN	71M4	120	568
5.0	705	281.71	19200	2.1	FA	77	EDRN	71M4	59	562
5.3	660	262.93	19400	2.3	FAF	77	EDRN	71M4	65	561
6.2	565	225.79	19600	2.6	F	77	EDRN	71M4	62	560
7.1	495	198.31	19700	3.0	FF	77	EDRN	71M4	73	561
7.5	470	188.40	19700	3.2						
8.4	415	166.47	19800	3.6						
9.9	355	142.27	19900	4.2						
6.1	575	228.99	12000	1.40	FA	67	EDRN	71M4	35	555
7.2	490	195.39	12400	1.65	FAF	67	EDRN	71M4	41	554
8.2	425	170.85	12700	1.90	F	67	EDRN	71M4	37	553
8.7	405	162.31	12800	2.0	FF	67	EDRN	71M4	44	554
9.9	355	142.40	13000	2.3						
12	300	120.79	13000	2.7						

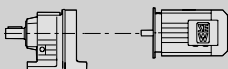
P _m = 0.37 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
7.0	500	199.70	9910	1.20						
7.7	460	183.60	10200	1.30						
8.9	395	157.09	10600	1.50						
10	340	136.16	10900	1.75						
11	320	127.27	11000	1.85						
13	275	110.01	11300	2.2						
15	235	93.47	11500	2.5						
17	205	83.46	11500	2.9						
9.4	375	150.06	6230	1.05						
11	325	130.07	6800	1.20						
13	260	105.09	7360	1.50						
16	220	89.29	7630	1.80						
18	200	79.72	7770	2.0						
21	171	68.09	7910	2.3						
22	164	65.36	7940	2.4						
20	177	70.50	4590	1.15						
21	166	66.09	4710	1.20						
24	146	58.32	4910	1.35						
26	137	54.54	4990	1.45						
27	130	51.70	5050	1.55						
30	118	47.02	5140	1.70						
32	110	43.83	5190	1.80						
37	96	38.31	5280	2.1						
39	90	35.91	5310	2.2						
44	79	31.69	5280	2.4						
50	70	28.09	5120	2.6						
59	60	23.88	4910	3.0						
28	126	50.19	4000	1.05						
30	117	46.78	3960	1.10						
34	102	40.89	3870	1.25						
37	96	38.33	3830	1.35						
42	85	33.83	3740	1.55						
48	74	29.56	3630	1.75						
52	68	27.18	3570	1.90						
60	58	23.25	3440	2.2						
70	50	20.15	3330	2.6						
75	47	18.84	3280	2.7						
86	40	16.28	3160	3.2						
102	34	13.84	3020	3.7						
114	31	12.35	2930	4.1						
133	26	10.55	2810	4.6						
142	24	9.88	2760	4.9						
149	23	9.40	2700	4.4						
173	20	8.13	2590	4.8						
203	17	6.91	2470	5.3						
228	15	6.17	2390	5.8						
267	13	5.27	2290	6.5						
285	12	4.93	2240	6.8						
338	10	4.16	2130	7.6						

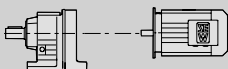
P _m = 0.55 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.26 0.51	16100	5404	105400	1.25	FA	157R97	EDRN	80MK4	770	602
					FAF	157R97	EDRN	80MK4	830	602
					F	157R97	EDRN	80MK4	790	602
		8300	2780	119400	2.4	FF	157R97	EDRN	80MK4	900
0.59 0.85 1.1 1.2	7330	2427	120000	2.7	FA	157R97	EDRN	80MK4	770	602
	5230	1674	120000	3.8	FAF	157R97	EDRN	80MK4	820	602
	4020	1308	120000	5.0	F	157R97	EDRN	80MK4	790	602
	3530	1169	120000	5.7	FF	157R97	EDRN	80MK4	890	603
0.41 0.47	11100	3454	90000	1.10	FA	127R77	EDRN	80MK4	430	602
					FAF	127R77	EDRN	80MK4	470	602
					F	127R77	EDRN	80MK4	465	602
		9740	3031	90000	1.25	FF	127R77	EDRN	80MK4	510

P _m = 0.55 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.69	6820	2068	52000	1.10	FA FAF F FF	107R77	EDRN	80MK4	280	602
0.78	5860	1826	54300	1.30						
0.90	5240	1597	55800	1.45						
1.0	4570	1401	57200	1.70						
1.1	3990	1243	58400	1.90						
1.3	3570	1087	59300	2.1						
1.5	3050	950	60300	2.5						
1.7	2650	834	61000	2.9						
2.2	2060	640	62100	3.7						
1.2	3940	1171	30900	1.10	FA FAF F FF	97R57	EDRN	80MK4	190	602
1.4	3440	1022	32200	1.25						
1.6	2940	898	33400	1.45						
1.8	2600	784	34200	1.65						
2.1	2260	690	34900	1.90						
2.4	1990	605	35400	2.2						
2.7	1730	529	35900	2.5						
3.1	1520	467	36200	2.8						
3.5	1310	406	36600	3.3						
3.9	1170	363	36800	3.6						
1.6	2940	887	21600	1.00	FA FAF F FF	87R57	EDRN	80MK4	120	602
1.8	2570	780	24500	1.15						
2.1	2200	674	25800	1.35						
2.4	2010	609	26400	1.50						
2.8	1690	515	27300	1.75						
3.2	1490	452	27800	2.0						
4.1	1110	345	28700	2.7						
3.5	1370	413	16500	1.10	FA FAF F FF	77R37	EDRN	80MK4	70	602
3.9	1220	367	17300	1.20						
4.4	1080	323	18000	1.40						
6.2	760	231	10800	1.05	FA FAF F FF	67R37	EDRN	80MK4	48	602
7.0	680	205	11400	1.20						
8.2	580	175	12000	1.40						
5.3	990	270.68	29000	3.0	FA FAF F FF	87	EDRN	80MK4	100	569
5.6	930	255.37	29100	3.2						
6.2	840	228.93	29300	3.6						
7.2	720	197.20	29500	4.1						
8.0	660	179.97	29600	4.5						
6.3	820	225.79	18900	1.80	FA FAF F FF	77	EDRN	80MK4	61	562
7.2	725	198.31	19200	2.1						
7.6	690	188.40	19300	2.2						
8.6	610	166.47	19500	2.5						
10	520	142.27	19700	2.9						
11	475	130.42	19700	3.1						
12	420	114.45	19800	3.6						
13	395	108.46*	19900	3.8						
15	345	94.93	19900	4.3						
7.3	715	195.39	11100	1.15	FA FAF F FF	67	EDRN	80MK4	37	555
8.4	625	170.85	11700	1.30						
8.8	595	162.31	11900	1.40						
10	520	142.40	12300	1.55						
12	440	120.79	12600	1.85						
13	400	109.04	12800	2.0						
15	350	95.94	13000	2.3						
16	330	90.59	13000	2.5						
18	290	79.76	13000	2.7						
9.1	575	157.09	9370	1.05	FA FAF F FF	57	EDRN	80MK4	33	549
10	500	136.16	9920	1.20						
11	465	127.27	10100	1.30						
13	400	110.01	10500	1.50						
15	340	93.47	10900	1.75						
17	305	83.46	11100	1.95						
20	265	72.98	11300	2.2						
21	250	68.22	11400	2.4						
24	215	58.97	11500	2.8						

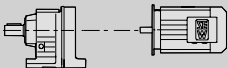
P _m = 0.55 kW															
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg						
14	385	105.09	6120	1.05	FA FAF F FF	47	EDRN	80MK4	26	543					
16	325	89.29	6790	1.20											
18	290	79.72	7120	1.35											
21	250	68.09	7460	1.60											
22	240	65.36	7530	1.65											
25	205	56.49	7730	1.95											
30	176	48.00*	7890	2.3											
33	157	42.86	7970	2.5											
28	189	51.70	4430	1.05	FA FAF F FF	37	EDRN	80MK4	21	537					
30	172	47.02	4640	1.15											
33	160	43.83	4770	1.25											
37	140	38.31	4960	1.40											
40	131	35.91	5040	1.50											
45	116	31.69	4940	1.65											
51	103	28.09	4820	1.80											
60	87	23.88	4650	2.0											
61	86	23.63	4640	2.3	FA FAF F FF	37	EDRN	80MK4	21	537					
70	75	20.57	4490	2.5											
74	70	19.27	4420	2.6											
84	62	17.03	4280	2.9											
100	52	14.33	4100	3.3											
62	85	23.25	3180	1.50	FA FAF F FF	27	EDRN	80MK4	15	532					
71	74	20.15	3100	1.75											
76	69	18.84	3060	1.90											
88	59	16.28	2970	2.2											
103	50	13.84	2860	2.5											
116	45	12.35	2790	2.8											
136	38	10.55	2680	3.2											
145	36	9.88	2640	3.4											
152	34	9.40	2570	3.0											
176	29	8.13	2480	3.3											
207	25	6.91	2380	3.7											
232	22	6.17	2310	4.0											
271	19	5.27	2210	4.5											
290	18	4.93	2170	4.6											
344	15	4.16	2070	5.2											

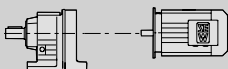
P _m = 0.75 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.52	11600	2780	114700	1.70	FA	157R97	EDRN	80M4	770	602
					FAF	157R97	EDRN	80M4	830	602
					F	157R97	EDRN	80M4	790	602
					FF	157R97	EDRN	80M4	900	603
0.59	10300	2427	116800	1.95	FA	157R97	EDRN	80M4	770	602
0.86	7280	1674	120000	2.7	FAF	157R97	EDRN	80M4	830	602
1.1	5620	1308	120000	3.5	F	157R97	EDRN	80M4	790	602
1.2	4960	1169	120000	4.0	FF	157R97	EDRN	80M4	900	603
0.61	10500	2357	90000	1.15	FA	127R77	EDRN	80M4	435	602
0.71	9120	2038	90000	1.30	FAF	127R77	EDRN	80M4	470	602
0.81	7940	1784	90000	1.50	F	127R77	EDRN	80M4	470	602
0.90	7120	1606	90000	1.70	FF	127R77	EDRN	80M4	510	602
0.90	7200	1597	51100	1.05	FA FAF F FF	107R77	EDRN	80M4	280	602
1.0	6280	1401	53300	1.20						
1.2	5510	1243	55200	1.40						
1.3	4900	1087	56500	1.55						
1.5	4210	950	58000	1.80						
1.7	3670	834	59100	2.1						
2.2	2850	640	60700	2.7						
3.3	1940	436	62300	4.0						

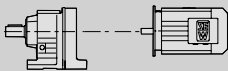
P _m = 0.75 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
1.6	4040	898	30600	1.05	FA FAF F FF	97R57	EDRN	80M4	190	602
1.8	3560	784	31900	1.20						
2.1	3100	690	33100	1.40						
2.4	2730	605	33900	1.55						
2.7	2370	529	34700	1.80						
3.1	2090	467	35200	2.0						
3.5	1800	406	35700	2.4						
4.0	1620	363	36100	2.6						
2.4	2750	609	23900	1.10	FA	87R57	EDRN	80M4	125	602
2.8	2320	515	25400	1.30	FAF	87R57	EDRN	80M4	140	602
3.2	2040	452	26300	1.45	F	87R57	EDRN	80M4	130	602
4.2	1540	345	27700	1.95	FF	87R57	EDRN	80M4	145	602
4.5	1480	323	15800	1.00	FA	77R37	EDRN	80M4	74	602
5.2	1270	280	17000	1.15	FAF	77R37	EDRN	80M4	80	602
					F	77R37	EDRN	80M4	77	602
					FF	77R37	EDRN	80M4	88	602
5.3	1340	270.68	28200	2.2	FA	87	EDRN	80M4	105	569
5.6	1270	255.37	28400	2.4	FAF	87	EDRN	80M4	115	568
6.3	1130	228.93	28700	2.6	F	87	EDRN	80M4	110	567
					FF	87	EDRN	80M4	125	568
6.4	1120	225.79	17800	1.35	FA	77	EDRN	80M4	65	562
7.3	980	198.31	18400	1.50	FAF	77	EDRN	80M4	71	561
7.6	930	188.40	18500	1.60	F	77	EDRN	80M4	68	560
					FF	77	EDRN	80M4	79	561
8.7	820	166.47	18900	1.80	FA	77	EDRN	80M4	65	562
10	705	142.27	19200	2.1	FAF	77	EDRN	80M4	71	561
11	645	130.42	19400	2.3	F	77	EDRN	80M4	68	560
13	565	114.45	19600	2.6	FF	77	EDRN	80M4	79	561
13	535	108.46*	19600	2.8						
8.9	800	162.31	10400	1.00	FA	67	EDRN	80M4	41	555
10	705	142.40	11200	1.15	FAF	67	EDRN	80M4	47	554
12	600	120.79	11900	1.35	F	67	EDRN	80M4	43	553
					FF	67	EDRN	80M4	49	554
13	540	109.04	12200	1.50	FA	67	EDRN	80M4	41	555
15	475	95.94	12500	1.70	FAF	67	EDRN	80M4	47	554
16	450	90.59	12600	1.80	F	67	EDRN	80M4	43	553
18	395	79.76	12800	2.0	FF	67	EDRN	80M4	49	554
21	335	67.65	13000	2.3						
24	300	61.07	13000	2.4						
13	545	110.01	9590	1.10	FA FAF F FF	57	EDRN	80M4	37	549
15	460	93.47	10200	1.30						
17	415	83.46	10500	1.45						
20	360	72.98	10800	1.65						
21	335	68.22	10900	1.75						
24	290	58.97	11200	2.0						
29	245	50.10	11400	2.4						
32	220	44.73	11300	2.6						
18	395	79.72	5970	1.00	FA	47	EDRN	80M4	29	543
21	335	68.09	6680	1.20	FAF	47	EDRN	80M4	32	542
22	325	65.36	6820	1.25	F	47	EDRN	80M4	30	541
					FF	47	EDRN	80M4	33	542
25	280	56.49	7220	1.40	FA	47	EDRN	80M4	29	543
30	235	48.00*	7540	1.70	FAF	47	EDRN	80M4	32	542
34	210	42.86	7700	1.90	F	47	EDRN	80M4	30	541
39	182	36.61	7860	2.2	FF	47	EDRN	80M4	33	542
42	170	34.29	7770	2.4						
50	143	28.88	7460	2.6						
38	190	38.31	4420	1.05	FA	37	EDRN	80M4	24	537
40	178	35.91	4570	1.10	FAF	37	EDRN	80M4	26	536
45	157	31.69	4590	1.20	F	37	EDRN	80M4	25	535
51	139	28.09	4500	1.30	FF	37	EDRN	80M4	27	536

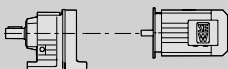
P _m = 0.75 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
61	117	23.63	4370	1.70	FA FAF F FF	37	EDRN	80M4	24	537
70	102	20.57	4250	1.85						
75	95	19.27	4200	1.95						
85	84	17.03	4090	2.1						
100	71	14.33	3930	2.4						
112	64	12.87	3830	2.6						
62	115	23.25	2900	1.10	FA FAF F FF	27	EDRN	80M4	18	532
71	100	20.15	2860	1.30						
76	93	18.84	2830	1.40						
88	80	16.28	2770	1.60						
104	68	13.84	2700	1.85						
117	61	12.35	2640	2.0						
136	52	10.55	2560	2.3						
146	49	9.88	2520	2.5						
153	46	9.40	2450	2.2						
177	40	8.13	2370	2.5						
208	34	6.91	2280	2.7						
234	30	6.17	2220	2.9						
273	26	5.27	2140	3.3						
292	24	4.93	2100	3.4						
346	20	4.16	2010	3.8						

P _m = 1.1 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
0.52	17400	2780	101800	1.15	FA	157R97	EDRN	90S4	780	602						
					FAF	157R97	EDRN	90S4	840	602						
					F	157R97	EDRN	90S4	800	602						
					FF	157R97	EDRN	90S4	900	603						
0.60	15400	2427	107100	1.30	FA FAF F FF	157R97	EDRN	90S4	770	602						
0.67	13700	2185	110800	1.45												
0.75	12200	1944	113700	1.65												
0.87	10800	1674	116000	1.85												
1.1	8380	1308	119300	2.4												
1.2	7420	1169	120000	2.7												
1.5	5930	953	120000	3.4												
1.7	5180	845	120000	3.9												
3.3	2740	446	120000	7.3												
4.8	1850	302	120000	11												
0.82	11700	1784	90000	1.00	FA FAF F FF	127R77	EDRN	90S4	440	602						
0.91	10500	1606	90000	1.15												
1.1	9100	1390	90000	1.30												
1.2	7950	1220	90000	1.50												
1.4	7070	1077	90000	1.70												
1.3	7200	1087	51100	1.05	FA FAF F FF	107R77	EDRN	90S4	285	602						
1.5	6220	950	53500	1.25												
1.8	5430	834	55300	1.40												
2.0	4770	736	56800	1.60												
2.3	4200	640	58000	1.85												
2.4	4010	605	30700	1.05	FA FAF F FF	97R57	EDRN	90S4	195	602						
2.8	3490	529	32100	1.25												
3.1	3080	467	33100	1.40												
3.6	2660	406	34100	1.60												
4.0	2390	363	34600	1.80												
3.2	3000	452	19600	1.00	FA FAF F FF	87R57	EDRN	90S4	130	602						
4.2	2270	345	25600	1.30												
4.8	1960	300	26500	1.50												
5.8	1630	249	27500	1.85												
5.3	1990	276.77	35400	2.1	FA FAF F FF	97	EDRN	90S4	175	576						
5.7	1820	253.41	35700	2.4												
6.5	1610	223.88	36100	2.7												

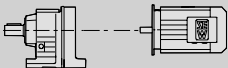
P_m = 1.1 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
5.4	1950	270.68	26600	1.55	FA	87	EDRN	90S4	110	569
5.7	1840	255.37	26900	1.65	FAF	87	EDRN	90S4	120	568
6.4	1650	228.93	27400	1.80	F	87	EDRN	90S4	115	567
7.4	1420	197.20	28000	2.1	FF	87	EDRN	90S4	130	568
8.1	1290	179.97	28300	2.3	FA	87	EDRN	90S4	110	569
9.1	1150	159.61	28600	2.6	FAF	87	EDRN	90S4	120	568
11	960	134.16	29000	3.1	F	87	EDRN	90S4	115	567
12	890	123.29	29200	3.4	FF	87	EDRN	90S4	130	568
7.3	1430	198.31	16200	1.05	FA	77	EDRN	90S4	69	562
7.7	1360	188.40	16600	1.10	FAF	77	EDRN	90S4	76	561
8.7	1200	166.47	17400	1.25	F	77	EDRN	90S4	73	560
10	1020	142.27	18200	1.45	FF	77	EDRN	90S4	84	561
11	940	130.42	18500	1.60	FA FAF F FF	77	EDRN	90S4	69 76 73 84	562 561 560 561
13	820	114.45	18900	1.80						
13	780	108.46*	19000	1.90						
15	685	94.93	19300	2.2						
17	615	85.52	19500	2.4						
19	540	75.02	19600	2.8						
13	785	109.04	10600	1.05	FA FAF F FF	67	EDRN	90S4	47 53 50 56	555 554 553 554
15	690	95.94	11300	1.20						
16	650	90.59	11600	1.25						
18	575	79.76	12000	1.40						
22	485	67.65	12500	1.55						
24	440	61.07	12700	1.65						
27	385	53.73	12900	1.80						
29	365	50.74	12900	1.90						
34	310	43.20	13000	2.1						
37	280	39.26	13000	2.3						
43	245	34.01	13000	2.5						
17	600	83.46	9180	1.00	FA FAF F FF	57	EDRN	90S4	43 48 43 50	549 548 547 548
20	525	72.98	9740	1.15						
21	490	68.22	9970	1.20						
25	425	58.97	10400	1.40						
29	360	50.10	10800	1.60						
33	320	44.73	10600	1.80						
38	275	38.21	10300	2.0						
41	255	35.79	10100	2.1						
48	215	30.15	9720	2.4						
30	345	48.00*	6600	1.15	FA	47	EDRN	90S4	35	543
					FAF	47	EDRN	90S4	38	542
					F	47	EDRN	90S4	36	541
					FF	47	EDRN	90S4	39	542
34	305	42.86	6970	1.30	FA	47	EDRN	90S4	35	543
40	260	36.61	7300	1.50	FAF	47	EDRN	90S4	38	542
42	245	34.29	7220	1.60	F	47	EDRN	90S4	36	541
50	205	28.88	6990	1.80	FF	47	EDRN	90S4	39	542
47	220	30.86	7080	1.80	FA	47	EDRN	90S4	34	543
50	210	29.32	7010	1.90	FAF	47	EDRN	90S4	37	542
57	185	25.72	6820	2.1	F	47	EDRN	90S4	35	541
67	157	21.82	6580	2.5	FF	47	EDRN	90S4	38	542
74	142	19.70	6430	2.8	FA FAF F FF	37	EDRN	90S4	30 32 31 33	537 536 535 536
61	172	23.88	3920	1.05						
71	148	20.57	3860	1.30						
76	139	19.27	3820	1.35						
85	122	17.03	3760	1.45	FA	37	EDRN	90S4	30	537
102	103	14.33	3650	1.65	FAF	37	EDRN	90S4	32	536
113	92	12.87	3580	1.80	F	37	EDRN	90S4	31	535
131	80	11.08	3470	2.0	FF	37	EDRN	90S4	32	536
140	75	10.42	3430	2.2	FA FAF F FF	37	EDRN	90S4	30 32 31 33	537 536 535 536
162	64	8.97	3320	2.5						

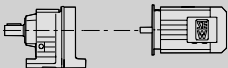
P _m = 1.1 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
89	117	16.28	2440	1.10						
105	99	13.84	2410	1.30						
118	89	12.35	2380	1.40						
138	76	10.55	2330	1.60						
147	71	9.88	2310	1.70	FA	27	EDRN	90S4	24	532
155	67	9.40	2230	1.55	FAF	27	EDRN	90S4	25	531
179	58	8.13	2180	1.70	F	27	EDRN	90S4	24	530
211	49	6.91	2120	1.85	FF	27	EDRN	90S4	25	531
236	44	6.17	2080	2.0						
276	38	5.27	2010	2.3						
295	35	4.93	1990	2.4						
350	30	4.16	1910	2.6						

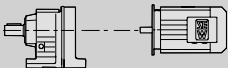
P _m = 1.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.67	19000	2185	96900	1.05	FA FAF F FF	157R97 157R97 157R97 157R97	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	780 840 800 900	602 602 602 603
0.75	16900	1944	103200	1.20						
0.87	14800	1674	108300	1.35						
1.1	11500	1308	114800	1.75						
1.2	10200	1169	116900	1.95						
1.5	8250	953	119500	2.4						
1.7	7240	845	120000	2.8						
3.3	3820	446	120000	5.2						
4.8	2590	302	120000	7.7						
1.2	10900	1220	90000	1.10	FA FAF F FF	127R77 127R77 127R77 127R77	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	440 480 480 520	602 602 602 602
1.4	9690	1077	90000	1.25						
1.6	8320	930	90000	1.45						
1.8	7310	820	90000	1.65						
2.0	6460	727	90000	1.85						
2.2	5830	648	90000	2.1						
1.8	7460	834	50400	1.05	FA FAF F FF	107R77 107R77 107R77 107R77	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	290 310 305 335	602 602 602 602
2.0	6560	736	52700	1.15						
2.3	5760	640	54600	1.35						
2.6	4980	560	56300	1.55						
3.0	4350	489	57700	1.75						
3.4	3920	436	58600	1.95						
4.0	3320	370	59800	2.3						
3.1	4220	467	30100	1.00	FA FAF F FF	97R57 97R57 97R57 97R57	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	200 220 210 240	602 602 602 602
3.6	3650	406	31700	1.20						
4.0	3270	363	32700	1.30						
4.9	2700	300	24100	1.10	FA FAF F FF	87R57 87R57 87R57 87R57	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	135 150 140 155	602 602 602 602
5.9	2240	249	25700	1.35						
5.3	2710	276.77	34000	1.60	FA FAF F FF	97 97 97 97	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	175 200 185 215	576 575 574 575
5.8	2480	253.41	34400	1.75						
6.5	2190	223.88	35000	1.95						
7.7	1860	189.92	35600	2.3						
8.3	1710	174.87	35900	2.5						
5.4	2650	270.68	24300	1.15	FA FAF F FF	87 87 87 87	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	110 125 120 135	569 568 567 568
5.7	2500	255.37	24800	1.20						
6.4	2240	228.93	25700	1.35						
7.4	1930	197.20	26600	1.55						
8.1	1760	179.97	27100	1.70	FA FAF F FF	87 87 87 87	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	110 125 120 135	569 568 567 568
9.2	1560	159.61	27700	1.90						
11	1310	134.16	28300	2.3						
13	1070	109.49	28800	2.8						
15	950	97.89	29100	3.0						
10	1390	142.27	16400	1.10	FA FAF F FF	77 77 77 77	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	73 79 76 87	562 561 560 561
11	1270	130.42	17000	1.15						
13	1120	114.45	17800	1.35						

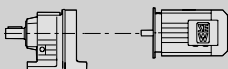
P _m = 1.5 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
13	1060	108.46*	18100	1.40	FA FAF F FF	77 77 77 77	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	73 79 76 87	562 561 560 561						
15	930	94.93	18600	1.60												
17	830	85.52	18900	1.80												
19	735	75.02	19200	2.0												
20	710	72.50	19200	2.1												
22	650	66.46	19400	2.3												
25	570	58.32	19600	2.6												
26	540	55.27	19600	2.8												
30	470	48.37	19700	3.1												
34	425	43.58	19800	3.4	FA FAF F FF	77 77 77 77	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	71 78 75 86	562 561 560 561						
38	370	38.23	19900	3.7												
40	355	36.58	19900	3.1												
46	305	31.51	20000	4.5												
18	780	79.76	10600	1.00							FA FAF F FF	67 67 67 67	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	50 56 53 59	555 554 553 554
22	660	67.65	11500	1.15												
24	595	61.07	11900	1.20												
27	525	53.73	12300	1.35												
29	495	50.74	12400	1.40												
34	420	43.20	12700	1.55												
37	380	39.26	12900	1.70												
40	355	36.30	13000	2.3	FA FAF F FF	67 67 67 67	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	49 55 52 58	555 554 553 554						
46	310	32.08	13000	2.6												
53	265	27.41	13000	3.0												
58	245	25.13	13000	3.3												
25	575	58.97	9360	1.05	FA FAF F FF	57 57 57 57	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	46 52 46 53	549 548 547 548						
29	490	50.10	9980	1.20												
33	435	44.73	9940	1.30												
38	370	38.21	9680	1.50												
41	350	35.79	9560	1.60												
48	295	30.15	9240	1.80												
40	355	36.61	6450	1.10	FA FAF F FF	47 47 47 47	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	38 41 39 42	543 542 541 542						
43	335	34.29	6600	1.20												
51	280	28.88	6460	1.35												
47	300	30.86	6520	1.30							FA FAF F FF	47 47 47 47	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	38 40 38 42	543 542 541 542
50	285	29.32	6480	1.40												
57	250	25.72	6360	1.60												
67	210	21.82	6190	1.85												
74	193	19.70	6070	2.1												
84	169	17.33	5920	2.4												
89	160	16.36	5850	2.5												
105	136	13.93	5650	2.9												
86	166	17.03	3390	1.10	FA FAF F FF	37 37 37 37	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	33 35 34 36	537 536 535 536						
102	140	14.33	3340	1.25												
114	126	12.87	3300	1.35												
132	108	11.08	3230	1.50												
140	102	10.42	3200	1.60												
163	87	8.97	3120	1.80												
182	78	8.01	3060	2.0												
118	121	12.35	2090	1.05	FA FAF F FF	27 27 27 27	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	27 28 28 28	532 531 530 531						
138	103	10.55	2090	1.20												
148	96	9.88	2080	1.25												
155	92	9.40	1990	1.15												
180	79	8.13	1970	1.25												
212	67	6.91	1940	1.35												
237	60	6.17	1920	1.50												
277	51	5.27	1880	1.65												
296	48	4.93	1860	1.75												
352	40	4.16	1800	1.95												

P _m = 2.2 kW																			
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg										
1.1	17300	1308	102200	1.15	FA	157R97	EDRN	100LS4	780	602									
1.2	15400	1169	107100	1.30															
1.5	12400	953	113300	1.60															
1.7	10900	845	115800	1.80															
1.9	9850	764	117400	2.0															
2.1	8760	680	118900	2.3															
2.5	7350	576	120000	2.7															
3.2	5790	446	120000	3.5															
4.8	3920	302	120000	5.1															
5.3	3520	273	120000	5.7															
6.3	2950	232	120000	6.8	FAF	157R97	EDRN	100LS4	840	602									
7.4	2500	197	120000	8.0															
1.8	10900	820	90000	1.10															
2.0	9670	727	90000	1.25															
2.2	8680	648	90000	1.40															
2.6	7360	549	90000	1.65															
2.9	6620	495	90000	1.80															
3.4	5730	428	90000	2.1															
2.6	7450	560	50400	1.05							F	127R77	EDRN	100LS4	445	602			
3.0	6500	489	52800	1.20															
3.3	5840	436	54400	1.30															
3.9	4950	370	56400	1.55															
4.3	4460	333	57500	1.70															
5.1	3830	285	31200	1.10															
5.9	3290	245	32600	1.30															
5.7	3680	254.40*	59100	2.1	FF	127R77	EDRN	100LS4	485	602									
6.7	3120	215.37	60200	2.5															
7.3	2880	199.31	60600	2.7															
8.1	2580	178.64	61100	3.0															
5.2	4010	276.77	30700	1.05							107R77	EDRN	100LS4	480	602				
5.7	3670	253.41	31700	1.15															
6.5	3240	223.88	32700	1.35															
7.6	2750	189.92	33900	1.55															
8.3	2530	174.87	34300	1.70															
9.3	2260	156.30	34900	1.90															
10	2030	140.71	35300	2.1															
11	1840	127.42	35700	2.3															
7.3	2850	197.20	23500	1.05	107R77	EDRN	100LS4	530	602										
8.1	2600	179.97	24400	1.15															
9.1	2310	159.61	25400	1.30															
11	1940	134.16	26600	1.55															
12	1780	123.29	27100	1.70						107R77	EDRN	100LS4	310	602					
13	1580	109.49	27600	1.85															
15	1410	97.89	28000	2.0															
16	1270	88.01	28400	2.2															
19	1100	76.39	27700	2.4															
21	990	68.40	27000	2.6															
26	820	56.75	25700	2.9															
29	725	50.36	25000	3.0															
32	655	45.28	24300	3.2															
15	1370	94.93	16500	1.10	107R77	EDRN	100LS4	340	602										
17	1230	85.52	17200	1.20															
19	1080	75.02	18000	1.40						107R77	EDRN	100LS4	295	602					
22	960	66.46	18400	1.55															
25	840	58.32	18800	1.80															
26	800	55.27	19000	1.85															
30	700	48.37	19300	2.1															
33	630	43.58	19400	2.3															
15	1370	94.93	16500	1.10											107R77	EDRN	100LS4	315	602
17	1230	85.52	17200	1.20															
19	1080	75.02	18000	1.40	107R77	EDRN	100LS4	310	602										
22	960	66.46	18400	1.55															
25	840	58.32	18800	1.80															
26	800	55.27	19000	1.85															
30	700	48.37	19300	2.1															
33	630	43.58	19400	2.3															
15	1370	94.93	16500	1.10						107R77	EDRN	100LS4	205	602					
17	1230	85.52	17200	1.20															
19	1080	75.02	18000	1.40											107R77	EDRN	100LS4	225	602
22	960	66.46	18400	1.55															
25	840	58.32	18800	1.80															
26	800	55.27	19000	1.85															
30	700	48.37	19300	2.1															
33	630	43.58	19400	2.3															
15	1370	94.93	16500	1.10	107R77	EDRN	100LS4	210	602										
17	1230	85.52	17200	1.20															
19	1080	75.02	18000	1.40						107R77	EDRN	100LS4	245	602					
22	960	66.46	18400	1.55															
25	840	58.32	18800	1.80															
26	800	55.27	19000	1.85															
30	700	48.37	19300	2.1															
33	630	43.58	19400	2.3															
15	1370	94.93	16500	1.10											107R77	EDRN	100LS4	255	584
17	1230	85.52	17200	1.20															
19	1080	75.02	18000	1.40	107R77	EDRN	100LS4	275	582										
22	960	66.46	18400	1.55															
25	840	58.32	18800	1.80															
26	800	55.27	19000	1.85															
30	700	48.37	19300	2.1															
33	630	43.58	19400	2.3															
15	1370	94.93	16500	1.10						107R77	EDRN	100LS4	275	581					
17	1230	85.52	17200	1.20															
19	1080	75.02	18000	1.40											107R77	EDRN	100LS4	300	582
22	960	66.46	18400	1.55															
25	840	58.32	18800	1.80															
26	800	55.27	19000	1.85															
30	700	48.37	19300	2.1															
33	630	43.58	19400	2.3															
15	1370	94.93	16500	1.10	107R77	EDRN	100LS4	255	584										
17	1230	85.52	17200	1.20															
19	1080	75.02	18000	1.40						107R77	EDRN	100LS4	275	582					
22	960	66.46	18400	1.55															
25	840	58.32	18800	1.80															
26	800	55.27	19000	1.85															
30	700	48.37	19300	2.1															
33	630	43.58	19400	2.3															
15	1370	94.93	16500	1.10											107R77	EDRN	100LS4	275	582
17	1230	85.52	17200	1.20															
19	1080	75.02	18000	1.40	107R77	EDRN	100LS4	275	582										
22	960	66.46	18400	1.55															
25	840	58.32	18800	1.80															
26	800	55.27	19000	1.85															
30	700	48.37	19300	2.1															
33	630	43.58	19400	2.3															
15	1370	94.93	16500	1.10						107R77	EDRN	100LS4	275	582					
17	1230	85.52	17200	1.20															
19	1080	75.02	18000	1.40											107R77	EDRN	100LS4	275	582
22	960	66.46	18400	1.55															
25	840	58.32	18800	1.80															
26	800	55.27	19000	1.85															
30	700	48.37	19300	2.1															
33	630	43.58	19400	2.3															
15	1370	94.93	16500	1.10	107R77	EDRN	100LS4	275	582										
17	1230	85.52	17200	1.20															
19	1080	75.02	18000	1.40						107R77	EDRN	100LS4	275	582					
22	960	66.46	18400	1.55															
25	840	58.32	18800	1.80															
26	800	55.27	19000	1.85															
30	700	48.37	19300	2.1															
33	630	43.58	19400	2.3															
15	1370	94.93	16500	1.10											107R77	EDRN	100LS4	275	582
17	1230	85.52	17200	1.20															
19	1080	75.02	18000	1.40	107R77	EDRN	100LS4	275	582										
22	960	66.46	18400	1.55															
25	840	58.32	18800	1.80															
26	800	55.27	19000	1.85															
30	700	48.37	19300	2.1															
33	630	43.58	19400	2.3															
15	1370	94.93	16500	1.10						107R77	EDRN	100LS4	275	582					
17	1230	85.52	17200	1.20															
19	1080	75.02	18000	1.40											107R77	EDRN	100LS4	275	582
22	960	66.46	18400	1.55															
25	840	58.32	18800	1.80															
26	800	55.27	19000	1.85															
30	700	48.37	19300	2.1															
33	630	43.58	19400	2.3															
15	1370	94.93	16500	1.10	107R77	EDRN	100LS4	275	582										
17	1230	85.52	17200	1.20															
19	1080	75.02	18000	1.40						107R77	EDRN	100LS4	275	582					
22	960	66.46	18400	1.55															
25	840	58.32	18800	1.80															
26	800	55.27	19000	1.85															
30	700	48.37	19300	2.1															
33	630	43.58	19400	2.3															
15	1370	94.93	16500	1.10											107R77	EDRN	100LS4	275	582
17	1230	85.52	17200	1.20															
19	1080	75.02	18000	1.40	107R77	EDRN	100LS4	275	582										
22	960	66.46	18400	1.55															
25	840	58.32	18800	1.80															
26	800	55.27	19000	1.85															
30	700	48.37	19300	2.1															
33	630	43.58	19400	2.3															
15	1370	94.93	16500	1.10						107R77	EDRN	100LS4	275	582					
17	1230	85.52	17200	1.20															
19	1080	75.02	18000	1.40											107R77	EDRN	100LS4	275	582
22	960	66.46	18400	1.55															
25	840	58.32	18800	1.80															
26	800	55.27	19000	1.85															
30	700	48.37	19300	2.1															
33	630	43.58	19400	2.3															
15	1370	94.93	16500	1.10	107R77	EDRN	100LS4	275	582										
17	1230	85.52	17200	1.20															
19	1080	75.02	18000	1.40						107R77	EDRN	100LS4	275	582					
22	960	66.46	18400	1.55															
25	840	58.32	18800	1.80															
26	800	55.27	19000	1.85															
30	700	48.37	19300	2.1															
33	630	43.58	19400	2.3															
15	1370	94.93	16500	1.10											107R77	EDRN	100LS4	275	582
17	1230	85.52	17200	1.20															
19	1080	75.02	18000	1.40	107R77	EDRN	100LS4	275	582										
22	960	66.46	18400	1.55															
25	840	58.32	18800	1.80															
26	800	55.27	19000	1.85															
30	700	48.37	19300	2.1															
33	630	43.58	19400	2.3															
15	1370	94.93	16500	1.10						107R77	EDRN	100LS4	275	582					
17	1230	85.52	17200	1.20															
19	1080	75.02	18000	1.40											107R77	EDRN	100LS4	275	582
22	960	66.46	18400	1.55															
25	840	58.32	18800	1.80															
26	800	55.27	19000	1.85															
30	700	48.37	19300	2.1															
33	630	43.58	19400	2.3															
15	1370																		

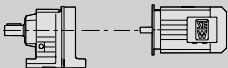
P_m = 2.2 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
40	525	36.58	19600	2.1	FA	77	EDRN	100LS4	75	562
46	455	31.51	19800	3.0	FAF	77	EDRN	100LS4	82	561
50	415	28.75	19800	3.4	F	77	EDRN	100LS4	79	560
57	365	25.50*	19900	4.1	FF	77	EDRN	100LS4	90	561
34	625	43.20	11700	1.05	FA	67	EDRN	100LS4	54	555
37	565	39.26	12100	1.15	FAF	67	EDRN	100LS4	60	554
43	490	34.01	12400	1.25	F	67	EDRN	100LS4	57	553
					FF	67	EDRN	100LS4	63	554
45	460	32.08	12600	1.75						
53	395	27.41	12800	2.1	FA	67	EDRN	100LS4	53	555
58	360	25.13	12900	2.2	FAF	67	EDRN	100LS4	59	554
66	315	22.05	13000	2.6	F	67	EDRN	100LS4	55	553
69	300	20.90*	13000	2.7	FF	67	EDRN	100LS4	62	554
79	265	18.29	13000	3.1						
38	550	38.21	8640	1.00	FA	57	EDRN	100LS4	50	549
41	515	35.79	8590	1.05	FAF	57	EDRN	100LS4	55	548
48	435	30.15	8430	1.20	F	57	EDRN	100LS4	50	547
					FF	57	EDRN	100LS4	57	548
58	360	24.96	8200	1.60	FA	57	EDRN	100LS4	49	549
68	305	21.17	7980	1.95	FAF	57	EDRN	100LS4	55	548
76	275	19.11	7820	2.2	F	57	EDRN	100LS4	50	547
86	240	16.81	7630	2.4	FF	57	EDRN	100LS4	56	548
91	230	15.88	7540	2.5						
56	370	25.72	5560	1.05						
66	315	21.82	5510	1.25						
74	285	19.70	5460	1.40	FA	47	EDRN	100LS4	42	543
84	250	17.33	5390	1.60	FAF	47	EDRN	100LS4	44	542
89	235	16.36	5350	1.70	F	47	EDRN	100LS4	42	541
104	200	13.93	5220	2.0	FF	47	EDRN	100LS4	46	542
115	183	12.66	5140	2.2						
132	158	10.97	5010	2.5						
162	129	8.96	4710	2.5						
131	160	11.08	2820	1.00						
139	151	10.42	2810	1.10						
162	129	8.97	2790	1.20						
181	116	8.01	2760	1.35	FA	37	EDRN	100LS4	37	537
215	97	6.74	2620	1.20	FAF	37	EDRN	100LS4	39	536
240	87	6.05	2580	1.25	F	37	EDRN	100LS4	38	535
278	75	5.21	2530	1.40	FF	37	EDRN	100LS4	40	536
296	71	4.90	2510	1.45						
344	61	4.22	2440	1.60						
385	54	3.77	2390	1.75						

P_m = 3.0 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
1.5	17100	953	102800	1.15						
1.7	15000	845	107900	1.30						
1.9	13500	764	111100	1.45						
2.1	12000	680	114000	1.65	FA	157R97	EDRN	100L4	790	602
2.5	10100	576	117000	1.95	FAF	157R97	EDRN	100L4	850	602
3.3	7970	446	119800	2.5	F	157R97	EDRN	100L4	810	602
4.8	5390	302	120000	3.7	FF	157R97	EDRN	100L4	920	603
5.3	4850	273	120000	4.1						
6.3	4080	232	120000	4.9						
7.4	3460	197	120000	5.8						
2.2	11800	648	90000	1.00	FA	127R77	EDRN	100L4	455	602
2.6	10000	549	90000	1.20	FAF	127R77	EDRN	100L4	490	602
2.9	9040	495	90000	1.35	F	127R77	EDRN	100L4	490	602
					FF	127R77	EDRN	100L4	530	602
3.9	6760	370	52200	1.15	FA	107R77	EDRN	100L4	300	602
4.4	6080	333	53800	1.25	FAF	107R77	EDRN	100L4	325	602
5.0	5320	291	55600	1.45	F	107R77	EDRN	100L4	320	602
					FF	107R77	EDRN	100L4	345	602

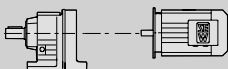
P_m = 3.0 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
5.7	5000	254.40*	56300	1.55	FA	107	EDRN	100L4	265	584
6.8	4230	215.37	57900	1.80	FAF	107	EDRN	100L4	285	582
7.3	3920	199.31	58600	1.95	F	107	EDRN	100L4	280	581
8.2	3510	178.64	59400	2.2	FF	107	EDRN	100L4	305	582
9.0	3170	161.28*	60100	2.4						
7.7	3730	189.92	31500	1.15	FA	97	EDRN	100L4	190	576
8.3	3440	174.87	32200	1.25	FAF	97	EDRN	100L4	210	575
					F	97	EDRN	100L4	195	574
					FF	97	EDRN	100L4	230	575
9.3	3070	156.30	33100	1.40						
10	2760	140.71	33800	1.55	FA	97	EDRN	100L4	190	576
11	2500	127.42	34400	1.70	FAF	97	EDRN	100L4	210	575
13	2220	112.99	35000	1.95	F	97	EDRN	100L4	195	574
14	2010	102.16	35400	2.1	FF	97	EDRN	100L4	230	575
16	1760	89.85	35800	2.4						
11	2630	134.16	24300	1.15	FA	87	EDRN	100L4	125	569
12	2420	123.29	25100	1.25	FAF	87	EDRN	100L4	135	568
13	2150	109.49	26000	1.35	F	87	EDRN	100L4	130	567
					FF	87	EDRN	100L4	145	568
15	1920	97.89	26700	1.50						
17	1730	88.01	26700	1.60	FA	87	EDRN	100L4	125	569
19	1500	76.39	26100	1.75	FAF	87	EDRN	100L4	135	568
21	1340	68.40	25500	1.90	F	87	EDRN	100L4	130	567
26	1110	56.75	24600	2.2	FF	87	EDRN	100L4	145	568
29	990	50.36	23900	2.2						
19	1470	75.02	15900	1.00	FA	77	EDRN	100L4	84	562
22	1300	66.46	16900	1.15	FAF	77	EDRN	100L4	91	561
					F	77	EDRN	100L4	88	560
					FF	77	EDRN	100L4	98	561
25	1140	58.32	17700	1.30						
26	1080	55.27	18000	1.40	FA	77	EDRN	100L4	84	562
30	950	48.37	18500	1.50	FAF	77	EDRN	100L4	91	561
33	850	43.58	18800	1.65	F	77	EDRN	100L4	88	560
38	750	38.23	19100	1.85	FF	77	EDRN	100L4	98	561
40	715	36.58	19200	1.55						
46	615	31.51	19500	2.2	FA	77	EDRN	100L4	83	562
51	565	28.75	19600	2.5	FAF	77	EDRN	100L4	89	561
57	500	25.50*	19700	3.0	F	77	EDRN	100L4	86	560
68	420	21.43	19800	3.6	FF	77	EDRN	100L4	97	561
45	630	32.08	11700	1.30						
53	535	27.41	12200	1.50	FA	67	EDRN	100L4	60	555
58	490	25.13	12400	1.65	FAF	67	EDRN	100L4	66	554
66	430	22.05	12700	1.90	F	67	EDRN	100L4	63	553
70	410	20.90*	12800	2.0	FF	67	EDRN	100L4	69	554
80	355	18.29	12900	2.3						
88	320	16.48	13000	2.5						
101	280	14.46	13000	2.8						
58	490	24.96	7420	1.15						
69	415	21.17	7310	1.45	FA	57	EDRN	100L4	56	549
76	375	19.11	7220	1.60	FAF	57	EDRN	100L4	62	548
87	330	16.81	7100	1.80	F	57	EDRN	100L4	57	547
92	310	15.88	7040	1.85	FF	57	EDRN	100L4	63	548
108	265	13.52	6850	2.1						
119	240	12.29	6730	2.3						
137	205	10.64	6540	2.6						
74	385	19.70	4760	1.05						
84	340	17.33	4760	1.15	FA	47	EDRN	100L4	49	543
89	320	16.36	4760	1.25	FAF	47	EDRN	100L4	51	542
104	270	13.93	4720	1.45	F	47	EDRN	100L4	50	541
115	245	12.66	4690	1.60	FF	47	EDRN	100L4	53	542
133	215	10.97	4620	1.85						
163	176	8.96	4350	1.85						

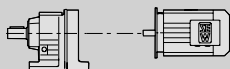
P _m = 3.0 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
182	157	8.01	2410	1.00	FA	37	EDRN	100L4	44	537
279	102	5.21	2280	1.05	FAF	37	EDRN	100L4	46	536
297	96	4.90	2270	1.10	F	37	EDRN	100L4	45	535
345	82	4.22	2240	1.20	FF	37	EDRN	100L4	47	536
386	74	3.77	2210	1.30						

P _m = 4.0 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
1.9	18100	764	99700	1.10	FA FAF F FF	157R97 157R97 157R97 157R97	EDRN EDRN EDRN EDRN	112M4 112M4 112M4 112M4	800 860 820 920	602 602 602 603
2.1	16100	680	105200	1.25						
2.5	13600	576	111000	1.45						
3.3	10600	446	116300	1.85						
4.8	7220	302	120000	2.8						
5.4	6500	273	120000	3.1						
6.3	5480	232	120000	3.6						
7.5	4650	197	120000	4.3						
3.0	12000	495	90000	1.00	FA	127R77	EDRN	112M4	460	602
					FAF	127R77	EDRN	112M4	500	602
3.4	10400	428	90000	1.15	F	127R77	EDRN	112M4	500	602
3.9	9120	376	90000	1.30	FF	127R77	EDRN	112M4	540	602
5.0	7070	291	51400	1.10	FA	107R77	EDRN	112M4	310	602
					FAF	107R77	EDRN	112M4	330	602
5.7	6200	255	53500	1.25	F	107R77	EDRN	112M4	325	602
					FF	107R77	EDRN	112M4	355	602
5.8	6630	254.40*	52500	1.15	FA FAF F FF	107 107 107 107	EDRN EDRN EDRN EDRN	112M4 112M4 112M4 112M4	270 290 290 315	584 582 581 582
6.8	5610	215.37	54900	1.35						
7.3	5200	199.31	55900	1.50						
8.2	4660	178.64	57000	1.65						
9.1	4200	161.28*	58000	1.85						
10.0	3820	146.49	58800	2.0						
11	3390	129.97	59600	2.3						
12	3070	117.94	60200	2.5						
14	2640	101.38*	61000	2.9						
9.4	4070	156.30	30500	1.05	FA	97	EDRN	112M4	195	576
					FAF	97	EDRN	112M4	220	575
10	3670	140.71	31700	1.15	F	97	EDRN	112M4	205	574
11	3320	127.42	32500	1.30	FF	97	EDRN	112M4	235	575
13	2940	112.99	33400	1.45	FA FAF F FF	97 97 97 97	EDRN EDRN EDRN EDRN	112M4 112M4 112M4 112M4	195 220 205 235	576 575 574 575
14	2660	102.16	34100	1.60						
15	2540	97.58	34300	1.70						
16	2340	89.85	34700	1.85						
18	2090	80.31	35200	2.0						
20	1880	72.29	35600	2.3						
22	1700	65.47	35900	2.5						
13	2850	109.49	23500	1.05	FA	87	EDRN	112M4	135	569
					FAF	87	EDRN	112M4	145	568
15	2550	97.89	24600	1.10	F	87	EDRN	112M4	140	567
17	2290	88.01	24500	1.20	FF	87	EDRN	112M4	155	568
19	1990	76.39	24100	1.30	FA	87	EDRN	112M4	135	569
					FAF	87	EDRN	112M4	145	568
21	1780	68.40	23800	1.45	F	87	EDRN	112M4	140	567
26	1480	56.75	23100	1.65	FF	87	EDRN	112M4	155	568
29	1310	50.36	22600	1.65						
32	1180	45.28	22200	1.80						
26	1440	55.27	16100	1.05	FA	77	EDRN	112M4	93	562
					FAF	77	EDRN	112M4	100	561
30	1260	48.37	17100	1.15	F	77	EDRN	112M4	97	560
					FF	77	EDRN	112M4	110	561
34	1130	43.58	17700	1.25	FA	77	EDRN	112M4	93	562
					FAF	77	EDRN	112M4	100	561
38	990	38.23	18300	1.40	F	77	EDRN	112M4	97	560
43	880	33.74	18700	1.55	FF	77	EDRN	112M4	110	561
49	780	29.91	19000	1.75						
57	665	25.54	19300	2.0						

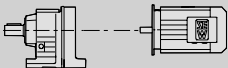
P_m = 4.0 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
46	820	31.51	18900	1.70	FA	77	EDRN	112M4	92	562
51	750	28.75	19100	1.85	FAF	77	EDRN	112M4	98	561
57	665	25.50*	19300	2.2	F	77	EDRN	112M4	96	560
68	555	21.43	19600	2.7	FF	77	EDRN	112M4	105	561
74	510	19.70	19700	2.9						
53	715	27.41	11200	1.15						
58	655	25.13	11600	1.25						
66	575	22.05	12000	1.45						
70	545	20.90*	12200	1.50						
80	475	18.29	12500	1.70						
89	425	16.48	12700	1.90						
101	375	14.46	12900	2.1						
115	330	12.76	13000	2.3	FA	67	EDRN	112M4	69	555
129	295	11.31	13000	2.6	FAF	67	EDRN	112M4	76	554
152	250	9.66	13000	2.9	F	67	EDRN	112M4	72	553
161	235	9.08	12900	2.2	FF	67	EDRN	112M4	78	554
170	220	8.60	12700	2.5						
194	196	7.53	12300	2.8						
216	176	6.78	12000	2.9						
246	155	5.95	11600	3.2						
279	137	5.25	11300	3.4						
314	121	4.66	10900	3.8						
368	103	3.97	10500	4.2						
69	550	21.17	6490	1.10						
77	495	19.11	6480	1.20						
87	435	16.81	6440	1.35						
92	410	15.88	6420	1.40						
108	350	13.52	6320	1.60	FA	57	EDRN	112M4	66	549
119	320	12.29	6240	1.75	FAF	57	EDRN	112M4	71	548
138	275	10.64	6120	1.95	F	57	EDRN	112M4	66	547
157	240	9.31	5820	1.45	FF	57	EDRN	112M4	73	548
179	210	8.19	5700	1.95						
189	200	7.73	5650	2.1						
222	171	6.58	5480	2.4						
245	156	5.98	5380	2.5						
282	135	5.18	5220	2.7						

P_m = 5.5 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
2.5	18900	576	97200	1.05						
2.9	16500	503	104400	1.20						
3.3	14800	446	108500	1.35	FA	157R97	EDRN	132S4	810	602
4.2	11500	353	114900	1.75	FAF	157R97	EDRN	132S4	870	602
4.8	10000	302	117200	2.0	F	157R97	EDRN	132S4	830	602
5.3	9040	273	118500	2.2	FF	157R97	EDRN	132S4	940	603
6.3	7630	232	120000	2.6						
7.2	6630	202	120000	3.0						
7.4	6470	197	120000	3.1						
4.7	10300	312	90000	1.15	FA	127R87	EDRN	132S4	495	602
5.0	9730	293	90000	1.25	FAF	127R87	EDRN	132S4	530	602
5.7	8590	259	90000	1.40	F	127R87	EDRN	132S4	530	602
6.5	7410	223	90000	1.60	FF	127R87	EDRN	132S4	570	603
7.3	7160	199.31	51200	1.05	FA	107	EDRN	132S4	285	584
8.2	6420	178.64	53000	1.20	FAF	107	EDRN	132S4	305	582
9.1	5790	161.28*	54500	1.30	F	107	EDRN	132S4	300	581
					FF	107	EDRN	132S4	325	582
10.0	5260	146.49	55700	1.45						
11	4670	129.97	57000	1.65	FA	107	EDRN	132S4	285	584
12	4230	117.94	57900	1.80	FAF	107	EDRN	132S4	305	582
14	3640	101.38*	59100	2.1	F	107	EDRN	132S4	300	581
16	3320	92.47*	59800	2.3	FF	107	EDRN	132S4	325	582
17	3180	88.49	60000	2.4						
17	3010	83.99	60300	2.5						

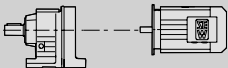
P _m = 5.5 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
13 14	4060 3670	112.99 102.16	30600 31700	1.05 1.15	FA FAF F FF	97 97 97 97	EDRN EDRN EDRN EDRN	132S4 132S4 132S4 132S4	210 230 215 250	576 575 574 575						
	15 16 17 18 19 20 22 25 28	3500 3220 3110 2880 2710 2590 2350 2080 1880	97.58 89.85 86.59 80.31 75.63 72.29 65.47 58.06 52.49	32100 32800 33000 33600 33900 34200 34700 34400 33700	1.25 1.35 1.40 1.50 1.60 1.65 1.80 1.95 2.1	FA FAF F FF	97 97 97 97	EDRN EDRN EDRN EDRN	132S4 132S4 132S4 132S4	210 230 215 250	576 575 574 575					
	21 26	2450 2040	68.40 56.75	21200 21000	1.05 1.20											
	29 32 37 42 50	1810 1620 1410 1260 1040	50.36 45.28 39.30 35.19 29.20	20700 20500 20100 19700 19100	1.20 1.30 1.45 1.55 1.80											
43 51 55 62	1210 1030 950 850	33.92 28.78 26.50 23.68	19600 19000 18700 18300	2.1 2.4 2.8 3.1												
38 43 49 57	1370 1210 1070 910	38.23 33.74 29.91 25.54	16500 17400 18000 18600	1.00 1.15 1.25 1.45												
57 68 74 84 93 104 120	910 770 705 625 560 505 435	25.50* 21.43 19.70 17.49 15.64* 14.06 12.20	18600 19100 19200 19400 19600 19200 18500	1.65 1.95 2.1 2.4 2.6 2.8 3.1												
66 70 80 89 101 115 129 151 161 170 194 215 246 278 314 368	790 750 655 590 515 455 405 345 325 305 270 240 210 188 167 142	22.05 20.90* 18.29 16.48 14.46 12.76 11.31 9.66 9.08 8.60 7.53 6.78 5.95 5.25 4.66 3.97	10500 10900 11500 11900 12300 12600 12800 12900 12400 12200 11900 11600 11300 11000 10700 10300	1.05 1.10 1.25 1.40 1.55 1.70 1.85 2.1 1.60 1.80 2.0 2.1 2.3 2.5 2.7 3.0												
92 108 119 137 178 189 222 244 282	570 485 440 380 290 275 235 215 186	15.88 13.52 12.29 10.64 8.19 7.73 6.58 5.98 5.18	5490 5530 5530 5500 5180 5150 5060 4990 4880	1.00 1.15 1.25 1.40 1.40 1.50 1.70 1.80 1.95	FA FAF F FF							57 57 57 57	EDRN EDRN EDRN EDRN	132S4 132S4 132S4 132S4	77 83 78 84	549 548 547 548

P _m = 7.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
4.2	15800	353	106100	1.25	FA FAF F FF	157R97	EDRN	132M4	830	602
4.9	13600	302	110900	1.45					890	602
5.4	12300	273	113500	1.60					850	602
6.3	10400	232	116600	1.90					950	603
7.3	9080	202	118500	2.2						
7.5	8840	197	118800	2.3						
5.7	11700	259	90000	1.00	FA	127R87	EDRN	132M4	510	602
6.6	10100	223	90000	1.20	FAF	127R87	EDRN	132M4	550	602
7.4	8950	198	90000	1.35	F	127R87	EDRN	132M4	550	602
					FF	127R87	EDRN	132M4	590	603
8.6	8330	170.83	90000	1.45	FA	127	EDRN	132M4	445	591
9.6	7490	153.67*	90000	1.60	FAF	127	EDRN	132M4	485	589
12	6110	125.37	90000	1.95	F	127	EDRN	132M4	480	588
					FF	127	EDRN	132M4	530	589
10	7140	146.49	51200	1.05	FA	107	EDRN	132M4	300	584
11	6340	129.97	53200	1.20	FAF	107	EDRN	132M4	320	582
					F	107	EDRN	132M4	320	581
					FF	107	EDRN	132M4	345	582
12	5750	117.94	54600	1.35	FA FAF F FF	107	EDRN	132M4	300	584
14	4940	101.38*	56400	1.55					320	582
16	4510	92.47*	57400	1.70					320	581
17	4310	88.49	57800	1.80					345	582
17	4090	83.99	58200	1.85						
20	3630	74.52	59200	2.1						
22	3290	67.62	59800	2.3						
17	4220	86.59	30100	1.00	FA	97	EDRN	132M4	225	576
18	3910	80.31	31000	1.10	FAF	97	EDRN	132M4	245	575
19	3680	75.63	31600	1.15	F	97	EDRN	132M4	235	574
20	3520	72.29	32000	1.20	FF	97	EDRN	132M4	265	575
22	3190	65.47	32200	1.30	FA FAF F FF	97	EDRN	132M4	225	576
25	2830	58.06	31700	1.45					245	575
28	2560	52.49	31300	1.55					235	574
33	2170	44.49	30500	1.70					265	575
38	1890	38.86	29800	1.90						
45	1580	32.50	28800	2.1						
34	2110	43.28	30400	1.45	FA	97	EDRN	132M4	220	576
40	1780	36.64	29500	1.70	FAF	97	EDRN	132M4	240	575
43	1650	33.91	29000	2.6	F	97	EDRN	132M4	225	574
48	1480	30.39	28400	2.9	FF	97	EDRN	132M4	260	575
37	1910	39.30	18100	1.05	FA	87	EDRN	132M4	160	569
42	1710	35.19	17900	1.15	FAF	87	EDRN	132M4	175	568
50	1420	29.20	17600	1.30	F	87	EDRN	132M4	165	567
					FF	87	EDRN	132M4	185	568
51	1400	28.78	17500	1.75	FA FAF F FF	87	EDRN	132M4	160	569
55	1290	26.50	17400	2.1					170	568
62	1150	23.68	17100	2.3					165	567
69	1040	21.32*	16800	2.5					180	568
76	940	19.31	16500	2.6						
86	830	17.12	16100	2.9						
95	755	15.48	15800	3.2						
57	1240	25.54	17200	1.05	FA	77	EDRN	132M4	125	562
					FAF	77	EDRN	132M4	130	561
					F	77	EDRN	132M4	125	560
					FF	77	EDRN	132M4	135	561

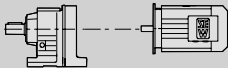
P_m = 7.5 kW

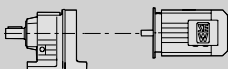
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
58	1240	25.50*	17200	1.20						
68	1040	21.43	18100	1.45						
75	960	19.70	18500	1.55						
84	850	17.49	18800	1.75						
94	760	15.64*	18900	1.95						
104	685	14.06	18500	2.1						
120	595	12.20	17900	2.3	FA	77	EDRN	132M4	120	562
134	530	10.93	17500	2.5	FAF	77	EDRN	132M4	130	561
158	450	9.30	16400	2.3	F	77	EDRN	132M4	125	560
178	400	8.26	16000	2.6	FF	77	EDRN	132M4	135	561
199	360	7.39	15600	2.7						
221	320	6.64	15300	2.9						
255	280	5.76	14800	3.1						
284	250	5.16	14400	3.3						
343	205	4.28	13700	3.7						

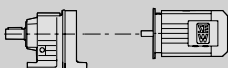
P_m = 9.2 kW

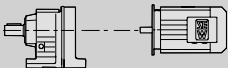
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
4.2	19400	353	95600	1.05						
4.9	16800	302	103600	1.20	FA	157R97	EDRN	132L4	840	602
5.4	15100	273	107700	1.30	FAF	157R97	EDRN	132L4	890	602
6.3	12800	232	112600	1.55	F	157R97	EDRN	132L4	860	602
7.3	11100	202	115500	1.80	FF	157R97	EDRN	132L4	960	603
7.5	10800	197	116000	1.85						
7.4	10900	198	90000	1.10	FA	127R87	EDRN	132L4	520	602
					FAF	127R87	EDRN	132L4	560	602
					F	127R87	EDRN	132L4	560	602
					FF	127R87	EDRN	132L4	600	603
8.6	10200	170.83	90000	1.20	FA	127	EDRN	132L4	455	591
9.6	9180	153.67*	90000	1.30	FAF	127	EDRN	132L4	490	589
12	7490	125.37	90000	1.60	F	127	EDRN	132L4	490	588
13	6830	114.34	90000	1.75	FF	127	EDRN	132L4	540	589
15	5910	98.95	90000	2.0						
12	7040	117.94	51500	1.10	FA	107	EDRN	132L4	310	584
					FAF	107	EDRN	132L4	330	582
					F	107	EDRN	132L4	325	581
					FF	107	EDRN	132L4	355	582
14	6050	101.38*	53900	1.25						
16	5520	92.47*	55100	1.40						
18	5010	83.99	56300	1.55	FA	107	EDRN	132L4	310	584
20	4450	74.52	57500	1.70	FAF	107	EDRN	132L4	330	582
22	4040	67.62	58300	1.90	F	107	EDRN	132L4	325	581
25	3470	58.12*	58000	2.2	FF	107	EDRN	132L4	355	582
29	3030	50.73	56500	2.5						
20	4320	72.29	29600	1.00	FA	97	EDRN	132L4	235	576
					FAF	97	EDRN	132L4	255	575
					F	97	EDRN	132L4	240	574
					FF	97	EDRN	132L4	275	575
22	3910	65.47	29600	1.05						
25	3460	58.06	29500	1.15						
28	3130	52.49	29300	1.25	FA	97	EDRN	132L4	235	576
33	2650	44.49	28800	1.40	FAF	97	EDRN	132L4	255	575
38	2320	38.86	28300	1.55	F	97	EDRN	132L4	240	574
45	1940	32.50	27500	1.75	FF	97	EDRN	132L4	275	575
43	2020	33.91	27700	2.1	FA	97	EDRN	132L4	230	576
48	1810	30.39	27200	2.4	FAF	97	EDRN	132L4	250	575
54	1630	27.44*	26700	2.6	F	97	EDRN	132L4	235	574
59	1480	24.92	26200	2.9	FF	97	EDRN	132L4	270	575
50	1740	29.20	16300	1.05	FA	87	EDRN	132L4	170	569
					FAF	87	EDRN	132L4	185	568
					F	87	EDRN	132L4	175	567
					FF	87	EDRN	132L4	190	568

P _m = 9.2 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
55	1580	26.50	16200	1.70	FA FAF F FF	87 87 87 87	EDRN EDRN EDRN EDRN	132L4 132L4 132L4 132L4	165 180 175 190	569 568 567 568
62	1410	23.68	16000	1.85						
69	1270	21.32*	15900	2.0						
76	1150	19.31	15600	2.2						
86	1020	17.12	15400	2.4						
95	920	15.48	15100	2.6	FA FAF F FF	77 77 77 77	EDRN EDRN EDRN EDRN	132L4 132L4 132L4 132L4	130 135 135 145	562 561 560 561
112	780	13.12*	14600	3.1						
75	1170	19.70	17600	1.25						
84	1040	17.49	18100	1.45						
94	930	15.64*	18200	1.60						
105	840	14.06	17900	1.70						
120	725	12.20	17400	1.85						
135	650	10.93	17100	2.0						
158	555	9.30	15900	1.90						
178	490	8.26	15600	2.1						
199	440	7.39	15200	2.2						
221	395	6.64	14900	2.3						
255	340	5.76	14500	2.6						
285	305	5.16	14100	2.7						
343	255	4.28	13500	3.0						

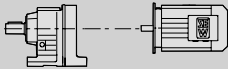
P _m = 11.0 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
4.9	20000	302	93500	1.00	FA FAF F FF	157R97 157R97 157R97 157R97	EDRN EDRN EDRN EDRN	160M4 160M4 160M4 160M4	870	602
5.4	18100	273	99800	1.10					930	602
6.4	15300	232	107300	1.30					890	602
7.3	13300	202	111600	1.50					1000	603
7.5	13000	197	112300	1.55						
8.9	11000	166	90000	1.10	FA	127R87	EDRN	160M4	550	602
					FAF	127R87	EDRN	160M4	590	602
					F	127R87	EDRN	160M4	590	602
					FF	127R87	EDRN	160M4	630	603
5.5	19000	267.43	96900	1.05	FA FAF F FF	157 157 157 157	EDRN EDRN EDRN EDRN	160M4 160M4 160M4 160M4	740 800 760 870	598 596 595 596
6.8	15500	217.62*	106900	1.30						
8.3	12700	178.20*	112800	1.55						
9.0	11600	162.96	114800	1.70						
10	10100	141.80*	117100	1.95						
12	8920	125.14	118700	2.2						
14	7730	108.49	120000	2.6						
15	6880	96.53*	120000	2.9						
17	6110	85.80*	117500	3.2						
19	5590	78.46	115100	3.6						
22	4860	68.28*	111400	4.1						
9.6	10900	153.67*	90000	1.10	FA FAF F FF	127 127 127 127	EDRN EDRN EDRN EDRN	160M4 160M4 160M4 160M4	485 520 520 570	591 589 588 589
12	8940	125.37	90000	1.35						
13	8150	114.34	90000	1.45						
15	7050	98.95	90000	1.70						
17	6220	87.31*	90000	1.95						
20	5370	75.41*	88300	2.2						
					FA FAF F FF	107 107 107 107	EDRN EDRN EDRN EDRN	160M4 160M4 160M4 160M4	340 365 360 385	584 582 581 582
15	7220	101.38*	51000	1.05						
16	6590	92.47*	52600	1.15						
18	5980	83.99	54000	1.30						
20	5310	74.52	55600	1.45						
22	4820	67.62	56700	1.60	FA FAF F FF	107 107 107 107	EDRN EDRN EDRN EDRN	160M4 160M4 160M4 160M4	340 365 360 385	584 582 581 582
25	4140	58.12*	56200	1.85						
29	3610	50.73	54900	2.1						
34	3060	43.03	53300	2.5						
44	2400	33.79*	50700	3.0	FA FAF F FF	107 107 107 107	EDRN EDRN EDRN EDRN	160M4 160M4 160M4 160M4	330 355 350 375	584 582 581 582
53	1960	27.57	48500	3.5						
59	1790	25.14	47500	3.8						

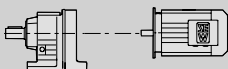
P _m = 11.0 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
28	3740	52.49	27100	1.05	FA	97	EDRN	160M4	265	576
					FAF	97	EDRN	160M4	290	575
					F	97	EDRN	160M4	275	574
					FF	97	EDRN	160M4	305	575
33	3170	44.49	26900	1.20	FA	97	EDRN	160M4	265	576
38	2770	38.86	26700	1.30	FAF	97	EDRN	160M4	290	575
45	2310	32.50	26200	1.45	F	97	EDRN	160M4	275	574
					FF	97	EDRN	160M4	305	575
43	2410	33.91	26300	1.80	FA	97	EDRN	160M4	260	576
48	2160	30.39	25900	2.0		97	EDRN	160M4	285	575
54	1950	27.44*	25500	2.2		97	EDRN	160M4	270	574
59	1770	24.92	25200	2.4		97	EDRN	160M4	300	575
67	1570	22.11	24600	2.6		97	EDRN	160M4		
56	1880	26.50	15000	1.40	FA	87	EDRN	160M4	200	569
62	1680	23.68	15000	1.55						
69	1520	21.32*	14900	1.70						
76	1370	19.31	14800	1.80						
86	1220	17.12	14600	2.0						
95	1100	15.48	14400	2.2						
112	930	13.12*	14000	2.6						
75	1400	19.70	16300	1.05	FA	77	EDRN	160M4	160	562
84	1240	17.49	17200	1.20						
94	1110	15.64*	17600	1.35						
105	1000	14.06	17300	1.40						
121	870	12.20	16900	1.55						
135	775	10.93	16600	1.70						
158	660	9.30	15400	1.60						
178	585	8.26	15100	1.75						
199	525	7.39	14800	1.85						
222	470	6.64	14500	1.95						
256	410	5.76	14100	2.1						
285	365	5.16	13800	2.3						
344	305	4.28	13300	2.5						

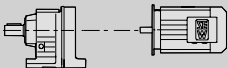
P _m = 15.0 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
7.3	18200	202	99400	1.10	FA	157R97	EDRN	160L4	880	602
					FAF	157R97	EDRN	160L4	940	602
7.5	17700	197	100900	1.10	F	157R97	EDRN	160L4	900	602
					FF	157R97	EDRN	160L4	1010	603
8.3	17300	178.20*	102200	1.15						
9.0	15800	162.96	106100	1.25						
10	13700	141.80*	110700	1.45						
12	12100	125.14	113800	1.65						
14	10500	108.49	116500	1.90						
15	9380	96.53*	115600	2.1						
17	8330	85.80*	113000	2.4						
19	7620	78.46	111000	2.6						
22	6630	68.28*	107800	3.0						
24	5850	60.25	104900	3.4						
13	11100	114.34	88300	1.10	FA	127	EDRN	160L4	500	591
15	9610	98.95	86900	1.25	FAF	127	EDRN	160L4	540	589
17	8480	87.31*	85500	1.40	F	127	EDRN	160L4	540	588
20	7320	75.41*	83700	1.65	FF	127	EDRN	160L4	580	589
21	6800	70.07	82700	1.75						
20	7240	74.52	51000	1.05	FA	107	EDRN	160L4	360	584
					FAF	107	EDRN	160L4	380	582
22	6570	67.62	52600	1.15	F	107	EDRN	160L4	375	581
					FF	107	EDRN	160L4	400	582

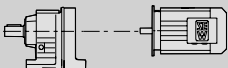
P_m = 15.0 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
25	5640	58.12*	52200	1.35	FA	107	EDRN	160L4	360	584
29	4930	50.73	51400	1.55	FAF	107	EDRN	160L4	380	582
34	4180	43.03	50300	1.85	F	107	EDRN	160L4	375	581
39	3650	37.61	49300	2.1	FF	107	EDRN	160L4	400	582
46	3090	31.80	47900	2.3						
44	3280	33.79*	48400	2.2	FA	107	EDRN	160L4	350	584
53	2670	27.57	46600	2.6	FAF	107	EDRN	160L4	370	582
59	2440	25.14	45800	2.8	F	107	EDRN	160L4	365	581
68	2110	21.76*	44400	3.2	FF	107	EDRN	160L4	390	582
45	3150	32.50	23200	1.10	FA	97	EDRN	160L4	285	576
					FAF	97	EDRN	160L4	305	575
					F	97	EDRN	160L4	290	574
					FF	97	EDRN	160L4	325	575
43	3290	33.91	23200	1.30						
48	2950	30.39	23200	1.45						
54	2660	27.44*	23000	1.60						
59	2420	24.92	22900	1.75	FA	97	EDRN	160L4	275	576
67	2140	22.11	22600	1.95	FAF	97	EDRN	160L4	300	575
73	1950	20.07	22400	2.1	F	97	EDRN	160L4	285	574
85	1670	17.25*	21900	2.4	FF	97	EDRN	160L4	315	575
98	1460	15.06	21400	2.7						
115	1240	12.77	20800	3.0						
132	1080	11.16	20200	3.4						
56	2570	26.50	12400	1.05						
62	2300	23.68	12600	1.15						
69	2070	21.32*	12800	1.25						
76	1870	19.31	12800	1.35						
86	1660	17.12	12900	1.45						
95	1500	15.48	12800	1.60						
112	1270	13.12*	12700	1.90	FA	87	EDRN	160L4	215	569
129	1110	11.46	12600	2.2	FAF	87	EDRN	160L4	230	568
154	930	9.58	12300	2.6	F	87	EDRN	160L4	220	567
178	800	8.29	11700	1.85	FF	87	EDRN	160L4	235	568
200	710	7.35	11500	2.1						
222	645	6.65	11300	2.3						
262	545	5.63	11000	2.5						
300	475	4.92	10700	2.8						
358	395	4.12	10300	3.0						

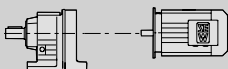
8.3 Selection tables helical-bevel gearmotors

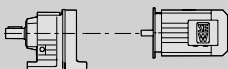
P _m = 0.12 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.08	11000	17550	80200	1.20	K KF KA KAF	127R77	EDRN	63MS4	470	701
0.08	10000	16006	80600	1.30						
0.09	9430	14975	80900	1.40						
0.11	7830	12440	81500	1.65						
0.12	6870	10915	81800	1.90						
0.14	6180	9819	82000	2.1						
0.16	5280	8443	82200	2.5						
0.18	4710	7482	82400	2.8						
0.11	7680	12211	65000	1.05	K KF KA KAF	107R77	EDRN	63MS4	310	701
0.13	6720	10677	65000	1.20						
0.14	5990	9524	65000	1.35						
0.16	5240	8328	65000	1.55						
0.19	4570	7270	65000	1.75						
0.22	3780	6184	65000	2.1						
0.24	3280	5662	65000	2.4						
0.26	2970	5138	65000	2.7						
0.31	2720	4359	65000	2.9	K KF KA KAF	97R57	EDRN	63MS4	180	701
0.23	4070	6027	40000	1.05						
0.25	3710	5391	40000	1.15						
0.29	3070	4669	40000	1.40						
0.33	2780	4082	40000	1.55						
0.38	2420	3583	40000	1.80						
0.44	2130	3108	40000	2.0						
0.49	1800	2757	40000	2.4						
0.56	1680	2419	40000	2.6	K KF KA KAF	97R57	EDRN	63MS4	180	701
0.64	1450	2123	40000	3.0						
0.73	1290	1856	40000	3.3						
0.84	1060	1625	40000	4.0						
0.95	910	1430	40000	4.7						
1.1	880	1261	40000	4.9						
1.2	765	1102	40000	5.6						
0.38	2430	3609	27600	1.10						
0.44	2100	3107	28000	1.30						
0.50	1760	2728	28300	1.55						
0.57	1560	2371	28400	1.75						
0.65	1450	2088	28500	1.85						
0.73	1290	1854	28600	2.1						
0.82	1150	1657	28700	2.3						
0.96	980	1415	28800	2.7						
1.1	850	1229	28900	3.2	K KF KA KAF	87R57	EDRN	63MS4	120	701
1.3	735	1078	28900	3.7						
1.4	620	951	28900	4.3						
1.6	530	837	29000	5.1						
1.9	460	726	29000	5.8						
0.66	1460	2050	16000	1.05						
0.77	1240	1772	17200	1.25						
0.90	1060	1514	18000	1.45						
0.98	970	1388	18400	1.60	K KF KA KAF	77R37	EDRN	63MS4	69	701
1.1	850	1218	18800	1.80						
1.3	750	1053	19100	2.1						
1.5	655	924	19400	2.4						
1.7	580	815	19500	2.7						
1.9	455	709	19800	3.4						
2.2	400	622	19900	3.9						

P _m = 0.12 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
1.3	735	1034	11000	1.10	K KF KA KAF	67R37	EDRN	63MS4	45	701
1.5	610	903	11800	1.35						
1.7	580	793	12000	1.40						
1.9	460	697	12600	1.75						
2.2	405	613	12800	2.0						
2.5	355	542	13000	2.3						
2.9	330	471	13000	2.5						
3.2	275	420	13000	3.0						
3.8	250	361	13000	3.3						
4.2	220	323	13000	3.7						
4.9	184	279	13000	4.5						
5.5	161	246	13000	5.1						
6.2	141	217	13000	5.8						
1.7	555	806	7990	1.10	K KF KA KAF	57R37	EDRN	63MS4	39	701
1.9	465	699	8580	1.30						
2.2	405	615	8840	1.45						
2.5	355	544	9060	1.65						
2.9	325	473	9170	1.80						
3.2	275	421	9370	2.2						
3.8	250	362	9460	2.4						
4.3	220	319	9560	2.7						
4.9	184	280	9680	3.2						
5.5	162	246	9750	3.7						
6.3	143	215	9800	4.2						
7.1	127	192	9850	4.7						
1.9	465	701	9000	1.05	K KF KA KAF	49R37	EDRN	63MS4	43	701
2.1	450	645	9000	1.10						
2.3	390	595	9000	1.25						
2.5	370	543	9000	1.35						
2.7	320	501	9000	1.55						
3.0	290	449	9000	1.70						
3.4	250	401	9000	2.0						
3.8	230	360	9000	2.2						
4.1	210	330	9000	2.4						
4.5	200	300	9000	2.5						
5.0	175	274	9000	2.9						
5.6	152	243	9000	3.3						
6.3	140	217	9000	3.6						
7.0	131	193	9000	3.8						
2.5	385	552	6080	1.05	K KF KA KAF	47R37	EDRN	63MS4	33	701
2.8	325	495	6780	1.20						
3.2	290	426	7110	1.35						
3.6	245	375	7480	1.60						
4.2	225	327	7600	1.75						
4.7	200	289	7760	2.0						
3.4	270	399	7500	1.10	K KF KA KAF	39R17	EDRN	63MS4	24	701
3.7	250	365	7500	1.20						
4.4	205	312	7500	1.45						
4.5	205	299	7500	1.45						
5.4	175	254	7500	1.70						
5.8	156	234	7500	1.90						
6.5	142	210	7500	2.1						
7.2	130	189	7500	2.3						
7.8	122	174	7500	2.5						
8.7	105	156	7500	2.8						
9.6	97	142	7500	3.1						
12	79	117	7500	3.8						
5.1	192	267	5280	1.05	K KF KA KAF	37R17	EDRN	63MS4	19	701
5.8	165	234	5520	1.20						
6.6	144	205	5710	1.40						
7.5	126	181	5880	1.60						
8.5	110	160	6020	1.80						
10.0	92	136	6190	2.2						
					K	67	EDRN	63MS4	34	648
9.4	122	144.79*	13000	6.7	KF	67	EDRN	63MS4	40	649
					KA	67	EDRN	63MS4	31	651
					KAF	67	EDRN	63MS4	37	649

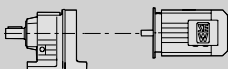
P_m = 0.12 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
9.4	122	145.14*	9860	4.9	K	57	EDRN	63MS4	28	642
11	104	123.85	9910	5.8					33	643
13	91	108.29	9940	6.6					26	644
13	86	102.88*	9960	6.9					32	643
15	76	90.26*	9980	7.9						
18	64	76.56*	10000	9.3	KAF	57	EDRN	63MS4		
10	111	131.87*	8140	3.6	K	47	EDRN	63MS4	22	632
11	102	121.48*	8160	3.9	KF	47	EDRN	63MS4	26	633
13	87	104.37	8200	4.5	KA	47	EDRN	63MS4	21	634
					KAF	47	EDRN	63MS4	24	633
13	89	106.38	6210	2.2	K	37	EDRN	63MS4	16	622
14	82	97.81	6280	2.4					18	623
16	70	83.69	6390	2.8					16	624
19	61	72.54	6470	3.3					18	623
20	57	67.80	6510	3.5						
23	49	58.60	6450	4.0						
27	41	49.79	6160	4.8						
31	37	44.46	5960	5.3						
36	32	37.97	5680	6.2						
38	29	35.57	5570	6.7						
45	25	29.96	5290	7.9						
47	24	28.83	5230	8.2						
54	21	24.99	5000	9.5						
58	19	23.36	4900	9.9						
67	17	20.19	4680	11						
79	14	17.15	4450	12						
89	12	15.31	4300	14						
104	11	13.08	4090	15						
112	10	12.14	3990	15						

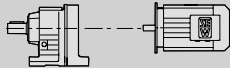
P_m = 0.18 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
0.11	12500	12440	79400	1.05	K	127R77	EDRN	63M4	470	701
0.13	10900	10915	80200	1.20					510	701
0.14	9870	9819	80700	1.30					445	701
0.16	8450	8443	81300	1.55					480	701
0.18	7520	7482	81600	1.75						
0.21	6600	6565	81900	1.95						
0.24	5590	5804	82200	2.3						
0.27	4960	5027	82300	2.6						
0.31	4260	4423	82400	3.0	KAF	127R77	EDRN	63M4		
0.35	3710	3889	82500	3.5						
0.42	3080	3311	82600	4.2						
0.19	7310	7270	65000	1.10						
0.22	6100	6184	65000	1.30						
0.24	5400	5662	65000	1.50						
0.27	4900	5138	65000	1.65					310	701
0.32	4360	4359	65000	1.85					320	701
0.36	3810	3810	65000	2.1					285	701
0.41	3230	3358	65000	2.5					305	701
0.46	2930	2977	65000	2.7						
0.53	2560	2599	65000	3.1						
0.60	2200	2286	65000	3.6						
0.38	3760	3583	40000	1.15	K	97R57	EDRN	63M4	180	701
0.44	3300	3108	40000	1.30	KF	97R57	EDRN	63M4	200	701
0.50	2840	2757	40000	1.50	KA	97R57	EDRN	63M4	160	701
					KAF	97R57	EDRN	63M4	185	701

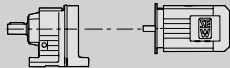
P _m = 0.18 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
0.57	2600	2419	40000	1.65	K KF KA KAF	97R57	EDRN	63M4	180	701						
0.65	2250	2123	40000	1.90												
0.74	2000	1856	40000	2.1												
0.85	1680	1625	40000	2.6												
0.96	1450	1430	40000	3.0												
1.1	1360	1261	40000	3.2												
1.2	1180	1102	40000	3.6												
1.4	1030	957	40000	4.1												
1.6	920	855	40000	4.6												
1.9	735	743	40000	5.8												
2.1	655	652	40000	6.5												
0.58	2450	2371	27600	1.10	K	87R57	EDRN	63M4	120	701						
					KF	87R57	EDRN	63M4	130	701						
					KA	87R57	EDRN	63M4	105	701						
					KAF	87R57	EDRN	63M4	120	701						
0.66	2250	2088	27800	1.20	K KF KA KAF	87R57	EDRN	63M4	120	701						
0.74	1990	1854	28100	1.35												
0.83	1780	1657	28200	1.50												
0.97	1520	1415	28500	1.75												
1.1	1320	1229	28600	2.0												
1.3	1140	1078	28700	2.4												
1.4	980	951	28800	2.7												
1.6	850	837	28900	3.2												
1.9	735	726	28900	3.6												
0.99	1500	1388	15700	1.05	K KF KA KAF	77R37	EDRN	63M4	70	701						
1.1	1310	1218	16800	1.15												
1.3	1150	1053	17700	1.35												
1.5	1000	924	18300	1.55												
1.7	890	815	18700	1.75												
1.9	725	709	19200	2.1												
2.2	635	622	19400	2.4												
2.5	570	552	19600	2.7												
2.8	500	485	19700	3.1												
3.2	440	428	19800	3.5												
3.8	390	367	19900	4.0												
2.0	725	697	11100	1.10	K KF KA KAF	67R37	EDRN	63M4	46	701						
2.2	640	613	11600	1.30												
2.5	560	542	12100	1.45												
2.9	515	471	12300	1.60												
3.3	435	420	12700	1.90												
3.8	390	361	12800	2.1												
4.3	345	323	13000	2.4												
4.9	290	279	13000	2.8												
2.5	565	544	7910	1.05	K KF KA KAF	57R37	EDRN	63M4	40	701						
2.9	510	473	8330	1.15												
3.3	435	421	8720	1.35												
3.8	390	362	8920	1.55												
4.3	340	319	9110	1.75												
4.9	290	280	9320	2.1												
5.6	255	246	9440	2.3												
6.4	225	215	9550	2.7												
7.2	200	192	9630	3.0												
8.3	173	166	9710	3.5												
3.1	455	449	9000	1.10	K KF KA KAF	49R37	EDRN	63M4	44	701						
3.4	395	401	9000	1.25												
3.8	360	360	9000	1.40												
4.2	330	330	9000	1.50												
4.6	310	300	9000	1.60												
5.0	275	274	9000	1.80												
5.6	240	243	9000	2.1												
6.3	220	217	9000	2.3												
7.1	200	193	9000	2.5												
7.8	181	176	9000	2.8												
9.1	150	152	9000	3.3												
11	127	125	9000	3.9												

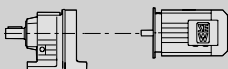
P _m = 0.18 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
4.2	350	327	6510	1.15	K KF KA KAF	47R37	EDRN	63M4	34	701
4.8	310	289	6950	1.30						
5.4	265	256	7340	1.50						
6.1	240	225	7530	1.65						
6.9	205	198	7740	1.95						
8.0	179	171	7880	2.2						
9.0	160	153	7960	2.5						
10	140	131	8040	2.9	K KF KA KAF	39R17	EDRN	63M4	25	701
5.4	265	254	7500	1.10						
5.9	240	234	7500	1.25						
6.5	215	210	7500	1.35						
7.3	200	189	7500	1.50						
7.9	186	174	7500	1.60						
8.8	163	156	7500	1.85						
9.7	150	142	7500	2.0						
12	122	117	7500	2.4						
18	77	75	7500	3.8	K KF KA KAF	37R17	EDRN	63M4	20	701
8.6	171	160	5470	1.15						
10	144	136	5720	1.40						
11	138	127	5770	1.45						
9.5	181	144.79*	13000	4.5	K KF KA KAF	67	EDRN	63M4	35	648
11	154	123.54	13000	5.3						
13	135	108.03	13000	6.1						
13	128	102.62	13000	6.4						
9.5	181	145.14*	9690	3.3	K KF KA KAF	57	EDRN	63M4	29	642
11	154	123.85	9770	3.9						
13	135	108.29	9820	4.4						
13	128	102.88*	9840	4.7						
15	112	90.26*	9890	5.3						
18	95	76.56*	9930	6.3						
10	164	131.87*	7940	2.4	K KF KA KAF	47	EDRN	63M4	23	632
11	151	121.48*	8000	2.6						
13	130	104.37	8080	3.1						
15	113	90.86	8130	3.5						
16	106	85.12*	8150	3.8						
13	132	106.38	5820	1.50	K KF KA KAF	37	EDRN	63M4	17	622
14	122	97.81	5920	1.65						
16	104	83.69	6080	1.90						
19	90	72.54	6200	2.2						
20	84	67.80	6260	2.4						
23	73	58.60	6210	2.7						
28	62	49.79	5950	3.2						
31	55	44.46	5770	3.6						
36	47	37.97	5520	4.2						
39	44	35.57	5420	4.5						
46	37	29.96	5160	5.3						
48	36	28.83	5100	5.5						
55	31	24.99	4890	6.4						
59	29	23.36	4800	6.7						
68	25	20.19	4590	7.3						
80	21	17.15	4370	8.4						
90	19	15.31	4220	9.1						
105	16	13.08	4020	10						
113	15	12.14	3930	10						
131	13	10.49	3760	11						
154	11	8.91	3570	12						
173	9.0	7.96	3440	13						

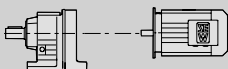
P _m = 0.25 kW															
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg						
0.17	11900	8443	79700	1.10	K KF KA KAF	127R77	EDRN	71MS4	470	701					
0.19	10600	7482	80400	1.20											
0.21	9350	6565	80900	1.40											
0.24	8030	5804	81400	1.60											
0.28	7070	5027	81800	1.85											
0.32	6120	4423	82000	2.1											
0.36	5340	3889	82200	2.4											
0.42	4460	3311	82400	2.9											
0.25	7780	5662	65000	1.05	K KF KA KAF	107R77	EDRN	71MS4	310	701					
0.27	7060	5138	65000	1.15											
0.32	6190	4359	65000	1.30											
0.37	5410	3810	65000	1.50											
0.42	4640	3358	65000	1.70											
0.47	4180	2977	65000	1.90											
0.54	3650	2599	65000	2.2											
0.61	3160	2286	65000	2.5											
0.72	2680	1939	65000	3.0											
0.82	2460	1713	65000	3.2	K KF KA KAF	107R77	EDRN	71MS4	310	701					
0.90	2230	1554	65000	3.6					320	701					
1.1	1920	1336	65000	4.2					280	701					
									305	701					
0.51	4010	2757	40000	1.05	K	97R57	EDRN	71MS4	180	701					
					KF	97R57	EDRN	71MS4	200	701					
					KA	97R57	EDRN	71MS4	160	701					
					KAF	97R57	EDRN	71MS4	185	701					
0.58	3620	2419	40000	1.20	K KF KA KAF	97R57	EDRN	71MS4	180	701					
0.66	3160	2123	40000	1.35											
0.75	2790	1856	40000	1.55											
0.86	2370	1625	40000	1.80											
0.98	2060	1430	40000	2.1											
1.1	1890	1261	40000	2.3											
1.3	1650	1102	40000	2.6											
1.5	1450	957	40000	3.0											
1.6	1290	855	40000	3.3											
0.84	2490	1657	27500	1.10	K KF KA KAF	87R57	EDRN	71MS4	120	701					
0.99	2120	1415	27900	1.25											
1.1	1840	1229	28200	1.45											
1.3	1600	1078	28400	1.70											
1.5	1380	951	28500	1.95											
1.7	1200	837	28700	2.2											
1.9	1040	726	28800	2.6											
2.2	930	638	28800	2.9											
1.5	1400	924	16400	1.10	K KF KA KAF	77R37	EDRN	71MS4	71	701					
1.7	1230	815	17300	1.25											
2.0	1020	709	18200	1.50											
2.2	900	622	18700	1.70											
2.5	800	552	19000	1.90											
2.9	705	485	19200	2.2											
3.3	625	428	19400	2.5											
3.8	545	367	19600	2.8											
4.3	485	328	19700	3.2											
4.8	430	290	19800	3.6											
5.5	370	252	19900	4.2											
6.3	325	221	20000	4.8											
7.2	285	195	20000	5.4											
8.0	250	175	20000	6.1											
2.6	790	542	10500	1.05							K KF KA KAF	67R37	EDRN	71MS4	47
3.0	715	471	11100	1.15											
3.3	610	420	11800	1.35											
3.9	545	361	12200	1.50											
4.3	480	323	12500	1.70											
5.0	405	279	12800	2.0											
5.7	355	246	12900	2.3											
6.4	315	217	13000	2.6											

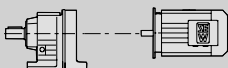
P _m = 0.25 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
3.9	545	362	8060	1.10	K KF KA KAF	57R37	EDRN	71MS4	41	701
4.4	480	319	8510	1.25						
5.0	405	280	8840	1.45						
5.7	360	246	9050	1.65						
6.5	315	215	9220	1.90						
7.3	280	192	9350	2.1						
8.4	240	166	9480	2.5						
9.7	210	145	9590	2.8						
11	194	129	9650	3.1						
13	163	111	9740	3.7						
14	144	97	9800	4.2						
4.2	465	330	9000	1.05	K KF KA KAF	49R37	EDRN	71MS4	44	701
4.7	435	300	9000	1.15						
5.1	385	274	9000	1.30						
5.8	340	243	9000	1.45						
6.4	310	217	9000	1.60						
7.2	280	193	9000	1.75						
8.0	250	176	9000	1.95						
9.2	210	152	9000	2.4						
11	178	125	9000	2.8						
14	138	99	9000	3.6						
7.4	275	189	7500	1.10						
8.1	255	174	7500	1.15						
9.0	225	156	7500	1.30						
9.9	205	142	7500	1.45						
12	171	117	7500	1.75						
19	108	75	7500	2.7						
7.3	325	192.18	19900	4.4	K KF KA KAF	77	EDRN	71MS4	61	655
7.8	305	179.37	20000	4.7						
9.1	260	154.02	20000	5.9						
10	230	135.28	20000	6.7						
9.7	245	144.79*	13000	3.3	K KF KA KAF	67	EDRN	71MS4	35	648
11	210	123.54	13000	3.9						
13	184	108.03	13000	4.5						
14	175	102.62	13000	4.7						
9.7	245	145.14*	9470	2.4	K KF KA KAF	57	EDRN	71MS4	30	642
11	210	123.85	9600	2.8						
13	184	108.29	9680	3.2						
14	175	102.88*	9710	3.4						
16	153	90.26*	9770	3.9						
18	130	76.56*	9840	4.6						
11	220	131.87*	7630	1.80	K KF KA KAF	47	EDRN	71MS4	24	632
12	205	121.48*	7730	1.95						
13	177	104.37	7880	2.2						
15	154	90.86	7980	2.6						
16	145	85.12*	8020	2.8						

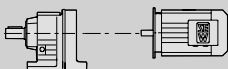
P _m = 0.25 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
13	181	106.38	5380	1.10												
14	166	97.81	5510	1.20												
17	142	83.69	5730	1.40												
19	123	72.54	5900	1.60												
21	115	67.80	5980	1.75												
24	99	58.60	5930	2.0												
28	84	49.79	5700	2.4												
31	75	44.46	5550	2.6												
37	64	37.97	5330	3.1												
39	60	35.57	5240	3.3												
47	51	29.96	5000	3.9							K	37	EDRN	71MS4	18	622
49	49	28.83	4950	4.1							KF	37	EDRN	71MS4	20	623
56	42	24.99	4760	4.7							KA	37	EDRN	71MS4	17	624
60	39	23.36	4670	4.9							KAF	37	EDRN	71MS4	19	623
69	34	20.19	4480	5.4												
82	29	17.15	4270	6.2												
91	26	15.31	4130	6.7												
107	22	13.08	3940	7.4												
115	20	12.14	3860	7.6												
133	17	10.49	3690	8.3												
157	15	8.91	3510	9.2												
176	13	7.96	3390	9.8												
206	11	6.80	3230	11												
220	10	6.37	3160	12												

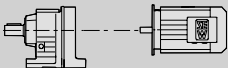
P _m = 0.37 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.24	12300	5804	79500	1.05	K KF KA KAF	127R77	EDRN	71M4	475	701
0.28	10800	5027	80300	1.20		127R77	EDRN	71M4	510	701
0.32	9420	4423	80900	1.40		127R77	EDRN	71M4	445	701
0.36	8240	3889	81400	1.60		127R77	EDRN	71M4	480	701
0.42	6940	3311	81800	1.85		127R77	EDRN	71M4	480	701
0.73	4190	1926	82500	3.1	K KF KA KAF	127R77	EDRN	71M4	470	701
0.80	3820	1757	82500	3.4		127R77	EDRN	71M4	510	701
0.91	3320	1541	82600	3.9		127R77	EDRN	71M4	445	701
						127R77	EDRN	71M4	480	701
0.42	7150	3358	65000	1.10	K KF KA KAF	107R77	EDRN	71M4	310	701
0.47	6410	2977	65000	1.25		107R77	EDRN	71M4	325	701
0.54	5590	2599	65000	1.45		107R77	EDRN	71M4	285	701
0.61	4870	2286	65000	1.65		107R77	EDRN	71M4	285	701
0.72	4130	1939	65000	1.95		107R77	EDRN	71M4	310	701
0.82	3750	1713	65000	2.1	K KF KA KAF	107R77	EDRN	71M4	310	701
0.90	3410	1554	65000	2.3		107R77	EDRN	71M4	325	701
1.1	2930	1336	65000	2.7		107R77	EDRN	71M4	285	701
1.2	2550	1166	65000	3.1		107R77	EDRN	71M4	310	701
0.76	4190	1856	40000	1.05	K KF KA KAF	97R57	EDRN	71M4	180	701
0.86	3600	1625	40000	1.20						
0.98	3140	1430	40000	1.35						
1.1	2840	1261	40000	1.50						
1.3	2480	1102	40000	1.75						
1.5	2180	957	40000	1.95						
1.6	1940	855	40000	2.2						
1.9	1610	743	40000	2.7						
2.2	1420	652	40000	3.0						
2.5	1280	573	40000	3.3						
1.3	2410	1078	27600	1.10	K KF KA KAF	87R57	EDRN	71M4	120	701
1.5	2100	951	28000	1.30						
1.7	1830	837	28200	1.45						
1.9	1590	726	28400	1.70						
2.2	1410	638	28500	1.90						
2.5	1230	562	28600	2.2						
3.0	1030	474	28800	2.6						
3.3	930	426	28800	2.9						
3.8	810	373	28900	3.3						

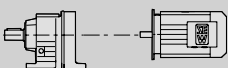
P _m = 0.37 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
2.3	1370	622	16500	1.15	K KF KA KAF	77R37	EDRN	71M4	72	701
2.5	1220	552	17300	1.25						
2.9	1070	485	18000	1.45						
3.3	940	428	18500	1.65						
3.8	820	367	18900	1.90						
4.3	730	328	19200	2.1						
4.8	650	290	19400	2.4						
5.6	560	252	19600	2.8						
6.3	490	221	19700	3.1						
7.2	430	195	19800	3.6						
8.1	380	175	19900	4.0	K KF KA KAF	67R37	EDRN	71M4	80	701
9.1	335	154	19900	4.6						
4.3	730	323	11000	1.10						
5.0	615	279	11800	1.30						
5.7	545	246	12200	1.50						
6.5	480	217	12500	1.70						
7.3	425	191	12700	1.90						
8.4	365	166	12900	2.2						
9.8	320	144	13000	2.5						
11	270	122	13000	3.0						
5.7	545	246	8060	1.10	K KF KA KAF	57R37	EDRN	71M4	48	701
6.5	480	215	8500	1.25						
7.3	425	192	8760	1.40						
8.4	370	166	9010	1.60						
9.7	320	145	9190	1.85						
11	290	129	9310	2.0						
13	245	111	9470	2.4						
14	215	97	9570	2.8						
6.5	465	217	9000	1.05	K KF KA KAF	49R37	EDRN	71M4	42	701
7.3	420	193	9000	1.20						
8.0	380	176	9000	1.30						
9.3	320	152	9000	1.55						
11	270	125	9000	1.85						
14	210	99	9000	2.4						
12	255	117	7500	1.15	K KF KA KAF	39R17	EDRN	71M4	27	701
19	163	75	7500	1.80						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	98	662
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	105	663
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	99	663
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4						
8.1	435	174.19	29000	6.2						
7.1	495	197.37	29000	5.4	K KF KA KAF	87	EDRN	71M4	86	665
8.1	435									

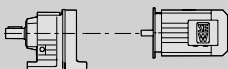
P _m = 0.37 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
11	330	131.87*	6760	1.20	K KF KA KAF	47 47 47 47	EDRN EDRN EDRN EDRN	71M4 71M4 71M4 71M4	25 28 24 27	632 633 634 633
12	305	121.48*	7010	1.30						
13	260	104.37	7370	1.50						
15	225	90.86	7600	1.75						
17	210	85.12*	7690	1.85						
19	189	75.20*	7830	2.1						
20	175	69.84	7890	2.3						
22	159	63.30*	7970	2.5						
19	182	72.54	5370	1.10	K KF KA KAF	37 37 37 37	EDRN EDRN EDRN EDRN	71M4 71M4 71M4 71M4	19 21 19 20	622 623 624 623
21	170	67.80	5480	1.15						
24	147	58.60	5490	1.35						
28	125	49.79	5330	1.60						
32	111	44.46	5210	1.80						
37	95	37.97	5040	2.1						
40	89	35.57	4970	2.2						
47	75	29.96	4780	2.6						
49	72	28.83	4730	2.8						
56	62	24.99	4570	3.2						
60	58	23.36	4490	3.3						
70	50	20.19	4320	3.6						
82	43	17.15	4140	4.2						
92	38	15.31	4020	4.5						
107	32	13.08	3840	5.0						
116	30	12.14	3760	5.2						
134	26	10.49	3610	5.6						
158	22	8.91	3440	6.2						
177	20	7.96	3330	6.7						
207	17	6.80	3180	7.5						
221	16	6.37	3110	7.9						
262	13	5.36	2960	8.9						

P _m = 0.55 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.10	43500	14272	190000	1.20	K KH	187R97 187R97	EDRN EDRN	80MK4 80MK4	1770 1700	702 702
0.11	39500	13116	190000	1.35						
0.12	34400	11647	190000	1.55						
0.19	22400	7343	190000	2.4						
0.14	31400	10264	150000	1.10	K KH	167R97 167R97	EDRN EDRN	80MK4 80MK4	1190 1150	702 702
0.17	26300	8628	150000	1.35						
0.22	20000	6562	150000	1.75						
0.27	15800	5355	150000	2.2						
0.35	12300	4079	150000	2.8						
0.36	12100	3979	114600	1.65	K	157R97	EDRN	80MK4	790	702
0.47	9310	3051	115500	2.1	KF	157R97	EDRN	80MK4	870	702
					KA	157R97	EDRN	80MK4	750	702
					KAF	157R97	EDRN	80MK4	810	702
0.37	12400	3889	79500	1.05	K	127R77	EDRN	80MK4	475	701
0.43	10400	3311	80500	1.25	KF	127R77	EDRN	80MK4	520	701
0.48	9460	3009	80900	1.35	KA	127R77	EDRN	80MK4	445	701
0.55	8120	2607	81400	1.60	KAF	127R77	EDRN	80MK4	485	701
0.74	6270	1926	82000	2.1	K KF KA KAF	127R77 127R77 127R77 127R77	EDRN EDRN EDRN EDRN	80MK4 80MK4 80MK4 80MK4	475 520 445 485	701 701 701 701
0.81	5720	1757	82100	2.3						
0.93	4990	1541	82300	2.6						
1.1	4370	1342	82400	3.0						
1.2	3810	1177	82500	3.4						
1.4	3340	1025	82600	3.9						
0.63	7310	2286	65000	1.10	K	107R77	EDRN	80MK4	315	701
0.74	6200	1939	65000	1.30	KF	107R77	EDRN	80MK4	325	701
					KA	107R77	EDRN	80MK4	285	701
					KAF	107R77	EDRN	80MK4	310	701

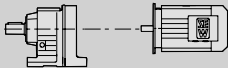
P _m = 0.55 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.83	5610	1713	65000	1.45	K KF KA KAF	107R77	EDRN	80MK4	315	701
0.92	5090	1554	65000	1.55						
1.1	4370	1336	65000	1.85						
1.2	3820	1166	65000	2.1						
1.4	3270	1030	65000	2.4						
1.6	2850	904	65000	2.8						
1.8	2580	793	65000	3.1						
2.1	2250	696	65000	3.5						
2.3	1940	615	65000	4.1						
1.1	4210	1261	40000	1.00	K KF KA KAF	97R57	EDRN	80MK4	185	701
1.3	3670	1102	40000	1.15						
1.5	3220	957	40000	1.35						
1.7	2880	855	40000	1.50						
1.9	2410	743	40000	1.80						
2.2	2130	652	40000	2.0						
2.5	1910	573	40000	2.2						
2.8	1630	504	40000	2.6						
3.3	1400	437	40000	3.1						
3.7	1250	382	40000	3.4						
4.7	1010	305	40000	4.2						
2.0	2380	726	27700	1.15	K KF KA KAF	87R57	EDRN	80MK4	125	701
2.2	2100	638	28000	1.30						
2.5	1840	562	28200	1.45						
3.0	1550	474	28400	1.75						
3.4	1390	426	28500	1.95						
3.8	1220	373	28700	2.2						
4.3	1060	330	28700	2.5						
4.9	950	294	28800	2.8						
5.7	820	250	28900	3.3						
6.0	780	236	28900	3.5						
7.1	660	201	28900	4.1						
3.3	1410	428	16300	1.10	K KF KA KAF	77R37	EDRN	80MK4	74	701
3.9	1220	367	17300	1.25						
4.4	1080	328	17900	1.40						
4.9	960	290	18400	1.60						
5.7	830	252	18900	1.85						
6.5	730	221	19200	2.1						
7.3	645	195	19400	2.4						
8.2	570	175	19600	2.7						
9.3	505	154	19700	3.1						
5.8	810	246	10400	1.00	K KF KA KAF	67R37	EDRN	80MK4	50	701
6.6	720	217	11100	1.15						
7.5	630	191	11700	1.30						
8.6	545	166	12200	1.50						
9.9	480	144	12500	1.70						
12	405	122	12800	2.0						
8.6	550	166	8030	1.10	K KF KA KAF	57R37	EDRN	80MK4	44	701
9.9	480	145	8500	1.25						
11	430	129	8740	1.40						
13	365	111	9010	1.65						
15	320	97	9190	1.85						
9.4	480	152	9000	1.05	K KF KA KAF	49R37	EDRN	80MK4	48	701
11	400	125	9000	1.25						
14	310	99	9000	1.60						
19	240	75	7500	1.20	K	39R17	EDRN	80MK4	29	701
					KF	39R17	EDRN	80MK4	31	701
					KA	39R17	EDRN	80MK4	28	701
					KAF	39R17	EDRN	80MK4	30	701
7.2	720	197.37	28900	3.7	K	87	EDRN	80MK4	100	662
8.2	635	174.19	28900	4.2	KF	87	EDRN	80MK4	110	663
8.7	600	164.34*	29000	4.5	KA	87	EDRN	80MK4	89	665
9.7	540	147.32*	29000	5.0	KAF	87	EDRN	80MK4	100	663

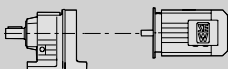
P_m = 0.55 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
9.3	565	154.02	19600	2.7	K	77	EDRN	80MK4	65	655
11	495	135.28	19700	3.1	KF	77	EDRN	80MK4	73	656
11	470	128.52	19700	3.3	KA	77	EDRN	80MK4	58	658
13	415	113.56	19800	3.7	KAF	77	EDRN	80MK4	65	656
15	355	97.05	19900	4.1						
12	450	123.54	12600	1.80	K	67	EDRN	80MK4	39	648
13	395	108.03	12800	2.1	KF	67	EDRN	80MK4	45	649
14	375	102.62	12900	2.2	KA	67	EDRN	80MK4	36	651
16	330	90.04	13000	2.5	KAF	67	EDRN	80MK4	42	649
19	280	76.37	13000	2.9						
12	450	123.85	8630	1.30						
13	395	108.29	8890	1.50	K	57	EDRN	80MK4	33	642
14	375	102.88*	8980	1.60	KF	57	EDRN	80MK4	38	643
16	330	90.26*	9160	1.80	KA	57	EDRN	80MK4	31	644
19	280	76.56*	9360	2.1	KAF	57	EDRN	80MK4	37	643
21	250	69.12	9450	2.4						
24	220	60.81*	9560	2.7						
25	210	57.42*	9600	2.9						
14	380	104.37	6150	1.05						
16	330	90.86	6730	1.20	K	47	EDRN	80MK4	27	632
17	310	85.12*	6940	1.30	KF	47	EDRN	80MK4	31	633
19	275	75.20*	7260	1.45	KA	47	EDRN	80MK4	27	634
20	255	69.84	7410	1.55	KAF	47	EDRN	80MK4	29	633
23	230	63.30*	7580	1.70						
25	205	56.83	7720	1.90						
29	179	48.95*	7870	2.2						
31	169	46.03*	7920	2.4						
29	182	49.69	7500	1.65	K	39	EDRN	80MK4	26	628
33	159	43.45	7500	1.90	KF	39	EDRN	80MK4	28	629
35	151	41.28*	7500	1.95	KA	39	EDRN	80MK4	25	630
					KAF	39	EDRN	80MK4	27	629
29	182	49.79	4770	1.10						
32	163	44.46	4710	1.20						
38	139	37.97	4610	1.45						
40	130	35.57	4560	1.55						
48	110	29.96	4430	1.80						
50	105	28.83	4400	1.90						
57	91	24.99	4280	2.2						
61	85	23.36	4220	2.3						
71	74	20.19	4080	2.5	K	37	EDRN	80MK4	21	622
83	63	17.15	3940	2.9	KF	37	EDRN	80MK4	23	623
93	56	15.31	3830	3.1	KA	37	EDRN	80MK4	21	624
109	48	13.08	3680	3.4	KAF	37	EDRN	80MK4	23	623
118	44	12.14	3610	3.5						
136	38	10.49	3480	3.8						
160	32	8.91	3330	4.2						
180	29	7.96	3220	4.5						
210	24	6.80	3080	5.1						
225	23	6.37	3030	5.4						
267	19	5.36	2880	6.1						
359	14	3.98	2640	7.4						

P_m = 0.75 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
0.12	48400	11647	190000	1.10						
0.20	31200	7343	190000	1.70	K	187R97	EDRN	80M4	1770	702
0.21	28400	6747	190000	1.85	KH	187R97	EDRN	80M4	1700	702
0.24	24900	5991	190000	2.1						
0.22	27900	6562	150000	1.25						
0.27	22200	5355	150000	1.55	K	167R97	EDRN	80M4	1190	702
0.35	17200	4079	150000	2.0	KH	167R97	EDRN	80M4	1150	702
0.43	14300	3376	150000	2.4						

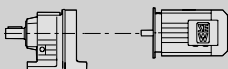
P _m = 0.75 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.36 0.47	16900	3979	112700	1.20	K	157R97	EDRN	80M4	800	702
					KF	157R97	EDRN	80M4	870	702
	12900	3051	114300	1.55	KA	157R97	EDRN	80M4	760	702
					KAF	157R97	EDRN	80M4	820	702
0.87 1.1	7130	1659	115900	2.8	K	157R97	EDRN	80M4	790	702
					KF	157R97	EDRN	80M4	870	702
	5740	1365	116200	3.5	KA	157R97	EDRN	80M4	760	702
					KAF	157R97	EDRN	80M4	810	702
0.55	11200	2607	80100	1.15	K	127R77	EDRN	80M4	480	701
					KF	127R77	EDRN	80M4	520	701
					KA	127R77	EDRN	80M4	450	701
					KAF	127R77	EDRN	80M4	490	701
0.75 0.82 0.93 1.1 1.2 1.4 1.6	8610	1926	81200	1.50	K KF KA KAF	127R77 127R77 127R77 127R77	EDRN EDRN EDRN EDRN	80M4 80M4 80M4 80M4	475 520 450 485	701 701 701 701
	7860	1757	81500	1.65						
	6860	1541	81800	1.90						
	6000	1342	82100	2.2						
	5240	1177	82200	2.5						
	4580	1025	82400	2.8						
	4000	899	82500	3.2						
0.84 0.93 1.1 1.2 1.4 1.6 1.8 2.1 2.3	7690	1713	65000	1.05	K KF KA KAF	107R77 107R77 107R77 107R77	EDRN EDRN EDRN EDRN	80M4 80M4 80M4 80M4	315 330 290 315	701 701 701 701
	6980	1554	65000	1.15						
	5990	1336	65000	1.35						
	5230	1166	65000	1.55						
	4530	1030	65000	1.75						
	3940	904	65000	2.0						
	3540	793	65000	2.3						
	3090	696	65000	2.6						
	2680	615	65000	3.0						
1.7 1.9 2.2 2.5 2.9 3.3 3.8 4.7 5.6 6.2 7.2	3930	855	40000	1.10	K KF KA KAF	97R57 97R57 97R57 97R57	EDRN EDRN EDRN EDRN	80M4 80M4 80M4 80M4	185 205 170 195	701 701 701 701
	3310	743	40000	1.30						
	2920	652	40000	1.45						
	2610	573	40000	1.65						
	2240	504	40000	1.90						
	1930	437	40000	2.2						
	1710	382	40000	2.5						
	1380	305	40000	3.1						
	1160	258	40000	3.7						
	1050	232	40000	4.1						
2.6 3.0 3.4 3.9 4.4 4.9 5.8 6.1 7.2	890	199	40000	4.8	K KF KA KAF	87R57 87R57 87R57 87R57	EDRN EDRN EDRN EDRN	80M4 80M4 80M4 80M4	125 135 115 125	701 701 701 701
	2520	562	27500	1.05						
	2120	474	27900	1.25						
	1910	426	28100	1.40						
	1680	373	28300	1.60						
	1460	330	28500	1.85						
	1310	294	28600	2.1						
	1130	250	28700	2.4						
4.4 5.0 5.7 6.5	1070	236	28700	2.5	K KF KA KAF	77R37 77R37 77R37 77R37	EDRN EDRN EDRN EDRN	80M4 80M4 80M4 80M4	78 86 70 78	701 701 701 701
	900	201	28800	3.0						
	1480	328	15800	1.05						
	1310	290	16800	1.20						
15	1130	252	17700	1.35	K KF KA KAF	49R37 49R37 49R37 49R37	EDRN EDRN EDRN EDRN	80M4 80M4 80M4 80M4	51 53 48 53	701 701 701 701
	1000	221	18300	1.55						
	430	99	9000	1.15						
7.3 8.3 8.8 9.8	980	197.37	28800	2.8	K KF KA KAF	87 87 87 87	EDRN EDRN EDRN EDRN	80M4 80M4 80M4 80M4	105 115 92 105	662 663 665 663
	860	174.19	28800	3.1						
	810	164.34*	28900	3.3						
	730	147.32*	28900	3.7						
9.3 11 11 13 15	765	154.02	19100	2.0	K KF KA KAF	77 77 77 77	EDRN EDRN EDRN EDRN	80M4 80M4 80M4 80M4	68 77 61 69	655 656 658 656
	670	135.28	19300	2.3						
	635	128.52	19400	2.4						
	560	113.56	19600	2.7						
	480	97.05	19700	3.0						

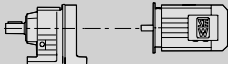
P _m = 0.75 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
12	610	123.54	11800	1.35	K	67	EDRN	80M4	43	648
13	535	108.03	12200	1.55	KF	67	EDRN	80M4	48	649
16	445	90.04	12600	1.85	KA	67	EDRN	80M4	40	651
					KAF	67	EDRN	80M4	46	649
19	375	76.37	12900	2.2	K	67	EDRN	80M4	43	648
21	340	68.95	13000	2.4	KF	67	EDRN	80M4	48	649
24	300	60.66	13000	2.6	KA	67	EDRN	80M4	40	651
25	280	57.28	13000	2.7	KAF	67	EDRN	80M4	46	649
13	535	108.29	8120	1.10	K KF KA KAF	57	EDRN	80M4	37	642
14	510	102.88*	8330	1.15						
16	445	90.26*	8660	1.35						
19	380	76.56*	8960	1.60						
21	340	69.12	9120	1.75						
24	300	60.81*	9280	2.0						
25	285	57.42*	9340	2.1						
29	240	48.89	9490	2.5						
32	220	44.43	9560	2.7						
24	295	60.27	9000	1.65	K	49	EDRN	80M4	43	638
					KF	49	EDRN	80M4	45	639
					KA	49	EDRN	80M4	40	640
					KAF	49	EDRN	80M4	45	639
19	370	75.20*	6270	1.05	K	47	EDRN	80M4	31	632
21	345	69.84	6590	1.15	KF	47	EDRN	80M4	34	633
23	310	63.30*	6920	1.25	KA	47	EDRN	80M4	30	634
					KAF	47	EDRN	80M4	33	633
25	280	56.83	7210	1.40	K KF KA KAF	47	EDRN	80M4	31	632
29	240	48.95*	7500	1.65						
31	225	46.03*	7600	1.75						
36	197	39.61	7790	2.0						
41	176	35.39	7690	2.3						
46	155	31.30	7480	2.6						
29	245	49.69	7500	1.20	K KF KA KAF	39	EDRN	80M4	30	628
33	215	43.45	7500	1.40						
35	205	41.28*	7500	1.45						
40	180	36.22	7390	1.55						
47	152	30.72*	7140	1.75						
38	188	37.97	4140	1.05	K KF KA KAF	37	EDRN	80M4	24	622
40	176	35.57	4130	1.15						
48	149	29.96	4060	1.35						
50	143	28.83	4040	1.40						
58	124	24.99	3970	1.60						
62	116	23.36	3930	1.70						
71	100	20.19	3840	1.85						
84	85	17.15	3720	2.1						
94	76	15.31	3640	2.3						
110	65	13.08	3520	2.5						
119	60	12.14	3460	2.6						
137	52	10.49	3340	2.8						
162	44	8.91	3210	3.1						
181	39	7.96	3120	3.4						

P _m = 1.1 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.18	48800	8126	190000	1.10	K KH	187R97	EDRN	90S4	1780	702
0.20	46400	7343	190000	1.15						
0.22	42400	6747	190000	1.25						
0.24	37300	5991	190000	1.40						
0.27	33000	5358	190000	1.60						
0.30	29400	4817	190000	1.80						
0.33	26600	4370	190000	2.0						

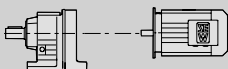
P _m = 1.1 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.27	33300	5355	150000	1.05	K KH	167R97 167R97	EDRN EDRN	90S4 90S4	1190 1160	702 702
0.30	29500	4788	150000	1.20						
0.36	25600	4079	150000	1.35						
0.43	21300	3376	150000	1.65						
0.53	17100	2755	150000	2.0						
0.67	13900	2182	150000	2.5	K KH	167R97 167R97	EDRN EDRN	90S4 90S4	1190 1150	702 702
0.85	10800	1704	150000	3.2						
1.0	9000	1408	150000	3.9						
1.1	8240	1296	150000	4.2						
0.48	19200	3051	111500	1.05	K KF KA KAF	157R97 157R97 157R97 157R97	EDRN EDRN EDRN EDRN	90S4 90S4 90S4 90S4	800 880 760 820	702 702 702 702
0.56	15900	2610	113200	1.25						
0.63	14100	2322	113900	1.40						
0.88	10600	1659	115100	1.90	K KF KA KAF	157R97 157R97 157R97 157R97	EDRN EDRN EDRN EDRN	90S4 90S4 90S4 90S4	800 880 760 820	702 702 702 702
1.1	8600	1365	115600	2.3						
1.2	7670	1229	115800	2.6						
1.3	6820	1093	116000	2.9						
1.5	5880	942	116200	3.4						
1.7	5270	854	116300	3.8						
0.76	12600	1926	79400	1.05	K KF KA KAF	127R77 127R77 127R77 127R77	EDRN EDRN EDRN EDRN	90S4 90S4 90S4 90S4	480 520 455 490	701 701 701 701
0.83	11500	1757	80000	1.15						
0.94	10000	1541	80600	1.30						
1.1	8810	1342	81200	1.45						
1.2	7700	1177	81500	1.70						
1.4	6730	1025	81800	1.95						
1.6	5880	899	82100	2.2						
1.8	5060	790	82300	2.6						
2.1	4580	704	82400	2.8						
2.4	3940	610	82500	3.3						
2.6	3560	549	82600	3.6						
3.0	3060	477	82600	4.2						
1.2	7680	1166	65000	1.05	K KF KA KAF	107R77 107R77 107R77 107R77	EDRN EDRN EDRN EDRN	90S4 90S4 90S4 90S4	320 335 295 320	701 701 701 701
1.4	6680	1030	65000	1.20						
1.6	5840	904	65000	1.35						
1.8	5200	793	65000	1.55						
2.1	4550	696	65000	1.75						
2.4	3970	615	65000	2.0						
2.8	3370	522	65000	2.4						
3.2	2960	461	65000	2.7						
3.6	2610	408	65000	3.1						
4.0	2360	364	65000	3.4						
4.6	2070	318	65000	3.9						
2.2	4280	652	40000	1.00	K KF KA KAF	97R57 97R57 97R57 97R57	EDRN EDRN EDRN EDRN	90S4 90S4 90S4 90S4	195 215 175 200	701 701 701 701
2.5	3830	573	40000	1.10						
2.9	3300	504	40000	1.30						
3.3	2840	437	40000	1.50						
3.8	2510	382	40000	1.70						
4.2	2220	342	40000	1.95						
3.9	2470	373	27600	1.10	K KF KA KAF	87R57 87R57 87R57 87R57	EDRN EDRN EDRN EDRN	90S4 90S4 90S4 90S4	130 140 120 135	701 701 701 701
4.4	2160	330	27900	1.25						
5.0	1930	294	28100	1.40						
5.8	1660	250	28300	1.60						
6.2	1570	236	28400	1.70						
7.2	1330	201	28600	2.0						
8.3	1270	176.05*	40000	3.4	K KF KA KAF	97 97 97 97	EDRN EDRN EDRN EDRN	90S4 90S4 90S4 90S4	170 190 150 175	669 670 672 670
9.5	1100	153.21*	40000	3.9						
10	1010	140.28	40000	4.2						
8.3	1250	174.19	28600	2.1	K KF KA KAF	87 87 87 87	EDRN EDRN EDRN EDRN	90S4 90S4 90S4 90S4	110 120 97 110	662 663 665 663
8.8	1180	164.34*	28700	2.3						
9.9	1060	147.32*	28700	2.5						
11	910	126.91*	28800	3.0						
13	830	115.82	28900	3.2						

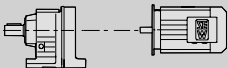
27782913/EN – 02/2023

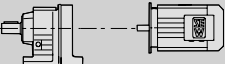
P _m = 1.1 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
11	970	135.28	18400	1.60	K	77	EDRN	90S4	73	655
11	920	128.52	18600	1.65	KF	77	EDRN	90S4	82	656
13	810	113.56	18900	1.90	KA	77	EDRN	90S4	66	658
					KAF	77	EDRN	90S4	74	656
15	700	97.05	19300	2.1	K	77	EDRN	90S4	73	655
16	640	88.97	19400	2.2	KF	77	EDRN	90S4	82	656
19	560	78.07	19600	2.4	KA	77	EDRN	90S4	66	658
20	530	73.99	19600	2.5	KAF	77	EDRN	90S4	74	656
13	775	108.03	10700	1.05	K	67	EDRN	90S4	49	648
14	740	102.62	11000	1.10	KF	67	EDRN	90S4	54	649
16	650	90.04	11600	1.25	KA	67	EDRN	90S4	46	651
19	550	76.37	12200	1.50	KAF	67	EDRN	90S4	52	649
21	495	68.95	12400	1.65						
24	435	60.66	12700	1.80	K	67	EDRN	90S4	49	648
25	410	57.28	12800	1.85	KF	67	EDRN	90S4	54	649
30	350	48.77	13000	2.1	KA	67	EDRN	90S4	46	651
33	315	44.32	13000	2.3	KAF	67	EDRN	90S4	52	649
38	275	38.39	13000	2.6						
19	550	76.56*	8010	1.10						
21	495	69.12	8420	1.20	K	57	EDRN	90S4	43	642
24	435	60.81*	8710	1.35	KF	57	EDRN	90S4	48	643
25	410	57.42*	8820	1.45	KA	57	EDRN	90S4	41	644
30	350	48.89	9080	1.70	KAF	57	EDRN	90S4	47	643
33	320	44.43	9210	1.85						
38	275	38.49	9370	2.2						
41	255	35.70	9440	2.3						
48	215	30.28	9570	2.7						
53	197	27.34	9430	3.0						
60	173	24.05	9130	3.3						
64	163	22.71	9000	3.4						
75	139	19.34	8640	3.8						
83	126	17.57	8420	4.1	K	57	EDRN	90S4	43	642
96	109	15.22	8100	4.5	KF	57	EDRN	90S4	48	643
110	95	13.25	7790	5.0	KA	57	EDRN	90S4	41	644
122	86	11.92	7490	4.1	KAF	57	EDRN	90S4	47	643
129	81	11.26	7370	4.2						
152	69	9.59	7040	4.8						
167	62	8.71	6850	5.2						
193	54	7.55	6570	5.8						
222	47	6.57	6310	6.3						
310	33	4.69	5700	8.0						
24	435	60.27	9000	1.15						
27	380	52.94	9000	1.30	K	49	EDRN	90S4	48	638
29	360	50.29*	9000	1.40	KF	49	EDRN	90S4	50	639
33	320	44.44	9000	1.55	KA	49	EDRN	90S4	45	640
38	270	37.98*	8800	1.80	KAF	49	EDRN	90S4	50	639
42	250	34.81	8660	1.95						
48	220	30.55*	8430	2.1						
30	350	48.95*	6520	1.15	K	47	EDRN	90S4	37	632
32	330	46.03*	6750	1.20	KF	47	EDRN	90S4	40	633
					KA	47	EDRN	90S4	36	634
					KAF	47	EDRN	90S4	39	633
37	285	39.61	7160	1.40						
41	255	35.39	7050	1.55	K	47	EDRN	90S4	37	632
46	225	31.30	6920	1.75	KF	47	EDRN	90S4	40	633
50	210	29.32	6840	1.90	KA	47	EDRN	90S4	36	634
56	187	25.91	6680	2.1	KAF	47	EDRN	90S4	39	633
67	157	21.81	6460	2.5						
74	141	19.58	6310	2.8						

P _m = 1.1 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
40	260	36.22	6660	1.05	K KF KA KAF	39	EDRN	90S4	36	628
47	220	30.72*	6520	1.20						
52	200	27.73	6420	1.30						
60	176	24.40*	6290	1.50						
63	166	23.04*	6230	1.55						
74	141	19.62	6040	1.85						
82	128	17.83	5920	2.0						
94	111	15.44	5740	2.3						
108	97	13.44*	5560	2.6						
58	180	24.99	3440	1.10	K KF KA KAF	37	EDRN	90S4	30	622
62	168	23.36	3430	1.15						
72	145	20.19	3410	1.25						
85	123	17.15	3360	1.45						
95	110	15.31	3310	1.60						
111	94	13.08	3240	1.75						
120	87	12.14	3200	1.80						
139	75	10.49	3120	1.95						
163	64	8.91	3020	2.2						
183	57	7.96	2950	2.3						
214	49	6.80	2850	2.6						
229	45	6.37	2800	2.7						
271	38	5.36	2690	3.1						
366	28	3.98	2490	3.8						

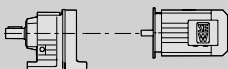
P _m = 1.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.24	51600	5991	190000	1.05	K KH	187R97 187R97	EDRN EDRN	90L4 90L4	1780 1710	702 702
0.27	45800	5358	190000	1.15						
0.30	40800	4817	190000	1.30						
0.33	37100	4370	190000	1.45						
0.40	31800	3609	190000	1.65	K KH	187R97 187R97	EDRN EDRN	90L4 90L4	1780 1710	702 702
0.48	26900	3062	190000	1.95						
0.58	21900	2519	190000	2.4						
0.64	19600	2268	190000	2.7						
0.43	29300	3376	150000	1.20	K KH	167R97 167R97	EDRN EDRN	90L4 90L4	1200 1160	702 702
0.53	23700	2755	150000	1.45						
0.67	19200	2182	150000	1.80	K KH	167R97 167R97	EDRN EDRN	90L4 90L4	1190 1160	702 702
0.86	14900	1704	150000	2.3						
1.0	12400	1408	150000	2.8						
1.1	11300	1296	150000	3.1						
0.63	19700	2322	111300	1.00	K	157R97	EDRN	90L4	800	702
					KF	157R97	EDRN	90L4	880	702
					KA	157R97	EDRN	90L4	770	702
					KAF	157R97	EDRN	90L4	830	702
0.88	14600	1659	113700	1.35	K KF KA KAF	157R97 157R97 157R97 157R97	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	800 880 760 820	702 702 702 702
1.1	11900	1365	114700	1.70						
1.2	10600	1229	115100	1.90						
1.3	9460	1093	115400	2.1						
1.6	8150	942	115700	2.5						
1.7	7330	854	115900	2.7						
2.6	4810	567	116300	4.2						
2.9	4280	504	116400	4.7						
2.7	4640	536	82400	2.8	K	127R87	EDRN	90L4	510	701
3.5	3660	418	82500	3.5	KF	127R87	EDRN	90L4	550	701
4.0	3220	367	82600	4.0	KA	127R87	EDRN	90L4	480	701
					KAF	127R87	EDRN	90L4	520	701

P _m = 1.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
1.1	12000	1342	79700	1.10	K KF KA KAF	127R77	EDRN	90L4	485	701
1.2	10500	1177	80400	1.25						
1.4	9200	1025	81000	1.40						
1.6	8050	899	81400	1.60						
1.9	6970	790	81800	1.85						
2.1	6280	704	82000	2.1						
2.4	5420	610	82200	2.4						
2.7	4890	549	82300	2.7						
3.1	4210	477	82400	3.1						
3.5	3720	418	82500	3.5						
1.6	8020	904	65000	1.00	K KF KA KAF	107R77	EDRN	90L4	325	701
1.8	7120	793	65000	1.10						
2.1	6230	696	65000	1.30						
2.4	5460	615	65000	1.45						
2.8	4630	522	65000	1.75						
3.2	4070	461	65000	1.95						
3.6	3600	408	65000	2.2						
4.0	3240	364	65000	2.5						
4.6	2830	318	65000	2.8						
3.4	3900	437	40000	1.10	K KF KA KAF	97R57	EDRN	90L4	195	701
3.8	3440	382	40000	1.25						
4.3	3040	342	40000	1.40						
4.8	2770	305	40000	1.55						
5.7	2340	258	40000	1.85						
6.3	2100	232	40000	2.0						
7.3	1800	199	40000	2.4						
5.0	2650	294	27300	1.00	K KF KA KAF	87R57	EDRN	90L4	135	701
5.8	2270	250	27800	1.20						
6.2	2140	236	27900	1.25						
7.3	1820	201	28200	1.50						
8.0	1650	183	28400	1.65						
8.3	1720	176.05*	40000	2.5	K KF KA KAF	97	EDRN	90L4	170	669
9.5	1500	153.21*	40000	2.9						
10	1370	140.28	40000	3.1						
12	1210	123.93*	40000	3.5						
8.4	1700	174.19	28300	1.60	K KF KA KAF	87	EDRN	90L4	110	662
8.9	1610	164.34*	28400	1.70						
9.9	1440	147.32*	28500	1.85						
12	1240	126.91*	28600	2.2						
13	1130	115.82	28700	2.4						
14	1000	102.71*	28800	2.7						
17	840	86.34	28900	3.0						
11	1320	135.28	16800	1.15	K KF KA KAF	77	EDRN	90L4	77	655
11	1260	128.52	17100	1.25						
13	1110	113.56	17800	1.40						
15	950	97.05	18500	1.55						
16	870	88.97	18800	1.65						
19	765	78.07	19100	1.80	K KF KA KAF	77	EDRN	90L4	77	655
20	725	73.99	19200	1.85						
23	630	64.75	19400	2.1						
25	570	58.34	19600	2.3						
29	500	51.18	19700	2.5						
32	440	45.16	19800	2.9						
36	390	40.04	19900	3.2						
19	745	76.37	10900	1.10	K KF KA KAF	67	EDRN	90L4	52	648
21	675	68.95	11400	1.20						
24	590	60.66	11900	1.30						
26	560	57.28	12100	1.35						
30	475	48.77	12500	1.55						
33	430	44.32	12700	1.70	K KF KA KAF	67	EDRN	90L4	52	648
38	375	38.39	12900	1.90						
41	345	35.62	13000	2.2						
48	295	30.22	13000	2.5						
54	265	27.28	13000	2.7						
61	235	24.00	13000	2.9						

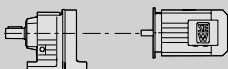
P_m = 1.5 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
24	595	60.81*	7660	1.00	K	57	EDRN	90L4	46	642
25	560	57.42*	7930	1.05	KF	57	EDRN	90L4	51	643
30	475	48.89	8520	1.25	KA	57	EDRN	90L4	44	644
33	435	44.43	8720	1.40	KAF	57	EDRN	90L4	50	643
38	375	38.49	8980	1.60	K KF KA KAF	57	EDRN	90L4	46	642
41	350	35.70	9090	1.70						
48	295	30.28	9130	2.0						
53	265	27.34	8950	2.2						
61	235	24.05	8710	2.4						
64	220	22.71	8600	2.5						
76	189	19.34	8300	2.8						
29	490	50.29*	8260	1.00	K KF KA KAF	49	EDRN	90L4	51	638
33	435	44.44	8200	1.15						
38	370	37.98*	8080	1.35						
42	340	34.81	7990	1.45						
48	295	30.55*	7850	1.60						
50	280	28.95*	7780	1.65						
58	245	25.34	7610	1.85						
64	220	22.83	7470	2.1						
73	196	20.03	7280	2.3						
83	173	17.67*	7090	2.6						
93	153	15.67	6900	3.0						
109	131	13.38	6650	3.4						
37	385	39.61	6080	1.05	K	47	EDRN	90L4	40	632
41	345	35.39	6340	1.15	KF	47	EDRN	90L4	44	633
47	305	31.30	6290	1.30	KA	47	EDRN	90L4	39	634
					KAF	47	EDRN	90L4	42	633
50	285	29.32	6250	1.40	K KF KA KAF	47	EDRN	90L4	40	632
56	250	25.91	6160	1.55						
67	210	21.81	6020	1.85						
75	191	19.58	5920	2.0						
87	165	16.86	5760	2.3						
92	155	15.86	5690	2.4						
107	133	13.65	5520	2.6						
120	119	12.19	5390	2.8						
124	115	11.77	5300	2.0						
60	235	24.40*	5740	1.10	K KF KA KAF	39	EDRN	90L4	39	628
63	225	23.04*	5700	1.15						
74	192	19.62	5590	1.35						
82	174	17.83	5520	1.50						
95	151	15.44	5390	1.70						
109	131	13.44*	5260	1.95						
115	124	12.73	5560	2.0						
121	118	12.09*	5490	2.1						
138	104	10.61	5310	2.7						
162	88	9.00*	5080	3.4						
180	79	8.12*	4950	3.8						
85	168	17.15	2950	1.05	K KF KA KAF	37	EDRN	90L4	33	622
95	150	15.31	2940	1.15						
112	128	13.08	2920	1.30						
120	118	12.14	2910	1.35						
139	102	10.49	2870	1.45						
164	87	8.91	2810	1.60						
184	78	7.96	2760	1.70						
215	66	6.80	2680	1.90						
229	62	6.37	2650	2.0						
272	52	5.36	2560	2.3						
367	39	3.98	2400	2.8						

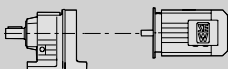
P _m = 1.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
122	117	11.94	2860	1.00	K29EDRN90L4	29	EDRN	90L4	28	614
159	89	9.17	2780	1.30						
171	83	8.53	2950	1.45						
195	73	7.48	2690	1.55						
210	68	6.95	2820	1.65						
254	56	5.75	2690	2.0						
287	49	5.10	2620	2.2						
373	38	3.92	2440	3.3	KAF29EDRN90L4	29	EDRN	90L4	27	620
458	31	3.19	2310	3.5						

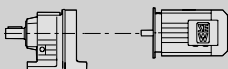
P _m = 2.2 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.51	35200	2818	190000	1.50	K KH	187R97	EDRN	100LS4	1780	702
						187R97	EDRN	100LS4	1720	702
0.40	47600	3609	190000	1.10	K KH	187R97	EDRN	100LS4	1780	702
0.47	40300	3062	190000	1.30						
0.58	32900	2519	190000	1.60						
0.64	29500	2268	190000	1.80						
0.71	26600	2054	190000	2.0						
0.80	23400	1821	190000	2.3						
0.90	20800	1605	190000	2.5						
0.64	28600	2263	150000	1.20	K KH	167R97 167R97	EDRN EDRN	100LS4 100LS4	1200 1160	702 702
0.66	28800	2182	150000	1.20	K KH	167R97 167R97	EDRN EDRN	100LS4 100LS4	1200 1160	702 702
0.85	22400	1704	150000	1.55						
1.0	18500	1408	150000	1.90						
1.1	17000	1296	150000	2.0						
1.3	14100	1101	150000	2.5						
1.5	12200	944	150000	2.9						
1.1	17800	1365	112200	1.10	K KF KA KAF	157R97 157R97 157R97 157R97	EDRN EDRN EDRN EDRN	100LS4 100LS4 100LS4 100LS4	800 880 770 830	702 702 702 702
1.2	16000	1229	113100	1.25						
1.3	14200	1093	113900	1.40						
1.5	12200	942	114600	1.65						
1.7	11000	854	115000	1.80						
1.9	9570	756	115400	2.1						
2.7	6980	536	81800	1.85	K KF KA KAF	127R87 127R87 127R87 127R87	EDRN EDRN EDRN EDRN	100LS4 100LS4 100LS4 100LS4	510 550 480 520	701 701 701 701
3.1	6110	473	82000	2.1						
3.5	5500	418	82200	2.4						
4.0	4830	367	82300	2.7						
4.4	4320	330	82400	3.0						
1.6	11900	899	79700	1.10	K KF KA KAF	127R77 127R77 127R77 127R77	EDRN EDRN EDRN EDRN	100LS4 100LS4 100LS4 100LS4	490 530 460 500	701 701 701 701
1.8	10400	790	80500	1.25						
2.1	9360	704	80900	1.40						
2.4	8090	610	81400	1.60						
2.6	7290	549	81700	1.80						
3.0	6300	477	82000	2.1						
3.5	5550	418	82200	2.3						
2.8	6910	522	65000	1.15	K KF KA KAF	107R77 107R77 107R77 107R77	EDRN EDRN EDRN EDRN	100LS4 100LS4 100LS4 100LS4	330 340 300 325	701 701 701 701
3.1	6080	461	65000	1.30						
3.5	5380	408	65000	1.50						
4.0	4830	364	65000	1.65						
4.6	4220	318	65000	1.90						
5.1	3800	286	65000	2.1						
5.8	3330	251	65000	2.4						
4.8	4120	305	40000	1.05	K KF KA KAF	97R57 97R57 97R57 97R57	EDRN EDRN EDRN EDRN	100LS4 100LS4 100LS4 100LS4	200 220 180 205	701 701 701 701
5.6	3470	258	40000	1.25						
6.2	3130	232	40000	1.35						
7.3	2680	199	40000	1.60						
8.2	2550	176.05*	40000	1.70	K KF KA KAF	97 97 97 97	EDRN EDRN EDRN EDRN	100LS4 100LS4 100LS4 100LS4	175 195 160 185	669 670 672 670
9.5	2210	153.21*	40000	1.95						
10	2030	140.28	40000	2.1						
12	1790	123.93*	40000	2.4						

P _m = 2.2 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
14 15	1520	105.13	40000	2.8	K	97	EDRN	100LS4	175	669
					KF	97	EDRN	100LS4	195	670
	1400	96.80	40000	2.9	KA	97	EDRN	100LS4	160	672
					KAF	97	EDRN	100LS4	185	670
9.8 11 13	2130	147.32*	27900	1.25	K	87	EDRN	100LS4	115	662
	1830	126.91*	28200	1.45	KF	87	EDRN	100LS4	125	663
					KA	87	EDRN	100LS4	105	665
	1670	115.82	28300	1.60	KAF	87	EDRN	100LS4	120	663
14 17 18 21 23	1480	102.71*	28500	1.80	K	87	EDRN	100LS4	115	662
	1250	86.34	28600	2.1	KF	87	EDRN	100LS4	125	663
	1140	79.34	28700	2.2	KA	87	EDRN	100LS4	105	665
	1020	70.46	28800	2.4	KAF	87	EDRN	100LS4	120	663
23	910	63.00*	28800	2.7						
	1400	97.05	16300	1.05	K	77	EDRN	100LS4	81	655
	1280	88.97	17000	1.10	KF	77	EDRN	100LS4	89	656
	1130	78.07	17800	1.20	KA	77	EDRN	100LS4	73	658
20 22	1070	73.99	18000	1.25	KAF	77	EDRN	100LS4	81	656
	930	64.75	18500	1.40						
	840	58.34	18800	1.55						
	740	51.18	19200	1.75						
32 36 41 47 50 57	650	45.16	19400	1.95	K	77	EDRN	100LS4	81	655
	580	40.04	19500	2.1	KF	77	EDRN	100LS4	89	656
	505	35.20	19700	3.0	KA	77	EDRN	100LS4	73	658
	445	30.89	19800	3.5	KAF	77	EDRN	100LS4	81	656
	420	29.27	19800	3.7						
	370	25.62	19900	4.2						
30 33 38 41 48	705	48.77	11200	1.05	K	67	EDRN	100LS4	56	648
	640	44.32	11600	1.15	KF	67	EDRN	100LS4	61	649
	555	38.39	12100	1.30	KA	67	EDRN	100LS4	53	651
	515	35.62	12300	1.50	KAF	67	EDRN	100LS4	59	649
	435	30.22	12700	1.70						
53 60 64 75 83 95 110 116 136 150 173 199 279	395	27.28	12800	1.80						
	345	24.00	13000	1.95						
	325	22.66	13000	2.0						
	275	19.30	13000	2.3						
	250	17.54	13000	2.4	K	67	EDRN	100LS4	56	648
	220	15.19	13000	2.7	KF	67	EDRN	100LS4	61	649
	191	13.22	13000	3.0	KA	67	EDRN	100LS4	53	651
	180	12.48	13000	2.0	KAF	67	EDRN	100LS4	59	649
	153	10.63	13000	2.3						
	139	9.66	13000	2.4						
	121	8.37	13000	2.7						
	105	7.28	12700	3.0						
	75	5.20	11600	3.7						
	38 41 48	555	38.49	7970	1.10	K	57	EDRN	100LS4	50
515		35.70	8290	1.15	KF	57	EDRN	100LS4	55	643
					KA	57	EDRN	100LS4	48	644
435		30.28	8230	1.35	KAF	57	EDRN	100LS4	54	643
53 60 64 75 83 95 109 122 129	395	27.34	8140	1.50						
	345	24.05	8000	1.65						
	325	22.71	7930	1.70	K	57	EDRN	100LS4	50	642
	280	19.34	7730	1.90	KF	57	EDRN	100LS4	55	643
	250	17.57	7590	2.0	KA	57	EDRN	100LS4	48	644
	220	15.22	7380	2.3	KAF	57	EDRN	100LS4	54	643
	191	13.25	7170	2.5						
	172	11.92	6850	2.0						
56 66 74	163	11.26	6770	2.1						
	375	25.91	5260	1.05	K	47	EDRN	100LS4	44	632
	315	21.81	5260	1.25	KF	47	EDRN	100LS4	47	633
	280	19.58	5240	1.35	KA	47	EDRN	100LS4	43	634
				KAF	47	EDRN	100LS4	46	633	

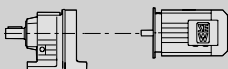
P _m = 2.2 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
86	240	16.86	5180	1.55	K KF KA KAF	47 47 47 47	EDRN EDRN EDRN EDRN	100LS4 100LS4 100LS4 100LS4	44 47 43 46	632 633 634 633
91	225	15.86	5140	1.60						
106	197	13.65	5050	1.75						
119	176	12.19	4970	1.90						
123	170	11.77	4870	1.40						
137	153	10.56	4790	1.45						
159	131	9.10	4660	1.65						
163	129	8.91	2440	1.10	K KF KA KAF	37 37 37 37	EDRN EDRN EDRN EDRN	100LS4 100LS4 100LS4 100LS4	37 40 37 39	622 623 624 623
182	115	7.96	2430	1.15						
213	98	6.80	2400	1.30						
228	92	6.37	2390	1.35						
270	77	5.36	2340	1.55						
364	57	3.98	2240	1.85						

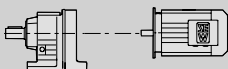
P _m = 3.0 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
0.52	48700	2818	190000	1.10	K	187R97	EDRN	100L4	1790	702						
					KH	187R97	EDRN	100L4	1720	702						
0.58	45100	2519	190000	1.15	K KH	187R97 187R97	EDRN EDRN	100L4 100L4	1790 1720	702 702						
0.64	40500	2268	190000	1.30												
0.71	36500	2054	190000	1.45												
0.80	32200	1821	190000	1.65												
0.91	28500	1605	190000	1.85												
1.0	24400	1395	190000	2.2												
1.2	21100	1196	190000	2.5												
0.85	30600	1704	150000	1.15	K KH	167R97 167R97	EDRN EDRN	100L4 100L4	1210 1170	702 702						
1.0	25300	1408	150000	1.40												
1.1	23300	1296	150000	1.50												
1.3	19500	1101	150000	1.80												
1.5	16800	944	150000	2.1												
1.7	14700	843	150000	2.4												
1.9	13300	757	150000	2.6												
1.3	19500	1093	111400	1.00	K KF KA KAF	157R97 157R97 157R97 157R97	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	810 890 780 830	702 702 702 702						
1.5	16800	942	112700	1.20												
1.7	15200	854	113500	1.30												
1.9	13200	756	114200	1.50												
2.6	10000	567	115300	2.0												
2.9	8930	504	115600	2.2												
2.7	9580	536	80800	1.35	K KF KA KAF	127R87 127R87 127R87 127R87	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	520 560 490 530	701 701 701 701						
3.1	8400	473	81300	1.55												
3.5	7550	418	81600	1.70												
4.0	6610	367	81900	1.95												
4.4	5920	330	82100	2.2												
5.1	5080	287	82300	2.6												
2.1	12700	704	79300	1.00	K KF KA KAF	127R77 127R77 127R77 127R77	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	495 540 470 510	701 701 701 701						
2.4	11000	610	80200	1.20												
2.6	9950	549	80700	1.30												
3.0	8610	477	81200	1.50												
3.5	7580	418	81600	1.70												
3.6	7360	408	65000	1.10							K KF KA KAF	107R77 107R77 107R77 107R77	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	335 350 310 335	701 701 701 701
4.0	6590	364	65000	1.20												
4.6	5760	318	65000	1.40												
5.1	5190	286	65000	1.55												
5.8	4540	251	65000	1.75												
6.6	4000	222	65000	2.0												
7.4	3540	196	65000	2.3												
8.4	3170	174	65000	2.3												
9.4	2800	154	65000	2.6												
10	2540	140	65000	2.8												
6.3	4260	232	40000	1.00	K	97R57	EDRN	100L4	205	701						
7.3	3660	199	40000	1.15	KF	97R57	EDRN	100L4	225	701						
					KA	97R57	EDRN	100L4	190	701						
					KAF	97R57	EDRN	100L4	215	701						

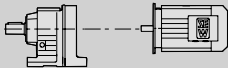
P _m = 3.0 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
10 12	2820 2380	143.47* 121.46	65000 65000	2.8 3.4	K KF KA KAF	107 107 107 107	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	300 310 270 295	676 677 679 677						
	8.3 9.5 10 12	3460 3010 2760 2430	176.05* 153.21* 140.28 123.93*	40000 40000 40000 40000	1.25 1.45 1.55 1.75	K KF KA KAF	97 97 97 97	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	185 205 165 190	669 670 672 670					
	14 15 17 19 21 23 26	2060 1900 1700 1530 1380 1230 1110	105.13 96.80 86.52 77.89* 70.54 62.55 56.55	40000 40000 40000 40000 40000 40000 40000	2.0 2.1 2.3 2.5 2.8 3.1 3.4	K KF KA KAF	97 97 97 97	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	185 205 165 190	669 670 672 670					
	11 13 14	2490 2270 2020	126.91* 115.82 102.71*	27500 27800 28000	1.10 1.20 1.35							K KF KA KAF	87 87 87 87	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	125 135 110 125
17 18 21 23 26 30 33 40	1690 1560 1380 1230 1110 960 860 715	86.34 79.34 70.46 63.00* 56.64 49.16 44.02 36.52*	28300 28400 28600 28600 28700 28800 28800 28200	1.50 1.60 1.80 2.0 2.2 2.5 2.7 3.1	K KF KA KAF							87 87 87 87	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	125 135 110 125	662 663 665 663
22 25 28	1270 1140 1000	64.75 58.34 51.18	17100 17700 18300	1.05 1.15 1.25												
32 36 41 47	880 785 690 605	45.16 40.04 35.20 30.89	18700 19000 19300 19500	1.40 1.55 2.2 2.5		K KF KA KAF	77 77 77 77	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	88 96 80 88	655 656 658 656					
41 48 53 61	700 590 535 470	35.62 30.22 27.28 24.00	11300 11900 12200 12500	1.10 1.25 1.30 1.45		K KF KA KAF	67 67 67 67	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	63 69 60 66	648 649 651 649					
64 75 83 96 110 117 137 151	445 375 340 295 260 245 205 190	22.66 19.30 17.54 15.19 13.22 12.48 10.63 9.66	12600 12900 13000 13000 13000 13000 13000 13000	1.50 1.65 1.80 2.0 2.2 1.50 1.65 1.80	K KF KA KAF	67 67 67 67	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	63 69 60 66	648 649 651 649						
48 53 61	595 535 470	30.28 27.34 24.05	7190 7190 7170	1.00 1.10 1.20							K KF KA KAF	57 57 57 57	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	57 62 55 61	642 643 644 643
64 75 83 96 110 122 129 152 167 193 222 310	445 380 345 295 260 230 220 188 171 148 129 92	22.71 19.34 17.57 15.22 13.25 11.92 11.26 9.59 8.71 7.55 6.57 4.69	7150 7060 6980 6860 6710 6380 6330 6160 6040 5870 5700 5270	1.25 1.40 1.50 1.65 1.85 1.50 1.55 1.75 1.90 2.1 2.3 2.9							K KF KA KAF	57 57 57 57	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	57 62 55 61	642 643 644 643

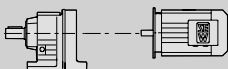
P _m = 3.0 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
64	445	22.83	5860	1.05	K	49	EDRN	100L4	63	638
73	390	20.03	5860	1.15						
128	220	11.37*	6160	2.2						
140	200	10.42	6050	2.3						
159	179	9.14*	5860	2.8						
168	170	8.66*	5790	2.9						
192	149	7.58	5600	3.4						
213	134	6.83	5460	3.7	KF	49	EDRN	100L4	64	639
					KA	49	EDRN	100L4	60	640
					KAF	49	EDRN	100L4	65	639
74	385	19.58	4450	1.00	K	47	EDRN	100L4	51	632
86	330	16.86	4500	1.15	KF	47	EDRN	100L4	55	633
92	310	15.86	4510	1.15	KA	47	EDRN	100L4	50	634
					KAF	47	EDRN	100L4	53	633
107	265	13.65	4500	1.30	K	47	EDRN	100L4	51	632
119	235	12.19	4480	1.40						
124	230	11.77	4360	1.00						
138	205	10.56	4340	1.10						
160	179	9.10	4280	1.20						
170	168	8.56	4250	1.30						
198	144	7.36	4160	1.40						
221	129	6.58	4090	1.55						
250	114	5.81	4000	1.70						
314	91	4.64	3830	1.95	KF	47	EDRN	100L4	55	633
					KA	47	EDRN	100L4	50	634
					KAF	47	EDRN	100L4	53	633
137	205	10.61	4720	1.35	K	39	EDRN	100L4	50	628
162	177	9.00*	4580	1.70						
179	159	8.12*	4490	1.90						
204	140	7.15*	4380	2.1						
216	132	6.75*	4320	2.3						
253	113	5.75	4170	2.4						
279	102	5.22	4080	2.5						
322	89	4.52	3940	2.7						
370	77	3.94*	3800	2.8						
518	55	2.81*	3480	3.1	KF	39	EDRN	100L4	52	629
					KA	39	EDRN	100L4	49	630
					KAF	39	EDRN	100L4	51	629
229	125	6.37	2090	1.00	K	37	EDRN	100L4	45	622
271	105	5.36	2090	1.15	KF	37	EDRN	100L4	47	623
366	78	3.98	2040	1.40	KA	37	EDRN	100L4	44	624
					KAF	37	EDRN	100L4	46	623

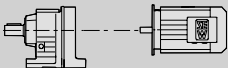
P _m = 4.0 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
1.8	19400	835	190000	2.7	K	187R107	EDRN	112M4	1840	703						
2.8	12200	520	190000	4.3							KH	187R107	EDRN	112M4	1780	703
0.71	48800	2054	190000	1.10	K	187R97	EDRN	112M4	1800	702						
0.80	43100	1821	190000	1.25												
0.91	38200	1605	190000	1.40												
1.1	32700	1395	190000	1.60												
1.2	28300	1196	190000	1.85												
1.4	24700	1046	190000	2.1												
1.6	22300	945	190000	2.4							KH	187R97	EDRN	112M4	1730	702
1.0	33800	1408	150000	1.05	K	167R97	EDRN	112M4	1210	702						
1.1	31000	1296	150000	1.15												
1.3	26100	1101	150000	1.35												
1.6	22400	944	150000	1.55												
1.7	19800	843	150000	1.75												
1.9	17800	757	150000	1.95												
2.3	14900	632	150000	2.3							KH	167R97	EDRN	112M4	1180	702
1.9	17700	756	112300	1.15	K	157R97	EDRN	112M4	820	702						
2.6	13400	567	114200	1.50												
2.9	11900	504	114700	1.65												
3.4	10100	434	115200	1.95							KF	157R97	EDRN	112M4	900	702
											KA	157R97	EDRN	112M4	780	702
											KAF	157R97	EDRN	112M4	840	702

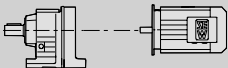
P _m = 4.0 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
2.7	12700	536	79300	1.00	K KF KA KAF	127R87	EDRN	112M4	530	701
3.1	11200	473	80100	1.15						
3.5	10000	418	80600	1.30						
4.0	8810	367	81200	1.50						
4.4	7900	330	81500	1.65						
5.1	6800	287	81800	1.90						
5.8	6010	253	82000	2.2						
3.1	11400	477	80000	1.15	K	127R77	EDRN	112M4	510	701
3.5	10000	418	80600	1.30	KF	127R77	EDRN	112M4	550	701
					KA	127R77	EDRN	112M4	480	701
					KAF	127R77	EDRN	112M4	520	701
4.6	7670	318	65000	1.05	K KF KA KAF	107R77	EDRN	112M4	345	701
5.1	6900	286	65000	1.15						
5.8	6050	251	65000	1.30						
6.6	5330	222	65000	1.50						
7.5	4720	196	65000	1.70						
8.4	4220	174	65000	1.70						
9.5	3730	154	65000	1.95						
10	3390	140	65000	2.1						
10	3740	143.47*	65000	2.1	K KF KA KAF	107	EDRN	112M4	305	676
12	3160	121.46	65000	2.5						
13	2930	112.41*	65000	2.7						
15	2620	100.75	65000	2.9						
16	2370	90.96*	65000	3.1						
18	2150	82.61	65000	3.4						
20	1910	73.30	65000	3.8						
9.6	3990	153.21*	40000	1.10						
10	3660	140.28	40000	1.15	KF	97	EDRN	112M4	210	670
12	3230	123.93*	40000	1.35	KA	97	EDRN	112M4	175	672
					KAF	97	EDRN	112M4	200	670
14	2740	105.13	40000	1.55	K KF KA KAF	97	EDRN	112M4	190	669
15	2520	96.80	40000	1.60						
17	2250	86.52	40000	1.75						
19	2030	77.89*	40000	1.90						
21	1840	70.54	40000	2.1						
14	2670	102.71*	27300	1.00	K	87	EDRN	112M4	135	662
17	2250	86.34	27800	1.15	KF	87	EDRN	112M4	140	663
18	2070	79.34	28000	1.20	KA	87	EDRN	112M4	120	665
					KAF	87	EDRN	112M4	135	663
21	1830	70.46	28200	1.35	K KF KA KAF	87	EDRN	112M4	135	662
23	1640	63.00*	28400	1.50						
26	1470	56.64	28500	1.65						
30	1280	49.16	28600	1.85						
33	1140	44.02	28200	2.0						
40	950	36.52*	27200	2.4						
32	1170	45.16	17500	1.05	K	77	EDRN	112M4	97	655
37	1040	40.04	18100	1.20	KF	77	EDRN	112M4	105	656
38	1000	38.39	18300	1.50	KA	77	EDRN	112M4	90	658
					KAF	77	EDRN	112M4	98	656
42	910	35.20	18600	1.70	K KF KA KAF	77	EDRN	112M4	97	655
47	800	30.89	19000	1.90						
50	760	29.27	19100	2.0						
57	665	25.62	19300	2.3						
63	600	23.08	19500	2.5						
72	525	20.25	19600	2.7						
54	710	27.28	11200	1.00	K	67	EDRN	112M4	72	648
61	625	24.00	11700	1.10	KF	67	EDRN	112M4	78	649
65	590	22.66	11900	1.15	KA	67	EDRN	112M4	70	651
					KAF	67	EDRN	112M4	76	649

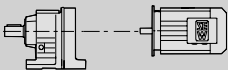
P _m = 4.0 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
76	500	19.30	12400	1.25	K KF KA KAF	67	EDRN	112M4	72	648
84	455	17.54	12600	1.35						
96	395	15.19	12800	1.50						
111	340	13.22	13000	1.65						
117	325	12.48	13000	1.10						
138	275	10.63	13000	1.25						
152	250	9.66	12800	1.35						
175	215	8.37	12400	1.50						
201	189	7.28	12000	1.65	K KF KA KAF	57	EDRN	112M4	67	642
282	135	5.20	11100	2.1						
76	500	19.34	6230	1.05						
83	455	17.57	6230	1.15						
96	395	15.22	6200	1.25						
110	345	13.25	6140	1.40						
123	310	11.92	5800	1.15						
130	290	11.26	5780	1.15						
153	250	9.59	5680	1.30						
168	225	8.71	5620	1.45						
194	196	7.55	5500	1.60						
223	171	6.57	5380	1.75						
312	122	4.69	5030	2.2						
129	295	11.37*	5810	1.65	K KF KA KAF	49	EDRN	112M4	72	638
141	270	10.42	5720	1.75						
160	235	9.14*	5580	2.1						
169	225	8.66*	5520	2.2						
193	197	7.58	5360	2.5						
214	178	6.83	5240	2.8						
244	156	5.99	5080	3.2						
277	137	5.29*	4930	3.5						
312	122	4.69*	4780	3.8						
163	230	9.00*	4240	1.30	K KF KA KAF	39	EDRN	112M4	60	628
180	210	8.12*	4180	1.40						
205	186	7.15*	4100	1.60						
217	176	6.75*	4060	1.70						
255	149	5.75	3950	1.85						
280	136	5.22	3880	1.90						
324	118	4.52	3760	2.0						
372	102	3.94*	3650	2.1						
521	73	2.81*	3370	2.3						

P _m = 5.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.91	52900	1605	190000	1.00	K KH	187R97	EDRN	132S4	1810	702
1.1	45600	1395	190000	1.15						
1.2	39300	1196	190000	1.35						
1.4	34400	1046	190000	1.55						
1.6	31000	945	190000	1.70						
2.0	24200	738	190000	2.2						
2.4	20300	621	190000	2.6						
1.6	31100	944	150000	1.10	K KH	167R97	EDRN	132S4	1230	702
1.7	27500	843	150000	1.25						
1.9	24800	757	150000	1.40						
2.3	20800	632	150000	1.70						
2.6	18200	561	150000	1.90						
3.0	15800	481	150000	2.2						
3.5	13700	423	150000	2.5						
2.6	18600	567	111800	1.05	K KF KA KAF	157R97	EDRN	132S4	830	702
2.9	16500	504	112900	1.20						
3.4	14100	434	113900	1.40						
3.9	12300	379	114600	1.60						
4.4	10800	333	115000	1.85						

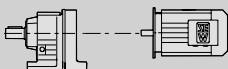
P _m = 5.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
4.0	12100	367	79600	1.05	K KF KA KAF	127R87	EDRN	132S4	540	701
4.4	10900	330	80200	1.20						
5.1	9440	287	80900	1.40						
5.8	8350	253	81300	1.55						
6.9	7010	213	81800	1.85						
7.3	6680	200	81900	1.80						
8.8	5530	166	82200	2.2						
10.0	4880	147	82300	2.5						
6.6	7370	222	65000	1.10	K KF KA KAF	107R77	EDRN	132S4	355	701
7.4	6530	196	65000	1.20						
8.4	5830	174	65000	1.25						
9.5	5170	154	65000	1.40						
10	4690	140	65000	1.55						
10	5150	143.47*	65000	1.55	K KF KA KAF	107	EDRN	132S4	315	676
12	4360	121.46	65000	1.85						
13	4040	112.41*	65000	1.95						
14	3620	100.75	65000	2.1						
16	3260	90.96*	65000	2.3						
18	2960	82.61	65000	2.5						
14	3770	105.13	40000	1.10	K KF KA KAF	97	EDRN	132S4	205	669
15	3470	96.80	40000	1.20						
17	3110	86.52	40000	1.25						
19	2800	77.89*	40000	1.40	K KF KA KAF	97	EDRN	132S4	205	669
21	2530	70.54	40000	1.50						
23	2240	62.55	40000	1.70						
26	2030	56.55	39600	1.85						
30	1720	47.93*	38400	2.1						
23	2260	63.00*	27400	1.10	K KF KA KAF	87	EDRN	132S4	145	662
26	2030	56.64	27200	1.20						
30	1760	49.16	26800	1.35	K KF KA KAF	87	EDRN	132S4	145	662
33	1580	44.02	26400	1.45						
40	1310	36.52*	25700	1.70						
47	1120	31.39	25100	2.3						
52	1000	27.88	24600	2.5						
47	1110	30.89	17900	1.40	K KF KA KAF	77	EDRN	132S4	110	655
50	1050	29.27	18100	1.45						
57	920	25.62	18600	1.65						
63	820	23.08	18900	1.80	K KF KA KAF	77	EDRN	132S4	110	655
72	725	20.25	19200	1.95						
82	640	17.87	19400	2.1						
92	565	15.84	19100	2.4						
108	485	13.52	18500	2.7						
118	440	12.36	17800	1.80						
135	385	10.84	17400	2.0						
96	545	15.19	12200	1.10	K KF KA KAF	67	EDRN	132S4	84	648
111	475	13.22	12500	1.20						
175	300	8.37	11900	1.10	K KF KA KAF	67	EDRN	132S4	84	648
201	260	7.28	11600	1.20						
281	186	5.20	10800	1.50						
160	325	9.14*	5160	1.50	K KF KA KAF	49	EDRN	132S4	83	638
169	310	8.66*	5130	1.60						
193	270	7.58	5020	1.85						
214	245	6.83	4930	2.0						
244	215	5.99	4810	2.3						
276	190	5.29*	4690	2.5						

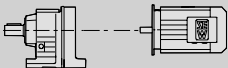
P_m = 7.5 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
1.8	37100	835	190000	1.45	K KH	187R107	EDRN	132M4	1870	703
2.0	32200	729	190000	1.65		187R107	EDRN	132M4	1810	703
2.4	27500	622	190000	1.95						
1.4	46900	1046	190000	1.15	K KH	187R97	EDRN	132M4	1830	702
1.6	42300	945	190000	1.25		187R97	EDRN	132M4	1760	702
2.0	33100	738	190000	1.60						
2.4	27800	621	190000	1.90						
2.8	23500	527	190000	2.2						
1.9	33900	757	150000	1.05	K KH	167R97	EDRN	132M4	1240	702
2.3	28300	632	150000	1.25		167R97	EDRN	132M4	1210	702
2.6	24900	561	150000	1.40						
3.0	21500	481	150000	1.60						
3.5	18800	423	150000	1.85						
4.0	16400	369	150000	2.1						
3.4	19300	434	111400	1.05	K	157R97	EDRN	132M4	850	702
3.9	16800	379	112700	1.20	KF	157R97	EDRN	132M4	930	702
4.4	14800	333	113600	1.35	KA	157R97	EDRN	132M4	810	702
5.0	12900	291	114400	1.55	KAF	157R97	EDRN	132M4	870	702
5.1	12800	287	79200	1.00	K KF KA KAF	127R87	EDRN	132M4	560	701
5.8	11300	253	80000	1.15		127R87	EDRN	132M4	600	701
6.9	9570	213	80900	1.35		127R87	EDRN	132M4	530	701
7.3	9110	200	81000	1.30		127R87	EDRN	132M4	560	701
8.8	7540	166	81600	1.60		127R87	EDRN	132M4		
10	6650	147	81900	1.80						
10	7120	146.07	81700	1.80	K KF KA KAF	127	EDRN	132M4	490	683
11	6640	136.14	81900	1.95		127	EDRN	132M4	530	684
12	5970	122.48	82100	2.2		127	EDRN	132M4	460	686
13	5370	110.18	82200	2.4		127	EDRN	132M4	500	684
16	4380	89.89	82400	3.0						
18	3990	81.98	82500	3.2						
21	3460	70.95*	82600	3.8						
10	6990	143.47*	65000	1.15	K	107	EDRN	132M4	335	676
12	5920	121.46	65000	1.35	KF	107	EDRN	132M4	350	677
13	5480	112.41*	65000	1.45	KA	107	EDRN	132M4	310	679
					KAF	107	EDRN	132M4	330	677
15	4910	100.75	65000	1.55	K KF KA KAF	107	EDRN	132M4	335	676
16	4430	90.96*	64000	1.70		107	EDRN	132M4	350	677
18	4030	82.61	63000	1.85		107	EDRN	132M4	310	679
20	3570	73.30	61700	2.0		107	EDRN	132M4	330	677
22	3240	66.52*	60600	2.2						
26	2780	57.17*	58800	2.5						
29	2430	49.90	57100	2.8						
35	2060	42.33*	55100	3.3						
40	1800	37.00*	53500	3.7						
19	3800	77.89*	38100	1.00	K	97	EDRN	132M4	220	669
21	3440	70.54	37800	1.10	KF	97	EDRN	132M4	240	670
23	3050	62.55	37400	1.25	KA	97	EDRN	132M4	205	672
					KAF	97	EDRN	132M4	230	670
26	2750	56.55	37000	1.35	K KF KA KAF	97	EDRN	132M4	220	669
31	2330	47.93*	36200	1.55		97	EDRN	132M4	240	670
35	2040	41.87	35500	1.75		97	EDRN	132M4	205	672
38	1860	38.30	35000	2.3		97	EDRN	132M4	230	670
43	1660	34.23	34300	2.6						
33	2140	44.02	24100	1.10	K	87	EDRN	132M4	160	662
40	1780	36.52*	23800	1.25	KF	87	EDRN	132M4	170	663
					KA	87	EDRN	132M4	150	665
					KAF	87	EDRN	132M4	165	663
47	1530	31.39	23400	1.70	K KF KA KAF	87	EDRN	132M4	160	662
53	1350	27.88	23100	1.85		87	EDRN	132M4	170	663
59	1210	24.92	22700	2.0		87	EDRN	132M4	150	665
66	1090	22.41	22400	2.1		87	EDRN	132M4	165	663
75	940	19.45	21800	2.4						
84	840	17.42	21400	2.6						
92	780	16.00	20500	1.95						
102	700	14.45	20600	3.0						

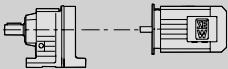
P_m = 7.5 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
48	1500	30.89	15700	1.05	K	77	EDRN	132M4	125	655
50	1420	29.27	16200	1.10	KF	77	EDRN	132M4	135	656
57	1240	25.62	17200	1.25	KA	77	EDRN	132M4	120	658
64	1120	23.08	17800	1.30	KAF	77	EDRN	132M4	125	656
73	980	20.25	18400	1.45						
82	870	17.87	18500	1.60						
93	770	15.84	18200	1.75						
109	655	13.52	17700	2.0	K	77	EDRN	132M4	125	655
119	600	12.36	17000	1.35	KF	77	EDRN	132M4	135	656
135	525	10.84	16600	1.50	KA	77	EDRN	132M4	120	658
154	465	9.56	16200	1.65	KAF	77	EDRN	132M4	125	656
173	410	8.48	15800	1.80						
203	350	7.24	15300	2.0						

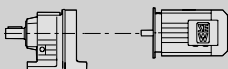
P_m = 9.2 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
1.8	45700	835	190000	1.15						
2.0	39700	729	190000	1.35						
2.4	33900	622	190000	1.55	K	187R107	EDRN	132L4	1880	703
2.8	28700	520	190000	1.85	KH	187R107	EDRN	132L4	1810	703
3.2	25000	454	190000	2.1						
1.6	52000	945	190000	1.00						
2.0	40600	738	190000	1.30	K	187R97	EDRN	132L4	1830	702
2.4	34100	621	190000	1.55	KH	187R97	EDRN	132L4	1770	702
2.8	28900	527	190000	1.85						
4.6	17500	318	150000	2.0						
5.3	15200	278	150000	2.3	K	167R107	EDRN	132L4	1300	703
6.0	13200	244	150000	2.6	KH	167R107	EDRN	132L4	1260	703
6.9	11500	213	150000	3.0						
7.1	11200	206	150000	3.1						
2.3	34800	632	150000	1.00						
2.6	30700	561	150000	1.15	K	167R97	EDRN	132L4	1250	702
3.1	26500	481	150000	1.30	KH	167R97	EDRN	132L4	1210	702
3.5	23100	423	150000	1.50						
4.0	20200	369	150000	1.75						
4.5	17400	325	112400	1.15	K	157R107	EDRN	132L4	910	703
4.9	16200	299	113000	1.25	KF	157R107	EDRN	132L4	980	703
5.8	13700	253	114100	1.45	KA	157R107	EDRN	132L4	870	703
6.4	12300	230	114600	1.60	KAF	157R107	EDRN	132L4	930	703
4.4	18200	333	112000	1.10	K	157R97	EDRN	132L4	860	702
5.0	15900	291	113200	1.25	KF	157R97	EDRN	132L4	940	702
					KA	157R97	EDRN	132L4	820	702
					KAF	157R97	EDRN	132L4	880	702
6.9	11700	213	79800	1.10	K	127R87	EDRN	132L4	560	701
7.3	11100	200	80100	1.05	KF	127R87	EDRN	132L4	610	701
8.8	9260	166	81000	1.30	KA	127R87	EDRN	132L4	540	701
10	8170	147	81400	1.45	KAF	127R87	EDRN	132L4	570	701
11	8130	136.14	81400	1.60	K	127	EDRN	132L4	500	683
12	7320	122.48	81700	1.80	KF	127	EDRN	132L4	540	684
13	6580	110.18	81900	1.95	KA	127	EDRN	132L4	470	686
16	5370	89.89	82200	2.4	KAF	127	EDRN	132L4	510	684
18	4890	81.98	82300	2.6						
13	6710	112.41*	62300	1.20	K	107	EDRN	132L4	345	676
15	6020	100.75	61700	1.25	KF	107	EDRN	132L4	355	677
16	5430	90.96*	61000	1.35	KA	107	EDRN	132L4	315	679
					KAF	107	EDRN	132L4	340	677
18	4930	82.61	60300	1.50	K	107	EDRN	132L4	345	676
20	4380	73.30	59300	1.65	KF	107	EDRN	132L4	355	677
22	3970	66.52*	58400	1.80	KA	107	EDRN	132L4	315	679
26	3410	57.17*	56900	2.1	KAF	107	EDRN	132L4	340	677
29	2980	49.90	55500	2.3						
35	2520	42.33*	53700	2.7						

P _m = 9.2 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
24	3730	62.55	35000	1.00	K	97	EDRN	132L4	230	669
26	3370	56.55	34800	1.10	KF	97	EDRN	132L4	250	670
					KA	97	EDRN	132L4	210	672
					KAF	97	EDRN	132L4	235	670
31	2860	47.93*	34400	1.25	K	97	EDRN	132L4	230	669
35	2500	41.87	33900	1.45						
38	2280	38.30	33500	1.90						
43	2040	34.23	33000	2.1						
48	1840	30.82	32400	2.3						
53	1660	27.91	31900	2.6						
59	1470	24.75	31200	2.9	KAF	97	EDRN	132L4	235	670
40	2180	36.52*	22200	1.05	K	87	EDRN	132L4	170	662
47	1870	31.39	22000	1.40	KF	87	EDRN	132L4	180	663
					KA	87	EDRN	132L4	160	665
					KAF	87	EDRN	132L4	170	663
53	1660	27.88	21900	1.50	K	87	EDRN	132L4	170	662
59	1480	24.92	21600	1.65						
66	1330	22.41	21400	1.70						
76	1160	19.45	21000	1.95						
84	1040	17.42	20600	2.1						
92	950	16.00	19700	1.60						
102	860	14.45	20000	2.4						
117	750	12.56	19500	2.7						
132	665	11.17	18500	2.1						
147	595	10.00	18200	2.3	KAF	87	EDRN	132L4	170	663
64	1370	23.08	16500	1.10	K	77	EDRN	132L4	135	655
73	1200	20.25	17400	1.20	KF	77	EDRN	132L4	145	656
82	1060	17.87	17600	1.30	KA	77	EDRN	132L4	125	658
93	940	15.84	17300	1.45	KAF	77	EDRN	132L4	135	656
109	800	13.52	17000	1.65	K	77	EDRN	132L4	135	655
119	735	12.36	16200	1.10						
136	645	10.84	15900	1.20						
154	570	9.56	15600	1.35						
173	505	8.48	15300	1.45						
203	430	7.24	14900	1.65						
					KAF	77	EDRN	132L4	135	656

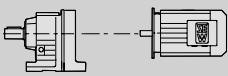
P _m = 11.0 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
2.0	47600	729	190000	1.10	K	187R107	EDRN	160M4	1910	703
2.4	40600	622	190000	1.30						
2.8	34400	520	190000	1.55						
3.2	29900	454	190000	1.75						
4.1	23100	355	190000	2.3						
2.0	48600	738	190000	1.10	K	187R97	EDRN	160M4	1870	702
2.4	40800	621	190000	1.30						
2.8	34500	527	190000	1.55						
4.6	21000	318	150000	1.65	K	167R107	EDRN	160M4	1330	703
5.3	18300	278	150000	1.90						
6.0	15800	244	150000	2.2						
6.9	13800	213	150000	2.5						
7.2	13400	206	150000	2.6						
3.1	31600	481	150000	1.10	K	167R97	EDRN	160M4	1280	702
3.5	27700	423	150000	1.25						
4.0	24200	369	150000	1.45						
5.1	19000	291	111600	1.05	K	157R97	EDRN	160M4	890	702
					KF	157R97	EDRN	160M4	970	702
					KA	157R97	EDRN	160M4	850	702
					KAF	157R97	EDRN	160M4	910	702
8.9	11000	166	80200	1.10	K	127R87	EDRN	160M4	600	701
10	9770	147	80800	1.25	KF	127R87	EDRN	160M4	640	701
					KA	127R87	EDRN	160M4	570	701
					KAF	127R87	EDRN	160M4	610	701

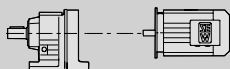
P_m = 11.0 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
8.9	11700	164.50	150000	2.9	K	167	EDRN	160M4	1160	697
11	9620	134.99	150000	3.6	KH	167	EDRN	160M4	1120	698
9.8	10700	150.41	115100	1.85	K	157	EDRN	160M4	760	690
12	8720	122.39	115600	2.3	KF	157	EDRN	160M4	840	691
15	7140	100.22	115900	2.8	KA	157	EDRN	160M4	730	693
16	6530	91.65	116100	3.1	KAF	157	EDRN	160M4	780	691
11	9700	136.14	80800	1.35	K	127	EDRN	160M4	530	683
12	8730	122.48	81200	1.50			EDRN	160M4	570	684
13	7850	110.18	81500	1.65			EDRN	160M4	500	686
16	6410	89.89	81900	2.0			EDRN	160M4	540	684
18	5840	81.98	82100	2.2			EDRN	160M4		
21	5050	70.95*	82300	2.6	KAF	127	EDRN	160M4		
15	7180	100.75	58200	1.05	K	107	EDRN	160M4	375	676
16	6480	90.96*	57900	1.15	KF	107	EDRN	160M4	390	677
18	5890	82.61	57400	1.25	KA	107	EDRN	160M4	350	679
					KAF	107	EDRN	160M4	375	677
20	5220	73.30	56700	1.40	K	107	EDRN	160M4	375	676
22	4740	66.52*	56100	1.50			EDRN	160M4	390	677
26	4070	57.17*	54900	1.75			EDRN	160M4	350	679
30	3550	49.90	53800	1.95			EDRN	160M4	375	677
35	3010	42.33*	52300	2.2			EDRN	160M4		
40	2630	37.00*	51000	2.5	KAF	107	EDRN	160M4		
31	3410	47.93*	32400	1.05	K	97	EDRN	160M4	265	669
					KF	97	EDRN	160M4	285	670
					KA	97	EDRN	160M4	245	672
					KAF	97	EDRN	160M4	270	670
35	2980	41.87	32200	1.20	K	97	EDRN	160M4	265	669
38	2730	38.30	31900	1.55			EDRN	160M4	285	670
43	2440	34.23	31600	1.75			EDRN	160M4	245	672
48	2190	30.82	31200	1.95			EDRN	160M4	270	670
53	1980	27.91	30700	2.2			EDRN	160M4		
60	1760	24.75	30200	2.4			EDRN	160M4		
66	1590	22.37	29700	2.7			EDRN	160M4		
47	2230	31.39	20600	1.15	K	87	EDRN	160M4	205	662
53	1980	27.88	20500	1.25	KF	87	EDRN	160M4	210	663
59	1770	24.92	20400	1.35	KA	87	EDRN	160M4	190	665
					KAF	87	EDRN	160M4	205	663
66	1590	22.41	20300	1.45	K	87	EDRN	160M4	205	662
76	1380	19.45	20000	1.65			EDRN	160M4	210	663
85	1240	17.42	19800	1.75			EDRN	160M4	190	665
92	1140	16.00	18800	1.30			EDRN	160M4	205	663
102	1030	14.45	19300	2.0			EDRN	160M4		
117	890	12.56	18900	2.2			EDRN	160M4		
132	795	11.17	17900	1.75			EDRN	160M4		
147	710	10.00	17600	1.90			EDRN	160M4		
178	590	8.29	17000	2.2			EDRN	160M4		
204	510	7.21	16600	2.5			EDRN	160M4		
82	1270	17.87	16600	1.10	K	77	EDRN	160M4	165	655
93	1120	15.84	16500	1.20			EDRN	160M4	175	656
109	960	13.52	16200	1.35			EDRN	160M4	160	658
136	770	10.84	15300	1.00			EDRN	160M4	165	656
154	680	9.56	15000	1.10			EDRN	160M4		
174	600	8.48	14800	1.20			EDRN	160M4		
203	515	7.24	14400	1.35	KAF	77	EDRN	160M4		

P_m = 15.0 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
2.8	47100	520	190000	1.15	K	187R107	EDRN	160L4	1930	703
3.2	41000	454	190000	1.30			EDRN	160L4	1860	703
4.2	31700	355	190000	1.65			EDRN	160L4		
5.7	23500	261	190000	2.2			EDRN	160L4		

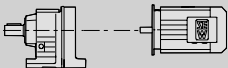
P _m = 15.0 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
4.6	28800	318	150000	1.20	K KH	167R107 167R107	EDRN EDRN	160L4 160L4	1350 1310	703 703
5.3	25000	278	150000	1.40						
6.0	21700	244	150000	1.60						
6.9	18900	213	150000	1.85						
7.2	18400	206	150000	1.90						
8.2	15900	180	150000	2.2						
9.2	14400	160	150000	2.4						
6.9	19100	213	111600	1.05	K	157R107	EDRN	160L4	950	703
7.9	16500	187	112900	1.20	KF	157R107	EDRN	160L4	1030	703
9.4	14000	157	113900	1.40	KA	157R107	EDRN	160L4	920	703
12	11000	122	115000	1.80	KAF	157R107	EDRN	160L4	980	703
14	9610	107	115400	2.1						
9.0	15900	164.50	150000	2.1	K	167	EDRN	160L4	1170	697
11	13100	134.99	150000	2.7	KH	167	EDRN	160L4	1130	698
9.8	14600	150.41	113700	1.35	K KF KA KAF	157 157 157 157	EDRN EDRN EDRN EDRN	160L4 160L4 160L4 160L4	780 860 740 800	690 691 693 691
12	11800	122.39	114700	1.70						
15	9730	100.22	114000	2.0						
16	8900	91.65	112300	2.2						
18	7750	79.75	109400	2.6						
12	11900	122.48	79800	1.10	K	127	EDRN	160L4	550	683
13	10700	110.18	80400	1.20	KF	127	EDRN	160L4	590	684
					KA	127	EDRN	160L4	520	686
					KAF	127	EDRN	160L4	560	684
16	8730	89.89	81200	1.50	K KF KA KAF	127 127 127 127	EDRN EDRN EDRN EDRN	160L4 160L4 160L4 160L4	550 590 520 560	683 684 686 684
18	7960	81.98	81500	1.65						
21	6890	70.95*	81500	1.90						
24	6080	62.60	79900	2.1						
27	5250	54.07	77800	2.5						
31	4640	47.82	76100	2.8						
20	7120	73.30	50500	1.00	K	107	EDRN	160L4	395	676
22	6460	66.52*	51000	1.10	KF	107	EDRN	160L4	405	677
					KA	107	EDRN	160L4	365	679
					KAF	107	EDRN	160L4	390	677
26	5550	57.17*	50600	1.25	K KF KA KAF	107 107 107 107	EDRN EDRN EDRN EDRN	160L4 160L4 160L4 160L4	395 405 365 390	676 677 679 677
30	4840	49.90	50000	1.45						
35	4110	42.33*	49000	1.65						
40	3590	37.00*	48100	1.85						
45	3170	32.69	47200	2.3						
47	3030	31.28*	46900	2.1						
51	2810	29.00	46300	2.6						
38	3720	38.30	28500	1.15	K	97	EDRN	160L4	280	669
43	3320	34.23	28500	1.30	KF	97	EDRN	160L4	300	670
48	2990	30.82	28400	1.45	KA	97	EDRN	160L4	260	672
					KAF	97	EDRN	160L4	285	670
53	2710	27.91	28200	1.60	K KF KA KAF	97 97 97 97	EDRN EDRN EDRN EDRN	160L4 160L4 160L4 160L4	280 300 260 285	669 670 672 670
60	2400	24.75	28000	1.80						
66	2170	22.37	27700	2.0						
78	1840	18.96	27100	2.3						
89	1600	16.56	26600	2.7						
59	2420	24.92	17900	1.00	K	87	EDRN	160L4	220	662
66	2170	22.41	18000	1.05	KF	87	EDRN	160L4	230	663
76	1880	19.45	18000	1.20	KA	87	EDRN	160L4	205	665
85	1690	17.42	18000	1.30	KAF	87	EDRN	160L4	220	663
102	1400	14.45	17800	1.50	K KF KA KAF	87 87 87 87	EDRN EDRN EDRN EDRN	160L4 160L4 160L4 160L4	220 230 205 220	662 663 665 663
117	1220	12.56	17600	1.65						
132	1080	11.17	16600	1.30						
147	970	10.00	16400	1.40						
178	800	8.29	16000	1.65						
204	700	7.21	15700	1.85						

8.4 Selection tables helical-worm gearmotors

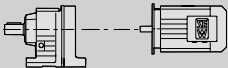
P_m = 0.12 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
0.16	3740	8608	31900	1.15	S	97pR57	EDRN	63MS4	170	740
0.18	3310	7554	34500	1.30	SF	97pR57	EDRN	63MS4	200	740
0.20	3910	6640	25000	1.10	SA	97pR57	EDRN	63MS4	165	740
0.24	3400	5780	32500	1.25	SAF	97pR57	EDRN	63MS4	190	740
0.16	3650	8608	33000	1.15	S	97R57	EDRN	63MS4	170	740
0.18	3230	7554	34600	1.30	SF	97R57	EDRN	63MS4	200	740
					SA	97R57	EDRN	63MS4	165	740
					SAF	97R57	EDRN	63MS4	190	740
0.20	2800	6706	25400	1.05	S	87pR57	EDRN	63MS4	110	740
0.23	2500	5875	27500	1.20	SF	87pR57	EDRN	63MS4	130	740
0.26	2070	5187	28300	1.45	SA	87pR57	EDRN	63MS4	105	740
0.30	1840	4606	28700	1.65	SAF	87pR57	EDRN	63MS4	120	740
0.35	1530	3872	29100	1.90						
0.23	2440	5875	27600	1.00	S	87R57	EDRN	63MS4	110	740
0.26	2020	5187	28400	1.25	SF	87R57	EDRN	63MS4	130	740
0.30	1790	4606	28800	1.40	SA	87R57	EDRN	63MS4	105	740
0.35	1490	3872	29200	1.65	SAF	87R57	EDRN	63MS4	120	740
0.38	1430	3540	12500	1.05	S SF SA SAF	77pR37 77pR37 77pR37 77pR37	EDRN EDRN EDRN EDRN	63MS4 63MS4 63MS4 63MS4	59 68 58 65	740 740 740 740
0.44	1250	3098	13300	1.20						
0.57	1360	2374	11900	1.05						
0.65	1200	2083	12700	1.20						
0.75	1010	1813	13600	1.40						
0.78	960	1745	13900	1.50						
0.85	880	1600	14300	1.60						
0.97	775	1404	14800	1.85						
1.1	680	1245	15300	2.1						
0.44	1220	3098	12100	1.05	S SF SA SAF	77R37 77R37 77R37 77R37	EDRN EDRN EDRN EDRN	63MS4 63MS4 63MS4 63MS4	59 68 58 65	740 740 740 740
0.65	1180	2083	12500	1.05						
0.75	1000	1813	13800	1.25						
0.78	950	1745	14100	1.30						
0.85	870	1600	14500	1.40						
0.97	765	1404	15100	1.60						
1.1	670	1245	15500	1.85						
1.1	605	1194	9770	1.20	S	67pR37	EDRN	63MS4	40	740
1.3	550	1045	10100	1.15	SF	67pR37	EDRN	63MS4	46	740
1.5	475	914	10600	1.35	SA	67pR37	EDRN	63MS4	41	740
					SAF	67pR37	EDRN	63MS4	45	740
1.7	430	809	10800	1.65	S	67pR37	EDRN	63MS4	39	740
1.9	380	712	11200	1.90	SF	67pR37	EDRN	63MS4	46	740
2.2	315	615	11400	2.3	SA	67pR37	EDRN	63MS4	40	740
2.5	285	543	11400	2.4	SAF	67pR37	EDRN	63MS4	45	740
1.3	540	1045	8480	1.05	S	67R37	EDRN	63MS4	40	740
1.5	465	914	9120	1.20	SF	67R37	EDRN	63MS4	46	740
					SA	67R37	EDRN	63MS4	41	740
					SAF	67R37	EDRN	63MS4	45	740
1.7	425	809	9420	1.35	S SF SA SAF	67R37 67R37 67R37 67R37	EDRN EDRN EDRN EDRN	63MS4 63MS4 63MS4 63MS4	39 46 40 45	740 740 740 740
1.9	375	712	9740	1.50						
2.2	310	615	10100	1.85						
2.5	280	543	10200	2.0						
2.9	225	469	10400	2.5						
3.2	205	424	10500	2.8						
3.7	190	365	10500	3.0						
2.1	340	655	6680	1.10	S SF SA SAF	57pR17 57pR17 57pR17 57pR17	EDRN EDRN EDRN EDRN	63MS4 63MS4 63MS4 63MS4	21 25 21 23	740 740 740 740
2.4	295	574	7110	1.25						
2.7	255	506	7420	1.45						
3.1	225	438	7640	1.65						
3.5	200	388	7780	1.85						
4.0	184	336	7870	2.0						
4.6	159	294	7990	2.3						
5.1	154	269	8010	2.4						

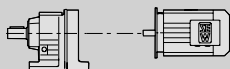
P _m = 0.12 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
2.4	290	574	7160	1.05	S SF SA SAF	57R17	EDRN	63MS4	21	740
2.7	250	506	7450	1.20		57R17	EDRN	63MS4	25	740
3.1	215	438	7680	1.35		57R17	EDRN	63MS4	21	740
3.5	192	388	7830	1.55		57R17	EDRN	63MS4	23	740
4.0	171	336	7930	1.75						
4.6	147	294	8040	2.0						
5.1	141	269	8060	2.1						
3.5	196	388	5110	1.00	S SF SA SAF	47pR17	EDRN	63MS4	17	740
4.0	178	336	5240	1.10		47pR17	EDRN	63MS4	21	740
4.6	155	294	5370	1.30		47pR17	EDRN	63MS4	18	740
5.3	123	257	5560	1.60		47pR17	EDRN	63MS4	20	740
6.0	130	229	5490	1.55						
6.8	114	200	5570	1.75						
7.3	107	187	5600	1.85						
4.0	171	336	5280	1.10	S SF SA SAF	47R17	EDRN	63MS4	17	740
4.6	145	294	5410	1.25		47R17	EDRN	63MS4	21	740
5.3	99	257	5660	1.85		47R17	EDRN	63MS4	18	740
6.0	119	229	5540	1.55		47R17	EDRN	63MS4	20	740
6.8	104	200	5610	1.80						
7.3	97	187	5640	1.90						
7.6	101	179	3000	1.05	S SF SA SAF	37pR17	EDRN	63MS4	14	740
8.6	91	158	3000	1.15		37pR17	EDRN	63MS4	15	740
9.4	84	144	3000	1.25		37pR17	EDRN	63MS4	14	740
12	69	118	3000	1.50		37pR17	EDRN	63MS4	15	740
12	65	110	3000	1.60						
8.6	82	158	3000	1.10	S SF SA SAF	37R17	EDRN	63MS4	14	740
9.4	76	144	3000	1.20		37R17	EDRN	63MS4	15	740
12	62	118	3000	1.50		37R17	EDRN	63MS4	14	740
12	58	110	3000	1.60		37R17	EDRN	63MS4	15	740
6.8	99	201.00*	8190	3.0	S SF SA SAF	57	EDRN	63MS4	18	715
7.4	92	184.80*	8210	3.2		57	EDRN	63MS4	21	716
8.6	81	158.12	8230	3.6		57	EDRN	63MS4	17	717
9.9	71	137.05	8250	4.1		57	EDRN	63MS4	20	716
6.8	121	201.00*	5580	1.60	S SF SA SAF	47p	EDRN	63MS4	14	710
7.4	112	184.80*	5610	1.70		47p	EDRN	63MS4	17	711
8.6	98	158.12	5670	2.0		47p	EDRN	63MS4	15	712
9.9	86	137.05	5710	2.3		47p	EDRN	63MS4	17	711
11	81	128.10*	5730	2.4						
12	71	110.73	5770	2.6						
6.8	96	201.00*	5670	1.75	S SF SA SAF	47	EDRN	63MS4	14	710
7.4	89	184.80*	5700	1.90		47	EDRN	63MS4	17	711
8.6	78	158.12	5740	2.2		47	EDRN	63MS4	15	712
9.9	69	137.05	5770	2.4		47	EDRN	63MS4	17	711
11	65	128.10*	5780	2.6						
12	57	110.73	5810	2.9						
8.6	93	157.43	3000	1.00	S SF SA SAF	37p	EDRN	63MS4	11	706
9.4	87	144.40*	3000	1.10		37p	EDRN	63MS4	12	707
11	75	122.94	3000	1.25		37p	EDRN	63MS4	10	708
13	66	106.00*	3000	1.35		37p	EDRN	63MS4	12	707
14	62	98.80*	3000	1.45						
16	55	86.36	3000	1.60						
17	51	80.96	3000	1.70						
19	46	71.44*	3000	1.85						
21	41	63.33	3000	2.0						
24	40	55.93	3000	2.4						
27	37	51.30*	3000	2.6						

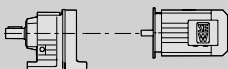
P_m = 0.12 kW

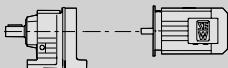
n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
8.6	74	157.43	3000	1.25						
9.4	69	144.40*	3000	1.35						
11	60	122.94	3000	1.50						
13	52	106.00*	3000	1.65						
14	49	98.80*	3000	1.75						
16	44	86.36	3000	1.95						
17	41	80.96	3000	2.0						
19	37	71.44*	3000	2.2						
21	33	63.33	3000	2.4						
24	35	55.93	3000	2.3	S SF SA SAF	37	EDRN	63MS4	11	706
27	33	51.30*	3000	2.5		37	EDRN	63MS4	12	707
31	28	43.68	3000	2.8		37	EDRN	63MS4	10	708
36	24	37.66	3000	3.2		37	EDRN	63MS4	12	707
39	23	35.10*	3000	3.4						
44	20	30.68	3000	3.7						
47	19	28.76	3000	3.9						
54	17	25.38*	3000	4.3						
60	15	22.50*	3000	4.8						
68	14	19.89	3000	3.6						
75	13	18.24*	3000	3.9						
88	11	15.53	2890	4.4						

P_m = 0.18 kW

n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
0.30	2940	4606	21800	1.00	S	87pR57	EDRN	63M4	110	740
0.36	2450	3872	27600	1.20	SF	87pR57	EDRN	63M4	130	740
					SA	87pR57	EDRN	63M4	105	740
					SAF	87pR57	EDRN	63M4	125	740
0.40	2370	3475	27700	1.25	S SF SA SAF	87pR57	EDRN	63M4	110	740
0.47	1990	2905	28500	1.50		87pR57	EDRN	63M4	130	740
0.53	1720	2586	28900	1.75		87pR57	EDRN	63M4	105	740
0.59	1530	2335	29100	1.95		87pR57	EDRN	63M4	120	740
0.67	1330	2054	29400	2.2		87pR57	EDRN	63M4		
0.75	1210	1824	29500	2.5						
0.84	1100	1631	29600	2.7						
0.36	2390	3872	27700	1.05	S	87R57	EDRN	63M4	110	740
					SF	87R57	EDRN	63M4	130	740
					SA	87R57	EDRN	63M4	105	740
					SAF	87R57	EDRN	63M4	125	740
0.40	2310	3475	27900	1.10	S SF SA SAF	87R57	EDRN	63M4	110	740
0.47	1940	2905	28500	1.30		87R57	EDRN	63M4	130	740
0.53	1680	2586	28900	1.50		87R57	EDRN	63M4	105	740
0.59	1500	2335	29200	1.65		87R57	EDRN	63M4	120	740
0.67	1290	2054	29400	1.95		87R57	EDRN	63M4		
0.75	1150	1824	29500	2.2						
0.84	1030	1631	29700	2.4						
0.86	1370	1600	11800	1.05	S	77pR37	EDRN	63M4	60	740
0.98	1200	1404	12700	1.20	SF	77pR37	EDRN	63M4	69	740
1.1	1060	1245	13400	1.35	SA	77pR37	EDRN	63M4	59	740
					SAF	77pR37	EDRN	63M4	66	740
1.2	990	1100	13800	1.45	S SF SA SAF	77pR37	EDRN	63M4	59	740
1.4	850	954	14500	1.70		77pR37	EDRN	63M4	69	740
1.6	745	837	15000	1.95		77pR37	EDRN	63M4	59	740
1.9	620	714	15600	2.3		77pR37	EDRN	63M4	59	740
2.2	550	637	15700	2.6		77pR37	EDRN	63M4	66	740
2.4	500	574	15700	2.9						
0.98	1190	1404	12400	1.05	S	77R37	EDRN	63M4	60	740
1.1	1040	1245	13500	1.20	SF	77R37	EDRN	63M4	69	740
					SA	77R37	EDRN	63M4	59	740
					SAF	77R37	EDRN	63M4	66	740

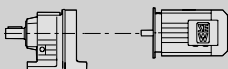
P _m = 0.18 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
1.2	970	1100	14000	1.25	S SF SA SAF	77R37	EDRN	63M4	59	740
1.4	830	954	14700	1.50					69	740
1.6	735	837	15200	1.70					59	740
1.9	610	714	15700	2.0					66	740
2.2	540	637	15900	2.3						
2.4	490	574	16000	2.5						
1.7	660	809	9440	1.10	S SF SA SAF	67pR37	EDRN	63M4	40	740
1.9	580	712	9920	1.25					47	740
2.2	490	615	10500	1.45					41	740
2.5	445	543	10800	1.55					46	740
2.9	380	469	11200	1.90						
3.2	345	424	11300	2.1						
3.8	315	365	11400	2.3						
2.2	480	615	8990	1.20	S SF SA SAF	67R37	EDRN	63M4	40	740
2.5	430	543	9370	1.30					47	740
2.9	360	469	9820	1.60					41	740
3.2	325	424	10000	1.75					46	740
3.8	290	365	10200	1.95						
3.1	350	438	6570	1.05	S SF SA SAF	57pR17	EDRN	63M4	22	740
3.5	310	388	6950	1.20					25	740
4.1	280	336	7230	1.30					21	740
4.7	245	294	7490	1.50					24	740
5.1	235	269	7580	1.55						
6.0	200	229	7770	1.80						
6.7	185	204	7870	2.0						
7.3	170	187	7940	2.2						
4.1	260	336	7380	1.15	S SF SA SAF	57R17	EDRN	63M4	22	740
4.7	225	294	7620	1.30					25	740
5.1	215	269	7700	1.40					21	740
6.0	185	229	7870	1.60					24	740
6.7	166	204	7960	1.80						
7.3	152	187	8020	1.95						
5.3	193	257	5220	1.05	S SF SA SAF	47pR17	EDRN	63M4	18	740
6.0	199	229	5100	1.00					21	740
6.9	176	200	5260	1.15					19	740
7.3	165	187	5320	1.20					21	740
8.3	147	165	5410	1.35						
9.3	133	148	5480	1.50						
11	118	131	5550	1.70						
5.3	155	257	5410	1.20	S SF SA SAF	47R17	EDRN	63M4	18	740
6.9	159	200	5340	1.15					21	740
7.3	149	187	5390	1.25					19	740
8.3	132	165	5480	1.40					21	740
9.3	119	148	5540	1.55						
11	105	131	5600	1.75						
6.3	169	217.41	10600	3.1	S SF SA SAF	67	EDRN	63M4	29	720
7.2	150	190.11	10600	3.5					36	721
7.6	143	180.60*	10600	3.6					30	722
									35	721
6.8	185	201.00*	7870	1.90	S SF SA SAF	57p	EDRN	63M4	18	715
7.4	172	184.80*	7930	2.0					22	716
8.7	149	158.12	8030	2.2					18	717
10	131	137.05	8100	2.4					21	716
6.8	148	201.00*	8030	2.0	S SF SA SAF	57	EDRN	63M4	18	715
7.4	138	184.80*	8070	2.1					22	716
8.7	120	158.12	8130	2.5					18	717
10	106	137.05	8170	2.8					21	716

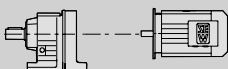
P _m = 0.18 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
6.8	179	201.00*	5290	1.05	S SF SA SAF	47p 47p 47p 47p	EDRN EDRN EDRN EDRN	63M4 63M4 63M4 63M4	15 18 16 17	710 711 712 711
7.4	167	184.80*	5360	1.15						
8.7	145	158.12	5460	1.35						
10	128	137.05	5540	1.50						
11	120	128.10*	5580	1.60						
12	105	110.73	5640	1.75						
15	90	94.08*	5700	2.0						
16	81	84.00*	5730	2.2						
19	70	71.75*	5770	2.5						
20	75	69.39	5730	2.5						
6.8	143	201.00*	5470	1.20	S SF SA SAF	47 47 47 47	EDRN EDRN EDRN EDRN	63M4 63M4 63M4 63M4	15 18 16 17	710 711 712 711
7.4	133	184.80*	5520	1.25						
8.7	116	158.12	5590	1.45						
10	102	137.05	5650	1.65						
11	96	128.10*	5670	1.75						
12	85	110.73	5710	1.95						
15	73	94.08*	5760	2.3						
16	66	84.00*	5780	2.5						
19	58	71.75*	5810	2.9						
20	66	69.39	5760	2.3						
16	81	86.36	3000	1.05	S SF SA SAF	37p 37p 37p 37p	EDRN EDRN EDRN EDRN	63M4 63M4 63M4 63M4	12 13 11 13	706 707 708 707
17	77	80.96	3000	1.15						
19	68	71.44*	3000	1.25						
22	61	63.33	3000	1.35						
25	60	55.93	3000	1.65						
27	55	51.30*	3000	1.75						
31	47	43.68	3000	1.90						
37	41	37.66	3000	2.1						
39	38	35.10*	3000	2.2						
13	78	106.00*	3000	1.10	S SF SA SAF	37 37 37 37	EDRN EDRN EDRN EDRN	63M4 63M4 63M4 63M4	12 13 11 13	706 707 708 707
14	74	98.80*	3000	1.20						
16	65	86.36	3000	1.30						
17	62	80.96	3000	1.35						
19	55	71.44*	3000	1.50						
22	50	63.33	3000	1.65						
25	53	55.93	3000	1.50						
27	49	51.30*	3000	1.65						
31	42	43.68	3000	1.90						
37	36	37.66	3000	2.1						
39	34	35.10*	3000	2.3						
45	30	30.68	3000	2.5						
48	28	28.76	3000	2.6						
54	25	25.38*	3000	2.9						
61	22	22.50*	3000	3.2						
69	21	19.89	2980	2.4						
75	19	18.24*	2920	2.6						
89	17	15.53	2790	2.9						
103	14	13.39	2680	3.3						
110	13	12.48*	2630	3.5						
126	12	10.91	2530	4.0						
134	11	10.23	2480	4.1						

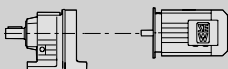
P _m = 0.25 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.48	2770	2905	25900	1.05	S	87pR57	EDRN	71MS4	110	740
0.54	2420	2586	27700	1.25						
0.60	2160	2335	28100	1.40						
0.68	1900	2054	28600	1.60						
0.77	1720	1824	28900	1.75						
0.86	1570	1631	29100	1.85	SAF	87pR57	EDRN	71MS4	120	740

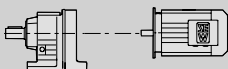
P _m = 0.25 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.54	2360	2586	27800	1.05	S SF SA SAF	87R57	EDRN	71MS4	110	740
0.60	2110	2335	28200	1.20		87R57	EDRN	71MS4	130	740
0.68	1830	2054	28700	1.35		87R57	EDRN	71MS4	105	740
0.77	1630	1824	29000	1.55		87R57	EDRN	71MS4	120	740
0.86	1450	1631	29200	1.70		87R57	EDRN	71MS4		
1.5	860	930	29800	2.9						
1.3	1370	1100	11900	1.05	S SF SA SAF	77pR37	EDRN	71MS4	60	740
1.5	1180	954	12800	1.20		77pR37	EDRN	71MS4	70	740
1.7	1030	837	13500	1.40		77pR37	EDRN	71MS4	59	740
2.0	860	714	14400	1.65		77pR37	EDRN	71MS4	66	740
2.2	770	637	14900	1.90		77pR37	EDRN	71MS4		
2.4	700	574	15200	2.0						
2.8	610	499	15700	2.4						
1.5	1160	954	12600	1.05	S SF SA SAF	77R37	EDRN	71MS4	60	740
1.7	1020	837	13700	1.20		77R37	EDRN	71MS4	70	740
2.0	850	714	14600	1.45		77R37	EDRN	71MS4	59	740
2.2	755	637	15100	1.65		77R37	EDRN	71MS4	66	740
2.4	685	574	15400	1.80		77R37	EDRN	71MS4		
2.8	585	499	15700	2.1						
2.3	685	615	9290	1.05	S SF SA SAF	67pR37	EDRN	71MS4	41	740
2.6	620	543	9690	1.10		67pR37	EDRN	71MS4	47	740
3.0	535	469	10200	1.35		67pR37	EDRN	71MS4	42	740
3.3	490	424	10500	1.45		67pR37	EDRN	71MS4	46	740
3.8	440	365	10800	1.65		67pR37	EDRN	71MS4		
4.4	385	319	11200	1.70						
5.0	340	281	11300	2.0						
3.0	505	469	8790	1.10	S SF SA SAF	67R37	EDRN	71MS4	41	740
3.3	455	424	9180	1.25		67R37	EDRN	71MS4	47	740
3.8	405	365	9530	1.40		67R37	EDRN	71MS4	42	740
4.4	350	319	9860	1.60		67R37	EDRN	71MS4	46	740
5.0	310	281	10100	1.85		67R37	EDRN	71MS4		
4.8	345	294	6610	1.05	S SF SA SAF	57pR17	EDRN	71MS4	22	740
5.2	325	269	6820	1.15		57pR17	EDRN	71MS4	26	740
6.1	280	229	7220	1.30		57pR17	EDRN	71MS4	22	740
6.9	255	204	7430	1.45		57pR17	EDRN	71MS4	25	740
7.5	235	187	7570	1.55		57pR17	EDRN	71MS4		
8.5	210	165	7730	1.75						
11	169	131	7940	2.1						
5.2	295	269	7090	1.00	S SF SA SAF	57R17	EDRN	71MS4	22	740
6.1	255	229	7430	1.15		57R17	EDRN	71MS4	26	740
6.9	230	204	7610	1.30		57R17	EDRN	71MS4	22	740
7.5	210	187	7720	1.40		57R17	EDRN	71MS4	25	740
8.5	187	165	7860	1.60		57R17	EDRN	71MS4		
11	150	131	8020	2.0						
6.4	280	217.41	11500	2.2	S SF SA SAF	67p	EDRN	71MS4	30	720
7.4	250	190.11	11600	2.5		67p	EDRN	71MS4	36	721
7.8	235	180.60*	11600	2.7		67p	EDRN	71MS4	31	722
						67p	EDRN	71MS4	35	721
6.4	230	217.41	10400	2.2	S SF SA SAF		EDRN	71MS4	30	720
7.4	205	190.11	10500	2.5		67	EDRN	71MS4	36	721
7.8	196	180.60*	10500	2.6		67	EDRN	71MS4	31	722
8.8	174	158.45	10600	3.0		67	EDRN	71MS4	35	721
10	151	134.40*	10600	3.4		67	EDRN	71MS4		
12	137	121.33	10600	3.8		67	EDRN	71MS4		
13	122	106.75*	10700	4.2						
7.0	250	201.00*	7460	1.40	S SF SA SAF	57p	EDRN	71MS4	19	715
7.6	235	184.80*	7580	1.45		57p	EDRN	71MS4	23	716
8.8	200	158.12	7770	1.60		57p	EDRN	71MS4	19	717
10	179	137.05	7900	1.75		57p	EDRN	71MS4	22	716
11	168	128.10*	7950	1.85		57p	EDRN	71MS4		
13	146	110.73	8040	2.0		57p	EDRN	71MS4		
15	125	94.08*	8110	2.3						
17	112	84.00*	8150	2.6						

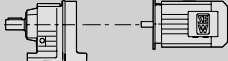
SEW
EURODRIVE

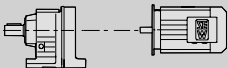
P _m = 0.25 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
17	84	80.96	3000	1.00												
20	76	71.44*	3000	1.10												
22	68	63.33	3000	1.20												
25	72	55.93	3000	1.10												
27	67	51.30*	3000	1.20												
32	57	43.68	3000	1.40												
37	50	37.66	3000	1.55												
40	47	35.10*	3000	1.65												
46	41	30.68	3000	1.85												
49	39	28.76	3000	1.90												
55	34	25.38*	3000	2.1												
62	31	22.50*	3000	2.4							S	37	EDRN	71MS4	12	706
70	29	19.89	2840	1.75							SF	37	EDRN	71MS4	13	707
77	27	18.24*	2780	1.90							SA	37	EDRN	71MS4	12	708
90	23	15.53	2680	2.1							SAF	37	EDRN	71MS4	13	707
105	20	13.39	2580	2.4												
112	18	12.48*	2530	2.5												
128	16	10.91	2440	2.9												
137	15	10.23	2400	3.0												
155	13	9.02*	2320	3.3												
175	12	8.00*	2240	3.7												
206	10	6.80*	2140	4.1												
221	9.0	6.33	2090	3.6												
260	8.0	5.38	2000	4.1												
288	7.0	4.86*	1940	4.4												
353	6.0	3.97	1820	5.2												

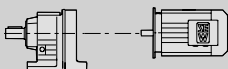
P _m = 0.37 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
0.68	2890	2054	23200	1.05	S SF SA SAF	87pR57	EDRN	71M4	110	740
0.77	2630	1824	27200	1.15		87pR57	EDRN	71M4	130	740
0.86	2400	1631	27700	1.25		87pR57	EDRN	71M4	105	740
1.5	1510	930	29100	2.0		87pR57	EDRN	71M4	125	740
1.7	1380	831	29300	2.1						
0.86	2220	1631	28000	1.10	S SF SA SAF	87R57	EDRN	71M4	110	740
1.5	1310	930	29400	1.90		87R57	EDRN	71M4	130	740
						87R57	EDRN	71M4	105	740
1.7	1190	831	29500	2.1		87R57	EDRN	71M4	125	740
2.0	1300	714	12200	1.10	S SF SA SAF	77pR37	EDRN	71M4	61	740
2.2	1160	637	12900	1.25		77pR37	EDRN	71M4	71	740
2.5	1050	574	13400	1.35		77pR37	EDRN	71M4	61	740
2.8	920	499	14100	1.55		77pR37	EDRN	71M4	67	740
3.2	820	438	14700	1.75						
3.6	735	389	15100	1.90						
2.2	1140	637	12800	1.10	S SF SA SAF	77R37	EDRN	71M4	61	740
2.5	1030	574	13600	1.20		77R37	EDRN	71M4	71	740
2.8	890	499	14400	1.40		77R37	EDRN	71M4	61	740
3.2	780	438	15000	1.60		77R37	EDRN	71M4	67	740
3.6	695	389	15400	1.80						
3.9	665	365	9480	1.10	S SF SA SAF	67pR37	EDRN	71M4	42	740
4.4	585	319	9980	1.15		67pR37	EDRN	71M4	48	740
5.0	515	281	10400	1.30		67pR37	EDRN	71M4	43	740
5.7	470	246	10700	1.55		67pR37	EDRN	71M4	47	740
4.4	535	319	8540	1.05	S SF SA SAF	67R37	EDRN	71M4	42	740
5.0	470	281	9090	1.20		67R37	EDRN	71M4	48	740
						67R37	EDRN	71M4	43	740
5.7	420	246	9430	1.35		67R37	EDRN	71M4	47	740
5.5	430	256.47	16000	2.9	S	77	EDRN	71M4	52	725
6.2	380	225.26	16000	3.3	SF	77	EDRN	71M4	62	726
					SA	77	EDRN	71M4	51	727
6.6	365	214.00*	16000	3.5	SAF	77	EDRN	71M4	58	726

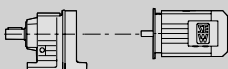
P _m = 0.37 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
6.5	415	217.41	11200	1.55	S SF SA SAF	67p 67p 67p 67p	EDRN EDRN EDRN EDRN	71M4 71M4 71M4 71M4	31	720
7.4	370	190.11	11300	1.70					37	721
7.8	350	180.60*	11300	1.80					32	722
8.9	310	158.45	11400	2.1					36	721
10	265	134.40*	11500	2.4						
12	240	121.33	11600	2.6						
6.5	340	217.41	9920	1.50	S SF SA SAF	67 67 67 67	EDRN EDRN EDRN EDRN	71M4 71M4 71M4 71M4	31	720
7.4	300	190.11	10100	1.70					37	721
7.8	285	180.60*	10200	1.80					32	722
8.9	255	158.45	10300	2.0					36	721
10	220	134.40*	10400	2.3						
12	200	121.33	10500	2.6						
8.9	300	158.12	7070	1.10	S SF SA SAF	57p 57p 57p 57p	EDRN EDRN EDRN EDRN	71M4 71M4 71M4 71M4	20	715
10	260	137.05	7380	1.20					24	716
11	245	128.10*	7490	1.25					20	717
13	215	110.73	7700	1.40					23	716
15	185	94.08*	7870	1.60						
17	166	84.00*	7960	1.75						
20	143	71.75*	8050	2.0						
20	153	69.39	8010	2.0						
21	134	67.20*	8080	2.1						
22	141	63.80*	8060	2.1						
7.6	275	184.80*	7270	1.05	S SF SA SAF	57 57 57 57	EDRN EDRN EDRN EDRN	71M4 71M4 71M4 71M4	20	715
8.9	240	158.12	7530	1.20					24	716
10	210	137.05	7710	1.40					20	717
11	200	128.10*	7780	1.45					23	716
13	177	110.73	7910	1.65						
15	153	94.08*	8010	1.90						
17	138	84.00*	8070	2.1						
20	120	71.75*	8130	2.4						
20	136	69.39	8080	1.80						
21	113	67.20*	8150	2.5						
22	126	63.80*	8110	1.95						
15	182	94.08*	5280	1.00	S SF SA SAF	47p 47p 47p 47p	EDRN EDRN EDRN EDRN	71M4 71M4 71M4 71M4	16	710
17	164	84.00*	5380	1.10					20	711
20	141	71.75*	5490	1.25					17	712
20	151	69.39	5400	1.25					19	711
21	132	67.20*	5520	1.35						
22	139	63.80*	5460	1.35						
26	120	54.59	5480	1.50						
30	105	47.32	5310	1.65						
32	98	44.22*	5230	1.70						
37	85	38.23	5060	1.90						
43	72	32.48*	4860	2.2						
48	65	29.00*	4720	2.4						
15	149	94.08*	5440	1.15	S SF SA SAF	47 47 47 47	EDRN EDRN EDRN EDRN	71M4 71M4 71M4 71M4	16	710
17	134	84.00*	5510	1.25					20	711
20	117	71.75*	5590	1.45					17	712
20	134	69.39	5480	1.15					19	711
21	110	67.20*	5620	1.50						
22	124	63.80*	5520	1.25						
26	107	54.59	5580	1.45						
30	93	47.32	5400	1.65						
32	88	44.22*	5310	1.75						
37	76	38.23	5120	2.0						
43	66	32.48*	4910	2.4						
48	59	29.00*	4770	2.6						
57	51	24.77	4570	3.0						
61	48	23.20*	4490	3.2						
69	44	20.33	4180	2.5						
80	39	17.62	4030	2.8						
85	36	16.47*	3960	3.0						

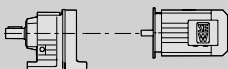
P _m = 0.37 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
37	83	37.66	3000	1.05						
40	77	35.10*	3000	1.10						
46	68	30.68	2970	1.25						
49	64	28.76	2940	1.30						
55	56	25.38*	2880	1.45						
62	50	22.50*	2810	1.60						
71	46	19.89	2600	1.70						
77	42	18.24*	2560	1.80						
90	36	15.53	2480	2.1						
105	31	13.39	2410	2.4						
113	29	12.48*	2380	2.5						
129	25	10.91	2310	2.8						
37	74	37.66	3000	1.05						
40	69	35.10*	3000	1.10						
46	61	30.68	3000	1.25						
49	57	28.76	3000	1.30						
55	51	25.38*	2940	1.45						
62	45	22.50*	2860	1.60						
71	43	19.89	2630	1.20						
77	39	18.24*	2590	1.30						
90	34	15.53	2510	1.45						
105	29	13.39	2430	1.65						
113	27	12.48*	2390	1.75						
129	24	10.91	2320	1.95						
137	22	10.23	2290	2.0						
156	20	9.02*	2220	2.3						
176	18	8.00*	2160	2.5						
207	15	6.80*	2070	2.8						
222	14	6.33	2020	2.4						
261	12	5.38	1930	2.8						
289	11	4.86*	1880	3.0						
354	9.0	3.97	1780	3.5						

P _m = 0.55 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
1.2	2750	1191	26300	1.05	S SF SA SAF	87pR57	EDRN	80MK4	110	740
1.4	2430	1032	27600	1.20						
1.5	2270	930	28000	1.30						
1.7	2060	831	28300	1.45						
2.0	1810	719	28700	1.65						
2.3	1580	624	29100	1.90						
2.6	1440	558	29200	2.0						
3.3	1150	435	29500	2.5						
1.2	2440	1191	27600	1.00	S SF SA SAF	87R57	EDRN	80MK4	110	740
1.4	2130	1032	28200	1.15						
1.5	1970	930	28500	1.25						
1.7	1780	831	28800	1.40						
2.0	1540	719	29100	1.60						
2.3	1340	624	29300	1.85						
2.6	1210	558	29500	2.0						
3.3	970	435	29700	2.5						
2.9	1370	499	11900	1.05	S SF SA SAF	77pR37	EDRN	80MK4	63	740
3.3	1220	438	12700	1.20						
3.7	1090	389	13300	1.25						
4.4	930	327	14100	1.50						
5.0	850	289	14600	1.70						
5.7	740	250	15100	1.95						
3.3	1160	438	12600	1.05	S SF SA SAF	77R37	EDRN	80MK4	63	740
3.7	1030	389	13600	1.20						
4.4	870	327	14500	1.40						
5.0	790	289	14900	1.55						
5.7	680	250	15400	1.80						

P_m = 0.55 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
5.8	695	246	9330	1.05	S	67pR37	EDRN	80MK4	44	740
6.5	620	221	9770	1.05	SF	67pR37	EDRN	80MK4	51	740
7.2	570	198	10100	1.20	SA	67pR37	EDRN	80MK4	45	740
8.5	490	168	10600	1.40	SAF	67pR37	EDRN	80MK4	50	740
9.2	455	156	10800	1.40						
6.5	560	221	8290	1.00	S	67R37	EDRN	80MK4	44	740
7.2	510	198	8750	1.10	SF	67R37	EDRN	80MK4	51	740
8.5	435	168	9330	1.30	SA	67R37	EDRN	80MK4	45	740
					SAF	67R37	EDRN	80MK4	50	740
5.0	740	288.00*	29900	3.1	S	87	EDRN	80MK4	90	730
5.5	670	258.18	29900	3.4	SF	87	EDRN	80MK4	110	731
6.4	585	222.40*	30000	3.8	SA	87	EDRN	80MK4	88	732
7.0	540	202.96	30000	4.0	SAF	87	EDRN	80MK4	105	731
5.6	755	256.47	15500	2.0	S	77p	EDRN	80MK4	54	725
6.3	670	225.26	15700	2.2	SF	77p	EDRN	80MK4	64	726
6.7	635	214.00*	15700	2.4	SA	77p	EDRN	80MK4	54	727
7.6	565	189.09	15700	2.6	SAF	77p	EDRN	80MK4	60	726
5.6	630	256.47	15600	2.0	S	77	EDRN	80MK4	54	725
6.3	560	225.26	15800	2.3	SF	77	EDRN	80MK4	64	726
6.7	535	214.00*	15900	2.4	SA	77	EDRN	80MK4	54	727
7.6	480	189.09	16000	2.6	SAF	77	EDRN	80MK4	60	726
8.8	415	161.60*	16000	3.0						
6.6	610	217.41	10300	1.05						
7.5	540	190.11	10600	1.20						
7.9	515	180.60*	10800	1.25						
9.0	455	158.45	11100	1.40	S	67p	EDRN	80MK4	33	720
11	390	134.40*	11200	1.65	SF	67p	EDRN	80MK4	40	721
12	355	121.33	11300	1.80	SA	67p	EDRN	80MK4	34	722
13	310	106.75*	11400	2.0	SAF	67p	EDRN	80MK4	39	721
14	295	100.80*	11500	2.2						
17	250	85.83	11600	2.6						
19	245	75.06	11000	2.9						
6.6	495	217.41	8860	1.05						
7.5	440	190.11	9300	1.15						
7.9	420	180.60*	9430	1.25						
9.0	375	158.45	9720	1.40	S	67	EDRN	80MK4	33	720
11	325	134.40*	10000	1.60	SF	67	EDRN	80MK4	40	721
12	295	121.33	10100	1.75	SA	67	EDRN	80MK4	34	722
13	265	106.75*	10300	1.95	SAF	67	EDRN	80MK4	39	721
14	250	100.80*	10300	2.1						
17	215	85.83	10400	2.4						
19	220	75.06	10400	2.2						
22	194	65.63	10500	2.5						
15	270	94.08*	7320	1.10						
17	240	84.00*	7530	1.20						
20	205	71.75*	7740	1.35	S	57p	EDRN	80MK4	22	715
21	196	67.20*	7810	1.45	SF	57p	EDRN	80MK4	26	716
26	177	54.59	7910	1.60	SA	57p	EDRN	80MK4	22	717
30	154	47.32	8010	1.80	SAF	57p	EDRN	80MK4	25	716
32	144	44.22*	8050	1.85						
37	125	38.23	8110	2.1						
44	107	32.48*	7810	2.4						
13	255	110.73	7410	1.15						
15	220	94.08*	7650	1.30						
17	200	84.00*	7780	1.45						
20	176	71.75*	7910	1.60						
21	166	67.20*	7960	1.70						
26	159	54.59	7990	1.55	S	57	EDRN	80MK4	22	715
30	139	47.32	8070	1.75	SF	57	EDRN	80MK4	26	716
32	130	44.22*	8100	1.85	SA	57	EDRN	80MK4	22	717
37	114	38.23	8150	2.1	SAF	57	EDRN	80MK4	25	716
44	97	32.48*	7860	2.5						
49	87	29.00*	7620	2.8						
58	75	24.77	7290	3.2						
62	71	23.20*	7150	3.4						
70	65	20.33	6700	2.5						

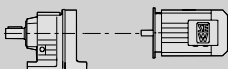
P _m = 0.55 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
26	176	54.59	4950	1.00	S SF SA SAF	47p 47p 47p 47p	EDRN EDRN EDRN EDRN	80MK4 80MK4 80MK4 80MK4	19 22 20 21	710 711 712 711
30	153	47.32	4850	1.10						
32	143	44.22*	4800	1.15						
37	124	38.23	4680	1.30						
44	106	32.48*	4530	1.50						
49	95	29.00*	4430	1.65						
58	81	24.77	4280	1.90						
62	76	23.20*	4220	2.0						
70	69	20.33	3880	2.0						
81	60	17.62	3770	2.3						
87	56	16.47*	3720	2.4						
21	161	67.20*	5380	1.05	S SF SA SAF	47 47 47 47	EDRN EDRN EDRN EDRN	80MK4 80MK4 80MK4 80MK4	19 22 20 21	710 711 712 711
30	137	47.32	4970	1.15						
32	129	44.22*	4910	1.20						
37	112	38.23	4770	1.40						
44	96	32.48*	4610	1.60						
49	86	29.00*	4490	1.80						
58	74	24.77	4330	2.0						
62	70	23.20*	4260	2.2						
70	65	20.33	3910	1.70						
81	57	17.62	3790	1.90						
87	53	16.47*	3740	2.0						
100	46	14.24	3610	2.4						
118	39	12.10*	3470	2.7						
132	35	10.80*	3380	3.1						
155	30	9.23*	3240	3.6						
64	73	22.50*	2510	1.10	S SF SA SAF	37p 37p 37p 37p	EDRN EDRN EDRN EDRN	80MK4 80MK4 80MK4 80MK4	16 17 15 17	706 707 708 707
72	67	19.89	2260	1.15						
75	62	19.13*	2460	1.25						
78	62	18.24*	2250	1.25						
92	53	15.53	2220	1.40						
107	46	13.39	2180	1.65						
115	43	12.48*	2160	1.70						
131	37	10.91	2120	1.90						
140	35	10.23	2090	2.0						
158	31	9.02*	2050	2.2						
179	27	8.00*	2000	2.4						
210	23	6.80*	1940	2.5						
226	22	6.33	1890	2.5						
266	18	5.38	1820	2.7						
294	16	4.86*	1780	2.8						
64	67	22.50*	2580	1.10	S SF SA SAF	37 37 37 37	EDRN EDRN EDRN EDRN	80MK4 80MK4 80MK4 80MK4	16 17 15 17	706 707 708 707
75	57	19.13*	2520	1.25						
107	43	13.39	2210	1.15						
115	40	12.48*	2180	1.20						
131	35	10.91	2140	1.35						
140	33	10.23	2110	1.40						
158	29	9.02*	2060	1.55						
179	26	8.00*	2020	1.70						
210	22	6.80*	1950	1.90						
226	21	6.33	1900	1.65						
266	18	5.38	1830	1.90						
294	16	4.86*	1790	2.0						
361	13	3.97	1700	2.4						

P _m = 0.75 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
1.4	4160	1070	21000	1.05	S SF SA SAF	97pR57	EDRN	80M4	175	740
1.6	3590	928	29800	1.20		97pR57	EDRN	80M4	210	740
1.8	3200	824	34600	1.35		97pR57	EDRN	80M4	170	740
2.0	2620	714	35500	1.65		97pR57	EDRN	80M4	195	740
2.3	2480	626	35600	1.75						
2.7	2140	538	36000	2.0						
3.0	1950	484	36200	2.2						

P _m = 0.75 kW															
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg						
1.4	4110	1070	21600	1.00	S SF SA SAF	97R57	EDRN	80M4	175	740					
1.6	3540	928	30400	1.20											
1.8	3130	824	34800	1.35											
2.0	2230	714	35900	1.90											
2.3	2380	626	35800	1.75											
2.7	2040	538	36100	2.1											
3.0	1840	484	36300	2.3											
1.7	2840	831	24900	1.05	S SF SA SAF	87pR57	EDRN	80M4	115	740					
2.0	2490	719	27500	1.20											
2.3	2190	624	28100	1.35											
2.6	1980	558	28500	1.50											
3.3	1590	435	29000	1.80											
4.5	1210	323	29500	2.3											
1.7	2440	831	27600	1.00	S SF SA SAF	87R57	EDRN	80M4	115	740					
2.0	2120	719	28200	1.15											
2.3	1860	624	28700	1.35											
2.6	1680	558	28900	1.50											
3.3	1340	435	29300	1.80											
4.5	1020	323	29700	2.3											
4.4	1280	327	12400	1.10	S SF SA SAF	77pR37	EDRN	80M4	67	740					
5.0	1160	289	13000	1.25											
5.8	1010	250	13800	1.40											
6.6	890	219	14400	1.60											
4.4	1190	327	12300	1.05	S SF SA SAF	77R37	EDRN	80M4	67	740					
5.0	1070	289	13300	1.15											
5.8	930	250	14200	1.35											
6.6	820	219	14800	1.50											
5.0	1180	288.00*	29500	2.3	S SF SA SAF	87p	EDRN	80M4	94	730					
5.6	1060	258.18	29600	2.5											
5.0	1000	288.00*	29700	2.3	S SF SA SAF	87	EDRN	80M4	94	730					
5.6	910	258.18	29800	2.5											
6.5	795	222.40*	29800	2.8											
7.1	730	202.96	29900	3.0											
5.6	1020	256.47	14400	1.45	S SF SA SAF	77p	EDRN	80M4	58	725					
6.4	900	225.26	14900	1.65											
6.7	860	214.00*	15100	1.75											
7.6	765	189.09	15500	1.95											
8.9	660	161.60*	15700	2.3											
9.7	605	148.15	15700	2.5											
11	535	130.00*	15700	2.7											
12	505	123.20*	15700	2.9											
5.6	850	256.47	14600	1.50	S SF SA SAF	77	EDRN	80M4	58	725					
6.4	760	225.26	15100	1.65											
6.7	725	214.00*	15200	1.75											
7.6	650	189.09	15500	1.95											
8.9	560	161.60*	15800	2.2											
9.7	520	148.15	16000	2.4											
11	460	130.00*	16000	2.6											
12	440	123.20*	16000	2.7											
13	390	107.83	16000	3.0											
9.1	620	158.45	10200	1.05	S SF SA SAF	67p	EDRN	80M4	37	720					
11	530	134.40*	10700	1.20											
12	480	121.33	11000	1.35											
13	425	106.75*	11200	1.50											
14	400	100.80*	11200	1.60											
17	345	85.83	11200	1.90											
19	330	75.06	10500	2.2											
22	290	65.63	10200	2.4											
23	275	62.35*	10100	2.5											
26	240	54.70	9770	2.8											

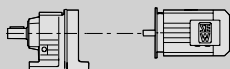
P _m = 0.75 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
9.1	510	158.45	8750	1.00	S SF SA SAF	67 67 67 67	EDRN EDRN EDRN EDRN	80M4 80M4 80M4 80M4	37 43 38 42	720 721 722 721
11	440	134.40*	9310	1.20						
12	400	121.33	9570	1.30						
13	355	106.75*	9830	1.45						
14	340	100.80*	9930	1.50						
17	290	85.83	10100	1.75						
19	295	75.06	10100	1.60						
22	260	65.63	10300	1.80						
23	250	62.35*	10300	1.90						
26	220	54.70	10200	2.2						
31	190	46.40*	9740	2.5						
20	280	71.75*	7230	1.00	S SF SA SAF	57p 57p 57p 57p	EDRN EDRN EDRN EDRN	80M4 80M4 80M4 80M4	26 30 26 28	715 716 717 716
21	265	67.20*	7370	1.05						
25	220	56.61	7650	1.25						
26	240	54.59	7550	1.20						
30	205	47.32	7740	1.30						
33	196	44.22*	7810	1.40						
38	170	38.23	7810	1.55						
44	145	32.48*	7520	1.75						
50	129	29.00*	7310	1.95						
58	110	24.77	7020	2.2						
62	104	23.20*	6900	2.4						
71	94	20.33	6420	2.4						
82	82	17.62	6200	2.6						
87	77	16.47*	6100	2.8						
17	275	84.00*	7290	1.05	S SF SA SAF	57 57 57 57	EDRN EDRN EDRN EDRN	80M4 80M4 80M4 80M4	26 30 26 28	715 716 717 716
20	235	71.75*	7560	1.20						
21	225	67.20*	7650	1.25						
26	215	54.59	7700	1.15						
30	188	47.32	7850	1.30						
33	177	44.22*	7910	1.40						
38	154	38.23	7910	1.60						
44	132	32.48*	7590	1.85						
50	119	29.00*	7370	2.1						
58	102	24.77	7070	2.4						
62	96	23.20*	6950	2.5						
71	89	20.33	6450	1.90						
82	77	17.62	6230	2.2						
87	72	16.47*	6120	2.3						
101	63	14.24	5890	2.7						
44	144	32.48*	4190	1.10	S SF SA SAF	47p 47p 47p 47p	EDRN EDRN EDRN EDRN	80M4 80M4 80M4 80M4	22 26 23 25	710 711 712 711
50	129	29.00*	4120	1.20						
58	110	24.77	4020	1.40						
62	103	23.20*	3970	1.50						
71	94	20.33	3590	1.50						
82	82	17.62	3520	1.70						
87	77	16.47*	3480	1.75						
101	66	14.24	3390	1.95						
119	56	12.10*	3280	2.2						
133	50	10.80*	3210	2.5						
38	152	38.23	4400	1.00	S SF SA SAF	47 47 47 47	EDRN EDRN EDRN EDRN	80M4 80M4 80M4 80M4	22 26 23 25	710 711 712 711
44	130	32.48*	4290	1.20						
50	117	29.00*	4210	1.30						

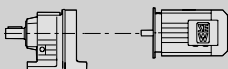
P_m = 0.75 kW

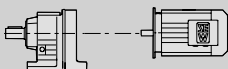
n_a min^{-1}	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
58	101	24.77	4080	1.50	S SF SA SAF	47 47 47 47	EDRN EDRN EDRN EDRN	80M4 80M4 80M4 80M4	22 26 23 25	710 711 712 711
62	95	23.20*	4030	1.60						
71	88	20.33	3630	1.25						
82	77	17.62	3550	1.40						
87	72	16.47*	3510	1.50						
101	63	14.24	3410	1.75						
119	53	12.10*	3300	2.0						
133	48	10.80*	3220	2.3						
156	41	9.23*	3110	2.6						
167	38	8.64*	3060	2.8						
198	32	7.28	2940	3.1						
225	29	6.40*	2830	2.6						
267	24	5.39	2700	3.0						
302	21	4.76	2620	3.3						
360	18	4.00*	2500	3.3						
93	72	15.53	1930	1.05	S SF SA SAF	37p 37p 37p 37p	EDRN EDRN EDRN EDRN	80M4 80M4 80M4 80M4	19 20 19 20	706 707 708 707
108	62	13.39	1930	1.20						
115	58	12.48*	1930	1.25						
132	51	10.91	1910	1.40						
141	47	10.23	1900	1.50						
160	42	9.02*	1880	1.65						
180	37	8.00*	1850	1.75						
212	31	6.80*	1810	1.90						
227	29	6.33	1760	1.85						
267	25	5.38	1720	2.0						
296	22	4.86*	1680	2.1						
363	18	3.97	1620	2.4						
132	48	10.91	1940	1.00	S SF SA SAF	37 37 37 37	EDRN EDRN EDRN EDRN	80M4 80M4 80M4 80M4	19 20 19 20	706 707 708 707
141	45	10.23	1930	1.05						
160	40	9.02*	1900	1.15						
180	35	8.00*	1870	1.25						
212	30	6.80*	1820	1.40						
227	28	6.33	1780	1.20						
267	24	5.38	1730	1.40						
296	22	4.86*	1690	1.50						
363	18	3.97	1620	1.75						

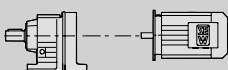
P_m = 1.1 kW

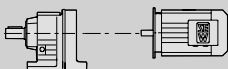
n_a min^{-1}	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
2.0	3850	714	30800	1.10	S SF SA SAF	97pR57	EDRN	90S4	180	740
2.3	3650	626	29200	1.20		97pR57	EDRN	90S4	215	740
2.7	3160	538	34700	1.35		97pR57	EDRN	90S4	175	740
3.0	2870	484	35100	1.50		97pR57	EDRN	90S4	200	740
3.5	2500	420	35600	1.70						
2.0	3280	714	34500	1.30	S SF SA SAF	97R57	EDRN	90S4	180	740
2.3	3490	626	31200	1.20		97R57	EDRN	90S4	215	740
2.7	3000	538	34900	1.40		97R57	EDRN	90S4	175	740
3.0	2710	484	35300	1.55		97R57	EDRN	90S4	200	740
3.5	2350	420	35800	1.80						
2.6	2930	558	22200	1.00	S SF SA SAF	87pR57 87pR57 87pR57 87pR57	EDRN EDRN EDRN EDRN	90S4 90S4 90S4 90S4	120 145 120 135	740 740 740 740
3.0	2580	485	27300	1.15						
3.4	2340	435	27800	1.25						
3.9	2060	378	28300	1.40						
4.5	1780	323	28800	1.55						
5.2	1560	281	29100	1.75						
5.7	1530	255	29100	1.70						
6.5	1340	222	29300	2.0						
7.1	1250	205	29400	2.1						

P _m = 1.1 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
2.6	2480	558	27500	1.00	S SF SA SAF	87R57	EDRN	90S4	120	740
3.0	2180	485	28100	1.15						
3.4	1980	435	28500	1.25						
3.9	1740	378	28800	1.40						
4.5	1510	323	29100	1.60						
5.2	1330	281	29400	1.80						
5.7	1420	255	29200	1.40						
6.5	1240	222	29400	1.60						
7.1	1160	205	29500	1.70						
6.6	1310	219	12300	1.10	S	77pR37	EDRN	90S4	73	740
					SF	77pR37	EDRN	90S4	82	740
					SA	77pR37	EDRN	90S4	72	740
					SAF	77pR37	EDRN	90S4	79	740
6.6	1200	219	12200	1.05	S	77R37	EDRN	90S4	73	740
					SF	77R37	EDRN	90S4	82	740
					SA	77R37	EDRN	90S4	72	740
					SAF	77R37	EDRN	90S4	79	740
5.0	1710	288.00*	28900	1.60	S SF SA SAF	87p	EDRN	90S4	99	730
5.6	1550	258.18	29100	1.70						
6.5	1340	222.40*	29400	1.85						
7.2	1230	202.96	29500	2.0						
8.1	1090	180.00*	29600	2.1						
9.6	920	151.30	29700	2.4					110	731
5.0	1460	288.00*	29200	1.55	S SF SA SAF	87	EDRN	90S4	99	730
5.6	1320	258.18	29400	1.70						
6.5	1150	222.40*	29500	1.90						
7.2	1060	202.96	29600	2.0						
8.1	950	180.00*	29700	2.2						
9.6	810	151.30	29800	2.5					110	731
5.7	1480	256.47	12500	1.00	S SF SA SAF	77p	EDRN	90S4	63	725
6.5	1310	225.26	13200	1.15						
6.8	1250	214.00*	13400	1.20						
7.7	1110	189.09	14000	1.35						
9.0	960	161.60*	14700	1.55						
9.8	880	148.15	15000	1.70						
11	775	130.00*	15500	1.85						
12	740	123.20*	15600	1.95						
13	645	107.83	15700	2.2						
15	585	97.14	15700	2.4						
17	515	85.22	15400	2.7						
6.5	1100	225.26	13100	1.15	S SF SA SAF	77	EDRN	90S4	63	725
6.8	1050	214.00*	13400	1.20						
7.7	940	189.09	14100	1.35						
9.0	820	161.60*	14800	1.55						
9.8	755	148.15	15100	1.65						
11	670	130.00*	15500	1.80						
12	640	123.20*	15600	1.85						
13	565	107.83	15800	2.0						
15	510	97.14	16000	2.2						
17	455	85.22	16000	2.4						
14	615	106.75*	10200	1.05						
14	585	100.80*	10400	1.10						
17	500	85.83	10400	1.30						
19	455	78.00*	10200	1.45						
19	480	75.06	9570	1.50						
22	420	65.63	9380	1.65						
23	400	62.35*	9300	1.70						
27	355	54.70	9080	1.90						
31	300	46.40*	8800	2.1						
35	270	41.89	8620	2.4						
39	240	36.85	8380	2.6						
42	225	34.80*	8270	2.8					48	721

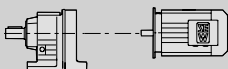
P _m = 1.1 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
14	520	106.75*	8660	1.00	S SF SA SAF	67 67 67 67	EDRN EDRN EDRN EDRN	90S4 90S4 90S4 90S4	43 50 44 48	720 721 722 721
14	495	100.80*	8890	1.05						
17	425	85.83	9400	1.20						
19	390	78.00*	9640	1.30						
22	380	65.63	9690	1.25						
23	365	62.35*	9750	1.30						
27	320	54.70	9500	1.50						
31	275	46.40*	9170	1.75						
35	250	41.89	8960	1.90						
39	220	36.85	8700	2.2						
42	210	34.80*	8590	2.3	S SF SA SAF	57p 57p 57p 57p	EDRN EDRN EDRN EDRN	90S4 90S4 90S4 90S4	32 35 31 34	715 716 717 716
49	180	29.63	8260	2.7						
38	245	38.23	7230	1.05						
45	210	32.48*	7010	1.20						
50	188	29.00*	6860	1.35						
59	161	24.77	6630	1.50						
63	151	23.20*	6540	1.60						
74	127	19.54	6280	1.90						
83	119	17.62	5830	1.80						
88	111	16.47*	5750	1.90						
102	96	14.24	5570	2.1	S SF SA SAF	57 57 57 57	EDRN EDRN EDRN EDRN	90S4 90S4 90S4 90S4	32 35 31 34	715 716 717 716
120	82	12.10*	5360	2.4						
38	220	38.23	7360	1.10						
45	192	32.48*	7120	1.25						
50	172	29.00*	6950	1.40						
59	148	24.77	6710	1.65						
63	139	23.20*	6610	1.70						
74	118	19.54	6340	1.80						
83	112	17.62	5860	1.50						
88	105	16.47*	5780	1.60						
102	91	14.24	5590	1.85	S SF SA SAF	47p 47p 47p 47p	EDRN EDRN EDRN EDRN	90S4 90S4 90S4 90S4	28 32 29 31	710 711 712 711
120	78	12.10*	5380	2.1						
135	70	10.80*	5230	2.4						
158	60	9.23*	5030	2.8						
63	150	23.20*	3540	1.00						
72	137	20.33	3090	1.05						
74	127	19.54	3480	1.20						
83	119	17.62	3080	1.15						
88	111	16.47*	3070	1.20						
102	96	14.24	3030	1.35						
120	82	12.10*	2980	1.55	S SF SA SAF	47 47 47 47	EDRN EDRN EDRN EDRN	90S4 90S4 90S4 90S4	28 32 29 31	710 711 712 711
135	73	10.80*	2930	1.70						
158	63	9.23*	2860	1.95						
168	59	8.64*	2830	2.1						
200	49	7.28	2740	2.2						
227	44	6.40*	2650	2.5						
270	37	5.39	2550	2.8						
306	32	4.76	2480	2.8						
364	27	4.00*	2380	2.7						
59	147	24.77	3660	1.05						
63	138	23.20*	3630	1.10						
74	117	19.54	3550	1.25						
88	105	16.47*	3110	1.05						
102	91	14.24	3070	1.20						
120	78	12.10*	3010	1.40						
135	70	10.80*	2960	1.55						
158	60	9.23*	2880	1.80						
168	56	8.64*	2850	1.95						
200	47	7.28	2750	2.2						
227	42	6.40*	2660	1.80	S SF SA SAF	47 47 47 47	EDRN EDRN EDRN EDRN	90S4 90S4 90S4 90S4	28 32 29 31	710 711 712 711
270	35	5.39	2560	2.1						
306	31	4.76	2490	2.3						
364	26	4.00*	2390	2.3						

P _m = 1.1 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
142	69	10.23	1360	1.00	S SF SA SAF	37p 37p 37p 37p	EDRN EDRN EDRN EDRN	90S4 90S4 90S4 90S4	25 26 25 26	706 707 708 707
161	61	9.02*	1500	1.15						
182	54	8.00*	1590	1.20						
214	46	6.80*	1590	1.30						
230	43	6.33	1550	1.30						
270	36	5.38	1530	1.40						
299	33	4.86*	1520	1.45						
367	27	3.97	1480	1.60						
299	32	4.86*	1530	1.05	S	37	EDRN	90S4	25	706
367	26	3.97	1490	1.20	SF	37	EDRN	90S4	26	707
					SA	37	EDRN	90S4	25	708
					SAF	37	EDRN	90S4	26	707

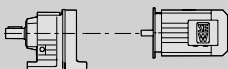
P _m = 1.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
3.0	3930	484	25200	1.10	S	97pR57	EDRN	90L4	185	740
3.5	3430	420	32600	1.25	SF	97pR57	EDRN	90L4	220	740
3.9	3110	376	34800	1.40	SA	97pR57	EDRN	90L4	180	740
4.5	2740	327	35300	1.55	SAF	97pR57	EDRN	90L4	205	740
2.7	4110	538	21800	1.00	S	97R57	EDRN	90L4	185	740
3.0	3710	484	28000	1.15	SF	97R57	EDRN	90L4	220	740
3.5	3230	420	34600	1.30	SA	97R57	EDRN	90L4	180	740
3.9	2920	376	35100	1.45	SAF	97R57	EDRN	90L4	205	740
4.5	2560	327	35500	1.65						
3.9	2820	378	25300	1.05	S	87pR57	EDRN	90L4	125	740
4.5	2440	323	27600	1.15	SF	87pR57	EDRN	90L4	145	740
5.2	2140	281	28200	1.25	SA	87pR57	EDRN	90L4	125	740
5.7	2090	255	28200	1.25	SAF	87pR57	EDRN	90L4	140	740
6.6	1840	222	28700	1.45						
7.1	1720	205	28800	1.50						
3.9	2390	378	27700	1.00	S	87R57	EDRN	90L4	125	740
4.5	2070	323	28300	1.15	SF	87R57	EDRN	90L4	145	740
5.2	1820	281	28700	1.30	SA	87R57	EDRN	90L4	125	740
5.7	1940	255	28500	1.00	SAF	87R57	EDRN	90L4	140	740
6.6	1700	222	28900	1.15						
7.1	1590	205	29000	1.25						
5.1	2370	286.40*	35800	1.80	S	97p	EDRN	90L4	160	735
5.6	2180	262.22	36000	1.95	SF	97p	EDRN	90L4	195	736
6.3	1930	231.67	36200	2.2	SA	97p	EDRN	90L4	155	737
7.4	1650	196.52	36500	2.6	SAF	97p	EDRN	90L4	180	736
5.1	2060	286.40*	36100	1.95	S	97	EDRN	90L4	160	735
5.6	1900	262.22	36300	2.1	SF	97	EDRN	90L4	195	736
6.3	1690	231.67	36400	2.4	SA	97	EDRN	90L4	155	737
7.4	1450	196.52	36600	2.7	SAF	97	EDRN	90L4	180	736
5.1	2330	288.00*	27800	1.15	S SF SA SAF	87p 87p 87p 87p	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	100 125 99 115	730 731 732 731
5.7	2100	258.18	28300	1.25						
6.6	1820	222.40*	28700	1.35						
7.2	1670	202.96	28900	1.45						
8.1	1490	180.00*	29200	1.60						
9.7	1250	151.30	29400	1.80						
11	1150	139.05	29500	1.90						
12	1030	123.48	29700	2.1						
13	920	110.40*	29800	2.3						
15	830	99.26	29800	2.6						

P _m = 1.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
5.1	1990	288.00*	28500	1.15	S SF SA SAF	87	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	100	730
5.7	1800	258.18	28800	1.25						
6.6	1570	222.40*	29100	1.40						
7.2	1440	202.96	29200	1.50						
8.1	1290	180.00*	29400	1.60						
9.7	1100	151.30	29600	1.80						
11	1020	139.05	29700	1.95						
12	910	123.48	29800	2.1						
13	820	110.40*	29800	2.3						
15	745	99.26	29900	2.5						
9.0	1300	161.60*	13200	1.15	S SF SA SAF	77p 77p 77p 77p	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	66	725
9.9	1200	148.15	13700	1.25						
11	1050	130.00*	14300	1.40						
12	1000	123.20*	14500	1.45						
14	880	107.83	15000	1.65						
15	795	97.14	15000	1.80						
17	700	85.22	14600	1.95						
19	675	75.09	13600	2.0						
20	640	71.33	13500	2.1						
22	545	66.67	13900	2.3						
23	570	63.03	13200	2.3						
26	470	56.92	13400	2.6						
27	485	53.87	12700	2.6						
30	445	49.38	12500	2.8						
9.0	1110	161.60*	13000	1.15	S SF SA SAF	77 77 77 77	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	66	725
9.9	1030	148.15	13600	1.20						
11	910	130.00*	14300	1.30						
12	870	123.20*	14600	1.40						
14	765	107.83	15000	1.50						
15	695	97.14	15300	1.60						
17	615	85.22	15300	1.80						
19	625	75.09	14100	1.75						
20	595	71.33	13900	1.85						
22	490	66.67	14400	2.1						
23	530	63.03	13600	2.1						
26	420	56.92	13900	2.3						
27	455	53.87	13100	2.4						
30	420	49.38	12900	2.6						
34	370	43.33	12500	3.0						
19	615	78.00*	9320	1.05	S SF SA SAF	67p 67p 67p 67p	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	46	720
22	575	65.63	8470	1.20						
23	545	62.35*	8430	1.25						
27	480	54.70	8320	1.40						
31	410	46.40*	8150	1.60						
35	370	41.89	8030	1.75						
40	325	36.85	7860	1.95						
42	305	34.80*	7780	2.0						
49	260	29.63	7550	2.3						
54	235	26.93	7400	2.5						
60	225	24.44	6800	1.85						
63	215	23.22*	6740	1.95						
72	189	20.37	6580	2.3						
85	160	17.28*	6370	2.6						
94	145	15.60*	6240	2.8						
27	435	54.70	8770	1.10	S SF SA SAF	67 67 67 67	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	46	720
31	375	46.40*	8550	1.30						
35	340	41.89	8400	1.40						
40	300	36.85	8200	1.60						
42	285	34.80*	8110	1.70						
49	245	29.63	7850	1.95						
54	220	26.93	7690	2.1						
60	210	24.44	7040	1.60						
63	200	23.22*	6970	1.65						
72	179	20.37	6800	1.90						
85	153	17.28*	6580	2.2						
94	138	15.60*	6430	2.5						
106	122	13.73*	6250	2.8						

27782913/EN – 02/2023

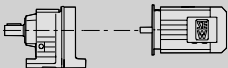
P _m = 1.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
59	215	24.77	6210	1.10	S SF SA SAF	57p 57p 57p 57p	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	35 39 35 37	715 716 717 716
63	205	23.20*	6140	1.20						
75	173	19.54	5950	1.40						
83	162	17.62	5410	1.30						
89	152	16.47*	5360	1.40						
103	131	14.24	5230	1.55						
121	111	12.10*	5070	1.80						
135	100	10.80*	4960	2.0	S SF SA SAF	57 57 57 57	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	35 39 35 37	715 716 717 716
158	85	9.23*	4790	2.3						
50	230	29.00*	6490	1.05						
59	200	24.77	6310	1.20						
63	189	23.20*	6230	1.25						
75	161	19.54	6020	1.35						
83	153	17.62	5460	1.10						
89	143	16.47*	5400	1.15						
103	124	14.24	5260	1.35						
121	106	12.10*	5100	1.60						
135	95	10.80*	4980	1.75	S SF SA SAF	47p 47p 47p 47p	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	31 35 32 34	710 711 712 711
158	81	9.23*	4810	2.1						
121	111	12.10*	2640	1.15						
135	100	10.80*	2630	1.25						
158	85	9.23*	2600	1.45						
169	80	8.64*	2590	1.50						
201	67	7.28	2530	1.60						
228	59	6.40*	2460	1.85						
271	50	5.39	2390	2.1						
307	44	4.76	2340	2.0						
365	37	4.00*	2260	2.0	S SF SA SAF	47 47 47 47	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	31 35 32 34	710 711 712 711
121	106	12.10*	2680	1.05						
135	95	10.80*	2660	1.15						
158	81	9.23*	2630	1.35						
169	76	8.64*	2610	1.40	S SF SA SAF	47 47 47 47	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	31 35 32 34	710 711 712 711
201	64	7.28	2550	1.60						
228	57	6.40*	2470	1.30						
271	48	5.39	2400	1.50						
307	43	4.76	2350	1.65						
365	36	4.00*	2270	1.70						
271	50	5.38	1120	1.00	S SF SA SAF	37p 37p 37p 37p	EDRN EDRN EDRN EDRN	90L4 90L4 90L4 90L4	28 29 28 29	706 707 708 707
300	45	4.86*	1200	1.05						
368	36	3.97	1320	1.20						
368	36	3.97	1320	1.20						

P _m = 2.2 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
4.4	4060	327	23300	1.05	S SF SA SAF	97pR57 97pR57 97pR57 97pR57	EDRN EDRN EDRN EDRN	100LS4 100LS4 100LS4 100LS4	190 220 185 210	740 740 740 740
5.0	3590	287	30400	1.20						
5.8	3150	252	34700	1.35						
5.8	3150	252	34700	1.35						
4.4	3800	327	26800	1.10	S SF SA SAF	97R57 97R57 97R57 97R57	EDRN EDRN EDRN EDRN	100LS4 100LS4 100LS4 100LS4	190 220 185 210	740 740 740 740
5.0	3360	287	33300	1.25						
5.8	2940	252	35000	1.40						
5.8	2940	252	35000	1.40						
5.1	3510	286.40*	34100	1.20	S SF SA SAF	97p 97p 97p 97p	EDRN EDRN EDRN EDRN	100LS4 100LS4 100LS4 100LS4	165 200 160 185	735 736 737 736
5.5	3220	262.22	34600	1.35						
6.3	2860	231.67	35200	1.50						
7.4	2430	196.52	35700	1.75						
8.0	2240	180.95	35900	1.90						
9.0	2010	161.74	36200	2.1						
10.0	1810	145.60*	36300	2.3						
11	1640	131.85	36500	2.5						
12	1460	116.92	36600	2.8						

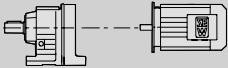
P _m = 2.2 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
5.1	3040	286.40*	34900	1.30	S SF SA SAF	97 97 97 97	EDRN EDRN EDRN EDRN	100LS4 100LS4 100LS4 100LS4	165 200 160 185	735 736 737 736
5.5	2810	262.22	35200	1.40						
6.3	2500	231.67	35600	1.60						
7.4	2150	196.52	36000	1.85						
8.0	1990	180.95	36200	1.95						
9.0	1790	161.74	36300	2.1						
10.0	1620	145.60*	36500	2.3						
11	1480	131.85	36600	2.4						
12	1320	116.92	36700	2.6						
14	1200	105.71	36800	2.8						
16	1020	89.60*	36900	3.1						
8.1	2200	180.00*	28100	1.05	S SF SA SAF	87p 87p 87p 87p	EDRN EDRN EDRN EDRN	100LS4 100LS4 100LS4 100LS4	105 130 105 120	730 731 732 731
9.6	1860	151.30	28700	1.20						
10	1710	139.05	28900	1.30						
12	1520	123.48	29100	1.45						
13	1360	110.40*	29300	1.60						
15	1230	99.26	29500	1.75						
17	1070	86.15	29600	1.95						
18	1100	81.76	29600	2.2						
19	950	77.14	29700	2.2						
21	950	70.43	29700	2.5						
23	870	64.27	29800	2.6						
7.1	2130	202.96	28200	1.00	S SF SA SAF	87 87 87 87	EDRN EDRN EDRN EDRN	100LS4 100LS4 100LS4 100LS4	105 130 105 120	730 731 732 731
8.1	1910	180.00*	28600	1.10						
9.6	1630	151.30	29000	1.20						
10	1500	139.05	29200	1.30						
12	1350	123.48	29300	1.45						
13	1210	110.40*	29500	1.60						
15	1100	99.26	29600	1.70						
17	960	86.15	29700	1.95						
18	1030	81.76	29600	1.55						
19	860	77.14	29800	2.1						
21	890	70.43	29800	1.80						
23	810	64.27	29800	1.95						
25	730	57.00*	29900	2.2						
13	1300	107.83	13200	1.10	S SF SA SAF	77p 77p 77p 77p	EDRN EDRN EDRN EDRN	100LS4 100LS4 100LS4 100LS4	70 80 69 76	725 726 727 726
15	1170	97.14	13500	1.20						
17	1030	85.22	13300	1.35						
19	910	75.20*	13100	1.45						
22	810	66.67	12800	1.60						
23	840	63.03	11900	1.55						
25	690	56.92	12500	1.75						
27	720	53.87	11600	1.80						
29	660	49.38	11500	1.90						
33	580	43.33	11300	2.1						
35	550	41.07	11200	2.2						
40	485	35.94	10900	2.5						
45	435	32.38	10700	2.7						
51	380	28.41	10400	2.9						
63	315	22.89	9300	2.6						
69	290	20.99	9150	2.8						

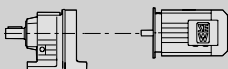
P _m = 2.2 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
13	1130	107.83	12800	1.00	S SF SA SAF	77	EDRN	100LS4	70	725
15	1030	97.14	13600	1.10						
17	910	85.22	14000	1.20						
19	810	75.20*	13800	1.30						
22	725	66.67	13500	1.40						
23	780	63.03	12400	1.40						
25	625	56.92	13000	1.55						
27	670	53.87	12100	1.65						
29	620	49.38	11900	1.75						
33	545	43.33	11700	2.0						
35	515	41.07	11500	2.1						
40	455	35.94	11200	2.4						
45	410	32.38	11000	2.6						
51	360	28.41	10700	2.9						
58	320	25.07	10400	3.1						
63	300	22.89	9550	2.3						
69	275	20.99	9390	2.5						
31	605	46.40*	7020	1.05	S SF SA SAF	67p	EDRN	100LS4	50	720
35	545	41.89	7010	1.20						
39	480	36.85	6970	1.30						
42	455	34.80*	6940	1.40						
49	385	29.63	6830	1.60						
54	350	26.93	6750	1.70						
62	305	23.33	6620	1.70						
71	275	20.37	5910	1.55						
84	235	17.28*	5810	1.75						
93	210	15.60*	5730	1.90						
106	188	13.73*	5610	2.1						
112	178	12.96*	5560	2.2						
131	152	11.03	5400	2.4						
145	138	10.03	5300	2.6						
167	119	8.69	5140	2.9						
39	445	36.85	7350	1.10	S SF SA SAF	67	EDRN	100LS4	50	720
42	420	34.80*	7300	1.15						
49	360	29.63	7160	1.35						
54	330	26.93	7060	1.45						
62	285	23.33	6900	1.65						
71	265	20.37	6130	1.30						
84	225	17.28*	6010	1.50						
93	205	15.60*	5920	1.65						
106	181	13.73*	5800	1.90						
112	171	12.96*	5740	2.0						
131	146	11.03	5570	2.3						
145	133	10.03	5470	2.5						
167	115	8.69	5300	2.9						
102	194	14.24	4650	1.05	S SF SA SAF	57p	EDRN	100LS4	39	715
120	165	12.10*	4580	1.20						
134	147	10.80*	4520	1.35						
157	126	9.23*	4420	1.55						
168	118	8.64*	4380	1.60						
199	99	7.28	4250	1.55						
227	88	6.40*	4100	1.75						
269	74	5.39	3960	2.0						
304	65	4.76	3860	1.95						
362	55	4.00*	3710	1.95						
120	157	12.10*	4620	1.05	S SF SA SAF	57	EDRN	100LS4	39	715
134	141	10.80*	4560	1.20						
157	121	9.23*	4450	1.40						
168	113	8.64*	4400	1.45						
199	96	7.28	4270	1.50						
227	85	6.40*	4120	1.15						
269	72	5.39	3980	1.30						
304	63	4.76	3870	1.45						
362	53	4.00*	3720	1.65						

P_m = 2.2 kW

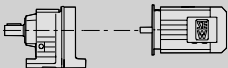
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
168	118	8.64*	2110	1.05	S SF SA SAF	47p 47p 47p 47p	EDRN EDRN EDRN EDRN	100LS4 100LS4 100LS4 100LS4	35	710
199	99	7.28	2180	1.10					39	711
212	94	6.83	2130	1.20					36	712
227	88	6.40*	2130	1.25					38	711
269	74	5.39	2120	1.40						
304	65	4.76	2100	1.40						
362	55	4.00*	2060	1.35						

P_m = 3.0 kW

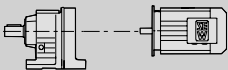
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
5.8	4300	252	19400	1.00	S	97pR57	EDRN	100L4	195	740
6.7	3760	219	28100	1.15	SF	97pR57	EDRN	100L4	230	740
7.1	3540	205	31300	1.20	SA	97pR57	EDRN	100L4	190	740
					SAF	97pR57	EDRN	100L4	215	740
5.8	4020	252	23600	1.05	S	97R57	EDRN	100L4	195	740
6.7	3510	219	31200	1.20	SF	97R57	EDRN	100L4	230	740
7.1	3300	205	34100	1.25	SA	97R57	EDRN	100L4	190	740
					SAF	97R57	EDRN	100L4	215	740
6.3	3880	231.67	30500	1.10	S SF SA SAF	97p 97p 97p 97p	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	170	735
7.4	3310	196.52	34500	1.30					205	736
8.1	3050	180.95	34900	1.40					165	737
9.0	2730	161.74	35300	1.55					195	736
10	2460	145.60*	35700	1.70						
11	2230	131.85	35900	1.85						
12	1980	116.92	36200	2.1						
14	1790	105.71	36300	2.3						
16	1520	89.60*	36600	2.6						
18	1490	80.85	36600	2.5						
5.5	3820	262.22	31200	1.05	S SF SA SAF	97 97 97 97	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	170	735
6.3	3400	231.67	34300	1.15					205	736
7.4	2920	196.52	35100	1.35					165	737
8.1	2710	180.95	35400	1.45					195	736
9.0	2440	161.74	35700	1.55						
10	2210	145.60*	36000	1.70						
11	2010	131.85	36200	1.80						
12	1790	116.92	36300	1.95						
14	1630	105.71	36500	2.1						
16	1390	89.60*	36600	2.3						
18	1410	80.85	36600	2.3						
12	2070	123.48	28300	1.05	S SF SA SAF	87p 87p 87p 87p	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	115	730
13	1850	110.40*	28700	1.15					135	731
15	1670	99.26	28900	1.30					110	732
17	1450	86.15	29200	1.45					125	731
18	1490	81.76	29100	1.65						
19	1300	77.14	29400	1.60						
21	1290	70.43	29400	1.80						
23	1180	64.27	29500	1.95						
26	1050	57.00*	29600	2.1						
30	880	47.91	29800	2.4						
33	810	44.03	29800	2.5						
37	720	39.10	29900	2.9						
12	1830	123.48	28700	1.05	S SF SA SAF	87 87 87 87	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	115	730
13	1650	110.40*	29000	1.15					135	731
15	1490	99.26	29200	1.25					110	732
17	1310	86.15	29400	1.45					125	731
18	1400	81.76	29300	1.15						
19	1180	77.14	29500	1.55						
21	1210	70.43	29500	1.30						
23	1110	64.27	29600	1.45						
26	990	57.00*	29700	1.60						
30	830	47.91	29800	1.90						
33	770	44.03	29800	2.1						
37	685	39.10	29900	2.3						
42	615	34.96*	29900	2.6						

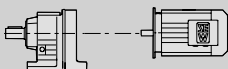
P _m = 3.0 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
19	1240	75.20*	11700	1.05	S SF SA SAF	77p 77p 77p 77p	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	77 87 77 83	725 726 727 726						
22	1100	66.67	11600	1.15												
23	1140	63.03	10400	1.15												
26	940	56.92	11400	1.30												
27	980	53.87	10400	1.30												
29	900	49.38	10300	1.40												
34	790	43.33	10200	1.55												
35	750	41.07	10200	1.65												
41	655	35.94	10000	1.80												
45	590	32.38	9900	1.95												
51	520	28.41	9700	2.2												
58	460	25.07	9500	2.4												
64	430	22.89	8540	1.95												
69	390	20.99	8450	2.1												
79	345	18.42	8300	2.3												
83	325	17.45	8230	2.4												
95	285	15.28	8040	2.7												
106	255	13.76	7890	2.9												
22	980	66.67	12300	1.05	S SF SA SAF	77 77 77 77	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	77 87 77 83	725 726 727 726						
23	1060	63.03	10900	1.05												
26	850	56.92	12000	1.15	S SF SA SAF	77 77 77 77	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	77 87 77 83	725 726 727 726						
27	910	53.87	10900	1.20												
29	840	49.38	10800	1.30												
34	740	43.33	10700	1.50												
35	705	41.07	10600	1.55												
41	620	35.94	10400	1.75												
45	560	32.38	10200	1.90												
51	490	28.41	10000	2.1												
58	435	25.07	9790	2.3												
64	410	22.89	8790	1.70												
69	375	20.99	8690	1.85												
79	330	18.42	8520	2.1												
83	315	17.45	8450	2.2												
95	275	15.28	8250	2.6												
106	250	13.76	8090	2.8												
121	220	12.07	7880	3.3												
137	195	10.65	7670	3.7												
42	620	34.80*	5960	1.00							S SF SA SAF	67p 67p 67p 67p	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	57 64 58 63	720 721 722 721
49	525	29.63	6000	1.15												
54	480	26.93	5990	1.25												
62	415	23.33	5960	1.25												
71	375	20.37	5140	1.15												
84	320	17.28*	5150	1.30												
93	290	15.60*	5130	1.40												
106	255	13.73*	5090	1.55												
112	240	12.96*	5060	1.60												
132	205	11.03	4980	1.80												
145	187	10.03	4920	1.90												
168	162	8.69	4810	2.1												
193	141	7.56*	4700	2.3												
54	445	26.93	6320	1.05	S SF SA SAF	67 67 67 67	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	57 64 58 63	720 721 722 721						
62	390	23.33	6260	1.25	S SF SA SAF	67 67 67 67	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	57 64 58 63	720 721 722 721						
84	305	17.28*	5350	1.10												
93	275	15.60*	5320	1.20												
106	245	13.73*	5270	1.40												
112	230	12.96*	5240	1.45												
132	198	11.03	5150	1.70												
145	181	10.03	5080	1.90												
168	157	8.69	4960	2.1												
193	137	7.56*	4840	2.1												

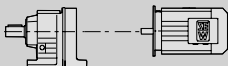
P_m = 3.0 kW

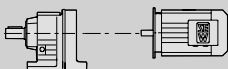
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
158	171	9.23*	3990	1.15	S SF SA SAF	57p 57p 57p 57p	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	46 50 46 49	715 716 717 716
169	160	8.64*	3970	1.15						
200	135	7.28	3900	1.15						
213	127	6.83	3810	1.25						
228	119	6.40*	3780	1.30						
270	101	5.39	3690	1.45						
306	89	4.76	3620	1.45						
364	74	4.00*	3510	1.45						
158	164	9.23*	4030	1.05	S SF SA SAF	57 57 57 57	EDRN EDRN EDRN EDRN	100L4 100L4 100L4 100L4	46 50 46 49	715 716 717 716
169	154	8.64*	4000	1.10						
200	130	7.28	3930	1.10						
306	86	4.76	3630	1.05						
364	72	4.00*	3520	1.20						

P_m = 4.0 kW

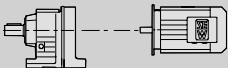
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
8.1	4050	180.95	28100	1.05	S SF SA SAF	97p 97p 97p 97p	EDRN EDRN EDRN EDRN	112M4 112M4 112M4 112M4	180 215 175 200	735 736 737 736
9.1	3620	161.74	33900	1.15						
10	3270	145.60*	34500	1.30						
11	2960	131.85	35000	1.40						
13	2630	116.92	35500	1.55						
14	2380	105.71	35800	1.70						
16	2020	89.60*	36100	2.0						
18	1980	80.85	36200	1.85						
20	1750	71.43	36400	2.3						
24	1490	60.59	36600	2.6	S SF SA SAF	97 97 97 97	EDRN EDRN EDRN EDRN	112M4 112M4 112M4 112M4	180 215 175 200	735 736 737 736
26	1370	55.79	36700	2.8						
7.5	3880	196.52	30400	1.05						
8.1	3590	180.95	34000	1.10						
9.1	3230	161.74	34600	1.15						
10	2930	145.60*	35000	1.25						
11	2670	131.85	35400	1.35						
13	2380	116.92	35800	1.45						
14	2170	105.71	36000	1.55						
16	1850	89.60*	36300	1.75						
18	1880	80.85	36300	1.70						
20	1660	71.43	36400	2.0						
24	1420	60.59	36600	2.3						
26	1310	55.79	36700	2.5						
17	1920	86.15	28600	1.10		S SF SA SAF	87p 87p 87p 87p	EDRN EDRN EDRN EDRN	125 145 120 135	730 731 732 731
19	1720	77.14	28900	1.20						
21	1710	70.43	28900	1.35						
23	1560	64.27	29100	1.45						
26	1390	57.00*	29300	1.60						
31	1170	47.91	29500	1.80						
33	1070	44.03	29600	1.95						
37	950	39.10	29700	2.1						
42	850	34.96*	29600	2.4						
47	770	31.43	28900	2.6						
54	670	27.28	27900	2.9	S SF SA SAF	87 87 87 87	EDRN EDRN EDRN EDRN	112M4 112M4 112M4 112M4	125 145 120 135	730 731 732 731
57	635	25.50*	26500	2.2						
17	1730	86.15	28800	1.10						
19	1560	77.14	29100	1.15						
23	1470	64.27	29200	1.10						
26	1310	57.00*	29400	1.20						
31	1110	47.91	29600	1.45						
33	1020	44.03	29700	1.55						
37	910	39.10	29700	1.75						
42	810	34.96*	29700	1.95						
47	735	31.43	28900	2.2	S SF SA SAF	87 87 87 87	EDRN EDRN EDRN EDRN	112M4 112M4 112M4 112M4	125 145 120 135	730 731 732 731
54	640	27.28	28000	2.5						
57	615	25.50*	26600	2.0						

P _m = 4.0 kW															
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg						
30	1190	49.38	8900	1.05	S SF SA SAF	77p 77p 77p 77p	EDRN EDRN EDRN EDRN	112M4 112M4 112M4 112M4	86 96 86 93	725 726 727 726					
34	1050	43.33	8970	1.20											
36	990	41.07	8980	1.25											
41	870	35.94	8980	1.35											
45	785	32.38	8940	1.50											
52	690	28.41	8860	1.65											
58	610	25.07	8750	1.80											
64	570	22.89	7600	1.45											
70	520	20.99	7590	1.55											
79	455	18.42	7540	1.75											
84	435	17.45	7510	1.80											
96	380	15.28	7410	2.0											
106	340	13.76	7320	2.2											
121	300	12.07	7190	2.4											
137	265	10.65	7040	2.7											
34	980	43.33	9420	1.10	S	77	EDRN	112M4	86	725					
					SF	77	EDRN	112M4	96	726					
					SA	77	EDRN	112M4	86	727					
					SAF	77	EDRN	112M4	93	726					
36	930	41.07	9410	1.15	S SF SA SAF	77 77 77 77	EDRN EDRN EDRN EDRN	112M4 112M4 112M4 112M4	86 96 86 93	725 726 727 726					
											41	820	35.94	9370	1.35
											45	740	32.38	9300	1.45
											52	655	28.41	9190	1.60
											58	580	25.07	9060	1.70
											64	545	22.89	7840	1.30
											70	500	20.99	7820	1.40
											79	440	18.42	7760	1.60
											84	415	17.45	7720	1.70
											96	365	15.28	7620	1.95
											106	330	13.76	7520	2.1
											121	290	12.07	7380	2.5
											137	255	10.65	7220	2.8
											155	225	9.44	7070	3.1
											182	196	8.06	6850	3.5
94	385	15.60*	4220	1.05	S SF SA SAF	67p 67p 67p 67p	EDRN EDRN EDRN EDRN	112M4 112M4 112M4 112M4	67 73 68 72	720 721 722 721					
											107	340	13.73*	4440	1.15
											113	320	12.96*	4450	1.20
											133	270	11.03	4450	1.35
											146	245	10.03	4440	1.45
											169	215	8.69	4390	1.60
											194	187	7.56*	4330	1.75
107	325	13.73*	4620	1.05	S SF SA SAF	67 67 67 67	EDRN EDRN EDRN EDRN	112M4 112M4 112M4 112M4	67 73 68 72	720 721 722 721					
											113	305	12.96*	4620	1.10
											133	260	11.03	4620	1.30
											146	240	10.03	4600	1.40
											169	205	8.69	4540	1.60
											194	182	7.56*	4480	1.60

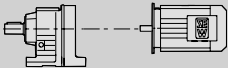
P _m = 5.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
11	4080	131.85	27600	1.00	S SF SA SAF	97p 97p 97p 97p	EDRN EDRN EDRN EDRN	132S4 132S4 132S4 132S4	190 225 185 215	735 736 737 736
12	3630	116.92	33900	1.15						
14	3280	105.71	34500	1.25						
16	2780	89.60*	35300	1.45						
19	2430	78.26	35700	1.55						
20	2420	71.43	35700	1.70						
22	2040	65.45	36100	1.70						
24	2050	60.59	36100	1.90						
26	1890	55.79	36300	2.0						
29	1690	49.87	36400	2.2						
33	1520	44.89	36600	2.4						
36	1380	40.65	36700	2.6						

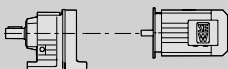
P _m = 5.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
12	3280	116.92	34500	1.05	S SF SA SAF	97 97 97 97	EDRN EDRN EDRN EDRN	132S4 132S4 132S4 132S4	190 225 185 215	735 736 737 736
14	2980	105.71	35000	1.15						
16	2550	89.60*	35600	1.25						
19	2240	78.26	35900	1.35						
20	2290	71.43	35900	1.45						
22	1890	65.45	36300	1.50						
24	1960	60.59	36200	1.70						
26	1800	55.79	36300	1.80						
29	1620	49.87	36500	2.0						
33	1460	44.89	36600	2.2						
36	1320	40.65	36700	2.5						
23	1970	64.00*	28500	1.05	S SF SA SAF	87p 87p 87p 87p	EDRN EDRN EDRN EDRN	132S4 132S4 132S4 132S4	135 155 130 150	730 731 732 731
26	1920	57.00*	28500	1.15						
30	1610	47.91	29000	1.30						
33	1480	44.03	29200	1.40						
37	1320	39.10	29000	1.55						
42	1180	34.96*	28400	1.70						
46	1060	31.43	27800	1.90						
54	920	27.28	27000	2.1						
57	880	25.50*	25300	1.65						
68	740	21.43	24500	1.90						
74	680	19.70	24100	2.0						
84	605	17.49	23500	2.2						
93	540	15.64*	23000	2.3						
104	485	14.06	22500	2.5						
120	420	12.21	21700	2.9						
30	1530	47.91	29100	1.05	S SF SA SAF	87 87 87 87	EDRN EDRN EDRN EDRN	132S4 132S4 132S4 132S4	135 155 130 150	730 731 732 731
33	1410	44.03	29300	1.15	S SF SA SAF	87 87 87 87	EDRN EDRN EDRN EDRN	132S4 132S4 132S4 132S4	135 155 130 150	730 731 732 731
37	1250	39.10	29100	1.25						
42	1120	34.96*	28500	1.40						
46	1010	31.43	27900	1.55						
54	880	27.28	27100	1.80						
57	840	25.50*	25400	1.45						
68	715	21.43	24600	1.75						
74	655	19.70	24200	1.90						
84	585	17.49	23600	2.1						
93	525	15.64*	23000	2.4						
104	470	14.06	22500	2.6						
120	410	12.21	21800	3.0						
134	365	10.93	21200	3.4						
41	1200	35.94	7400	1.00	S SF SA SAF	77p 77p 77p 77p	EDRN EDRN EDRN EDRN	132S4 132S4 132S4 132S4	98 105 97 105	725 726 727 726
45	1080	32.38	7520	1.10						
51	950	28.41	7610	1.20						
58	840	25.07	7650	1.30						
66	745	22.22	7650	1.40						
79	630	18.42	6030	1.25						
84	600	17.45	6260	1.30						
96	525	15.28	6480	1.45						
106	470	13.76	6480	1.55						
121	415	12.07	6450	1.75						
137	365	10.65	6390	1.95						
155	325	9.44	6320	2.2						
181	275	8.06	6200	2.5						
45	1020	32.38	7910	1.05						

P_m = 5.5 kW

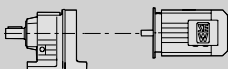
n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
51	900	28.41	7970	1.15	S SF SA SAF	77	EDRN	132S4	98	725
58	800	25.07	7980	1.25						
66	710	22.22	7950	1.35						
79	605	18.42	6230	1.15						
84	575	17.45	6460	1.25						
96	505	15.28	6680	1.40						
106	455	13.76	6670	1.55						
121	400	12.07	6630	1.80						
137	355	10.65	6570	2.0						
155	315	9.44	6490	2.3						
181	270	8.06	6360	2.5						
146	340	10.03	3290	1.05	S	67p	EDRN	132S4	78	720
168	295	8.69	3680	1.15	SF	67p	EDRN	132S4	85	721
193	255	7.56*	3800	1.25	SA	67p	EDRN	132S4	79	722
					SAF	67p	EDRN	132S4	84	721
146	330	10.03	3430	1.05	S	67	EDRN	132S4	78	720
168	285	8.69	3820	1.15	SF	67	EDRN	132S4	85	721
193	250	7.56*	3940	1.20	SA	67	EDRN	132S4	79	722
					SAF	67	EDRN	132S4	84	721

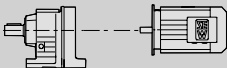
P_m = 7.5 kW

n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
16	3780	89.60*	31900	1.05	S SF SA SAF	97p	EDRN	132M4	210	735
19	3300	78.26	34500	1.15						
21	3280	71.43	34500	1.25						
22	2760	65.45	35300	1.25						
24	2790	60.59	35200	1.40						
26	2570	55.79	35500	1.50						
29	2300	49.87	35800	1.65						
33	2070	44.89	36100	1.75						
36	1870	40.65	36300	1.90						
41	1660	36.05	35900	2.1						
45	1500	32.60	35200	2.2	S SF SA SAF	97	EDRN	132M4	210	735
56	1240	26.39	32100	2.1						
62	1110	23.59	31400	2.3						
69	1000	21.23	30700	2.6						
76	900	19.23	30100	2.9						
19	3040	78.26	34900	1.00						
21	3120	71.43	34800	1.05						
22	2560	65.45	35500	1.10						
24	2660	60.59	35400	1.25						
26	2450	55.79	35700	1.35						
29	2200	49.87	36000	1.50						
33	1980	44.89	36200	1.65						
36	1800	40.65	36300	1.85						
41	1600	36.05	36100	2.0						
45	1450	32.60	35300	2.2						
56	1210	26.39	32100	2.1						
62	1080	23.59	31400	2.4						
69	970	21.23	30800	2.7						
76	880	19.23	30100	2.9						

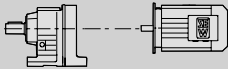
P _m = 7.5 kW															
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg						
33	2010	44.03	27500	1.05	S SF SA SAF	87p 87p 87p 87p	EDRN EDRN EDRN EDRN	132M4 132M4 132M4 132M4	150 175 150 165	730 731 732 731					
38	1790	39.10	27100	1.15											
42	1600	34.96*	26700	1.25											
47	1440	31.43	26300	1.40											
54	1250	27.28	25700	1.55											
58	1190	25.50*	23600	1.20											
68	1000	21.43	23100	1.40											
75	920	19.70	22800	1.50											
84	820	17.49	22400	1.60											
94	730	15.64*	22000	1.70											
104	660	14.06	21500	1.90											
120	570	12.21	20900	2.2											
134	510	10.93	20500	2.4											
162	425	9.07	19700	2.7											
186	370	7.88	19000	2.7											
42	1530	34.96*	26900	1.05	S	87	EDRN	132M4	150	730					
					SF	87	EDRN	132M4	175	731					
					SA	87	EDRN	132M4	150	732					
					SAF	87	EDRN	132M4	165	731					
47	1380	31.43	26500	1.15	S SF SA SAF	87 87 87 87	EDRN EDRN EDRN EDRN	132M4 132M4 132M4 132M4	150 175 150 165	730 731 732 731					
											54	1200	27.28	25800	1.35
											58	1150	25.50*	23700	1.10
											68	970	21.43	23200	1.30
											75	890	19.70	22900	1.40
											84	795	17.49	22400	1.55
											94	710	15.64*	22000	1.75
											104	640	14.06	21600	1.95
											120	555	12.21	21000	2.2
											134	500	10.93	20500	2.5
											162	415	9.07	19700	2.7
											186	360	7.88	19100	2.8
66	1010	22.22	6350	1.05	S SF SA SAF	77p 77p 77p 77p	EDRN EDRN EDRN EDRN	132M4 132M4 132M4 132M4	115 125 115 120	725 726 727 726					
											77	860	18.97	6480	1.15
											96	710	15.28	3500	1.05
											107	640	13.76	4090	1.15
											122	560	12.07	4720	1.30
											138	495	10.65	5210	1.45
											155	440	9.44	5540	1.65
											182	375	8.06	5530	1.80
66	960	22.22	6670	1.00	S	77	EDRN	132M4	115	725					
					SF	77	EDRN	132M4	125	726					
					SA	77	EDRN	132M4	115	727					
					SAF	77	EDRN	132M4	120	726					
96	685	15.28	3660	1.05	S SF SA SAF	77 77 77 77	EDRN EDRN EDRN EDRN	132M4 132M4 132M4 132M4	115 125 115 120	725 726 727 726					
											107	620	13.76	4250	1.15
											122	545	12.07	4880	1.30
											138	480	10.65	5380	1.50
											155	425	9.44	5710	1.70
											182	365	8.06	5690	1.85

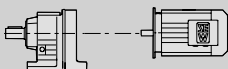
P _m = 9.2 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
22	3390	65.45	34300	1.05	S SF SA SAF	97p 97p 97p 97p	EDRN EDRN EDRN EDRN	132L4 132L4 132L4 132L4	220 250 215 240	735 736 737 736
26	3150	55.79	34700	1.25						
29	2820	49.87	35200	1.35						
33	2540	44.89	35600	1.45						
36	2300	40.65	35500	1.55						
41	2040	36.05	34800	1.70						
45	1840	32.60	34100	1.80						
56	1520	26.39	30900	1.70						
62	1360	23.59	30300	1.90						
69	1220	21.23	29800	2.1						
76	1110	19.23	29200	2.3	S SF SA SAF	97 97 97 97	EDRN EDRN EDRN EDRN	132L4 132L4 132L4 132L4	220 250 215 240	735 736 737 736
86	980	17.05	28600	2.5						
95	890	15.42	28000	2.7						
26	3000	55.79	34900	1.10						
29	2690	49.87	35400	1.20						
33	2430	44.89	35700	1.35						
36	2210	40.65	35700	1.50						
41	1960	36.05	34900	1.65						
45	1780	32.60	34300	1.75						
56	1480	26.39	30900	1.75						
62	1320	23.59	30400	1.95						
69	1190	21.23	29800	2.2						
76	1080	19.23	29300	2.4						
86	960	17.05	28600	2.6						
95	870	15.42	28000	2.8						
112	740	13.07	27000	3.1						
129	645	11.41	26200	3.4						
42	1960	34.96*	25300	1.05	S SF SA SAF	87p 87p 87p 87p	EDRN EDRN EDRN EDRN	132L4 132L4 132L4 132L4	160 180 160 175	730 731 732 731
47	1760	31.43	25100	1.15						
54	1530	27.28	24600	1.25						
60	1370	24.43	24200	1.35						
73	1140	20.27	23500	1.50						
75	1130	19.70	21700	1.20						
84	1000	17.49	21400	1.30						
94	890	15.64*	21100	1.40						
105	800	14.06	20700	1.55						
120	700	12.21	20300	1.75						
135	625	10.93	19900	1.95						
162	520	9.07	19200	2.2						
186	450	7.88	18600	2.2						
54	1470	27.28	24800	1.10						
60	1320	24.43	24400	1.20						
73	1100	20.27	23600	1.45						
75	1090	19.70	21800	1.15						
84	970	17.49	21500	1.25						
94	870	15.64*	21100	1.40						
105	785	14.06	20800	1.55						
120	680	12.21	20300	1.80						
135	610	10.93	19900	2.0						
162	510	9.07	19200	2.2						
186	440	7.88	18600	2.3						
122	690	12.07	2540	1.05	S SF SA SAF	77p 77p 77p 77p	EDRN EDRN EDRN EDRN	132L4 132L4 132L4 132L4	125 135 125 130	725 726 727 726
138	610	10.65	3250	1.20						
156	540	9.44	3840	1.35						
182	460	8.06	4460	1.45						
122	670	12.07	2660	1.05	S SF SA SAF	77 77 77 77	EDRN EDRN EDRN EDRN	132L4 132L4 132L4 132L4	125 135 125 130	725 726 727 726
138	590	10.65	3380	1.20						
156	525	9.44	3970	1.40						
182	450	8.06	4590	1.50						

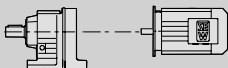
P _m = 11.0 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
26	3760	55.79	28300	1.05	S SF SA SAF	97p 97p 97p 97p	EDRN EDRN EDRN EDRN	160M4 160M4 160M4 160M4	250 285 245 270	735 736 737 736						
30	3360	49.87	34000	1.10												
33	3030	44.89	34500	1.20												
36	2740	40.65	34100	1.30												
41	2430	36.05	33500	1.40												
45	2200	32.60	33000	1.50												
56	1810	26.39	29600	1.45												
62	1620	23.59	29200	1.60												
69	1460	21.23	28700	1.75												
77	1320	19.23	28300	1.95												
86	1170	17.05	27700	2.1												
96	1060	15.42	27200	2.3												
113	900	13.07	26400	2.5												
129	785	11.41	25700	2.7												
30	3210	49.87	34600	1.05	S SF SA SAF	97 97 97 97	EDRN EDRN EDRN EDRN	160M4 160M4 160M4 160M4	250 285 245 270	735 736 737 736						
33	2900	44.89	34800	1.15												
36	2630	40.65	34300	1.25												
41	2340	36.05	33700	1.40												
45	2120	32.60	33200	1.50												
56	1760	26.39	29700	1.45												
62	1580	23.59	29200	1.65												
69	1420	21.23	28800	1.80												
77	1290	19.23	28300	2.0												
86	1150	17.05	27800	2.2												
96	1040	15.42	27300	2.4												
113	880	13.07	26400	2.6												
129	770	11.41	25700	2.8												
54	1830	27.28	23500	1.05	S SF SA SAF	87p 87p 87p 87p	EDRN EDRN EDRN EDRN	160M4 160M4 160M4 160M4	190 215 190 205	730 731 732 731						
60	1640	24.43	23200	1.15												
73	1360	20.27	22700	1.30												
75	1350	19.70	20600	1.00												
84	1200	17.49	20400	1.10												
94	1070	15.64*	20200	1.15												
105	960	14.06	19900	1.30												
121	830	12.21	19500	1.50												
135	750	10.93	19200	1.65												
162	620	9.07	18600	1.85												
187	540	7.88	18100	1.85												
60	1570	24.43	23400	1.00							S SF SA SAF	87 87 87 87	EDRN EDRN EDRN EDRN	160M4 160M4 160M4 160M4	190 215 190 205	730 731 732 731
73	1310	20.27	22800	1.20												
84	1160	17.49	20500	1.05												
94	1040	15.64*	20200	1.20												
105	930	14.06	20000	1.30	S SF SA SAF	87 87 87 87	EDRN EDRN EDRN EDRN	160M4 160M4 160M4 160M4	190 215 190 205	730 731 732 731						
121	810	12.21	19600	1.50												
135	730	10.93	19300	1.70												
162	605	9.07	18700	1.85												
187	530	7.88	18200	1.90												
156	645	9.44	2020	1.10												
183	550	8.06	2870	1.25	S SF SA SAF	77p 77p 77p 77p	EDRN EDRN EDRN EDRN	160M4 160M4 160M4 160M4	155 165 155 160	725 726 727 726						

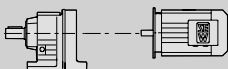
P _m = 15.0 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
41	3320	36.05	30800	1.05	S SF SA SAF	97p 97p 97p 97p	EDRN EDRN EDRN EDRN	160L4 160L4 160L4 160L4	265 300 260 290	735 736 737 736
45	3000	32.60	30600	1.10						
56	2470	26.39	26800	1.05						
62	2210	23.59	26600	1.15						
69	1990	21.23	26500	1.30						
77	1800	19.23	26200	1.45						
86	1600	17.05	25900	1.55						
96	1450	15.42	25600	1.65						
113	1220	13.07	25000	1.85						
129	1070	11.41	24400	2.0						
154	890	9.55	23700	2.2						
178	775	8.26	23000	2.3						
41	3190	36.05	31100	1.00	S	97	EDRN	160L4	265	735
					SF	97	EDRN	160L4	300	736
					SA	97	EDRN	160L4	260	737
					SAF	97	EDRN	160L4	290	736
45	2890	32.60	30800	1.10	S SF SA SAF	97 97 97 97	EDRN EDRN EDRN EDRN	160L4 160L4 160L4 160L4	265 300 260 290	735 736 737 736
56	2410	26.39	26900	1.10						
62	2150	23.59	26700	1.20						
69	1940	21.23	26600	1.35						
77	1760	19.23	26300	1.45						
86	1560	17.05	26000	1.60						
96	1410	15.42	25600	1.75						
113	1200	13.07	25000	1.90						
129	1050	11.41	24500	2.1						
154	880	9.55	23700	2.3						
178	765	8.26	23000	2.3						
121	1140	12.21	18000	1.10	S	87p	EDRN	160L4	210	730
135	1020	10.93	17800	1.20	SF	87p	EDRN	160L4	230	731
163	840	9.07	17500	1.35	SA	87p	EDRN	160L4	205	732
187	735	7.88	17100	1.35	SAF	87p	EDRN	160L4	220	731
121	1110	12.21	18000	1.10	S	87	EDRN	160L4	210	730
					SF	87	EDRN	160L4	230	731
					SA	87	EDRN	160L4	205	732
					SAF	87	EDRN	160L4	220	731
135	990	10.93	17900	1.25	S	87	EDRN	160L4	210	730
163	830	9.07	17500	1.35	SF	87	EDRN	160L4	230	731
187	720	7.88	17200	1.40	SA	87	EDRN	160L4	205	732
					SAF	87	EDRN	160L4	220	731

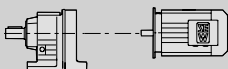
8.5 Selection tables for SPIROPLAN® gearmotors

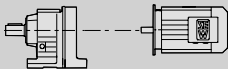
P _m = 0.12 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
1.5	580	888	8000	1.05	WA WAF WF	59R37 59R37 59R37	EDRN EDRN EDRN	63MS4 63MS4 63MS4	31 32 33	? ? ?						
1.8	485	771	8000	1.25												
2.0	410	674	8000	1.45												
2.3	355	588	8000	1.70												
2.6	325	513	8000	1.80												
3.0	295	447	8000	2.0												
3.4	250	398	8000	2.4												
3.9	230	350	8000	2.6												
4.4	200	311	8000	3.0												
5.0	171	271	8000	3.5												
5.7	152	240	8000	3.9												
6.4	170	213.21	8000	3.5	WA	59	EDRN	63MS4	19	789						
					WAF	59	EDRN	63MS4	21	788						
					WF	59	EDRN	63MS4	22	788						
2.5	360	544	6000	1.10	WA WAF WF	49R17 49R17 49R17	EDRN EDRN EDRN	63MS4 63MS4 63MS4	19 19 20	? ? ?						
2.8	330	494	6000	1.20												
3.1	285	443	6000	1.40												
3.4	265	400	6000	1.50												
3.8	230	362	6000	1.70												
4.1	220	330	6000	1.80												
4.5	205	300	6000	1.95												
5.0	175	269	6000	2.2												
5.6	165	244	6000	2.4												
6.1	146	222	6000	2.5												
6.8	159	200.76	6000	2.5	WA WAF WF	49 49 49	EDRN EDRN EDRN	63MS4 63MS4 63MS4	15 16 17	785 784 784						
8.9	123	151.87	6000	3.2												
9.1	119	149.88	6000	3.4												
11	101	126.43	6000	3.9												
6.5	162	210.49	4500	1.25	WA WAF WF	39 39 39	EDRN EDRN EDRN	63MS4 63MS4 63MS4	11 12 13	783 781 781						
8.6	126	157.87	4500	1.60												
9.6	108	141.23	4500	1.85												
11	100	126.29	4500	2.0												
12	92	114.81	4500	2.2												
13	85	105.50	4500	2.3												
14	74	97.24	4500	2.5												
15	73	91.92	4500	2.7												
16	67	84.74	4500	3.0												
18	62	77.03	4500	3.2												
18	58	73.53	4500	3.4												
19	57	70.79	4500	3.5												
20	53	66.85	4500	3.7												
9.1	117	149.43	3500	1.10							WA WAF WF	29 29 29	EDRN EDRN EDRN	63MS4 63MS4 63MS4	9.0 9.2 9.6	779 777 777
10	101	131.50	3500	1.30												
11	94	119.55	3500	1.35												
13	87	108.68	3500	1.50												
14	80	99.87	3500	1.60												
15	72	93.58	3500	1.80												
16	66	83.41	3500	1.95												
17	61	78.02	3500	2.1												
18	58	74.19	3500	2.2												
20	56	69.68	3500	2.3												
22	49	62.41	3500	2.6												
24	45	56.74	3500	2.9												
26	42	52.14	3500	3.1												
27	39	49.58	3500	3.2												
31	34	43.54	3500	3.8												

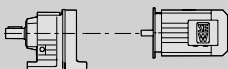
P _m = 0.12 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
14	74	96.28	2200	1.05	WA WAF WF	19 19 19	EDRN EDRN EDRN	63MS4 63MS4 63MS4	7.5 7.6 8.2	? 775 775						
15	67	90.04	2200	1.20												
17	65	82.03	2200	1.20												
18	60	74.57	2200	1.35												
20	53	68.71	2200	1.50												
22	49	61.75	2200	1.60												
24	45	56.14	2200	1.75												
26	40	52.61	2200	1.95												
29	37	47.28	2200	2.1												
31	35	44.07	2200	2.2												
34	32	40.07	2200	2.3	WA WAF WF	19 19 19	EDRN EDRN EDRN	63MS4 63MS4 63MS4	7.0 7.2 7.7	? 775 775						
40	27	33.74	2200	2.6												
44	24	30.68	2200	2.8												
49	21	27.71	2200	2.4												
65	16	20.86	2200	2.9												
18	28	75.00*	3000	2.5							W WF WA WAF	30 30 30 30	EDRN EDRN EDRN EDRN	63MS4 63MS4 63MS4 63MS4	9.1 9.5 8.8 9.2	771 772 774 773
23	26	60.00*	3000	2.7												
28	22	48.00*	3000	3.1												
35	20	39.00*	3000	3.4												
42	17	32.50*	3000	4.0												
49	16	27.50*	3000	4.3	W WF WA WAF	20 20 20 20	EDRN EDRN EDRN EDRN	63MS4 63MS4 63MS4 63MS4	6.7 6.8 6.4 6.4	-1 -1 -1 -1						
18	25	75.00*	2200	1.55												
23	22	60.00*	2200	1.80												
28	20	48.00*	2200	1.95												
35	18	39.00*	2200	2.1												
42	18	32.50*	2200	2.2												
49	15	27.50*	2200	2.6												
56	14	24.50*	2200	2.9												
70	12	19.50*	2200	3.5												
82	10	16.50*	2200	3.6												
95	9.0	14.33	2200	4.7	WA WAF WF	59 59 59	EDRN EDRN EDRN	63M4 63M4 63M4	31 32 34	? ? ?						
133	7.0	10.25*	2170	5.0												
166	5.0	8.20*	2020	4.9												
207	5.0	6.57	1900	4.8												

P _m = 0.18 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
2.3	565	588	8000	1.05	WA WAF WF	59R37 59R37 59R37	EDRN EDRN EDRN	63M4 63M4 63M4	31 32 34	? ? ?
2.7	510	513	8000	1.15						
3.1	460	447	8000	1.30						
3.5	395	398	8000	1.50						
3.9	355	350	8000	1.70						
4.4	310	311	8000	1.90						
5.1	265	271	8000	2.2						
5.7	235	240	8000	2.5	WA WAF WF	59 59 59	EDRN EDRN EDRN	63M4 63M4 63M4	20 22 23	789 788 788
6.5	250	213.21	8000	2.4						
9.1	179	151.56	8000	3.3						
9.6	170	142.72	8000	3.5						
11	155	129.74	8000	3.8	WA WAF WF	49R17 49R17 49R17	EDRN EDRN EDRN	63M4 63M4 63M4	19 20 21	? ? ?
3.8	360	362	6000	1.10						
4.2	340	330	6000	1.15						
4.6	315	300	6000	1.25						
5.1	270	269	6000	1.40						
5.6	250	244	6000	1.55						
6.2	225	222	6000	1.65						

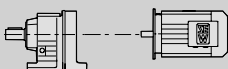
P _m = 0.18 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
6.8	235	200.76	6000	1.65	WA WAF WF	49 49 49	EDRN EDRN EDRN	63M4 63M4 63M4	16 17 18	785 784 784
9.1	183	151.87	6000	2.2						
9.2	176	149.88	6000	2.3						
11	151	126.43	6000	2.6						
12	137	114.94	6000	2.9						
13	126	105.36	6000	3.1						
15	112	94.39	6000	3.5						
15	109	92.86	6000	3.6						
16	102	85.81	6000	3.9						
8.7	187	157.87	4500	1.05	WA WAF WF	39 39 39	EDRN EDRN EDRN	63M4 63M4 63M4	12 13 13	783 781 781
9.7	161	141.23	4500	1.25						
11	149	126.29	4500	1.35						
12	137	114.81	4500	1.45						
13	126	105.50	4500	1.60						
14	111	97.24	4500	1.65						
15	109	91.92	4500	1.85						
16	100	84.74	4500	2.0						
18	92	77.03	4470	2.2						
19	87	73.53	4500	2.3						
19	85	70.79	4380	2.4						
21	79	66.85	4390	2.5						
22	73	61.43	4300	2.7						
24	69	58.34	4170	2.7						
26	63	53.04	4060	2.9						
28	58	49.34	4020	3.4						
31	53	44.85	3920	3.7						
13	129	108.68	3490	1.00	WA WAF WF	29 29 29	EDRN EDRN EDRN	63M4 63M4 63M4	9.8 10 10	779 777 777
14	119	99.87	3500	1.10						
15	107	93.58	3500	1.20						
16	98	83.41	3500	1.30						
18	91	78.02	3500	1.45						
19	86	74.19	3500	1.50						
20	83	69.68	3500	1.55						
22	73	62.41	3500	1.75						
24	67	56.74	3500	1.90						
26	62	52.14	3500	2.1						
28	59	49.58	3500	2.2						
32	51	43.54	3500	2.5						
36	45	38.73*	3500	2.9						
38	43	36.38	3500	3.0						
44	36	30.99*	3500	3.6						
49	33	28.17	3500	3.9						
20	79	68.71	2200	1.00	WA WAF WF	19 19 19	EDRN EDRN EDRN	63M4 63M4 63M4	8.3 8.4 9.0	? 775 775
22	73	61.75	2200	1.10						
24	67	56.14	2200	1.20						
26	60	52.61	2200	1.30						
29	56	47.28	2200	1.40						
31	52	44.07	2200	1.45						
34	48	40.07	2200	1.55						
41	40	33.74	2200	1.75						
45	36	30.68	2200	1.85						
50	31	27.71	2200	1.60	WA WAF WF	19 19 19	EDRN EDRN EDRN	63M4 63M4 63M4	7.8 8.0 8.5	? 775 775
66	23	20.86	2150	1.90						
77	21	17.77	2060	2.3						
85	19	16.16	2010	2.5						
103	15	13.38	1900	2.8						
113	14	12.16	1850	3.0						

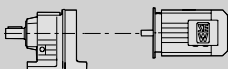
P _m = 0.18 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
18	42	75.00*	3000	1.65	W WF WA WAF	30 30 30 30	EDRN EDRN EDRN EDRN	63M4 63M4 63M4 63M4	10.0 10 9.7 10.0	771 772 774 773
23	38	60.00*	3000	1.80						
29	33	48.00*	3000	2.1						
35	30	39.00*	3000	2.3						
42	25	32.50*	3000	2.7						
50	24	27.50*	3000	2.9						
56	22	24.50*	3000	3.1						
71	18	19.50*	3000	3.7						
84	16	16.33	3000	4.2						
96	14	14.33	3000	4.7						
134	11	10.25*	3000	5.7						
168	9.0	8.20*	3000	7.1						
209	7.0	6.57	2940	8.1						
18	37	75.00*	2200	1.05	W WF WA WAF	20 20 20 20	EDRN EDRN EDRN EDRN	63M4 63M4 63M4 63M4	7.5 7.7 7.2 7.2	-1 -1 -1 -1
23	33	60.00*	2200	1.20						
29	30	48.00*	2200	1.30						
35	27	39.00*	2200	1.45						
42	27	32.50*	2200	1.45						
50	22	27.50*	2200	1.75						
56	20	24.50*	2200	1.90						
71	17	19.50*	2200	2.4						
83	15	16.50*	2200	2.4						
96	14	14.33	2200	3.1						
134	10	10.25*	2110	3.3						
168	8.0	8.20*	1980	3.3						
209	7.0	6.57	1870	3.2						

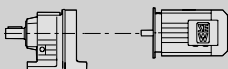
P _m = 0.25 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
3.5	555	398	8000	1.05	WA WAF WF	59R37 59R37 59R37	EDRN EDRN EDRN	71MS4 71MS4 71MS4	31 33 34	? ? ?
4.0	495	350	8000	1.20						
4.5	435	311	8000	1.35						
5.2	375	271	8000	1.60						
5.8	335	240	8000	1.80						
6.6	345	213.21	8000	1.75	WA WAF WF	59 59 59	EDRN EDRN EDRN	71MS4 71MS4 71MS4	21 22 24	789 788 788
9.2	245	151.56	8000	2.4						
9.8	230	142.72	8000	2.6						
11	210	129.74	8000	2.8						
12	192	118.93	8000	3.0						
13	175	107.33	8000	3.2						
14	165	101.45	8000	3.4						
15	150	92.23	8000	3.6						
5.2	380	269	6000	1.00	WA WAF WF	49R17 49R17 49R17	EDRN EDRN EDRN	71MS4 71MS4 71MS4	20 21 21	? ? ?
5.7	350	244	6000	1.15						
6.3	315	222	6000	1.15						
7.0	320	200.76	6000	1.25	WA WAF WF	49 49 49	EDRN EDRN EDRN	71MS4 71MS4 71MS4	17 18 18	785 784 784
9.2	245	151.87	6000	1.60						
9.3	240	149.88	6000	1.65						
11	205	126.43	6000	1.90						
12	187	114.94	6000	2.1						
13	172	105.36	6000	2.3						
15	153	94.39	6000	2.6						
15	149	92.86	6000	2.6						
16	139	85.81	6000	2.9						
18	128	78.66	6000	3.1						
20	115	70.25	6000	3.2						
21	110	67.73	6000	3.5						
23	100	61.58	6000	3.8						

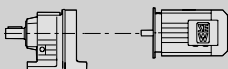
P _m = 0.25 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
12	187	114.81	4500	1.05	WA WAF WF	39 39 39	EDRN EDRN EDRN	71MS4 71MS4 71MS4	12 13 14	783 781 781
13	173	105.50	4500	1.15						
14	151	97.24	4330	1.20						
15	148	91.92	4420	1.35						
17	136	84.74	4260	1.45						
18	125	77.03	4180	1.60						
19	118	73.53	4250	1.70						
20	116	70.79	4110	1.70						
21	109	66.85	4150	1.85						
23	100	61.43	4080	2.0						
24	94	58.34	3930	1.95						
26	86	53.04	3840	2.1						
28	79	49.34	3830	2.5						
31	73	44.85	3740	2.7						
34	67	41.22	3660	3.0						
41	54	33.97	3480	3.6						
45	50	30.88	3390	3.9						
49	46	28.38	3320	4.2						
18	124	78.02	3500	1.05	WA WAF WF	29 29 29	EDRN EDRN EDRN	71MS4 71MS4 71MS4	10 11 11	779 777 777
19	118	74.19	3500	1.10						
20	113	69.68	3500	1.15						
22	100	62.41	3500	1.30						
25	92	56.74	3500	1.40						
27	85	52.14	3500	1.55						
28	80	49.58	3500	1.60						
32	69	43.54	3500	1.85						
36	61	38.73*	3500	2.1						
38	59	36.38	3500	2.2						
45	49	30.99*	3500	2.6						
50	45	28.17	3500	2.8						
54	42	25.89	3500	3.1						
60	37	23.29	3500	3.3						
66	34	21.17	3410	3.5						
30	76	47.28	2200	1.05	WA WAF WF	19 19 19	EDRN EDRN EDRN	71MS4 71MS4 71MS4	8.8 9.0 9.6	? 775 775
32	71	44.07	2200	1.05						
35	65	40.07	2200	1.15						
41	54	33.74	2200	1.30						
46	50	30.68	2180	1.35						
51	43	27.71	2200	1.15						
67	32	20.86	2060	1.40						
79	28	17.77	1980	1.70						
87	26	16.16	1930	1.80						
105	21	13.38	1830	2.1						
115	19	12.16	1790	2.2						
137	16	10.24	1690	2.4						
150	15	9.31	1650	2.6						
167	13	8.38	1580	2.5						
184	12	7.62	1540	2.6						
216	10	6.49*	1470	2.8						
237	9.0	5.90	1430	3.0						
19	57	75.00*	3000	1.20	W WF WA WAF	30 30 30 30	EDRN EDRN EDRN EDRN	71MS4 71MS4 71MS4 71MS4	11 11 10 11	771 772 774 773
23	53	60.00*	3000	1.30						
29	46	48.00*	3000	1.50						
36	42	39.00*	3000	1.65						
43	35	32.50*	3000	2.0						
51	32	27.50*	3000	2.1						
57	30	24.50*	3000	2.3						
72	25	19.50*	3000	2.7						
86	22	16.33	3000	3.0						
98	20	14.33	3000	3.4						
137	15	10.25*	3000	4.2						
171	12	8.20*	3000	5.2						
213	10	6.57	2900	5.9						

P _m = 0.25 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
36	38	39.00*	2200	1.05						
43	37	32.50*	2200	1.05						
51	31	27.50*	2200	1.25						
57	28	24.50*	2200	1.40						
72	24	19.50*	2200	1.70						
85	21	16.50*	2200	1.80						
98	19	14.33	2200	2.3						
137	14	10.25*	2050	2.5						
171	12	8.20*	1930	2.4						
213	10	6.57	1830	2.4						
					W	20	EDRN	71MS4	8.1	-1
					WF	20	EDRN	71MS4	8.2	-1
					WA	20	EDRN	71MS4	7.8	-1
					WAF	20	EDRN	71MS4	7.8	-1

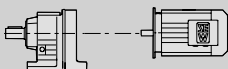
P _m = 0.37 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
5.2	575	271	8000	1.05	WA	59R37	EDRN	71M4	33	?						
5.9	510	240	8000	1.15	WAF	59R37	EDRN	71M4	34	?						
					WF	59R37	EDRN	71M4	36	?						
6.6	505	213.21	8000	1.20	WA	59	EDRN	71M4	22	789						
9.3	360	151.56	8000	1.65												
9.8	340	142.72	8000	1.75												
11	310	129.74	8000	1.90												
12	280	118.93	8000	2.0												
13	255	107.33	8000	2.1												
14	240	101.45	8000	2.3												
15	220	92.23	8000	2.4												
17	200	84.54	8000	2.6												
18	184	76.29	8000	2.8												
19	176	73.72	8000	2.7	WAF	59	EDRN	71M4	23	788						
21	161	67.02	8000	2.9												
9.2	365	151.87	6000	1.05												
9.4	355	149.88	6000	1.10												
11	300	126.43	6000	1.30												
12	275	114.94	6000	1.45												
13	250	105.36	6000	1.55												
15	225	94.39	6000	1.75												
15	220	92.86	6000	1.80												
16	205	85.81	6000	1.95												
18	190	78.66	6000	2.1	WF	49	EDRN	71M4	18	785						
20	170	70.25	6000	2.1												
21	162	67.73	6000	2.4												
23	148	61.58	6000	2.6												
24	140	58.48	6000	2.5												
26	127	53.16	6000	2.6												
29	117	48.73	6000	2.8												
32	105	43.66	6000	3.1												
18	185	77.03	3700	1.10							WA	39	EDRN	71M4	14	783
19	175	73.53	3840	1.15												
20	171	70.79	3670	1.15												
21	160	66.85	3780	1.25												
23	148	61.43	3730	1.35												
24	138	58.34	3550	1.35												
26	127	53.04	3500	1.45												
28	117	49.34	3520	1.70												
31	108	44.85	3460	1.85												
34	99	41.22	3400	2.0												
41	80	33.97	3260	2.4	WAF	39	EDRN	71M4	14	781						
46	74	30.88	3190	2.6												
50	68	28.38	3130	2.9												
59	56	23.68*	3080	3.0												
65	51	21.53	3010	3.2												

P _m = 0.37 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
27	125	52.14	3500	1.05	WA WAF WF	29 29 29	EDRN EDRN EDRN	71M4 71M4 71M4	12	779
28	119	49.58	3500	1.10					12	777
32	103	43.54	3500	1.25					12	777
36	91	38.73*	3500	1.45					12	777
39	87	36.38	3500	1.50					12	777
45	73	30.99*	3500	1.75					12	777
50	67	28.17	3460	1.90					12	777
54	62	25.89	3390	2.1					12	777
60	55	23.29	3370	2.2	WA WAF WF	29 29 29	EDRN EDRN EDRN	71M4 71M4 71M4	11	779
66	50	21.17	3290	2.4					12	777
72	46	19.45	3210	2.5					12	777
86	38	16.25	3050	2.8					12	777
95	35	14.77	2970	3.0					12	777
104	32	13.57	2900	3.2					12	777
122	27	11.56*	2760	3.1					12	777
134	25	10.51	2690	3.6					12	777
145	23	9.66	2620	3.8					12	777
176	18	8.00	2450	3.1					12	777
193	17	7.27	2380	3.5					12	777
210	16	6.68	2330	3.9					12	777
251	13	5.60	2200	3.1					12	777
276	12	5.09	2140	3.5					12	777
300	11	4.68	2080	3.8					12	777
79	42	17.77	1860	1.15	WA WAF WF	19 19 19	EDRN EDRN EDRN	71M4 71M4 71M4	9.6	?
87	39	16.16	1820	1.25					9.8	775
105	32	13.38	1740	1.40					10	775
116	29	12.16	1700	1.50					10	775
137	24	10.24	1610	1.65					10	775
151	22	9.31	1580	1.75					10	775
168	20	8.38	1510	1.70					10	775
184	18	7.62	1480	1.80					10	775
216	15	6.49*	1400	1.85					10	775
238	14	5.90	1370	2.0					10	775
29	68	48.00*	3000	1.00	W WF WA WAF	30 30 30 30	EDRN EDRN EDRN EDRN	71M4 71M4 71M4 71M4	12	771
36	62	39.00*	3000	1.15					12	772
43	52	32.50*	3000	1.35					11	774
51	48	27.50*	3000	1.45					12	773
57	45	24.50*	3000	1.55					12	773
72	38	19.50*	3000	1.85					12	773
86	32	16.33	3000	2.1					12	773
98	29	14.33	3000	2.3					12	773
137	22	10.25*	3000	2.8					12	773
171	18	8.20*	3000	3.5					12	773
214	15	6.57	2850	4.0					12	773
98	28	14.33	2120	1.55	W	20	EDRN	71M4	9.3	-1
137	21	10.25*	1960	1.65	WF	20	EDRN	71M4	9.5	-1
171	17	8.20*	1860	1.65	WA	20	EDRN	71M4	9.1	-1
214	14	6.57	1790	1.60	WAF	20	EDRN	71M4	9.1	-1

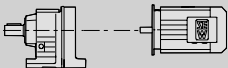
P _m = 0.55 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
9.4	525	151.56	8000	1.15	WA WAF WF	59	EDRN EDRN EDRN	80MK4 80MK4 80MK4	25 26 27	789 788 788
10	500	142.72	8000	1.20						
11	455	129.74	8000	1.30						
12	410	118.93	8000	1.40						
13	375	107.33	8000	1.45						
14	355	101.45	8000	1.60						
16	320	92.23	8000	1.65						
17	290	84.54	8000	1.80						
19	265	76.29	8000	1.90						
19	255	73.72	8000	1.90						
21	235	67.02	8000	2.0						
23	210	61.43	8000	2.1						
26	195	55.44	8000	2.2						
27	183	52.40	8000	2.4						
30	167	47.64	8000	2.5						
33	152	43.67	8000	2.7						
36	139	39.41	8000	2.9						
14	370	105.36	6000	1.05	WA WAF WF	49	EDRN EDRN EDRN	80MK4 80MK4 80MK4	20 21 22	785 784 784
15	330	94.39	6000	1.20						
15	320	92.86	6000	1.25						
17	300	85.81	6000	1.35						
18	275	78.66	6000	1.45						
20	245	70.25	6000	1.45						
21	235	67.73	6000	1.65						
23	215	61.58	6000	1.75						
24	205	58.48	6000	1.70						
27	186	53.16	6000	1.80						
29	172	48.73	6000	1.90						
33	153	43.66	6000	2.1						
36	139	39.69	6000	2.3						
39	128	36.38	6000	2.4						
46	110	31.33	6000	2.7						
50	100	28.48	6000	2.9						
27	186	53.04	2990	1.00						
29	171	49.34	3070	1.15						
32	157	44.85	3040	1.25						
35	145	41.22	3020	1.35						
42	118	33.97	2930	1.65						
46	108	30.88	2880	1.80						
50	100	28.38	2850	1.95						
60	82	23.68*	2880	2.0	WA WAF WF	39	EDRN EDRN EDRN	80MK4 80MK4 80MK4	15 16 17	783 781 781
66	75	21.53	2820	2.2						
72	69	19.78	2760	2.3						
90	55	15.89	2600	2.5						
99	50	14.44	2540	2.7						
108	46	13.27	2490	2.9						
131	38	10.94	2360	3.2						
144	34	9.94	2300	3.4						
156	32	9.14	2250	3.6						
188	26	7.61	2120	3.3						
207	24	6.91	2060	3.3						
225	22	6.35	2020	3.6						
253	19	5.65	1940	3.4						
278	18	5.14	1880	3.3						
303	16	4.72	1840	3.5						
39	127	36.38	3360	1.00	WA WAF WF	29	EDRN EDRN EDRN	80MK4 80MK4 80MK4	14 14 15	779 777 777
46	107	30.99*	3230	1.20						
51	98	28.17	3170	1.30						
55	91	25.89	3130	1.45						

P _m = 0.55 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
61	80	23.29	3160	1.55	WA WAF WF	29 29 29	EDRN EDRN EDRN	80MK4 80MK4 80MK4	14 14 14	779 777 777						
68	74	21.17	3090	1.65												
74	68	19.45	3030	1.70												
88	56	16.25	2890	1.95												
97	51	14.77	2820	2.1												
105	47	13.57	2760	2.2												
124	40	11.56*	2640	2.1												
136	36	10.51	2570	2.4												
148	33	9.66	2520	2.6												
179	27	8.00	2350	2.1												
197	25	7.27	2290	2.4												
214	23	6.68	2240	2.6												
255	19	5.60	2110	2.1	WA WAF WF	19 19 19	EDRN EDRN EDRN	80MK4 80MK4 80MK4	12 12 12	? 775 775						
281	17	5.09	2060	2.4												
306	16	4.68	2010	2.6												
118	42	12.16	1560	1.00												
140	35	10.24	1490	1.10												
154	32	9.31	1460	1.20												
171	29	8.38	1400	1.15												
188	26	7.62	1370	1.25												
220	22	6.49*	1310	1.25												
242	20	5.90	1280	1.40												
58	65	24.50*	3000	1.05							W WF WA WAF	30 30 30 30	EDRN EDRN EDRN EDRN	80MK4 80MK4 80MK4 80MK4	14 14 14 14	771 772 774 773
88	48	16.33	3000	1.40												
100	43	14.33	3000	1.60												
140	32	10.25*	3000	1.95												
174	26	8.20*	2950	2.4												
218	22	6.57	2770	2.8												

P _m = 0.75 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
12	560	118.93	8000	1.00						
13	510	107.33	8000	1.10						
14	480	101.45	8000	1.15						
16	435	92.23	8000	1.25						
17	395	84.54	8000	1.30						
19	360	76.29	8000	1.40						
20	345	73.72	8000	1.40						
21	315	67.02	8000	1.45	WA WAF WF	59 59 59	EDRN EDRN EDRN	80M4 80M4 80M4	28 29 31	789 788 788
23	290	61.43	8000	1.55						
26	265	55.44	8000	1.65						
27	245	52.40	8000	1.75						
30	225	47.64	8000	1.90						
33	205	43.67	8000	2.0						
37	188	39.41	8000	2.1						
39	175	36.98	7860	2.3						
43	159	33.62	7690	2.4						
47	145	30.82	7540	2.6						
52	132	27.81	7340	2.7						
58	118	24.89	7230	3.3	WA	59	EDRN	80M4	25	789
					WAF	59	EDRN	80M4	27	788
					WF	59	EDRN	80M4	28	788

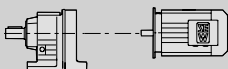
P _m = 0.75 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
18	375	78.66	6000	1.05	WA WAF WF	49 49 49	EDRN EDRN EDRN	80M4 80M4 80M4	24 25 25	785 784 784
20	335	70.25	6000	1.10						
21	320	67.73	6000	1.20						
23	290	61.58	6000	1.30						
25	275	58.48	6000	1.25						
27	250	53.16	6000	1.30						
30	230	48.73	6000	1.40						
33	205	43.66	6000	1.55						
36	188	39.69	6000	1.65						
40	173	36.38	6000	1.75						
46	149	31.33	6000	2.0						
51	135	28.48	6000	2.1						
55	124	26.11	6000	2.2						
63	108	22.69	5980	2.5	WA WAF WF	49 49 49	EDRN EDRN EDRN	80M4 80M4 80M4	22 23 24	785 784 784
70	98	20.63	5840	2.6						
76	90	18.91	5700	2.8						
85	80	16.94	5510	3.0						
93	73	15.40	5370	3.2						
102	67	14.12	5250	3.5						
118	57	12.16	5000	3.2						
130	52	11.05	4870	3.8						
142	48	10.13	4760	4.0						
166	41	8.67	4520	3.2						
183	37	7.88	4400	4.0						
199	34	7.22	4290	4.0						
35	197	41.22	2600	1.00	WA WAF WF	39 39 39	EDRN EDRN EDRN	80M4 80M4 80M4	19 20 21	783 781 781
42	160	33.97	2570	1.20						
47	147	30.88	2560	1.35						
51	135	28.38	2540	1.45						
61	111	23.68*	2660	1.50	WA WAF WF	39 39 39	EDRN EDRN EDRN	80M4 80M4 80M4	18 19 20	783 781 781
67	102	21.53	2620	1.60						
73	94	19.78	2580	1.70						
91	74	15.89	2440	1.90						
100	68	14.44	2390	2.0						
108	63	13.27	2350	2.1						
132	51	10.94	2240	2.4						
145	47	9.94	2200	2.5						
158	43	9.14	2150	2.7						
189	35	7.61	2020	2.5						
208	32	6.91	1970	2.4						
227	30	6.35	1930	2.6						
255	26	5.65	1850	2.5						
280	24	5.14	1810	2.4						
305	22	4.72	1770	2.6						
56	123	25.89	2850	1.05	WA WAF WF	29 29 29	EDRN EDRN EDRN	80M4 80M4 80M4	17 18 18	779 777 777
62	109	23.29	2940	1.15	WA WAF WF	29 29 29	EDRN EDRN EDRN	80M4 80M4 80M4	17 17 18	779 777 777
68	100	21.17	2890	1.20						
74	92	19.45	2850	1.25						
89	76	16.25	2730	1.45						
97	70	14.77	2670	1.50						
106	64	13.57	2620	1.60						
125	54	11.56*	2510	1.55						
137	49	10.51	2460	1.80						
149	46	9.66	2410	1.95						
180	37	8.00	2240	1.55						
198	34	7.27	2190	1.80						
216	31	6.68	2140	1.95						
257	26	5.60	2030	1.55						
283	24	5.09	1980	1.80						
308	22	4.68	1940	1.95						
244	28	5.90	1190	1.05	WA WAF WF	19 19 19	EDRN EDRN EDRN	80M4 80M4 80M4	15 15 16	? 775 775

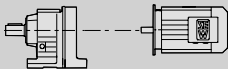
P_m = 0.75 kW

n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
88	65	16.33	3000	1.05	W	30	EDRN	80M4	17	771
100	59	14.33	3000	1.15	WF	30	EDRN	80M4	18	772
140	44	10.25*	3000	1.40	WA	30	EDRN	80M4	17	774
176	36	8.20*	2850	1.80	WAF	30	EDRN	80M4	17	773
219	30	6.57	2700	2.0						

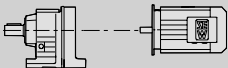
P_m = 1.1 kW

n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
22	460	67.02	8000	1.00						
24	420	61.43	8000	1.10						
26	380	55.44	7910	1.15						
28	360	52.40	7780	1.20						
31	325	47.64	7680	1.30	WA	59	EDRN	90S4	34	789
33	295	43.67	7590	1.40	WAF	59	EDRN	90S4	36	788
37	270	39.41	7440	1.45	WF	59	EDRN	90S4	37	788
39	250	36.98	7260	1.60						
43	230	33.62	7140	1.70						
47	210	30.82	7040	1.80						
52	193	27.81	6880	1.90						
58	171	24.89	6860	2.3						
64	156	22.63	6710	2.7						
70	142	20.74	6580	2.7						
78	129	18.72	6400	2.9						
90	111	16.09	6140	2.8						
99	101	14.75	6010	3.7	WA	59	EDRN	90S4	32	789
109	92	13.31	5840	3.9	WAF	59	EDRN	90S4	33	788
128	78	11.35	5570	2.8	WF	59	EDRN	90S4	35	788
140	71	10.41	5440	3.7						
155	65	9.39	5290	3.7						
178	56	8.18	5050	2.8						
194	51	7.49	4930	3.7						
215	46	6.76	4790	3.7						
33	300	43.66	6000	1.10						
37	270	39.69	6000	1.15	WA	49	EDRN	90S4	30	785
40	250	36.38	6000	1.20	WAF	49	EDRN	90S4	31	784
46	215	31.33	5780	1.40	WF	49	EDRN	90S4	32	784
51	196	28.48	5700	1.45						
56	181	26.11	5610	1.55						
64	156	22.69	5620	1.70						
71	142	20.63	5510	1.80						
77	131	18.91	5400	1.95						
86	117	16.94	5230	2.0						
94	106	15.40	5120	2.2	WA	49	EDRN	90S4	29	785
103	98	14.12	5010	2.4	WAF	49	EDRN	90S4	29	784
120	83	12.16	4780	2.2	WF	49	EDRN	90S4	30	784
132	76	11.05	4670	2.6						
144	70	10.13	4570	2.7						
168	59	8.67	4350	2.2						
185	54	7.88	4240	2.7						
201	50	7.22	4140	2.8						

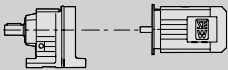
P _m = 1.1 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
61	161	23.68*	2300	1.05	WA	39	EDRN	90S4	24	783
68	148	21.53	2280	1.10						
74	137	19.78	2270	1.15						
92	108	15.89	2160	1.30						
101	99	14.44	2130	1.40						
110	92	13.27	2110	1.45						
133	74	10.94	2040	1.60						
146	68	9.94	2010	1.75						
159	63	9.14	1980	1.85						
191	52	7.61	1860	1.70						
210	47	6.91	1820	1.65						
229	44	6.35	1790	1.80						
257	38	5.65	1720	1.70						
283	35	5.14	1680	1.65						
308	32	4.72	1660	1.80						
99	101	14.77	2410	1.05	WA	29	EDRN	90S4	23	779
107	93	13.57	2380	1.10						
126	78	11.56*	2300	1.10						
138	72	10.51	2260	1.25						
151	66	9.66	2220	1.35						
182	54	8.00	2060	1.05						
200	50	7.27	2020	1.25						
218	46	6.68	1990	1.35						
260	38	5.60	1880	1.10						
286	35	5.09	1840	1.20						
311	32	4.68	1810	1.35						

P _m = 1.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
33	405	43.67	6860	1.00	WA	59	EDRN	90L4	37	789
37	370	39.41	6770	1.10						
40	345	36.98	6590	1.15						
43	315	33.62	6530	1.25						
47	285	30.82	6480	1.30						
53	260	27.81	6370	1.40						
59	230	24.89	6450	1.65	WA	59	EDRN	90L4	35	789
65	210	22.63	6330	1.95						
70	193	20.74	6240	2.0						
78	176	18.72	6090	2.1						
91	150	16.09	5860	2.0						
99	137	14.75	5760	2.7						
110	125	13.31	5610	2.9						
129	106	11.35	5360	2.0						
140	96	10.41	5250	2.7						
156	88	9.39	5110	2.7						
179	76	8.18	4880	2.0						
195	69	7.49	4780	2.7						
216	63	6.76	4650	2.7						
47	290	31.33	5180	1.00	WA	49	EDRN	90L4	33	785
51	265	28.48	5150	1.10						
56	245	26.11	5100	1.15						
64	210	22.69	5240	1.25	WA	49	EDRN	90L4	32	785
71	193	20.63	5160	1.35						
77	178	18.91	5080	1.45						
86	158	16.94	4920	1.50						
95	144	15.40	4840	1.65						
103	133	14.12	4750	1.75						
120	114	12.16	4550	1.60						
132	103	11.05	4460	1.95						
144	95	10.13	4370	2.0						
169	81	8.67	4160	1.60						
185	73	7.88	4070	2.0						
202	68	7.22	3990	2.0						

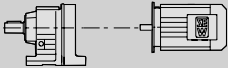
P_m = 1.5 kW

n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
101	135	14.44	1850	1.00						
110	125	13.27	1850	1.10						
134	101	10.94	1820	1.20						
147	93	9.94	1800	1.25						
160	86	9.14	1790	1.35						
192	70	7.61	1670	1.25	WA	39	EDRN	90L4	28	783
211	64	6.91	1650	1.25	WAF	39	EDRN	90L4	28	781
230	59	6.35	1640	1.35	WF	39	EDRN	90L4	29	781
258	52	5.65	1560	1.25						
284	48	5.14	1540	1.20						
309	44	4.72	1520	1.30						

P_m = 2.2 kW

n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
58	340	24.89	5740	1.10						
64	310	22.63	5690	1.30						
70	285	20.74	5660	1.35						
77	260	18.72	5560	1.45						
90	220	16.09	5400	1.40						
98	200	14.75	5330	1.85	WA	59	EDRN	100LS4	39	789
109	185	13.31	5230	1.95	WAF	59	EDRN	100LS4	40	788
128	157	11.35	5010	1.40	WF	59	EDRN	100LS4	42	788
139	143	10.41	4940	1.85						
154	130	9.39	4820	1.85						
177	113	8.18	4600	1.40						
193	103	7.49	4530	1.85						
214	94	6.76	4420	1.85						
86	230	16.94	4400	1.00						
94	210	15.40	4360	1.10						
103	196	14.12	4310	1.20						
119	168	12.16	4140	1.10	WA	49	EDRN	100LS4	36	785
131	153	11.05	4090	1.30	WAF	49	EDRN	100LS4	36	784
143	141	10.13	4030	1.35	WF	49	EDRN	100LS4	37	784
167	120	8.67	3850	1.10						
184	109	7.88	3790	1.35						
201	100	7.22	3730	1.35						

P_m = 3.0 kW

n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
70	385	20.74	4980	1.00						
78	350	18.72	4950	1.05						
91	300	16.09	4850	1.00						
99	275	14.75	4830	1.35						
109	250	13.31	4770	1.40	WA	59	EDRN	100L4	46	789
128	210	11.35	4600	1.00	WAF	59	EDRN	100L4	47	788
140	194	10.41	4560	1.35	WF	59	EDRN	100L4	49	788
155	177	9.39	4480	1.35						
178	153	8.18	4270	1.00						
194	140	7.49	4230	1.35						
215	127	6.76	4140	1.35						
144	191	10.13	3640	1.00	WA	49	EDRN	100L4	43	785
185	148	7.88	3460	1.00	WAF	49	EDRN	100L4	43	784
202	136	7.22	3420	1.00	WF	49	EDRN	100L4	44	784

P _m = 4.0 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
99	365	14.75	4220	1.00	WA WAF WF	59	EDRN	112M4	55	789
110	330	13.31	4210	1.05						
141	255	10.41	4090	1.00						
156	235	9.39	4050	1.00						
195	185	7.49	3850	1.00						
216	169	6.76	3800	1.00			EDRN	112M4	58	788

9 Selection tables for motors > 15 kW, category 2D and 3 // EPL Db and .c

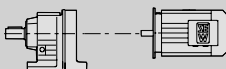
Category 2: 2D, T120 °C/140 °C

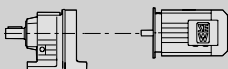
Category 3: 3G, T3; 3D, T120 °C/140 °C; 3GD, T3/T120 °C/140 °C

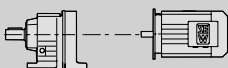
EPL Db: 2D-b, T120 °C/140 °C

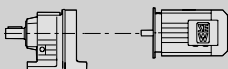
EPL .c: 3G-c, T3; 3D-c, T120 °C/140 °C; 3GD-c, T3/T120 °C/140 °C

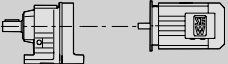
9.1 Selection tables helical gearmotors

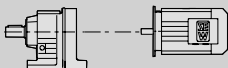
P _m = 18.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
9.7	18200	153.07	120000	1.10	R	167	EDRN	180M4	770	523
11	16700	139.98	120000	1.20	RF	167	EDRN	180M4	770	524
12	14500	121.81*	120000	1.35	RM	167	EDRN	180M4	970	524
14	12800	107.49	120000	1.55	R RF RM	167 167 167	EDRN EDRN EDRN	180M4 180M4 180M4	770 770 970	523 524 524
16	11100	93.19	120000	1.80						
18	9910	82.91*	120000	2.0						
20	8800	73.70*	120000	2.3						
22	8050	67.40	120000	2.5						
25	7000	58.65	120000	2.9						
14	13000	109.31	62500	1.00	R	147	EDRN	180M4	520	521
16	11300	94.60*	65800	1.15	RF	147	EDRN	180M4	530	522
					RM	147	EDRN	180M4	690	522
18	9970	83.47	67800	1.30	R RF RM	147 147 147	EDRN EDRN EDRN	180M4 180M4 180M4	520 530 690	521 522 522
20	8610	72.09	69600	1.50						
22	8000	66.99	70300	1.60						
24	7300	61.09	71000	1.75						
28	6310	52.87	71900	2.0						
32	5570	46.65	72500	2.2						
37	4810	40.29	73100	2.5						
23	7790	65.20	53800	1.05	R	137	EDRN	180M4	390	519
25	7070	59.17*	55200	1.15	RF	137	EDRN	180M4	415	520
					RM	137	EDRN	180M4	530	520
29	6070	50.86*	56900	1.30	R RF RM	137 137 137	EDRN EDRN EDRN	180M4 180M4 180M4	390 415 530	519 520 520
33	5300	44.39	58000	1.45						
39	4500	37.65	59000	1.65						
45	3930	32.91	59600	1.80						
53	3320	27.83	60100	2.1						
50	3530	29.57*	59900	2.2	R RF RM	137 137 137	EDRN EDRN EDRN	180M4 180M4 180M4	380 405 520	519 520 520
61	2880	24.12	60400	2.6						
67	2620	22.00*	60600	2.8						
78	2270	19.04*	60800	3.2						
88	2000	16.80*	60900	3.6						
35	5040	42.22*	43000	1.05	R	127	EDRN	180M4	365	517
40	4400	36.88	43000	1.20	RF	127	EDRN	180M4	375	518
48	3680	30.84	43000	1.40	RM	127	EDRN	180M4	470	518
57	3110	26.04*	43000	1.80	R RF RM	127 127 127	EDRN EDRN EDRN	180M4 180M4 180M4	345 370 465	517 518 518
62	2820	23.65	43000	1.95						
70	2500	20.98	43000	2.1						
78	2270	19.04	43000	2.3						
90	1950	16.37*	43000	2.7						
103	1700	14.29	43000	3.0						
167	1050	8.85	43000	3.7						
50	3520	29.49	21500	1.10	R	107	EDRN	180M4	305	515
					RF	107	EDRN	180M4	310	516
					RM	107	EDRN	180M4	400	516

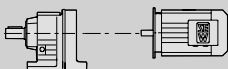
P _m = 18.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
59	2970	24.90*	20900	1.45	R RF RM	107 107 107	EDRN EDRN EDRN	180M4 180M4 180M4	300 305 395	515 516 516
65	2700	22.62	20500	1.60						
74	2390	20.07	20100	1.80						
81	2170	18.21	19700	2.0						
94	1870	15.65	19000	2.3						
108	1630	13.66	18400	2.6						
128	1380	11.59	17700	3.1						
146	1210	10.13	17100	3.5						
188	930	7.86	16300	3.2						
222	795	6.66	15500	3.7						
91	1930	16.17	14400	1.05	R RF RM	97 97 97	EDRN EDRN EDRN	180M4 180M4 180M4	245 265 315	513 514 514
101	1740	14.62	14200	1.15						
119	1480	12.39	13800	1.30						
137	1290	10.83	13400	1.45						
159	1100	9.29	13400	1.50						
176	1000	8.39	13100	1.60						
208	850	7.12	12500	1.80						
238	740	6.21	12100	2.0						
284	620	5.20	11500	2.3						
328	535	4.50*	11100	2.5						
207	850	7.13	10000	1.05	R	87	EDRN	180M4	205	510
231	760	6.39	9750	1.15	RF	87	EDRN	180M4	215	511
279	630	5.30*	9330	1.30	RM	87	EDRN	180M4	245	511
352	500	4.20*	7480	1.50	RX RXF	107 107	EDRN EDRN	180M4 180M4	245 260	484 485
387	455	3.81	7560	1.75						
437	400	3.38	7390	2.0						
481	365	3.07	7240	2.3						
560	315	2.64*	6990	2.6	RX RXF	107 107	EDRN EDRN	180M4 180M4	245 260	484 485
641	275	2.30	6770	3.0						
756	230	1.95	6500	3.3						
865	200	1.71	6280	3.5						
1025	172	1.44	6000	3.7						
406	435	3.64*	4150	1.35	RX RXF	97 97	EDRN EDRN	180M4 180M4	215 220	482 483
448	390	3.30	4440	1.50						
506	345	2.92	4750	1.70						
559	315	2.64	4920	1.90						
660	265	2.24*	5080	2.2						
755	230	1.96	5210	2.4						
903	195	1.64	5110	2.6						
1045	169	1.42	4930	2.7						
536	325	2.76*	530	1.25	RX RXF	87 87	EDRN EDRN	180M4 180M4	190 195	480 481
596	295	2.48	920	1.35						
686	255	2.15	1320	1.45						
766	230	1.93	1580	1.55						
924	191	1.60*	1860	1.65						
1060	166	1.39	2110	1.75						

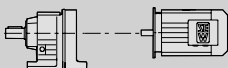
P _m = 22 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
11	19900	139.98	120000	1.00	R RF RM	167	EDRN	180L4	780	523
12	17300	121.81*	120000	1.15		167	EDRN	180L4	790	524
						167	EDRN	180L4	980	524
14	15200	107.49	120000	1.30	R RF RM	167	EDRN	180L4	780	523
16	13200	93.19	120000	1.50						
18	11700	82.91*	120000	1.70						
20	10400	73.70*	120000	1.90						
22	9580	67.40	120000	2.1						
25	8340	58.65	120000	2.4						
29	7360	51.76	120000	2.7						
33	6380	44.87	120000	3.0						
18	11800	83.47	64800	1.10	R	147	EDRN	180L4	530	521
20	10200	72.09	67400	1.25	RF	147	EDRN	180L4	540	522
					RM	147	EDRN	180L4	710	522

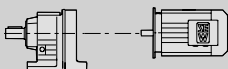
P _m = 22 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
22	9520	66.99	68400	1.35	R	147	EDRN	180L4	530	521
24	8680	61.09	69500	1.45						
28	7520	52.87	70800	1.65						
32	6630	46.65	71700	1.85						
37	5730	40.29	72400	2.1						
41	5060	35.64	72900	2.3						
49	4260	29.95	73400	2.6	RF	147	EDRN	180L4	540	522
					RM	147	EDRN	180L4	710	522
29	7230	50.86*	54900	1.10	R	137	EDRN	180L4	410	519
33	6310	44.39	56500	1.20	RF	137	EDRN	180L4	430	520
					RM	137	EDRN	180L4	540	520
39	5350	37.65	57900	1.35	R	137	EDRN	180L4	410	519
45	4680	32.91	58800	1.50	RF	137	EDRN	180L4	430	520
53	3950	27.83	59500	1.75	RM	137	EDRN	180L4	540	520
50	4200	29.57*	59300	1.85	R	137	EDRN	180L4	400	519
61	3430	24.12	60000	2.2						
67	3120	22.00*	60200	2.4						
78	2700	19.04*	60500	2.7						
					RF	137	EDRN	180L4	420	520
					RM	137	EDRN	180L4	530	520
88	2380	16.80*	60700	3.0	R	137	EDRN	180L4	400	519
102	2060	14.51	60900	3.5	RF	137	EDRN	180L4	420	520
115	1820	12.83	61000	4.0	RM	137	EDRN	180L4	530	520
40	5240	36.88	43000	1.00	R	127	EDRN	180L4	380	517
48	4380	30.84	43000	1.15	RF	127	EDRN	180L4	390	518
					RM	127	EDRN	180L4	485	518
57	3700	26.04*	43000	1.50	R	127	EDRN	180L4	365	517
62	3360	23.65	43000	1.65						
70	2980	20.98	43000	1.80						
78	2700	19.04	43000	1.95						
90	2320	16.37*	43000	2.2						
103	2030	14.29	43000	2.5						
122	1720	12.12	43000	2.9						
139	1500	10.59	43000	3.3						
167	1250	8.85	43000	3.1						
197	1060	7.51	43000	3.7						
					RF	127	EDRN	180L4	385	518
					RM	127	EDRN	180L4	480	518
59	3540	24.90*	20000	1.20	R	107	EDRN	180L4	315	515
65	3210	22.62	19700	1.35	RF	107	EDRN	180L4	320	516
74	2850	20.07	19300	1.50	RM	107	EDRN	180L4	410	516
81	2590	18.21	19000	1.65	R	107	EDRN	180L4	315	515
94	2220	15.65	18400	1.95						
108	1940	13.66	17900	2.2						
127	1640	11.59	17300	2.6						
146	1440	10.13	16800	3.0						
172	1210	8.56	16100	3.5						
188	1110	7.86	16000	2.7						
222	940	6.66	15300	3.1						
254	820	5.82	14800	3.6						
					RF	107	EDRN	180L4	320	516
					RM	107	EDRN	180L4	410	516
119	1760	12.39	13200	1.10	R	97	EDRN	180L4	260	513
136	1530	10.83	12900	1.25						
159	1320	9.29	13100	1.25						
176	1190	8.39	12800	1.35						
208	1010	7.12	12300	1.50						
238	880	6.21	11900	1.65						
284	735	5.20	11300	1.90						
328	640	4.50*	10900	2.1						
					RF	97	EDRN	180L4	280	514
					RM	97	EDRN	180L4	330	514
279	750	5.30*	9100	1.10	R	87	EDRN	180L4	220	510
					RF	87	EDRN	180L4	230	511
					RM	87	EDRN	180L4	260	511
352	595	4.20*	5860	1.25	RX	107	EDRN	180L4	260	484
387	540	3.81	6140	1.45						
436	480	3.38	6430	1.70						
481	435	3.07	6600	1.90						
559	375	2.64*	6740	2.2						
					RXF	107	EDRN	180L4	280	485
641	325	2.30	6550	2.5	RX	107	EDRN	180L4	260	484
756	275	1.95	6310	2.8						
865	240	1.71	6100	2.9						
1025	205	1.44	5860	3.1						
					RXF	107	EDRN	180L4	280	485

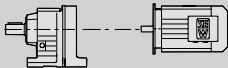
P _m = 22 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
406	515	3.64*	2380	1.15	RX	97	EDRN	180L4	230	482
448	465	3.30	2800	1.25						
505	415	2.92	3270	1.45						
559	375	2.64	3550	1.60						
659	315	2.24*	3860	1.85						
755	275	1.96	4110	2.0						
903	230	1.64	4250	2.2						
1045	200	1.42	4320	2.3	RXF	97	EDRN	180L4	235	483
535	390	2.76*	-	1.05	RX	87	EDRN	180L4	205	480
595	350	2.48	-	1.15						
686	305	2.15	-	1.20						
766	270	1.93	220	1.30						
923	225	1.60*	655	1.40						
1060	197	1.39	1030	1.45						
					RXF	87	EDRN	180L4	210	481

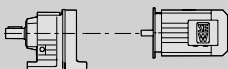
P _m = 30 kW														
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg					
16	18000	93.19	120000	1.10	R	167	EDRN	200L4	890	523				
18	16000	82.91*	120000	1.25	RF	167	EDRN	200L4	900	524				
					RM	167	EDRN	200L4	1090	524				
20	14200	73.70*	120000	1.40	R	167	EDRN	200L4	890	523				
22	13000	67.40	120000	1.55										
25	11300	58.65	120000	1.75										
29	10000	51.76	120000	1.95										
33	8680	44.87	120000	2.2										
37	7720	39.92	120000	2.4										
43	6660	34.41	120000	2.6										
53	5410	27.96	120000	3.0										
62	4580	23.71	120000	3.4	RM	167	EDRN	200L4	1090	524				
22	12900	66.99	62700	1.00	R	147	EDRN	200L4	640	521				
24	11800	61.09	64900	1.10	RF	147	EDRN	200L4	650	522				
					RM	147	EDRN	200L4	820	522				
28	10200	52.87	67400	1.20	R	147	EDRN	200L4	640	521				
32	9030	46.65	69100	1.35										
37	7790	40.29	70500	1.55										
42	6890	35.64	71400	1.70										
49	5790	29.95	72400	1.95										
61	4680	24.19	73100	2.3										
72	3950	20.44	73600	3.0	R	147	EDRN	200L4	630	521				
82	3490	18.04	73800	3.0	RF	147	EDRN	200L4	640	522				
95	3020	15.64	74000	4.3	RM	147	EDRN	200L4	810	522				
39	7280	37.65	54800	1.00	R	137	EDRN	200L4	510	519				
45	6370	32.91	56400	1.10	RF	137	EDRN	200L4	540	520				
53	5380	27.83	57900	1.30	RM	137	EDRN	200L4	650	520				
61	4660	24.12	58800	1.60	R	137	EDRN	200L4	500	519				
67	4250	22.00*	59200	1.75					RF	137	EDRN	200L4	530	520
78	3680	19.04*	59800	2.0					RM	137	EDRN	200L4	640	520
88	3250	16.80*	60200	2.2										
102	2800	14.51	59500	2.6	R	137	EDRN	200L4	500	519				
115	2480	12.83	58300	2.9					RF	137	EDRN	200L4	530	520
137	2080	10.79	56600	3.5					RM	137	EDRN	200L4	640	520
195	1460	7.59	53200	3.5										
232	1230	6.38	51200	4.1										

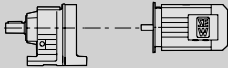
P _m = 30 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
71	4060	20.98	43000	1.30	R	127	EDRN	200L4	470	517
78	3680	19.04	43000	1.45						
90	3160	16.37*	43000	1.65						
104	2760	14.29	43000	1.85						
122	2340	12.12	43000	2.2						
140	2050	10.59	43000	2.4						
165	1730	8.96	43000	2.8						
167	1710	8.85	43000	2.3						
197	1450	7.51	43000	2.7						
225	1270	6.56	43000	3.1						
267	1070	5.55	43000	3.6						
74	3880	20.07	17600	1.10	R	107	EDRN	200L4	425	515
81	3520	18.21	17400	1.20						
95	3020	15.65	17100	1.40						
108	2640	13.66	16800	1.65						
128	2240	11.59	16300	1.90						
146	1960	10.13	15900	2.2						
173	1650	8.56	15300	2.6						
188	1520	7.86	15500	1.95						
222	1280	6.66	14800	2.3						
254	1120	5.82	14300	2.6						
301	950	4.92	13700	3.0						
208	1370	7.12	11700	1.10	R	97	EDRN	200L4	370	513
238	1200	6.21	11300	1.25						
285	1000	5.20	10900	1.40						
329	870	4.50*	10500	1.55						
437	655	3.38	3350	1.25	RX	107	EDRN	200L4	370	484
482	590	3.07	3740	1.40						
561	510	2.64*	4220	1.60						
642	445	2.30	4560	1.85						
757	375	1.95	4820	2.0						
866	330	1.71	4960	2.1						
1025	275	1.44	5120	2.3						
506	565	2.92	-	1.05	RX	97	EDRN	200L4	335	482
560	510	2.64	450	1.15						
661	430	2.24*	1100	1.35						
756	375	1.96	1630	1.50						
904	315	1.64	2050	1.60						
1045	270	1.42	2310	1.65						

P _m = 37 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
18	19700	82.91*	120000	1.00	R RF RM	167 167 167	EDRN EDRN EDRN	225S4 225S4 225S4	920 930 1120	523 524 524
20	17500	73.70*	120000	1.15						
22	16000	67.40	120000	1.25						
25	13900	58.65	120000	1.45						
29	12300	51.76	120000	1.60						
33	10600	44.87	120000	1.75						
37	9510	39.92	120000	1.90						
43	8200	34.41	120000	2.1						
53	6660	27.96	120000	2.5						
48	7320	30.71	120000	1.60	R RF RM	167 167 167	EDRN EDRN EDRN	225S4 225S4 225S4	910 920 1120	523 524 524
60	5850	24.57	120000	2.8						
68	5200	21.85	120000	3.1						
78	4530	19.03	120000	3.6						
87	4040	16.98	120000	4.0						
32	11100	46.65	66100	1.10	R RF RM	147 147 147	EDRN EDRN EDRN	225S4 225S4 225S4	670 680 850	521 522 522
37	9600	40.29	68300	1.25						
42	8490	35.64	69700	1.40						
49	7140	29.95	71200	1.60						
61	5760	24.19	72400	1.85						

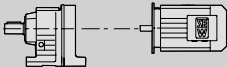
P _m = 37 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
73	4870	20.44	73000	2.5	R	147	EDRN	225S4	660	521
82	4290	18.04	73400	2.4	RF	147	EDRN	225S4	670	522
95	3720	15.64	73700	3.5	RM	147	EDRN	225S4	840	522
107	3310	13.91	73900	3.8	R	147	EDRN	225S4	660	521
					RF	147	EDRN	225S4	670	522
					RM	147	EDRN	225S4	840	522
53	6630	27.83	56000	1.05	R	137	EDRN	225S4	550	519
					RF	137	EDRN	225S4	570	520
					RM	137	EDRN	225S4	680	520
61	5750	24.12	57400	1.30	R RF RM	137 137 137	EDRN EDRN EDRN	225S4 225S4 225S4	540 560 670	519 520 520
67	5240	22.00*	58100	1.40						
78	4530	19.04*	57800	1.60						
88	4000	16.80*	57300	1.80						
102	3450	14.51	56500	2.1	R RF RM	137 137 137	EDRN EDRN EDRN	225S4 225S4 225S4	540 560 670	519 520 520
115	3050	12.83	55700	2.4						
137	2570	10.79	54400	2.8						
170	2070	8.71	52500	3.5						
195	1800	7.59	51800	2.8						
232	1520	6.38	50000	3.4						
288	1220	5.15	47700	3.7						
71	5000	20.98	43000	1.05	R RF RM	127 127 127	EDRN EDRN EDRN	225S4 225S4 225S4	500 520 620	517 518 518
78	4540	19.04	43000	1.15						
91	3900	16.37*	43000	1.35						
104	3400	14.29	43000	1.50						
122	2880	12.12	43000	1.75						
140	2520	10.59	43000	2.0						
165	2130	8.96	43000	2.3						
167	2110	8.85	43000	1.85						
197	1790	7.51	43000	2.2						
226	1560	6.56	43000	2.5						
267	1320	5.55	43000	2.9						
95	3730	15.65	15900	1.15						
108	3250	13.66	15700	1.30						
128	2760	11.59	15400	1.55						
146	2410	10.13	15100	1.80						
173	2040	8.56	14700	2.1						
189	1870	7.86	15000	1.60						
222	1580	6.66	14400	1.85						
254	1380	5.82	14000	2.1						
301	1170	4.92	13400	2.5	RX RXF	107 107	EDRN EDRN	225S4 225S4	400 420	484 485
438	800	3.38	655	1.05						
483	730	3.07	1250	1.15						
561	625	2.64*	2000	1.30						
643	545	2.30	2570	1.50						
758	465	1.95	3050	1.65						
868	405	1.71	3340	1.75						
1025	340	1.44	3700	1.85						

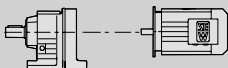
P _m = 45 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
22	19500	67.40	120000	1.00	R	167	EDRN	225M4	920	523
25	16900	58.65	120000	1.20	RF	167	EDRN	225M4	930	524
29	14900	51.76	120000	1.30	RM	167	EDRN	225M4	1120	524
33	13000	44.87	120000	1.45	R	167	EDRN	225M4	920	523
37	11500	39.92	120000	1.55						
43	9970	34.41	120000	1.75						
53	8100	27.96	120000	2.0						
63	6870	23.71	120000	2.3						
48	8890	30.71	120000	1.30	RF	167	EDRN	225M4	910	523
60	7110	24.57	120000	2.3						
68	6330	21.85	120000	2.6						
78	5510	19.03	120000	3.0						
87	4920	16.98	120000	3.3						

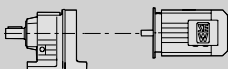
P _m = 45 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
37	11600	40.29	65100	1.05	R RF RM	147	EDRN	225M4	670	521
42	10300	35.64	67300	1.15		147	EDRN	225M4	680	522
50	8670	29.95	69500	1.30		147	EDRN	225M4	850	522
61	7000	24.19	71300	1.55						
73	5920	20.44	72300	2.0	R RF RM	147	EDRN	225M4	660	521
82	5220	18.04	72800	2.0		147	EDRN	225M4	670	522
95	4530	15.64	73200	2.9		147	EDRN	225M4	840	522
107	4030	13.91	73500	3.1						
124	3470	11.99	73800	3.7						
205	2100	7.25	74300	4.1						
61	6980	24.12	49900	1.05	R RF RM	137	EDRN	225M4	540	519
67	6370	22.00*	52200	1.15		137	EDRN	225M4	560	520
78	5510	19.04*	53400	1.30		137	EDRN	225M4	670	520
88	4860	16.80*	53400	1.50						
102	4200	14.51	53100	1.70	R RF RM	137	EDRN	225M4	540	519
116	3710	12.83	52700	1.95		137	EDRN	225M4	560	520
138	3120	10.79	51900	2.3		137	EDRN	225M4	670	520
170	2520	8.71	50500	2.9						
195	2190	7.59	50100	2.3						
232	1840	6.38	48600	2.8						
288	1490	5.15	46600	3.1						
91	4740	16.37*	43000	1.10	R RF RM	127	EDRN	225M4	500	517
104	4130	14.29	43000	1.25		127	EDRN	225M4	520	518
122	3510	12.12	43000	1.45		127	EDRN	225M4	620	518
140	3060	10.59	43000	1.65						
166	2590	8.96	43000	1.90						
168	2560	8.85	43000	1.55						
197	2170	7.51	43000	1.80						
226	1900	6.56	43000	2.0						
267	1600	5.55	43000	2.4						
109	3950	13.66	14600	1.10	R RF RM	107	EDRN	225M4	455	515
128	3350	11.59	14400	1.30		107	EDRN	225M4	460	516
146	2930	10.13	14300	1.45		107	EDRN	225M4	550	516
173	2480	8.56	14000	1.75						
189	2270	7.86	14400	1.30						
223	1930	6.66	13900	1.55						
255	1680	5.82	13500	1.75						
301	1420	4.92	13000	2.0						
562	760	2.64*	-	1.10	RX RXF	107	EDRN	225M4	400	484
644	665	2.30	290	1.25		107	EDRN	225M4	420	485
759	565	1.95	1020	1.35						
868	495	1.71	1500	1.40						
1025	415	1.44	2080	1.55						

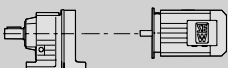
P _m = 55 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
33	15900	44.87	120000	1.20						
37	14100	39.92	120000	1.30	R	167	EDRN	250M4	1070	523
43	12100	34.41	120000	1.45	RF	167	EDRN	250M4	1080	524
53	9900	27.96	120000	1.65	RM	167	EDRN	250M4	1270	524
62	8400	23.71	120000	1.85						
60	8700	24.57	120000	1.90	R	167	EDRN	250M4	1070	523
68	7740	21.85	120000	2.1	RF	167	EDRN	250M4	1070	524
78	6740	19.03	120000	2.4	RM	167	EDRN	250M4	1270	524
87	6010	16.98	120000	2.7	R	167	EDRN	250M4	1070	523
102	5120	14.48	120000	3.2	RF	167	EDRN	250M4	1070	524
124	4250	11.99	120000	3.9	RM	167	EDRN	250M4	1270	524
49	10600	29.95	66900	1.05	R	147	EDRN	250M4	820	521
61	8570	24.19	69600	1.25	RF	147	EDRN	250M4	830	522
					RM	147	EDRN	250M4	1000	522

P _m = 55 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
73	7240	20.44	71100	1.65	R RF RM	147	EDRN	250M4	810	521
82	6390	18.04	71900	1.65		147	EDRN	250M4	820	522
95	5540	15.64	72600	2.4		147	EDRN	250M4	990	522
107	4930	13.91	73000	2.6						
124	4240	11.99	73400	3.1	R RF RM	147	EDRN	250M4	810	521
152	3450	9.74	73800	3.8		147	EDRN	250M4	820	522
204	2560	7.25	74200	3.4		147	EDRN	250M4	990	522
252	2080	5.89	72400	4.1						
78	6740	19.04*	44400	1.10	R RF RM	137	EDRN	250M4	690	519
88	5950	16.80*	47500	1.20		137	EDRN	250M4	710	520
102	5140	14.51	48900	1.40		137	EDRN	250M4	820	520
115	4540	12.83	49000	1.60	R RF RM	137	EDRN	250M4	690	519
137	3820	10.79	48700	1.90		137	EDRN	250M4	710	520
170	3080	8.71	48000	2.4		137	EDRN	250M4	820	520
195	2690	7.59	48100	1.90						
232	2260	6.38	46900	2.3						
288	1820	5.15	45200	2.5						
104	5060	14.29	43000	1.00	R RF RM	127	EDRN	250M4	650	517
122	4290	12.12	43000	1.20		127	EDRN	250M4	670	518
140	3750	10.59	43000	1.35		127	EDRN	250M4	770	518
165	3170	8.96	43000	1.55						
167	3130	8.85	43000	1.25						
197	2660	7.51	43000	1.50						
226	2320	6.56	43000	1.70						
267	1960	5.55	43000	1.95						

P _m = 75 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
43	16600	34.41	118300	1.05	R	167	EDRN	280S4	1120	523
53	13500	27.96	120000	1.20	RF	167	EDRN	280S4	1130	524
62	11400	23.71	120000	1.35	RM	167	EDRN	280S4	1320	524
60	11800	24.57	120000	1.40	R	167	EDRN	280S4	1110	523
68	10500	21.85	120000	1.55	RF	167	EDRN	280S4	1120	524
78	9190	19.03	120000	1.80	RM	167	EDRN	280S4	1320	524
87	8200	16.98	120000	2.0	R RF RM	167	EDRN	280S4	1110	523
102	6990	14.48	120000	2.3		167	EDRN	280S4	1120	524
124	5790	11.99	116600	2.8		167	EDRN	280S4	1320	524
145	4940	10.24	112700	3.3						
73	9870	20.44	68000	1.20	R RF RM	147	EDRN	280S4	860	521
82	8710	18.04	69500	1.20		147	EDRN	280S4	870	522
95	7550	15.64	70800	1.70		147	EDRN	280S4	1040	522
107	6720	13.91	71600	1.85						
124	5790	11.99	72400	2.2	R RF RM	147	EDRN	280S4	860	521
152	4700	9.74	73100	2.8						
179	3990	8.26	73500	3.2						
204	3500	7.25	73100	2.5						
252	2840	5.89	70100	3.0						
297	2410	5.00	67600	3.4					1040	522

P _m = 90 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
53 62	16200	27.96	107400	1.00	R	167	EDRN	280M4	1240	523
	13700	23.71	112800	1.15	RF	167	EDRN	280M4	1240	524
					RM	167	EDRN	280M4	1440	524
78	11000	19.03	117300	1.50	R	167	EDRN	280M4	1230	523
					RF	167	EDRN	280M4	1240	524
					RM	167	EDRN	280M4	1430	524

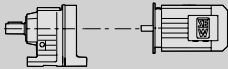
P _m = 90 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
87	9850	16.98	118500	1.65	R RF RM	167	EDRN	280M4	1230	523
102	8400	14.48	117300	1.95		167	EDRN	280M4	1240	524
123	6960	11.99	113500	2.4		167	EDRN	280M4	1430	524
145	5940	10.24	110100	2.8						
95	9070	15.64	69000	1.45	R RF RM	147	EDRN	280M4	970	521
106	8070	13.91	70200	1.55		147	EDRN	280M4	980	522
						147	EDRN	280M4	1150	522
124	6950	11.99	71400	1.85	R RF RM	147	EDRN	280M4	970	521
152	5650	9.74	72500	2.3						
179	4790	8.26	73000	2.6						
204	4200	7.25	70900	2.1						
251	3410	5.89	68300	2.5						
296	2890	5.00	66100	2.8						

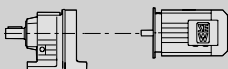
P_m = 110 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
78	13400	19.03	101900	1.20	R	167	EDRN	315S4	1470	523
88	11900	16.98	104700	1.35		RF	EDRN	315S4	1480	524
103	10200	14.48	107500	1.60		RM	EDRN	315S4	1680	524
124	8460	11.99	109100	1.95						
145	7220	10.24	106400	2.3						

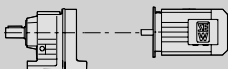
P_m = 132 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
88	14300	16.98	89500	1.15	R	167	EDRN	315M4	1490	523
103	12200	14.48	94500	1.35		RF	EDRN	315M4	1500	524
124	10100	11.99	98400	1.60		RM	EDRN	315M4	1700	524
145	8670	10.24	100300	1.90						

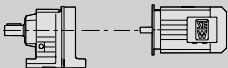
P_m = 160 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
103	14800	14.48	78000	1.10	R	167	EDRN	315L4	1630	523
124	12300	11.99	84700	1.35		RF	EDRN	315L4	1630	524
145	10500	10.24	88600	1.55		RM	EDRN	315L4	1830	524

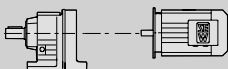
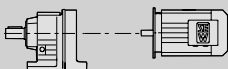
9.2 Selection tables parallel-shaft helical gearmotors

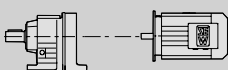
P _m = 18.5 kW															
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg						
9.1	19400	162.96	95600	1.00	FA FAF F FF	157 157 157 157	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	780 840 800 910	598 596 595 596					
10	16900	141.80*	103200	1.15											
12	14900	125.14	108200	1.35											
14	12900	108.49	112300	1.55											
15	11500	96.53*	111200	1.70											
17	10200	85.80*	109100	1.95											
19	9370	78.46	107400	2.1											
22	8160	68.28*	104700	2.4											
25	7200	60.25	102100	2.8											
28	6240	52.24	99200	3.2											
45	3890	32.55	89100	4.4											
15	11800	98.95	81600	1.00	FA FAF F FF	127 127 127 127	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	520 560 560 600	591 589 588 589					
17	10400	87.31*	80900	1.15											
20	9010	75.41*	79700	1.35											
21	8370	70.07	79000	1.45											
23	7630	63.91	78000	1.55											
27	6610	55.31	76300	1.75											
30	5830	48.80	74800	1.90											
25	6940	58.12*	48700	1.10	FA	107	EDRN	180M4	380	584					
29	6060	50.73	48400	1.25	FAF	107	EDRN	180M4	400	582					
					F	107	EDRN	180M4	395	581					
					FF	107	EDRN	180M4	425	582					
					FA	107	EDRN	180M4	380	584					
34	5140	43.03	47700	1.50	FAF	107	EDRN	180M4	400	582					
					F	107	EDRN	180M4	395	581					
					FF	107	EDRN	180M4	425	582					
					FA	107	EDRN	180M4	370	584					
54	4030	33.79*	46300	1.80	FAF	107	EDRN	180M4	390	582					
					F	107	EDRN	180M4	385	581					
					FF	107	EDRN	180M4	415	582					
					FA	107	EDRN	180M4	370	584					
59	3000	25.14	44200	2.3	FA FAF F FF	107 107 107 107	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	370 390 385 415	584 582 581 582					
											54	3290	27.57	44900	2.1
											67	2640	22.11	20900	1.55
											74	2390	20.07	20800	1.70
											86	2060	17.25*	20500	1.95
											98	1790	15.06	20200	2.2
											116	1520	12.77	19700	2.5
											132	1330	11.16	19300	2.7
69	2540	21.32*	10900	1.00	FA FAF F FF	87 87 87 87	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	235 250 245 260	569 568 567 568					
											77	2300	19.31	11100	1.10
											86	2040	17.12	11400	1.20
											95	1850	15.48	11500	1.30
											113	1560	13.12*	11600	1.55
											129	1360	11.46	11600	1.75
											154	1140	9.58	11500	2.1
											178	990	8.29	10900	1.50
											201	870	7.35	10800	1.70
											222	790	6.65	10700	1.85
											262	670	5.63	10400	2.0
											300	585	4.92	10200	2.2
											359	490	4.12	9890	2.5

P _m = 22 kW																					
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg												
12	17700	125.14	100800	1.10																	
14	15400	108.49	107100	1.30																	
15	13700	96.53*	106800	1.45																	
17	12200	85.80*	105200	1.65																	
19	11100	78.46	103900	1.80																	
22	9710	68.28*	101600	2.0																	
25	8570	60.25	99400	2.3																	
28	7420	52.24	96800	2.6																	
32	6610	46.48*	94600	2.9																	
37	5690	40.06	91700	3.2																	
45	4620	32.55	87600	3.7																	
20	10700	75.41*	75700	1.10																	
21	9960	70.07	75300	1.20																	
23	9080	63.91	74600	1.30																	
27	7860	55.31	73400	1.45																	
30	6940	48.80	72200	1.60																	
35	5990	42.15	70600	1.80																	
29	7210	50.73	45300	1.05	FA	107	EDRN	180L4	395	584											
					FAF	107	EDRN	180L4	415	582											
					F	107	EDRN	180L4	410	581											
					FF	107	EDRN	180L4	440	582											
39	5340	37.61	44700	1.40	FA	107	EDRN	180L4	395	584											
					FAF	107	EDRN	180L4	415	582											
					F	107	EDRN	180L4	410	581											
					FF	107	EDRN	180L4	440	582											
46	4520	31.80	44000	1.60	FA	107	EDRN	180L4	395	584											
					FAF	107	EDRN	180L4	415	582											
					F	107	EDRN	180L4	410	581											
					FF	107	EDRN	180L4	440	582											
44	4800	33.79*	44300	1.50																	
											54	3920	27.57	43300	1.75						
											59	3570	25.14	42700	1.90						
											68	3090	21.76*	41800	2.2						
											77	2730	19.20*	40900	2.5						
54	3900	27.44*	18700	1.10																	
											59	3540	24.92	18900	1.20						
											67	3140	22.11	19100	1.30						
											74	2850	20.07	19200	1.45						
											86	2450	17.25*	19100	1.65						
											98	2140	15.06	19000	1.85						
											116	1810	12.77	18700	2.1						
											132	1580	11.16	18400	2.3						
95	2200	15.48	10100	1.10																	
											113	1860	13.12*	10400	1.30						
											129	1620	11.46	10600	1.45						
											154	1360	9.58	10600	1.80						
											178	1170	8.29	10100	1.30						
											201	1040	7.35	10100	1.45						
											222	940	6.65	10000	1.55						
											262	800	5.63	9890	1.70						
											300	695	4.92	9740	1.90						
											359	585	4.12	9490	2.1						
											154	1360	9.58	10600	1.80						
201	1040	7.35	10100	1.45																	
222	940	6.65	10000	1.55																	
262	800	5.63	9890	1.70																	
300	695	4.92	9740	1.90																	
359	585	4.12	9490	2.1																	

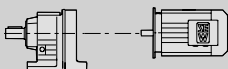
P _m = 30 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
15	18600	96.53*	96900	1.05						
17	16600	85.80*	96400	1.20						
19	15100	78.46	95800	1.30						
22	13200	68.28*	94500	1.50						
25	11600	60.25	93200	1.70						
28	10100	52.24	91400	1.95						
32	8990	46.48*	89800	2.1						
37	7750	40.06	87600	2.4						
45	6300	32.55	84200	2.7						
54	5340	27.60	81500	3.1						
					FA	157	EDRN	200L4	900	598
					FAF	157	EDRN	200L4	960	596
					F	157	EDRN	200L4	920	595
					FF	157	EDRN	200L4	1030	596

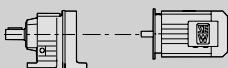
P_m = 30 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
27	10700	55.31	66700	1.10	FA FAF F FF	127 127 127 127	EDRN EDRN EDRN EDRN	200L4 200L4 200L4 200L4	650 690 680 730	591 589 588 589
30	9440	48.80	66300	1.20						
35	8150	42.15	65500	1.30						
40	7210	37.28	64600	1.45						
47	6060	31.33	63200	1.65						
58	4890	25.30	61100	1.95	FA FAF F FF	127 127 127 127	EDRN EDRN EDRN EDRN	200L4 200L4 200L4 200L4	640 670 670 720	591 589 588 589
55	5200	26.86	61700	1.65						
60	4750	24.57	60800	1.80						
69	4130	21.38	59300	2.2						
78	3650	18.87	57900	2.5						
39	7280	37.61	39600	1.05	FA FAF F FF	107 107 107 107	EDRN EDRN EDRN EDRN	200L4 200L4 200L4 200L4	500 530 520 550	584 582 581 582
47	6150	31.80	39700	1.15						
54	5330	27.57	39500	1.30						
59	4860	25.14	39300	1.40						
68	4210	21.76*	38800	1.60	FA FAF F FF	107 107 107 107	EDRN EDRN EDRN EDRN	200L4 200L4 200L4 200L4	495 520 510 540	584 582 581 582
77	3710	19.20*	38300	1.80						
89	3200	16.58	37500	2.1						
101	2830	14.67	36900	2.3						
120	2380	12.33	35800	2.7						
149	1920	9.96	34400	3.3	FA FAF F FF	97 97 97 97	EDRN EDRN EDRN EDRN	200L4 200L4 200L4 200L4	425 445 430 465	576 575 574 575
74	3880	20.07	15500	1.05						
86	3330	17.25*	16000	1.20						
98	2910	15.06	16300	1.35						
116	2470	12.77	16400	1.55						
133	2160	11.16	16400	1.70						
163	1750	9.06	15400	1.30						
180	1590	8.22	15300	1.35						
209	1360	7.07	15100	1.50						
240	1190	6.17	14900	1.65						
283	1010	5.23	14600	1.85	FA FAF F FF	127 127 127 127	EDRN EDRN EDRN EDRN	225S4 225S4 225S4 225S4	930 990 950 1060	598 596 595 596
324	880	4.57	14300	2.0						
19	18700	78.46	88700	1.05						
22	16200	68.28*	88400	1.20						
25	14300	60.25	87800	1.40						
28	12400	52.24	86700	1.60						
32	11000	46.48*	85600	1.70						
37	9550	40.06	83900	1.90						
46	7750	32.55	81300	2.2						
54	6580	27.60	79000	2.5						
35	10000	42.15	61100	1.05	FA FAF F FF	127 127 127 127	EDRN EDRN EDRN EDRN	225S4 225S4 225S4 225S4	680 720 720 760	591 589 588 589
40	8880	37.28	60700	1.15						
47	7460	31.33	59900	1.35						
59	6030	25.30	58400	1.55						
55	6400	26.86	58900	1.35	FA FAF F FF	127 127 127 127	EDRN EDRN EDRN EDRN	225S4 225S4 225S4 225S4	670 710 700 750	591 589 588 589
60	5850	24.57	58200	1.45						
69	5090	21.38	57000	1.80						
79	4490	18.87	55900	2.0						
91	3890	16.36	54500	2.3						
102	3460	14.55	53300	2.6						
118	2990	12.54	51800	3.0						
145	2420	10.19	49500	3.7						
167	2110	8.86	47700	3.2						
188	1870	7.88	46400	3.2						

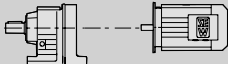
P _m = 37 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
54	6570	27.57	36200	1.05						
59	5990	25.14	36300	1.15						
68	5180	21.76*	36200	1.30						
77	4570	19.20*	36000	1.45						
89	3950	16.58	35600	1.70						
101	3490	14.67	35100	1.90						
120	2930	12.33	34300	2.2						
149	2370	9.96	33200	2.7						
153	2310	9.69	32400	2.1						
177	1990	8.37	31600	2.4						
200	1760	7.40	31000	2.6						
238	1480	6.22	30000	3.1						
					FA	107	EDRN	225S4	530	584
					FAF	107	EDRN	225S4	550	582
					F	107	EDRN	225S4	540	581
					FF	107	EDRN	225S4	570	582

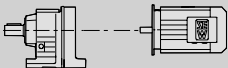
P _m = 45 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
22	19700	68.28*	81400	1.00	FA FAF F FF	157 157 157 157	EDRN EDRN EDRN EDRN	225M4 225M4 225M4 225M4	930 990 950 1060	598 596 595 596
25	17400	60.25	81600	1.15						
28	15100	52.24	81300	1.30						
32	13400	46.48*	80800	1.40						
37	11600	40.06	79800	1.55						
46	9430	32.55	77900	1.80						
54	7990	27.60	76100	2.1						
47	9070	31.33	56100	1.10	FA	127	EDRN	225M4	680	591
					FAF	127	EDRN	225M4	720	589
					F	127	EDRN	225M4	720	588
					FF	127	EDRN	225M4	760	589
55	7780	26.86	55600	1.10	FA FAF F FF	127 127 127 127	EDRN EDRN EDRN EDRN	225M4 225M4 225M4 225M4	670 710 700 750	591 589 588 589
60	7110	24.57	55200	1.20						
69	6190	21.38	54500	1.45						
79	5460	18.87	53600	1.65						
91	4730	16.36	52500	1.90						
102	4210	14.55	51600	2.1						
118	3630	12.54	50200	2.5						
146	2950	10.19	48300	3.0						
167	2560	8.86	46500	2.6						
188	2280	7.88	45400	2.6						
218	1960	6.80	44000	3.2						
269	1590	5.52	41900	3.8						
68	6300	21.76*	33200	1.05	FA FAF F FF	107 107 107 107	EDRN EDRN EDRN EDRN	225M4 225M4 225M4 225M4	530 550 540 570	584 582 581 582
77	5560	19.20*	33300	1.20						
89	4800	16.58	33300	1.40						
101	4240	14.67	33100	1.55						
120	3570	12.33	32600	1.80						
149	2880	9.96	31800	2.2						
153	2800	9.69	30900	1.75						
177	2420	8.37	30400	2.0						
200	2140	7.40	29800	2.1						
238	1800	6.22	29000	2.5						

P _m = 55 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
32	16400	46.48*	74800	1.15	FA	157	EDRN	250M4	1080	598
37	14100	40.06	74700	1.30	FAF	157	EDRN	250M4	1140	596
46	11500	32.55	73800	1.50	F	157	EDRN	250M4	1110	595
54	9780	27.60	72600	1.70	FF	157	EDRN	250M4	1210	596
52	10100	28.60*	72900	1.60	FA	157	EDRN	250M4	1080	598
58	9010	25.43	71900	1.75	FAF	157	EDRN	250M4	1140	596
67	7850	22.16	70600	2.0	F	157	EDRN	250M4	1100	595
75	7000	19.77	69400	2.2	FF	157	EDRN	250M4	1210	596
88	5970	16.85	67500	2.6						

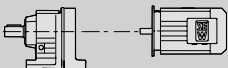
P _m = 55 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
59	8960	25.30	51600	1.05	FA	127	EDRN	250M4	830	591
					FAF	127	EDRN	250M4	870	589
					F	127	EDRN	250M4	870	588
					FF	127	EDRN	250M4	910	589
69	7570	21.38	51300	1.20	FA FAF F FF	127	EDRN	250M4	820	591
79	6680	18.87	50800	1.35						
91	5790	16.36	50100	1.55						
102	5150	14.55	49400	1.75						
118	4440	12.54	48400	2.0						
145	3610	10.19	46800	2.5						
167	3140	8.86	45100	2.1						
188	2790	7.88	44100	2.1						
218	2400	6.80	42900	2.6						
268	1950	5.52	41000	3.1						
317	1650	4.68	39600	3.5						

P _m = 75 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
46 54	15700	32.55	65400	1.10	FA	157	EDRN	280S4	1130	598
					FAF	157	EDRN	280S4	1190	596
	13300	27.60	65500	1.25	F	157	EDRN	280S4	1150	595
					FF	157	EDRN	280S4	1260	596
52	13800	28.60*	65500	1.15	FA FAF F FF	157	EDRN	280S4	1130	598
58	12200	25.43	65400	1.30						
67	10700	22.16	64900	1.50						
75	9550	19.77	64300	1.65						
88	8140	16.85	63200	1.90						
106	6740	13.96	61600	2.3						
124	5750	11.92	60100	2.7						
79	9110	18.87	44400	1.00	FA FAF F FF	127	EDRN	280S4	870	591
91	7900	16.36	45200	1.15						
102	7030	14.55	45000	1.30						
118	6060	12.54	44600	1.50						
145	4920	10.19	43700	1.85						
167	4280	8.86	42200	1.55						
188	3800	7.88	41600	1.55						
218	3280	6.80	40700	1.95						
268	2660	5.52	39300	2.2						
317	2260	4.68	38100	2.5						

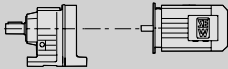
P _m = 90 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
54	16000	27.60	60200	1.05	FA	157	EDRN	280M4	1250	598
					FAF	157	EDRN	280M4	1310	596
					F	157	EDRN	280M4	1270	595
					FF	157	EDRN	280M4	1380	596
67	12800	22.16	60600	1.25	FA FAF F FF	157	EDRN	280M4	1240	598
75	11400	19.77	60500	1.35						
88	9770	16.85	59900	1.60						
106	8100	13.96	58900	1.95						
124	6910	11.92	57800	2.3						
102	8440	14.55	41100	1.05	FA FAF F FF	127	EDRN	280M4	980	591
118	7270	12.54	41800	1.25						
145	5910	10.19	41400	1.55						
167	5140	8.86	40100	1.30						
188	4570	7.88	39700	1.30						
218	3940	6.80	39000	1.60						
268	3200	5.52	37900	1.85						
316	2710	4.68	36900	2.1						

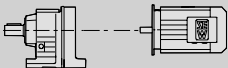
P_m = 110 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
67	15600	22.16	54900	1.00	FA	157	EDRN	315S4	1490	598
75	13900	19.77	55400	1.10	FAF	157	EDRN	315S4	1550	596
88	11800	16.85	55600	1.30	F	157	EDRN	315S4	1510	595
107	9850	13.96	55300	1.60	FF	157	EDRN	315S4	1610	596
125	8410	11.92	54700	1.85						

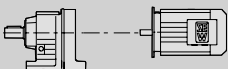
P_m = 132 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
88	14200	16.85	50900	1.10	FA	157	EDRN	315M4	1510	598
106	11800	13.96	51400	1.30	FAF	157	EDRN	315M4	1570	596
125	10100	11.92	51400	1.55	F	157	EDRN	315M4	1530	595
					FF	157	EDRN	315M4	1630	596

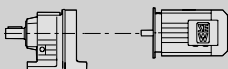
P_m = 160 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
106	14300	13.96	46400	1.10	FA	157	EDRN	315L4	1640	598
125	12200	11.92	47100	1.25	FAF	157	EDRN	315L4	1700	596
					F	157	EDRN	315L4	1660	595
					FF	157	EDRN	315L4	1770	596

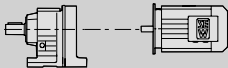
9.3 Selection tables helical-bevel gearmotors

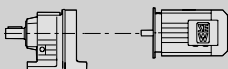
P _m = 18.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
3.3	50500	454	190000	1.05	K KH	187R107 187R107	EDRN EDRN	180M4 180M4	1950	703
4.2	39100	355	190000	1.35					1880	703
5.7	29000	261	190000	1.80						
6.7	24600	221	190000	2.1						
5.3	30900	278	150000	1.15	K KH	167R107 167R107	EDRN EDRN	180M4 180M4	1370	703
6.1	26800	244	150000	1.30					1330	703
6.9	23400	213	150000	1.50						
7.2	22800	206	150000	1.55						
8.2	19700	180	150000	1.75						
9.3	17700	160	150000	1.95						
11	15000	135	150000	2.3						
12	13100	118	150000	2.7						
9.4	17300	157	112500	1.15	K KF	157R107 157R107	EDRN EDRN	180M4 180M4	980 1050	703 703
12	13600	122	113800	1.45	KA	157R107	EDRN	180M4	940	703
14	11800	107	111900	1.70	KAF	157R107	EDRN	180M4	1000	703
8.2	21400	179.86	190000	2.5	K KH	187 187	EDRN EDRN	180M4 180M4	1780	699
8.9	19700	165.21	190000	2.7					1710	700
10	17200	144.59	190000	3.1						
11	15500	129.69	190000	3.4						
11	16100	134.99	150000	2.2	K KH	167 167	EDRN EDRN	180M4 180M4	1200	697
13	13100	109.83	150000	2.7					1160	698
17	10500	87.86	150000	3.3						
12	14600	122.39	111600	1.35	K KF KA KAF	157 157 157 157	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	800	690
15	11900	100.22	109000	1.65					880	691
16	10900	91.65	107700	1.85					770	693
19	9530	79.75	105400	2.1					820	691
21	8410	70.38	103200	2.4						
24	7290	61.02	100600	2.7						
27	6480	54.29	98300	3.1						
32	5590	46.79	95400	3.6						
39	4540	38.02	91200	4.4						
16	10700	89.89	79000	1.20	K KF KA KAF	127 127 127 127	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	570 610 540 580	683 684 686 684
18	9790	81.98	78500	1.35						
21	8480	70.95*	77400	1.55	K KF KA KAF	127 127 127 127	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	570	683
24	7480	62.60	76300	1.75					610	684
27	6460	54.07	74700	2.0					540	686
31	5710	47.82	73300	2.3					580	684
37	4800	40.19	71200	2.7						
41	4330	36.25	69800	3.0						
47	3740	31.37	67800	3.5						
53	3300	27.68	66100	3.9						
26	6830	57.17*	45800	1.05	K KF KA KAF	107 107 107 107	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	415 425 385 410	676 677 679 677
30	5960	49.90	46600	1.15						
35	5050	42.33*	46200	1.35	K KF KA KAF	107 107 107 107	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	415	676
40	4420	37.00*	45700	1.50					425	677
45	3900	32.69	45000	1.85					385	679
47	3730	31.28*	44800	1.75					410	677
51	3460	29.00	44300	2.1						
56	3140	26.32	43700	2.3						
65	2700	22.62	42700	2.7						
75	2350	19.74	41700	3.0						
88	2000	16.75	40400	3.5						
48	3680	30.82	26000	1.15	K KF KA KAF	97 97 97 97	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	300 320 280 305	669 670 672 670
53	3330	27.91	26000	1.30						
60	2950	24.75	26000	1.45						

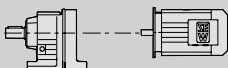
P_m = 18.5 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
66	2670	22.37	25900	1.60	K	97	EDRN	180M4	300	669
78	2260	18.96	25600	1.90	KF	97	EDRN	180M4	320	670
89	1970	16.56	25300	2.2	KA	97	EDRN	180M4	280	672
107	1650	13.85	24700	2.5	KAF	97	EDRN	180M4	305	670
123	1430	11.99	24200	2.7						
85	2080	17.42	16400	1.05						
102	1720	14.45	16500	1.20	K	87	EDRN	180M4	240	662
118	1500	12.56	16400	1.35	KF	87	EDRN	180M4	250	663
132	1330	11.17	15400	1.05	KA	87	EDRN	180M4	230	665
148	1190	10.00	15300	1.15	KAF	87	EDRN	180M4	240	663
178	990	8.29	15100	1.30						
205	860	7.21	14900	1.50						

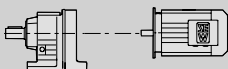
P_m = 22 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
4.2	46600	355	190000	1.15						
5.7	34600	261	190000	1.55						
6.7	29300	221	190000	1.80	K	187R107	EDRN	180L4	1970	703
7.6	25600	193	190000	2.1	KH	187R107	EDRN	180L4	1900	703
9.0	21500	163	190000	2.5						
6.1	32000	244	150000	1.10						
6.9	27900	213	150000	1.25						
7.2	27200	206	150000	1.30						
8.2	23500	180	150000	1.50	K	167R107	EDRN	180L4	1380	703
9.2	21200	160	150000	1.65	KH	167R107	EDRN	180L4	1350	703
11	17900	135	150000	1.95						
12	15600	118	150000	2.2						
12	16200	122	108100	1.25	K	157R107	EDRN	180L4	990	703
14	14100	107	106900	1.40	KF	157R107	EDRN	180L4	1070	703
					KA	157R107	EDRN	180L4	950	703
					KAF	157R107	EDRN	180L4	1010	703
8.2	25500	179.86	190000	2.1						
8.9	23400	165.21	190000	2.3	K	187	EDRN	180L4	1790	699
10	20500	144.59	190000	2.6	KH	187	EDRN	180L4	1730	700
11	18400	129.69	190000	2.9						
11	19100	134.99	150000	1.80						
13	15600	109.83	150000	2.2	K	167	EDRN	180L4	1210	697
17	12400	87.86	150000	2.8	KH	167	EDRN	180L4	1170	698
19	11100	78.14	150000	3.1						
12	17400	122.39	105500	1.15						
15	14200	100.22	104000	1.40						
16	13000	91.65	103100	1.55						
19	11300	79.75	101500	1.75	K	157	EDRN	180L4	820	690
21	10000	70.38	99700	2.0	KF	157	EDRN	180L4	900	691
24	8670	61.02	97600	2.3	KA	157	EDRN	180L4	780	693
27	7720	54.29	95600	2.6	KAF	157	EDRN	180L4	840	691
32	6650	46.79	93100	3.0						
39	5400	38.02	89300	3.7						
16	12700	89.89	73900	1.00	K	127	EDRN	180L4	580	683
18	11600	81.98	73800	1.10	KF	127	EDRN	180L4	630	684
21	10000	70.95*	73400	1.30	KA	127	EDRN	180L4	560	686
24	8900	62.60	72700	1.45	KAF	127	EDRN	180L4	590	684
27	7690	54.07	71700	1.70						
31	6800	47.82	70600	1.90						
37	5710	40.19	68900	2.3	K	127	EDRN	180L4	580	683
41	5150	36.25	67700	2.5	KF	127	EDRN	180L4	630	684
47	4460	31.37	66100	2.9	KA	127	EDRN	180L4	560	686
53	3930	27.68	64500	3.3	KAF	127	EDRN	180L4	590	684
62	3390	23.91	62700	3.8						
70	3000	21.15	61100	4.3						

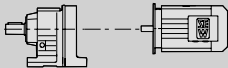
P _m = 22 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
35	6020	42.33*	42900	1.10	K	107	EDRN	180L4	430	676
					KF	107	EDRN	180L4	440	677
					KA	107	EDRN	180L4	400	679
					KAF	107	EDRN	180L4	425	677
40	5260	37.00*	43200	1.25	K	107	EDRN	180L4	430	676
45	4640	32.69	42900	1.55						
47	4440	31.28*	42700	1.45						
51	4120	29.00	42400	1.75						
56	3740	26.32	42000	1.90						
65	3210	22.62	41200	2.2						
75	2800	19.74	40300	2.6						
88	2380	16.75	39300	2.9						
101	2080	14.64	38300	3.2						
110	1910	13.43	36700	2.2						
126	1660	11.73	35800	2.6						
149	1410	9.94	34700	2.9						
53	3960	27.91	23800	1.10	K	97	EDRN	180L4	315	669
60	3510	24.75	24100	1.20	KF	97	EDRN	180L4	335	670
66	3180	22.37	24200	1.35	KA	97	EDRN	180L4	300	672
					KAF	97	EDRN	180L4	325	670
78	2690	18.96	24100	1.60	K	97	EDRN	180L4	315	669
89	2350	16.56	24000	1.85						
107	1960	13.85	23700	2.1						
123	1700	11.99	23300	2.3						
142	1480	10.41	21800	1.85						
170	1230	8.71	21300	2.1						
102	2050	14.45	15200	1.00	K	87	EDRN	180L4	255	662
118	1780	12.56	15300	1.10	KF	87	EDRN	180L4	265	663
178	1170	8.29	14300	1.10	KA	87	EDRN	180L4	245	665
205	1020	7.21	14200	1.25	KAF	87	EDRN	180L4	255	663

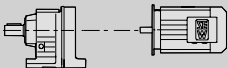
P _m = 30 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
5.7	47300	261	190000	1.10	K	187R107	EDRN	200L4	2080	703
6.7	40000	221	190000	1.30						
7.7	34900	193	190000	1.50						
9.1	29500	163	190000	1.80						
8.2	32100	180	150000	1.10	K	167R107	EDRN	200L4	1490	703
9.3	28900	160	150000	1.20						
11	24500	135	150000	1.45						
13	21300	118	150000	1.65						
8.2	34800	179.86	190000	1.50	K	187	EDRN	200L4	1900	699
9.0	31900	165.21	190000	1.65						
10	27900	144.59	190000	1.90						
11	25100	129.69	190000	2.1						
13	21700	112.60	190000	2.4						
14	19700	102.16	190000	2.7						
17	17000	88.00	190000	3.1						
13	21200	109.83	150000	1.65	K	167	EDRN	200L4	1320	697
17	17000	87.86	150000	2.1						
19	15100	78.14	150000	2.3						
22	13100	68.07	150000	2.7						
24	11700	60.74	150000	3.0						
15	19400	100.22	92700	1.05	K	157	EDRN	200L4	930	690
16	17700	91.65	92800	1.15						
19	15400	79.75	92400	1.30						
21	13600	70.38	91700	1.45						
24	11800	61.02	90600	1.70						
27	10500	54.29	89500	1.90						
32	9050	46.79	87700	2.2						
39	7350	38.02	85000	2.7						
47	6050	31.30	82100	3.1	KAF	157	EDRN	200L4	950	691

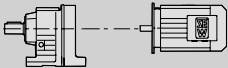
P _m = 30 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
24	12100	62.60	64600	1.05						
27	10400	54.07	64700	1.25						
31	9250	47.82	64400	1.40						
37	7770	40.19	63700	1.65						
41	7010	36.25	63000	1.85						
47	6070	31.37	62000	2.1						
53	5350	27.68	60900	2.4						
62	4620	23.91	59600	2.8						
47	6050	31.28*	36600	1.05	K	107	EDRN	200L4	540	676
					KF	107	EDRN	200L4	550	677
					KA	107	EDRN	200L4	510	679
					KAF	107	EDRN	200L4	540	677
51	5610	29.00	37200	1.30						
56	5090	26.32	37700	1.40						
65	4370	22.62	37700	1.65						
75	3820	19.74	37300	1.90						
88	3240	16.75	36700	2.1						
101	2830	14.64	36100	2.4						
110	2590	13.43	34300	1.65						
126	2260	11.73	33700	1.90						
149	1920	9.94	32900	2.1						
170	1680	8.69	32200	2.4						
78	3660	18.96	20700	1.15						
89	3200	16.56	21000	1.35						
107	2680	13.85	21200	1.55	K	97	EDRN	200L4	425	669
123	2320	11.99	21100	1.70	KF	97	EDRN	200L4	445	670
142	2010	10.41	19500	1.35	KA	97	EDRN	200L4	405	672
170	1680	8.71	19400	1.55	KAF	97	EDRN	200L4	430	670

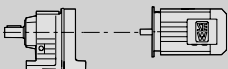
P _m = 37 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
6.7	49400	221	190000	1.05	K KH	187R107	EDRN	225S4	2110	703
7.7	43100	193	190000	1.25		187R107	EDRN	225S4	2040	703
9.1	36400	163	190000	1.45						
11	30200	135	150000	1.15	K	167R107	EDRN	225S4	1530	703
13	26400	118	150000	1.35	KH	167R107	EDRN	225S4	1490	703
8.2	42800	179.86	190000	1.25	K KH	187	EDRN	225S4	1930	699
9.0	39300	165.21	190000	1.35						
10	34400	144.59	190000	1.55						
11	30900	129.69	190000	1.70						
13	26800	112.60	190000	1.95						
15	24300	102.16	190000	2.2						
17	20900	88.00	190000	2.5						
13	26100	109.83	150000	1.35	K KH	167	EDRN	225S4	1350	697
17	20900	87.86	150000	1.65						
19	18600	78.14	150000	1.90						
22	16200	68.07	150000	2.2						
24	14400	60.74	150000	2.4						
29	12300	51.77	150000	2.8						
21	16700	70.38	84800	1.20	K KF KA KAF	157	EDRN	225S4	960	690
24	14500	61.02	84600	1.35						
27	12900	54.29	84100	1.55						
32	11100	46.79	83100	1.80						
39	9060	38.02	81200	2.2						
47	7460	31.30	79000	2.5						
27	12800	54.07	58600	1.00	K	127	EDRN	225S4	720	683
31	11400	47.82	59000	1.15	KF	127	EDRN	225S4	770	684
37	9580	40.19	59100	1.35	KA	127	EDRN	225S4	700	686
					KAF	127	EDRN	225S4	730	684

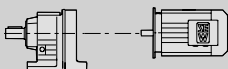
P _m = 37 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
41	8640	36.25	58900	1.50	K KF KA KAF	127	EDRN	225S4	720	683
47	7470	31.37	58400	1.75						
54	6590	27.68	57800	1.95						
62	5690	23.91	56800	2.3						
70	5040	21.15	55900	2.6						
83	4230	17.77	54500	3.1						
103	3420	14.35	52500	3.5						
116	3040	12.79	50200	2.7						
138	2560	10.74	48600	3.1	K KF KA KAF	107	EDRN	225S4	570	676
171	2060	8.68	46500	3.5						
51	6910	29.00	31100	1.05						
56	6270	26.32	32300	1.15						
66	5390	22.62	33700	1.35						
75	4700	19.74	34400	1.55						
89	3990	16.75	34500	1.75						
101	3480	14.64	34100	1.95						
110	3200	13.43	32300	1.35	K KF KA KAF	107	EDRN	225S4	540	679
126	2790	11.73	31900	1.55						
149	2370	9.94	31400	1.75						
171	2070	8.69	30800	1.95						

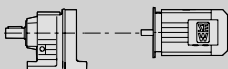
P _m = 45 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
7.7	52500	193	190000	1.00	K KH	187R107 187R107	EDRN EDRN	225M4 225M4	2110	703
9.1	44300	163	190000	1.20					2040	703
13	32100	118	150000	1.10	K KH	167R107 167R107	EDRN EDRN	225M4 225M4	1530	703
									1490	703
9.0	47800	165.21	190000	1.10	K KH	187 187	EDRN EDRN	225M4 225M4	1930 1870	699 700
10	41800	144.59	190000	1.25						
11	37500	129.69	190000	1.40						
13	32600	112.60	189800	1.60						
15	29600	102.16	187600	1.80						
17	25500	88.00	183700	2.1						
20	21400	73.96	178600	2.5						
14	31800	109.83	150000	1.10	K KH	167 167	EDRN EDRN	225M4 225M4	1350 1310	697 698
17	25400	87.86	150000	1.35						
19	22600	78.14	150000	1.55						
22	19700	68.07	150000	1.75						
24	17500	60.74	148800	2.0						
29	15000	51.77	145100	2.3						
35	12400	42.89	140400	2.8						
24	17600	61.02	77700	1.15	K KF KA KAF	157 157 157 157	EDRN EDRN EDRN EDRN	225M4 225M4 225M4 225M4	960 1040 920 980	690 691 693 691
27	15700	54.29	78000	1.25						
32	13500	46.79	77800	1.50						
39	11000	38.02	76900	1.80						
47	9070	31.30	75400	2.1						
54	8000	27.62	74300	2.5						
62	6930	23.95	72700	2.9						
70	6170	21.31	71400	3.2						
81	5320	18.37	69600	3.8						
37	11600	40.19	53900	1.10	K KF KA KAF	127 127 127 127	EDRN EDRN EDRN EDRN	225M4 225M4 225M4 225M4	720	683
41	10500	36.25	54300	1.25					770	684
									700	686
									730	684
47	9080	31.37	54400	1.45	K KF KA KAF	127 127 127 127	EDRN EDRN EDRN EDRN	225M4 225M4 225M4 225M4	720 770 700 730	683 684 686 684
54	8010	27.68	54200	1.60						
62	6920	23.91	53800	1.90						
70	6120	21.15	53200	2.1						
83	5140	17.77	52200	2.5						
103	4150	14.35	50600	2.9						
116	3700	12.79	48300	2.2						
138	3110	10.74	47000	2.6						
171	2510	8.68	45200	2.9						

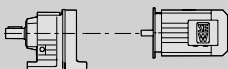
P_m = 45 kW									
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B				m kg	
66	6550	22.62	28100	1.10	K	107	EDRN	225M4	570 676
75	5710	19.74	29800	1.25	KF	107	EDRN	225M4	580 677
					KA	107	EDRN	225M4	540 679
					KAF	107	EDRN	225M4	570 677
89	4850	16.75	31100	1.45	K	107	EDRN	225M4	570 676
101	4240	14.64	31700	1.60	KF	107	EDRN	225M4	580 677
110	3890	13.43	29900	1.10	KA	107	EDRN	225M4	540 679
127	3390	11.73	29900	1.25	KAF	107	EDRN	225M4	570 677
149	2880	9.94	29600	1.45					
171	2510	8.69	29300	1.60					

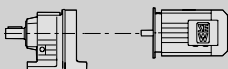
P_m = 55 kW									
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B				m kg	
11	45900	129.69	179600	1.15	K	187	EDRN	250M4	2080 699
13	39900	112.60	178600	1.35			EDRN	250M4	2020 700
15	36200	102.16	177400	1.45					
17	31100	88.00	174900	1.70					
20	26200	73.96	171300	2.0					
23	22600	64.04	167800	2.3					
17	31100	87.86	145300	1.10	K	167	EDRN	250M4	1500 697
19	27600	78.14	144600	1.25			EDRN	250M4	1460 698
22	24100	68.07	143200	1.45					
24	21500	60.74	141700	1.65					
29	18300	51.77	139000	1.90					
35	15200	42.89	135300	2.3					
40	12900	36.61	131800	2.7					
32	16500	46.79	71200	1.20	K	157	EDRN	250M4	1110 690
39	13400	38.02	71500	1.50			EDRN	250M4	1190 691
47	11000	31.30	71000	1.70			EDRN	250M4	1070 693
54	9780	27.62	70400	2.0			EDRN	250M4	1130 691
62	8480	23.95	69400	2.4					
70	7550	21.31	68400	2.6	KA	157	EDRN	250M4	
81	6500	18.37	67000	3.1	KAF	157	EDRN	250M4	
99	5280	14.92	64700	3.8					
117	4480	12.65	62800	4.2					
47	11100	31.37	49300	1.15	K	127	EDRN	250M4	870 683
54	9800	27.68	49700	1.35	KF	127	EDRN	250M4	920 684
					KA	127	EDRN	250M4	850 686
					KAF	127	EDRN	250M4	880 684
62	8470	23.91	49900	1.55	K	127	EDRN	250M4	870 683
70	7490	21.15	49800	1.75			EDRN	250M4	920 684
83	6290	17.77	49300	2.1			EDRN	250M4	850 686
103	5080	14.35	48300	2.4			EDRN	250M4	880 684
116	4530	12.79	45900	1.85					
138	3800	10.74	45000	2.1	KA	127	EDRN	250M4	
171	3070	8.68	43600	2.4	KAF	127	EDRN	250M4	

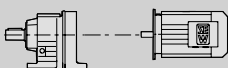
P_m = 75 kW									
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B				m kg	
15	49300	102.16	157000	1.05	K	187	EDRN	280S4	2130 699
17	42500	88.00	157400	1.25			EDRN	280S4	2070 700
20	35700	73.96	156600	1.50					
23	30900	64.04	155000	1.70					
28	25700	53.36	152200	2.1					
33	21900	45.50*	149100	2.4	KH	187			

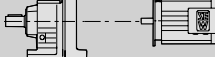
P _m = 75 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
22	32800	68.07	127200	1.05	K KH	167 167	EDRN EDRN	280S4 280S4	1550 1510	697 698
24	29300	60.74	127300	1.20						
29	25000	51.77	126800	1.40						
35	20700	42.89	125200	1.70						
40	17600	36.61	123200	2.0						
46	15500	32.25	121200	2.2						
52	13900	28.77	119300	2.5						
60	11800	24.52	116300	3.0	K KF KA KAF	157 157 157 157	EDRN EDRN EDRN EDRN	280S4 280S4 280S4 280S4	1160 1240 1120 1180	690 691 693 691
39	18300	38.02	60800	1.10						
47	15100	31.30	62200	1.25						
54	13300	27.62	62600	1.50						
62	11500	23.95	62600	1.75						
70	10200	21.31	62400	1.95						
81	8870	18.37	61800	2.2						
99	7210	14.92	60500	2.8	K KF KA KAF	127 127 127 127	EDRN EDRN EDRN EDRN	280S4 280S4 280S4 280S4	920 960 890 930	683 684 686 684
117	6110	12.65	59200	3.1						
62	11500	23.91	42200	1.15						
70	10200	21.15	43000	1.25						
83	8580	17.77	43600	1.50						
103	6930	14.35	43700	1.75						
116	6170	12.79	41100	1.35						
138	5190	10.74	41000	1.55	KAF	127	EDRN	280S4	930	684
171	4190	8.68	40400	1.70						

P _m = 90 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
17	51000	88.00	144200	1.05	K KH	187 187	EDRN EDRN	280M4 280M4	2250 2180	699 700
20	42900	73.96	145500	1.25						
23	37100	64.04	145400	1.45						
28	30900	53.36	144200	1.70						
33	26400	45.50*	142300	2.0						
35	24600	42.51	141300	2.1						
38	22300	38.57	139700	2.4						
29	30000	51.77	117600	1.15	K KH	167 167	EDRN EDRN	280M4 280M4	1670 1630	697 698
35	24800	42.89	117600	1.40						
40	21200	36.61	116700	1.65						
46	18700	32.25	115500	1.85						
51	16600	28.77	114200	2.1						
60	14200	24.52	111900	2.5						
73	11700	20.32	108800	3.0						
85	10000	17.34	105900	3.5	K KF KA KAF	157 157 157 157	EDRN EDRN EDRN EDRN	280M4 280M4 280M4 280M4	1270 1350 1230 1290	690 691 693 691
62	13800	23.95	57500	1.45						
70	12300	21.31	57900	1.60						
81	10600	18.37	57900	1.90						
99	8650	14.92	57400	2.3						
117	7340	12.65	56600	2.5						
70	12200	21.15	37800	1.05						
83	10300	17.77	39200	1.25						
103	8320	14.35	40200	1.45						
116	7410	12.79	37600	1.15						
138	6230	10.74	38000	1.30						
171	5030	8.68	38000	1.45						

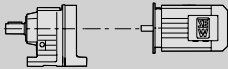
P _m = 110 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
20	52200	73.96	130800	1.00	K KH	187 187	EDRN EDRN	315S4 315S4	2490 2420	699 700
23	45200	64.04	132700	1.15						
28	37600	53.36	133600	1.40						
33	32100	45.50*	133200	1.65						
35	30000	42.51	132800	1.75						
39	27200	38.57	131900	1.95						
45	23400	33.23	130100	2.3						
53	19700	27.92	127500	2.7						
35	30200	42.89	107500	1.15	K KH	167 167	EDRN EDRN	315S4 315S4	1910 1870	697 698
41	25800	36.61	108100	1.35						
46	22700	32.25	107900	1.55						
52	20300	28.77	107400	1.70						
61	17300	24.52	106100	2.0						
73	14300	20.32	104000	2.4						
86	12200	17.34	101800	2.9						
62	16900	23.95	50800	1.20	K KF KA KAF	157 157 157 157	EDRN EDRN EDRN EDRN	315S4 315S4 315S4 315S4	1520 1590 1480 1540	690 691 693 691
70	15000	21.31	51900	1.35						
81	12900	18.37	52700	1.55						
100	10500	14.92	53200	1.90						
118	8930	12.65	53000	2.1						

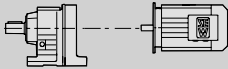
P _m = 132 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
28	45200	53.36	121900	1.15	K	187	EDRN	315M4	2510	699						
33	38500	45.50*	123300	1.35												
35	36000	42.51	123500	1.45												
39	32600	38.57	123500	1.60												
45	28100	33.23	122900	1.90												
53	23600	27.92	121400	2.2												
62	20400	24.18	119600	2.5												
74	17000	20.15	116800	2.9	KH	187	EDRN	315M4	2450	700						
87	14500	17.18	114000	3.2												
41	31000	36.61	98600	1.15							K	167	EDRN	315M4	1930	697
46	27300	32.25	99600	1.30												
52	24300	28.77	99900	1.45												
61	20700	24.52	99800	1.70												
73	17200	20.32	98700	2.0												
86	14600	17.34	97300	2.4												
70	18000	21.31	45300	1.10	K	157	EDRN	315M4	1540	690						
81	15500	18.37	47000	1.30	KF	157	EDRN	315M4	1610	691						
100	12600	14.92	48500	1.55	KA	157	EDRN	315M4	1500	693						
118	10700	12.65	49100	1.75	KAF	157	EDRN	315M4	1560	691						

P _m = 160 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
33	46700	45.50*	110600	1.15	K	187	EDRN	315L4	2640	699						
45	34100	33.23	113700	1.55												
53	28700	27.92	113600	1.85												
61	24800	24.18	112900	2.1												
74	20700	20.15	111300	2.4												
86	17600	17.18	109300	2.6												
61	25200	24.52	91700	1.40	KH	167	EDRN	315L4	2060	697						
73	20800	20.32	92000	1.70												
86	17800	17.34	91600	1.95												
81	18800	18.37	39800	1.05	K	157	EDRN	315L4	1670	690						
100	15300	14.92	42600	1.30												
117	13000	12.65	44100	1.45							KF	157	EDRN	315L4	1750	691
					KAF	157	EDRN	315L4	1690	691						

P _m = 200 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
45	42600	33.23	100500	1.25	K KH	187 187	EDRN EDRN	315H4 315H4	2760 2700	699 700
53	35800	27.92	102500	1.45						
62	31000	24.18	103300	1.65						
74	25800	20.15	103200	1.90						
87	22000	17.18	102400	2.1						
61	31400	24.52	80200	1.10	K KH	167 167	EDRN EDRN	315H4 315H4	2180 2140	697 698
73	26000	20.32	82500	1.35						
86	22200	17.34	83400	1.55						
100	19100	14.92	34300	1.05	K KF KA KAF	157 157 157 157	EDRN EDRN EDRN EDRN	315H4 315H4 315H4 315H4	1790 1860 1750 1810	690 691 693 691
118	16200	12.65	37000	1.15						

9.4 Selection tables helical-worm gearmotors

P _m = 18.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
54	3130	27.63	28200	1.00	S SF SA SAF	97p 97p 97p 97p	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	290 320 285 310	735 736 737 736
61	2730	24.13	27900	1.10						
70	2450	21.23	24500	1.05						
77	2220	19.23	24400	1.15						
87	1970	17.05	24300	1.25						
96	1780	15.42	24100	1.35						
113	1510	13.07	23800	1.50						
130	1320	11.41	23400	1.65						
155	1100	9.55	22800	1.80						
179	950	8.26	22200	1.85						
61	2650	24.13	28100	1.05	S SF SA SAF	97 97 97 97	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	290 320 285 310	735 736 737 736
70	2390	21.23	24500	1.10						
77	2170	19.23	24500	1.20						
87	1920	17.05	24400	1.30						
96	1740	15.42	24200	1.40						
113	1480	13.07	23800	1.55						
130	1290	11.41	23400	1.70						
155	1080	9.55	22800	1.85						
179	940	8.26	22300	1.90						
163	1040	9.07	16400	1.10	S SF SA SAF	87p 87p 87p 87p	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	230 250 225 245	730 731 732 731

P _m = 22 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
87	2340	17.05	22300	1.05	S SF SA SAF	97p 97p 97p 97p	EDRN EDRN EDRN EDRN	180L4 180L4 180L4 180L4	305 340 300 325	735 736 737 736
96	2120	15.42	22700	1.15						
113	1800	13.07	22600	1.25						
129	1570	11.41	22300	1.35						
155	1310	9.55	21900	1.50						
179	1130	8.26	21500	1.55						
77	2580	19.23	20500	1.00	S	97	EDRN	180L4	305	735
					SF	97	EDRN	180L4	340	736
					SA	97	EDRN	180L4	300	737
87	2290	17.05	22400	1.10	SAF	97	EDRN	180L4	325	736
96	2070	15.42	22800	1.20	S SF SA SAF	97 97 97 97	EDRN EDRN EDRN EDRN	180L4 180L4 180L4 180L4	305 340 300 325	735 736 737 736
113	1760	13.07	22600	1.30						
129	1540	11.41	22400	1.40						
155	1290	9.55	21900	1.55						
179	1120	8.26	21500	1.60						

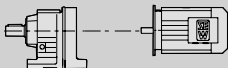
P _m = 30 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
130	2140	11.41	19000	1.00	S	97p	EDRN	200L4	415	735
155	1790	9.55	19900	1.10	SF	97p	EDRN	200L4	445	736
179	1540	8.26	19700	1.15	SA	97p	EDRN	200L4	410	737
					SAF	97p	EDRN	200L4	435	736

10 Selection tables for motors > 15 kW, category 2G, T3 // EPL Gb

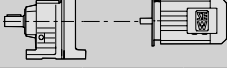
Category 2: 2G, T3; 2GD, T3/T120 °C/140 °C

EPL Gb: 2G-b, T3; 2GD-b, T3/T120 °C/140 °C

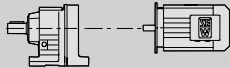
10.1 Selection tables helical gearmotors

P _m = 17.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
8.7	17700	169	120000	1.15	R	167R107	EDRN	180L4	950	526
					RF	167R107	EDRN	180L4	960	526
					RM	167R107	EDRN	180L4	1160	526
8.8	17800	168	120000	1.10	R	167R107	EDRN	180L4	950	526
					RF	167R107	EDRN	180L4	960	526
					RM	167R107	EDRN	180L4	1150	526
9.6	17300	153.07	120000	1.15	R RF RM	167 167 167	EDRN EDRN EDRN	180L4 180L4 180L4	780 790 980	523 524 524
11	15800	139.98	120000	1.25						
12	13800	121.81*	120000	1.45						
14	12100	107.49	120000	1.65						
16	10500	93.19	120000	1.90						
18	9400	82.91*	120000	2.1						
20	8350	73.70*	120000	2.4						
22	7640	67.40	120000	2.6						
25	6640	58.65	120000	3.0						
28	5860	51.76	120000	3.4						
33	5080	44.87	120000	3.7						
37	4520	39.92	120000	4.0						
43	3900	34.41	120000	4.5						
39	4270	37.74	120000	2.4	R	167	EDRN	180L4	780	523
48	3480	30.71	120000	3.4	RF	167	EDRN	180L4	780	524
					RM	167	EDRN	180L4	980	524
13	12300	109.31	63800	1.05	R RF RM	147 147 147	EDRN EDRN EDRN	180L4 180L4 180L4	530 540 710	521 522 522
16	10700	94.60*	66700	1.20						
18	9460	83.47	68500	1.35						
20	8170	72.09	70100	1.60						
22	7590	66.99	70700	1.70						
24	6920	61.09	71400	1.85						
28	5990	52.87	72200	2.1						
32	5280	46.65	72700	2.3						
37	4560	40.29	73200	2.6						
41	4040	35.64	73500	2.9						
49	3390	29.95	73800	3.3						
61	2740	24.19	74100	3.9						
23	7390	65.20	54600	1.10						
25	6700	59.17*	55900	1.20						
29	5760	50.86*	57400	1.35						
33	5030	44.39	58400	1.50						
39	4260	37.65	59200	1.70						
45	3730	32.91	59700	1.90						
53	3150	27.83	60200	2.2						
50	3350	29.57*	60100	2.3	R RF RM	137 137 137	EDRN EDRN EDRN	180L4 180L4 180L4	400 420 530	519 520 520
61	2730	24.12	60500	2.7						
67	2490	22.00*	60700	3.0						
77	2150	19.04*	60900	3.4						
88	1900	16.80*	61000	3.8						
102	1640	14.51	61100	4.4						
115	1450	12.83	61200	5.0						
35	4780	42.22*	43000	1.10	R	127	EDRN	180L4	380	517
40	4180	36.88	43000	1.25	RF	127	EDRN	180L4	390	518
48	3490	30.84	43000	1.45	RM	127	EDRN	180L4	485	518

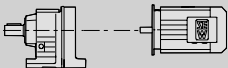
P_m = 17.5 kW

n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
57	2950	26.04*	43000	1.90	R	127	EDRN	180L4	365	517
62	2680	23.65	43000	2.0						
70	2370	20.98	43000	2.3						
77	2150	19.04	43000	2.5						
90	1850	16.37*	43000	2.8						
103	1610	14.29	43000	3.2						
122	1370	12.12	43000	3.7						
139	1200	10.59	43000	4.2						
165	1010	8.96	43000	4.8						
196	850	7.51	43000	4.6						
42	3990	35.26	22400	1.05	R	107	EDRN	180L4	320	515
50	3340	29.49	21800	1.20						
59	2820	24.90*	21200	1.50	R	107	EDRN	180L4	315	515
65	2560	22.62	20800	1.70						
73	2270	20.07	20300	1.90						
81	2060	18.21	19900	2.1						
94	1770	15.65	19200	2.4						
108	1540	13.66	18600	2.8						
127	1310	11.59	17900	3.3						
146	1140	10.13	17300	3.7						
172	970	8.56	16500	4.4						
188	890	7.86	16400	3.3	R	107	EDRN	180L4	320	516
221	755	6.66	15600	3.9						
253	660	5.82	15000	4.5						
91	1830	16.17	14700	1.10						
101	1650	14.62	14400	1.20						
119	1400	12.39	14000	1.35						
136	1220	10.83	13600	1.55						
159	1050	9.29	13500	1.55						
176	950	8.39	13200	1.70						
207	800	7.12	12600	1.90	R	97	EDRN	180L4	260	513
237	700	6.21	12200	2.1						
284	585	5.20	11600	2.4						
328	510	4.50*	11100	2.7						
179	930	8.22	10400	1.00						
207	800	7.13	10100	1.15						
231	720	6.39	9840	1.25						
278	600	5.30*	9400	1.40						
351	475	4.20*	7810	1.60	R	97	EDRN	180L4	260	484
386	430	3.81	7670	1.85						
436	380	3.38	7480	2.2						
480	345	3.07	7320	2.4						
558	295	2.64*	7070	2.8						
640	260	2.30	6840	3.2						
754	220	1.95	6560	3.5						
863	193	1.71	6330	3.6						
1020	163	1.44	6050	3.9						
405	410	3.64*	4640	1.45	R	97	EDRN	180L4	230	482
447	370	3.30	4900	1.60						
504	330	2.92	5160	1.80						
558	295	2.64	5300	2.0						
658	250	2.24*	5420	2.3						
753	220	1.96	5400	2.6						
901	185	1.64	5160	2.7						
1040	160	1.42	4970	2.8						
534	310	2.76*	1020	1.30	R	87	EDRN	180L4	205	480
594	280	2.48	1370	1.40						
684	240	2.15	1720	1.55						
764	215	1.93	1950	1.60						
921	181	1.60*	2190	1.75						
1060	157	1.39	2410	1.85						

27782913/EN – 02/2023

P _m = 24 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
14	16600	107.49	120000	1.20	R RF RM	167 167 167	EDRN EDRN EDRN	200L4 200L4 200L4	890 900 1090	523 524 524
16	14400	93.19	120000	1.40						
18	12800	82.91*	120000	1.55						
20	11400	73.70*	120000	1.75						
22	10400	67.40	120000	1.90						
25	9090	58.65	120000	2.2						
29	8020	51.76	120000	2.5						
33	6950	44.87	120000	2.7						
37	6190	39.92	120000	2.9						
43	5330	34.41	120000	3.3						
53	4330	27.96	120000	3.8	R RF RM	147 147 147	EDRN EDRN EDRN	200L4 200L4 200L4	640 650 820	521 522 522
62	3670	23.71	120000	4.3						
48	4760	30.71	120000	2.5						
60	3800	24.57	120000	4.3						
68	3380	21.85	120000	4.8						
18	12900	83.47	62800	1.00						
20	11100	72.09	66000	1.15						
22	10300	66.99	67200	1.25						
24	9470	61.09	68500	1.35						
28	8190	52.87	70100	1.50						
32	7230	46.65	71100	1.70						
37	6240	40.29	72000	1.90						
41	5520	35.64	72600	2.1						
49	4640	29.95	73200	2.4						
61	3750	24.19	73700	2.9						
72	3160	20.44	73900	3.8	R RF RM	137 137 137	EDRN EDRN EDRN	200L4 200L4 200L4	510 540 650	519 520 520
82	2790	18.04	74100	3.8						
33	6880	44.39	55600	1.10						
39	5830	37.65	57300	1.25						
45	5100	32.91	58300	1.40						
53	4310	27.83	59200	1.60						
61	3740	24.12	59700	2.0						
67	3410	22.00*	60000	2.1						
78	2950	19.04*	60400	2.5						
88	2600	16.80*	60600	2.8						
102	2240	14.51	60800	3.2						
115	1980	12.83	60600	3.6						
137	1670	10.79	58500	4.3						
195	1170	7.59	54500	4.3						
48	4780	30.84	43000	1.05	R RF RM	127 127 127	EDRN EDRN EDRN	200L4 200L4 200L4	490 500 600	517 518 518
70	3250	20.98	43000	1.65						
78	2950	19.04	43000	1.80						
90	2530	16.37*	43000	2.1						
103	2210	14.29	43000	2.3						
122	1870	12.12	43000	2.7						
140	1640	10.59	43000	3.0						
165	1380	8.96	43000	3.5						
197	1160	7.51	43000	3.4						
225	1010	6.56	43000	3.8						
266	860	5.55	43000	4.5						
74	3110	20.07	18900	1.40	R RF RM	107 107 107	EDRN EDRN EDRN	200L4 200L4 200L4	425 430 520	515 516 516
81	2820	18.21	18600	1.50						
94	2420	15.65	18100	1.75						
108	2110	13.66	17600	2.0						
128	1790	11.59	17000	2.4						
146	1570	10.13	16500	2.7						
173	1320	8.56	15900	3.2						
188	1210	7.86	15900	2.4						
222	1030	6.66	15200	2.9						
254	900	5.82	14700	3.3						
300	760	4.92	14000	3.8						

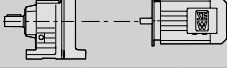
P_m = 24 kW

n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
119	1920	12.39	12900	1.00	R RF RM	97	EDRN	200L4	370	513
137	1670	10.83	12700	1.15						
159	1430	9.29	12900	1.15						
176	1300	8.39	12600	1.25						
208	1100	7.12	12100	1.40						
238	960	6.21	11700	1.55						
284	800	5.20	11200	1.75						
328	695	4.50*	10800	1.95						
279	820	5.30*	8960	1.00	R RF RM	87 87 87	EDRN EDRN EDRN	200L4 200L4 200L4	330 335 365	510 511 511
437	520	3.38	5660	1.60	RX RXF	107 107	EDRN EDRN	200L4 200L4	370 385	484 485
481	475	3.07	5880	1.75						
560	405	2.64*	6120	2.0						
641	355	2.30	6270	2.3						
756	300	1.95	6200	2.5						
865	260	1.71	6010	2.7						
1025	220	1.44	5770	2.9						
506	450	2.92	2430	1.30	RX RXF	97 97	EDRN EDRN	200L4 200L4	335 345	482 483
559	405	2.64	2780	1.45						
660	345	2.24*	3170	1.70						
755	300	1.96	3490	1.90						
903	250	1.64	3700	2.0						
1045	215	1.42	3820	2.1						

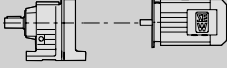
P_m = 30 kW

n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
16	18000	93.19	120000	1.10	R RF RM	167 167 167	EDRN EDRN EDRN	250M4 250M4 250M4	1070 1080 1270	523 524 524
18	16000	82.91*	120000	1.25	R RF RM	167 167 167	EDRN EDRN EDRN	250M4 250M4 250M4	1070 1080 1270	523 524 524
25	11300	58.65	120000	1.75						
29	10000	51.76	120000	1.95						
33	8670	44.87	120000	2.2						
37	7710	39.92	120000	2.4						
43	6650	34.41	120000	2.6						
53	5400	27.96	120000	3.0						
62	4580	23.71	120000	3.4						
28	10200	52.87	67500	1.20	R RF RM	147 147 147	EDRN EDRN EDRN	250M4 250M4 250M4	820 830 1000	521 522 522
32	9010	46.65	69100	1.35						
37	7780	40.29	70500	1.55						
42	6880	35.64	71400	1.70						
49	5780	29.95	72400	1.95						
61	4670	24.19	73100	2.3	R RF RM	147 147 147	EDRN EDRN EDRN	250M4 250M4 250M4	810 820 990	521 522 522
73	3950	20.44	73600	3.0						
82	3480	18.04	73800	3.0						
95	3020	15.64	74000	4.3						
39	7270	37.65	54800	1.00	R RF RM	137 137 137	EDRN EDRN EDRN	250M4 250M4 250M4	700 720 830	519 520 520
45	6360	32.91	56500	1.10						
53	5370	27.83	57900	1.30						
78	3680	19.04*	59800	2.0	R RF RM	137 137 137	EDRN EDRN EDRN	250M4 250M4 250M4	690 710 820	519 520 520
88	3240	16.80*	60200	2.2						
102	2800	14.51	59500	2.6						
115	2480	12.83	58300	2.9	R RF RM	137 137 137	EDRN EDRN EDRN	250M4 250M4 250M4	690 710 820	519 520 520
137	2080	10.79	56600	3.5						
195	1460	7.59	53200	3.5						
232	1230	6.38	51200	4.1						

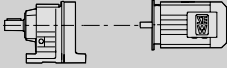
P_m = 30 kW

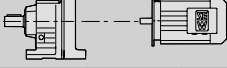
n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
91	3160	16.37*	43000	1.65	R RF RM	127	EDRN	250M4	650	517
104	2760	14.29	43000	1.85						
122	2340	12.12	43000	2.2						
140	2040	10.59	43000	2.4						
165	1730	8.96	43000	2.8						
167	1710	8.85	43000	2.3						
197	1450	7.51	43000	2.7						
226	1260	6.56	43000	3.1						
267	1070	5.55	43000	3.6						

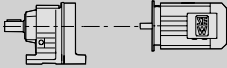
P_m = 36 kW

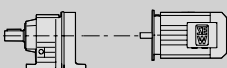
n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
25	13600	58.65	120000	1.45	R RF RM	167	EDRN	280S4	1120	523
29	12000	51.76	120000	1.65						
33	10400	44.87	120000	1.80						
37	9270	39.92	120000	1.95						
43	7990	34.41	120000	2.2						
53	6490	27.96	120000	2.5						
62	5510	23.71	120000	2.9	R RF RM	167	EDRN	280S4	1110	523
68	5070	21.85	120000	3.2						
78	4420	19.03	120000	3.7						
87	3940	16.98	120000	4.1						
102	3360	14.48	120000	4.8						
28	12200	52.87	64000	1.00	R RF RM	147	EDRN	280S4	870	521
32	10800	46.65	66500	1.15						
37	9360	40.29	68600	1.30						
42	8280	35.64	70000	1.40						
49	6960	29.95	71400	1.60						
61	5620	24.19	72500	1.90						
72	4750	20.44	73100	2.5	R RF RM	147	EDRN	280S4	860	521
82	4190	18.04	73400	2.5						
95	3630	15.64	73700	3.6						
106	3230	13.91	73900	3.9						
123	2780	11.99	74100	4.7						
53	6460	27.83	56300	1.05	R RF RM	137	EDRN	280S4	750	519
78	4420	19.04*	58300	1.65						
88	3900	16.80*	57800	1.85						
102	3370	14.51	56900	2.1						
115	2980	12.83	56100	2.4						
137	2500	10.79	54700	2.9						
170	2020	8.71	52800	3.6	R RF RM	137	EDRN	280S4	740	519
195	1760	7.59	52000	2.9						
232	1480	6.38	50200	3.5						
287	1190	5.15	47900	3.8						

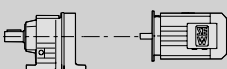
P_m = 44 kW

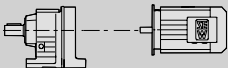
n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
25	16600	58.65	120000	1.20	R RF RM	167	EDRN	280M4	1240	523
29	14700	51.76	120000	1.35						
33	12700	44.87	120000	1.50						
37	11300	39.92	120000	1.60						
43	9790	34.41	120000	1.80						
53	7950	27.96	120000	2.1						
62	6740	23.71	120000	2.3	R RF RM	167	EDRN	280M4	1440	524
68	6210	21.85	120000	2.6						
78	5410	19.03	120000	3.0						
87	4830	16.98	120000	3.4						
102	4120	14.48	120000	4.0						
123	3410	11.99	120000	4.8						

P_m = 44 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
37	11400	40.29	65500	1.05	R	147	EDRN	280M4	990	521
41	10100	35.64	67600	1.15		147	EDRN	280M4	1000	522
49	8520	29.95	69700	1.35		147	EDRN	280M4	1160	522
61	6880	24.19	71400	1.55		147	EDRN	280M4		
72	5810	20.44	72300	2.1	R	147	EDRN	280M4	970	521
82	5130	18.04	72800	2.0		147	EDRN	280M4	980	522
94	4450	15.64	73300	2.9		147	EDRN	280M4	1150	522
106	3960	13.91	73600	3.2		147	EDRN	280M4		
123	3410	11.99	73800	3.8	R	137	EDRN	280M4	850	519
151	2770	9.74	74100	4.7		137	EDRN	280M4	870	520
204	2060	7.25	74300	4.2		137	EDRN	280M4	980	520
78	5420	19.04*	53900	1.35		137	EDRN	280M4		
88	4780	16.80*	53900	1.50	R	137	EDRN	280M4	850	519
102	4130	14.51	53600	1.75		137	EDRN	280M4	870	520
115	3650	12.83	53100	2.0		137	EDRN	280M4	980	522
137	3070	10.79	52200	2.4		137	EDRN	280M4		
169	2470	8.71	50800	2.9	R	137	EDRN	280M4	850	519
194	2160	7.59	50400	2.4		137	EDRN	280M4	870	520
231	1810	6.38	48800	2.8		137	EDRN	280M4	980	520
286	1460	5.15	46800	3.1		137	EDRN	280M4		

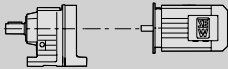
P_m = 58 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
33	16600	44.87	120000	1.15	R	167	EDRN	315S4	1480	523
37	14800	39.92	120000	1.25		167	EDRN	315S4	1490	524
43	12700	34.41	120000	1.35		167	EDRN	315S4	1680	524
53	10300	27.96	120000	1.60		167	EDRN	315S4		
63	8810	23.71	120000	1.80	R	167	EDRN	315S4	1470	523
78	7070	19.03	120000	2.3		167	EDRN	315S4	1480	524
88	6310	16.98	120000	2.6		167	EDRN	315S4	1680	524
103	5380	14.48	120000	3.0		167	EDRN	315S4		
124	4450	11.99	120000	3.7	R	167	EDRN	315S4	1470	523
146	3800	10.24	115600	4.3		167	EDRN	315S4	1480	524
						167	EDRN	315S4	1680	524
						167	EDRN	315S4		

P_m = 70 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
37	17900	39.92	119900	1.00	R	167	EDRN	315S4	1480	523
43	15400	34.41	120000	1.10		167	EDRN	315S4	1490	524
53	12500	27.96	120000	1.30		167	EDRN	315S4	1680	524
63	10600	23.71	120000	1.45		167	EDRN	315S4		
78	8550	19.03	120000	1.90	R	167	EDRN	315S4	1470	523
88	7630	16.98	120000	2.1		167	EDRN	315S4	1480	524
103	6500	14.48	120000	2.5		167	EDRN	315S4	1680	524
124	5390	11.99	117500	3.0		167	EDRN	315S4		
145	4600	10.24	113500	3.6	R	167	EDRN	315S4	1470	523
						167	EDRN	315S4	1480	524
						167	EDRN	315S4	1680	524
						167	EDRN	315S4		

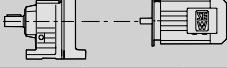
P_m = 84 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
53	15100	27.96	114300	1.10	R	167	EDRN	315M4	1500	523
63	12800	23.71	118700	1.25		167	EDRN	315M4	1510	524
						167	EDRN	315M4	1700	524
						167	EDRN	315M4		
78	10200	19.03	120000	1.60	R	167	EDRN	315M4	1490	523
87	9170	16.98	120000	1.80		167	EDRN	315M4	1500	524
103	7820	14.48	118700	2.1		167	EDRN	315M4	1700	524
124	6480	11.99	114700	2.5		167	EDRN	315M4		
145	5530	10.24	111100	3.0	R	167	EDRN	315M4	1490	523
						167	EDRN	315M4	1500	524
						167	EDRN	315M4	1700	524
						167	EDRN	315M4		

P_m = 110 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
103	10200	14.48	107500	1.60	R	167	EDRN	315H4	1740	523
124	8470	11.99	109100	1.95	RF	167	EDRN	315H4	1750	524
145	7230	10.24	106500	2.3	RM	167	EDRN	315H4	1950	524

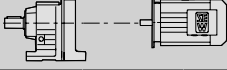
10.2 Selection tables parallel-shaft helical gearmotors

P _m = 17.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
10	16000	141.80*	105500	1.25	FA FAF F FF	157	EDRN	180L4	790	598
12	14100	125.14	109900	1.40						
14	12300	108.49	113600	1.60						
15	10900	96.53*	112500	1.80						
17	9720	85.80*	110200	2.0						
19	8890	78.46	108500	2.2						
22	7740	68.28*	105600	2.6						
24	6830	60.25	103000	2.9						
28	5920	52.24	99900	3.3						
32	5260	46.48*	97400	3.6						
37	4540	40.06	94100	4.0						
45	3690	32.55	89600	4.6						
34	4980	43.94*	96100	2.4	FA FAF F FF	157	EDRN	180L4	790	598
41	4050	35.75*	91600	3.4						
52	3240	28.60*	86800	4.9						
15	11200	98.95	83200	1.05	FA FAF F FF	127	EDRN	180L4	540	591
17	9890	87.31*	82200	1.20						
20	8540	75.41*	80800	1.40						
21	7940	70.07	80000	1.50						
23	7240	63.91	79000	1.65						
27	6270	55.31	77200	1.85						
30	5530	48.80	75500	2.0						
35	4770	42.15	73500	2.2						
40	4220	37.28	71700	2.4						
47	3550	31.33	69100	2.8						
58	2860	25.30	65900	3.3						
55	3040	26.86	66800	2.8	FA FAF F FF	127	EDRN	180L4	530	591
60	2780	24.57	65500	3.0						
69	2420	21.38	63400	3.8						
78	2130	18.87	61500	4.2						
90	1850	16.36	59400	4.9						
22	7660	67.62	49800	1.00	FA FAF F FF	107	EDRN	180L4	395	584
25	6580	58.12*	49700	1.15						
29	5750	50.73	49200	1.35						
34	4870	43.03	48400	1.55						
39	4260	37.61	47700	1.80						
46	3600	31.80	46500	2.0						
44	3830	33.79*	46900	1.90	FA FAF F FF	107	EDRN	180L4	385	584
53	3120	27.57	45400	2.2						
59	2850	25.14	44700	2.4						
68	2460	21.76*	43500	2.7						
77	2170	19.20*	42400	3.1						
89	1870	16.58	41100	3.5						
100	1660	14.67	40000	4.0						
120	1390	12.33	38500	4.6						
54	3110	27.44*	21500	1.40	FA FAF F FF	97	EDRN	180L4	315	576
59	2820	24.92	21500	1.50						
67	2500	22.11	21400	1.65						
73	2270	20.07	21200	1.80						
85	1950	17.25*	20900	2.1						
98	1700	15.06	20500	2.3						
115	1440	12.77	20000	2.6						
132	1260	11.16	19600	2.9						
163	1020	9.06	18300	2.2						
179	930	8.22	18000	2.3						
209	800	7.07	17400	2.6						
239	695	6.17	16900	2.8						
282	590	5.23	16300	3.1						
322	515	4.57	15800	3.4						
381	435	3.87	15100	3.9						

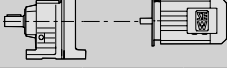
P_m = 17.5 kW

n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
69	2410	21.32*	11400	1.05						
76	2180	19.31	11600	1.15						
86	1940	17.12	11800	1.25						
95	1750	15.48	11900	1.35						
112	1480	13.12*	11900	1.60						
129	1290	11.46	11900	1.85						
154	1080	9.58	11700	2.2	FA	87	EDRN	180L4	255	569
178	930	8.29	11100	1.60	FAF	87	EDRN	180L4	265	568
200	830	7.35	11000	1.80	F	87	EDRN	180L4	260	567
222	750	6.65	10900	1.95	FF	87	EDRN	180L4	275	568
262	635	5.63	10600	2.1						
300	555	4.92	10400	2.4						
358	465	4.12	10000	2.6						

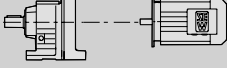
P_m = 24 kW

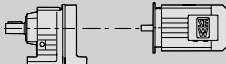
n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
14	16800	108.49	103600	1.20						
15	14900	96.53*	104300	1.35						
17	13300	85.80*	103000	1.50						
19	12100	78.46	101800	1.65						
22	10500	68.28*	99800	1.90	FA	157	EDRN	200L4	900	598
25	9340	60.25	97900	2.1	FAF	157	EDRN	200L4	960	596
28	8090	52.24	95500	2.4	F	157	EDRN	200L4	920	595
32	7200	46.48*	93400	2.6	FF	157	EDRN	200L4	1030	596
37	6210	40.06	90700	2.9						
45	5040	32.55	86800	3.4						
54	4280	27.60	83600	3.9						
41	5540	35.75*	88600	2.5	FA	157	EDRN	200L4	900	598
52	4430	28.60*	84300	3.6	FAF	157	EDRN	200L4	950	596
58	3940	25.43	82100	4.0	F	157	EDRN	200L4	920	595
67	3430	22.16	79400	4.6	FF	157	EDRN	200L4	1020	596
20	11600	75.41*	73400	1.05						
21	10800	70.07	73100	1.10						
23	9900	63.91	72700	1.20						
27	8570	55.31	71700	1.35	FA	127	EDRN	200L4	650	591
30	7560	48.80	70700	1.50	FAF	127	EDRN	200L4	690	589
35	6530	42.15	69300	1.65	F	127	EDRN	200L4	680	588
40	5780	37.28	68000	1.80	FF	127	EDRN	200L4	730	589
47	4850	31.33	66000	2.0						
58	3920	25.30	63400	2.4						
55	4160	26.86	64200	2.0						
60	3800	24.57	63000	2.2						
69	3310	21.38	61300	2.8	FA	127	EDRN	200L4	640	591
78	2920	18.87	59600	3.1	FAF	127	EDRN	200L4	670	589
90	2530	16.36	57700	3.6	F	127	EDRN	200L4	670	588
102	2250	14.55	56200	4.0	FF	127	EDRN	200L4	720	589
118	1940	12.54	54300	4.6						
167	1370	8.86	49500	4.9						
187	1220	7.88	48100	4.9						
34	6670	43.03	43600	1.15	FA	107	EDRN	200L4	500	584
39	5830	37.61	43400	1.30	FAF	107	EDRN	200L4	530	582
46	4930	31.80	42900	1.45	F	107	EDRN	200L4	520	581
					FF	107	EDRN	200L4	550	582
54	4270	27.57	42300	1.60						
59	3890	25.14	41900	1.75						
68	3370	21.76*	41000	2.0						
77	2970	19.20*	40300	2.2	FA	107	EDRN	200L4	495	584
89	2570	16.58	39300	2.6	FAF	107	EDRN	200L4	520	582
101	2270	14.67	38400	2.9	F	107	EDRN	200L4	510	581
120	1910	12.33	37100	3.4	FF	107	EDRN	200L4	540	582
148	1540	9.96	35500	4.1						
177	1290	8.37	33700	3.7						
200	1140	7.40	32800	4.0						
238	960	6.22	31500	4.8						

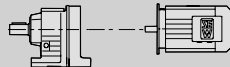
P_m = 24 kW

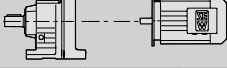
n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
67	3420	22.11	18100	1.20	FA FAF F FF	97	EDRN	200L4	425	576
74	3110	20.07	18300	1.30						
86	2670	17.25*	18400	1.50						
98	2330	15.06	18300	1.70						
116	1980	12.77	18100	1.90						
132	1730	11.16	17900	2.1						
163	1400	9.06	16800	1.60						
180	1270	8.22	16600	1.70						
209	1090	7.07	16200	1.90						
240	950	6.17	15900	2.1						
282	810	5.23	15400	2.3	FA FAF F FF	87	EDRN	200L4	360	569
323	705	4.57	15000	2.5						
382	595	3.87	14500	2.8						
95	2400	15.48	9360	1.00						
113	2030	13.12*	9780	1.20						
129	1770	11.46	10000	1.35						
154	1480	9.58	10100	1.65						
201	1140	7.35	9680	1.30						
222	1030	6.65	9660	1.40						
262	870	5.63	9580	1.55						
300	760	4.92	9470	1.75	FA FAF F FF	87	EDRN	200L4	365	567
359	635	4.12	9260	1.90						
22	13100	68.28*	94500	1.50						
25	11600	60.25	93200	1.70						
28	10000	52.24	91400	1.95						
32	8980	46.48*	89800	2.1						
37	7740	40.06	87600	2.4						
46	6290	32.55	84200	2.7						
54	5330	27.60	81500	3.1						
27	10600	55.31	66700	1.10	FA FAF F FF	127	EDRN	250M4	820	591
30	9430	48.80	66300	1.20						
35	8140	42.15	65500	1.30						
40	7200	37.28	64600	1.45						
47	6050	31.33	63200	1.65						
59	4890	25.30	61100	1.95						
69	4130	21.38	59300	2.2						
79	3640	18.87	57900	2.5						
39	7270	37.61	39600	1.05						
47	6140	31.80	39700	1.15						
68	4200	21.76*	38800	1.60	FA FAF F FF	107	EDRN	250M4	670	584
77	3710	19.20*	38300	1.80						
89	3200	16.58	37500	2.1						
101	2830	14.67	36900	2.3						
120	2380	12.33	35800	2.7						
149	1920	9.96	34400	3.3						

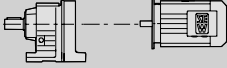
P_m = 30 kW

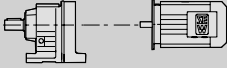
n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
22	13100	68.28*	94500	1.50	FA FAF F FF	157	EDRN	250M4	1080	598
25	11600	60.25	93200	1.70						
28	10000	52.24	91400	1.95						
32	8980	46.48*	89800	2.1						
37	7740	40.06	87600	2.4						
46	6290	32.55	84200	2.7						
54	5330	27.60	81500	3.1						
27	10600	55.31	66700	1.10	FA FAF F FF	127	EDRN	250M4	830	591
30	9430	48.80	66300	1.20						
35	8140	42.15	65500	1.30						
40	7200	37.28	64600	1.45						
47	6050	31.33	63200	1.65						
59	4890	25.30	61100	1.95						
69	4130	21.38	59300	2.2						
79	3640	18.87	57900	2.5						
39	7270	37.61	39600	1.05						
47	6140	31.80	39700	1.15						
68	4200	21.76*	38800	1.60	FA FAF F FF	107	EDRN	250M4	680	584
77	3710	19.20*	38300	1.80						
89	3200	16.58	37500	2.1						
101	2830	14.67	36900	2.3						
120	2380	12.33	35800	2.7						
149	1920	9.96	34400	3.3						

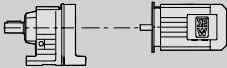
P _m = 36 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
22	15800	68.28*	89300	1.25	FA FAF F FF	157	EDRN	280S4	1130	598
25	14000	60.25	88500	1.40						
28	12100	52.24	87400	1.60						
32	10800	46.48*	86200	1.75						
37	9310	40.06	84500	1.95						
45	7560	32.55	81700	2.3						
54	6410	27.60	79400	2.6						
52	6640	28.60*	79900	2.4	FA FAF F FF	157	EDRN	280S4	1130	598
58	5910	25.43	78100	2.7						
67	5150	22.16	76000	3.1						
75	4590	19.77	74200	3.4						
88	3910	16.85	71700	4.0						
106	3240	13.96	68600	4.8						
35	9790	42.15	61700	1.10						
40	8660	37.28	61300	1.20						
47	7280	31.33	60400	1.35						
58	5880	25.30	58800	1.60						
69	4960	21.38	57400	1.85	FA FAF F FF	127	EDRN	280S4	870	591
78	4380	18.87	56200	2.1						
90	3800	16.36	54800	2.4						
102	3380	14.55	53600	2.7						
118	2910	12.54	52000	3.1						
145	2360	10.19	49700	3.8						
167	2050	8.86	47800	3.3						
188	1830	7.88	46600	3.3						
218	1570	6.80	45000	4.0						
268	1280	5.52	42700	4.7						

P _m = 44 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
24	17100	60.25	82300	1.15	FA FAF F FF	157 157 157 157	EDRN EDRN EDRN EDRN	280M4 280M4 280M4 280M4	1250 1310 1270 1380	598 596 595 596
28	14800	52.24	82000	1.30						
32	13200	46.48*	81400	1.45						
37	11400	40.06	80400	1.60						
45	9260	32.55	78400	1.85						
53	7850	27.60	76500	2.1						
52	8140	28.60*	77000	1.95	FA FAF F FF	157 157 157 157	EDRN EDRN EDRN EDRN	280M4 280M4 280M4 280M4	1240 1300 1260 1370	598 596 595 596
58	7240	25.43	75500	2.2						
67	6300	22.16	73800	2.5						
75	5620	19.77	72200	2.8						
88	4790	16.85	70000	3.2						
106	3970	13.96	67200	3.9						
124	3390	11.92	64900	4.6	FA FAF F FF	127 127 127 127	EDRN EDRN EDRN EDRN	280M4 280M4 280M4 280M4	990 1030 1030 1070	591 589 588 589
47	8910	31.33	56600	1.10						
58	7200	25.30	55800	1.30						
69	6080	21.38	54800	1.50	FA FAF F FF	127 127 127 127	EDRN EDRN EDRN EDRN	280M4 280M4 280M4 280M4	980 1020 1020 1060	591 589 588 589
78	5370	18.87	53900	1.70						
90	4650	16.36	52800	1.95						
101	4140	14.55	51800	2.2						
118	3570	12.54	50500	2.5						
145	2900	10.19	48500	3.1						
167	2520	8.86	46700	2.7						
187	2240	7.88	45600	2.7						
217	1930	6.80	44100	3.3						
267	1570	5.52	42100	3.8						
315	1330	4.68	40400	4.3						

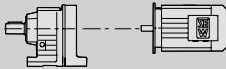
P_m = 58 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
32	17200	46.48*	73100	1.10	FA	157	EDRN	315S4	1490	598
37	14800	40.06	73100	1.20	FAF	157	EDRN	315S4	1550	596
46	12000	32.55	72500	1.40	F	157	EDRN	315S4	1510	595
54	10200	27.60	71500	1.60	FF	157	EDRN	315S4	1620	596
67	8230	22.16	69700	1.90	FA	157	EDRN	315S4	1490	598
75	7340	19.77	68500	2.1	FAF	157	EDRN	315S4	1550	596
88	6260	16.85	66800	2.5	F	157	EDRN	315S4	1510	595
107	5190	13.96	64600	3.0	FF	157	EDRN	315S4	1610	596
125	4420	11.92	62600	3.5						

P_m = 70 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
37	18000	40.06	67000	1.00	FA	157	EDRN	315S4	1490	598
46	14600	32.55	67500	1.15	FAF	157	EDRN	315S4	1550	596
54	12400	27.60	67300	1.35	F	157	EDRN	315S4	1510	595
					FF	157	EDRN	315S4	1620	596
67	9960	22.16	66300	1.60	FA	157	EDRN	315S4	1490	598
75	8880	19.77	65500	1.75	FAF	157	EDRN	315S4	1550	596
88	7570	16.85	64200	2.1	F	157	EDRN	315S4	1510	595
106	6270	13.96	62500	2.5	FF	157	EDRN	315S4	1610	596
125	5350	11.92	60800	2.9						

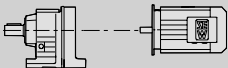
P_m = 84 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
54	14900	27.60	62300	1.10	FA	157	EDRN	315M4	1510	598
					FAF	157	EDRN	315M4	1570	596
					F	157	EDRN	315M4	1530	595
					FF	157	EDRN	315M4	1640	596
67	11900	22.16	62300	1.30	FA	157	EDRN	315M4	1510	598
75	10600	19.77	62000	1.45	FAF	157	EDRN	315M4	1570	596
88	9100	16.85	61200	1.70	F	157	EDRN	315M4	1530	595
106	7540	13.96	60000	2.1	FF	157	EDRN	315M4	1630	596
125	6440	11.92	58700	2.4						

P_m = 110 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
88	11900	16.85	55600	1.30	FA	157	EDRN	315H4	1760	598
106	9870	13.96	55300	1.60	FAF	157	EDRN	315H4	1820	596
125	8420	11.92	54700	1.85	F	157	EDRN	315H4	1780	595
					FF	157	EDRN	315H4	1880	596

10.3 Selection tables helical-bevel gearmotors

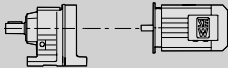
P _m = 17.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
3.2	47900	454	190000	1.10	K KH	187R107 187R107	EDRN EDRN	180L4 180L4	1970 1900	703 703
4.2	37100	355	190000	1.45						
5.7	27500	261	190000	1.90						
6.7	23300	221	190000	2.3						
7.6	20300	193	190000	2.6						
9.0	17100	163	190000	3.1						
5.3	29300	278	150000	1.20	K KH	167R107 167R107	EDRN EDRN	180L4 180L4	1380 1350	703 703
6.0	25400	244	150000	1.40						
6.9	22100	213	150000	1.60						
7.2	21600	206	150000	1.60						
8.2	18600	180	150000	1.85						
9.2	16800	160	150000	2.1						
11	14200	135	150000	2.5						
12	12400	118	150000	2.8						
9.4	16400	157	112900	1.20	K KF KA KAF	157R107 157R107 157R107 157R107	EDRN EDRN EDRN EDRN	180L4 180L4 180L4 180L4	990 1070 950 1010	703 703 703 703
12	12800	122	114400	1.55						
14	11200	107	113400	1.80						
8.2	20300	179.86	190000	2.6	K KH	187 187	EDRN EDRN	180L4 180L4	1790 1730	699 700
8.9	18700	165.21	190000	2.8						
10	16300	144.59	190000	3.2						
11	14700	129.69	190000	3.6						
13	12700	112.60	190000	4.2						
14	11500	102.16	190000	4.6						
11	15300	134.99	150000	2.3	K KH	167 167	EDRN EDRN	180L4 180L4	1210 1170	697 698
13	12400	109.83	150000	2.8						
17	9960	87.86	150000	3.5						
19	8850	78.14	150000	4.0						
22	7710	68.07	150000	4.5						
24	6880	60.74	150000	5.1						
12	13800	122.39	113300	1.45	K KF KA KAF	157 157 157 157	EDRN EDRN EDRN EDRN	180L4 180L4 180L4 180L4	820 900 780 840	690 691 693 691
15	11300	100.22	110500	1.75						
16	10300	91.65	109000	1.90						
18	9040	79.75	106600	2.2						
21	7970	70.38	104300	2.5						
24	6910	61.02	101500	2.9						
27	6150	54.29	99100	3.2						
32	5300	46.79	96100	3.8						
39	4310	38.02	91800	4.6						
13	12400	110.18	79500	1.05	K KF KA KAF	127 127 127 127	EDRN EDRN EDRN EDRN	180L4 180L4 180L4 180L4	580 630 560 590	683 684 686 684
16	10100	89.89	80500	1.30						
18	9290	81.98	79800	1.40						
21	8040	70.95*	78600	1.60						
24	7090	62.60	77300	1.85						
27	6120	54.07	75600	2.1						
31	5420	47.82	74100	2.4						
37	4550	40.19	71800	2.9						
41	4100	36.25	70400	3.2						
47	3550	31.37	68400	3.7						
53	3130	27.68	66600	4.1						
62	2700	23.91	64400	4.8						

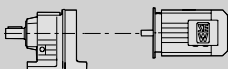
P_m = 17.5 kW

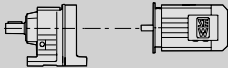
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
26	6480	57.17*	47500	1.10	K KF KA KAF	107	EDRN	180L4	430	676
30	5650	49.90	47600	1.20						
35	4790	42.33*	47000	1.40						
40	4190	37.00*	46400	1.60						
45	3700	32.69	45700	1.95						
47	3540	31.28*	45400	1.85						
51	3280	29.00	44900	2.2						
56	2980	26.32	44200	2.4						
65	2560	22.62	43100	2.8						
75	2230	19.74	42000	3.2						
88	1890	16.75	40700	3.7						
101	1650	14.64	39600	4.1						
110	1520	13.43	38100	2.8						
126	1320	11.73	37000	3.2						
148	1120	9.94	35700	3.7						
170	980	8.69	34600	4.1						
201	830	7.35	33300	4.3						
48	3490	30.82	26700	1.25	K KF KA KAF	97	EDRN	180L4	315	669
53	3160	27.91	26700	1.35						
60	2800	24.75	26600	1.55						
66	2530	22.37	26400	1.70						
78	2140	18.96	26100	2.0						
89	1870	16.56	25700	2.3						
106	1570	13.85	25100	2.7						
123	1350	11.99	24500	2.9						
142	1180	10.41	23000	2.3						
169	980	8.71	22400	2.7						
196	850	7.54	21800	2.8						
76	2200	19.45	16700	1.05	K KF KA KAF	87	EDRN	180L4	255	662
85	1970	17.42	16800	1.10						
102	1630	14.45	16800	1.30						
117	1420	12.56	16700	1.40						
132	1260	11.17	15700	1.10						
147	1130	10.00	15600	1.20						
178	940	8.29	15400	1.40						
204	810	7.21	15200	1.55						

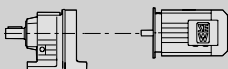
P_m = 24 kW

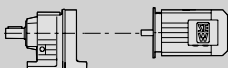
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
5.7	37800	261	190000	1.40	K KH	187R107	EDRN	200L4	2080	703
6.7	32000	221	190000	1.65						
7.6	27900	193	190000	1.90						
9.0	23500	163	190000	2.2						
6.9	30400	213	150000	1.15	K KH	167R107	EDRN	200L4	1490	703
7.2	29700	206	150000	1.20						
8.2	25700	180	150000	1.35						
9.3	23100	160	150000	1.50						
11	19500	135	150000	1.80						
12	17000	118	150000	2.0						
12	17700	122	104800	1.15	K KF KA KAF	157R107	EDRN	200L4	1100	703
14	15400	107	104100	1.30						
8.2	27800	179.86	190000	1.90						
8.9	25600	165.21	190000	2.1						
10	22400	144.59	190000	2.4	K KH	187	EDRN	200L4	1900	699
11	20100	129.69	190000	2.6						
13	17400	112.60	190000	3.0						
14	15800	102.16	190000	3.4						
17	13600	88.00	190000	3.9						
20	11400	73.96	190000	4.6						

P _m = 24 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
13	17000	109.83	150000	2.1	K KH	167 167	EDRN EDRN	200L4 200L4	1320 1280	697 698
17	13600	87.86	150000	2.6						
19	12100	78.14	150000	2.9						
22	10500	68.07	150000	3.3						
24	9410	60.74	150000	3.7						
29	8020	51.77	150000	4.4						
34	6650	42.89	150000	5.3						
15	15500	100.22	101200	1.30	K KF KA KAF	157 157 157 157	EDRN EDRN EDRN EDRN	200L4 200L4 200L4 200L4	930 1000 890 950	690 691 693 691
16	14200	91.65	100500	1.40						
19	12300	79.75	99200	1.60						
21	10900	70.38	97700	1.85						
24	9460	61.02	95800	2.1						
27	8410	54.29	94100	2.4						
32	7250	46.79	91700	2.8						
39	5890	38.02	88200	3.4						
47	4850	31.30	84800	3.9						
54	4280	27.62	82500	4.7						
62	3710	23.95	79900	5.4						
18	12700	81.98	71200	1.00	K KF KA KAF	127 127 127 127	EDRN EDRN EDRN EDRN	200L4 200L4 200L4 200L4	690 730 660 700	683 684 686 684
21	11000	70.95*	71100	1.20						
24	9700	62.60	70700	1.35						
27	8380	54.07	69900	1.55						
31	7410	47.82	69100	1.75						
37	6230	40.19	67600	2.1						
41	5610	36.25	66600	2.3						
47	4860	31.37	65000	2.7						
53	4290	27.68	63600	3.0						
62	3700	23.91	61900	3.5						
70	3270	21.15	60400	4.0						
83	2750	17.77	58200	4.7						
116	1980	12.79	53300	4.2						
138	1660	10.74	51200	4.8						
35	6560	42.33*	40500	1.05	K KF KA KAF	107 107 107 107	EDRN EDRN EDRN EDRN	200L4 200L4 200L4 200L4	540 550 510 540	676 677 679 677
40	5730	37.00*	41400	1.15						
47	4850	31.28*	41500	1.35						
51	4490	29.00	41300	1.60						
56	4070	26.32	41000	1.75						
65	3500	22.62	40300	2.0						
75	3060	19.74	39600	2.4						
88	2590	16.75	38600	2.7						
101	2260	14.64	37700	3.0						
110	2080	13.43	36100	2.1						
126	1810	11.73	35300	2.4						
149	1540	9.94	34300	2.7						
170	1340	8.69	33400	3.0						
201	1130	7.35	32200	3.2						
60	3830	24.75	23000	1.10	K KF KA KAF	97 97 97 97	EDRN EDRN EDRN EDRN	200L4 200L4 200L4 200L4	425 445 405 430	669 670 672 670
66	3460	22.37	23200	1.25						
78	2930	18.96	23300	1.45						
89	2560	16.56	23300	1.65						
107	2140	13.85	23000	1.95						
123	1850	11.99	22700	2.1						
142	1610	10.41	21200	1.70						
170	1340	8.71	20900	1.95						
196	1160	7.54	20500	2.0						
118	1940	12.56	14600	1.05	K	87	EDRN	200L4	365	662
178	1280	8.29	13700	1.00	KF	87	EDRN	200L4	375	663
					KA	87	EDRN	200L4	350	665
205	1110	7.21	13700	1.15	KAF	87	EDRN	200L4	365	663

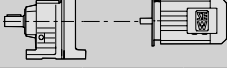
P _m = 30 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
10	27900	144.59	190000	1.90	K KH	187 187	EDRN EDRN	250M4 250M4	2080 2020	699 700
11	25000	129.69	190000	2.1						
13	21700	112.60	190000	2.4						
15	19700	102.16	190000	2.7						
17	17000	88.00	190000	3.1						
17	16900	87.86	150000	2.1	K KH	167 167	EDRN EDRN	250M4 250M4	1500 1460	697 698
19	15100	78.14	150000	2.3						
22	13100	68.07	150000	2.7						
24	11700	60.74	150000	3.0						
19	15400	79.75	92400	1.30	K KF KA KAF	157 157 157 157	EDRN EDRN EDRN EDRN	250M4 250M4 250M4 250M4	1110 1190 1070 1130	690 691 693 691
21	13600	70.38	91700	1.45						
24	11700	61.02	90600	1.70						
27	10400	54.29	89400	1.90						
32	9040	46.79	87700	2.2						
39	7340	38.02	84900	2.7						
47	6050	31.30	82100	3.1						
24	12100	62.60	64600	1.05	K KF KA KAF	127 127 127 127	EDRN EDRN EDRN EDRN	250M4 250M4 250M4 250M4	870 920 850 880	683 684 686 684
27	10400	54.07	64700	1.25						
31	9240	47.82	64400	1.40						
37	7760	40.19	63700	1.65						
47	6060	31.37	62000	2.1						
54	5340	27.68	60900	2.4						
62	4620	23.91	59500	2.8						
47	6040	31.28*	36700	1.05	K KF KA KAF	107 107 107 107	EDRN EDRN EDRN EDRN	250M4 250M4 250M4 250M4	720 730 690 720	676 677 679 677
66	4370	22.62	37700	1.65	K KF KA KAF	107 107 107 107	EDRN EDRN EDRN EDRN	250M4 250M4 250M4 250M4	720 730 690 720	676 677 679 677
75	3810	19.74	37300	1.90						
89	3230	16.75	36700	2.1						
101	2820	14.64	36100	2.4						
110	2590	13.43	34300	1.65						
126	2260	11.73	33700	1.90						
149	1920	9.94	32900	2.1						
171	1670	8.69	32200	2.4						

P _m = 36 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
10	33600	144.59	190000	1.60	K KH	187 187	EDRN EDRN	280S4 280S4	2130 2070	699 700
11	30100	129.69	190000	1.75						
13	26100	112.60	190000	2.0						
14	23700	102.16	190000	2.2						
17	20400	88.00	190000	2.6						
20	17100	73.96	185400	3.1						
23	14800	64.04	180000	3.6						
28	12400	53.36	173000	4.3						
33	10500	45.50*	166900	5.0						
17	20400	87.86	150000	1.70	K KH	167 167	EDRN EDRN	280S4 280S4	1550 1510	697 698
19	18100	78.14	150000	1.95						
22	15800	68.07	150000	2.2						
24	14100	60.74	150000	2.5						
29	12000	51.77	150000	2.9						
34	9970	42.89	145000	3.5						
40	8500	36.61	140100	4.1						
46	7490	32.25	136100	4.7						
51	6680	28.77	132600	5.2						

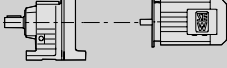
P _m = 36 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
21	16300	70.38	85800	1.20	K	157	EDRN	280S4	1160	690
24	14100	61.02	85400	1.40						
27	12600	54.29	84900	1.60						
32	10800	46.79	83800	1.85						
39	8830	38.02	81700	2.3						
47	7270	31.30	79400	2.6						
54	6420	27.62	77800	3.1						
62	5560	23.95	75800	3.6						
69	4950	21.31	74100	4.0	KF	157	EDRN	280S4	1240	691
81	4260	18.37	71900	4.7						
27	12500	54.07	59400	1.05	K	127	EDRN	280S4	920	683
31	11100	47.82	59800	1.15						
37	9340	40.19	59800	1.40						
47	7290	31.37	58900	1.80						
53	6430	27.68	58200	2.0						
62	5550	23.91	57200	2.3						
70	4910	21.15	56300	2.6						
83	4120	17.77	54800	3.1						
103	3330	14.35	52700	3.6	KAF	127	EDRN	280S4	930	684
116	2970	12.79	50400	2.8						
138	2490	10.74	48800	3.2						
170	2010	8.68	46700	3.6						

P _m = 44 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
10	41100	144.59	190000	1.30	K	187	EDRN	280M4	2250	699
11	36900	129.69	190000	1.45						
13	32000	112.60	190000	1.65						
14	29000	102.16	188700	1.80						
17	25000	88.00	184700	2.1						
20	21000	73.96	179500	2.5						
23	18200	64.04	174900	2.9						
28	15100	53.36	168800	3.5						
32	12900	45.50*	163300	4.1	KH	187	EDRN	280M4	2180	700
35	12100	42.51	160900	4.4						
38	10900	38.57	157500	4.8						
17	25000	87.86	150000	1.40						
19	22200	78.14	150000	1.55						
22	19300	68.07	150000	1.80						
24	17200	60.74	149700	2.0						
29	14700	51.77	145900	2.4						
34	12200	42.89	141000	2.9	K	167	EDRN	280M4	1670	697
40	10400	36.61	136700	3.4						
46	9170	32.25	133200	3.8						
51	8180	28.77	129900	4.3						
60	6980	24.52	125400	5.0						
24	17300	61.02	78500	1.15						
27	15400	54.29	78700	1.30	KH	167	EDRN	280M4	1630	698
32	13300	46.79	78500	1.50						
39	10800	38.02	77500	1.85						
47	8910	31.30	75900	2.1						
53	7860	27.62	74700	2.5						
62	6810	23.95	73100	2.9						
69	6060	21.31	71700	3.3						
80	5220	18.37	69900	3.8	KAF	157	EDRN	280M4	1270	690
99	4240	14.92	67100	4.7						
117	3600	12.65	64800	5.2						

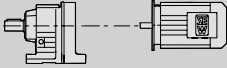
P_m = 44 kW

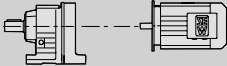
n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
37	11400	40.19	54600	1.15	K KF KA KAF	127	EDRN	280M4	1040	683
47	8920	31.37	54900	1.45						
53	7870	27.68	54700	1.65						
62	6800	23.91	54200	1.90						
70	6010	21.15	53600	2.2						
83	5050	17.77	52500	2.6						
103	4080	14.35	50900	3.0						
115	3630	12.79	48500	2.3						
137	3050	10.74	47200	2.6						
170	2460	8.68	45400	2.9						

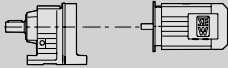
P_m = 58 kW

n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
13	41800	112.60	175200	1.25	K KH	187	EDRN	315S4	2490	699
15	37900	102.16	174300	1.40						
17	32700	88.00	172200	1.60						
20	27400	73.96	169000	1.95						
23	23800	64.04	165700	2.2						
28	19800	53.36	161100	2.7						
33	16900	45.50*	156700	3.1						
35	15800	42.51	154700	3.4						
39	14300	38.57	151800	3.7						
45	12300	33.23	147300	4.3	K KH	167	EDRN	315S4	1910	697
53	10300	27.92	141900	5.1						
22	25300	68.07	140800	1.40						
25	22500	60.74	139500	1.55						
29	19200	51.77	137100	1.80						
35	15900	42.89	133700	2.2						
41	13600	36.61	130400	2.6						
46	11900	32.25	127600	2.9						
52	10600	28.77	124900	3.3						
61	9110	24.52	121100	3.8	K KF KA KAF	157	EDRN	315S4	1520	690
73	7550	20.32	116400	4.6						
86	6440	17.34	112300	5.4						
32	17300	46.79	69300	1.15						
39	14100	38.02	69900	1.40						
62	8900	23.95	68300	2.2						
70	7920	21.31	67400	2.5						
81	6820	18.37	66100	2.9						
100	5540	14.92	64000	3.6						
118	4700	12.65	62200	4.0						

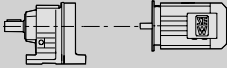
P_m = 70 kW

n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
15	45900	102.16	162100	1.15	K KH	187	EDRN	315S4	2490	699
17	39500	88.00	161800	1.35						
20	33200	73.96	160200	1.60						
23	28700	64.04	158200	1.85						
28	23900	53.36	154800	2.2						
33	20400	45.50*	151300	2.6						
35	19100	42.51	149700	2.8						
39	17300	38.57	147300	3.1						
45	14900	33.23	143400	3.5						
53	12500	27.92	138600	4.2	K KH	187	EDRN	315S4	2420	700
62	10800	24.18	134500	4.7						
74	9050	20.15	129300	5.4						

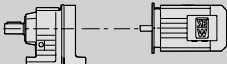
P _m = 70 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
22	30600	68.07	131200	1.15	K KH	167 167	EDRN EDRN	315S4 315S4	1910 1870	697 698
24	27300	60.74	130900	1.30						
29	23200	51.77	129800	1.50						
35	19200	42.89	127700	1.80						
41	16400	36.61	125300	2.1						
46	14400	32.25	123100	2.4						
52	12900	28.77	120900	2.7						
61	11000	24.52	117600	3.2						
73	9130	20.32	113500	3.8	K KF KA KAF	157 157 157 157	EDRN EDRN EDRN EDRN	315S4 315S4 315S4 315S4	1520 1590 1480 1540	690 691 693 691
86	7790	17.34	109900	4.5						
39	17000	38.02	63500	1.15						
62	10700	23.95	64300	1.85						
70	9570	21.31	63900	2.1						
81	8250	18.37	63100	2.4						
100	6700	14.92	61500	3.0						
118	5680	12.65	60100	3.3						

P _m = 84 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
17	47500	88.00	149500	1.10	K KH	187 187	EDRN EDRN	315M4 315M4	2510 2450	699 700
20	39900	73.96	149900	1.35						
23	34600	64.04	149300	1.55						
28	28800	53.36	147400	1.85						
33	24500	45.50*	145000	2.2						
35	22900	42.51	143800	2.3						
38	20800	38.57	141900	2.5						
45	17900	33.23	138800	3.0						
53	15000	27.92	134800	3.5						
61	13000	24.18	131200	3.9						
74	10800	20.15	126500	4.5						
86	9280	17.18	122300	5.0						
29	27900	51.77	121300	1.25	K KH	167 167	EDRN EDRN	315M4 315M4	1930 1890	697 698
35	23100	42.89	120600	1.50						
41	19700	36.61	119300	1.75						
46	17400	32.25	117800	2.0						
52	15500	28.77	116200	2.2						
61	13200	24.52	113600	2.6						
73	10900	20.32	110200	3.2						
86	9370	17.34	107100	3.7						
62	12900	23.95	59600	1.55	K KF KA KAF	157 157 157 157	EDRN EDRN EDRN EDRN	315M4 315M4 315M4 315M4	1540 1610 1500 1560	690 691 693 691
70	11500	21.31	59700	1.75						
81	9920	18.37	59400	2.0						
99	8060	14.92	58600	2.5						
117	6840	12.65	57600	2.7						

P _m = 110 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
20	52200	73.96	130800	1.00	K KH	187 187	EDRN EDRN	315H4 315H4	2760 2700	699 700
23	45200	64.04	132700	1.15						
28	37700	53.36	133600	1.40						
33	32100	45.50*	133200	1.65						
45	23400	33.23	130200	2.3						
53	19700	27.92	127500	2.7	K KH	167 167	EDRN EDRN	315H4 315H4	2180 2140	697 698
35	30300	42.89	107500	1.15						
41	25800	36.61	108100	1.35						
61	17300	24.52	106100	2.0						
73	14300	20.32	104000	2.4						
86	12200	17.34	101800	2.9						

P_m = 110 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
81	12900	18.37	52700	1.55	K	157	EDRN	315H4	1790	690
100	10500	14.92	53200	1.90	KF	157	EDRN	315H4	1860	691
117	8940	12.65	53000	2.1	KA	157	EDRN	315H4	1750	693
					KAF	157	EDRN	315H4	1810	691

10.4 Selection tables helical-worm gearmotors

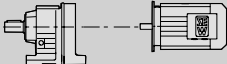
P _m = 17.5 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
53	2870	27.63	29000	1.05												
61	2510	24.13	28600	1.15												
69	2270	21.23	25200	1.15												
77	2050	19.23	25000	1.25												
86	1820	17.05	24800	1.40												
96	1650	15.42	24600	1.50												
113	1400	13.07	24200	1.65												
129	1230	11.41	23700	1.75												
154	1030	9.55	23100	1.95												
178	890	8.26	22500	2.0												
135	1160	10.93	17000	1.05							S	87	EDRN	180L4	245	730
163	960	9.07	16800	1.20							SF	87	EDRN	180L4	265	731
187	840	7.88	16500	1.20							SA	87	EDRN	180L4	245	732
											SAF	87	EDRN	180L4	260	731

11 Selection tables for motors > 15 kW, category 2G, T2 // EPL Gb

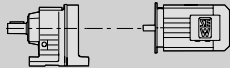
Category 2: 2G, T2

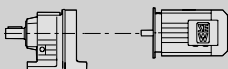
EPL Gb: 2G-b, T2

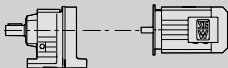
11.1 Selection tables helical gearmotors

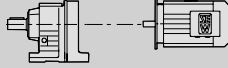
P _m = 17.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
8.7	17600	169	120000	1.15	R	167R107	EDRN	180M4	940	526
					RF	167R107	EDRN	180M4	950	526
					RM	167R107	EDRN	180M4	1140	526
8.8	17800	168	120000	1.10	R	167R107	EDRN	180M4	930	526
					RF	167R107	EDRN	180M4	940	526
					RM	167R107	EDRN	180M4	1130	526
9.6	17300	153.07	120000	1.15	R RF RM	167	EDRN	180M4	770	523
11	15800	139.98	120000	1.25						
12	13700	121.81*	120000	1.45						
14	12100	107.49	120000	1.65						
16	10500	93.19	120000	1.90						
18	9380	82.91*	120000	2.1						
20	8340	73.70*	120000	2.4						
22	7630	67.40	120000	2.6						
25	6640	58.65	120000	3.0						
29	5850	51.76	120000	3.4						
33	5080	44.87	120000	3.7						
37	4510	39.92	120000	4.0						
43	3890	34.41	120000	4.5						
39	4270	37.74	120000	2.4	R	167	EDRN	180M4	760	523
48	3470	30.71	120000	3.4	RF	167	EDRN	180M4	770	524
					RM	167	EDRN	180M4	960	524
14	12300	109.31	63900	1.05	R RF RM	147	EDRN	180M4	520	521
16	10700	94.60*	66700	1.20						
18	9450	83.47	68500	1.40						
20	8160	72.09	70100	1.60						
22	7580	66.99	70700	1.70						
24	6910	61.09	71400	1.85						
28	5980	52.87	72200	2.1						
32	5280	46.65	72700	2.3						
37	4560	40.29	73200	2.6						
41	4030	35.64	73500	2.9						
49	3390	29.95	73800	3.3						
61	2730	24.19	74100	3.9						
23	7380	65.20	54600	1.10	R RF RM	137	EDRN	180M4	390	519
25	6690	59.17*	55900	1.20						
29	5750	50.86*	57400	1.35						
33	5020	44.39	58400	1.50						
39	4260	37.65	59200	1.70						
45	3720	32.91	59800	1.90						
53	3150	27.83	60200	2.2						
50	3340	29.57*	60100	2.3	R RF RM	137	EDRN	180M4	380	519
61	2730	24.12	60500	2.7						
67	2490	22.00*	60700	3.0						
78	2150	19.04*	60900	3.4						
88	1900	16.80*	61000	3.8						
102	1640	14.51	61100	4.4						
115	1450	12.83	61200	5.0						
35	4780	42.22*	43000	1.10	R	127	EDRN	180M4	365	517
40	4170	36.88	43000	1.25	RF	127	EDRN	180M4	375	518
48	3490	30.84	43000	1.45	RM	127	EDRN	180M4	470	518

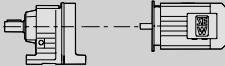
P _m = 17.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
57	2940	26.04*	43000	1.90	R RF RM	127 127 127	EDRN EDRN EDRN	180M4 180M4 180M4	345 370 465	517 518 518
62	2670	23.65	43000	2.0						
70	2370	20.98	43000	2.3						
78	2150	19.04	43000	2.5						
90	1850	16.37*	43000	2.8						
103	1610	14.29	43000	3.2						
122	1370	12.12	43000	3.7						
139	1190	10.59	43000	4.2						
165	1010	8.96	43000	4.8						
197	850	7.51	43000	4.6						
42	3990	35.26	22400	1.05	R	107	EDRN	180M4	305	515
50	3330	29.49	21800	1.20	RF RM	107 107	EDRN EDRN	180M4 180M4	310 400	516 516
59	2810	24.90*	21200	1.55	R RF RM	107 107 107	EDRN EDRN EDRN	180M4 180M4 180M4	300 305 395	515 516 516
65	2560	22.62	20800	1.70						
74	2270	20.07	20300	1.90						
81	2060	18.21	19900	2.1						
94	1770	15.65	19200	2.4						
108	1540	13.66	18600	2.8						
127	1310	11.59	17900	3.3						
146	1140	10.13	17300	3.8						
172	960	8.56	16500	4.4						
188	880	7.86	16400	3.3						
222	750	6.66	15600	3.9						
253	655	5.82	15000	4.5						
91	1830	16.17	14600	1.10	R RF RM	97 97 97	EDRN EDRN EDRN	180M4 180M4 180M4	245 265 315	513 514 514
101	1650	14.62	14400	1.20						
119	1400	12.39	14000	1.40						
136	1220	10.83	13600	1.55						
159	1050	9.29	13500	1.55						
176	950	8.39	13200	1.70						
207	800	7.12	12600	1.90						
238	700	6.21	12200	2.1						
284	585	5.20	11600	2.4						
328	505	4.50*	11100	2.7						
180	930	8.22	10400	1.00	R	87	EDRN	180M4	205	510
207	800	7.13	10100	1.15	RF	87	EDRN	180M4	215	511
231	720	6.39	9840	1.25	RM	87	EDRN	180M4	245	511
278	600	5.30*	9400	1.40						
351	475	4.20*	7810	1.60	RX RXF	107 107	EDRN EDRN	180M4 180M4	245 260	484 485
387	430	3.81	7660	1.85						
436	380	3.38	7480	2.2						
481	345	3.07	7320	2.4						
559	295	2.64*	7060	2.8						
641	260	2.30	6840	3.2						
755	220	1.95	6560	3.5						
864	193	1.71	6330	3.6						
1020	163	1.44	6050	3.9						
405	410	3.64*	4650	1.45	RX RXF	97 97	EDRN EDRN	180M4 180M4	215 220	482 483
448	370	3.30	4900	1.60						
505	330	2.92	5160	1.80						
558	295	2.64	5310	2.0						
659	250	2.24*	5420	2.4						
754	220	1.96	5400	2.6						
902	185	1.64	5160	2.7						
1040	160	1.42	4970	2.8						
535	310	2.76*	1030	1.30	RX RXF	87 87	EDRN EDRN	180M4 180M4	190 195	480 481
595	280	2.48	1370	1.40						
685	240	2.15	1730	1.55						
765	215	1.93	1960	1.65						
922	181	1.60*	2200	1.75						
1060	157	1.39	2420	1.85						

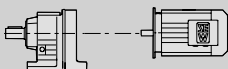
P _m = 27 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
16	16200	93.19	120000	1.25						
18	14400	82.91*	120000	1.40						
20	12800	73.70*	120000	1.55						
22	11700	67.40	120000	1.70						
25	10200	58.65	120000	1.95						
29	9020	51.76	120000	2.2						
33	7820	44.87	120000	2.4						
37	6960	39.92	120000	2.6						
43	6000	34.41	120000	2.9						
53	4870	27.96	120000	3.4						
62	4130	23.71	120000	3.8						
48	5350	30.71	120000	2.2	R RF RM	167 167 167	EDRN EDRN EDRN	200L4 200L4 200L4	880 890 1090	523 524 524
60	4280	24.57	120000	3.8						
68	3810	21.85	120000	4.3						
78	3320	19.03	120000	4.9						
20	12500	72.09	63500	1.05	R RF RM	147 147 147	EDRN EDRN EDRN	200L4 200L4 200L4	640 650 820	521 522 522
22	11600	66.99	65100	1.10						
24	10600	61.09	66800	1.20						
28	9220	52.87	68800	1.35						
32	8130	46.65	70100	1.50						
37	7020	40.29	71300	1.70						
41	6210	35.64	72000	1.90						
49	5220	29.95	72800	2.2						
61	4210	24.19	73400	2.6						
72	3560	20.44	73800	3.4	R RF RM	147 147 147	EDRN EDRN EDRN	200L4 200L4 200L4	630 640 810	521 522 522
82	3140	18.04	73900	3.3						
95	2720	15.64	74100	4.8						
39	6560	37.65	56100	1.10	R RF RM	137 137 137	EDRN EDRN EDRN	200L4 200L4 200L4	510 540 650	519 520 520
45	5740	32.91	57400	1.25						
53	4850	27.83	58600	1.40						
61	4200	24.12	59300	1.80	R RF RM	137 137 137	EDRN EDRN EDRN	200L4 200L4 200L4	500 530 640	519 520 520
67	3830	22.00*	59700	1.90						
78	3320	19.04*	60100	2.2						
88	2930	16.80*	60400	2.5						
102	2530	14.51	60600	2.9						
115	2230	12.83	59500	3.2						
137	1880	10.79	57500	3.9						
170	1510	8.71	55100	4.8						
195	1320	7.59	53900	3.9						
232	1110	6.38	51700	4.6						
70	3660	20.98	43000	1.45	R RF RM	127 127 127	EDRN EDRN EDRN	200L4 200L4 200L4	470 495 590	517 518 518
78	3320	19.04	43000	1.60						
90	2850	16.37*	43000	1.85						
103	2490	14.29	43000	2.1						
122	2110	12.12	43000	2.4						
140	1840	10.59	43000	2.7						
165	1560	8.96	43000	3.1						
197	1310	7.51	43000	3.0						
225	1140	6.56	43000	3.4						
266	960	5.55	43000	4.0						
74	3500	20.07	18200	1.25	R RF RM	107 107 107	EDRN EDRN EDRN	200L4 200L4 200L4	425 430 520	515 516 516
81	3170	18.21	18000	1.35						
94	2730	15.65	17600	1.55						
108	2380	13.66	17200	1.80						
128	2020	11.59	16700	2.1						
146	1760	10.13	16200	2.4						
173	1490	8.56	15600	2.9						
188	1370	7.86	15700	2.2						
222	1160	6.66	15000	2.6						
254	1010	5.82	14500	2.9						
300	850	4.92	13900	3.4						

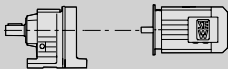
P _m = 27 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
137	1880	10.83	12200	1.00	R	97	EDRN	200L4	370	513
159	1610	9.29	12600	1.00						
176	1460	8.39	12300	1.10						
208	1240	7.12	11900	1.25						
238	1080	6.21	11500	1.35						
284	900	5.20	11100	1.55						
328	785	4.50*	10700	1.75	RF	97	EDRN	200L4	390	514
					RM	97	EDRN	200L4	440	514
437	590	3.38	4500	1.40	RX	107	EDRN	200L4	370	484
481	535	3.07	4810	1.55						
560	460	2.64*	5160	1.80						
641	400	2.30	5410	2.1						
756	340	1.95	5580	2.2						
865	295	1.71	5650	2.4						
1025	250	1.44	5640	2.6	RXF	107	EDRN	200L4	385	485
506	505	2.92	1160	1.15	RX	97	EDRN	200L4	335	482
559	460	2.64	1610	1.30						
660	390	2.24*	2140	1.50						
755	340	1.96	2560	1.65						
903	285	1.64	2870	1.75						
1045	245	1.42	3060	1.85						

P _m = 33 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
18	17600	82.91*	120000	1.15	R RF RM	167 167 167	EDRN EDRN EDRN	225S4 225S4 225S4	920 930 1120	523 524 524
20	15600	73.70*	120000	1.30						
22	14300	67.40	120000	1.40						
25	12400	58.65	120000	1.60						
29	11000	51.76	120000	1.80						
33	9540	44.87	120000	2.0						
37	8490	39.92	120000	2.1						
43	7320	34.41	120000	2.4						
53	5940	27.96	120000	2.8						
62	5040	23.71	120000	3.1						
48	6530	30.71	120000	1.80	R RF RM	167 167 167	EDRN EDRN EDRN	225S4 225S4 225S4	910 920 1120	523 524 524
60	5220	24.57	120000	3.1						
68	4640	21.85	120000	3.5						
78	4050	19.03	120000	4.0						
87	3610	16.98	120000	4.5						
28	11200	52.87	65800	1.10	R RF RM	147 147 147	EDRN EDRN EDRN	225S4 225S4 225S4	670 680 850	521 522 522
32	9920	46.65	67900	1.25						
37	8570	40.29	69600	1.40						
42	7580	35.64	70700	1.55						
49	6370	29.95	71900	1.75						
61	5140	24.19	72800	2.1						
72	4340	20.44	73300	2.8	R RF RM	147 147 147	EDRN EDRN EDRN	225S4 225S4 225S4	660 670 840	521 522 522
82	3830	18.04	73600	2.7						
95	3320	15.64	73900	3.9						
106	2960	13.91	74000	4.3						
45	7000	32.91	55400	1.00	R RF RM	137 137 137	EDRN EDRN EDRN	225S4 225S4 225S4	550 570 680	519 520 520
53	5920	27.83	57100	1.15						
61	5130	24.12	58200	1.45	R RF RM	137 137 137	EDRN EDRN EDRN	225S4 225S4 225S4	540 560 670	519 520 520
67	4680	22.00*	58800	1.55						
78	4050	19.04*	59400	1.80						
88	3570	16.80*	59200	2.0						
102	3080	14.51	58200	2.4						
115	2730	12.83	57200	2.6						
137	2290	10.79	55600	3.1						
170	1850	8.71	53500	3.9						
195	1610	7.59	52600	3.2						
232	1350	6.38	50700	3.8						
287	1090	5.15	48300	4.2						

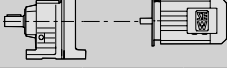
P _m = 33 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
71	4460	20.98	43000	1.20	R	127	EDRN	225S4	500	517						
78	4050	19.04	43000	1.30												
90	3480	16.37*	43000	1.50												
104	3030	14.29	43000	1.70												
122	2570	12.12	43000	1.95												
140	2250	10.59	43000	2.2												
165	1900	8.96	43000	2.6												
197	1590	7.51	43000	2.5												
226	1390	6.56	43000	2.8	RF	127	EDRN	225S4	520	518						
267	1180	5.55	43000	3.3												
74	4260	20.07	16900	1.00							R	107	EDRN	225S4	455	515
81	3870	18.21	16800	1.10												
95	3330	15.65	16600	1.30												
108	2900	13.66	16300	1.50												
128	2460	11.59	15900	1.75												
146	2150	10.13	15600	2.0												
173	1820	8.56	15100	2.4												
189	1670	7.86	15200	1.80	RF	107	EDRN	225S4	460	516						
222	1410	6.66	14700	2.1												
254	1230	5.82	14200	2.4												
301	1040	4.92	13600	2.8												
208	1510	7.12	11400	1.00							RM	107	EDRN	225S4	550	516
238	1320	6.21	11100	1.10												
285	1100	5.20	10700	1.30												
329	950	4.50*	10400	1.45												
438	720	3.38	2190	1.15	RX	107	EDRN	225S4	400	484						
482	650	3.07	2680	1.25												
561	560	2.64*	3270	1.50												
643	490	2.30	3700	1.70												
758	415	1.95	4060	1.85												
867	360	1.71	4270	1.95												
1025	305	1.44	4520	2.1												
661	475	2.24*	73	1.25							RXF	97	EDRN	225S4	370	482
757	415	1.96	700	1.35												
905	345	1.64	1220	1.45												
1045	300	1.42	1560	1.50												

P _m = 40 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
22	17300	67.40	120000	1.15	R RF RM	167	EDRN	225M4	920	523
25	15100	58.65	120000	1.30						
29	13300	51.76	120000	1.50						
33	11500	44.87	120000	1.65						
37	10200	39.92	120000	1.75						
43	8860	34.41	120000	1.95						
53	7200	27.96	120000	2.3						
62	6110	23.71	120000	2.6						
48	7910	30.71	120000	1.50	R RF RM	167	EDRN	225M4	910	523
60	6330	24.57	120000	2.6						
68	5630	21.85	120000	2.9						
78	4900	19.03	120000	3.3						
87	4370	16.98	120000	3.7						
102	3730	14.48	120000	4.4						
32	12000	46.65	64500	1.00	R RF RM	147	EDRN	225M4	670	521
37	10300	40.29	67200	1.15						
42	9180	35.64	68900	1.25						
49	7710	29.95	70600	1.45						
61	6230	24.19	72000	1.75						

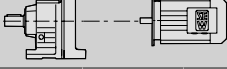
P _m = 40 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
73	5260	20.44	72800	2.3	R RF RM	147 147 147	EDRN EDRN EDRN	225M4 225M4 225M4	660 670 840	521 522 522
82	4640	18.04	73200	2.3						
95	4030	15.64	73500	3.2						
107	3580	13.91	73700	3.5						
124	3090	11.99	74000	4.2						
204	1860	7.25	74400	4.6						
61	6210	24.12	56000	1.20	R RF RM	137 137 137	EDRN EDRN EDRN	225M4 225M4 225M4	540 560 670	519 520 520
67	5670	22.00*	56100	1.30						
78	4900	19.04*	56100	1.50						
88	4330	16.80*	55800	1.70						
102	3730	14.51	55200	1.95						
115	3300	12.83	54600	2.2						
137	2770	10.79	53400	2.6						
170	2240	8.71	51700	3.2						
195	1950	7.59	51200	2.6						
232	1640	6.38	49500	3.1						
288	1320	5.15	47300	3.5						
78	4900	19.04	43000	1.10	R RF RM	127 127 127	EDRN EDRN EDRN	225M4 225M4 225M4	500 520 620	517 518 518
91	4210	16.37*	43000	1.25						
104	3680	14.29	43000	1.40						
122	3120	12.12	43000	1.60						
140	2720	10.59	43000	1.85						
165	2300	8.96	43000	2.1						
197	1930	7.51	43000	2.0						
226	1690	6.56	43000	2.3						
267	1430	5.55	43000	2.7						
95	4030	15.65	15400	1.05	R RF RM	107 107 107	EDRN EDRN EDRN	225M4 225M4 225M4	455 460 550	515 516 516
108	3520	13.66	15300	1.20						
128	2980	11.59	15000	1.45						
146	2610	10.13	14800	1.65						
173	2200	8.56	14400	1.95						
189	2020	7.86	14700	1.45						
222	1710	6.66	14200	1.75						
254	1500	5.82	13800	2.0						
301	1260	4.92	13300	2.3						
483	790	3.07	186	1.05	RX RXF	107 107	EDRN EDRN	225M4 225M4	400 420	484 485
561	680	2.64*	1050	1.20						
643	590	2.30	1710	1.40						
758	500	1.95	2290	1.50						
868	440	1.71	2650	1.60						
1025	370	1.44	3090	1.75						

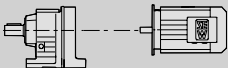
P _m = 50 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
29	16600	51.76	120000	1.20	R RF RM	167 167 167	EDRN EDRN EDRN	250M4 250M4 250M4	1070	523
33	14400	44.87	120000	1.30					1080	524
37	12800	39.92	120000	1.40					1270	524
43	11000	34.41	120000	1.55						
53	9000	27.96	120000	1.80						
63	7630	23.71	120000	2.1						
60	7900	24.57	120000	2.1	R RF RM	167 167 167	EDRN EDRN EDRN	250M4 250M4 250M4	1070	523
68	7030	21.85	120000	2.3					1070	524
78	6120	19.03	120000	2.7					1270	524
87	5460	16.98	120000	3.0						
102	4660	14.48	120000	3.5						
124	3860	11.99	120000	4.2						
42	11400	35.64	65500	1.00	R RF RM	147 147 147	EDRN EDRN EDRN	250M4 250M4 250M4	820	521
50	9640	29.95	68300	1.15					830	522
61	7780	24.19	70500	1.40					1000	522

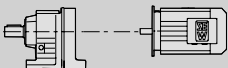
P_m = 50 kW

n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
73	6580	20.44	71700	1.80	R RF RM	147	EDRN	250M4	810	521
82	5800	18.04	72400	1.80						
95	5030	15.64	72900	2.6						
107	4470	13.91	73300	2.8						
124	3860	11.99	73600	3.4						
152	3130	9.74	73900	4.1						
179	2660	8.26	74100	4.7						
205	2330	7.25	74200	3.7						
252	1890	5.89	73000	4.5	R RF RM	137	EDRN	250M4	690	519
78	6130	19.04*	49800	1.20						
88	5400	16.80*	51000	1.35						
102	4670	14.51	51000	1.55						
116	4130	12.83	50900	1.75						
138	3470	10.79	50300	2.1						
170	2800	8.71	49200	2.6						
195	2440	7.59	49100	2.1						
232	2050	6.38	47700	2.5	R RF RM	127	EDRN	250M4	650	517
288	1650	5.15	45900	2.8						
104	4590	14.29	43000	1.10						
122	3900	12.12	43000	1.30						
140	3410	10.59	43000	1.45						
166	2880	8.96	43000	1.70						
197	2410	7.51	43000	1.65						
226	2110	6.56	43000	1.85						
267	1780	5.55	43000	2.1	R RF RM	127	EDRN	250M4	670	518

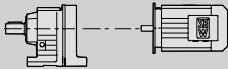
P_m = 68 kW

n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
37	17400	39.92	120000	1.05	R RF RM	167	EDRN	280M4	1240	523
43	15000	34.41	120000	1.15						
53	12200	27.96	120000	1.35						
62	10300	23.71	120000	1.50						
68	9570	21.85	120000	1.70	R RF RM	167	EDRN	280M4	1230	523
78	8330	19.03	120000	1.95						
87	7440	16.98	120000	2.2						
102	6340	14.48	120000	2.6						
124	5250	11.99	118000	3.1						
145	4480	10.24	114000	3.7	R RF RM	147	EDRN	280M4	990	521
61	10500	24.19	66900	1.00						
73	8950	20.44	69200	1.35						
82	7900	18.04	70400	1.35						
95	6850	15.64	71500	1.90						
107	6090	13.91	72100	2.1	R RF RM	147	EDRN	280M4	970	521
124	5250	11.99	72800	2.5						
152	4260	9.74	73400	3.0						
179	3620	8.26	73700	3.5						
204	3170	7.25	73900	2.7						
252	2580	5.89	70900	3.3	R RF RM	137	EDRN	280M4	850	519
297	2180	5.00	68300	3.8						
102	6350	14.51	39700	1.15						
115	5620	12.83	42700	1.30						
137	4720	10.79	44700	1.55						
170	3810	8.71	44700	1.90	R RF RM	137	EDRN	280M4	870	520
195	3320	7.59	44700	1.55						
232	2790	6.38	44600	1.85						
288	2250	5.15	43400	2.0						

P_m = 80 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
53	14300	27.96	118900	1.15	R	167	EDRN	315S4	1480	523
63	12100	23.71	120000	1.30	RF	167	EDRN	315S4	1490	524
					RM	167	EDRN	315S4	1680	524
78	9770	19.03	120000	1.70	R	167	EDRN	315S4	1470	523
88	8720	16.98	120000	1.85						
103	7430	14.48	119700	2.2						
124	6160	11.99	115500	2.7						
145	5250	10.24	111800	3.1	RF	167	EDRN	315S4	1480	524
					RM	167	EDRN	315S4	1680	524

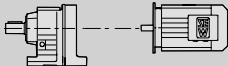
P_m = 100 kW										
n_a min⁻¹	M_a Nm	i	F_{Ra}¹⁾ N	SEW f_B					m kg	
63	15200	23.71	103200	1.05	R	167	EDRN	315M4	1500	523
					RF	167	EDRN	315M4	1510	524
					RM	167	EDRN	315M4	1700	524
78	12200	19.03	109500	1.35	R	167	EDRN	315M4	1490	523
87	10900	16.98	111600	1.50						
103	9310	14.48	113300	1.75						
124	7710	11.99	111400	2.1						
145	6580	10.24	108300	2.5	RF	167	EDRN	315M4	1500	524
					RM	167	EDRN	315M4	1700	524

11.2 Selection tables parallel-shaft helical gearmotors

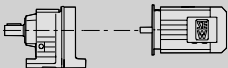
P _m = 17.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
10	16000	141.80*	105600	1.25	FA FAF F FF	157 157 157 157	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	780 840 800 910	598 596 595 596
12	14100	125.14	109900	1.40						
14	12200	108.49	113600	1.60						
15	10900	96.53*	112500	1.80						
17	9710	85.80*	110200	2.0						
19	8880	78.46	108400	2.2						
22	7730	68.28*	105600	2.6						
24	6820	60.25	102900	2.9						
28	5910	52.24	99900	3.3						
32	5260	46.48*	97300	3.6						
37	4530	40.06	94100	4.0						
45	3680	32.55	89500	4.6						
34	4970	43.94*	96100	2.4	FA FAF F FF	157 157 157 157	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	770 830 790 900	598 596 595 596
41	4040	35.75*	91600	3.4						
52	3230	28.60*	86700	4.9						
15	11200	98.95	83100	1.05	FA FAF F FF	127 127 127 127	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	520 560 560 600	591 589 588 589
17	9880	87.31*	82200	1.20						
20	8530	75.41*	80800	1.40						
21	7930	70.07	80000	1.50						
23	7230	63.91	79000	1.65						
27	6260	55.31	77200	1.85						
30	5520	48.80	75500	2.0						
35	4770	42.15	73500	2.2						
40	4220	37.28	71700	2.4						
47	3540	31.33	69100	2.8						
58	2860	25.30	65900	3.3						
55	3040	26.86	66800	2.8	FA FAF F FF	127 127 127 127	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	510 550 550 590	591 589 588 589
60	2780	24.57	65500	3.1						
69	2420	21.38	63400	3.8						
78	2130	18.87	61500	4.2						
90	1850	16.36	59400	4.9						
22	7650	67.62	49900	1.00	FA FAF F FF	107 107 107 107	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	380 400 395 425	584 582 581 582
25	6580	58.12*	49700	1.15						
29	5740	50.73	49200	1.35						
34	4870	43.03	48400	1.60						
39	4250	37.61	47600	1.80						
46	3600	31.80	46500	2.0						
44	3820	33.79*	46900	1.90	FA FAF F FF	107 107 107 107	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	370 390 385 415	584 582 581 582
54	3120	27.57	45400	2.2						
59	2840	25.14	44700	2.4						
68	2460	21.76*	43500	2.7						
77	2170	19.20*	42400	3.1						
89	1870	16.58	41100	3.5						
101	1660	14.67	40000	4.0						
120	1390	12.33	38500	4.6						
54	3100	27.44*	21500	1.40	FA FAF F FF	97 97 97 97	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	300 320 305 340	576 575 574 575
59	2820	24.92	21500	1.50						
67	2500	22.11	21400	1.65						
74	2270	20.07	21200	1.80						
86	1950	17.25*	20900	2.1						
98	1700	15.06	20500	2.3						
116	1440	12.77	20000	2.6						
132	1260	11.16	19600	2.9						
163	1020	9.06	18300	2.2						
179	930	8.22	18000	2.3						
209	800	7.07	17400	2.6						
239	695	6.17	16900	2.8						
282	590	5.23	16300	3.2						
323	515	4.57	15800	3.4						
382	435	3.87	15100	3.9						

Selection tables for motors > 15 kW, category 2G, T2 // EPL Gb

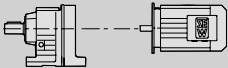
Selection tables parallel-shaft helical gearmotors

P _m = 17.5 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
69	2410	21.32*	11400	1.05	FA FAF F FF	87 87 87 87	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	235 250 245 260	569 568 567 568						
76	2180	19.31	11600	1.15												
86	1930	17.12	11800	1.25												
95	1750	15.48	11900	1.40												
112	1480	13.12*	11900	1.60												
129	1290	11.46	11900	1.85												
154	1080	9.58	11700	2.2												
178	930	8.29	11100	1.60												
201	830	7.35	11000	1.80												
222	750	6.65	10900	1.95												
262	635	5.63	10600	2.1												
300	555	4.92	10400	2.4												
359	465	4.12	10000	2.6												
P _m = 27 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
15	16800	96.53*	100600	1.20	FA FAF F FF	157 157 157 157	EDRN EDRN EDRN EDRN	200L4 200L4 200L4 200L4	900 960 920 1030	598 596 595 596						
17	14900	85.80*	99700	1.35												
19	13600	78.46	98800	1.45												
22	11900	68.28*	97200	1.65												
25	10500	60.25	95500	1.90												
28	9110	52.24	93400	2.2												
32	8100	46.48*	91600	2.3												
37	6980	40.06	89100	2.6												
45	5670	32.55	85500	3.0												
54	4810	27.60	82600	3.5												
41	6230	35.75*	87200	2.2							FA FAF F FF	157 157 157 157	EDRN EDRN EDRN EDRN	200L4 200L4 200L4 200L4	900 950 920 1020	598 596 595 596
52	4980	28.60*	83200	3.2												
58	4430	25.43	81100	3.6												
67	3860	22.16	78600	4.1												
75	3440	19.77	76500	4.5												
23	11100	63.91	69800	1.10	FA FAF F FF	127 127 127 127	EDRN EDRN EDRN EDRN	200L4 200L4 200L4 200L4	650 690 680 730	591 589 588 589						
27	9640	55.31	69200	1.20												
30	8510	48.80	68500	1.30												
35	7350	42.15	67400	1.45												
40	6500	37.28	66300	1.60												
47	5460	31.33	64600	1.80												
58	4410	25.30	62300	2.1												
55	4680	26.86	62900	1.80	FA FAF F FF	127 127 127 127	EDRN EDRN EDRN EDRN	200L4 200L4 200L4 200L4	640 670 670 720	591 589 588 589						
60	4280	24.57	61900	2.0												
69	3720	21.38	60300	2.5												
78	3290	18.87	58800	2.8												
90	2850	16.36	57000	3.2												
102	2530	14.55	55500	3.5												
118	2180	12.54	53700	4.1												
167	1540	8.86	49100	4.3												
187	1370	7.88	47700	4.4												
34	7500	43.03	41400	1.00							FA FAF F FF	107 107 107 107	EDRN EDRN EDRN EDRN	200L4 200L4 200L4 200L4	500 530 520 550	584 582 581 582
39	6560	37.61	41500	1.15												
46	5540	31.80	41300	1.30												
54	4800	27.57	40900	1.45	FA FAF F FF	107 107 107 107	EDRN EDRN EDRN EDRN	200L4 200L4 200L4 200L4	495 520 510 540	584 582 581 582						
59	4380	25.14	40600	1.55												
68	3790	21.76*	39900	1.80												
77	3340	19.20*	39300	2.0												
89	2890	16.58	38400	2.3												
101	2550	14.67	37600	2.6												
120	2150	12.33	36500	3.0												
148	1730	9.96	34900	3.6												
177	1460	8.37	33300	3.3												
200	1290	7.40	32400	3.6												
238	1080	6.22	31200	4.2												

P_m = 27 kW

n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
67	3850	22.11	16600	1.10	FA FAF F FF	97	EDRN	200L4	425	576
74	3500	20.07	16900	1.15						
86	3000	17.25*	17200	1.35						
98	2620	15.06	17300	1.50						
116	2220	12.77	17300	1.70						
132	1940	11.16	17200	1.85						
163	1580	9.06	16100	1.40						
180	1430	8.22	15900	1.50						
209	1230	7.07	15700	1.65						
240	1070	6.17	15400	1.85						
282	910	5.23	15000	2.0	FA FAF F FF	87	EDRN	200L4	360	569
323	795	4.57	14600	2.2						
382	670	3.87	14200	2.5						
113	2280	13.12*	8800	1.05						
129	1990	11.46	9140	1.20						
154	1670	9.58	9430	1.45						
201	1280	7.35	9070	1.20						
222	1150	6.65	9120	1.25						
262	980	5.63	9120	1.40						
300	850	4.92	9060	1.55						
359	715	4.12	8920	1.70						

P_m = 33 kW

n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
19	16600	78.46	92700	1.20	FA FAF F FF	157	EDRN	225S4	930	598
22	14500	68.28*	91900	1.35						
25	12800	60.25	90900	1.55						
28	11100	52.24	89400	1.75						
32	9880	46.48*	88000	1.90						
37	8520	40.06	86000	2.1						
46	6920	32.55	83000	2.5						
54	5870	27.60	80400	2.8	FA FAF F FF	157	EDRN	225S4	1060	596
41	7600	35.75*	84400	1.80						
52	6080	28.60*	81000	2.6						
58	5410	25.43	79100	2.9						
67	4710	22.16	76800	3.4						
75	4200	19.77	75000	3.7						
88	3580	16.85	72300	4.3						
30	10300	48.80	64100	1.10	FA FAF F FF	127	EDRN	225S4	680	591
35	8960	42.15	63600	1.20						
40	7930	37.28	63000	1.30						
47	6660	31.33	61800	1.50						
59	5380	25.30	60000	1.75						
55	5710	26.86	60500	1.50	FA FAF F FF	127	EDRN	225S4	670	591
60	5220	24.57	59700	1.65						
69	4540	21.38	58300	2.0						
78	4010	18.87	57000	2.3						
91	3480	16.36	55500	2.6						
102	3090	14.55	54200	2.9						
118	2660	12.54	52500	3.4						
145	2160	10.19	50100	4.2						
167	1880	8.86	48200	3.6						
188	1670	7.88	46900	3.6	FA FAF F FF	107	EDRN	225S4	540	584
218	1440	6.80	45300	4.4						
47	6760	31.80	38000	1.05						

P _m = 40 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
22	17500	68.28*	85800	1.15	FA FAF F FF	157 157 157 157	EDRN EDRN EDRN EDRN	225M4 225M4 225M4 225M4	930 990 950 1060	598 596 595 596
25	15500	60.25	85400	1.30						
28	13400	52.24	84700	1.45						
32	11900	46.48*	83800	1.60						
37	10300	40.06	82400	1.75						
46	8380	32.55	80000	2.0						
54	7110	27.60	77900	2.3						
41	9210	35.75*	81200	1.50	FA FAF F FF	157 157 157 157	EDRN EDRN EDRN EDRN	225M4 225M4 225M4 225M4	930 990 950 1050	598 596 595 596
52	7370	28.60*	78400	2.2						
58	6550	25.43	76800	2.4						
67	5710	22.16	74800	2.8						
75	5090	19.77	73200	3.1						
88	4340	16.85	70800	3.6						
106	3590	13.96	67900	4.3						
40	9600	37.28	59000	1.05	FA FAF F FF	127 127 127 127	EDRN EDRN EDRN EDRN	225M4 225M4 225M4 225M4	680 720 720 760	591 589 588 589
47	8070	31.33	58500	1.25						
59	6520	25.30	57300	1.45						
55	6920	26.86	57700	1.25	FA FAF F FF	127 127 127 127	EDRN EDRN EDRN EDRN	225M4 225M4 225M4 225M4	670 710 700 750	591 589 588 589
60	6330	24.57	57100	1.35						
69	5510	21.38	56100	1.65						
79	4860	18.87	55000	1.85						
91	4210	16.36	53800	2.1						
102	3750	14.55	52700	2.4						
118	3230	12.54	51200	2.8						
145	2620	10.19	49100	3.4						
167	2280	8.86	47200	3.0						
188	2030	7.88	46000	3.0						
218	1750	6.80	44500	3.6						
268	1420	5.52	42400	4.2						
317	1200	4.68	40700	4.7						

P_m = 40 kW

n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
59	6480	25.14	35000	1.05						
68	5600	21.76*	35100	1.20						
77	4940	19.20*	35000	1.35						
89	4270	16.58	34700	1.55						
101	3780	14.67	34300	1.75	FA	107	EDRN	225M4	530	584
120	3170	12.33	33700	2.0	FAF	107	EDRN	225M4	550	582
149	2560	9.96	32700	2.5	F	107	EDRN	225M4	540	581
177	2150	8.37	31200	2.2	FF	107	EDRN	225M4	570	582
200	1900	7.40	30500	2.4						
238	1600	6.22	29600	2.9						
295	1290	5.03	28400	3.5						

P_m = 50 kW

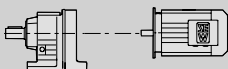
n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
28	16800	52.24	78000	1.15	FA	157	EDRN	250M4	1080	598
32	14900	46.48*	77800	1.25	FAF	157	EDRN	250M4	1140	596
37	12800	40.06	77200	1.40	F	157	EDRN	250M4	1110	595
46	10400	32.55	75900	1.65	FF	157	EDRN	250M4	1210	596
54	8880	27.60	74400	1.85						
52	9200	28.60*	74700	1.75	FA	157	EDRN	250M4	1080	598
58	8180	25.43	73500	1.95	FAF	157	EDRN	250M4	1140	596
67	7130	22.16	72000	2.2	F	157	EDRN	250M4	1100	595
75	6360	19.77	70600	2.5	FF	157	EDRN	250M4	1210	596
88	5420	16.85	68600	2.9						
106	4490	13.96	66100	3.5						
124	3830	11.92	63900	4.1						
59	8140	25.30	53500	1.15	FA	127	EDRN	250M4	830	591
					FAF	127	EDRN	250M4	870	589
					F	127	EDRN	250M4	870	588
					FF	127	EDRN	250M4	910	589
69	6880	21.38	52900	1.35						
79	6070	18.87	52200	1.50						
91	5260	16.36	51300	1.70						
102	4680	14.55	50500	1.95	FA	127	EDRN	250M4	820	591
118	4030	12.54	49300	2.2	FAF	127	EDRN	250M4	850	589
146	3280	10.19	47500	2.8	F	127	EDRN	250M4	850	588
167	2850	8.86	45800	2.4	FF	127	EDRN	250M4	900	589
188	2530	7.88	44800	2.4						
218	2180	6.80	43400	2.9						
269	1770	5.52	41500	3.4						
317	1500	4.68	39900	3.8						
77	6180	19.20*	31700	1.10						
89	5330	16.58	31900	1.25	FA	107	EDRN	250M4	670	584
101	4720	14.67	31800	1.40	FAF	107	EDRN	250M4	690	582
120	3960	12.33	31600	1.65	F	107	EDRN	250M4	690	581
149	3200	9.96	31000	1.95	FF	107	EDRN	250M4	720	582
177	2690	8.37	29600	1.80						
200	2380	7.40	29100	1.95						
238	2000	6.22	28400	2.3						
295	1610	5.03	27400	2.8						

P_m = 68 kW

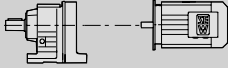
n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
37	17500	40.06	68000	1.05	FA	157	EDRN	280M4	1250	598
46	14200	32.55	68300	1.20	FAF	157	EDRN	280M4	1310	596
54	12000	27.60	68000	1.35	F	157	EDRN	280M4	1270	595
					FF	157	EDRN	280M4	1380	596

Selection tables for motors > 15 kW, category 2G, T2 // EPL Gb

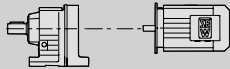
Selection tables parallel-shaft helical gearmotors

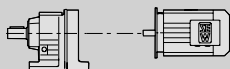
P _m = 68 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
52	12500	28.60*	68100	1.30	FA FAF F FF	157	EDRN	280M4	1240	598
58	11100	25.43	67600	1.45						
67	9700	22.16	66900	1.65						
75	8660	19.77	66100	1.80						
88	7380	16.85	64700	2.1						
106	6110	13.96	62900	2.5						
124	5220	11.92	61200	3.0						
79	8260	18.87	47100	1.10	FA FAF F FF	127	EDRN	280M4	980	591
91	7160	16.36	46900	1.25						
102	6370	14.55	46500	1.40						
118	5490	12.54	45900	1.65						
145	4460	10.19	44800	2.0						
167	3880	8.86	43200	1.75						
188	3450	7.88	42500	1.75						
218	2970	6.80	41400	2.1						
268	2410	5.52	39900	2.5						
317	2050	4.68	38600	2.8						

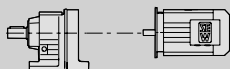
P _m = 80 kW															
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg						
46	16700	32.55	63300	1.00	FA FAF F FF	157	EDRN	315S4	1490	598					
54	14100	27.60	63700	1.15											
														1550	596
														1510	595
									1620	596					
67	11300	22.16	63400	1.40	FA FAF F FF	157	EDRN	315S4	1490	598					
75	10100	19.77	63000	1.55											
88	8650	16.85	62100	1.80											
106	7170	13.96	60700	2.2											
125	6120	11.92	59300	2.5											
														1550	596
								1510	595						
									1610	596					

P _m = 100 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
67	14200	22.16	57800	1.10	FA FAF F FF	157	EDRN	315M4	1510	598
75	12700	19.77	57900	1.25						
88	10800	16.85	57800	1.45						
106	8980	13.96	57100	1.75						
125	7660	11.92	56300	2.0						

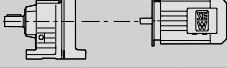
11.3 Selection tables helical-bevel gearmotors

P _m = 17.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
3.2	47800	454	190000	1.10	K KH	187R107 187R107	EDRN EDRN	180M4 180M4	1950 1880	703 703
4.2	37000	355	190000	1.45						
5.7	27500	261	190000	1.90						
6.7	23300	221	190000	2.3						
7.6	20300	193	190000	2.6						
9.0	17100	163	190000	3.1						
5.3	29200	278	150000	1.20	K KH	167R107 167R107	EDRN EDRN	180M4 180M4	1370 1330	703 703
6.0	25400	244	150000	1.40						
6.9	22100	213	150000	1.60						
7.2	21600	206	150000	1.60						
8.2	18600	180	150000	1.85						
9.2	16800	160	150000	2.1						
11	14200	135	150000	2.5						
12	12400	118	150000	2.8						
9.4	16400	157	112900	1.20	K KF KA KAF	157R107 157R107 157R107 157R107	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	980 1050 940 1000	703 703 703 703
12	12800	122	114400	1.55						
14	11200	107	113400	1.80						
8.2	20300	179.86	190000	2.6	K KH	187 187	EDRN EDRN	180M4 180M4	1780 1710	699 700
8.9	18700	165.21	190000	2.8						
10	16300	144.59	190000	3.2						
11	14600	129.69	190000	3.6						
13	12700	112.60	190000	4.2						
14	11500	102.16	190000	4.6						
11	15200	134.99	150000	2.3	K KH	167 167	EDRN EDRN	180M4 180M4	1200 1160	697 698
13	12400	109.83	150000	2.8						
17	9940	87.86	150000	3.5						
19	8840	78.14	150000	4.0						
22	7700	68.07	150000	4.5						
24	6870	60.74	150000	5.1						
12	13800	122.39	113300	1.45	K KF KA KAF	157 157 157 157	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	800 880 770 820	690 691 693 691
15	11300	100.22	110400	1.75						
16	10300	91.65	109000	1.95						
19	9020	79.75	106600	2.2						
21	7960	70.38	104200	2.5						
24	6900	61.02	101500	2.9						
27	6140	54.29	99100	3.2						
32	5290	46.79	96100	3.8						
39	4300	38.02	91700	4.7						
13	12400	110.18	79500	1.05	K KF KA KAF	127 127 127 127	EDRN EDRN EDRN EDRN	180M4 180M4 180M4 180M4	570 610 540 580	683 684 686 684
16	10100	89.89	80500	1.30						
18	9280	81.98	79800	1.40						
21	8030	70.95*	78600	1.60						
24	7080	62.60	77300	1.85						
27	6120	54.07	75600	2.1						
31	5410	47.82	74100	2.4						
37	4550	40.19	71800	2.9						
41	4100	36.25	70400	3.2						
47	3550	31.37	68400	3.7						
53	3130	27.68	66600	4.2						
62	2700	23.91	64400	4.8						

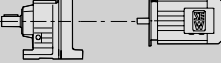
P _m = 17.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
26	6470	57.17*	47500	1.10	K KF KA KAF	107	EDRN	180M4	415	676
30	5650	49.90	47600	1.20						
35	4790	42.33*	47000	1.40						
40	4180	37.00*	46400	1.60						
45	3690	32.69	45700	1.95						
47	3540	31.28*	45400	1.85						
51	3280	29.00	44900	2.2						
56	2970	26.32	44200	2.4						
65	2560	22.62	43100	2.8						
75	2230	19.74	42000	3.2						
88	1890	16.75	40700	3.7						
101	1650	14.64	39600	4.1						
110	1520	13.43	38100	2.8						
126	1320	11.73	37000	3.2						
148	1120	9.94	35700	3.7						
170	980	8.69	34600	4.1						
201	830	7.35	33300	4.3						
48	3480	30.82	26700	1.25	K KF KA KAF	97	EDRN	180M4	300	669
53	3150	27.91	26700	1.35						
60	2800	24.75	26600	1.55						
66	2530	22.37	26400	1.70						
78	2140	18.96	26100	2.0						
89	1870	16.56	25700	2.3						
107	1560	13.85	25100	2.7						
123	1350	11.99	24500	2.9						
142	1170	10.41	23000	2.3						
170	980	8.71	22400	2.7						
196	850	7.54	21800	2.8						
76	2200	19.45	16800	1.05	K KF KA KAF	87	EDRN	180M4	240	662
85	1970	17.42	16800	1.10						
102	1630	14.45	16800	1.30						
118	1420	12.56	16700	1.40						
132	1260	11.17	15700	1.10						
148	1130	10.00	15600	1.20						
178	930	8.29	15400	1.40						
205	810	7.21	15200	1.55						

P _m = 27 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
5.7	42600	261	190000	1.25	K KH	187R107	EDRN	200L4	2080	703
6.7	36000	221	190000	1.45						
7.6	31400	193	190000	1.70						
9.0	26500	163	190000	2.0						
8.2	28900	180	150000	1.20	K KH	167R107	EDRN	200L4	1490	703
9.3	26000	160	150000	1.35						
11	22000	135	150000	1.60						
12	19200	118	150000	1.80						
14	17400	107	99800	1.15	K KF KA KAF	157R107	EDRN	200L4	1100	703
8.2	31300	179.86	190000	1.70						
8.9	28800	165.21	190000	1.85						
10	25200	144.59	190000	2.1						
11	22600	129.69	190000	2.3	K KH	187	EDRN	200L4	1900	699
13	19600	112.60	190000	2.7						
14	17800	102.16	190000	3.0						
17	15300	88.00	190000	3.5						
20	12900	73.96	190000	4.1						
23	11100	64.04	185800	4.7						
187	187	187	187	187						
1830	1830	1830	1830	1830						

P_m = 27 kW

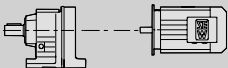
n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
13	19100	109.83	150000	1.85	K KH	167 167	EDRN EDRN	200L4 200L4	1320 1280	697 698
17	15300	87.86	150000	2.3						
19	13600	78.14	150000	2.6						
22	11800	68.07	150000	3.0						
24	10500	60.74	150000	3.3						
29	9030	51.77	150000	3.9						
34	7480	42.89	149600	4.7	K KF KA KAF	157 157 157 157	EDRN EDRN EDRN EDRN	200L4 200L4 200L4 200L4	930 1000 890 950	690 691 693 691
15	17400	100.22	96900	1.15						
16	15900	91.65	96600	1.25						
19	13900	79.75	95800	1.45						
21	12200	70.38	94700	1.65						
24	10600	61.02	93200	1.90						
27	9470	54.29	91800	2.1						
32	8160	46.79	89700	2.5						
39	6630	38.02	86600	3.0						
47	5460	31.30	83400	3.5						
54	4810	27.62	81300	4.2						
62	4170	23.95	78900	4.8	K KF KA KAF	127 127 127 127	EDRN EDRN EDRN EDRN	200L4 200L4 200L4 200L4	690 730 660 700	683 684 686 684
69	3710	21.31	76900	5.4						
21	12300	70.95*	67600	1.05						
24	10900	62.60	67700	1.20						
27	9430	54.07	67300	1.40						
31	8340	47.82	66700	1.55						
37	7010	40.19	65600	1.85						
41	6320	36.25	64800	2.1						
47	5470	31.37	63500	2.4						
53	4820	27.68	62300	2.7						
62	4160	23.91	60700	3.1						
70	3680	21.15	59400	3.5						
83	3090	17.77	57400	4.2						
103	2500	14.35	54800	4.8						
116	2220	12.79	52600	3.7	K KF KA KAF	107 107 107 107	EDRN EDRN EDRN EDRN	200L4 200L4 200L4 200L4	540 550 510 540	676 677 679 677
138	1870	10.74	50600	4.3						
170	1510	8.68	48200	4.8						
40	6450	37.00*	38200	1.05						
47	5450	31.28*	39300	1.20						
51	5050	29.00	39600	1.40						
56	4580	26.32	39500	1.55						
65	3940	22.62	39000	1.85						
75	3440	19.74	38500	2.1						
88	2920	16.75	37700	2.4						
101	2550	14.64	36900	2.6						
110	2340	13.43	35200	1.85	K KF KA KAF	97 97 97 97	EDRN EDRN EDRN EDRN	200L4 200L4 200L4 200L4	425 445 405 430	669 670 672 670
126	2040	11.73	34500	2.1						
149	1730	9.94	33600	2.4						
170	1510	8.69	32800	2.6						
201	1280	7.35	31700	2.8						
60	4310	24.75	21300	1.00						
66	3900	22.37	21700	1.10						
78	3300	18.96	22000	1.30						
89	2880	16.56	22100	1.50						
107	2410	13.85	22100	1.75						
123	2090	11.99	21900	1.85	K KF KA KAF	87 87 87 87	EDRN EDRN EDRN EDRN	200L4 200L4 200L4 200L4	365 375 350 365	662 663 665 663
142	1810	10.41	20400	1.50						
170	1510	8.71	20100	1.75						
196	1310	7.54	19900	1.85						
205	1250	7.21	13100	1.00						

P _m = 33 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
6.7	44000	221	190000	1.20	K KH	187R107	EDRN	225S4	2110	703
7.7	38400	193	190000	1.40		187R107	EDRN	225S4	2040	703
9.1	32400	163	190000	1.65						
9.3	31800	160	150000	1.10	K KH	167R107	EDRN	225S4	1530	703
11	26900	135	150000	1.30		167R107	EDRN	225S4	1490	703
13	23500	118	150000	1.50						
8.2	38200	179.86	190000	1.40	K KH	187 187	EDRN EDRN	225S4 225S4	1930 1870	699 700
9.0	35100	165.21	190000	1.50						
10	30700	144.59	190000	1.70						
11	27500	129.69	190000	1.90						
13	23900	112.60	190000	2.2						
14	21700	102.16	190000	2.4						
17	18700	88.00	190000	2.8						
20	15700	73.96	187500	3.4						
23	13600	64.04	181800	3.9						
28	11300	53.36	174600	4.7						
13	23300	109.83	150000	1.50	K KH	167 167	EDRN EDRN	225S4 225S4	1350 1310	697 698
17	18600	87.86	150000	1.85						
19	16600	78.14	150000	2.1						
22	14400	68.07	150000	2.4						
24	12900	60.74	150000	2.7						
29	11000	51.77	150000	3.2						
35	9120	42.89	146500	3.8						
40	7780	36.61	141400	4.5						
46	6860	32.25	137200	5.1						
19	16900	79.75	89000	1.20	K KF KA KAF	157 157 157 157	EDRN EDRN EDRN EDRN	225S4 225S4 225S4 225S4	960 1040 920 980	690 691 693 691
21	14900	70.38	88800	1.35						
24	12900	61.02	88000	1.55						
27	11500	54.29	87200	1.75						
32	9950	46.79	85700	2.0						
39	8080	38.02	83300	2.5						
47	6660	31.30	80700	2.9						
54	5870	27.62	78900	3.4						
62	5090	23.95	76800	3.9						
70	4530	21.31	75000	4.4						
81	3900	18.37	72700	5.1						
27	11500	54.07	62000	1.15	K KF KA KAF	127 127 127 127	EDRN EDRN EDRN EDRN	225S4 225S4 225S4 225S4	720 770 700 730	683 684 686 684
31	10100	47.82	62100	1.30						
37	8550	40.19	61700	1.50						
41	7710	36.25	61300	1.70						
47	6670	31.37	60500	1.95						
54	5880	27.68	59600	2.2						
62	5080	23.91	58400	2.6						
70	4490	21.15	57300	2.9						
83	3780	17.77	55600	3.4						
103	3050	14.35	53400	4.0						
116	2710	12.79	51100	3.1						
138	2280	10.74	49400	3.5						
171	1840	8.68	47200	3.9						
51	6160	29.00	34700	1.15						
56	5590	26.32	35500	1.30						
65	4810	22.62	36300	1.50						
75	4190	19.74	36200	1.70						
88	3560	16.75	35800	1.95						
101	3110	14.64	35200	2.2						
110	2850	13.43	33500	1.50						
126	2490	11.73	33000	1.70						
149	2110	9.94	32300	1.95						
170	1840	8.69	31600	2.2						
202	1560	7.35	30700	2.3						

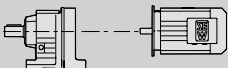
P _m = 33 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
78	4030	18.96	19500	1.05	K KF KA KAF	97	EDRN	225S4	455	669
89	3520	16.56	19900	1.20						
107	2940	13.85	20200	1.45						
124	2550	11.99	20300	1.50						
142	2210	10.41	18700	1.25						
170	1850	8.71	18700	1.45						
196	1600	7.54	18600	1.50						

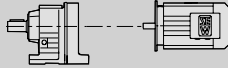
P _m = 40 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
7.7	46600	193	190000	1.15	K	187R107	EDRN	225M4	2110	703						
9.1	39400	163	190000	1.35	KH	187R107	EDRN	225M4	2040	703						
13	28500	118	150000	1.25	K	167R107	EDRN	225M4	1530	703						
					KH	167R107	EDRN	225M4	1490	703						
8.2	46300	179.86	190000	1.15	K	187	EDRN	225M4	1930	699						
9.0	42500	165.21	190000	1.25												
10	37200	144.59	190000	1.40												
11	33400	129.69	190000	1.60												
13	29000	112.60	190000	1.85												
15	26300	102.16	190000	2.0												
17	22600	88.00	188100	2.3												
20	19000	73.96	182400	2.8												
23	16500	64.04	177400	3.2												
28	13700	53.36	170800	3.9												
33	11700	45.50*	165000	4.5												
35	10900	42.51	162500	4.8												
13	28300	109.83	150000	1.25	KH	167	EDRN	225M4	1350	697						
17	22600	87.86	150000	1.55												
19	20100	78.14	150000	1.75												
22	17500	68.07	150000	2.0												
24	15600	60.74	150000	2.2												
29	13300	51.77	148200	2.6												
35	11000	42.89	142900	3.2												
40	9430	36.61	138300	3.7												
46	8310	32.25	134600	4.2												
52	7410	28.77	131200	4.7												
24	15700	61.02	82000	1.25							K	157	EDRN	225M4	960	690
27	13900	54.29	81800	1.45												
32	12000	46.79	81100	1.65												
39	9790	38.02	79600	2.0												
47	8060	31.30	77600	2.4												
54	7110	27.62	76200	2.8												
62	6170	23.95	74400	3.2												
70	5490	21.31	72900	3.6												
81	4730	18.37	70900	4.2												
99	3840	14.92	67900	5.2												
31	12300	47.82	56700	1.05	KF	127	EDRN	225M4	720	683						
37	10300	40.19	57200	1.25												
41	9340	36.25	57200	1.40												
47	8080	31.37	56900	1.60												
54	7130	27.68	56400	1.80												
62	6160	23.91	55700	2.1												
70	5440	21.15	54900	2.4												
83	4570	17.77	53600	2.8												
103	3690	14.35	51800	3.3												
116	3290	12.79	49400	2.5												
138	2760	10.74	48000	2.9												
171	2230	8.68	46000	3.2												

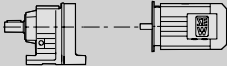
P_m = 40 kW

n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
56	6780	26.32	29800	1.05						
66	5820	22.62	31700	1.25						
75	5080	19.74	32700	1.40						
89	4310	16.75	33500	1.60	K	107	EDRN	225M4	570	676
101	3770	14.64	33300	1.80	KF	107	EDRN	225M4	580	677
110	3460	13.43	31400	1.25	KA	107	EDRN	225M4	540	679
126	3020	11.73	31200	1.40	KAF	107	EDRN	225M4	570	677
149	2560	9.94	30700	1.60						
171	2230	8.69	30300	1.80						
202	1890	7.35	29600	1.90						

P_m = 50 kW

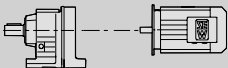
n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
10	46500	144.59	187000	1.15						
11	41700	129.69	186100	1.25						
13	36200	112.60	184200	1.45						
15	32800	102.16	182500	1.60						
17	28300	88.00	179300	1.85						
20	23800	73.96	175000	2.2	K	187	EDRN	250M4	2080	699
23	20600	64.04	170900	2.6	KH	187	EDRN	250M4	2020	700
28	17100	53.36	165500	3.1						
33	14600	45.50*	160400	3.6						
35	13600	42.51	158200	3.9						
38	12400	38.57	155000	4.3						
45	10600	33.23	150000	5.0						
17	28200	87.86	150000	1.25						
19	25100	78.14	149200	1.40						
22	21900	68.07	147200	1.60						
24	19500	60.74	145300	1.80						
29	16600	51.77	142100	2.1	K	167	EDRN	250M4	1500	697
35	13800	42.89	137800	2.5	KH	167	EDRN	250M4	1460	698
41	11700	36.61	134000	3.0						
46	10300	32.25	130700	3.4						
52	9260	28.77	127700	3.8						
60	7890	24.52	123500	4.4						
73	6540	20.32	118400	5.3						
27	17400	54.29	74100	1.15						
32	15000	46.79	74500	1.35						
39	12200	38.02	74200	1.65						
47	10000	31.30	73200	1.90	K	157	EDRN	250M4	1110	690
54	8890	27.62	72300	2.2	KF	157	EDRN	250M4	1190	691
62	7710	23.95	71000	2.6	KA	157	EDRN	250M4	1070	693
70	6860	21.31	69900	2.9	KAF	157	EDRN	250M4	1130	691
81	5910	18.37	68300	3.4						
99	4800	14.92	65800	4.1						
117	4070	12.65	63700	4.6						
37	12900	40.19	50700	1.00						
47	10000	31.37	51800	1.30						
54	8910	27.68	52000	1.45						
62	7690	23.91	51800	1.70	K	127	EDRN	250M4	870	683
70	6800	21.15	51500	1.90	KF	127	EDRN	250M4	920	684
83	5720	17.77	50700	2.3	KA	127	EDRN	250M4	850	686
103	4620	14.35	49400	2.6	KAF	127	EDRN	250M4	880	684
116	4110	12.79	47100	2.0						
138	3450	10.74	46000	2.3						
171	2790	8.68	44400	2.6						
75	6350	19.74	26700	1.15						
89	5390	16.75	28600	1.30	K	107	EDRN	250M4	720	676
101	4710	14.64	29600	1.45	KF	107	EDRN	250M4	730	677
127	3770	11.73	28600	1.15	KA	107	EDRN	250M4	690	679
149	3200	9.94	28500	1.30	KAF	107	EDRN	250M4	720	677
171	2790	8.69	28300	1.45						
202	2360	7.35	28000	1.50						

P _m = 68 kW																
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg							
13	49300	112.60	164000	1.05	K	187	EDRN	280M4	2250	699						
15	44700	102.16	164200	1.20												
17	38500	88.00	163500	1.35												
20	32400	73.96	161700	1.65												
23	28000	64.04	159500	1.90												
28	23300	53.36	155900	2.3												
33	19900	45.50*	152300	2.7												
35	18600	42.51	150600	2.9												
38	16900	38.57	148100	3.1												
45	14500	33.23	144100	3.6												
53	12200	27.92	139200	4.3	KH	187	EDRN	280M4	2180	700						
61	10500	24.18	135100	4.8												
74	8820	20.15	129800	5.6												
22	29800	68.07	132800	1.15							K	167	EDRN	280M4	1670	697
24	26600	60.74	132400	1.30												
29	22600	51.77	131100	1.55												
35	18700	42.89	128700	1.85												
40	16000	36.61	126200	2.2												
46	14100	32.25	123900	2.5												
52	12600	28.77	121700	2.8												
60	10700	24.52	118300	3.3												
73	8900	20.32	114100	3.9												
85	7590	17.34	110400	4.6	KH	167	EDRN	280M4	1630	698						
39	16600	38.02	64500	1.20												
47	13700	31.30	65300	1.40												
54	12100	27.62	65300	1.65												
62	10400	23.95	65000	1.90												
70	9330	21.31	64500	2.1												
81	8040	18.37	63600	2.5												
99	6530	14.92	62000	3.0												
117	5540	12.65	60500	3.4							K	157	EDRN	280M4	1270	690
54	12100	27.62	65300	1.65												
62	10400	23.95	65000	1.90												
70	9330	21.31	64500	2.1												
81	8040	18.37	63600	2.5												
99	6530	14.92	62000	3.0												
117	5540	12.65	60500	3.4												
54	12100	27.68	43900	1.05	KF	157	EDRN	280M4	1350	691						
62	10400	23.91	44900	1.25												
70	9260	21.15	45300	1.40												
83	7780	17.77	45600	1.65												
103	6280	14.35	45300	1.90												
116	5600	12.79	42800	1.50												
138	4700	10.74	42400	1.70												
171	3800	8.68	41500	1.90												
54	12100	27.68	43900	1.05							KA	157	EDRN	280M4	1230	693
62	10400	23.91	44900	1.25												
70	9260	21.15	45300	1.40												
83	7780	17.77	45600	1.65												
103	6280	14.35	45300	1.90												
116	5600	12.79	42800	1.50												
138	4700	10.74	42400	1.70												
171	3800	8.68	41500	1.90												
54	12100	27.68	43900	1.05	KAF	157	EDRN	280M4	1290	691						
62	10400	23.91	44900	1.25												
70	9260	21.15	45300	1.40												
83	7780	17.77	45600	1.65												
103	6280	14.35	45300	1.90												
116	5600	12.79	42800	1.50												
138	4700	10.74	42400	1.70												
171	3800	8.68	41500	1.90												
54	12100	27.68	43900	1.05							K	127	EDRN	280M4	1040	683
62	10400	23.91	44900	1.25												
70	9260	21.15	45300	1.40												
83	7780	17.77	45600	1.65												
103	6280	14.35	45300	1.90												
116	5600	12.79	42800	1.50												
138	4700	10.74	42400	1.70												
171	3800	8.68	41500	1.90												
54	12100	27.68	43900	1.05	KF	127	EDRN	280M4	1080	684						
62	10400	23.91	44900	1.25												
70	9260	21.15	45300	1.40												
83	7780	17.77	45600	1.65												
103	6280	14.35	45300	1.90												
116	5600	12.79	42800	1.50												
138	4700	10.74	42400	1.70												
171	3800	8.68	41500	1.90												
54	12100	27.68	43900	1.05							KA	127	EDRN	280M4	1010	686
62	10400	23.91	44900	1.25												
70	9260	21.15	45300	1.40												
83	7780	17.77	45600	1.65												
103	6280	14.35	45300	1.90												
116	5600	12.79	42800	1.50												
138	4700	10.74	42400	1.70												
171	3800	8.68	41500	1.90												
54	12100	27.68	43900	1.05	KAF	127	EDRN	280M4	1050	684						
62	10400	23.91	44900	1.25												
70	9260	21.15	45300	1.40												
83	7780	17.77	45600	1.65												
103	6280	14.35	45300	1.90												
116	5600	12.79	42800	1.50												
138	4700	10.74	42400	1.70												
171	3800	8.68	41500	1.90												

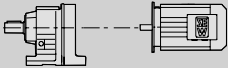
P _m = 80 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
17	45200	88.00	153000	1.15	K KH	187 187	EDRN EDRN	315S4 315S4	2490 2420	699 700
20	37900	73.96	152900	1.40						
23	32800	64.04	151800	1.60						
28	27400	53.36	149500	1.95						
33	23300	45.50*	146800	2.3						
35	21800	42.51	145500	2.4						
39	19800	38.57	143400	2.7						
45	17000	33.23	140100	3.1						
53	14300	27.92	135800	3.7						
62	12400	24.18	132100	4.1						
74	10300	20.15	127300	4.8	K KH	167 167	EDRN EDRN	315S4 315S4	1910 1870	697 698
87	8820	17.18	122900	5.3						
24	31200	60.74	123800	1.10						
29	26500	51.77	123700	1.30						
35	22000	42.89	122600	1.60						
41	18800	36.61	121000	1.85						
46	16500	32.25	119300	2.1						
52	14700	28.77	117500	2.4						
61	12500	24.52	114800	2.8						
73	10400	20.32	111200	3.4						
86	8900	17.34	107900	3.9						

27782913/EN – 02/2023

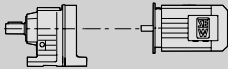
P_m = 80 kW

n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
62	12300	23.95	60900	1.65	K	157	EDRN	315S4	1520	690
70	10900	21.31	60900	1.85	KF	157	EDRN	315S4	1590	691
81	9430	18.37	60500	2.1	KA	157	EDRN	315S4	1480	693
100	7660	14.92	59400	2.6	KAF	157	EDRN	315S4	1540	691
118	6500	12.65	58300	2.9						

P_m = 100 kW

n_a min ⁻¹	M_a Nm	i	$F_{Ra}^{1)}$ N	SEW f_B					m kg	
20	47500	73.96	138100	1.10	K KH	187 187	EDRN EDRN	315M4 315M4	2510 2450	699 700
23	41200	64.04	139100	1.30						
28	34300	53.36	138900	1.55						
33	29200	45.50*	137800	1.80						
35	27300	42.51	137000	1.95						
38	24800	38.57	135800	2.1						
45	21300	33.23	133500	2.5						
53	17900	27.92	130300	2.9						
61	15500	24.18	127300	3.3	K KH	167 167	EDRN EDRN	315M4 315M4	1930 1890	697 698
74	12900	20.15	123300	3.8						
86	11000	17.18	119600	4.2						
35	27600	42.89	112500	1.25						
41	23500	36.61	112400	1.50						
46	20700	32.25	111700	1.70						
52	18500	28.77	110800	1.90	K KH	157 157	EDRN EDRN	315M4 315M4	1540 1610	690 691
61	15700	24.52	109000	2.2						
73	13000	20.32	106400	2.7						
86	11100	17.34	103900	3.1						
62	15400	23.95	54200	1.30						
70	13700	21.31	54900	1.45	KF	157	EDRN	315M4	1610	691
81	11800	18.37	55300	1.70	KA	157	EDRN	315M4	1500	693
99	9600	14.92	55300	2.1	KAF	157	EDRN	315M4	1560	691
117	8140	12.65	54800	2.3						

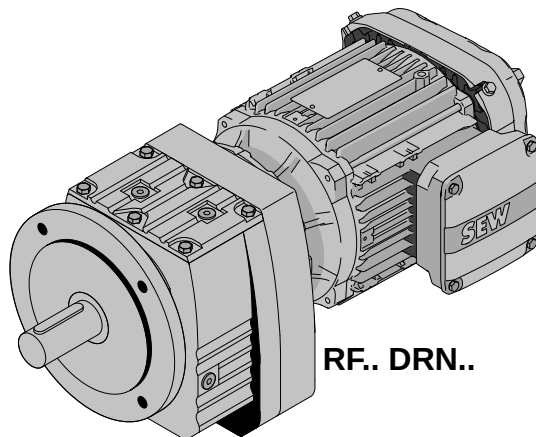
11.4 Selection tables for helical-worm gearmotors

P _m = 17.5 kW										
n _a min ⁻¹	M _a Nm	i	F _{Ra} ¹⁾ N	SEW f _B					m kg	
53	2860	27.63	29000	1.05						
61	2510	24.13	28600	1.15						
70	2260	21.23	25200	1.15						
77	2050	19.23	25000	1.25						
87	1820	17.05	24800	1.40						
96	1650	15.42	24600	1.50						
113	1400	13.07	24200	1.65						
129	1220	11.41	23700	1.75						
155	1020	9.55	23100	1.95						
179	890	8.26	22500	2.0						
135	1160	10.93	17000	1.05	S	87	EDRN	180M4	230	730
163	960	9.07	16800	1.20	SF	87	EDRN	180M4	250	731
187	840	7.88	16500	1.20	SA	87	EDRN	180M4	225	732
					SAF	87	EDRN	180M4	245	731

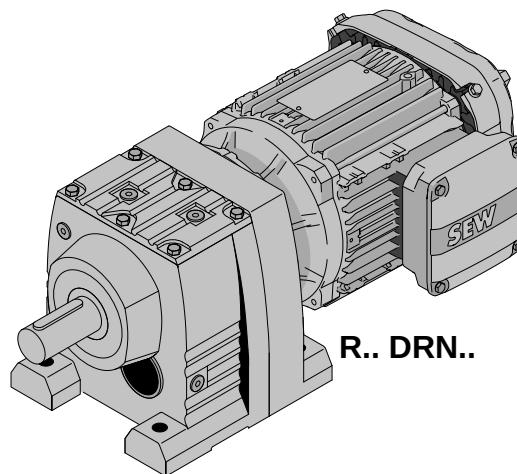
12 Dimension sheets of explosion-protected EDRN.. gearmotors

12.1 Helical gearmotors

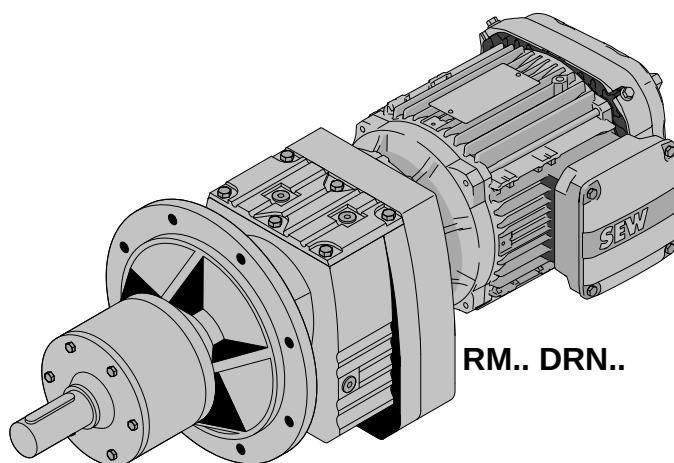
12.1.1 R..DRN.. designs



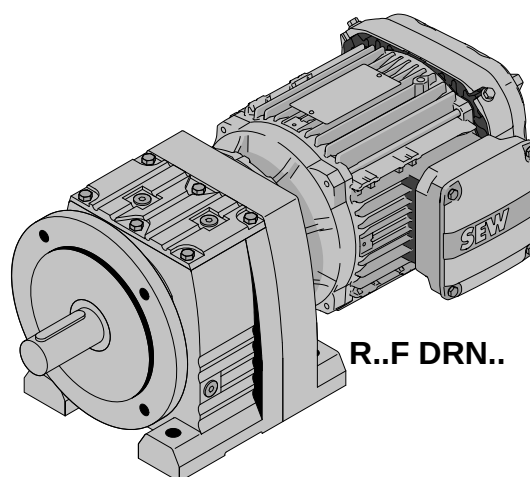
RF.. DRN..



R.. DRN..

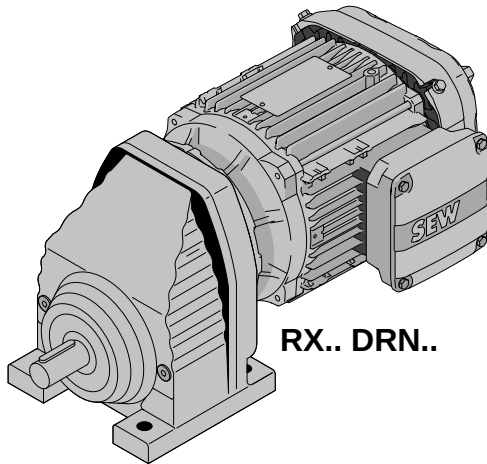


RM.. DRN..

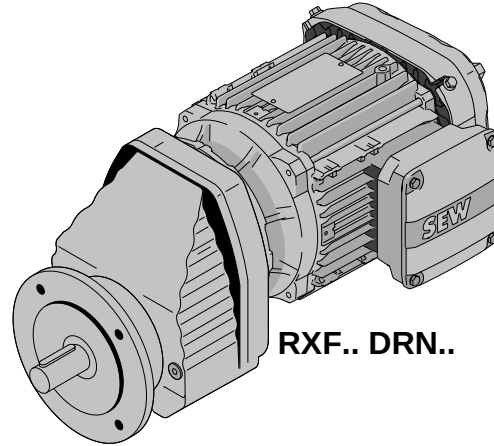


R..F DRN..

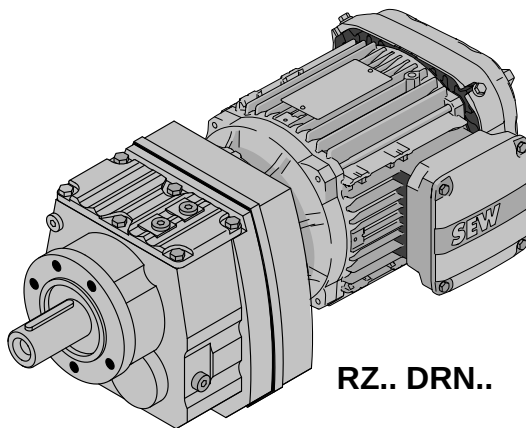
18014407163939083



RX.. DRN..



RXF.. DRN..

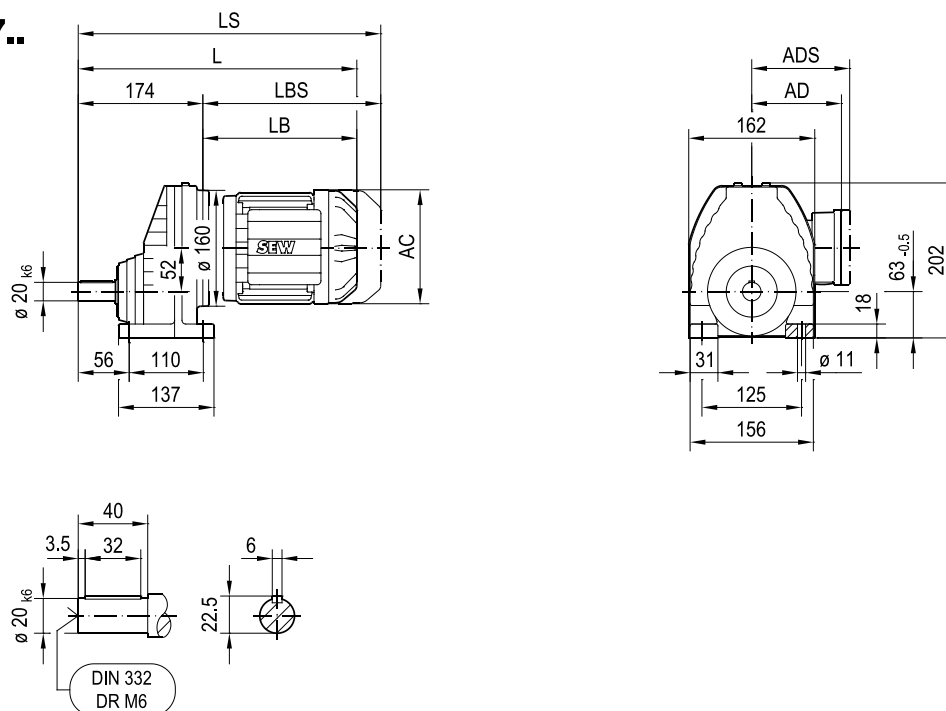


RZ.. DRN..

18014407471703307

12.1.2 R..EDRN.. /mm

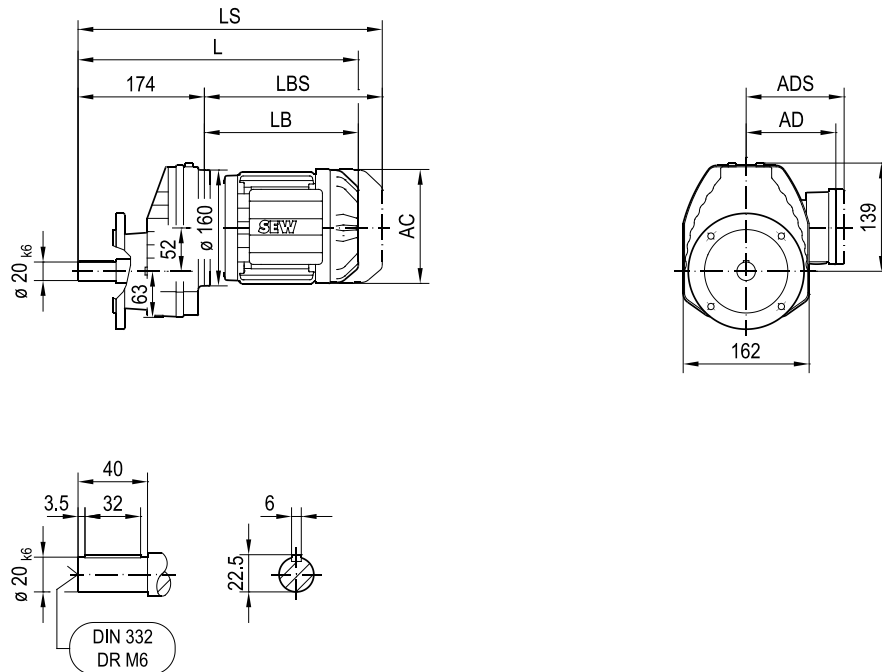
01 116 00 16

RX57..

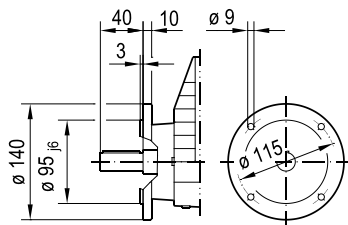
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	449	451	483	479	529	560	614	632
LS	530	544	576	573	623	672	726	770
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

01 117 00 16

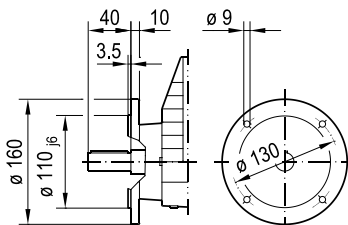
RXF57..



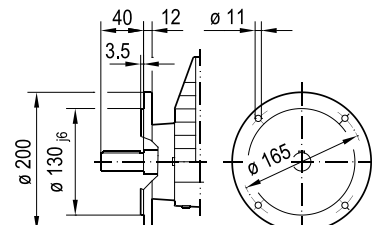
ø 140



ø 160

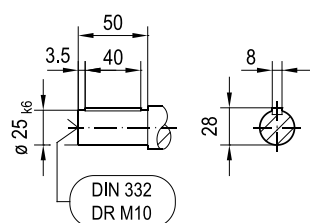
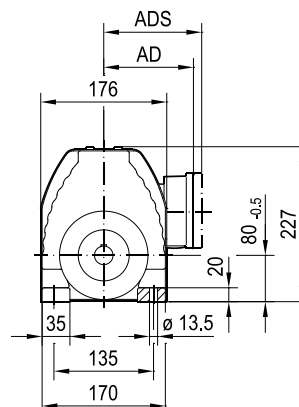
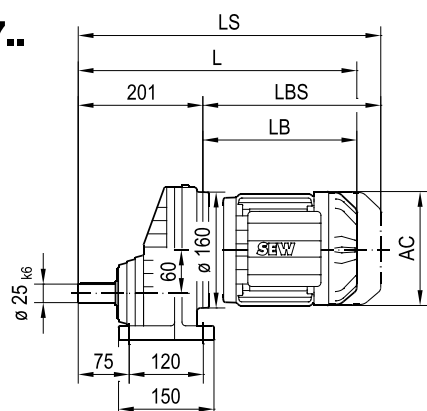


ø 200



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	449	451	483	479	529	560	614	632
LS	530	544	576	573	623	672	726	770
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

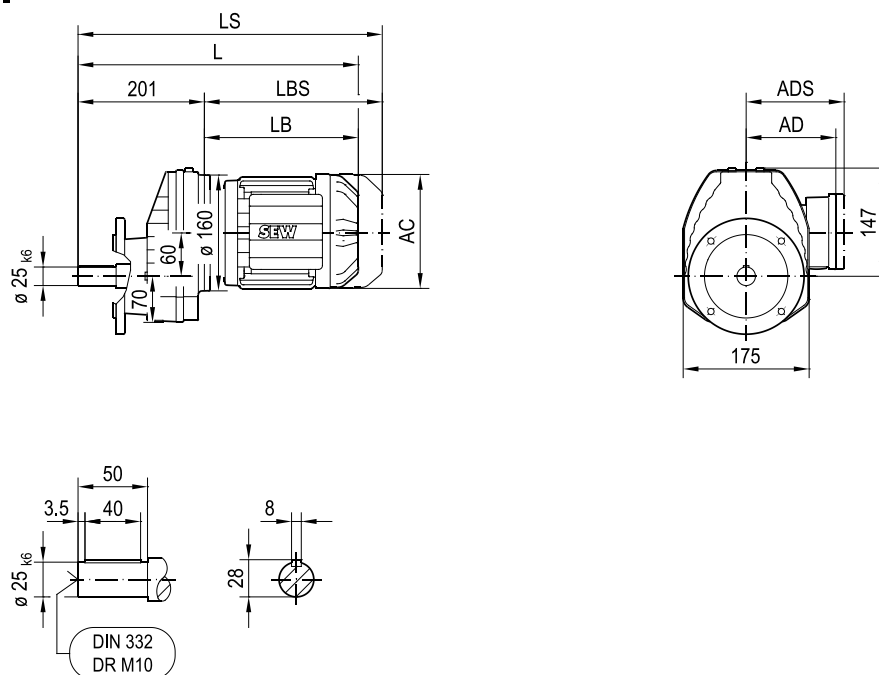
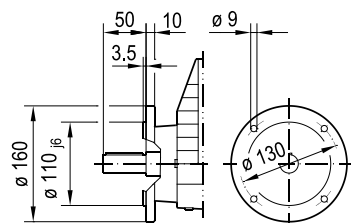
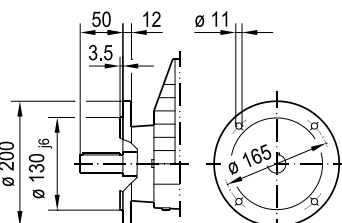
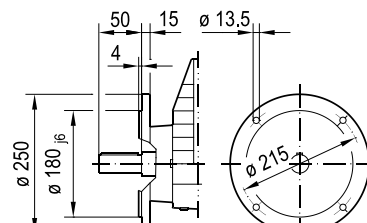
01 118 00 16

RX67..

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	476	478	510	506	556	587	641	659
LS	557	571	603	600	650	699	753	797
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

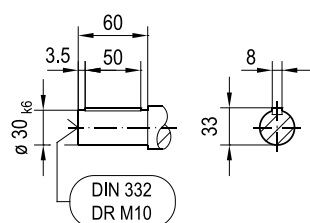
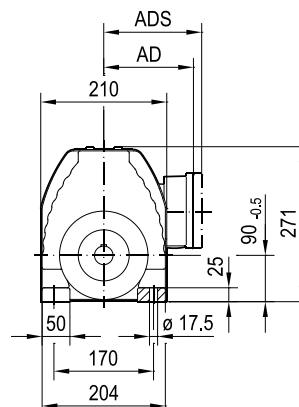
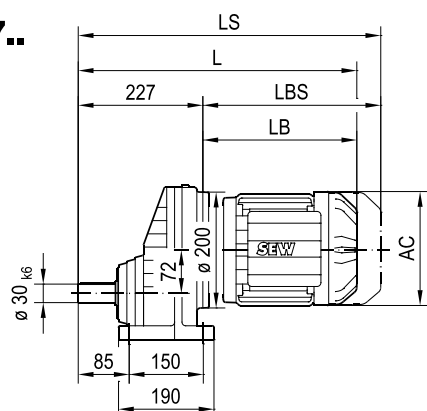
27782913/EN – 02/2023

01 119 00 16

RXF67..

 $\varnothing 160$

 $\varnothing 200$

 $\varnothing 250$


(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	476	478	510	506	556	587	641	659
LS	557	571	603	600	650	699	753	797
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

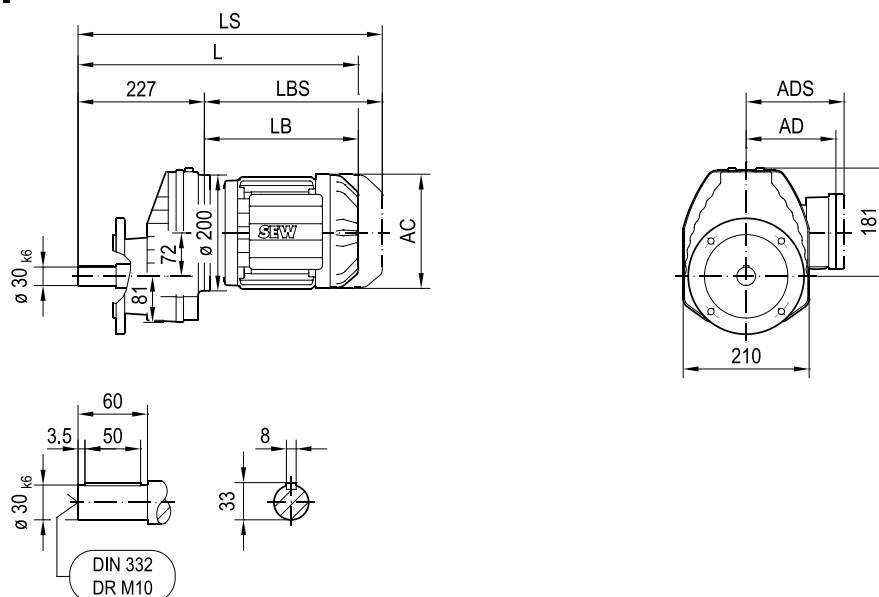
01 120 00 16

RX77..

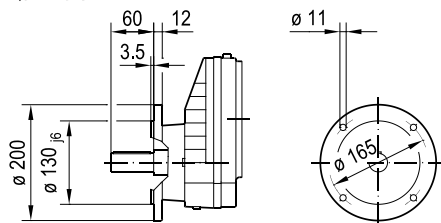
(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	497	529	525	575	606	656	674	700	766
LS	590	622	619	669	718	768	812	837	955
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

27782913/EN – 02/2023

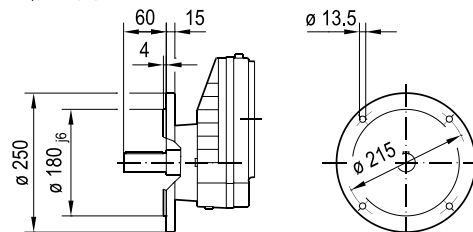
01 121 00 16

RXF77..

Ø 200

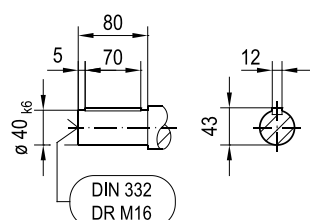
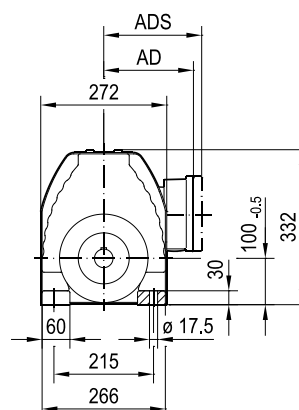
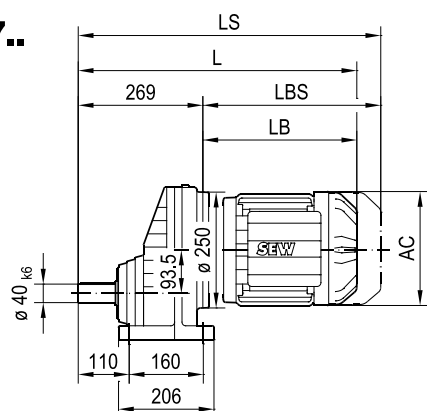


Ø 250



(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/M	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	497	529	525	575	606	656	674	700	766
LS	590	622	619	669	718	768	812	837	955
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

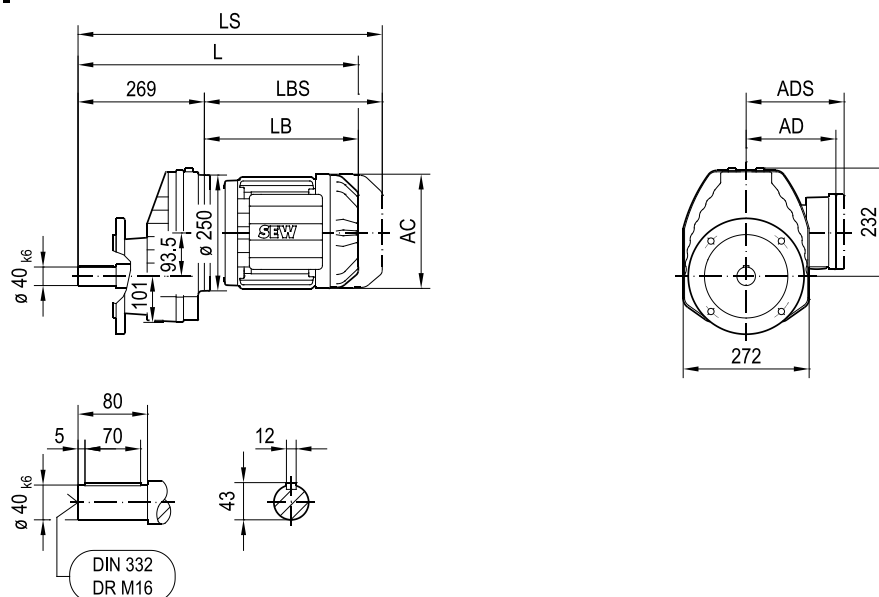
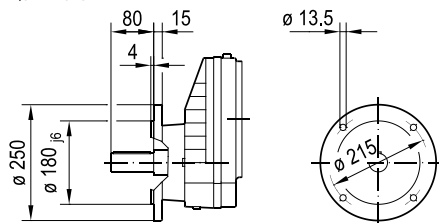
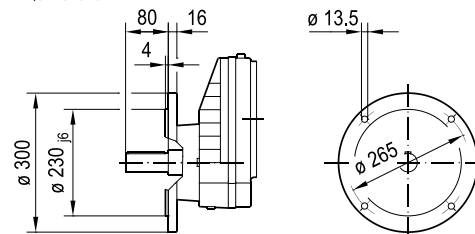
01 122 00 16

RX87..

(→ 7.2)	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L
AC	197	197	221	221	261	261	314	357	394
AD	157	157	170	170	228	228	253	268	283
ADS	158	158	172	172	228	228	253	268	283
L	562	612	643	693	711	737	803	826	936
LS	656	706	755	805	849	874	992	1015	1141
LB	293	343	374	424	442	468	534	557	667
LBS	387	437	486	536	580	605	723	746	872

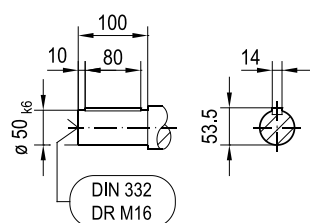
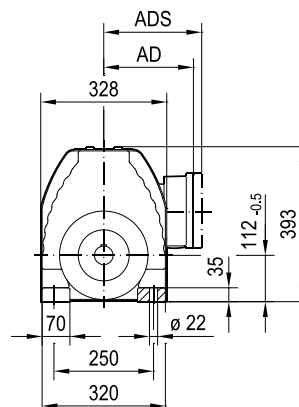
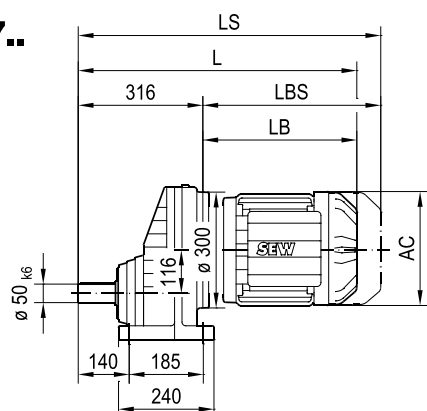
27782913/EN – 02/2023

01 123 00 16

RXF87..

 $\varnothing 250$

 $\varnothing 300$


(→ 7.2)	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L
AC	197	197	221	221	261	261	314	357	394
AD	157	157	170	170	228	228	253	268	283
ADS	158	158	172	172	228	228	253	268	283
L	562	612	643	693	711	737	803	826	936
LS	656	706	755	805	849	874	992	1015	1141
LB	293	343	374	424	442	468	534	557	667
LBS	387	437	486	536	580	605	723	746	872

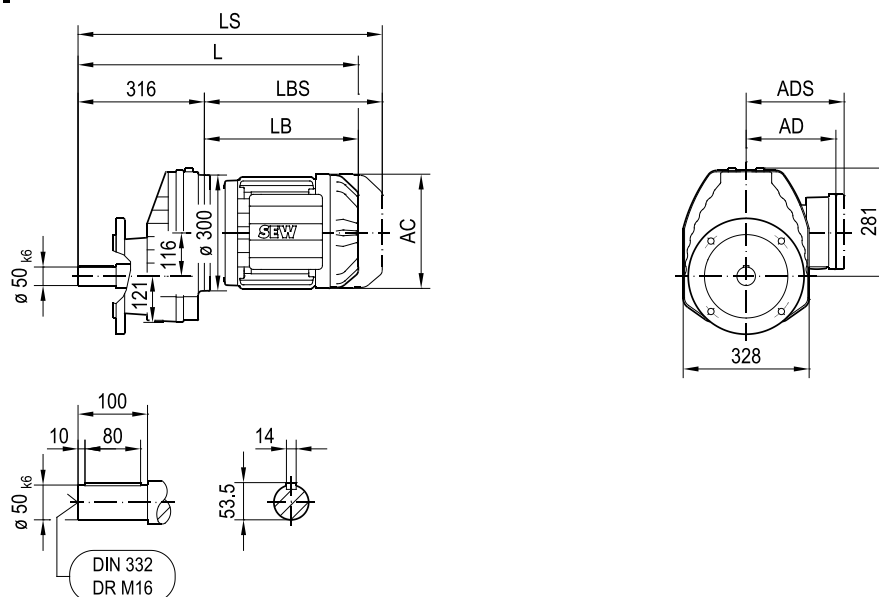
01 124 00 16

RX97..

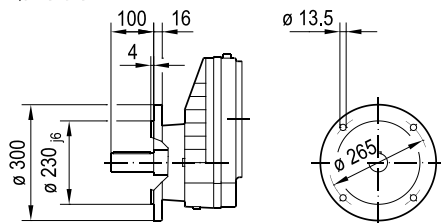
(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	654	685	735	753	779	845	868	978	952
LS	748	797	847	891	916	1034	1057	1183	1157
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

27782913/EN – 02/2023

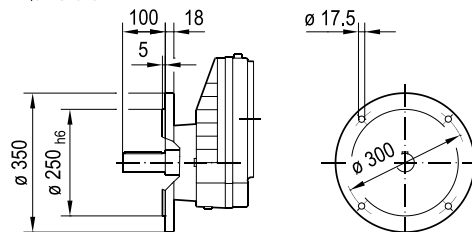
01 125 00 16

RXF97..

Ø 300

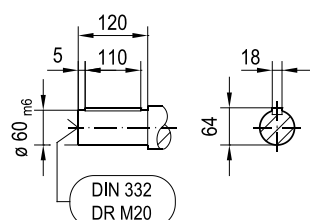
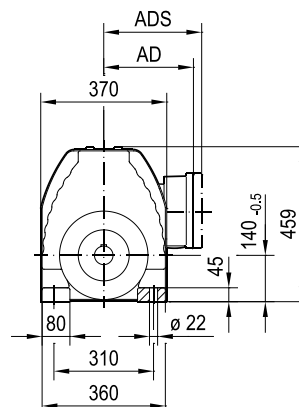
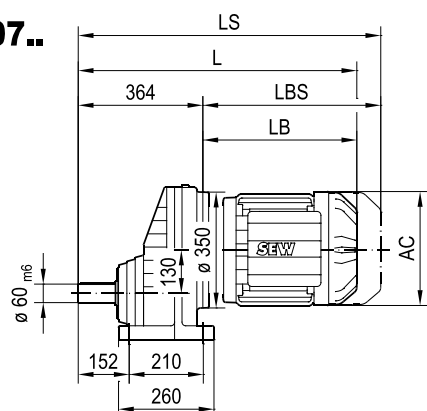


Ø 350



(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	654	685	735	753	779	845	868	978	952
LS	748	797	847	891	916	1034	1057	1183	1157
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

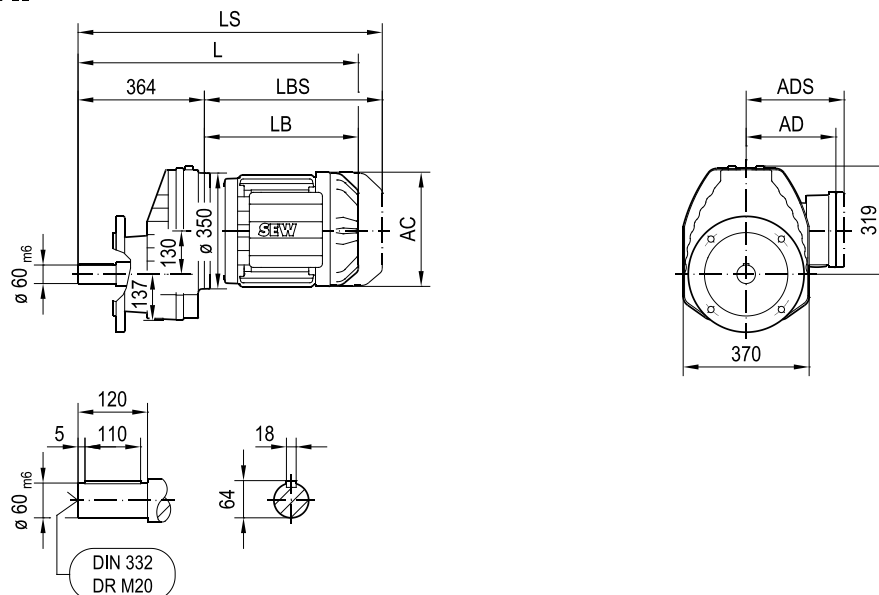
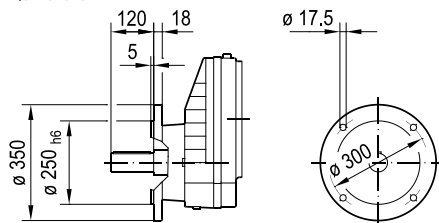
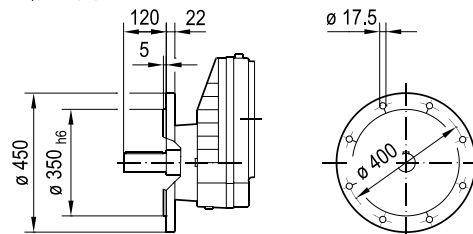
01 126 00 16

RX107..

(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	696	727	777	795	821	887	910	1020	994
LS	790	839	889	933	958	1076	1099	1225	1199
LB	332	363	413	431	457	523	546	656	630
LBS	426	475	525	569	594	712	735	861	835

27782913/EN – 02/2023

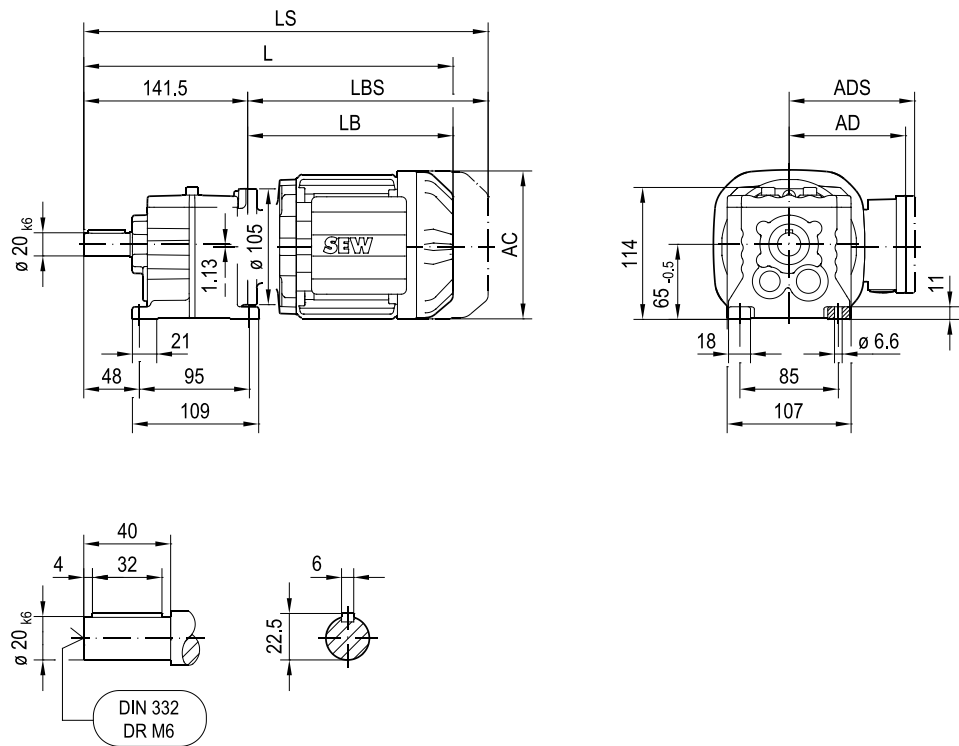
01 127 00 16

RXF107..

ø 350

ø 450


(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	696	727	777	795	821	887	910	1020	994
LS	790	839	889	933	958	1076	1099	1225	1199
LB	332	363	413	431	457	523	546	656	630
LBS	426	475	525	569	594	712	735	861	835

01 128 03 16

R07..



R07F..

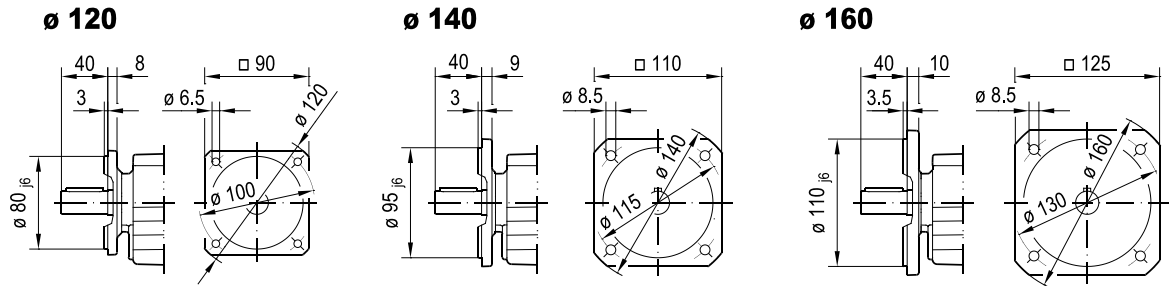
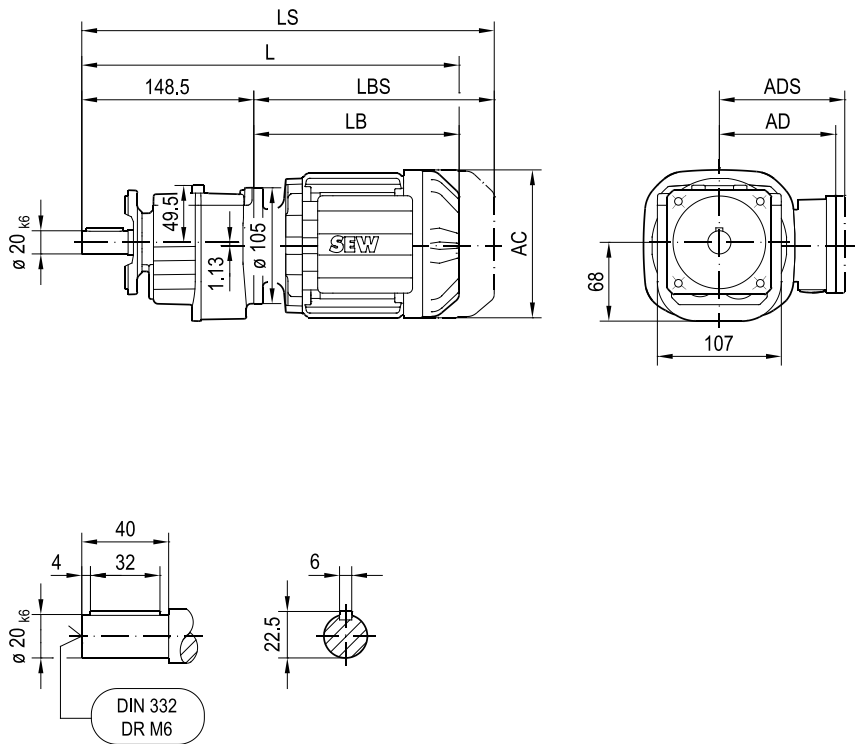


(→ 7.2)	EDRN80M							
AC	156							
AD	128							
ADS	139							
L	419							
LS	500							
LB	277							
LBS	358							

27782913/EN – 02/2023

01 129 01 16

RF07..

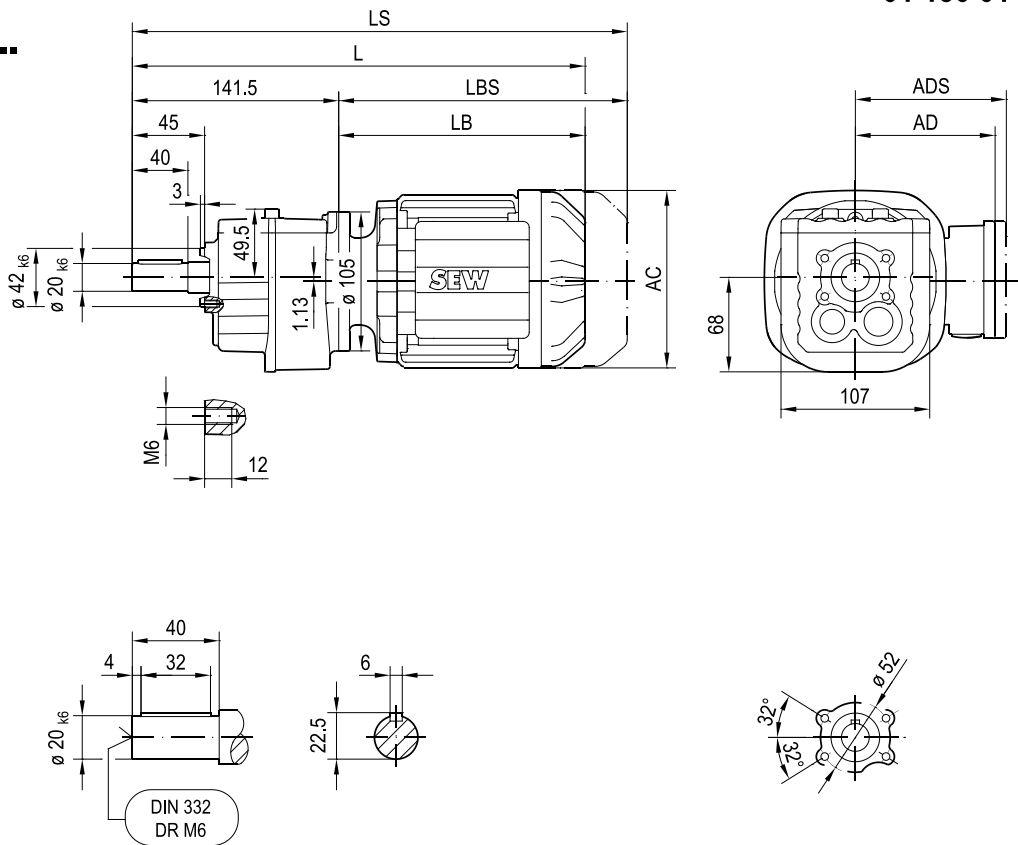


(→ 7.2)	EDRN80M							
AC	156							
AD	128							
ADS	139							
L	426							
LS	507							
LB	277							
LBS	358							

27782913/EN – 02/2023

01 130 01 16

RZ07..

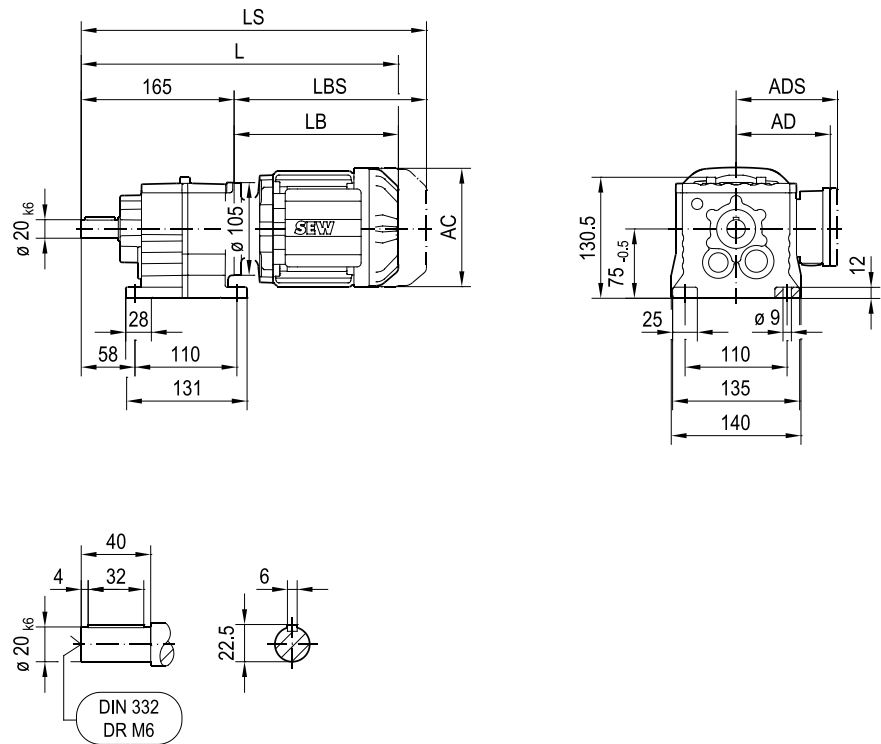


(→ 7.2)	EDRN80M							
AC	156							
AD	128							
ADS	139							
L	419							
LS	500							
LB	277							
LBS	358							

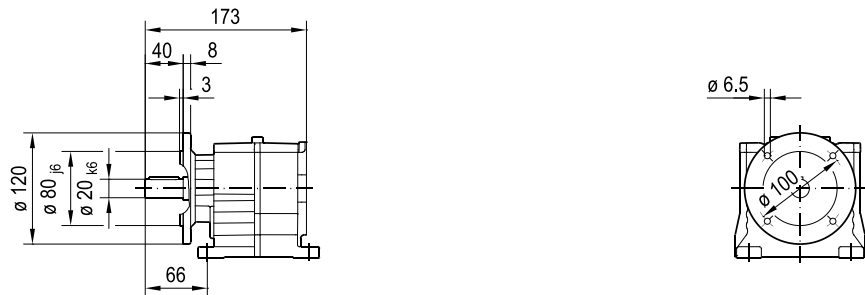
27782913/EN – 02/2023

01 131 01 16

R17..



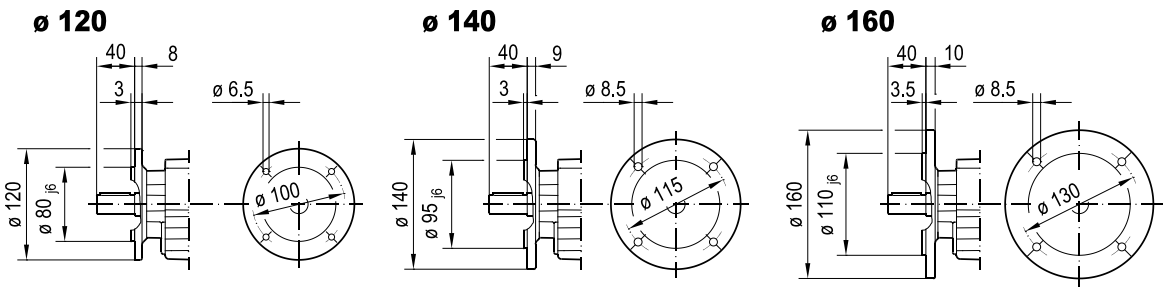
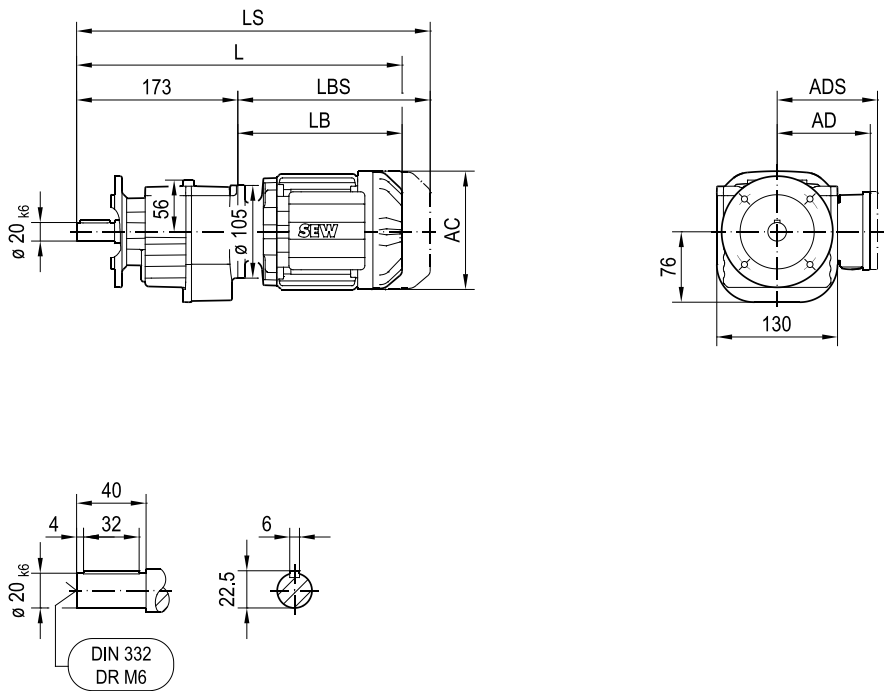
R17F..



(→ 7.2)	EDRN80M							
AC	156							
AD	128							
ADS	139							
L	442							
LS	523							
LB	277							
LBS	358							

01 132 01 16

RF17..

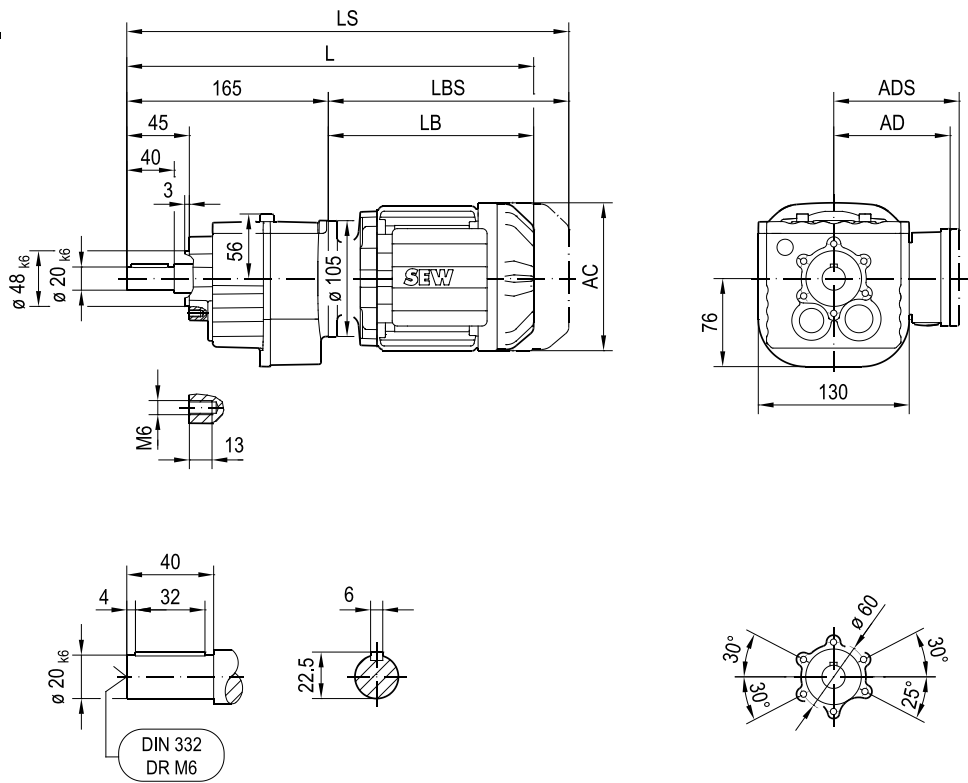


(→ 7.2)	EDRN80M							
AC	156							
AD	128							
ADS	139							
L	450							
LS	531							
LB	277							
LBS	358							

27782913/EN – 02/2023

01 133 01 16

RZ17..

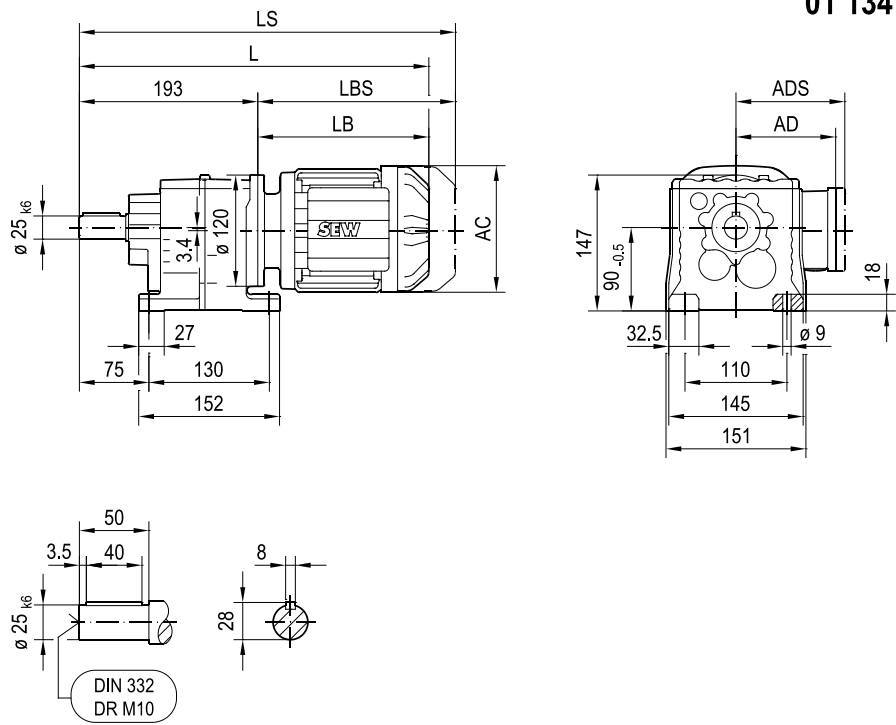


(→ 7.2)	EDRN80M							
AC	156							
AD	128							
ADS	139							
L	442							
LS	523							
LB	277							
LBS	358							

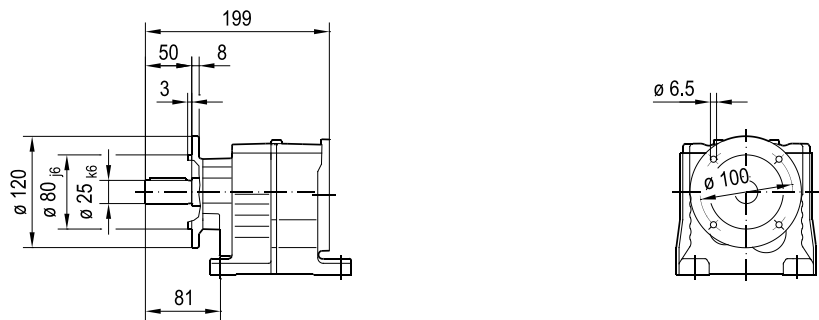
27782913/EN – 02/2023

01 134 01 16

R27..

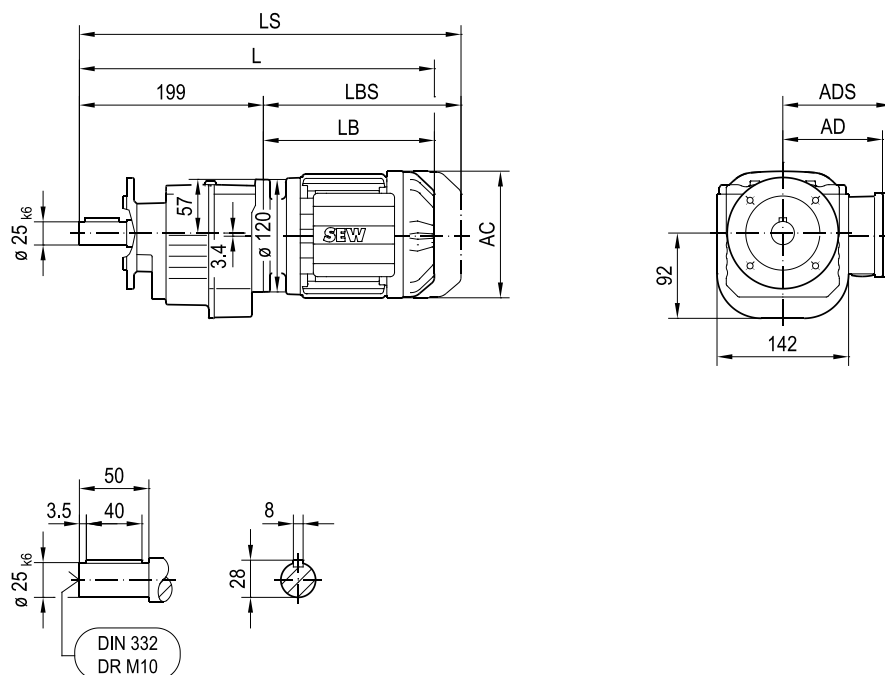
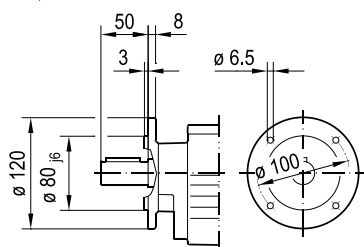
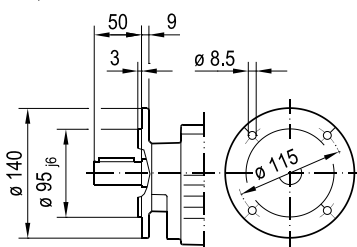
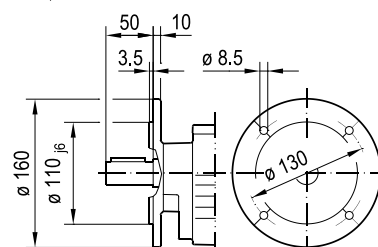


R27F..

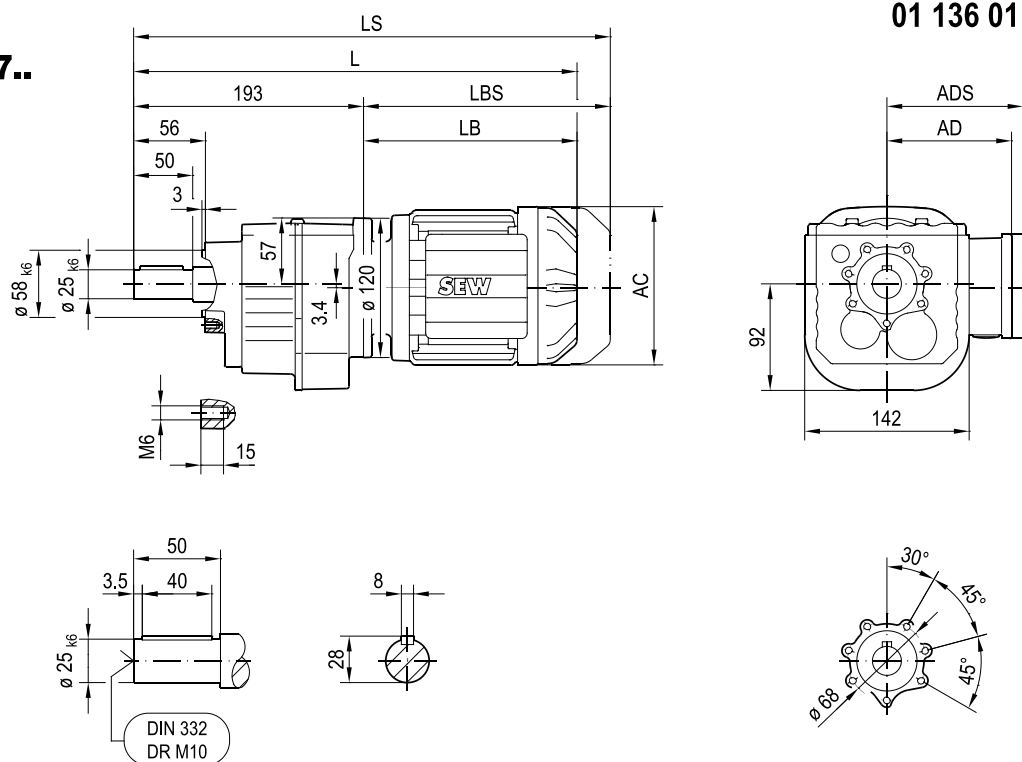


(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	475	476	508	507	557
LS	556	570	602	601	651
LB	282	283	315	314	364
LBS	363	377	409	408	458

01 135 01 16

RF27..

 $\phi 120$

 $\phi 140$

 $\phi 160$


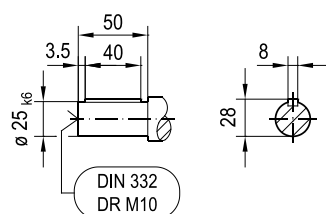
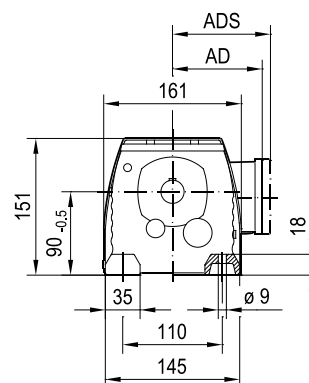
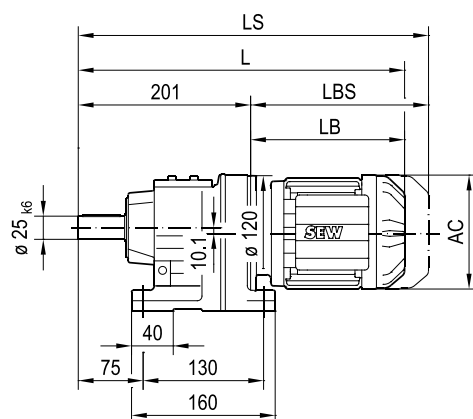
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	481	482	514	513	563
LS	562	576	608	607	657
LB	282	283	315	314	364
LBS	363	377	409	408	458

RZ27..**01 136 01 16**

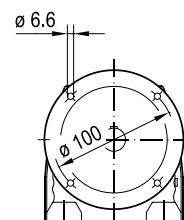
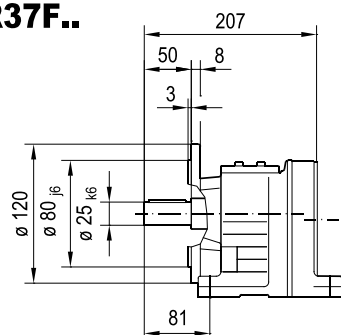
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	475	476	508	507	557
LS	556	570	602	601	651
LB	282	283	315	314	364
LBS	363	377	409	408	458

01 137 01 16

R37..

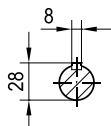
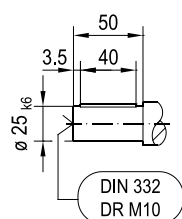
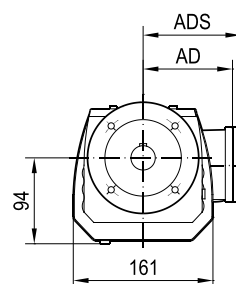
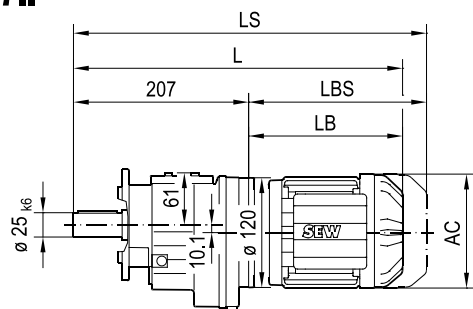
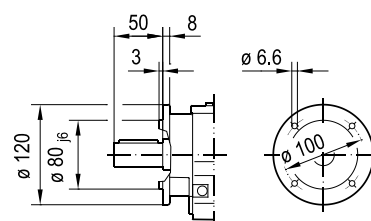
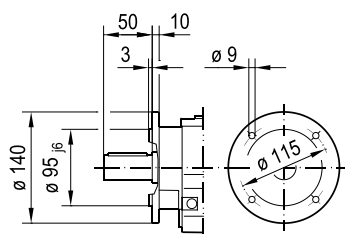
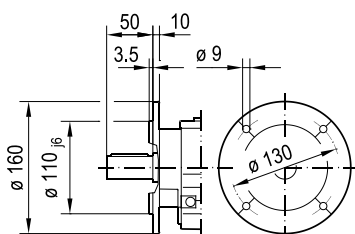
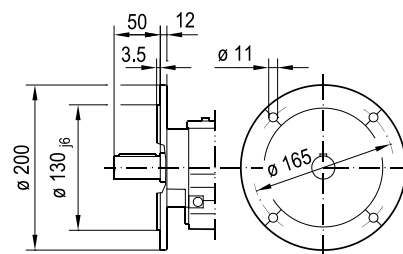


R37F..



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	483	484	516	515	565
LS	564	578	610	609	659
LB	282	283	315	314	364
LBS	363	377	409	408	458

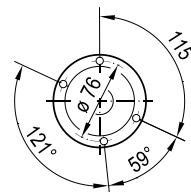
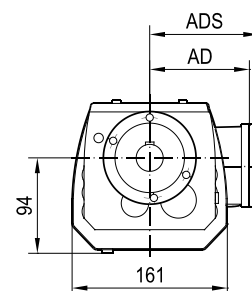
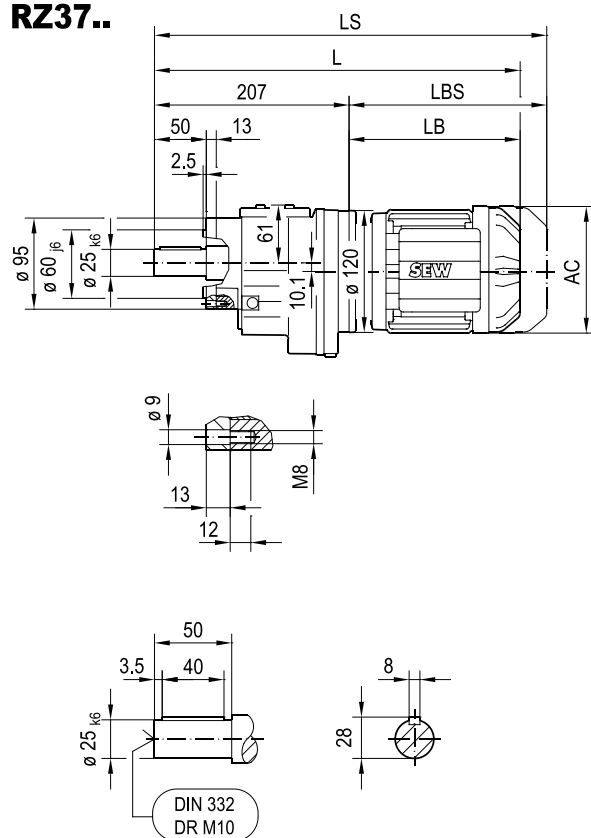
01 138 01 16

RF37..**ø 120****ø 140****ø 160****ø 200**

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	489	490	522	521	571
LS	570	584	616	615	665
LB	282	283	315	314	364
LBS	363	377	409	408	458

RZ37..

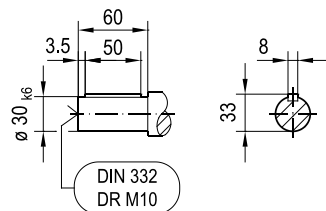
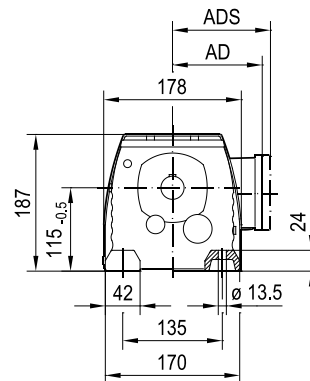
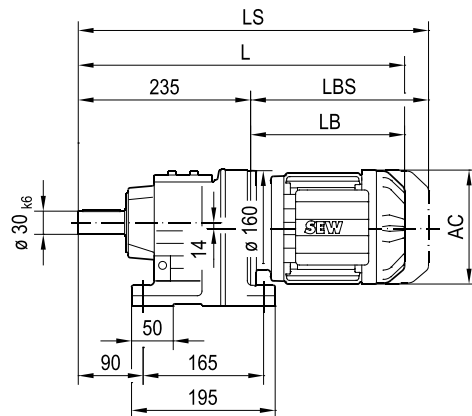
01 139 01 16



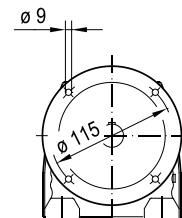
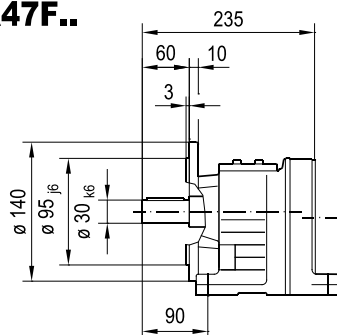
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	489	490	522	521	571
LS	570	584	616	615	665
LB	282	283	315	314	364
LBS	363	377	409	408	458

01 140 01 16

R47..



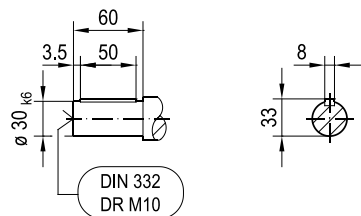
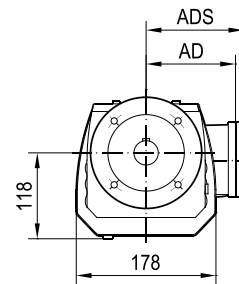
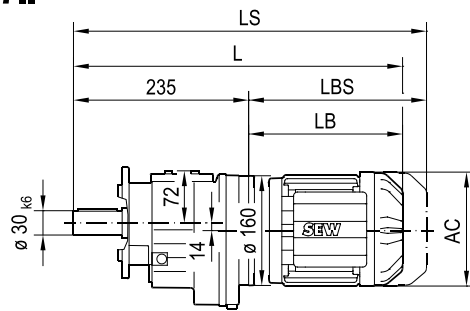
R47F..



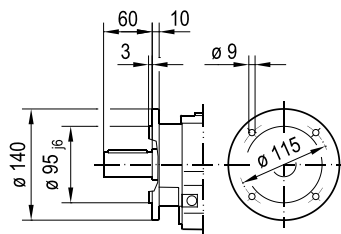
(→  7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S
AC	156	179	179	197	197	221	221
AD	128	140	140	157	157	170	170
ADS	139	150	150	158	158	172	172
L	510	512	544	540	590	621	675
LS	591	605	637	634	684	733	787
LB	275	277	309	305	355	386	440
LBS	356	370	402	399	449	498	552

01 141 01 16

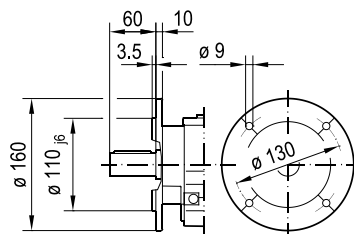
RF47..



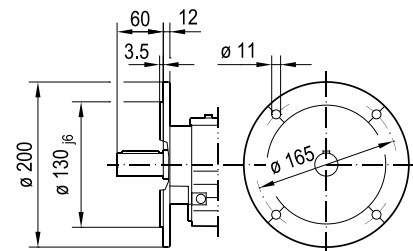
ø 140



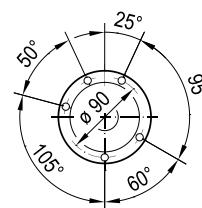
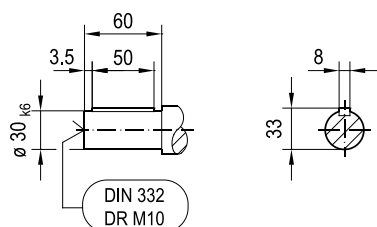
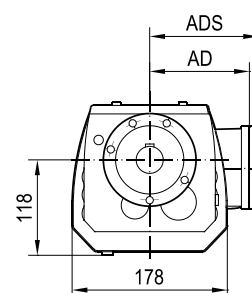
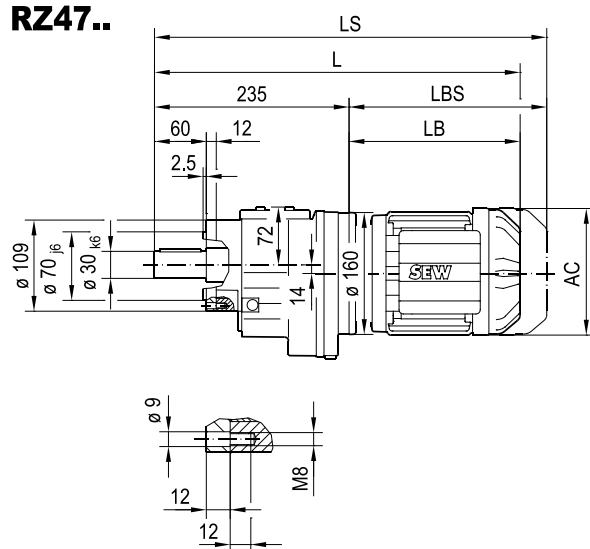
ø 160



ø 200

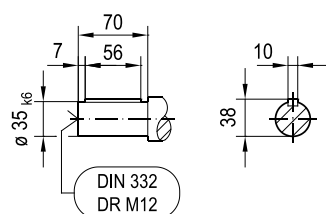
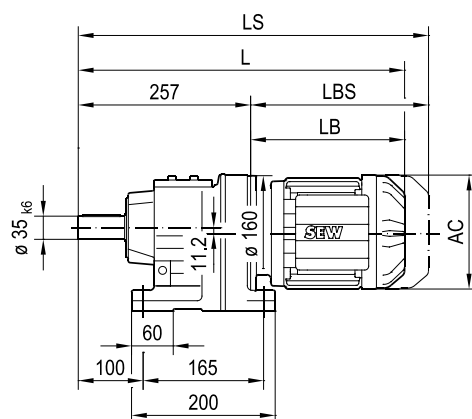
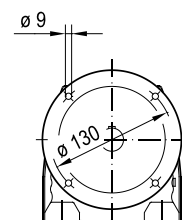
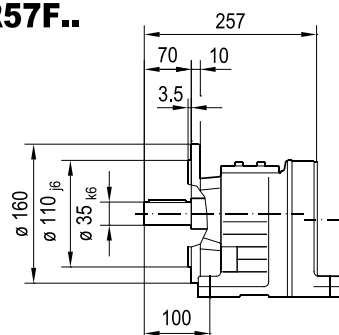


(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S
AC	156	179	179	197	197	221	221
AD	128	140	140	157	157	170	170
ADS	139	150	150	158	158	172	172
L	510	512	544	540	590	621	675
LS	591	605	637	634	684	733	787
LB	275	277	309	305	355	386	440
LBS	356	370	402	399	449	498	552

RZ47..**01 142 01 16**

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S
AC	156	179	179	197	197	221	221
AD	128	140	140	157	157	170	170
ADS	139	150	150	158	158	172	172
L	510	512	544	540	590	621	675
LS	591	605	637	634	684	733	787
LB	275	277	309	305	355	386	440
LBS	356	370	402	399	449	498	552

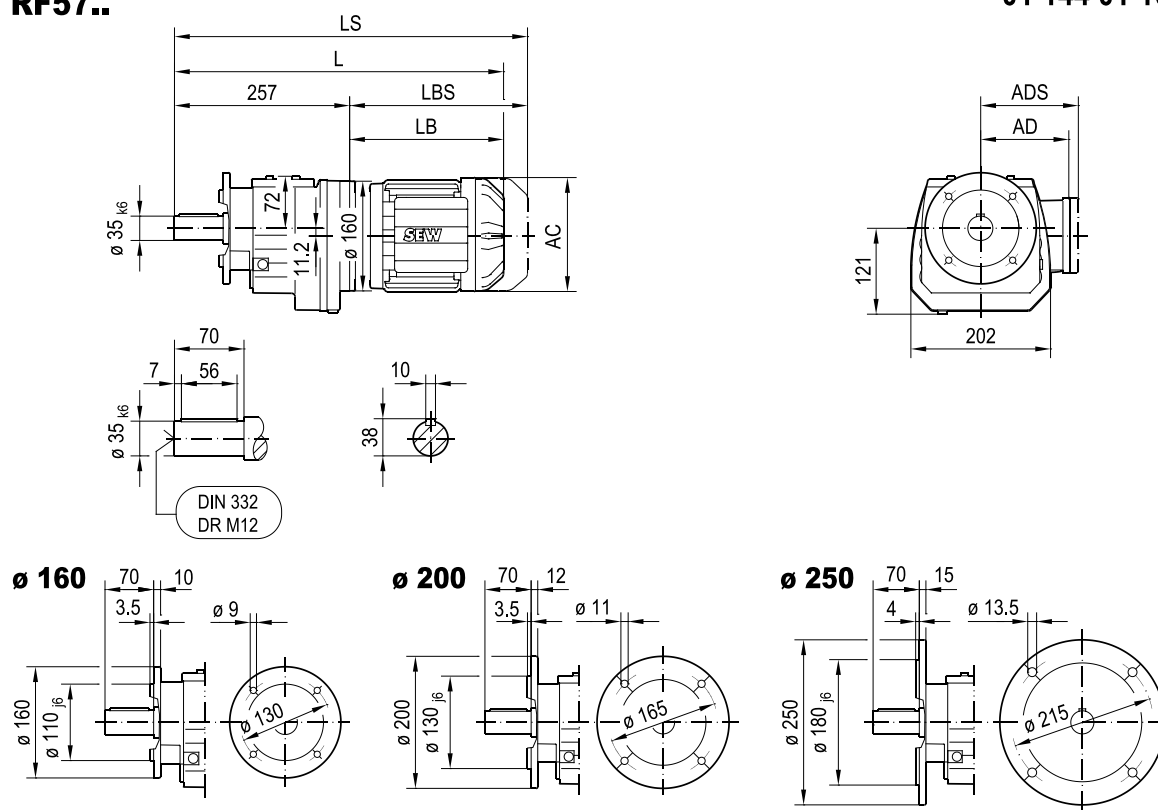
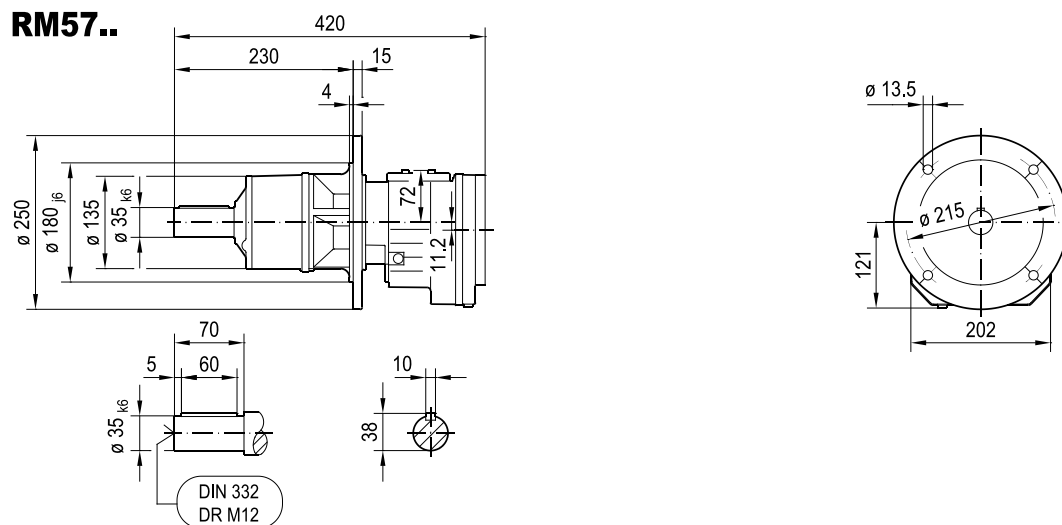
01 143 01 16

R57..

R57F..


(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	532	534	566	562	612	643	697	715
LS	613	627	659	656	706	755	809	853
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

RF57..

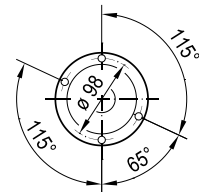
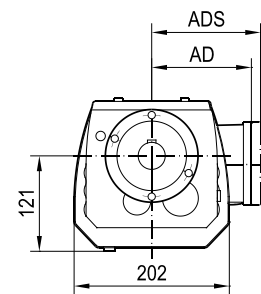
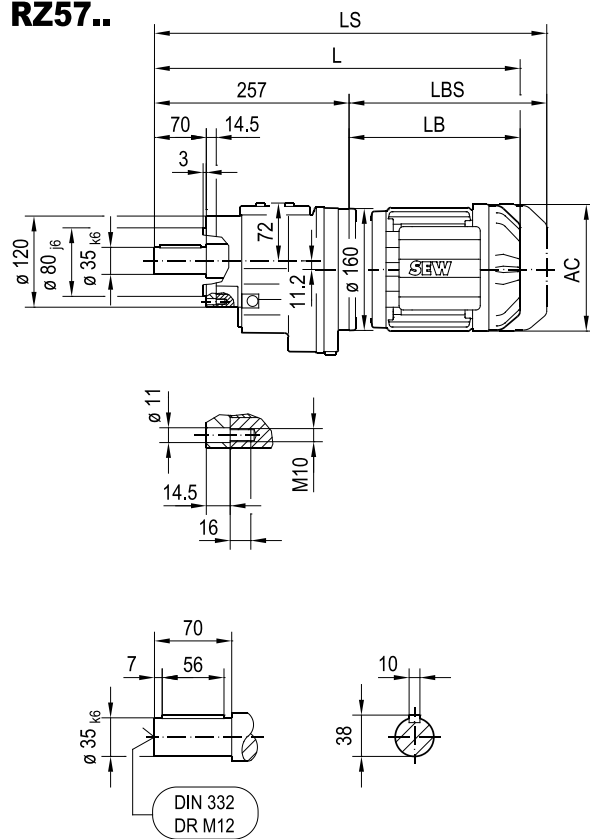
01 144 01 16

**RM57..**

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	532	534	566	562	612	643	697	715
LS	613	627	659	656	706	755	809	853
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

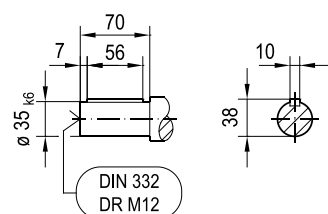
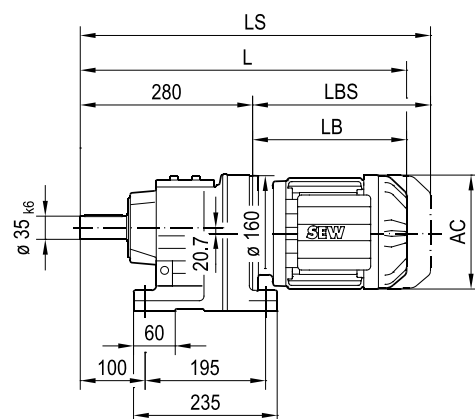
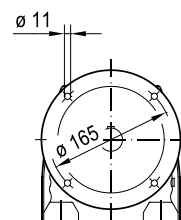
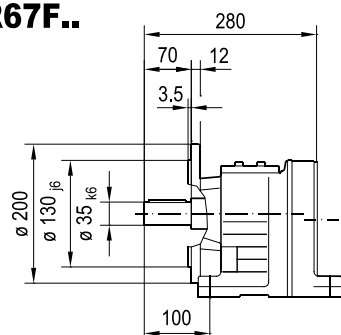
RZ57..

01 145 01 16



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	532	534	566	562	612	643	697	715
LS	613	627	659	656	706	755	809	853
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

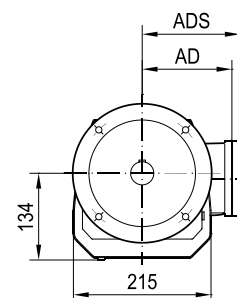
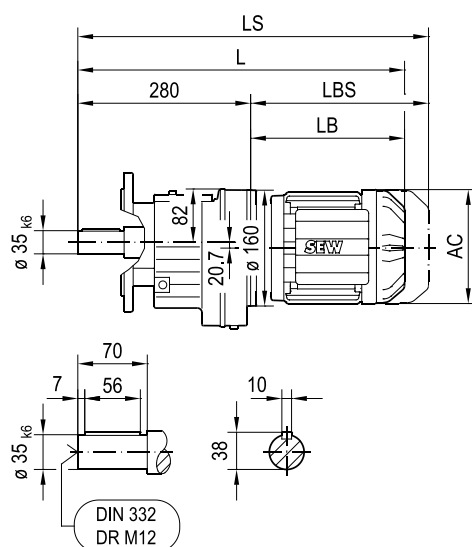
01 146 01 16

R67..**R67F..**

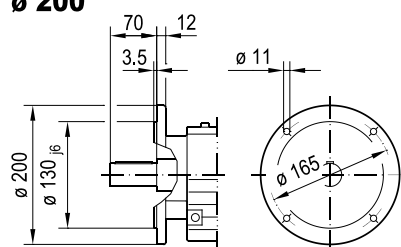
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	555	557	589	585	635	666	720	738
LS	636	650	682	679	729	778	832	876
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

01 147 01 16

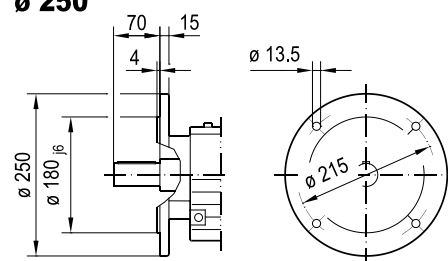
RF67..



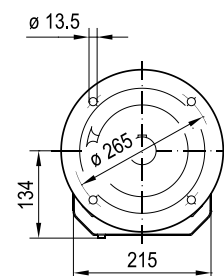
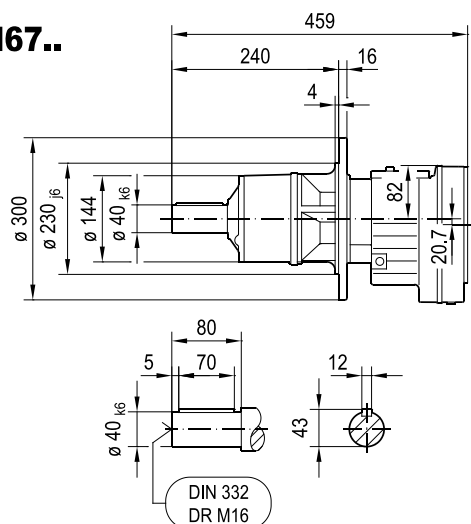
ø 200



ø 250



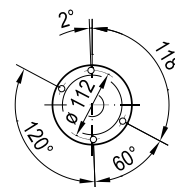
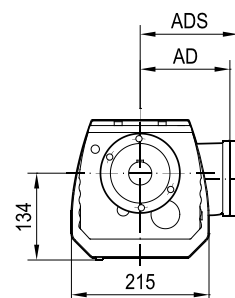
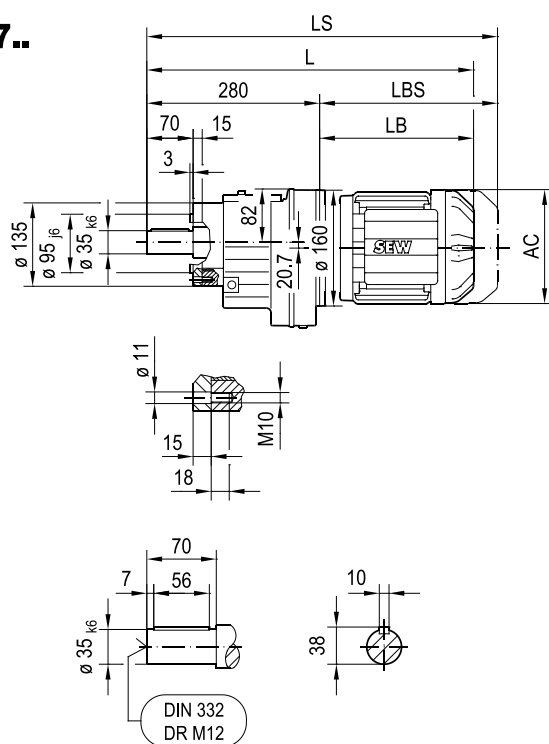
RM67..



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	555	557	589	585	635	666	720	738
LS	636	650	682	679	729	778	832	876
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

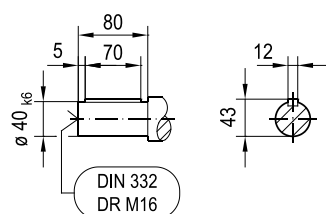
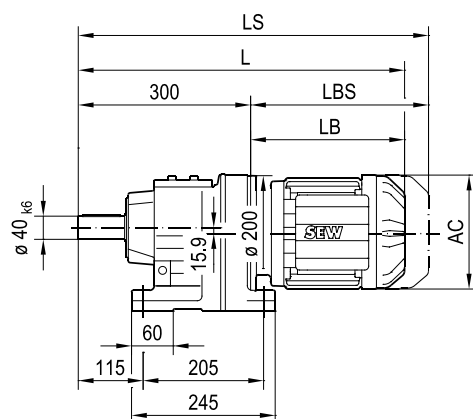
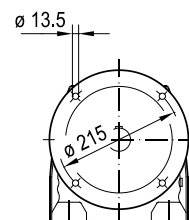
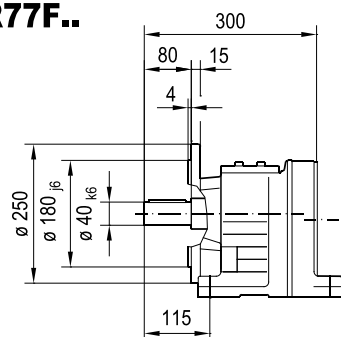
01 148 01 16

RZ67..



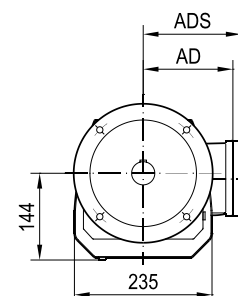
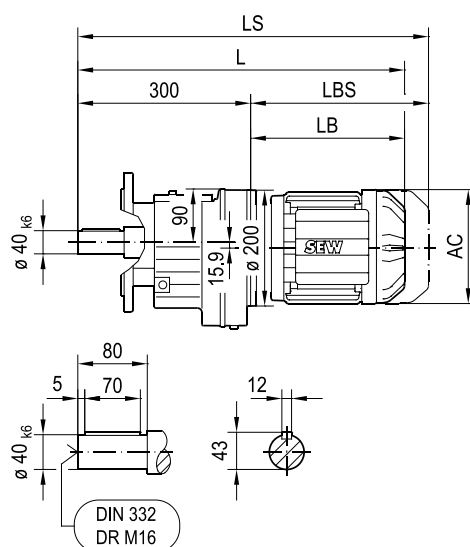
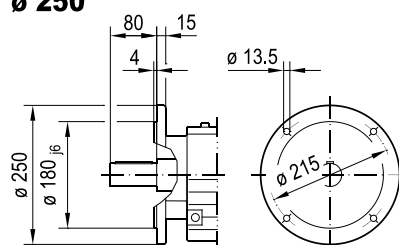
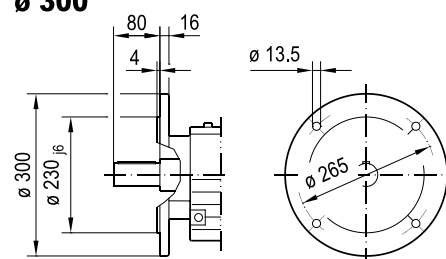
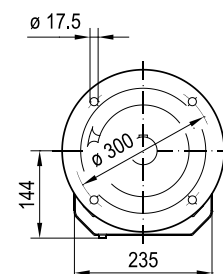
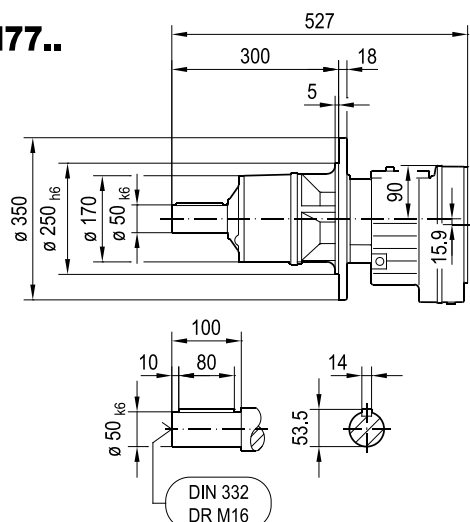
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	555	557	589	585	635	666	720	738
LS	636	650	682	679	729	778	832	876
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

01 149 01 16

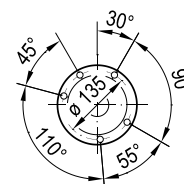
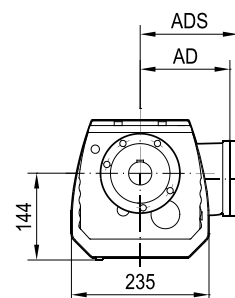
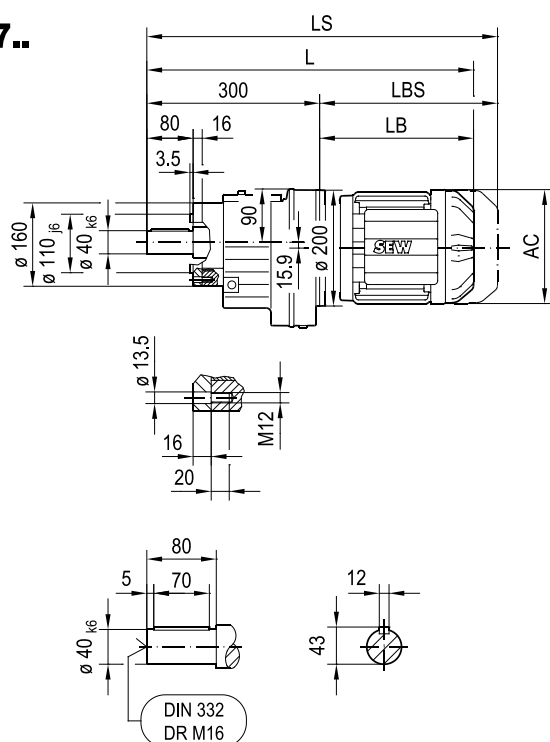
R77..

R77F..


(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	570	602	598	648	679	729	747	773	839
LS	663	695	692	742	791	841	885	910	1028
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

01 150 01 16

RF77..**ø 250****ø 300****RM77..**

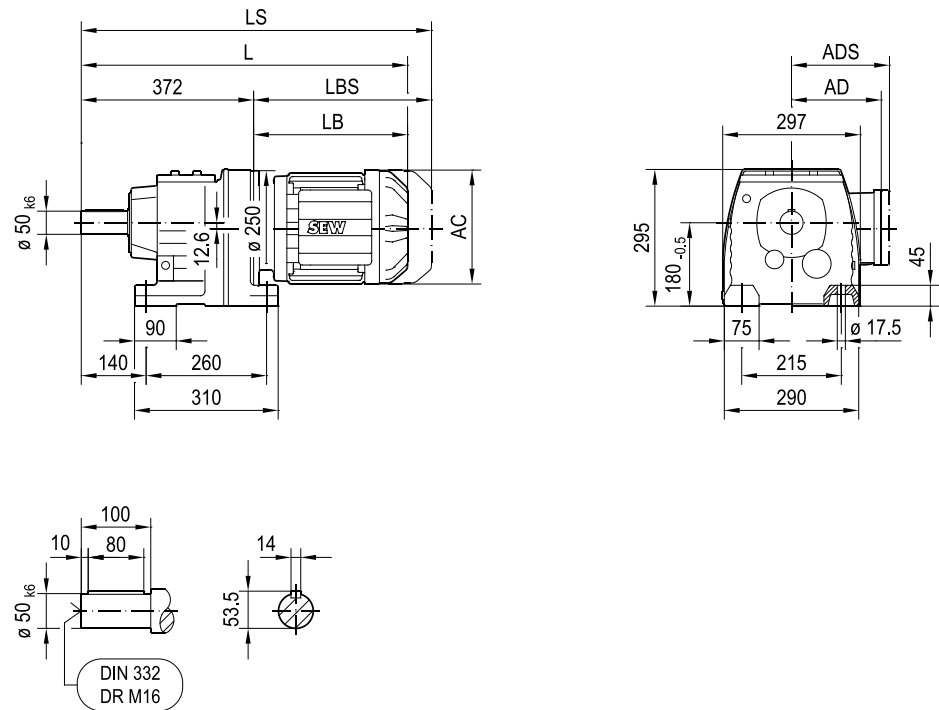
(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	570	602	598	648	679	729	747	773	839
LS	663	695	692	742	791	841	885	910	1028
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

RZ77..
01 151 01 16


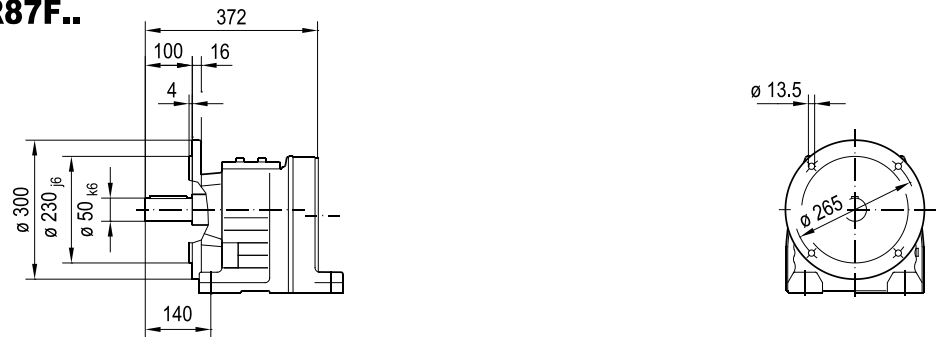
(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	570	602	598	648	679	729	747	773	839
LS	663	695	692	742	791	841	885	910	1028
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

01 152 01 16

R87..



R87F..

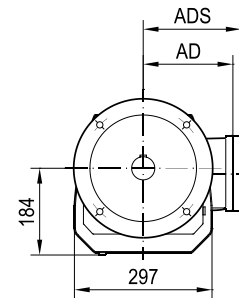
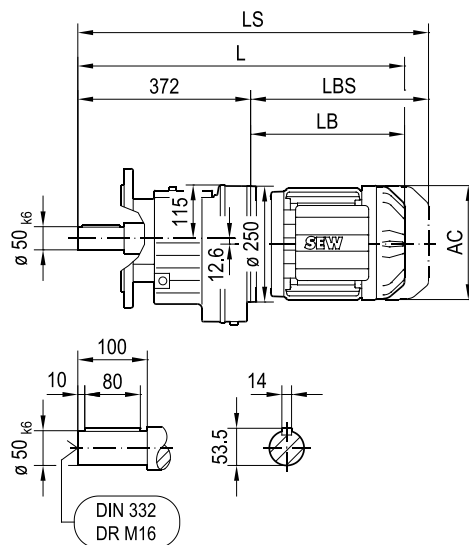


(→ 7.2)	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L
AC	197	197	221	221	261	261	314	357	394
AD	157	157	170	170	228	228	253	268	283
ADS	158	158	172	172	228	228	253	268	283
L	665	715	746	796	814	840	906	929	1039
LS	759	809	858	908	952	977	1095	1118	1244
LB	293	343	374	424	442	468	534	557	667
LBS	387	437	486	536	580	605	723	746	872

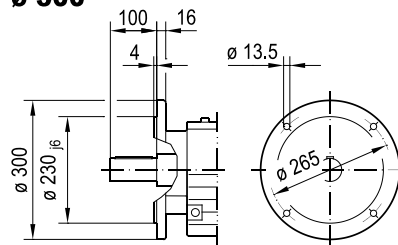
27782913/EN – 02/2023

01 153 01 16

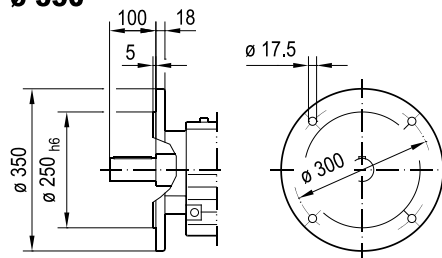
RF87..



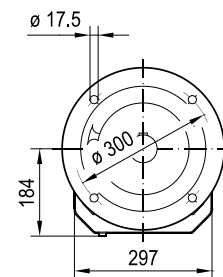
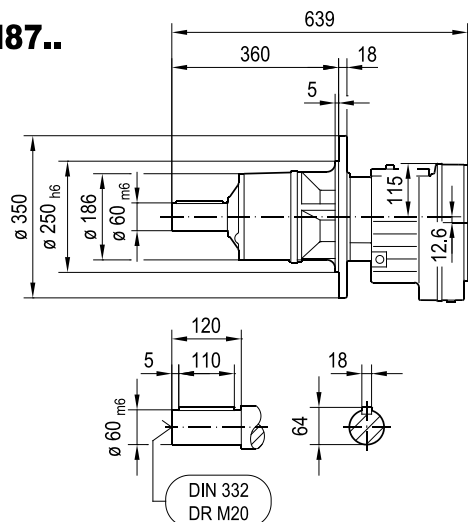
ø 300



ø 350



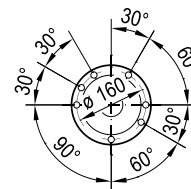
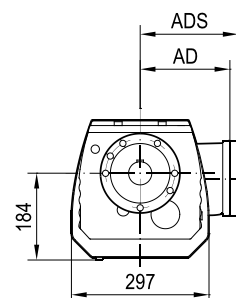
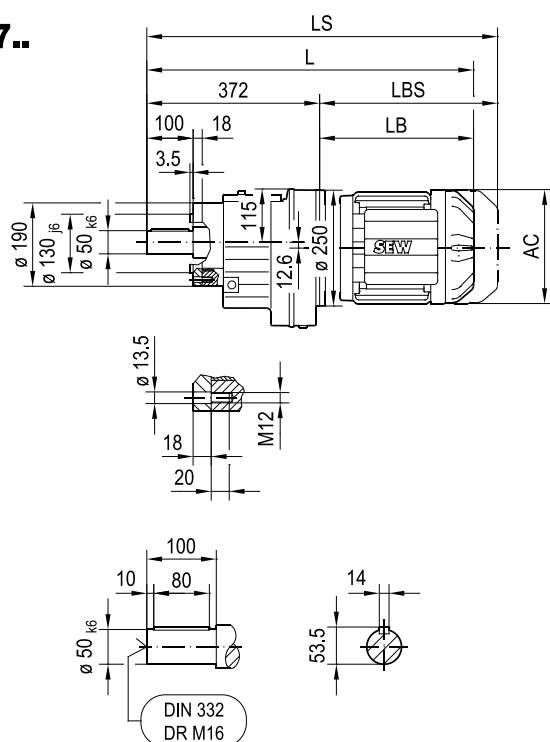
RM87..



(→ 7.2)	EDRN100LS	EDRN100L/M	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L
AC	197	197	221	221	261	261	314	357	394
AD	157	157	170	170	228	228	253	268	283
ADS	158	158	172	172	228	228	253	268	283
L	665	715	746	796	814	840	906	929	1039
LS	759	809	858	908	952	977	1095	1118	1244
LB	293	343	374	424	442	468	534	557	667
LBS	387	437	486	536	580	605	723	746	872

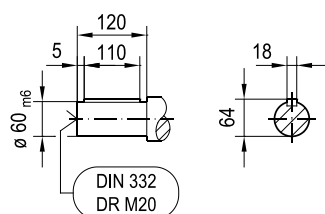
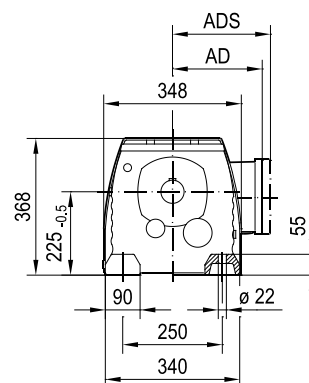
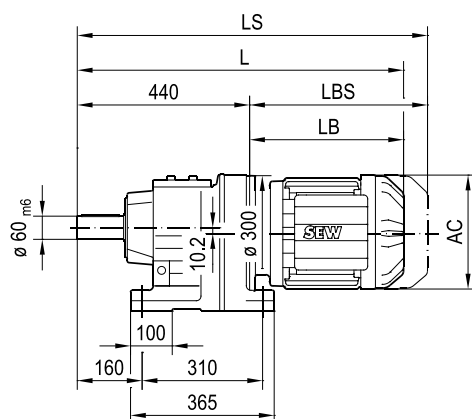
01 154 01 16

RZ87..



(→ 7.2)	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L
AC	197	197	221	221	261	261	314	357	394
AD	157	157	170	170	228	228	253	268	283
ADS	158	158	172	172	228	228	253	268	283
L	665	715	746	796	814	840	906	929	1039
LS	759	809	858	908	952	977	1095	1118	1244
LB	293	343	374	424	442	468	534	557	667
LBS	387	437	486	536	580	605	723	746	872

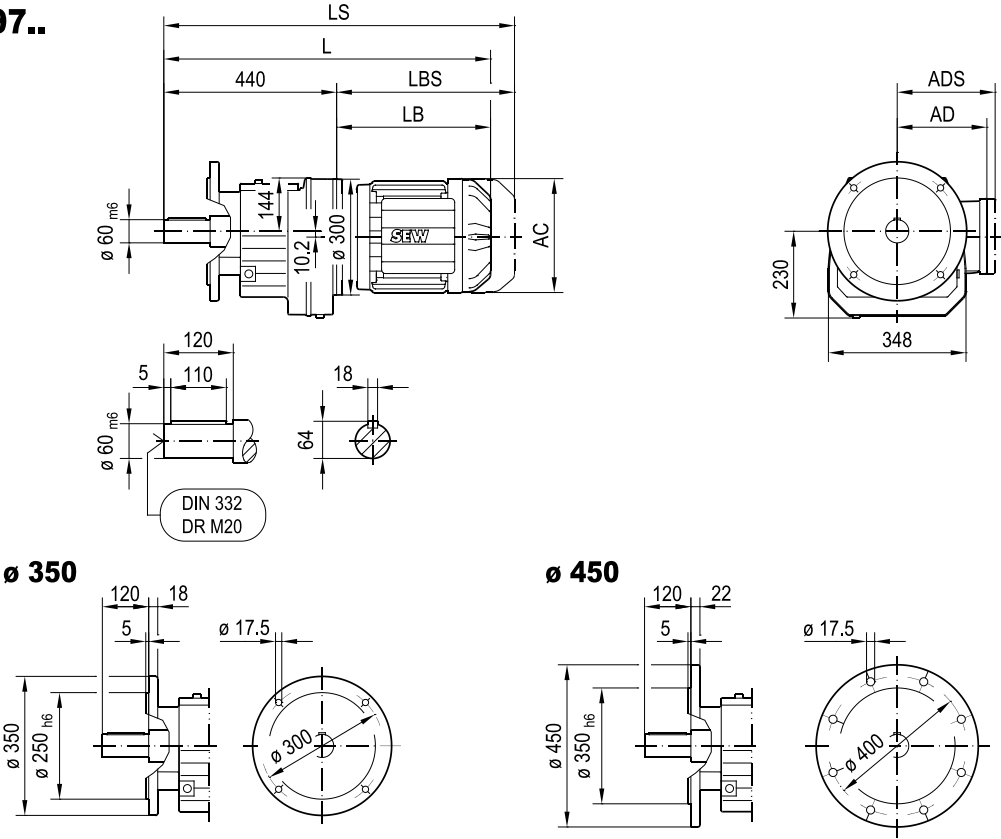
01 155 01 16

R97..


(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	778	809	859	877	903	969	992	1102	1076
LS	872	921	971	1015	1040	1158	1181	1307	1281
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

01 156 01 16

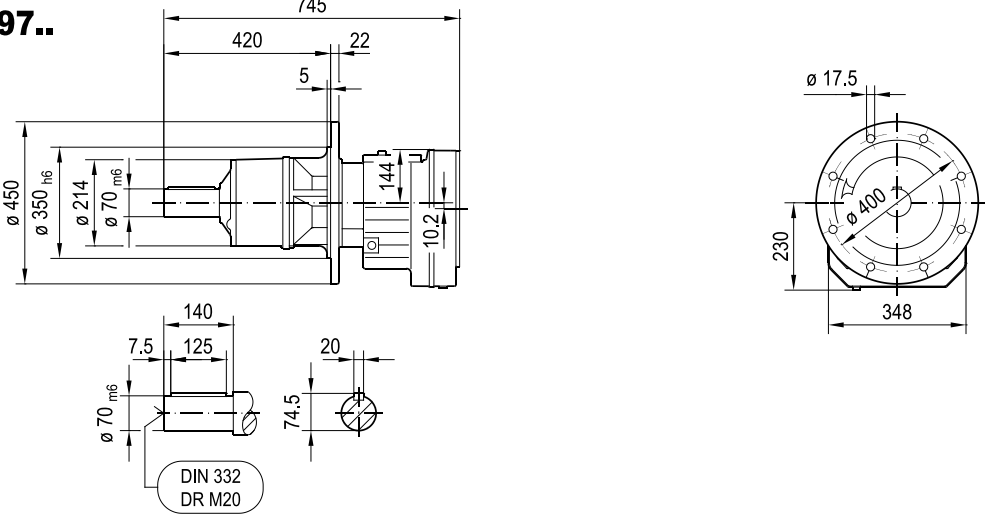
RF97..



ø 350

ø 450

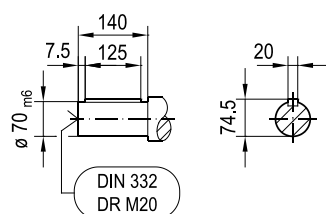
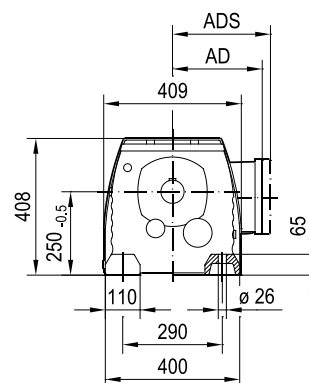
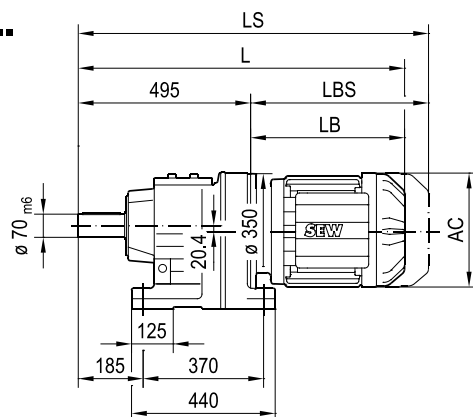
RM97..



(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	778	809	859	877	903	969	992	1102	1076
LS	872	921	971	1015	1040	1158	1181	1307	1281
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

27782913/EN – 02/2023

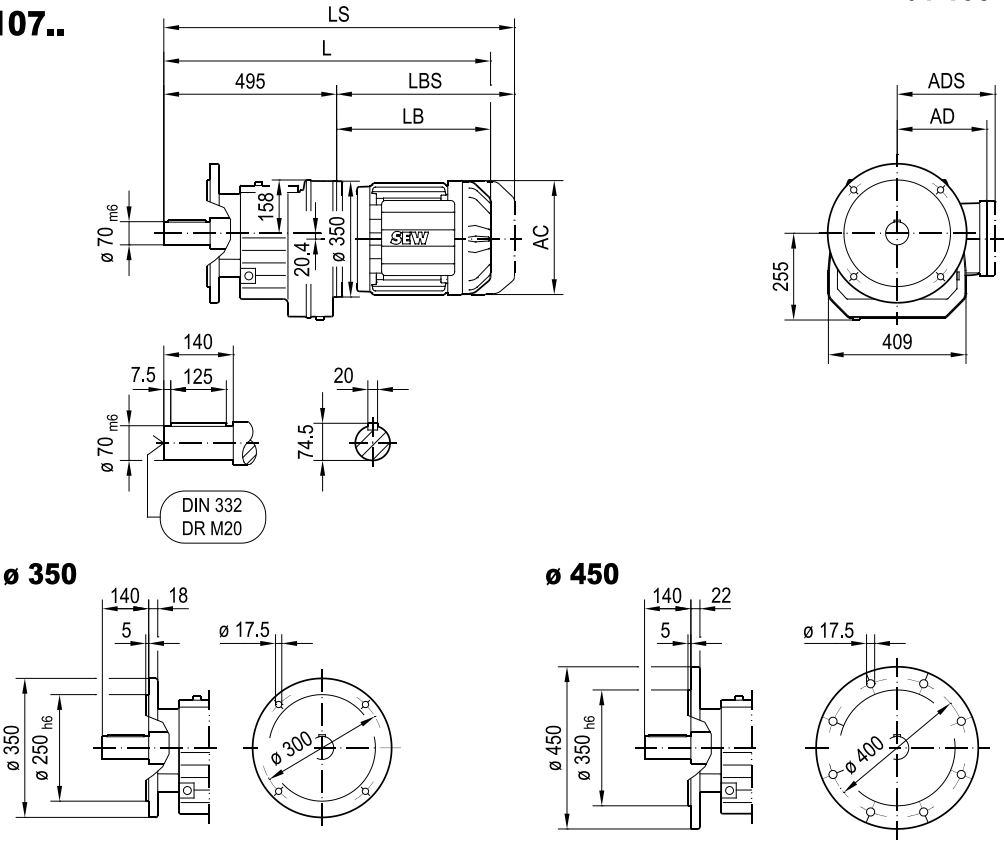
01 157 01 16

R107..


(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	827	858	908	926	952	1018	1041	1151	1125
LS	921	970	1020	1064	1089	1207	1230	1356	1330
LB	332	363	413	431	457	523	546	656	630
LBS	426	475	525	569	594	712	735	861	835

01 158 01 16

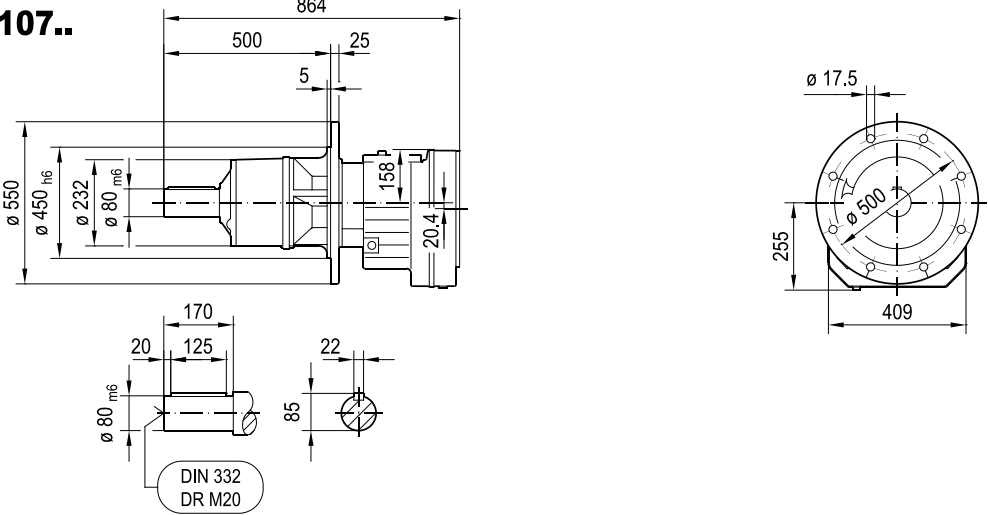
RF107..



ø 350

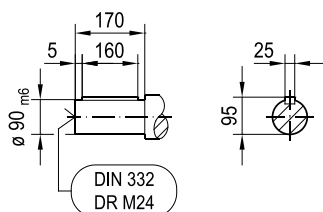
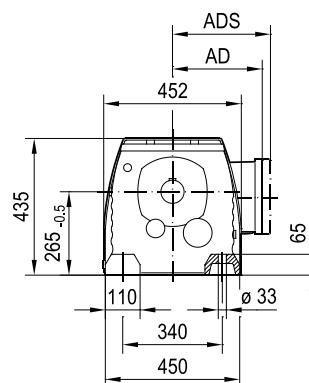
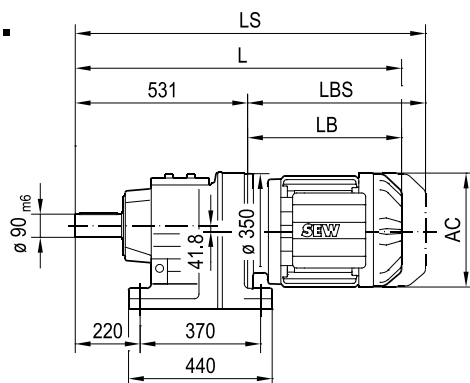
ø 450

RM107..



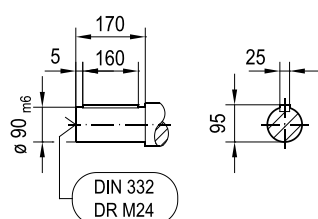
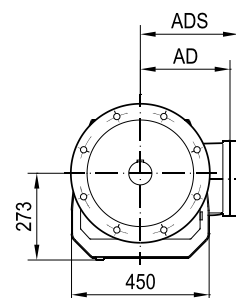
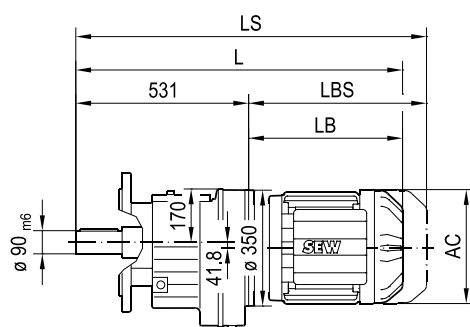
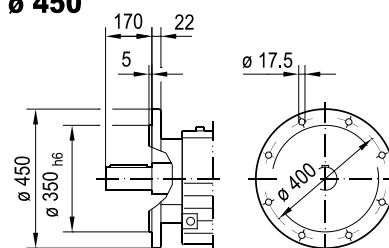
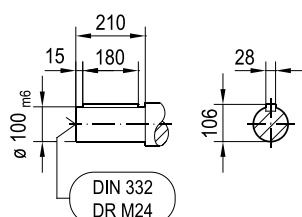
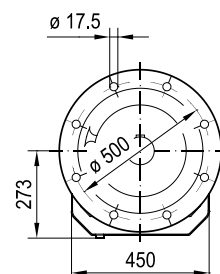
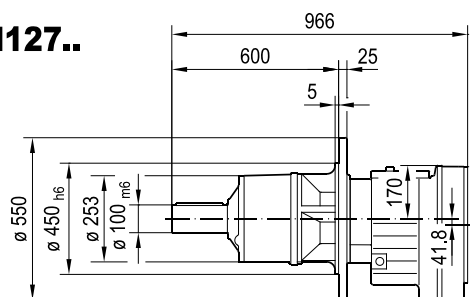
(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	827	858	908	926	952	1018	1041	1151	1125
LS	921	970	1020	1064	1089	1207	1230	1356	1330
LB	332	363	413	431	457	523	546	656	630
LBS	426	475	525	569	594	712	735	861	835

01 159 01 16

R127..

DIN 332
DR M24

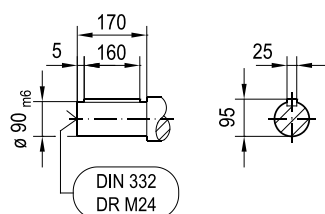
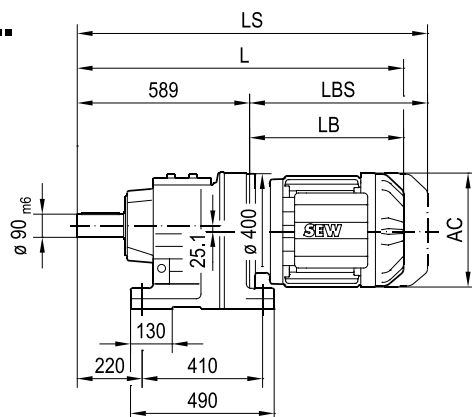
(→ 7.2)	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M
AC	221	221	261	261	314	357	394	434	495
AD	170	170	228	228	253	268	283	305	394
ADS	172	172	228	228	253	268	283	305	394
L	894	944	962	988	1054	1077	1187	1161	1298
LS	1006	1056	1100	1125	1243	1266	1392	1366	1538
LB	363	413	431	457	523	546	656	630	767
LBS	475	525	569	594	712	735	861	835	1007

01 160 01 16

RF127..**ø 450****RM127..**

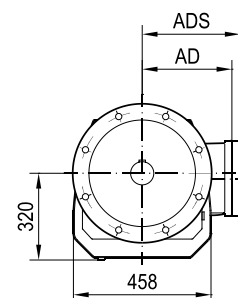
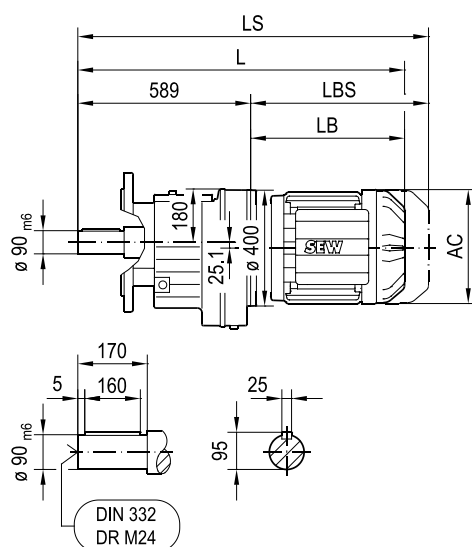
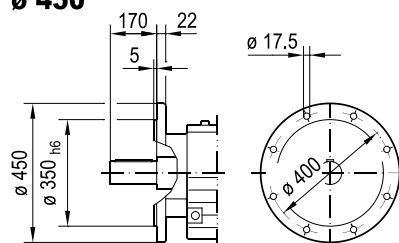
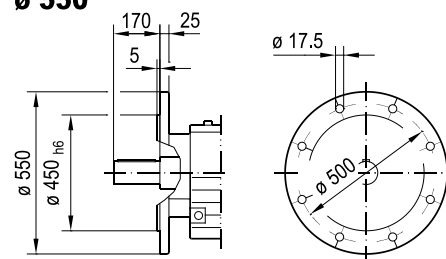
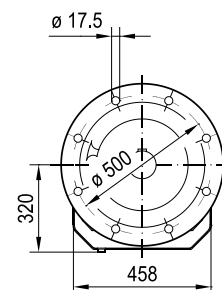
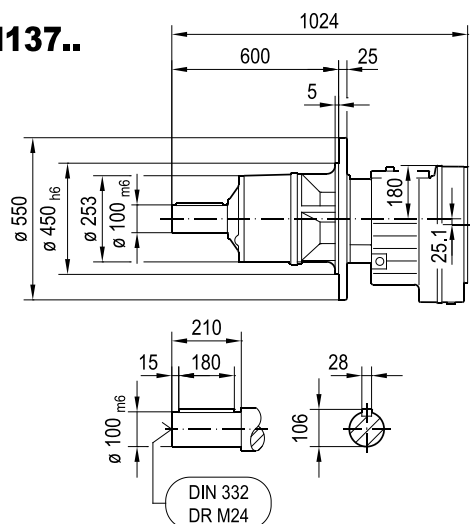
(→ 7.2)	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M
AC	221	221	261	261	314	357	394	434	495
AD	170	170	228	228	253	268	283	305	394
ADS	172	172	228	228	253	268	283	305	394
L	894	944	962	988	1054	1077	1187	1161	1298
LS	1006	1056	1100	1125	1243	1266	1392	1366	1538
LB	363	413	431	457	523	546	656	630	767
LBS	475	525	569	594	712	735	861	835	1007

01 161 01 16

R137..


(→ 7.2)	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M
AC	261	261	314	357	394	434	495	495	495
AD	228	228	253	268	283	305	394	394	394
ADS	228	228	253	268	283	305	394	394	394
L	1013	1039	1105	1128	1238	1212	1349	1349	1444
LS	1151	1176	1294	1317	1443	1417	1589	1589	1684
LB	424	450	516	539	649	623	760	760	855
LBS	562	587	705	728	854	828	1000	1000	1095

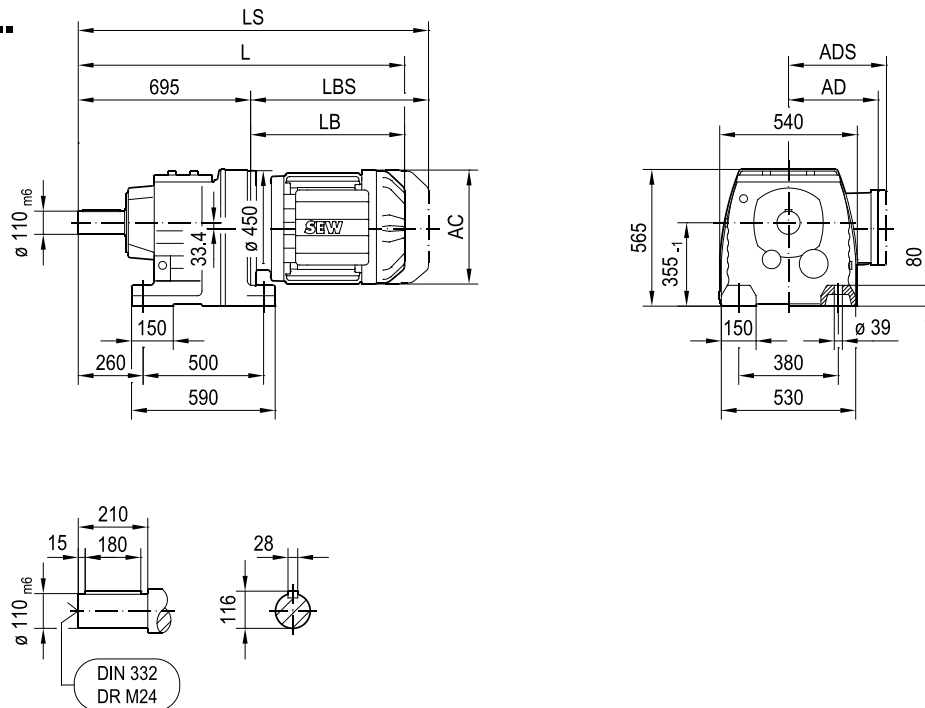
01 162 01 16

RF137..**ø 450****ø 550****RM137..**

(→ 7.2)	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M
AC	261	261	314	357	394	434	495	495	495
AD	228	228	253	268	283	305	394	394	394
ADS	228	228	253	268	283	305	394	394	394
L	1013	1039	1105	1128	1238	1212	1349	1349	1444
LS	1151	1176	1294	1317	1443	1417	1589	1589	1684
LB	424	450	516	539	649	623	760	760	855
LBS	562	587	705	728	854	828	1000	1000	1095

01 163 01 16

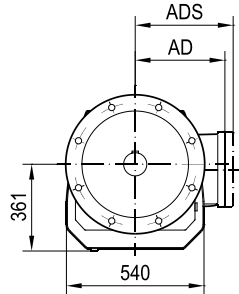
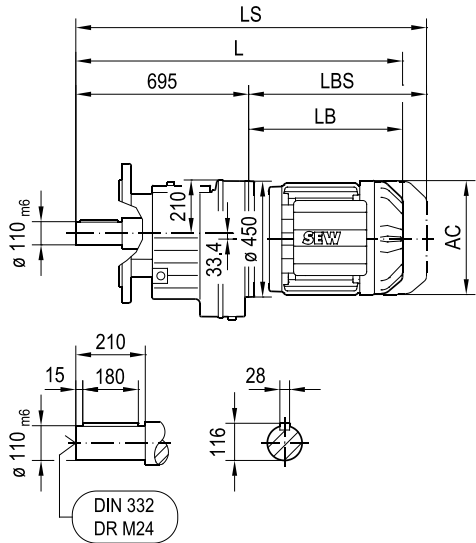
R147..



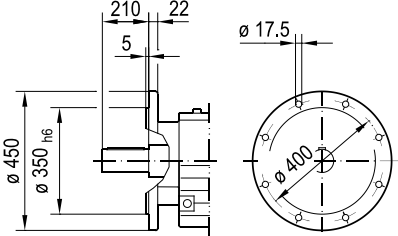
(→ 7.2)	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M
AC	261	314	357	394	434	495	495	495
AD	228	253	268	283	305	394	394	394
ADS	228	253	268	283	305	394	394	394
L	1137	1203	1226	1336	1310	1447	1447	1542
LS	1274	1392	1415	1541	1515	1687	1687	1782
LB	442	508	531	641	615	752	752	847
LBS	579	697	720	846	820	992	992	1087

01 164 01 16

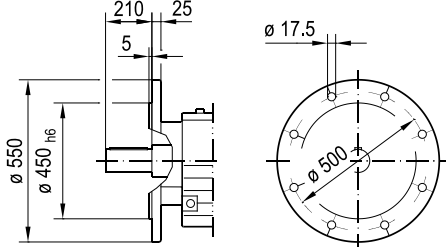
RF147..



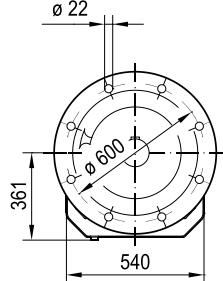
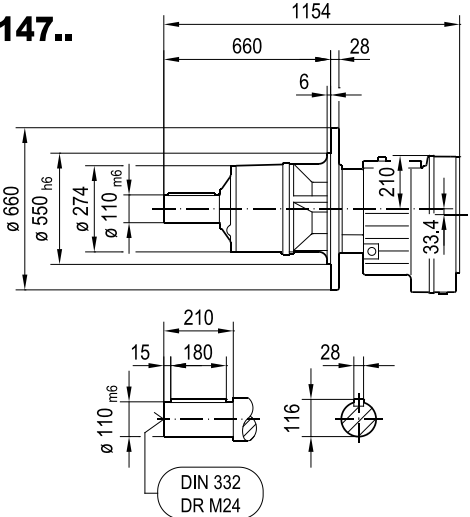
$\varnothing 450$



$\varnothing 550$



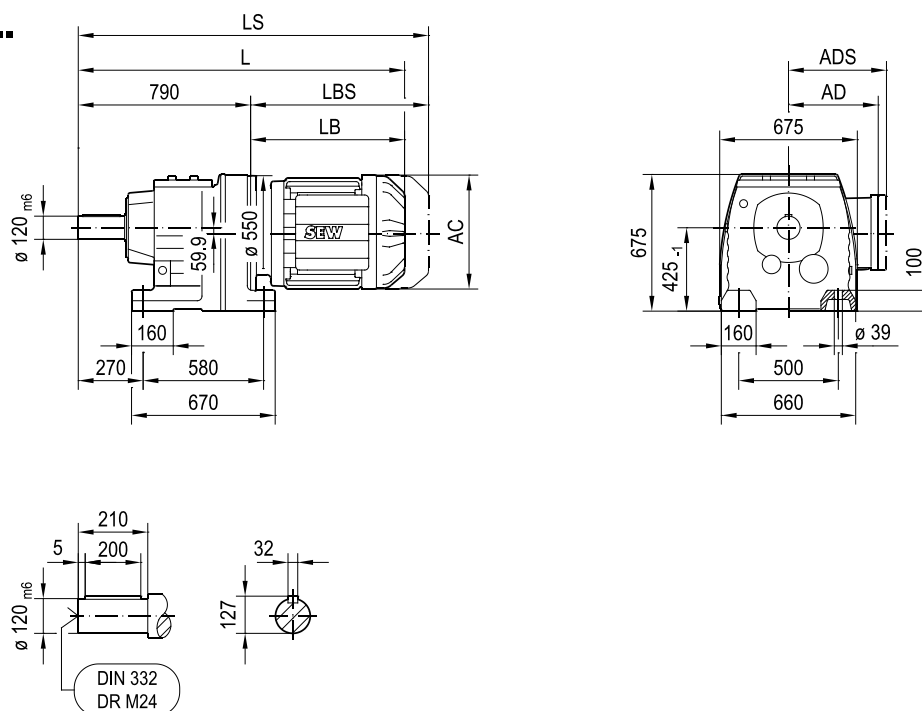
RM147..



(→ 7.2)	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M
AC	261	314	357	394	434	495	495	495
AD	228	253	268	283	305	394	394	394
ADS	228	253	268	283	305	394	394	394
L	1137	1203	1226	1336	1310	1447	1447	1542
LS	1274	1392	1415	1541	1515	1687	1687	1782
LB	442	508	531	641	615	752	752	847
LBS	579	697	720	846	820	992	992	1087

27782913/EN – 02/2023

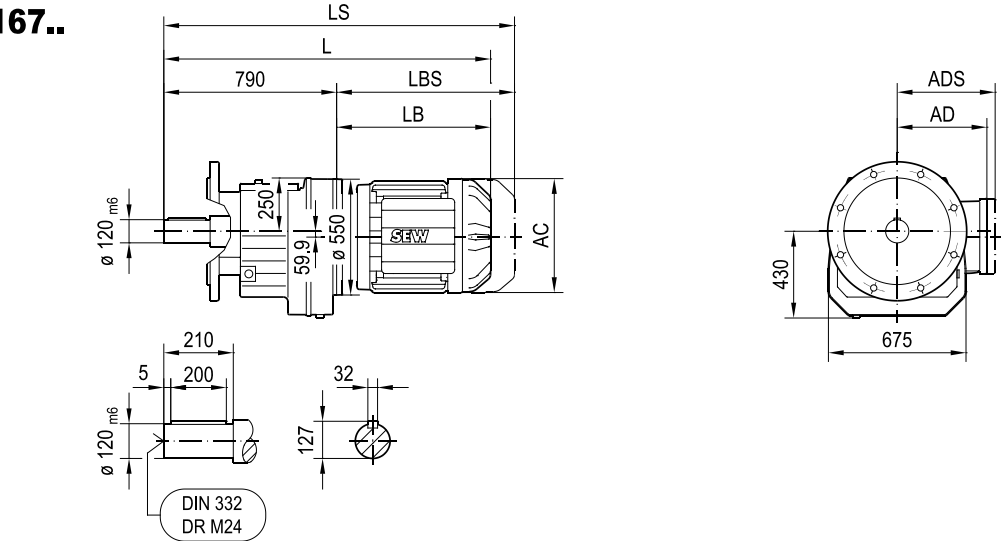
01 165 01 16

R167..


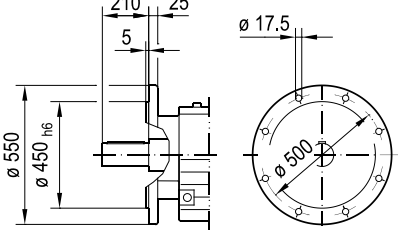
(→ 7.2)	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M	EDRN315S-M	EDRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1290	1313	1423	1397	1534	1534	1629	1731	1861
LS	1479	1502	1628	1602	1774	1774	1869	1982	2112
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

01 166 01 16

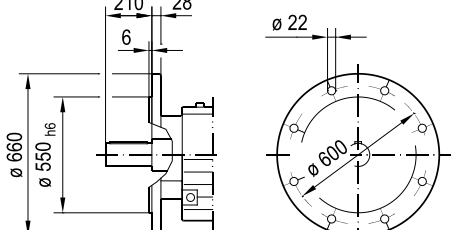
RF167..



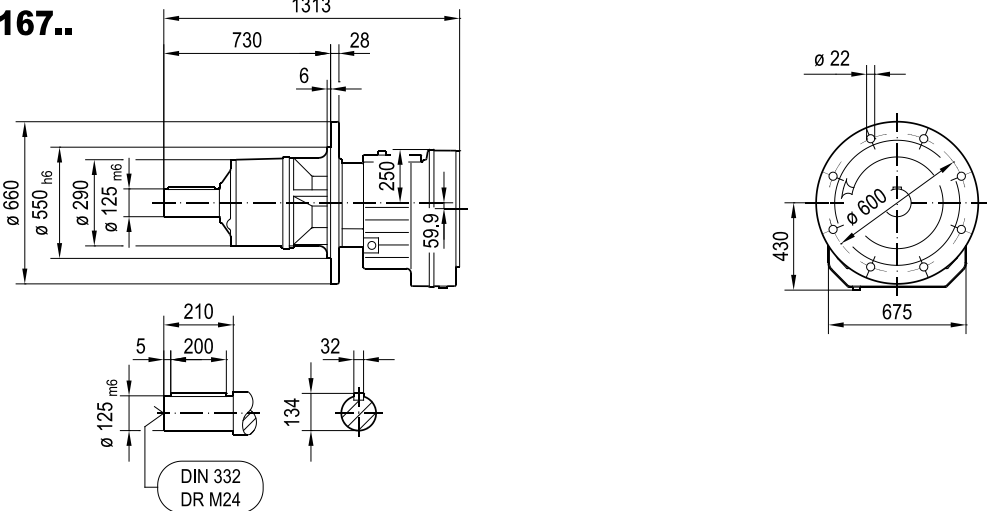
$\varnothing 550$



$\varnothing 660$



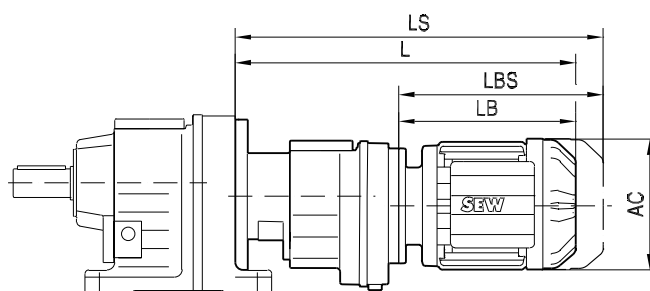
RM167..



(→ 7.2)	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M	EDRN315S-M	EDRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1290	1313	1423	1397	1534	1534	1629	1731	1861
LS	1479	1502	1628	1602	1774	1774	1869	1982	2112
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

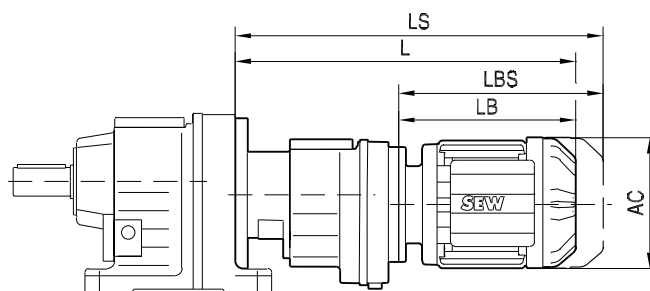
27782913/EN – 02/2023

12.1.3 R..R..EDRN.. /mm



01 131 00 16

(→ 246)		AC	L	LS	LB	LBS
R..67R37	EDRN80M	156	446	527	281	362
R..77R37	EDRN80M	156	438	519	281	362
	EDRN90S	179	440	533	283	376
R..87R57	EDRN80M	156	502	583	275	356
	EDRN90S	179	504	597	277	370
	EDRN90L	179	536	629	309	402
R..97R57	EDRN80M	156	497	578	275	356
	EDRN90S	179	499	592	277	370
	EDRN90L	179	531	624	309	402
	EDRN100LS	197	528	621	305	398
	EDRN100L	197	578	671	355	448
R..107R77	EDRN80M	156	515	596	268	349
	EDRN90S	179	517	610	270	363
	EDRN90L	179	549	642	302	395
	EDRN100LS	197	545	638	298	391
	EDRN100L	197	595	688	348	441
	EDRN112M	221	626	738	379	491
R..127R77	EDRN132S	221	676	788	429	541
	EDRN80M	156	515	596	268	349
	EDRN90S	179	517	610	270	363
	EDRN90L	179	549	642	302	395
	EDRN100LS	197	545	638	298	391
	EDRN100LM	197	595	688	348	441
	EDRN112M	221	626	738	379	491
	EDRN132S	221	676	788	429	541
	EDRN132M	261	694	832	447	585
	EDRN132L	261	720	857	473	610
R..137R77	EDRN160..	314	786	975	539	728
	EDRN80M	156	508	589	268	349
	EDRN90S	179	510	603	270	363
	EDRN90L	179	542	635	302	395
	EDRN100LS	197	538	631	298	391
	EDRN100L	197	588	681	348	441
	EDRN112M	221	619	731	379	491
	EDRN132S	221	669	781	429	541
	EDRN132M	261	685	824	445	584
	EDRN132L	261	710	849	470	609

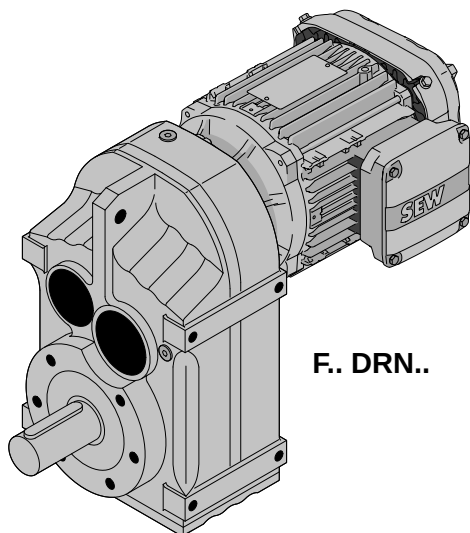


01 131 00 16

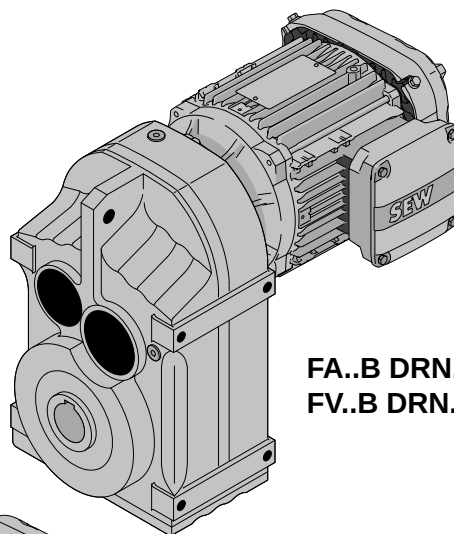
(→ 246)		AC	L	LS	LB	LBS
R..147R77	EDRN80M	156	500	581	268	349
	EDRN90S	179	502	595	270	363
	EDRN90L	179	534	627	302	395
	EDRN100LS	197	530	623	298	391
	EDRN100L	197	580	673	348	441
	EDRN112M	221	611	723	379	491
	EDRN132S	221	661	773	429	541
R..147R87	EDRN90L	179	577	670	297	390
	EDRN100LS	197	573	666	293	386
	EDRN100L	197	623	716	343	436
	EDRN112M	221	654	766	374	486
	EDRN132S	221	704	816	424	536
	EDRN132M	261	720	859	440	579
	EDRN132L	261	745	884	465	604
	EDRN160M	314	814	1003	534	723
R..167R97	EDRN160L	314	814	1003	534	723
	DR71M	139	529	597	204	272
	EDRN80M	156	583	664	258	339
	EDRN90S	179	585	678	260	353
	EDRN90L	179	617	710	292	385
	EDRN100LS	197	613	706	288	381
	EDRN100L	197	663	756	338	431
	EDRN112M	221	694	806	369	481
	EDRN132S	221	744	856	419	531
	EDRN132M	261	760	899	435	574
	EDRN132L	261	785	924	460	599
R..167R107	EDRN160M	314	854	1043	529	718
	EDRN100LS	197	664	757	282	375
	EDRN100L	197	714	807	332	425
	EDRN112M	221	745	857	363	475
	EDRN132S	221	795	907	413	525
	EDRN132M	261	811	950	429	568
	EDRN132L	261	836	975	454	593
	EDRN160M	314	905	1094	523	712
	EDRN160L	314	905	1094	523	712
	EDRN180M	357	930	1119	548	737

12.2 Parallel-shaft helical gearmotors

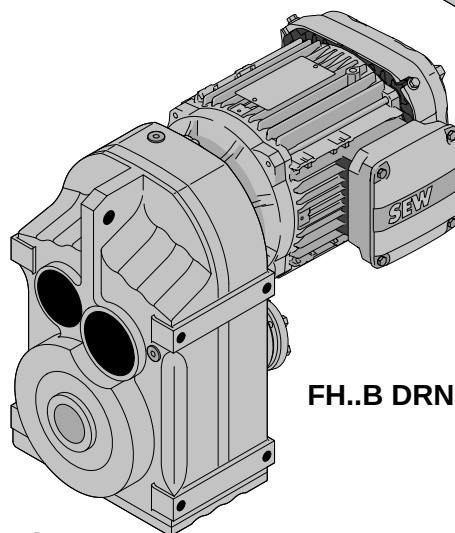
12.2.1 F..DRN.. designs



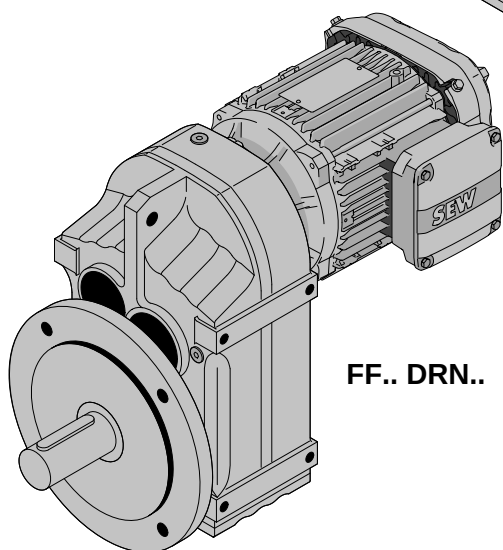
F.. DRN..



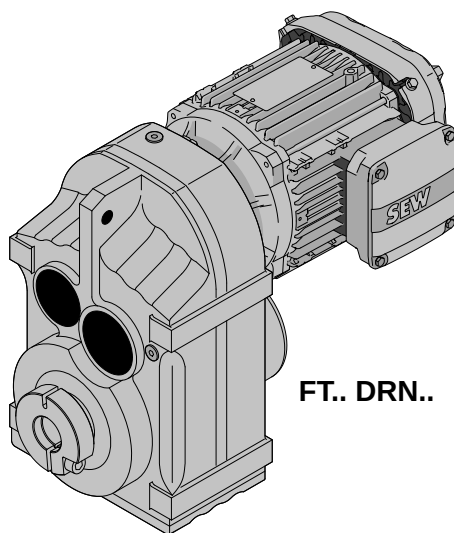
FA..B DRN..
FV..B DRN..



FH..B DRN..

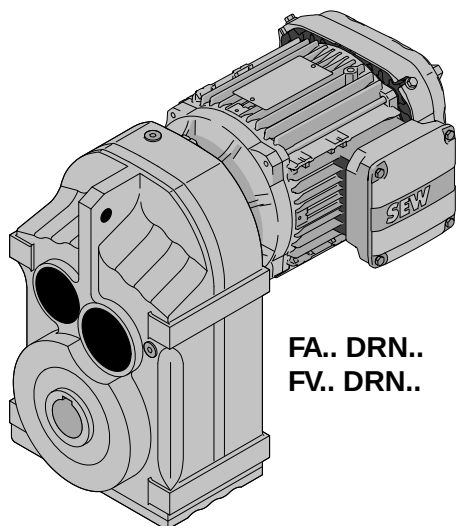


FF.. DRN..

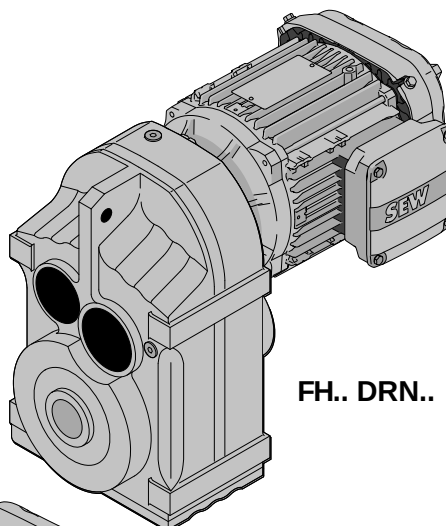


FT.. DRN..

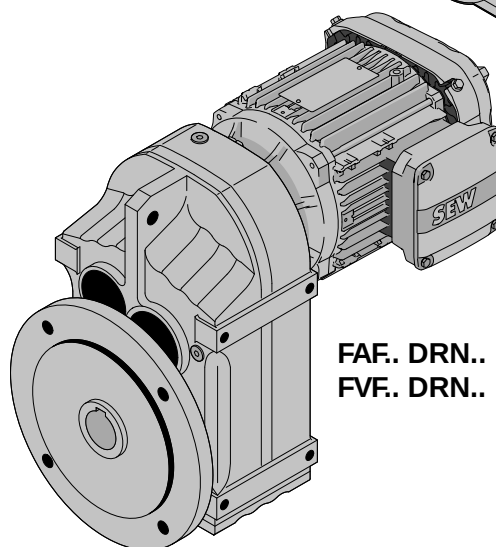
27021611231691019



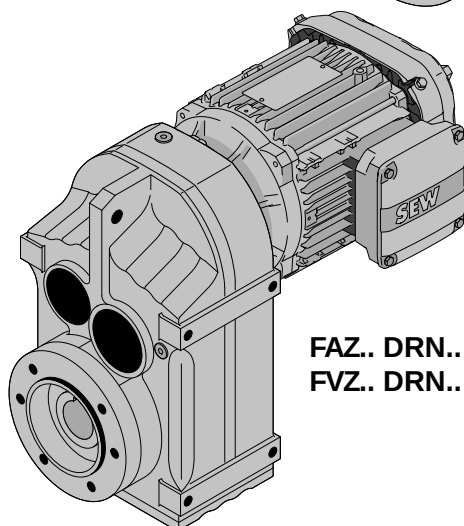
**FA.. DRN..
FV.. DRN..**



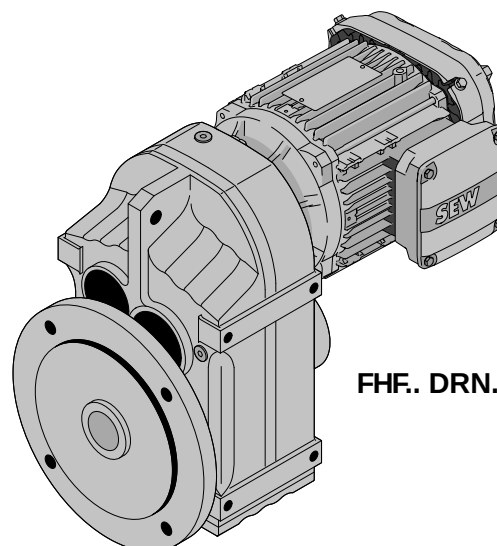
FH.. DRN..



**FAF.. DRN..
FVF.. DRN..**



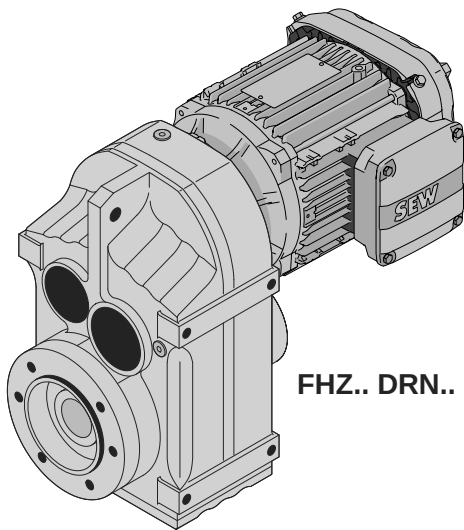
**FAZ.. DRN..
FVZ.. DRN..**



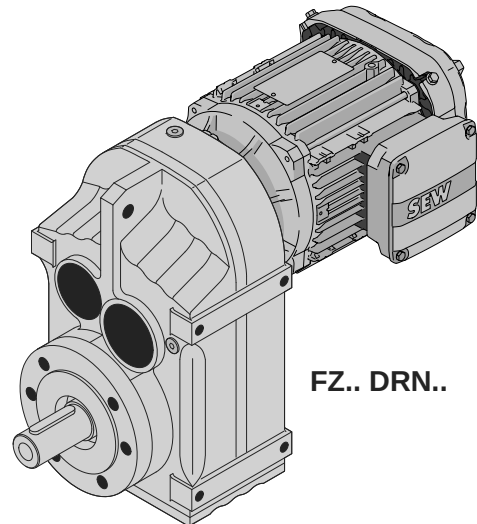
FHF.. DRN..

27021611231693579

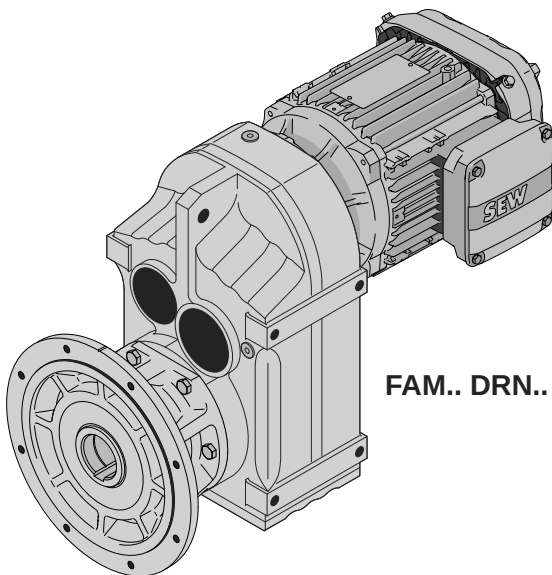
27782913/EN – 02/2023



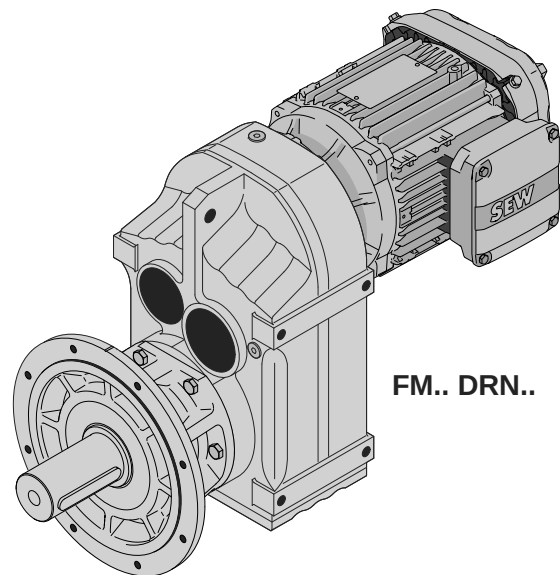
FHZ.. DRN..



FZ.. DRN..



FAM.. DRN..

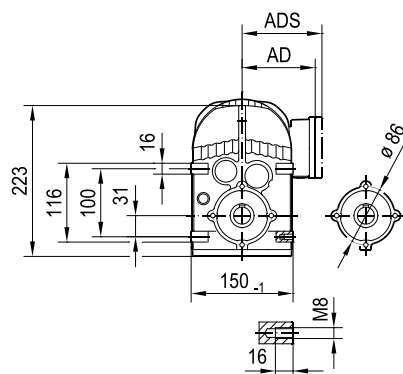
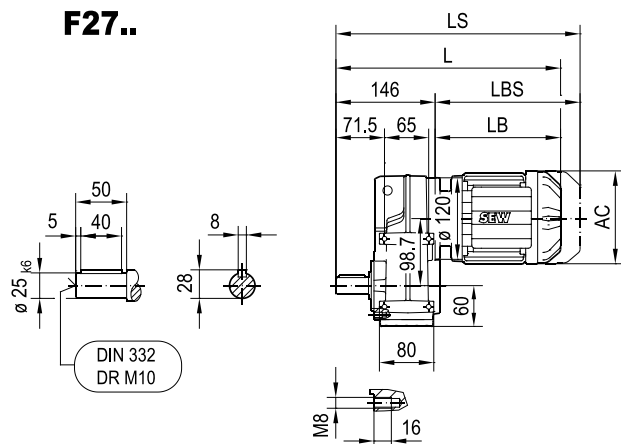
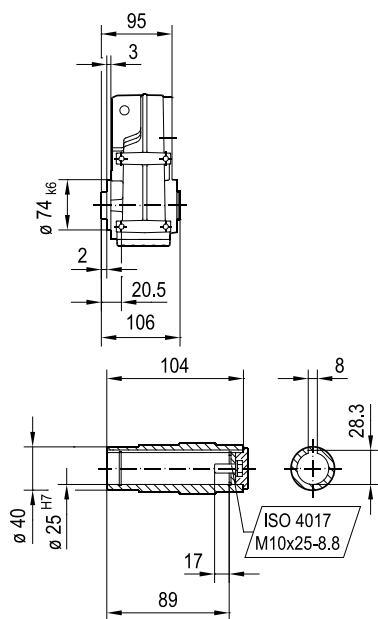
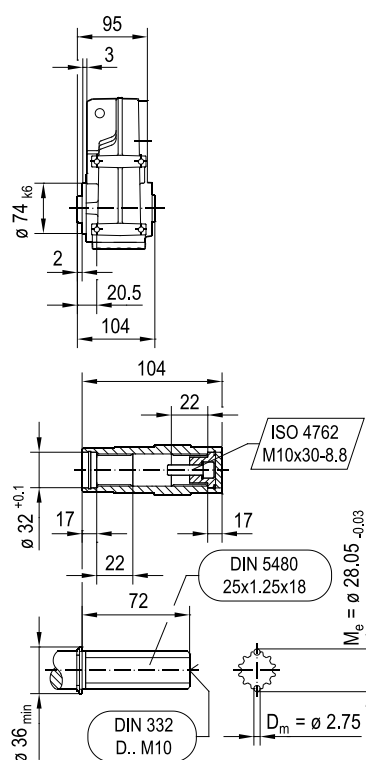


FM.. DRN..

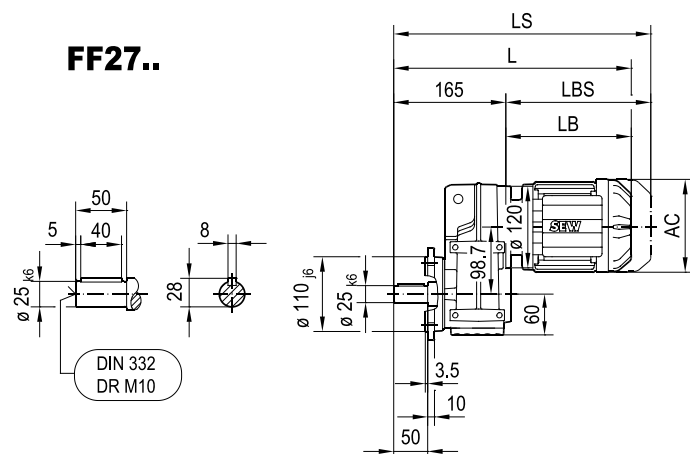
36028810486643851

12.2.2 F..EDRN.. /mm

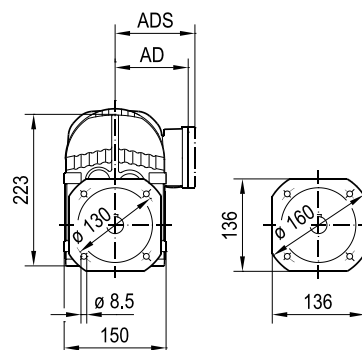
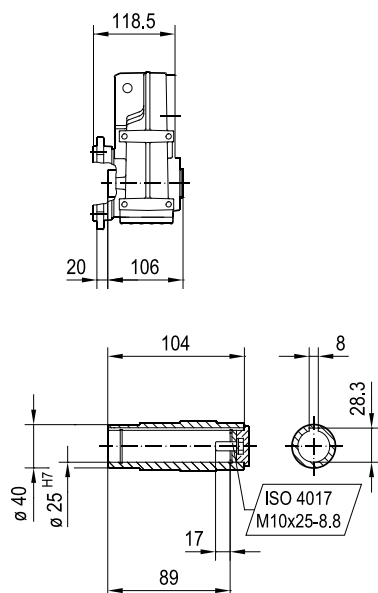
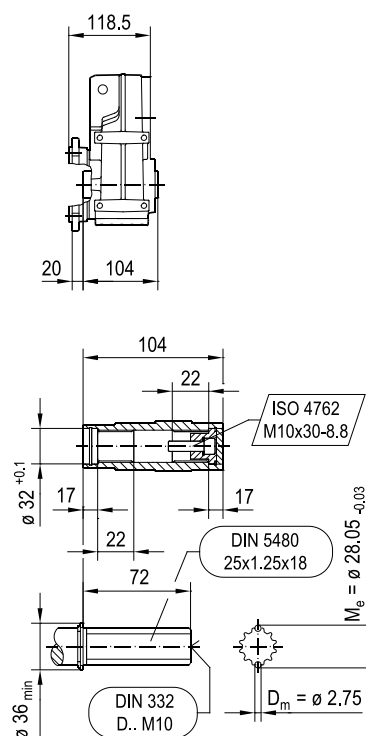
42 141 00 16

F27..**FA27B..****FV27B..**

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	428	429	461	460	510
LS	509	523	555	554	604
LB	282	283	315	314	364
LBS	363	377	409	408	458

FF27..


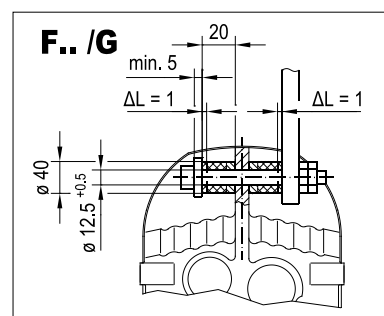
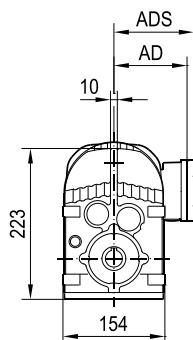
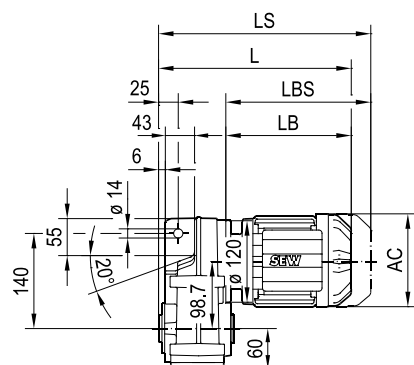
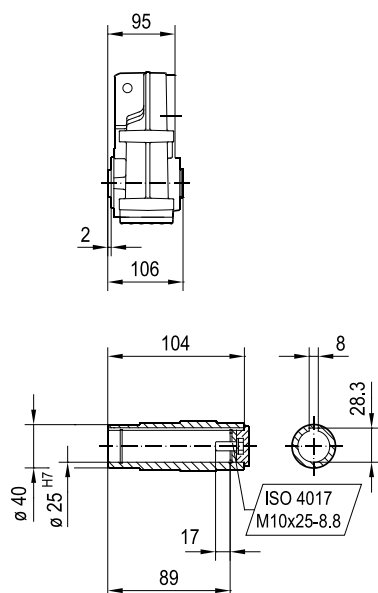
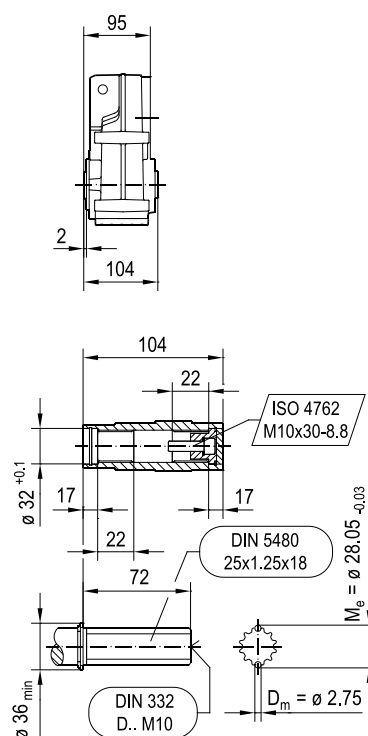
42 142 00 16


FAF27..

FVF27..


(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	447	448	480	479	529
LS	528	542	574	573	623
LB	282	283	315	314	364
LBS	363	377	409	408	458

FA27..

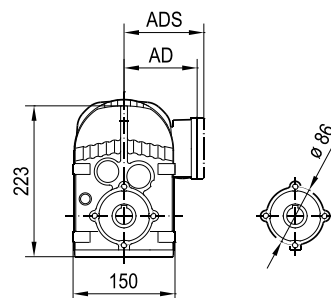
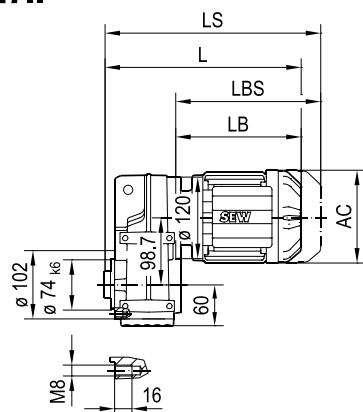
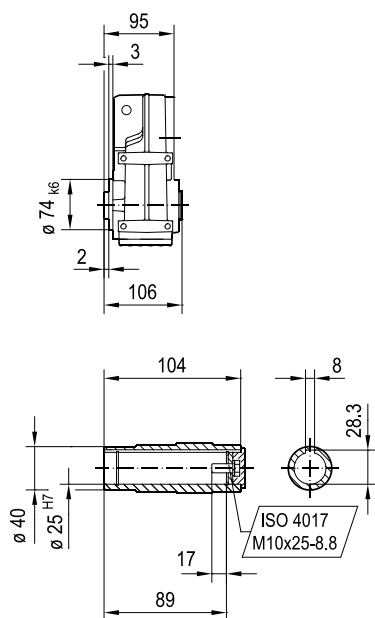
42 143 00 16

**FA27..****FV27..**

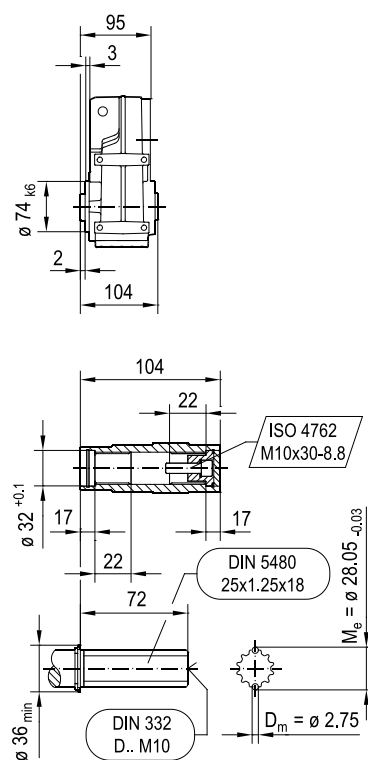
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	377	378	410	409	459
LS	458	472	504	503	553
LB	282	283	315	314	364
LBS	363	377	409	408	458

FAZ27..

42 144 00 16

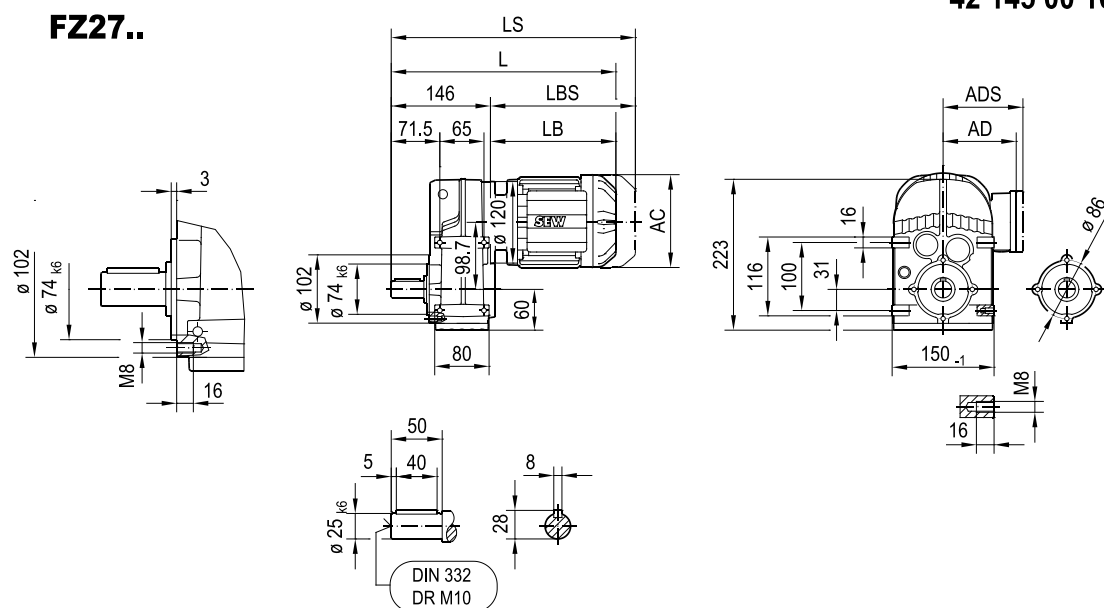
**FAZ27..**

FVZ27..



(→ 🏠 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	377	378	410	409	459
LS	458	472	504	503	553
LB	282	283	315	314	364
LBS	363	377	409	408	458

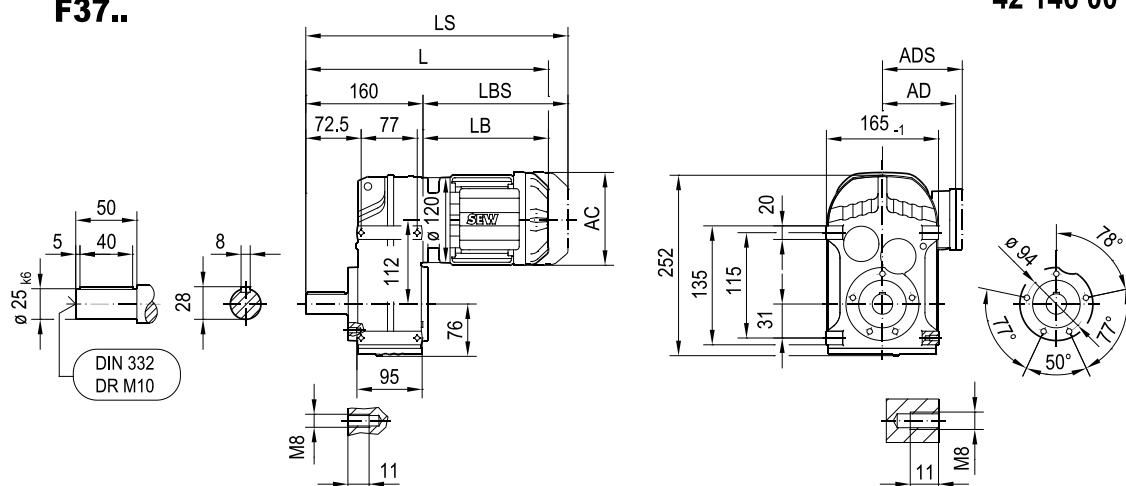
42 145 00 16

FZ27..

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	428	429	461	460	510
LS	509	523	555	554	604
LB	282	283	315	314	364
LBS	363	377	409	408	458

F37..

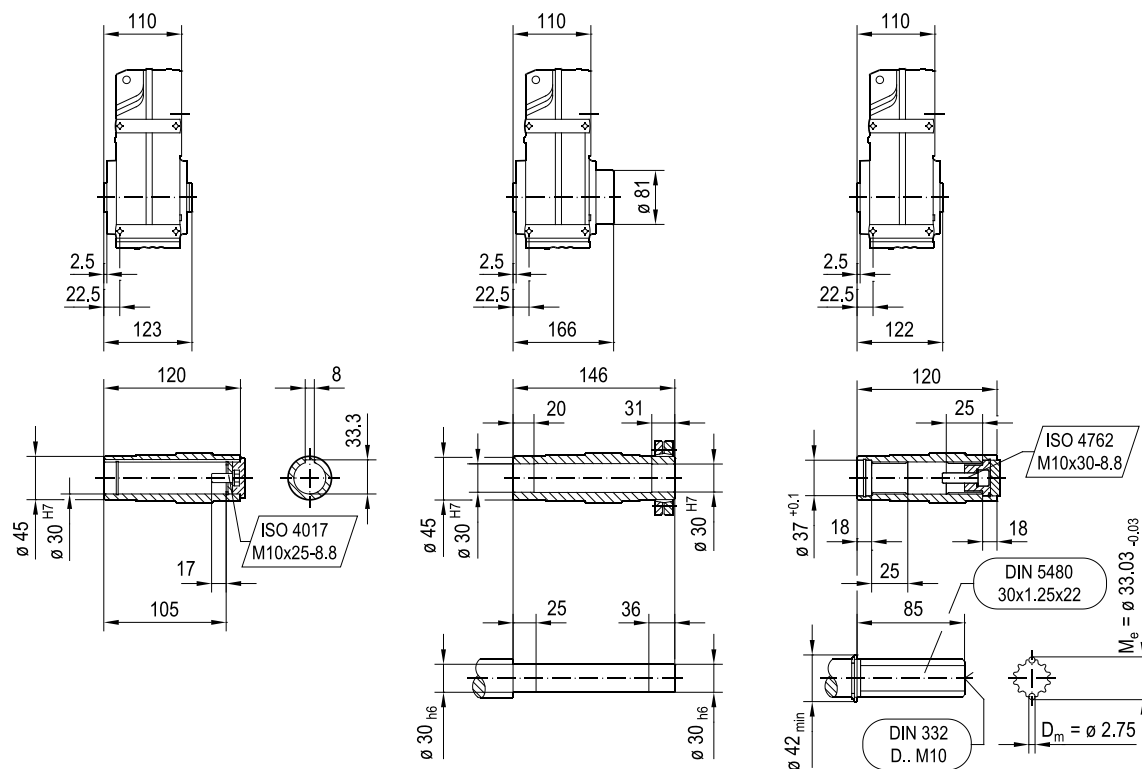
42 146 00 16



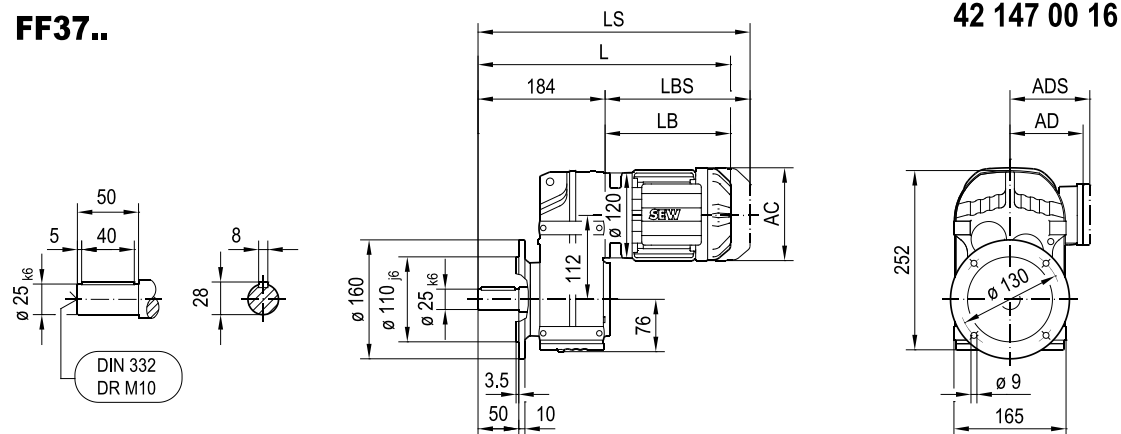
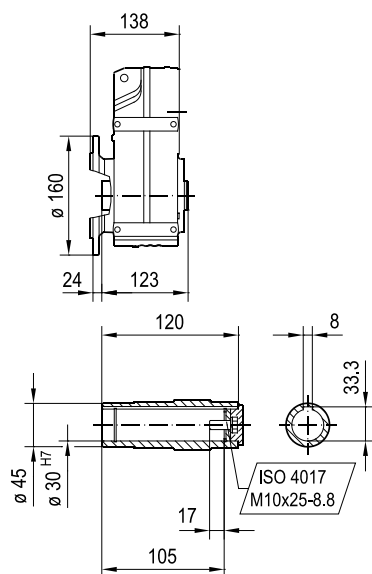
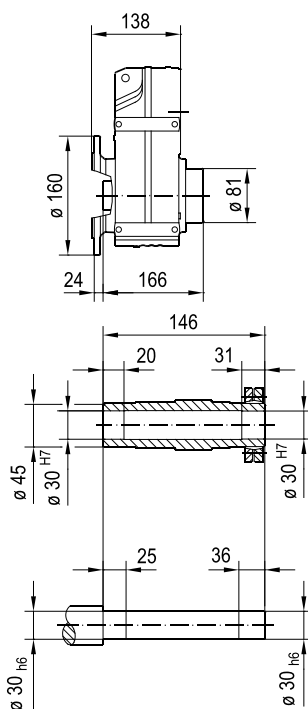
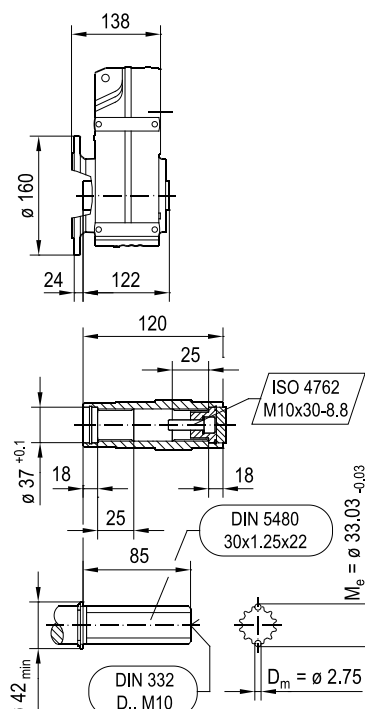
FA37B..

FH37B..
max. EDR71M

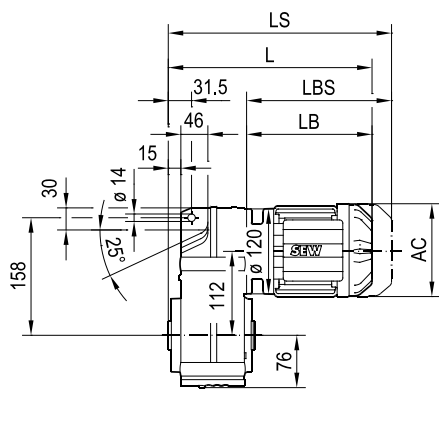
FV37B..



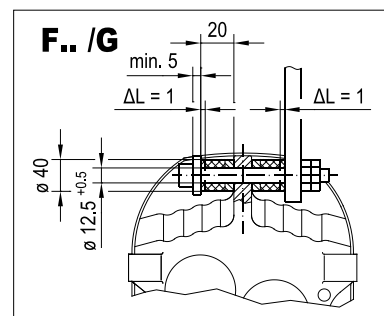
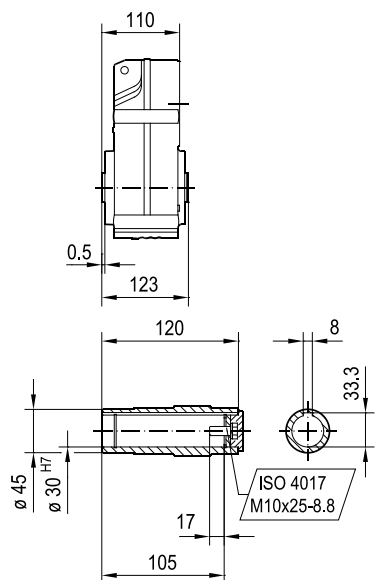
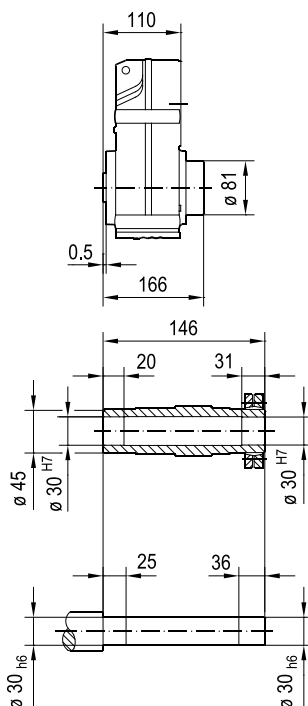
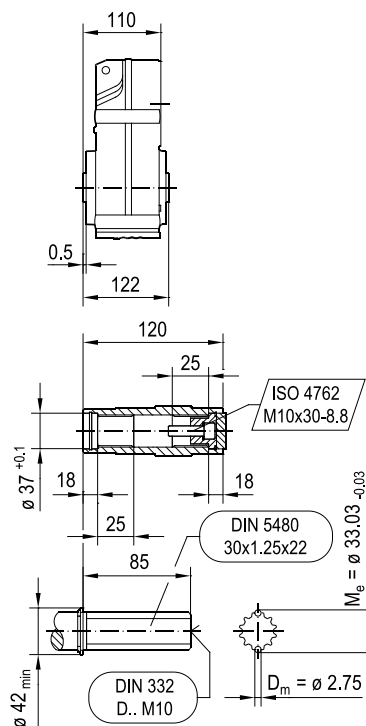
(→  7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	442	443	475	474	524
LS	523	537	569	568	618
LB	282	283	315	314	364
LBS	363	377	409	408	458

FF37..**FAF37..****FHF37..**
max. EDR71M**FVF37..**

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	466	467	499	498	548
LS	547	561	593	592	642
LB	282	283	315	314	364
LBS	363	377	409	408	458

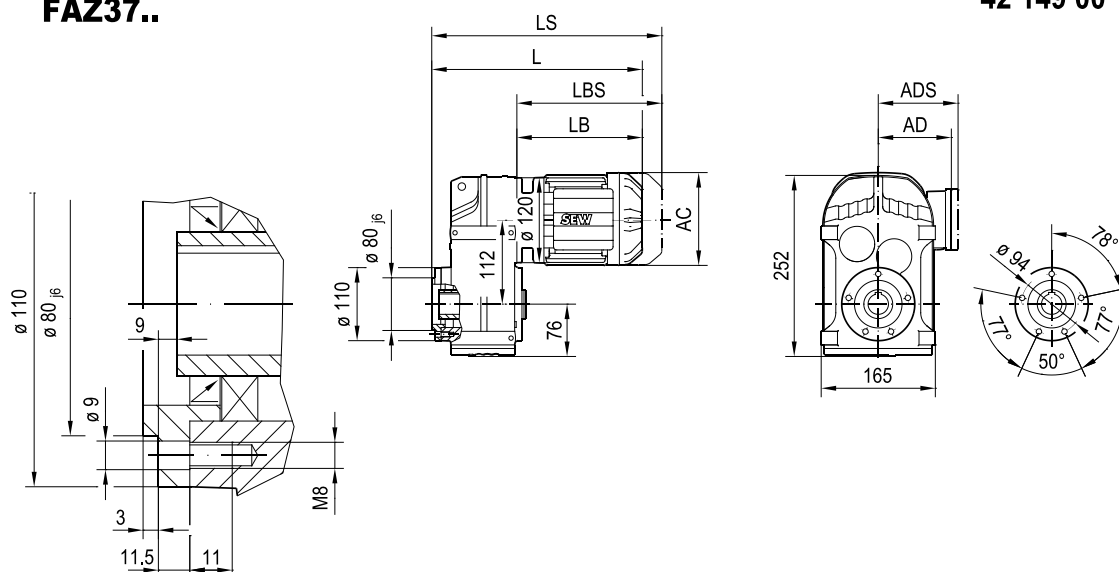
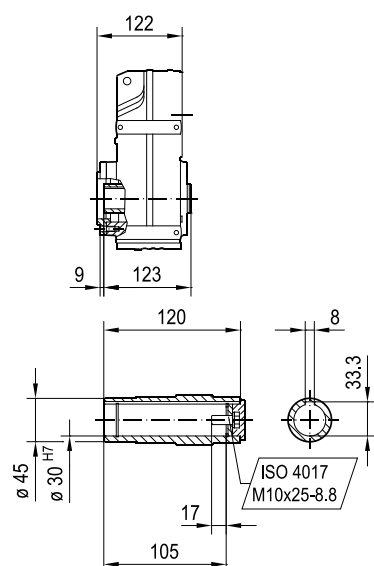
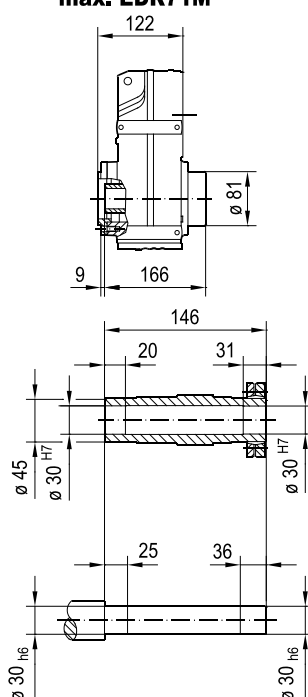
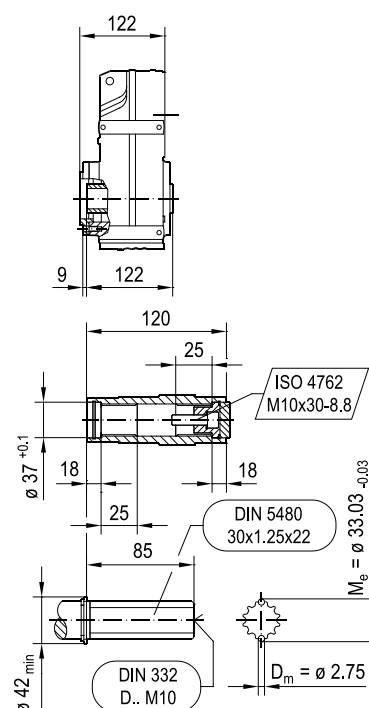
FA37..


42 148 00 16

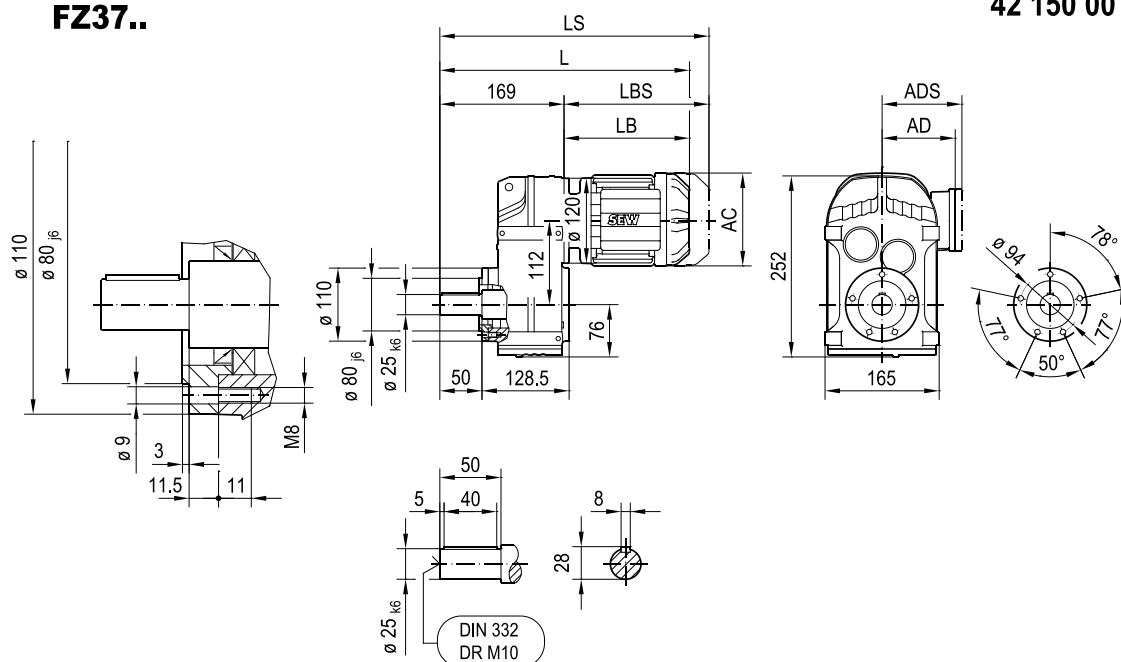

FA37..

FH37..
max. EDR71M

FV37..


(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	392	393	425	424	474
LS	473	487	519	518	568
LB	282	283	315	314	364
LBS	363	377	409	408	458

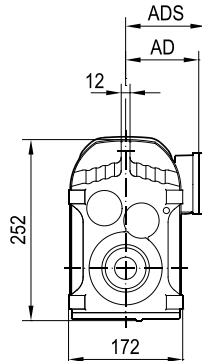
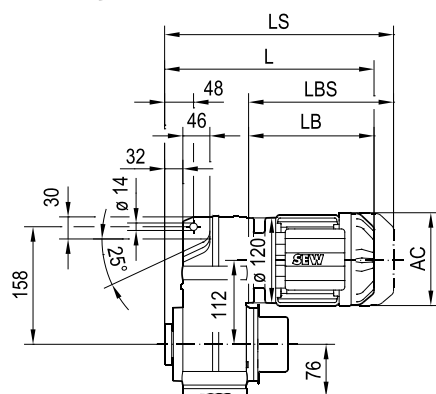
42 149 00 16

FAZ37..**FAZ37..****FHZ37..**
max. EDR71M**FVZ37..**

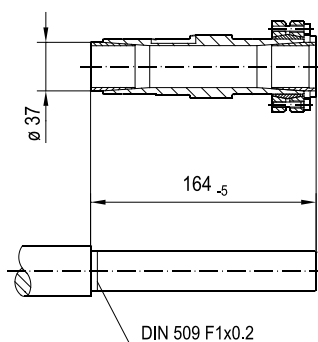
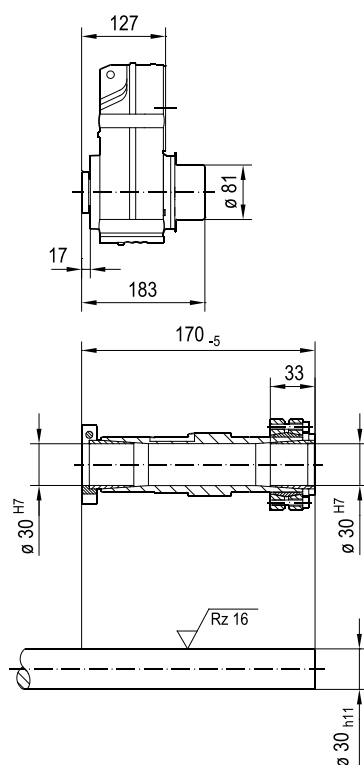
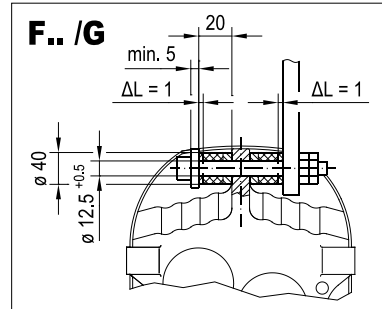
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	404	405	437	436	486
LS	485	499	531	530	580
LB	282	283	315	314	364
LBS	363	377	409	408	458

FZ37..
42 150 00 16


(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	451	452	484	483	533
LS	532	546	578	577	627
LB	282	283	315	314	364
LBS	363	377	409	408	458

FT37..

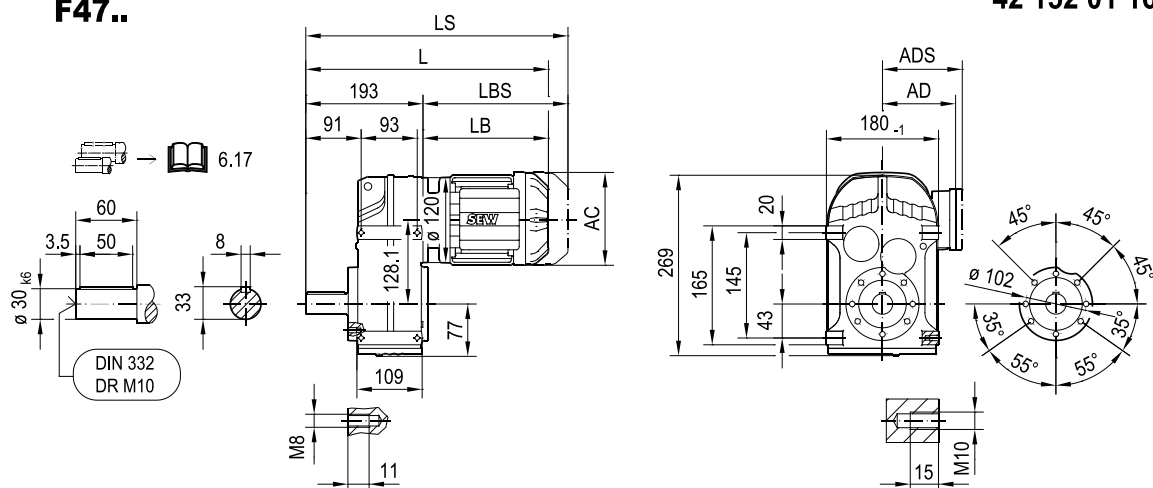
42 151 00 16

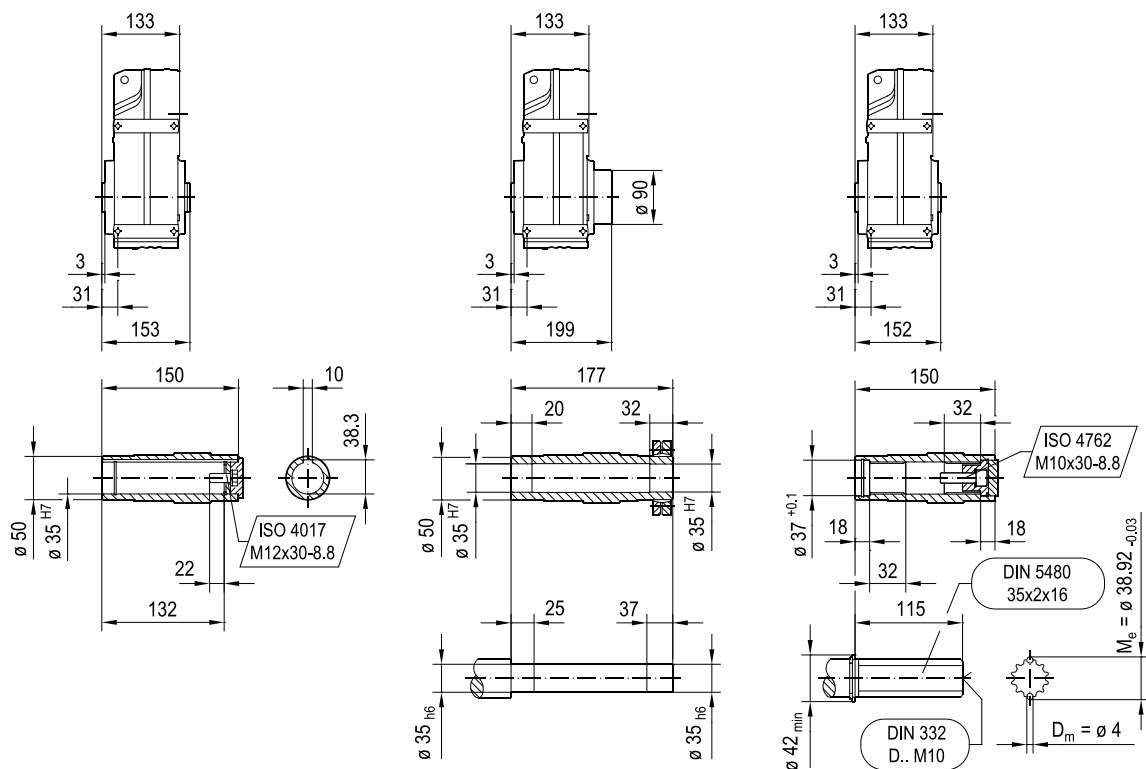
F.. /G

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	409	410	442	441	491
LS	490	504	536	535	585
LB	282	283	315	314	364
LBS	363	377	409	408	458

F47..

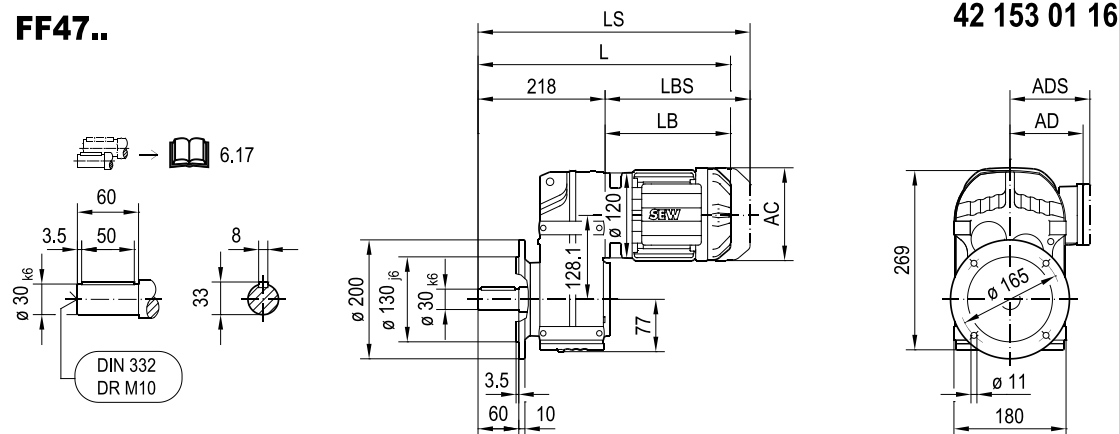
42 152 01 16


FA47B..
FH47B..
max. EDR71M

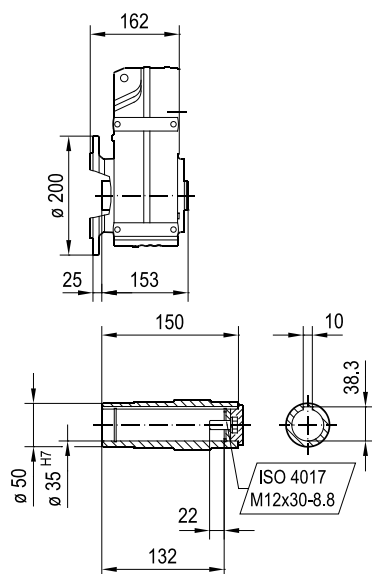
FV47B..


(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	475	476	508	507	557
LS	556	570	602	601	651
LB	282	283	315	314	364
LBS	363	377	409	408	458

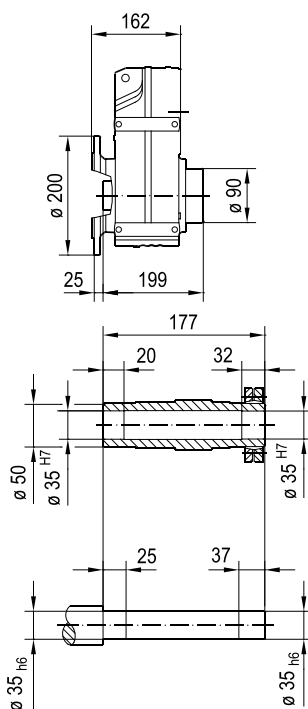
42 153 01 16



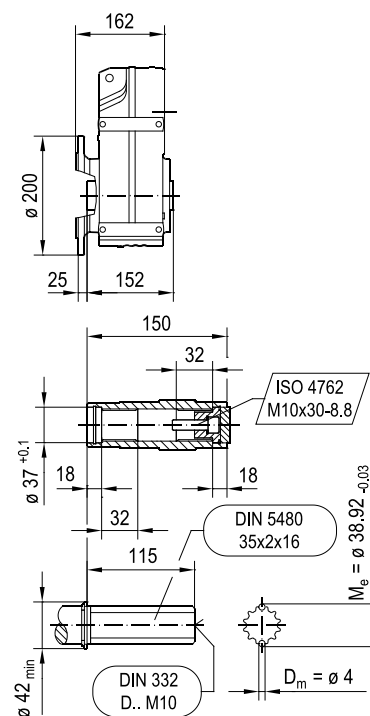
FAF47..



FHF47..
max. EDR71M

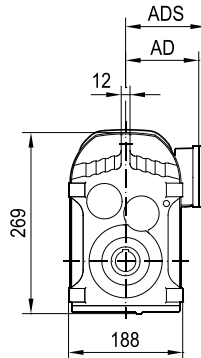
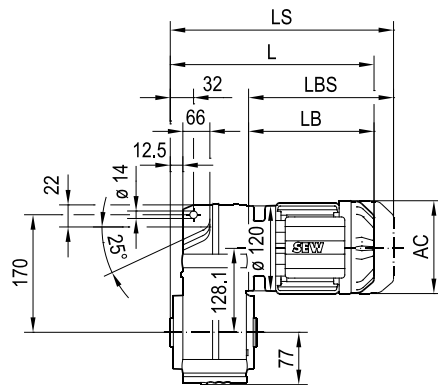


FVF47..

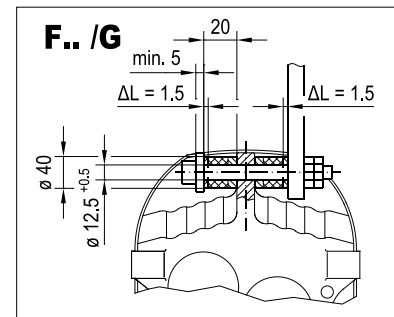


(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	500	501	533	532	582
LS	581	595	627	626	676
LB	282	283	315	314	364
LBS	363	377	409	408	458

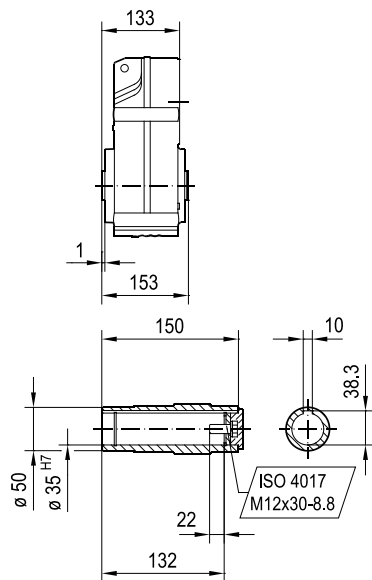
FA47..



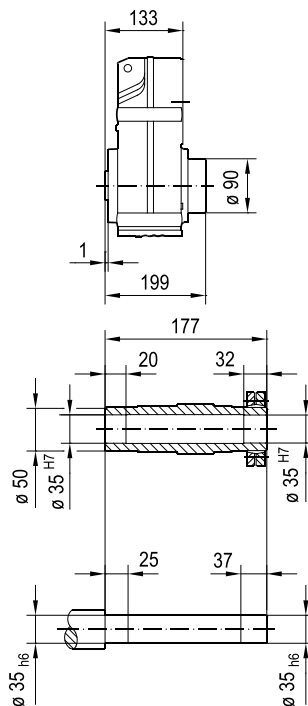
42 154 00 16



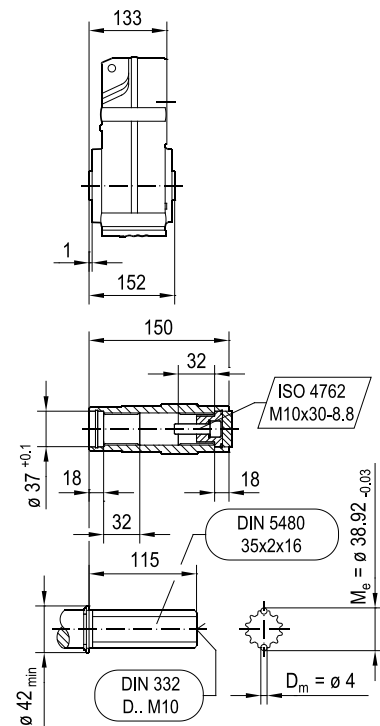
FA47..



FH47..
max. EDR71M

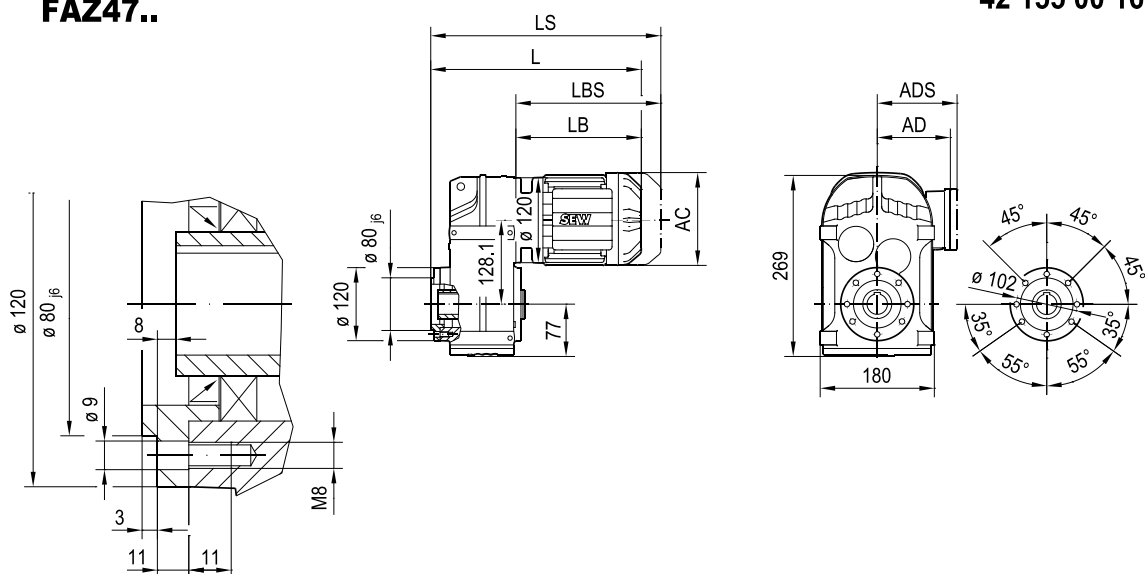


FV47..

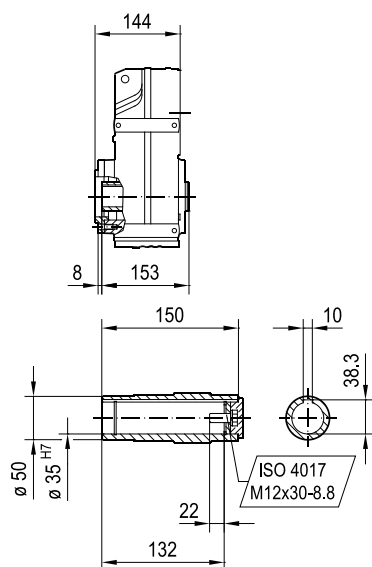


(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	415	416	448	447	497
LS	496	510	542	541	591
LB	282	283	315	314	364
LBS	363	377	409	408	458

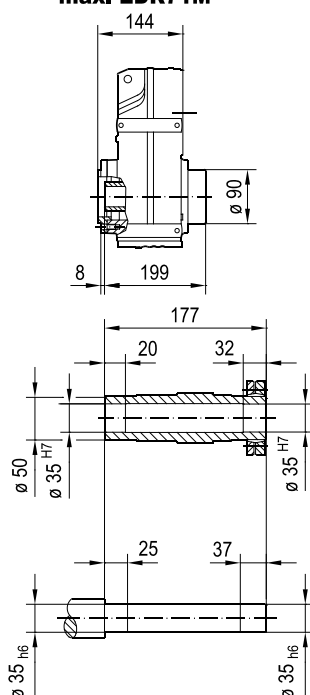
42 155 00 16



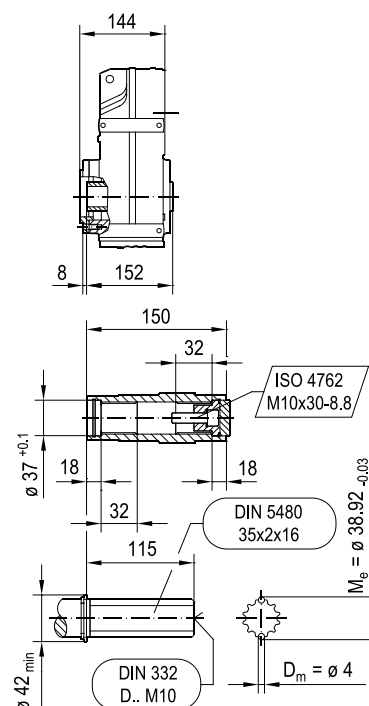
FAZ47..



FHZ47..
max. EDR71M



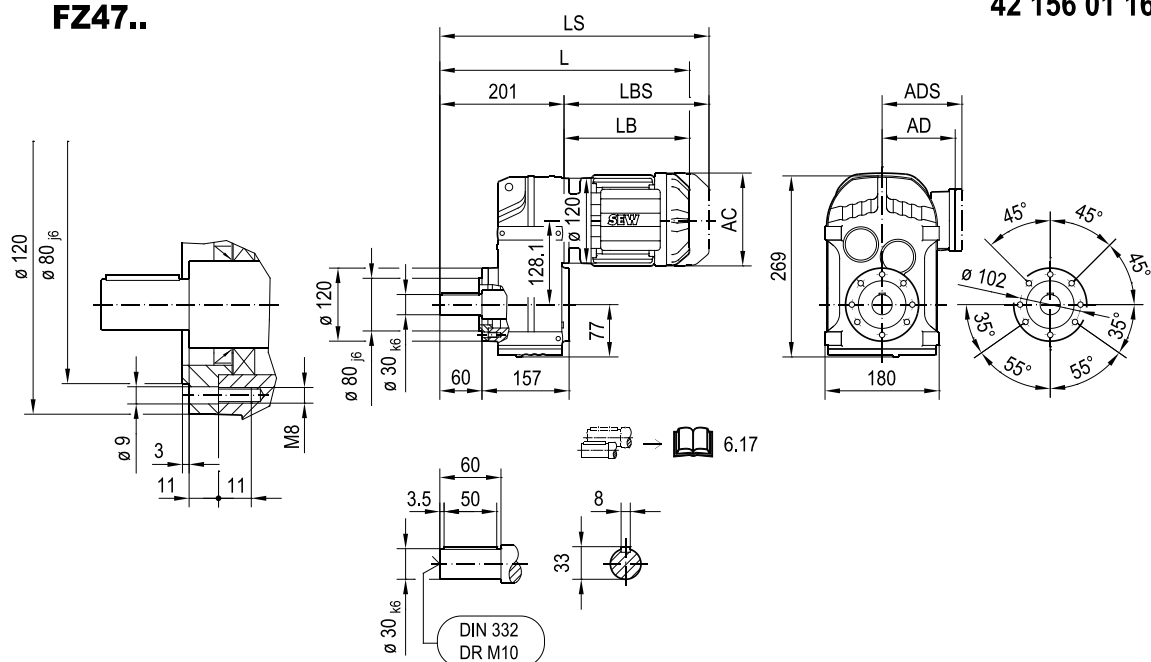
FVZ47..



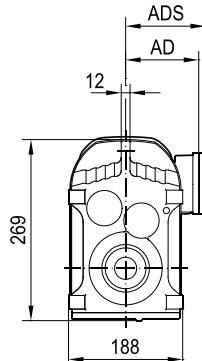
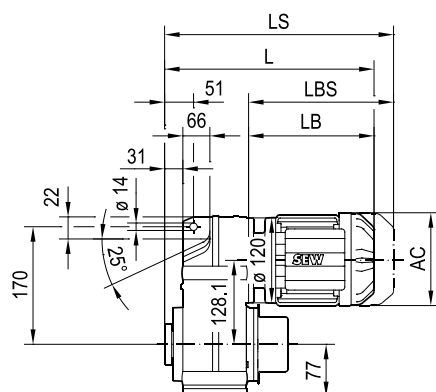
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	426	427	459	458	508
LS	507	521	553	552	602
LB	282	283	315	314	364
LBS	363	377	409	408	458

FZ47..

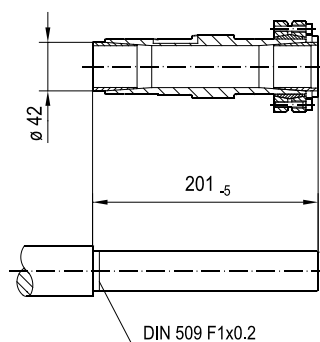
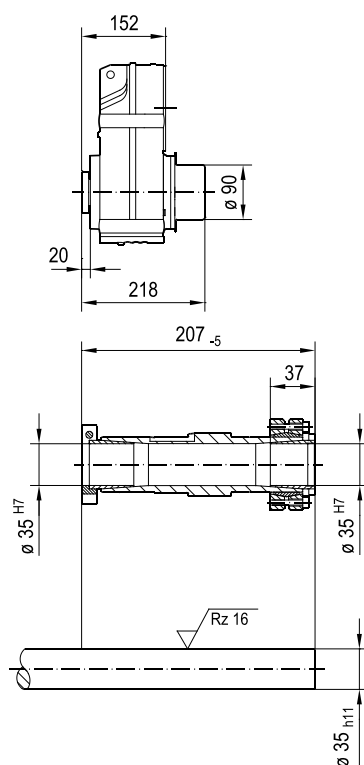
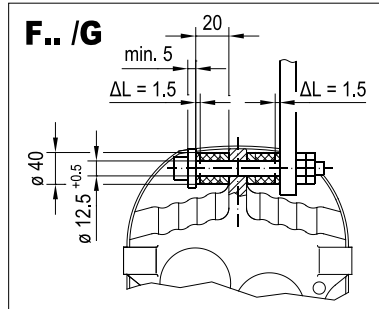
42 156 01 16



(→ 🏠 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	483	484	516	515	565
LS	564	578	610	609	659
LB	282	283	315	314	364
LBS	363	377	409	408	458

FT47..

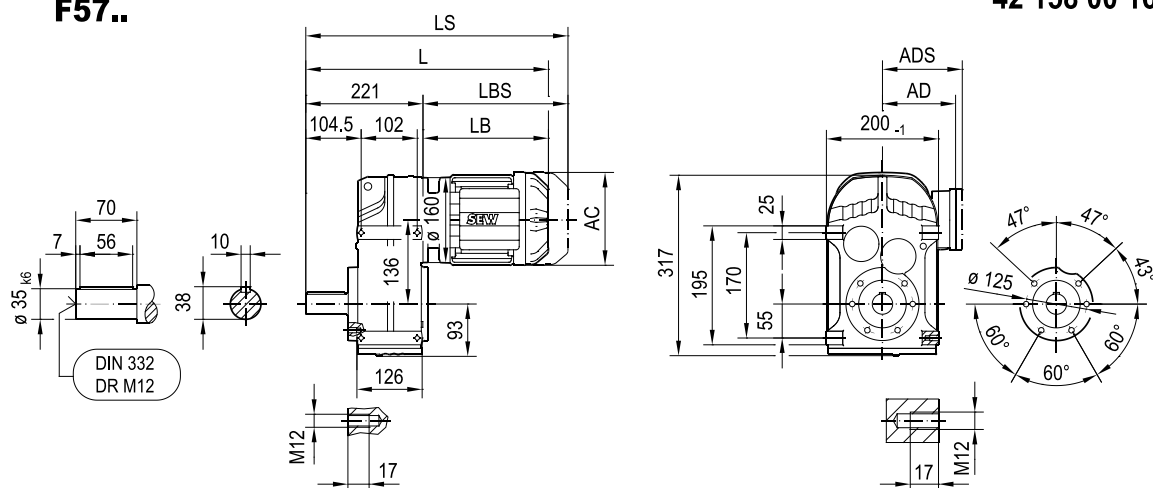
42 157 00 16

F.. /G

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	434	435	467	466	516
LS	515	529	561	560	610
LB	282	283	315	314	364
LBS	363	377	409	408	458

F57..

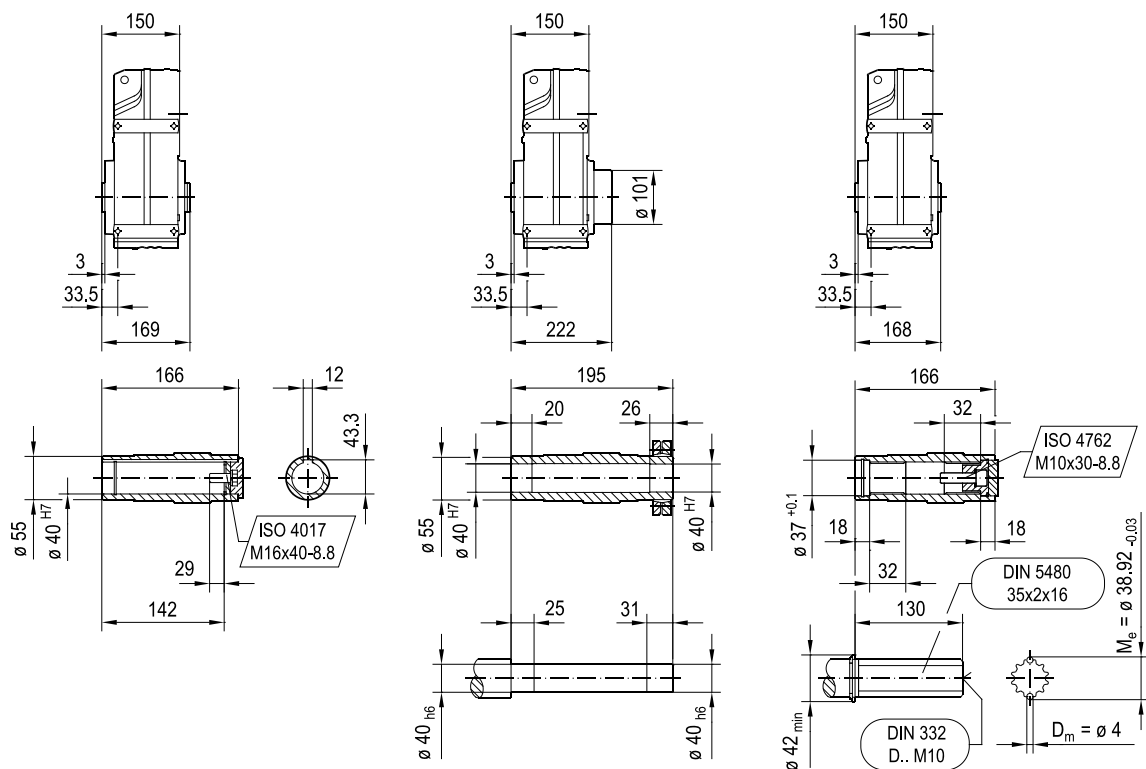
42 158 00 16



FA57B..

FH57B..
max. EDRN80M

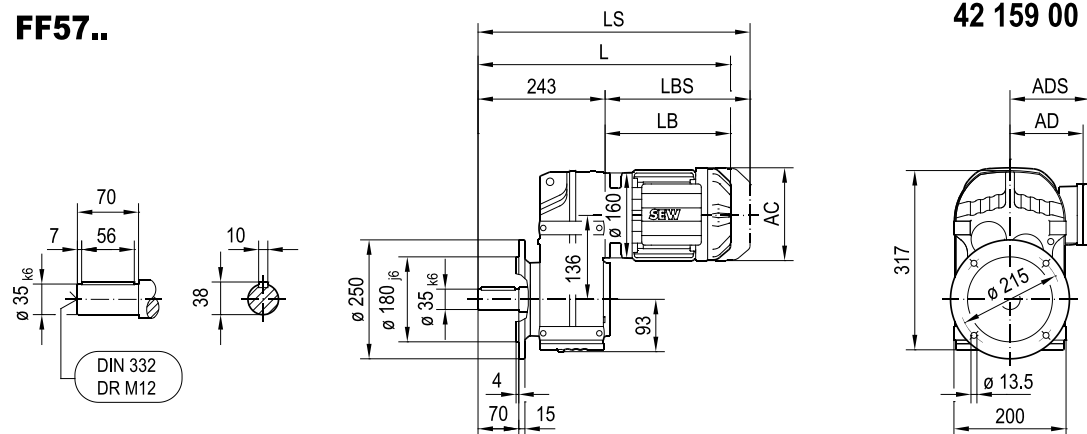
FV57B..



(→  7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	496	498	530	526	576	607	661	679
LS	577	591	623	620	670	719	773	817
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

FF57..

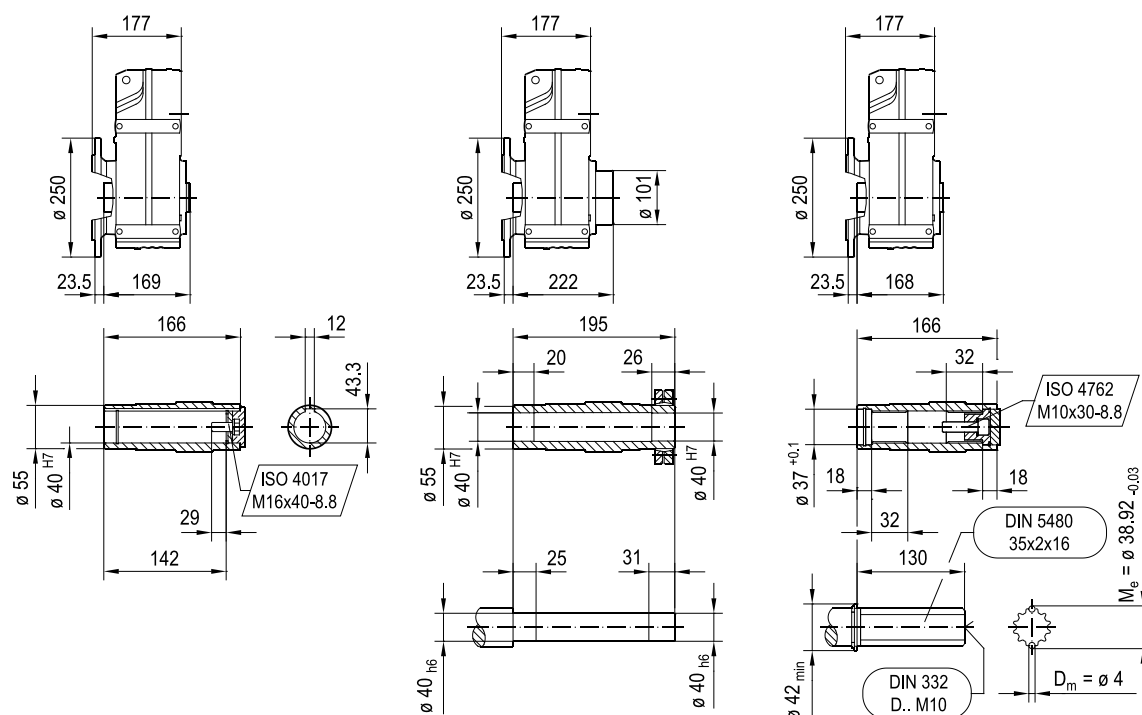
42 159 00 16



FAF57..

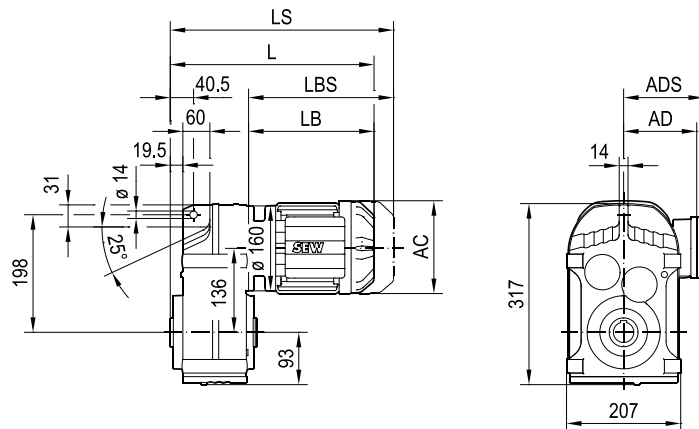
FHF57..
max. EDRN80M

FVF57..

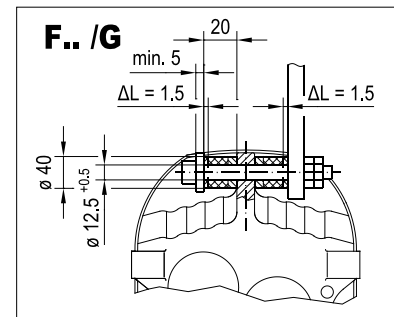


(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	518	520	552	548	598	629	683	701
LS	599	613	645	642	692	741	795	839
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

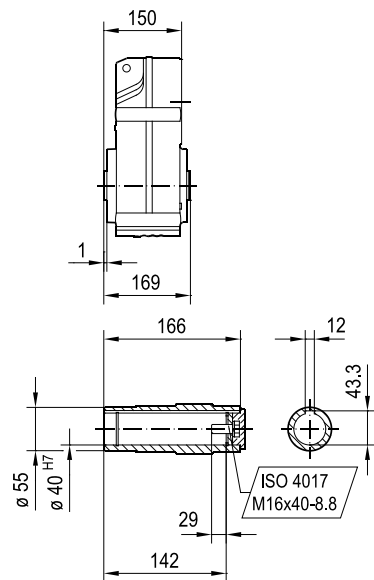
FA57..



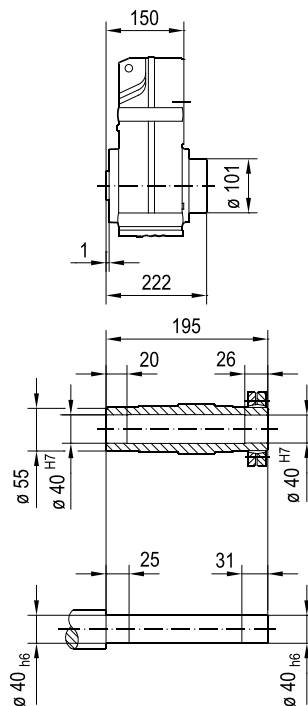
42 160 00 16



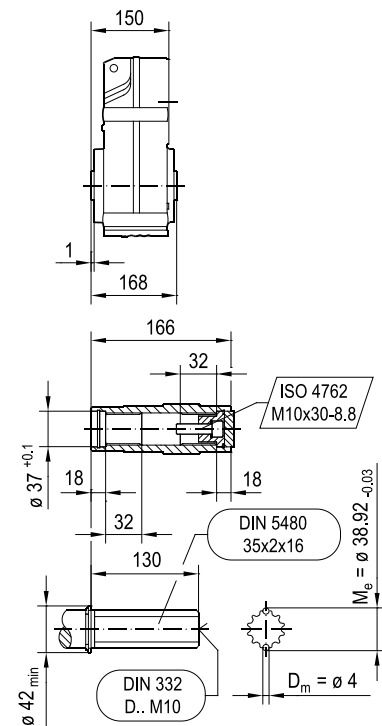
FA57..



FH57..
max. EDRN80M

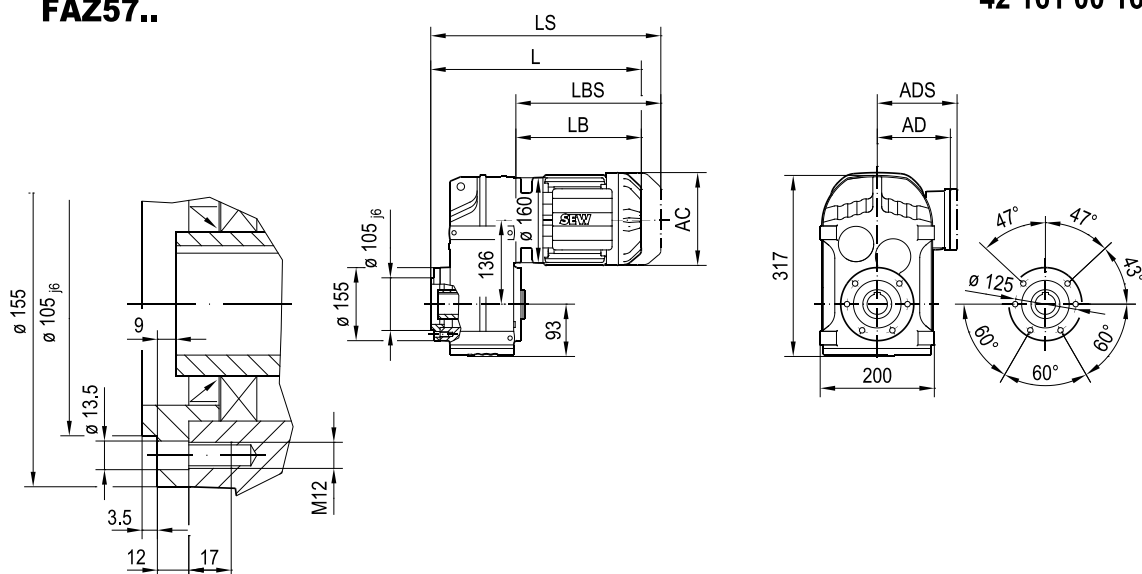
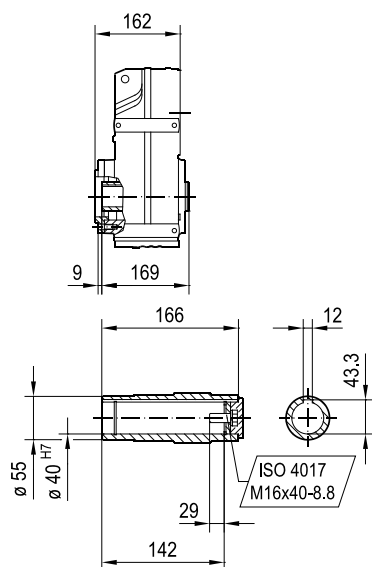


FV57..

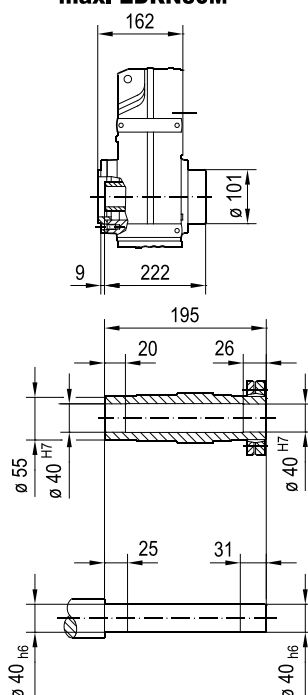


(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	425	427	459	455	505	536	590	608
LS	506	520	552	549	599	648	702	746
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

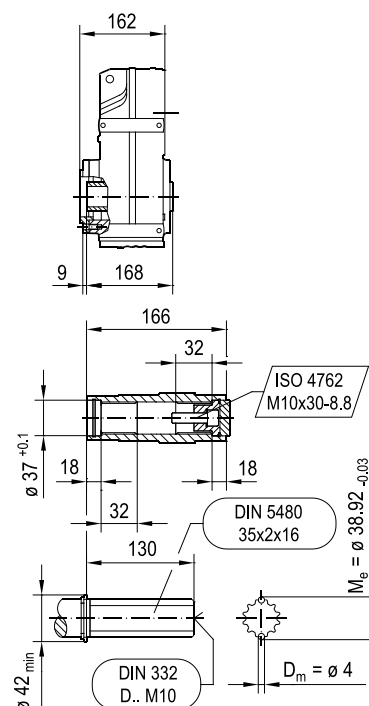
42 161 00 16

**FAZ57..**

FHZ57..
max. EDRN80M



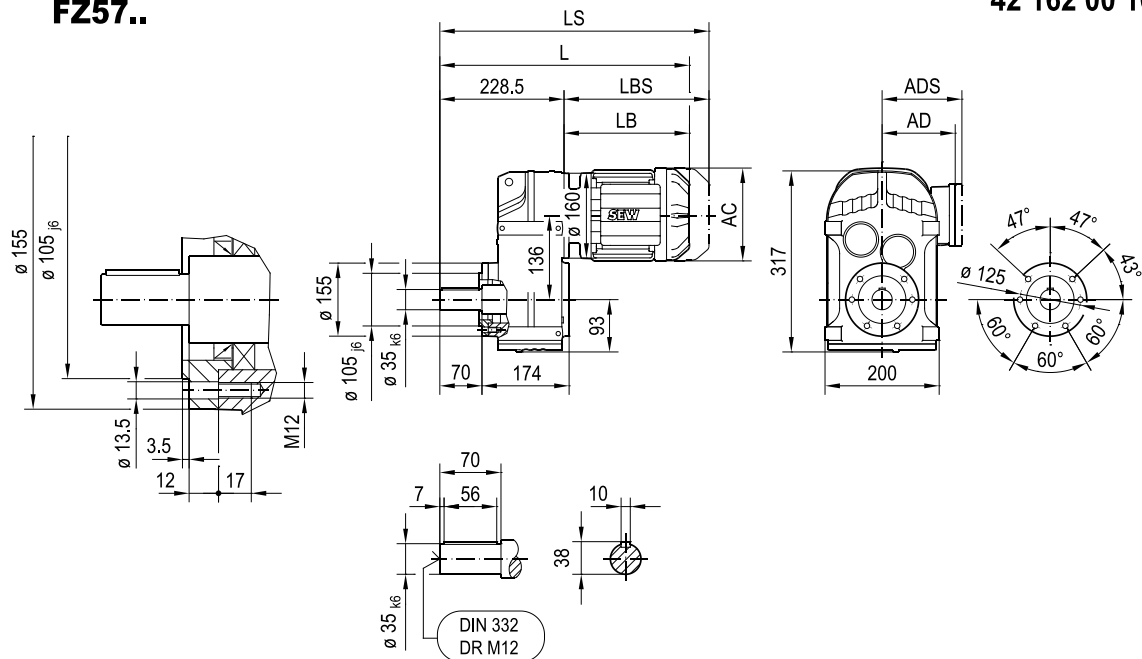
FVZ57..



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	437	439	471	467	517	548	602	620
LS	518	532	564	561	611	660	714	758
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

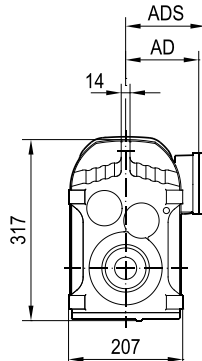
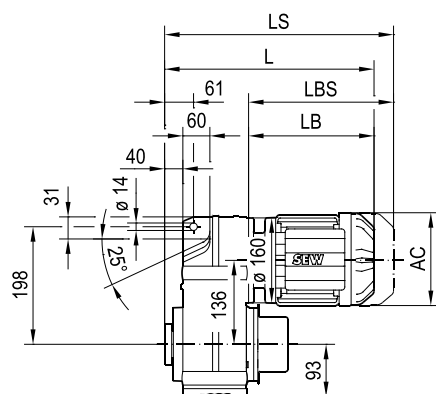
FZ57..

42 162 00 16



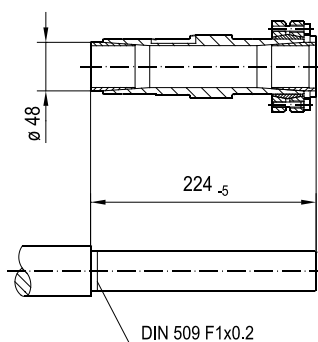
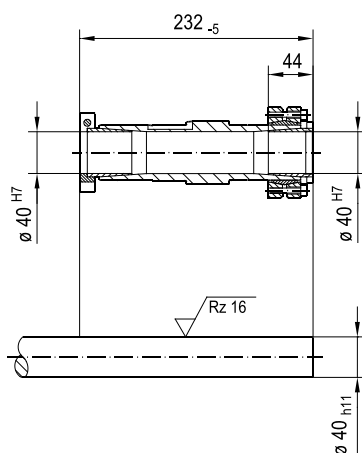
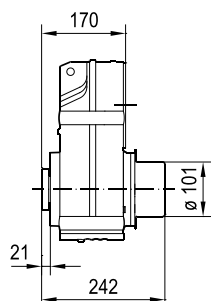
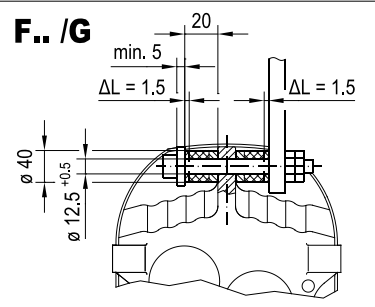
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	504	505	537	534	584	615	669	687
LS	585	599	631	627	677	727	781	824
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

FT57..



42 163 00 16

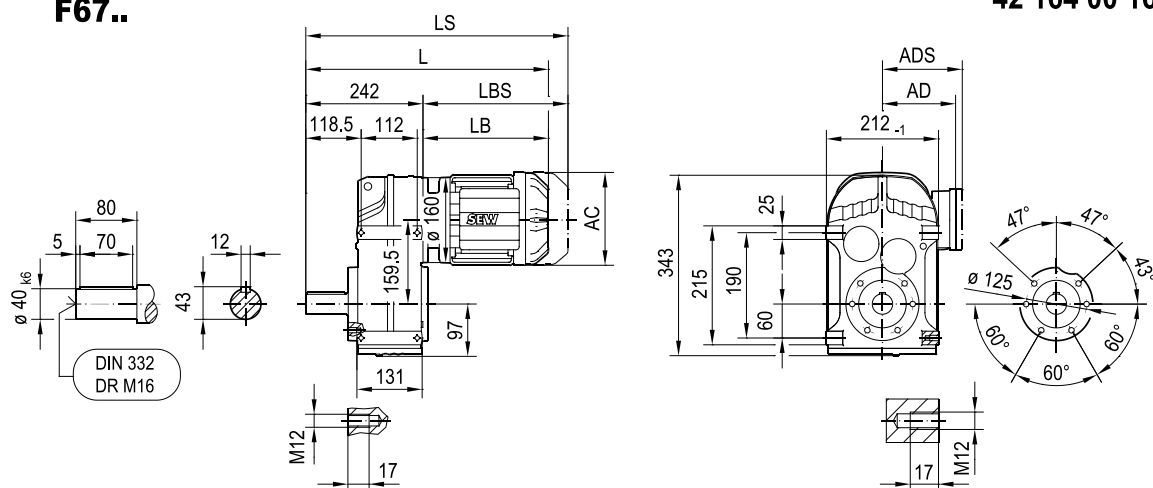
F.. /G



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	445	447	479	475	525	556	610	628
LS	526	540	572	569	619	668	722	766
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

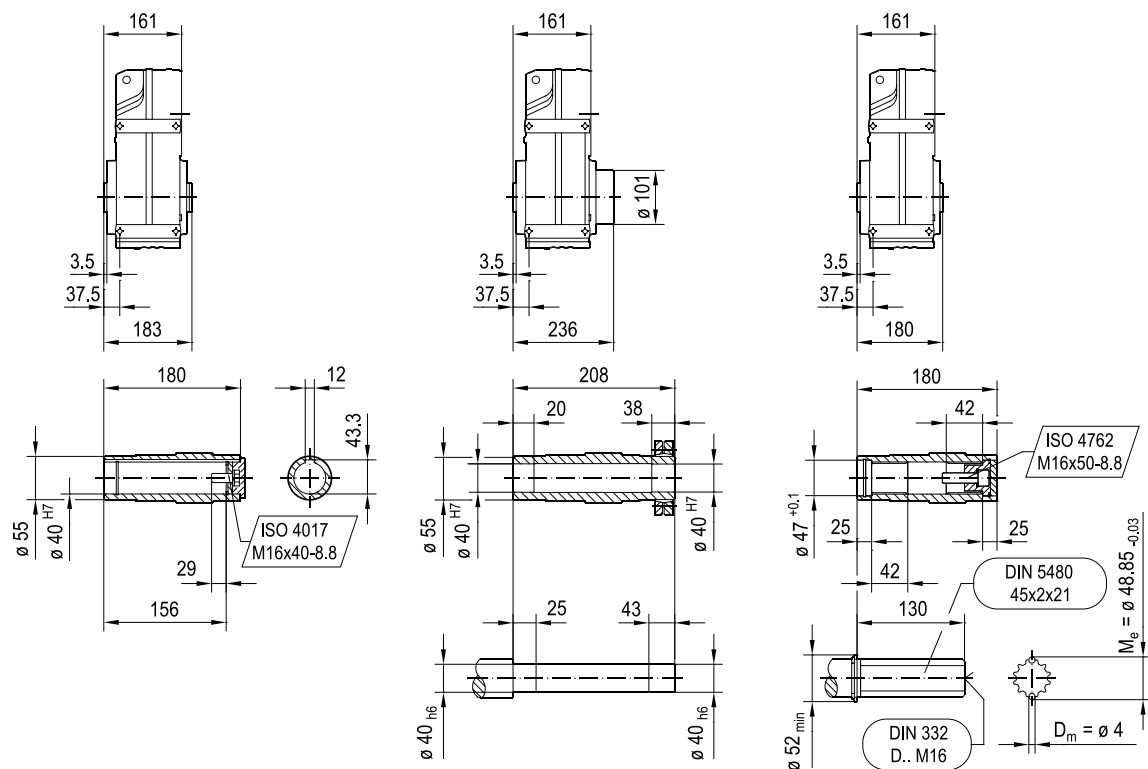
F67..

42 164 00 16

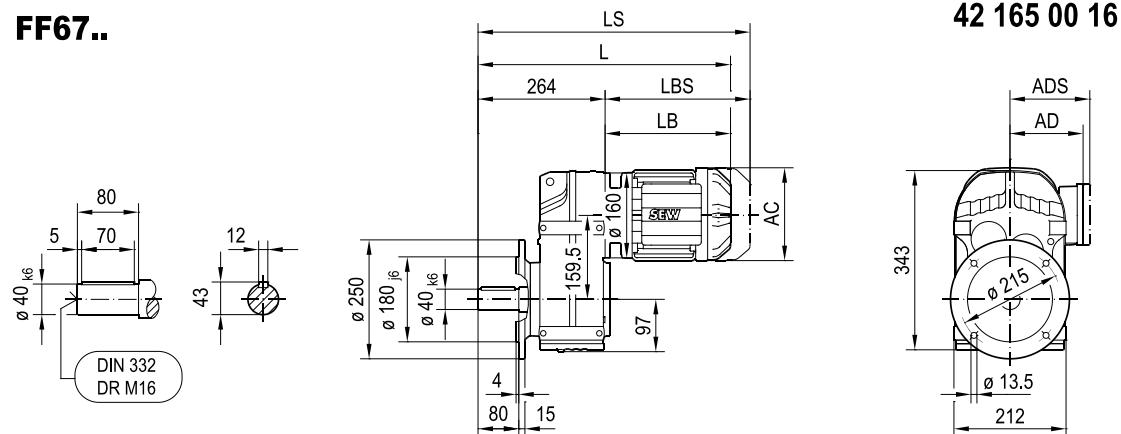
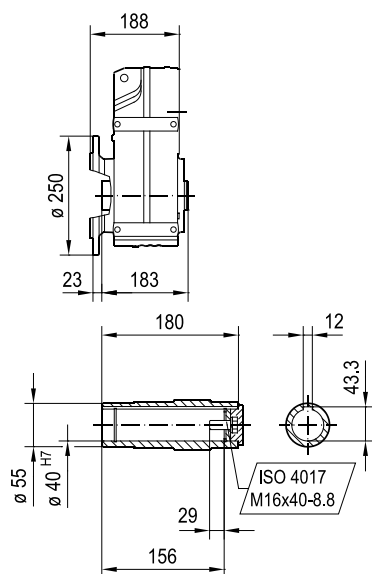
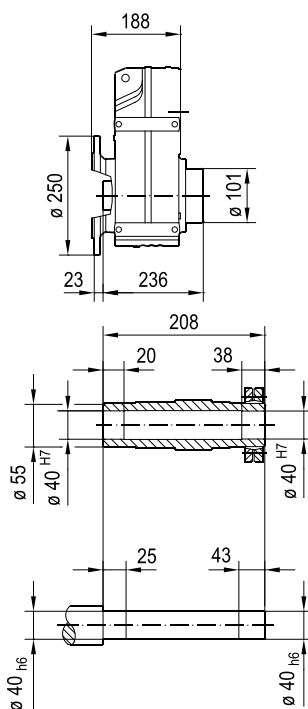
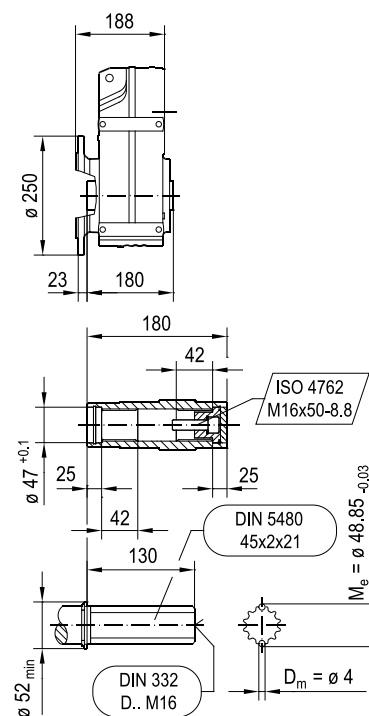
**FA67B..**

FH67B..
max. EDRN100L/LM

FV67B..



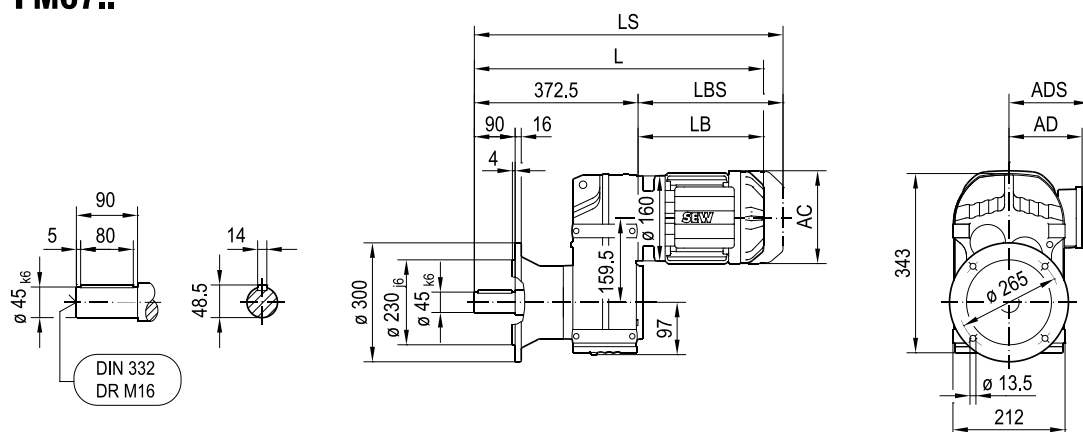
(→  7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	517	519	551	547	597	628	682	700
LS	598	612	644	641	691	740	794	838
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

FF67..**FAF67..****FHF67..**
max. EDRN100L/LM**FVF67..**

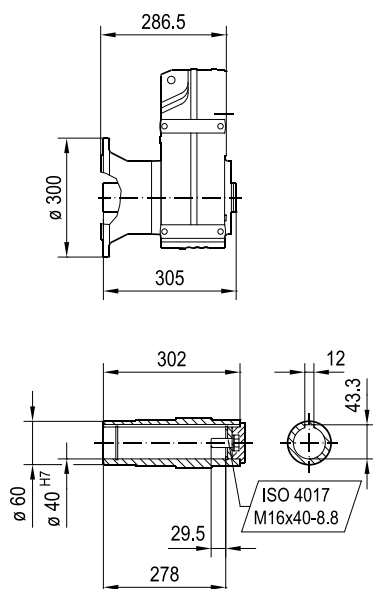
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	539	541	573	569	619	650	704	722
LS	620	634	666	663	713	762	816	860
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

FM67..

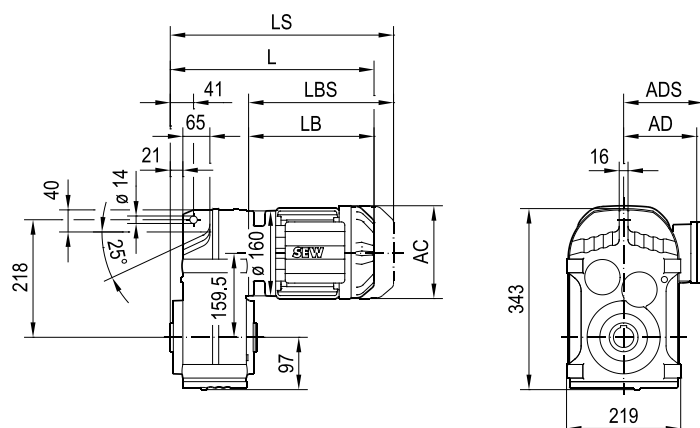
42 001 01 23



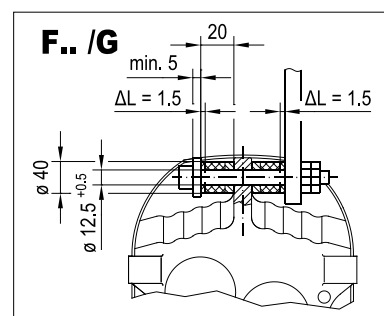
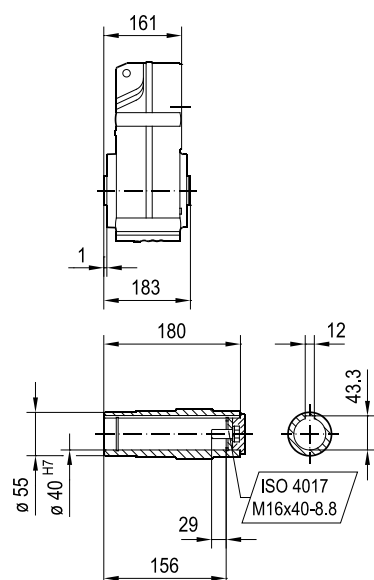
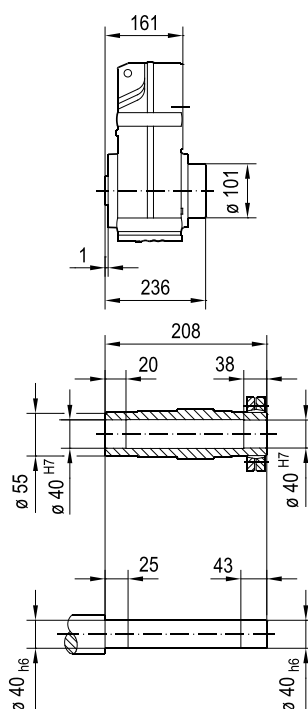
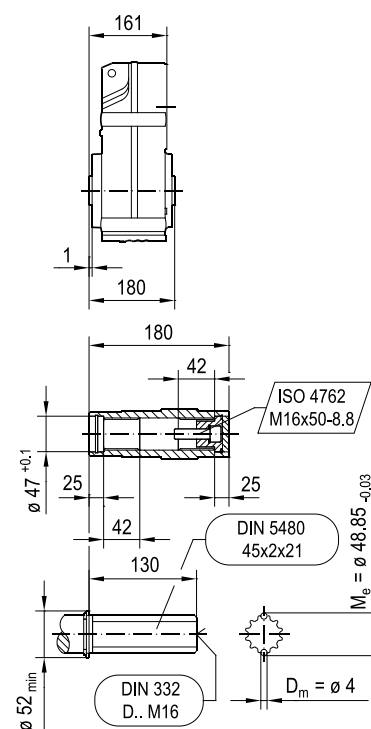
FAM67...



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	648	649	681	678	728	759	813	831
LS	729	743	775	771	821	871	925	968
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

FA67..

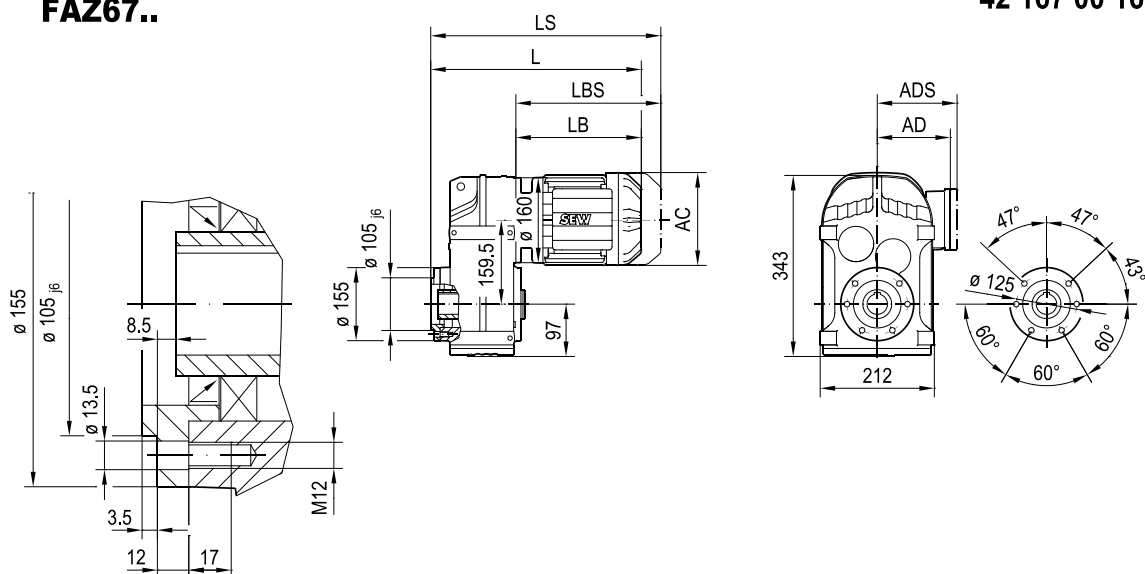
42 166 00 16

**FA67..****FH67..**
max. EDRN100L/LM**FV67..**

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	436	438	470	466	516	547	601	619
LS	517	531	563	560	610	659	713	757
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

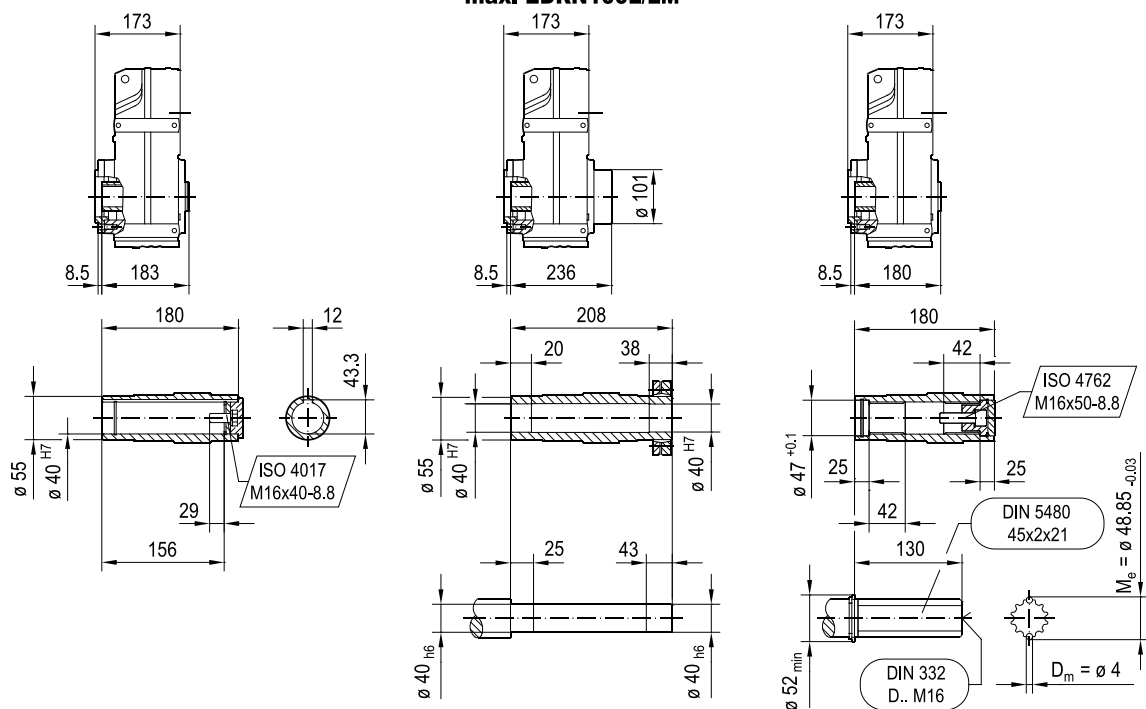
FAZ67..

42 167 00 16

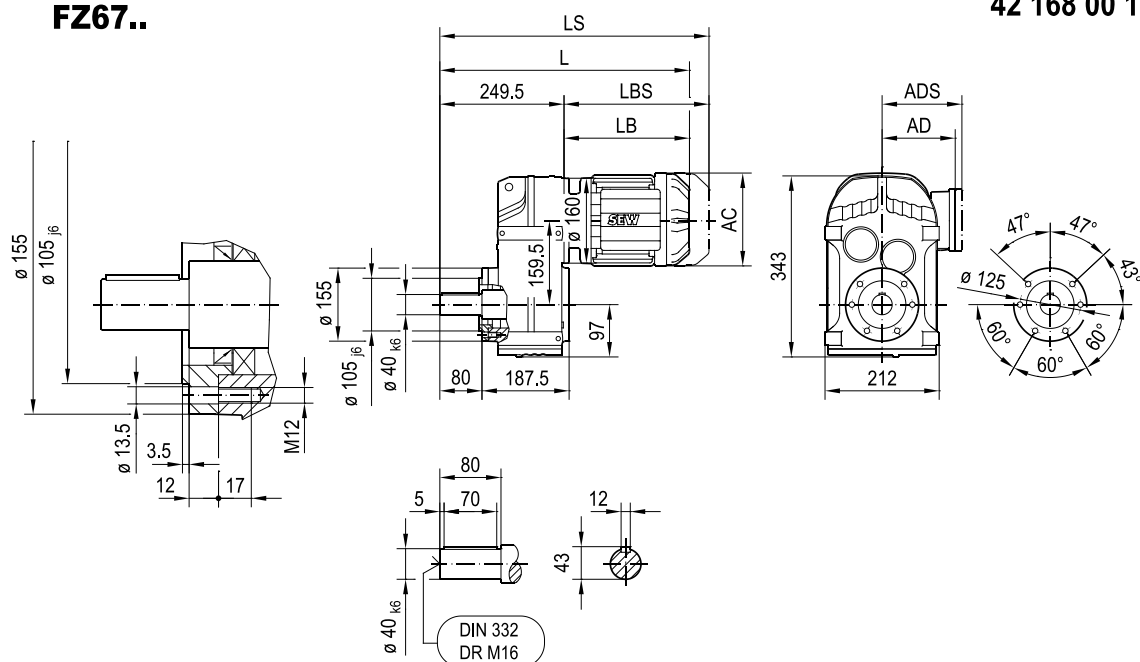
**FAZ67..**

FHZ67..
max. EDRN100L/LM

FVZ67..

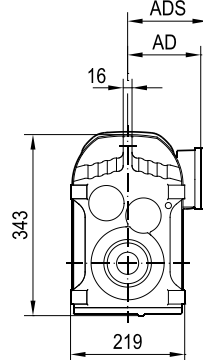
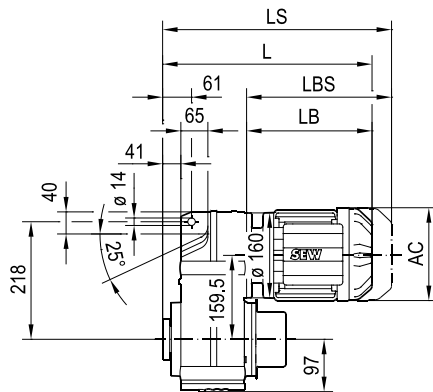


(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	448	450	482	478	528	559	613	631
LS	529	543	575	572	622	671	725	769
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

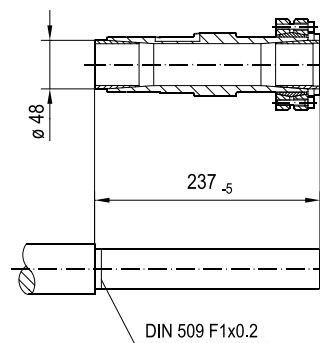
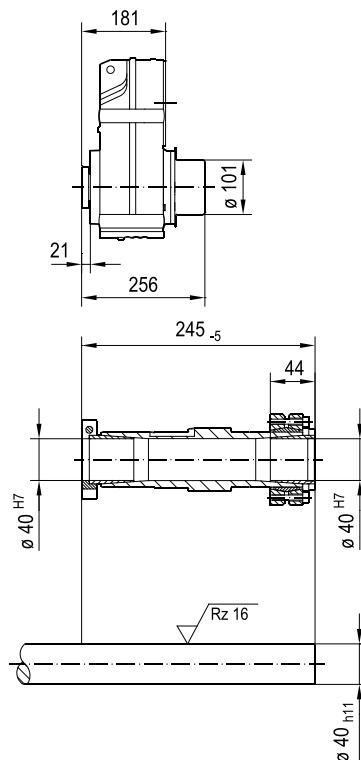
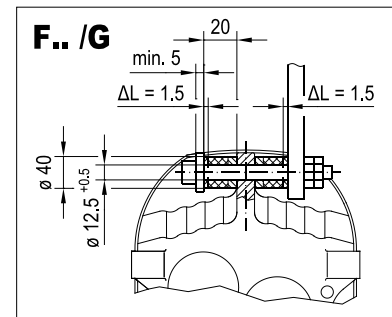
FZ67..**42 168 00 16**

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	525	526	558	555	605	636	690	708
LS	606	620	652	648	698	748	802	845
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

FT67..



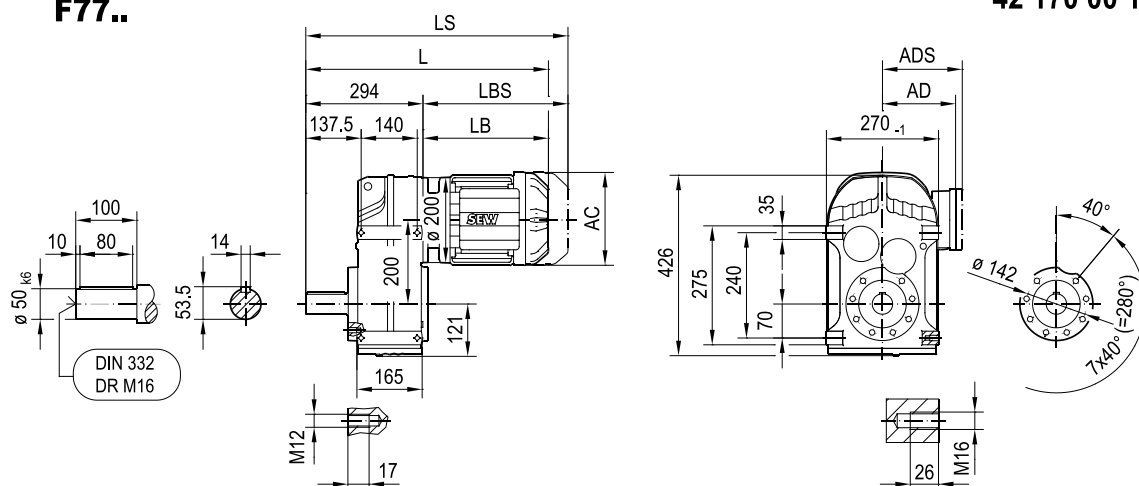
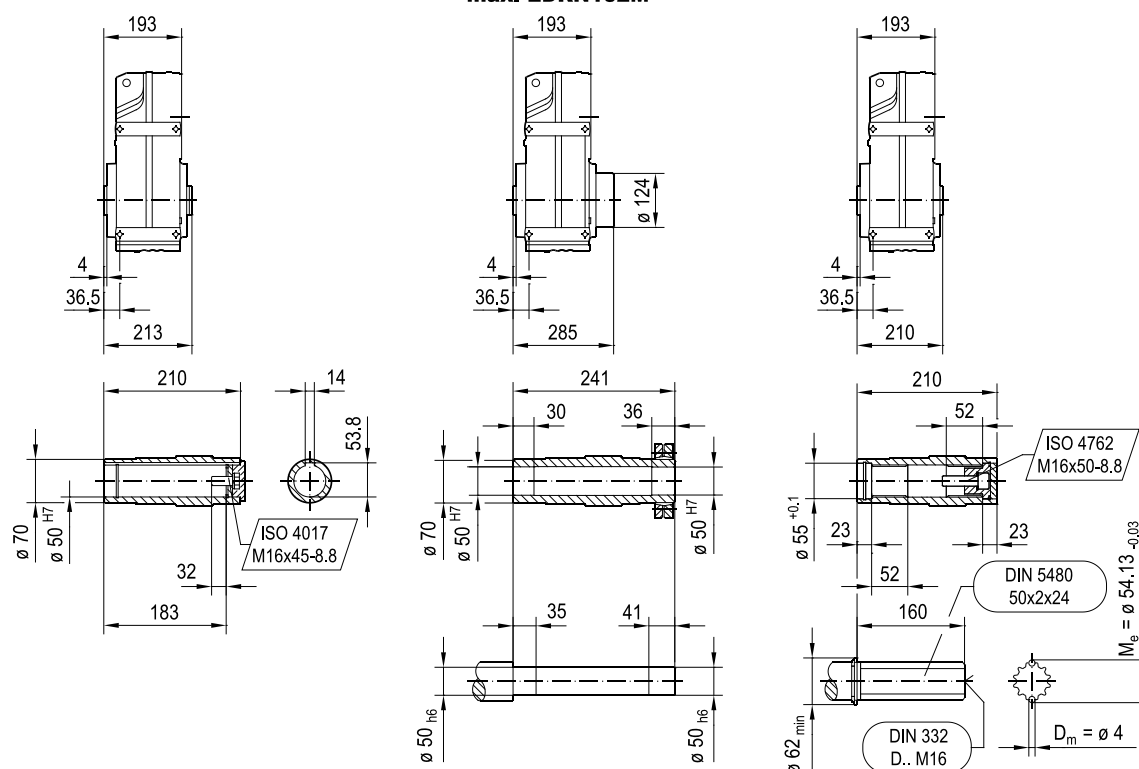
42 169 00 16



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	456	458	490	486	536	567	621	639
LS	537	551	583	580	630	679	733	777
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

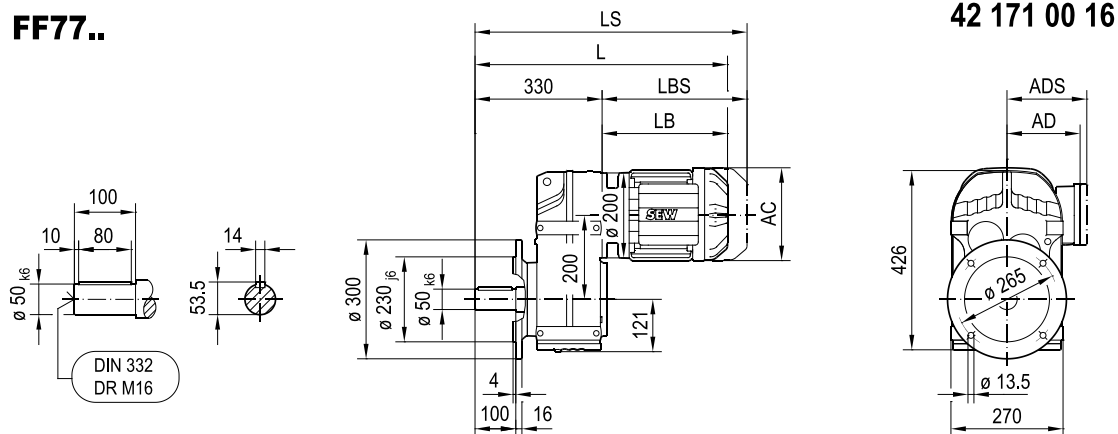
F77..

42 170 00 16

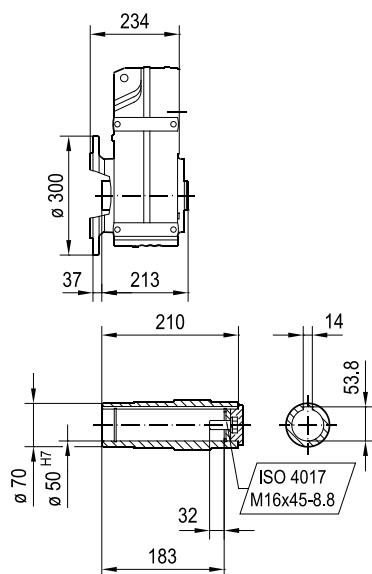
**FA77B..****FH77B..**
max. EDRN132M**FV77B..**

(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	564	596	592	642	673	723	741	767	833
LS	657	689	686	736	785	835	879	904	1022
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

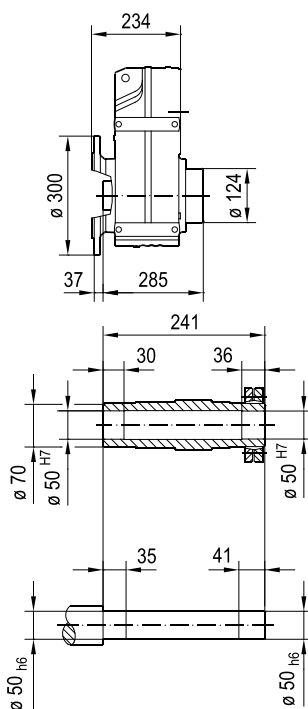
FF77..



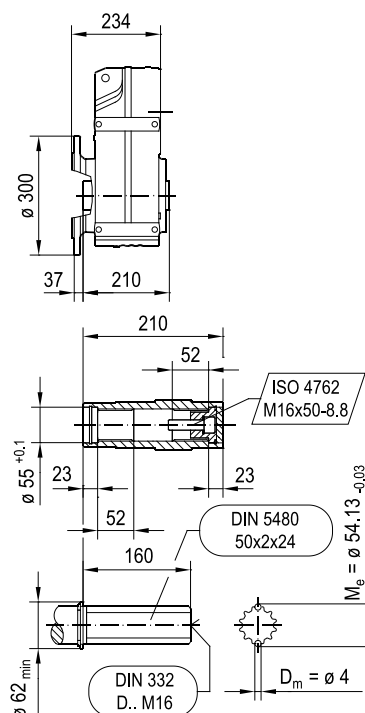
FAF77..



FHF77..
max. EDRN132M

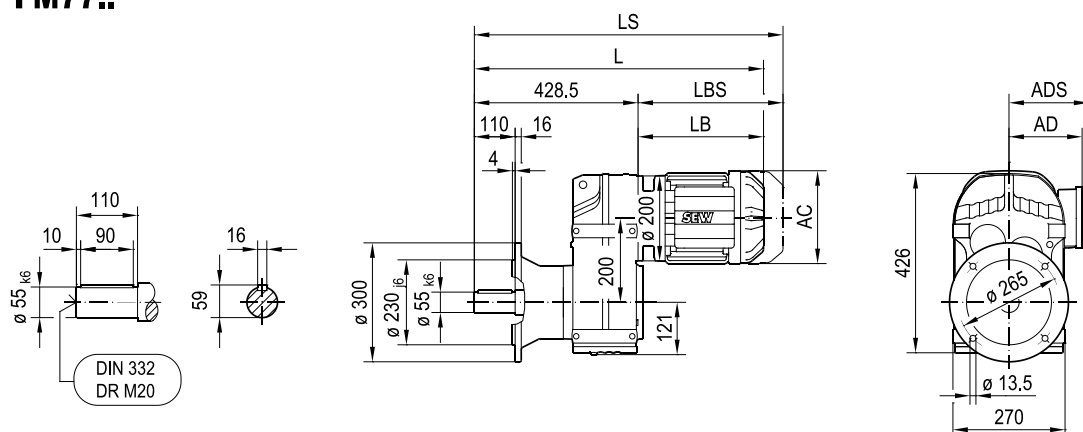


FVF77..

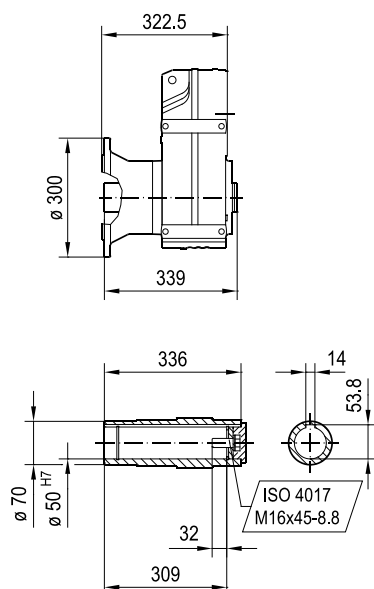


(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	600	632	628	678	709	759	777	803	869
LS	693	725	722	772	821	871	915	940	1058
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

42 002 01 23

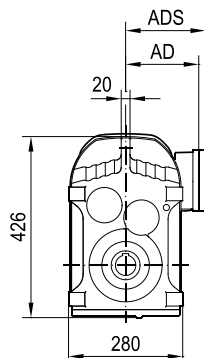
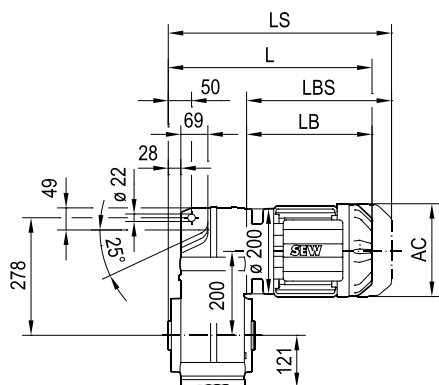


FAM77...

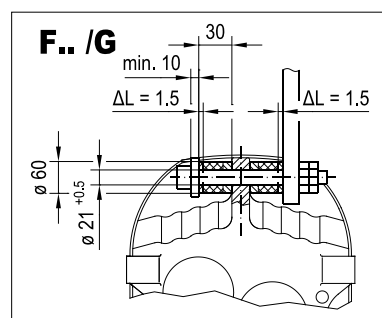


(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	698	730	727	777	808	858	876	901	968
LS	792	824	820	870	920	970	1013	1038	1157
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

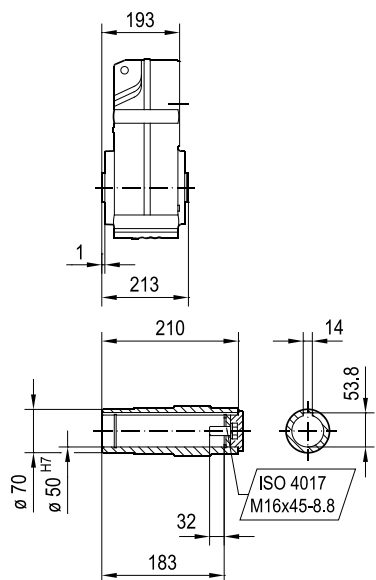
FA77..



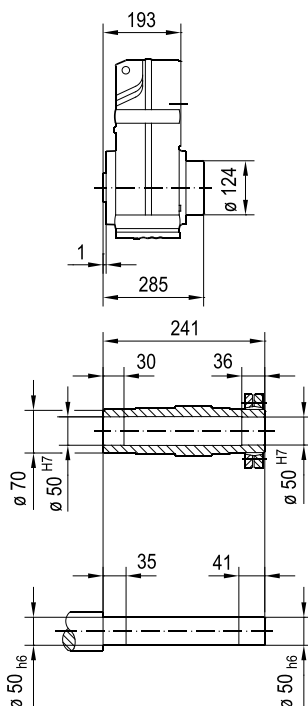
42 172 00 16



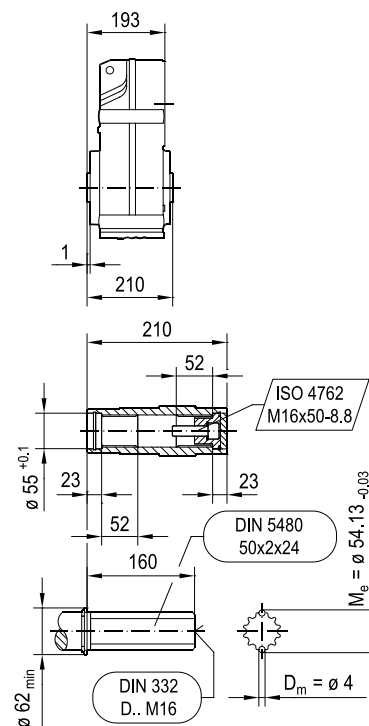
FA77..



FH77..
max. EDRN132M



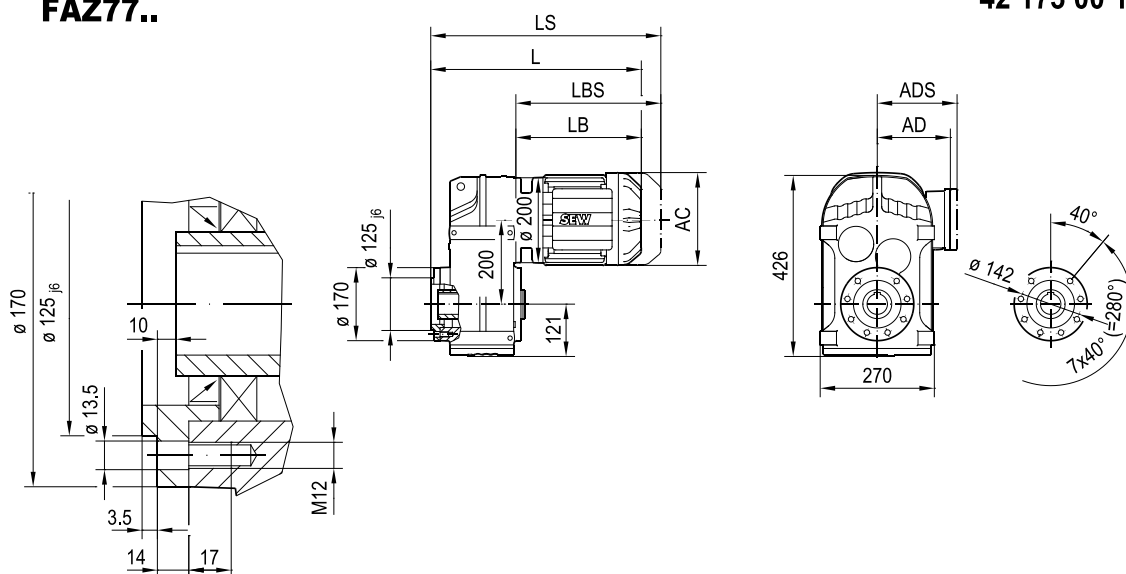
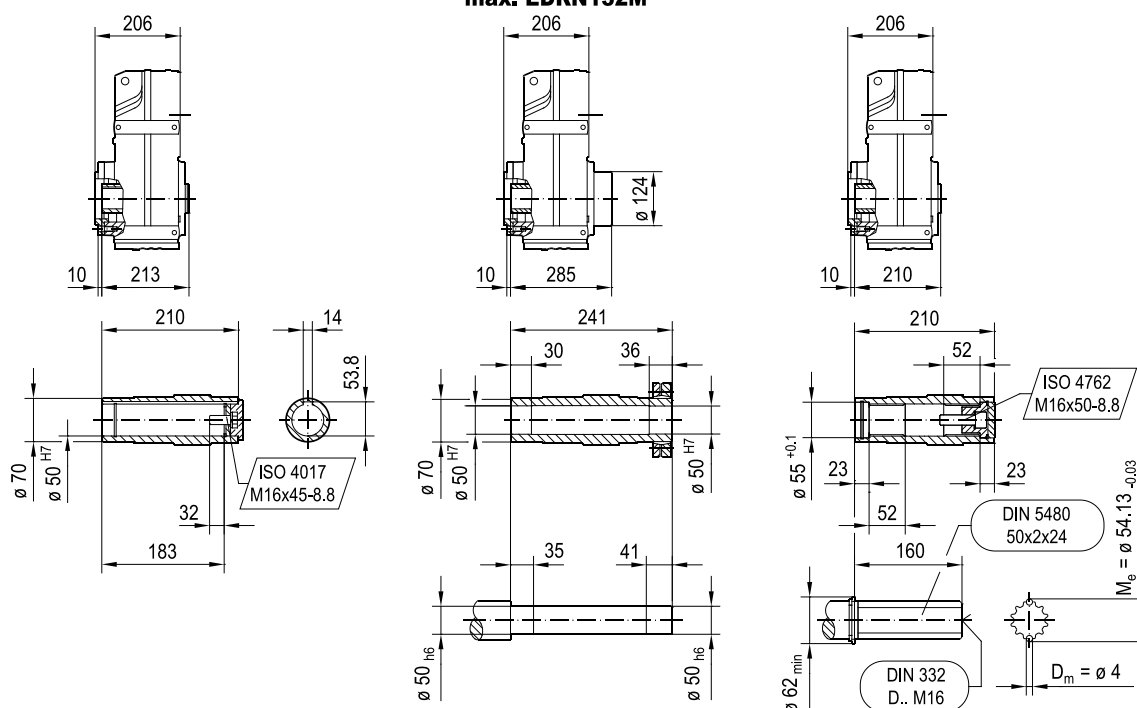
FV77..



(→  7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	463	495	491	541	572	622	640	666	732
LS	556	588	585	635	684	734	778	803	921
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

FAZ77..

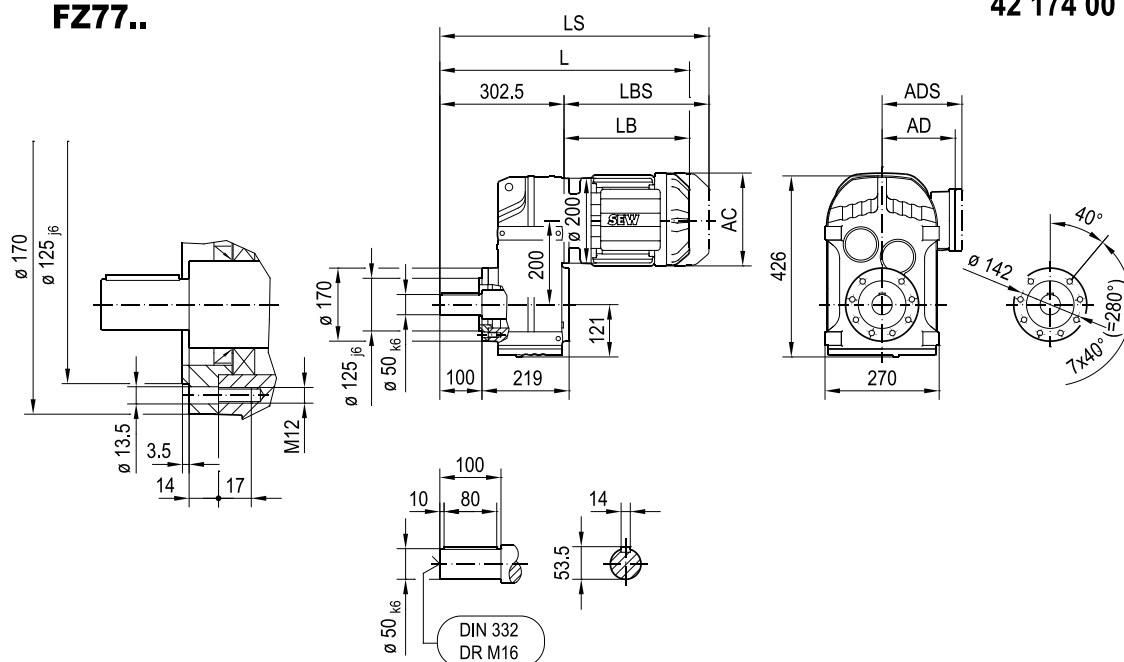
42 173 00 16

**FAZ77..****FHZ77..**
max. EDRN132M**FVZ77..**

(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/M	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	476	508	504	554	585	635	653	679	745
LS	569	601	598	648	697	747	791	816	934
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

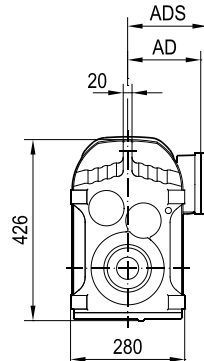
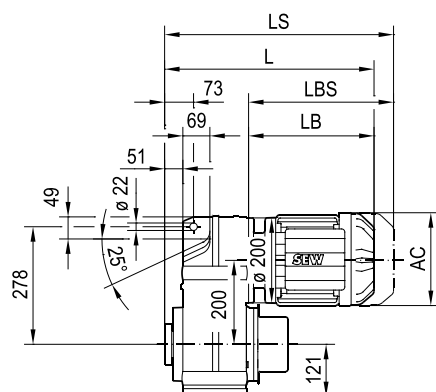
FZ77..

42 174 00 16



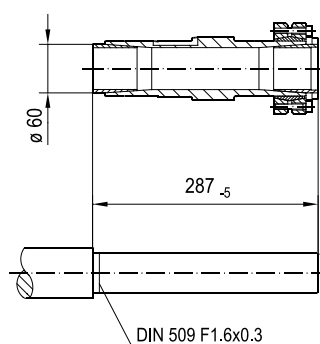
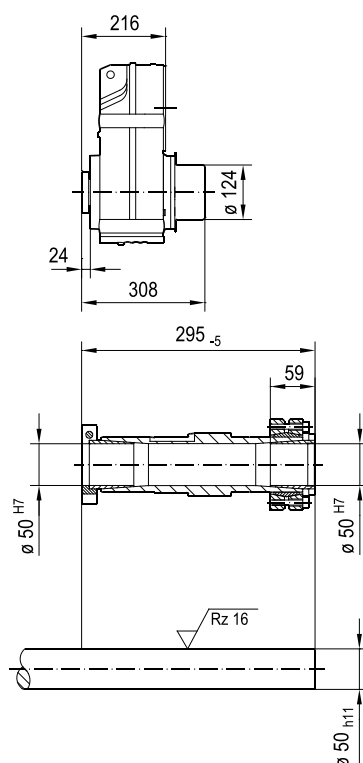
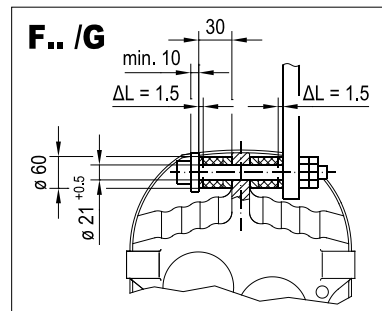
(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	572	604	601	651	682	732	750	775	842
LS	666	698	694	744	794	844	887	912	1031
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

FT77..



42 175 00 16

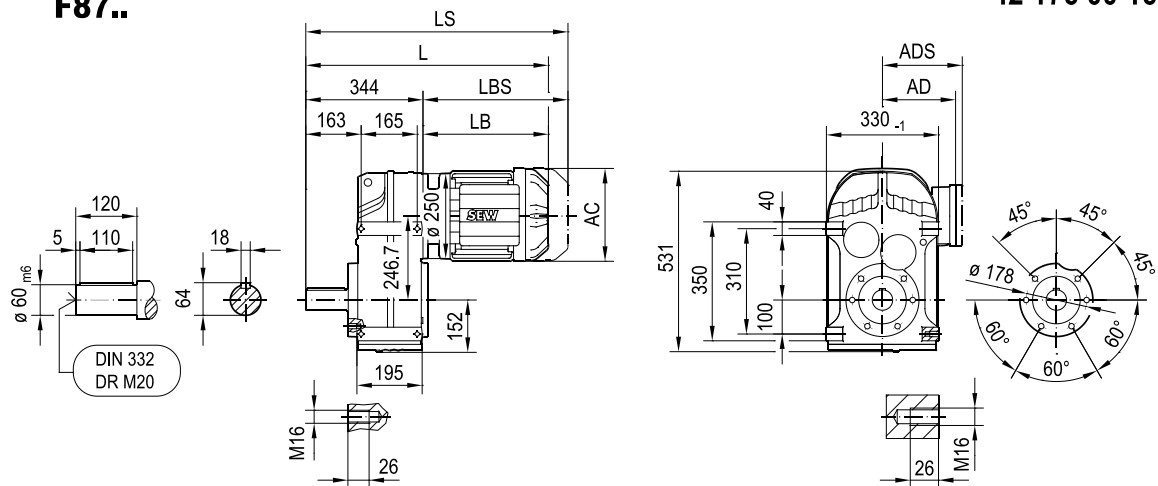
F.. /G



(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	486	518	514	564	595	645	663	689	755
LS	579	611	608	658	707	757	801	826	944
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

F87..

42 176 00 16

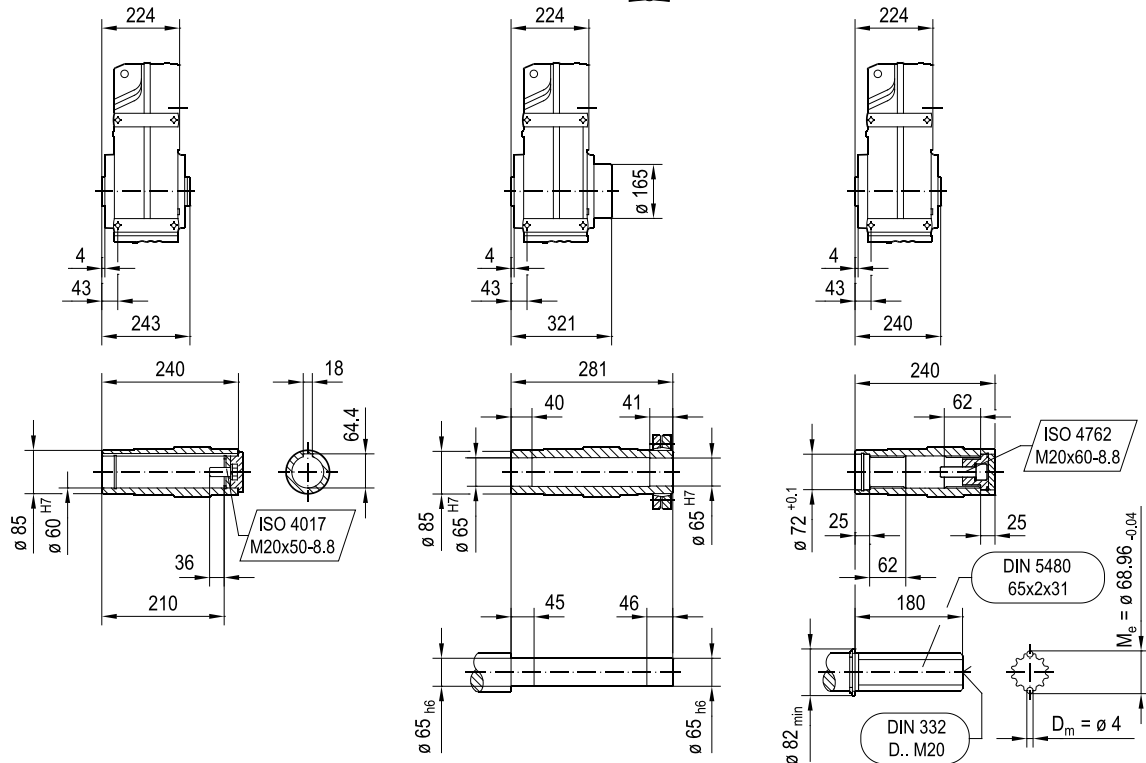


FA87B..

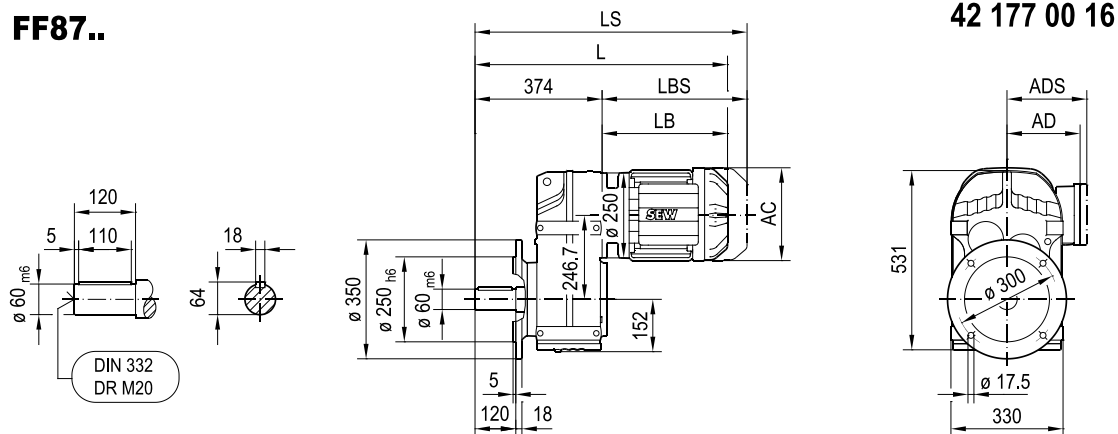
FH87B..

FH87B/R.. → 6.3

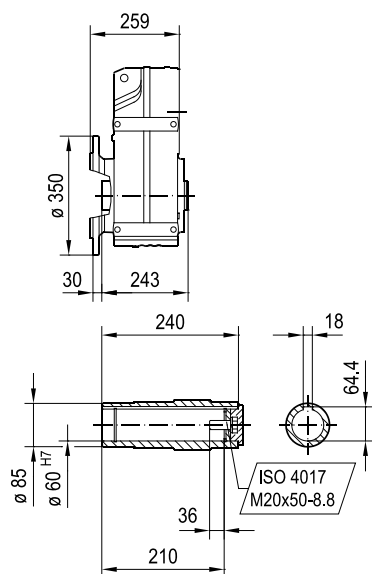
FV87B..



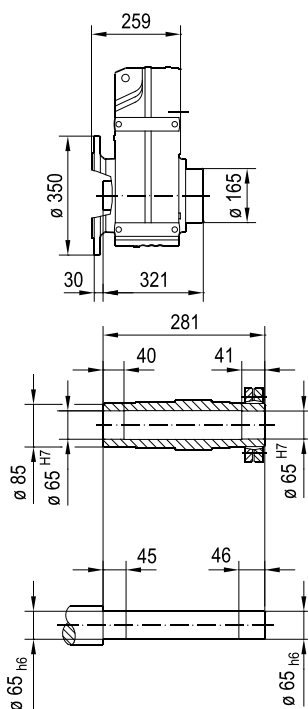
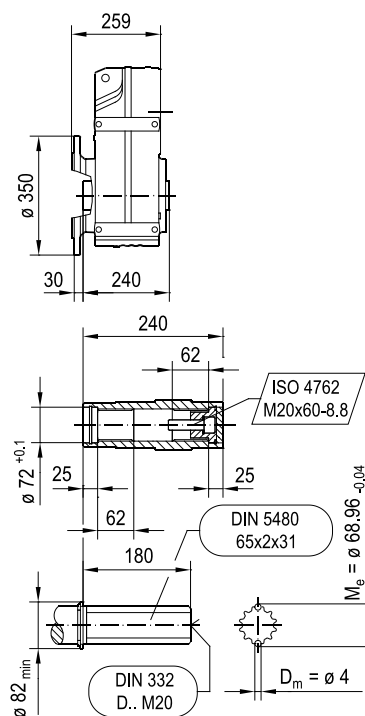
(→ 7.2)	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L
AC	197	197	221	221	261	261	314	357	394
AD	157	157	170	170	228	228	253	268	283
ADS	158	158	172	172	228	228	253	268	283
L	637	687	718	768	786	812	878	901	1011
LS	731	781	830	880	924	949	1067	1090	1216
LB	293	343	374	424	442	468	534	557	667
LBS	387	437	486	536	580	605	723	746	872

FF87..

42 177 00 16

FAF87..**FHF87..**

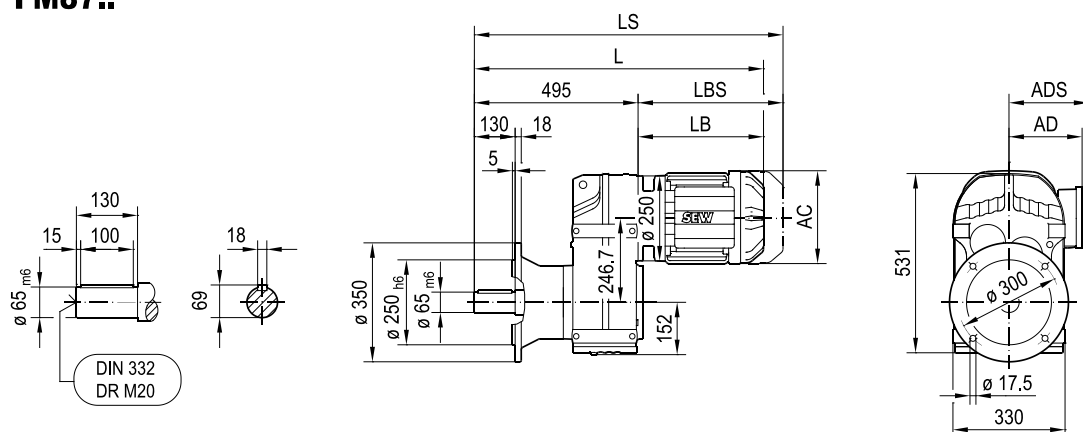
FHF87/R.. → 6.3

**FVF87..**

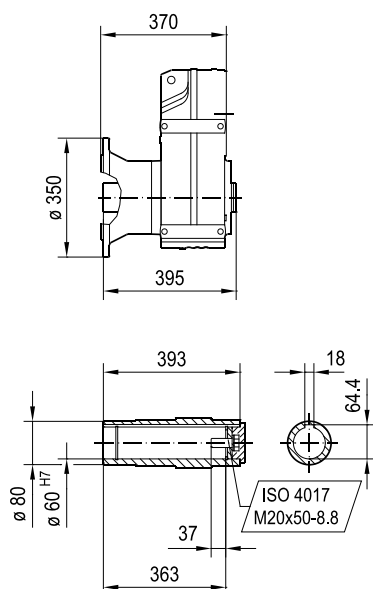
(→ 7.2)	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L
AC	197	197	221	221	261	261	314	357	394
AD	157	157	170	170	228	228	253	268	283
ADS	158	158	172	172	228	228	253	268	283
L	667	717	748	798	816	842	908	931	1041
LS	761	811	860	910	954	979	1097	1120	1246
LB	293	343	374	424	442	468	534	557	667
LBS	387	437	486	536	580	605	723	746	872

FM87..

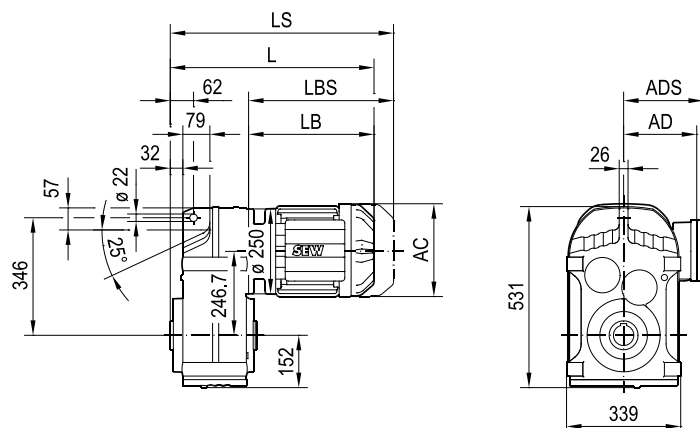
42 003 01 23



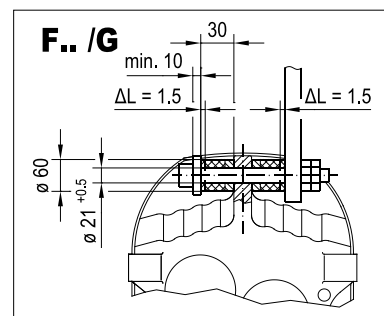
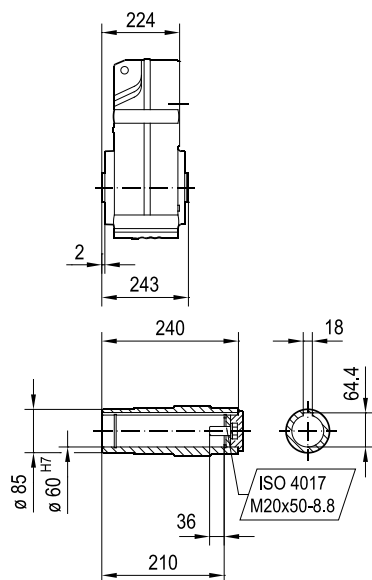
FAM87...



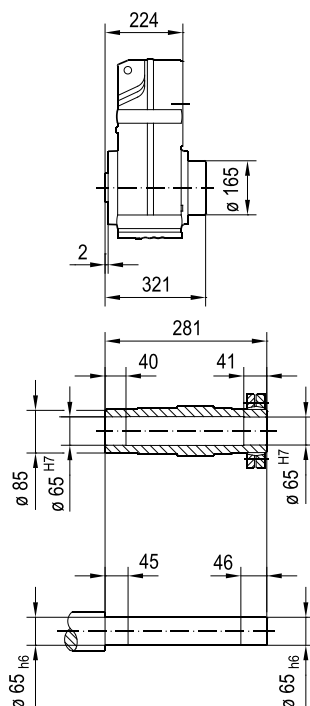
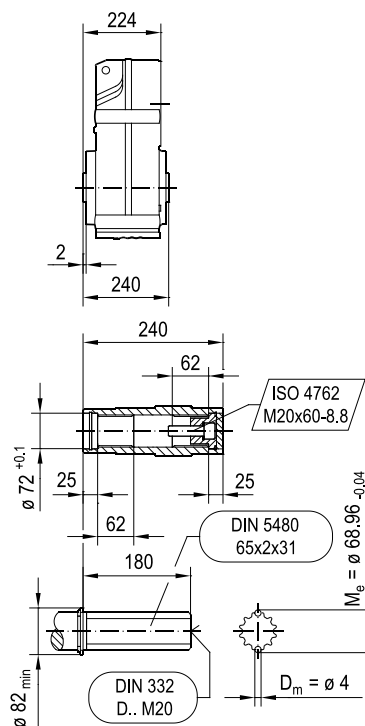
(→ 7.2)	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L
AC	197	197	221	221	261	261	314	357	394
AD	157	157	170	170	228	228	253	268	283
ADS	158	158	172	172	228	228	253	268	283
L	788	838	869	919	937	963	1029	1052	1162
LS	882	932	981	1031	1075	1100	1218	1241	1367
LB	293	343	374	424	442	468	534	557	667
LBS	387	437	486	536	580	605	723	746	872

FA87..

42 178 00 16

**FA87..****FH87..**
FH87/R..

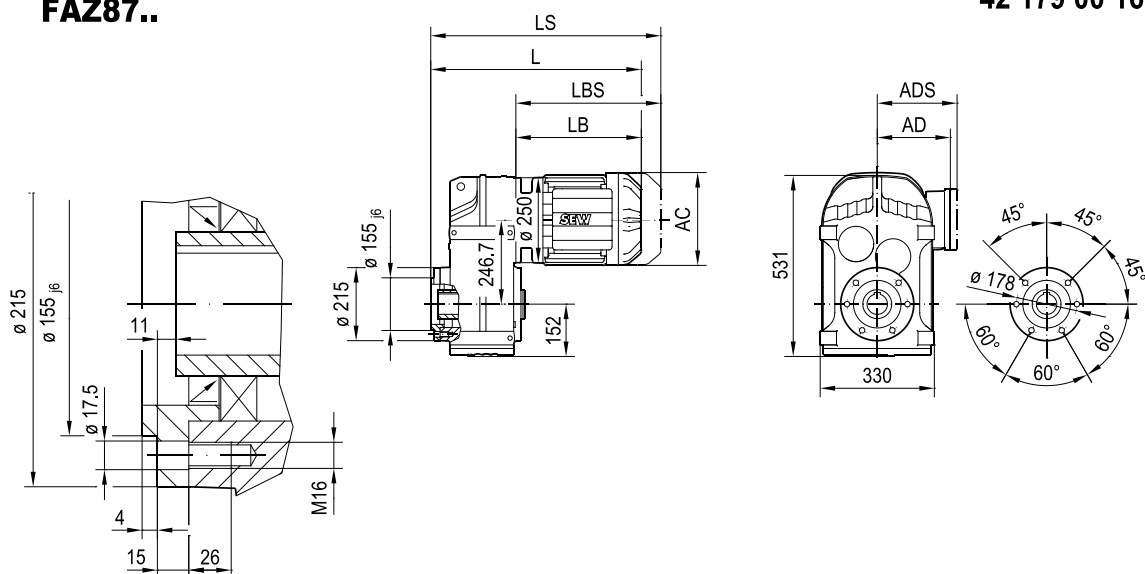
→ 6.3

**FV87..**

(→ 7.2)	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L
AC	197	197	221	221	261	261	314	357	394
AD	157	157	170	170	228	228	253	268	283
ADS	158	158	172	172	228	228	253	268	283
L	517	567	598	648	666	692	758	781	891
LS	611	661	710	760	804	829	947	970	1096
LB	293	343	374	424	442	468	534	557	667
LBS	387	437	486	536	580	605	723	746	872

FAZ87..

42 179 00 16



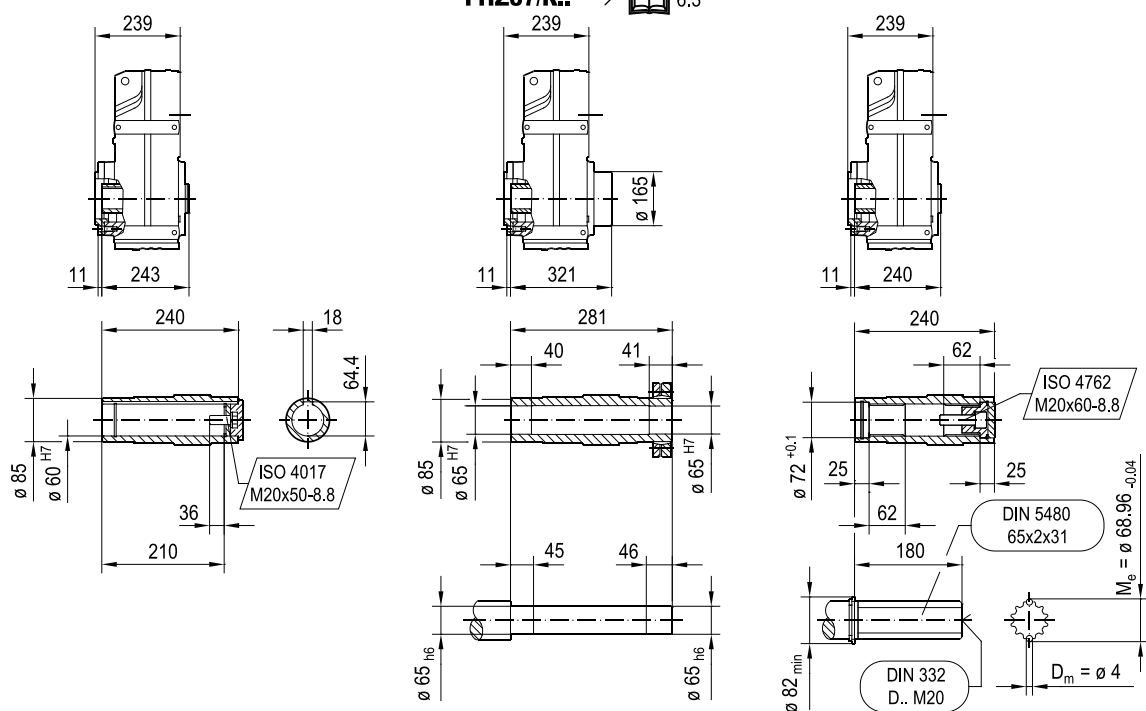
FAZ87..

FHZ87...

FHZ87/R.. →  6.3



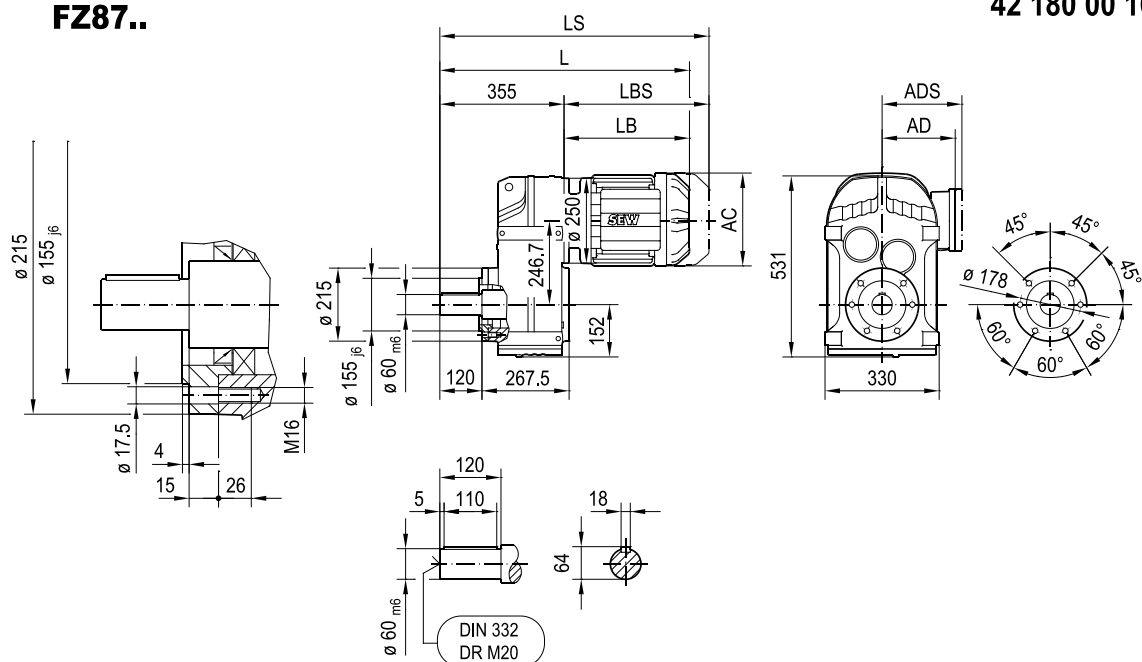
FVZ87..



(→ 7.2)	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L
AC	197	197	221	221	261	261	314	357	394
AD	157	157	170	170	228	228	253	268	283
ADS	158	158	172	172	228	228	253	268	283
L	532	582	613	663	681	707	773	796	906
LS	626	676	725	775	819	844	962	985	1111
LB	293	343	374	424	442	468	534	557	667
LBS	387	437	486	536	580	605	723	746	872

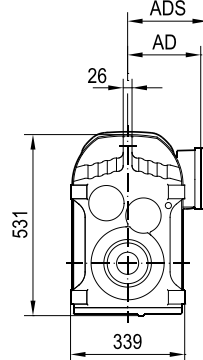
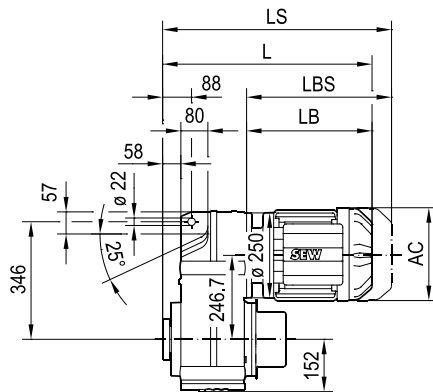
FZ87..

42 180 00 16

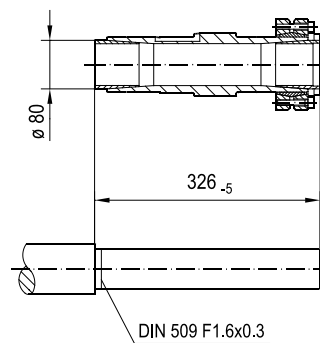
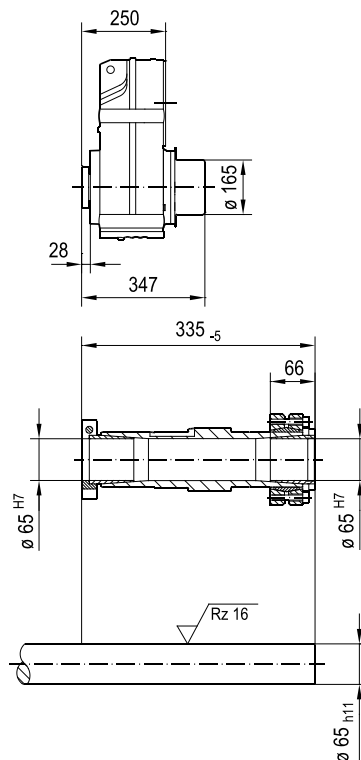
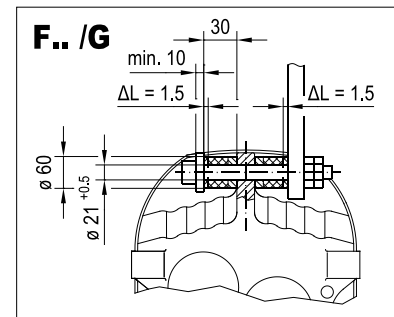


(→ 7.2)	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L
AC	197	197	221	221	261	261	314	357	394
AD	157	157	170	170	228	228	253	268	283
ADS	158	158	172	172	228	228	253	268	283
L	648	698	729	779	797	823	889	912	1022
LS	742	792	841	891	935	960	1078	1101	1227
LB	293	343	374	424	442	468	534	557	667
LBS	387	437	486	536	580	605	723	746	872

FT87..



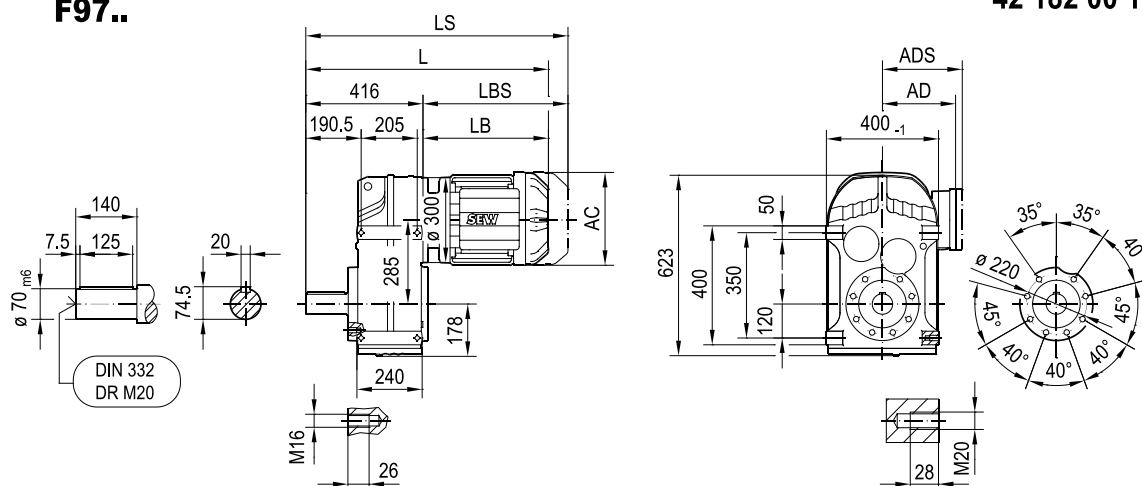
42 181 00 16



(→ 7.2)	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L
AC	197	197	221	221	261	261	314	357	394
AD	157	157	170	170	228	228	253	268	283
ADS	158	158	172	172	228	228	253	268	283
L	543	593	624	674	692	718	784	807	917
LS	637	687	736	786	830	855	973	996	1122
LB	293	343	374	424	442	468	534	557	667
LBS	387	437	486	536	580	605	723	746	872

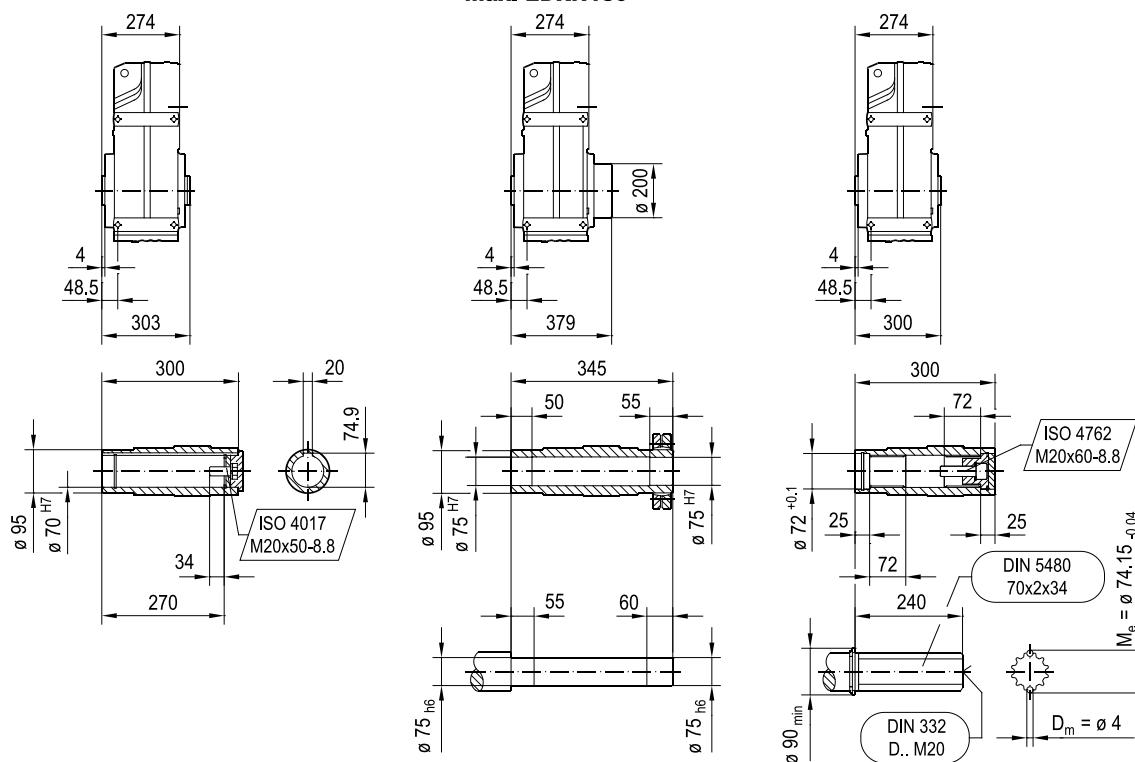
F97..

42 182 00 16

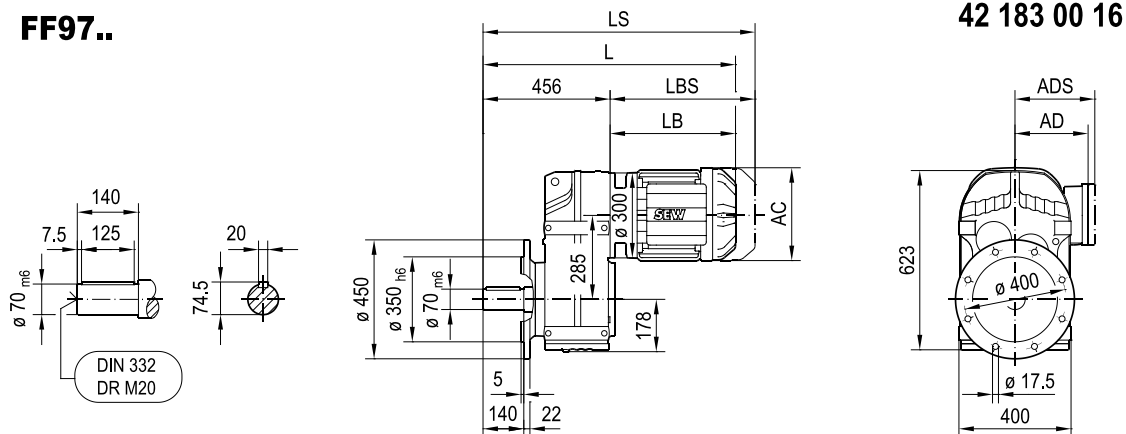
**FA97B..****FH97B..**

FH97B/R.. → 6.3

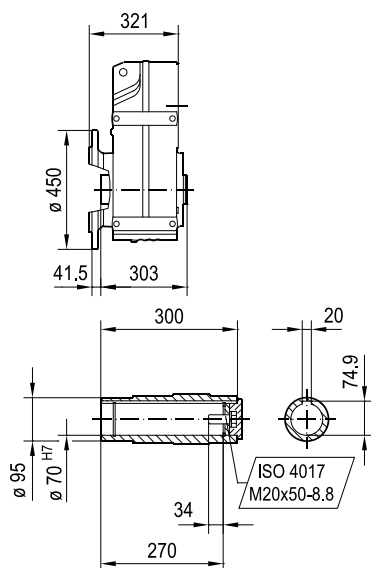
max. EDRN180

FV97B..

(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	754	785	835	853	879	945	968	1078	1052
LS	848	897	947	991	1016	1134	1157	1283	1257
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

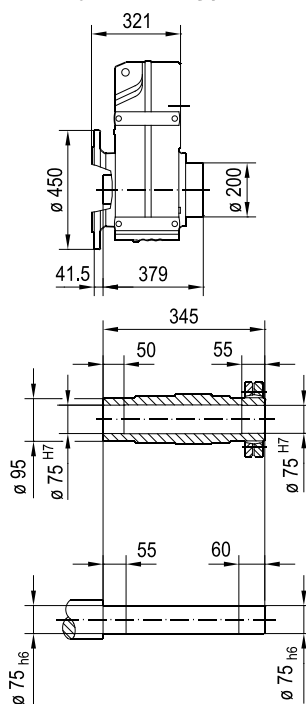
FF97..

FAF97..

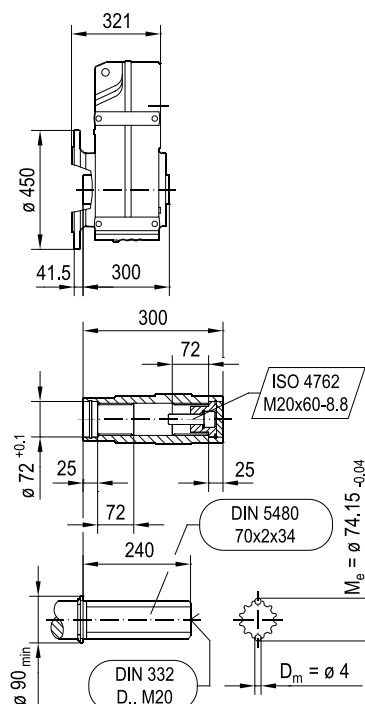
**FHF97..**

FHF97/R.. → **6.3**

max. EDRN180

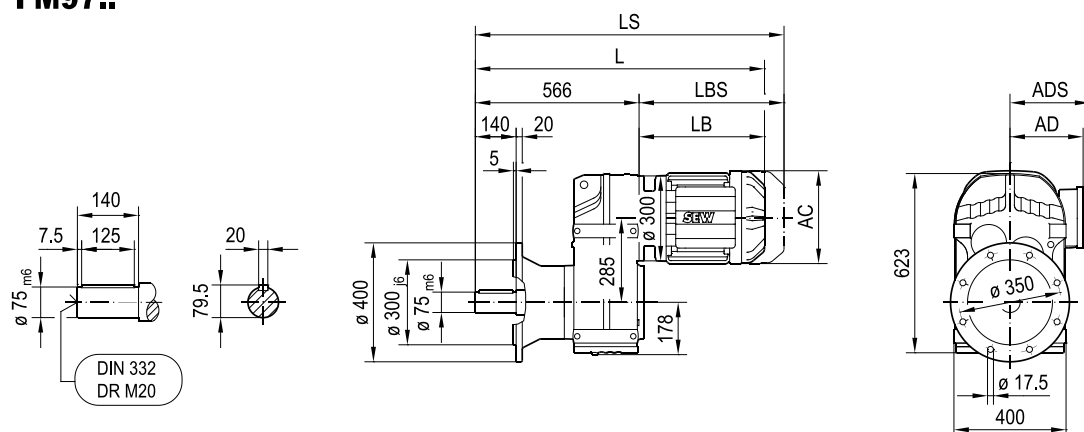


FVF97..

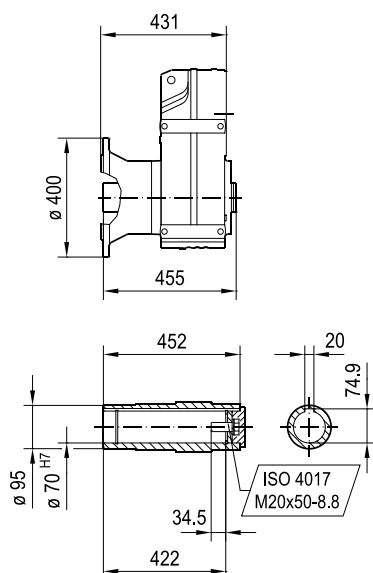


(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	794	825	875	893	919	985	1008	1118	1092
LS	888	937	987	1031	1056	1174	1197	1323	1297
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

42 004 01 23

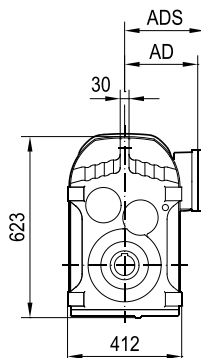
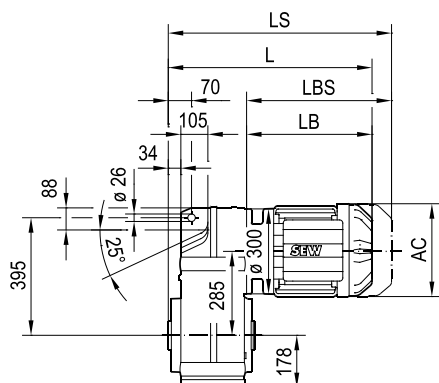


FAM97...

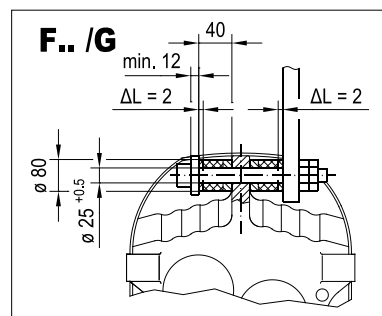


(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	904	935	985	1003	1029	1095	1118	1228	1202
LS	998	1047	1097	1141	1166	1284	1307	1433	1407
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

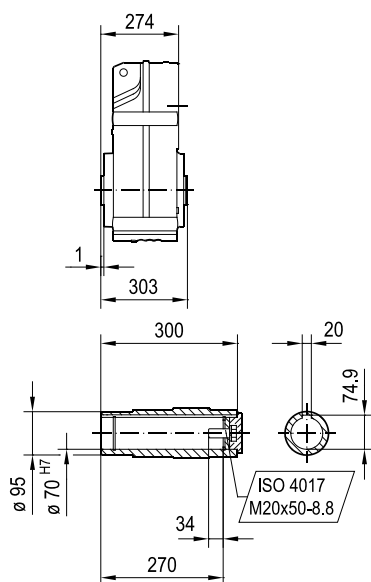
FA97..



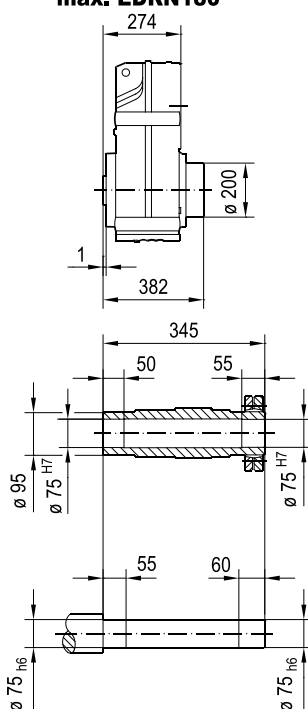
42 184 00 16



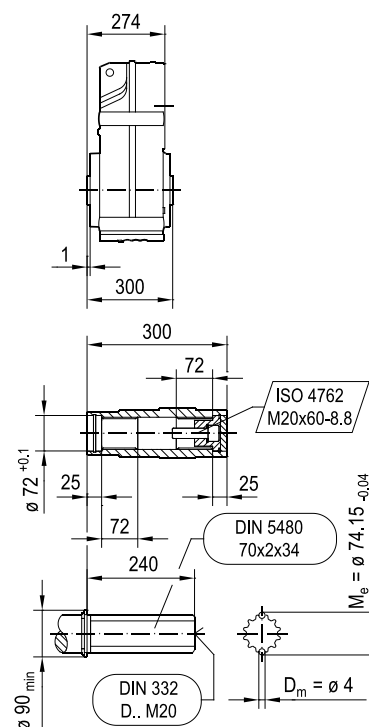
FA97..



FH97..
FH97/R.. → 6.3
max. EDRN180



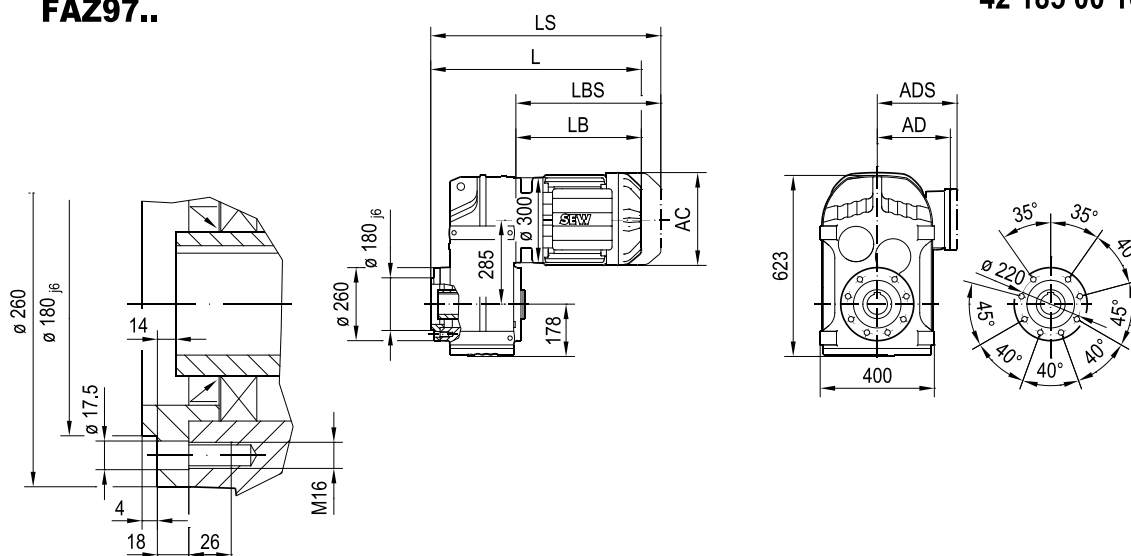
FV97..



(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	612	643	693	711	737	803	826	936	910
LS	706	755	805	849	874	992	1015	1141	1115
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

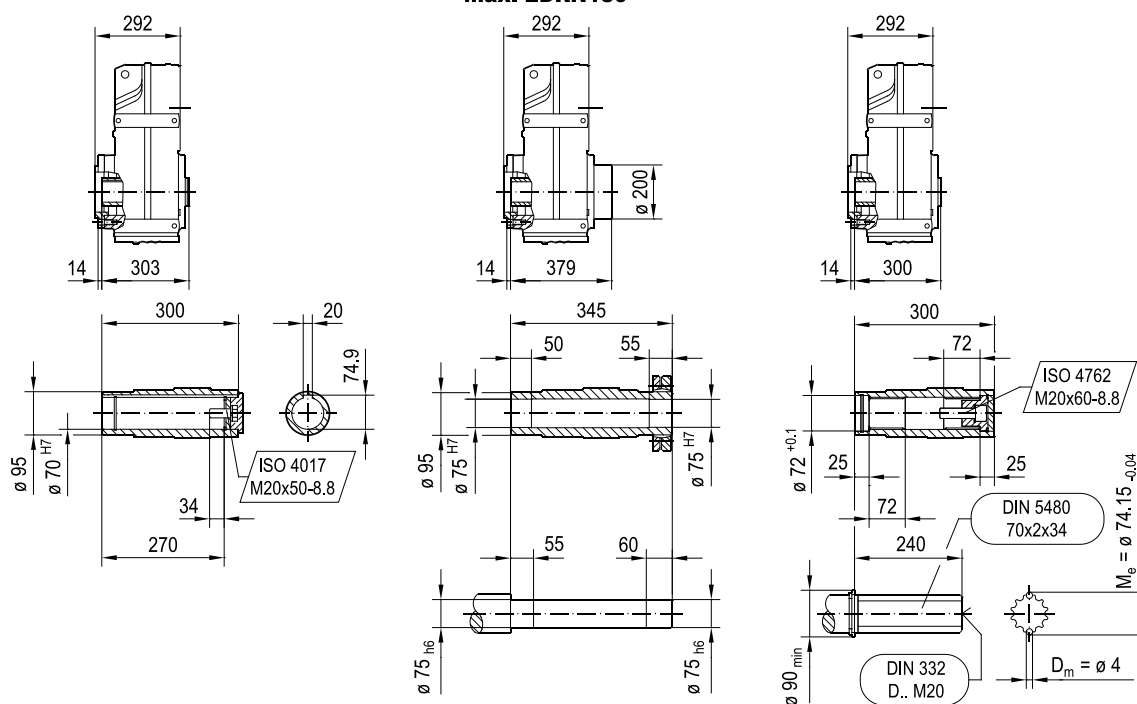
FAZ97..

42 185 00 16

**FAZ97..****FHZ97..**

FHZ97/R.. → 6.3

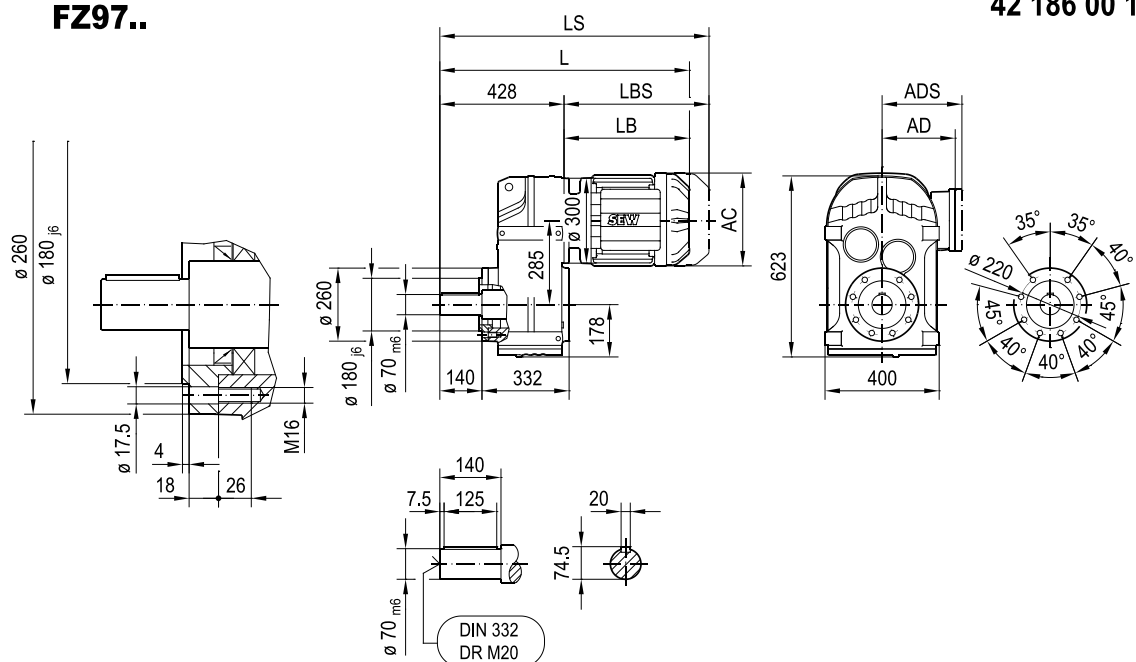
max. EDRN180

FVZ97..

(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	630	661	711	729	755	821	844	954	928
LS	724	773	823	867	892	1010	1033	1159	1133
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

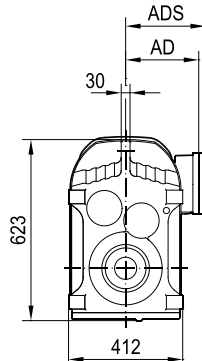
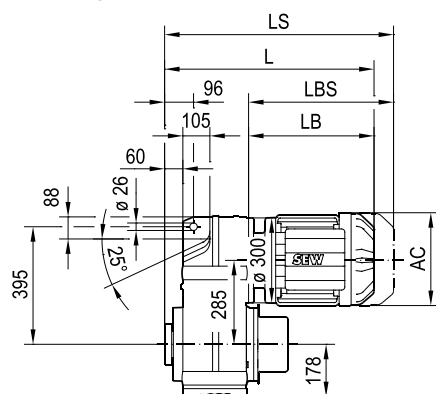
FZ97..

42 186 00 16



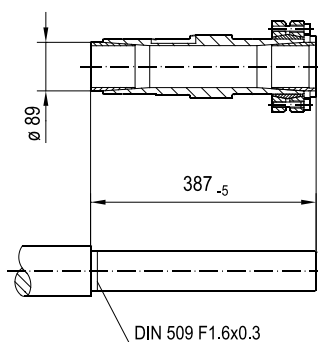
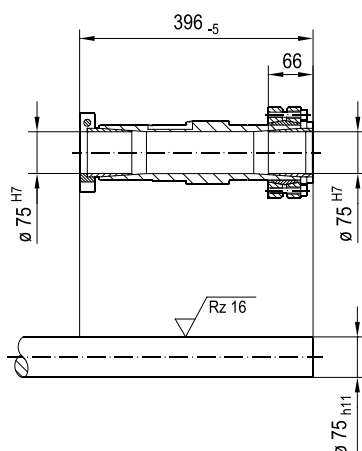
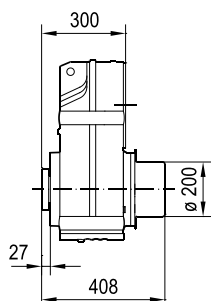
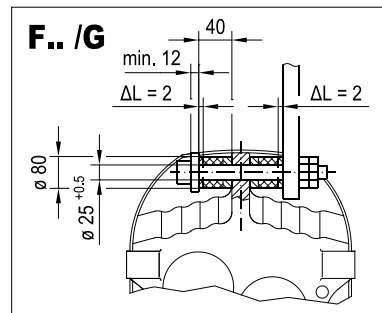
(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	766	797	847	865	891	957	980	1090	1064
LS	860	909	959	1003	1028	1146	1169	1295	1269
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

FT97..



42 187 00 16

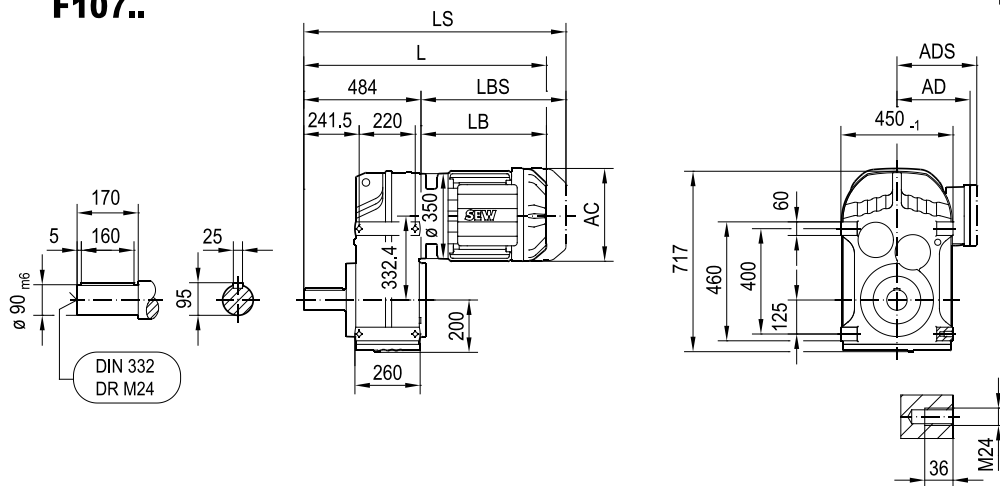
F.. /G



(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	638	669	719	737	763	829	852	962	936
LS	732	781	831	875	900	1018	1041	1167	1141
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

F107..

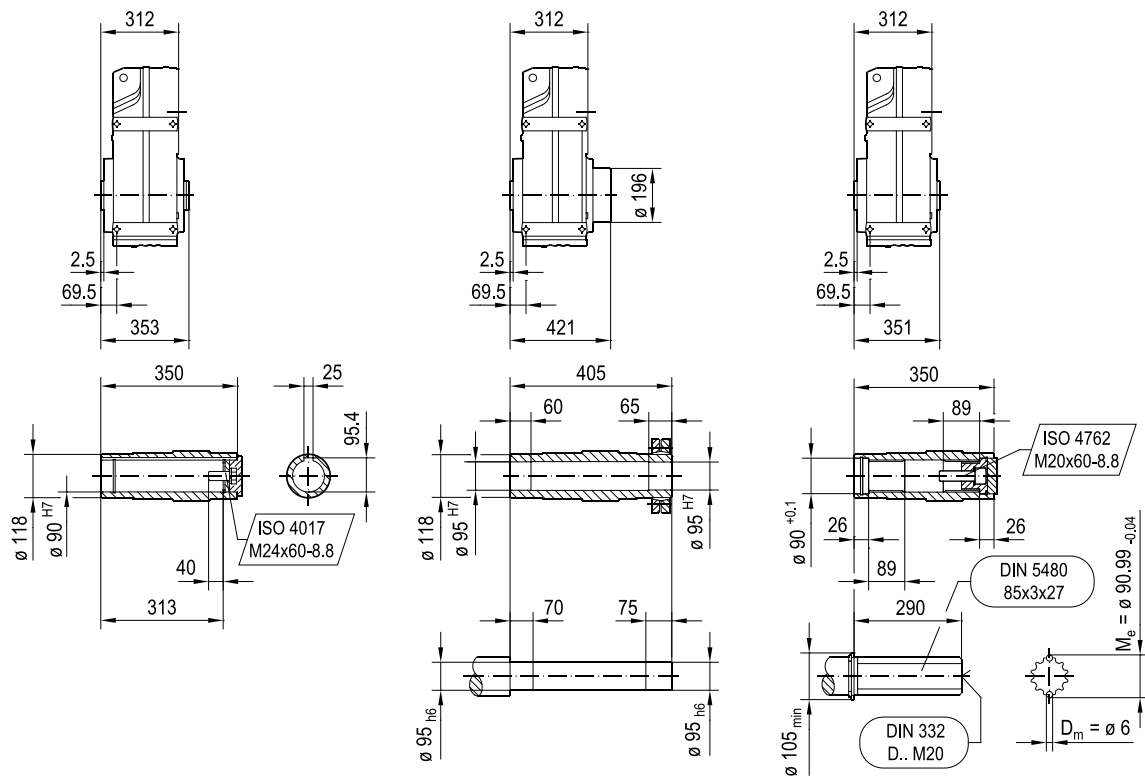
42 188 00 16



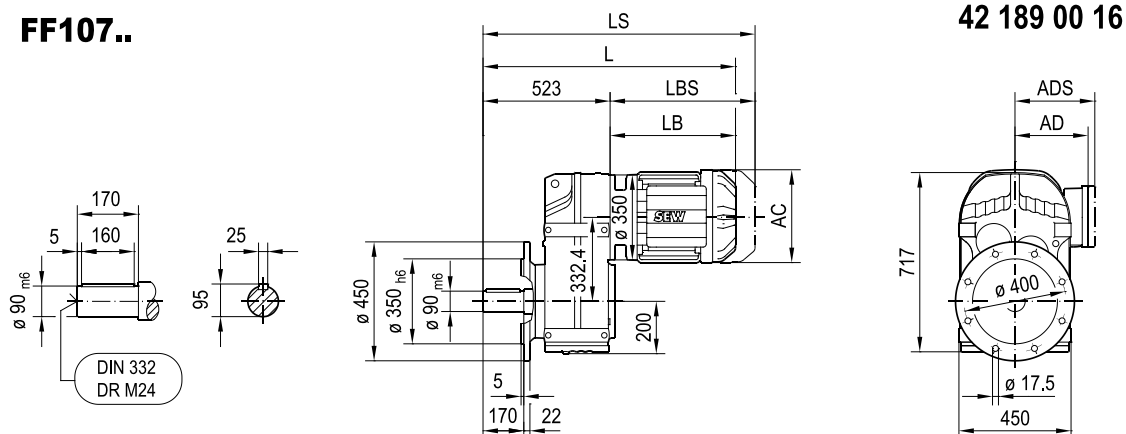
FA107B..

FH107B..

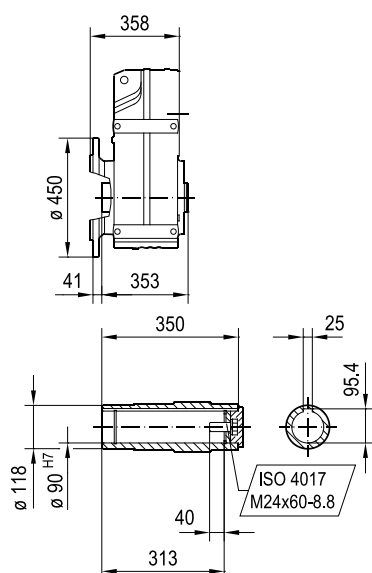
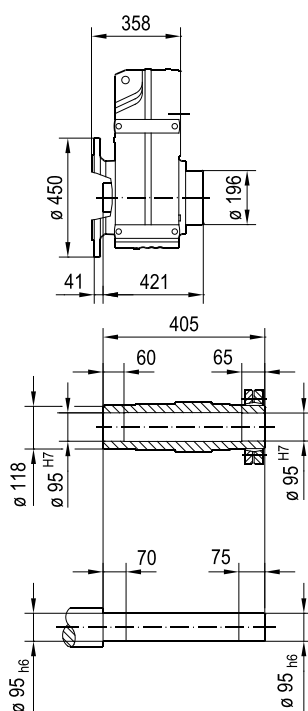
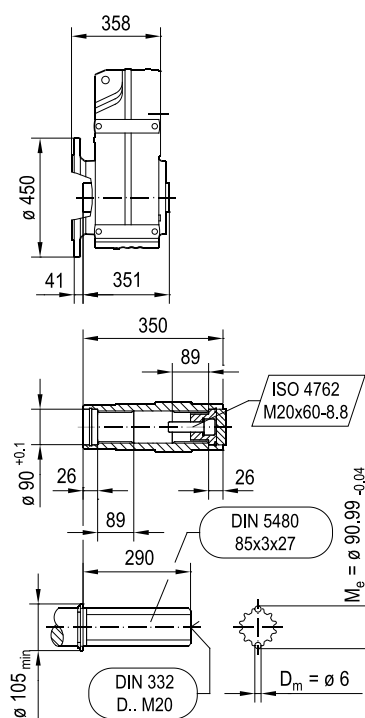
FV107B..



(→ 7.2)	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M
AC	221	221	261	261	314	357	394	434	495
AD	170	170	228	228	253	268	283	305	394
ADS	172	172	228	228	253	268	283	305	394
L	847	897	915	941	1007	1030	1140	1114	1251
LS	959	1009	1053	1078	1196	1219	1345	1319	1491
LB	363	413	431	457	523	546	656	630	767
LBS	475	525	569	594	712	735	861	835	1007

FF107..

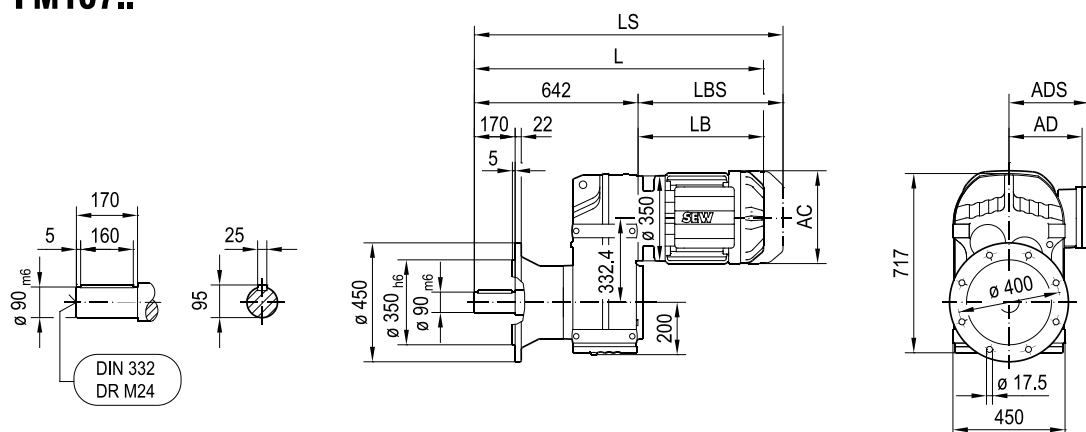
42 189 00 16

FAF107..**FHF107..****FVF107..**

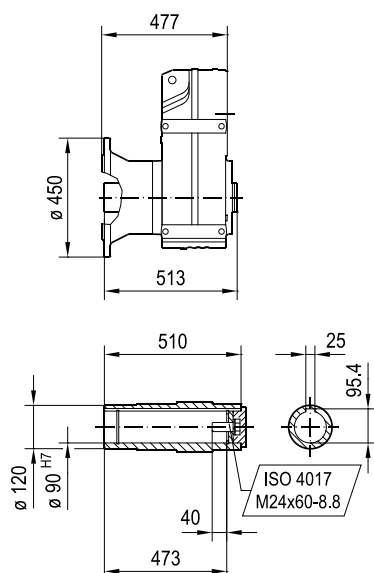
(→ 7.2)	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M
AC	221	221	261	261	314	357	394	434	495
AD	170	170	228	228	253	268	283	305	394
ADS	172	172	228	228	253	268	283	305	394
L	886	936	954	980	1046	1069	1179	1153	1290
LS	998	1048	1092	1117	1235	1258	1384	1358	1530
LB	363	413	431	457	523	546	656	630	767
LBS	475	525	569	594	712	735	861	835	1007

FM107..

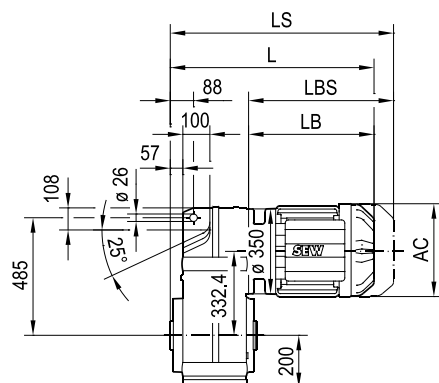
42 005 01 23



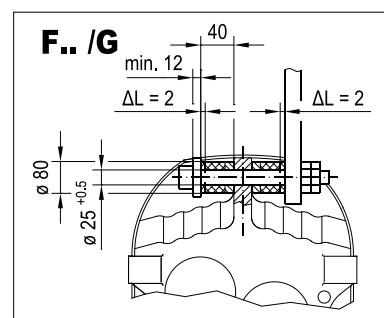
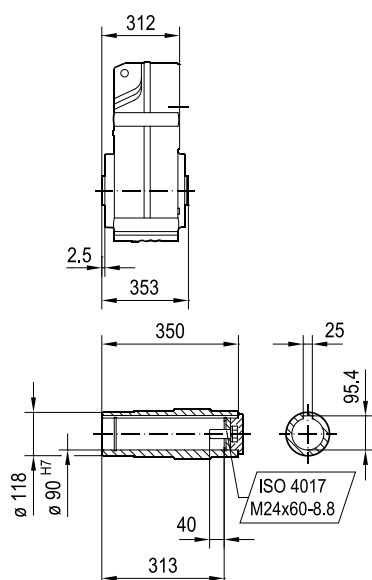
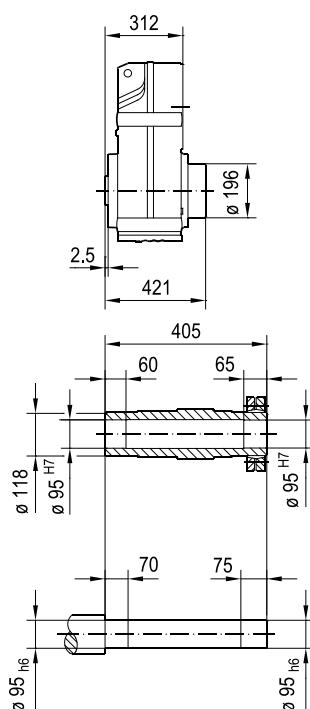
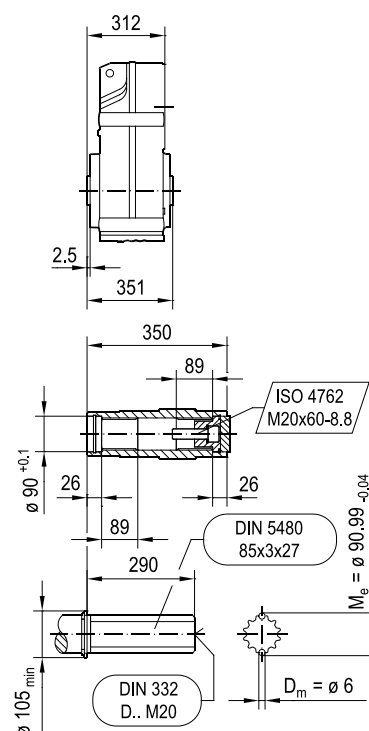
FAM107..



(→  7.2)	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M
AC	221	221	261	261	314	357	394	434	495
AD	170	170	228	228	253	268	283	305	394
ADS	172	172	228	228	253	268	283	305	394
L	1005	1055	1073	1099	1165	1188	1298	1272	1409
LS	1117	1167	1211	1236	1354	1377	1503	1477	1649
LB	363	413	431	457	523	546	656	630	767
LBS	475	525	569	594	712	735	861	835	1007

FA107..

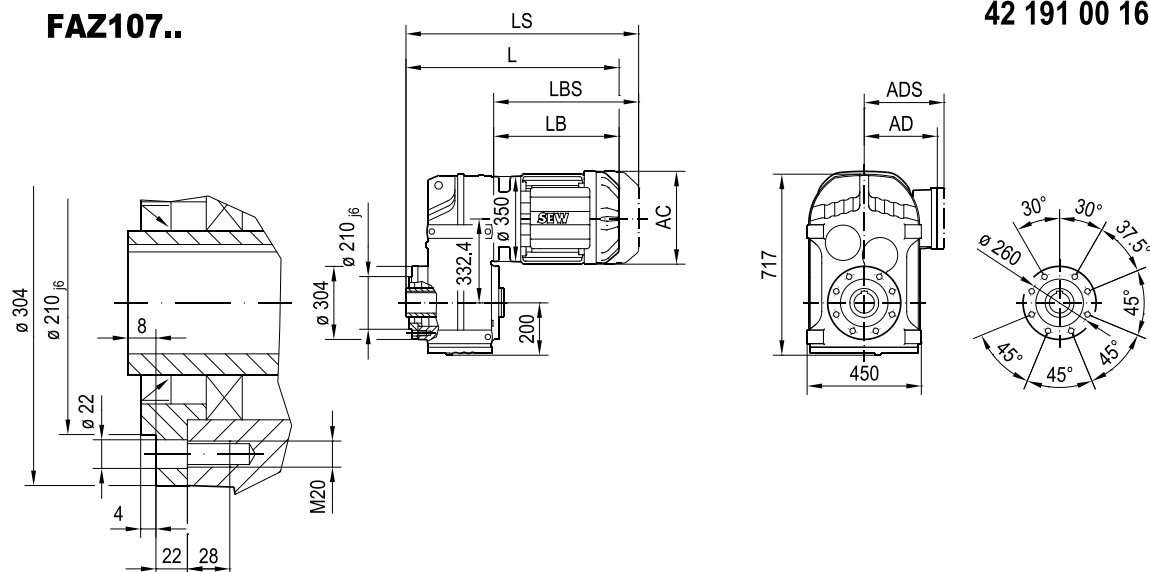
42 190 00 16

**FA107..****FH107..****FV107..**

(→ 7.2)	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M
AC	221	221	261	261	314	357	394	434	495
AD	170	170	228	228	253	268	283	305	394
ADS	172	172	228	228	253	268	283	305	394
L	675	725	743	769	835	858	968	942	1079
LS	787	837	881	906	1024	1047	1173	1147	1319
LB	363	413	431	457	523	546	656	630	767
LBS	475	525	569	594	712	735	861	835	1007

FAZ107..

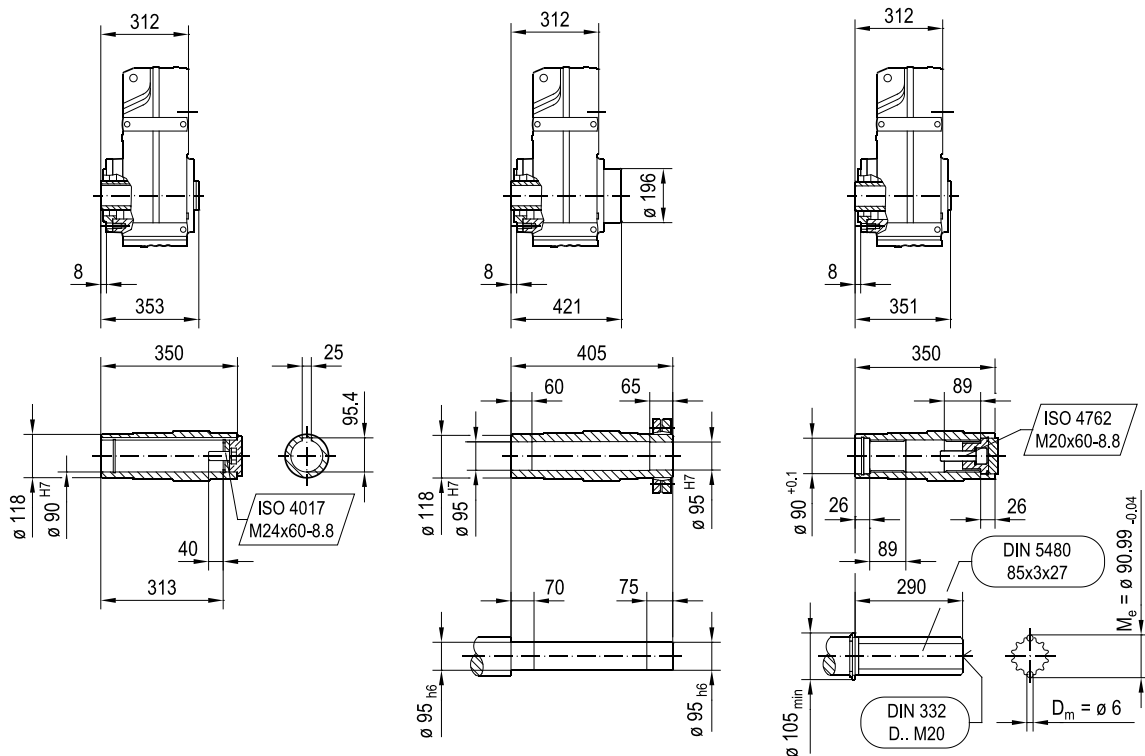
42 191 00 16



FAZ107..

FHZ107..

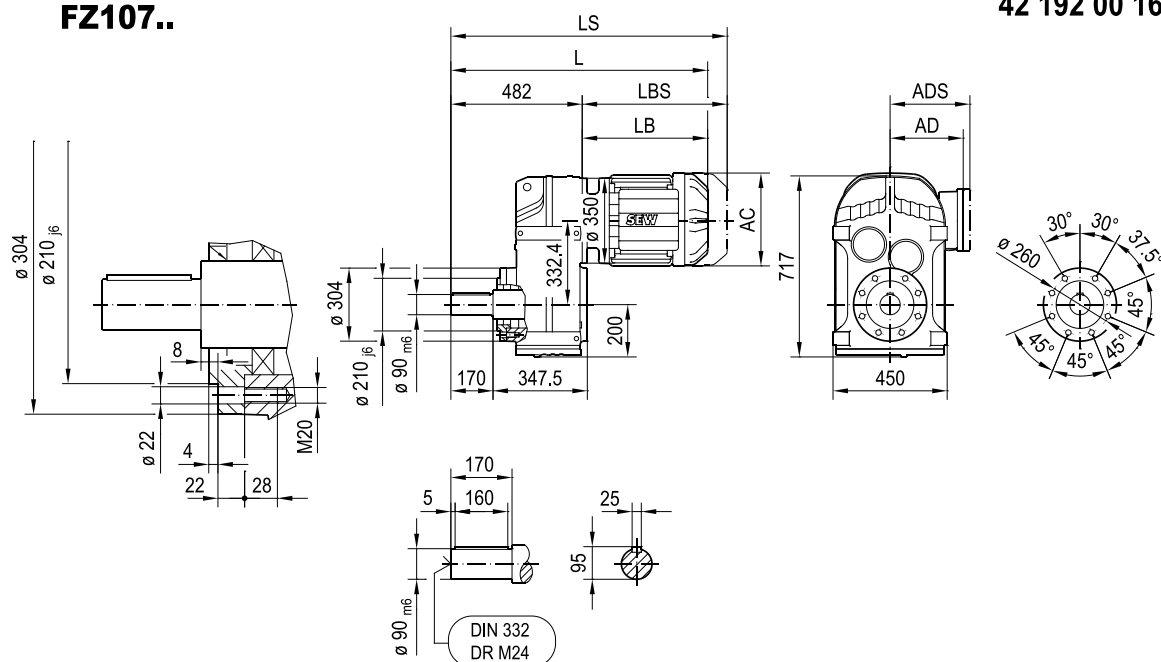
FVZ107..



(→ 7.2)	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M
AC	221	221	261	261	314	357	394	434	495
AD	170	170	228	228	253	268	283	305	394
ADS	172	172	228	228	253	268	283	305	394
L	675	725	743	769	835	858	968	942	1079
LS	787	837	881	906	1024	1047	1173	1147	1319
LB	363	413	431	457	523	546	656	630	767
LBS	475	525	569	594	712	735	861	835	1007

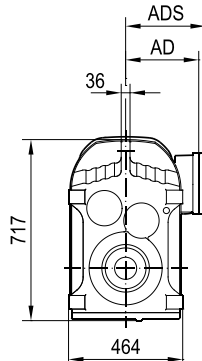
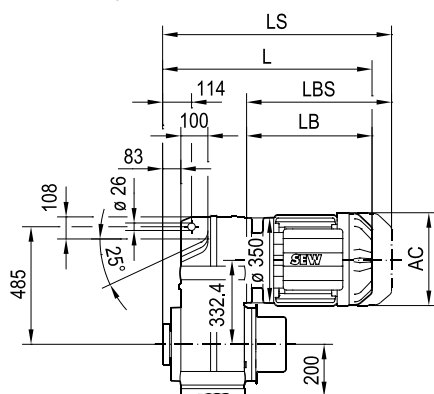
FZ107..

42 192 00 16

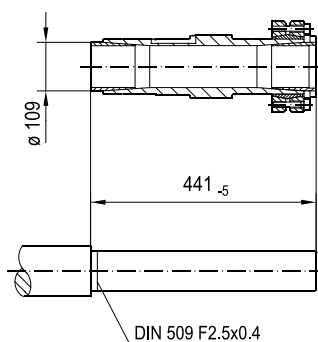
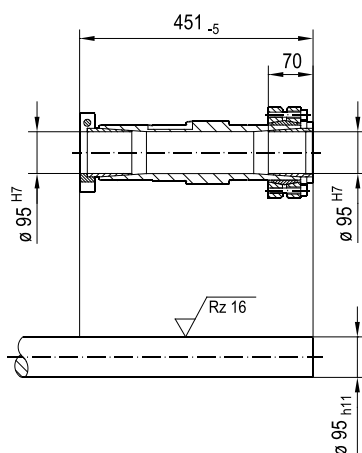
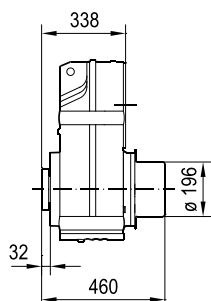
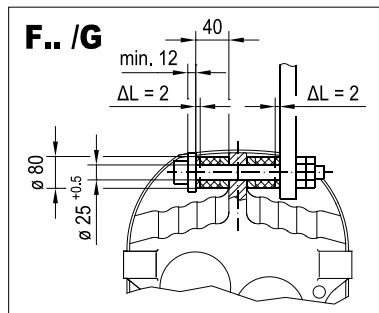


(→ 7.2)	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M
AC	221	221	261	261	314	357	394	434	495
AD	170	170	228	228	253	268	283	305	394
ADS	172	172	228	228	253	268	283	305	394
L	845	895	913	939	1005	1028	1138	1112	1249
LS	957	1007	1051	1076	1194	1217	1343	1317	1489
LB	363	413	431	457	523	546	656	630	767
LBS	475	525	569	594	712	735	861	835	1007

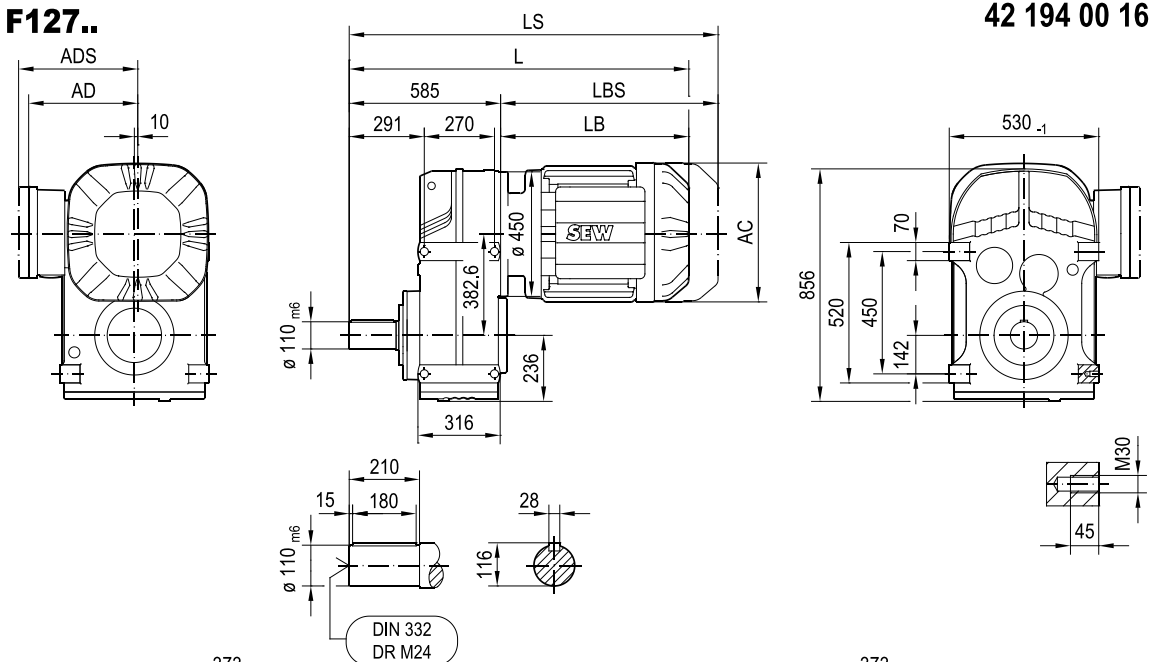
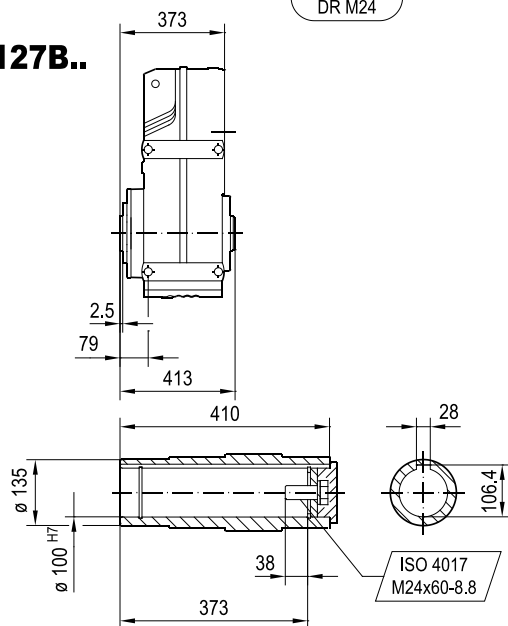
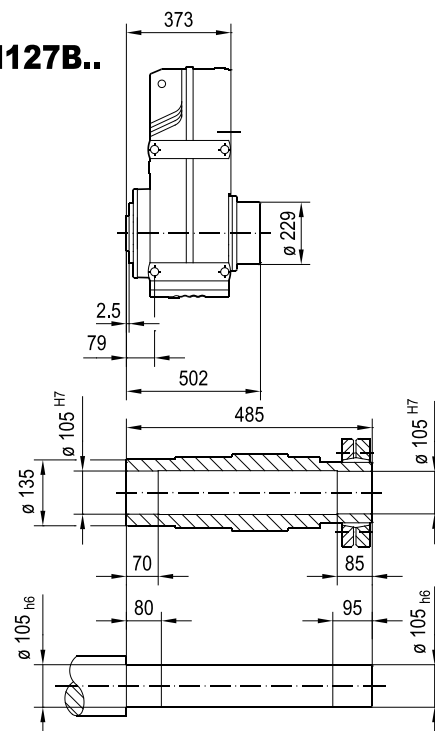
FT107..



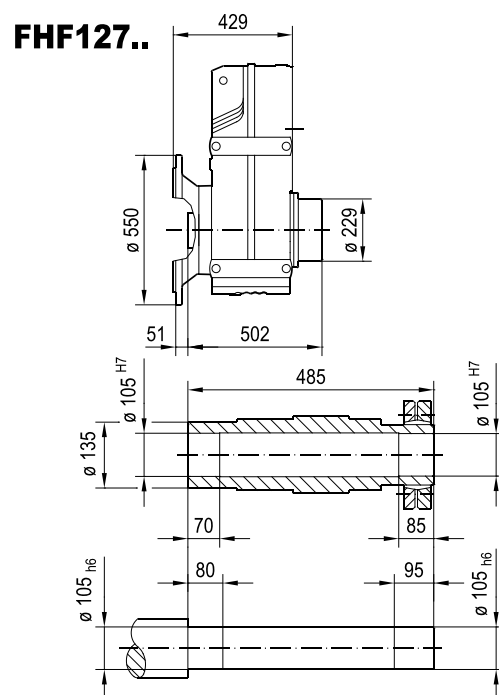
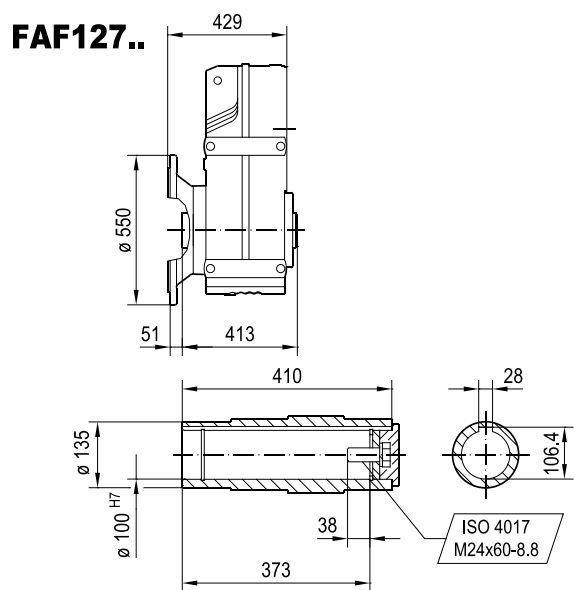
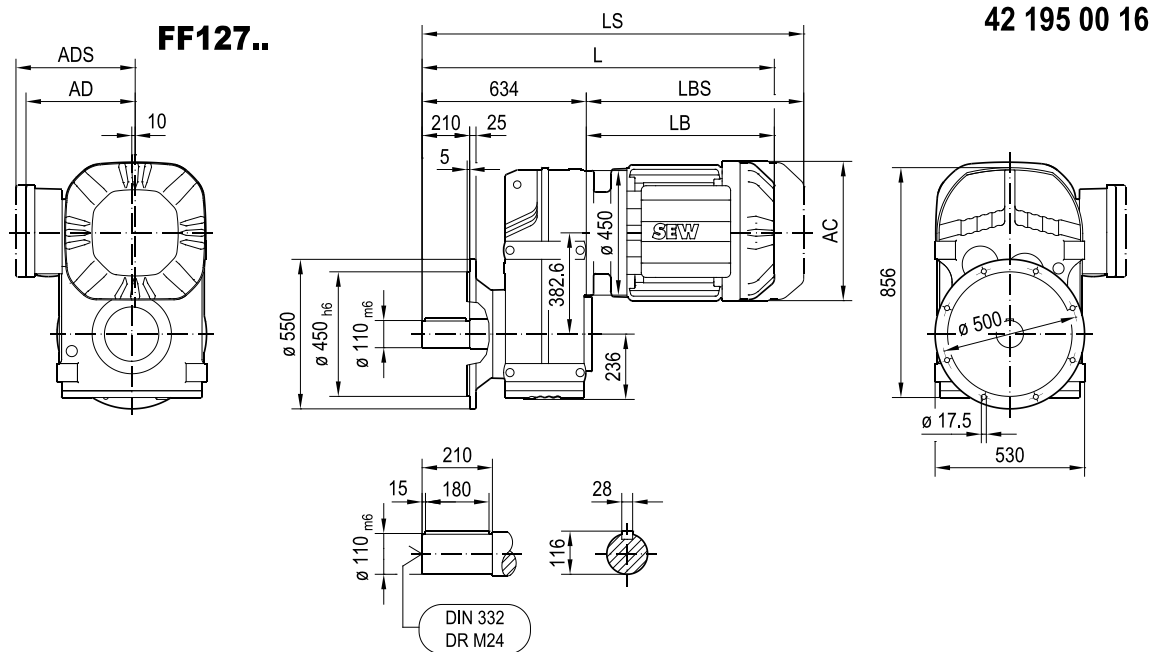
42 193 00 16



(→ 7.2)	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M
AC	221	221	261	261	314	357	394	434	495
AD	170	170	228	228	253	268	283	305	394
ADS	172	172	228	228	253	268	283	305	394
L	701	751	769	795	861	884	994	968	1105
LS	813	863	907	932	1050	1073	1199	1173	1345
LB	363	413	431	457	523	546	656	630	767
LBS	475	525	569	594	712	735	861	835	1007

F127..**FA127B..****FH127B..**

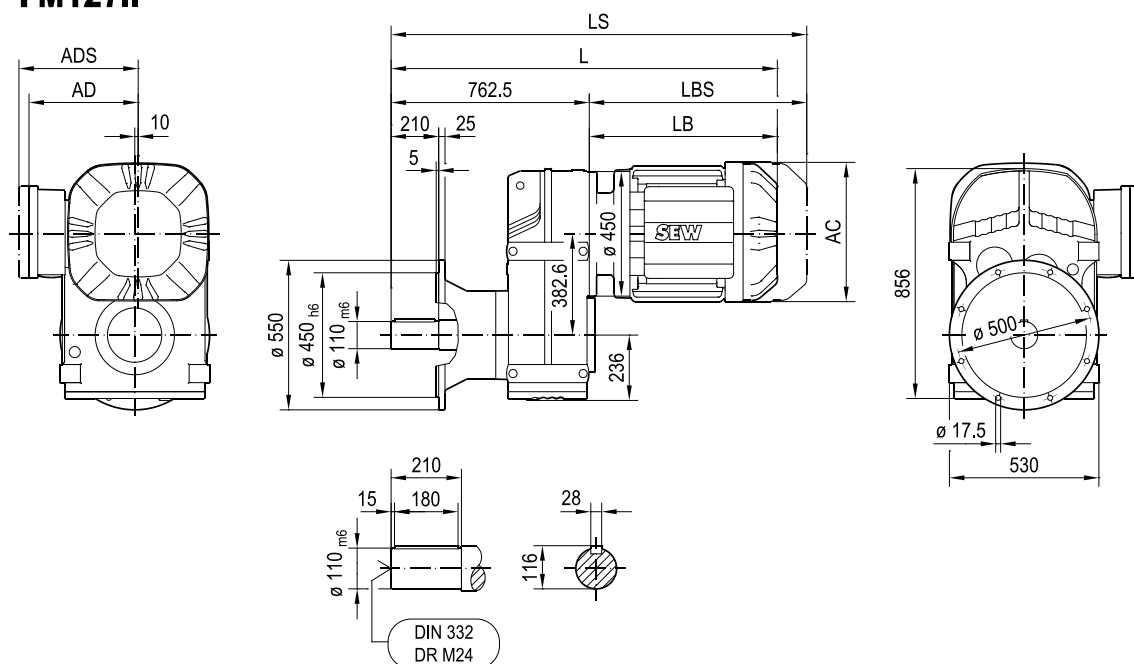
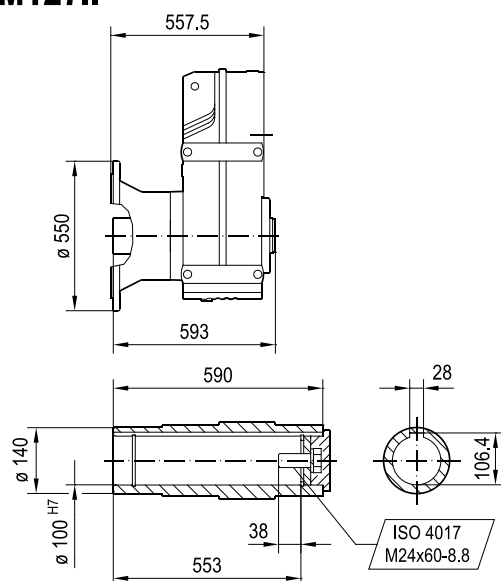
(→ 7.2)	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M
AC	261	261	314	357	394	434	495	495	495
AD	228	228	253	268	283	305	394	394	394
ADS	228	228	253	268	283	305	394	394	394
L	1001	1027	1093	1116	1226	1200	1337	1337	1432
LS	1139	1164	1282	1305	1431	1405	1577	1577	1672
LB	416	442	508	531	641	615	752	752	847
LBS	554	579	697	720	846	820	992	992	1087



(→ 7.2)	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M
AC	261	261	314	357	394	434	495	495	495
AD	228	228	253	268	283	305	394	394	394
ADS	228	228	253	268	283	305	394	394	394
L	1050	1076	1142	1165	1275	1249	1386	1386	1481
LS	1188	1213	1331	1354	1480	1454	1626	1626	1721
LB	416	442	508	531	641	615	752	752	847
LBS	554	579	697	720	846	820	992	992	1087

FM127..

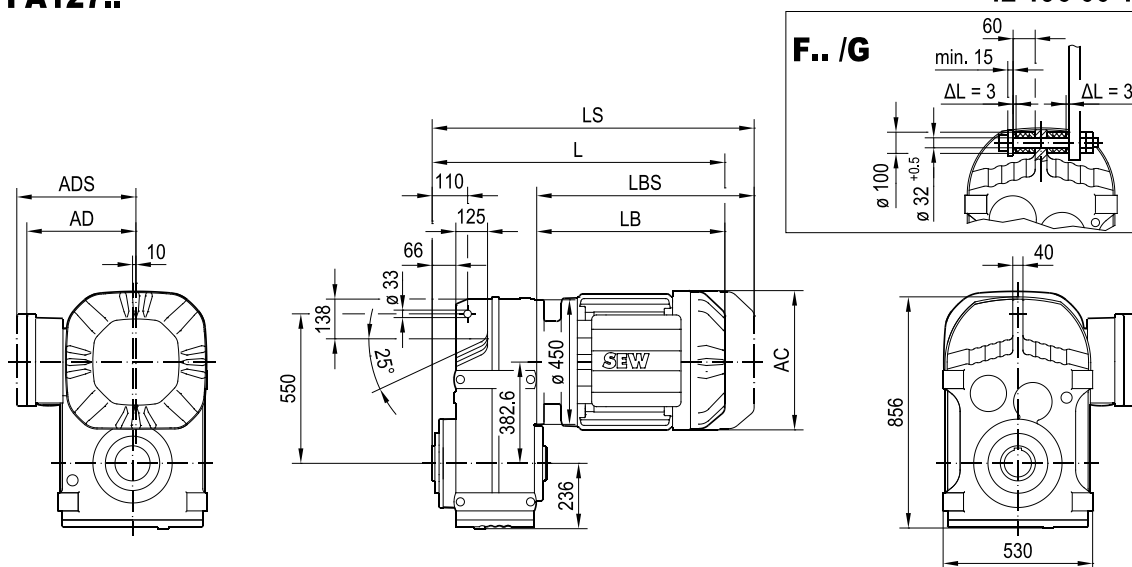
42 006 01 23

**FAM127..**

(→ 7.2)	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M
AC	261	261	314	357	394	434	495	495	495
AD	228	228	253	268	283	305	394	394	394
ADS	228	228	253	268	283	305	394	394	394
L	1179	1204	1271	1294	1403	1378	1515	1515	1610
LS	1316	1341	1460	1483	1608	1583	1755	1755	1850
LB	416	442	508	531	641	615	752	752	847
LBS	554	579	697	720	846	820	992	992	1087

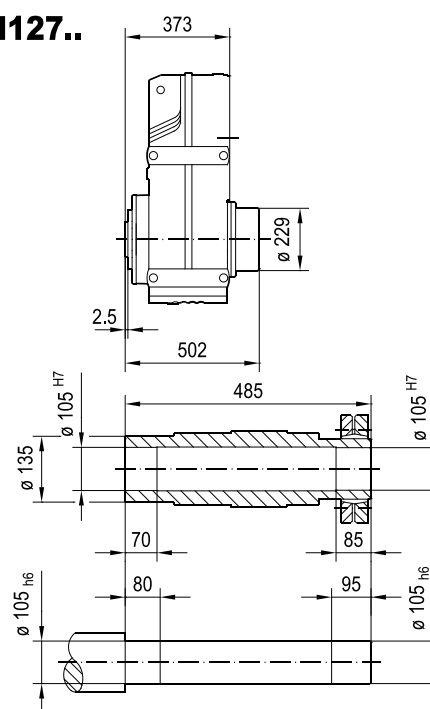
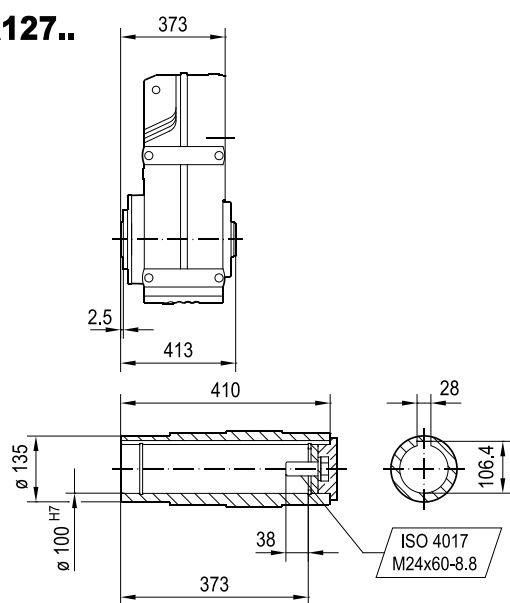
FA127..

42 196 00 16



FA127..

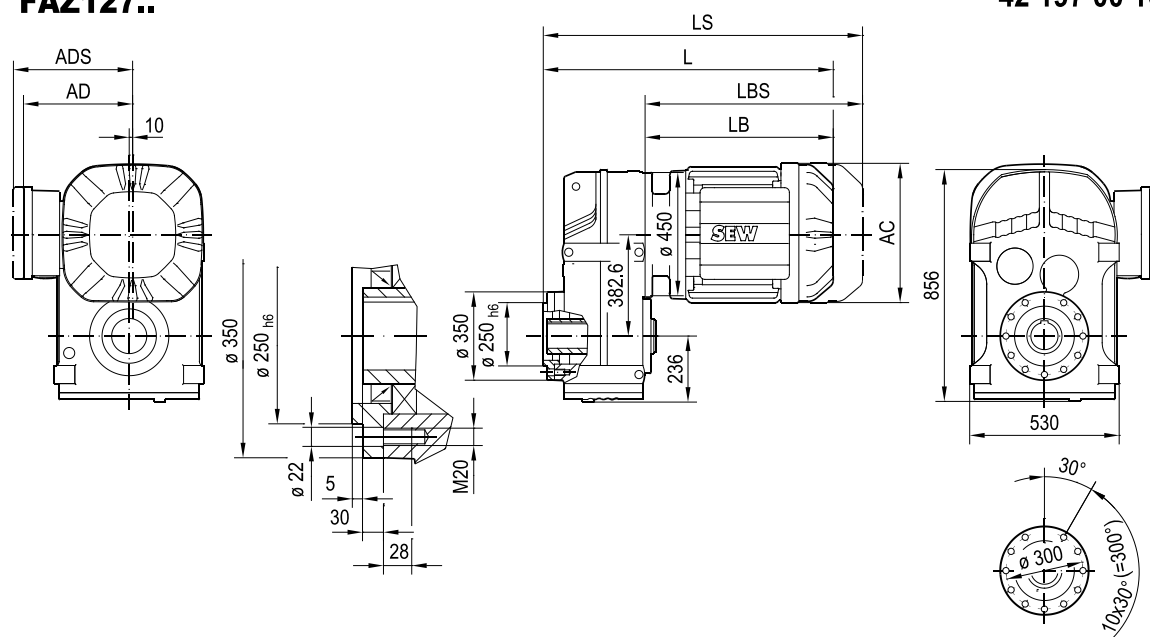
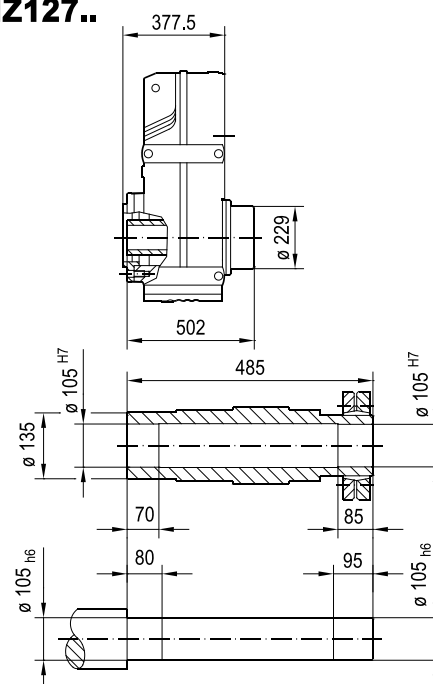
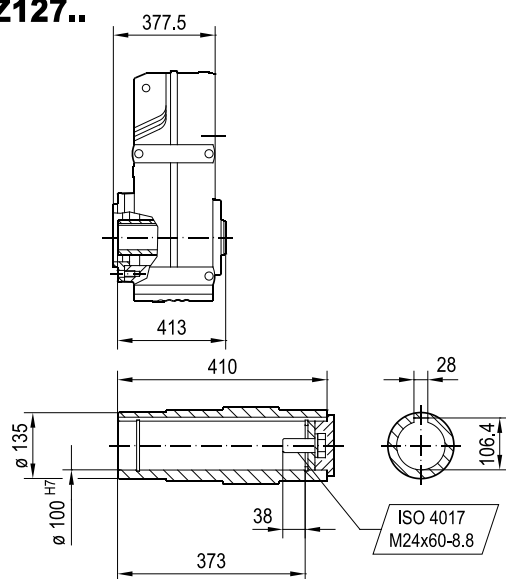
FH127..



(→ 7.2)	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M
AC	261	261	314	357	394	434	495	495	495
AD	228	228	253	268	283	305	394	394	394
ADS	228	228	253	268	283	305	394	394	394
L	789	815	881	904	1014	988	1125	1125	1220
LS	927	952	1070	1093	1219	1193	1365	1365	1460
LB	416	442	508	531	641	615	752	752	847
LBS	554	579	697	720	846	820	992	992	1087

FAZ127..

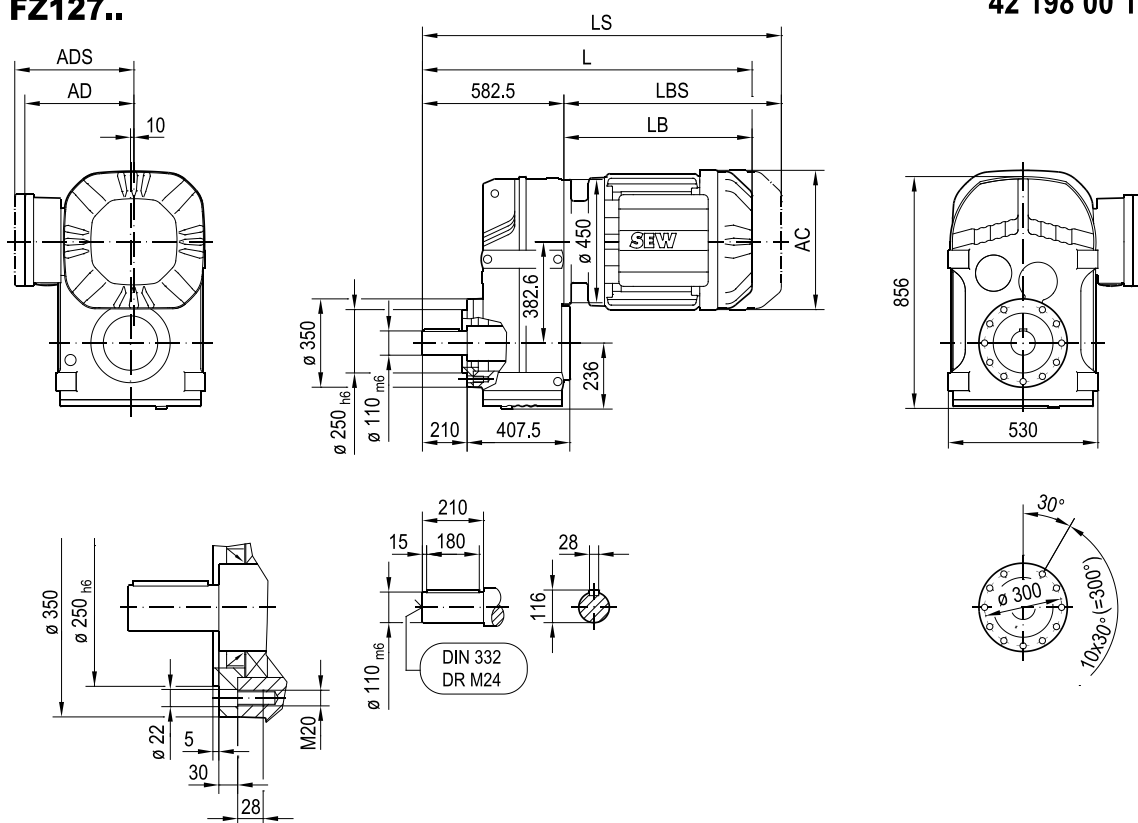
42 197 00 16

**FAZ127..****FHZ127..**

(→ 7.2)	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M
AC	261	261	314	357	394	434	495	495	495
AD	228	228	253	268	283	305	394	394	394
ADS	228	228	253	268	283	305	394	394	394
L	794	819	886	909	1018	993	1130	1130	1225
LS	931	956	1075	1098	1223	1198	1370	1370	1465
LB	416	442	508	531	641	615	752	752	847
LBS	554	579	697	720	846	820	992	992	1087

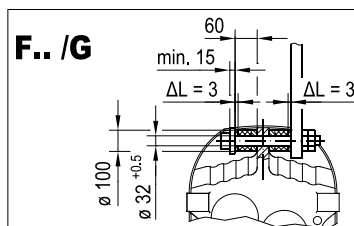
FZ127..

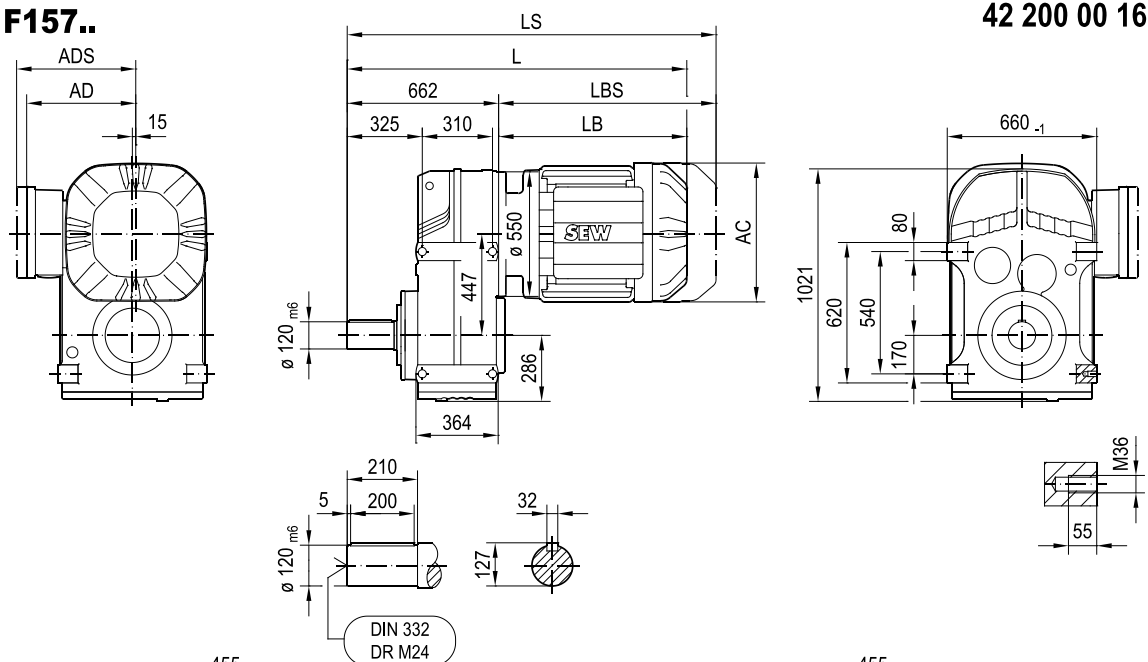
42 198 00 16



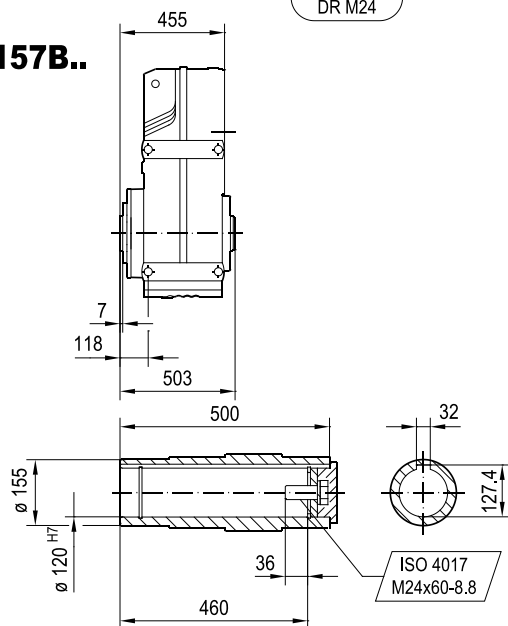
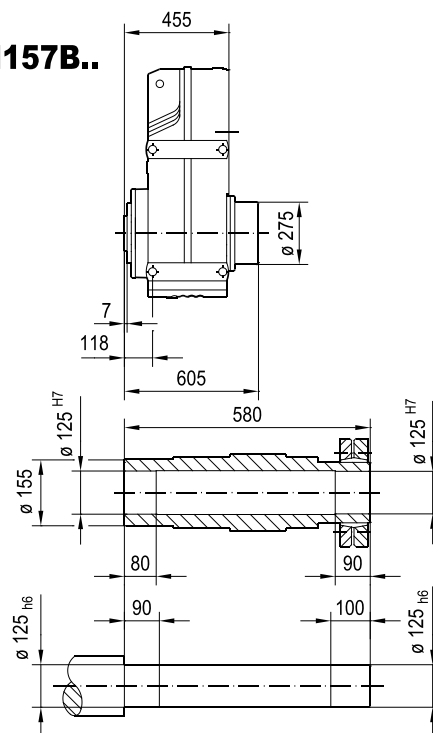
(→ 7.2)	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M
AC	261	261	314	357	394	434	495	495	495
AD	228	228	253	268	283	305	394	394	394
ADS	228	228	253	268	283	305	394	394	394
L	999	1024	1091	1114	1223	1198	1335	1335	1430
LS	1136	1161	1280	1303	1428	1403	1575	1575	1670
LB	416	442	508	531	641	615	752	752	847
LBS	554	579	697	720	846	820	992	992	1087

42 199 00 16

27782913/EN – 02/2023

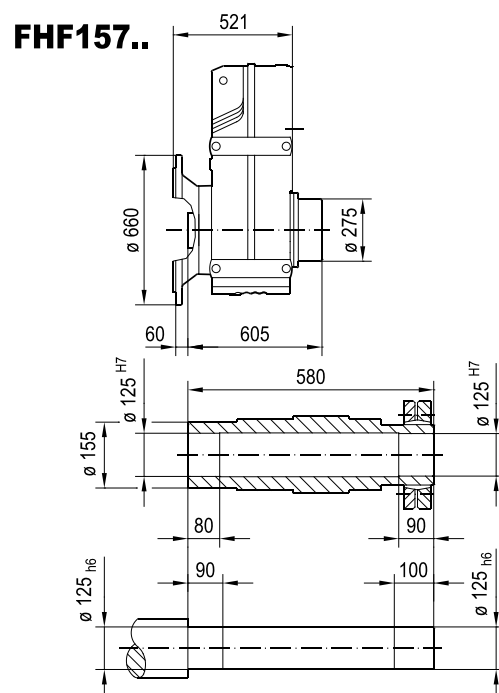
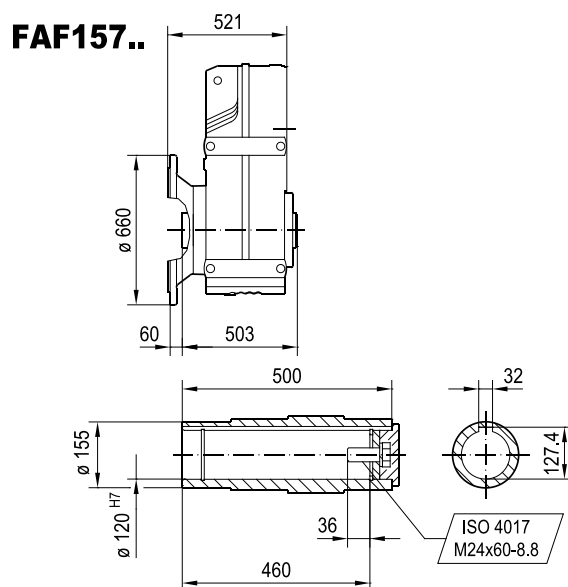
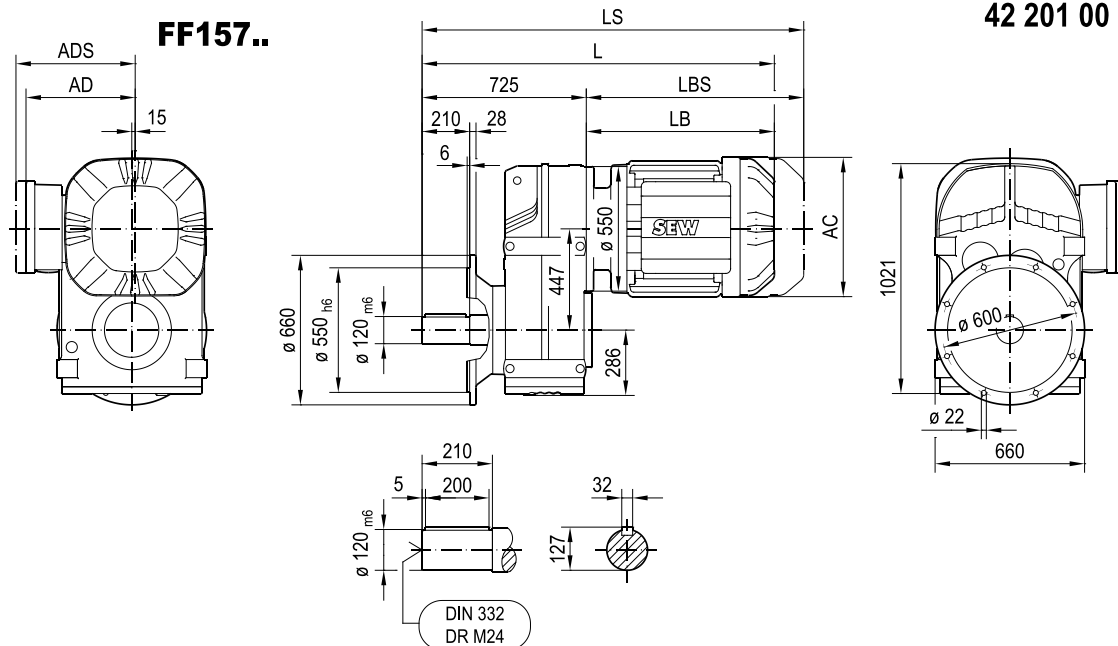
F157..


42 200 00 16

FA157B..

FH157B..


(→ 7.2)	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M	EDRN315S-M	EDRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1162	1185	1295	1269	1406	1406	1501	1603	1733
LS	1351	1374	1500	1474	1646	1646	1741	1854	1984
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

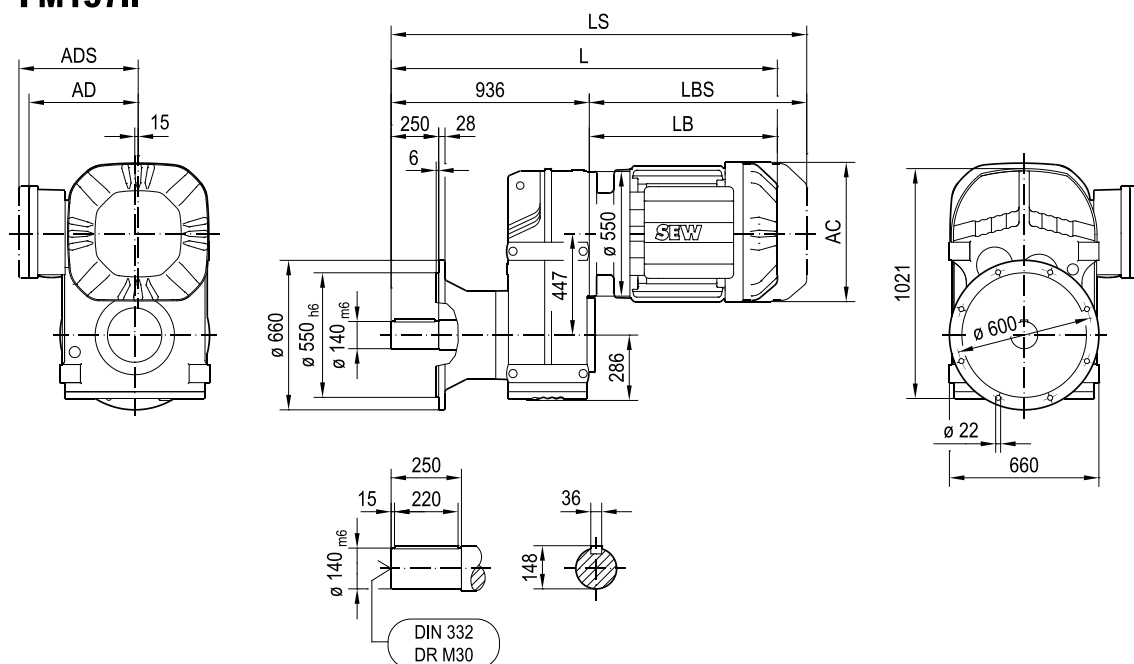
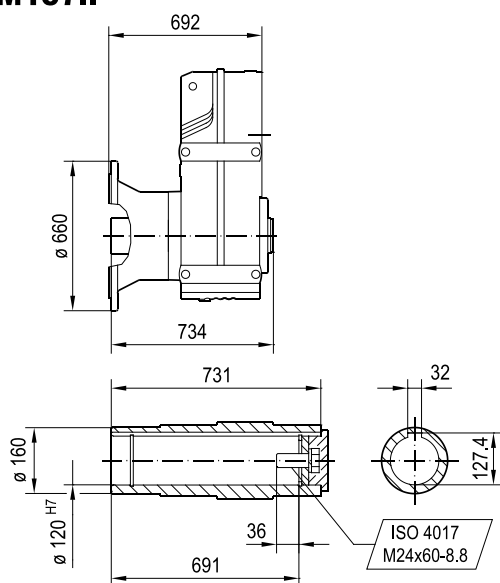
42 201 00 16



(→ 7.2)	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M	EDRN315S-M	EDRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1225	1248	1358	1332	1469	1469	1564	1666	1796
LS	1414	1437	1563	1537	1709	1709	1804	1917	2047
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

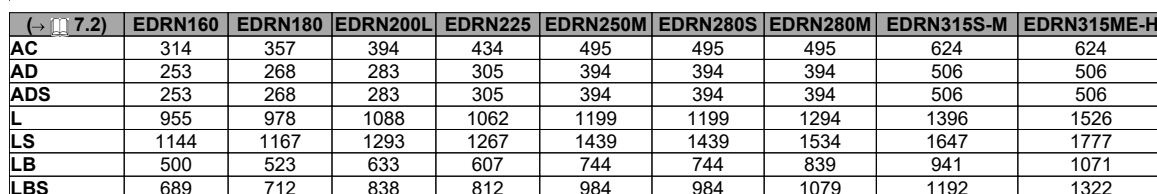
FM157..

42 007 01 23


FAM157..


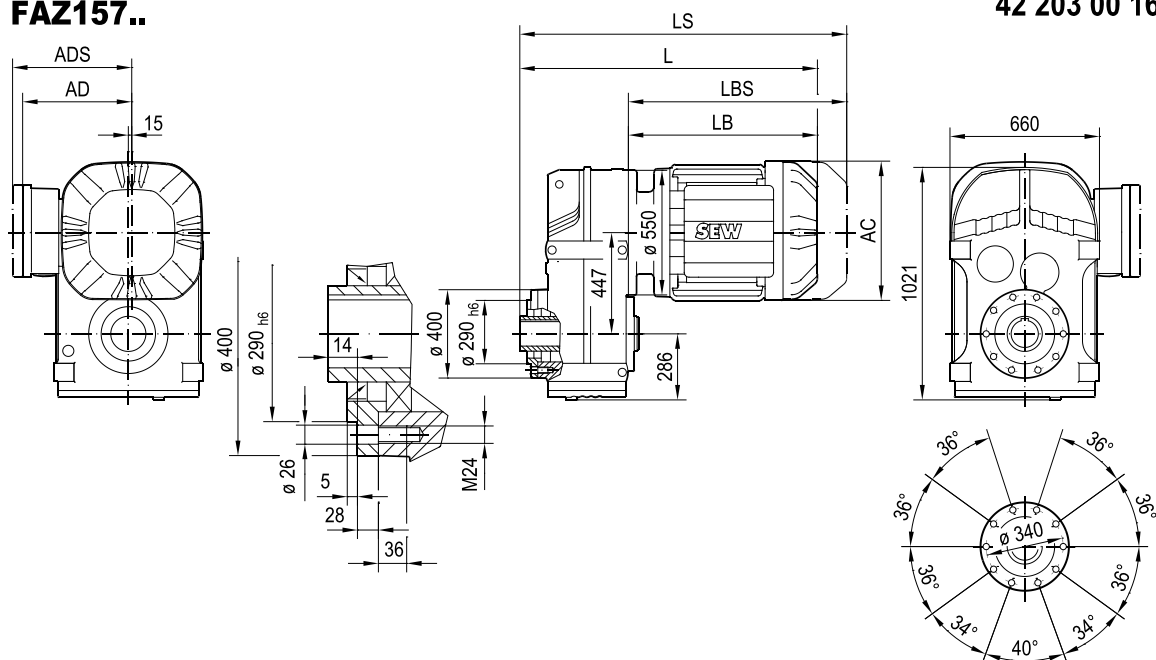
(→ 7.2)	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M	EDRN315S-M	EDRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1436	1459	1569	1543	1680	1680	1775	1877	2007
LS	1625	1648	1774	1748	1920	1920	2015	2128	2258
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

42 202 00 16

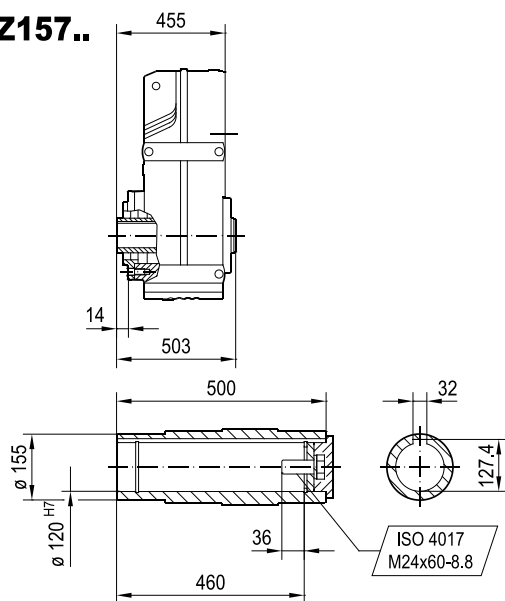


FAZ157..

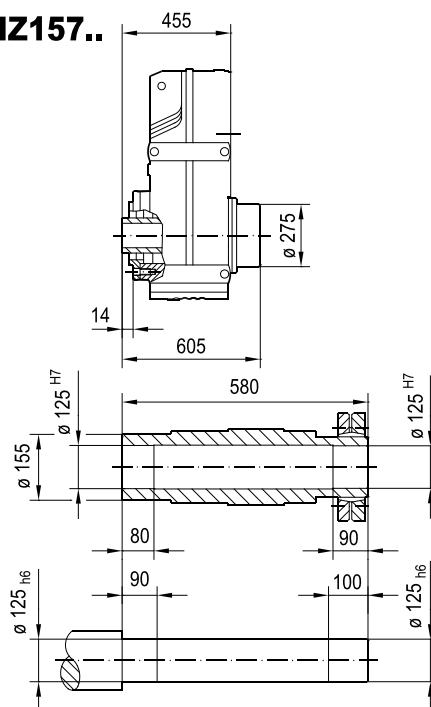
42 203 00 16



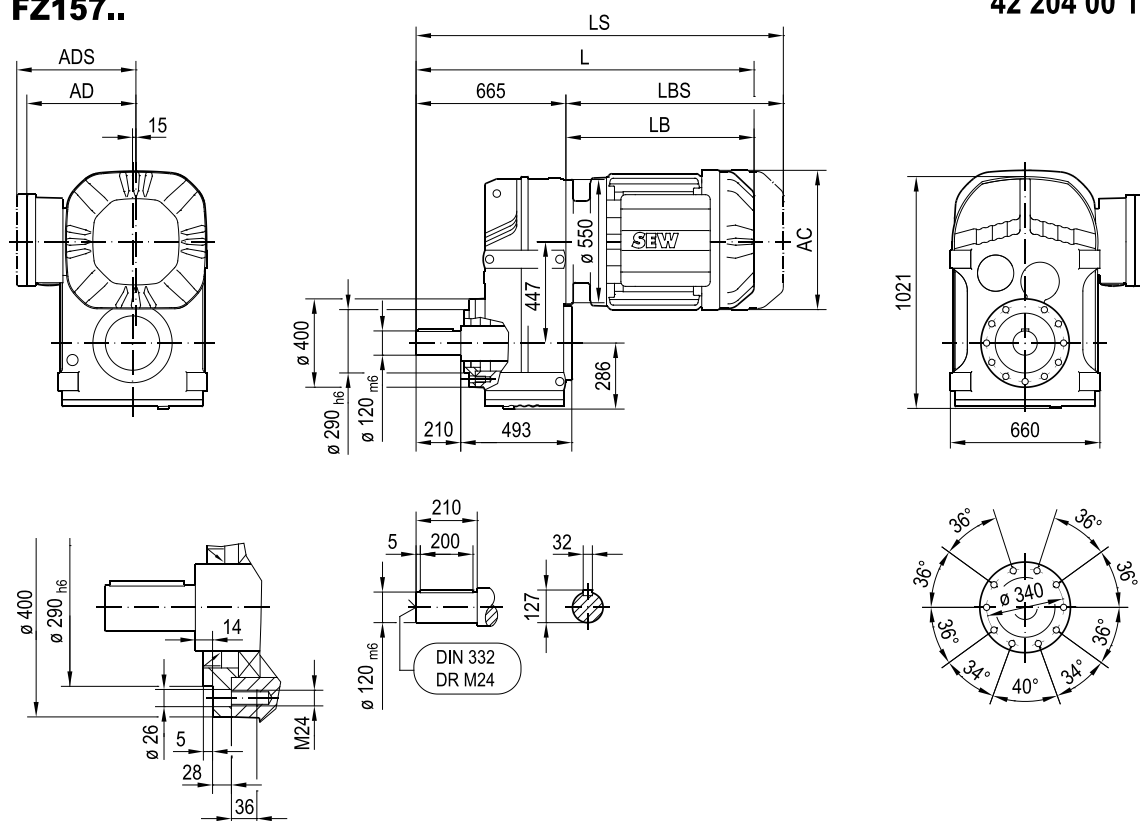
FAZ157..



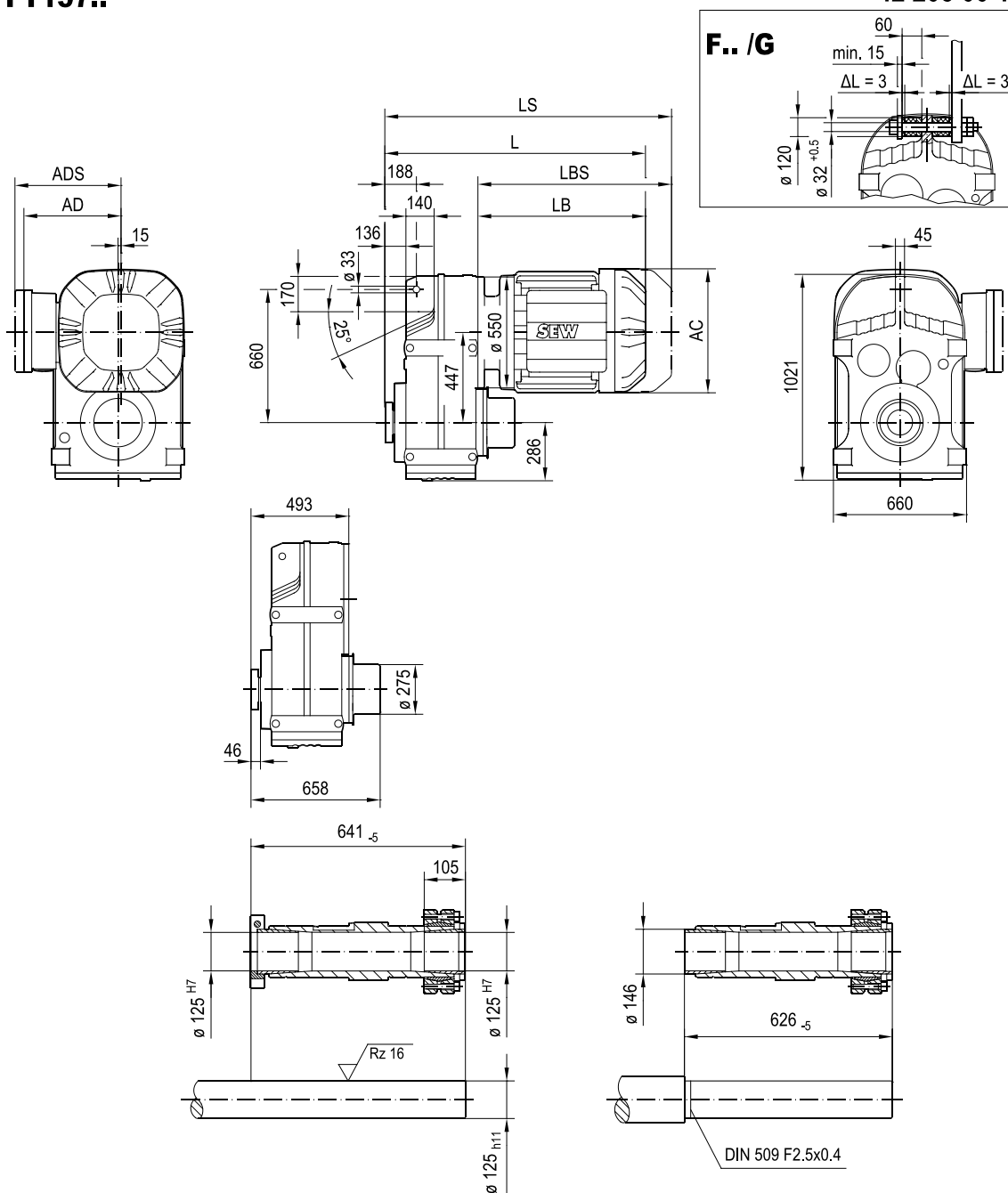
FHZ157..



(→ 7.2)	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M	EDRN315S-M	EDRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	955	978	1088	1062	1199	1199	1294	1396	1526
LS	1144	1167	1293	1267	1439	1439	1534	1647	1777
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

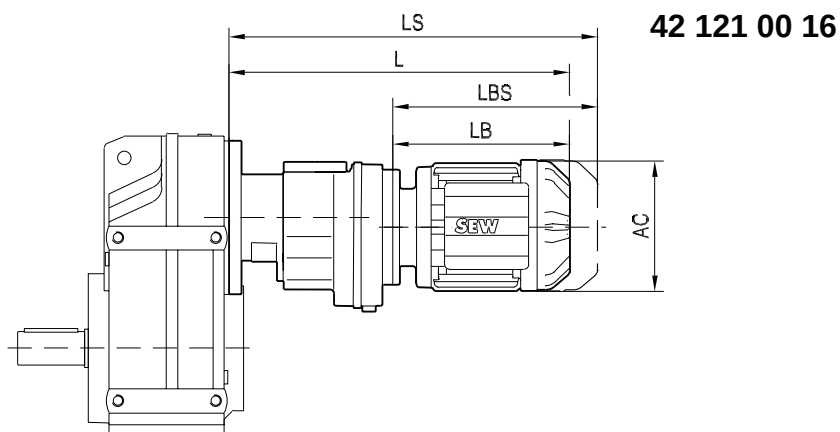
FZ157..**42 204 00 16**

(→ 7.2)	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M	EDRN315S-M	EDRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1165	1188	1298	1272	1409	1409	1504	1606	1736
LS	1354	1377	1503	1477	1649	1649	1744	1857	1987
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

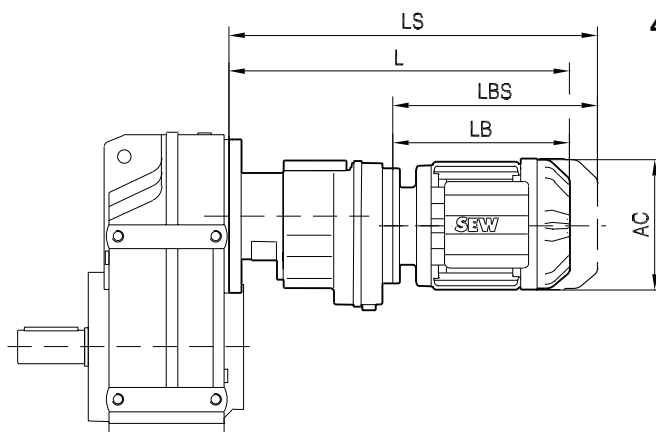
FT157..
42 205 00 16


(→ 7.2)	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M	EDRN315S-M	EDRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	993	1016	1126	1100	1237	1237	1332	1434	1564
LS	1182	1205	1331	1305	1477	1477	1572	1685	1815
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

12.2.3 F..R..EDRN.. /mm



(→ 246)		AC	L	LS	LB	LBS
F..57R37	DRN80M	156	446	527	281	362
F..67R37	DRN80M	156	446	527	281	362
	DRN90S	179	448	541	283	376
F..77R37	DRN80M	156	438	519	281	362
	DRN90S	179	440	533	283	376
	DRN90L	179	472	565	315	408
F..87R57	DRN80M	156	502	583	275	356
	DRN90S	179	504	597	277	370
	DRN90L	179	536	629	309	402
	DRN100LS	197	533	626	305	398
	DRN100L	197	583	676	355	448
F..97R57	DRN80M	156	497	578	275	356
	DRN90S	179	499	592	277	370
	DRN90L	179	531	624	309	402
	DRN100LS	197	528	621	305	398
	DRN100L	197	578	671	355	448
	DRN112M	221	608	720	386	498
F..107R77	DRN80M	156	515	596	268	349
	DRN90S	179	517	610	270	363
	DRN90L	179	549	642	302	395
	DRN100LS	197	545	638	298	391
	DRN100L	197	595	688	348	441
	DRN112M	221	626	738	379	491
	DRN132S	221	676	788	429	541
F..127R77	DRN132M	261	692	831	445	584
	DRN80M	156	500	581	268	349
	DRN90S	179	502	595	270	363
	DRN90L	179	534	627	302	395
	DRN100LS	197	530	623	298	391
	DRN100L	197	580	673	348	441
	DRN112M	221	611	723	379	491
	DRN132S	221	661	773	429	541

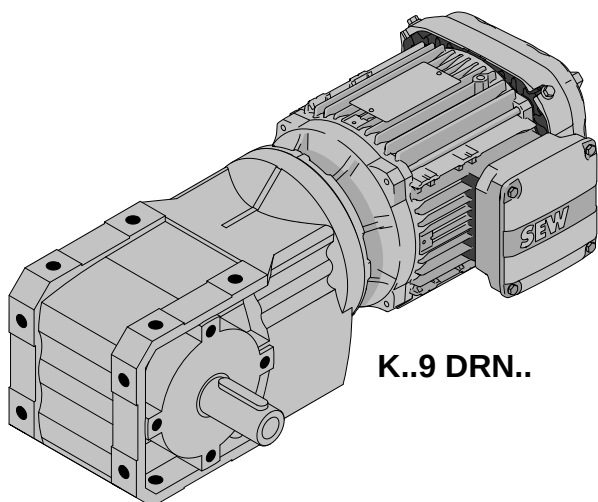
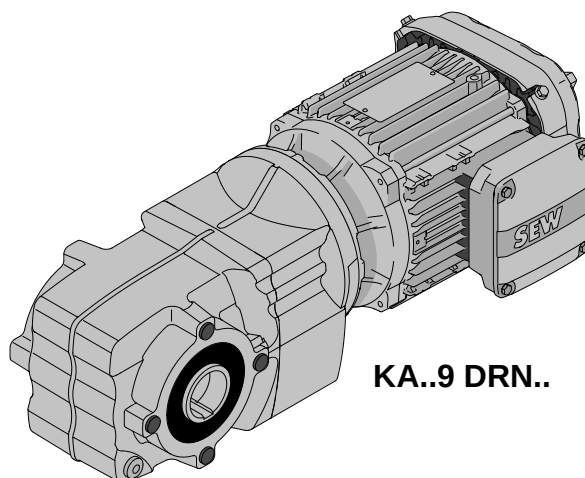
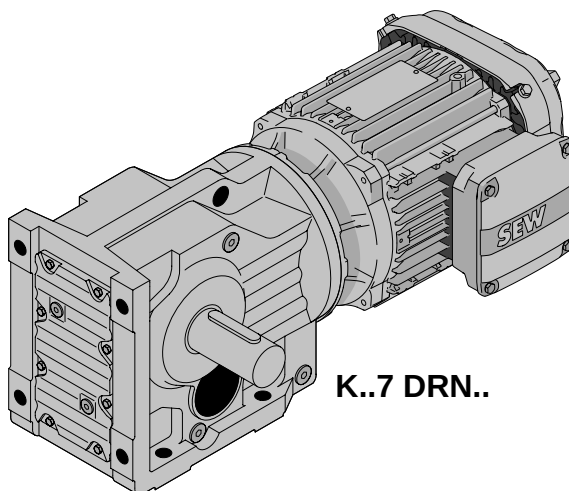
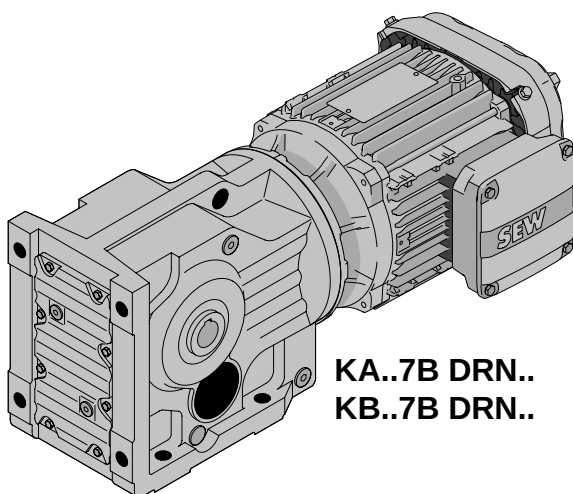
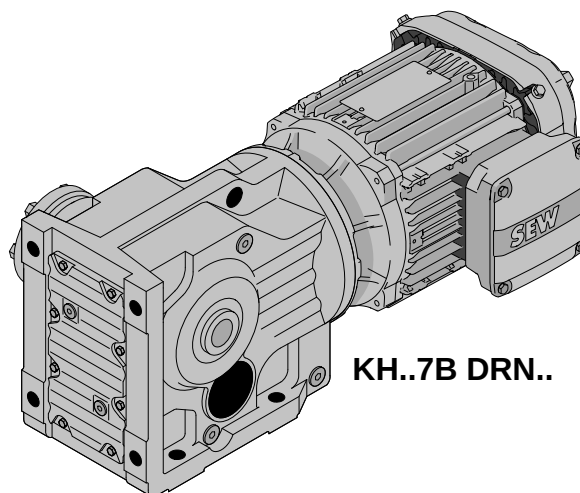


42 121 00 16

(→ 246)		AC	L	LS	LB	LBS
F..127R87	DRN132S	221	704	816	424	536
	DRN132M	261	720	859	440	579
	DRN132L	261	745	884	465	604
	DRN160M	314	814	1003	534	723
	DRN160L	314	814	1003	534	723
F..157R97	DRN80M	156	583	664	258	339
	DRN90S	179	585	678	260	353
	DRN90L	179	617	710	292	385
	DRN100LS	197	613	706	288	381
	DRN100L	197	663	756	338	431
	DRN112M	221	694	806	369	481
	DRN132S	221	744	856	419	531
	DRN132M	261	760	899	435	574
	DRN132L	261	785	924	460	599
	DRN160M	314	854	1043	529	718
	DRN160L	314	854	1043	529	718
	DRN180M	357	879	1068	554	743

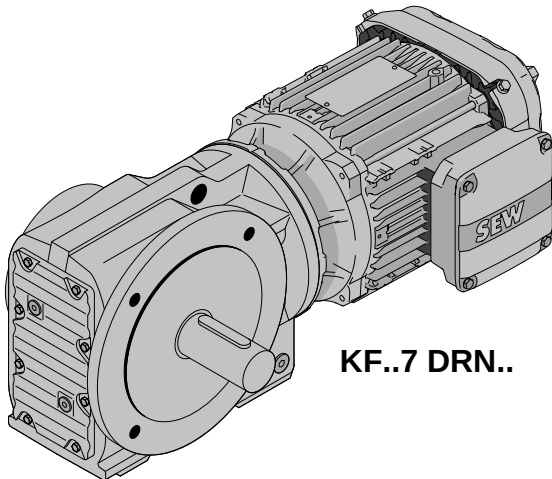
12.3 Helical-bevel gearmotors

12.3.1 K..DRN.. designs

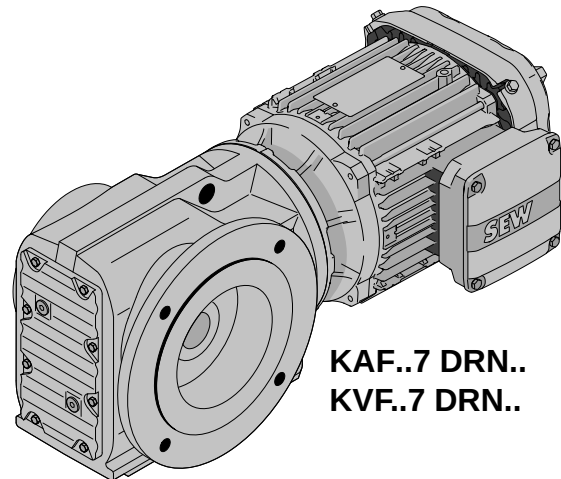
**K..9 DRN..****KA..9 DRN..****K..7 DRN..****KA..7B DRN..
KB..7B DRN..****KH..7B DRN..**

45036004938459275

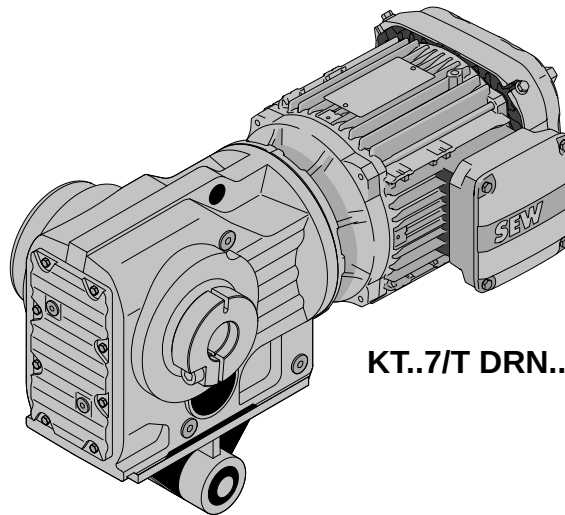
27782913/EN – 02/2023



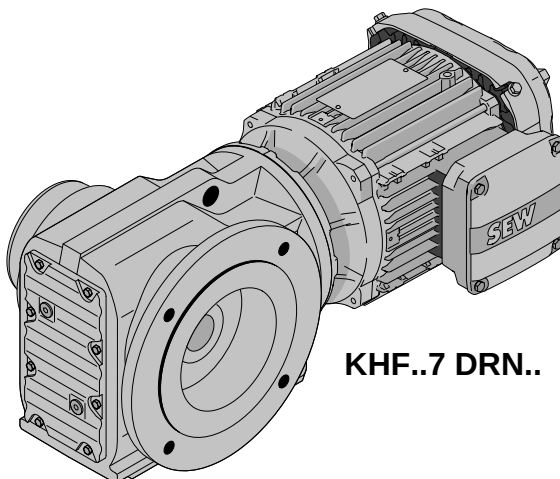
KF..7 DRN..



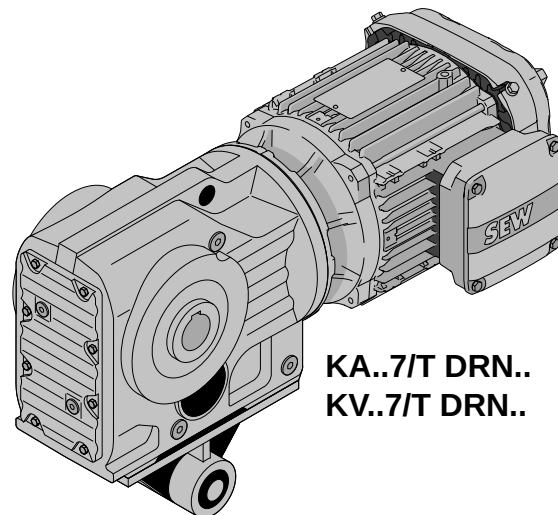
**KAF..7 DRN..
KVF..7 DRN..**



KT..7/T DRN..

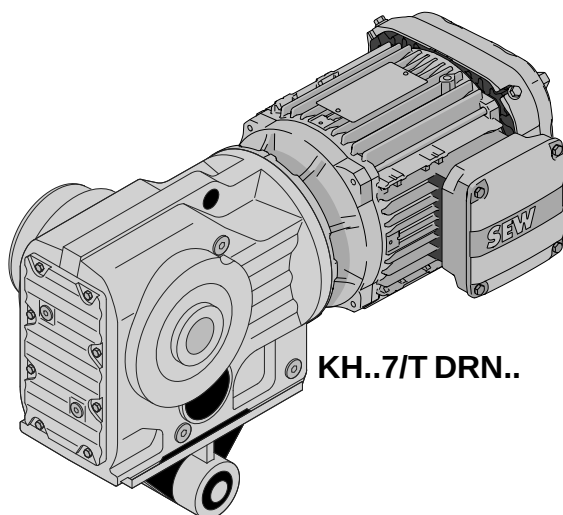
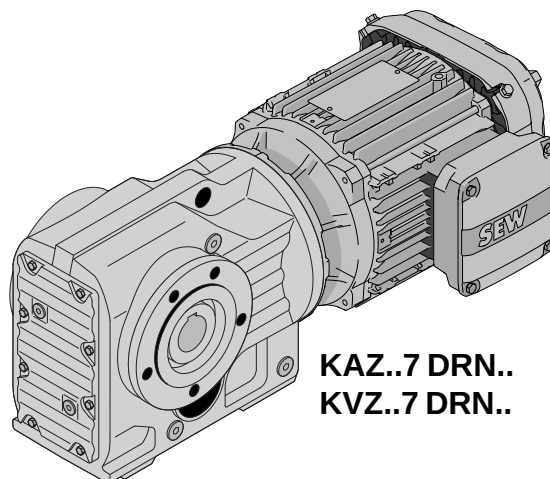
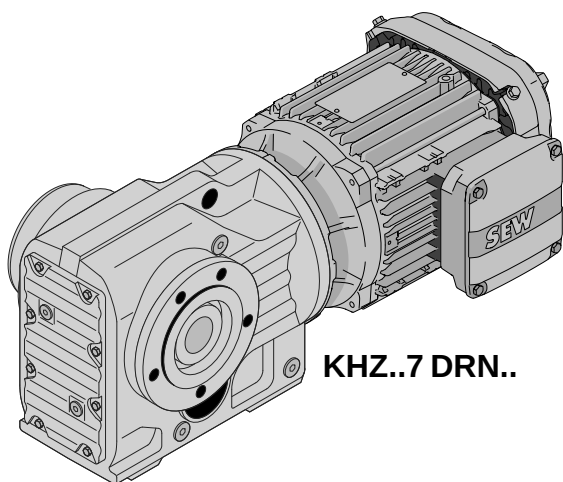
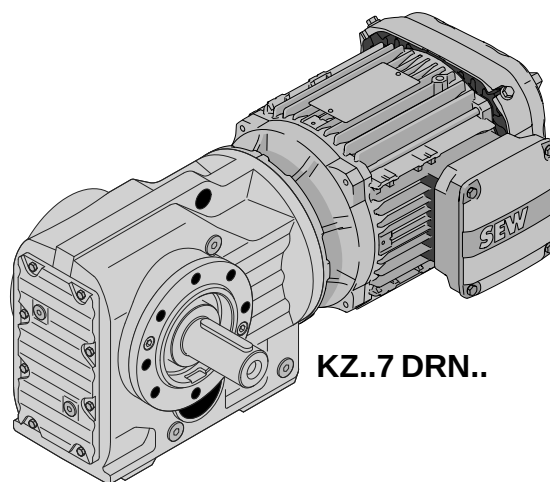
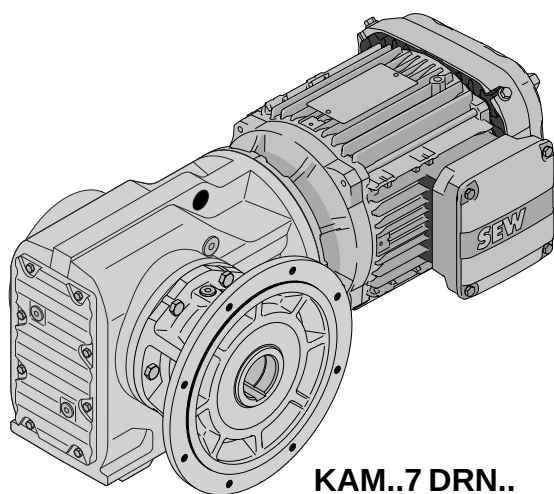
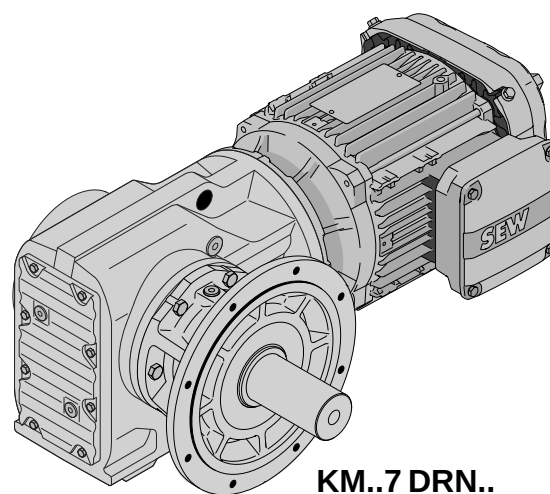


KHF..7 DRN..



**KA..7/T DRN..
KV..7/T DRN..**

36028805683720203

**KH..7/T DRN..****KAZ..7 DRN..
KVZ..7 DRN..****KHZ..7 DRN..****KZ..7 DRN..****KAM..7 DRN..****KM..7 DRN..**

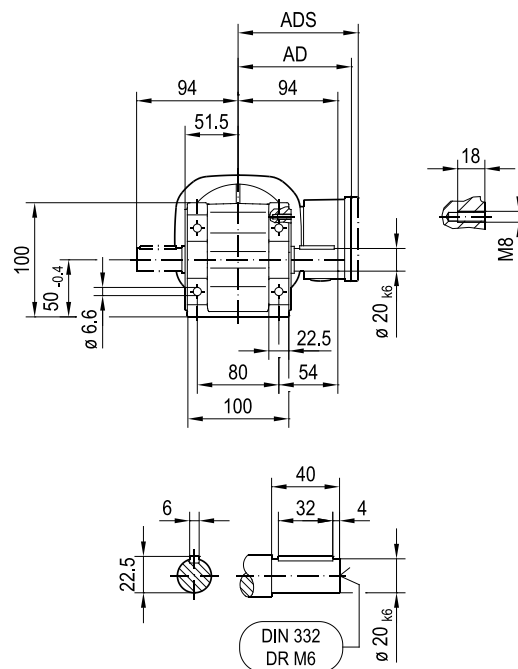
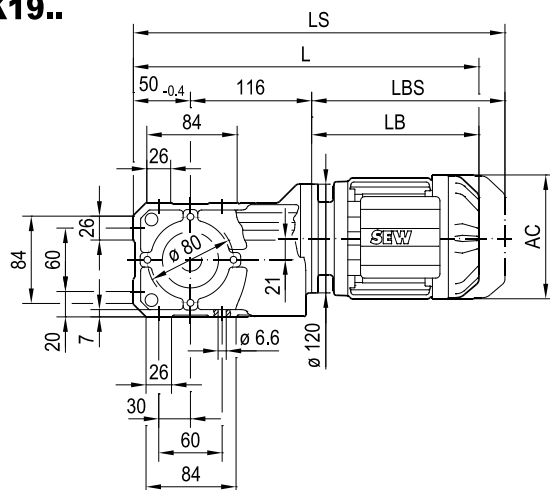
63050403901142923

27782913/EN – 02/2023

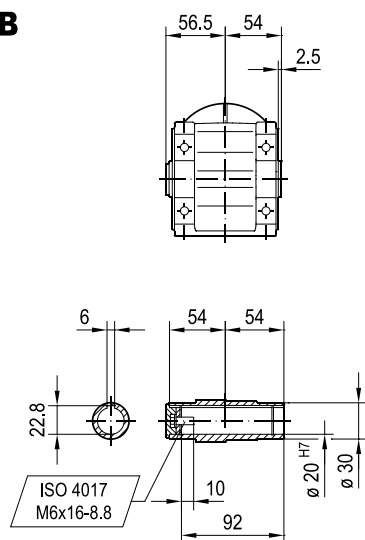
12.3.2 K..EDRN.. /mm

33 021 01 22

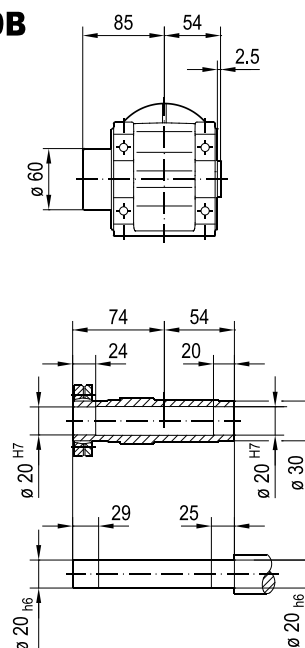
K19..



KA19B



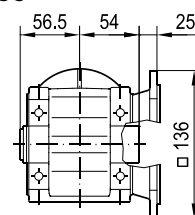
KH19B



(→  7.2)	EDRN90S							
AC	179							
AD	140							
ADS	150							
L	449							
LS	543							
LB	283							
LBS	377							

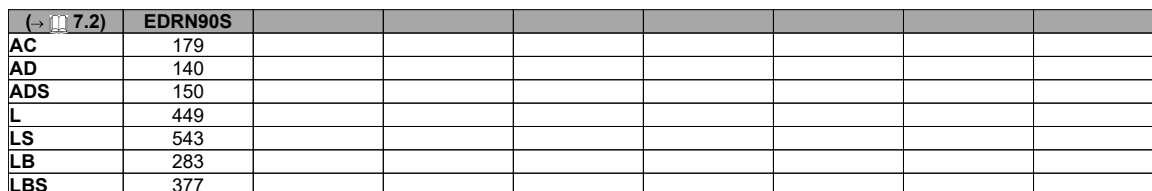
KF19B..

Ø 120



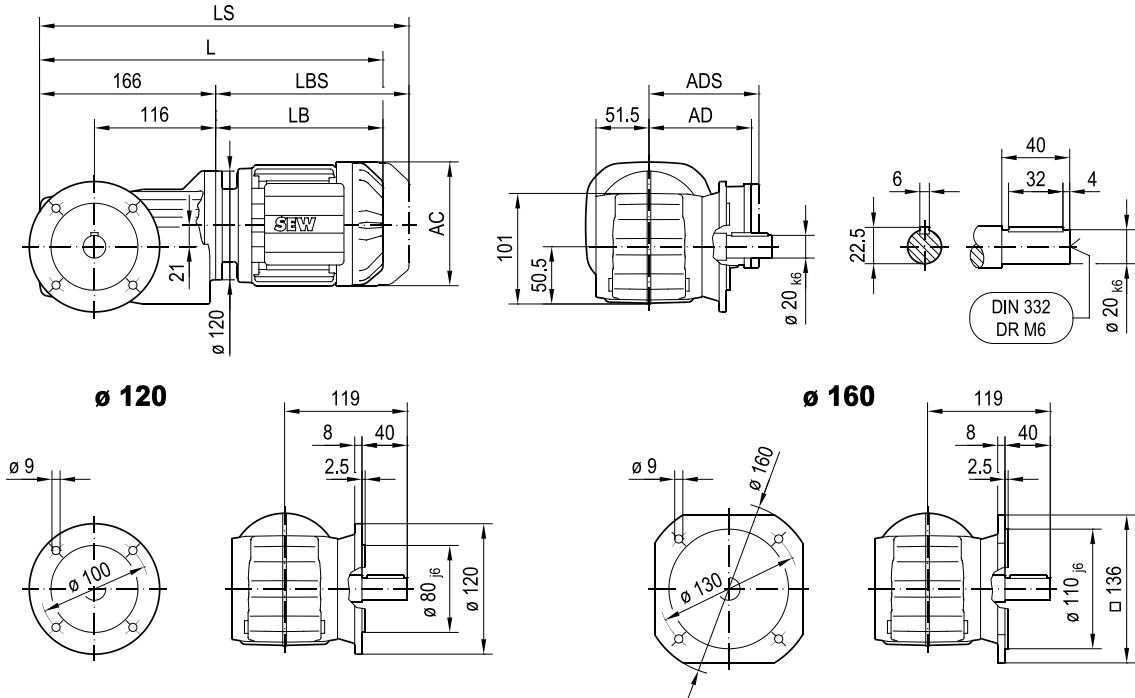
(→  7.2)	EDRN90S							
AC	179							
AD	140							
ADS	150							
L	449							
LS	543							
LB	283							
LBS	377							

33 023 01 22



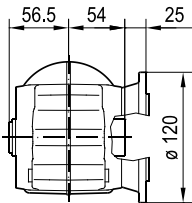
33 024 01 22

KF19..

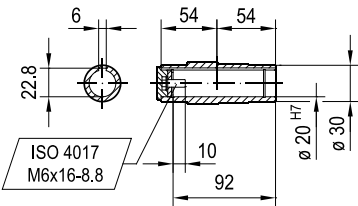
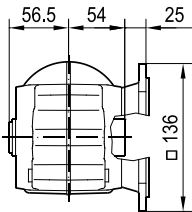


KAF19..

ø 120



ø 160

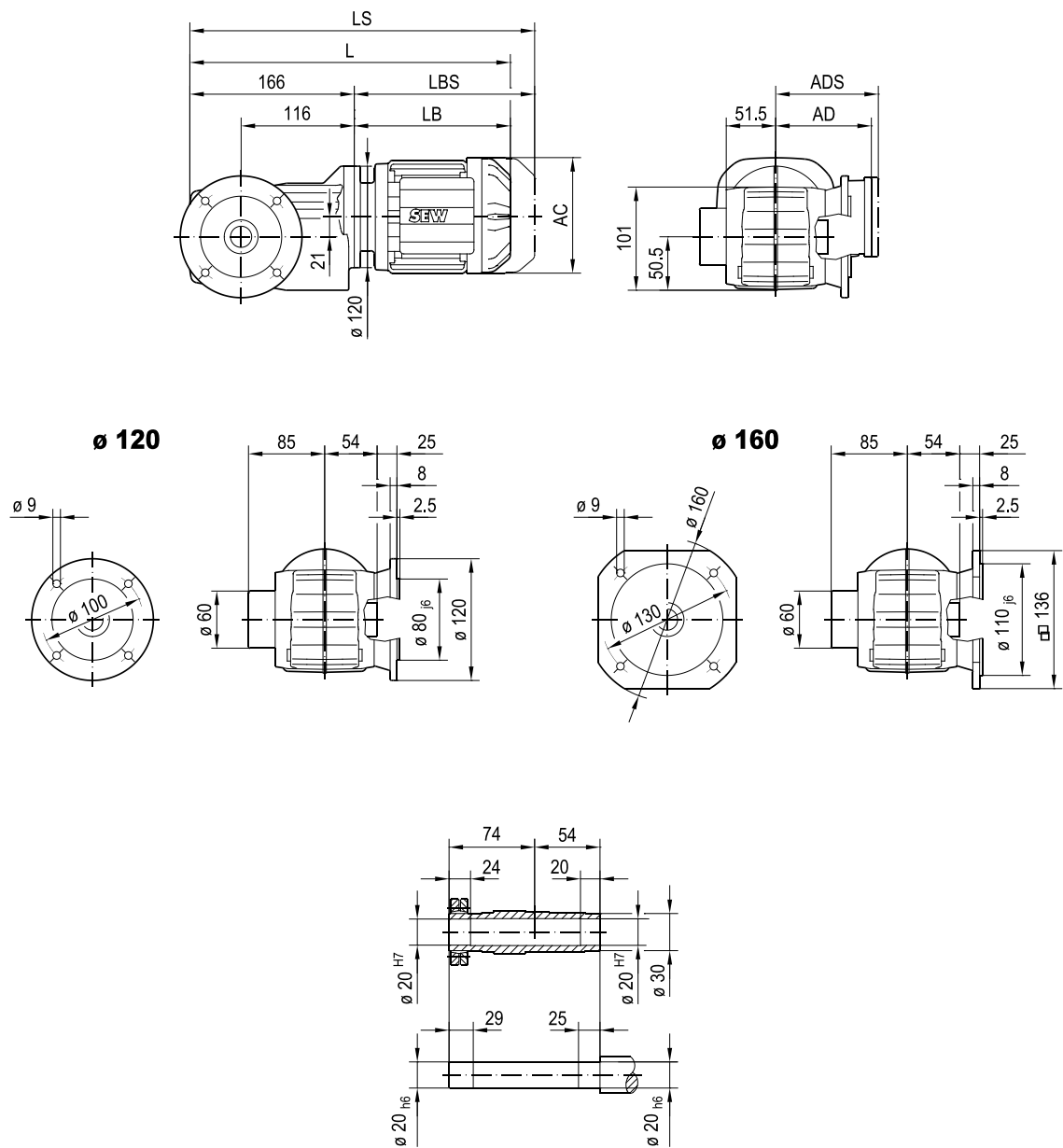


(→ 7.2)	EDRN90S							
AC	179							
AD	140							
ADS	150							
L	449							
LS	543							
LB	283							
LBS	377							

27782913/EN – 02/2023

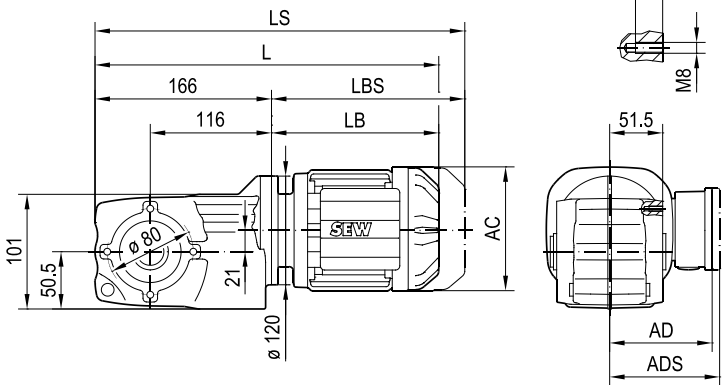
KHF19..

33 025 01 22

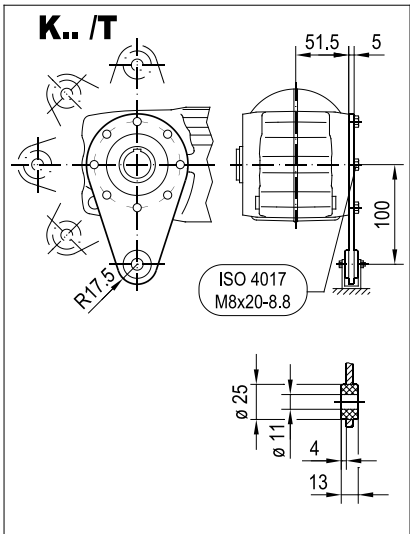


(→ 7.2)	EDRN90S							
AC	179							
AD	140							
ADS	150							
L	449							
LS	543							
LB	283							
LBS	377							

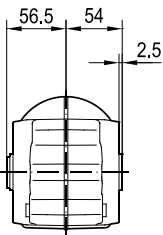
KA19..



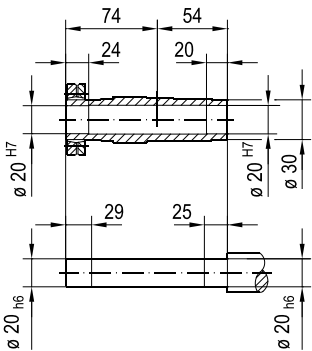
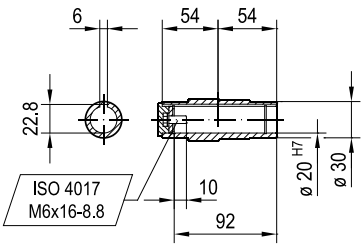
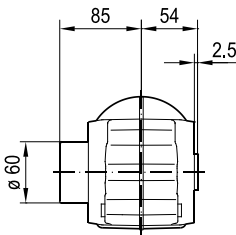
33 026 01 22



KA19..



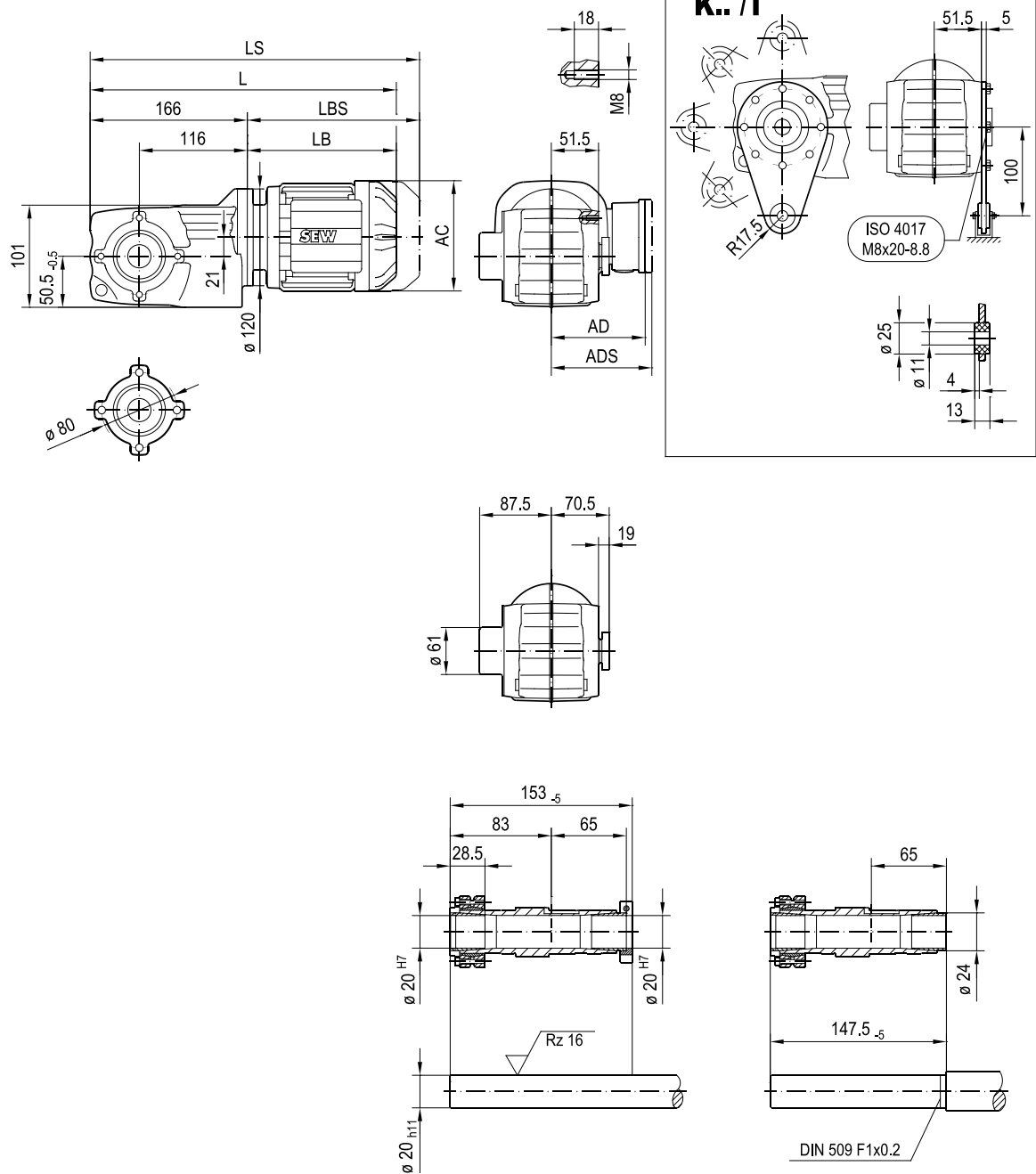
KH19..



(→ 7.2)	EDRN90S							
AC	179							
AD	140							
ADS	150							
L	449							
LS	543							
LB	283							
LBS	377							

KT19..

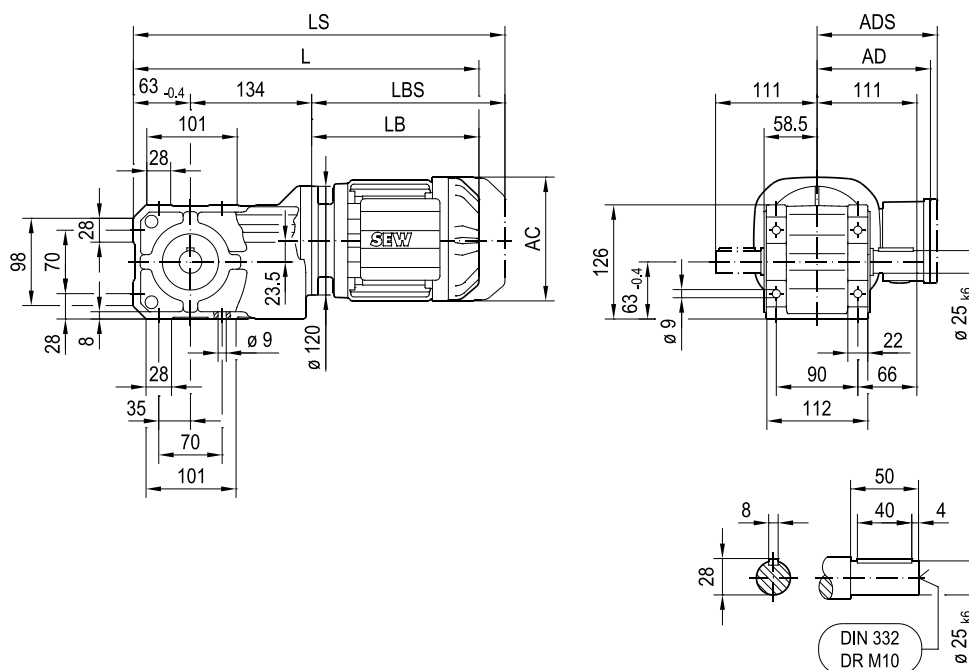
33 027 01 22



(→ 7.2)	EDRN90S								
AC	179								
AD	140								
ADS	150								
L	449								
LS	543								
LB	283								
LBS	377								

K29..

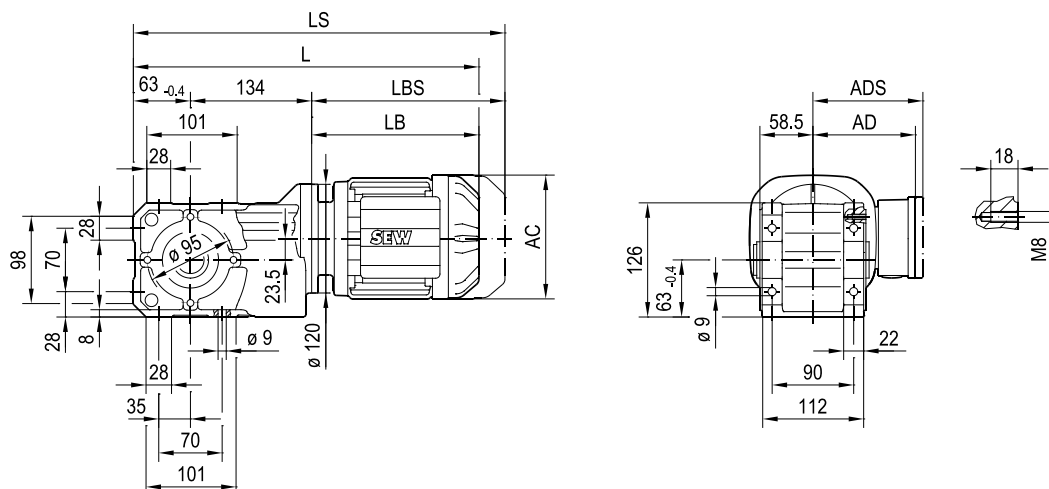
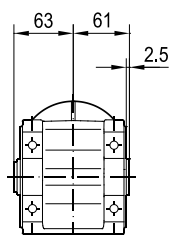
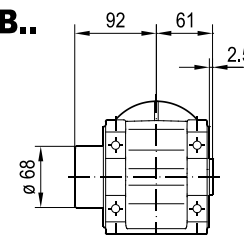
33 194 00 16



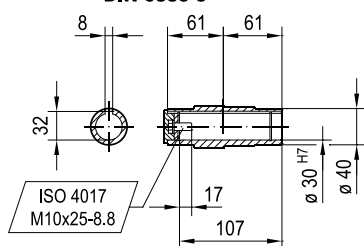
(→ 7.2)	EDRN90L	EDRN100L/LM
AC	179	197
AD	140	157
ADS	150	158
L	512	561
LS	606	655
LB	315	364
LBS	409	458

KA29B..

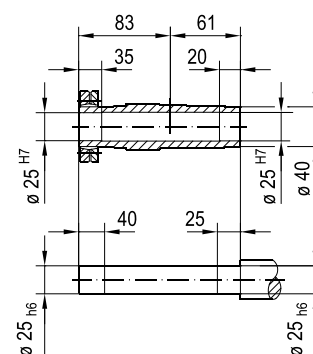
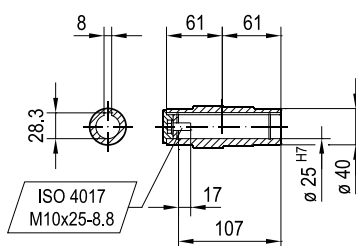
33 195 00 16

**KA29B..****KH29B..**

Ø 30 H7
DIN 6885-3

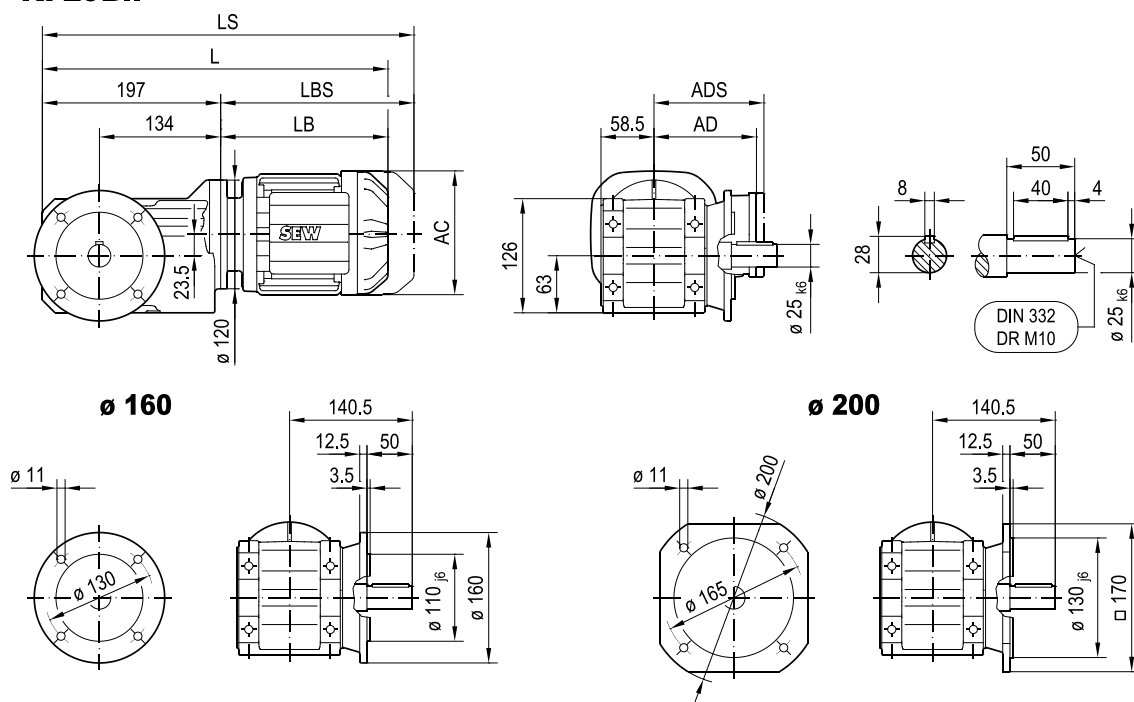
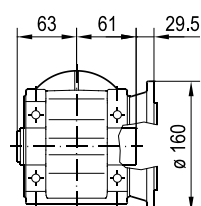
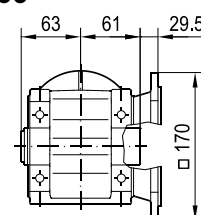


Ø 25 H7



(→ 7.2)	EDRN90L	EDRN100L/LM
AC	179	197
AD	140	157
ADS	150	158
L	512	561
LS	606	655
LB	315	364
LBS	409	458

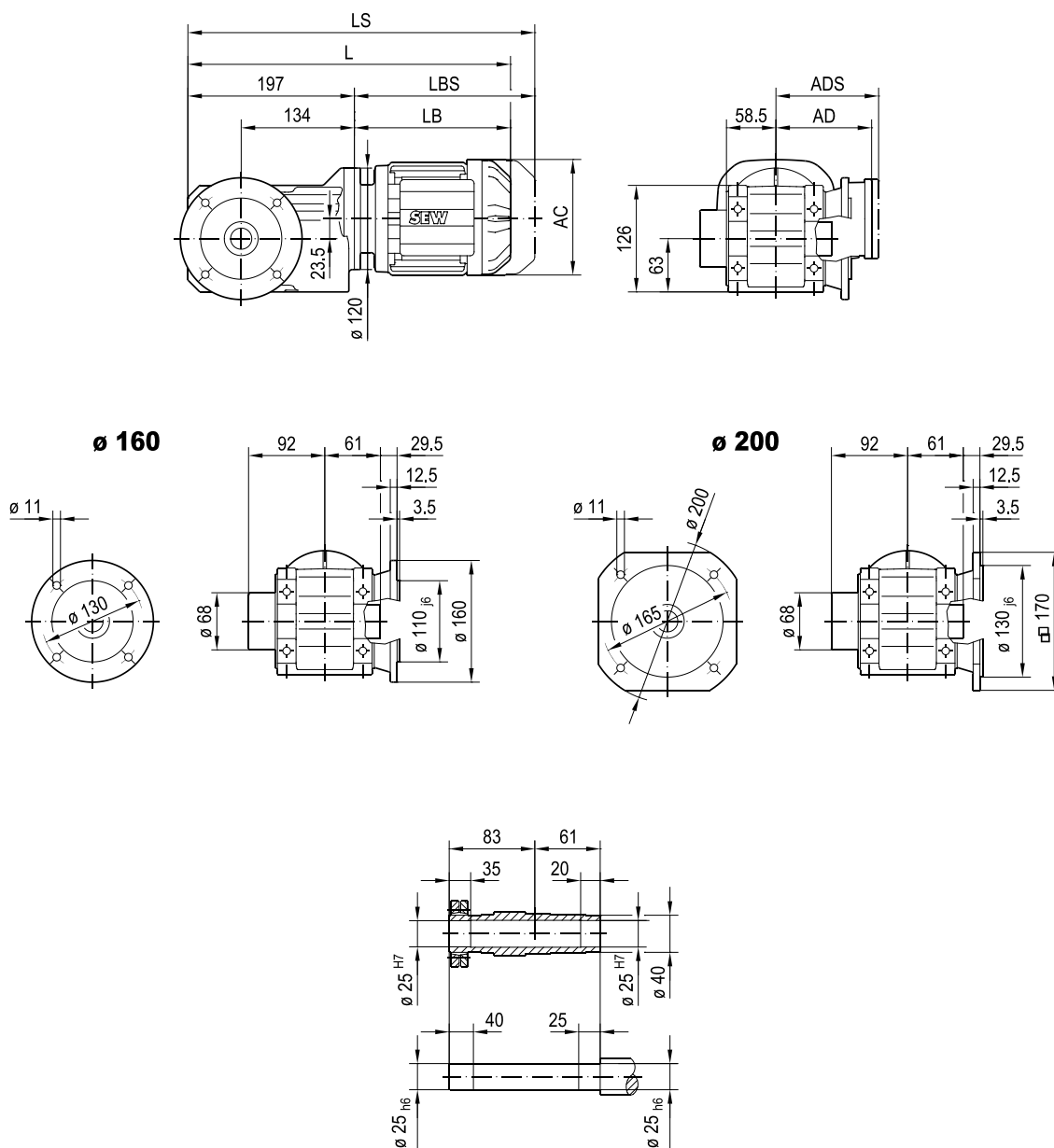
33 196 00 16

KF29B..**KAF29B..** $\phi 160$  $\phi 200$ 

(→ 7.2)	EDRN90L	EDRN100L/LM
AC	179	197
AD	140	157
ADS	150	158
L	512	561
LS	606	655
LB	315	364
LBS	409	458

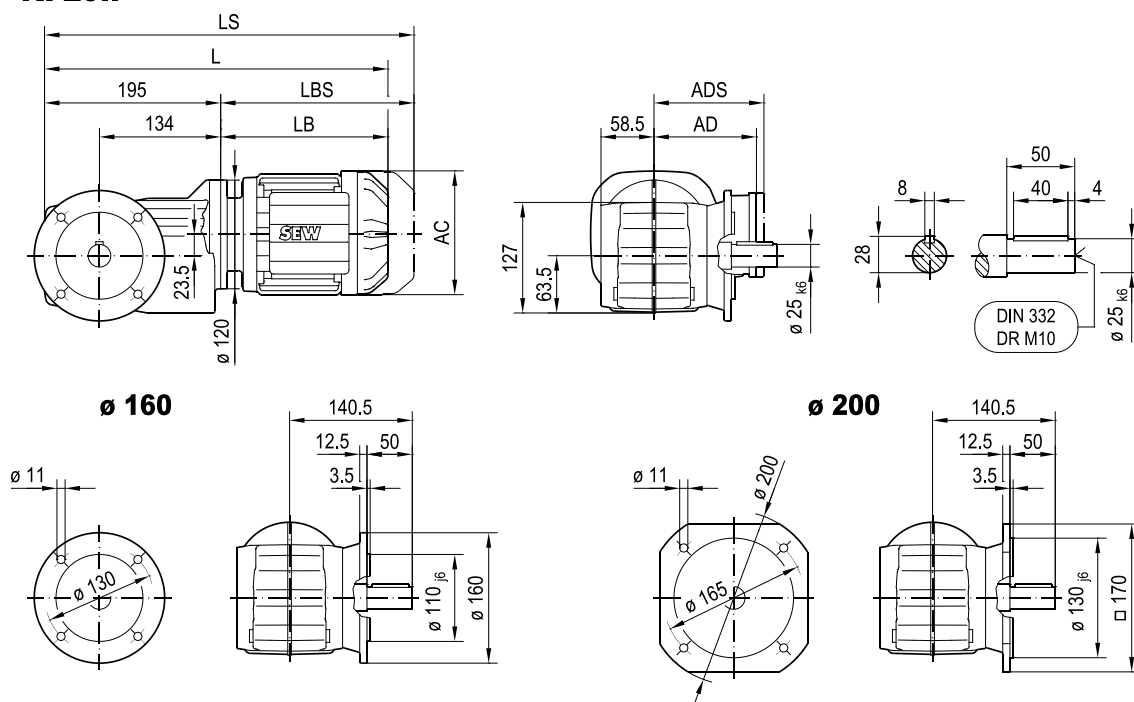
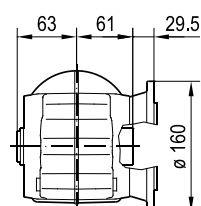
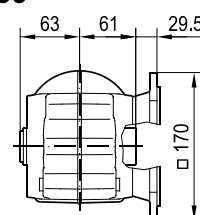
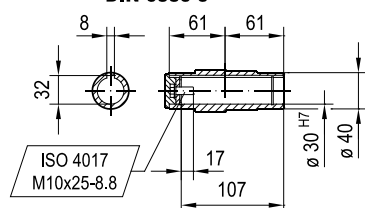
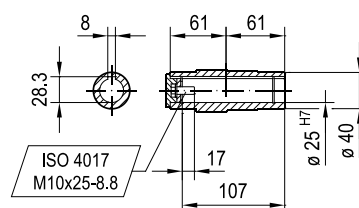
KHF29B..

33 197 00 16



(→ 7.2)	EDRN90L	EDRN100L/LM
AC	179	197
AD	140	157
ADS	150	158
L	512	561
LS	606	655
LB	315	364
LBS	409	458

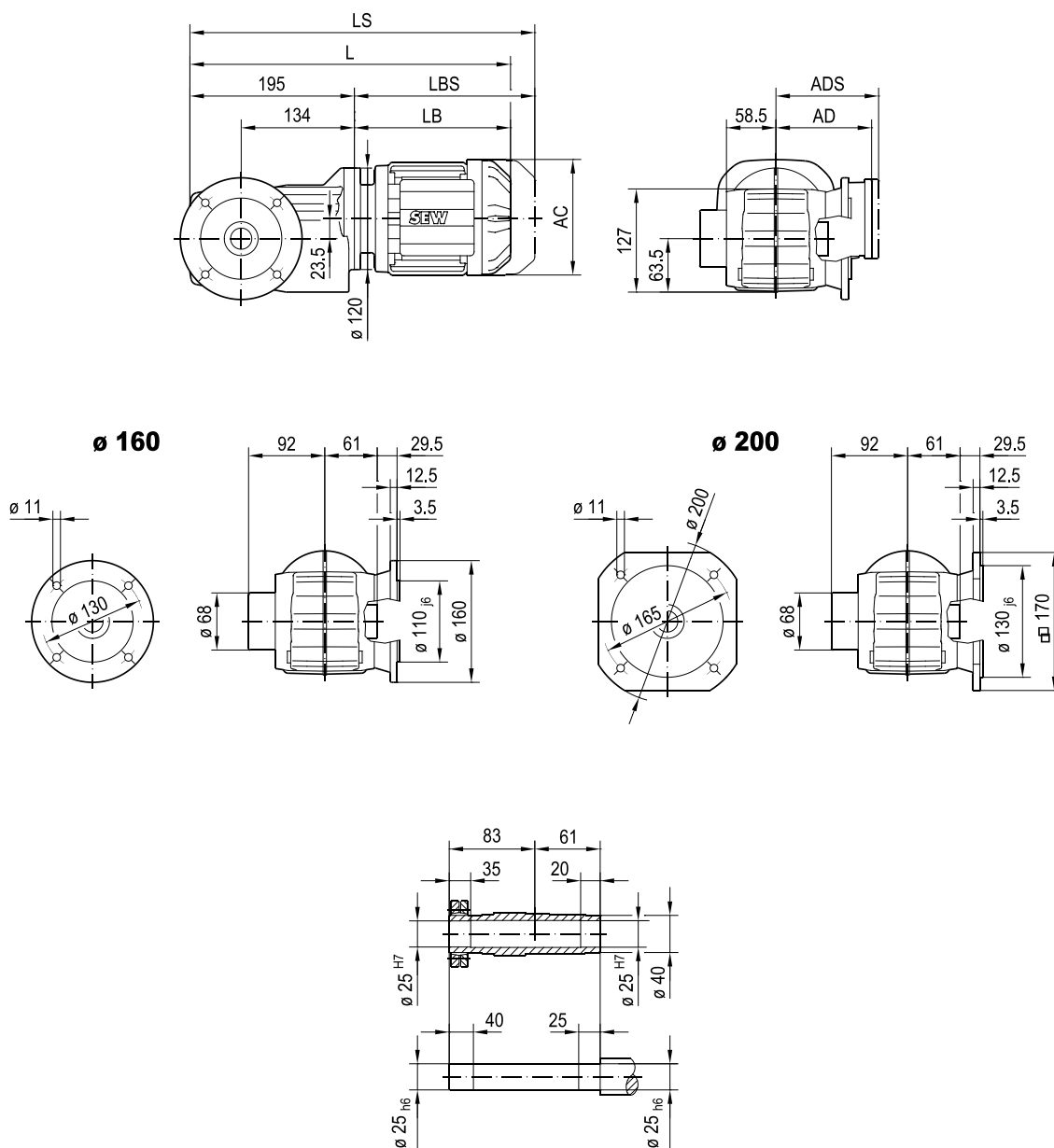
33 198 00 16

KF29..**KAF29..****ø 160****ø 200****ø 30 H7
DIN 6885-3****ø 25 H7**

(→ 7.2)	EDRN90L	EDRN100L/LM
AC	179	197
AD	140	157
ADS	150	158
L	510	559
LS	604	653
LB	315	364
LBS	409	458

KHF29..

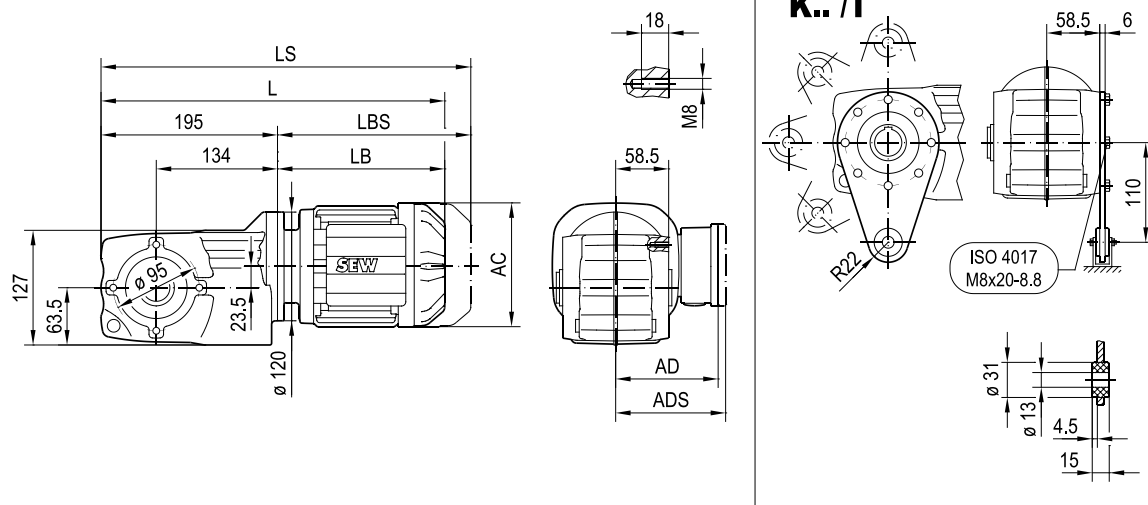
33 199 00 16



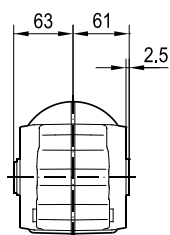
(→ 7.2)	EDRN90L	EDRN100L/LM
AC	179	197
AD	140	157
ADS	150	158
L	510	559
LS	604	653
LB	315	364
LBS	409	458

KA29..

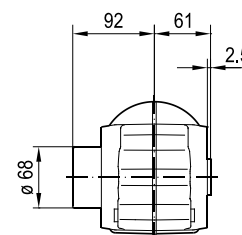
33 200 00 16



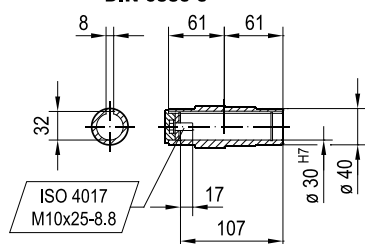
KA29..



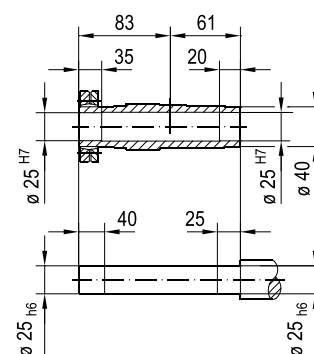
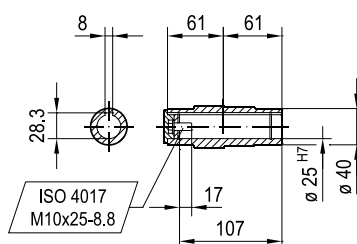
KH29..



Ø 30 H7
DIN 6885-3

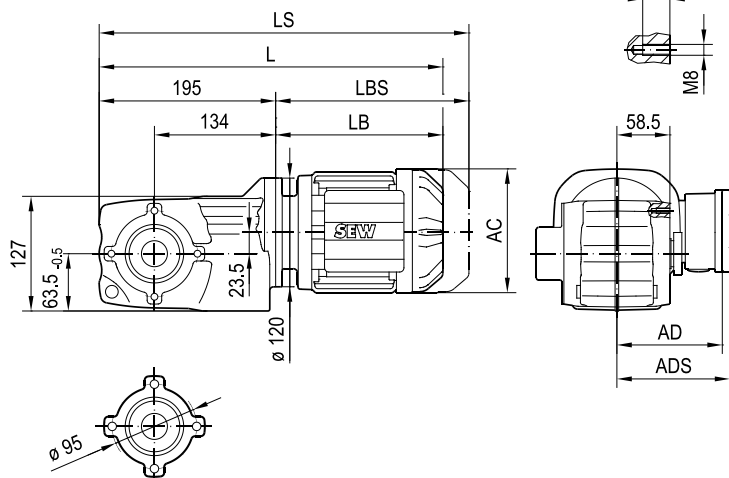


Ø 25 H7

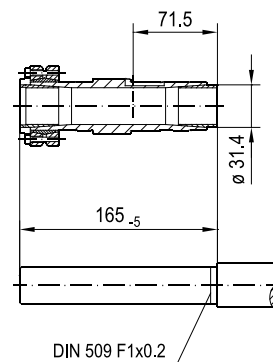
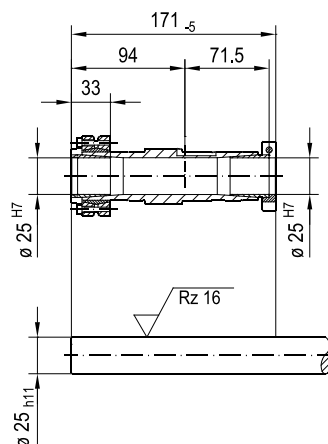
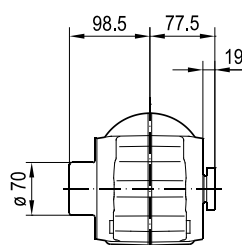
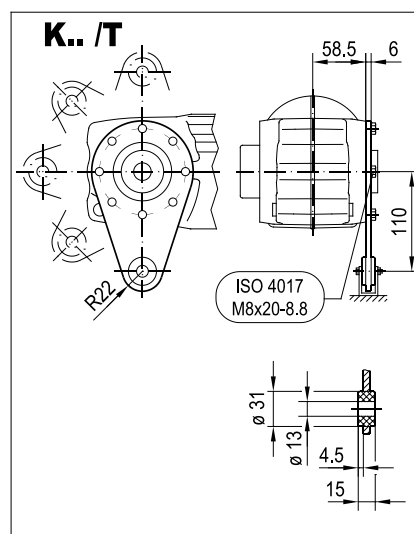


(→ 7.2)	EDRN90L	EDRN100L/LM
AC	179	197
AD	140	157
ADS	150	158
L	510	559
LS	604	653
LB	315	364
LBS	409	458

KT29..

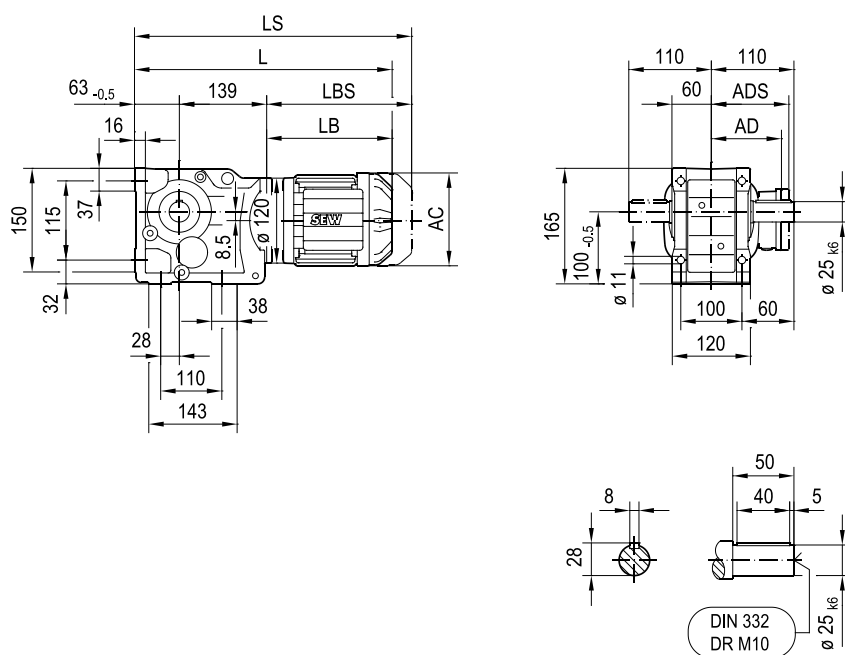


33 028 01 22



(→ 7.2)	EDRN90L	EDRN100L/LM
AC	179	197
AD	140	157
ADS	150	158
L	510	559
LS	604	653
LB	315	364
LBS	409	458

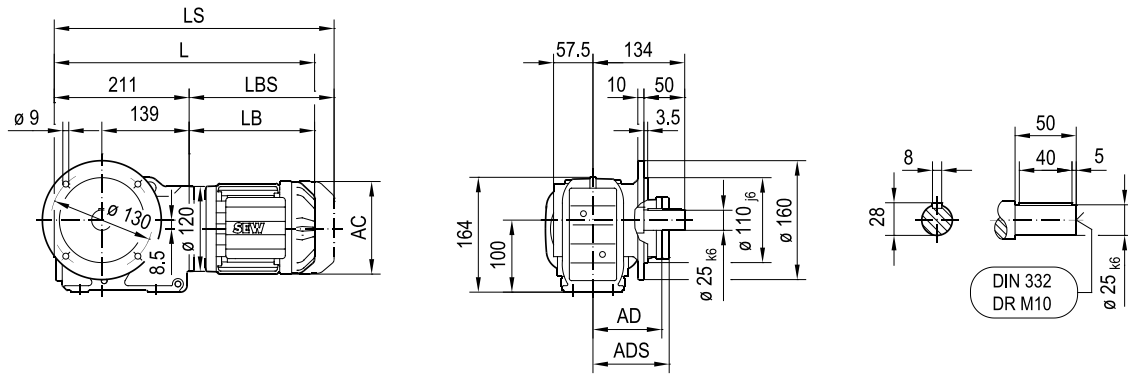
33 201 00 16

K37..

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	484	485	517	516	566
LS	565	579	611	610	660
LB	282	283	315	314	364
LBS	363	377	409	408	458

KF37..

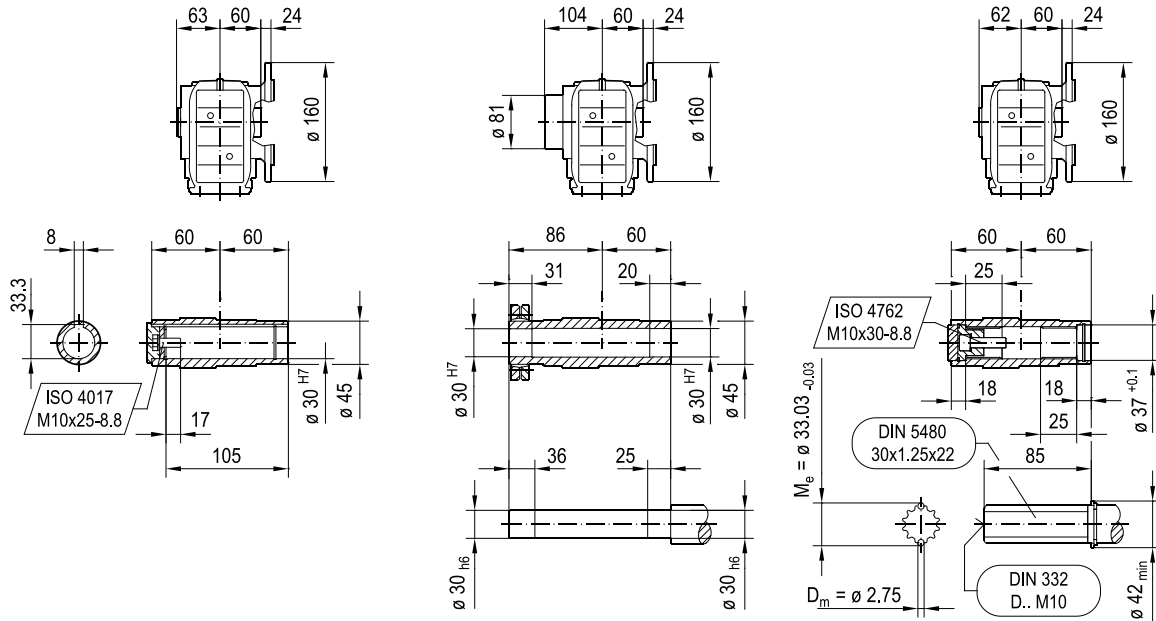
33 202 00 16



KAF37..

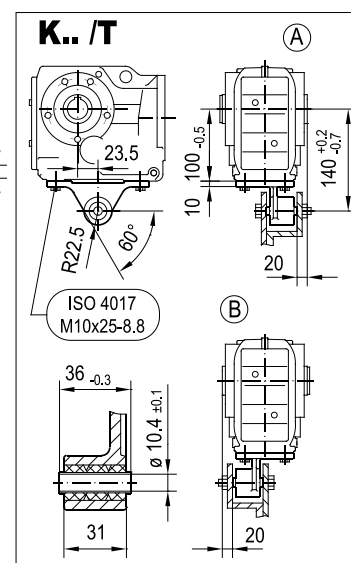
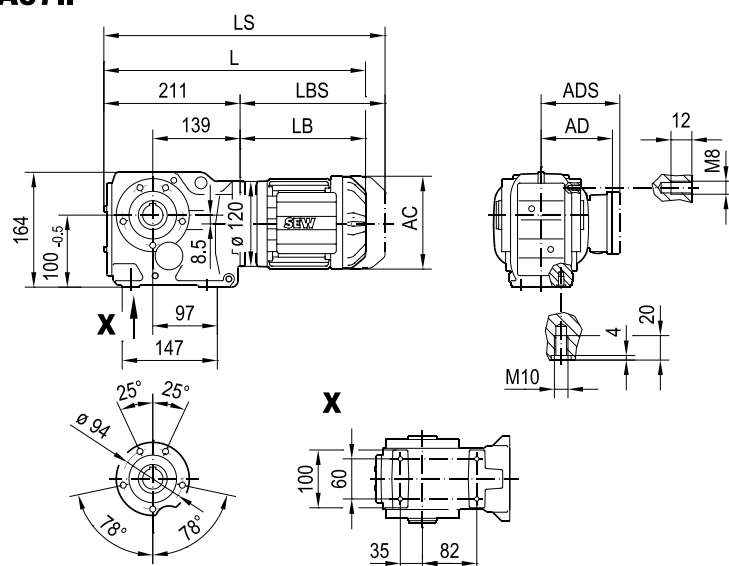
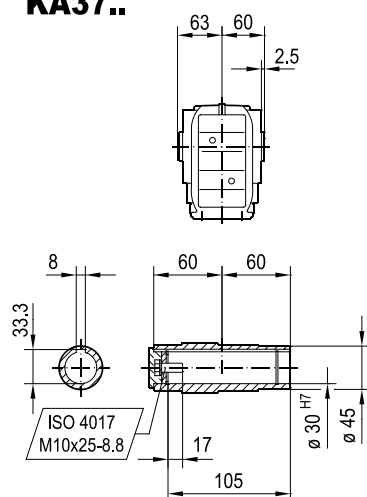
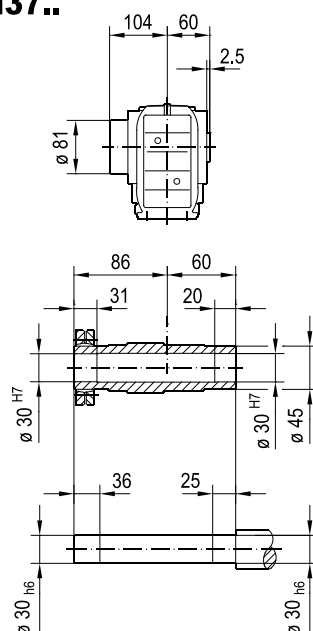
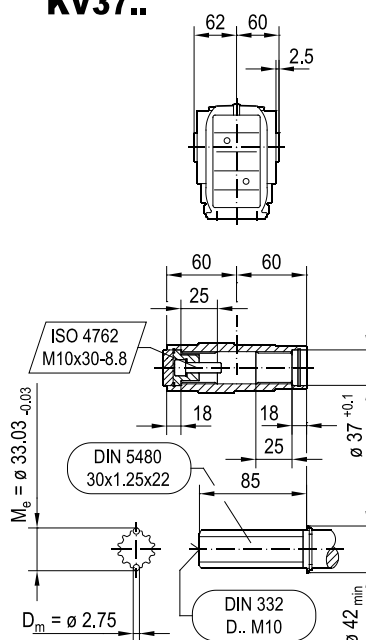
KHF37..

KVF37..



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	493	494	526	525	575
LS	574	588	620	619	669
LB	282	283	315	314	364
LBS	363	377	409	408	458

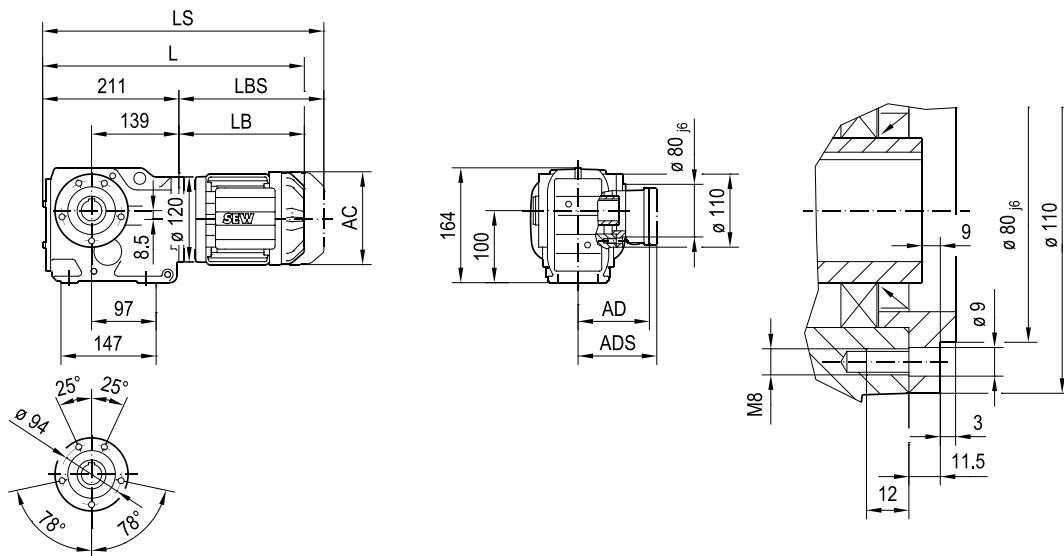
33 203 00 16

KA37..**KA37..****KH37..****KV37..**

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	493	494	526	525	575
LS	574	588	620	619	669
LB	282	283	315	314	364
LBS	363	377	409	408	458

KAZ37..

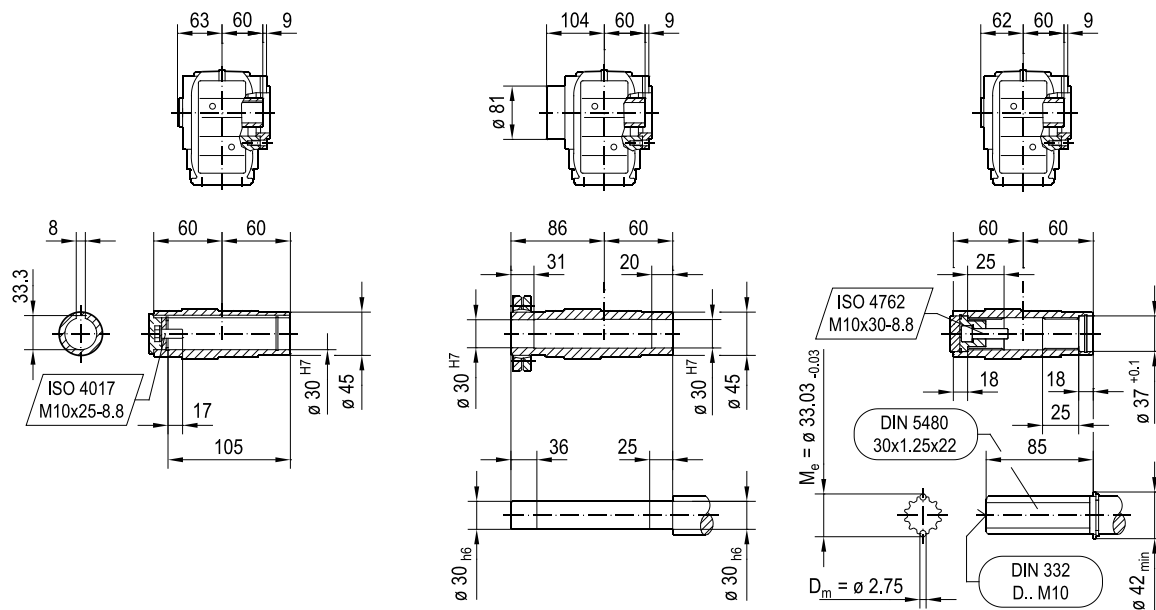
33 204 00 16



KAZ37..

KHZ37..

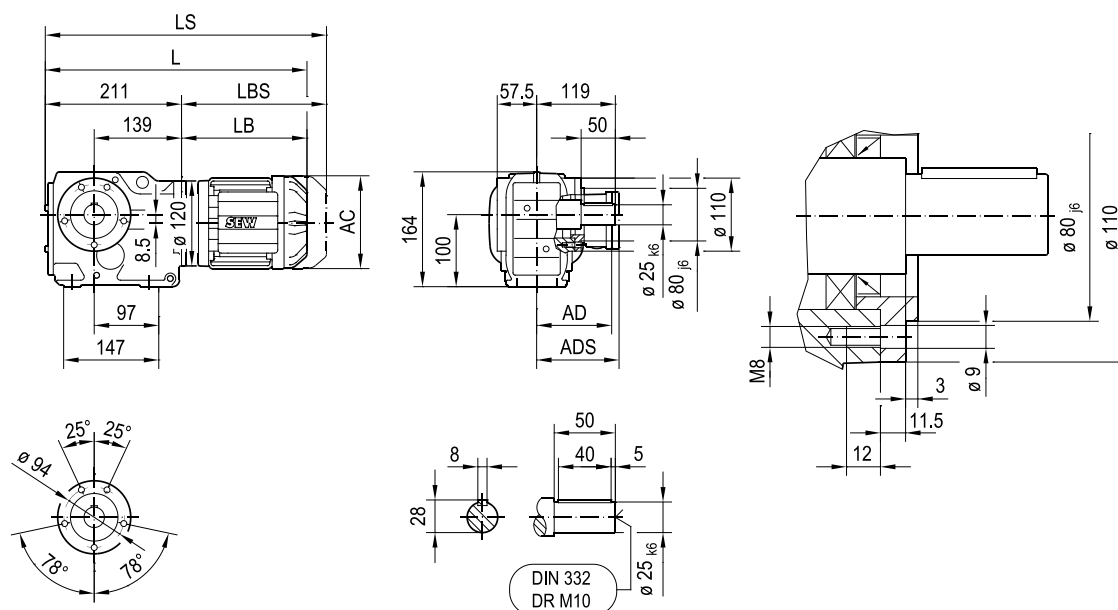
KVZ37..



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	493	494	526	525	575
LS	574	588	620	619	669
LB	282	283	315	314	364
LBS	363	377	409	408	458

KZ37..

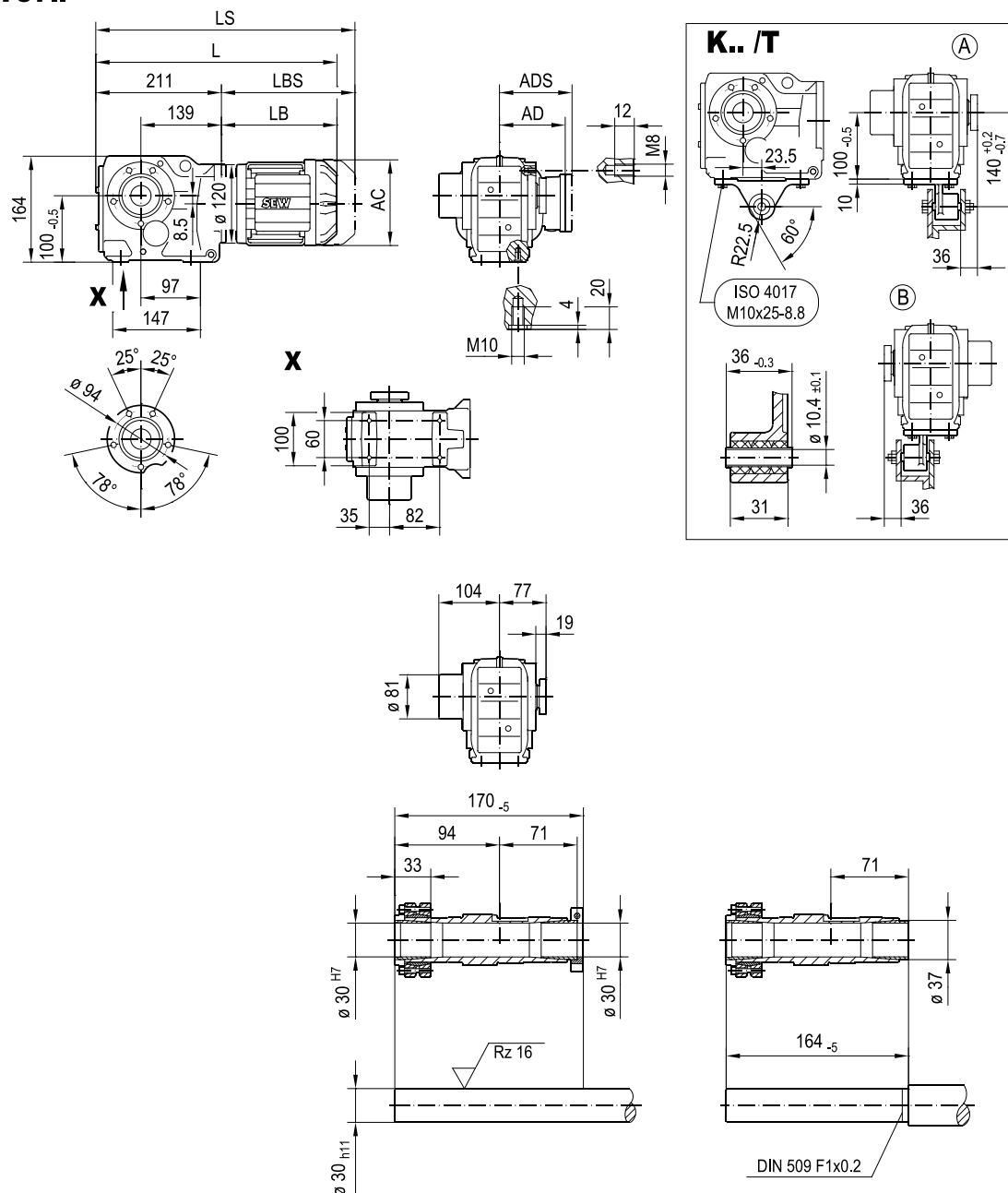
33 205 00 16



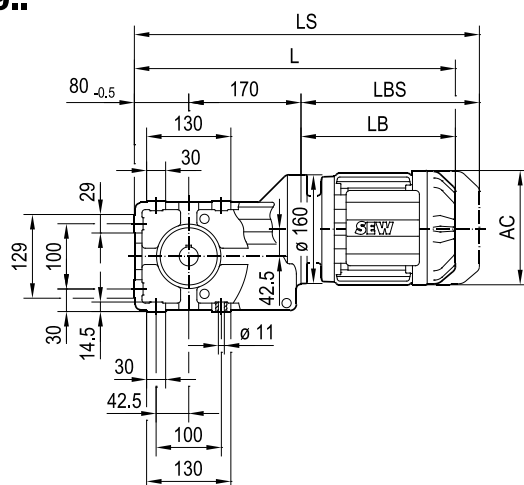
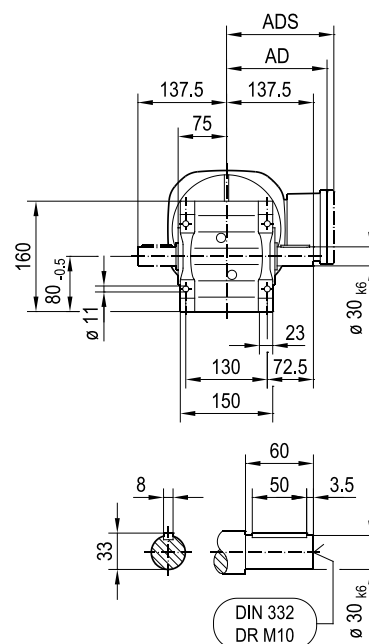
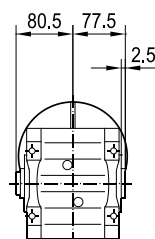
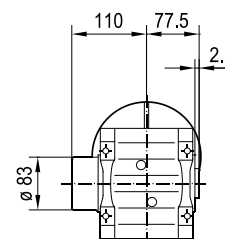
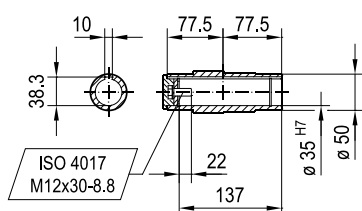
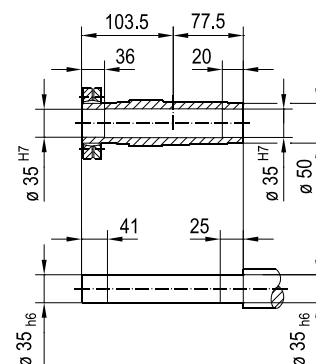
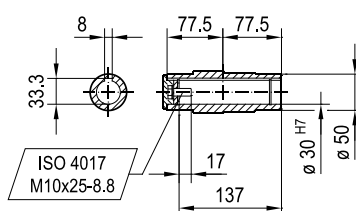
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	493	494	526	525	575
LS	574	588	620	619	669
LB	282	283	315	314	364
LBS	363	377	409	408	458

KT37..

33 206 00 16



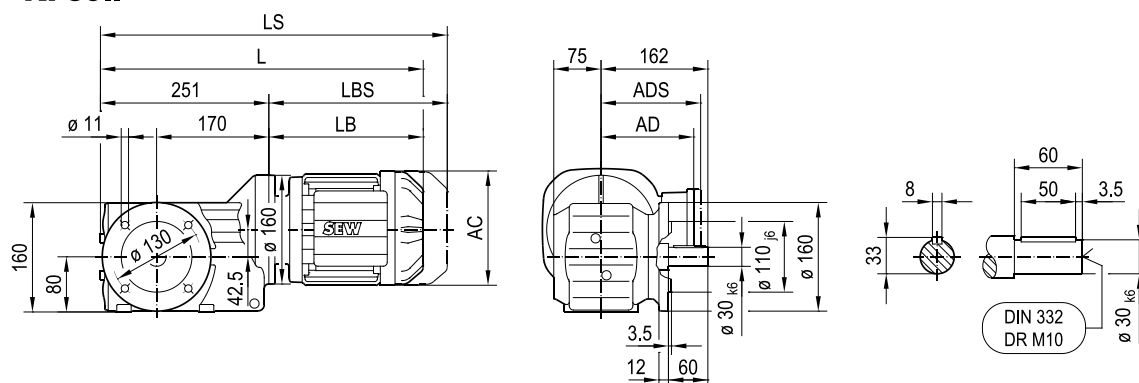
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	493	494	526	525	575
LS	574	588	620	619	669
LB	282	283	315	314	364
LBS	363	377	409	408	458

K39..**33 207 04 16****KA39B..****KH39B..****ø 35 H7****ø 30 H7**

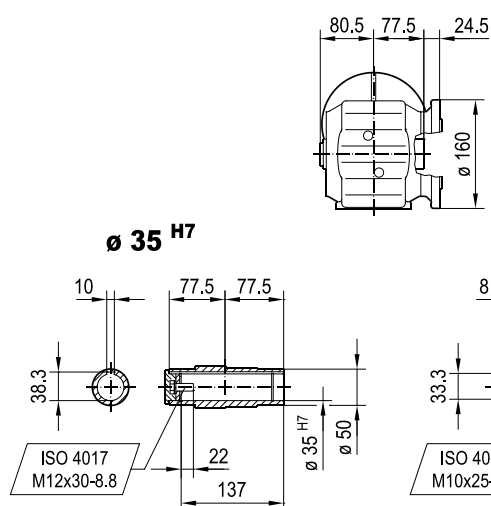
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100L/LM	EDRN112M
AC	156	179	179	197	221
AD	128	140	140	157	170
ADS	139	150	150	158	172
L	525	527	559	605	636
LS	606	620	652	699	748
LB	275	277	309	355	386
LBS	356	370	402	449	498

33 208 00 16

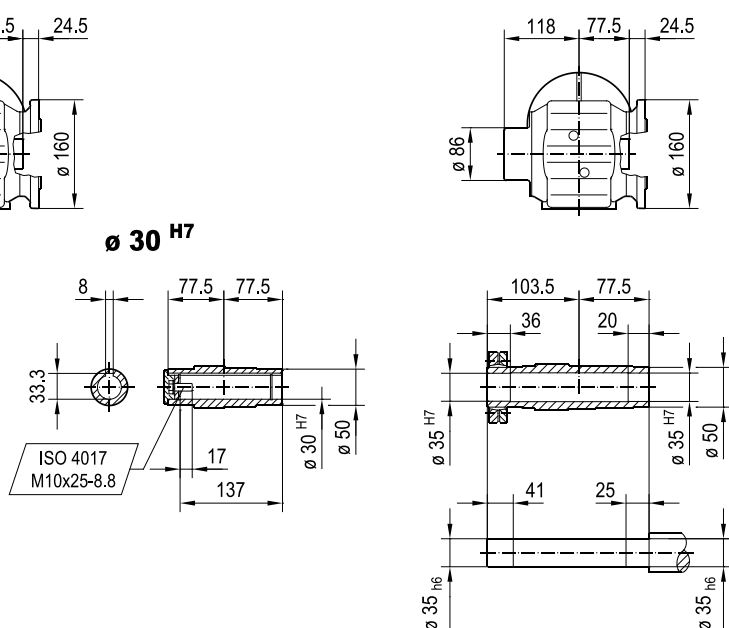
KF39..



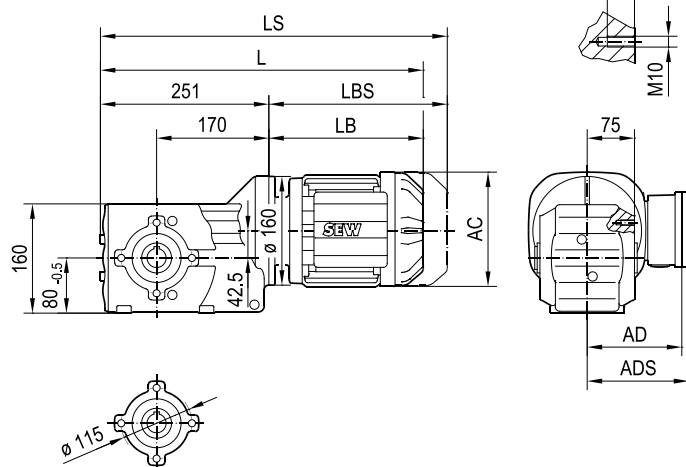
KAF39..



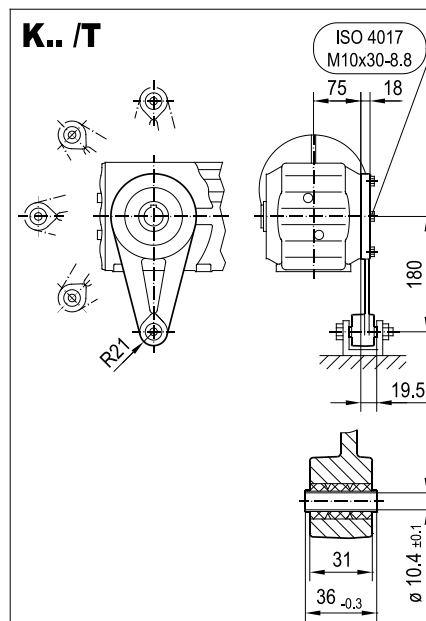
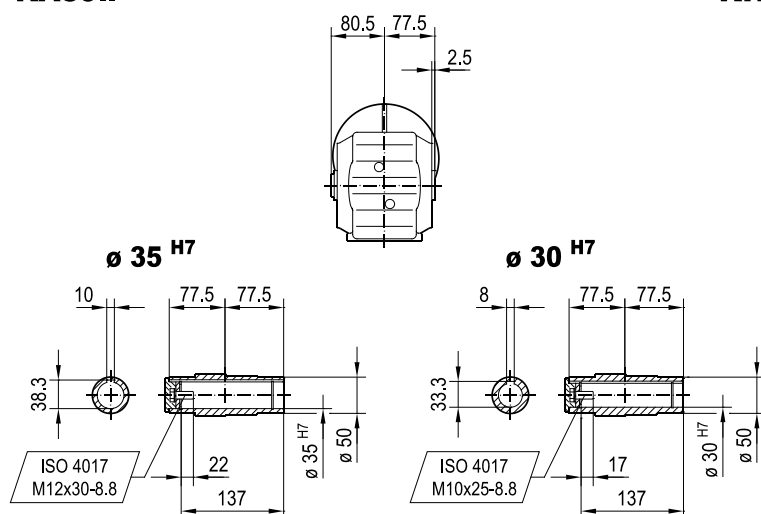
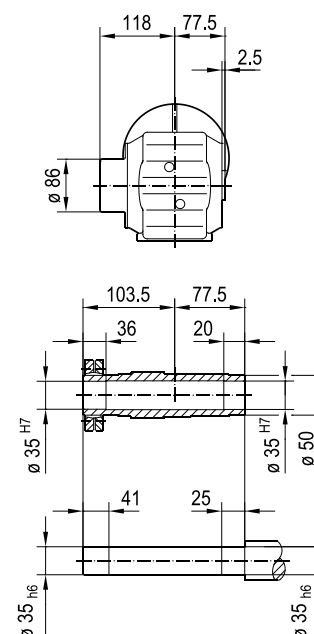
KHF39..



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100L/LM	EDRN112M
AC	156	179	179	197	221
AD	128	140	140	157	170
ADS	139	150	150	158	172
L	526	528	560	606	637
LS	607	621	653	700	749
LB	275	277	309	355	386
LBS	356	370	402	449	498

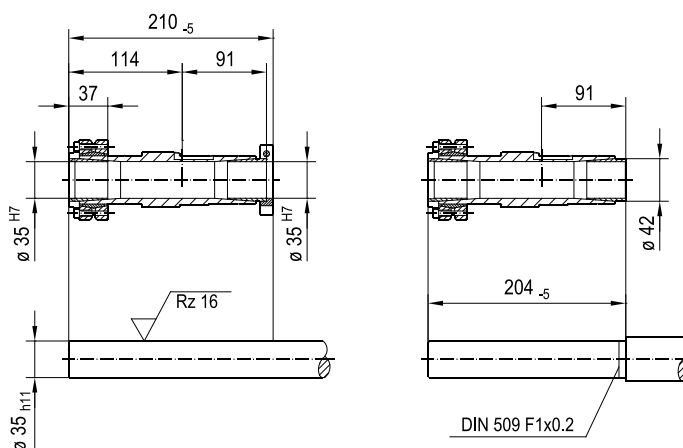
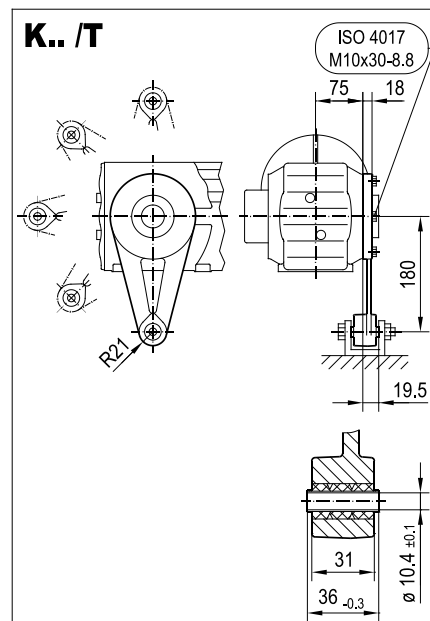
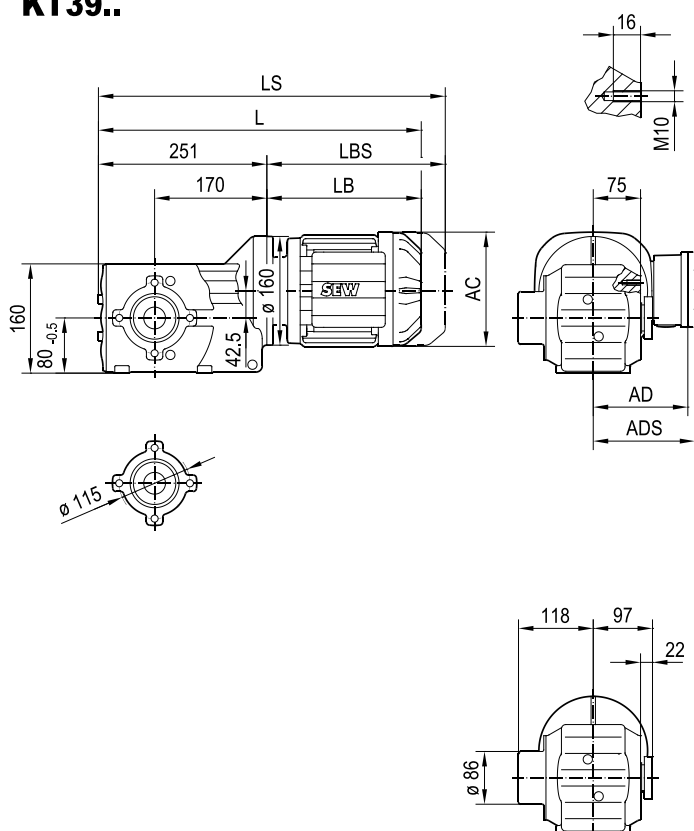
KA39..

33 209 01 16

K.. /T**KA39..****KH39..**

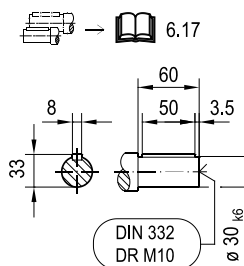
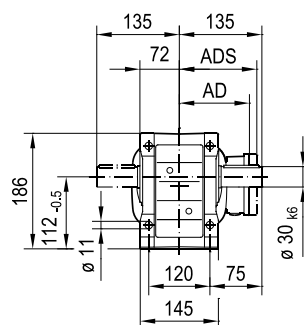
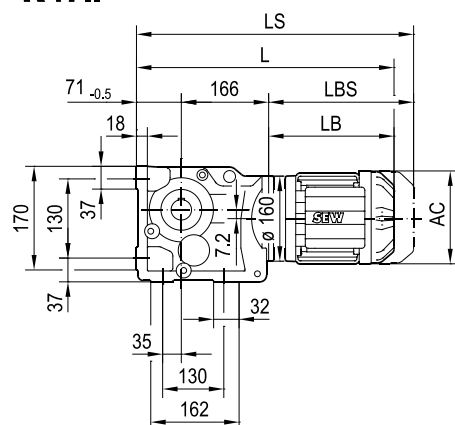
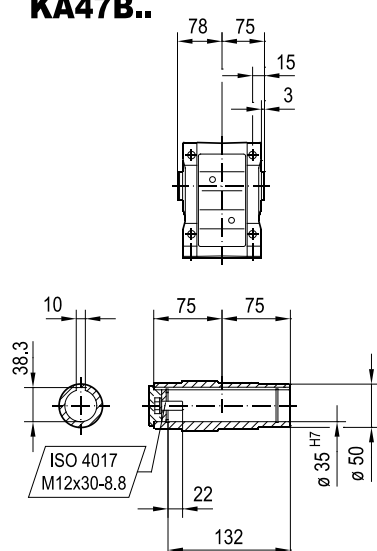
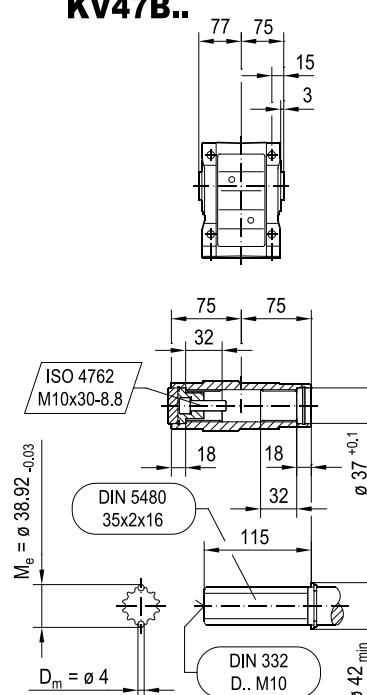
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100L/LM	EDRN112M
AC	156	179	179	197	221
AD	128	140	140	157	170
ADS	139	150	150	158	172
L	526	528	560	606	637
LS	607	621	653	700	749
LB	275	277	309	355	386
LBS	356	370	402	449	498

KT39..



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100L/LM	EDRN112M
AC	156	179	179	197	221
AD	128	140	140	157	170
ADS	139	150	150	158	172
L	526	528	560	606	637
LS	607	621	653	700	749
LB	275	277	309	355	386
LBS	356	370	402	449	498

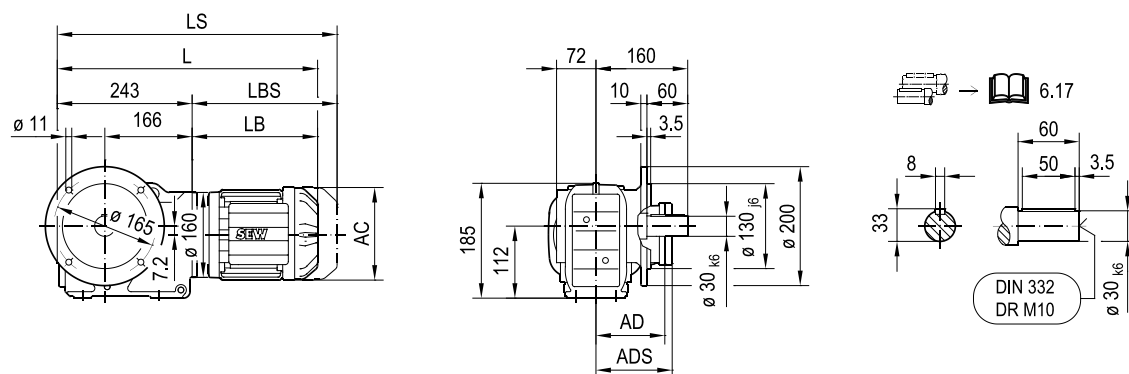
33 211 01 16

K47..**KA47B..****KV47B..**

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	512	514	546	542	592
LS	593	607	639	636	686
LB	275	277	309	305	355
LBS	356	370	402	399	449

KF47..

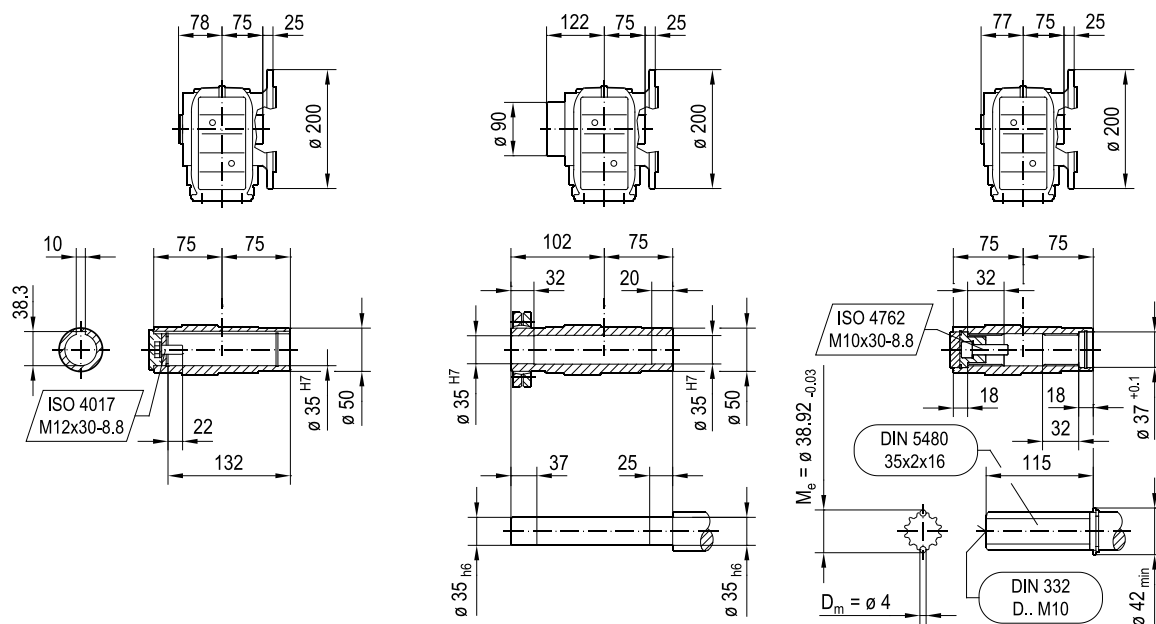
33 212 01 16



KAF47..

KHF47..

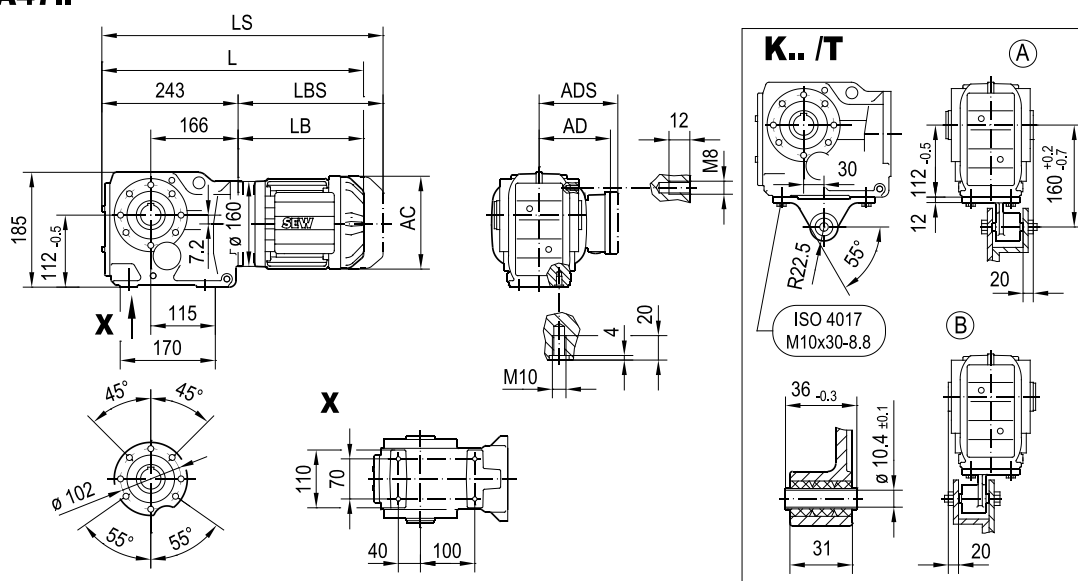
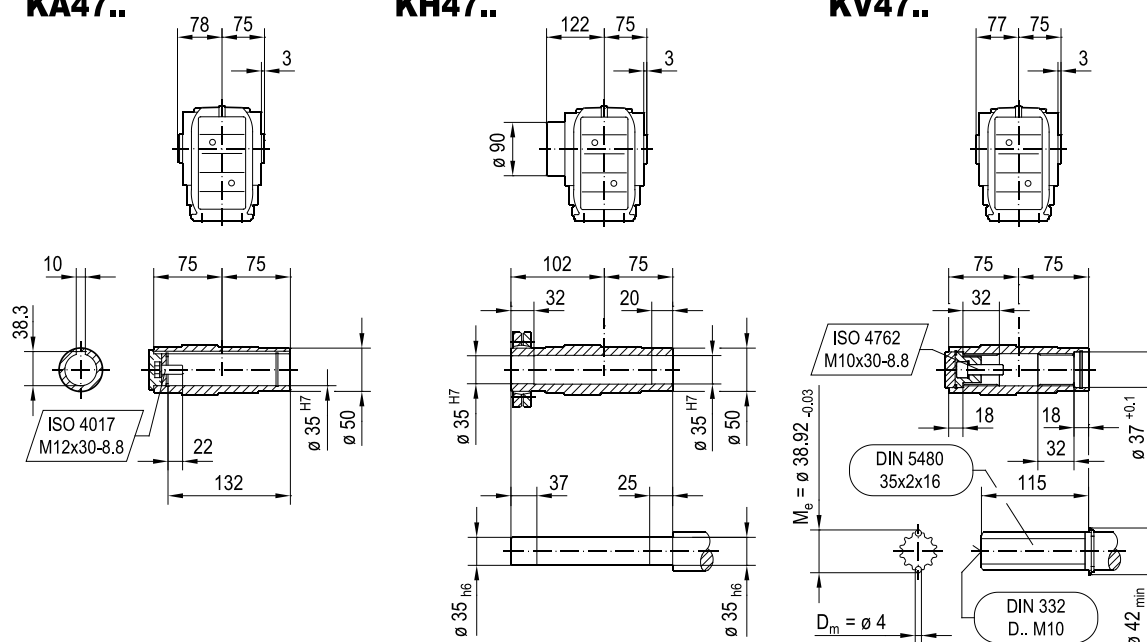
KVF47..



(→  7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	518	520	552	548	598
LS	599	613	645	642	692
LB	275	277	309	305	355
LBS	356	370	402	399	449

KA47..

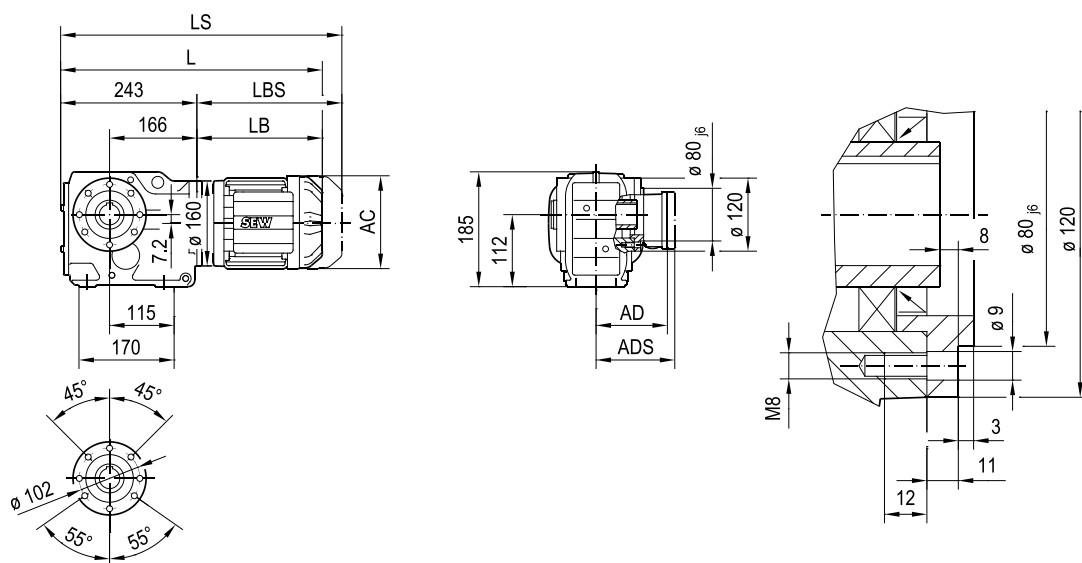
33 213 00 16

**KA47..****KH47..****KV47..**

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	518	520	552	548	598
LS	599	613	645	642	692
LB	275	277	309	305	355
LBS	356	370	402	399	449

KAZ47..

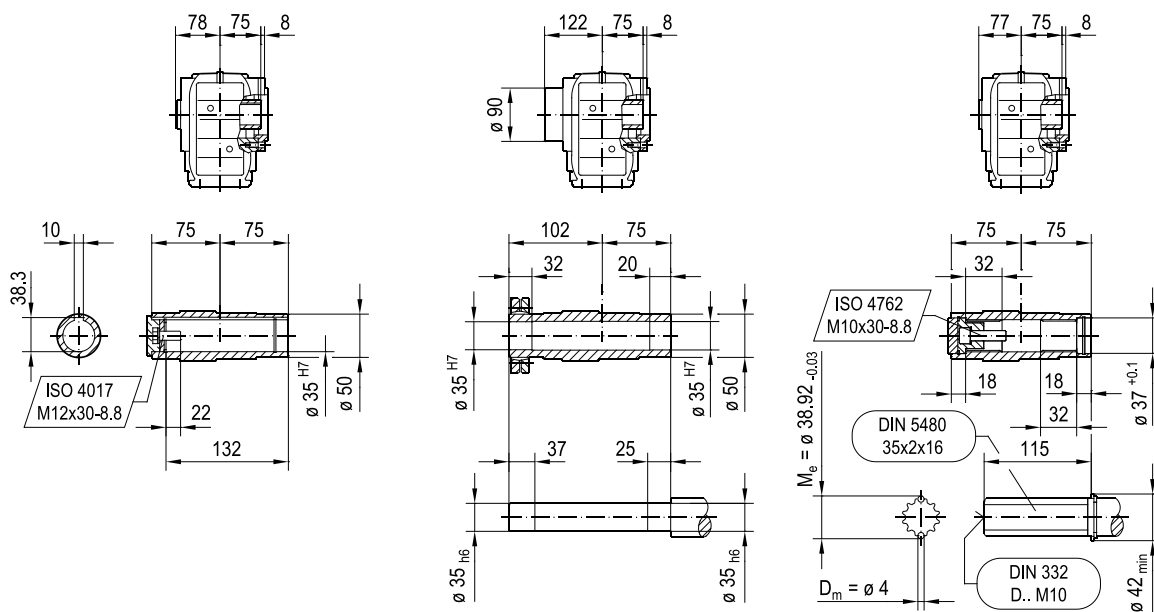
33 214 00 16



KAZ47..

KHZ47..

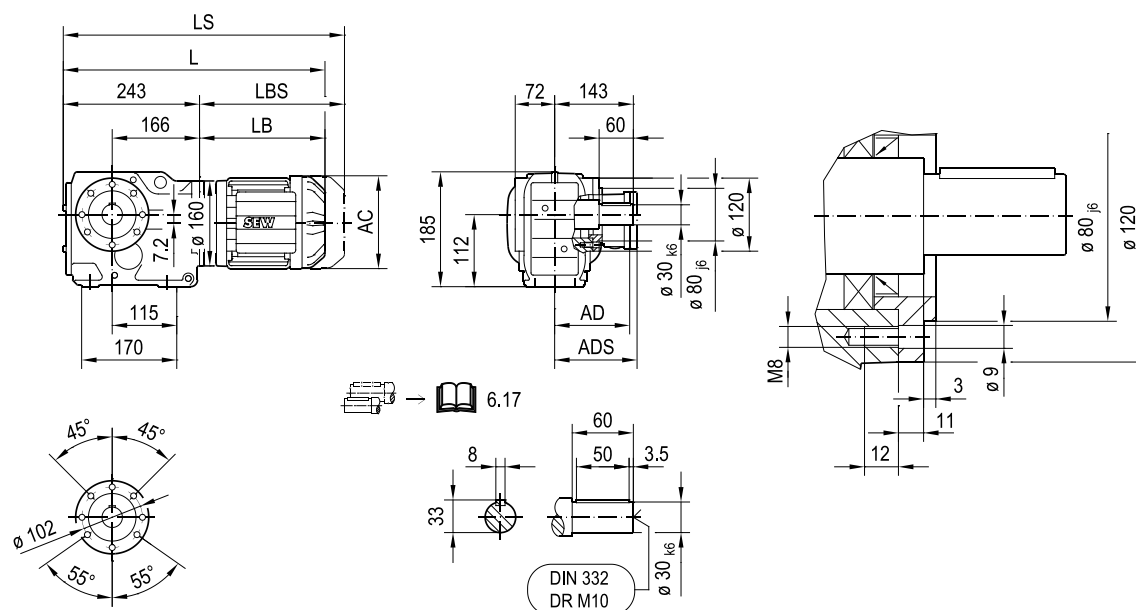
KVZ47..



(→  7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	518	520	552	548	598
LS	599	613	645	642	692
LB	275	277	309	305	355
LBS	356	370	402	399	449

33 215 01 16

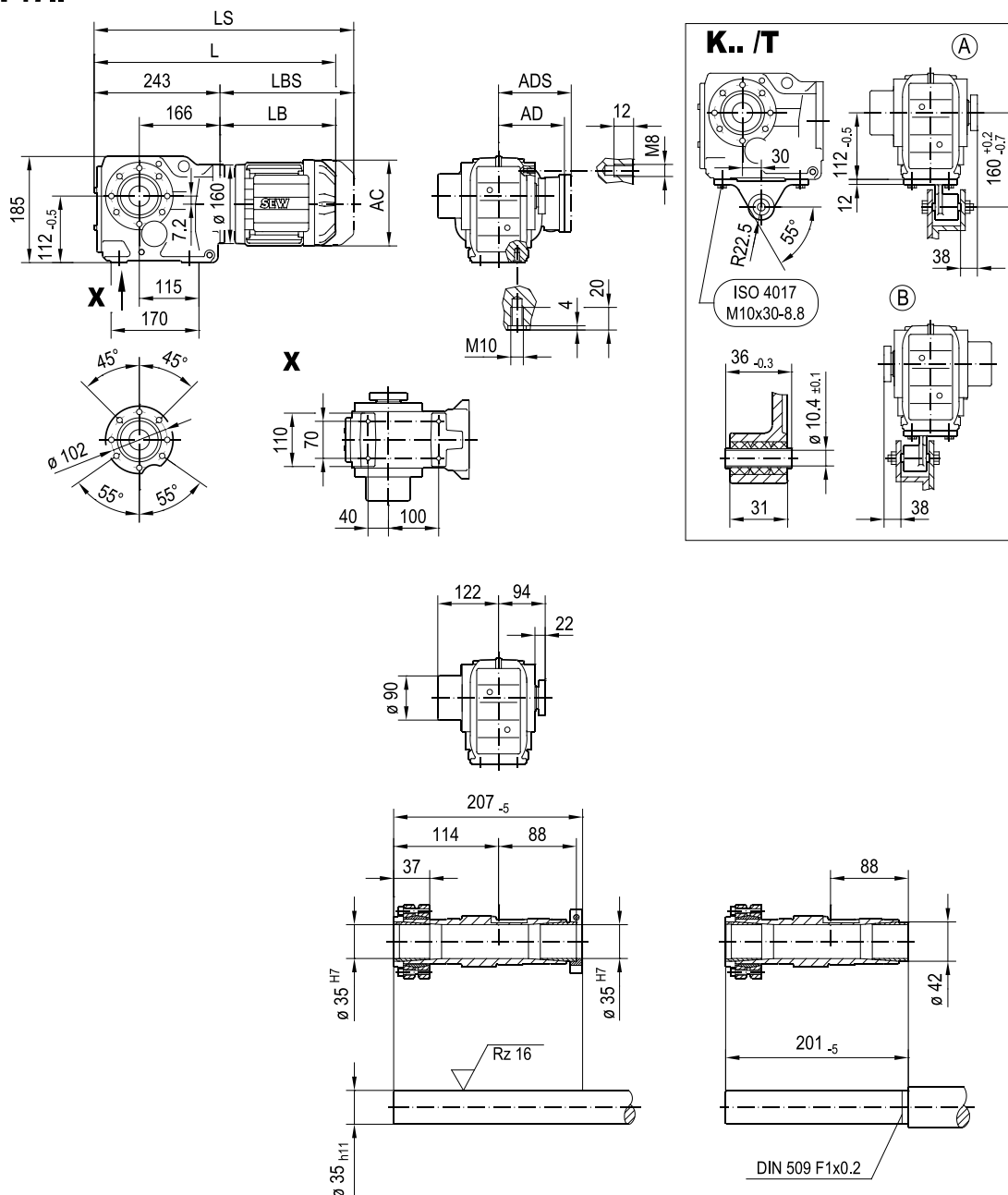
KZ47..



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/M
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	518	520	552	548	598
LS	599	613	645	642	692
LB	275	277	309	305	355
LBS	356	370	402	399	449

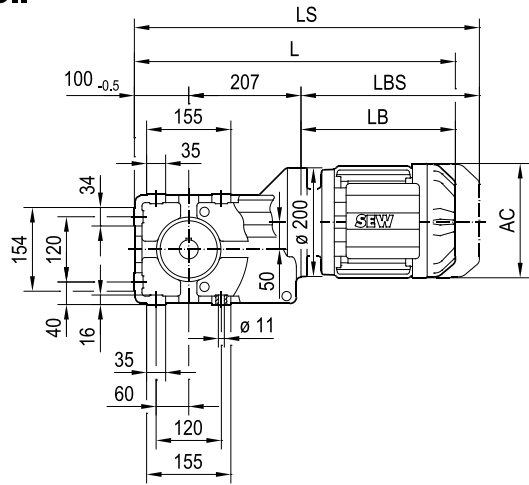
KT47..

33 216 00 16

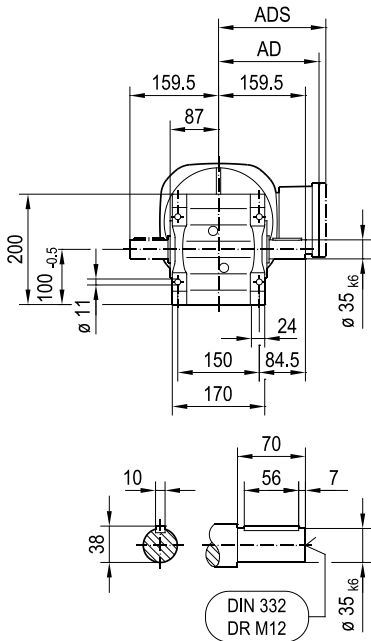


(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	518	520	552	548	598
LS	599	613	645	642	692
LB	275	277	309	305	355
LBS	356	370	402	399	449

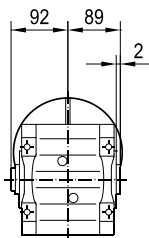
K49..



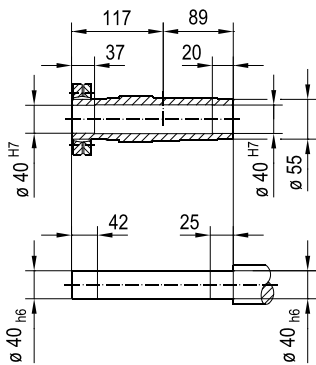
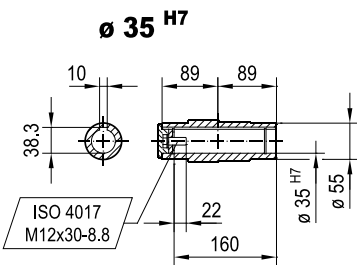
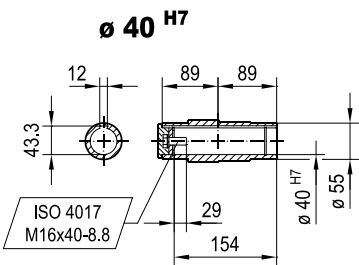
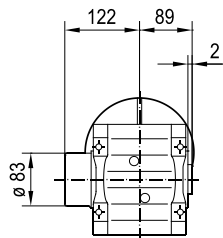
33 217 02 16



KA49B..

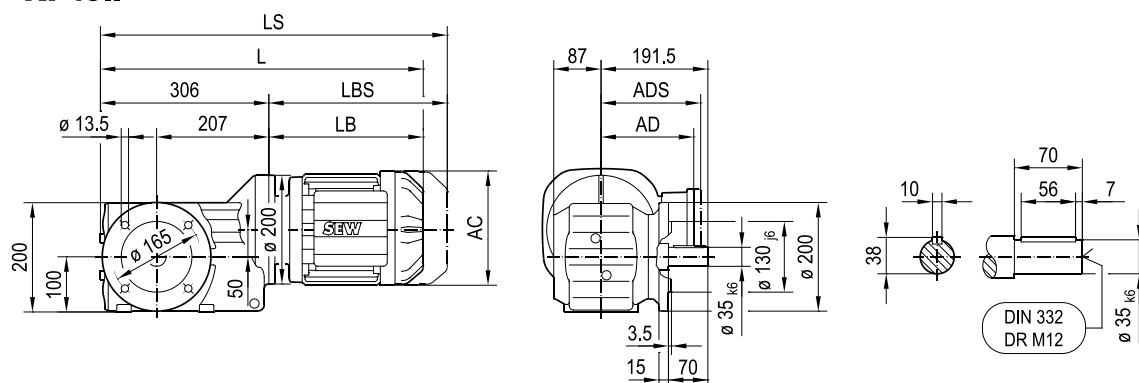
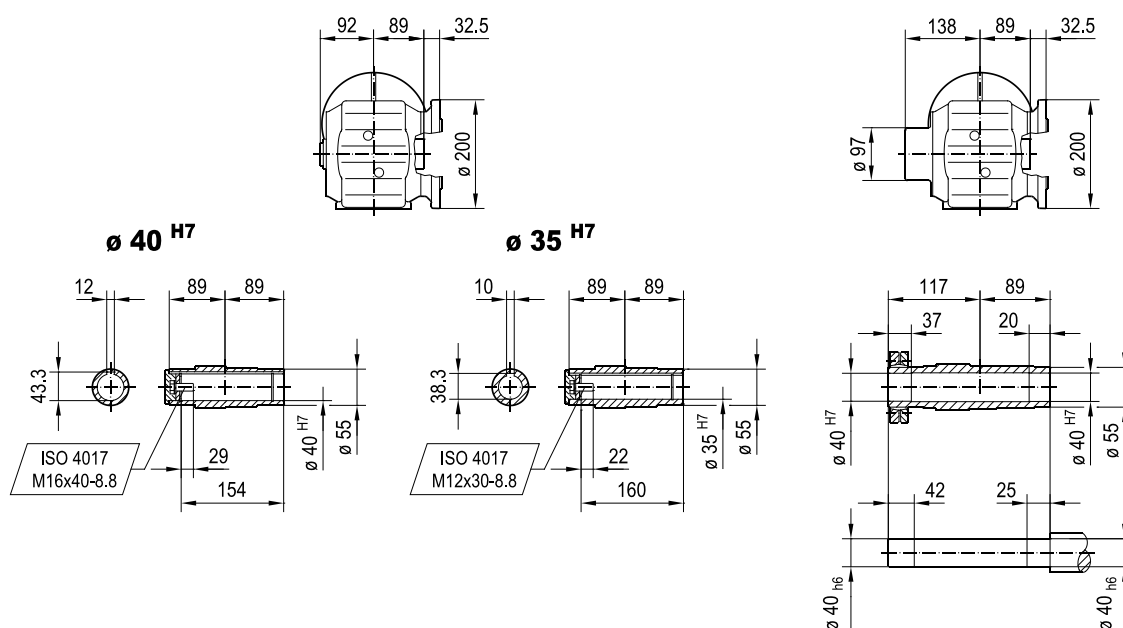


KH49B..

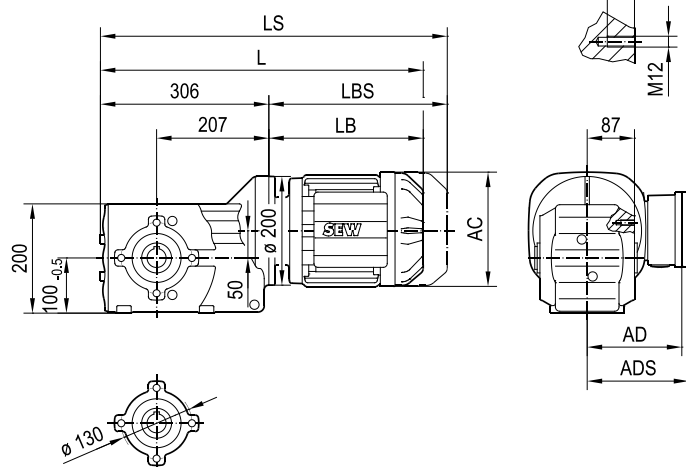


(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100L/LM	EDRN112M	EDRN132S
AC	156	179	179	197	221	221
AD	128	140	140	157	170	170
ADS	139	150	150	158	172	172
L	575	577	609	655	686	736
LS	656	670	702	749	798	848
LB	268	270	302	348	379	429
LBS	349	363	395	442	491	541

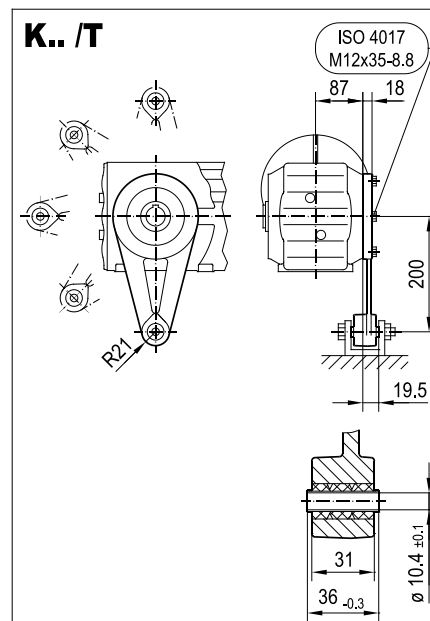
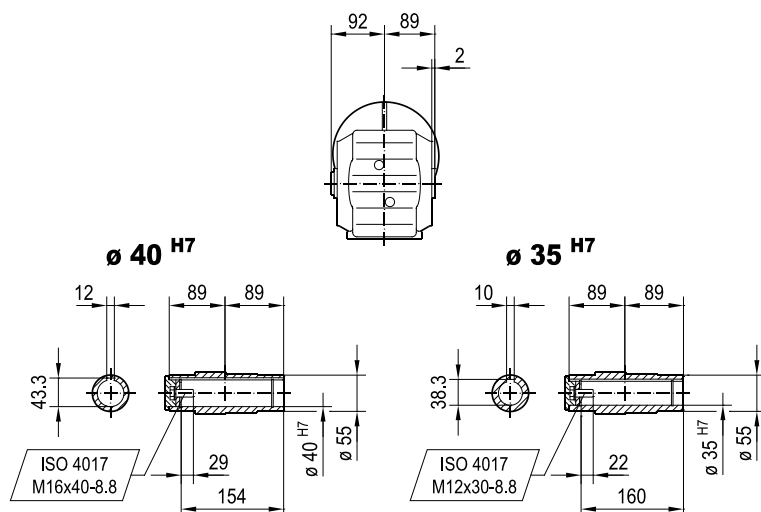
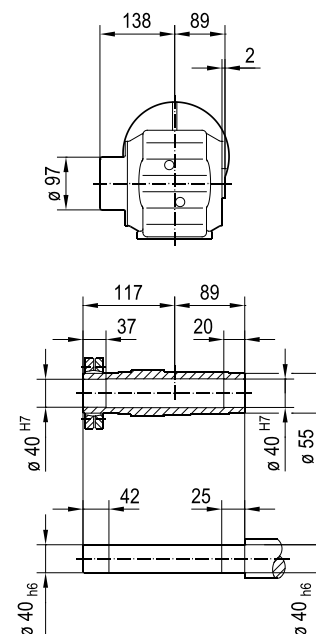
33 218 00 16

KF49..

KAF49..
KHF49..


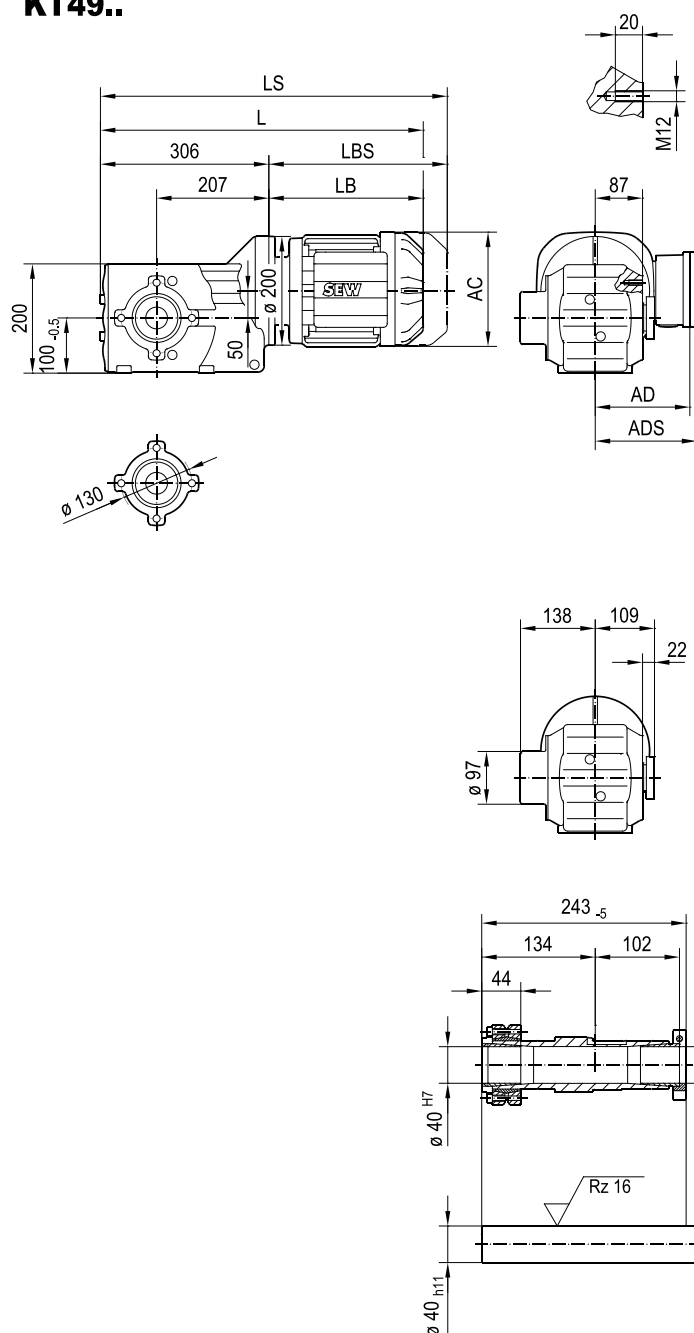
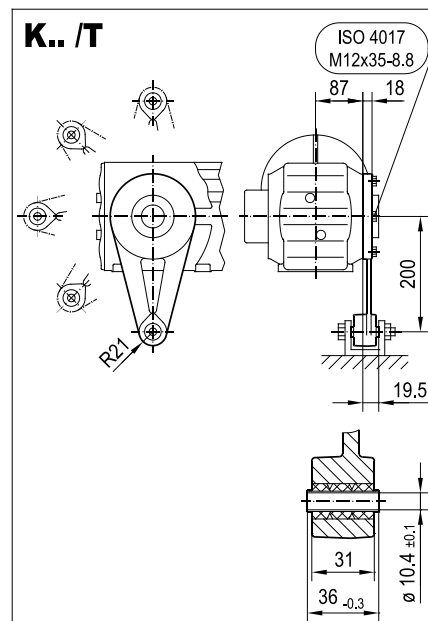
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100L/LM	EDRN112M	EDRN132S
AC	156	179	179	197	221	221
AD	128	140	140	157	170	170
ADS	139	150	150	158	172	172
L	574	576	608	654	685	735
LS	655	669	701	748	797	847
LB	268	270	302	348	379	429
LBS	349	363	395	442	491	541

KA49..

33 219 00 16

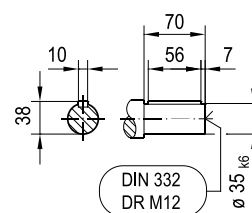
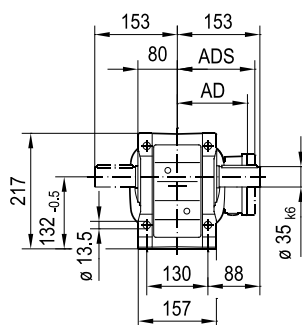
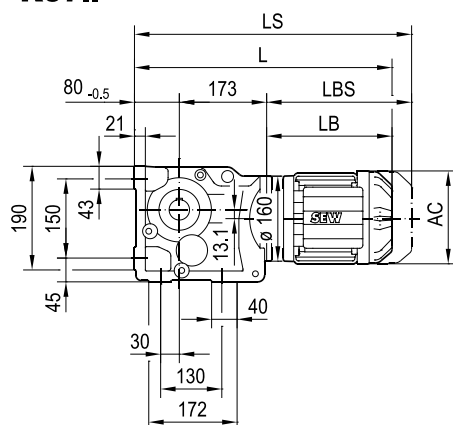
K.. /T**KA49..****KH49..**

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100L/LM	EDRN112M	EDRN132S
AC	156	179	179	197	221	221
AD	128	140	140	157	170	170
ADS	139	150	150	158	172	172
L	574	576	608	654	685	735
LS	655	669	701	748	797	847
LB	268	270	302	348	379	429
LBS	349	363	395	442	491	541

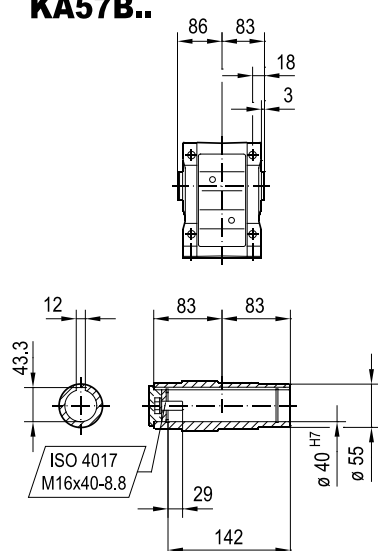
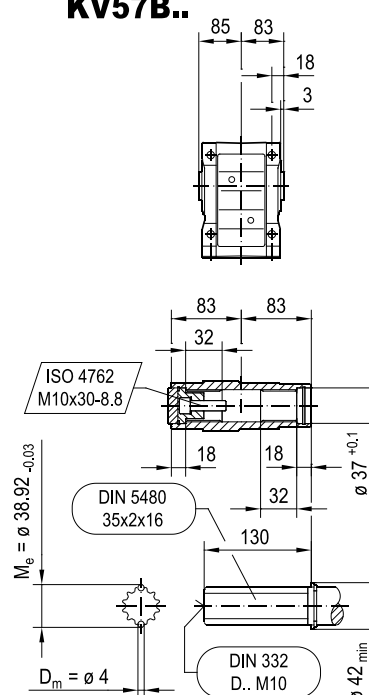
KT49..

33 220 00 16


(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100L/LM	EDRN112M	EDRN132S
AC	156	179	179	197	221	221
AD	128	140	140	157	170	170
ADS	139	150	150	158	172	172
L	574	576	608	654	685	735
LS	655	669	701	748	797	847
LB	268	270	302	348	379	429
LBS	349	363	395	442	491	541

33 221 00 16



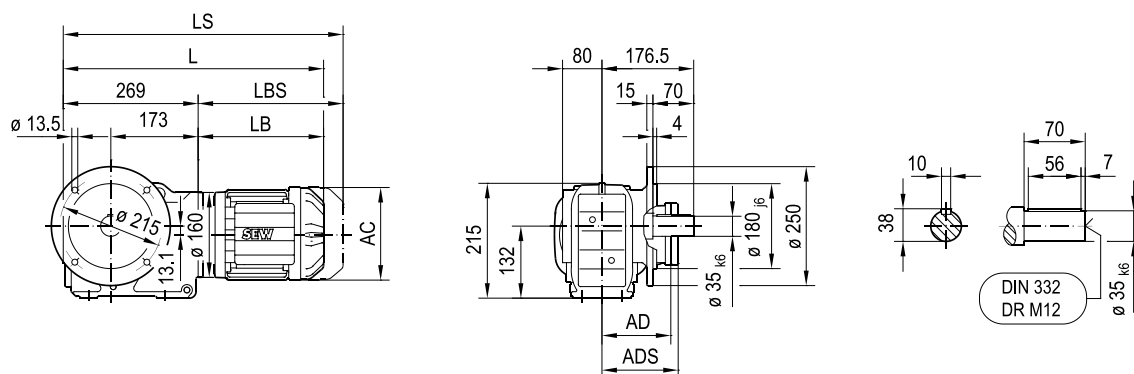
KA57B..

**KV57B..**

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	528	530	562	558	608	639	693	711
LS	609	623	655	652	702	751	805	849
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

KF57..

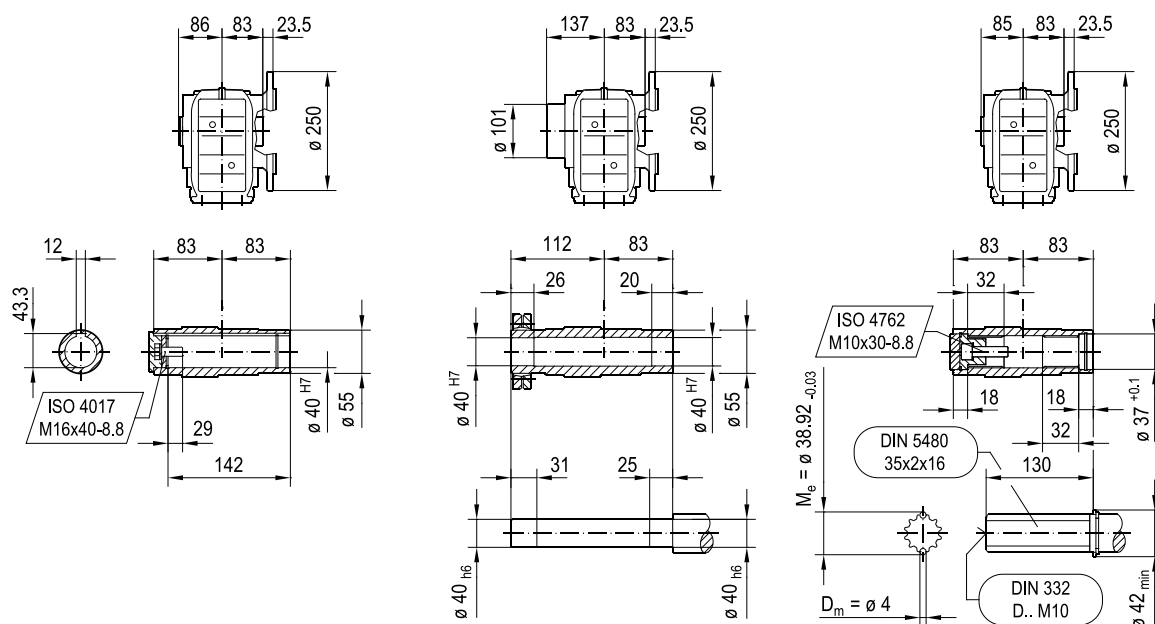
33 222 00 16



KAF57..

KHF57..

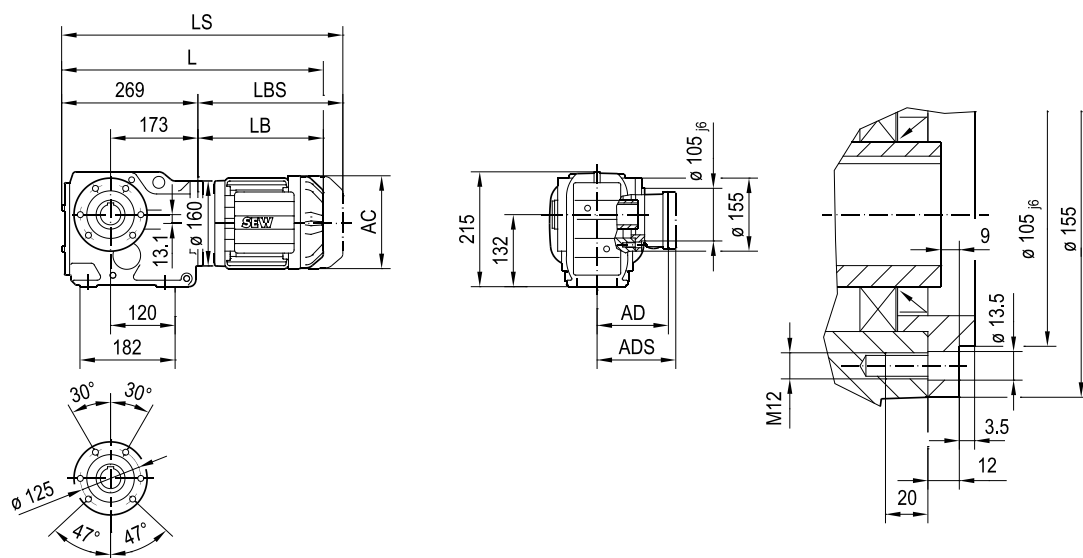
KVF57..



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	544	546	578	574	624	655	709	727
LS	625	639	671	668	718	767	821	865
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

KAZ57..

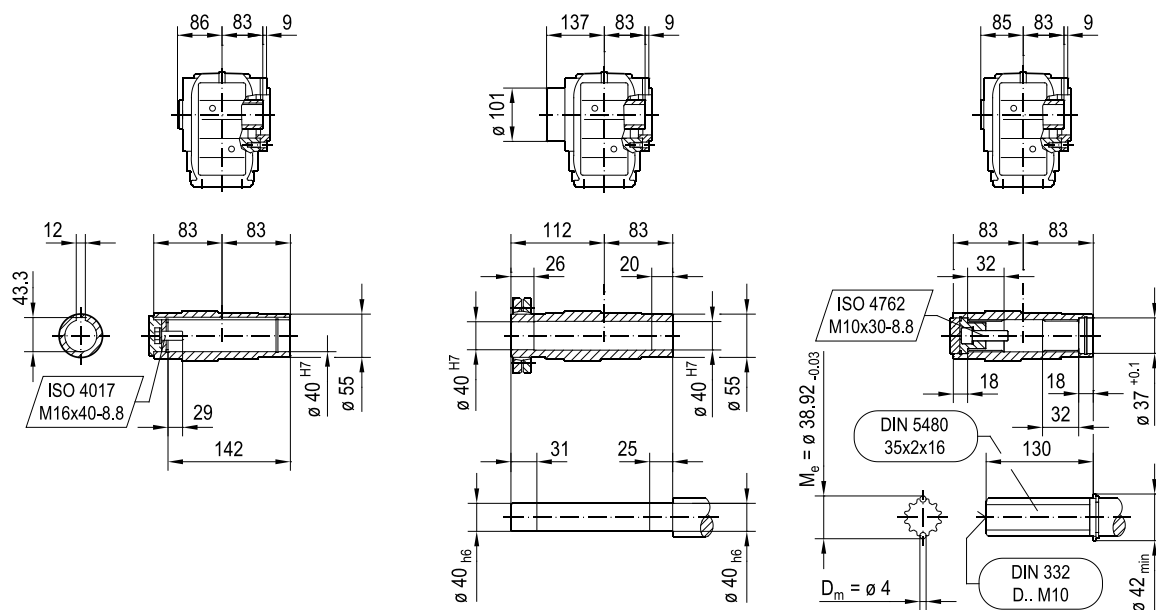
33 224 00 16



KAZ57..

KHZ57..

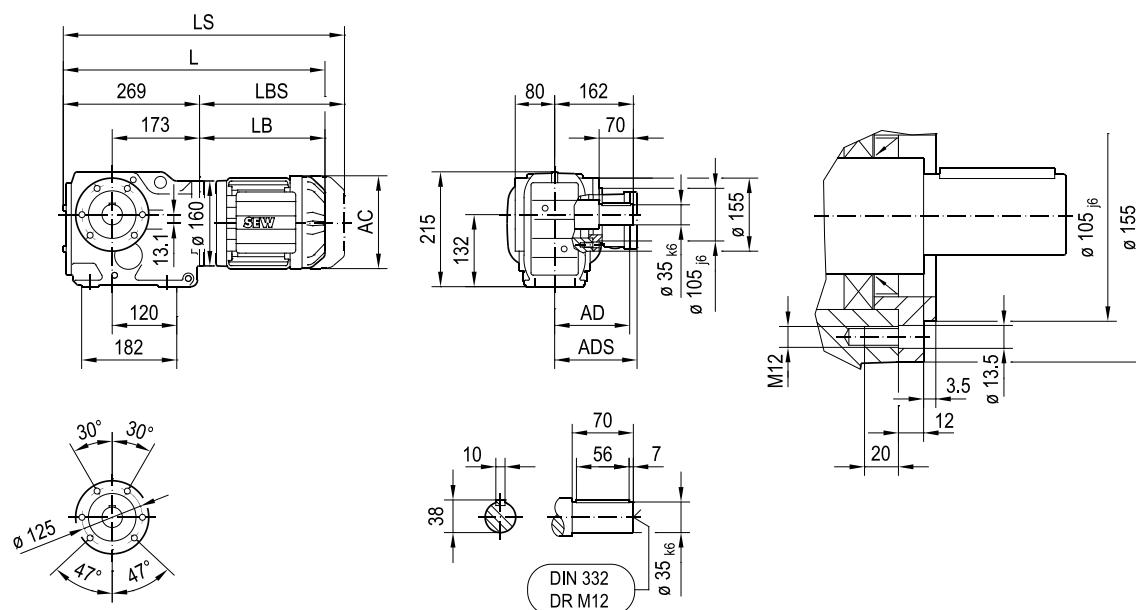
KVZ57..



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	544	546	578	574	624	655	709	727
LS	625	639	671	668	718	767	821	865
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

33 225 00 16

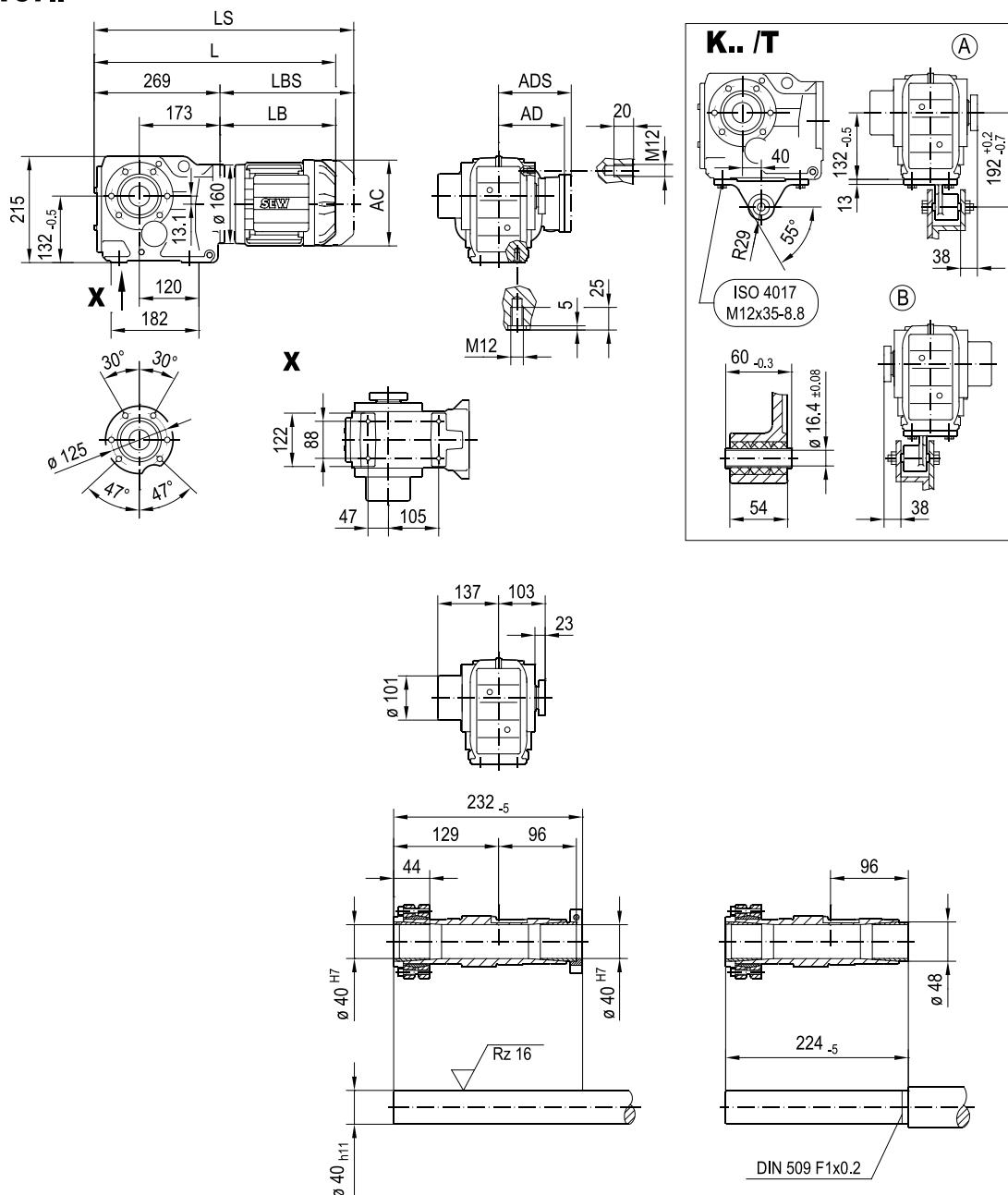
KZ57..



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	544	546	578	574	624	655	709	727
LS	625	639	671	668	718	767	821	865
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

KT57..

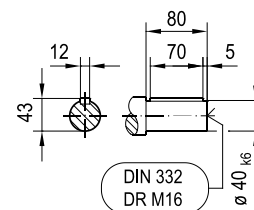
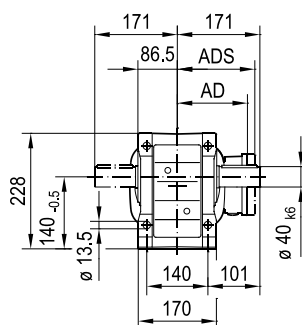
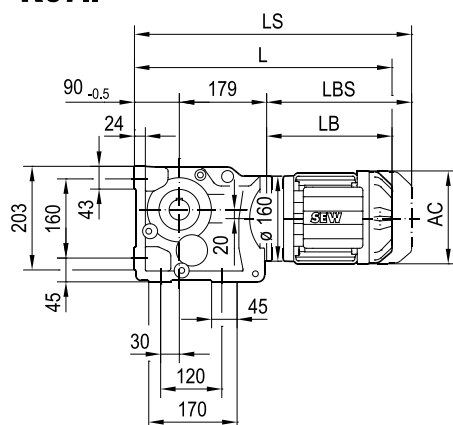
33 226 00 16



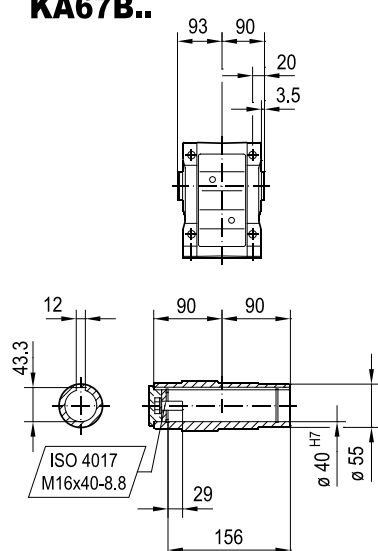
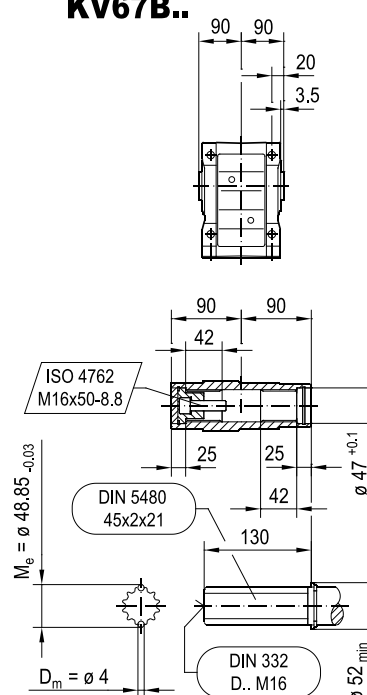
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	544	546	578	574	624	655	709	727
LS	625	639	671	668	718	767	821	865
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

K67..

33 227 00 16



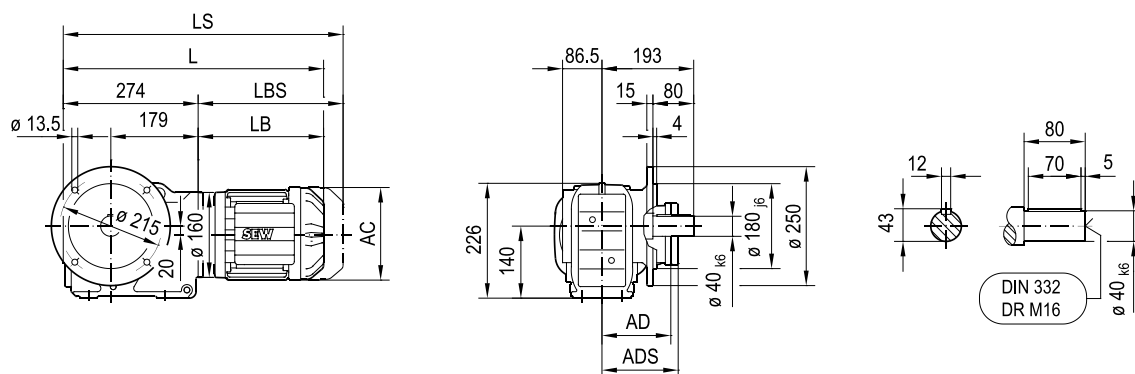
KA67B..

**KV67B..**

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	544	546	578	574	624	655	709	727
LS	625	639	671	668	718	767	821	865
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

KF67..

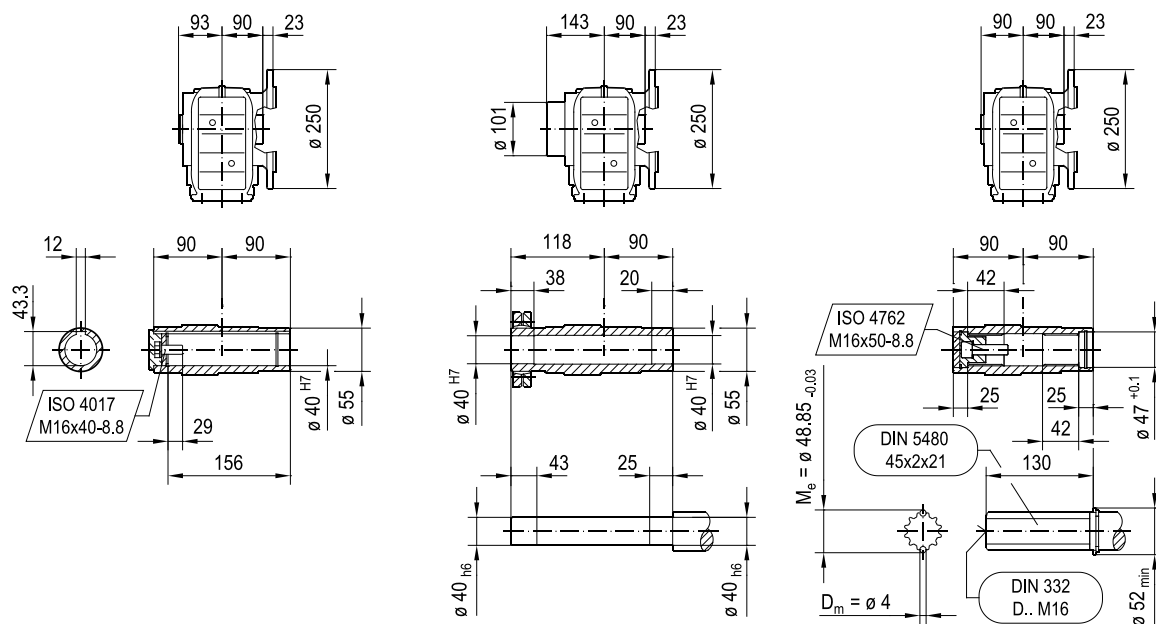
33 228 00 16



KAF67..

KHF67..

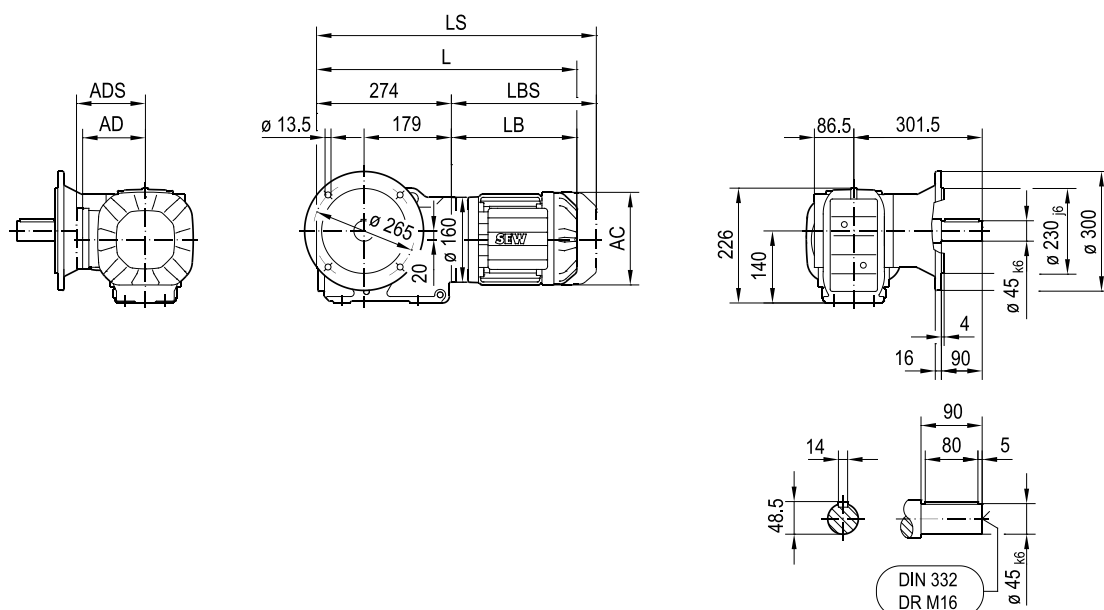
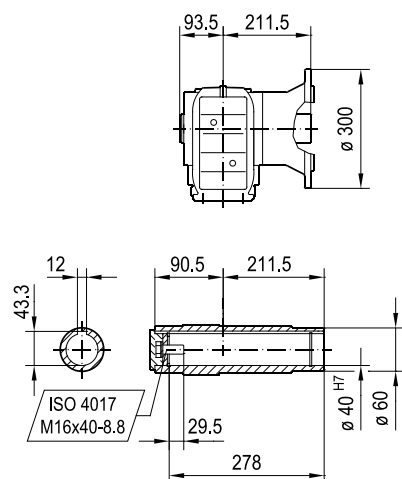
KVF67..



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	549	551	583	579	629	660	714	732
LS	630	644	676	673	723	772	826	870
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

KM67..

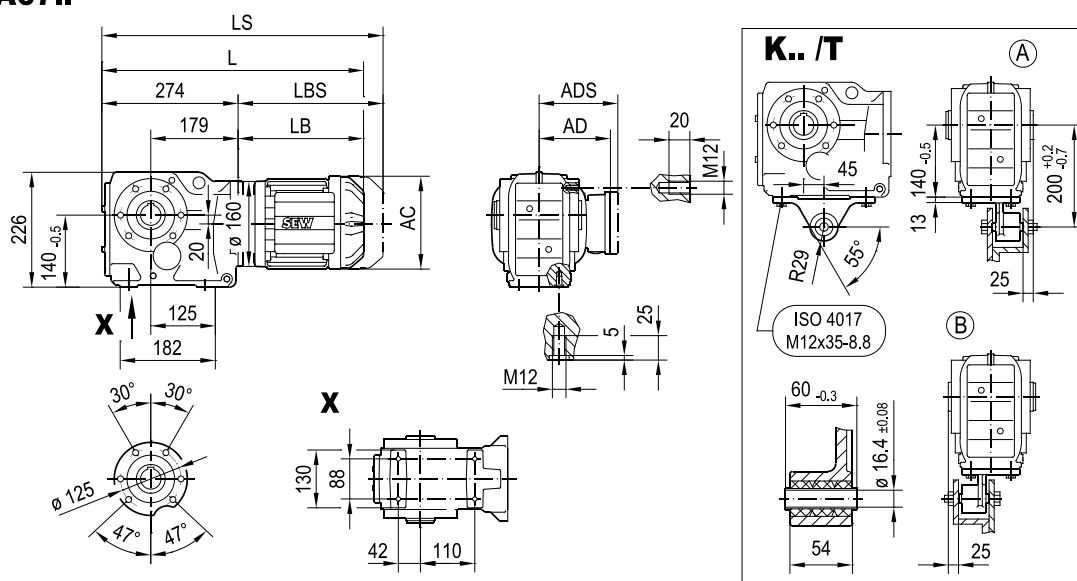
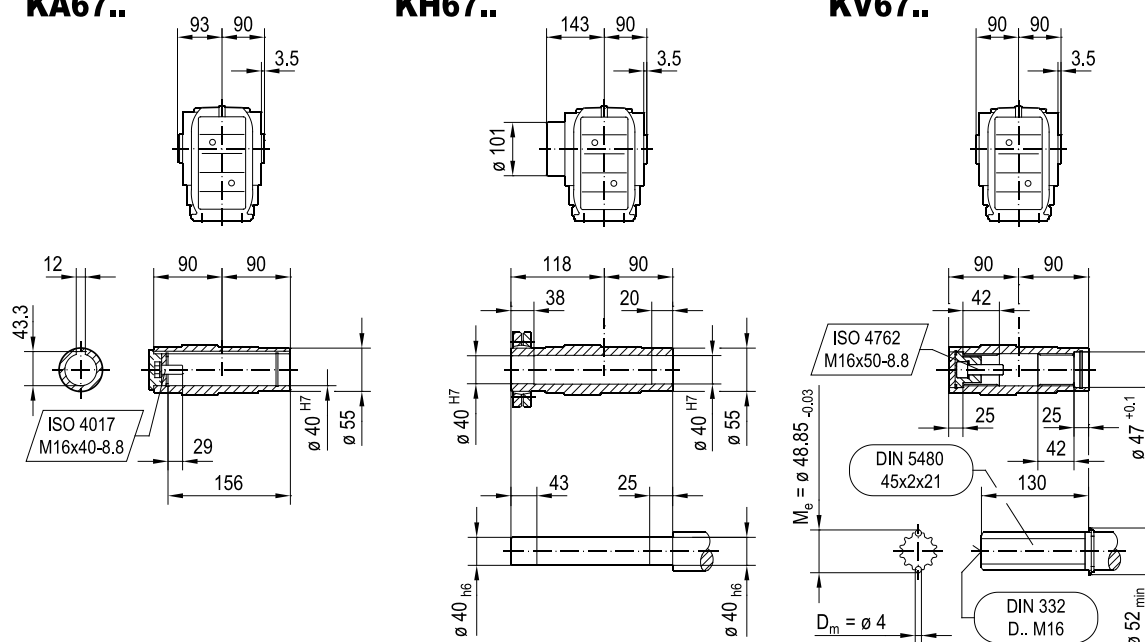
33 001 01 23

**KAM67..**

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	549	551	583	579	629	660	714	732
LS	630	644	676	673	723	772	826	870
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

KA67..

33 229 00 16

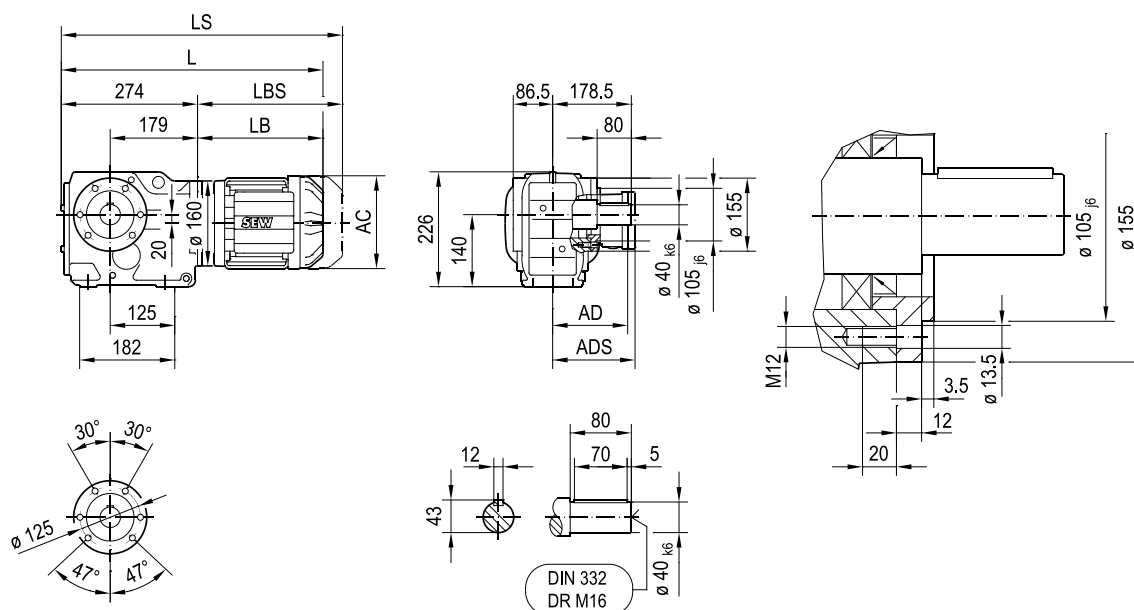

KA67..
KH67..
KV67..


(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	549	551	583	579	629	660	714	732
LS	630	644	676	673	723	772	826	870
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

SEW
EURODRIVE

KZ67..

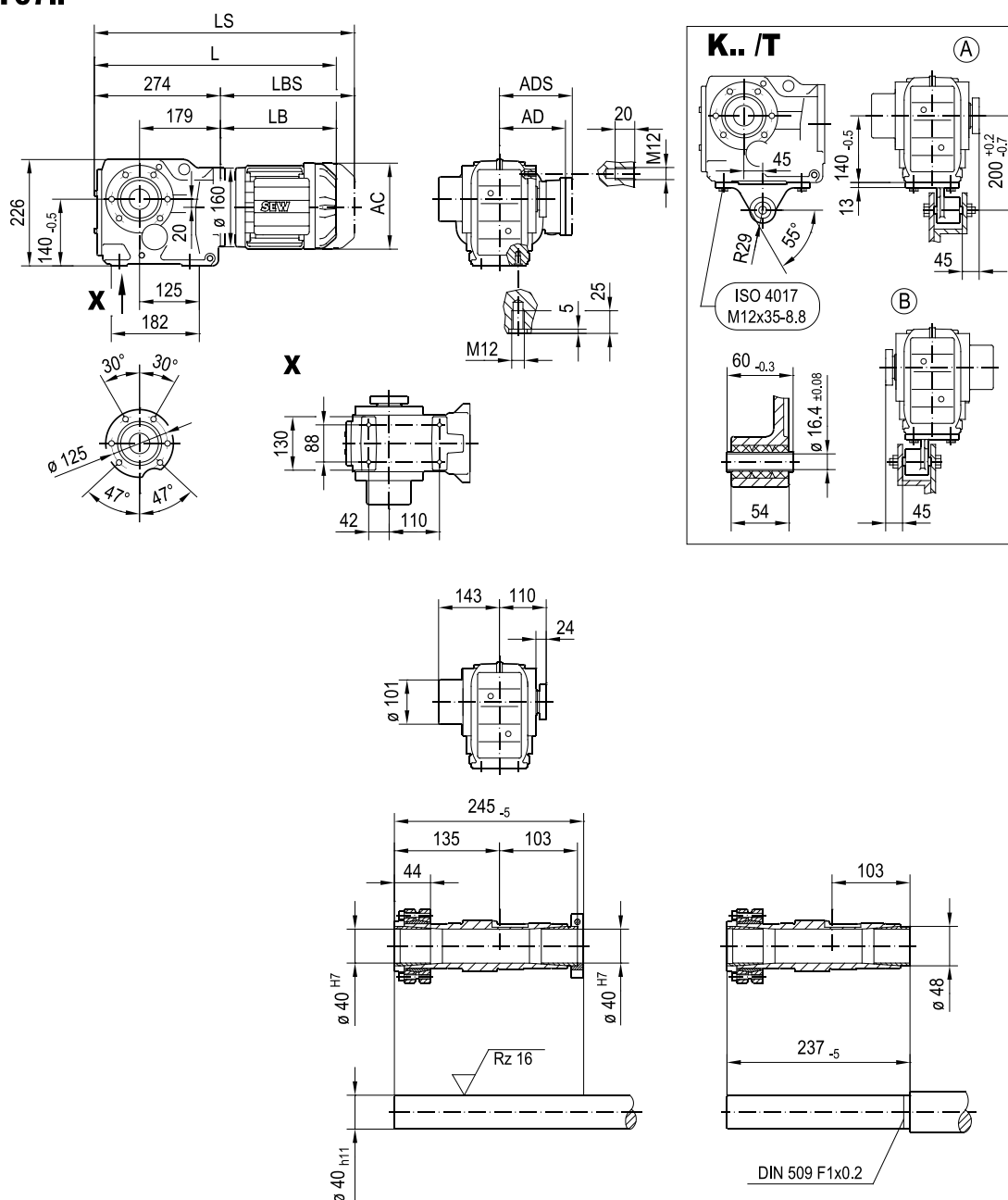
33 231 00 16



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	549	551	583	579	629	660	714	732
LS	630	644	676	673	723	772	826	870
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

KT67..

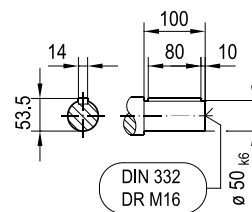
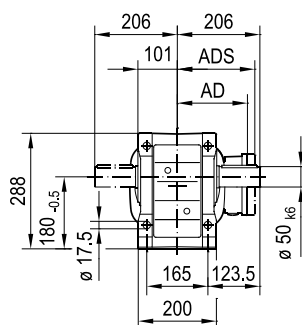
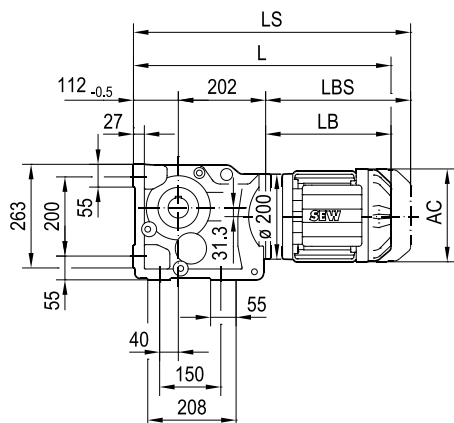
33 232 00 16



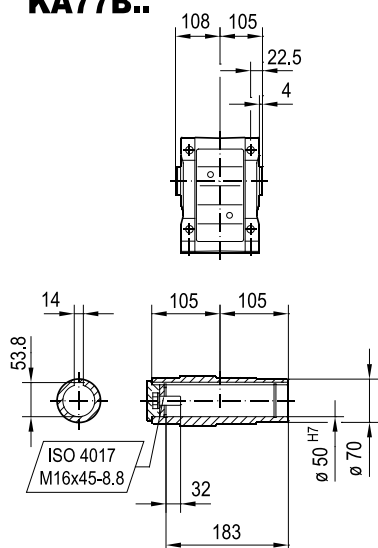
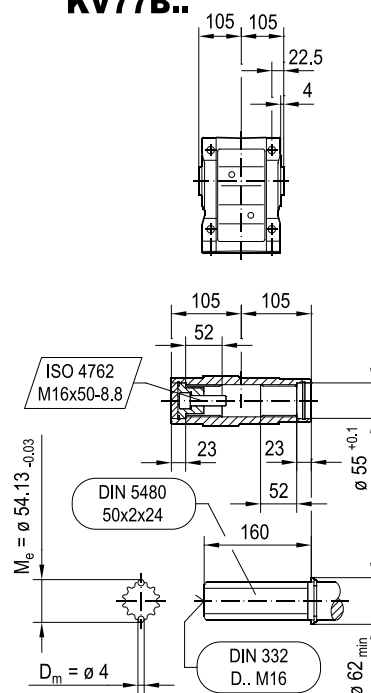
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	549	551	583	579	629	660	714	732
LS	630	644	676	673	723	772	826	870
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

K77..

33 233 00 16

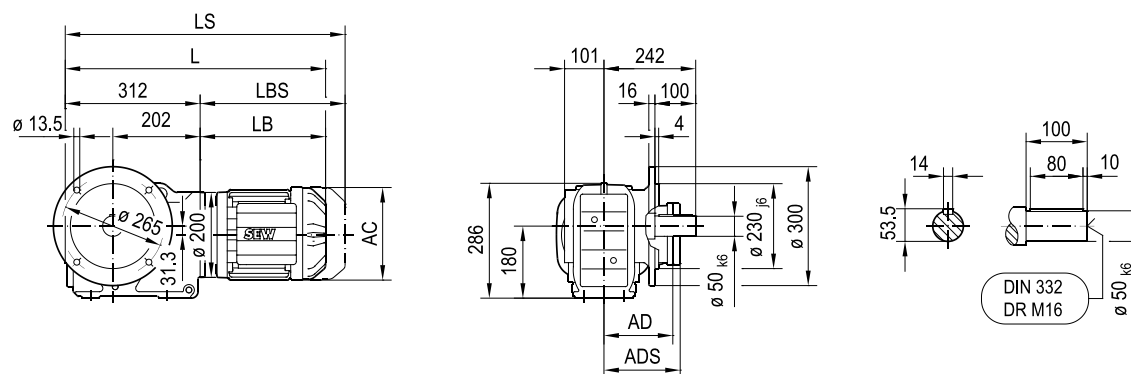
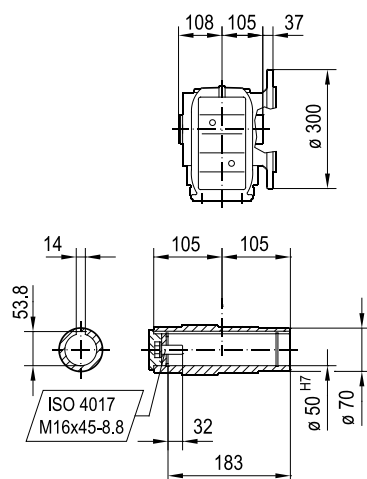
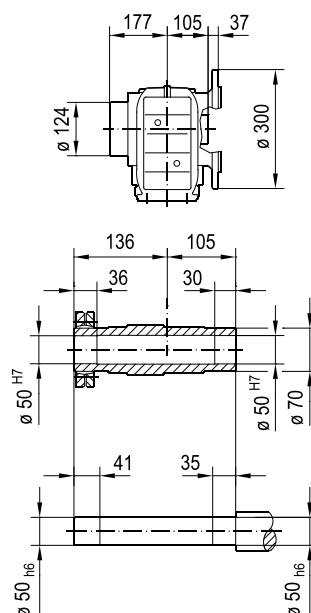
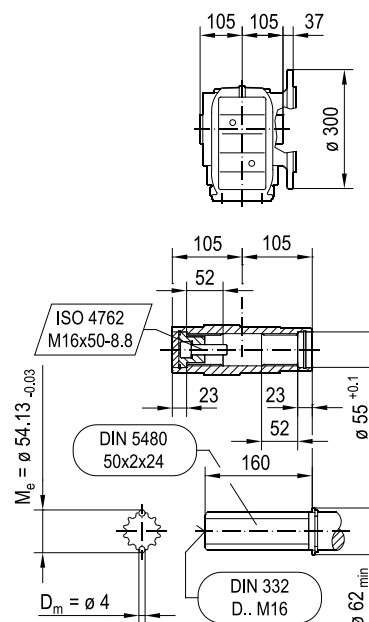


KA77B..

**KV77B..**

(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	584	616	612	662	693	743	761	787	853
LS	677	709	706	756	805	855	899	924	1042
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

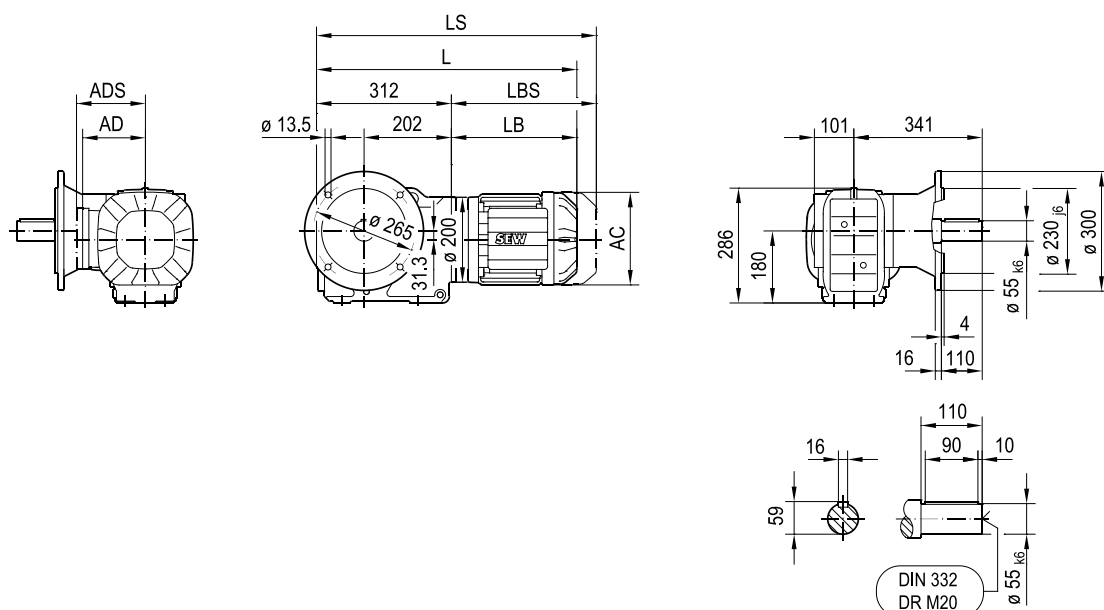
33 234 00 16

KF77..**KAF77..****KHF77..****KVF77..**

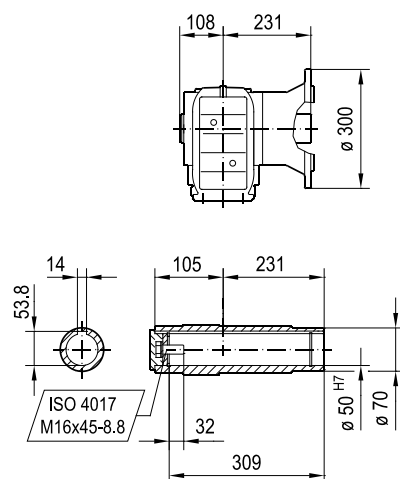
(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	582	614	610	660	691	741	759	785	851
LS	675	707	704	754	803	853	897	922	1040
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

KM77..

33 002 01 23

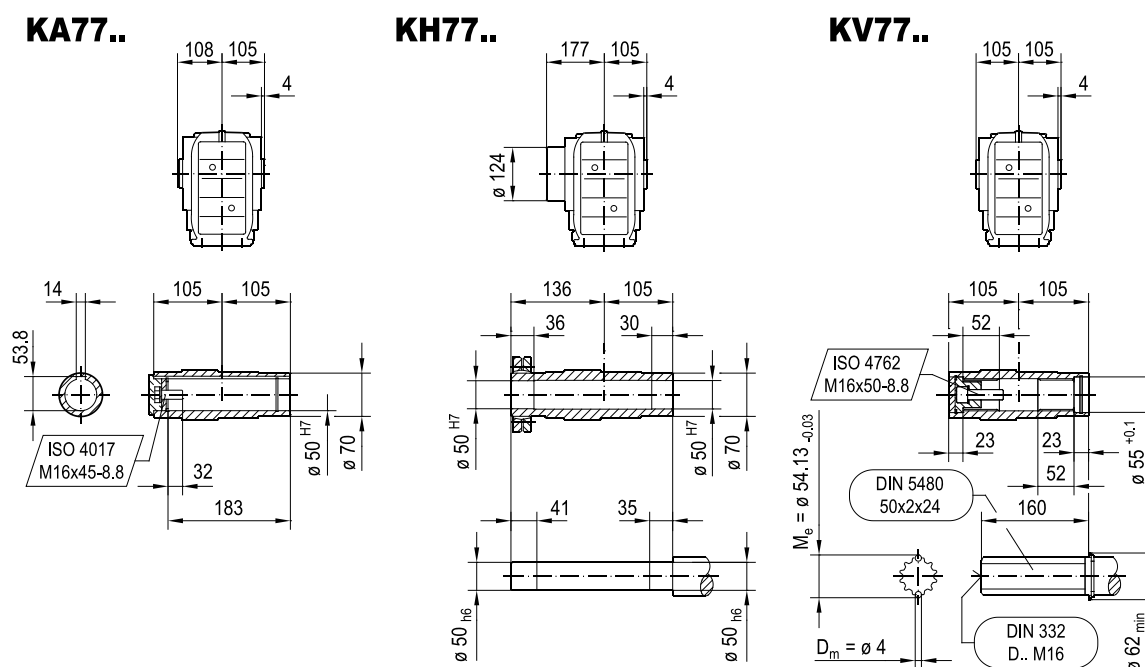
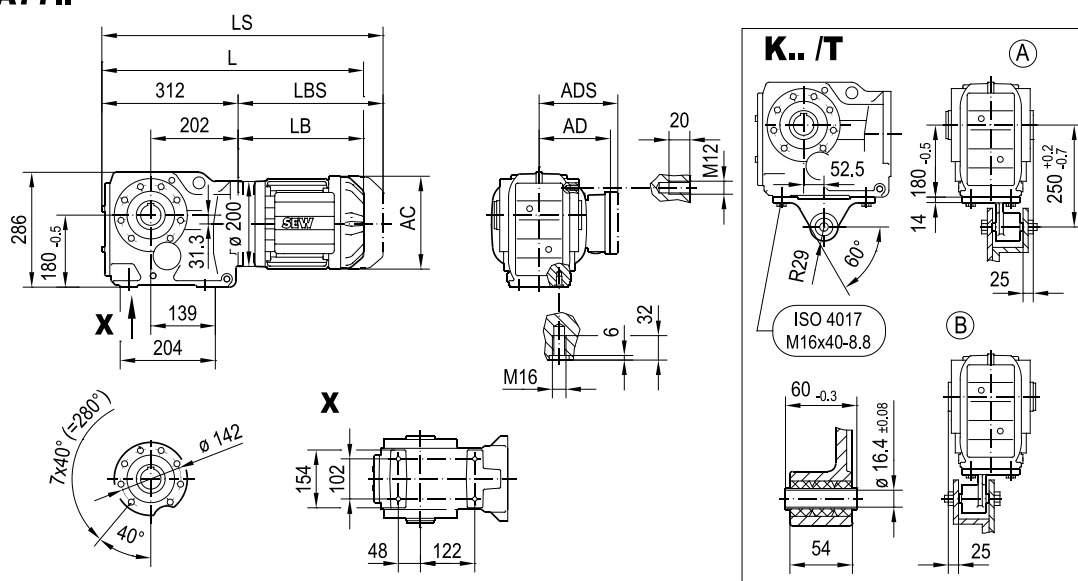


KAM77..



(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	582	614	610	660	691	741	759	785	851
LS	675	707	704	754	803	853	897	922	1040
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

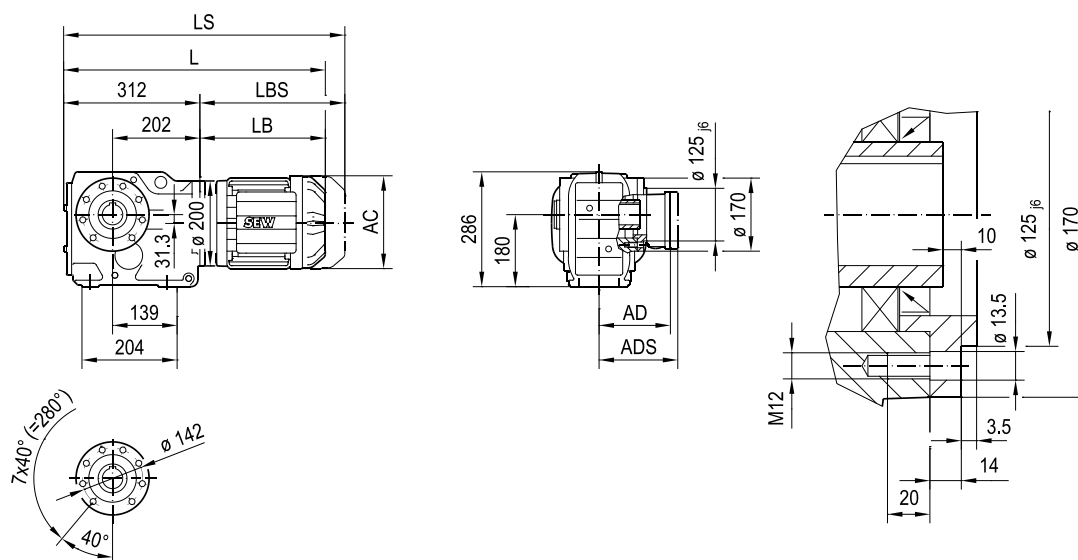
33 235 00 16



(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	582	614	610	660	691	741	759	785	851
LS	675	707	704	754	803	853	897	922	1040
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

KAZ77..

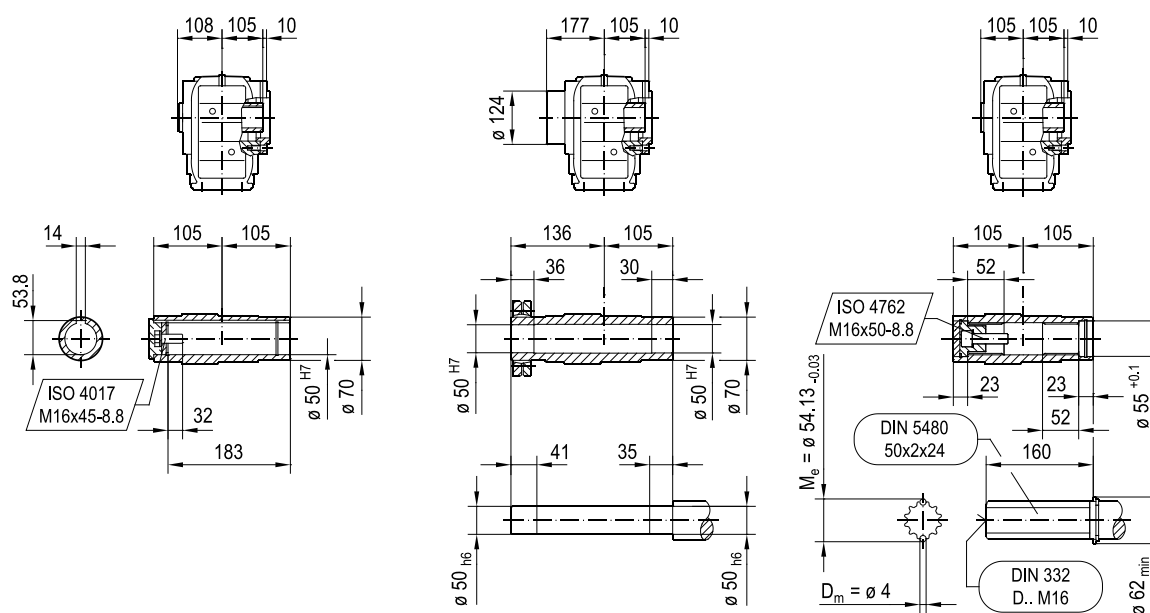
33 236 00 16



KAZ77..

KHZ77..

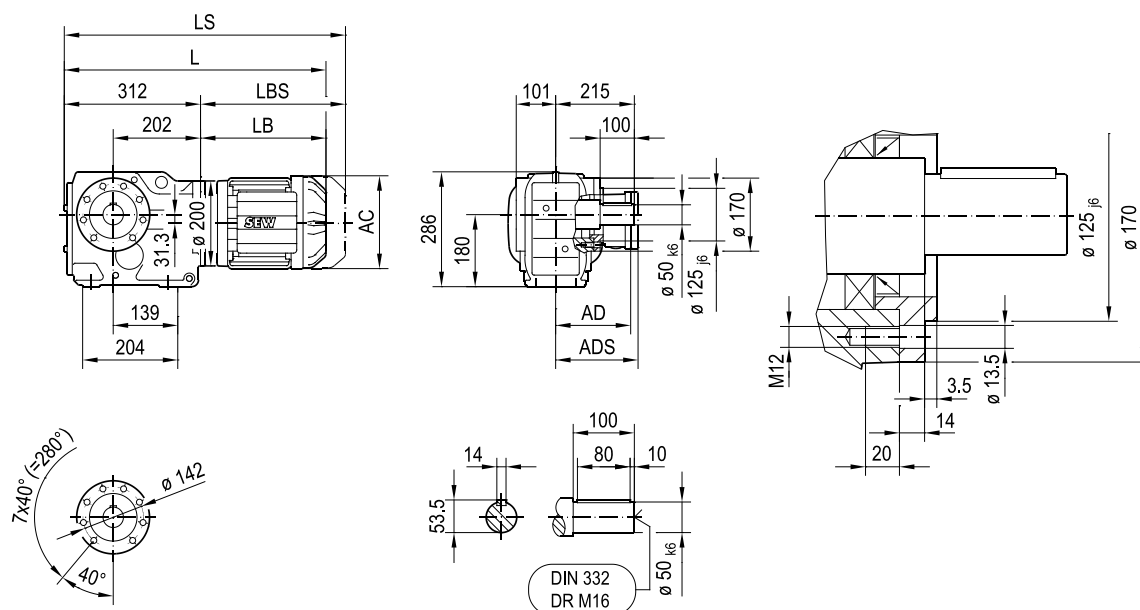
KVZ77..



(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	582	614	610	660	691	741	759	785	851
LS	675	707	704	754	803	853	897	922	1040
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

KZ77..

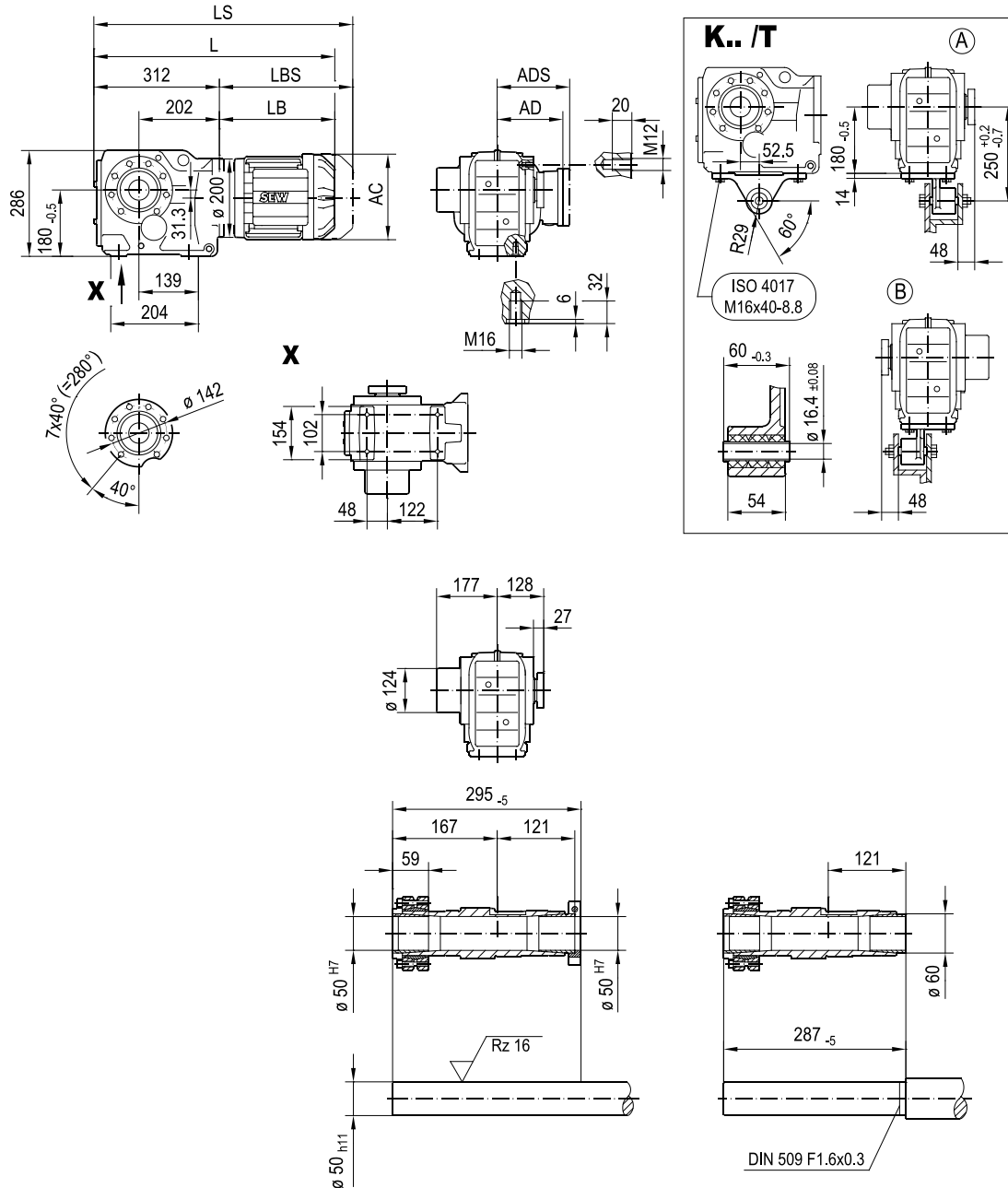
33 237 00 16



(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	582	614	610	660	691	741	759	785	851
LS	675	707	704	754	803	853	897	922	1040
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

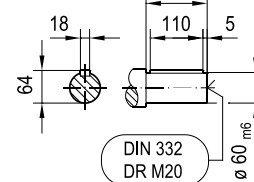
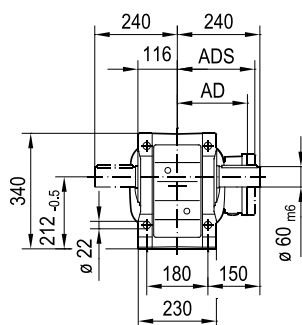
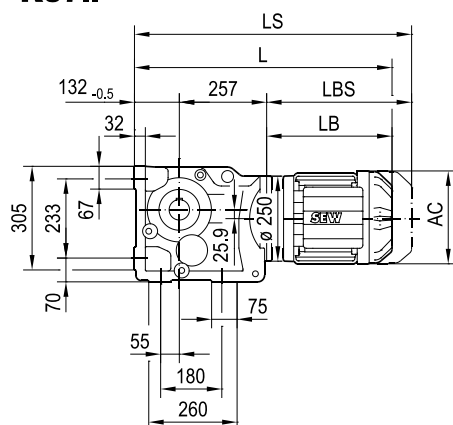
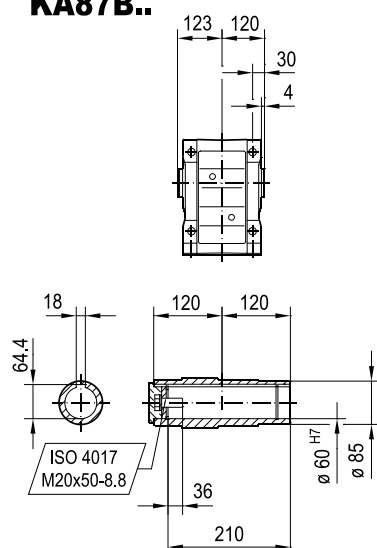
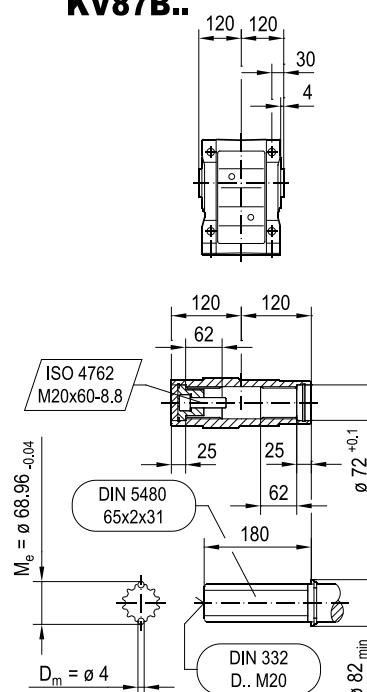
KT77..

33 238 00 16



(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	582	614	610	660	691	741	759	785	851
LS	675	707	704	754	803	853	897	922	1040
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

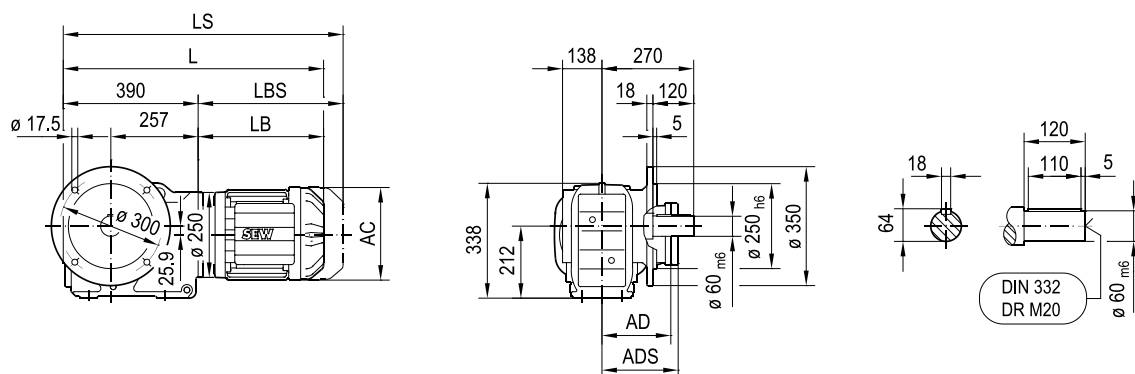
33 239 00 16

K87..**KA87B..****KV87B..**

(→ 7.2)	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L
AC	197	197	221	221	261	261	314	357	394
AD	157	157	170	170	228	228	253	268	283
ADS	158	158	172	172	228	228	253	268	283
L	682	732	763	813	831	857	923	946	1056
LS	776	826	875	925	969	994	1112	1135	1261
LB	293	343	374	424	442	468	534	557	667
LBS	387	437	486	536	580	605	723	746	872

KF87..

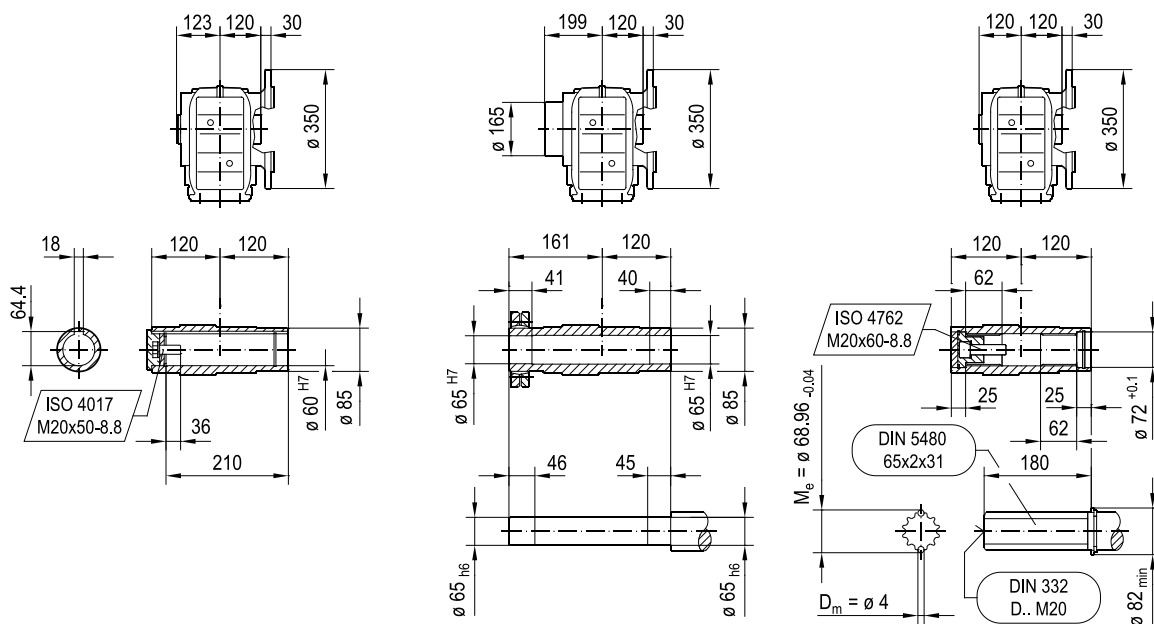
33 240 00 16



KAF87..

KHF87..

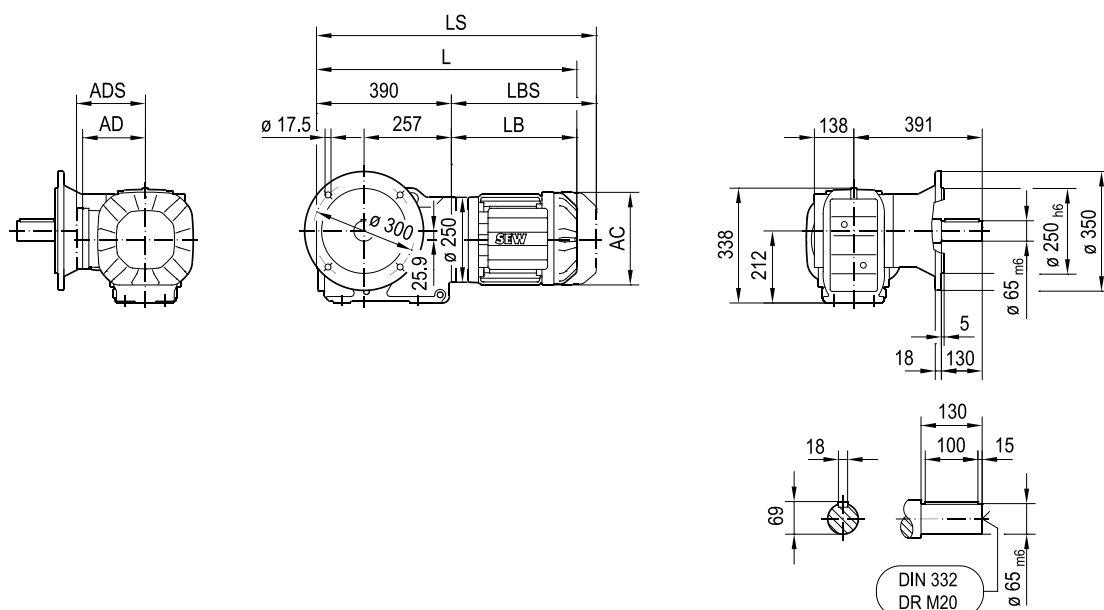
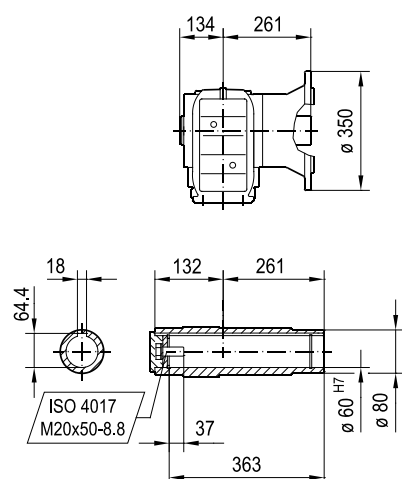
KVF87..



(→ 7.2)	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L
AC	197	197	221	221	261	261	314	357	394
AD	157	157	170	170	228	228	253	268	283
ADS	158	158	172	172	228	228	253	268	283
L	683	733	764	814	832	858	924	947	1057
LS	777	827	876	926	970	995	1113	1136	1262
LB	293	343	374	424	442	468	534	557	667
LBS	387	437	486	536	580	605	723	746	872

KM87..

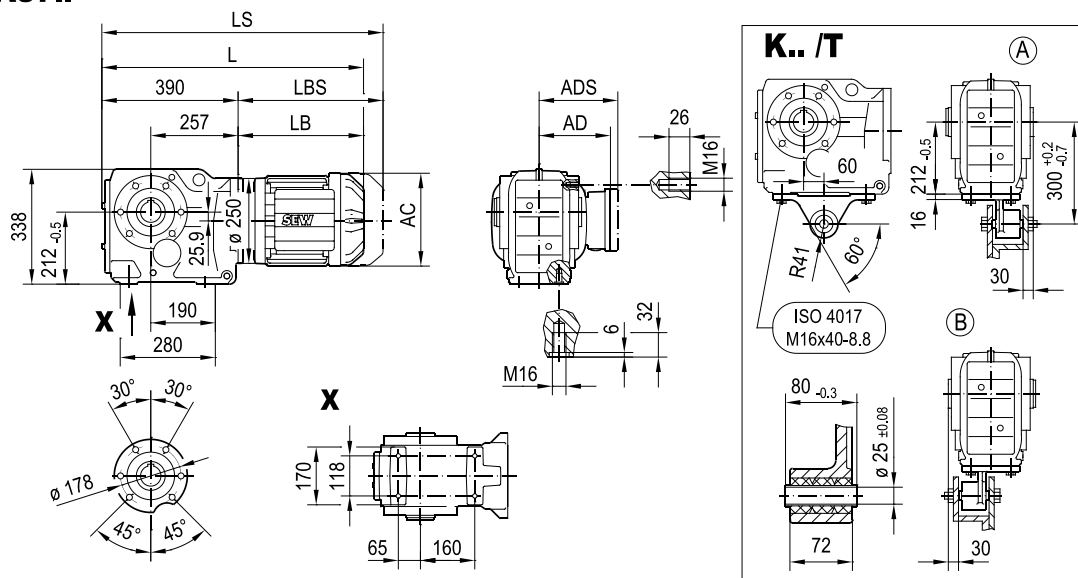
33 003 01 23

**KAM87..**

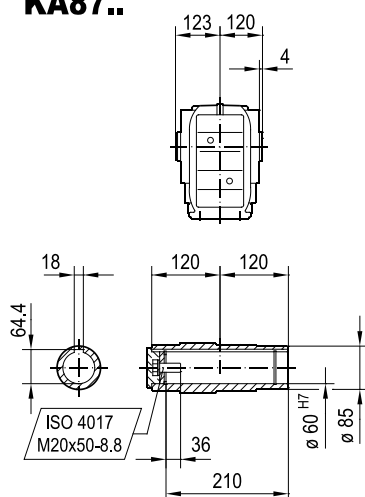
(→ 7.2)	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L
AC	197	197	221	221	261	261	314	357	394
AD	157	157	170	170	228	228	253	268	283
ADS	158	158	172	172	228	228	253	268	283
L	683	733	764	814	832	858	924	947	1057
LS	777	827	876	926	970	995	1113	1136	1262
LB	293	343	374	424	442	468	534	557	667
LBS	387	437	486	536	580	605	723	746	872

KA87..

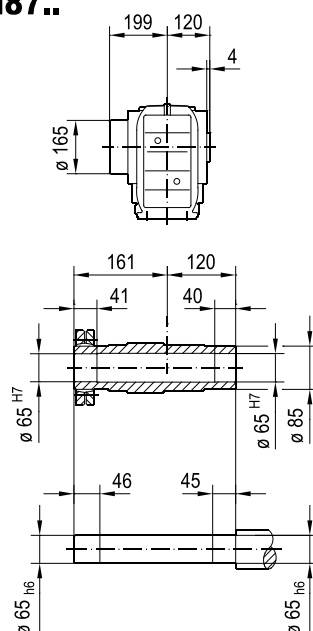
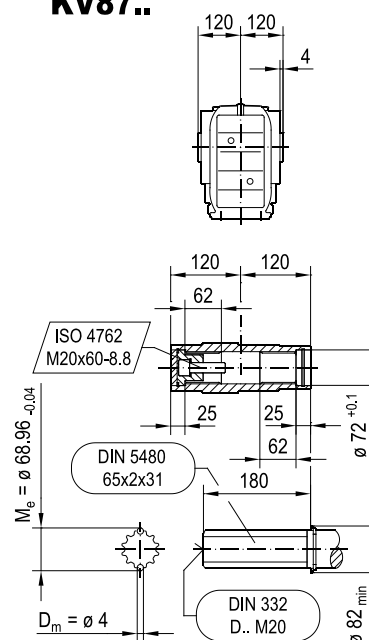
33 241 00 16



KA87..

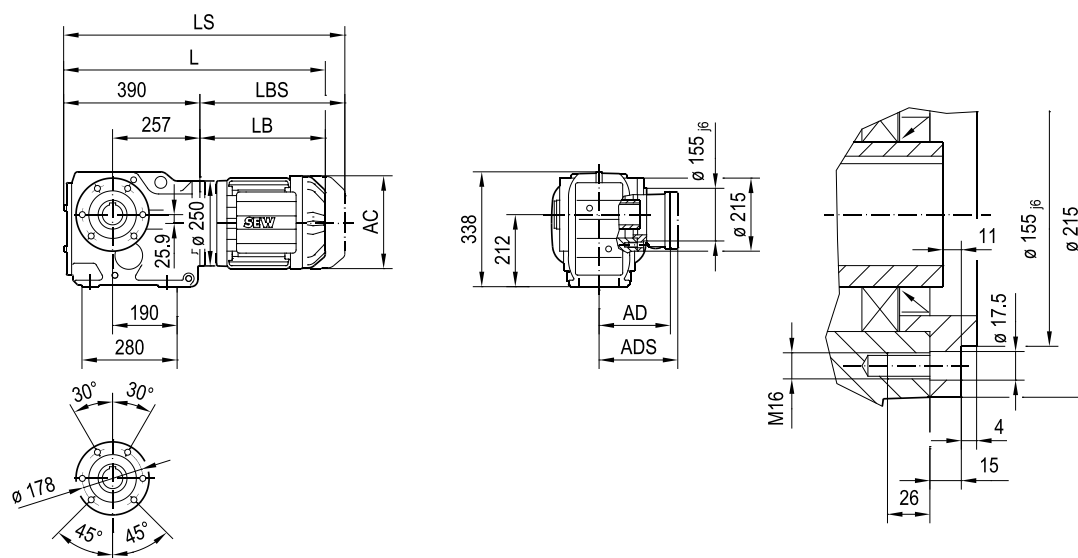
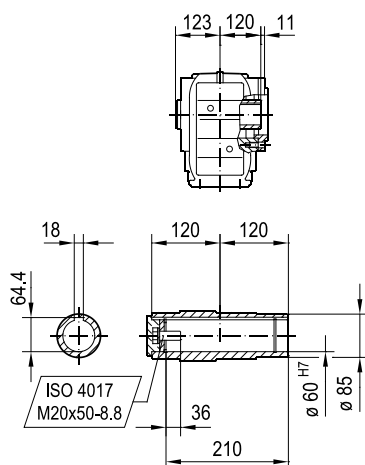
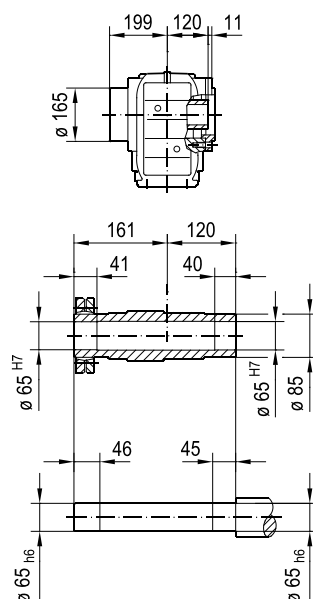
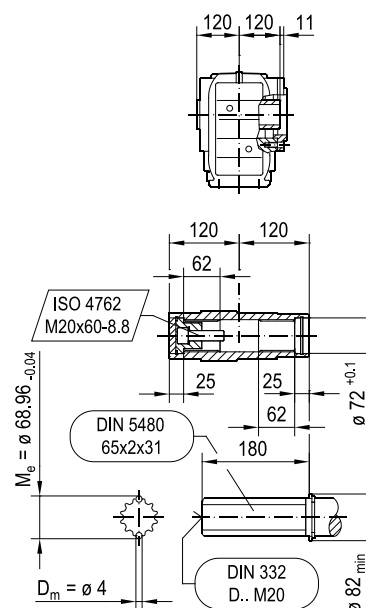


KH87..

**KV87..**

(→ 7.2)	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L
AC	197	197	221	221	261	261	314	357	394
AD	157	157	170	170	228	228	253	268	283
ADS	158	158	172	172	228	228	253	268	283
L	683	733	764	814	832	858	924	947	1057
LS	777	827	876	926	970	995	1113	1136	1262
LB	293	343	374	424	442	468	534	557	667
LBS	387	437	486	536	580	605	723	746	872

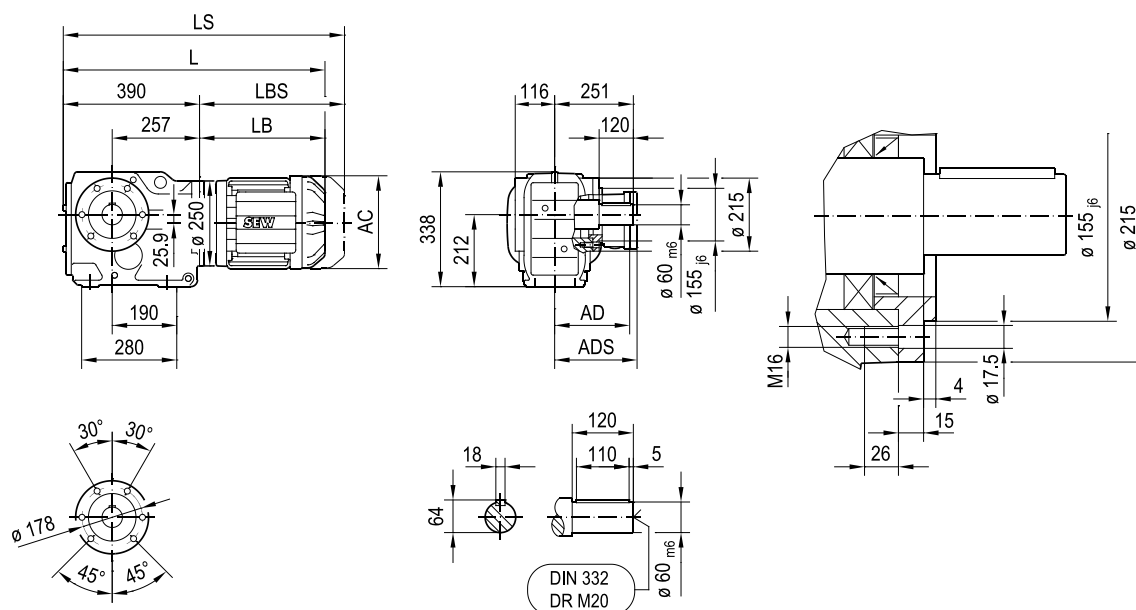
33 245 00 16

KAZ87..**KAZ87..****KHZ87..****KVZ87..**

(→ 7.2)	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L
AC	197	197	221	221	261	261	314	357	394
AD	157	157	170	170	228	228	253	268	283
ADS	158	158	172	172	228	228	253	268	283
L	683	733	764	814	832	858	924	947	1057
LS	777	827	876	926	970	995	1113	1136	1262
LB	293	343	374	424	442	468	534	557	667
LBS	387	437	486	536	580	605	723	746	872

KZ87..

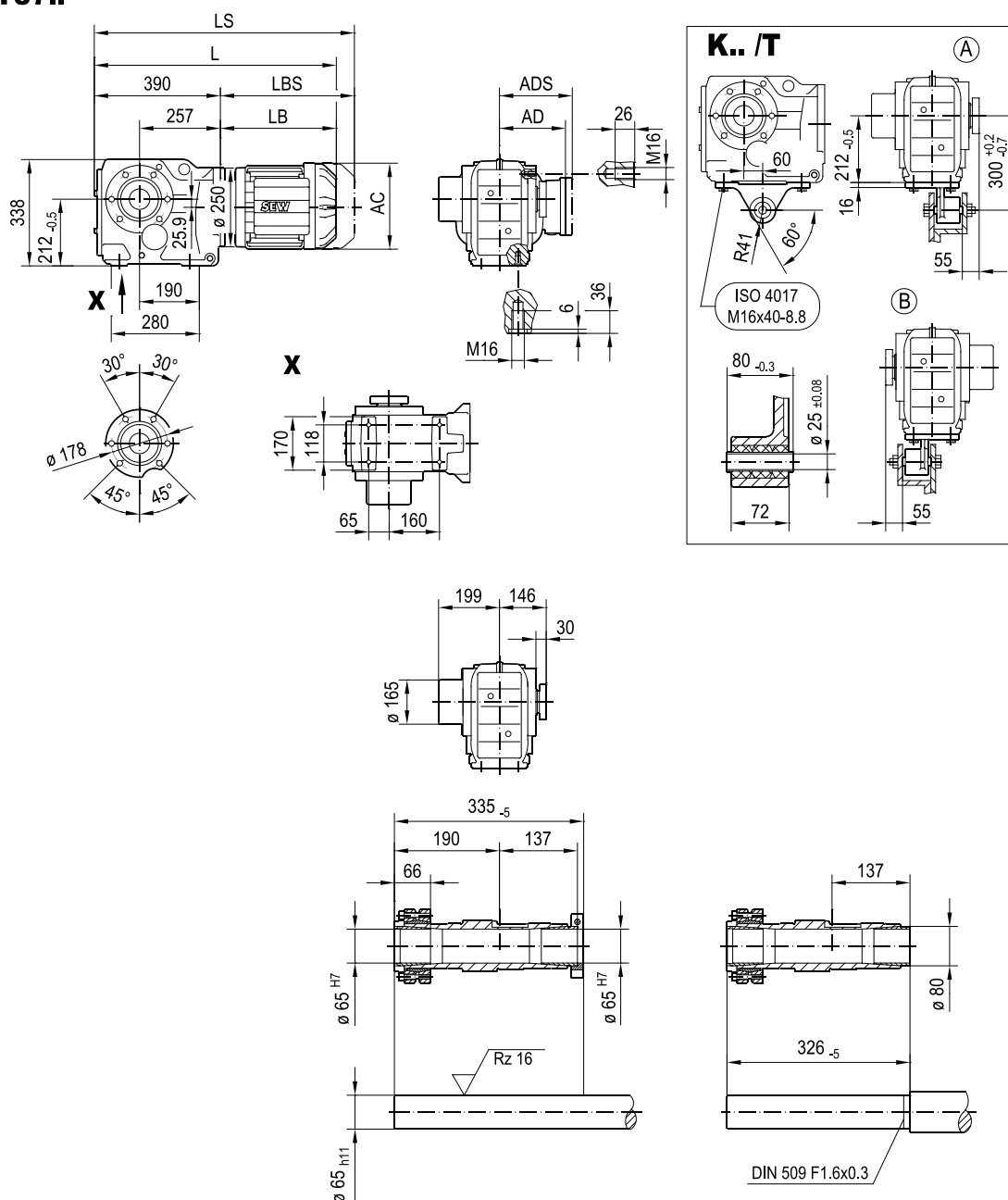
33 246 00 16



(→ 7.2)	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L
AC	197	197	221	221	261	261	314	357	394
AD	157	157	170	170	228	228	253	268	283
ADS	158	158	172	172	228	228	253	268	283
L	683	733	764	814	832	858	924	947	1057
LS	777	827	876	926	970	995	1113	1136	1262
LB	293	343	374	424	442	468	534	557	667
LBS	387	437	486	536	580	605	723	746	872

KT87..

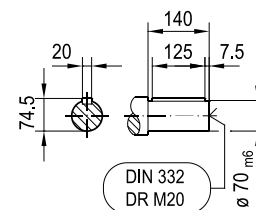
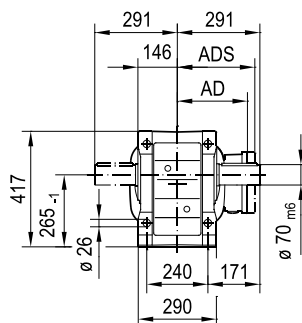
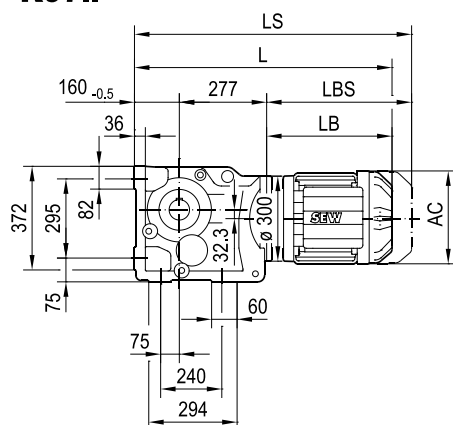
33 247 00 16



(→ 7.2)	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L
AC	197	197	221	221	261	261	314	357	394
AD	157	157	170	170	228	228	253	268	283
ADS	158	158	172	172	228	228	253	268	283
L	683	733	764	814	832	858	924	947	1057
LS	777	827	876	926	970	995	1113	1136	1262
LB	293	343	374	424	442	468	534	557	667
LBS	387	437	486	536	580	605	723	746	872

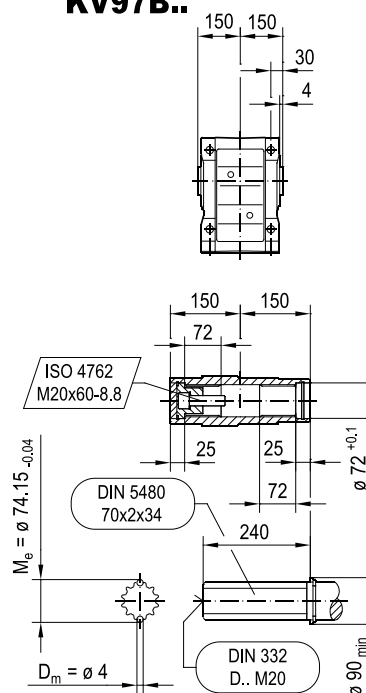
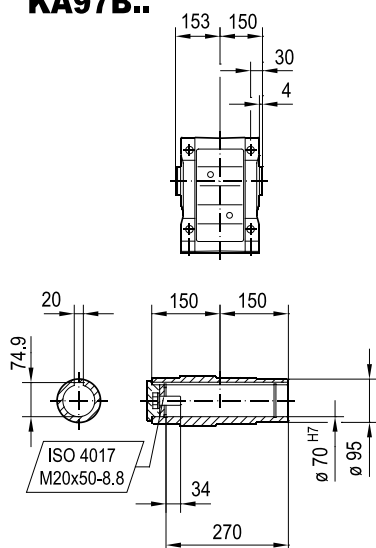
K97..

33 248 00 16



KA97B..

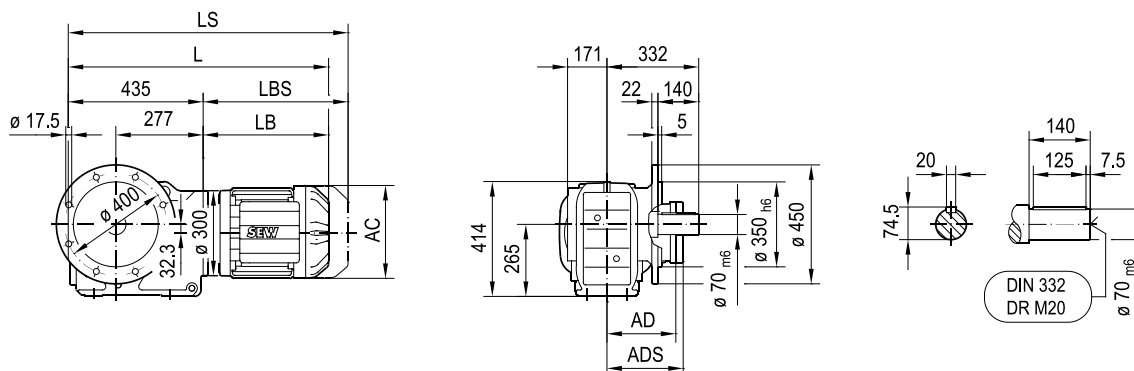
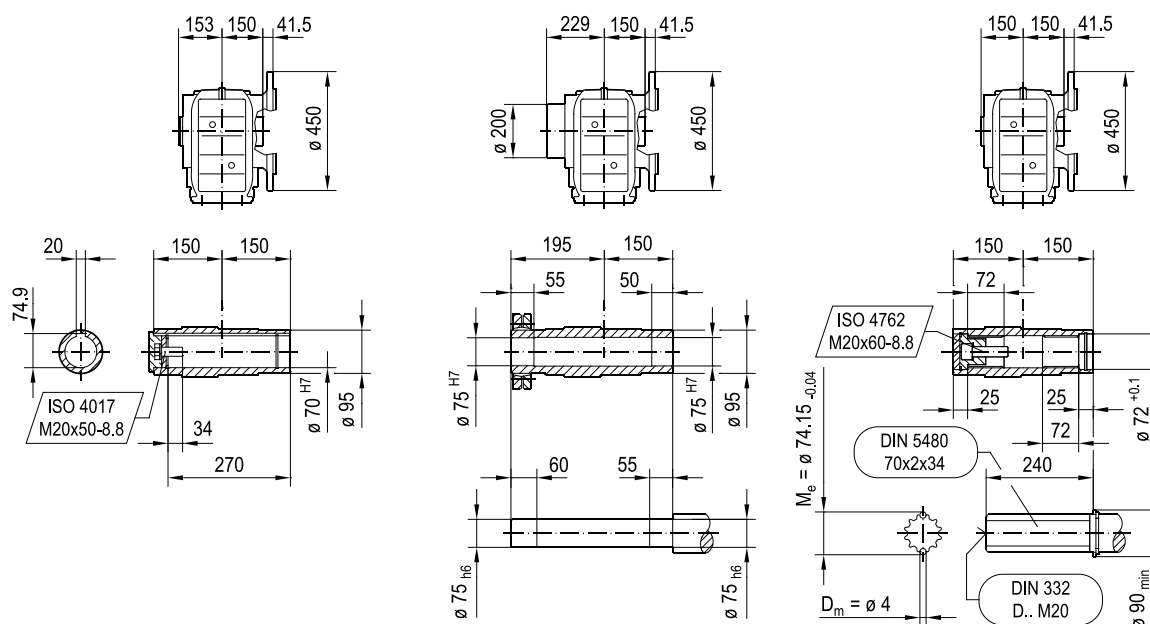
KV97B..



(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	775	806	856	874	900	966	989	1099	1073
LS	869	918	968	1012	1037	1155	1178	1304	1278
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

KF97..

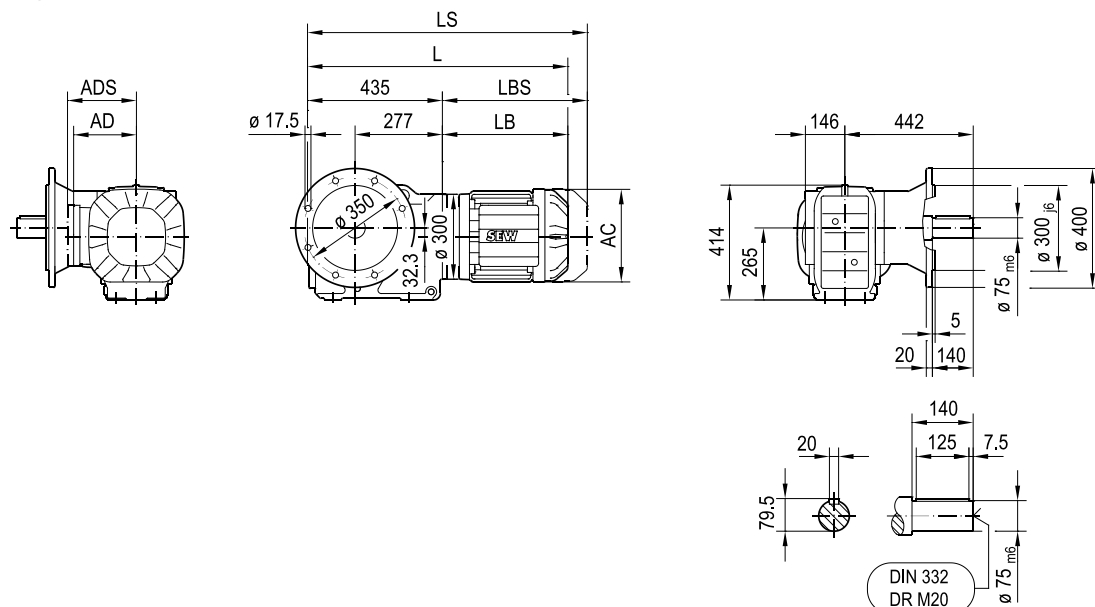
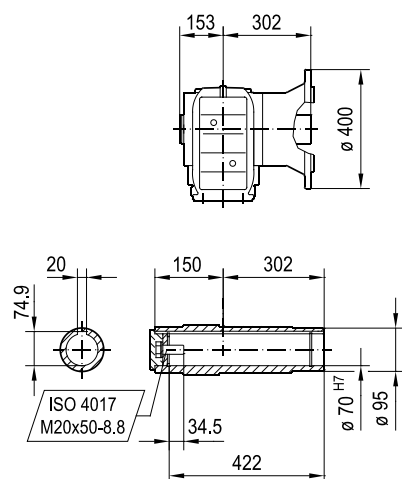
33 249 00 16

**KAF97..****KHF97..****KVF97..**

(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	773	804	854	872	898	964	987	1097	1071
LS	867	916	966	1010	1035	1153	1176	1302	1276
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

KM97..

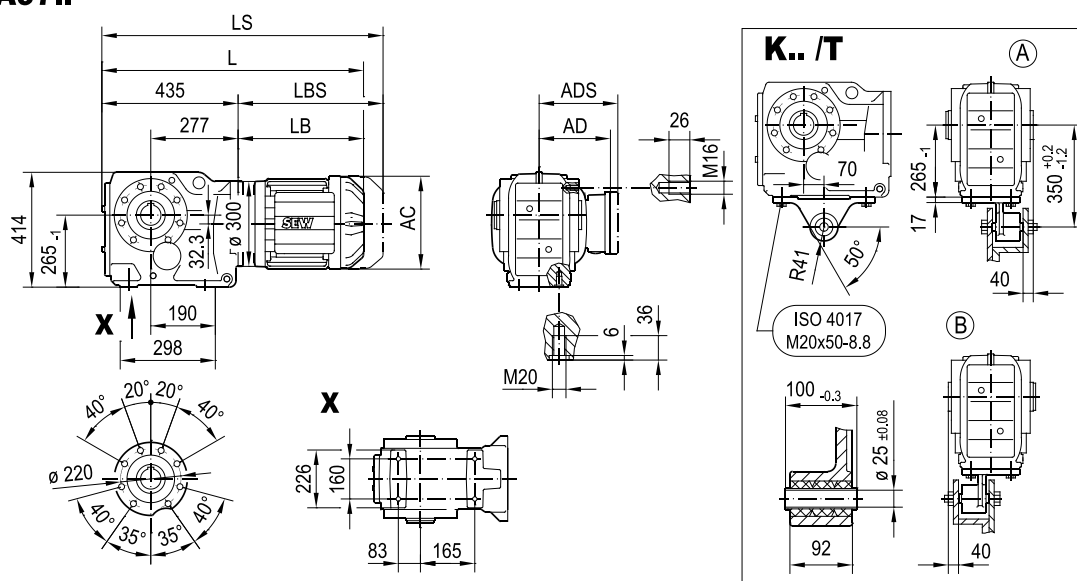
33 004 01 23


KAM97..


(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	773	804	854	872	898	964	987	1097	1071
LS	867	916	966	1010	1035	1153	1176	1302	1276
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

KA97..

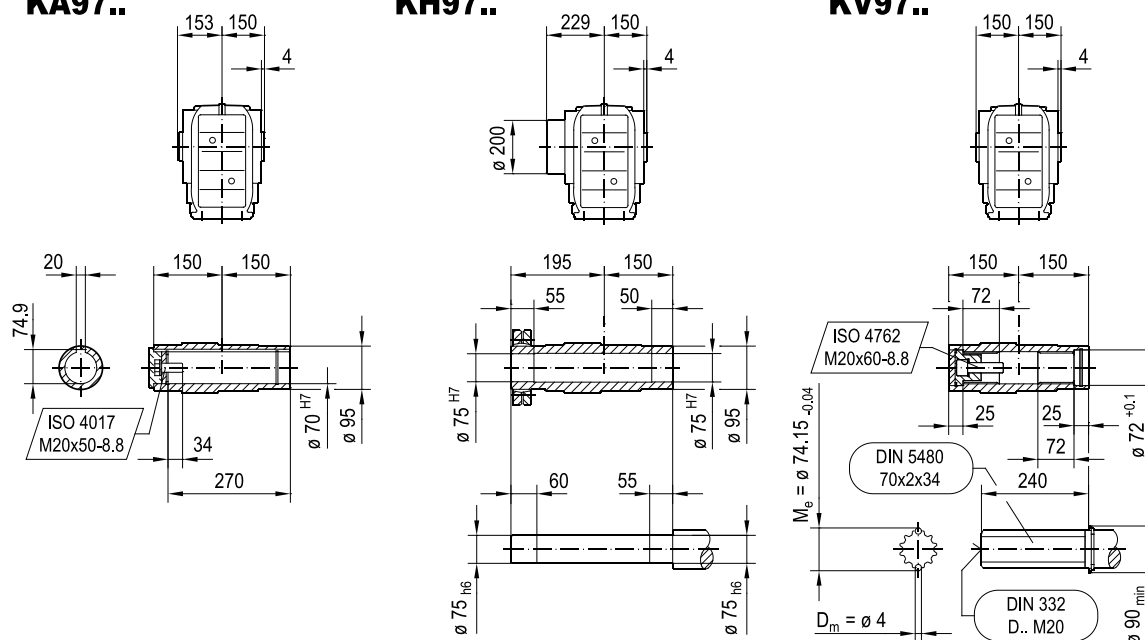
33 250 00 16



KA97..

KH97..

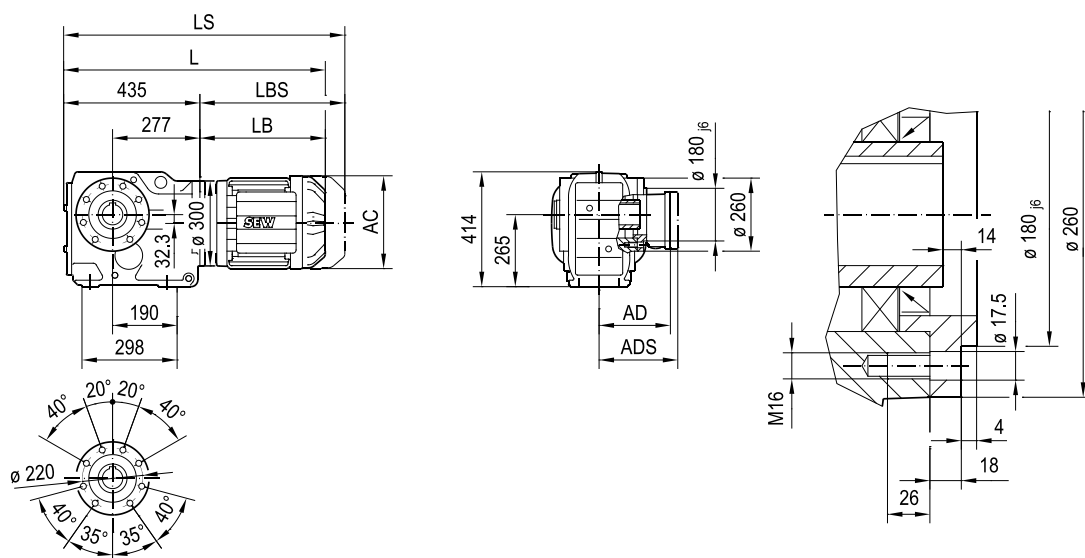
KV97..



(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	773	804	854	872	898	964	987	1097	1071
LS	867	916	966	1010	1035	1153	1176	1302	1276
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

KAZ97..

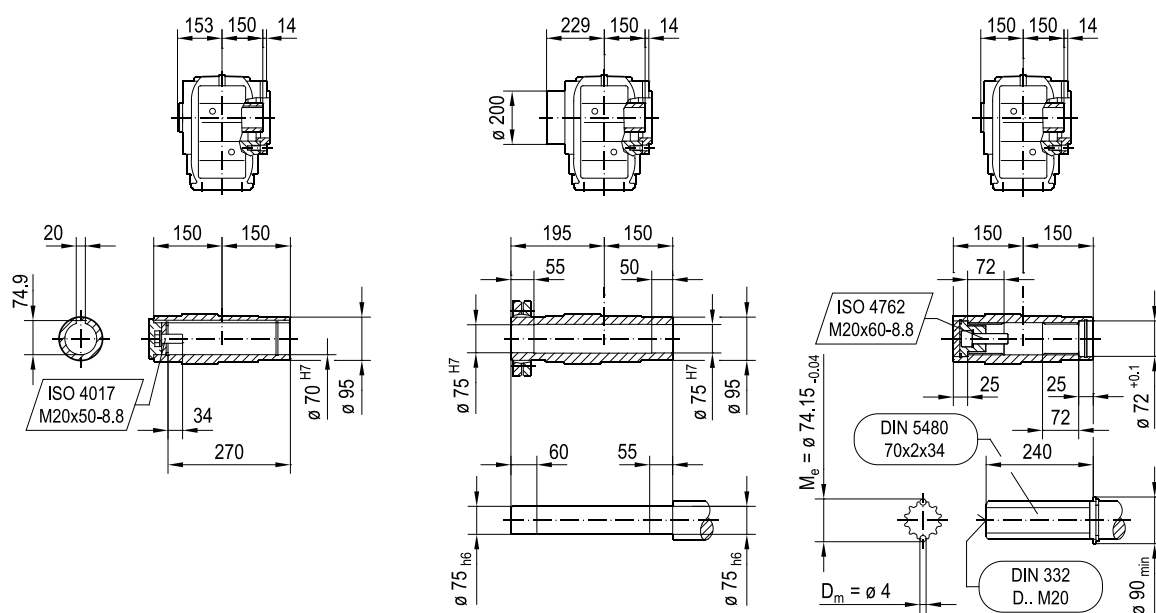
33 251 00 16



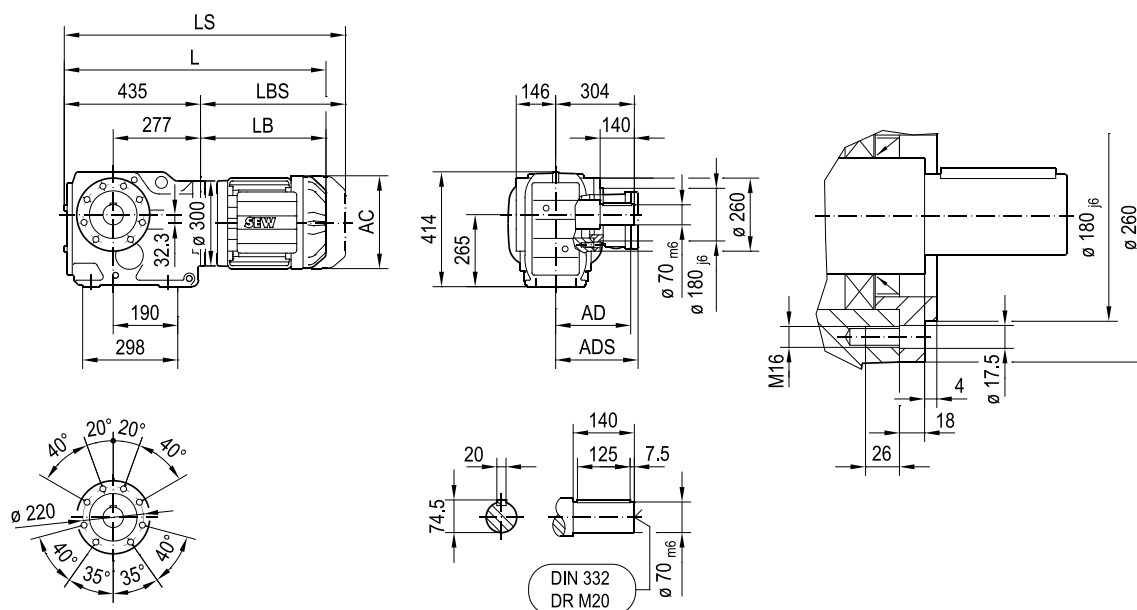
KAZ97..

KHZ97..

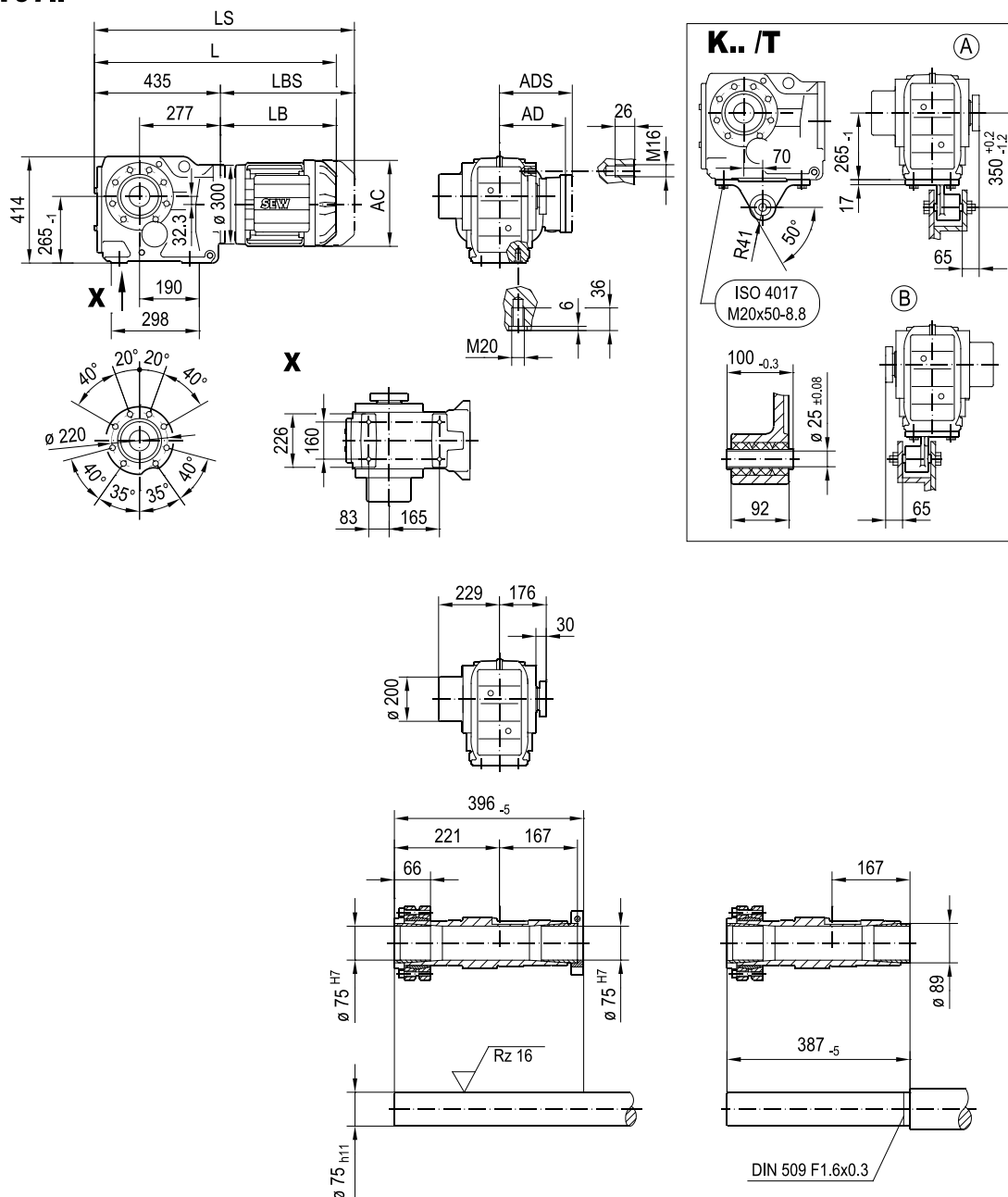
KVZ97..



(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	773	804	854	872	898	964	987	1097	1071
LS	867	916	966	1010	1035	1153	1176	1302	1276
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

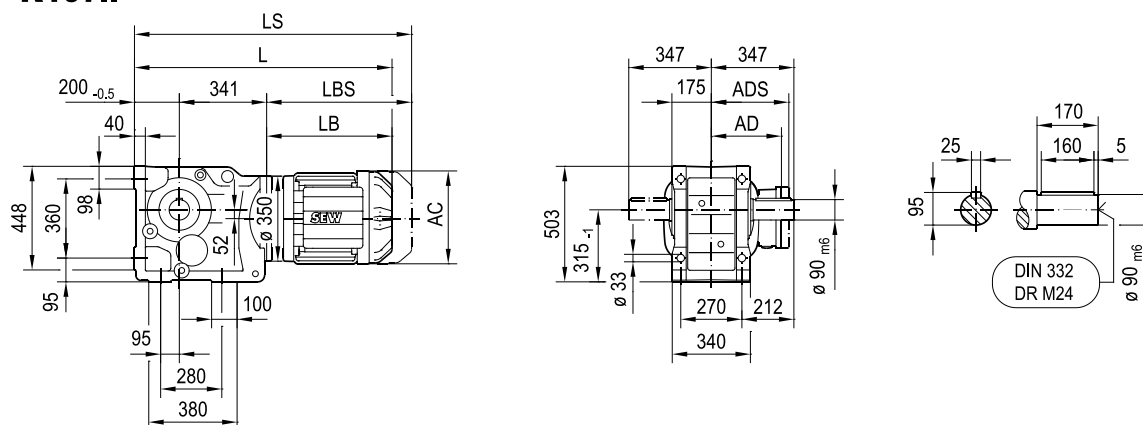
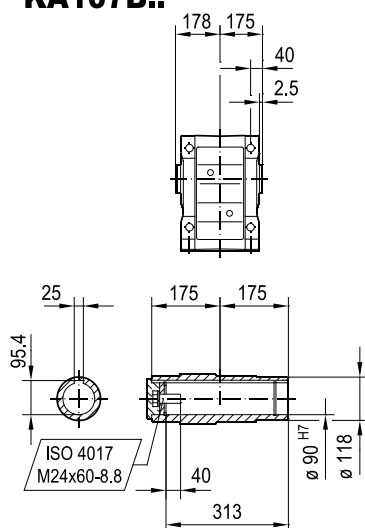
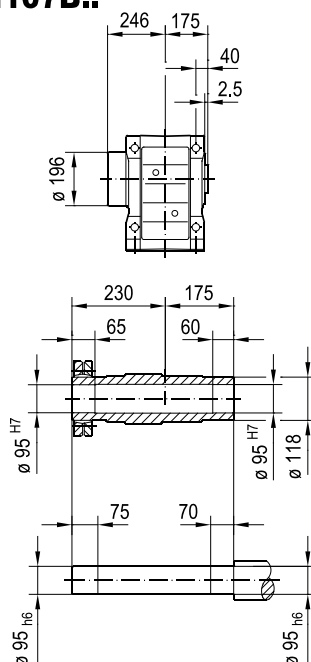
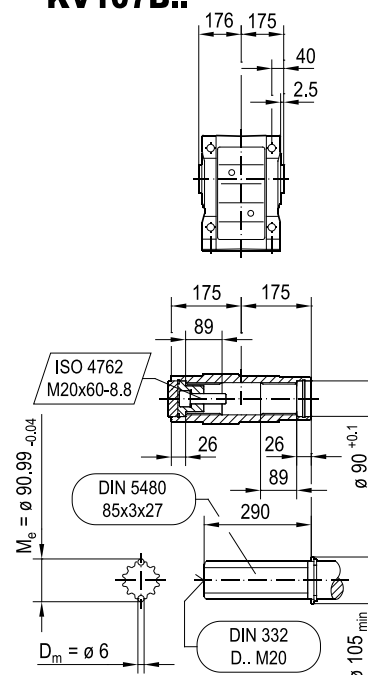
KZ97..**33 252 00 16**

(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	773	804	854	872	898	964	987	1097	1071
LS	867	916	966	1010	1035	1153	1176	1302	1276
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

KT97..
33 253 00 16


(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	773	804	854	872	898	964	987	1097	1071
LS	867	916	966	1010	1035	1153	1176	1302	1276
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

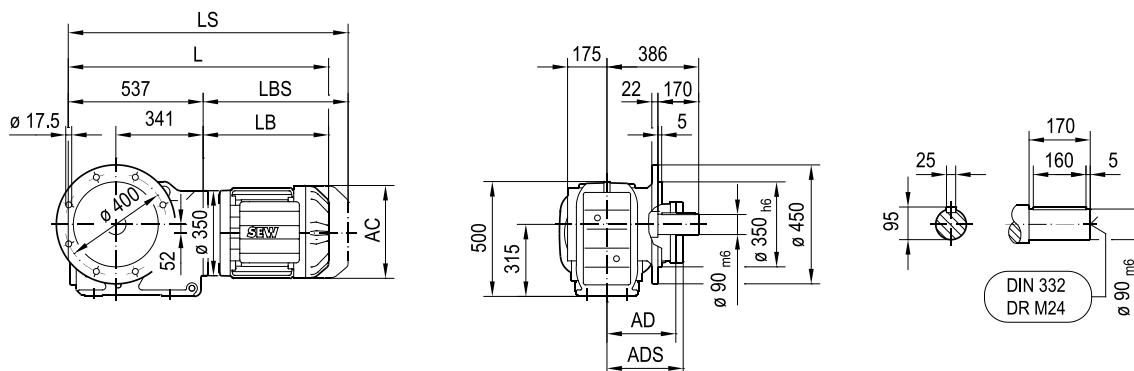
33 254 00 16

**KA107B..****KH107B..****KV107B..**

(→ 7.2)	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M
AC	221	221	261	261	314	357	394	434	495
AD	170	170	228	228	253	268	283	305	394
ADS	172	172	228	228	253	268	283	305	394
L	904	954	972	998	1064	1087	1197	1171	1308
LS	1016	1066	1110	1135	1253	1276	1402	1376	1548
LB	363	413	431	457	523	546	656	630	767
LBS	475	525	569	594	712	735	861	835	1007

KF107..

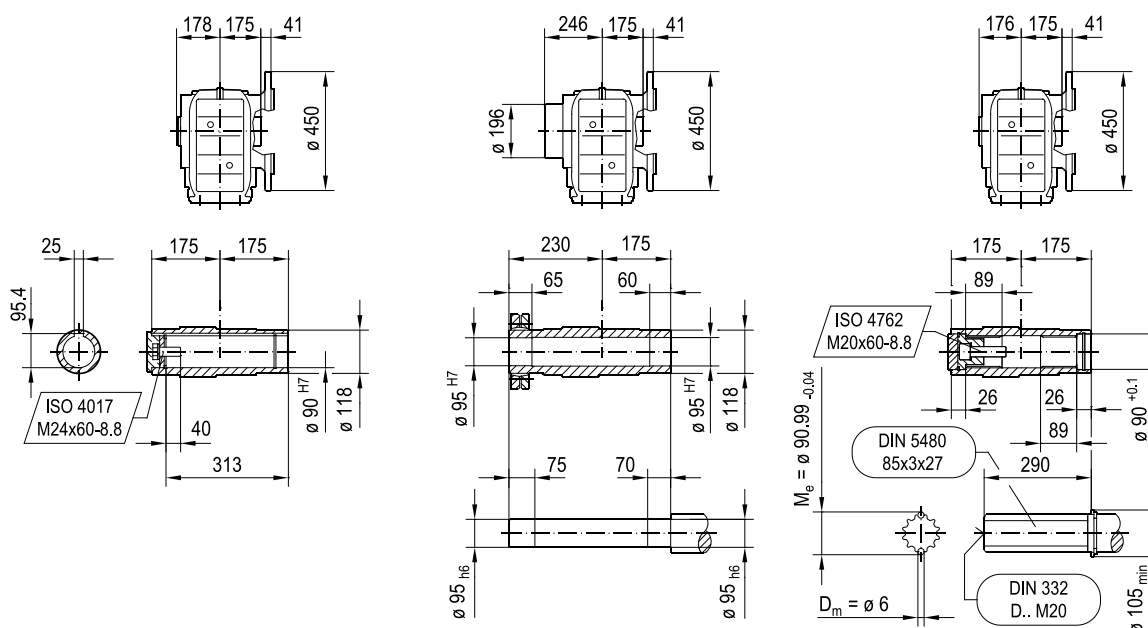
33 255 00 16



KAF107..

KHF107..

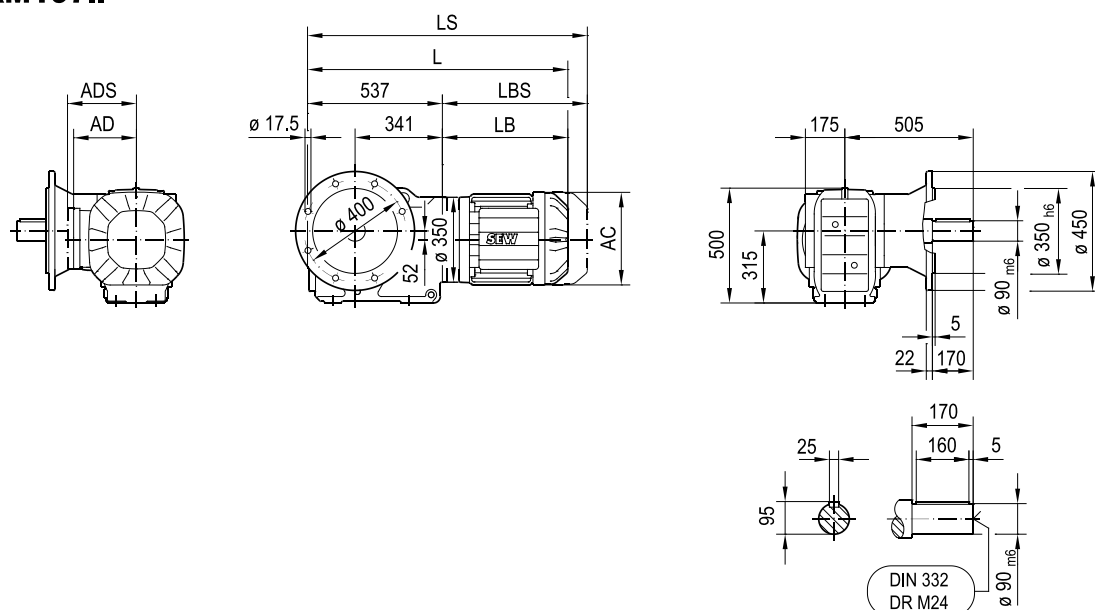
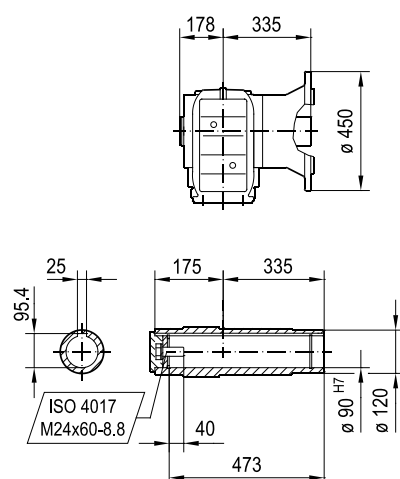
KVF107..



(→ 7.2)	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M
AC	221	221	261	261	314	357	394	434	495
AD	170	170	228	228	253	268	283	305	394
ADS	172	172	228	228	253	268	283	305	394
L	900	950	968	994	1060	1083	1193	1167	1304
LS	1012	1062	1106	1131	1249	1272	1398	1372	1544
LB	363	413	431	457	523	546	656	630	767
LBS	475	525	569	594	712	735	861	835	1007

KM107..

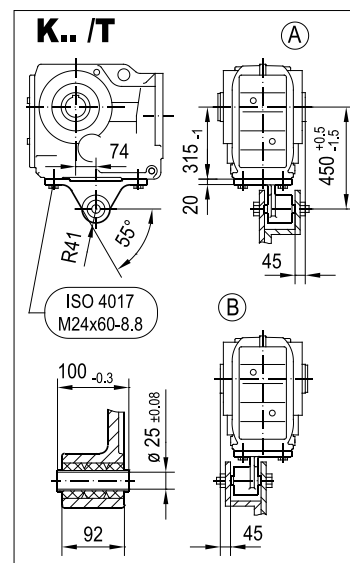
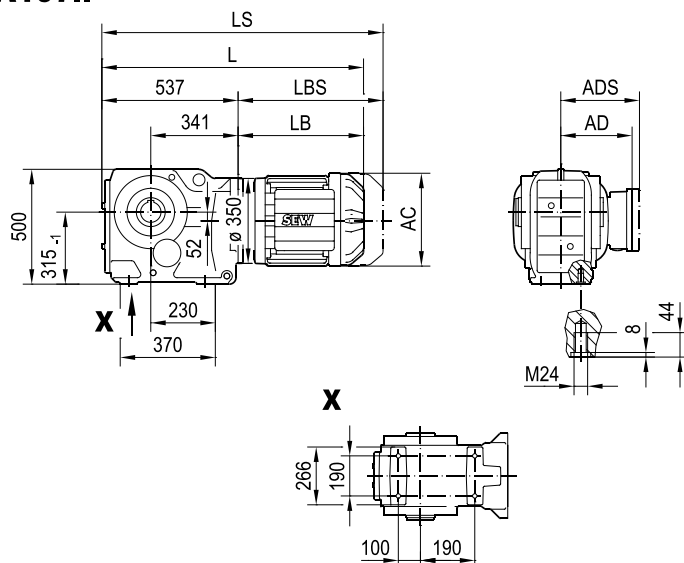
33 005 01 23

**KAM107..**

(→ 7.2)	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M
AC	221	221	261	261	314	357	394	434	495
AD	170	170	228	228	253	268	283	305	394
ADS	172	172	228	228	253	268	283	305	394
L	900	950	968	994	1060	1083	1193	1167	1304
LS	1012	1062	1106	1131	1249	1272	1398	1372	1544
LB	363	413	431	457	523	546	656	630	767
LBS	475	525	569	594	712	735	861	835	1007

KA107..

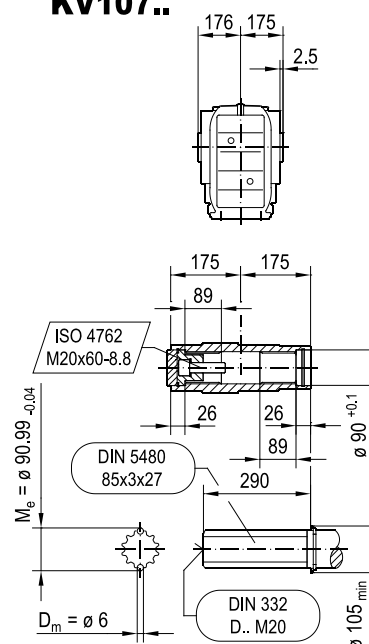
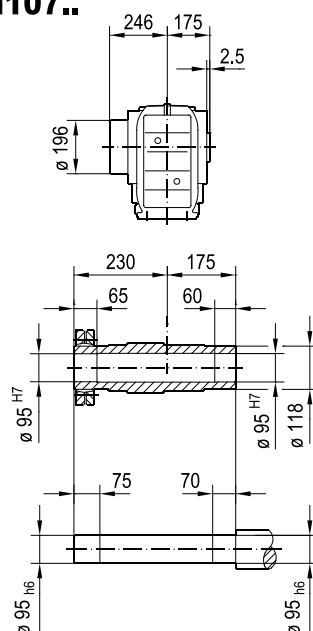
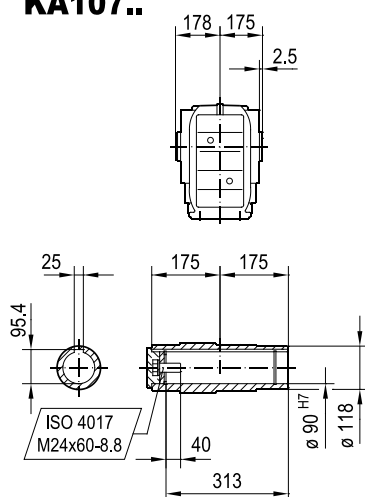
33 256 00 16



KA107..

KH107..

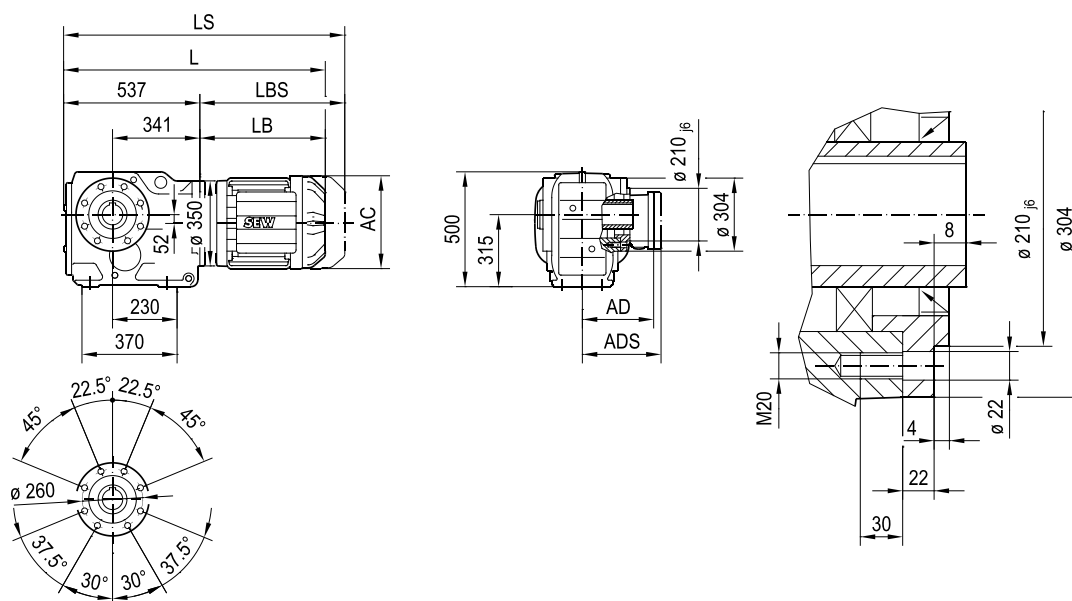
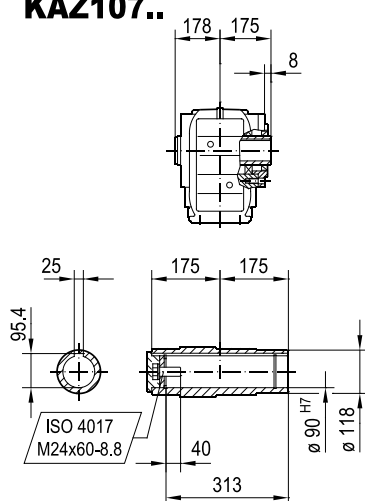
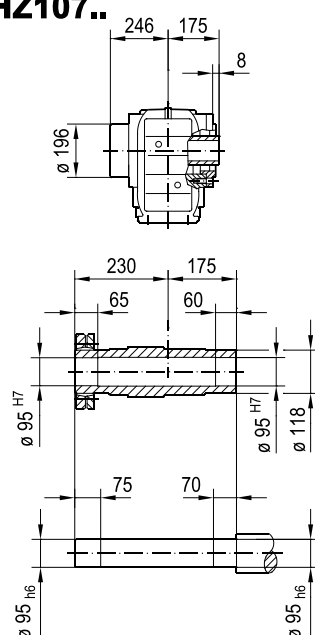
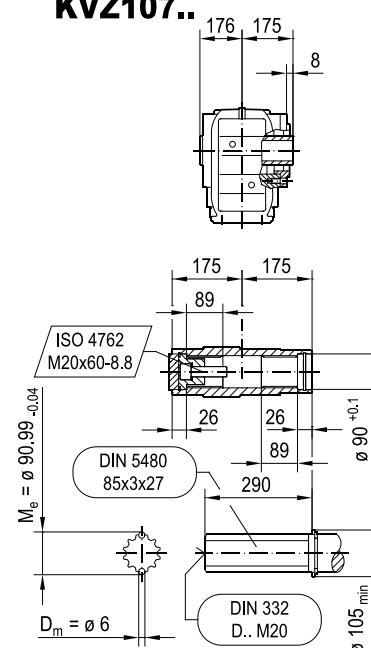
KV107..



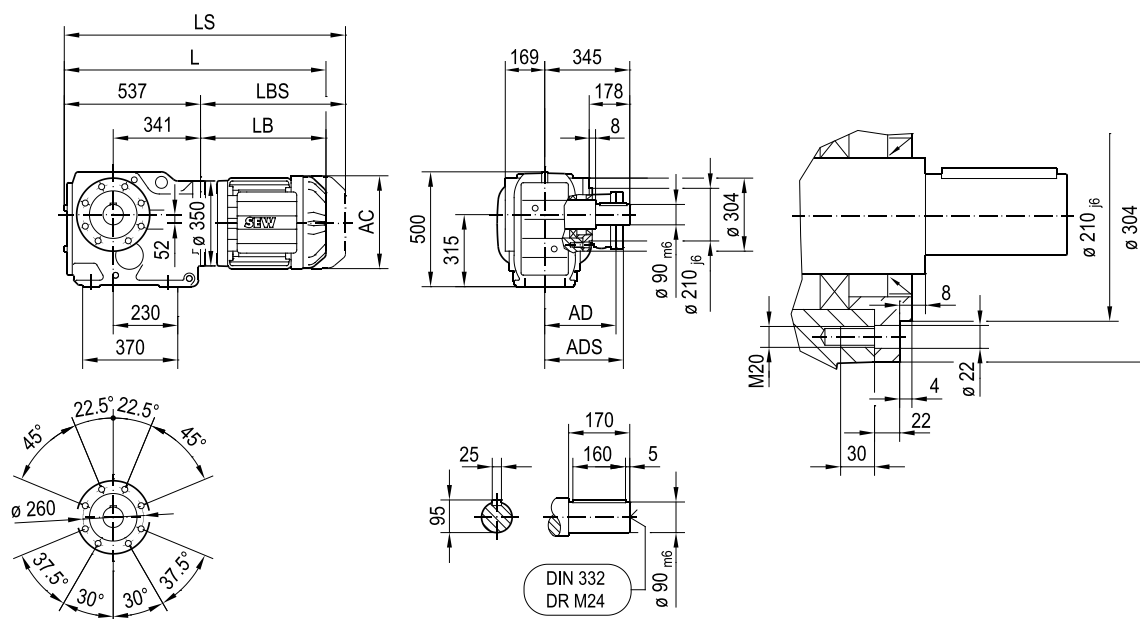
(→ 7.2)	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M
AC	221	221	261	261	314	357	394	434	495
AD	170	170	228	228	253	268	283	305	394
ADS	172	172	228	228	253	268	283	305	394
L	900	950	968	994	1060	1083	1193	1167	1304
LS	1012	1062	1106	1131	1249	1272	1398	1372	1544
LB	363	413	431	457	523	546	656	630	767
LBS	475	525	569	594	712	735	861	835	1007

KAZ107..

33 257 00 16

**KAZ107..****KHZ107..****KVZ107..**

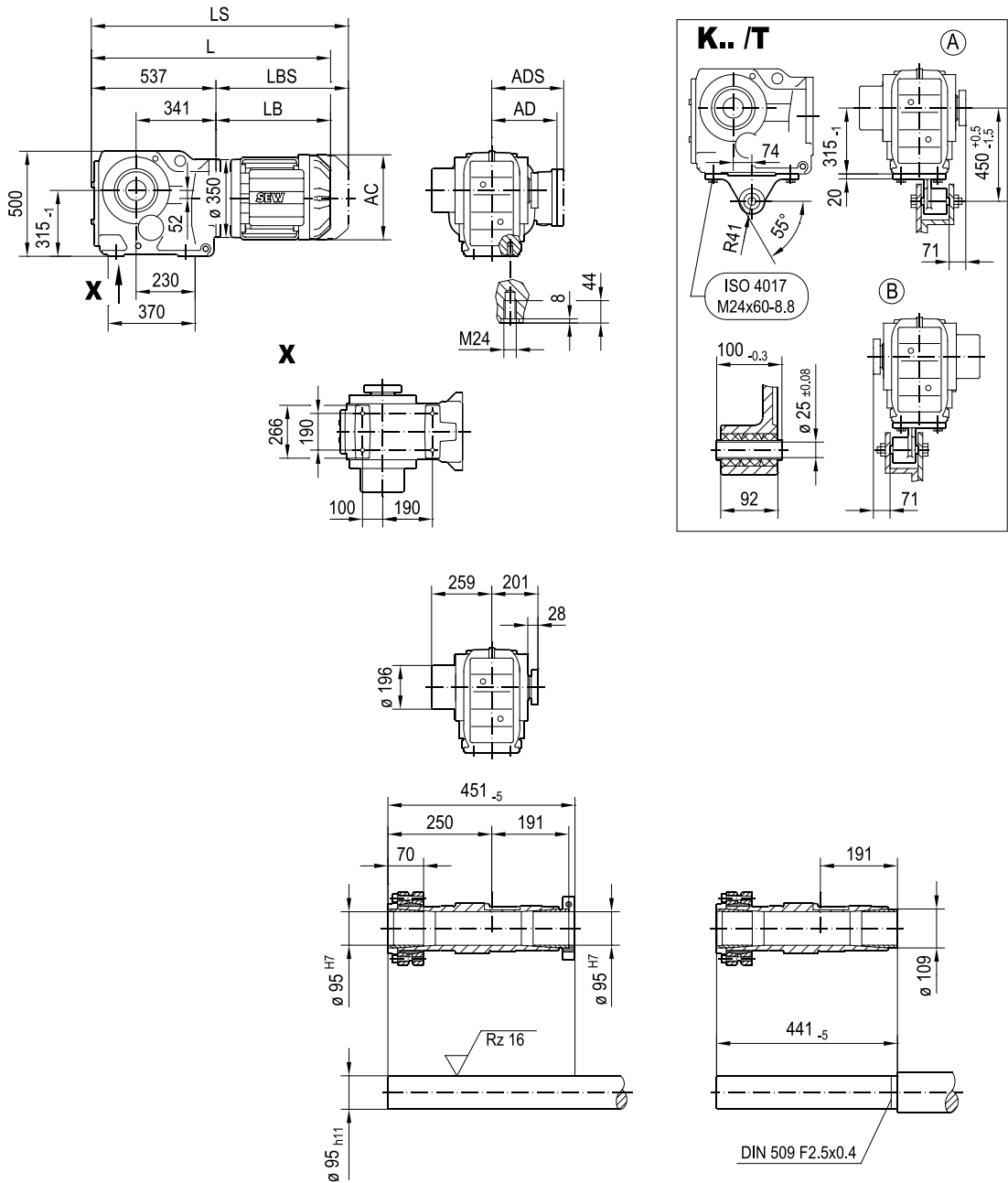
(→ 7.2)	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M
AC	221	221	261	261	314	357	394	434	495
AD	170	170	228	228	253	268	283	305	394
ADS	172	172	228	228	253	268	283	305	394
L	900	950	968	994	1060	1083	1193	1167	1304
LS	1012	1062	1106	1131	1249	1272	1398	1372	1544
LB	363	413	431	457	523	546	656	630	767
LBS	475	525	569	594	712	735	861	835	1007

KZ107..
33 258 00 16


(→ 7.2)	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M
AC	221	221	261	261	314	357	394	434	495
AD	170	170	228	228	253	268	283	305	394
ADS	172	172	228	228	253	268	283	305	394
L	900	950	968	994	1060	1083	1193	1167	1304
LS	1012	1062	1106	1131	1249	1272	1398	1372	1544
LB	363	413	431	457	523	546	656	630	767
LBS	475	525	569	594	712	735	861	835	1007

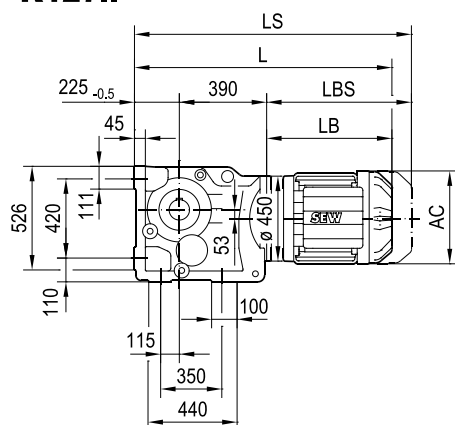
KT107..

33 259 00 16

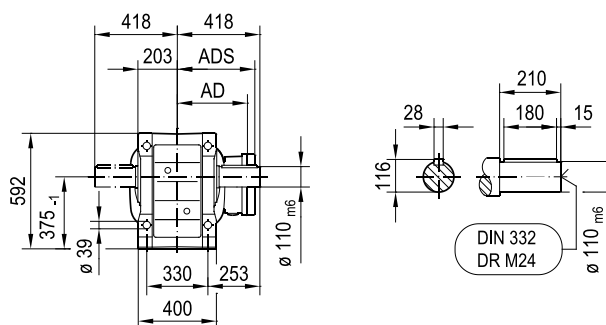


(→ 7.2)	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M
AC	221	221	261	261	314	357	394	434	495
AD	170	170	228	228	253	268	283	305	394
ADS	172	172	228	228	253	268	283	305	394
L	900	950	968	994	1060	1083	1193	1167	1304
LS	1012	1062	1106	1131	1249	1272	1398	1372	1544
LB	363	413	431	457	523	546	656	630	767
LBS	475	525	569	594	712	735	861	835	1007

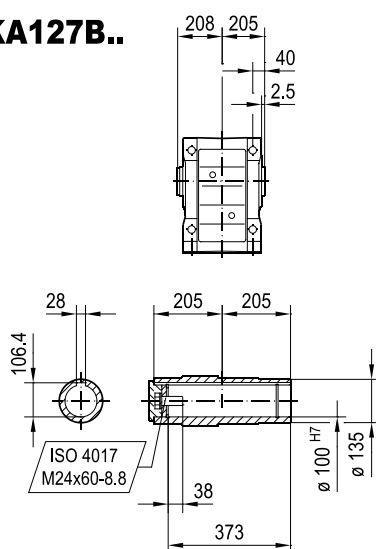
K127..



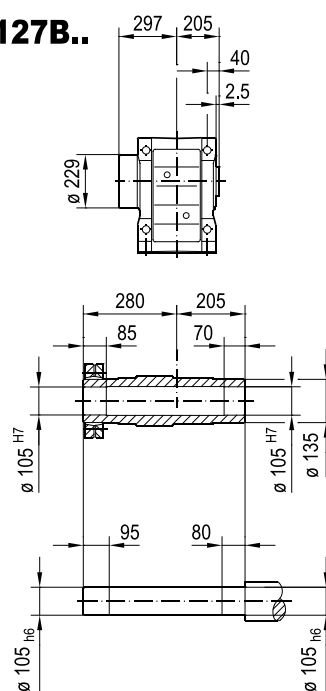
33 260 00 16



KA127B..

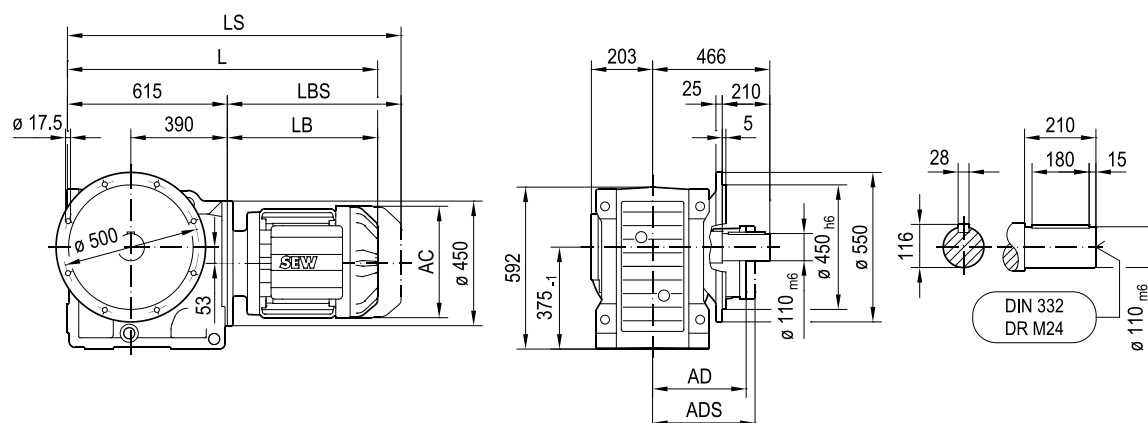
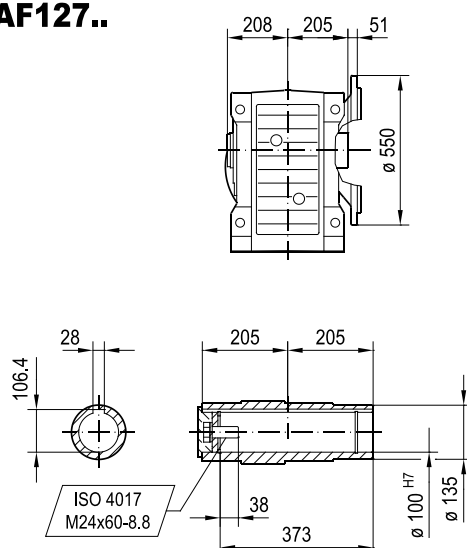
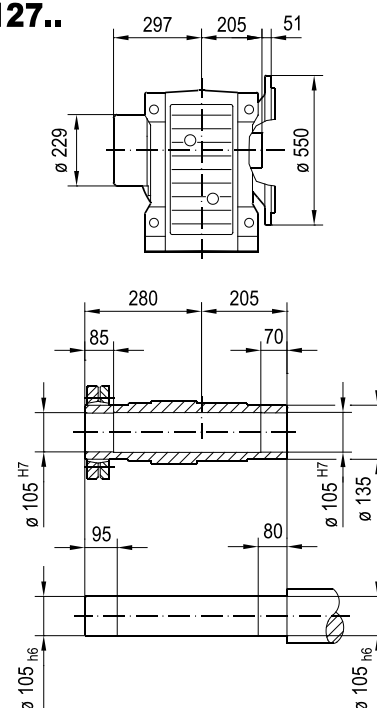


KH127B..



(→ 7.2)	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M
AC	261	261	314	357	394	434	495	495	495
AD	228	228	253	268	283	305	394	394	394
ADS	228	228	253	268	283	305	394	394	394
L	1031	1057	1123	1146	1256	1230	1367	1367	1462
LS	1169	1194	1312	1335	1461	1435	1607	1607	1702
LB	416	442	508	531	641	615	752	752	847
LBS	554	579	697	720	846	820	992	992	1087

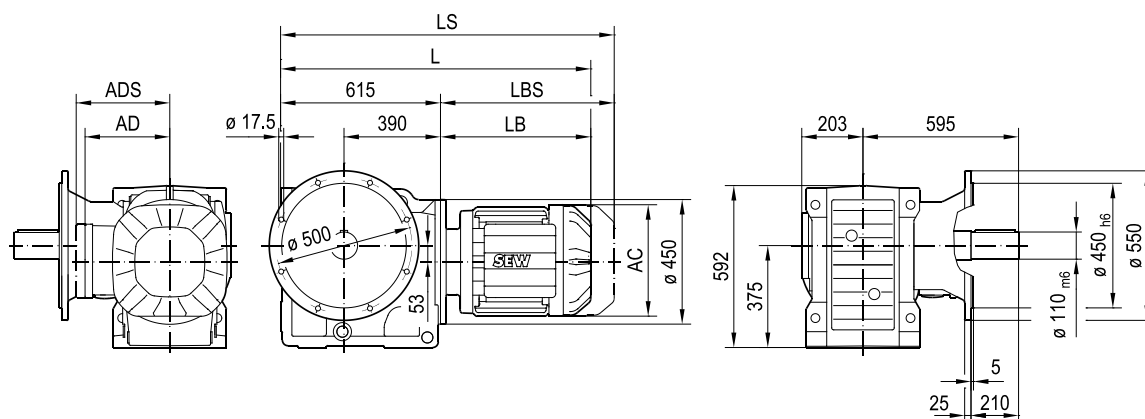
33 261 00 16

KF127..**KAF127..****KHF127..**

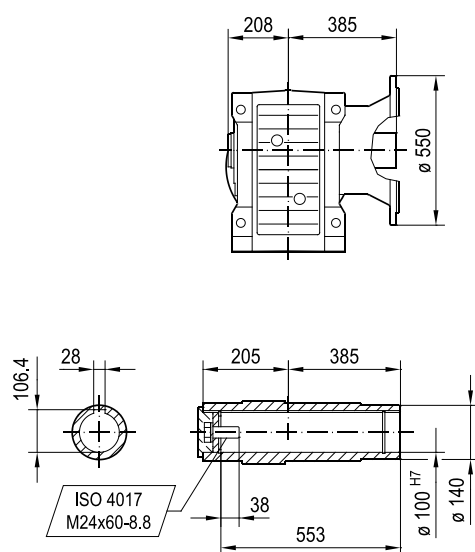
(→ 7.2)	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M
AC	261	261	314	357	394	434	495	495	495
AD	228	228	253	268	283	305	394	394	394
ADS	228	228	253	268	283	305	394	394	394
L	1031	1057	1123	1146	1256	1230	1367	1367	1462
LS	1169	1194	1312	1335	1461	1435	1607	1607	1702
LB	416	442	508	531	641	615	752	752	847
LBS	554	579	697	720	846	820	992	992	1087

33 006 01 23

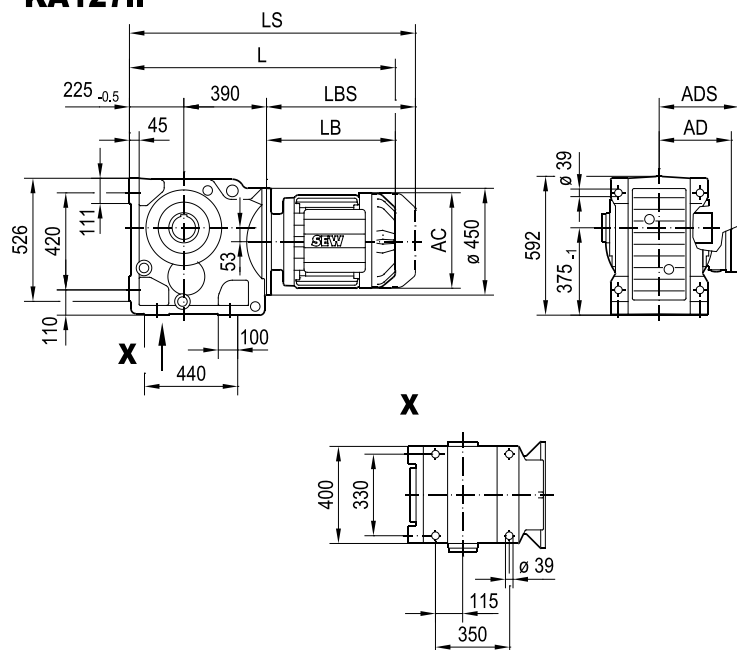
KM127..



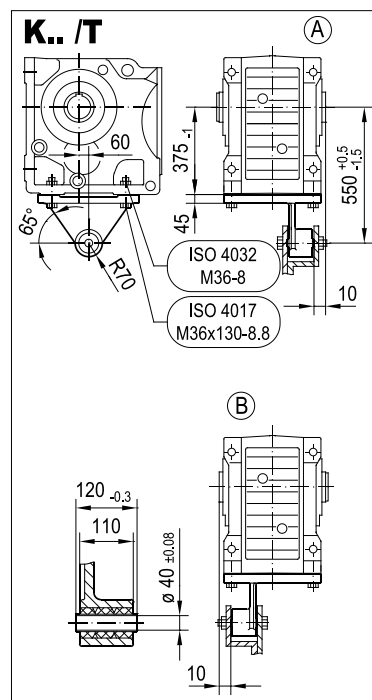
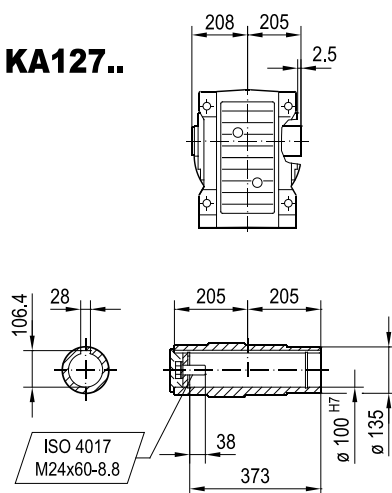
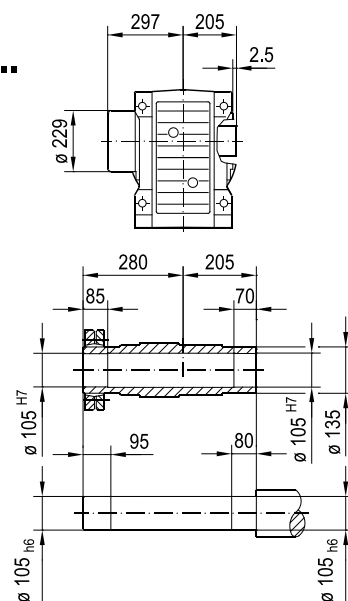
KAM127..



(→ 7.2)	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M
AC	261	261	314	357	394	434	495	495	495
AD	228	228	253	268	283	305	394	394	394
ADS	228	228	253	268	283	305	394	394	394
L	1031	1057	1123	1146	1256	1230	1367	1367	1462
LS	1169	1194	1312	1335	1461	1435	1607	1607	1702
LB	416	442	508	531	641	615	752	752	847
LBS	554	579	697	720	846	820	992	992	1087

KA127..

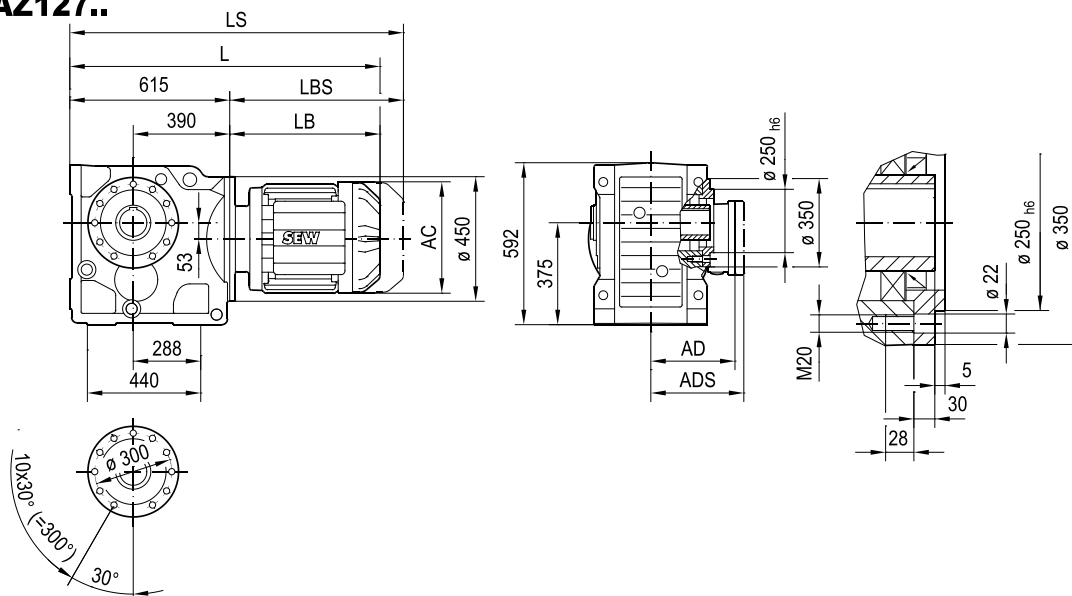
33 262 00 16

**KA127..****KH127..**

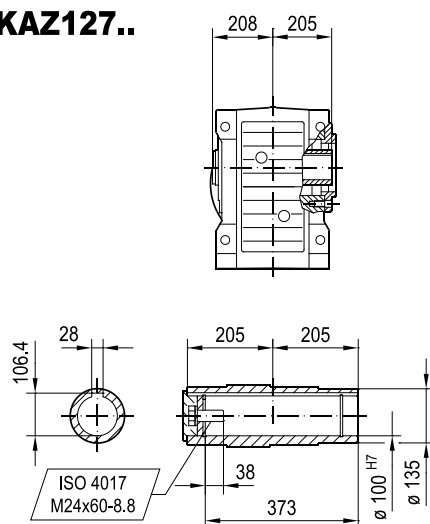
(→ 7.2)	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M
AC	261	261	314	357	394	434	495	495	495
AD	228	228	253	268	283	305	394	394	394
ADS	228	228	253	268	283	305	394	394	394
L	1031	1057	1123	1146	1256	1230	1367	1367	1462
LS	1169	1194	1312	1335	1461	1435	1607	1607	1702
LB	416	442	508	531	641	615	752	752	847
LBS	554	579	697	720	846	820	992	992	1087

33 263 00 16

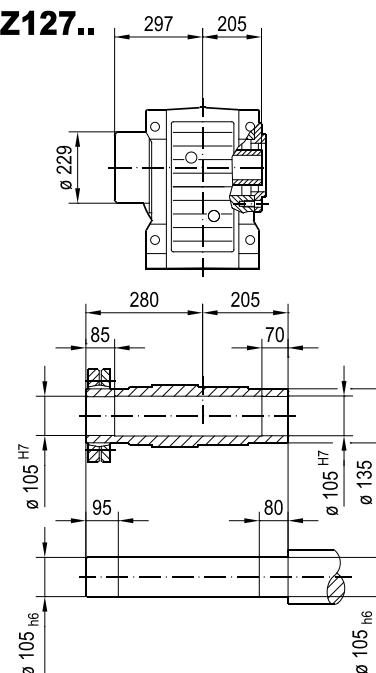
KAZ127..



KAZ127..

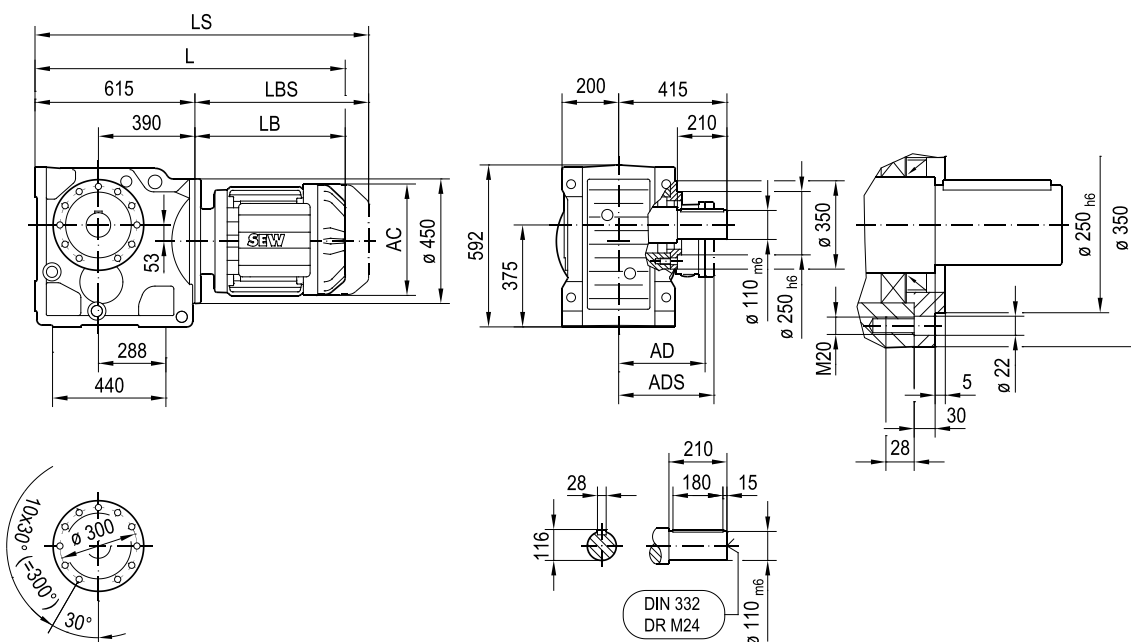


KHZ127..

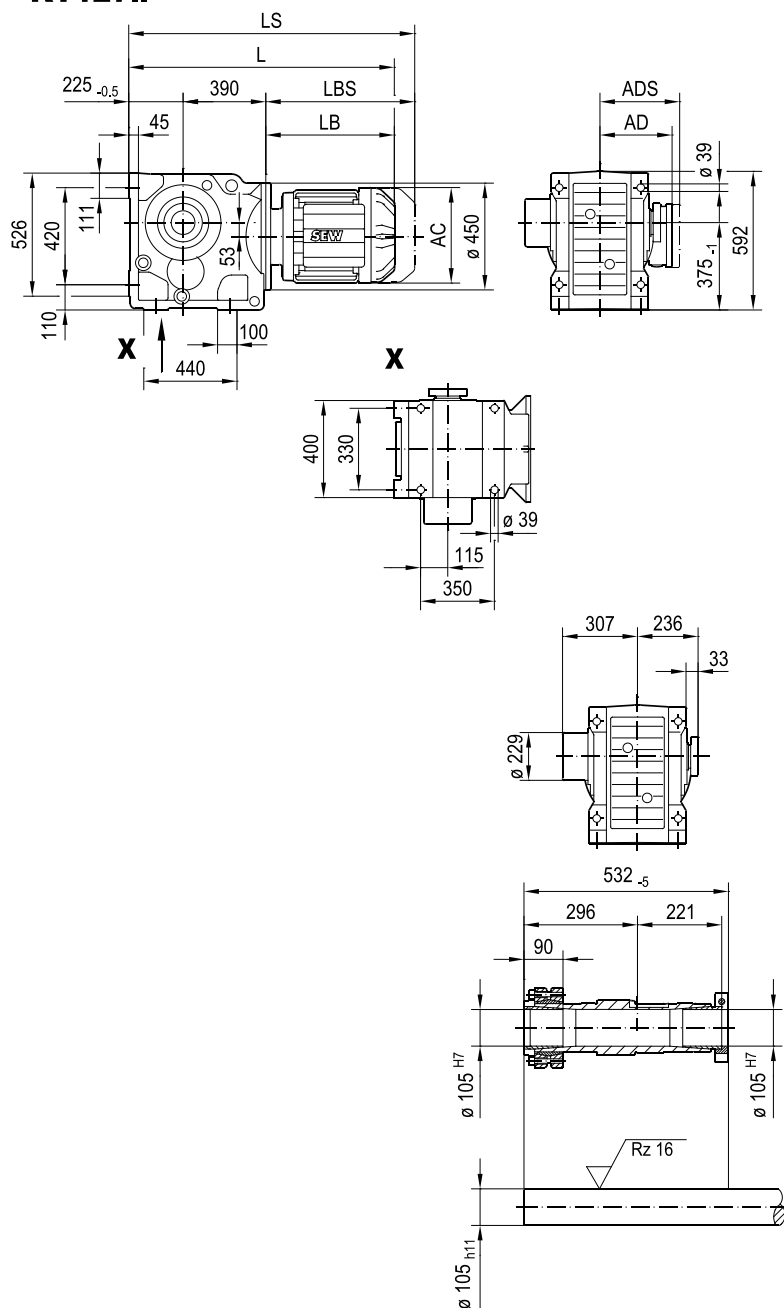
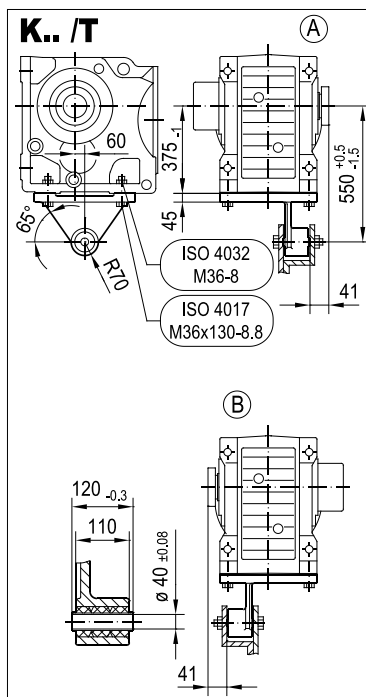


(→ 7.2)	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M
AC	261	261	314	357	394	434	495	495	495
AD	228	228	253	268	283	305	394	394	394
ADS	228	228	253	268	283	305	394	394	394
L	1031	1057	1123	1146	1256	1230	1367	1367	1462
LS	1169	1194	1312	1335	1461	1435	1607	1607	1702
LB	416	442	508	531	641	615	752	752	847
LBS	554	579	697	720	846	820	992	992	1087

33 264 00 16

KZ127..

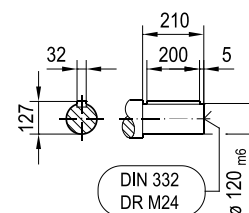
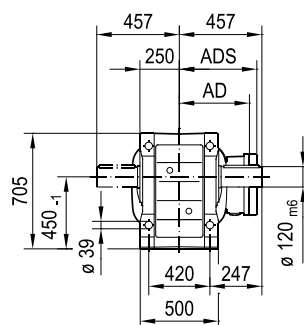
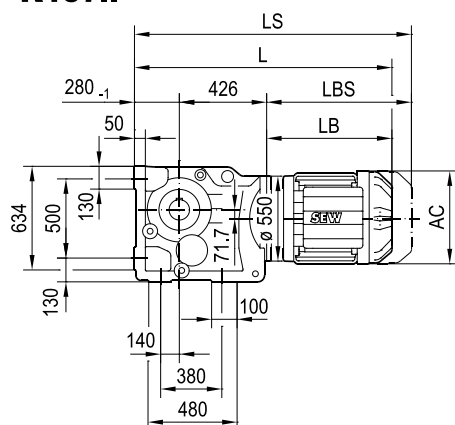
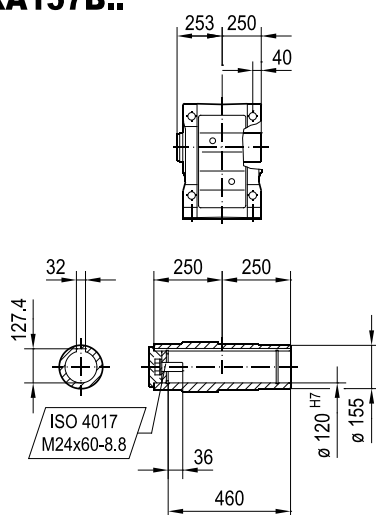
(→ 7.2)	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M
AC	261	261	314	357	394	434	495	495	495
AD	228	228	253	268	283	305	394	394	394
ADS	228	228	253	268	283	305	394	394	394
L	1031	1057	1123	1146	1256	1230	1367	1367	1462
LS	1169	1194	1312	1335	1461	1435	1607	1607	1702
LB	416	442	508	531	641	615	752	752	847
LBS	554	579	697	720	846	820	992	992	1087

KT127..

33 265 00 16


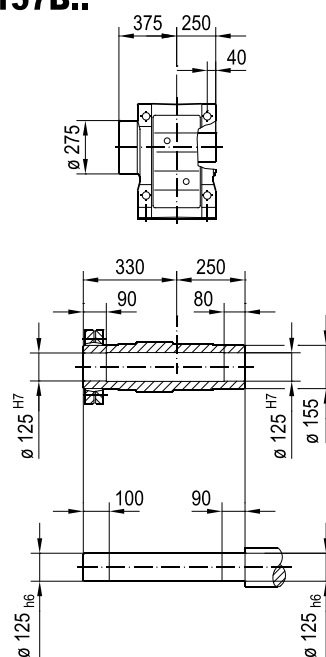
(→ 7.2)	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M
AC	261	261	314	357	394	434	495	495	495
AD	228	228	253	268	283	305	394	394	394
ADS	228	228	253	268	283	305	394	394	394
L	1031	1057	1123	1146	1256	1230	1367	1367	1462
LS	1169	1194	1312	1335	1461	1435	1607	1607	1702
LB	416	442	508	531	641	615	752	752	847
LBS	554	579	697	720	846	820	992	992	1087

K157..

33 266 00 16

**KA157B..**

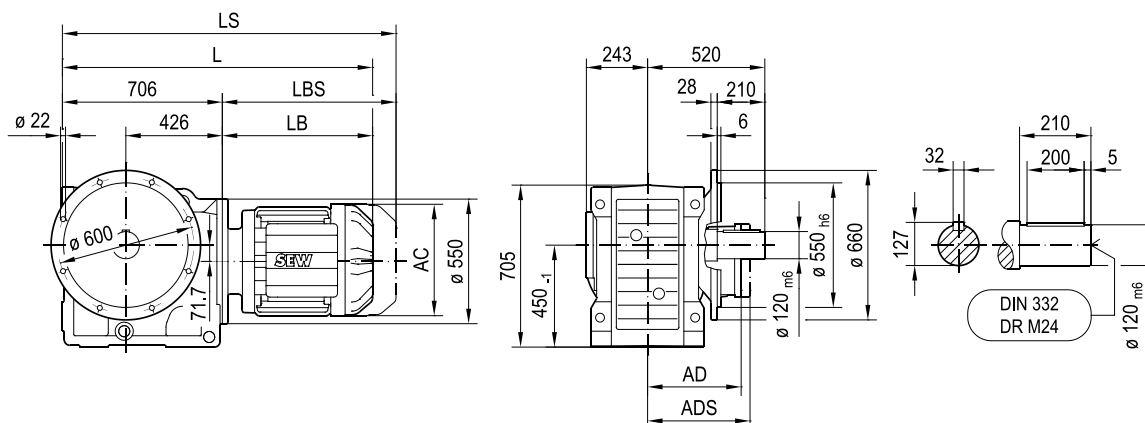
KH157B..



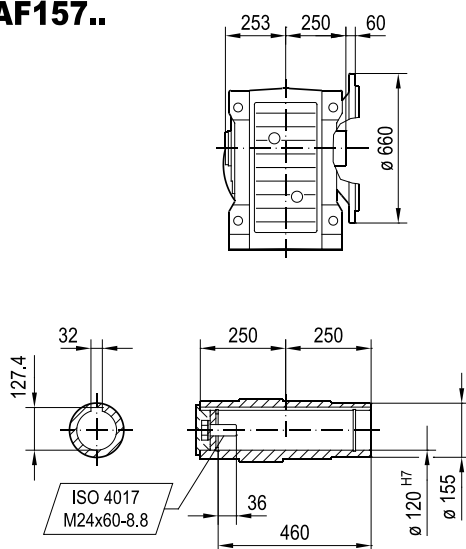
(→ 7.2)	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M	EDRN315S-M	EDRN315ME-F
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1206	1229	1339	1313	1450	1450	1545	1647	1777
LS	1395	1418	1544	1518	1690	1690	1785	1898	2028
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

33 268 00 16

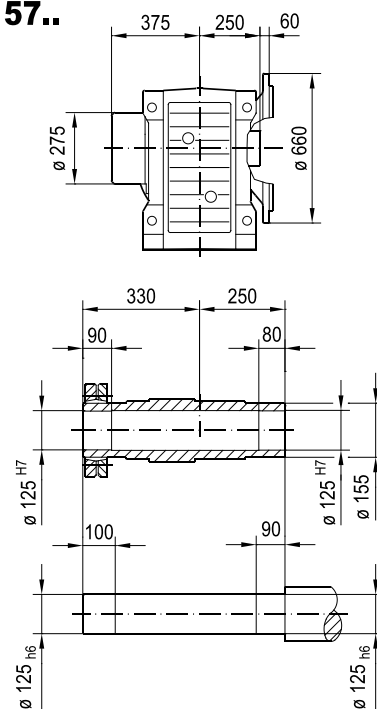
KF157..



KAF157..

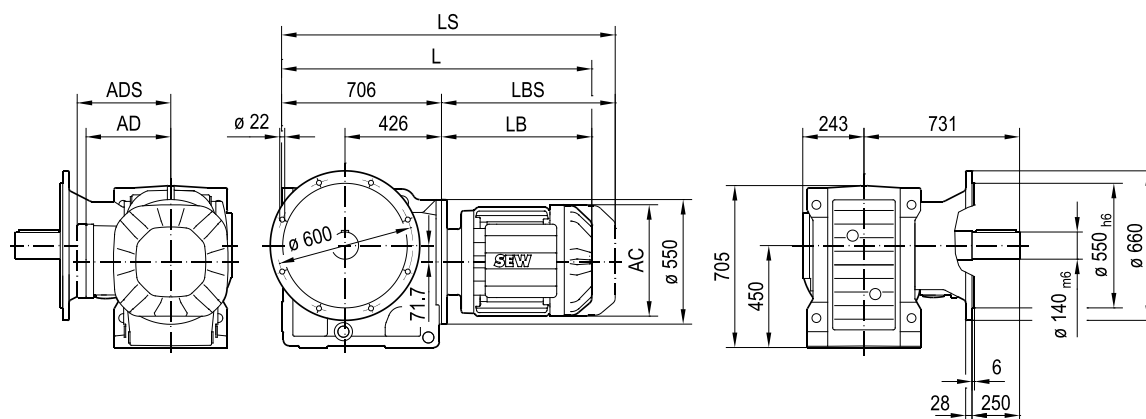
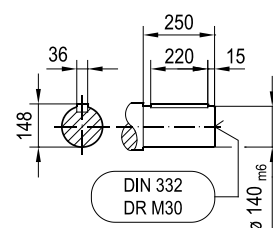
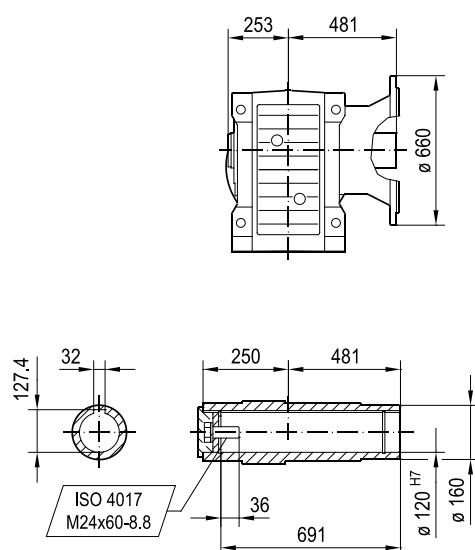


KHF157..



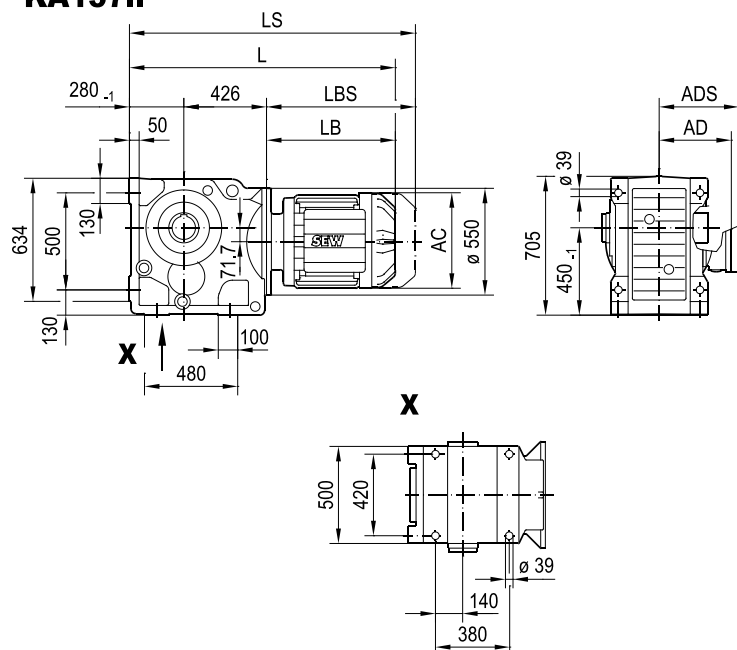
(→ 7.2)	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M	EDRN315S-M	EDRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1206	1229	1339	1313	1450	1450	1545	1647	1777
LS	1395	1418	1544	1518	1690	1690	1785	1898	2028
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

33 007 01 23

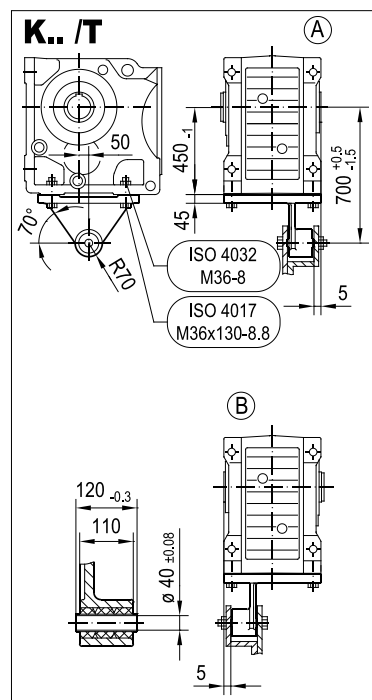
KM157..**KAM157..**

(→ 7.2)	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M	EDRN315S-M	EDRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1206	1229	1339	1313	1450	1450	1545	1647	1777
LS	1395	1418	1544	1518	1690	1690	1785	1898	2028
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

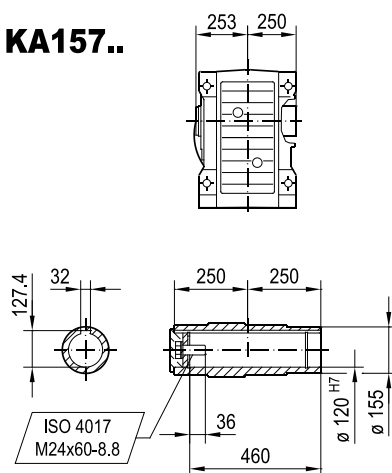
KA157..



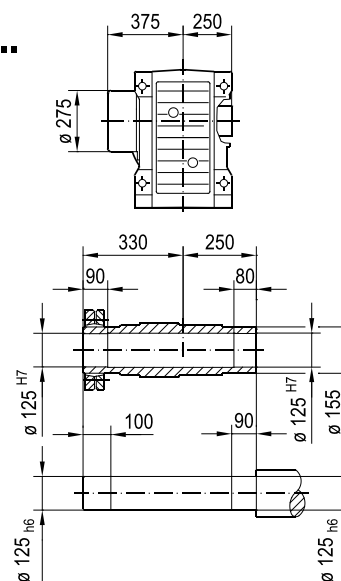
33 269 00 16



KA157..

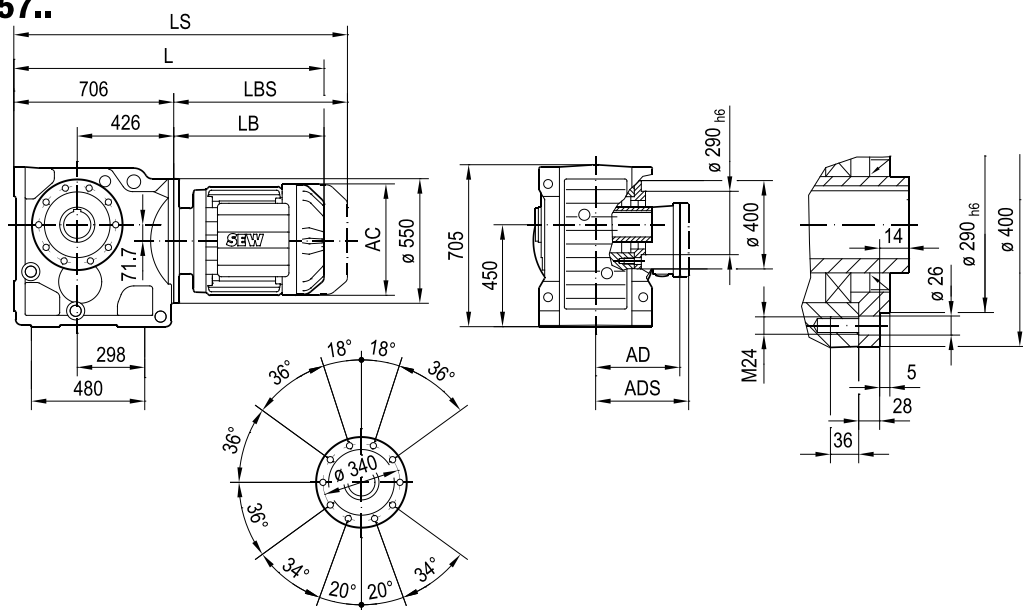
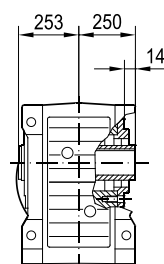
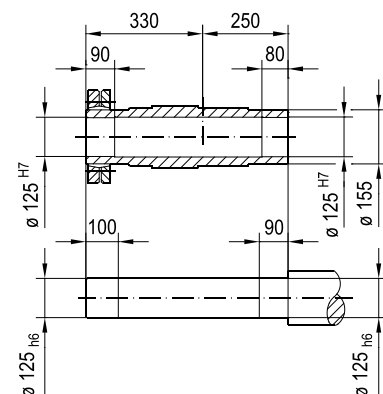
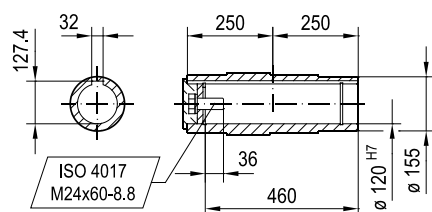
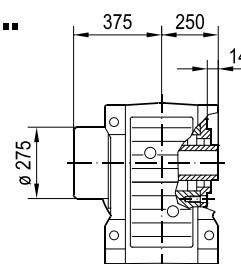


KH157..



(→ 7.2)	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M	EDRN315S-M	EDRN315ME-F
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1206	1229	1339	1313	1450	1450	1545	1647	1777
LS	1395	1418	1544	1518	1690	1690	1785	1898	2028
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

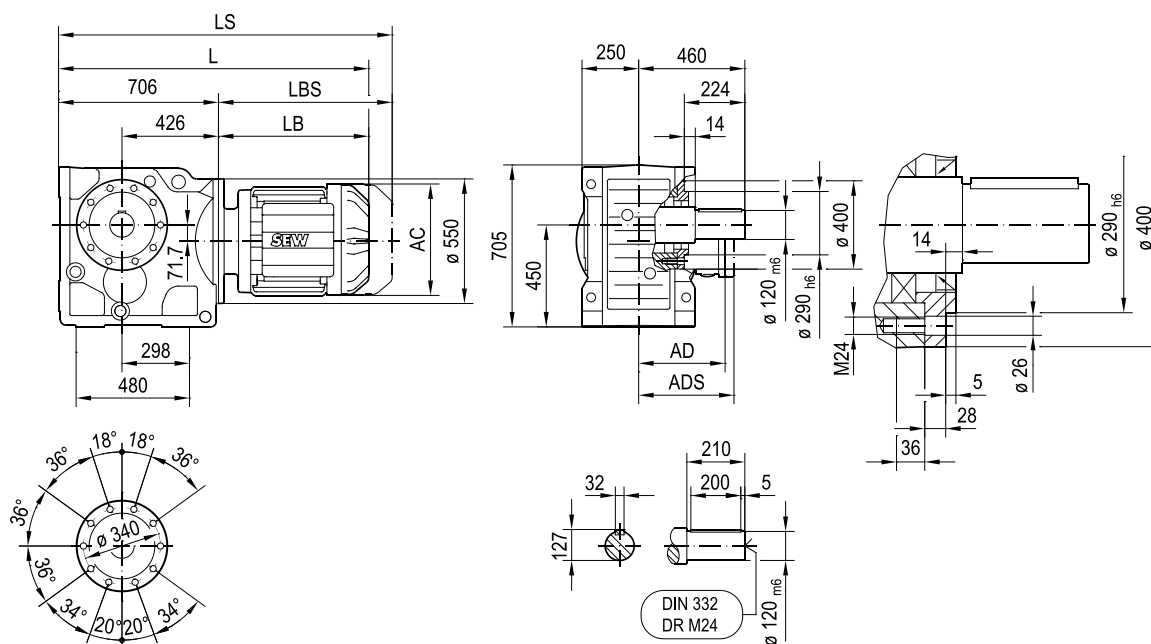
33 270 00 16

KAZ157..**KAZ157..****KHZ157..**

(→ 7.2)	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M	EDRN315S-M	EDRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1206	1229	1339	1313	1450	1450	1545	1647	1777
LS	1395	1418	1544	1518	1690	1690	1785	1898	2028
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

33 271 00 16

KZ157..



(→ 7.2)	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M	EDRN315S-M	EDRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1206	1229	1339	1313	1450	1450	1545	1647	1777
LS	1395	1418	1544	1518	1690	1690	1785	1898	2028
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

K.. / T

(A)

50

70°

R70

450₋₁

45

700_{+0.5}
-1.5

43

ISO 4032
M36-8

ISO 4017
M36x130-8.8

(B)

120_{-0.3}

110

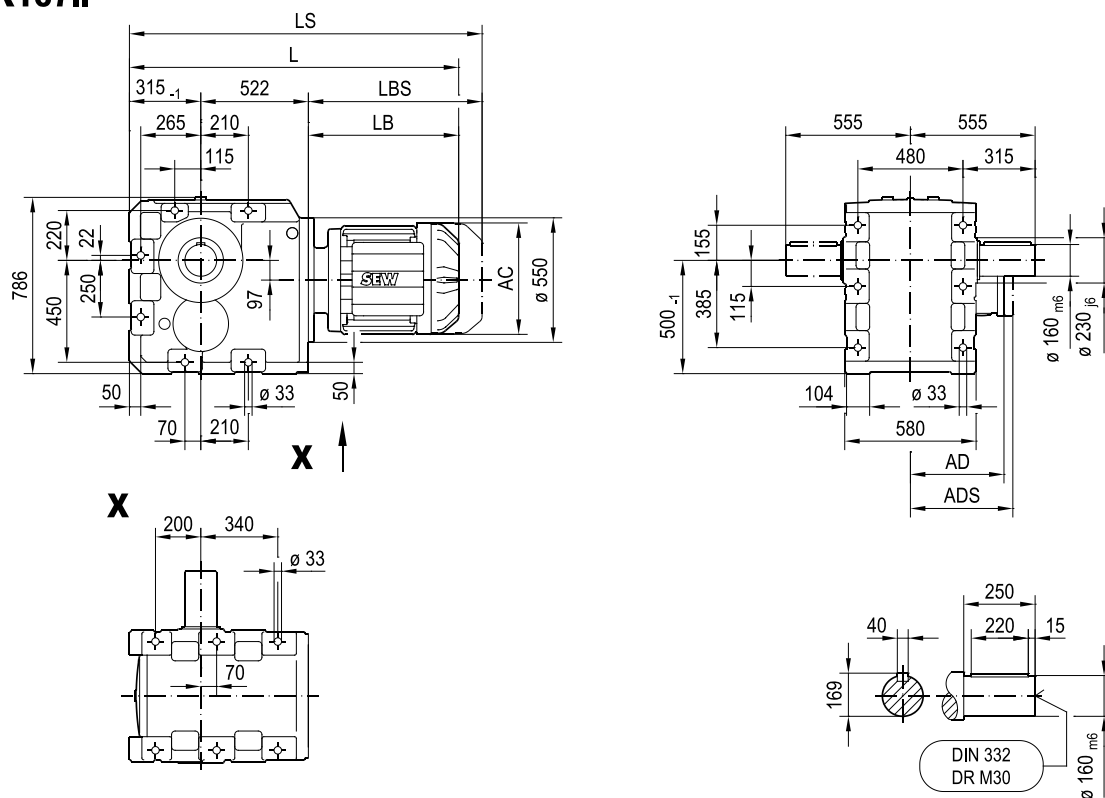
Ø 40_{±0.08}

43

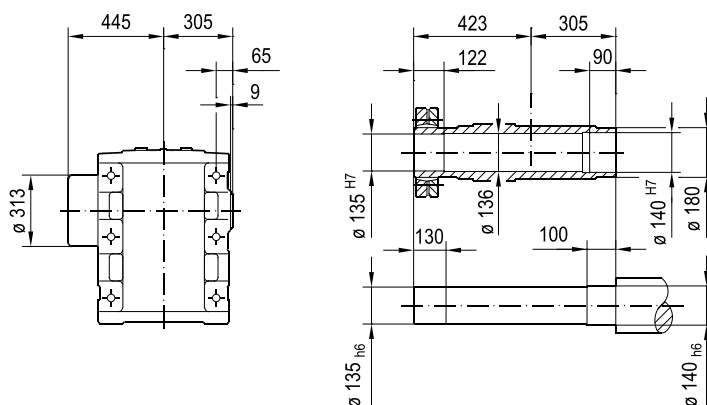
27782913/EN – 02/2023

33 273 00 16

K167..

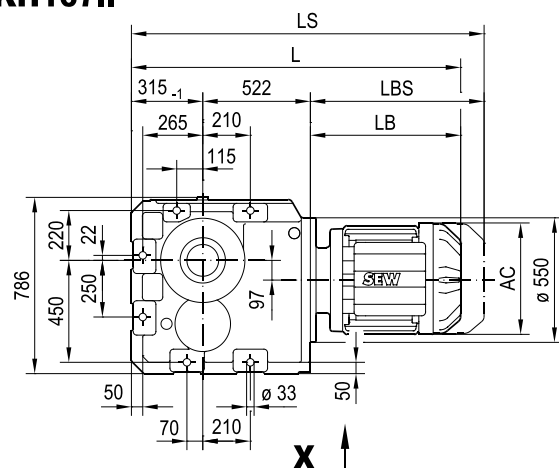
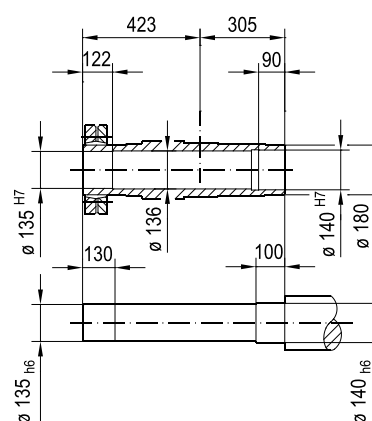
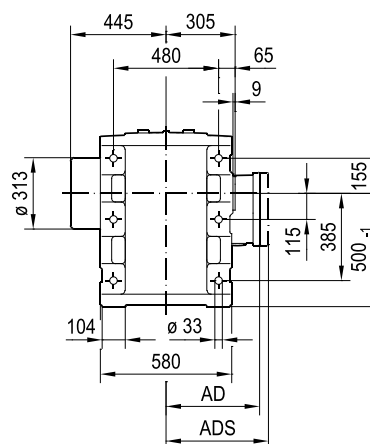
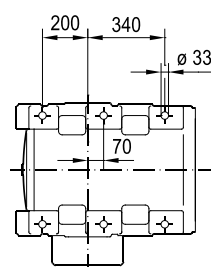


KH167B..



(→ 7.2)	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M	EDRN315S-M	EDRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1337	1360	1470	1444	1581	1581	1676	1778	1908
LS	1526	1549	1675	1649	1821	1821	1916	2029	2159
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

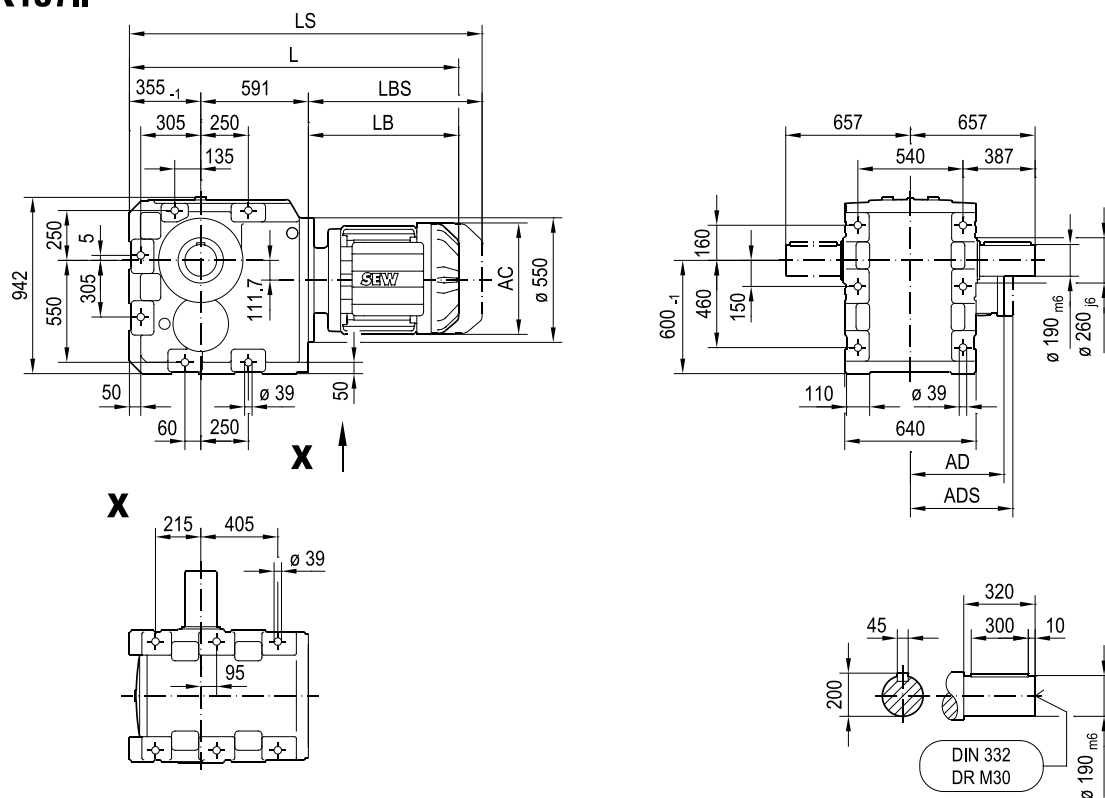
33 274 00 16

KH167..**X**

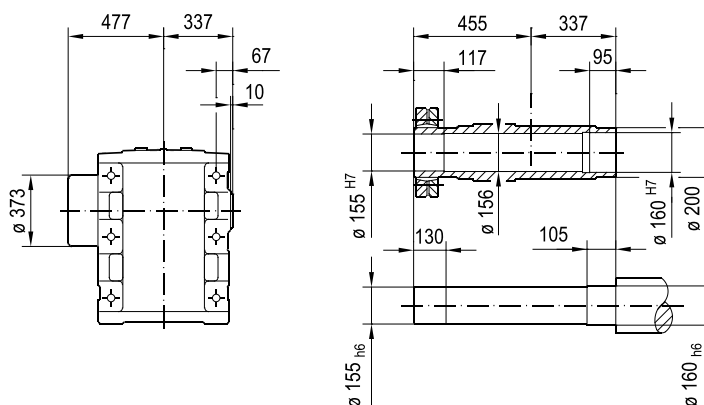
(→ 7.2)	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M	EDRN315S-M	EDRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1337	1360	1470	1444	1581	1581	1676	1778	1908
LS	1526	1549	1675	1649	1821	1821	1916	2029	2159
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

33 275 00 16

K187..

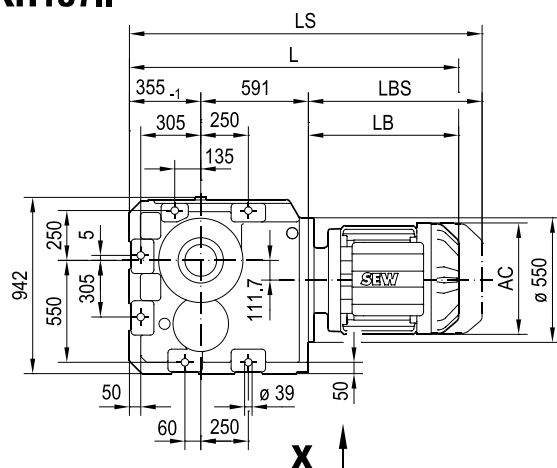
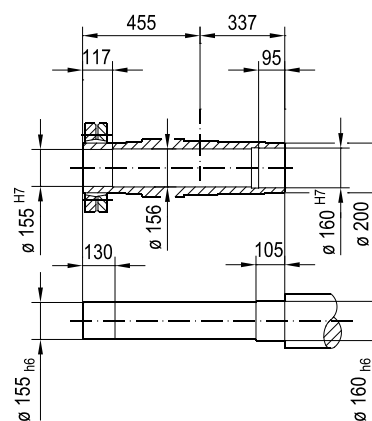
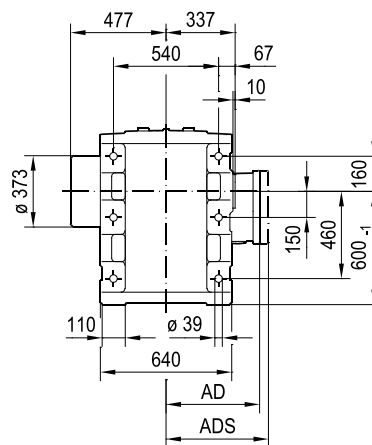
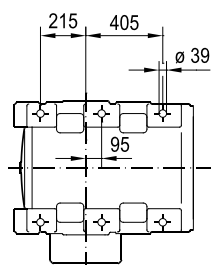


KH187B..



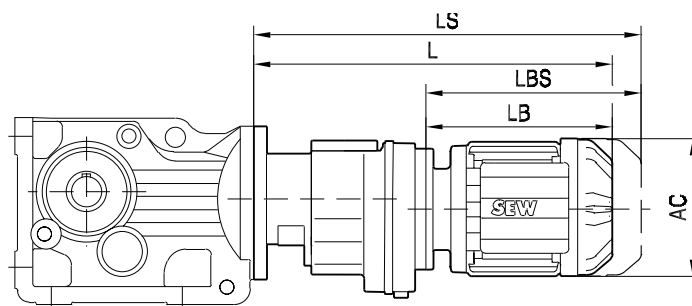
(→ 7.2)	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M	EDRN315S-M	EDRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1446	1469	1579	1553	1690	1690	1785	1887	2017
LS	1635	1658	1784	1758	1930	1930	2025	2138	2268
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

33 276 00 16

KH187..**X**

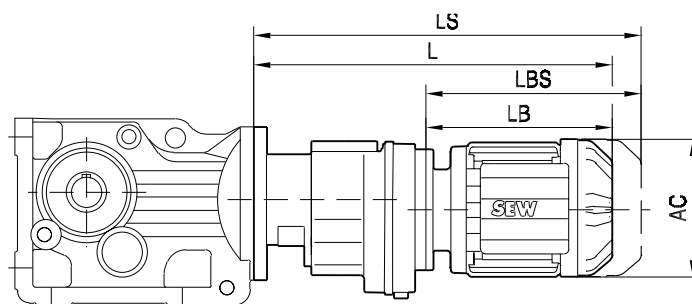
(→ 7.2)	EDRN160	EDRN180	EDRN200L	EDRN225	EDRN250M	EDRN280S	EDRN280M	EDRN315S-M	EDRN315ME-H
AC	314	357	394	434	495	495	495	624	624
AD	253	268	283	305	394	394	394	506	506
ADS	253	268	283	305	394	394	394	506	506
L	1446	1469	1579	1553	1690	1690	1785	1887	2017
LS	1635	1658	1784	1758	1930	1930	2025	2138	2268
LB	500	523	633	607	744	744	839	941	1071
LBS	689	712	838	812	984	984	1079	1192	1322

12.3.3 K..R..EDRN.. /mm



33 133 00 06

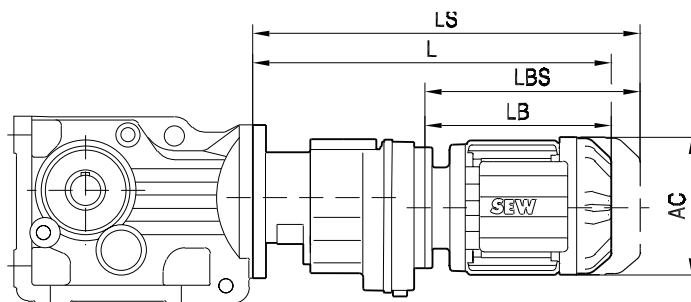
(→ 246)		AC	L	LS	LB	LBS
K..49R37	DRN80M	156	438	519	281	362
	DRN90S	179	440	533	283	376
	DRN90L	179	472	565	315	408
	DRN100LS	197	471	564	314	407
K..57R37	DRN80M	156	446	527	281	362
	DRN90S	179	448	541	283	376
K..67R37	DRN80M	156	446	527	281	362
	DRN90S	179	448	541	283	376
K..77R37	DRN80M	156	438	519	281	362
	DRN90S	179	440	533	283	376
	DRN90L	179	472	565	315	408
	DRN100LS	197	471	564	314	407
K..87R57	DRN80M	156	502	583	275	356
	DRN90S	179	504	597	277	370
	DRN90L	179	536	629	309	402
	DRN100LS	197	533	626	305	398
	DRN100L	197	583	676	355	448
	DRN112M	221	613	725	386	498
K..97R57	DRN80M	156	497	578	275	356
	DRN90S	179	499	592	277	370
	DRN90L	179	531	624	309	402
	DRN100LS	197	528	621	305	398
	DRN100L	197	578	671	355	448
	DRN112M	221	608	720	386	498
K..107R77	DRN80M	156	515	596	268	349
	DRN90S	179	517	610	270	363
	DRN90L	179	549	642	302	395
	DRN100LS	197	545	638	298	391
	DRN100L	197	595	688	348	441
	DRN112M	221	626	738	379	491
	DRN132S	221	676	788	429	541
	DRN132M	261	692	831	445	584
	DRN132L	261	717	856	470	609
K..127R77	DRN80M	156	500	581	268	349
	DRN90S	179	502	595	270	363
	DRN90L	179	534	627	302	395
	DRN100LS	197	530	623	298	391
	DRN100L	197	580	673	348	441
	DRN112M	221	611	723	379	491
	DRN132S	221	661	773	429	541



33 133 00 06

(→ 246)		AC	L	LS	LB	LBS
K..127R87	DRN90L	179	577	670	297	390
	DRN100LS	197	573	666	293	386
	DRN100L	197	623	716	343	436
	DRN112M	221	654	766	374	486
	DRN132S	221	704	816	424	536
	DRN132M	261	720	859	440	579
	DRN132L	261	745	884	465	604
	DRN160M	314	814	1003	534	723
	DRN160L	314	814	1003	534	723
K..157R97	DRN80M	156	583	664	258	339
	DRN90S	179	585	678	260	353
	DRN90L	179	617	710	292	385
	DRN100LS	197	613	706	288	381
	DRN100L	197	663	756	338	431
	DRN112M	221	694	806	369	481
	DRN132S	221	744	856	419	531
	DRN132M	261	760	899	435	574
	DRN132L	261	785	924	460	599
K..167R97	DRN80M	156	583	664	258	339
	DRN90S	179	585	678	260	353
	DRN90L	179	617	710	292	385
	DRN100LS	197	613	706	288	381
	DRN100L	197	663	756	338	431
	DRN112M	221	694	806	369	481
	DRN132S	221	744	856	419	531
	DRN132M	261	760	899	435	574
	DRN132L	261	785	924	460	599
K..187R97	DRN80M	156	583	664	258	339
	DRN90S	179	585	678	260	353
	DRN90L	179	617	710	292	385
	DRN100LS	197	613	706	288	381
	DRN100L	197	663	756	338	431
	DRN112M	221	694	806	369	481
	DRN132S	221	744	856	419	531
	DRN132M	261	760	899	435	574
	DRN132L	261	785	924	460	599

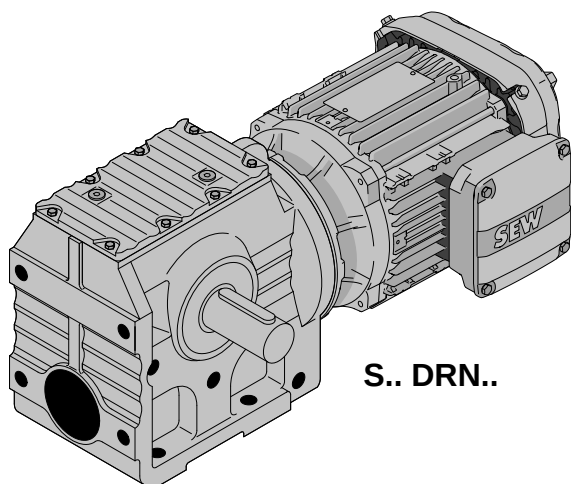
33 133 00 06



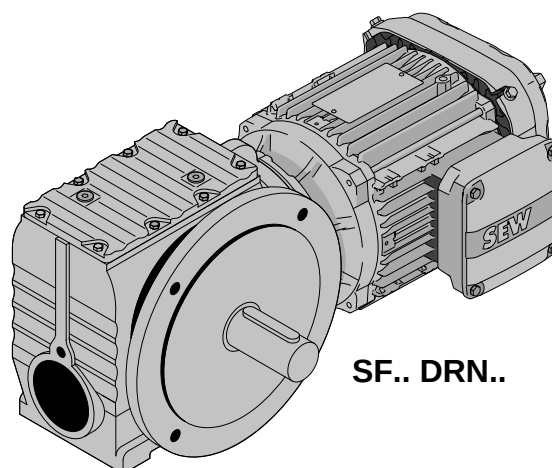
(→ 246)		AC	L	LS	LB	LBS
K..157R107	DRN132L	261	836	975	454	593
	DRN160M	314	905	1094	523	712
	DRN160L	314	905	1094	523	712
	DRN180M	357	930	1119	548	737
	DRN180L	357	930	1119	548	737
	DRN200L	394	1038	1243	656	861
K..167R107	DRN132L	261	836	975	454	593
	DRN160M	314	905	1094	523	712
	DRN160L	314	905	1094	523	712
	DRN180M	357	930	1119	548	737
	DRN180L	357	930	1119	548	737
	DRN200L	394	1038	1243	656	861
	DRN225S	434	993	1198	611	816
	DRN225M	434	1083	1288	701	906
K..187R107	DRN112M	221	745	857	363	475
	DRN132M	261	811	950	429	568
	DRN132L	261	836	975	454	593
	DRN160M	314	905	1094	523	712
	DRN160L	314	905	1094	523	712
	DRN180M	357	930	1119	548	737
	DRN180L	357	930	1119	548	737
	DRN200L	394	1038	1243	656	861
	DRN225S	434	993	1198	611	816
	DRN225M	434	1083	1288	701	906
	DRN250M	495	1149	1389	767	1007

12.4 Helical-worm gearmotors

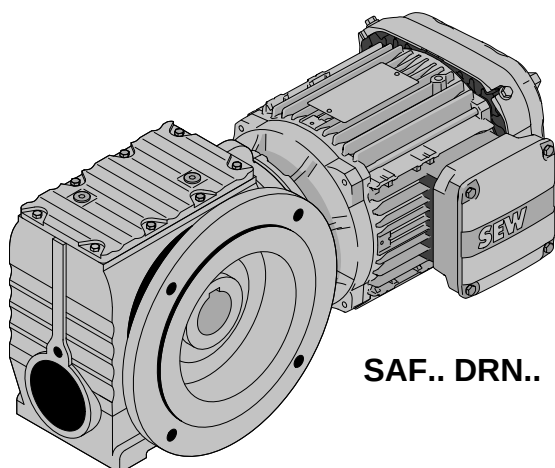
12.4.1 S..DRN.. designs



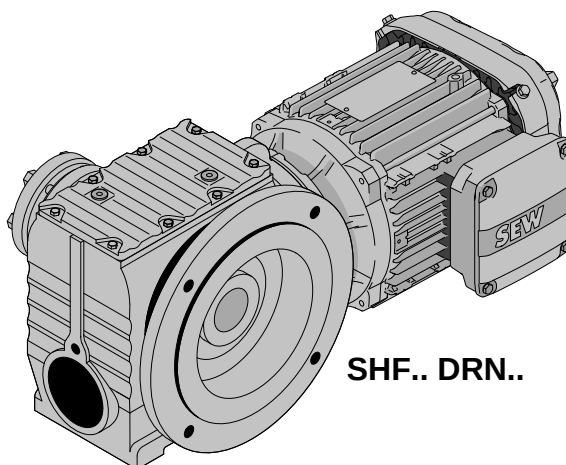
S.. DRN..



SF.. DRN..

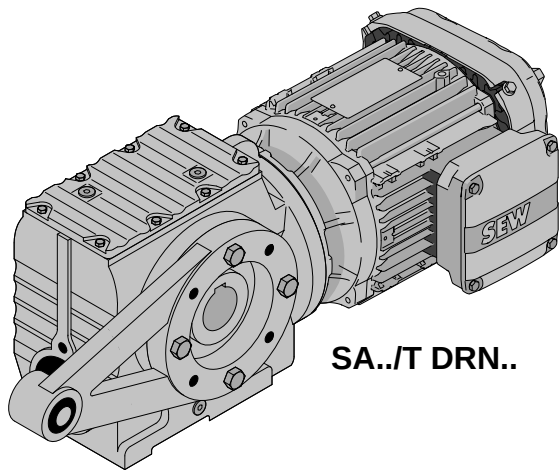


SAF.. DRN..

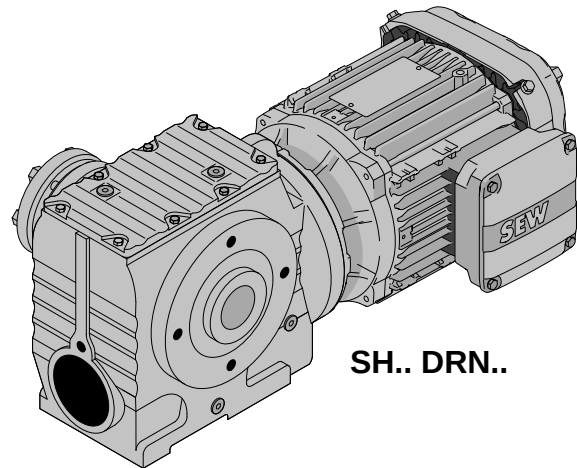


SHF.. DRN..

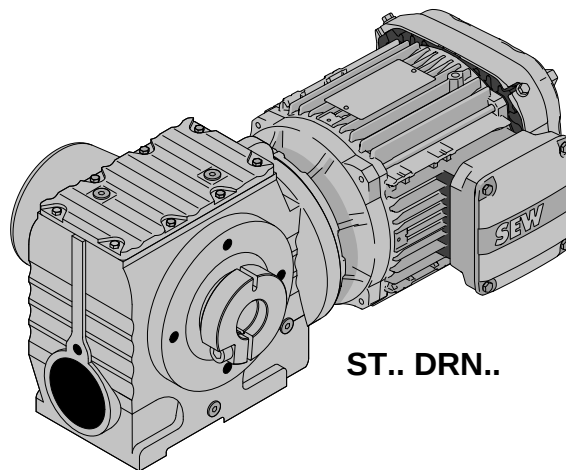
18014407174355595



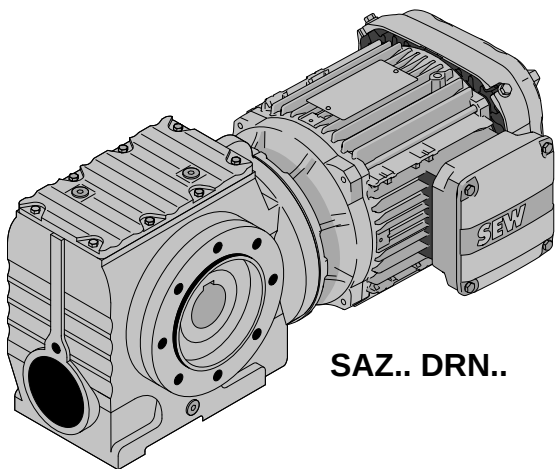
SA../T DRN..



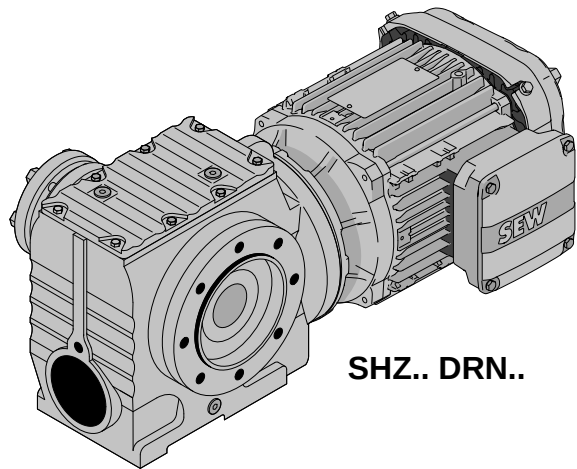
SH.. DRN..



ST.. DRN..



SAZ.. DRN..



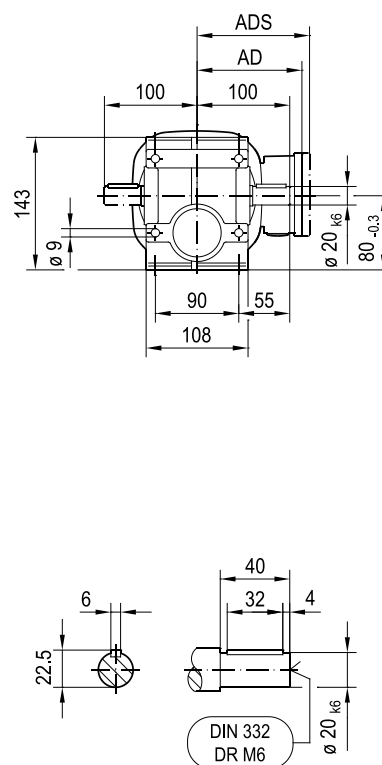
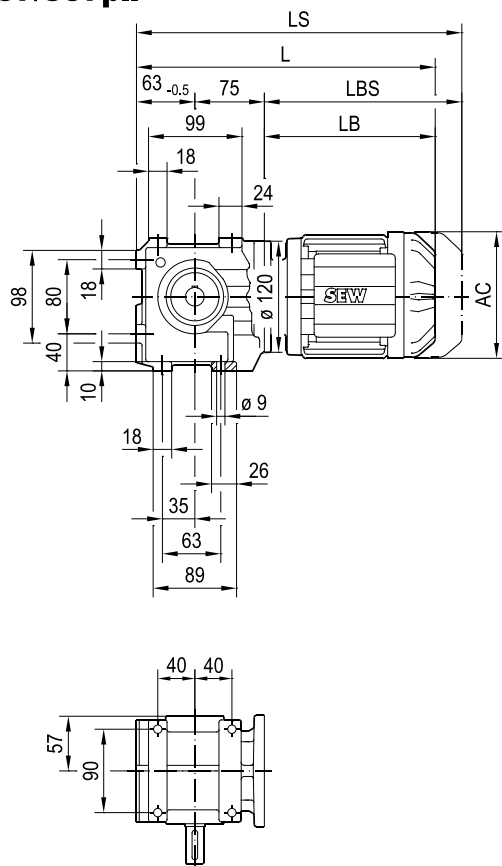
SHZ.. DRN..

18014407174357515

12.4.2 S..EDRN.. /mm

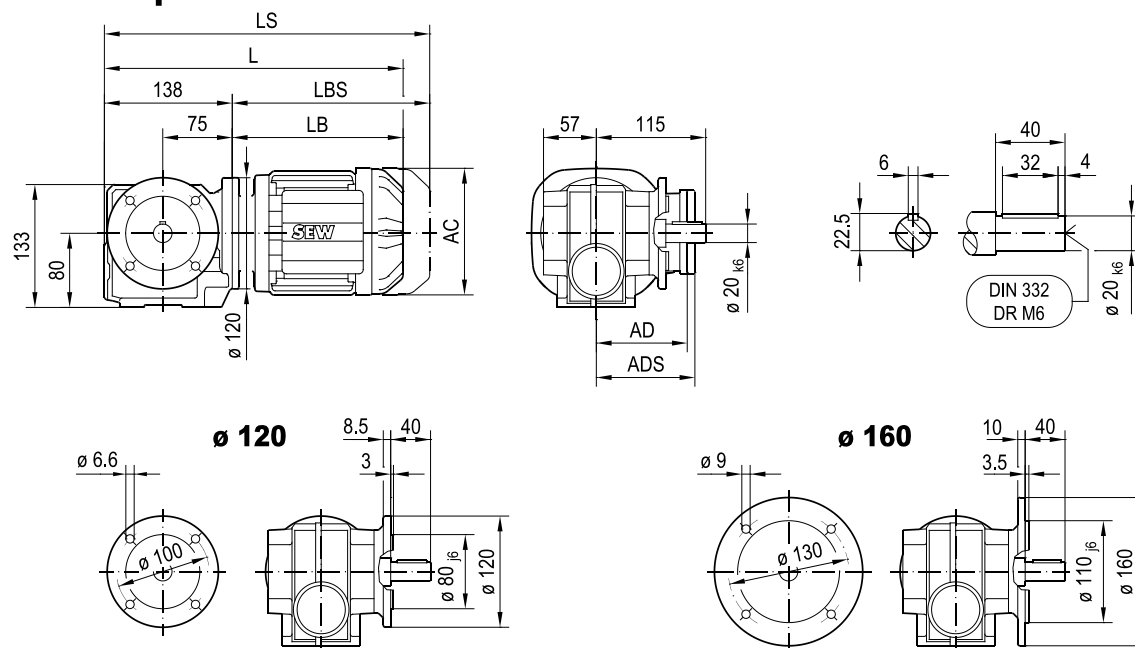
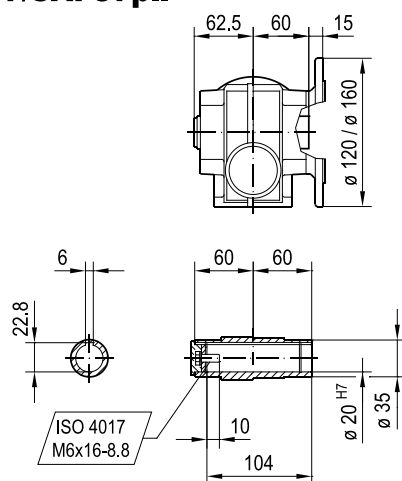
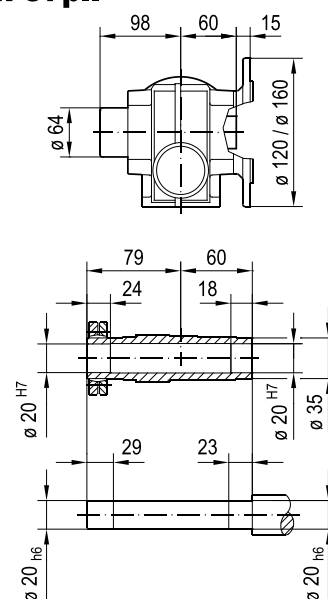
02 014 01 17

S37/S37p..



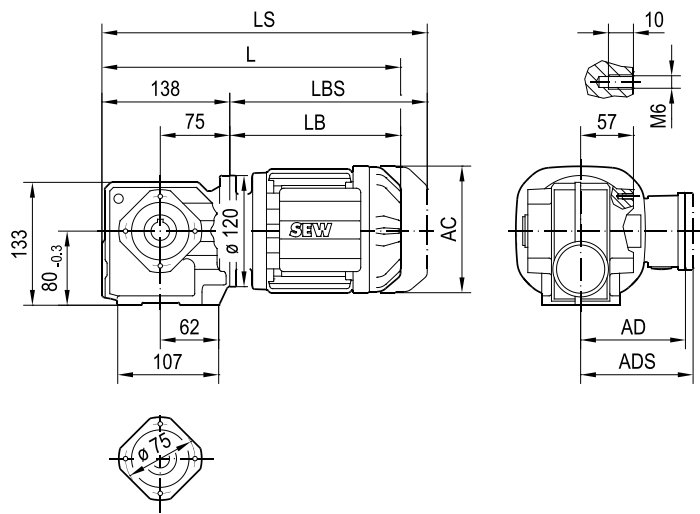
(→  7.2)	EDRN80M	EDRN90S	EDRN90L				
AC	156	179	179				
AD	128	140	140				
ADS	139	150	150				
L	420	421	453				
LS	501	515	547				
LB	282	283	315				
LBS	363	377	409				

02 015 01 17

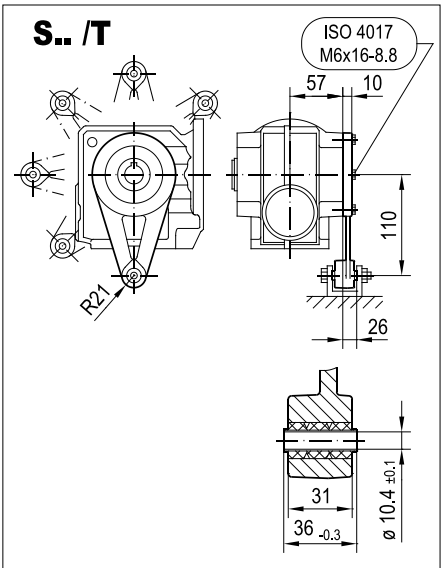
SF37/SF37p..

SAF37/SAF37p..

SHF37/SHF37p..


(→ 7.2)	EDRN80M	EDRN90S	EDRN90L					
AC	156	179	179					
AD	128	140	140					
ADS	139	150	150					
L	420	421	453					
LS	501	515	547					
LB	282	283	315					
LBS	363	377	409					

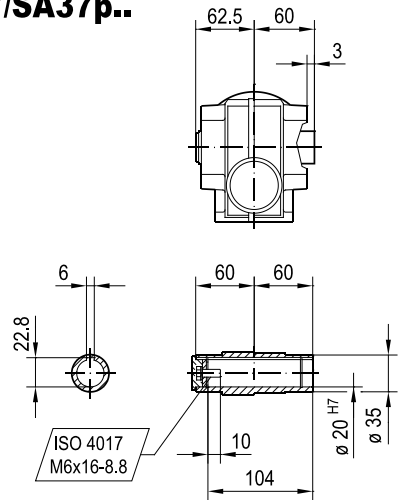
SA37/SA37p..



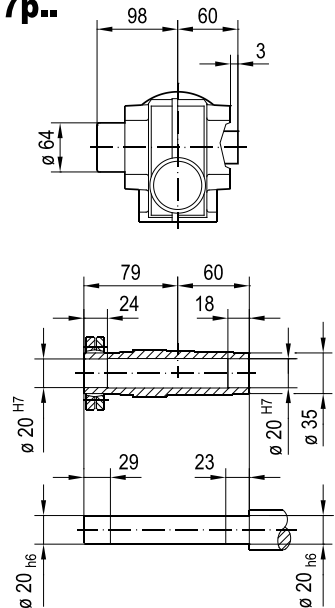
02 016 01 17



SA37/SA37p..



SH37/SH37p..



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L					
AC	156	179	179					
AD	128	140	140					
ADS	139	150	150					
L	420	421	453					
LS	501	515	547					
LB	282	283	315					
LBS	363	377	409					

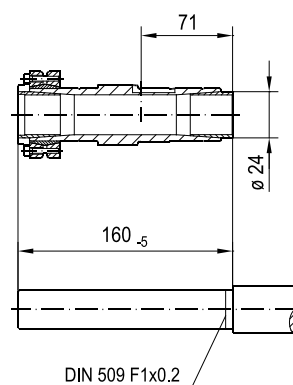
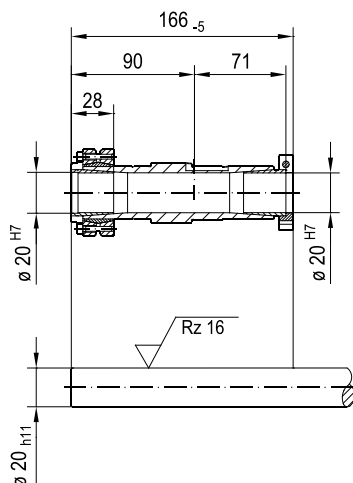
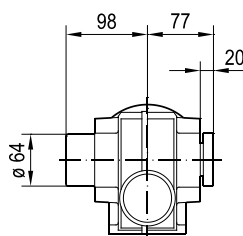
S.. /T

ISO 4017
M6x16-8.8

57 10 110 26

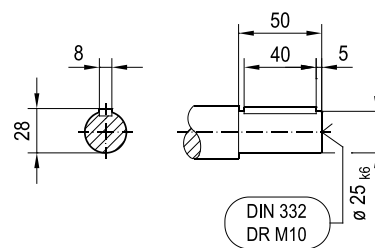
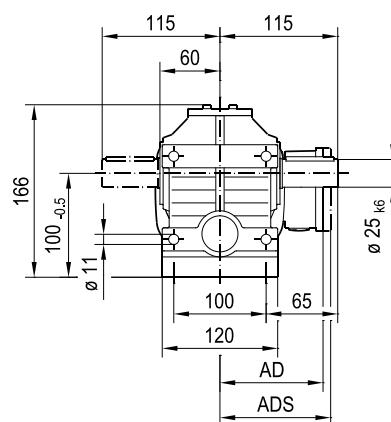
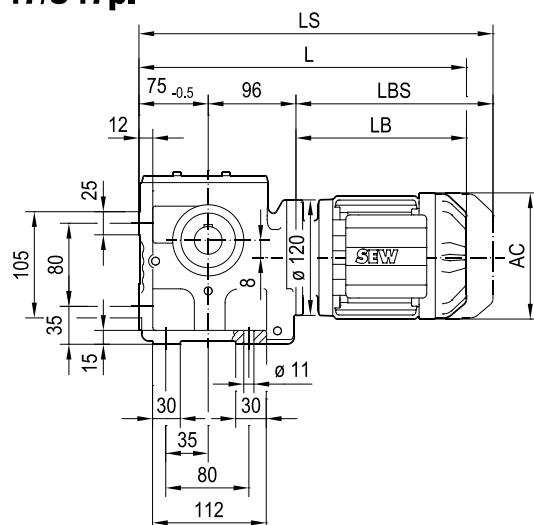
R21

31 36 10.4 ±0.1



(→  7.2)	EDRN80M	EDRN90S	EDRN90L				
AC	156	179	179				
AD	128	140	140				
ADS	139	150	150				
L	420	421	453				
LS	501	515	547				
LB	282	283	315				
LBS	363	377	409				

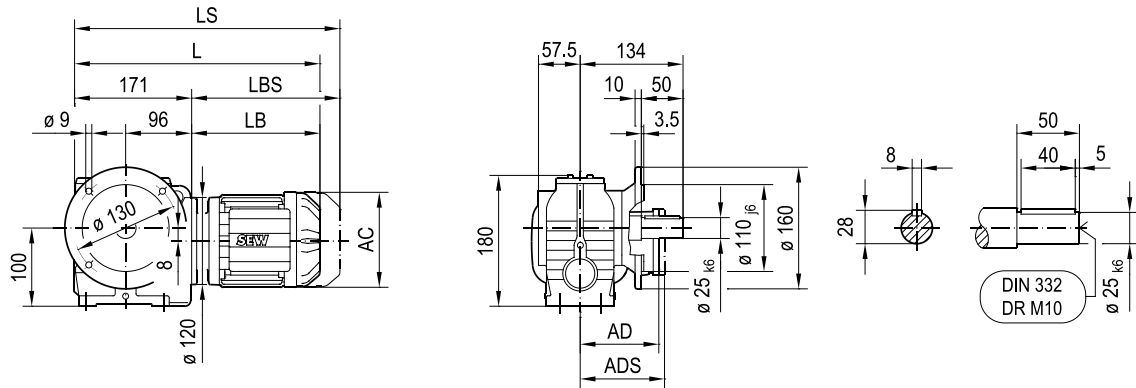
02 063 01 16

S47/S47p.

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	453	454	486	485	535
LS	534	548	580	579	629
LB	282	283	315	314	364
LBS	363	377	409	408	458

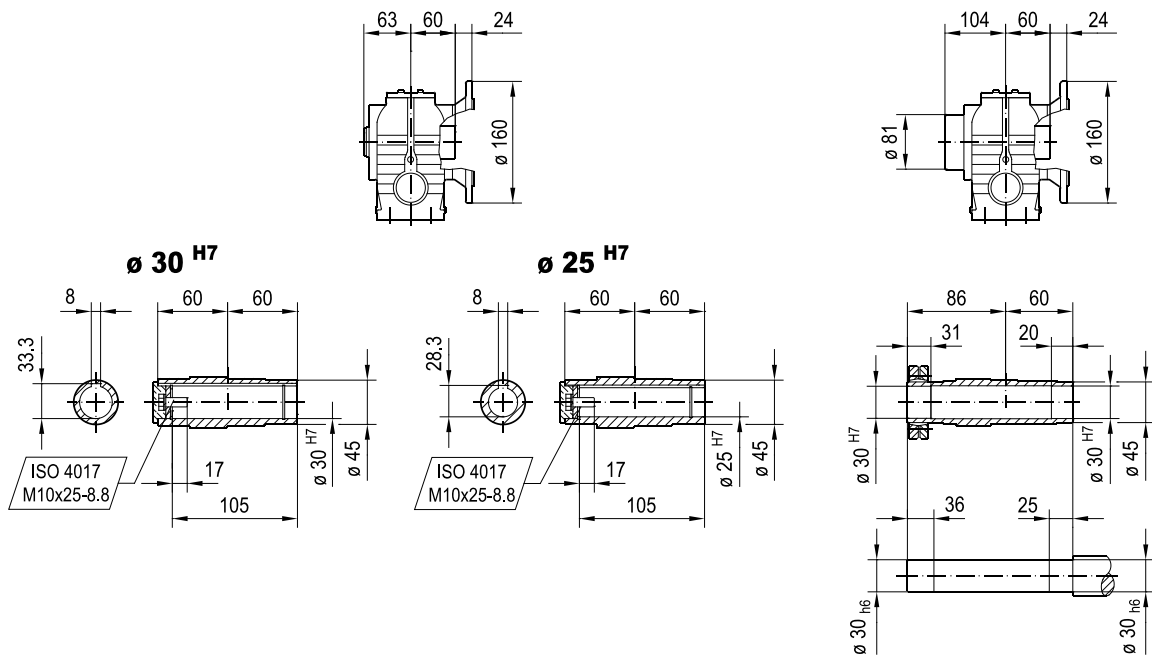
02 064 01 16

SF47/SF47p..



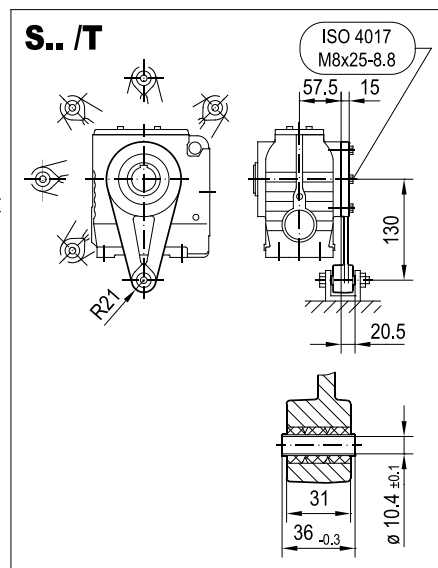
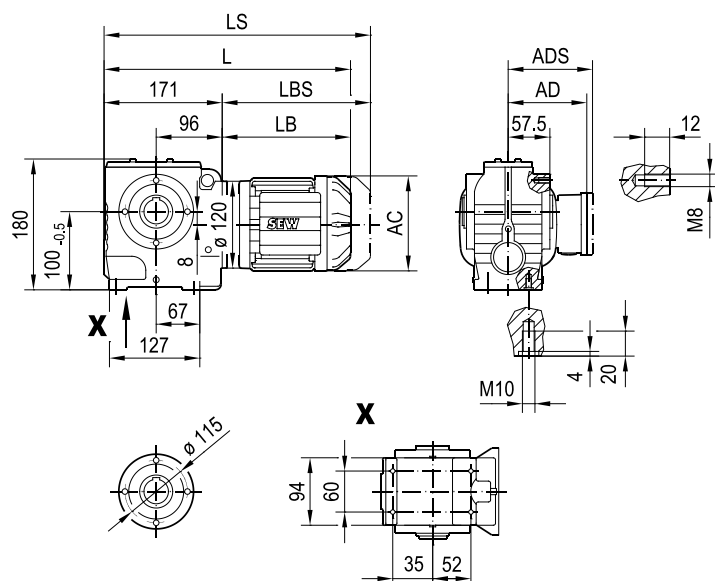
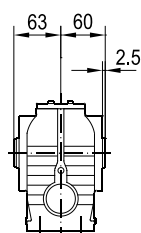
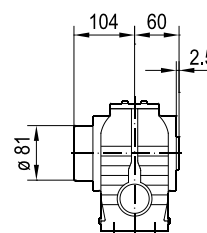
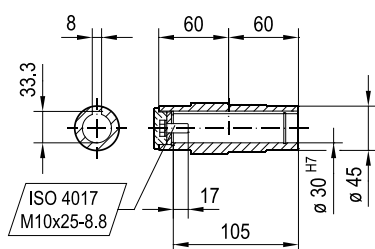
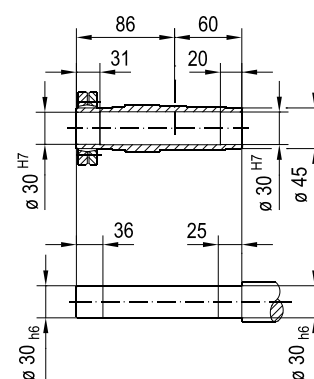
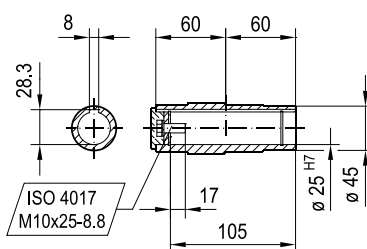
SAF47/SAF47p..

SHF47/SHF47p..



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	453	454	486	485	535
LS	534	548	580	579	629
LB	282	283	315	314	364
LBS	363	377	409	408	458

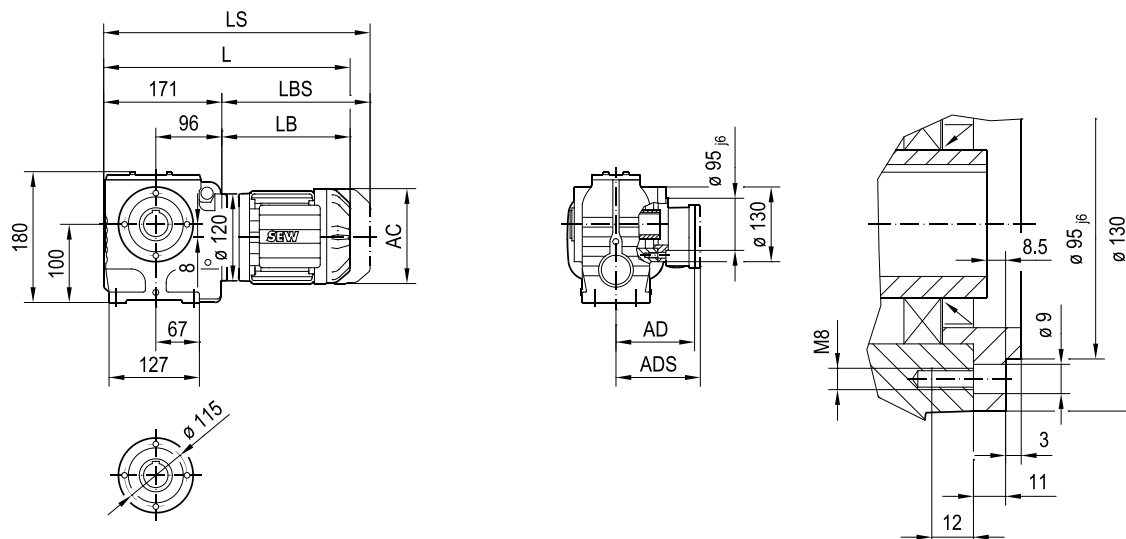
02 065 01 16

SA47/SA47p..**SA47/SA47p...****SH47/SH47p..****ø 30 H7****ø 25 H7**

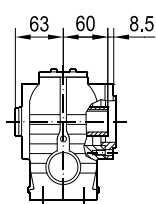
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	453	454	486	485	535
LS	534	548	580	579	629
LB	282	283	315	314	364
LBS	363	377	409	408	458

SAZ47/SAZ47p..

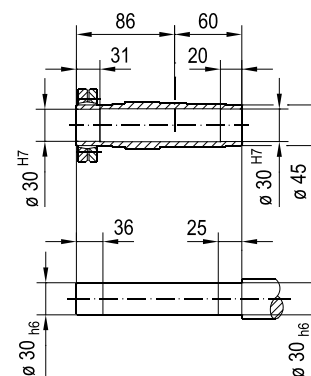
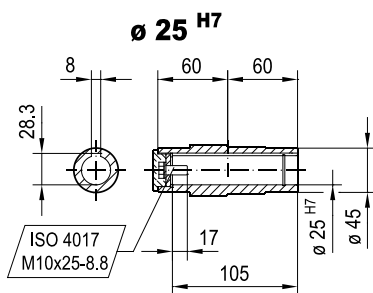
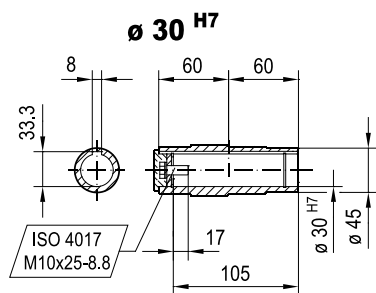
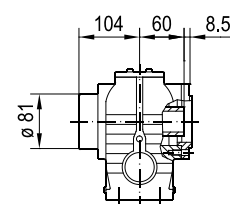
02 066 01 16



SAZ47/SAZ47p..



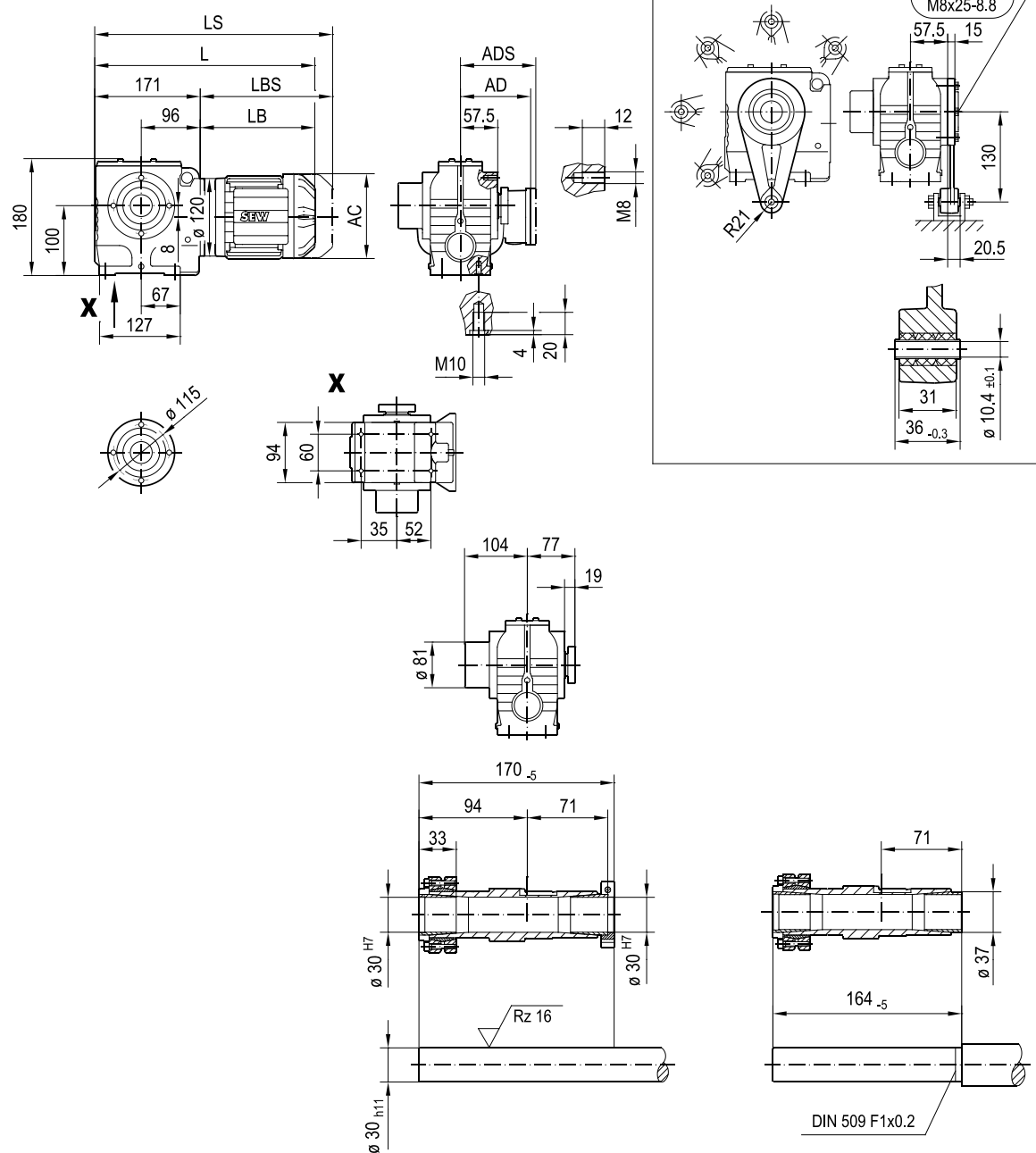
SHZ47/SHZ47p..



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	453	454	486	485	535
LS	534	548	580	579	629
LB	282	283	315	314	364
LBS	363	377	409	408	458

02 067 01 16

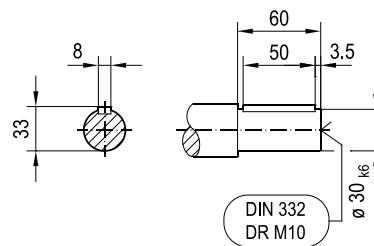
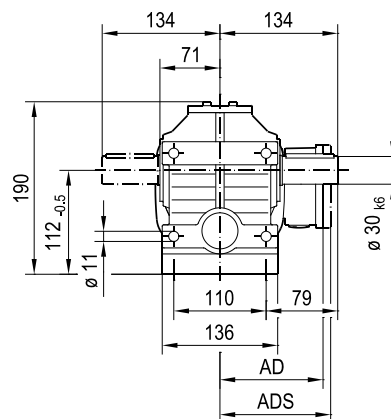
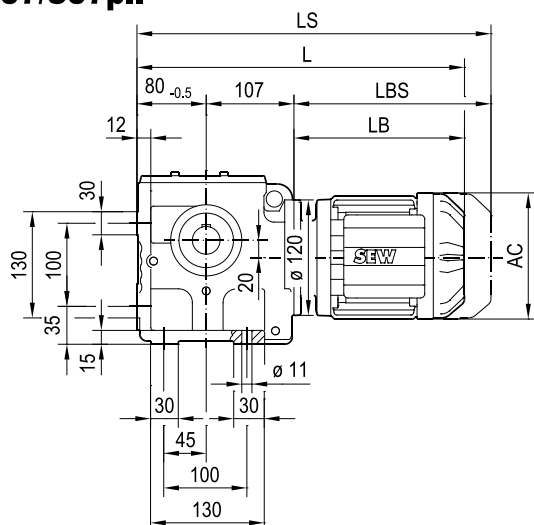
ST47/ST47p..



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	453	454	486	485	535
LS	534	548	580	579	629
LB	282	283	315	314	364
LBS	363	377	409	408	458

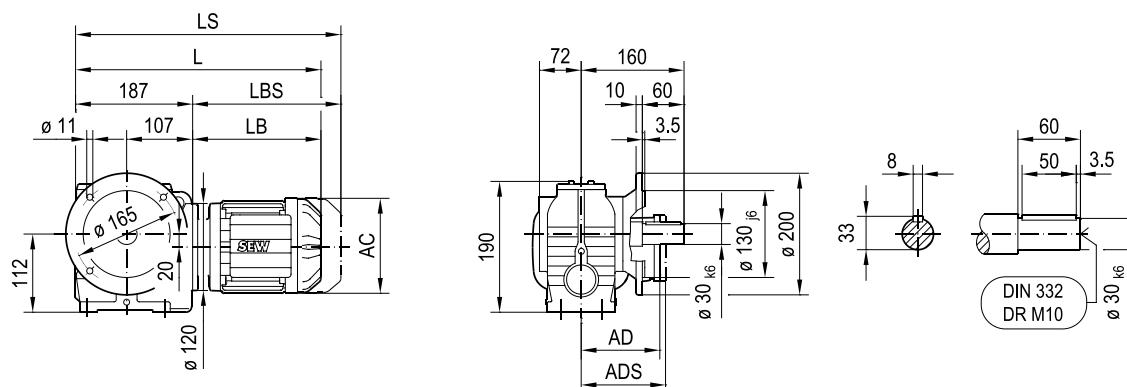
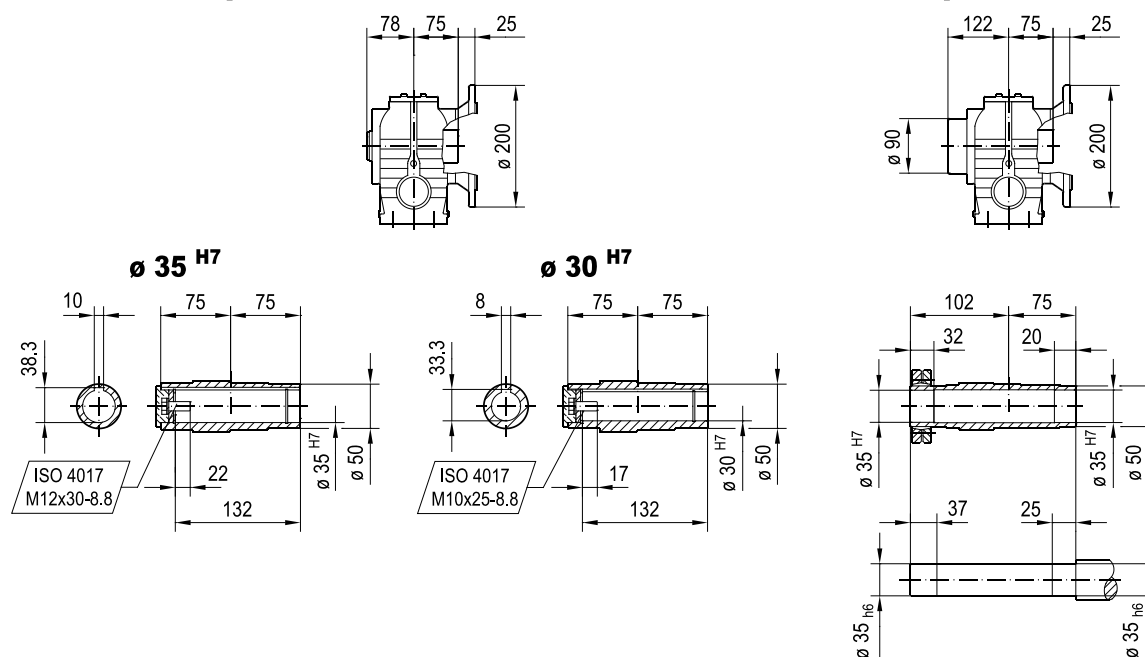
02 068 01 16

S57/S57p..



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	469	470	502	501	551
LS	550	564	596	595	645
LB	282	283	315	314	364
LBS	363	377	409	408	458

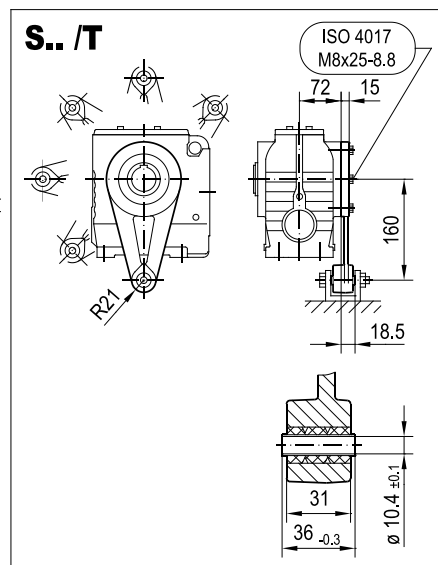
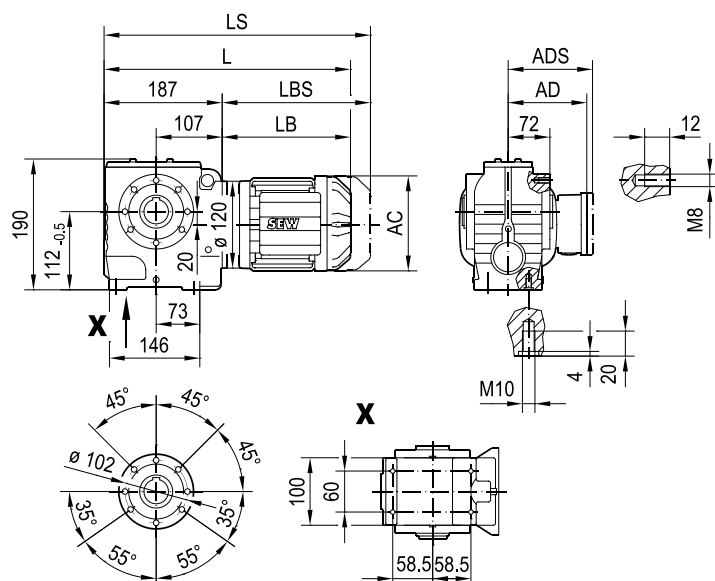
02 069 01 16

SF57/SF57p..**SAF57/SAF57p...****SHF57/SHF57p..**

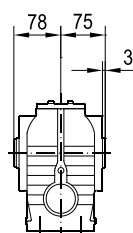
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	469	470	502	501	551
LS	550	564	596	595	645
LB	282	283	315	314	364
LBS	363	377	409	408	458

02 070 01 16

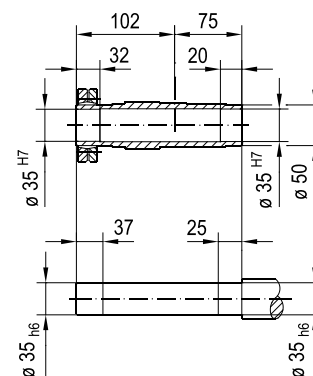
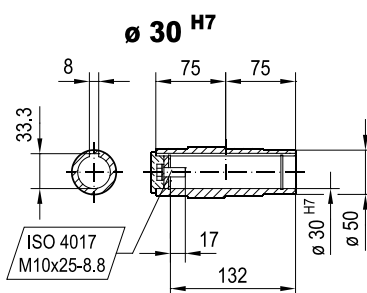
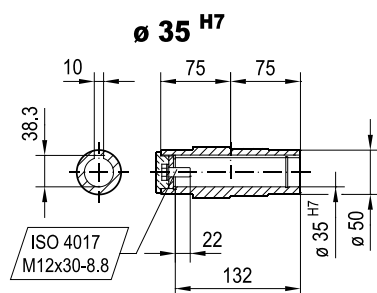
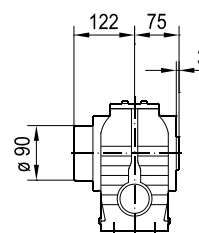
SA57/SA57p..



SA57/SA57p..



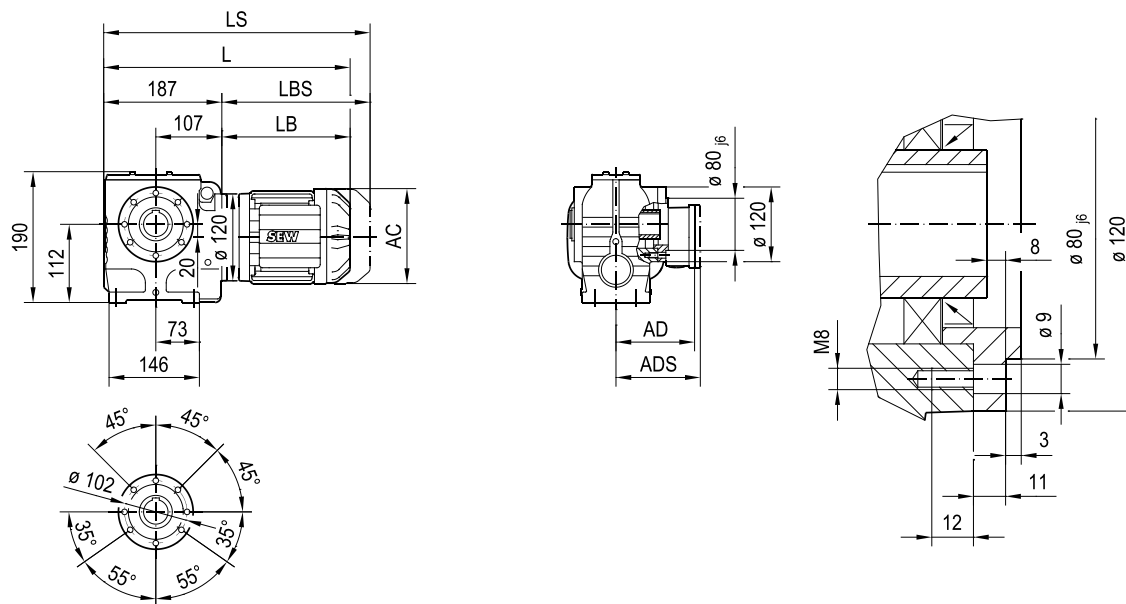
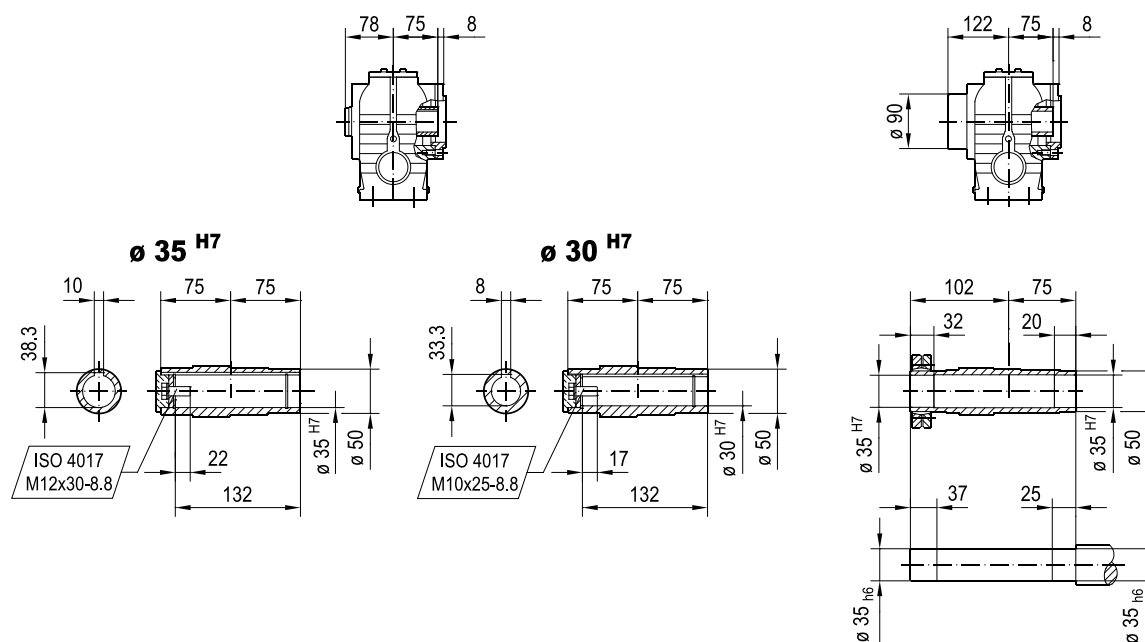
SH57/SH57p..



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	469	470	502	501	551
LS	550	564	596	595	645
LB	282	283	315	314	364
LBS	363	377	409	408	458

SAZ57/SAZ57p...

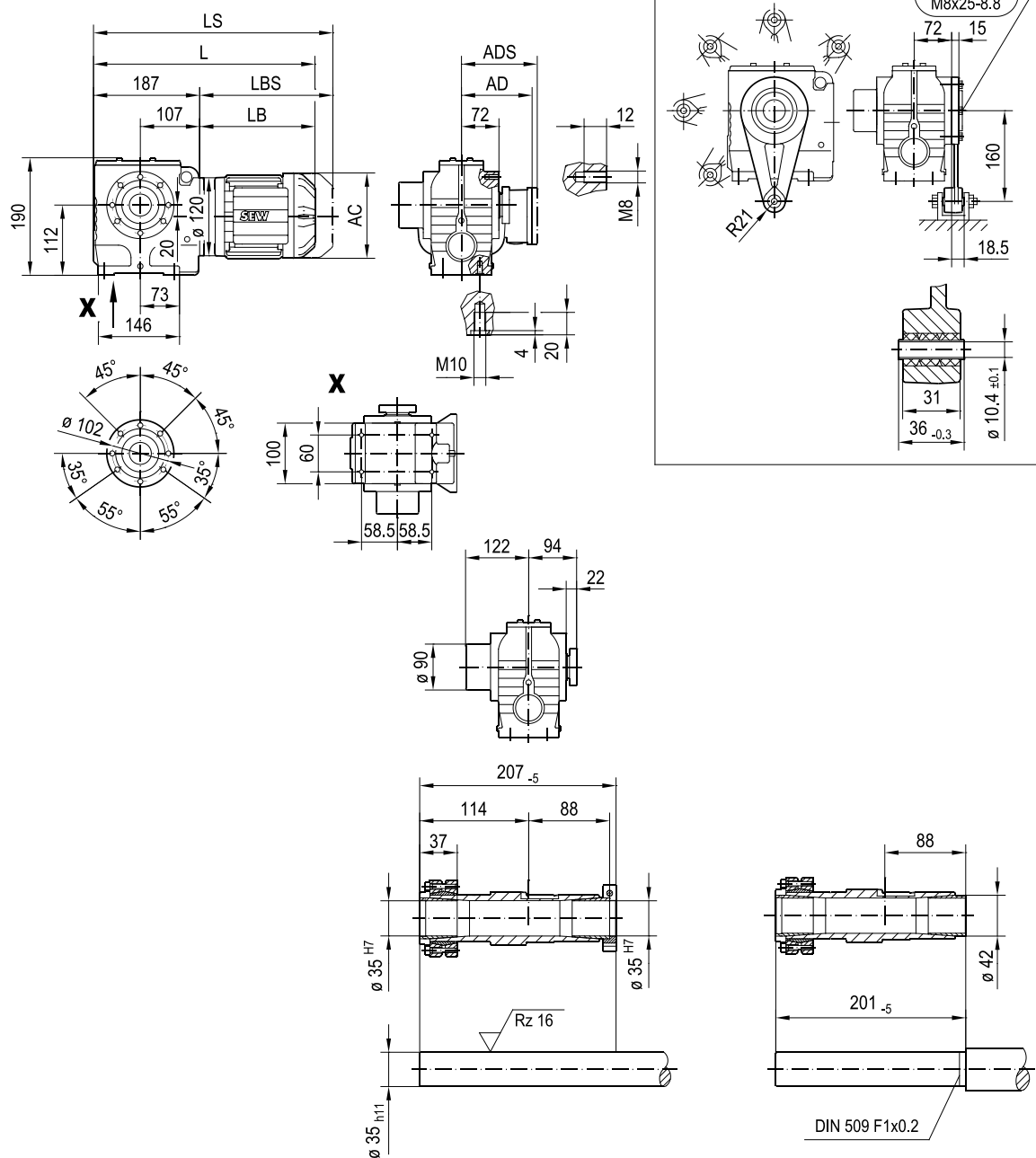
02 071 01 16

**SAZ57/SAZ57p..****SHZ57/SHZ57p..**

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	469	470	502	501	551
LS	550	564	596	595	645
LB	282	283	315	314	364
LBS	363	377	409	408	458

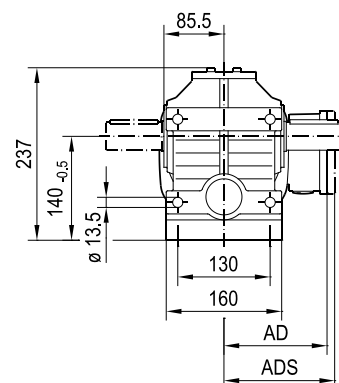
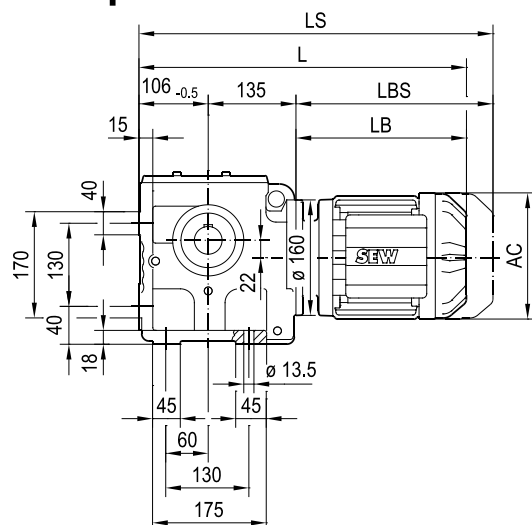
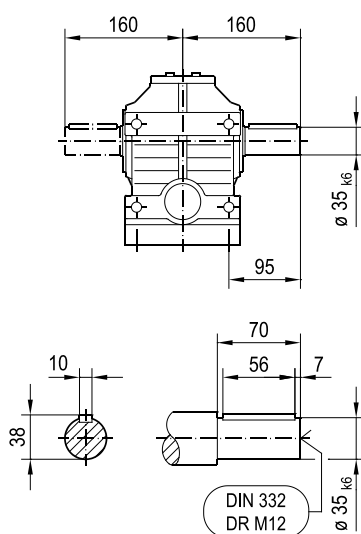
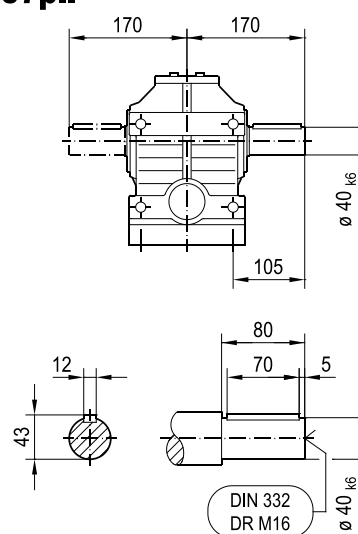
ST57/ST57p..

02 072 01 16



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	469	470	502	501	551
LS	550	564	596	595	645
LB	282	283	315	314	364
LBS	363	377	409	408	458

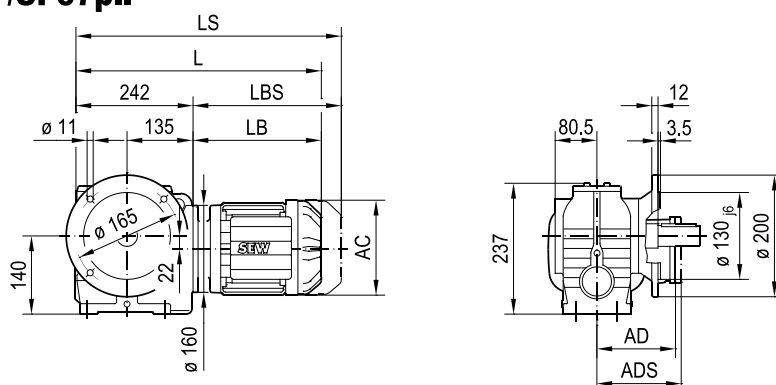
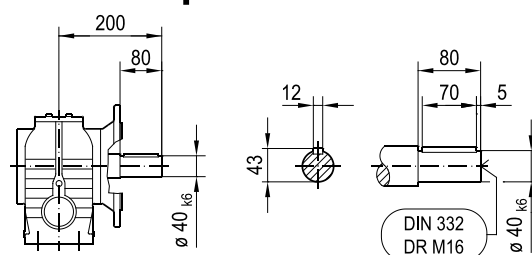
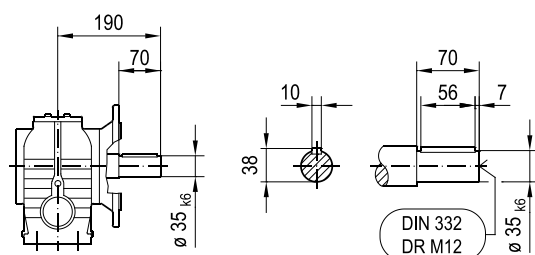
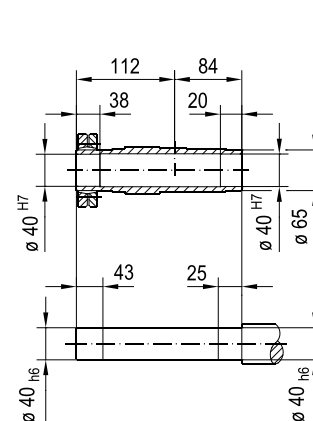
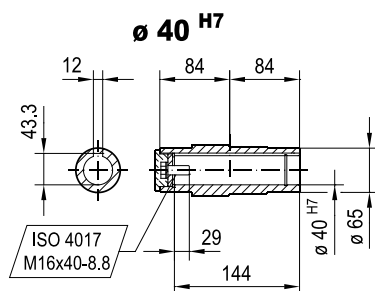
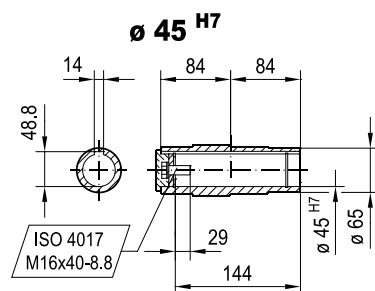
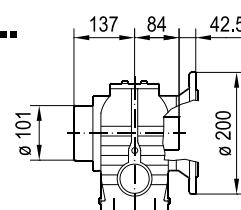
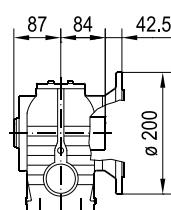
02 073 01 16

S67/S67p..**S67..****S67/S67p..**

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	516	518	550	546	596	627	681	699
LS	597	611	643	640	690	739	793	837
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

SF67/SF67p..

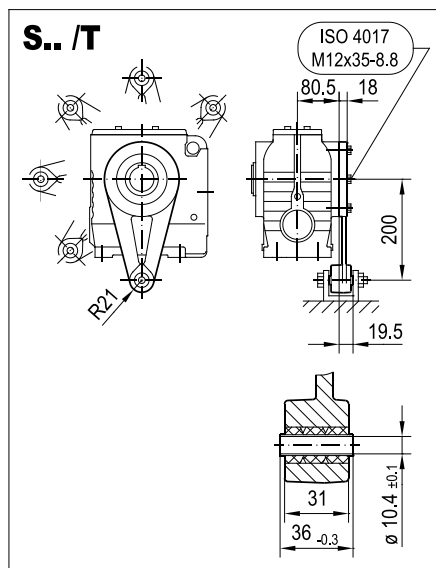
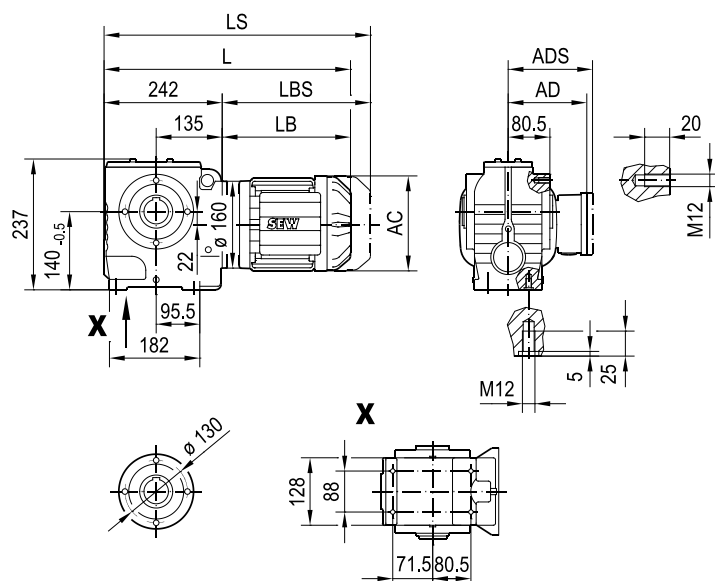
02 074 01 16


SF67..
SF67/SF67p..

SAF67/SAF67p..
SHF67/SHF67p..


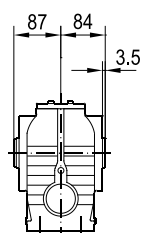
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	517	519	551	547	597	628	682	700
LS	598	612	644	641	691	740	794	838
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

02 075 01 16

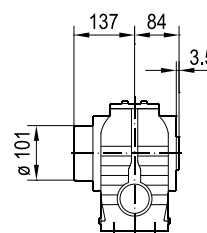
SA67/SA67p..



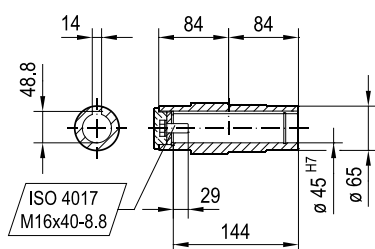
SA67/SA67p..



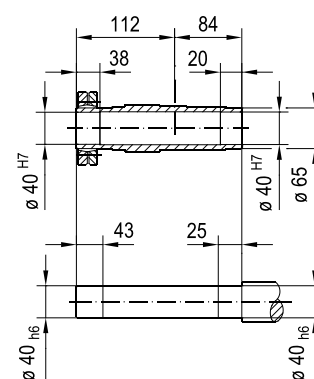
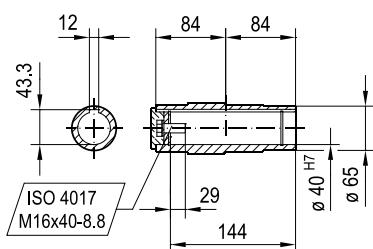
SH67/SH67p..



ø 45 H7



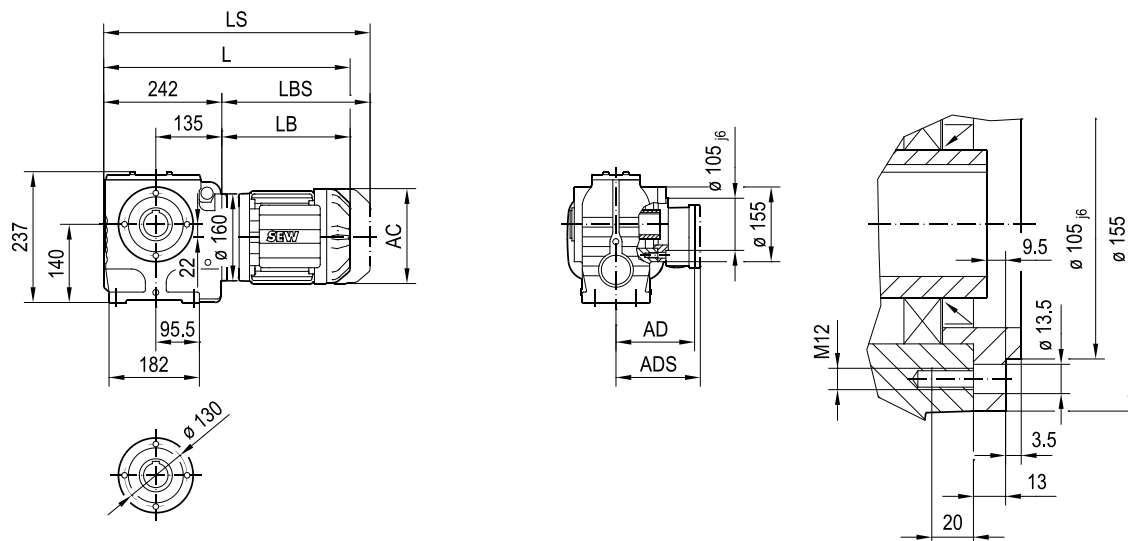
ø 40 H7



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	517	519	551	547	597	628	682	700
LS	598	612	644	641	691	740	794	838
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

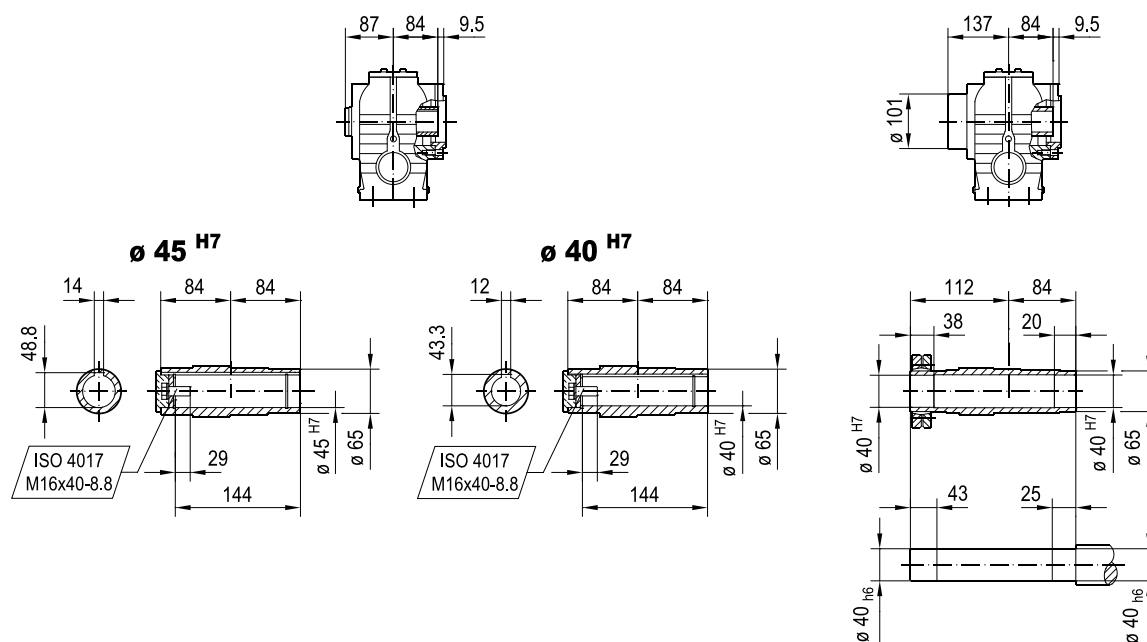
SAZ67/SAZ67p..

02 076 01 16



SAZ67/SAZ67p..

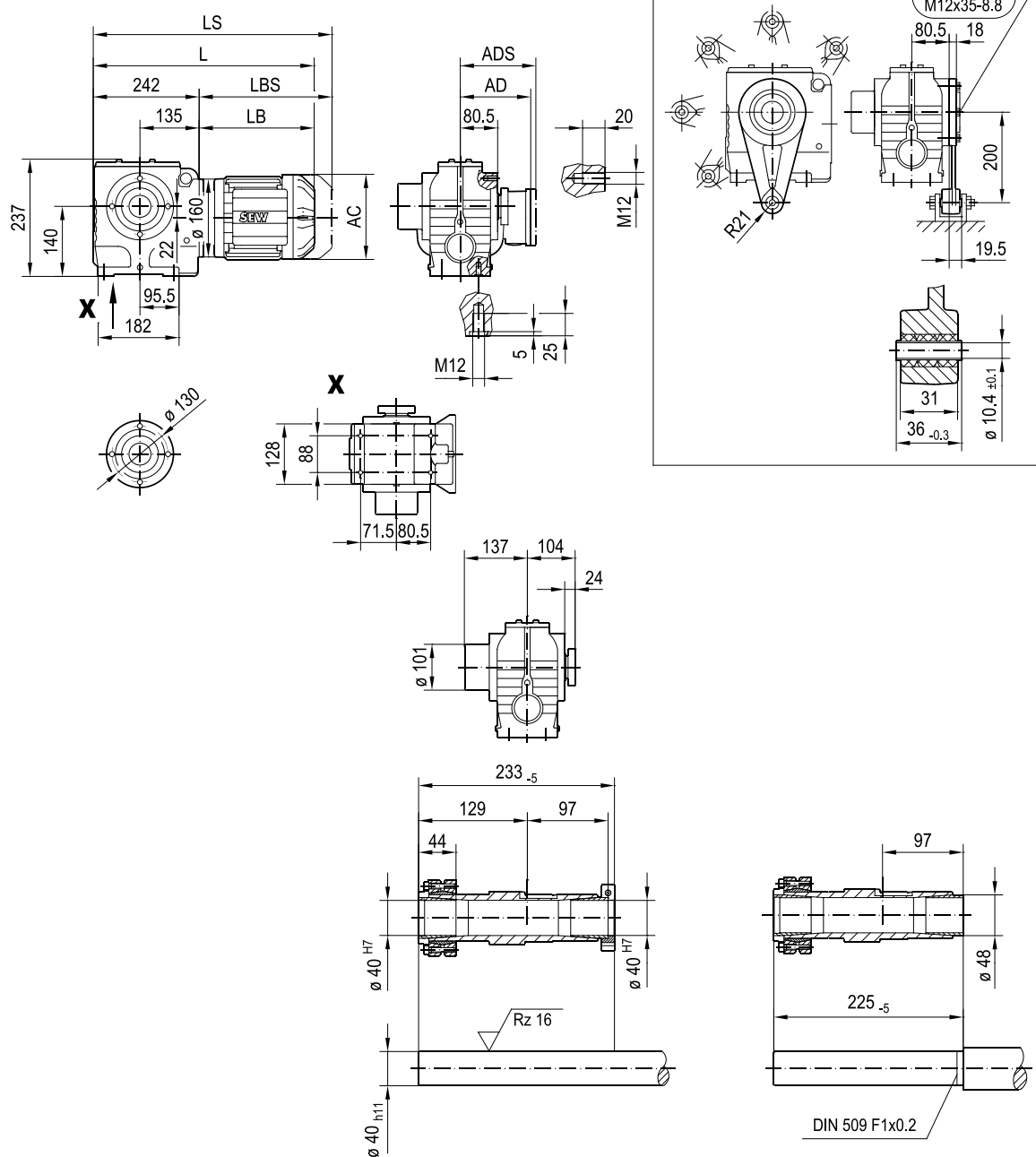
SHZ67/SHZ67p..



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	517	519	551	547	597	628	682	700
LS	598	612	644	641	691	740	794	838
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

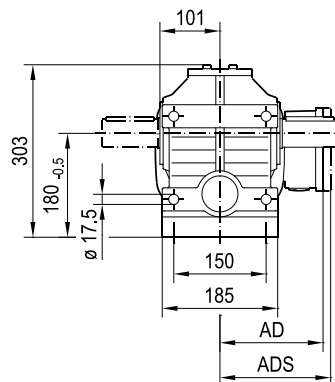
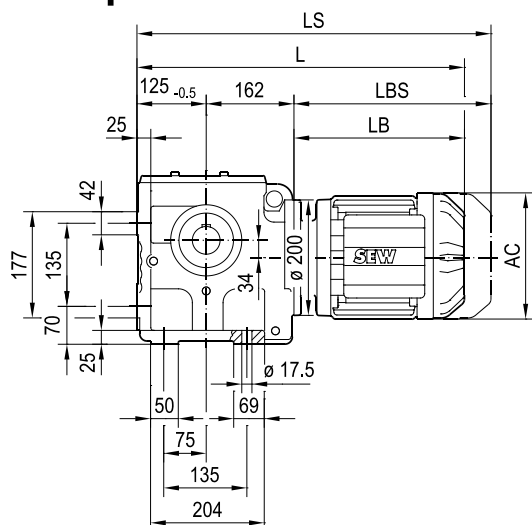
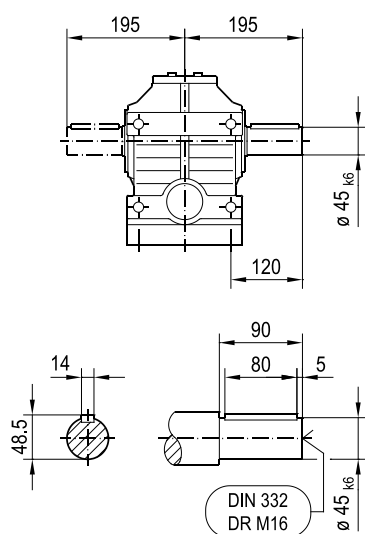
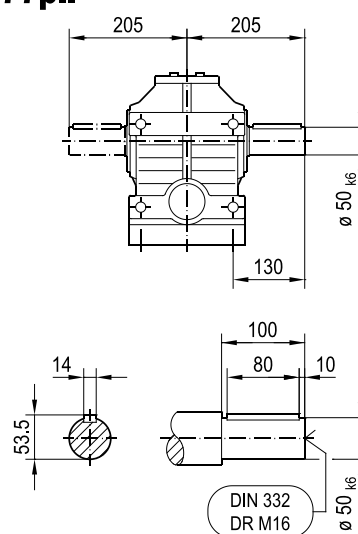
ST67/ST67p..

02 077 01 16



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M
AC	156	179	179	197	197	221	221	261
AD	128	140	140	157	157	170	170	228
ADS	139	150	150	158	158	172	172	228
L	517	519	551	547	597	628	682	700
LS	598	612	644	641	691	740	794	838
LB	275	277	309	305	355	386	440	458
LBS	356	370	402	399	449	498	552	596

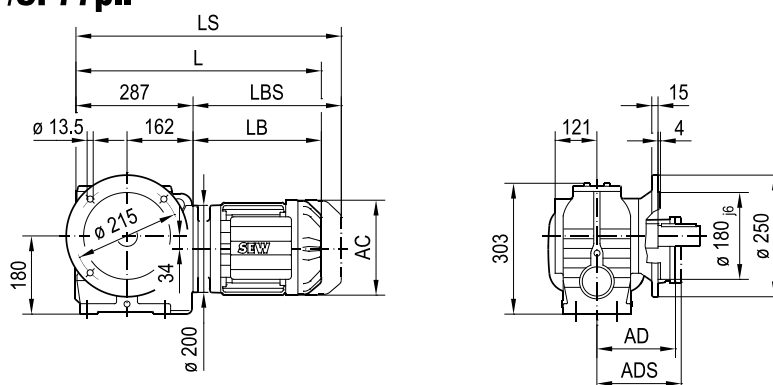
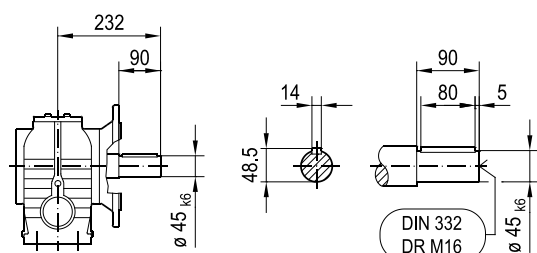
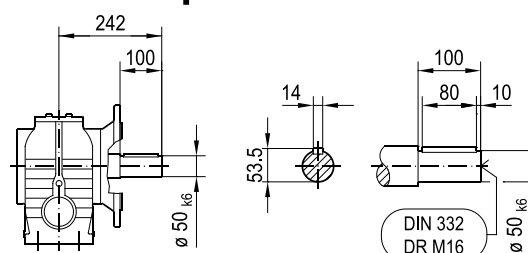
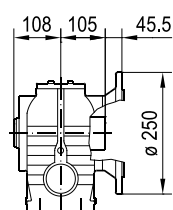
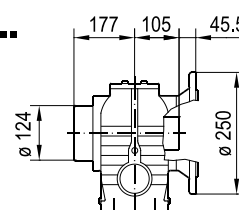
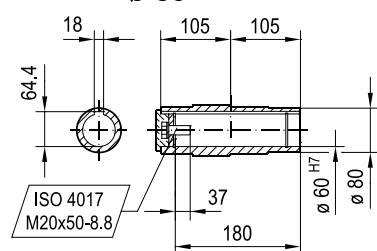
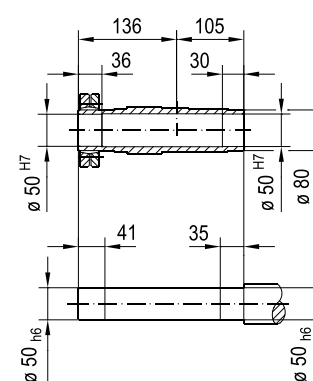
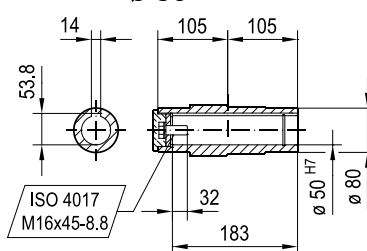
02 078 01 16

S77/S77p..

S77..

S77/S77p..


(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	557	589	585	635	666	716	734	760	826
LS	650	682	679	729	778	828	872	897	1015
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

SF77/SF77p..

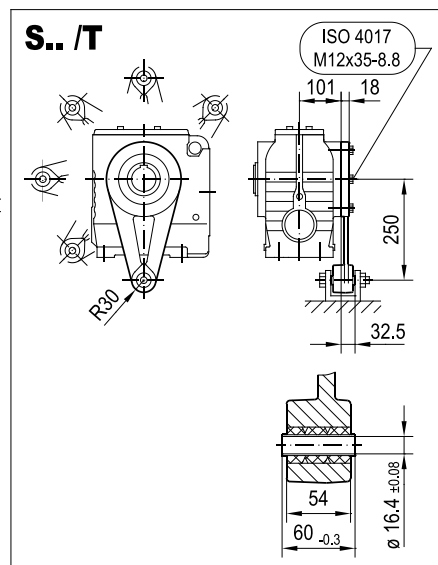
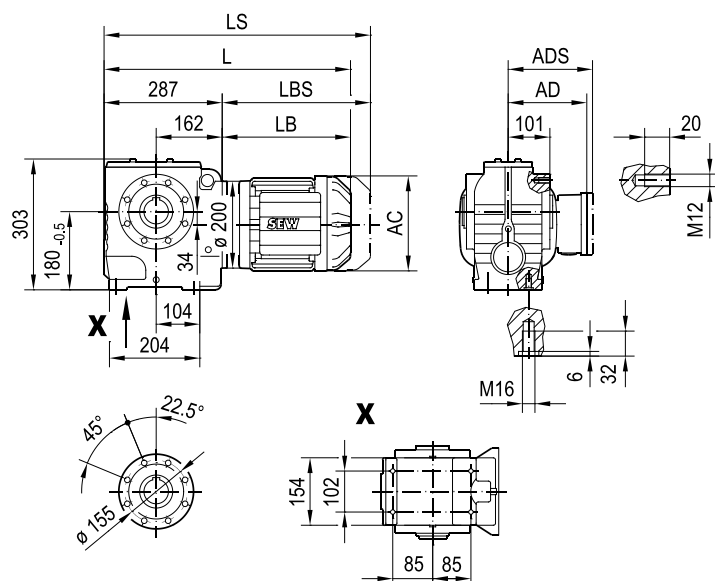
02 079 01 16

**SF77..****SF77/SF77p..****SAF77/SAF77p..****SHF77/SHF77p..****ø 60 H7****ø 50 H7**

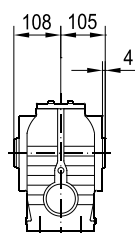
(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	557	589	585	635	666	716	734	760	826
LS	650	682	679	729	778	828	872	897	1015
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

02 080 01 16

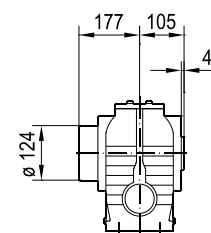
SA77/SA77p..



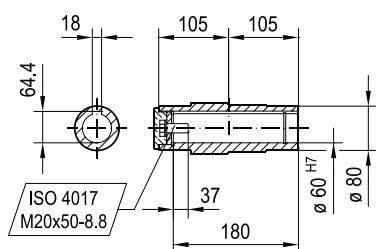
SA77/SA77p..



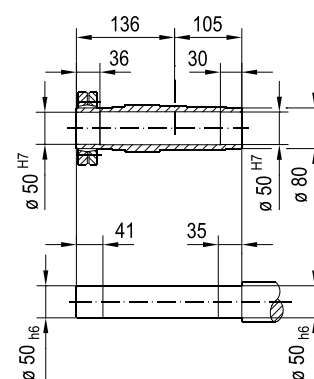
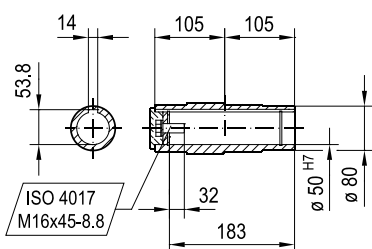
SH77/SH77p..



ø 60 H7



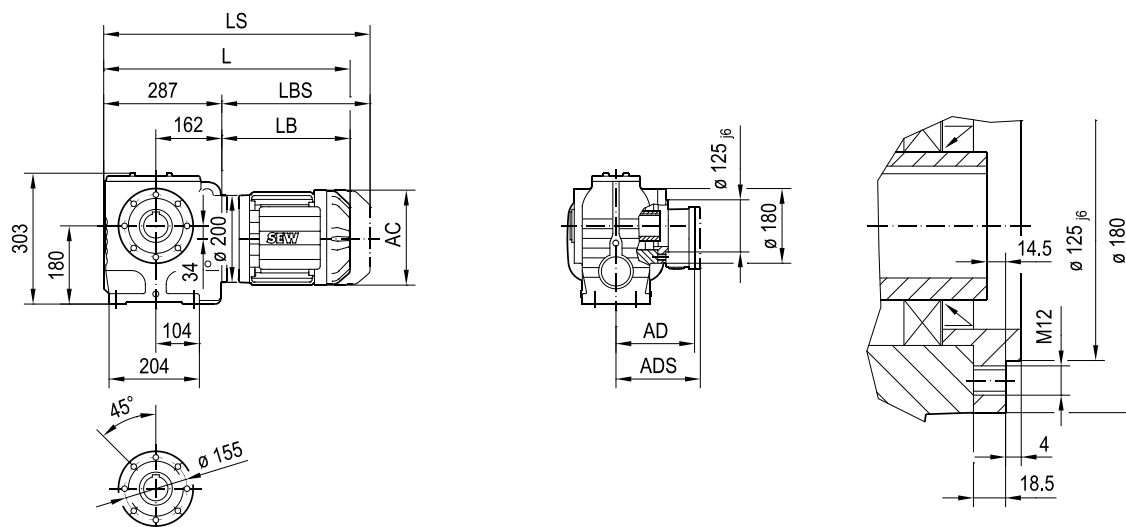
ø 50 H7



(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	557	589	585	635	666	716	734	760	826
LS	650	682	679	729	778	828	872	897	1015
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

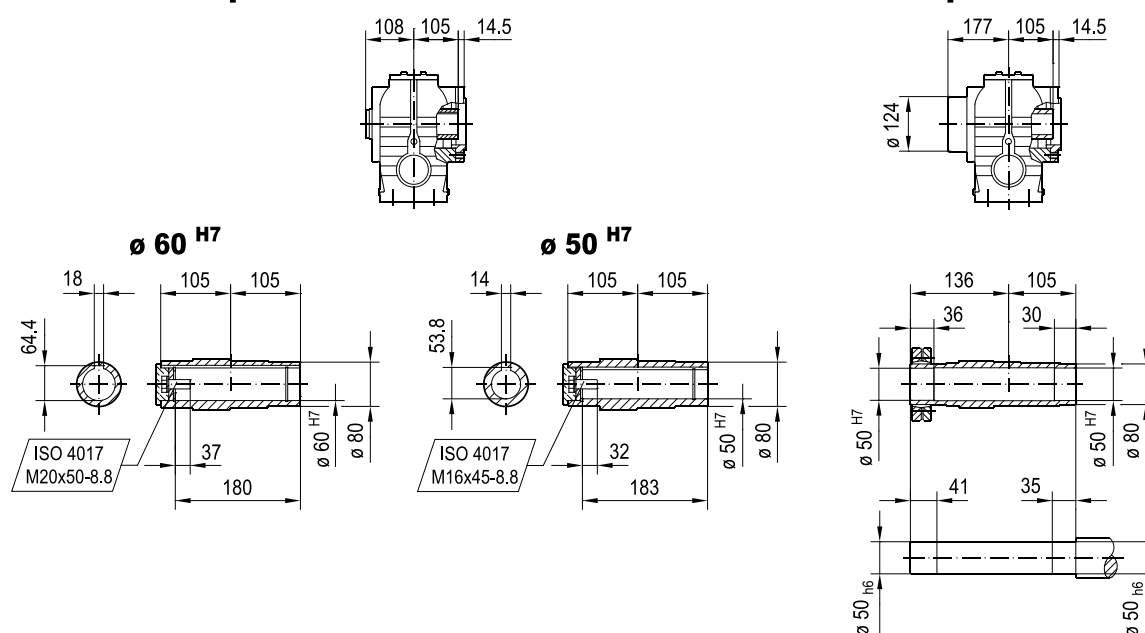
SAZ77/SAZ77p..

02 081 01 16



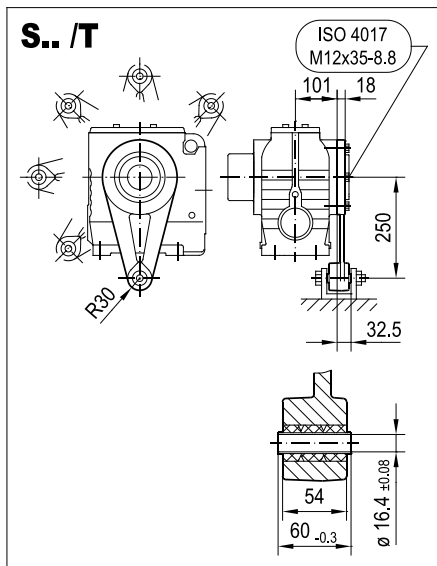
SAZ77/SAZ77p..

SHZ77/SHZ77p..



(→ 7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	557	589	585	635	666	716	734	760	826
LS	650	682	679	729	778	828	872	897	1015
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

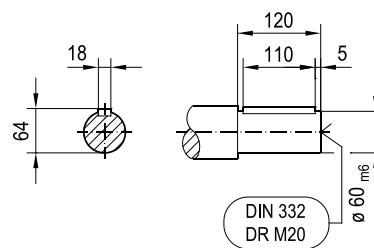
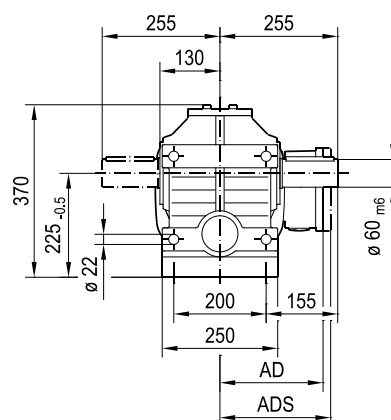
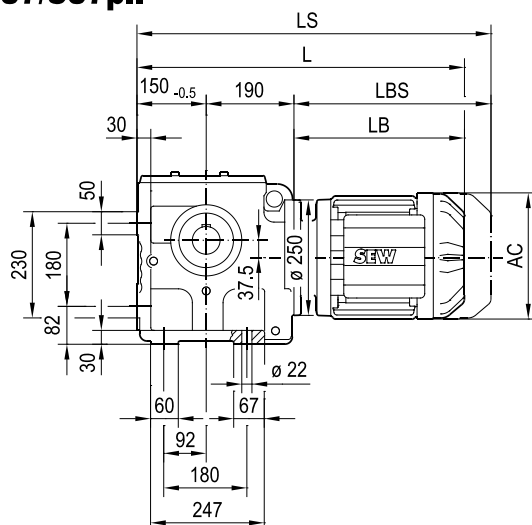
02 082 01 16



(→  7.2)	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160
AC	179	179	197	197	221	221	261	261	314
AD	140	140	157	157	170	170	228	228	253
ADS	150	150	158	158	172	172	228	228	253
L	557	589	585	635	666	716	734	760	826
LS	650	682	679	729	778	828	872	897	1015
LB	270	302	298	348	379	429	447	473	539
LBS	363	395	392	442	491	541	585	610	728

02 083 01 16

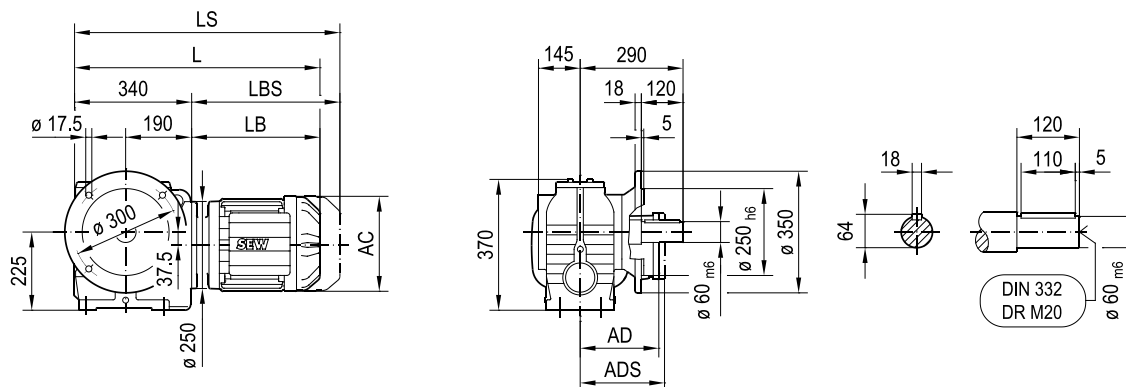
S87/S87p..



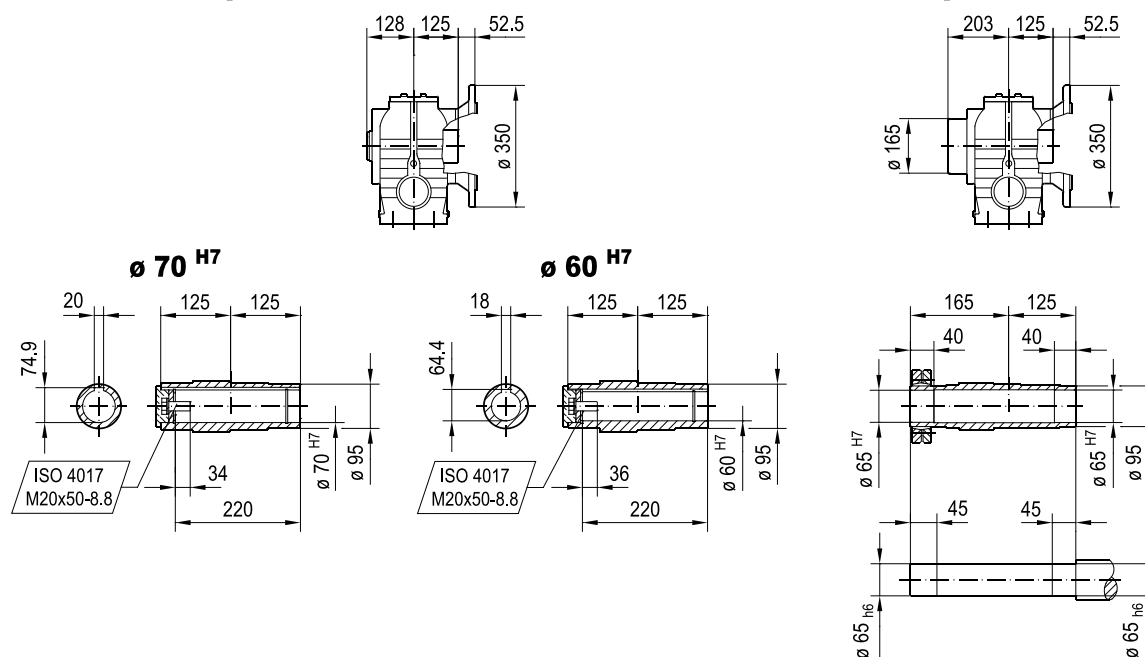
(→ 7.2)	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180
AC	179	197	197	221	221	261	261	314	357
AD	140	157	157	170	170	228	228	253	268
ADS	150	158	158	172	172	228	228	253	268
L	637	633	683	714	764	782	808	874	897
LS	730	727	777	826	876	920	945	1063	1086
LB	297	293	343	374	424	442	468	534	557
LBS	390	387	437	486	536	580	605	723	746

SF87/SF87p..

02 084 01 16

**SAF87/SAF87p..**

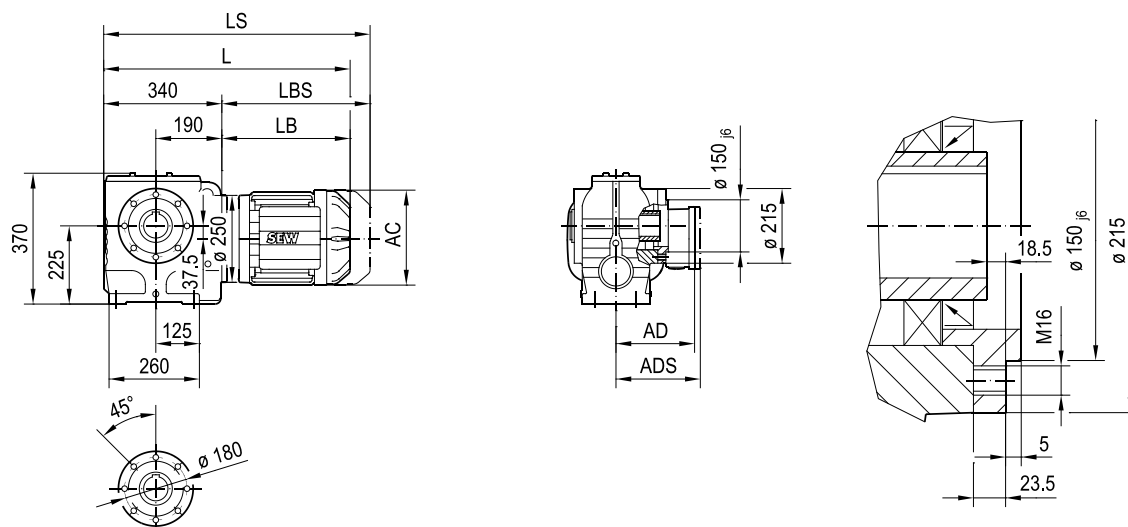
SHF87/SHF87p..



(→ 7.2)	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180
AC	179	197	197	221	221	261	261	314	357
AD	140	157	157	170	170	228	228	253	268
ADS	150	158	158	172	172	228	228	253	268
L	637	633	683	714	764	782	808	874	897
LS	730	727	777	826	876	920	945	1063	1086
LB	297	293	343	374	424	442	468	534	557
LBS	390	387	437	486	536	580	605	723	746

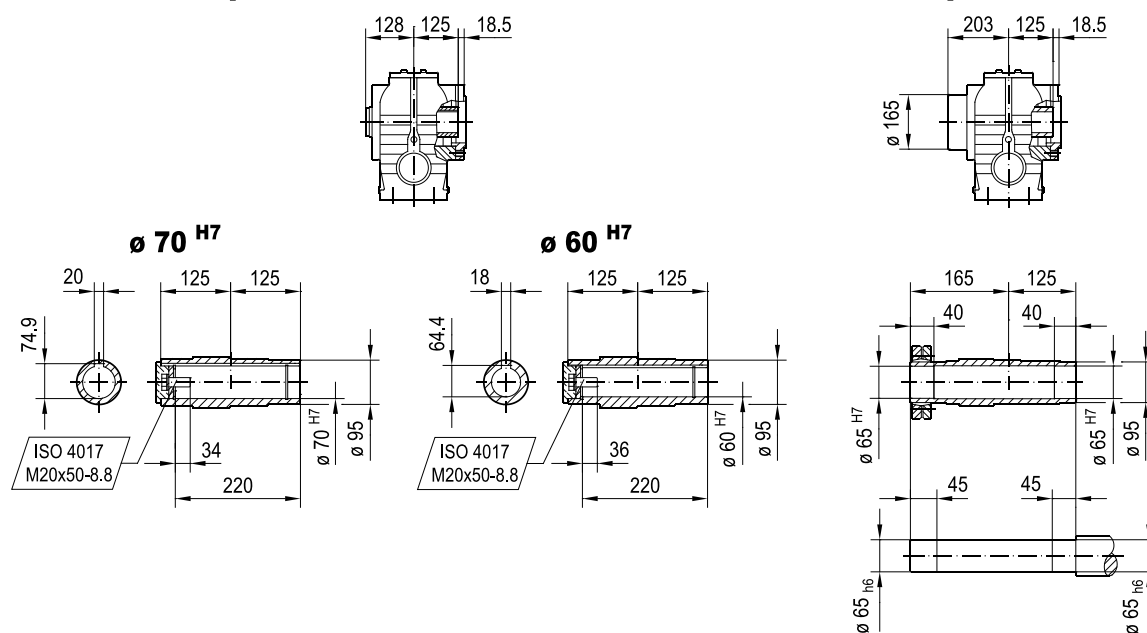
SAZ87/SAZ87p..

02 086 01 16



SAZ87/SAZ87p..

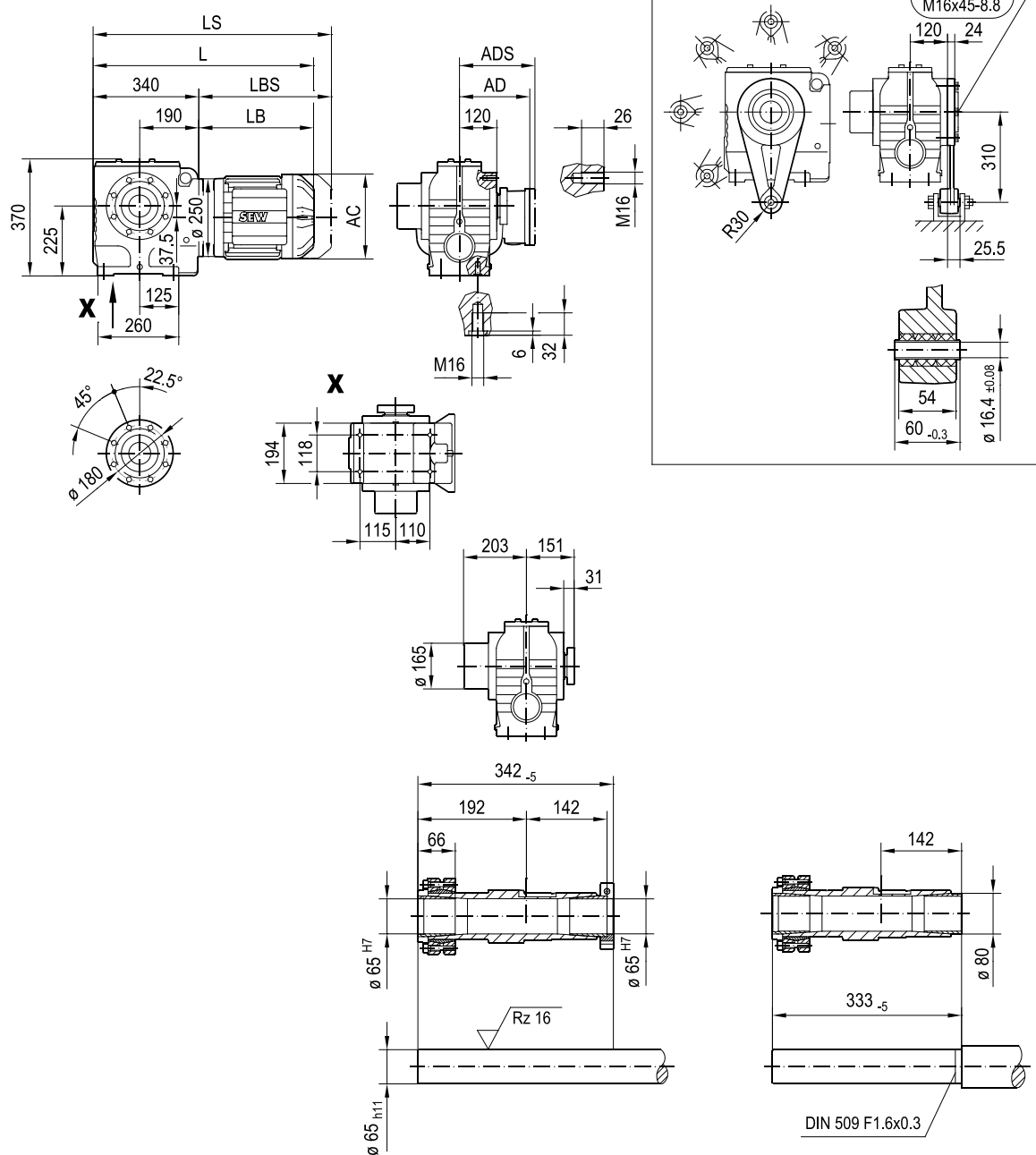
SHZ87/SHZ87p..



(→ 7.2)	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180
AC	179	197	197	221	221	261	261	314	357
AD	140	157	157	170	170	228	228	253	268
ADS	150	158	158	172	172	228	228	253	268
L	637	633	683	714	764	782	808	874	897
LS	730	727	777	826	876	920	945	1063	1086
LB	297	293	343	374	424	442	468	534	557
LBS	390	387	437	486	536	580	605	723	746

ST87/ST87p..

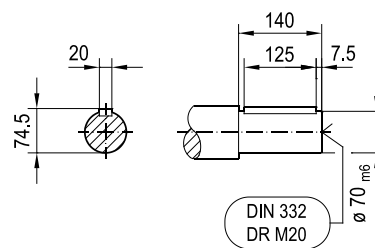
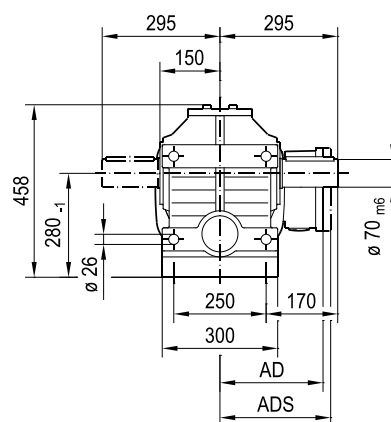
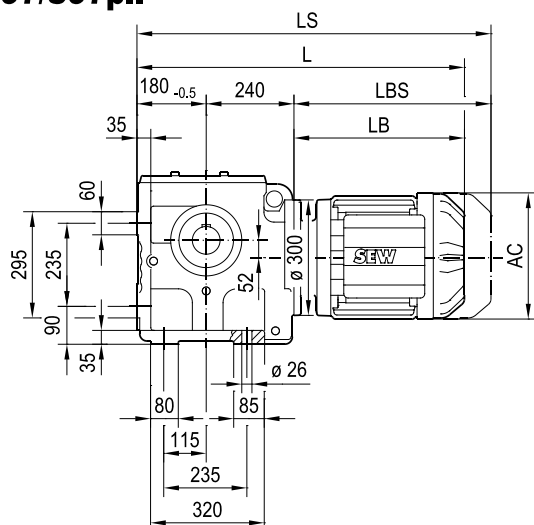
02 087 01 16



(→ 7.2)	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180
AC	179	197	197	221	221	261	261	314	357
AD	140	157	157	170	170	228	228	253	268
ADS	150	158	158	172	172	228	228	253	268
L	637	633	683	714	764	782	808	874	897
LS	730	727	777	826	876	920	945	1063	1086
LB	297	293	343	374	424	442	468	534	557
LBS	390	387	437	486	536	580	605	723	746

02 088 01 16

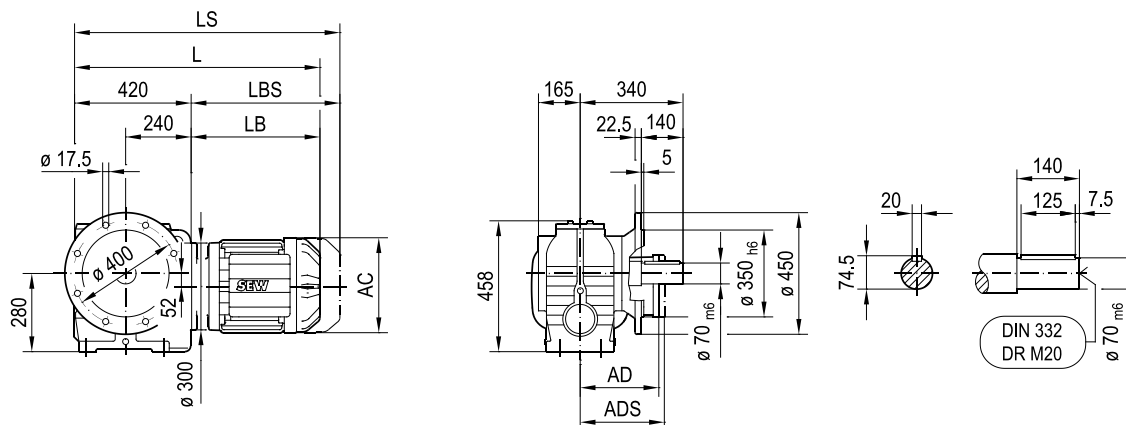
S97/S97p..



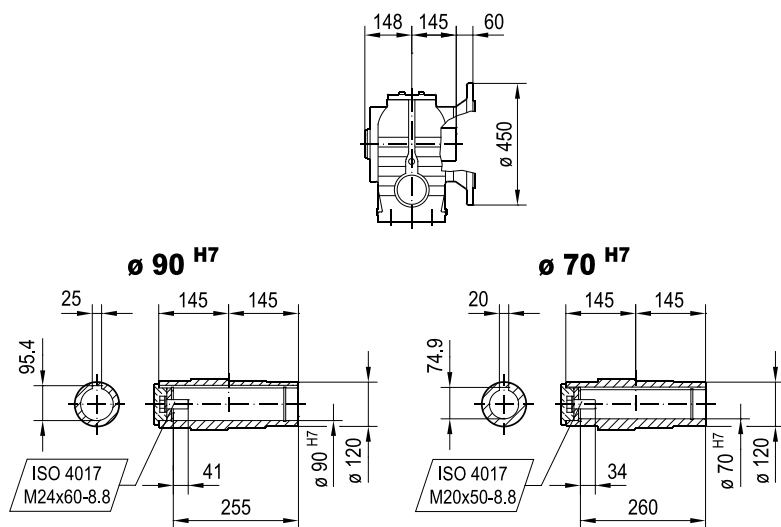
(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	758	789	839	857	883	949	972	1082	1056
LS	852	901	951	995	1020	1138	1161	1287	1261
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

02 089 01 16

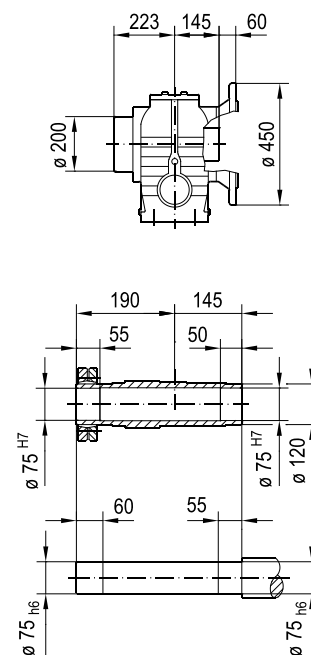
SF97/SF97p..



SAF97/SAF97p..



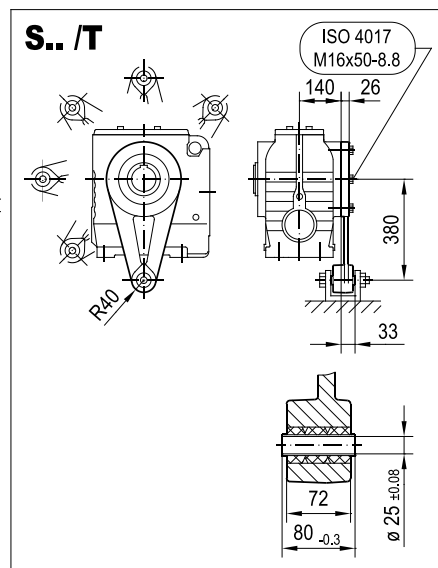
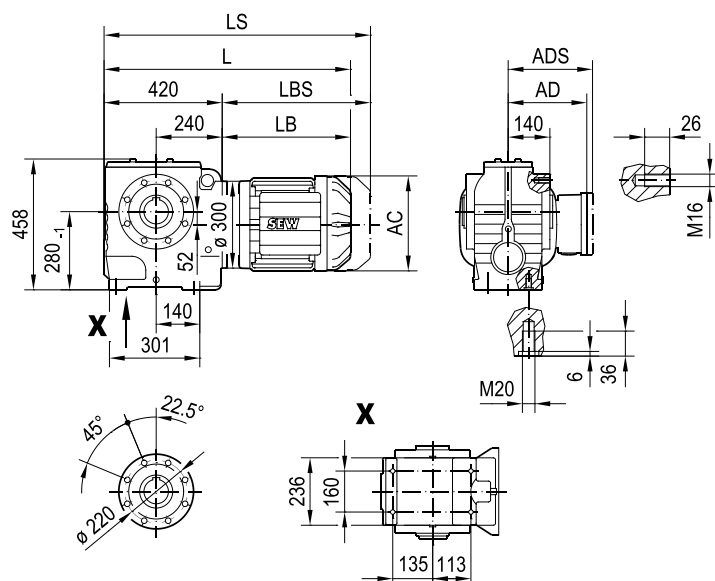
SHF97/SHF97p..



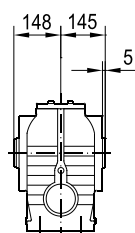
(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	758	789	839	857	883	949	972	1082	1056
LS	852	901	951	995	1020	1138	1161	1287	1261
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

02 090 01 16

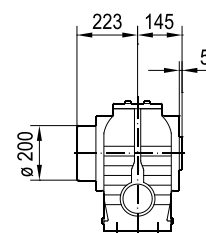
SA97/SA97p..



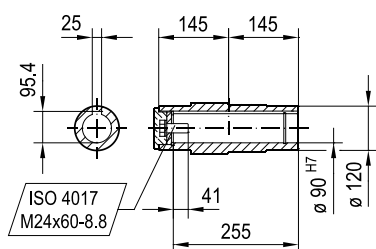
SA97/SA97p..



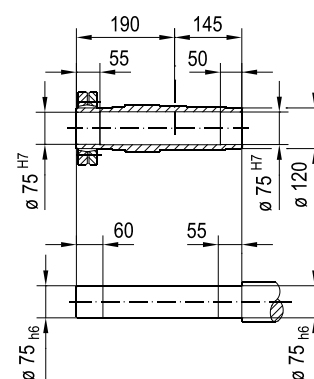
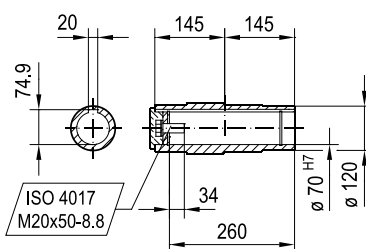
SH97/SH97p..



ø 90 H7



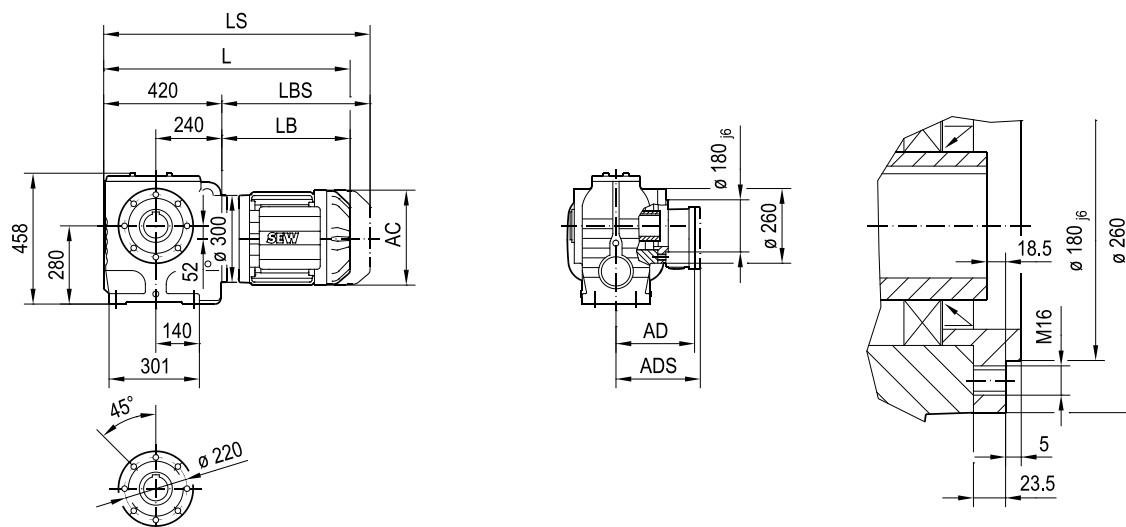
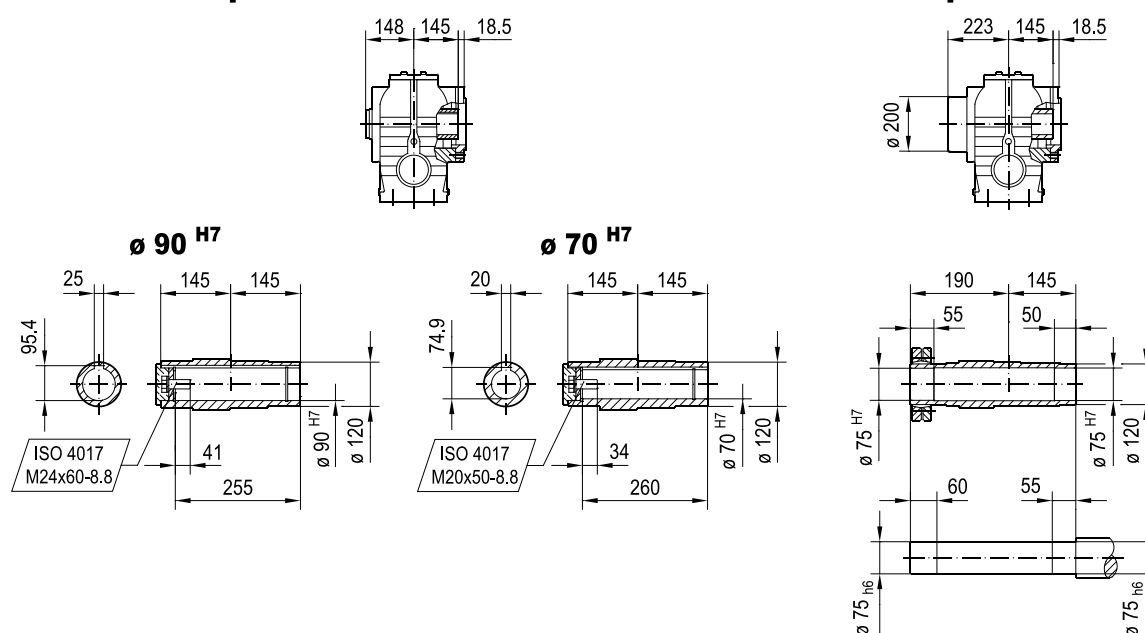
ø 70 H7



(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	758	789	839	857	883	949	972	1082	1056
LS	852	901	951	995	1020	1138	1161	1287	1261
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

SAZ97/SAZ97p...

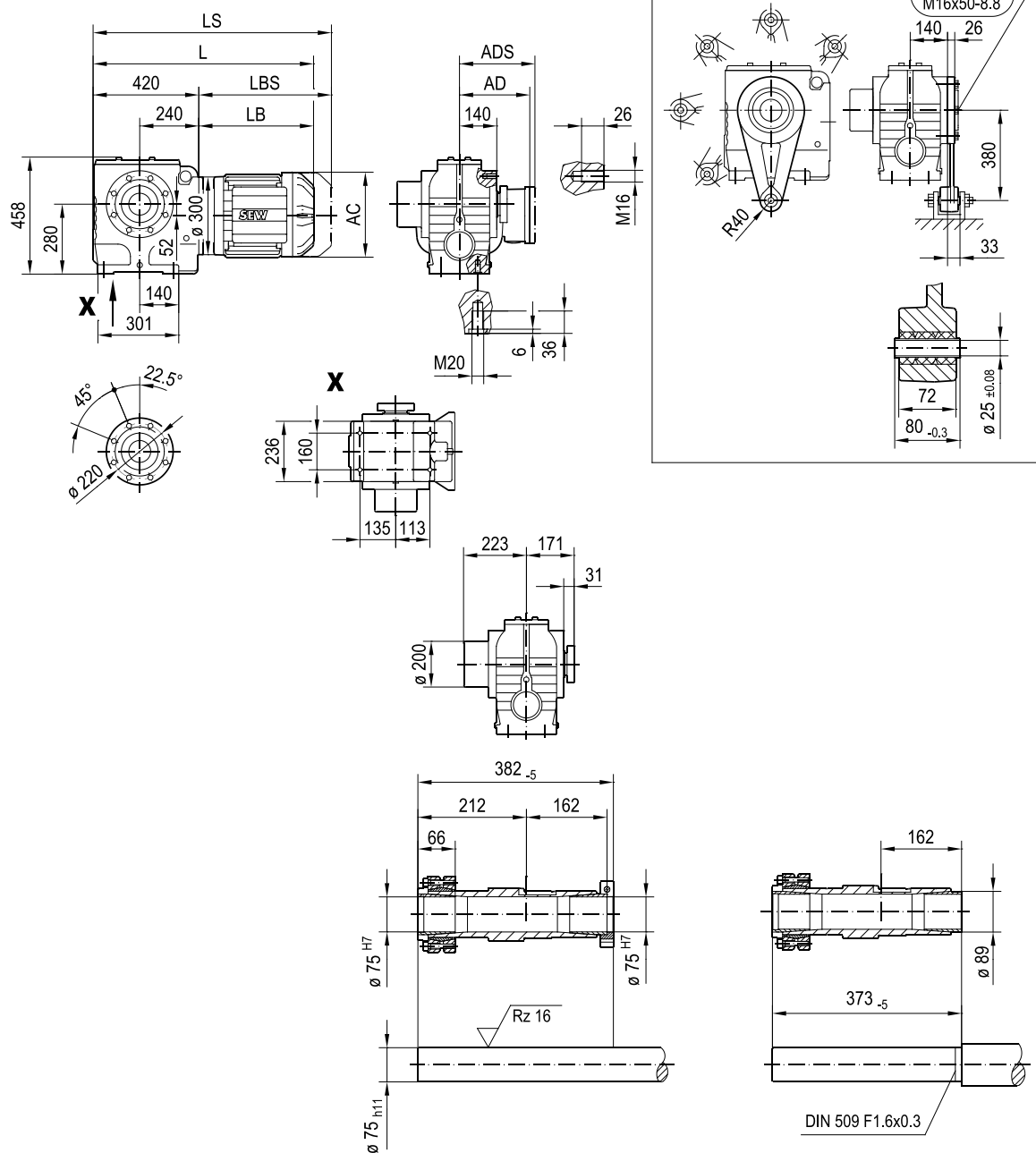
02 091 01 16

**SAZ97/SAZ97p..****SHZ97/SHZ97p...**

(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	758	789	839	857	883	949	972	1082	1056
LS	852	901	951	995	1020	1138	1161	1287	1261
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

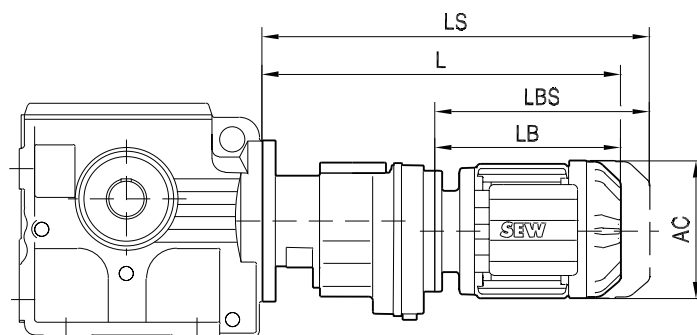
ST97/ST97p..

02 092 01 16



(→ 7.2)	EDRN100L/LM	EDRN112M	EDRN132S	EDRN132M	EDRN132L	EDRN160	EDRN180	EDRN200L	EDRN225
AC	197	221	221	261	261	314	357	394	434
AD	157	170	170	228	228	253	268	283	305
ADS	158	172	172	228	228	253	268	283	305
L	758	789	839	857	883	949	972	1082	1056
LS	852	901	951	995	1020	1138	1161	1287	1261
LB	338	369	419	437	463	529	552	662	636
LBS	432	481	531	575	600	718	741	867	841

12.4.3 S..R..EDRN.. /mm



02 080 00 06

(→ 246)		AC	L	LS	LB	LBS
S..67R37	DRN80M	156	446	527	281	362
	DRN90S	179	448	541	283	376
S..77R37	DRN80M	156	438	519	281	362
	DRN90S	179	440	533	283	376
	DRN90L	179	472	565	315	408
S..87R57	DRN80M	156	502	583	275	356
	DRN90S	179	504	597	277	370
	DRN90L	179	536	629	309	402
	DRN100LS	197	533	626	305	398
S..97R57	DRN80M	156	497	578	275	356
	DRN90S	179	499	592	277	370
	DRN90L	179	531	624	309	402
	DRN100LS	197	528	621	305	398
	DRN100L	197	578	671	355	448
	DRN112M	221	608	720	386	498

12.4.4 Technical data S..37 – 97

Technical data S..37

3400 – 2800 min⁻¹

i _{tot}	i _s	n _e = 3400 min ⁻¹				n _e = 3200 min ⁻¹				n _e = 2800 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
157.43	38/1	21	78	0.31	56	20	80	0.30	56	17	82	0.28	56
144.40		23	76	0.33	57	22	78	0.32	56	19	80	0.29	56
122.94		27	74	0.37	57	26	75	0.36	57	22	78	0.33	57
106.00		32	71	0.41	58	30	72	0.39	58	26	76	0.36	58
98.80		34	70	0.43	58	32	72	0.42	58	28	75	0.38	58
86.36		39	68	0.48	59	37	69	0.45	59	32	72	0.42	59
80.96		41	66	0.49	59	39	68	0.48	59	34	72	0.44	59
71.44		47	55	0.47	59	44	64	0.50	60	39	70	0.48	60
63.33		53	37	0.37	56	50	51	0.46	59	44	67	0.52	60
53.83		63	29	0.35	54	59	32	0.36	55	52	53	0.49	60
55.93	27/2	60	70	0.59	76	57	71	0.56	76	50	72	0.50	75
51.30		66	68	0.62	76	62	70	0.60	76	54	72	0.55	76
43.68		77	66	0.70	77	73	67	0.67	76	64	70	0.62	76
37.66		90	64	0.78	77	84	65	0.75	77	74	68	0.69	77
35.10		96	62	0.81	77	91	64	0.79	77	79	66	0.72	77
30.68		110	61	0.91	78	104	62	0.87	78	91	64	0.79	77
28.76		118	58	0.92	78	111	61	0.91	78	97	64	0.84	78
25.38		133	47	0.85	77	126	53	0.90	78	110	62	0.92	78
22.50		151	31	0.65	75	142	43	0.83	77	124	57	0.95	78
19.13		177	24	0.61	74	167	27	0.63	75	146	44	0.87	78
19.89	24/5	170	42	0.88	85	160	43	0.85	85	140	44	0.76	85
18.24		186	41	0.93	86	175	42	0.90	86	153	44	0.83	85
15.53		218	39	1.0	86	206	40	1.0	86	180	42	0.93	86
13.39		253	37	1.1	86	238	39	1.1	86	209	41	1.0	86
12.48		272	37	1.2*	86	256	38	1.2*	86	224	40	1.1	86
10.91		311	35	1.3*	86	293	36	1.3*	86	256	39	1.2*	86
10.23		332	35	1.4*	86	312	36	1.4*	86	273	38	1.3*	86
9.02		376	31	1.4*	85	354	34	1.5*	86	310	36	1.4*	86
8.00		425	20	1.0	85	400	29	1.4*	85	350	35	1.5*	86
6.80		500	16	1.0	84	470	18	1.0	85	411	29	1.5*	85
6.33	19/5	537	24	1.5*	87	505	27	1.6*	88	442	32	1.7*	88
5.38		631	20	1.5*	87	594	22	1.6*	87	520	26	1.6*	88
4.86		699	18	1.5*	87	658	19	1.5*	87	576	24	1.6*	88
3.97		856	14	1.5*	86	806	15	1.5*	87	705	19	1.6*	88

* P_{Mot_max} = 1.1 kW

2200 – 1400 min⁻¹

i _{tot}	i _s	n _e = 2200 min ⁻¹				n _e = 1700 min ⁻¹				n _e = 1400 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
157.43	38/1	13	87	0.23	54	10	91	0.19	53	8.8	92	0.16	52
144.40		15	86	0.25	55	11	90	0.21	54	9.6	92	0.18	53
122.94		17	83	0.28	56	13	87	0.23	55	11	91	0.20	54
106.00		20	81	0.31	57	16	86	0.26	56	13	88	0.22	55
98.80		22	80	0.33	57	17	85	0.27	56	14	87	0.23	55
86.36		25	78	0.36	58	19	82	0.30	57	16	86	0.26	56
80.96		27	77	0.38	58	20	82	0.31	57	17	85	0.27	56
71.44		30	75	0.41	59	23	80	0.34	58	19	84	0.30	57
63.33		34	73	0.44	60	26	79	0.38	59	22	82	0.33	58
53.83		40	69	0.49	60	31	76	0.42	60	26	80	0.37	59
55.93	27/2	39	77	0.43	74	30	81	0.35	73	25	81	0.29	73
51.30		42	76	0.46	75	33	80	0.38	74	27	81	0.32	73
43.68		50	74	0.52	76	38	78	0.43	75	32	81	0.37	74
37.66		58	72	0.58	76	45	76	0.48	75	37	79	0.41	75
35.10		62	71	0.61	76	48	75	0.50	76	39	78	0.43	75
30.68		71	70	0.68	77	55	73	0.56	76	45	76	0.48	76
28.76		76	68	0.71	77	59	73	0.59	77	48	75	0.50	76
25.38		86	67	0.78	78	66	71	0.65	77	55	74	0.56	76
22.50		97	66	0.86	78	75	70	0.71	78	62	73	0.62	77
19.13		115	63	0.96	79	88	68	0.81	78	73	71	0.70	78
19.89	24/5	110	48	0.66	85	85	50	0.53	84	70	52	0.46	84
18.24		120	47	0.70	85	93	49	0.57	84	76	52	0.50	84
15.53		141	45	0.78	85	109	48	0.65	85	90	50	0.56	84
13.39		164	44	0.88	86	126	47	0.73	85	104	49	0.63	85
12.48		176	43	0.92	86	136	46	0.77	86	112	48	0.66	85
10.91		201	42	1.0	86	155	45	0.85	86	128	48	0.75	86
10.23		215	41	1.1	86	166	45	0.91	86	136	47	0.79	86
9.02		243	40	1.2*	87	188	43	0.98	86	155	46	0.87	86
8.00		275	39	1.3*	86	212	43	1.1	87	175	45	0.95	86
6.80		323	37	1.5*	86	250	41	1.2*	87	205	43	1.1	87
6.33	19/5	347	35	1.4*	88	268	35	1.1	88	221	35	0.93	87
5.38		408	34	1.6*	88	315	34	1.3*	88	260	34	1.1	88
4.86		452	32	1.7*	89	349	33	1.4*	88	288	33	1.1	88
3.97		554	26	1.7*	88	428	32	1.6*	89	352	32	1.3*	88

* P_{Mot_max} = 1.1 kW

1100 – 700 min⁻¹

i _{tot}	i _s	n _e = 1100 min ⁻¹				n _e = 900 min ⁻¹				n _e = 700 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
157.43	38/1	6.9	92	0.13	51	5.7	92	0.11	50	4.4	92	0.09	48
144.40		7.6	92	0.14	51	6.2	92	0.12	50	4.8	92	0.10	49
122.94		8.9	92	0.17	52	7.3	92	0.14	51	5.6	92	0.11	50
106.00		10	92	0.19	53	8.4	92	0.16	52	6.6	92	0.13	51
98.80		11	92	0.20	54	9.1	92	0.17	53	7.0	92	0.13	51
86.36		12	90	0.22	55	10	92	0.19	54	8.1	92	0.15	52
80.96		13	89	0.23	55	11	92	0.20	54	8.6	92	0.16	53
71.44		15	87	0.25	56	12	91	0.22	55	9.7	92	0.18	53
63.33		17	86	0.28	57	14	89	0.24	56	11	92	0.20	54
53.83		20	84	0.31	58	16	87	0.27	57	13	91	0.22	56
55.93	27/2	19	87	0.25	72	16	91	0.22	71	12	92	0.17	69
51.30		21	87	0.27	72	17	90	0.23	71	13	92	0.19	70
43.68		25	84	0.30	73	20	87	0.26	72	16	92	0.22	71
37.66		29	82	0.34	74	23	86	0.30	73	18	89	0.24	72
35.10		31	82	0.36	74	25	84	0.31	73	19	88	0.26	72
30.68		35	80	0.40	75	29	82	0.34	74	22	87	0.29	73
28.76		38	79	0.42	75	31	82	0.36	74	24	86	0.30	73
25.38		43	78	0.47	76	35	81	0.40	75	27	84	0.33	74
22.50		48	77	0.52	76	40	79	0.44	75	31	82	0.36	74
19.13		57	75	0.59	77	47	78	0.50	76	36	81	0.41	75
19.89	24/5	55	55	0.38	83	45	58	0.33	82	35	60	0.27	81
18.24		60	54	0.41	83	49	56	0.35	83	38	60	0.30	82
15.53		70	53	0.47	84	57	55	0.40	83	45	58	0.33	82
13.39		82	52	0.53	84	67	54	0.45	84	52	56	0.37	83
12.48		88	51	0.56	85	72	53	0.48	84	56	55	0.39	83
10.91		100	50	0.62	85	82	52	0.53	84	64	54	0.43	84
10.23		107	49	0.65	85	87	51	0.56	85	68	54	0.46	84
9.02		121	48	0.72	86	99	50	0.61	85	77	53	0.51	84
8.00		137	47	0.79	86	112	49	0.68	85	87	52	0.56	85
6.80		161	46	0.90	86	132	48	0.77	86	102	51	0.64	85
6.33	19/5	173	45	0.94	87	142	45	0.77	87	110	45	0.61	86
5.38		204	43	1.1	88	167	43	0.86	87	130	43	0.68	87
4.86		226	42	1.1	88	185	42	0.93	88	144	42	0.73	87
3.97		277	40	1.3*	88	226	40	1.1	88	176	40	0.84	88

* P_{Mot_max} = 1.1 kW

500 – 10 min⁻¹

i _{tot}	i _s	n _e = 500 min ⁻¹				n _e = 250 min ⁻¹				n _e = 10 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
157.43	38/1	3.1	92	0.07	47	1.5	92	<0.05	46	0.06	92	<0.05	46
144.40		3.4	92	0.07	47	1.7	92	<0.05	46	0.06	92	<0.05	46
122.94		4.0	92	0.08	48	2.0	92	<0.05	46	0.08	92	<0.05	46
106.00		4.7	92	0.09	49	2.3	92	<0.05	46	0.09	92	<0.05	47
98.80		5.0	92	0.10	49	2.5	92	0.05	46	0.10	92	<0.05	47
86.36		5.7	92	0.11	50	2.8	92	0.06	47	0.11	92	<0.05	47
80.96		6.1	92	0.12	50	3.0	92	0.06	47	0.12	92	<0.05	47
71.44		6.9	92	0.13	51	3.4	92	0.07	48	0.13	92	<0.05	47
63.33		7.8	92	0.15	52	3.9	92	0.08	48	0.15	92	<0.05	47
53.83		9.2	92	0.17	53	4.6	92	0.09	49	0.18	92	<0.05	47
55.93	27/2	8.9	92	0.13	68	4.4	92	0.06	67	0.17	92	<0.05	67
51.30		9.7	92	0.14	68	4.8	92	0.07	67	0.19	92	<0.05	67
43.68		11	92	0.16	69	5.7	92	0.08	67	0.22	92	<0.05	67
37.66		13	92	0.18	70	6.6	92	0.10	67	0.26	92	<0.05	67
35.10		14	92	0.20	70	7.1	92	0.10	67	0.28	92	<0.05	67
30.68		16	92	0.22	71	8.1	92	0.12	68	0.32	92	<0.05	67
28.76		17	91	0.23	71	8.6	92	0.12	68	0.34	92	<0.05	67
25.38		19	89	0.25	72	9.8	92	0.14	69	0.39	92	<0.05	67
22.50		22	87	0.28	73	11	92	0.15	69	0.44	92	<0.05	67
19.13		26	85	0.32	74	13	92	0.18	70	0.52	92	<0.05	67
19.89	24/5	25	68	0.22	80	12	72	0.12	79	0.50	72	<0.05	79
18.24		27	66	0.23	81	13	72	0.13	79	0.54	72	<0.05	79
15.53		32	63	0.26	81	16	72	0.15	79	0.64	72	<0.05	79
13.39		37	61	0.29	82	18	72	0.18	80	0.74	72	<0.05	79
12.48		40	59	0.30	82	20	72	0.19	80	0.8	72	<0.05	79
10.91		45	58	0.34	83	22	71	0.21	80	0.91	71	<0.05	79
10.23		48	57	0.35	83	24	70	0.22	81	0.97	70	<0.05	79
9.02		55	56	0.39	83	27	66	0.24	81	1.1	66	<0.05	79
8.00		62	55	0.43	84	31	63	0.25	81	1.2	63	<0.05	79
6.80		73	54	0.49	84	36	61	0.29	82	1.4	61	<0.05	79
6.33	19/5	78	45	0.44	85	39	45	0.23	83	1.5	45	<0.05	80
5.38		92	43	0.49	86	46	43	0.25	83	1.8	43	<0.05	80
4.86		102	42	0.53	86	51	42	0.27	84	2.0	42	<0.05	80
3.97		125	40	0.61	87	62	40	0.31	84	0.06	92	<0.05	80

Technical data S..47

3400 – 2800 min⁻¹

i _{tot}	i _s	n _e = 3400 min ⁻¹				n _e = 3200 min ⁻¹				n _e = 2800 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
201.00	42/1	16	150	0.46	57	15	150	0.44	57	13	150	0.39	56
184.80		18	150	0.50	58	17	150	0.47	58	15	150	0.42	57
158.12		21	150	0.58	59	20	150	0.54	58	17	150	0.48	58
137.05		24	150	0.65	60	23	150	0.62	59	20	150	0.55	59
128.10		26	150	0.69	60	24	150	0.66	60	21	150	0.58	59
110.73		30	138	0.73	60	28	148	0.74	61	25	150	0.66	60
94.08		36	113	0.71	60	34	123	0.73	60	29	146	0.75	61
84.00		40	95	0.68	59	38	107	0.71	60	33	130	0.75	61
71.75		47	58	0.52	56	44	82	0.65	59	39	107	0.72	61
67.20		50	53	0.51	55	47	68	0.59	58	41	99	0.72	60
56.61		60	40	0.48	53	56	46	0.50	54	49	75	0.66	59
69.39	29/2	48	140	0.94	77	46	140	0.88	77	40	140	0.78	76
63.80		53	140	1.0	77	50	140	0.96	77	43	140	0.84	76
54.59		62	140	1.2	78	58	140	1.1	78	51	140	0.98	77
47.32		71	139	1.3	78	67	140	1.3	78	59	140	1.1	78
44.22		76	129	1.3	78	72	139	1.3	78	63	140	1.2	78
38.23		88	112	1.3	78	83	120	1.3	79	73	139	1.4	79
32.48		104	91	1.3	78	98	100	1.3	78	86	117	1.3	79
29.00		117	76	1.2	77	110	86	1.3	78	96	104	1.3	79
24.77		137	47	0.91	75	129	66	1.2	77	113	87	1.3	78
23.20		146	42	0.87	74	137	54	1.0	76	120	79	1.3	78
19.54		174	32	0.81	72	163	37	0.86	74	143	59	1.1	77
20.33	27/5	167	100	2.0*	86	157	100	1.9*	86	137	100	1.7*	86
17.62		192	97	2.3*	86	181	100	2.2*	86	158	100	1.9*	86
16.47		206	90	2.3*	86	194	97	2.3*	86	170	100	2.1*	86
14.24		238	78	2.3*	86	224	83	2.3*	86	196	97	2.3*	86
12.10		280	63	2.2*	86	264	69	2.2*	86	231	82	2.3*	86
10.80		314	53	2.1*	85	296	60	2.2*	85	259	72	2.3*	86
9.23		368	32	1.5	85	346	45	1.9*	85	303	60	2.2*	86
8.64		393	29	1.4	84	370	37	1.7*	85	324	55	2.2*	86
7.28		467	22	1.3	83	439	25	1.4	84	384	41	1.9*	85
6.83	20/5	497	34	2.0*	87	468	37	2.1*	88	409	45	2.2*	88
6.4		531	31	2.0*	87	500	34	2.0*	87	437	42	2.2*	88
5.39		630	24	1.8*	86	593	27	1.9*	87	519	34	2.1*	88
4.76		714	20	1.8*	85	672	23	1.9*	86	588	29	2.0*	87
4		850	16	1.7*	85	800	18	1.8*	85	700	23	1.9*	87

* P_{Mot_max} = 1.5 kW

2200 – 1400 min⁻¹

i _{tot}	i _s	n _e = 2200 min ⁻¹				n _e = 1700 min ⁻¹				n _e = 1400 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
201.00	42/1	10	167	0.35	55	8.4	170	0.28	54	6.9	170	0.23	53
184.80		11	167	0.37	56	9.1	168	0.30	55	7.5	170	0.25	53
158.12		13	167	0.43	57	10	168	0.34	56	8.8	170	0.29	54
137.05		16	165	0.48	58	12	167	0.38	57	10	168	0.32	55
128.10		17	165	0.51	58	13	167	0.41	57	10	168	0.34	56
110.73		19	165	0.58	59	15	167	0.46	58	12	168	0.39	57
94.08		23	165	0.67	60	18	167	0.53	59	14	168	0.45	58
84.00		26	162	0.73	61	20	167	0.59	60	16	167	0.50	59
71.75		30	145	0.76	62	23	167	0.68	61	19	167	0.57	60
67.20		32	137	0.76	62	25	164	0.71	61	20	167	0.60	60
56.61		38	115	0.76	62	30	152	0.77	62	24	165	0.69	62
69.39	29/2	31	155	0.68	75	24	155	0.54	74	20	155	0.45	73
63.80		34	155	0.74	76	26	155	0.58	75	21	155	0.48	74
54.59		40	155	0.86	77	31	155	0.67	75	25	155	0.56	75
47.32		46	155	0.98	77	35	155	0.77	76	29	155	0.64	75
44.22		49	155	1.0	78	38	155	0.82	77	31	155	0.68	76
38.23		57	154	1.2	78	44	155	0.93	77	36	155	0.78	77
32.48		67	146	1.3	79	52	155	1.1	78	43	155	0.91	77
29.00		75	137	1.4	79	58	154	1.2	79	48	155	1.0	78
24.77		88	117	1.4	79	68	145	1.3	79	56	155	1.2	79
23.20		94	111	1.4	79	73	142	1.4	79	60	152	1.2	79
19.54		112	92	1.4	79	87	123	1.4	80	71	144	1.4	79
20.33	27/5	108	109	1.4	86	83	110	1.1	86	68	110	0.93	85
17.62		124	108	1.6*	87	96	109	1.3	86	79	110	1.1	86
16.47		133	108	1.7*	87	103	109	1.4	86	85	110	1.1	86
14.24		154	108	2.0*	87	119	109	1.6*	87	98	110	1.3	86
12.10		181	105	2.3*	87	140	109	1.8*	87	115	109	1.5	87
10.80		203	95	2.3*	87	157	108	2.1*	87	129	109	1.7*	87
9.23		238	82	2.4*	87	184	105	2.3*	87	151	109	2.0*	87
8.64		254	77	2.4*	86	196	100	2.4*	87	162	109	2.1*	87
7.28		302	64	2.3*	86	233	86	2.4*	87	192	103	2.4*	87
6.83		322	62	2.4*	89	248	78	2.3*	89	204	78	1.9*	89
6.40		343	58	2.3*	89	265	76	2.4*	89	218	76	2.0*	89
5.39		408	48	2.3*	89	315	65	2.4*	89	259	74	2.3*	89
4.76	20/5	462	42	2.3*	89	357	58	2.4*	89	294	72	2.5*	90
4.00		550	34	2.2*	88	425	48	2.4*	89	350	61	2.5*	90

* P_{Mot_max} = 1.5 kW

1100 – 700 min⁻¹

i _{tot}	i _s	n _e = 1100 min ⁻¹				n _e = 900 min ⁻¹				n _e = 700 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
201.00	42/1	5.4	176	0.20	52	4.4	180	0.17	50	3.4	185	0.14	49
184.80		5.9	174	0.21	52	4.8	178	0.18	51	3.7	183	0.15	50
158.12		6.9	172	0.24	53	5.6	176	0.20	52	4.4	180	0.17	51
137.05		8.0	171	0.27	54	6.5	172	0.22	53	5.1	178	0.19	51
128.10		8.5	171	0.28	55	7.0	172	0.24	53	5.4	176	0.19	52
110.73		9.9	169	0.32	56	8.1	171	0.27	54	6.3	174	0.22	53
94.08		11	169	0.37	57	9.5	171	0.31	55	7.4	172	0.25	54
84.00		13	169	0.40	58	10	169	0.34	56	8.3	171	0.27	55
71.75		15	169	0.46	59	12	169	0.39	57	9.7	171	0.31	56
67.20		16	169	0.49	59	13	169	0.41	58	10	171	0.33	56
56.61		19	169	0.57	60	15	169	0.48	59	12	171	0.38	58
69.39	29/2	15	173	0.40	72	12	176	0.33	71	10	180	0.27	70
63.80		17	173	0.43	73	14	175	0.36	72	10	180	0.29	71
54.59		20	171	0.49	74	16	173	0.41	73	12	176	0.33	72
47.32		23	171	0.56	74	19	173	0.47	74	14	175	0.38	72
44.22		24	171	0.60	75	20	171	0.49	74	15	175	0.40	73
38.23		28	169	0.67	76	23	171	0.56	75	18	173	0.45	73
32.48		33	169	0.78	76	27	171	0.66	76	21	171	0.52	74
29.00		37	170	0.88	77	31	171	0.73	76	24	171	0.58	75
24.77		44	169	1.0	78	36	170	0.84	77	28	171	0.67	76
23.20		47	164	1.0	78	38	170	0.89	77	30	171	0.71	76
19.54		56	154	1.2	79	46	165	1.0	78	35	170	0.83	77
20.33	27/5	54	112	0.75	84	44	114	0.63	84	34	116	0.51	83
17.62		62	112	0.86	85	51	113	0.72	84	39	115	0.57	83
16.47		66	112	0.92	85	54	113	0.77	84	42	114	0.61	84
14.24		77	111	1.1	86	63	112	0.87	85	49	113	0.69	84
12.10		90	111	1.2	86	74	111	1.0	86	57	113	0.81	85
10.80		101	111	1.4	86	83	111	1.1	86	64	112	0.89	85
9.23		119	110	1.6*	87	97	111	1.3	86	75	112	1.0	86
8.64		127	109	1.7*	87	104	111	1.4	87	81	112	1.1	86
7.28		151	109	2.0*	87	123	111	1.6*	87	96	111	1.3	87
6.83	20/5	161	95	1.8*	89	131	95	1.5*	88	102	95	1.2	88
6.40		171	93	1.9*	89	140	93	1.6*	88	109	93	1.2	88
5.39		204	89	2.1*	89	166	89	1.8*	89	129	89	1.4	88
4.76		231	87	2.4*	89	189	87	1.9*	89	147	87	1.5	89
4.00		275	78	2.5*	90	225	84	2.2*	89	175	84	1.7*	89

* P_{Mot_max} = 1.5 kW

500 – 10 min⁻¹

i _{tot}	i _s	n _e = 500 min ⁻¹				n _e = 250 min ⁻¹				n _e = 10 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
201.00	42/1	2.4	185	0.10	47	1.2	185	0.05	47	0.04	185	<0.05	47
184.80		2.7	185	0.11	48	1.3	185	0.06	47	0.05	185	<0.05	47
158.12		3.1	185	0.13	49	1.5	185	0.07	47	0.06	185	<0.05	47
137.05		3.6	185	0.14	50	1.8	185	0.08	47	0.07	185	<0.05	47
128.10		3.9	183	0.15	50	1.9	185	0.08	47	0.07	185	<0.05	47
110.73		4.5	181	0.17	51	2.2	185	0.09	47	0.09	185	<0.05	48
94.08		5.3	178	0.19	52	2.6	185	0.11	48	0.10	185	<0.05	48
84.00		5.9	176	0.21	53	2.9	185	0.12	49	0.11	185	<0.05	48
71.75		6.9	174	0.24	54	3.4	185	0.14	50	0.13	185	<0.05	48
67.20		7.4	172	0.25	54	3.7	185	0.14	50	0.14	185	<0.05	48
56.61		8.8	172	0.29	56	4.4	181	0.16	51	0.17	181	<0.05	48
69.39	29/2	7.2	185	0.20	69	3.6	185	0.10	67	0.14	185	<0.05	67
63.80		7.8	185	0.22	69	3.9	185	0.11	67	0.15	185	<0.05	67
54.59		9.1	185	0.25	70	4.5	185	0.13	67	0.18	185	<0.05	67
47.32		10	181	0.28	71	5.2	185	0.15	68	0.21	185	<0.05	68
44.22		11	180	0.30	71	5.6	185	0.16	68	0.22	185	<0.05	68
38.23		13	178	0.34	72	6.5	185	0.18	69	0.26	185	<0.05	68
32.48		15	174	0.39	73	7.6	185	0.22	69	0.30	185	<0.05	68
29.00		17	174	0.43	73	8.6	185	0.24	70	0.34	185	<0.05	68
24.77		20	172	0.49	74	10	183	0.27	71	0.40	183	<0.05	68
23.20		21	172	0.52	75	10	181	0.29	71	0.43	181	<0.05	68
19.54		25	172	0.61	76	12	178	0.33	72	0.51	178	<0.05	68
20.33	27/5	24	124	0.39	82	12	157	0.25	80	0.49	157	<0.05	79
17.62		28	120	0.43	82	14	149	0.28	80	0.56	149	<0.05	80
16.47		30	118	0.46	82	15	145	0.29	80	0.60	145	<0.05	80
14.24		35	116	0.51	83	17	138	0.31	81	0.70	138	<0.05	80
12.10		41	115	0.60	84	20	131	0.35	81	0.82	131	<0.05	80
10.80		46	114	0.66	84	23	127	0.38	82	0.92	127	<0.05	80
9.23		54	113	0.76	85	27	121	0.42	82	1.0	121	<0.05	80
8.64		57	113	0.81	85	28	120	0.44	83	1.1	120	<0.05	80
7.28		68	112	0.94	86	34	117	0.51	83	1.3	117	<0.05	80
6.83	20/5	73	95	0.84	87	36	95	0.43	84	1.4	95	<0.05	81
6.40		78	93	0.88	87	39	93	0.45	85	1.5	93	<0.05	81
5.39		92	89	0.99	87	46	89	0.51	85	1.8	89	<0.05	81
4.76		105	87	1.1	88	52	87	0.56	86	2.1	87	<0.05	81
4.00		125	84	1.2	88	62	84	0.64	86	2.5	84	<0.05	81

Technical data S..57

3400 – 2800 min⁻¹

i _{tot}	i _s	n _e = 3400 min ⁻¹				n _e = 3200 min ⁻¹				n _e = 2800 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
201.00	42/1	16	270	0.78	61	15	270	0.74	61	13	270	0.66	60
184.80		18	270	0.84	62	17	270	0.79	62	15	270	0.70	61
158.12		21	270	0.97	63	20	270	0.92	63	17	270	0.81	62
137.05		24	255	1.0	64	23	270	1.0	63	20	270	0.92	63
128.10		26	245	1.1	64	24	255	1.0	64	21	270	0.98	63
110.73		30	215	1.1	64	28	230	1.1	64	25	255	1.1	64
94.08		36	184	1.1	64	34	196	1.1	64	29	225	1.1	64
84.00		40	165	1.1	64	38	175	1.1	64	33	200	1.1	64
71.75		47	139	1.1	64	44	149	1.1	64	39	174	1.1	65
67.20		50	128	1.1	64	47	139	1.1	64	41	164	1.1	65
56.61		60	103	1.0	63	56	114	1.1	64	49	138	1.1	65
69.39	29/2	48	220	1.4	79	46	220	1.4	79	40	220	1.2	78
63.80		53	220	1.5	79	50	220	1.5	79	43	220	1.3	79
54.59		62	220	1.8	80	58	220	1.7	80	51	220	1.5	79
47.32		71	210	2.0	80	67	220	1.9	80	59	220	1.7	80
44.22		76	197	2.0	80	72	205	1.9	80	63	220	1.8	80
38.23		88	174	2.0	81	83	184	2.0	81	73	205	2.0	81
32.48		104	148	2.0	81	98	157	2.0	81	86	180	2.0	81
29.00		117	131	2.0	81	110	141	2.0	81	96	162	2.0	81
24.77		137	111	2.0	80	129	120	2.0	81	113	139	2.0	81
23.20		146	102	2.0	80	137	111	2.0	81	120	131	2.0	81
19.54		174	81	1.9	80	163	90	1.9	80	143	109	2.0	81
20.33	27/5	167	160	3.2*	88	157	160	3.0	88	137	160	2.6	88
17.62		192	140	3.2*	88	181	149	3.2*	88	158	160	3.0	88
16.47		206	132	3.2*	88	194	140	3.2*	88	170	158	3.2*	88
14.24		238	116	3.3*	88	224	123	3.3*	88	196	139	3.2*	88
12.10		280	99	3.3*	88	264	105	3.3*	88	231	121	3.3*	88
10.80		314	88	3.3*	88	296	94	3.3*	88	259	108	3.3*	88
9.23		368	73	3.2*	88	346	79	3.3*	88	303	93	3.3*	88
8.64		393	68	3.2*	88	370	74	3.3*	88	324	87	3.3*	88
7.28		467	54	3.0	88	439	60	3.1*	88	384	72	3.3*	88
6.8	20/5	497	54	3.2*	89	468	58	3.2*	89	409	69	3.3*	90
6.4		531	50	3.1*	89	500	54	3.2*	89	437	64	3.3*	89
5.4		630	41	3.1*	89	593	44	3.1*	89	519	53	3.2*	89
4.8		714	35	3.0	88	672	38	3.0	89	588	46	3.2*	89
4.0		850	28	2.8	88	800	31	2.9	88	700	38	3.1*	89

* P_{Mot_max} = 3.0 kW

2200 – 1400 min⁻¹

i _{tot}	i _s	n _e = 2200 min ⁻¹				n _e = 1700 min ⁻¹				n _e = 1400 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
201.00	42/1	10	295	0.58	59	8.4	295	0.46	57	6.9	295	0.39	56
184.80		11	295	0.62	60	9.1	295	0.49	58	7.5	295	0.41	56
158.12		13	295	0.71	61	10	295	0.56	59	8.8	295	0.47	58
137.05		16	295	0.80	62	12	295	0.64	60	10	295	0.54	59
128.10		17	295	0.85	62	13	295	0.68	61	10	295	0.57	59
110.73		19	290	0.96	63	15	295	0.77	62	12	295	0.65	60
94.08		23	275	1.1	64	18	300	0.91	63	14	295	0.75	62
84.00		26	250	1.1	64	20	285	0.95	63	16	295	0.83	62
71.75		30	220	1.1	65	23	275	1.1	64	19	290	0.94	63
67.20		32	210	1.1	65	25	260	1.1	64	20	285	0.98	64
56.61		38	179	1.1	65	30	225	1.1	65	24	265	1.1	65
69.39	29/2	31	245	1.1	77	24	245	0.83	76	20	245	0.69	75
63.80		34	245	1.1	78	26	245	0.89	77	21	245	0.74	76
54.59		40	245	1.3	79	31	245	1.0	78	25	245	0.86	77
47.32		46	245	1.5	79	35	245	1.2	78	29	245	0.98	77
44.22		49	245	1.6	80	38	245	1.3	79	31	245	1.0	78
38.23		57	245	1.8	80	44	245	1.4	79	36	245	1.2	78
32.48		67	225	2.0	81	52	245	1.7	80	43	245	1.4	79
29.00		75	200	2.0	81	58	245	1.9	80	48	245	1.6	80
24.77		88	177	2.0	81	68	220	2.0	81	56	245	1.8	80
23.20		94	167	2.0	81	73	210	2.0	81	60	245	1.9	81
19.54		112	143	2.1	81	87	183	2.1	81	71	215	2.0	81
20.33	27/5	108	168	2.2	87	83	168	1.7	87	68	168	1.4	86
17.62		124	168	2.5	88	96	168	2.0	87	79	168	1.6	86
16.47		133	169	2.7	88	103	168	2.1	87	85	168	1.7	87
14.24		154	169	3.1*	88	119	169	2.4	88	98	169	2.0	87
12.10		181	150	3.2*	88	140	169	2.8	88	115	169	2.3	88
10.80		203	136	3.3*	88	157	169	3.2*	88	129	169	2.6	88
9.23		238	119	3.4*	88	184	149	3.3*	88	151	169	3.0	88
8.64		254	112	3.4*	89	196	141	3.3*	89	162	166	3.2*	88
7.28		302	96	3.4*	89	233	122	3.4*	89	192	146	3.3*	89
6.8	20/5	322	91	3.4*	90	248	100	2.9	90	204	100	2.4	89
6.4		343	85	3.4*	90	265	98	3.0	90	218	98	2.5	89
5.4		408	72	3.4*	90	315	95	3.5*	90	259	95	2.9	90
4.8		462	63	3.4*	90	357	84	3.5*	90	294	93	3.2*	90
4.0		550	53	3.4*	90	425	71	3.5*	90	350	88	3.6*	90

* P_{Mot_max} = 3.0 kW

1100 – 700 min⁻¹

i _{tot}	i _s	n _e = 1100 min ⁻¹				n _e = 900 min ⁻¹				n _e = 700 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
201.00	42/1	5.4	295	0.31	54	4.4	300	0.27	53	3.4	310	0.22	51
184.80		5.9	295	0.34	55	4.8	300	0.29	54	3.7	305	0.23	52
158.12		6.9	295	0.38	56	5.6	295	0.32	55	4.4	300	0.26	53
137.05		8.0	295	0.43	57	6.5	295	0.36	56	5.1	300	0.29	54
128.10		8.5	295	0.46	58	7.0	295	0.38	57	5.4	295	0.31	55
110.73		9.9	295	0.52	59	8.1	295	0.44	58	6.3	295	0.35	56
94.08		11	295	0.60	60	9.5	295	0.50	59	7.4	295	0.40	57
84.00		13	295	0.67	61	10	295	0.56	60	8.3	295	0.44	58
71.75		15	295	0.77	62	12	295	0.64	61	9.7	295	0.51	59
67.20		16	300	0.82	62	13	295	0.68	61	10	295	0.54	60
56.61		19	290	0.93	64	15	300	0.80	62	12	295	0.63	61
69.39	29/2	15	270	0.61	74	12	270	0.50	73	10	270	0.40	72
63.80		17	270	0.65	75	14	270	0.54	74	10	270	0.43	72
54.59		20	270	0.75	76	16	270	0.62	75	12	270	0.50	73
47.32		23	270	0.86	76	19	270	0.71	75	14	270	0.56	74
44.22		24	270	0.92	77	20	270	0.76	76	15	270	0.60	75
38.23		28	270	1.0	78	23	270	0.87	77	18	270	0.69	75
32.48		33	270	1.2	78	27	270	1.0	77	21	270	0.80	76
29.00		37	270	1.4	79	31	270	1.1	78	24	270	0.89	77
24.77		44	270	1.6	80	36	270	1.3	79	28	270	1.0	78
23.20		47	270	1.7	80	38	270	1.4	79	30	270	1.1	78
19.54		56	250	1.8	81	46	270	1.6	80	35	270	1.3	79
20.33	27/5	54	168	1.1	85	44	170	0.93	84	34	172	0.74	84
17.62		62	169	1.3	86	51	169	1.1	85	39	170	0.84	84
16.47		66	168	1.4	86	54	168	1.1	85	42	170	0.90	84
14.24		77	168	1.6	86	63	168	1.3	86	49	170	1.0	85
12.10		90	169	1.9	87	74	169	1.5	86	57	169	1.2	86
10.80		101	169	2.1	87	83	169	1.7	87	64	169	1.3	86
9.23		119	170	2.4	88	97	168	2.0	87	75	168	1.5	87
8.64		127	170	2.6	88	104	169	2.1	87	81	168	1.6	87
7.28		151	170	3.0	88	123	170	2.5	88	96	170	2.0	87
6.8	20/5	161	120	2.3	89	131	120	1.9	89	102	120	1.5	88
6.4		171	117	2.4	89	140	117	1.9	89	109	117	1.5	88
5.4		204	111	2.6	90	166	111	2.2	89	129	111	1.7	89
4.8		231	108	2.9	90	189	108	2.4	90	147	108	1.9	89
4.0		275	103	3.3*	90	225	103	2.7	90	175	103	2.1	89

* P_{Mot_max} = 3.0 kW

500 – 10 min⁻¹

i _{tot}	i _s	n _e = 500 min ⁻¹				n _e = 250 min ⁻¹				n _e = 10 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
201.00	42/1	2.4	330	0.17	50	1.2	330	0.09	48	0.04	330	<0.05	48
184.80		2.7	330	0.19	50	1.3	330	0.10	48	0.05	330	<0.05	48
158.12		3.1	315	0.20	51	1.5	330	0.11	48	0.06	330	<0.05	48
137.05		3.6	310	0.23	52	1.8	330	0.13	49	0.07	330	<0.05	48
128.10		3.9	305	0.24	53	1.9	330	0.14	49	0.07	330	<0.05	49
110.73		4.5	300	0.26	54	2.2	330	0.16	50	0.09	330	<0.05	49
94.08		5.3	300	0.30	55	2.6	330	0.18	51	0.10	330	<0.05	49
84.00		5.9	295	0.33	56	2.9	325	0.20	51	0.11	325	<0.05	49
71.75		6.9	295	0.38	57	3.4	310	0.22	52	0.13	310	<0.05	49
67.20		7.4	295	0.40	57	3.7	310	0.23	53	0.14	310	<0.05	49
56.61		8.8	295	0.47	59	4.4	300	0.26	54	0.17	300	<0.05	49
69.39	29/2	7.2	300	0.32	70	3.6	300	0.17	68	0.14	300	<0.05	68
63.80		7.8	300	0.35	71	3.9	300	0.18	68	0.15	300	<0.05	68
54.59		9.1	300	0.40	72	4.5	300	0.21	68	0.18	300	<0.05	68
47.32		10	300	0.46	73	5.2	300	0.24	69	0.21	300	<0.05	68
44.22		11	300	0.49	73	5.6	300	0.26	69	0.22	300	<0.05	68
38.23		13	295	0.55	74	6.5	300	0.29	70	0.26	300	<0.05	68
32.48		15	295	0.64	75	7.6	300	0.34	71	0.30	300	<0.05	68
29.00		17	295	0.71	75	8.6	300	0.38	72	0.34	300	<0.05	68
24.77		20	295	0.82	76	10	300	0.44	73	0.40	300	<0.05	68
23.20		21	295	0.87	76	10	300	0.46	73	0.43	300	<0.05	68
19.54		25	295	1.0	77	12	295	0.54	74	0.51	295	<0.05	68
20.33	27/5	24	181	0.57	82	12	215	0.35	80	0.49	215	<0.05	79
17.62		28	175	0.63	83	14	210	0.39	80	0.56	210	<0.05	79
16.47		30	174	0.66	83	15	205	0.40	81	0.60	205	<0.05	79
14.24		35	172	0.75	84	17	198	0.45	81	0.70	198	<0.05	79
12.10		41	170	0.87	84	20	188	0.50	82	0.82	188	<0.05	79
10.80		46	170	0.97	85	23	184	0.54	82	0.92	184	<0.05	79
9.23		54	170	1.1	85	27	177	0.61	83	1.0	177	<0.05	79
8.64		57	170	1.2	86	28	175	0.64	83	1.1	175	<0.05	79
7.28		68	170	1.4	86	34	172	0.74	84	1.3	172	<0.05	79
6.8	20/5	73	120	1.1	87	36	120	0.54	85	1.4	120	<0.05	81
6.4		78	117	1.1	87	39	117	0.56	85	1.5	117	<0.05	81
5.4		92	111	1.2	88	46	111	0.63	86	1.8	111	<0.05	81
4.8		105	108	1.3	88	52	108	0.69	86	2.1	108	<0.05	81
4.0		125	103	1.5	89	62	103	0.78	87	2.5	103	<0.05	81

Technical data S..67

3400 – 2800 min⁻¹

i _{tot}	i _s	n _e = 3400 min ⁻¹				n _e = 3200 min ⁻¹				n _e = 2800 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
217.41	42/1	15	465	1.2	63	14	465	1.2	62	12	465	1.0	62
190.11		17	465	1.4	63	16	465	1.3	63	14	465	1.2	62
180.60		18	465	1.4	63	17	465	1.4	63	15	465	1.2	63
158.45		21	465	1.6	64	20	465	1.5	64	17	465	1.4	63
134.40		25	465	1.9	65	23	465	1.8	65	20	465	1.6	64
121.33		28	455	2.0	65	26	465	2.0	65	23	465	1.7	65
106.75		31	405	2.1	65	29	430	2.1	66	26	465	2.0	65
100.80		33	380	2.1	65	31	410	2.1	66	27	465	2.1	66
85.83		39	320	2.0	65	37	345	2.1	65	32	400	2.1	66
78.00		43	285	2.0	65	41	310	2.0	65	35	365	2.1	66
67.57		50	235	1.9	64	47	260	2.0	65	41	315	2.1	66
58.80		57	184	1.8	62	54	215	1.9	64	47	270	2.1	65
75.06	29/2	45	435	2.6	80	42	435	2.4	80	37	435	2.1	79
65.63		51	435	2.9	80	48	435	2.8	80	42	435	2.4	80
62.35		54	435	3.1	81	51	435	2.9	80	44	435	2.6	80
54.70		62	435	3.5	81	58	435	3.3	81	51	435	2.9	81
46.40		73	395	3.7	81	68	415	3.7	81	60	435	3.4	81
41.89		81	355	3.7	81	76	380	3.7	81	66	430	3.7	81
36.85		92	310	3.7	81	86	335	3.8	81	75	380	3.7	81
34.80		97	295	3.7	81	91	315	3.7	81	80	365	3.8	81
29.63		114	250	3.7	81	107	270	3.8	81	94	310	3.8	81
26.93		126	220	3.6	80	118	240	3.7	81	103	280	3.7	81
23.33		145	182	3.5	80	137	200	3.6	80	120	245	3.8	81
20.30		167	141	3.1	79	157	164	3.4	80	137	205	3.7	81
24.44	27/5	139	315	5.2	89	130	315	4.9	89	114	315	4.3	88
23.22		146	315	5.4	89	137	315	5.1	89	120	315	4.5	89
20.37		166	315	6.2*	89	157	315	5.8*	89	137	315	5.1	89
17.28		196	270	6.3*	89	185	290	6.3*	89	162	315	6.0*	89
15.60		217	245	6.3*	89	205	260	6.3*	89	179	295	6.2*	89
13.73		247	215	6.3*	89	233	230	6.3*	89	203	265	6.4*	89
12.96		262	200	6.2*	89	246	215	6.3*	89	216	250	6.4*	89
11.03		308	169	6.2*	88	290	183	6.3*	89	253	215	6.4*	89
10.03		338	151	6.1*	88	319	164	6.2*	88	279	194	6.4*	89
8.69		391	124	5.8*	88	368	137	6.0*	88	322	166	6.3*	89
7.56		449	95	5.1	87	423	112	5.7*	88	370	141	6.2*	88

* P_{Mot_max} = 5.5 kW

2200 – 1400 min⁻¹

i _{tot}	i _s	n _e = 2200 min ⁻¹				n _e = 1700 min ⁻¹				n _e = 1400 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
217.41	42/1	10	520	0.91	61	7.8	520	0.72	59	6.4	520	0.60	58
190.11		11	520	1.0	62	8.9	520	0.81	60	7.3	520	0.68	59
180.60		12	520	1.1	62	9.4	520	0.85	61	7.7	520	0.71	59
158.45		13	520	1.2	63	10	520	0.95	61	8.8	520	0.80	60
134.40		16	520	1.4	64	12	520	1.1	62	10	520	0.93	61
121.33		18	520	1.5	64	14	520	1.2	63	11	520	1.0	62
106.75		20	520	1.7	65	15	520	1.4	64	13	520	1.1	63
100.80		21	510	1.8	65	16	520	1.4	64	13	520	1.2	63
85.83		25	490	2.0	66	19	520	1.7	65	16	520	1.4	64
78.00		28	465	2.1	66	21	510	1.8	66	17	520	1.5	65
67.57		32	410	2.1	67	25	495	2.0	66	20	520	1.7	66
58.80		37	360	2.1	67	28	460	2.1	67	23	500	1.9	66
75.06	29/2	29	480	1.9	79	22	480	1.5	78	18	480	1.2	77
65.63		33	480	2.1	79	25	480	1.7	78	21	480	1.4	78
62.35		35	480	2.2	80	27	480	1.7	79	22	480	1.5	78
54.70		40	480	2.5	80	31	480	2.0	79	25	480	1.6	78
46.40		47	480	3.0	81	36	480	2.3	80	30	480	1.9	79
41.89		52	480	3.3	81	40	480	2.5	80	33	480	2.1	80
36.85		59	475	3.6	81	46	480	2.9	81	37	480	2.4	80
34.80		63	450	3.7	82	48	480	3.0	81	40	480	2.5	80
29.63		74	395	3.8	82	57	480	3.5	82	47	480	2.9	81
26.93		81	360	3.8	82	63	455	3.7	82	51	480	3.2	81
23.33		94	320	3.9	82	72	405	3.8	82	60	480	3.7	82
20.30		108	280	3.9	82	83	360	3.8	82	68	425	3.7	82
24.44	27/5	90	340	3.6	88	69	340	2.8	87	57	340	2.3	87
23.22		94	340	3.8	88	73	340	3.0	88	60	340	2.5	87
20.37		108	340	4.3	88	83	340	3.4	88	68	340	2.8	87
17.28		127	340	5.1	89	98	340	4.0	88	81	340	3.3	88
15.60		141	340	5.6*	89	108	340	4.4	89	89	340	3.6	88
13.73		160	330	6.2*	89	123	340	5.0	89	101	340	4.1	89
12.96		169	315	6.3*	89	131	340	5.2	89	108	340	4.3	89
11.03		199	275	6.4*	89	154	340	6.2*	89	126	340	5.1	89
10.03		219	250	6.4*	89	169	315	6.3*	89	139	340	5.6*	89
8.69		253	220	6.6*	89	195	280	6.4*	89	161	335	6.3*	89
7.56		291	192	6.6*	89	224	250	6.6*	89	185	295	6.4*	89

* P_{Mot_max} = 5.5 kW

1100 – 700 min⁻¹

i _{tot}	i _s	n _e = 1100 min ⁻¹				n _e = 900 min ⁻¹				n _e = 700 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
217.41	42/1	5.0	555	0.52	57	4.1	560	0.44	56	3.2	570	0.35	54
190.11		5.7	555	0.58	58	4.7	560	0.49	57	3.6	565	0.40	55
180.60		6.0	555	0.61	58	4.9	555	0.51	57	3.8	565	0.41	55
158.45		6.9	550	0.68	59	5.6	555	0.57	58	4.4	560	0.46	56
134.40		8.1	550	0.78	60	6.6	550	0.65	59	5.2	555	0.53	57
121.33		9.0	550	0.86	61	7.4	550	0.72	60	5.7	555	0.58	58
106.75		10	550	0.96	62	8.4	550	0.80	61	6.5	555	0.65	59
100.80		10	550	1.0	62	8.9	550	0.84	61	6.9	555	0.68	59
85.83		12	550	1.2	63	10	550	0.97	62	8.1	550	0.78	61
78.00		14	550	1.3	64	11	550	1.1	63	8.9	550	0.84	61
67.57		16	550	1.4	65	13	550	1.2	64	10	550	0.96	62
58.80		18	530	1.6	66	15	550	1.4	65	11	550	1.1	63
75.06	29/2	14	525	1.1	76	11	525	0.88	75	9.3	525	0.69	74
65.63		16	525	1.2	77	13	525	1.00	76	10	525	0.79	75
62.35		17	525	1.3	77	14	525	1.0	76	11	525	0.83	75
54.70		20	525	1.4	78	16	525	1.2	77	12	525	0.93	75
46.40		23	525	1.7	78	19	525	1.4	78	15	525	1.1	76
41.89		26	525	1.8	79	21	525	1.5	78	16	525	1.2	77
36.85		29	525	2.1	79	24	525	1.7	79	18	525	1.3	78
34.80		31	525	2.2	80	25	525	1.8	79	20	525	1.4	78
29.63		37	525	2.5	80	30	525	2.1	80	23	525	1.7	79
26.93		40	525	2.8	81	33	525	2.3	80	25	525	1.8	79
23.33		47	525	3.2	81	38	525	2.6	81	30	525	2.1	80
20.30		54	520	3.6	82	44	525	3.0	81	34	525	2.4	80
24.44	27/5	45	355	1.9	86	36	360	1.6	86	28	365	1.3	85
23.22		47	355	2.0	86	38	360	1.7	86	30	365	1.4	85
20.37		54	355	2.3	87	44	355	1.9	86	34	365	1.5	86
17.28		63	355	2.7	87	52	355	2.2	87	40	360	1.8	86
15.60		70	350	3.0	88	57	355	2.5	87	44	355	1.9	86
13.73		80	350	3.3	88	65	355	2.8	88	50	355	2.2	87
12.96		84	350	3.5	88	69	350	2.9	88	54	355	2.3	87
11.03		99	350	4.1	89	81	350	3.4	88	63	355	2.7	88
10.03		109	345	4.5	89	89	350	3.7	88	69	355	3.0	88
8.69		126	345	5.1	89	103	350	4.3	89	80	350	3.3	88
7.56		145	345	5.9*	89	119	345	4.8	89	92	350	3.8	89

* P_{Mot_max} = 5.5 kW

500 – 10 min⁻¹

i _{tot}	i _s	n _e = 500 min ⁻¹				n _e = 250 min ⁻¹				n _e = 10 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
217.41	42/1	2.2	570	0.26	52	1.1	570	0.14	50	0.04	570	<0.05	51
190.11		2.6	570	0.30	53	1.3	570	0.16	50	0.05	570	<0.05	51
180.60		2.7	570	0.31	53	1.3	570	0.17	50	0.05	570	<0.05	51
158.45		3.1	570	0.35	54	1.5	570	0.19	51	0.06	570	<0.05	51
134.40		3.7	565	0.40	55	1.8	570	0.22	52	0.07	570	<0.05	51
121.33		4.1	560	0.43	56	2.0	570	0.24	52	0.08	570	<0.05	51
106.75		4.6	560	0.48	57	2.3	570	0.27	53	0.09	570	<0.05	51
100.80		4.9	560	0.51	57	2.4	570	0.28	53	0.09	570	<0.05	51
85.83		5.8	555	0.58	58	2.9	570	0.32	54	0.11	570	<0.05	51
78.00		6.4	555	0.63	59	3.2	570	0.35	55	0.12	570	<0.05	51
67.57		7.3	555	0.71	60	3.6	565	0.39	56	0.14	565	<0.05	51
58.80		8.5	550	0.80	61	4.2	560	0.44	57	0.17	560	<0.05	51
75.06	29/2	6.6	570	0.55	72	3.3	570	0.29	69	0.13	570	<0.05	70
65.63		7.6	570	0.62	73	3.8	570	0.33	70	0.15	570	<0.05	70
62.35		8.0	570	0.65	73	4.0	570	0.34	70	0.16	570	<0.05	70
54.70		9.1	570	0.74	74	4.5	570	0.39	71	0.18	570	<0.05	70
46.40		10	570	0.86	75	5.3	570	0.45	71	0.21	570	<0.05	70
41.89		11	570	0.95	75	5.9	570	0.50	72	0.23	570	<0.05	70
36.85		13	570	1.1	76	6.7	570	0.56	73	0.27	570	<0.05	70
34.80		14	570	1.1	76	7.1	570	0.59	73	0.28	570	<0.05	70
29.63		16	565	1.3	77	8.4	570	0.68	74	0.33	570	<0.05	70
26.93		18	565	1.4	78	9.2	570	0.75	74	0.37	570	<0.05	70
23.33		21	565	1.6	78	10	570	0.85	75	0.42	570	<0.05	70
20.30		24	565	1.8	79	12	570	0.97	76	0.49	570	<0.05	70
24.44	27/5	20	365	0.93	84	10	355	0.47	82	0.40	355	<0.05	81
23.22		21	365	0.98	84	10	355	0.49	82	0.43	355	<0.05	81
20.37		24	380	1.2	85	12	365	0.57	82	0.49	365	<0.05	81
17.28		28	365	1.3	85	14	435	0.80	83	0.57	435	<0.05	81
15.60		32	365	1.4	85	16	430	0.87	83	0.64	430	<0.05	81
13.73		36	365	1.6	86	18	415	0.95	84	0.72	415	<0.05	81
12.96		38	360	1.7	86	19	410	0.99	84	0.77	410	<0.05	81
11.03		45	355	1.9	87	22	390	1.1	84	0.90	390	<0.05	81
10.03		49	355	2.1	87	24	380	1.2	85	0.99	380	<0.05	81
8.69		57	355	2.4	87	28	370	1.3	85	1.1	370	0.06	81
7.56		66	355	2.8	88	33	365	1.5	86	1.3	365	0.06	81

Technical data S..77

3400 – 2800 min⁻¹

i _{tot}	i _s	n _e = 3400 min ⁻¹				n _e = 3200 min ⁻¹				n _e = 2800 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
256.47	40/1	13	1160	2.4	68	12	1160	2.2	67	10	1160	2.0	67
225.26		15	1130	2.6	68	14	1150	2.5	68	12	1160	2.2	68
214.00		15	1110	2.7	68	14	1140	2.6	68	13	1160	2.3	68
189.09		17	1080	3.0	69	16	1100	2.8	69	14	1140	2.6	68
161.60		21	1040	3.3	69	19	1050	3.1	69	17	1090	2.9	69
148.15		22	1010	3.5	70	21	1030	3.4	70	18	1070	3.1	69
130.00		26	970	3.8	70	24	990	3.7	70	21	1030	3.3	70
123.20		27	950	3.9	70	25	970	3.8	70	22	1010	3.4	70
107.83		31	900	4.2	70	29	920	4.1	70	25	970	3.8	70
97.14		35	860	4.5	71	32	880	4.3	71	28	930	4.0	71
85.22		39	770	4.6	71	37	820	4.6	71	32	880	4.3	71
75.20		45	675	4.5	70	42	725	4.6	71	37	830	4.6	71
66.67		50	585	4.5	70	47	635	4.5	70	41	745	4.6	71
56.92		59	485	4.4	69	56	530	4.5	70	49	635	4.6	71
75.09	40/3	45	1020	5.7	85	42	1020	5.4	85	37	1020	4.7	84
71.33		47	1020	6.0	85	44	1020	5.7	85	39	1020	5.0	84
63.03		53	1020	6.8	85	50	1020	6.4	85	44	1020	5.6	85
53.87		63	980	7.6	86	59	1000	7.3	85	51	1020	6.5	85
49.38		68	950	8.0	86	64	970	7.7	86	56	1010	7.0	85
43.33		78	910	8.7	86	73	930	8.4	86	64	970	7.7	86
41.07		82	900	9.1	86	77	910	8.7	86	68	950	7.9	86
35.94		94	800	9.2	86	89	850	9.2	86	77	910	8.6	86
32.38		105	725	9.3*	86	98	770	9.3*	86	86	880	9.3	86
28.41		119	635	9.3*	86	112	680	9.3*	86	98	780	9.3	86
25.07		135	560	9.3*	86	127	600	9.3*	86	111	695	9.4	86
22.22		153	485	9.1	85	144	525	9.2	86	126	615	9.4	86
18.97		179	395	8.7	85	168	440	9.1	85	147	520	9.4	86
22.89	34/6	148	590	10.*2	90	139	590	9.6*	90	122	590	8.4	90
20.99		161	590	11.1*	90	152	590	10.5*	90	133	590	9.1	90
18.42		184	590	12.7*	90	173	590	11.9*	90	152	590	10.4	90
17.45		194	590	13.4*	90	183	590	12.6*	90	160	590	11.0	90
15.28		222	530	13.8*	90	209	560	13.7*	90	183	590	12.6	90
13.76		247	480	13.9*	90	232	505	13.7*	90	203	585	13.9*	90
12.07		281	415	13.7*	89	265	445	13.8*	89	231	515	13.9*	90
10.65		319	365	13.7*	89	300	390	13.8*	89	262	455	14.0*	90
9.44		360	315	13.4*	89	338	345	13.8*	89	296	405	14.1*	89
8.06		421	260	13.0*	88	397	285	13.4*	89	347	340	13.9*	89

* P_{Mot_max} = 9.2 kW

2200 – 1400 min⁻¹

i _{tot}	i _s	n _e = 2200 min ⁻¹				n _e = 1700 min ⁻¹				n _e = 1400 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
256.47	40/1	8.5	1260	1.7	66	6.6	1270	1.4	64	5.4	1270	1.1	63
225.26		9.7	1230	1.9	67	7.5	1270	1.5	65	6.2	1270	1.3	64
214.00		10	1220	2.0	67	7.9	1270	1.6	66	6.5	1270	1.4	64
189.09		11	1200	2.2	67	8.9	1240	1.8	66	7.4	1270	1.5	65
161.60		13	1160	2.4	68	10	1220	2.0	67	8.6	1260	1.7	66
148.15		14	1140	2.6	69	11	1200	2.1	68	9.4	1240	1.8	67
130.00		16	1100	2.8	69	13	1170	2.4	68	10	1210	2.0	67
123.20		17	1080	2.9	69	13	1150	2.4	68	11	1200	2.1	68
107.83		20	1040	3.2	70	15	1110	2.7	69	12	1170	2.3	68
97.14		22	1010	3.4	70	17	1090	2.9	70	14	1140	2.5	69
85.22		25	970	3.7	71	19	1050	3.1	70	16	1100	2.7	69
75.20		29	920	4.0	71	22	1010	3.4	71	18	1070	3.0	70
66.67		32	880	4.3	71	25	970	3.6	71	20	1040	3.2	71
56.92		38	830	4.7	72	29	920	4.0	72	24	990	3.6	71
75.09	40/3	29	1100	4.0	84	22	1100	3.1	83	18	1100	2.6	82
71.33		30	1100	4.2	84	23	1100	3.3	83	19	1100	2.7	82
63.03		34	1100	4.8	84	26	1100	3.7	84	22	1100	3.1	83
53.87		40	1100	5.5	85	31	1100	4.3	84	25	1100	3.6	83
49.38		44	1080	5.9	85	34	1100	4.7	84	28	1100	3.9	84
43.33		50	1050	6.5	85	39	1100	5.3	85	32	1100	4.4	84
41.07		53	1030	6.8	85	41	1100	5.6	85	34	1100	4.7	84
35.94		61	980	7.3	86	47	1060	6.2	85	38	1100	5.3	85
32.38		67	960	8.0	86	52	1040	6.7	86	43	1090	5.8	85
28.41		77	920	8.7	86	59	990	7.2	86	49	1050	6.3	86
25.07		87	870	9.3*	86	67	960	7.9	86	55	1020	7.0	86
22.22		99	790	9.5*	86	76	920	8.5	86	63	980	7.5	86
18.97		115	680	9.6*	86	89	860	9.3*	87	73	930	8.3	86
22.89	34/6	96	710	7.9	90	74	705	6.1	89	61	705	5.1	89
20.99		104	710	8.7	90	80	705	6.7	90	66	705	5.5	89
18.42		119	720	10.0*	90	92	710	7.6	90	76	705	6.3	90
17.45		126	720	10.5*	90	97	710	8.0	90	80	710	6.7	90
15.28		143	720	12.0*	90	111	720	9.3*	90	91	710	7.6	90
13.76		159	725	13.5*	90	123	720	10.3*	90	101	710	8.4	90
12.07		182	650	13.8*	90	140	725	11.8*	90	115	720	9.7*	90
10.65		206	580	13.9*	90	159	725	13.4*	90	131	720	11.0*	91
9.44		233	520	14.1*	90	180	655	13.7*	90	148	725	12.4*	91
8.06		272	445	14.1*	90	210	575	14.1*	90	173	680	13.7*	91

* P_{Mot_max} = 9.2 kW

1100 – 700 min⁻¹

i _{tot}	i _s	n _e = 1100 min ⁻¹				n _e = 900 min ⁻¹				n _e = 700 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
256.47	40/1	4.2	1270	0.92	62	3.5	1270	0.77	61	2.7	1270	0.61	59
225.26		4.8	1270	1.0	63	3.9	1270	0.86	62	3.1	1270	0.69	60
214.00		5.1	1270	1.1	63	4.2	1270	0.90	62	3.2	1270	0.72	60
189.09		5.8	1270	1.2	64	4.7	1270	1.0	63	3.7	1270	0.81	61
161.60		6.8	1270	1.4	65	5.5	1270	1.2	64	4.3	1270	0.93	62
148.15		7.4	1270	1.5	65	6.0	1270	1.3	64	4.7	1270	1.0	63
130.00		8.4	1260	1.7	66	6.9	1270	1.4	65	5.3	1270	1.1	64
123.20		8.9	1250	1.8	67	7.3	1270	1.5	65	5.6	1270	1.2	64
107.83		10	1220	1.9	67	8.3	1260	1.7	66	6.4	1270	1.3	65
97.14		11	1200	2.1	68	9.2	1250	1.8	67	7.2	1270	1.5	66
85.22		12	1170	2.3	69	10	1220	2.0	68	8.2	1270	1.6	66
75.20		14	1140	2.5	69	11	1190	2.2	68	9.3	1250	1.8	67
66.67		16	1110	2.7	70	13	1160	2.4	69	10	1220	2.0	68
56.92		19	1060	3.0	71	15	1120	2.7	70	12	1190	2.2	69
75.09	40/3	14	1120	2.1	81	11	1130	1.8	81	9.3	1170	1.4	80
71.33		15	1120	2.2	82	12	1130	1.9	81	9.8	1120	1.4	80
63.03		17	1120	2.5	82	14	1120	2.1	81	11	1130	1.6	80
53.87		20	1120	2.9	83	16	1120	2.4	82	12	1120	1.9	81
49.38		22	1120	3.1	83	18	1120	2.6	82	14	1120	2.0	81
43.33		25	1130	3.6	84	20	1120	2.9	83	16	1120	2.3	82
41.07		26	1130	3.8	84	21	1120	3.1	83	17	1120	2.4	82
35.94		30	1150	4.4	84	25	1130	3.5	84	19	1120	2.8	83
32.38		33	1130	4.8	85	27	1130	3.9	84	21	1120	3.1	83
28.41		38	1110	5.3	85	31	1150	4.5	84	24	1130	3.5	84
25.07		43	1080	5.8	85	35	1120	5.0	85	27	1130	3.9	84
22.22		49	1050	6.4	86	40	1100	5.5	85	31	1150	4.5	85
18.97		57	1010	7.1	86	47	1060	6.1	86	36	1120	5.1	85
22.89	34/6	48	695	4.0	89	39	695	3.3	88	30	705	2.6	87
20.99		52	705	4.4	89	42	695	3.5	88	33	705	2.8	88
18.42		59	700	4.9	89	48	700	4.0	89	38	700	3.2	88
17.45		63	700	5.2	89	51	700	4.3	89	40	700	3.3	88
15.28		71	710	6.0	90	58	700	4.8	89	45	700	3.8	89
13.76		79	710	6.6	90	65	700	5.4	89	50	700	4.2	89
12.07		91	710	7.5	90	74	710	6.2	90	57	700	4.8	89
10.65		103	715	8.6	90	84	710	7.0	90	65	710	5.5	90
9.44		116	720	9.7*	91	95	715	7.9	90	74	710	6.1	90
8.06		136	725	11.4*	91	111	720	9.3*	91	86	710	7.2	90

* P_{Mot_max} = 9.2 kW

500 – 10 min⁻¹

i _{tot}	i _s	n _e = 500 min ⁻¹				n _e = 250 min ⁻¹				n _e = 10 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
256.47	40/1	1.9	1270	0.45	57	0.97	1270	0.24	55	0.03	1270	<0.05	55
225.26		2.2	1270	0.51	58	1.1	1270	0.27	55	0.04	1270	<0.05	55
214.00		2.3	1270	0.53	58	1.1	1270	0.28	55	0.04	1270	<0.05	55
189.09		2.6	1270	0.59	59	1.3	1270	0.32	55	0.05	1270	<0.05	55
161.60		3.0	1270	0.68	60	1.5	1270	0.37	56	0.06	1270	<0.05	55
148.15		3.3	1270	0.74	61	1.6	1270	0.40	57	0.06	1270	<0.05	55
130.00		3.8	1270	0.83	62	1.9	1270	0.45	57	0.07	1270	<0.05	55
123.20		4.0	1270	0.87	62	2.0	1270	0.47	58	0.08	1270	<0.05	55
107.83		4.6	1270	0.98	63	2.3	1270	0.53	59	0.09	1270	<0.05	55
97.14		5.1	1270	1.1	64	2.5	1270	0.58	59	0.10	1270	<0.05	55
85.22		5.8	1270	1.2	64	2.9	1270	0.65	60	0.11	1270	<0.05	55
75.20		6.6	1270	1.4	65	3.3	1270	0.73	61	0.13	1270	<0.05	55
66.67		7.4	1270	1.5	66	3.7	1270	0.81	62	0.14	1270	<0.05	55
56.92		8.7	1260	1.7	67	4.3	1270	0.93	63	0.17	1270	<0.05	55
75.09	40/3	6.6	1160	1.0	78	3.3	1120	0.52	76	0.13	1120	<0.05	76
71.33		7.0	1110	1.0	78	3.5	1060	0.51	76	0.14	1060	<0.05	76
63.03		7.9	1230	1.3	79	3.9	1200	0.65	76	0.15	1200	<0.05	76
53.87		9.2	1180	1.4	80	4.6	1240	0.78	77	0.18	1240	<0.05	76
49.38		10	1160	1.5	80	5.0	1240	0.85	77	0.20	1240	<0.05	76
43.33		11	1120	1.7	81	5.7	1240	0.96	78	0.23	1240	<0.05	76
41.07		12	1120	1.8	81	6.0	1240	1.0	78	0.24	1240	<0.05	76
35.94		13	1120	2.0	81	6.9	1240	1.1	79	0.27	1240	<0.05	76
32.38		15	1120	2.2	82	7.7	1240	1.3	79	0.30	1240	0.05	76
28.41		17	1120	2.5	82	8.7	1190	1.4	80	0.35	1190	0.06	76
25.07		19	1120	2.8	83	9.9	1170	1.5	80	0.39	1170	0.06	76
22.22		22	1130	3.2	83	11	1130	1.6	81	0.45	1130	0.07	76
18.97		26	1130	3.7	84	13	1120	1.9	81	0.52	1120	0.08	76
22.89	34/6	21	690	1.8	86	10	675	0.92	84	0.43	675	<0.05	83
20.99		23	725	2.1	87	11	740	1.1	85	0.47	740	<0.05	83
18.42		27	705	2.3	87	13	830	1.4	85	0.54	830	0.06	83
17.45		28	705	2.4	87	14	810	1.4	85	0.57	810	0.06	83
15.28		32	705	2.8	88	16	785	1.6	86	0.65	785	0.06	83
13.76		36	695	3.0	88	18	770	1.7	86	0.72	770	0.07	83
12.07		41	695	3.4	88	20	750	1.9	86	0.82	750	0.08	83
10.65		46	695	3.9	89	23	725	2.1	87	0.93	725	0.09	83
9.44		52	705	4.4	89	26	705	2.2	87	1.0	705	0.09	83
8.06		62	705	5.1	90	31	705	2.6	88	1.2	705	0.11	83

Technical data S..87

3400 – 2800 min⁻¹

i _{tot}	i _s	n _e = 3400 min ⁻¹				n _e = 3200 min ⁻¹				n _e = 2800 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
288.00	40/1	11	2030	3.6	70	11	2070	3.4	70	9.7	2070	3.0	70
258.18		13	1990	3.9	71	12	2010	3.7	71	10	2070	3.4	70
222.40		15	1910	4.3	71	14	1950	4.1	71	12	2010	3.8	71
202.96		16	1850	4.6	71	15	1890	4.4	71	13	1970	4.0	71
180.00		18	1800	5.0	72	17	1830	4.8	72	15	1910	4.4	71
151.30		22	1690	5.5	72	21	1730	5.3	72	18	1800	4.9	72
139.05		24	1630	5.8	72	23	1680	5.6	72	20	1760	5.2	72
123.48		27	1570	6.3	72	25	1600	6.0	72	22	1690	5.6	72
110.40		30	1430	6.4	72	28	1540	6.4	73	25	1620	5.9	73
99.26		34	1260	6.3	72	32	1380	6.4	72	28	1550	6.3	73
86.15		39	1030	6.0	71	37	1150	6.2	72	32	1390	6.5	73
77.14		44	830	5.5	70	41	970	5.9	71	36	1220	6.4	72
64.00		53	500	4.3	65	50	620	4.8	68	43	960	6.2	72
91.20	38/3	37	1470	6.7	86	35	1470	6.3	86	30	1470	5.5	85
81.76		41	1470	7.5	86	39	1470	7.0	86	34	1470	6.2	86
70.43		48	1470	8.6	86	45	1470	8.1	86	39	1470	7.1	86
64.27		52	1470	9.4	86	49	1470	8.9	86	43	1470	7.8	86
57.00		59	1470	10.6	87	56	1470	10.0	87	49	1470	8.8	86
47.91		70	1470	12.6	87	66	1470	11.8	87	58	1470	10.4	87
44.03		77	1470	13.6	87	72	1470	12.8	87	63	1470	11.3	87
39.10		86	1300	13.6	87	81	1400	13.8	87	71	1470	12.6	87
34.96		97	1140	13.4	87	91	1240	13.6	87	80	1440	13.8	87
31.43		108	1000	13.1	87	101	1090	13.4	87	89	1290	13.8	87
27.28		124	810	12.3	86	117	910	12.9	87	102	1110	13.7	87
24.43		139	660	11.3	85	130	775	12.4	86	114	960	13.3	87
20.27		167	395	8.4	83	157	490	9.6	84	138	755	12.7	86
25.50	34/6	133	990	15.2*	91	125	990	14.3	91	109	990	12.6	91
21.43		158	990	18.1*	91	149	990	17.0*	91	130	990	14.9	91
19.70		172	990	20*	91	162	990	19*	91	142	990	16.2*	91
17.49		194	870	20*	90	182	930	20*	91	160	990	18.3*	91
15.64		217	760	19*	90	204	830	20*	90	179	960	20*	91
14.06		241	660	19*	90	227	725	19*	90	199	860	20*	91
12.21		278	540	17.6*	90	262	605	18.5*	90	229	730	19*	90
10.93		311	440	16.0*	89	292	510	17.4*	90	256	645	19*	90
9.07		374	255	11.5	87	352	325	13.5	89	308	500	18.0*	90
7.88		431	200	10.5	86	406	230	11.2	87	355	375	15.6*	89

* P_{Mot_max} = 15 kW

2200 – 1400 min⁻¹

i _{tot}	i _s	n _e = 2200 min ⁻¹				n _e = 1700 min ⁻¹				n _e = 1400 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
288.00	40/1	7.6	2210	2.6	69	5.9	2280	2.1	67	4.8	2280	1.7	66
258.18		8.5	2170	2.8	69	6.5	2260	2.3	68	5.4	2280	1.9	67
222.40		9.8	2130	3.2	70	7.6	2210	2.6	69	6.2	2280	2.2	68
202.96		10	2080	3.4	70	8.3	2190	2.8	69	6.8	2260	2.4	68
180.00		12	2020	3.7	71	9.4	2130	3.0	70	7.7	2210	2.6	69
151.30		14	1940	4.1	71	11	2060	3.4	71	9.2	2150	3.0	70
139.05		15	1880	4.4	72	12	2020	3.6	71	10	2100	3.2	70
123.48		17	1820	4.7	72	13	1960	4.0	71	11	2060	3.5	71
110.40		19	1770	5.1	72	15	1900	4.3	72	12	2000	3.7	71
99.26		22	1700	5.4	73	17	1840	4.6	72	14	1960	4.0	72
86.15		25	1620	5.9	73	19	1770	5.0	73	16	1880	4.4	72
77.14		28	1540	6.3	73	22	1700	5.4	73	18	1820	4.8	73
64.00		34	1360	6.7	73	26	1580	6.0	74	21	1700	5.3	73
91.20	38/3	24	1540	4.6	85	18	1520	3.5	84	15	1510	2.9	83
81.76		26	1600	5.3	85	20	1600	4.1	84	17	1600	3.4	84
70.43		31	1600	6.1	86	24	1600	4.8	85	19	1600	3.9	84
64.27		34	1600	6.7	86	26	1600	5.2	85	21	1600	4.3	85
57.00		38	1600	7.5	86	29	1600	5.8	86	24	1600	4.8	85
47.91		45	1600	8.9	87	35	1600	6.9	86	29	1600	5.7	86
44.03		49	1600	9.7	87	38	1600	7.5	86	31	1600	6.2	86
39.10		56	1600	10.8	87	43	1600	8.4	87	35	1600	7.0	86
34.96		62	1600	12.1	87	48	1600	9.4	87	40	1600	7.8	87
31.43		69	1600	13.4	88	54	1600	10.4	87	44	1600	8.6	87
27.28		80	1450	14.0	88	62	1600	11.9	88	51	1600	9.9	87
24.43		90	1310	14.1	88	69	1600	13.3	88	57	1600	11.0	87
20.27		108	1080	14.0	88	83	1420	14.2	88	69	1600	13.2	88
25.50	34/6	86	1240	12.4	91	66	1240	9.6	90	54	1240	7.9	90
21.43		102	1240	14.6	91	79	1240	11.4	91	65	1240	9.4	90
19.70		111	1240	15.9*	91	86	1240	12.3	91	71	1240	10.2	91
17.49		125	1240	17.9*	91	97	1240	13.9	91	80	1240	11.4	91
15.64		140	1230	20*	91	108	1240	15.5*	91	89	1240	12.8	91
14.06		156	1110	20*	91	120	1240	17.2*	91	99	1240	14.2	91
12.21		180	970	20*	91	139	1240	20*	91	114	1240	16.3*	91
10.93		201	870	20*	91	155	1130	20*	91	128	1240	18.2*	91
9.07		242	720	20*	91	187	950	20*	91	154	1140	20*	91
7.88		279	605	20*	90	215	830	21*	91	177	1010	21*	91

* P_{Mot_max} = 15 kW

1100 – 700 min⁻¹

i _{tot}	i _s	n _e = 1100 min ⁻¹				n _e = 900 min ⁻¹				n _e = 700 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
288.00	40/1	3.8	2400	1.5	65	3.1	2450	1.3	64	2.4	2480	1.0	63
258.18		4.2	2380	1.6	66	3.4	2430	1.4	65	2.7	2470	1.1	63
222.40		4.9	2350	1.8	67	4.0	2400	1.6	66	3.1	2450	1.3	64
202.96		5.4	2330	2.0	67	4.4	2380	1.7	66	3.4	2430	1.4	65
180.00		6.1	2280	2.2	68	5.0	2350	1.8	67	3.8	2400	1.5	65
151.30		7.2	2240	2.5	69	5.9	2310	2.1	68	4.6	2350	1.7	67
139.05		7.9	2190	2.6	69	6.4	2260	2.2	68	5.0	2330	1.8	67
123.48		8.9	2150	2.9	70	7.2	2240	2.5	69	5.6	2310	2.0	68
110.40		9.9	2110	3.1	70	8.1	2190	2.7	70	6.3	2280	2.2	68
99.26		11	2070	3.4	71	9.0	2150	2.9	70	7.0	2240	2.4	69
86.15		12	2000	3.7	72	10	2090	3.2	71	8.1	2190	2.7	70
77.14		14	1940	4.0	72	11	2040	3.5	71	9.0	2150	2.9	70
64.00		17	1840	4.5	73	14	1960	4.0	72	10	2070	3.3	71
91.20	38/3	12	1490	2.3	83	9.8	1480	1.9	82	7.6	1460	1.4	81
81.76		13	1760	3.0	83	11	1760	2.5	83	8.5	1760	1.9	82
70.43		15	1760	3.4	84	12	1760	2.8	83	9.9	1760	2.2	82
64.27		17	1760	3.8	84	14	1760	3.1	84	10	1760	2.4	83
57.00		19	1760	4.2	85	15	1760	3.5	84	12	1760	2.7	83
47.91		22	1760	5.0	85	18	1760	4.1	85	14	1760	3.2	84
44.03		24	1760	5.4	85	20	1760	4.4	85	15	1760	3.5	84
39.10		28	1760	6.0	86	23	1760	5.0	85	17	1760	3.9	85
34.96		31	1760	6.7	86	25	1760	5.5	86	20	1760	4.3	85
31.43		34	1760	7.5	86	28	1760	6.1	86	22	1760	4.8	85
27.28		40	1760	8.6	87	32	1760	7.0	86	25	1760	5.5	86
24.43		45	1760	9.5	87	36	1760	7.8	87	28	1760	6.1	86
20.27		54	1760	11.4	88	44	1760	9.4	87	34	1760	7.3	87
25.50	34/6	43	1340	6.7	90	35	1340	5.6	89	27	1340	4.3	89
21.43		51	1340	8.0	90	41	1340	6.6	90	32	1340	5.1	89
19.70		55	1340	8.7	90	45	1340	7.1	90	35	1340	5.6	89
17.49		62	1340	9.8	91	51	1340	8.0	90	40	1340	6.3	90
15.64		70	1340	10.9	91	57	1340	8.9	90	44	1340	7.0	90
14.06		78	1340	12.1	91	64	1340	9.9	91	49	1340	7.8	90
12.21		90	1340	13.9	91	73	1340	11.4	91	57	1340	8.9	90
10.93		100	1340	15.5*	91	82	1340	12.7	91	64	1340	9.9	91
9.07		121	1340	19*	91	99	1340	15.2*	91	77	1340	11.9	91
7.88		139	1260	20*	92	114	1340	17.5*	92	88	1340	13.7	91

* P_{Mot_max} = 15 kW

500 – 10 min⁻¹

i _{tot}	i _s	n _e = 500 min ⁻¹				n _e = 250 min ⁻¹				n _e = 10 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
288.00	40/1	1.7	2500	0.75	61	0.86	2500	0.39	58	0.03	2500	<0.05	58
258.18		1.9	2500	0.83	61	0.96	2500	0.44	58	0.03	2500	<0.05	58
222.40		2.2	2500	0.95	62	1.1	2500	0.50	59	0.04	2500	<0.05	58
202.96		2.4	2480	1.0	63	1.2	2500	0.55	59	0.04	2500	<0.05	58
180.00		2.7	2480	1.1	64	1.3	2500	0.61	60	0.05	2500	<0.05	58
151.30		3.3	2430	1.3	65	1.6	2500	0.71	61	0.06	2500	<0.05	58
139.05		3.5	2430	1.4	65	1.7	2500	0.77	61	0.07	2500	<0.05	58
123.48		4.0	2400	1.5	66	2.0	2500	0.86	62	0.08	2500	<0.05	58
110.40		4.5	2380	1.7	67	2.2	2500	0.95	63	0.09	2500	<0.05	58
99.26		5.0	2330	1.8	67	2.5	2470	1.0	63	0.10	2470	<0.05	58
86.15		5.8	2310	2.1	68	2.9	2450	1.2	64	0.11	2450	0.05	59
77.14		6.4	2260	2.2	69	3.2	2430	1.3	65	0.12	2430	0.06	59
64.00		7.8	2220	2.6	70	3.9	2400	1.5	66	0.15	2400	0.07	59
91.20	38/3	5.4	1450	1.0	80	2.7	1390	0.51	78	0.10	1390	<0.05	78
81.76		6.1	1960	1.6	81	3.0	1880	0.77	78	0.12	1880	<0.05	78
70.43		7.0	1980	1.8	81	3.5	1980	0.93	79	0.14	1980	<0.05	78
64.27		7.7	1980	2.0	82	3.8	1980	1.0	79	0.15	1980	<0.05	78
57.00		8.7	1980	2.2	82	4.3	1980	1.1	80	0.17	1980	<0.05	78
47.91		10	1980	2.6	83	5.2	1980	1.3	80	0.2	1980	0.06	78
44.03		11	1980	2.8	83	5.6	1980	1.5	81	0.22	1980	0.06	78
39.10		12	1980	3.2	84	6.3	1980	1.6	81	0.25	1980	0.07	79
34.96		14	1980	3.5	84	7.1	1980	1.8	82	0.28	1980	0.08	79
31.43		15	1980	3.9	84	7.9	1980	2.0	82	0.31	1980	0.08	79
27.28		18	1980	4.5	85	9.1	1980	2.3	83	0.36	1980	0.10	79
24.43		20	1980	5.0	85	10	1980	2.6	83	0.40	1980	0.11	79
20.27		24	1980	5.9	86	12	1980	3.1	84	0.49	1980	0.13	79
25.50	34/6	19	1430	3.3	88	9.8	1390	1.7	86	0.39	1390	0.07	85
21.43		23	1420	3.9	88	11	1510	2.1	87	0.46	1510	0.09	85
19.70		25	1410	4.2	89	12	1570	2.4	87	0.50	1570	0.10	85
17.49		28	1390	4.7	89	14	1570	2.7	87	0.57	1570	0.11	85
15.64		31	1390	5.2	89	15	1540	2.9	87	0.63	1540	0.12	85
14.06		35	1390	5.8	90	17	1510	3.2	88	0.71	1510	0.13	85
12.21		40	1390	6.6	90	20	1460	3.5	88	0.81	1460	0.15	85
10.93		45	1390	7.4	90	22	1430	3.9	89	0.91	1430	0.16	85
9.07		55	1410	9.0	91	27	1390	4.5	89	1.1	1390	0.19	85
7.88		63	1410	10.3	91	31	1390	5.2	89	1.2	1390	0.22	85

Technical data S..97

3400 – 2800 min⁻¹

i _{tot}	i _s	n _e = 3400 min ⁻¹				n _e = 3200 min ⁻¹				n _e = 2800 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
286.40	40/1	11	3520	6.0	73	11	3590	5.8	73	9.7	3700	5.2	72
262.22		12	3450	6.4	73	12	3520	6.2	73	10	3630	5.6	73
231.67		14	3310	6.9	73	13	3380	6.7	73	12	3520	6.1	73
196.52		17	3120	7.7	74	16	3210	7.4	74	14	3350	6.8	73
180.95		18	3030	8.1	74	17	3120	7.8	74	15	3250	7.2	74
161.74		21	2910	8.7	74	19	2970	8.3	74	17	3120	7.7	74
145.60		23	2760	9.1	74	21	2850	8.9	74	19	3000	8.2	74
131.85		25	2660	9.7	74	24	2740	9.4	74	21	2880	8.6	74
116.92		29	2320	9.6	74	27	2550	9.8	74	23	2740	9.2	74
105.71		32	1980	9.1	73	30	2210	9.5	74	26	2630	9.8	74
89.60		37	1280	7.3	70	35	1670	8.6	72	31	2210	9.8	74
78.26		43	920	6.2	67	40	1040	6.5	69	35	1770	9.1	73
65.45		51	675	5.7	64	48	775	6.0	66	42	1030	6.7	69
80.85	37/3	42	3150	15.7	88	39	3150	14.8	88	34	3150	13.0	88
71.43		47	3090	17.4	88	44	3150	16.8	88	39	3150	14.7	88
60.59		56	2910	19	88	52	2970	19	88	46	3120	17.1	88
55.79		60	2820	20	89	57	2880	20	89	50	3030	18.0	88
49.87		68	2710	22	89	64	2760	21	89	56	2910	19	89
44.89		75	2430	22	89	71	2630	22	89	62	2790	21	89
40.65		83	2170	22	88	78	2350	22	89	68	2680	22	89
36.05		94	1830	21	88	88	2020	21	88	77	2400	22	89
32.60		104	1560	19	88	98	1760	21	88	85	2150	22	89
27.63		123	1010	15.2	86	115	1320	18.4	87	101	1740	21	88
24.13		140	725	12.7	84	132	820	13.4	85	116	1390	19	88
26.39	35/6	128	1750	26*	92	121	1750	24*	92	106	1750	21	92
23.59		144	1750	29*	92	135	1750	27*	92	118	1750	24*	92
21.23		160	1750	32*	91	150	1750	30*	92	131	1750	26*	92
19.23		176	1550	31*	91	166	1680	32*	91	145	1750	29*	92
17.05		199	1320	30*	91	187	1450	31*	91	164	1730	33*	92
15.42		220	1110	28*	91	207	1260	30*	91	181	1540	32*	91
13.07		260	725	22	90	244	940	27*	91	214	1240	31*	91
11.41		297	515	18.1	89	280	585	19	90	245	1000	28*	91
9.55		356	375	16.0	87	335	435	17.3	88	293	580	20	90
8.26		411	290	14.6	86	387	335	15.6	87	338	455	18.1	89

* P_{Mot_max} = 22 kW

2200 – 1400 min⁻¹

i _{tot}	i _s	n _e = 2200 min ⁻¹				n _e = 1700 min ⁻¹				n _e = 1400 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
286.40	40/1	7.6	3920	4.4	72	5.9	4000	3.5	70	4.8	4000	3.0	69
262.22		8.3	3840	4.7	72	6.4	4000	3.8	71	5.3	4000	3.2	70
231.67		9.4	3770	5.2	72	7.3	3960	4.3	72	6.0	4000	3.6	71
196.52		11	3580	5.8	73	8.6	3840	4.8	72	7.1	4000	4.2	71
180.95		12	3510	6.1	73	9.3	3770	5.1	73	7.7	3920	4.4	72
161.74		13	3410	6.6	74	10	3650	5.5	73	8.6	3840	4.8	72
145.60		15	3270	7.0	74	11	3550	5.9	73	9.6	3730	5.2	73
131.85		16	3170	7.5	74	12	3440	6.3	74	10	3650	5.6	73
116.92		18	3020	8.0	74	14	3340	6.9	74	11	3510	6.0	74
105.71		20	2930	8.6	75	16	3210	7.3	74	13	3440	6.5	74
89.60		24	2730	9.4	75	18	3020	8.0	75	15	3240	7.1	74
78.26		28	2540	10.0	75	21	2870	8.7	75	17	3080	7.7	75
65.45		33	2120	10.0	75	25	2650	9.6	75	21	2900	8.6	75
80.85	37/3	27	3300	10.8	87	21	3270	8.3	87	17	3230	6.8	86
71.43		30	3300	12.1	88	23	3300	9.4	87	19	3300	7.8	87
60.59		36	3300	14.3	88	28	3300	11.1	88	23	3300	9.2	87
55.79		39	3270	15.3	88	30	3300	12.0	88	25	3300	9.9	87
49.87		44	3170	16.6	88	34	3300	13.4	88	28	3300	11.1	88
44.89		49	3050	17.7	89	37	3300	14.8	88	31	3300	12.3	88
40.65		54	2950	19	89	41	3230	16.0	88	34	3300	13.5	88
36.05		61	2810	20	89	47	3110	17.3	89	38	3300	15.2	88
32.60		67	2700	21	89	52	2980	18.3	89	42	3200	16.3	89
27.63		79	2390	22	89	61	2810	20	89	50	3010	18.0	89
24.13		91	2060	22	89	70	2670	22	89	58	2870	20	89
26.39	35/6	83	2550	24*	92	64	2600	19	92	53	2600	15.8	92
23.59		93	2450	26*	92	72	2600	21	92	59	2600	17.6	92
21.23		103	2380	28*	92	80	2570	23*	92	65	2600	20	92
19.23		114	2280	30*	92	88	2500	25*	92	72	2600	21	92
17.05		129	2170	32*	92	99	2400	27*	92	82	2570	24*	92
15.42		142	2040	33*	92	110	2300	29*	92	90	2470	25*	92
13.07		168	1720	33*	92	130	2170	32*	92	107	2330	28*	92
11.41		192	1480	33*	92	148	2000	34*	92	122	2210	31*	92
9.55		230	1200	32*	91	178	1670	34*	92	146	2040	34*	92
8.26		266	980	30*	91	205	1440	34*	92	169	1770	34*	92

* P_{Mot_max} = 22 kW

1100 – 700 min⁻¹

i _{tot}	i _s	n _e = 1100 min ⁻¹				n _e = 900 min ⁻¹				n _e = 700 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
286.40	40/1	3.8	4200	2.5	68	3.1	4200	2.1	67	2.4	4200	1.6	66
262.22		4.1	4200	2.7	69	3.4	4200	2.2	68	2.6	4200	1.8	66
231.67		4.7	4200	3.0	70	3.8	4200	2.5	68	3.0	4200	2.0	67
196.52		5.5	4160	3.5	70	4.5	4200	2.9	69	3.5	4200	2.3	68
180.95		6.0	4120	3.7	71	4.9	4200	3.1	70	3.8	4200	2.5	69
161.74		6.8	4030	4.0	71	5.5	4160	3.4	71	4.3	4200	2.8	69
145.60		7.5	3950	4.3	72	6.1	4080	3.7	71	4.8	4200	3.0	70
131.85		8.3	3880	4.7	72	6.8	4030	4.0	72	5.3	4200	3.3	70
116.92		9.4	3760	5.1	73	7.6	3910	4.4	72	5.9	4120	3.6	71
105.71		10	3650	5.4	73	8.5	3840	4.7	73	6.6	4030	3.9	72
89.60		12	3500	6.1	74	10	3690	5.3	73	7.8	3910	4.4	72
78.26		14	3370	6.7	74	11	3580	5.8	74	8.9	3800	4.9	73
65.45		16	3170	7.4	75	13	3400	6.6	75	10	3650	5.5	74
80.85	37/3	13	3230	5.4	86	11	3200	4.4	85	8.6	3170	3.4	84
71.43		15	3600	6.7	86	12	3600	5.5	86	9.7	3600	4.4	85
60.59		18	3600	7.9	87	14	3600	6.5	86	11	3600	5.1	85
55.79		19	3600	8.6	87	16	3600	7.0	86	12	3600	5.5	86
49.87		22	3600	9.5	87	18	3600	7.8	87	14	3600	6.2	86
44.89		24	3600	10.6	88	20	3600	8.7	87	15	3600	6.8	86
40.65		27	3600	11.6	88	22	3600	9.6	87	17	3600	7.5	87
36.05		30	3530	12.8	88	24	3600	10.7	88	19	3600	8.4	87
32.60		33	3420	13.7	88	27	3600	11.8	88	21	3600	9.3	87
27.63		39	3260	15.4	89	32	3460	13.4	88	25	3600	10.9	88
24.13		45	3130	16.8	89	37	3320	14.7	89	29	3560	12.3	88
26.39	35/6	41	2650	12.7	91	34	2620	10.3	91	26	2620	8.0	91
23.59		46	2650	14.1	92	38	2650	11.6	91	29	2620	9.0	91
21.23		51	2650	15.7	92	42	2650	12.9	91	32	2620	9.9	91
19.23		57	2650	17.3	92	46	2650	14.2	92	36	2620	11.0	91
17.05		64	2670	20	92	52	2650	16.0	92	41	2650	12.5	91
15.42		71	2670	22*	92	58	2650	17.6	92	45	2650	13.8	92
13.07		84	2540	24*	92	68	2670	21	92	53	2650	16.2	92
11.41		96	2420	26*	92	78	2590	23*	92	61	2650	18.5	92
9.55		115	2280	30*	92	94	2440	26*	93	73	2650	22	92
8.26		133	2140	32*	92	108	2320	29*	93	84	2540	24*	93

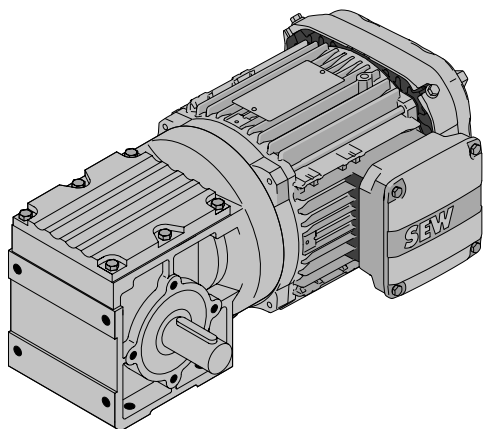
* P_{Mot_max} = 22 kW

500 – 10 min⁻¹

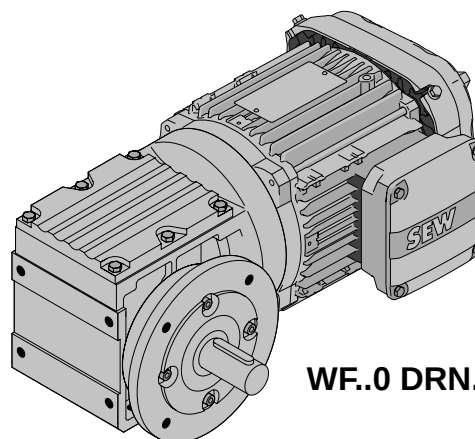
i _{tot}	i _s	n _e = 500 min ⁻¹				n _e = 250 min ⁻¹				n _e = 10 min ⁻¹			
		n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %	n _a min ⁻¹	M _{amax} Nm	P _{Mot} kW	η %
286.40	40/1	1.7	4200	1.2	64	0.87	4200	0.64	60	0.03	4200	<0.05	60
262.22		1.9	4200	1.3	64	0.95	4200	0.69	61	0.03	4200	<0.05	60
231.67		2.1	4200	1.5	65	1	4200	0.77	61	0.04	4200	<0.05	60
196.52		2.5	4200	1.7	66	1.2	4200	0.90	62	0.05	4200	<0.05	60
180.95		2.7	4200	1.8	67	1.3	4200	0.97	63	0.05	4200	<0.05	60
161.74		3	4200	2.0	67	1.5	4200	1.1	63	0.06	4200	<0.05	60
145.60		3.4	4200	2.2	68	1.7	4200	1.2	64	0.06	4200	0.05	60
131.85		3.7	4200	2.4	69	1.8	4200	1.3	65	0.07	4200	0.06	60
116.92		4.2	4200	2.7	69	2.1	4200	1.4	65	0.08	4200	0.06	60
105.71		4.7	4200	3.0	70	2.3	4200	1.6	66	0.09	4200	0.07	60
89.60		5.5	4160	3.4	71	2.7	4200	1.8	67	0.11	4200	0.08	60
78.26		6.3	4080	3.8	72	3.1	4200	2.1	68	0.12	4200	0.09	60
65.45		7.6	3910	4.3	73	3.8	4200	2.4	69	0.15	4200	0.11	60
80.85	37/3	6.1	3110	2.4	83	3	3010	1.2	81	0.12	3010	<0.05	80
71.43		6.9	4200	3.7	84	3.4	4160	1.9	82	0.13	4160	0.08	80
60.59		8.2	4200	4.3	84	4.1	4080	2.1	82	0.16	4080	0.09	80
55.79		8.9	4200	4.7	85	4.4	4200	2.4	82	0.17	4200	0.10	80
49.87		10	4200	5.2	85	5	4200	2.7	83	0.20	4200	0.11	80
44.89		11	4160	5.7	86	5.5	4200	2.9	83	0.22	4200	0.12	80
40.65		12	4120	6.2	86	6.1	4200	3.2	84	0.24	4200	0.13	80
36.05		13	4080	6.9	86	6.9	4200	3.6	84	0.27	4200	0.15	80
32.60		15	3990	7.4	87	7.6	4200	4.0	84	0.30	4200	0.17	80
27.63		18	3910	8.5	87	9	4200	4.7	85	0.36	4200	0.20	80
24.13		20	3800	9.4	87	10	4200	5.3	85	0.41	4200	0.23	80
26.39	35/6	18	2590	5.7	90	9.4	2540	2.9	88	0.37	2540	0.12	86
23.59		21	2590	6.4	90	10	2540	3.2	88	0.42	2540	0.13	86
21.23		23	2590	7.1	90	11	2570	3.6	89	0.47	2570	0.15	86
19.23		26	2620	7.9	91	13	2570	3.9	89	0.52	2570	0.16	86
17.05		29	2620	8.9	91	14	2570	4.4	89	0.58	2570	0.18	86
15.42		32	2620	9.8	91	16	2570	4.9	90	0.64	2570	0.20	86
13.07		38	2650	11.6	91	19	2590	5.8	90	0.76	2590	0.24	86
11.41		43	2650	13.3	92	21	2590	6.6	90	0.87	2590	0.27	87
9.55		52	2650	15.8	92	26	2620	7.9	91	1.0	2620	0.33	87
8.26		60	2650	18.2	92	30	2620	9.1	91	1.2	2620	0.38	87

12.5 SPIROPLAN® gearmotors

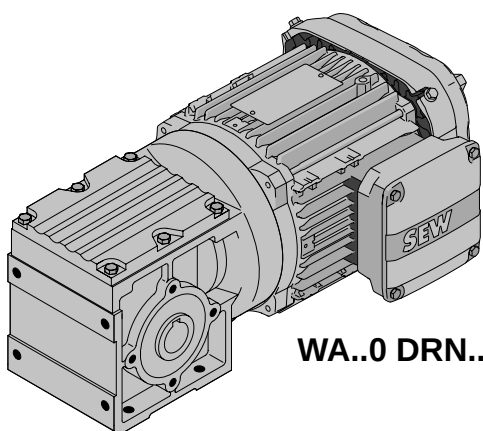
12.5.1 W..DRN.. designs



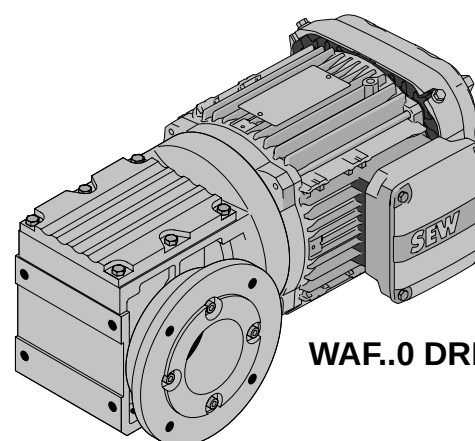
W..0 DRN..



WF..0 DRN..

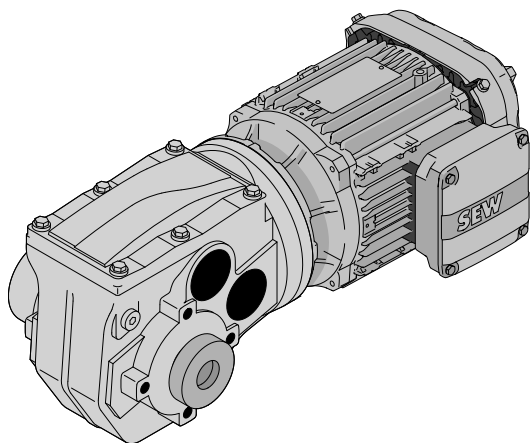


WA..0 DRN..

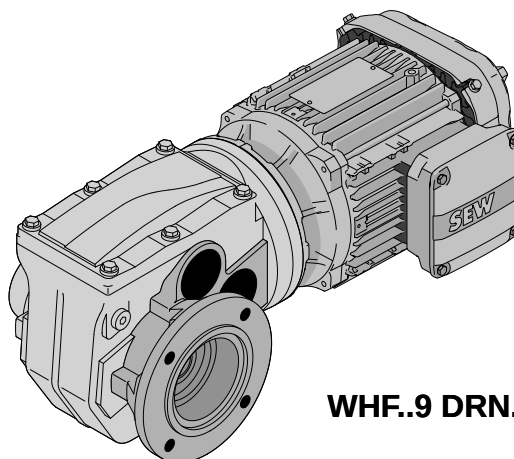


WAF..0 DRN..

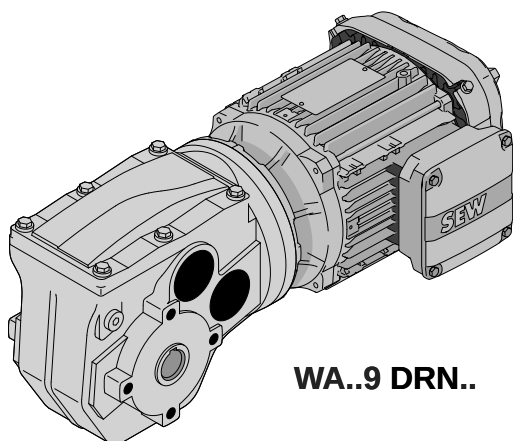
27021606429321995



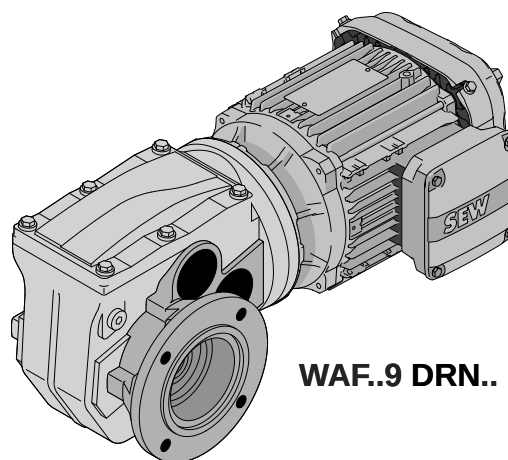
WT..9 DRN..



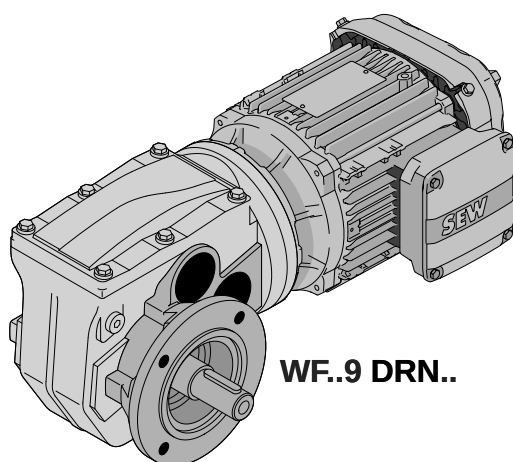
WHF..9 DRN..



WA..9 DRN..



WAF..9 DRN..



WF..9 DRN..

35756686219

27782913/EN – 02/2023

W30..

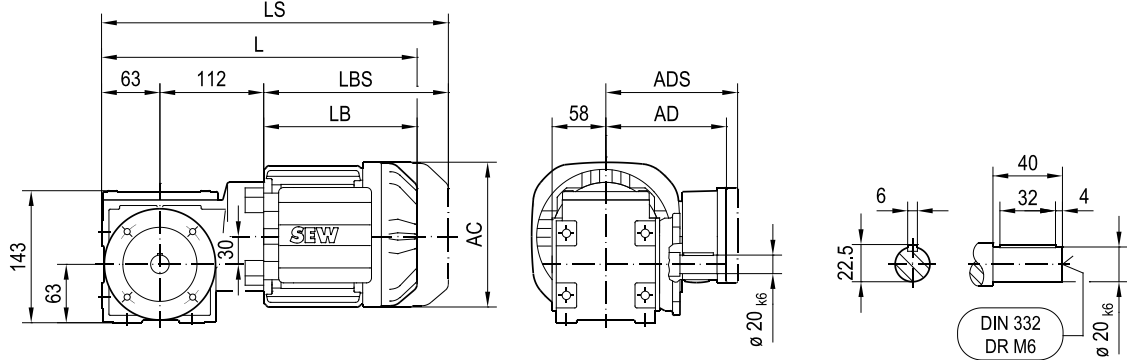
Technical drawing of the SEW motor showing front, side, and detail views with dimensions:

- Front View:** Shows the motor body with a width of 115 mm and a mounting flange diameter of $\varnothing 63_{-0.5}$ mm. The SEW logo is visible on the motor housing.
- Side View:** Shows the motor's profile with a total height of 22.5 mm and a mounting flange thickness of 6 mm.
- Detail View:** Shows the mounting flange with a diameter of $\varnothing 20_{+6}$ mm. The flange has a width of 40 mm, a central hole diameter of 32 mm, and a thickness of 4 mm. The detail is specified as DIN 332 DR M6.

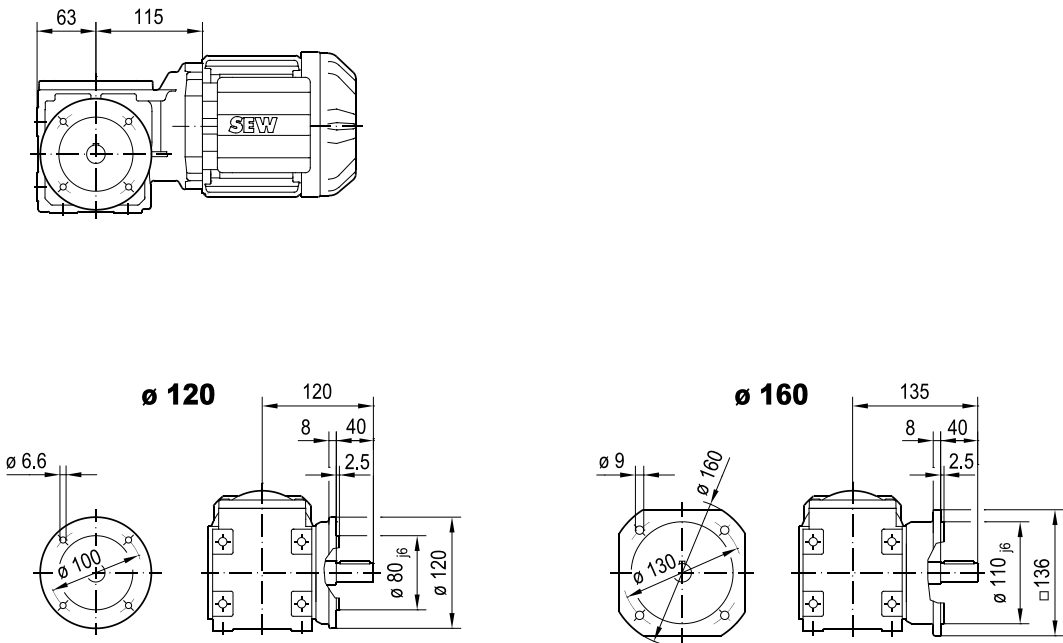
(→  7.2)	EDRN80M						
AC	156						
AD	128						
ADS	139						
L	410						
LS	491						
LB	235						
LBS	316						

WF30..

20 030 01 16



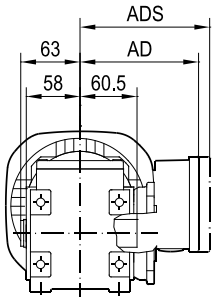
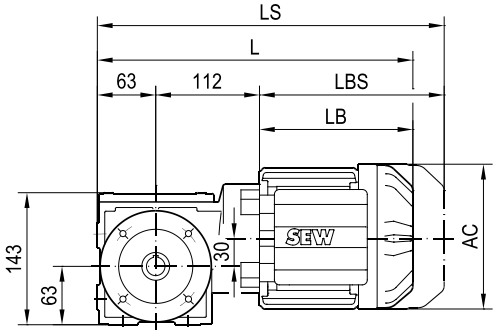
EDRN80..



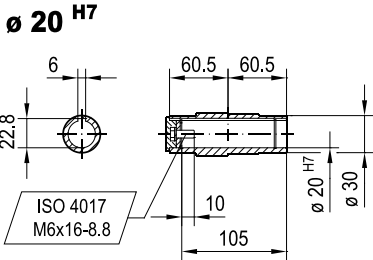
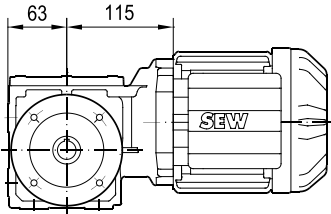
(→ 7.2)	EDRN80M							
AC	156							
AD	128							
ADS	139							
L	410							
LS	491							
LB	235							
LBS	316							

WAF30..

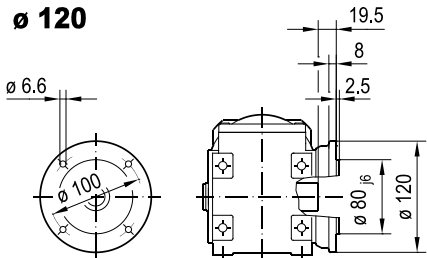
20 031 01 16



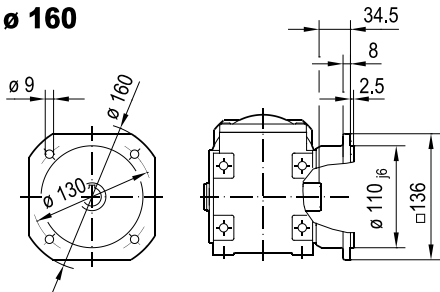
EDRN80..



ø 120



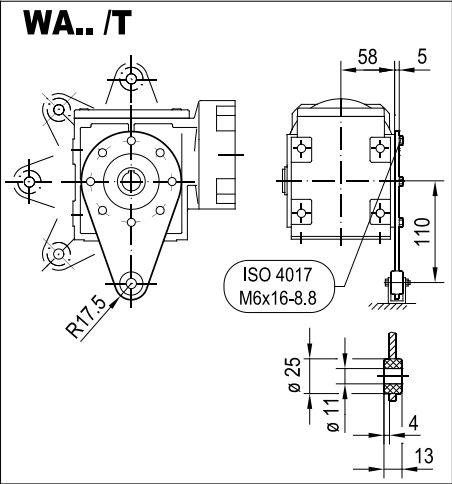
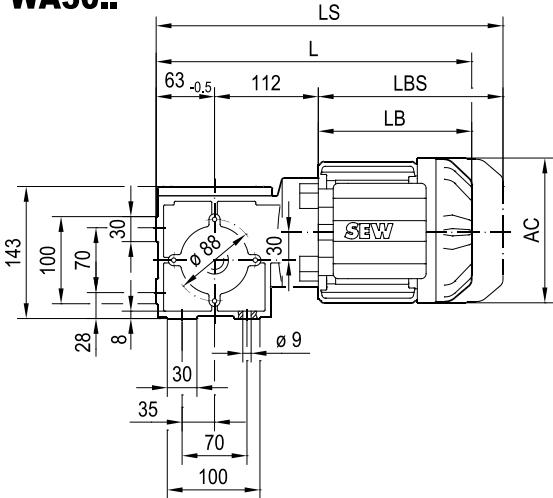
ø 160



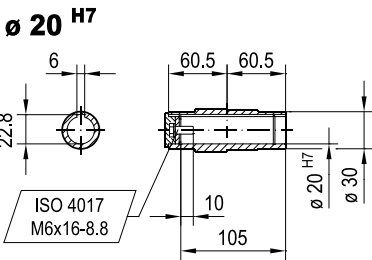
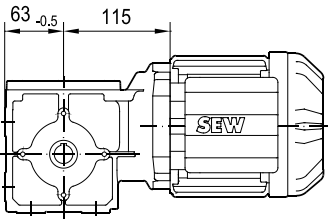
(→ 7.2)	EDRN80M							
AC	156							
AD	128							
ADS	139							
L	410							
LS	491							
LB	235							
LBS	316							

20 032 01 16

WA30..



EDRN80..

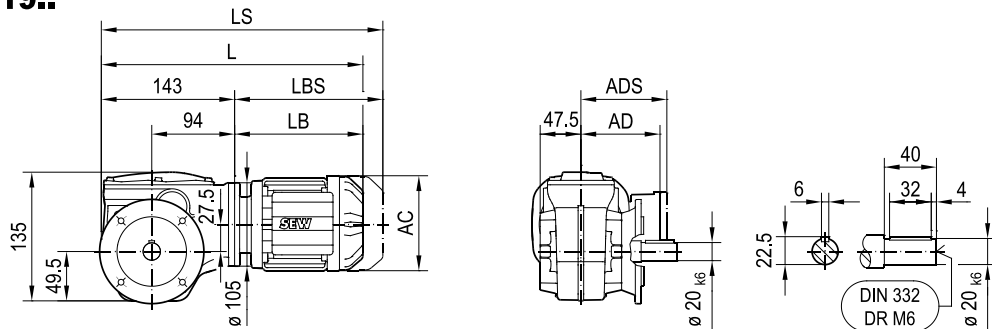


(→ 7.2)	EDRN80M							
AC	156							
AD	128							
ADS	139							
L	410							
LS	491							
LB	235							
LBS	316							

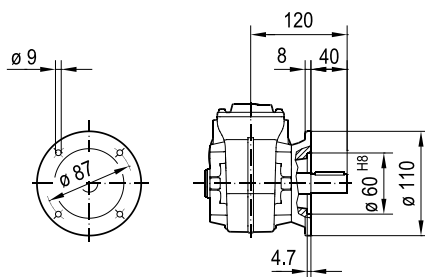
27782913/EN – 02/2023

20 064 01 22

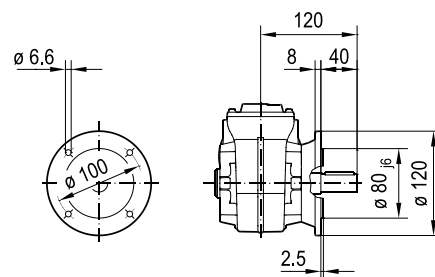
WF19..



$\varnothing 110$

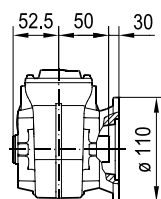


$\varnothing 120$

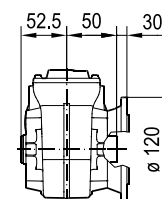


WAF19..

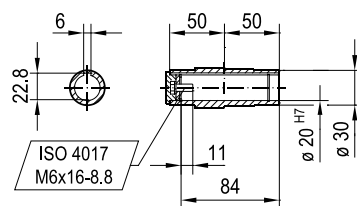
$\varnothing 110$



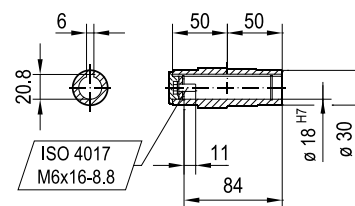
$\varnothing 120$



$\varnothing 20_{H7}$



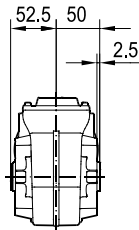
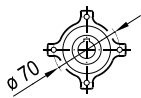
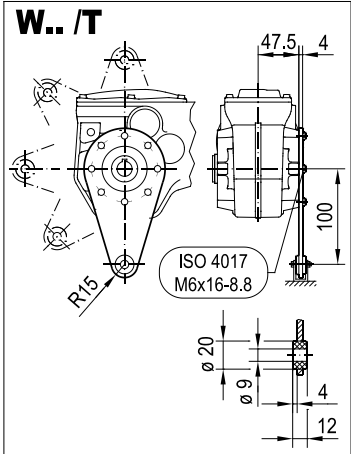
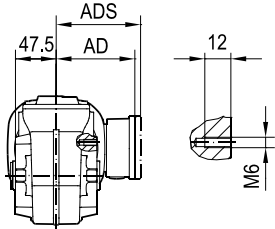
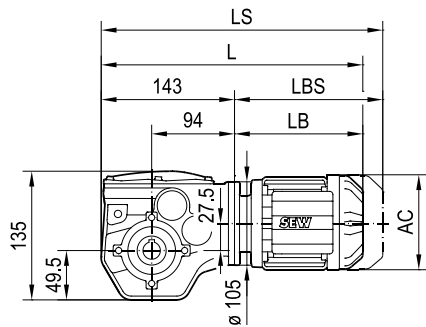
$\varnothing 18_{H7}$



(→ 7.2)	EDRN80M							
AC	156							
AD	128							
ADS	139							
L	420							
LS	501							
LB	277							
LBS	358							

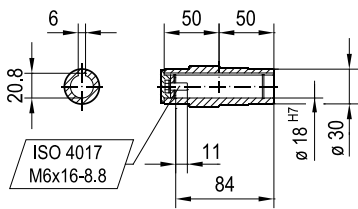
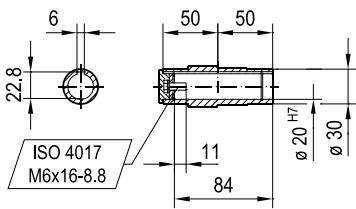
20 065 01 22

WA19..



ø 20 H7

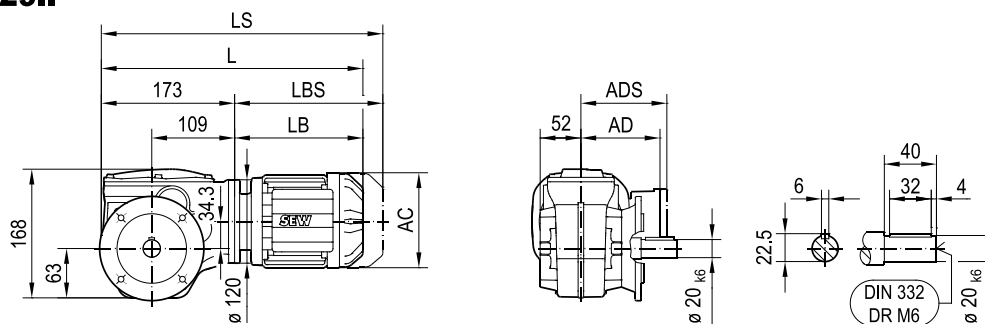
ø 18 H7



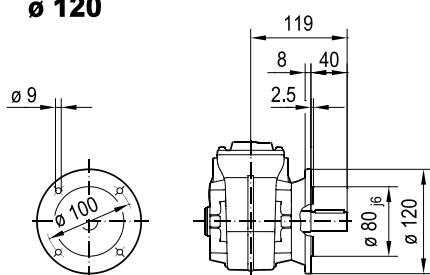
(→ 7.2)	EDRN80M							
AC	156							
AD	128							
ADS	139							
L	420							
LS	501							
LB	277							
LBS	358							

20 066 01 22

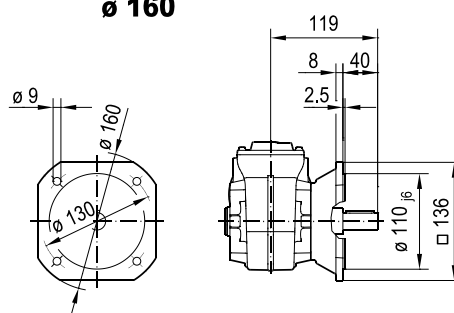
WF29..



ø 120

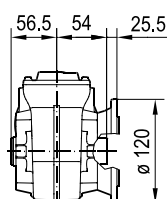


ø 160

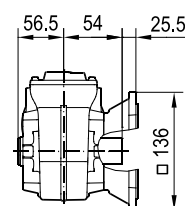


WAF29..

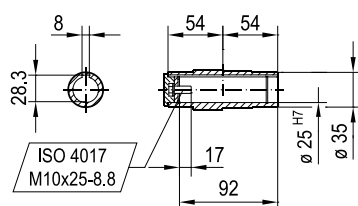
ø 120



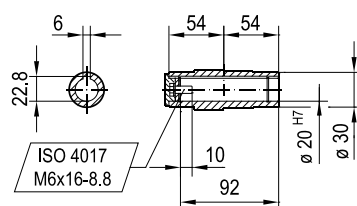
ø 160



ø 25 H7

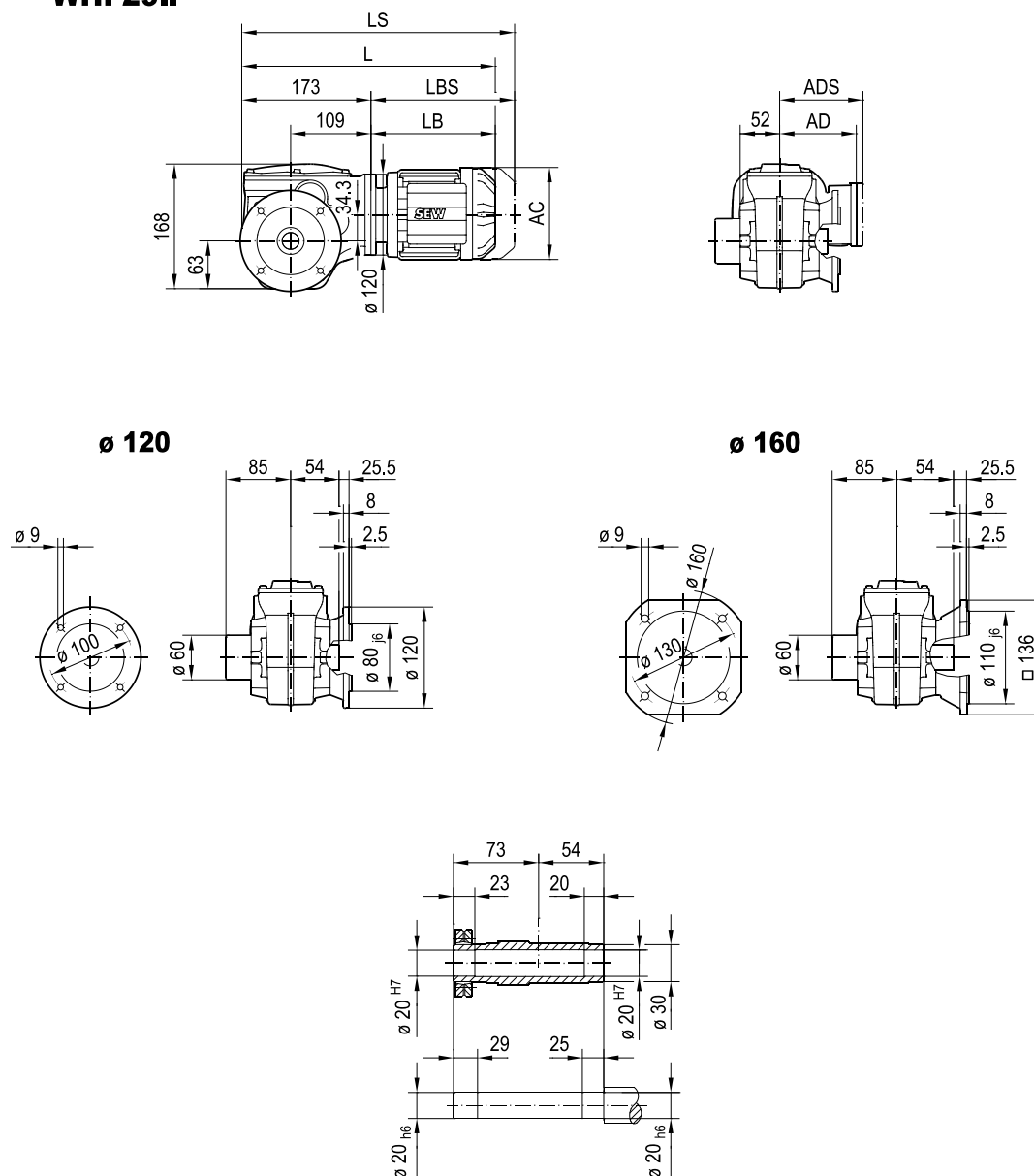


ø 20 H7



(→ 7.2)	EDRN80M	EDRN90S						
AC	156	179						
AD	128	140						
ADS	139	150						
L	455	456						
LS	536	550						
LB	282	283						
LBS	363	377						

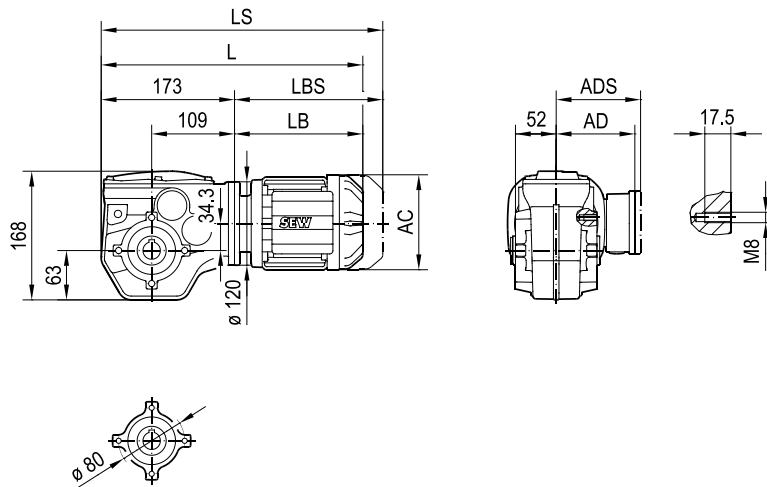
20 067 01 22

WHF29..

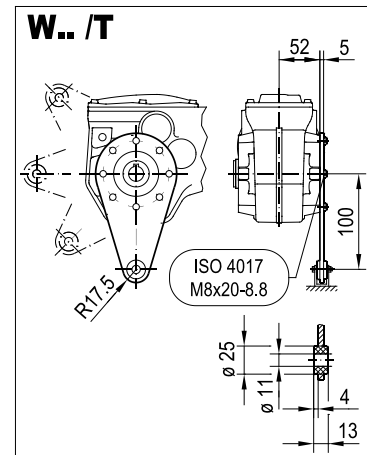
(→ 7.2)	EDRN80M	EDRN90S						
AC	156	179						
AD	128	140						
ADS	139	150						
L	455	456						
LS	536	550						
LB	282	283						
LBS	363	377						

27782913/EN – 02/2023

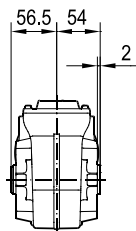
WA29..



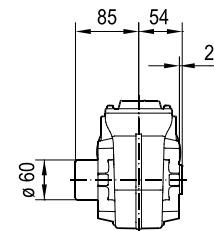
20 068 01 22



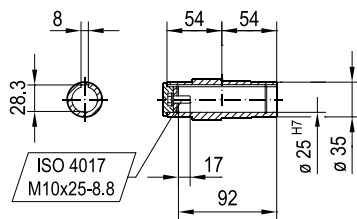
WA29..



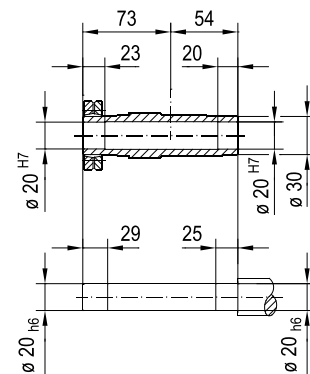
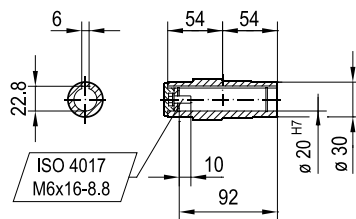
WH29..



ø 25 H7

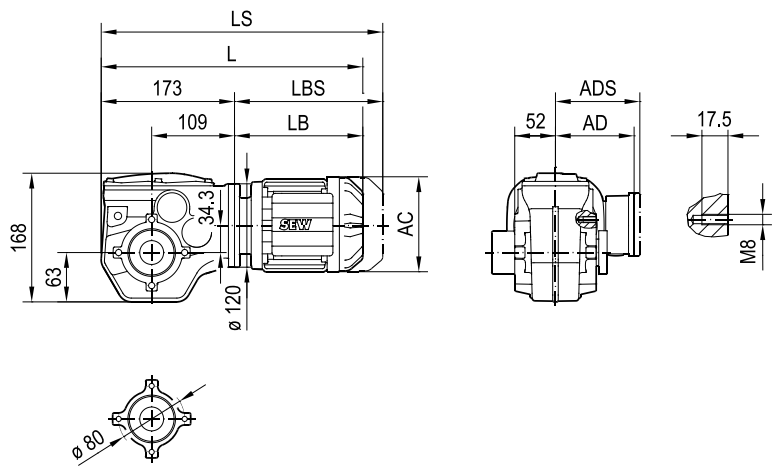


ø 20 H7

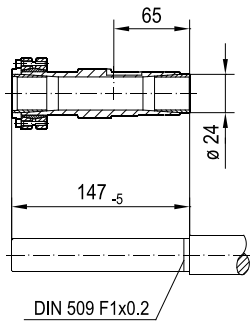
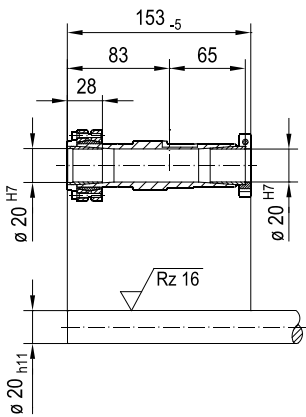
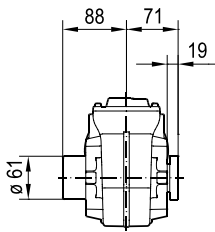
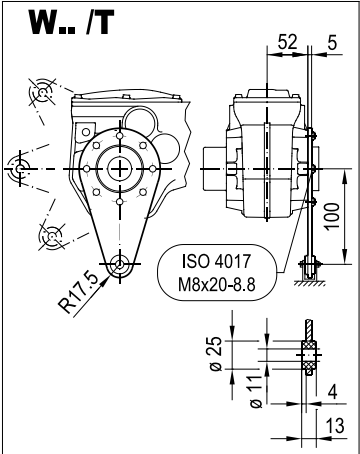


(→ 7.2)	EDRN80M	EDRN90S						
AC	156	179						
AD	128	140						
ADS	139	150						
L	455	456						
LS	536	550						
LB	282	283						
LBS	363	377						

WT29..



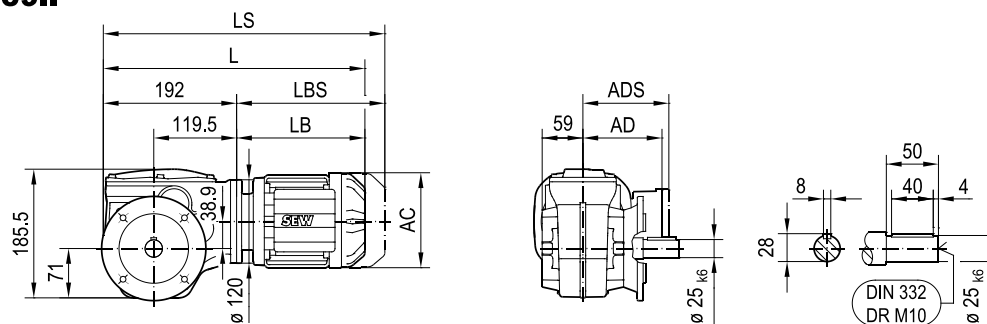
20 069 01 22



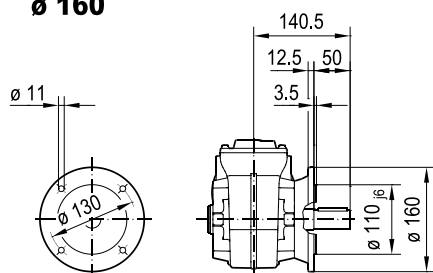
(→ 7.2)	EDRN80M	EDRN90S						
AC	156	179						
AD	128	140						
ADS	139	150						
L	455	456						
LS	536	550						
LB	282	283						
LBS	363	377						

20 070 01 22

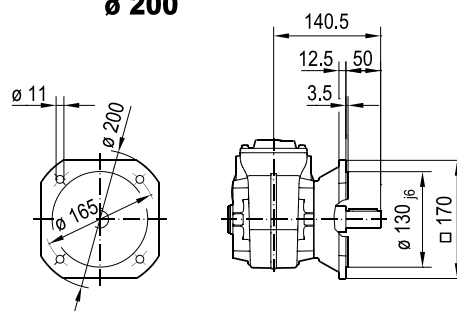
WF39..



$\varnothing 160$

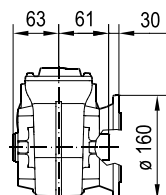


$\varnothing 200$

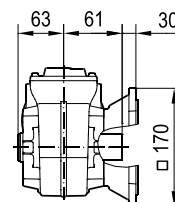


WAF39..

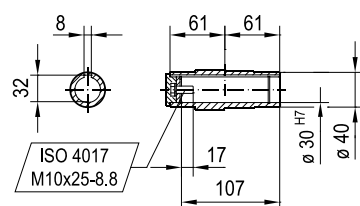
$\varnothing 160$



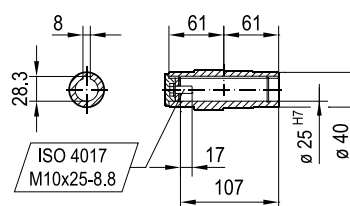
$\varnothing 200$



**$\varnothing 30_{H7}$
DIN 6885-3**

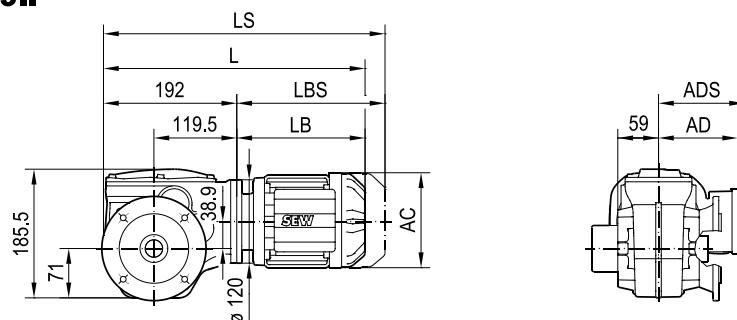
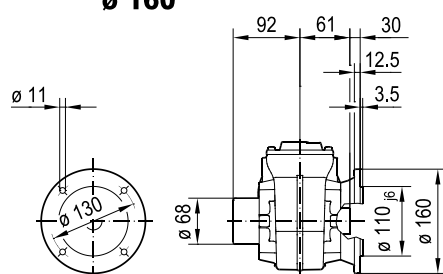
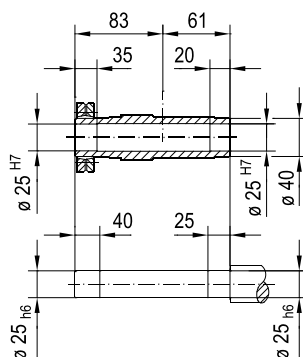
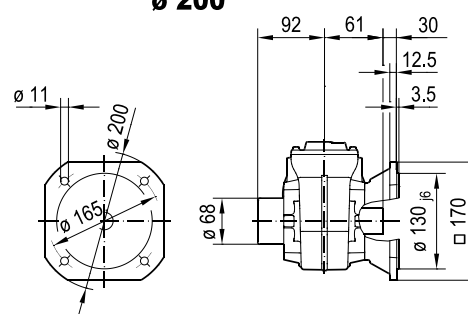


$\varnothing 25_{H7}$



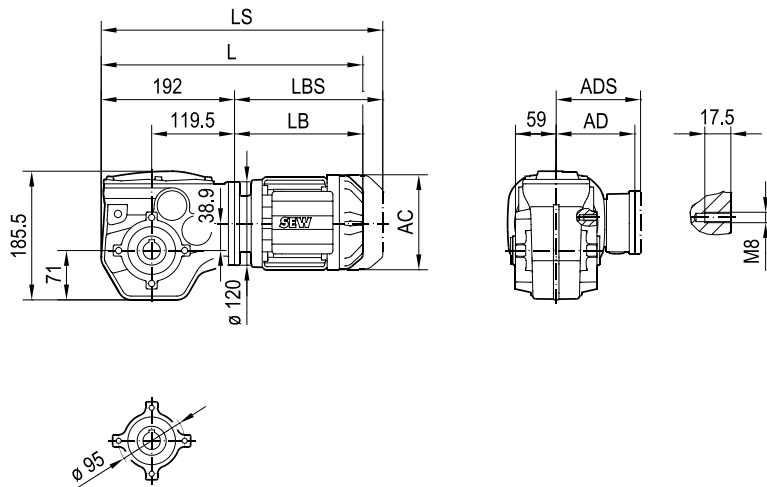
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L					
AC	156	179	179					
AD	128	140	140					
ADS	139	150	150					
L	474	475	507					
LS	555	569	601					
LB	282	283	315					
LBS	363	377	409					

20 071 01 22

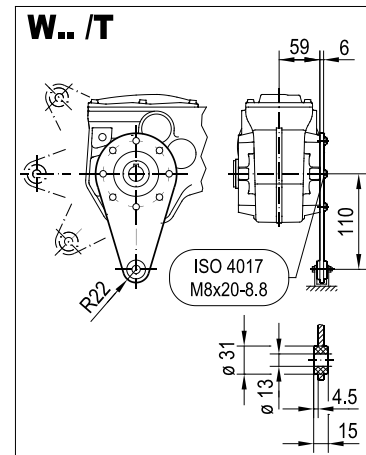
WHF39.. **$\varnothing 160$**  **$\varnothing 200$** 

(→ 7.2)	EDRN80M	EDRN90S	EDRN90L					
AC	156	179	179					
AD	128	140	140					
ADS	139	150	150					
L	474	475	507					
LS	555	569	601					
LB	282	283	315					
LBS	363	377	409					

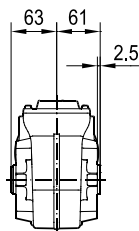
WA39..



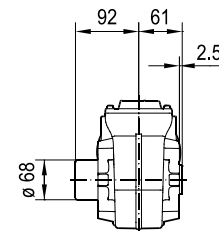
20 072 01 22



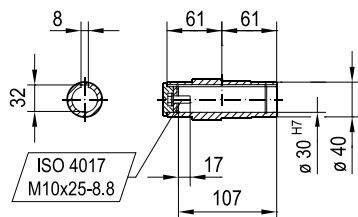
WA39..



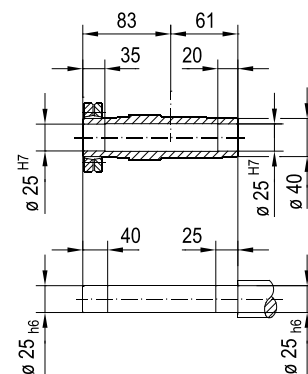
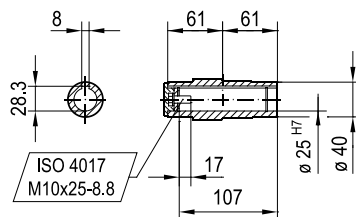
WH39..



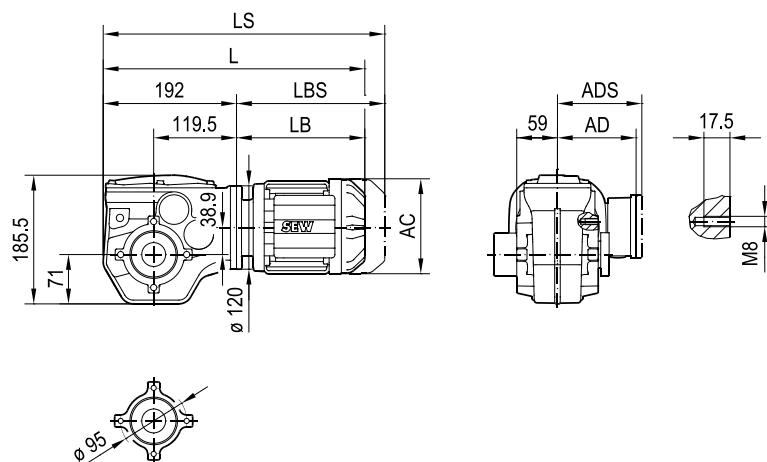
**ø 30 H7
DIN 6885-3**



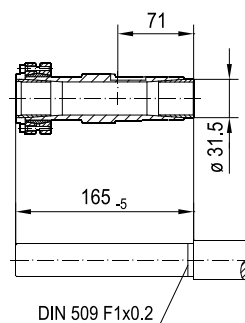
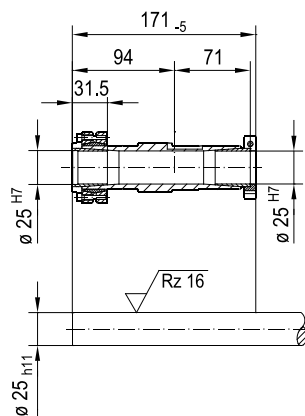
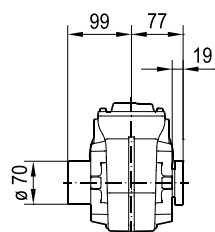
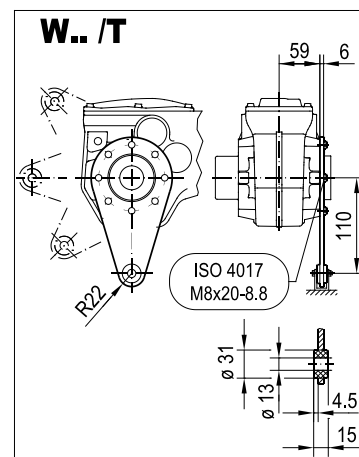
ø 25 H7



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L				
AC	156	179	179				
AD	128	140	140				
ADS	139	150	150				
L	474	475	507				
LS	555	569	601				
LB	282	283	315				
LBS	363	377	409				

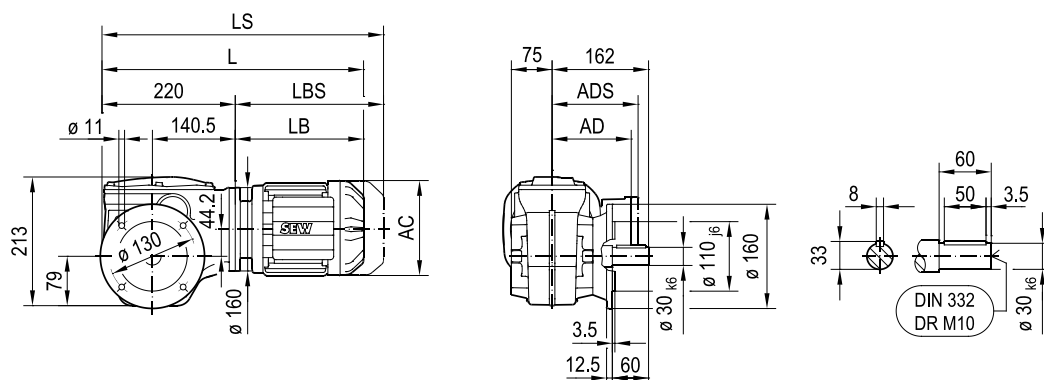
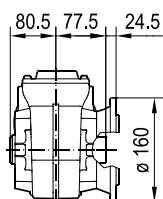
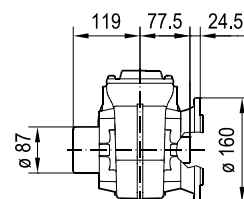
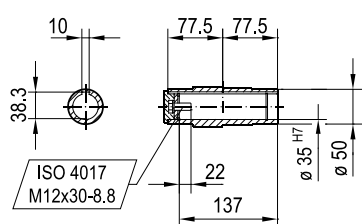
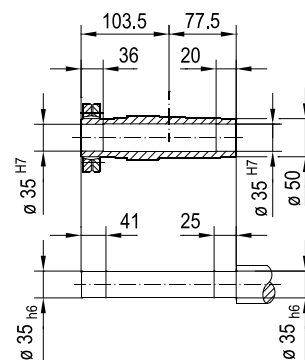
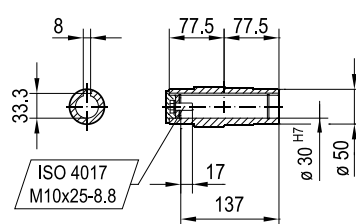
WT39..

20 073 01 22



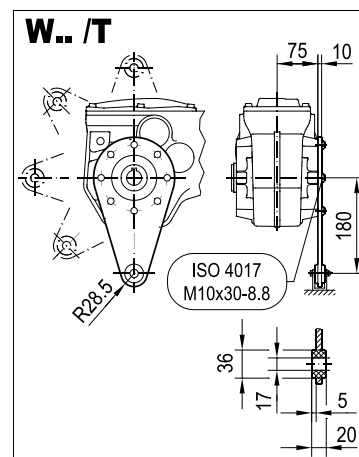
(→ 7.2)	EDRN80M	EDRN90S	EDRN90L					
AC	156	179	179					
AD	128	140	140					
ADS	139	150	150					
L	474	475	507					
LS	555	569	601					
LB	282	283	315					
LBS	363	377	409					

20 074 01 22

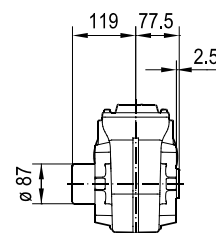
WF49..

WAF49..

WHF49..

 $\phi 35_{H7}$

 $\phi 30_{H7}$


(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	495	497	529	525	575
LS	576	590	622	619	669
LB	275	277	309	305	355
LBS	356	370	402	399	449

WA49..

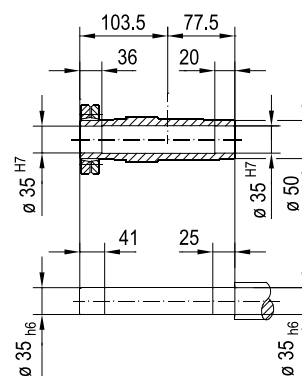
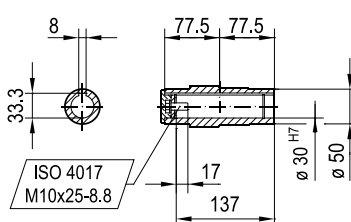


WA49..



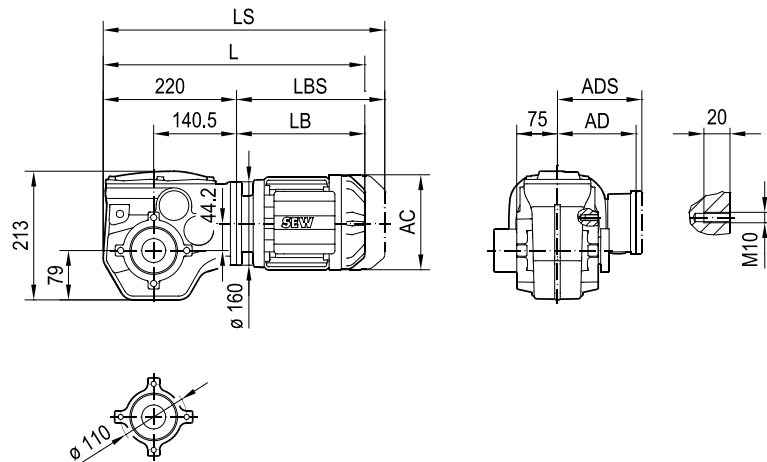
Ø 35 H7

Ø 30 H7

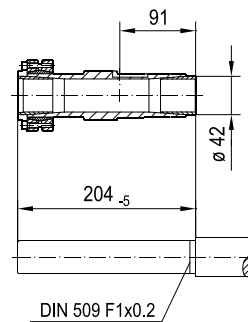
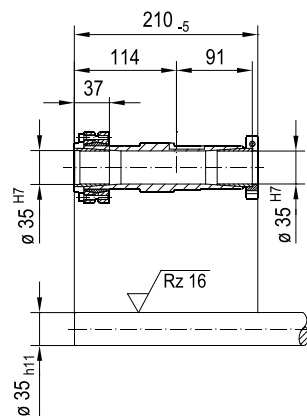
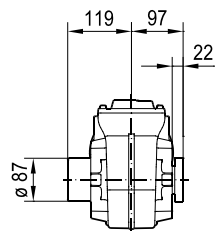
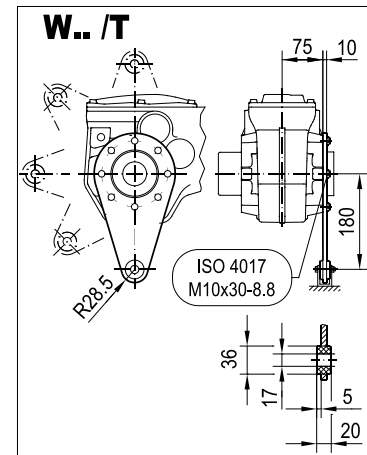


(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	495	497	529	525	575
LS	576	590	622	619	669
LB	275	277	309	305	355
LBS	356	370	402	399	449

WT49..

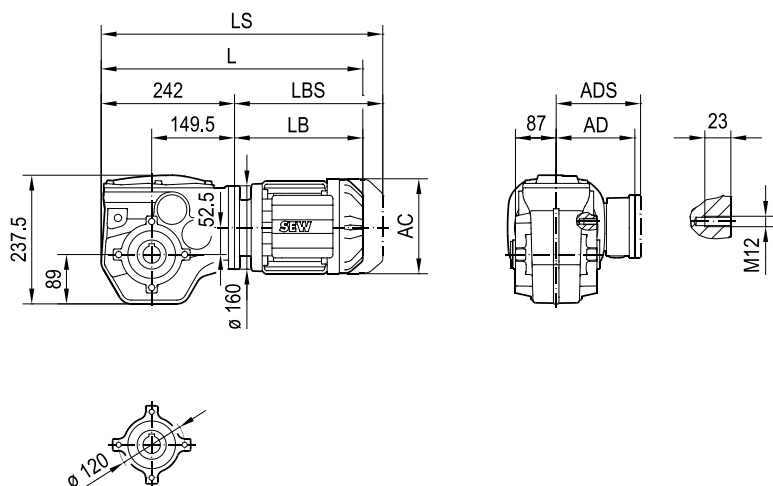


20 076 01 22

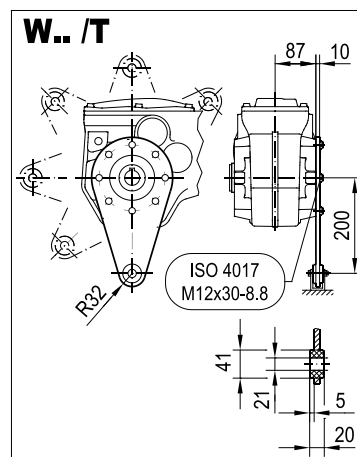


(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM
AC	156	179	179	197	197
AD	128	140	140	157	157
ADS	139	150	150	158	158
L	495	497	529	525	575
LS	576	590	622	619	669
LB	275	277	309	305	355
LBS	356	370	402	399	449

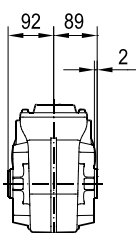
WA59..



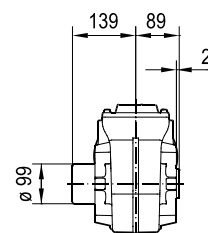
20 078 02 22



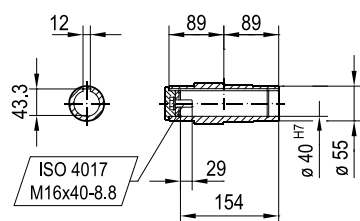
WA59..



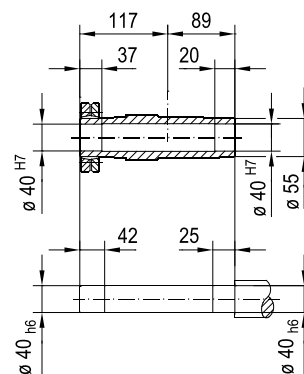
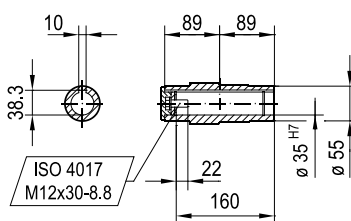
WH59..



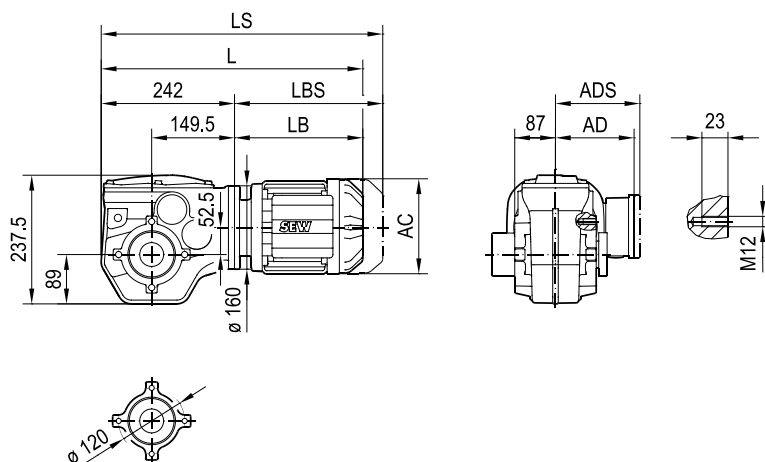
ø 40 H7



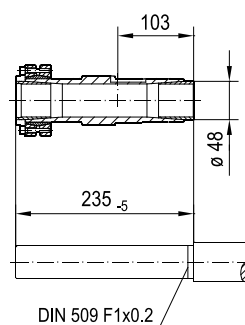
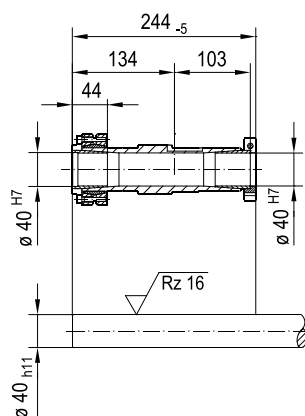
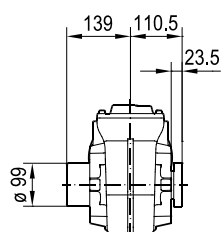
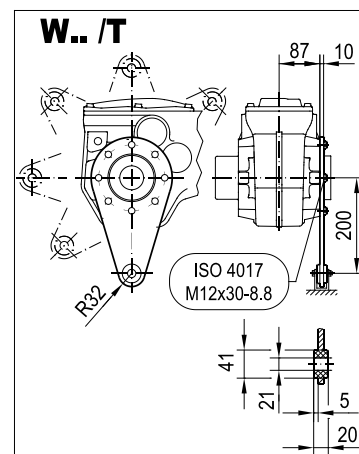
ø 35 H7



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M
AC	156	179	179	197	197	221
AD	128	140	140	157	157	170
ADS	139	150	150	158	158	172
L	517	519	551	547	597	628
LS	598	612	644	641	691	740
LB	275	277	309	305	355	386
LBS	356	370	402	399	449	498

WT59..

20 079 02 22



(→ 7.2)	EDRN80M	EDRN90S	EDRN90L	EDRN100LS	EDRN100L/LM	EDRN112M
AC	156	179	179	197	197	221
AD	128	140	140	157	157	170
ADS	139	150	150	158	158	172
L	517	519	551	547	597	628
LS	598	612	644	641	691	740
LB	275	277	309	305	355	386
LBS	356	370	402	399	449	498

13 Technical data of the motors

13.1 Identification

The following table lists the available identifications of EDNR63 – 315.

Rule set	Equipment classification	Gas	Dust
ATEX	Category 2	II2G Ex eb IIB T2 Gb II2G Ex eb IIC T2 Gb II2G Ex eb IIB T3 Gb II2G Ex eb IIC T3 Gb II2G Ex eb IIB T4 Gb II2G Ex eb IIC T4 Gb	II2D Ex tb IIIC T120°C Db II2D Ex tb IIIC T140°C Db
ATEX	Category 3	II3G Ex ec IIB T3 Gc II3G Ex ec IIC T3 Gc	II3D Ex tc IIIB T120°C Dc II3D Ex tc IIIC T120°C Dc II3D Ex tc IIIB T140°C Dc II3D Ex tc IIIC T140°C Dc
IECEX	EPL .b	Ex eb IIB T2 Gb Ex eb IIC T2 Gb Ex eb IIB T3 Gb Ex eb IIC T3 Gb Ex eb IIB T4 Gb Ex eb IIC T4 Gb	Ex tb IIIC T120 °C Db Ex tb IIIC T140 °C Db
IECEX	EPL .c	Ex ec IIB T3 Gc Ex ec IIC T3 Gc	Ex tc IIIB T120°C Dc Ex tc IIIC T120°C Dc Ex tc IIIB T140°C Dc Ex tc IIIC T140°C Dc

The following table lists the available designs of explosion protection.

Rule set	Equipment classification	Designs
ATEX	Category 2	2G, 2D, 2GD
ATEX	Category 3	3G, 3D, 3GD
IECEX	EPL .b	2G-b, 2D-b, 2GD-b
IECEX	EPL .c	3G-c, 3D-c, 3GD-c

13.2 Overview of 50 Hz motors

The table provides an overview of the available power ratings according to design and temperature class/surface temperature. This applies to the standards ATEX and IECEx.

13.2.1 Performance overview, 50 Hz

Motor	P _N in kW				
	2D 2D-b 3G, 3D, 3GD 3G-c, 3D-c, 3GD-c	2G, 2GD 2G-b, 2GD-b	2G 2G-b ¹⁾	2G ¹⁾	2G 2G-b ¹⁾
	T3/T120 °C	T3/T120 °C	T2	T3 DIN 42673-2	T4
EDRN63MS4	0.12	0.12	0.12	–	0.12
EDRN63M4	0.18	0.18	0.18	–	0.18
EDRN71MS4	0.25	0.25	0.25	–	0.25
EDRN71M4	0.37	0.37	0.37	–	0.37
EDRN80MK4	0.55	0.55	0.55	–	0.55
EDRN80M4	0.75	0.75	0.75	–	0.75
EDRN90S4	1.1	1.1	1.1	1	–
EDRN90L4	1.5	1.5	1.5	1.35	–
EDRN100LS4	2.2	2.2	2.2	2	–
EDRN100L4	3 ²⁾	3 ²⁾	3	2.5	–
EDRN112M4	4	4	4	3.6	–
EDRN132S4	5.5 ²⁾	5.5 ²⁾	5.5	5	–
EDRN132M4	7.5	7.5	7.5	6.8	–
EDRN132L4	9.2 ²⁾	9.2 ²⁾	9.2	–	–
EDRN160M4	11	11	11	10	–
EDRN160L4	15	15	15	13.5	–
EDRN180M4	18.5	–	17.5	–	–
EDRN180L4	22	17.5	22	–	–
EDRN200L4	30 ²⁾	24 ²⁾	27	–	–
EDRN225S4	37	–	33	–	–
EDRN225M4	45	–	40	–	–
EDRN250M4	55	30	50	–	–
EDRN280S4	75 ²⁾	36	–	–	–
EDRN280M4	90 ²⁾	44	68	–	–
EDRN315S4	110	58 70	80	–	–
EDRN315M4	132 ²⁾	84	100	–	–
EDRN315L4	160 ²⁾	–	–	–	–
EDRN315H4	200	110	–	–	–

1) Grid operation only

2) 2D, 2GD, 2D-b, 2GD-b: The maximum surface temperature T120 °C is not available with all options. Some options such as the back-stop are only available with T140 °C

Performance overview 50 Hz duty type S1, S4/50%

Motor	P _N in kW		
	2D 2D-b ¹⁾	2G, 2GD 2G-b, 2GD-b ¹⁾	2G, 2GD 2G-b, 2GD-b ¹⁾
	T120 °C	T3/T120 °C	T2/T120 °C
EDRN63MS4	0.12	0.12	–
EDRN63M4	0.18	0.18	–
EDRN71MS4	0.25	0.25	–
EDRN71M4	0.37	0.37	–
EDRN80MK4	0.55	0.55	–
EDRN80M4	0.75	0.75	–
EDRN100LS4	2.2	–	2.2

1) Grid operation only.

13.2.2 Power overview 60 Hz

EDRN.. motors are available for line frequencies of 60 Hz. For details, refer to the "Explosion-Protected AC Motors" and "Explosion-Protected EDRN.. Gearmotors" catalogs. (IE3, 60 Hz) in ATEX and IECEx".

13.3 Key to the data tables

The following table lists the short symbols used in the "Technical data" tables.

P_N	Rated power
M_N	Rated torque
n_N	Rated speed
I_N	Rated current
$\cos\varphi$	Power factor
$\eta_{50\%}$	Efficiency at 50% of the rated power
$\eta_{75\%}$	Efficiency at 75% of the rated power
$\eta_{100\%}$	Efficiency at 100% of the rated power
I_A/I_N	Starting current ratio
M_A/M_N	Starting torque ratio
M_H/M_N	Ramp-up torque ratio
M_K/M_N	Breakdown torque ratio
m_{Mot}	Mass of the motor
J_{Mot}	Mass moment of inertia of the motor
BE..	Brake used
Z_0 BG	Switching frequency for operation with BG brake controller
Z_0 BGE	Switching frequency for operation with BGE brake controller
M_B	Braking torque
m_{BMot}	Mass of the brakemotor
J_{BMot}	Mass moment of inertia of the brakemotor
t_E	Heating time

13.4 EDRN..., 400 V, 50 Hz, 3GD, 3GD-c, T3/T120 °C

13.4.1 Information on motors

Motor	P _N kW	M _N Nm	n _N min ⁻¹	I _N A	cosφ	η _{50%} %	η _{75%} %	η _{100%} %	I _A /I _N	M _A /M _N M _H /M _N	M _K /M _N
EDRN 63MS 4	0.12	0.84	1360	0.425	0.65	58.3	63.9	64.8	3.3	2.7 2.6	2.7
EDRN 63M 4	0.18	1.25	1375	0.58	0.67	65.1	69.4	69.9	3.8	2.6 2.6	2.6
EDRN 71MS 4	0.25	1.71	1400	0.81	0.67	70.1	73.5	73.5	4.2	2.5 2.3	2.5
EDRN 71M 4	0.37	2.5	1405	1.14	0.64	74.3	77.3	77.3	4.5	2.8 2.4	2.8
EDRN 80MK 4	0.55	3.65	1430	1.38	0.76	78.6	81.0	80.8	5.9	2.7 2.1	3.1
EDRN 80M 4	0.75	4.95	1440	1.75	0.74	80.7	82.9	82.9	6.7	3.1 2.7	3.4
EDRN 90S 4	1.1	7.2	1455	2.55	0.73	83.5	85.0	84.5	6.9	2.7 2.1	3.3
EDRN 90L 4	1.5	9.8	1461	3.4	0.74	84.6	86.1	85.6	7.5	2.7 2.0	3.3
EDRN 100LS 4	2.2	14.5	1450	4.75	0.76	86.4	87.5	86.9	7.1	2.9 2.2	3.3
EDRN 100L 4	3	19.7	1456	6.4	0.76	87.3	88.3	87.8	8.2	3.4 2.3	3.7
EDRN 112M 4	4	26	1464	7.9	0.81	88.6	89.4	88.7	8.2	2.4 1.6	3.6
EDRN 132S 4	5.5	36	1461	10.5	0.84	90.6	90.6	89.6	8.3	2.8 2.2	3.5
EDRN 132M 4	7.5	49	1468	15.2	0.78	90.8	91.1	90.4	7.8	3.1 2.4	3.3
EDRN 132L 4	9.2	60	1470	18.7	0.77	90.8	91.6	91.0	8.4	3.7 1.8	3.7
EDRN 160M 4	11	71	1473	21	0.81	91.1	91.7	91.4	7.3	2.6 2.2	3.0
EDRN 160L 4	15	97	1474	29	0.80	91.9	92.5	92.1	8.0	3.0 2.0	3.4
EDRN 180M 4	18.5	120	1478	33.5	0.85	92.8	93.1	92.6	9.5	3.6 2.9	3.6
EDRN 180L 4	22	142	1477	38.5	0.87	93.4	93.6	93.0	9.6	3.5 2.1	3.4
EDRN 200L 4	30	194	1480	56	0.82	93.3	93.9	93.6	8.2	2.9 2.5	3.3
EDRN 225S 4	37	240	1482	64	0.88	94.3	94.4	93.9	8.4	3.0 2.3	2.7
EDRN 225M 4	45	290	1482	81	0.85	94.1	94.5	94.2	8.8	3.0 2.2	2.7
EDRN 250M 4	55	355	1482	104	0.80	94.4	94.8	94.6	8.2	4.0 2.5	2.9
EDRN 280S 4	75	485	1482	143	0.79	94.9	95.3	95.0	7.6	3.7 2.6	2.9
EDRN 280M 4	90	580	1481	161	0.84	95.4	95.6	95.2	7.7	3.6 2.0	2.7
EDRN 315S 4	110	710	1488	189	0.87	95.4	95.7	95.5	6.7	2.9 2.1	3.1
EDRN 315M 4	132	850	1487	230	0.87	95.6	95.9	95.6	6.5	2.7 2.0	2.9
EDRN 315L 4	160	1030	1486	275	0.87	95.9	96.1	95.9	6.5	2.7 2.0	2.8
EDRN 315H 4	200	1280	1489	355	0.84	95.4	96.0	96.0	9.5	3.7 2.8	3.8

13.4.2 Further information on motors and brakemotors

Motor	P _N kW	M _N Nm	n _N min ⁻¹	m _{Mot} kg	J _{Mot} ¹⁾ 10 ⁻⁴ kgm ²	BE..	Z _B BG BGE h ⁻¹	M _B Nm	m _{BMot} kg	J _{BMot} 10 ⁻⁴ kgm ²
EDRN 63MS 4	0.12	0.84	1360	5	3.18	BE03	2000 2000	1.7	6.9	3.87
EDRN 63M 4	0.18	1.25	1375	5.8	3.99	BE03	2000 2000	2.7	7.7	4.68
EDRN 71MS 4	0.25	1.71	1400	6.9	7.92	BE05	1200 1900	3.5	9.3	9.22
EDRN 71M 4	0.37	2.5	1405	8.2	9.64	BE1	1000 1800	5	11	10.9
EDRN 80MK 4	0.55	3.65	1430	11	20.4	BE1	700 1700	7	15	21.9
EDRN 80M 4	0.75	4.95	1440	14	28.1	BE2	640 1640	10	19	32.6
EDRN 90S 4	1.1	7.2	1455	20	59.7	BE2	460 1200	14	24	64.4
EDRN 90L 4	1.5	9.8	1461	23	72.9	BE5	440 1160	20	29	78.9
EDRN 100LS 4	2.2	14.5	1450	27	87	BE5	0 1220	28	33	93
EDRN 100L 4	3	19.7	1456	34	117	BE5	0 740	40	40	123
EDRN 112M 4	4	26	1464	45	183	BE11	0 580	55	59	193
EDRN 132S 4	5.5	36	1461	57	246	BE11	0 420	80	71	256
EDRN 132M 4	7.5	49	1468	74	405	BE20	0 220	110	100	456
EDRN 132L 4	9.2	60	1470	82	463	BE20	0 200	150	110	514
EDRN 160M 4	11	71	1473	115	839	BE20	0 180	150	150	899
EDRN 160L 4	15	97	1474	135	1060	BE30	0 160	200	175	1200
EDRN 180M 4	18.5	120	1478	155	1660	BE32	0 100	300	200	1890
EDRN 180L 4	22	142	1477	175	1970	BE32	0 90	300	220	2200
EDRN 200L 4	30	194	1480	285	2800	BE32	0 100	400	340	3030
EDRN 225S 4	37	240	1482	315	4490	BE60	0 50	400	385	4820
EDRN 225M 4	45	290	1482	315	4490	BE60	0 40	400	385	4820
EDRN 250M 4	55	355	1482	470	7500	BE120	0 40	800	570	8110
EDRN 280S 4	75	485	1482	530	9070	BE120	0 30	800	630	9680
EDRN 280M 4	90	580	1481	640	12100	BE120	0 20	800	750	12700
EDRN 315S 4	110	710	1488	880	23700	BE120	- 10	800	990	24300
EDRN 315M 4	132	850	1487	910	25100	BE120	- 10	800	1010	25700
EDRN 315L 4	160	1030	1486	1030	28900	BE120	- 7	800	1140	29500
EDRN 315H 4	200	1280	1489	1150	35500	BE120	- 5	800	1260	36100

1) The values apply to the designs 3D, 3D-c and 3GD, 3GD-c. For the mass moments of inertia for 3G, 3G-c designs, refer to chapter "Mass moment of inertia for 2G, 2G-b,3G and 3G-c designs".

13.5 EDRN..., 400 V, 50 Hz, 2D, 2D-b, T120 °C

13.5.1 Information on motors

Motor	P _N kW	M _N Nm	n _N min ⁻¹	I _N A	cosφ	η _{50%} %	η _{75%} %	η _{100%} %	I _A /I _N	M _A /M _N M _H /M _N	M _K /M _N
EDRN 63MS 4	0.12	0.84	1360	0.43	0.65	58.3	63.9	64.8	3.3	2.7 2.6	2.7
EDRN 63M 4	0.18	1.25	1375	0.58	0.67	65.1	69.4	69.9	3.8	2.6 2.6	2.6
EDRN 71MS 4	0.25	1.71	1400	0.81	0.67	70.1	73.5	73.5	4.2	2.5 2.3	2.5
EDRN 71M 4	0.37	2.5	1405	1.14	0.64	74.3	77.3	77.3	4.5	2.8 2.4	2.8
EDRN 80MK 4	0.55	3.65	1430	1.38	0.76	78.6	81.0	80.8	5.9	2.7 2.1	3.1
EDRN 80M 4	0.75	4.95	1440	1.78	0.74	80.7	82.9	82.9	6.9	3.1 2.7	3.4
EDRN 90S 4	1.1	7.2	1455	2.6	0.73	83.5	85.0	84.5	7.6	2.7 2.1	3.3
EDRN 90L 4	1.5	9.8	1461	3.6	0.74	84.6	86.1	85.6	7.6	2.7 2.0	3.3
EDRN 100LS 4	2.2	14.5	1450	5	0.76	86.4	87.5	86.9	7.6	2.9 2.2	3.3
EDRN 100L 4	3	19.7	1456	6.7	0.76	87.3	88.3	87.8	8.5	3.4 2.3	3.7
EDRN 112M 4	4	26	1464	8.5	0.81	88.6	89.4	88.7	8.8	2.4 1.6	3.6
EDRN 132S 4	5.5	36	1461	11.2	0.84	90.6	90.6	89.6	8.8	2.8 2.2	3.5
EDRN 132M 4	7.5	49	1468	15.7	0.78	90.8	91.1	90.4	8.1	3.1 2.4	3.3
EDRN 132L 4	9.2	60	1470	19.9	0.77	90.8	91.6	91.0	8.5	3.7 1.8	3.7
EDRN 160M 4	11	71	1473	22	0.81	91.1	91.7	91.4	8.0	2.6 2.2	3.0
EDRN 160L 4	15	97	1474	30.5	0.81	91.9	92.5	92.1	8.5	3.0 2.0	3.4
EDRN 180M 4	18.5	120	1478	35	0.85	92.8	93.1	92.6	9.5	3.6 2.9	3.6
EDRN 180L 4	22	142	1477	41	0.87	93.4	93.6	93.0	8.9	3.5 2.1	3.4
EDRN 200L 4	30	194	1480	59	0.82	93.3	93.9	93.6	7.5	2.9 2.5	3.3
EDRN 225S 4	37	240	1482	66	0.88	94.3	94.4	93.9	7.8	3.0 2.3	2.7
EDRN 225M 4	45	290	1483	84	0.85	94.1	94.5	94.2	8.8	3.0 2.2	2.7
EDRN 250M 4	55	355	1482	104	0.80	94.4	94.8	94.6	8.6	4.0 2.5	2.9
EDRN 280S 4	75	485	1482	151	0.79	94.9	95.3	95.0	9.1	3.7 2.6	2.9
EDRN 280M 4	90	580	1481	161	0.84	95.4	95.6	95.2	8.1	3.6 2.0	2.7
EDRN 315S 4	110	710	1488	189	0.87	95.4	95.7	95.5	7.8	2.9 2.1	3.1
EDRN 315M 4	132	850	1487	230	0.87	95.6	95.9	95.6	7.8	3.0 2.2	3.5
EDRN 315L 4	160	1030	1486	275	0.87	95.9	96.1	95.9	7.7	3.0 2.1	3.3
EDRN 315H 4	200	1280	1489	355	0.84	95.4	96.0	96.0	9.6	3.7 2.8	3.8

13.5.2 Further information on motors

Motor	P _N kW	M _N Nm	n _N min ⁻¹	m _{Mot} kg	J _{Mot} 10 ⁻⁴ kgm ²	Certificate no.	
EDRN 63MS 4	0.12	0.84	1360	5	3.18	PTB 19 ATEX 3002/02	IECEEx PTB 19.0015/02
EDRN 63M 4	0.18	1.25	1375	5.8	3.99	PTB 19 ATEX 3002/12	IECEEx PTB 19.0015/12
EDRN 71MS 4	0.25	1.71	1400	6.9	7.92	PTB 10 ATEX 3025/32	IECEEx PTB 11.0039/42
EDRN 71M 4	0.37	2.5	1405	8.2	9.64	PTB 10 ATEX 3025/42	IECEEx PTB 11.0039/52
EDRN 80MK 4	0.55	3.65	1430	11	20.4	PTB 10 ATEX 3026/62	IECEEx PTB 11.0040/70
EDRN 80M 4	0.75	4.95	1440	14	28.1	PTB 10 ATEX 3026/48	IECEEx PTB 11.0040/56
EDRN 90S 4	1.1	7.2	1455	20	59.7	PTB 10 ATEX 3027/40	IECEEx PTB 11.0041/44
EDRN 90L 4	1.5	9.8	1461	23	72.9	PTB 10 ATEX 3027/32	IECEEx PTB 11.0041/36
EDRN 100LS 4	2.2	14.5	1450	27	87	PTB 10 ATEX 3028/49	IECEEx PTB 11.0042/54
EDRN 100L 4	3	19.7	1456	34	117	PTB 10 ATEX 3028/41	IECEEx PTB 11.0042/46
EDRN 112M 4	4	26	1464	45	183	PTB 10 ATEX 3029/18	IECEEx PTB 11.0043/16
EDRN 132S 4	5.5	36	1461	57	246	PTB 10 ATEX 3030/36	IECEEx PTB 11.0044/34
EDRN 132M 4	7.5	49	1468	74	405	PTB 10 ATEX 3030/28	IECEEx PTB 11.0044/26
EDRN 132L 4	9.2	60	1470	82	463	PTB 10 ATEX 3030/48	IECEEx PTB 11.0044/46
EDRN 160M 4	11	71	1473	115	839	PTB 10 ATEX 3031/27	IECEEx PTB 11.0045/32
EDRN 160L 4	15	97	1474	135	1060	PTB 10 ATEX 3031/33	IECEEx PTB 11.0045/38
EDRN 180M 4	18.5	120	1478	155	1660	PTB 10 ATEX 3032/52	IECEEx PTB 11.0046/46
EDRN 180L 4	22	142	1477	175	1970	PTB 10 ATEX 3032/40	IECEEx PTB 11.0046/34
EDRN 200L 4	30	194	1480	285	2800	PTB 10 ATEX 3033/27	IECEEx PTB 11.0047/32
EDRN 225S 4	37	240	1482	315	4490	PTB 10 ATEX 3034/28	IECEEx PTB 11.0048/24
EDRN 225M 4	45	290	1483	315	4490	PTB 10 ATEX 3034/14	IECEEx PTB 11.0048/10
EDRN 250M 4	55	355	1482	470	7500	PTB 17 ATEX 3009/02	IECEEx PTB 18.0009/02
EDRN 280S 4	75	485	1482	530	9070	PTB 17 ATEX 3011/26	IECEEx PTB 18.0020/26
EDRN 280M 4	90	580	1481	640	12100	PTB 17 ATEX 3011/22	IECEEx PTB 18.0020/22
EDRN 315S 4	110	710	1488	880	23700	PTB 17 ATEX 3013/13	IECEEx PTB 18.0021/13
EDRN 315M 4	132	850	1487	910	25100	PTB 17 ATEX 3013/23	IECEEx PTB 18.0021/23
EDRN 315L 4	160	1030	1486	1030	28900	PTB 17 ATEX 3013/21	IECEEx PTB 18.0021/21
EDRN 315H 4	200	1280	1489	1150	35500	PTB 17 ATEX 3013/01	IECEEx PTB 18.0021/01

13.6 EDRN..., 400 V, 50 Hz, 2G, 2G-b, T3, 2GD, 2GD-b, T3/T120 °C

13.6.1 Information on motors

Motor	P _N kW	M _N Nm	n _N min ⁻¹	I _N A	cosφ	η _{50%} %	η _{75%} %	η _{100%} %	I _A /I _N	M _A /M _N M _H /M _N	M _K /M _N
EDRN 63MS 4	0.12	0.84	1360	0.43	0.65	58.3	63.9	64.8	3.3	2.7 2.6	2.7
EDRN 63M 4	0.18	1.25	1375	0.58	0.67	65.1	69.4	69.9	3.8	2.6 2.6	2.6
EDRN 71MS 4	0.25	1.71	1400	0.81	0.67	70.1	73.5	73.5	4.2	2.5 2.3	2.5
EDRN 71M 4	0.37	2.5	1405	1.14	0.64	74.3	77.3	77.3	4.5	2.8 2.4	2.8
EDRN 80MK 4	0.55	3.65	1430	1.38	0.76	78.6	81.0	80.8	5.9	2.7 2.1	3.1
EDRN 80M 4	0.75	4.95	1440	1.78	0.74	80.7	82.9	82.9	6.9	3.1 2.7	3.4
EDRN 90S 4	1.1	7.2	1455	2.6	0.73	83.5	85.0	84.5	7.6	2.7 2.1	3.3
EDRN 90L 4	1.5	9.8	1461	3.6	0.74	84.6	86.1	85.6	7.6	2.7 2.0	3.3
EDRN 100LS 4	2.2	14.5	1450	5	0.76	86.4	87.5	86.9	7.6	2.9 2.2	3.3
EDRN 100L 4	3	19.7	1456	6.7	0.76	87.3	88.3	87.8	8.5	3.4 2.3	3.7
EDRN 112M 4	4	26	1464	8.5	0.81	88.6	89.4	88.7	8.8	2.4 1.6	3.6
EDRN 132S 4	5.5	36	1461	11.2	0.84	90.6	90.6	89.6	8.8	2.8 2.2	3.5
EDRN 132M 4	7.5	49	1468	15.7	0.78	90.8	91.1	90.4	8.1	3.1 2.4	3.3
EDRN 132L 4	9.2	60	1470	19.9	0.77	90.8	91.6	91.0	8.5	3.7 1.8	3.7
EDRN 160M 4	11	71	1473	22	0.81	91.1	91.7	91.4	8.0	2.6 2.2	3.0
EDRN 160L 4	15	97	1474	30.5	0.81	91.9	92.5	92.1	8.5	3.0 2.0	3.4
EDRN 180L 4	17.5	113	1474	32.5	0.88	93.2	93.3	92.6	8.7	3.1 2.0	2.9
EDRN 200L 4	24	155	1478	45.5	0.84	93.1	93.6	93.2	7.3	2.7 2.1	2.6
EDRN 250M 4	30	193	1482	57	0.85	93.4	93.8	93.6	6.9	3.1 2.2	2.5
EDRN 280S 4	36	230	1479	67	0.85	93.9	94.2	93.9	6.5	2.6 1.9	2.1
EDRN 280M 4	44	285	1476	82	0.87	94.7	94.7	94.2	6.3	2.6 1.6	1.9
EDRN 315S 4	58	370	1490	100	0.87	93.8	94.5	94.8	8.0	3.1 2.3	3.3
EDRN 315S 4	70	450	1487	120	0.88	94.9	95.2	95.0	6.7	2.5 1.9	2.7
EDRN 315M 4	84	540	1484	145	0.88	95.5	95.7	95.2	6.3	2.2 1.7	2.4
EDRN 315H 4	110	710	1486	187	0.89	95.1	95.5	95.5	6.9	2.6 2.0	2.7

13.6.2 Further information on motors

Motor	P _N kW	M _N Nm	n _N min ⁻¹	m _{Mot} kg	J _{Mot} ¹⁾ 10 ⁻⁴ kgm ²	t _E s	Certificate no.	
EDRN 63MS 4	0.12	0.84	1360	5	3.18	30	PTB 19 ATEX 3002/02	IECEX PTB 19.0015/02
EDRN 63M 4	0.18	1.25	1375	5.8	3.99	23	PTB 19 ATEX 3002/12	IECEX PTB 19.0015/12
EDRN 71MS 4	0.25	1.71	1400	6.9	7.92	18	PTB 10 ATEX 3025/32	IECEX PTB 11.0039/42
EDRN 71M 4	0.37	2.5	1405	8.2	9.64	15	PTB 10 ATEX 3025/42	IECEX PTB 11.0039/52
EDRN 80MK 4	0.55	3.65	1430	11	20.4	11	PTB 10 ATEX 3026/62	IECEX PTB 11.0040/70
EDRN 80M 4	0.75	4.95	1440	14	28.1	20	PTB 10 ATEX 3026/48	IECEX PTB 11.0040/56
EDRN 90S 4	1.1	7.2	1455	20	59.7	10	PTB 10 ATEX 3027/40	IECEX PTB 11.0041/44
EDRN 90L 4	1.5	9.8	1461	23	72.9	8	PTB 10 ATEX 3027/32	IECEX PTB 11.0041/36
EDRN 100LS 4	2.2	14.5	1450	27	87	8	PTB 10 ATEX 3028/49	IECEX PTB 11.0042/54
EDRN 100L 4	3	19.7	1456	34	117	8	PTB 10 ATEX 3028/37	IECEX PTB 11.0042/42
EDRN 112M 4	4	26	1464	45	183	6	PTB 10 ATEX 3029/18	IECEX PTB 11.0043/16
EDRN 132S 4	5.5	36	1461	57	246	6	PTB 10 ATEX 3030/35	IECEX PTB 11.0044/33
EDRN 132M 4	7.5	49	1468	74	405	5	PTB 10 ATEX 3030/28	IECEX PTB 11.0044/26
EDRN 132L 4	9.2	60	1470	82	463	5	PTB 10 ATEX 3030/46	IECEX PTB 11.0044/44
EDRN 160M 4	11	71	1473	115	839	6	PTB 10 ATEX 3031/27	IECEX PTB 11.0045/32
EDRN 160L 4	15	97	1474	135	1060	5	PTB 10 ATEX 3031/33	IECEX PTB 11.0045/38
EDRN 180L 4	17.5	113	1474	175	1970	6	PTB 10 ATEX 3032/48	IECEX PTB 11.0046/42
EDRN 200L 4	24	155	1478	285	2800	5	PTB 10 ATEX 3033/23	IECEX PTB 11.0047/28
EDRN 250M 4	30	193	1482	470	7500	7	PTB 17 ATEX 3009/06	IECEX PTB 18.0009/06
EDRN 280S 4	36	230	1479	530	9070	8	PTB 17 ATEX 3011/18	IECEX PTB 18.0020/18
EDRN 280M 4	44	285	1476	640	12100	8	PTB 17 ATEX 3011/10	IECEX PTB 18.0020/10
EDRN 315S 4	58	370	1490	880	23700	7	PTB 17 ATEX 3013/19	IECEX PTB 18.0021/19
EDRN 315S 4	70	450	1487	880	23700	6	PTB 17 ATEX 3013/17	IECEX PTB 18.0021/17
EDRN 315M 4	84	540	1484	910	25100	7	PTB 17 ATEX 3013/09	IECEX PTB 18.0021/09
EDRN 315H 4	110	710	1486	1150	35500	6	PTB 17 ATEX 3013/03	IECEX PTB 18.0021/03

1) The values apply to the designs 2GD, 2GD-b. For the mass moments of inertia for 2G, 2G-b designs, refer to chapter "Mass moment of inertia for 2G, 2G-b, 3G and 3G-c designs".

13.7 EDRN..., 400 V, 50 Hz, 2G, 2G-b, T2

13.7.1 Information on motors

Motor	P _N kW	M _N Nm	n _N min ⁻¹	I _N A	cosφ	η _{50%} %	η _{75%} %	η _{100%} %	I _A /I _N	M _A /M _N M _H /M _N	M _K /M _N
EDRN 63MS 4	0.12	0.84	1360	0.43	0.65	58.3	63.9	64.8	3.3	2.7 2.6	2.7
EDRN 63M 4	0.18	1.25	1375	0.58	0.67	65.1	69.4	69.9	3.8	2.6 2.6	2.6
EDRN 71MS 4	0.25	1.71	1400	0.81	0.67	70.1	73.5	73.5	4.2	2.5 2.3	2.5
EDRN 71M 4	0.37	2.5	1405	1.14	0.64	74.3	77.3	77.3	4.5	2.8 2.4	2.8
EDRN 80MK 4	0.55	3.65	1430	1.38	0.76	78.6	81.0	80.8	5.9	2.7 2.1	3.1
EDRN 80M 4	0.75	4.95	1440	1.78	0.74	80.7	82.9	82.9	6.9	3.1 2.7	3.4
EDRN 90S 4	1.1	7.2	1455	2.6	0.73	83.5	85.0	84.5	7.6	2.7 2.1	3.3
EDRN 90L 4	1.5	9.8	1461	3.6	0.74	84.6	86.1	85.6	7.6	2.7 2.0	3.3
EDRN 100LS 4	2.2	14.5	1450	5	0.76	86.4	87.5	86.9	7.6	2.9 2.2	3.3
EDRN 100L 4	3	19.7	1456	6.7	0.76	87.3	88.3	87.8	8.5	3.4 2.3	3.7
EDRN 112M 4	4	26	1464	8.5	0.81	88.6	89.4	88.7	8.8	2.4 1.6	3.6
EDRN 132S 4	5.5	36	1461	11.2	0.84	90.6	90.6	89.6	8.8	2.8 2.2	3.5
EDRN 132M 4	7.5	49	1468	15.7	0.78	90.8	91.1	90.4	8.1	3.1 2.4	3.3
EDRN 132L 4	9.2	60	1470	19.9	0.77	90.8	91.6	91.0	8.5	3.7 1.8	3.7
EDRN 160M 4	11	71	1473	22	0.81	91.1	91.7	91.4	8.0	2.6 2.2	3.0
EDRN 160L 4	15	97	1474	30.5	0.81	91.9	92.5	92.1	8.5	3.0 2.0	3.4
EDRN 180M 4	17.5	113	1476	33	0.87	93.0	93.2	92.6	9.4	3.5 2.7	3.4
EDRN 180L 4	22	142	1477	41	0.87	93.4	93.6	93.0	8.9	3.5 2.1	3.4
EDRN 200L 4	27	174	1478	52	0.84	93.6	94.0	93.6	7.3	2.8 2.1	2.7
EDRN 225S 4	33	215	1481	58	0.89	94.5	94.5	93.9	7.2	2.5 2.0	2.2
EDRN 225M 4	40	260	1482	72	0.86	94.4	94.6	94.2	8.5	2.9 2.2	2.6
EDRN 250M 4	50	320	1483	93	0.81	94.3	94.8	94.6	8.2	3.7 2.4	2.8
EDRN 280M 4	68	440	1482	128	0.86	95.0	95.3	95.0	8.2	3.8 2.2	2.4
EDRN 315S 4	80	510	1487	136	0.88	94.5	94.8	95.2	7.1	2.6 1.9	2.8
EDRN 315M 4	100	640	1484	170	0.88	94.6	94.8	95.4	6.6	2.3 1.7	2.4

13.7.2 Further information on motors

Motor	P _N kW	M _N Nm	n _N min ⁻¹	m _{Mot} kg	J _{Mot} 10 ⁻⁴ kgm ²	t _E s	Certificate no.	
EDRN 63MS 4	0.12	0.84	1360	4.9	2.95	40	PTB 19 ATEX 3002/02	IECEEx PTB 19.0015/02
EDRN 63M 4	0.18	1.25	1375	5.8	3.76	30	PTB 19 ATEX 3002/12	IECEEx PTB 19.0015/12
EDRN 71MS 4	0.25	1.71	1400	6.8	5.42	25	PTB 10 ATEX 3025/32	IECEEx PTB 11.0039/42
EDRN 71M 4	0.37	2.5	1405	8	7.14	20	PTB 10 ATEX 3025/42	IECEEx PTB 11.0039/52
EDRN 80MK 4	0.55	3.65	1430	11	16.8	17	PTB 10 ATEX 3026/62	IECEEx PTB 11.0040/70
EDRN 80M 4	0.75	4.95	1440	14	24.5	23	PTB 10 ATEX 3026/48	IECEEx PTB 11.0040/56
EDRN 90S 4	1.1	7.2	1455	20	54	12	PTB 10 ATEX 3027/40	IECEEx PTB 11.0041/44
EDRN 90L 4	1.5	9.8	1461	23	67.2	9	PTB 10 ATEX 3027/32	IECEEx PTB 11.0041/36
EDRN 100LS 4	2.2	14.5	1450	27	81.4	10	PTB 10 ATEX 3028/49	IECEEx PTB 11.0042/54
EDRN 100L 4	3	19.7	1456	34	112	9	PTB 10 ATEX 3028/37	IECEEx PTB 11.0042/42
EDRN 112M 4	4	26	1464	45	178	8	PTB 10 ATEX 3029/18	IECEEx PTB 11.0043/16
EDRN 132S 4	5.5	36	1461	56	241	8	PTB 10 ATEX 3030/35	IECEEx PTB 11.0044/33
EDRN 132M 4	7.5	49	1468	74	381	12	PTB 10 ATEX 3030/28	IECEEx PTB 11.0044/26
EDRN 132L 4	9.2	60	1470	82	439	9	PTB 10 ATEX 3030/46	IECEEx PTB 11.0044/44
EDRN 160M 4	11	71	1473	115	817	19	PTB 10 ATEX 3031/27	IECEEx PTB 11.0045/32
EDRN 160L 4	15	97	1474	130	1040	16	PTB 10 ATEX 3031/33	IECEEx PTB 11.0045/38
EDRN 180M 4	17.5	113	1476	155	1630	12	PTB 10 ATEX 3032/56	IECEEx PTB 11.0046/50
EDRN 180L 4	22	142	1477	170	1950	10	PTB 10 ATEX 3032/40	IECEEx PTB 11.0046/34
EDRN 200L 4	27	174	1478	285	2660	14	PTB 10 ATEX 3033/31	IECEEx PTB 11.0047/36
EDRN 225S 4	33	215	1481	315	4350	11	PTB 10 ATEX 3034/34	IECEEx PTB 11.0048/30
EDRN 225M 4	40	260	1482	315	4350	7	PTB 10 ATEX 3034/20	IECEEx PTB 11.0048/16
EDRN 250M 4	50	320	1483	470	7360	6	PTB 17 ATEX 3009/04	IECEEx PTB 18.0009/04
EDRN 280M 4	68	440	1482	640	12000	8	PTB 17 ATEX 3011/06	IECEEx PTB 18.0020/06
EDRN 315S 4	80	510	1487	880	23400	13	PTB 17 ATEX 3013/15	IECEEx PTB 18.0021/15
EDRN 315M 4	100	640	1484	900	24800	14	PTB 17 ATEX 3013/08	IECEEx PTB 18.0021/08

13.8 EDRN..., 400 V, 50 Hz, 2G, 2G-b, T3, (DIN V 42673-2)

13.8.1 Information on motors

Motor	P _N kW	M _N Nm	n _N min ⁻¹	I _N A	cosφ	η _{50%} %	η _{75%} %	η _{100%} %	I _A /I _N	M _A /M _N M _H /M _N	M _K /M _N
EDRN 90S 4	1	6.5	1465	2.4	0.70	80.7	83.8	84.5	8.2	3.0 2.3	3.7
EDRN 90L 4	1.35	8.8	1464	3.35	0.71	82.8	85.2	85.3	8.2	3.0 2.3	3.7
EDRN 100LS 4	2	13	1466	4.5	0.73	85.2	86.8	86.7	8.4	3.2 2.5	3.6
EDRN 100L 4	2.5	16.3	1462	5.6	0.73	86.2	87.7	87.7	10.0	4.0 2.7	4.4
EDRN 112M 4	3.6	23.5	1469	7.4	0.78	87.5	88.9	88.6	10.0	2.7 1.8	4.0
EDRN 132S 4	5	32.5	1468	10.2	0.80	89.0	90.0	89.6	9.6	3.1 3.2	4.0
EDRN 132M 4	6.8	44	1472	14.1	0.76	89.8	90.7	90.4	9.1	3.5 2.7	3.7
EDRN 160M 4	10	65	1477	21	0.79	91.5	91.9	91.4	8.3	2.9 2.4	3.3
EDRN 160L 4	13.5	87	1476	28.5	0.76	92.1	92.5	92.1	9.1	3.3 2.2	3.7

13.8.2 Further information on motors

Motor	P _N kW	M _N Nm	n _N min ⁻¹	m _{Mot} kg	J _{Mot} 10 ⁻⁴ kgm ²	t _E s	Certificate no.
EDRN 90S 4	1	6.5	1465	20	54	10	PTB 10 ATEX 3027/44
EDRN 90L 4	1.35	8.8	1464	23	67.2	8	PTB 10 ATEX 3027/36
EDRN 100LS 4	2	13	1466	27	81.4	8	PTB 10 ATEX 3028/51
EDRN 100L 4	2.5	16.3	1462	34	112	8	PTB 10 ATEX 3028/45
EDRN 112M 4	3.6	23.5	1469	45	178	6	PTB 10 ATEX 3029/22
EDRN 132S 4	5	32.5	1468	56	241	6	PTB 10 ATEX 3030/42
EDRN 132M 4	6.8	44	1472	74	381	10	PTB 10 ATEX 3030/32
EDRN 160M 4	10	65	1477	115	817	6	PTB 10 ATEX 3031/31
EDRN 160L 4	13.5	87	1476	130	1040	5	PTB 10 ATEX 3031/37

13.9 EDRN..., 400 V, 50 Hz, 2G, 2G-b, T4**13.9.1 Information on motors**

Motor	P _N kW	M _N Nm	n _N min ⁻¹	I _N A	cosφ	η _{50%} %	η _{75%} %	η _{100%} %	I _A /I _N	M _A /M _N M _H /M _N	M _K /M _N
EDRN 63MS 4	0.12	0.84	1360	0.43	0.65	58.3	63.9	64.8	3.3	2.7 2.6	2.7
EDRN 63M 4	0.18	1.25	1375	0.58	0.67	65.1	69.4	69.9	3.8	2.6 2.6	2.6
EDRN 71MS 4	0.25	1.71	1400	0.81	0.67	70.1	73.5	73.5	4.2	2.5 2.3	2.5
EDRN 71M 4	0.37	2.5	1405	1.14	0.64	74.3	77.3	77.3	4.5	2.8 2.4	2.8
EDRN 80MK 4	0.55	3.65	1430	1.38	0.76	78.6	81.0	80.8	5.9	2.7 2.1	3.1
EDRN 80M 4	0.75	4.95	1440	1.78	0.74	80.7	82.9	82.9	6.9	3.1 2.7	3.4

13.9.2 Further information on motors

Motor	P _N kW	M _N Nm	n _N min ⁻¹	m _{Mot} kg	J _{Mot} 10 ⁻⁴ kgm ²	t _E s	Certificate no.	
EDRN 63MS 4	0.12	0.84	1360	4.9	2.95	17	PTB 19 ATEX 3002/04	IECEX PTB 19.0015/04
EDRN 63M 4	0.18	1.25	1375	5.8	3.76	13	PTB 19 ATEX 3002/14	IECEX PTB 19.0015/14
EDRN 71MS 4	0.25	1.71	1400	6.8	5.42	11	PTB 10 ATEX 3025/34	IECEX PTB 11.0039/44
EDRN 71M 4	0.37	2.5	1405	8	7.14	10	PTB 10 ATEX 3025/44	IECEX PTB 11.0039/54
EDRN 80MK 4	0.55	3.65	1430	11	16.8	7	PTB 10 ATEX 3026/62	IECEX PTB 11.0040/70
EDRN 80M 4	0.75	4.95	1440	14	24.5	6	PTB 10 ATEX 3026/58	IECEX PTB 11.0040/66

13.10 EDRN..., 400 V, 50 Hz, 2D, 2D-b, T120 °C, duty type S1, S4/50%

13.10.1 Information on motors

Motor	P _N kW	M _N Nm	n _N min ⁻¹	I _N A	cosφ	η _{50%} %	η _{75%} %	η _{100%} %	I _A /I _N	M _A /M _N M _H /M _N	M _K /M _N
EDRN 63MS 4 TF	0.12	0.84	1360	0.43	0.65	58.3	63.9	64.8	3.3	2.7 2.6	2.7
EDRN 63M 4 TF	0.18	1.25	1375	0.58	0.67	65.1	69.4	69.9	3.8	2.6 2.6	2.6
EDRN 71MS 4 TF	0.25	1.71	1400	0.81	0.67	70.1	73.5	73.5	4.2	2.5 2.3	2.5
EDRN 71M 4 TF	0.37	2.5	1405	1.14	0.64	74.3	77.3	77.3	4.5	2.8 2.4	2.8
EDRN 80MK 4 TF	0.55	3.65	1430	1.38	0.76	78.6	81.0	80.8	5.9	2.7 2.1	3.1
EDRN 80M 4 TF	0.75	4.95	1440	1.78	0.74	80.7	82.9	82.9	6.9	3.1 2.7	3.4
EDRN 100LS 4 TF	2.2	14.5	1450	5	0.76	86.4	87.5	86.9	7.6	2.9 2.2	3.3

13.10.2 Further information on motors

Motor	P _N kW	M _N Nm	n _N min ⁻¹	m _{Mot} kg	J _{Mot} 10 ⁻⁴ kgm ²	z ₀ h ⁻¹	Certificate no.	
EDRN 63MS 4 TF	0.12	0.84	1360	5	3.18	5000	PTB 19 ATEX 3002/10	IECEX PTB 19.0015/10
EDRN 63M 4 TF	0.18	1.25	1375	5.8	3.99	5000	PTB 19 ATEX 3002/20	IECEX PTB 19.0015/20
EDRN 71MS 4 TF	0.25	1.71	1400	6.9	7.92	5000	PTB 10 ATEX 3025/36	IECEX PTB 11.0039/46
EDRN 71M 4 TF	0.37	2.5	1405	8.2	9.64	5000	PTB 10 ATEX 3025/46	IECEX PTB 11.0039/56
EDRN 80MK 4 TF	0.55	3.65	1430	11	20.4	5000	PTB 10 ATEX 3026/66	IECEX PTB 11.0040/74
EDRN 80M 4 TF	0.75	4.95	1440	14	28.1	4000	PTB 10 ATEX 3026/56	IECEX PTB 11.0040/64
EDRN 100LS 4 TF	2.2	14.5	1450	27	87	3000	PTB 10 ATEX 3028/55	IECEX PTB 11.0042/60

13.11 EDRN..., 400 V, 50 Hz, 2G, 2G-b, T3, 2GD, 2GD-b, T3/T120 °C, duty type S1, S4/50%

13.11.1 Information on motors

Motor	P _N kW	M _N Nm	n _N min ⁻¹	I _N A	cosφ	η _{50%} %	η _{75%} %	η _{100%} %	I _A /I _N	M _A /M _N M _H /M _N	M _K /M _N
EDRN 63MS 4 TF	0.12	0.84	1360	0.43	0.65	58.3	63.9	64.8	3.3	2.7 2.6	2.7
EDRN 63M 4 TF	0.18	1.25	1375	0.58	0.67	65.1	69.4	69.9	3.8	2.6 2.6	2.6
EDRN 71MS 4 TF	0.25	1.71	1400	0.81	0.67	70.1	73.5	73.5	4.2	2.5 2.3	2.5
EDRN 71M 4 TF	0.37	2.5	1405	1.14	0.64	74.3	77.3	77.3	4.5	2.8 2.4	2.8
EDRN 80MK 4 TF	0.55	3.65	1430	1.38	0.76	78.6	81.0	80.8	5.9	2.7 2.1	3.1
EDRN 80M 4 TF	0.75	4.95	1440	1.78	0.74	80.7	82.9	82.9	6.9	3.1 2.7	3.4

13.11.2 Further information on motors

Motor	P _N kW	M _N Nm	n _N min ⁻¹	m _{Mot} kg	J _{Mot} ¹⁾ 10 ⁻⁴ kgm ²	z ₀ h ⁻¹	Certificate no.	
EDRN 63MS 4 TF	0.12	0.84	1360	5	3.18	5000	PTB 19 ATEX 3002/10	IECEX PTB 19.0015/10
EDRN 63M 4 TF	0.18	1.25	1375	5.8	3.99	5000	PTB 19 ATEX 3002/20	IECEX PTB 19.0015/20
EDRN 71MS 4 TF	0.25	1.71	1400	6.9	7.92	5000	PTB 10 ATEX 3025/36	IECEX PTB 11.0039/46
EDRN 71M 4 TF	0.37	2.5	1405	8.2	9.64	5000	PTB 10 ATEX 3025/46	IECEX PTB 11.0039/56
EDRN 80MK 4 TF	0.55	3.65	1430	11	20.4	5000	PTB 10 ATEX 3026/66	IECEX PTB 11.0040/74
EDRN 80M 4 TF	0.75	4.95	1440	14	28.1	4000	PTB 10 ATEX 3026/56	IECEX PTB 11.0040/64

1) The values apply to the designs 2GD, 2GD-b. For the mass moments of inertia for 2G, 2G-b designs, refer to chapter "Mass moment of inertia for 2G, 2G-b, 3G and 3G-c designs".

13.12 EDRN..., 400 V, 50 Hz, 2G, 2G-b, T2, 2GD, 2GD-b, T2/T120 °C, duty type S1, S4/50%

13.12.1 Information on motors

Motor	P _N kW	M _N Nm	n _N min ⁻¹	I _N A	cosφ	η _{50%} %	η _{75%} %	η _{100%} %	I _A /I _N	M _A /M _N M _H /M _N	M _K /M _N
EDRN 100LS 4 TF	2.2	14.5	1450	5	0.76	86.4	87.5	86.9	7.6	2.9 2.2	3.3

13.12.2 Further information on motors

Motor	P _N kW	M _N Nm	n _N min ⁻¹	m _{Mot} kg	J _{Mot} ¹⁾ 10 ⁻⁴ kgm ²	z ₀ h ⁻¹	Certificate no.	
EDRN 100LS 4 TF	2.2	14.5	1450	27	87	3000	PTB 10 ATEX 3028/55	IECEX PTB 11.0042/60

1) The values apply to the designs 2GD, 2GD-b. For the mass moments of inertia for 2G, 2G-b designs, refer to chapter "Mass moment of inertia for 2G, 2G-b, 3G and 3G-c designs".

13.13 Mass moment of inertia for designs 2G, 2G-b, 3G and 3G-c

Motor	J_{Mot}	$J_{Bmot}^{1)}$
	10^{-4} kgm^2	10^{-4} kgm^2
EDRN63MS4	2.95	3.64
EDRN63M4	3.76	4.45
EDRN71MS4	5.42	6.72
EDRN71M4	7.14	8.44
EDRN80MK4	17.1	18.6
EDRN80M4	24.7	29.2
EDRN90S4	54	58.7
EDRN90L4	67.2	73.2
EDRN100LS4	81.4	87.4
EDRN100L4	112	118
EDRN112M4	178	188
EDRN132S4	241	251
EDRN132M4	381	432
EDRN132L4	439	490
EDRN160M4	817	877
EDRN160L4	1040	1170
EDRN180M4	1630	1860
EDRN180L4	1950	2180
EDRN200L4	2660	2890
EDRN225S4	4350	4680
EDRN225M4	4350	4680
EDRN250M4	7360	7980
EDRN280S4	8940	9550
EDRN280M4	12000	12600
EDRN315S4	23400	24000
EDRN315M4	24800	25400
EDRN315L4	28600	29200
EDRN315H4	35200	35800

1) For 3G, 3G-c designs only

14 Inquiry form for explosion-protected drives

The inquiry form for explosion-protected gearmotors is available for download on the SEW-EURODRIVE homepage (www.sew-eurodrive.de). The document helps you with ordering gearmotors and motors for use in potentially explosive atmospheres.

15 Address directory SEW-EURODRIVE

Argentina			
Assembly Sales	Buenos Aires	SEW EURODRIVE ARGENTINA S.A. Ruta Panamericana Km 37.5, Lote 35 (B1619IEA) Centro Industrial Garín Prov. de Buenos Aires	Tel. +54 3327 4572-84 Fax +54 3327 4572-21 http://www.sew-eurodrive.com.ar sewar@sew-eurodrive.com.ar
	Córdoba	SEW EURODRIVE ARGENTINA S.A. Ruta Nacional 19, Manzana 97, Lote 5 (X5125) Malvinas Argentinas Prov. de Córdoba	Tel. +54 351-490-0010 http://www.sew-eurodrive.com.ar sewcor@sew-eurodrive.com.ar
	Santa Fe	SEW EURODRIVE ARGENTINA S.A. Ruta Prov. 21 Km 7, Lote 41 Parque Industrial Alvear (2126) Gral. Alvear Prov. de Santa Fe	Tel. +54 341-317-7277 http://www.sew-eurodrive.com.ar sewsfe@sew-eurodrive.com.ar
Service	Mendoza	SEW EURODRIVE ARGENTINA S.A. Francisco Gabrielli (ex Urquiza) 2060-Zona Industrial- Guaymallen- CP 5521	Tel. +54 261-4214150 http://www.sew-eurodrive.com.ar sewmen@sew-eurodrive.com.ar
Technical Offices	Tucumán	SEW EURODRIVE ARGENTINA S.A. Balcarce 609 (T4000IAM) S.M. de Tucumán Prov. de Tucumán	Tel. +54 381-400-4569 http://www.sew-eurodrive.com.ar sewtuc@sew-eurodrive.com.ar
	Bahía Blanca	SEW EURODRIVE ARGENTINA S.A. O'Higgins 95, 1er Piso A (B8000IVA) Bahía Blanca Prov. de Buenos Aires	Tel. +54 291-451-7345 http://www.sew-eurodrive.com.ar sewbb@sew-eurodrive.com.ar
	Neuquén	SEW EURODRIVE ARGENTINA S.A.	Tel. +549 299 588 7950 http://www.sew-eurodrive.com.ar sewnqn@sew-eurodrive.com.ar
Australia			
Assembly Sales Service	Melbourne	SEW-EURODRIVE PTY. LTD. 27 Beverage Drive Tullamarine, Victoria 3043	Tel. +61 3 9933-1000 Fax +61 3 9933-1003 http://www.sew-eurodrive.com.au enquires@sew-eurodrive.com.au
	Sydney	SEW-EURODRIVE PTY. LTD. 9, Sleigh Place, Wetherill Park New South Wales, 2164	Tel. +61 2 9725-9900 Fax +61 2 9725-9905 enquires@sew-eurodrive.com.au
Sales Service	Adelaide	SEW-EURODRIVE PTY. LTD. 9C Park Way Mawson Lakes, SA 5095	Tel. +61 8 8161 4000 Fax +61 8 8161 4002 enquires@sew-eurodrive.com.au
	Brisbane	SEW-EURODRIVE PTY. LTD. 1 /34 Collinsvale St Rocklea, Queensland, 4106	Tel. +61 7 3276 5100 Fax +61 7 3276 5102 enquires@sew-eurodrive.com.au
	Perth	SEW-EURODRIVE PTY. LTD. 10 Colin Jamieson Drive Welshpool, WA 6106	Tel. +61 8 9251-4900 Fax +61 8 9251-4903 enquires@sew-eurodrive.com.au
Sales	Townsville	SEW-EURODRIVE PTY. LTD. 12 Leyland Street Garbutt, QLD 4814	Tel. +61 7 4779 4333 Fax +61 7 4779 5333 enquires@sew-eurodrive.com.au
Austria			
Assembly Sales Service	Vienna	SEW-EURODRIVE Ges.m.b.H. Richard-Strauss-Straße 24 1230 Wien	Tel. +43 1 617 55 00-0 Fax +43 1 617 55 00-30 http://www.sew-eurodrive.at sew@sew-eurodrive.at
Technical Offices	Linz	SEW-EURODRIVE Ges.m.b.H. Jaxstraße 2-4 4020 Linz	Tel. +43 732 655 109-0 Fax +43 732 655 109-20 tb-linz@sew-eurodrive.at
	Graz	SEW-EURODRIVE Ges.m.b.H. Hagenbuchstraße 1 8054 Seiersberg-Pirka	Tel. +43 316 685 756-0 Fax +43 316 685 756-20 tb-graz@sew-eurodrive.at
	Dornbirn	SEW-EURODRIVE Ges.m.b.H. Milleniumpark 15/B2 6890 Lustenau	Tel. +43 5577 86026-0 Fax +43 5577 86026-20 tb-dornbirn@sew-eurodrive.at

Bangladesh			
Sales	Bangladesh	SEW-EURODRIVE INDIA PRIVATE LIMITED 345 DIT Road East Rampura Dhaka-1219, Bangladesh	Tel. +88 01729 097309 salesdhaka@seweurodrivebangladesh.com
Belarus			
Sales	Minsk	Foreign unitary production enterprise SEW-EURODRIVE Novodvorskiy village council 145 223016, Minsk region	Tel. +375 17 319 47 56 / +375 17 378 47 58 Fax +375 17 378 47 54 http://www.sew-eurodrive.by sew@sew-eurodrive.by
Belgium			
Assembly Sales Service	Brussels	SEW-EURODRIVE n.v./s.a. Researchpark Haasrode 1060 Evenementenlaan 7 3001 Leuven	Tel. +32 16 386-311 Fax +32 16 386-336 http://www.sew-eurodrive.be info@sew-eurodrive.be
Service Competence Center	Industrial Gears	SEW-EURODRIVE n.v./s.a. Rue du Parc Industriel, 31 6900 Marche-en-Famenne	Tel. +32 84 219-878 Fax +32 84 219-879 http://www.sew-eurodrive.be info@sew.be
Brazil			
Production Sales Service	São Paulo	SEW-EURODRIVE Brasil Ltda. Estrada Municipal José Rubim, 205 – Rodovia Santos Dumont Km 49 Indaiatuba – 13347-510 – SP	Tel. +55 19 3835-8000 sew@sew.com.br
Assembly Sales Service	Rio Claro	SEW-EURODRIVE Brasil Ltda. Rodovia Washington Luiz, Km 172 Condomínio Industrial Conpark Caixa Postal: 327 13501-600 – Rio Claro / SP	Tel. +55 19 3522-3100 Fax +55 19 3524-6653 montadora.rc@sew.com.br
	Joinville	SEW-EURODRIVE Brasil Ltda. Jvl / Ind Rua Dona Francisca, 12.346 – Pirabeiraba 89239-270 – Joinville / SC	Tel. +55 47 3027-6886 Fax +55 47 3027-6888 filial.sc@sew.com.br
Bulgaria			
Sales	Sofia	BEVER-DRIVE GmbH Bogdanovetz Str.1 1606 Sofia	Tel. +359 2 9151160 Fax +359 2 9151166 bever@bever.bg
Cameroon			
Sales	Douala	SEW-EURODRIVE SARLU Ancienne Route Bonabéri P.O. Box B.P 8674 Douala-Cameroun	Tel. +237 233 39 12 35 Fax +237 233 39 02 10 www.sew-eurodrive.ci info@sew-eurodrive.cm
Canada			
Assembly Sales Service	Toronto	SEW-EURODRIVE CO. OF CANADA LTD. 210 Walker Drive Bramalea, ON L6T 3W1	Tel. +1 905 791-1553 Fax +1 905 791-2999 http://www.sew-eurodrive.ca l.watson@sew-eurodrive.ca
	Vancouver	SEW-EURODRIVE CO. OF CANADA LTD. Tilbury Industrial Park 7188 Honeyman Street Delta, BC V4G 1G1	Tel. +1 604 946-5535 Fax +1 604 946-2513 b.wake@sew-eurodrive.ca
	Montreal	SEW-EURODRIVE CO. OF CANADA LTD. 2001 Ch. de l'Aviation Dorval Quebec H9P 2X6	Tel. +1 514 367-1124 Fax +1 514 367-3677 n.paradis@sew-eurodrive.ca
Chile			
Assembly Sales Service	Santiago de Chile	SEW-EURODRIVE CHILE LTDA Las Encinas 1295 Parque Industrial Valle Grande LAMP Santiago de Chile P.O. Box Casilla 23 Correo Quilicura - Santiago - Chile	Tel. +56 2 2757 7000 Fax +56 2 2757 7001 http://www.sew-eurodrive.cl ventas@sew-eurodrive.cl

China			
Production Assembly Sales Service	Tianjin	SEW-EURODRIVE (Tianjin) Co., Ltd. No. 78, 13th Avenue, TEDA Tianjin 300457	Tel. +86 22 25322612 Fax +86 22 25323273 http://www.sew-eurodrive.cn info@sew-eurodrive.cn
Assembly Sales Service	Suzhou	SEW-EURODRIVE (Suzhou) Co., Ltd. 333, Suhong Middle Road Suzhou Industrial Park Jiangsu Province, 215021	Tel. +86 512 62581781 Fax +86 512 62581783 suzhou@sew-eurodrive.cn
	Guangzhou	SEW-EURODRIVE (Guangzhou) Co., Ltd. No. 9, JunDa Road East Section of GETDD Guangzhou 510530	Tel. +86 20 82267890 Fax +86 20 82267922 guangzhou@sew-eurodrive.cn
	Shenyang	SEW-EURODRIVE (Shenyang) Co., Ltd. 10A-2, 6th Road Shenyang Economic Technological Development Area Shenyang, 110141	Tel. +86 24 25382538 Fax +86 24 25382580 shenyang@sew-eurodrive.cn
	Taiyuan	SEW-EURODRIVE (Taiyuan) Co., Ltd. No.3, HuaZhang Street, TaiYuan Economic & Technical Development Zone ShanXi, 030032	Tel. +86-351-7117520 Fax +86-351-7117522 taiyuan@sew-eurodrive.cn
	Wuhan	SEW-EURODRIVE (Wuhan) Co., Ltd. 10A-2, 6th Road No. 59, the 4th Quanli Road, WEDA 430056 Wuhan	Tel. +86 27 84478388 Fax +86 27 84478389 wuhan@sew-eurodrive.cn
	Xi'An	SEW-EURODRIVE (Xi'An) Co., Ltd. No. 12 Jinye 2nd Road Xi'An High-Technology Industrial Development Zone Xi'An 710065	Tel. +86 29 68686262 Fax +86 29 68686311 xian@sew-eurodrive.cn
Sales Service	Hong Kong	SEW-EURODRIVE LTD. Unit No. 801-806, 8th Floor Hong Leong Industrial Complex No. 4, Wang Kwong Road Kowloon, Hong Kong	Tel. +852 36902200 Fax +852 36902211 contact@sew-eurodrive.hk
Colombia			
Assembly Sales Service	Bogotá	SEW-EURODRIVE COLOMBIA LTDA. Calle 17 No. 132-18 Interior 2 Bodega 6, Manzana B Santafé de Bogotá	Tel. +57 1 54750-50 Fax +57 1 54750-44 http://www.sew-eurodrive.com.co sew@sew-eurodrive.com.co
Croatia			
Sales Service	Zagreb	KOMPEKS d. o. o. Zeleni dol 10 10 000 Zagreb	Tel. +385 1 4613-158 Fax +385 1 4613-158 kompeks@inet.hr
Czech Republic			
Assembly Sales Service	Hostivice	SEW-EURODRIVE CZ s.r.o. Floriánova 2459 253 01 Hostivice	Tel. +420 255 709 601 Fax +420 235 350 613 http://www.sew-eurodrive.cz sew@sew-eurodrive.cz
Assembly Service	Plzeň	SEW-EURODRIVE CZ s.r.o. Areal KRPA a.s. Zahradní 173/2 326 00 Plzeň	Tel. +420 378 775 320 Fax +420 377 970 710 sew@sew-eurodrive.cz
Technical Offices	Brno	SEW-EURODRIVE CZ s.r.o. Křenová 52 60200 Brno	Tel. +420 543 254 174 Fax +420 543 256 845 ilona.cermakova@sew-eurodrive.cz
	Hradec Králové	SEW-EURODRIVE CZ s.r.o. Čechova 498 50202 Hradec Králové	Tel. +420 495 510 141 Fax +420 495 521 313 miroslav.moravec@sew-eurodrive.cz
	Ostrava	SEW-EURODRIVE CZ s.r.o. Studentská 6202/17 708 00 Ostrava-Poruba	Tel. +420 597 329 044 david.kenkus@sew-eurodrive.cz

	Klatovy	SEW-EURODRIVE CZ s.r.o. Videňská 841 33901 Klatovy	Tel. +420 376 331 634 Fax +420 376 331 634 viktor.kubernat@sew-eurodrive.cz
Service	Přerov	SEW-EURODRIVE CZ s.r.o. Areál STS Přerov a.s. ul. 9. května 2452 750 02 Přerov I – Město	Tel. +420 581 224 374 Fax +420 581 224 374 servis@sew-eurodrive.cz

Denmark

Assembly Sales Service	Copenhagen	SEW-EURODRIVE A/S Geminivej 28-30 2670 Greve	Tel. +45 43 95 8500 Fax +45 43 9585-09 http://www.sew-eurodrive.dk sew@sew-eurodrive.dk
Service	Vejle	SEW-EURODRIVE A/S Bødkervej 2 7100 Vejle	Tel. +45 43 9585 00 http://www.sew-eurodrive.dk sew@sew-eurodrive.dk

Egypt

Technical Office	Cairo	SEW-EURODRIVE Representative Office in Egypt 47 Office Building, Section 1, City Centre, New Cairo Cairo	Tel. +20 2 2503 2807 Fax +20 2 2503 2801 info@sew-eurodrive.eg
------------------	-------	--	--

Estonia

Sales	Tallin	ALAS-KUUL AS Loomäe tee 1, Lehmja küla 75306 Rae vald Harjumaa	Tel. +372 6593230 Fax +372 6593231 http://www.alas-kuul.ee info@alas-kuul.ee
-------	--------	--	---

Finland

Assembly Sales Service	Hollola	SEW-EURODRIVE OY Vesimäentie 4 15860 Hollola	Tel. +358 201 589-300 Fax +358 3 780-6211 http://www.sew-eurodrive.fi sew@sew.fi
Service	Hollola	SEW-EURODRIVE OY Keskikankaantie 21 15860 Hollola	Tel. +358 201 589-300 Fax +358 3 780-6211 http://www.sew-eurodrive.fi sew@sew.fi
	Tornio	SEW-EURODRIVE Oy Lossirannankatu 5 95420 Tornio	Tel. +358 201 589 300 Fax +358 3 780 6211 http://www.sew-eurodrive.fi sew@sew.fi
Production Assembly	Karkkila	SEW Industrial Gears Oy Santasalonkatu 6, PL 8 03620 Karkkila, 03601 Karkkila	Tel. +358 201 589-300 Fax +358 201 589-310 http://www.sew-eurodrive.fi sew@sew.fi
Technical Offices	Helsinki	SEW-EURODRIVE OY Luutnantintie 5 00410 Helsinki	Tel. +358 201 589-300 sew@sew.fi
	Oulu	SEW Industrial Gears Oy Paulaharjuntie 22 90530 Oulu	Tel. +358 201 589 300 sew@sew.fi
	Vaasa	SEW Industrial Gears Oy Asemakatu 7 65100 Vaasa	Tel. +358 201 589-300 sew@sew.fi
	Kuopio	SEW Industrial Gears Oy Leväsentie 23 70780 Kuopio	Tel. +358 201 589-300 sew@sew.fi
	Tampere	SEW Industrial Gears Oy Kampusareena Korkeakoulunkatu 7, 7.krs 33720 Tampere	Tel. +358 201 589-300 sew@sew.fi
	Kotka	SEW Industrial Gears Oy Heikinkatu 7 48100 Kotka	Tel. +358 201 589 300 sew@sew.fi

France			
Production Sales	Haguenau	SEW USOCOME 48-54 route de Soufflenheim B. P. 20185 67506 Haguenau Cedex	Tel. +33 3 88 73 67 00 http://www.usocome.com sew@usocome.com
Production	Forbach	SEW USOCOME Zone industrielle Technopôle Forbach Sud B. P. 30269 57604 Forbach Cedex	Tel. +33 3 87 29 38 00
	Brumath	SEW USOCOME 1 Rue de Bruxelles 67670 Mommenheim Cedex	Tel. +33 3 88 37 48 00
Assembly Sales Service	Bordeaux	SEW USOCOME Parc d'activités de Magellan 62 avenue de Magellan – B. P. 182 33607 Pessac Cedex	Tel. +33 5 57 26 39 00 dtcbordeaux@usocome.com
	Haguenau	SEW USOCOME 48-54 route de Soufflenheim B. P. 20185 67506 Haguenau Cedex	Tel. +33 3 88 73 67 00 dtchaguenau@usocome.com
	Lyon	SEW USOCOME 75 rue Antoine Condorcet 38090 Vaulx-Milieu	Tel. +33 4 74 99 60 00 dtclyon@usocome.com
	Nantes	SEW USOCOME Parc d'activités de la forêt 4 rue des Fontenelles 44140 Le Bignon	Tel. +33 2 40 78 42 00 dtcnantes@usocome.com
	Paris	SEW USOCOME Zone industrielle 2 rue Denis Papin 77390 Verneuil l'Étang	Tel. +33 1 64 42 40 80 dtcparis@usocome.com
Gabon			
Representation: Cameroon			
Germany			
Headquarters Production Sales	Bruchsal	SEW-EURODRIVE GmbH & Co KG Ernst-Blickle-Straße 42 76646 Bruchsal	Tel. +49 7251 75-0 Fax +49 7251 75-1970 http://www.sew-eurodrive.de sew@sew-eurodrive.de
Production / Industrial Gears	Bruchsal	SEW-EURODRIVE GmbH & Co KG Christian-Pähr-Str. 10 76646 Bruchsal	Tel. +49 7251 75-0 Fax +49 7251 75-2970
Production / Precision Gear Units	Bruchsal	SEW-EURODRIVE GmbH & Co KG Ernst-Blickle-Straße 42 76646 Bruchsal	Tel. +49 7251 75-0 Fax +49 7251 75-1970 sew@sew-eurodrive.de
Production	Graben	SEW-EURODRIVE GmbH & Co KG Ernst-Blickle-Straße 1 76676 Graben-Neudorf	Tel. +49 7251 75-0 Fax +49 7251-2970
Service Competence Center	Mechanics / Mechatronics	SEW-EURODRIVE GmbH & Co KG Ernst-Blickle-Straße 1 76676 Graben-Neudorf	Tel. +49 7251 75-1710 Fax +49 7251 75-1711 scc-mechanik@sew-eurodrive.de
	Electronics	SEW-EURODRIVE GmbH & Co KG Christian-Pähr-Straße 12 76646 Bruchsal	Tel. +49 7251 75-1780 Fax +49 7251 75-1769 scc-elektronik@sew-eurodrive.de
Drive Technology Center	MAXOLU- TION® Factory Automation	SEW-EURODRIVE GmbH & Co KG Eisenbahnstraße 11 76646 Bruchsal	Tel. +49 7251 75-0 Fax +49 7251 75-1970 sew@sew-eurodrive.de
	North	SEW-EURODRIVE GmbH & Co KG Alte Ricklinger Straße 43 30823 Garbsen (Hannover)	Tel. +49 5137 8798-30 Fax +49 5137 8798-55 dtc-nord@sew-eurodrive.de
	East	SEW-EURODRIVE GmbH & Co KG Dankritzer Weg 1 08393 Meerane (Zwickau)	Tel. +49 3764 7606-0 Fax +49 3764 7606-20 dtc-ost@sew-eurodrive.de

Germany

	South	SEW-EURODRIVE GmbH & Co KG Domagkstraße 5 85551 Kirchheim (München)	Tel. +49 89 909551-21 Fax +49 89 909551-50 dtc-sued@sew-eurodrive.de
	West	SEW-EURODRIVE GmbH & Co KG Siemensstraße 1 40764 Langenfeld (Düsseldorf)	Tel. +49 2173 8507-10 Fax +49 2173 8507-50 dtc-west@sew-eurodrive.de
Drive Center	Berlin	SEW-EURODRIVE GmbH & Co KG Melitta-Schiller-Straße 8 12526 Berlin	Tel. +49 306331131-30 Fax +49 306331131-36 dc-berlin@sew-eurodrive.de
	Bremen	SEW-EURODRIVE GmbH & Co KG Allerkai 4 28309 Bremen	Tel. +49 421 33918-10 Fax +49 421 33918-22 tb-bremen@sew-eurodrive.de
	Hamburg	SEW-EURODRIVE GmbH & Co KG Hasselbinnen 11 22869 Schenefeld	Tel. +49 40298109-60 Fax +49 40298109-70 dc-hamburg@sew-eurodrive.de
	Saarland	SEW-EURODRIVE GmbH & Co KG Gottlieb-Daimler-Straße 4 66773 Schwalbach Saar – Hülzweiler	Tel. +49 6831 48946 10 Fax +49 6831 48946 13 dc-saarland@sew-eurodrive.de
	Ulm	SEW-EURODRIVE GmbH & Co KG Dieselstraße 18 89160 Dornstadt	Tel. +49 7348 9885-0 Fax +49 7348 9885-90 dc-ulm@sew-eurodrive.de
	Würzburg	SEW-EURODRIVE GmbH & Co KG Nürnbergerstraße 118 97076 Würzburg-Lengfeld	Tel. +49 931 27886-60 Fax +49 931 27886-66 dc-wuerzburg@sew-eurodrive.de
Drive Service Hotline / 24 Hour Service			0 800 SEWHELP 0 800 7394357
Technical Offices	Augsburg	SEW-EURODRIVE GmbH & Co KG August-Wessels-Straße 29 86156 Augsburg	Tel. +49 821 22779-10 Fax +49 821 22779-50 tb-augsburg@sew-eurodrive.de
	Lake Constance	SEW-EURODRIVE GmbH & Co KG Dornierstraße 4 88677 Markdorf	Tel. +49 7544 96590-90 Fax +49 7544 96590-99 tb-bodensee@sew-eurodrive.de
	Dortmund	SEW-EURODRIVE GmbH & Co KG Hildastraße 8 44145 Dortmund	Tel. +49 231 229028-10 Fax +49 231 229028-20 tb-dortmund@sew-eurodrive.de
	Dresden	SEW-EURODRIVE GmbH & Co KG Hauptstraße 32 01445 Radebeul	Tel. +49 351 26338-0 Fax +49 351 26338-38 tb-dresden@sew-eurodrive.de
	Erfurt	SEW-EURODRIVE GmbH & Co KG Dubliner Straße 12 99091 Erfurt	Tel. +49 361 21709-70 Fax +49 361 21709-79 tb-erfurt@sew-eurodrive.de
	Güstrow	SEW-EURODRIVE GmbH & Co KG Glasewitzer Chaussee 33 B 18273 Güstrow P.O. Box Postfach 1216 – D-18262 Güstrow	Tel. +49 3843 8557-80 Fax +49 3843 8557-88 tb-guestrow@sew-eurodrive.de
	Hamburg	SEW-EURODRIVE GmbH & Co KG Hasselbinnen 11 22869 Schenefeld	Tel. +49 40298109-60 Fax +49 40298109-70 dc-hamburg@sew-eurodrive.de
	Hannover / Garbsen	SEW-EURODRIVE GmbH & Co KG Alte Ricklinger Str.40-42 30823 Garbsen	Tel. +49 5137 8798-10 Fax +49 5137 8798-50 tb-hannover@sew-eurodrive.de
	Heilbronn	SEW-EURODRIVE GmbH & Co KG Franz-Lutz-Straße 18 74391 Erlichheim	Tel. +49 7143 8738-0 Fax +49 7143 8738-25 tb-heilbronn@sew-eurodrive.de
	Herford	SEW-EURODRIVE GmbH & Co KG Goebenstraße 3 – 7 32052 Herford	Tel. +49 5221 9141-0 Fax +49 5221 9141-20 tb-herford@sew-eurodrive.de
	Karlsruhe	SEW-EURODRIVE GmbH & Co KG Ettlinger Weg 2 76467 Bietigheim P.O. Box Postfach 43 – D-76463 Bietigheim	Tel. +49 7245 9190-10 Fax +49 7245 9190-20 tb-karlsruhe@sew-eurodrive.de

Kassel	SEW-EURODRIVE GmbH & Co KG Sonnenweg 3 34260 Kaufungen	Tel. +49 561 95144-80 Fax +49 561 95144-90 tb-kassel@sew-eurodrive.de
Koblenz	SEW-EURODRIVE GmbH & Co KG Carl-Benz-Straße 8 56218 Mülheim-Kärlich	Tel. +49 2630 91930-10 Fax +49 2630 91930-90 tb-koblenz@sew-eurodrive.de
Lahr	SEW-EURODRIVE GmbH & Co KG Europastraße 3/1 77933 Lahr / Schwarzwald	Tel. +49 7821 90999-60 Fax +49 7821 90999-79 tb-lahr@sew-eurodrive.de
Langenfeld	SEW-EURODRIVE GmbH & Co KG Siemensstraße 1 40764 Langenfeld	Tel. +49 2173 8507-10 Fax +49 2173 8507-50 tb-langenfeld@sew-eurodrive.de
Ludwigshafen	SEW-EURODRIVE GmbH & Co KG Edisonstrasse 15 // Halle 7 68623 Lampertheim	Tel. +49 7251 75 3764 Fax +49 7251 75 503715 tb-ludwigshafen@sew-eurodrive.de
Magdeburg	SEW-EURODRIVE GmbH & Co KG Breiteweg 53 39179 Barleben	Tel. +49 39203 7577-1 Fax +49 39203 7577-9 tb-magdeburg@sew-eurodrive.de
Mannheim	SEW-EURODRIVE GmbH & Co KG Besselstraße 26 68219 Mannheim	Tel. +49 621 71683-10 Fax +49 621 71683-22 tb-mannheim@sew-eurodrive.de
München	SEW-EURODRIVE GmbH & Co KG Domagkstraße 5 85551 Kirchheim	Tel. +49 89 90955-110 Fax +49 89 90955-150 tb-muenchen@sew-eurodrive.de
Münster	SEW-EURODRIVE GmbH & Co KG Hafenplatz 4 48155 Münster	Tel. +49 251 41475-11 Fax +49 251 41475-50 tb-muenster@sew-eurodrive.de
Nuremberg	SEW-EURODRIVE GmbH & Co KG Lina-Ammon-Straße 22 90471 Nürnberg	Tel. +49 911 98884-50 Fax +49 911 98884-60 tb-nuernberg@sew-eurodrive.de
Regensburg	SEW-EURODRIVE GmbH & Co KG Im Gewerbepark A15 93059 Regensburg	Tel. +49 941 46668-68 Fax +49 941 46668-66 tb-regensburg@sew-eurodrive.de
Rhine-Main	SEW-EURODRIVE GmbH & Co KG Niederstedter Weg 5 61348 Bad Homburg	Tel. +49 6172 9617-0 Fax +49 6172 9617-50 tb-rheinmain@sew-eurodrive.de
Stuttgart	SEW-EURODRIVE GmbH & Co KG Friedrich-List-Straße 46 70771 Leinfelden-Echterdingen	Tel. +49 711 16072-0 Fax +49 711 16072-72 tb-stuttgart@sew-eurodrive.de
Zwickau / Meerane	SEW-EURODRIVE GmbH & Co KG Dänkritzer Weg1 08393 Meerane	Tel. +49 3764 7606-0 Fax +49 3764 7606-20 tb-zwickau@sew-eurodrive.de

Great Britain

Assembly Sales Service	Normanton	SEW-EURODRIVE Ltd. DeVilliers Way Trident Park Normanton West Yorkshire WF6 1GX	Tel. +44 1924 893-855 Fax +44 1924 893-702 http://www.sew-eurodrive.co.uk info@sew-eurodrive.co.uk
Service Competence Center	Southern Eng- land	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.heyne.co.uk info@heyne.co.uk
Drive Center	Scotland	SEW-EURODRIVE Ltd. 133-135 Deerdys 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. Csillaghegyi 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 Reykjavik	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
Sales	Gurgaon	SEW-EURODRIVE India Private Limited Global Business Park, M.G. Road Unit No. 205, 2nd Floor, Tower – D Gurugram 122001, Haryana	Tel. +91 99588 78855 salesgurgaon@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
Dhaka	SEW-EURODRIVE India Private Limited ROSE DALE 653, 6Th Floor,Flat-6E Jahan Box Lane, Gabtola, Moghbazar, Ramna 1217 Bangladesh	Tel. +88 01729 097309 salesdhaka@seweurodrivebangladesh.com
Faridabad	SEW-EURODRIVE India Private Limited H.No.:1172 ,Sector-9 , Near St Anthony School Faridabad 121006	Tel. +91 99580 09275 salesfaridabad@seweurodriveindia.com
Gandhinagar	SEW-EURODRIVE India Private Limited Office No. 304, Siddhraj Zavod, Between Kh-0 & G-0 Circle, Sarkhej Gandhinagar Highway, Sargasan, Gandhinagar – 382423	Tel. +91 787 8601656 salesgandhinagar@seweurodriveindia.com
Hyderabad	SEW-EURODRIVE India Private Limited 408, 4th Floor, Meridian Place Green Park Road, Amerpet Hyderabad - 500016, Telangana	Tel. +91 40 23414698 Fax +91 40 23413884 saleshyderabad@seweurodriveindia.com
Jaipur	SEW-EURODRIVE India Private Limited E-54, Roop Vihar, Near vivek vihar metro station, New sanganer Road Jaipur 302019, Rajasthan.	Tel. +91 7728896489 salesjaipur@seweurodriveindia.com
Jamshedpur	SEW-EURODRIVE India Private Limited Flat No :- S1 "Kashi Kunj",h. No. 60, New Rani Kudar Road No - 3, P.o. + P.s. - Kadma Jamshedpur - 831005, Jharkhand	Tel. +91 99341 23671 salesjamshedpur@seweurodriveindia.com
Kochi	SEW-EURODRIVE India Private Limited House No: 30/1168 A Kaniyampuzha Road Vyttila Post Office Cochin – 682019, Kerala	Tel. +91 98951 30375 salescochin@seweurodriveindia.com

Kolhapur	SEW-EURODRIVE India Private Limited C/O. Mr.S.V.Pawar.461/37, Abhideep Residency, Opp-Shriram Petrol Pump, Kasaba Bawada, Kolhapur - 416 122, Maharashtra	Tel. +91 86000 20846 saleskolhapur@seweurodriveindia.com
Kolkata	SEW-EURODRIVE India Private Limited 1st Floor, Room No : 09, Chowringhee Court 55, Chowringhee Road Kolkata - 700 071, West Bengal	Tel. +91 22- 62399968 Fax +91 33 22894204 saleskolkata@seweurodriveindia.com
Lucknow	SEW-EURODRIVE India Private Limited 69, Shiv Vihar Colony Vikas Nagar – Sector 5 Lucknow - 226022, Uttar Pradesh	Tel. +91 97936 27333 saleslucknow@seweurodriveindia.com
Ludhiana	SEW-EURODRIVE India Private Limited B-31, 605/24 Street No 1, Sukhdev Nagar, Bhamian Road Focal Point Ludhiana, Pin Code - 141010, Punjab	Tel. +91 9878746730
Mumbai	SEW-EURODRIVE India Private Limited 312 A, 3rd Floor, Acme Plaza, J.B. Nagar, Andheri Kurla Road, Andheri (E) Mumbai - 400059, Maharashtra	Tel. +91 22 28348440 Fax +91 22 28217858 salesmumbai@seweurodriveindia.com
Nagpur	SEW-EURODRIVE India Private Limited Plot No 49, New Kailash Nager, Samta colony, Nagpur-440027, Maharashtra	Tel. +91 95610 89525 salesnagpur@seweurodriveindia.com
Nashik	SEW-EURODRIVE India Private Limited F Road , Mahatma Nagar Flat No 1, Plot No: 144, SHAMBHAVI Appt, Nashik – 422 007, Maharashtra	Tel. +91 96657 52978 salesnashik@seweurodriveindia.com
New Delhi	SEW-EURODRIVE India Private Limited # B-206 DLF Towers-B District Centre Jasola New Delhi -110044	Tel. +91 11 6357422406 Fax +91 11 26944467 salesdelhi@seweurodriveindia.com
Navi Mumbai	SEW-EURODRIVE India Private Limited No.202, Shivam Yeshoram Plot No. 262/257, Sector 19 Kopar Khairane, Navi Mumbai - 400 709, Maharashtra	Tel. +91 99677 21324 salesnavimumbai@seweurodriveindia.com
Pune	SEW-EURODRIVE India Private Limited Plot No. 7, "Shri Shantadurga Niwas" Shivaji Co –operative Housing Society Ltd., Behind J.W. Marriot. Off Senapati Bapat Marg. Pune –411 016, Maharashtra	Tel. +91 20 27290180 salespune@seweurodriveindia.com
Pune	SEW-EURODRIVE India Private Limited Jai Tulajabhavani Complex. Office No:- 15 First Floor, Opp. Century Enka Company, MIDC Bhosari , Pune 411 026	Tel. +91 20-65118890 / 91 Fax +91 20 25380721 salespune@seweurodriveindia.com
Raipur	SEW-EURODRIVE India Private Limited Shop No. 204, 2nd Floor, Lalganga Business Park, Pachpedi Naka, NH -43 Dhamtari Road, Raipur 492 001 - Chhattisgarh	Tel. +91 771 4090765 Fax +91 771 4090765 salesraipur@seweurodriveindia.com
Rajkot	SEW-EURODRIVE India Private Limited Block No:64, Ajanta Park, Sadhu Vaswani Marg, University Road Rajkot 360005 - Gujarat	Tel. +91 8511149383 Fax +91 8511149383
Tiruchirappalli	SEW-EURODRIVE India Pvt.Ltd. V.S.Residency, 2nd floor, Flat no B-3 Elango Adigal street, Anna nagar, Near Thillai nagar, Thenur, 620017 Tamil Nadu	Tel. +91 97899 79855 salestrichy@seweurodriveindia.com
Vadodara	SEW-EURODRIVE India Private Limited Unit No. 301, Savorite Bldg, Plot No. 143, Vinayak Society, off old Padra Road, Vadodara - 390 007, Gujarat	Tel. +91 265 2325258 / 6560482 salesvadodara@seweurodriveindia.com

Vellore	SEW-EURODRIVE India Private Limited 23/2, 3rd Main road, Vani Vidyalaya School Road, Bharathi Nagar Extension, Katpadi Vellore - 632007, Tamilnadu	Tel. +91 96000 02247 salesvellore@seweurodriveindia.com
Vijayawada	SEW-EURODRIVE India Private Limited III Floor, H NO. 8-164, Masjid Street, Gollapdudi, Vijayawada - 521225 Andhra Pradesh	Tel. +91 8978861212

Indonesia

Registered Office Sales Service	Jakarta	PT SEW EURODRIVE INDONESIA Palma Tower, 16th Floor, Unit H & I, Jl R.A. Kartini II-S Kav 06 Pondok Pinang, Kebayoran Lama Jakarta Selatan 12310	Tel. +62 21 7593 0272 Fax +62 21 7593 0273 sales.indonesia@sew-eurodrive.com https://www.sew-eurodrive.com.sg
Sales	Medan	PT. Serumpun Indah Lestari Jl.Pulau Solor no. 8, Kawasan Industri Medan II Medan 20252	Tel. +62 61 687 1221 Fax +62 61 6871429 / +62 61 6871458 / +62 61 30008041 sil@serumpunindah.com serumpunindah@yahoo.com http://www.serumpunindah.com
	Jakarta	PT. Cahaya Sukses Abadi Komplek Rukan Puri Mutiara Blok A no 99, Sunter Jakarta 14350	Tel. +62 21 65310599 Fax +62 21 65310600 csajkt@cbn.net.id
	Jakarta	PT. Agrindo Putra Lestari Jl.Pantai Indah Selatan, Komplek Sentra Industri Terpadu, Pantai indah Kapuk Tahap III, Blok E No. 27 Jakarta 14470	Tel. +62 21 2921-8899 Fax +62 21 2921-8988 aplindo@indosat.net.id http://www.aplindo.com
	Surabaya	PT. TRIAGRI JAYA ABADI Jl. Sukosemolo No. 63, Galaxi Bumi Permai G6 No. 11 Surabaya 60111	Tel. +62 31 5990128 Fax +62 31 5962666 sales@triagri.co.id http://www.triagri.co.id
	Surabaya	CV. Multi Mas Jl. Raden Saleh 43A Kav. 18 Surabaya 60174	Tel. +62 31 5458589 Fax +62 31 5317220 sianhwa@sby.centrin.net.id http://www.cvmultimas.com

Ireland

Sales Service	Dublin	Alperton Engineering Ltd. 48 Moyle Road Dublin Industrial Estate Glasnevin, Dublin 11	Tel. +353 1 830-6277 Fax +353 1 830-6458 http://www.alperton.ie info@alperton.ie
------------------	--------	--	--

Israel

Sales	Tel Aviv	Liraz Handasa Ltd. Ahofer Str 34B / 228 58858 Holon	Tel. +972 3 5599511 Fax +972 3 5599512 http://www.liraz-handasa.co.il office@liraz-handasa.co.il
-------	----------	---	--

Italy

Assembly Sales Service	Milan	SEW-EURODRIVE S.a.s. di SEW S.r.l. & Co. Via Bernini,12 20033 Solaro (Milano)	Tel. +39 02 96 980229 Fax +39 02 96 980 999 http://www.sew-eurodrive.it milano@sew-eurodrive.it
Drive Center	Bologna	SEW-EURODRIVE S.a.s. di SEW S.r.l. & Co. Via della Grafica, 47 40064 Ozzano dell'Emilia (Bo)	Tel. +39 051 65-23-801 Fax +39 02 96 980 499 bologna@sew-eurodrive.it
	Caserta	SEW-EURODRIVE S.a.s. di SEW S.r.l. & Co. Viale Carlo III Km. 23,300 81020 S. Nicola la Strada (Caserta)	Tel. +39 0823 219011 Fax +39 02 96 980 599 caserta@sew-eurodrive.it
	Pescara	SEW-EURODRIVE S.a.s. di SEW S.r.l. & Co. Viale Europa,132 65010 Villa Raspa di Spoltore (PE)	Tel. +39 085 41-59-427 Fax +39 02 96 980 699 pescara@sew-eurodrive.it

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
Technical Offices	Kyoto	SEW-EURODRIVE JAPAN CO., LTD Kyoto Operation Center 9-1-11 Seikadai, Seika-cho, Souraku-gun, Kyoto 619-0238	Tel. +81 774 98-2750 Fax +81 774 93-2100 kyoto@sew-eurodrive.co.jp
	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 floor 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

Sales Service	Almaty	SEW-EURODRIVE LLP 291-291A, Tole bi street 050031, Almaty	Tel. +7 (727) 350 5156 Fax +7 (727) 350 5156 http://www.sew-eurodrive.com kazakhstan@sew-eurodrive.com
	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
Technical Offices	Karagandy	SEW-EURODRIVE LLP 82, Molokov Street 100004, Karagandy	Tel. +7 (7212) 955 956 Fax +7 (7212) 955 956 karagandy@sew-eurodrive.com
	Oskemen	SEW-EURODRIVE LLP 62 Satpaev ave. office 313 070016, 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 , Beirut Saudi Arabia, Syria)		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
	Penang	SEW-EURODRIVE SDN BHD No. 38, Jalan Bawal Kimsar Garden 13700 Prai, Penang West Malaysia	Tel. +60 4 3999349 Fax +60 4 3999348 sewpg@sew-eurodrive.com.my
	Kuching	SEW-EURODRIVE SDN BHD No. 69, Lot 10899 1st Floor, Jalan Tun Jugah 93350 Kuching Sarawak East Malaysia	Tel. +60 82 572780 Fax +60 82 571780 sewswk@sew-eurodrive.com.my
	Kota Kinabalu	SEW-EURODRIVE SDN BHD East Malaysia	Tel. +60 19 7539395 sales@sew-eurodrive.com.my
	Ipoh	SEW-EURODRIVE SDN BHD West Malaysia	Tel. +60 19 7177366 sewsa@sew-eurodrive.com.my
Mexico			
Assembly Sales Service	Quéretaro	SEW-EURODRIVE MEXICO S.A. de C.V. SEM-981118-M93 Tequisquiapan No. 102 Parque Industrial Quéretaro C.P. 76220 Querétaro, México	Tel. +52 442 1030-300 Fax +52 442 1030-301 http://www.sew-eurodrive.com.mx scmexico@seweurodrive.com.mx
Sales Service	Puebla	SEW-EURODRIVE MEXICO S.A. de C.V. Calzada Zavaleta No. 3922 Piso 2 Local 6 Col. Santa Cruz Buenavista C.P. 72154 Puebla, México	Tel. +52 (222) 221 248 http://www.sew-eurodrive.com.mx scmexico@seweurodrive.com.mx

Mongolia			
Technical Office	Ulaanbaatar	IM Trading LLC Olympic street 28B/3 Sukhbaatar district, Ulaanbaatar 14230, MN	Tel. +976-77109997 Tel. +976-99070395 Fax +976-77109997 http://imt.mn/ imt@imt.mn
Morocco			
Sales Service Assembly	Bouskoura	SEW-EURODRIVE Morocco SARL Parc Industriel CFCIM, Lot. 55/59 27182 Bouskoura Grand Casablanca	Tel. +212 522 88 85 00 Fax +212 522 88 84 50 http://www.sew-eurodrive.ma sew@sew-eurodrive.ma
Namibia			
Sales	Swakopmund	DB MINING & INDUSTRIAL SUPPLIES CC Einstein Street Strauss Industrial Park Unit1 Swakopmund	Tel. +264 64 462 738 Fax +264 64 462 734 anton@dbminingnam.com
Netherlands			
Assembly Sales Service	Rotterdam	SEW-EURODRIVE B.V. Industrieweg 175 3044 AS Rotterdam Postbus 10085 3004 AB Rotterdam	Tel. +31 10 4463-700 Fax +31 10 4155-552 Service: 0800-SEWHELP http://www.sew-eurodrive.nl info@sew-eurodrive.nl
New Zealand			
Assembly Sales Service	Auckland	SEW-EURODRIVE NEW ZEALAND LTD. P.O. Box 58-428 82 Greenmount drive East Tamaki Auckland	Tel. +64 9 2745627 Fax +64 9 2740165 http://www.sew-eurodrive.co.nz sales@sew-eurodrive.co.nz
	Christchurch	SEW-EURODRIVE NEW ZEALAND LTD. 30 Lodestar Avenue, Wigram Christchurch	Tel. +64 3 384-6251 Fax +64 3 384-6455 sales@sew-eurodrive.co.nz
Technical Office	Palmerston North	SEW-EURODRIVE NEW ZEALAND LTD. C/-Grant Shearman, RD 5, Aronui Road Palmerston North	Tel. +64 6 355-2165 Fax +64 6 355-2316 sales@sew-eurodrive.co.nz
Nigeria			
Sales	Lagos	Greenpeg Nig. Ltd 64C Toyin Street Opebi-Allen Ikeja Lagos-Nigeria	Tel. +234-701-821-9200-1 http://www.greenpeg ltd.com sales@greenpeg ltd.com
Norway			
Assembly Sales Service	Moss	SEW-EURODRIVE A/S Hornebergvegen 11 B 7038 Trondheim	Tel. +47 69 24 10 20 Fax +47 69 24 10 40 http://www.sew-eurodrive.no sew@sew-eurodrive.no
Pakistan			
Sales	Karachi	Industrial Power Drives Al-Fatah Chamber A/3, 1st Floor Central Com- mercial Area, Sultan Ahmed Shah Road, Block 7/8, Karachi	Tel. +92 21 452 9369 Fax +92-21-454 7365 seweurodrive@cyber.net.pk
Paraguay			
Sales	Fernando de la Mora	SEW-EURODRIVE PARAGUAY S.R.L Nu Guazu No. 642 casi Campo Esperanza Santisima Trinidad Asuncion	Tel. +595 991 519695 Fax +595 21 3285539 sewpy@sew-eurodrive.com.py
Peru			
Assembly Sales Service	Lima	SEW EURODRIVE DEL PERU S.A.C. Los Calderos, 120-124 Urbanizacion Industrial Vulcano, ATE, Lima	Tel. +51 1 3495280 Fax +51 1 3493002 http://www.sew-eurodrive.com.pe sewperu@sew-eurodrive.com.pe

Philippines

Sales	Makati	P.T. Cerna Corporation 4137 Ponte St., Brgy. Sta. Cruz Makati City 1205	Tel. +63 2 519 6214 Fax +63 2 890 2802 mech_drive_sys@ptcerna.com http://www.ptcerna.com
-------	--------	---	---

Poland

Assembly Sales Service	Łódź	SEW-EURODRIVE Polska Sp.z.o.o. ul. Techniczna 5 92-518 Łódź	Tel. +48 42 293 00 00 Fax +48 42 293 00 49 http://www.sew-eurodrive.pl sew@sew-eurodrive.pl
	Service	Tel. +48 42 293 0030 Fax +48 42 293 0043	24 Hour Service Tel. +48 602 739 739 (+48 602 SEW SEW) serwis@sew-eurodrive.pl
Technical Offices	Tychy	SEW-EURODRIVE Polska Sp.z.o.o. ul. Strzelecka 66 43-109 Tychy	Tel. +48 32 32 32 610 Fax +48 32 32 32 648 tychy@sew-eurodrive.pl
	Bydgoszcz	SEW-EURODRIVE Polska Sp.z.o.o. ul. Fordońska 246 85-766 Bydgoszcz	Tel. +48 52 567 30 00 Fax +48 52 567 30 09 bydgoszcz@sew-eurodrive.pl
	Gdansk	SEW-EURODRIVE Polska Sp.z.o.o. ul. Galaktyczna 30A 80-299 Gdańsk	Tel. +48 58 762 70 00 Fax +48 58 762 70 09
	Posen	SEW-EURODRIVE Polska Sp.z.o.o. ul. Wschodnia 7B 62-080 Swadzim k. Poznania	Tel. +48 61 6465500 Fax +48 61 6465519
	Radom	SEW-EURODRIVE Polska Sp.z.o.o. ul. Wrocławska 10, biuro nr 7 26-600 Radom	Tel. +48 48 679 47 00 Fax +48 48 679 47 09 radom@sew-eurodrive.pl
	Rzeszów	SEW-EURODRIVE Polska Sp.z.o.o. ul. Armii Krajowej 80 35-307 Rzeszów	Tel. +48 17 784 27 00 Fax +48 17 784 27 09 rzeszow@sew-eurodrive.pl

Portugal

Assembly Sales Service	Coimbra	SEW-EURODRIVE, LDA. Av. da Fonte Nova, n.º 86 3050-379 Mealhada	Tel. +351 231 20 9670 Fax +351 231 20 3685 http://www.sew-eurodrive.pt infosew@sew-eurodrive.pt
Service Competence Center	Lisbon	SEW-EURODRIVE, LDA. Núcleo Empresarial I de São Julião do Tojal Rua de Entremuros, 54 Fracção I 2660-533 São Julião do Tojal	Tel. +351 21 958-0198 / +351 939 598 717 Fax +351 21 958-0245 esc.lisboa@sew-eurodrive.pt
Technical Office	Porto	SEW-EURODRIVE, LDA. Rua Monte da Bela, N.º 191, Fração X 4445-294 Ermesinde	Tel. +351 229 350 383 / +351 932 559 110 Fax +351 229 350 384 esc.porto@sew-eurodrive.pt

Romania

Sales Service	Bucharest	Sialco Trading SRL str. Brazilia nr. 36 011783 Bucuresti	Tel. +40 21 230-1328 Fax +40 21 230-7170 http://www.sialco.ro sialco@sialco.ro
------------------	-----------	--	---

Russia

Assembly Sales Service	St. Petersburg	ЗАО «СБ-ЕВРОДРАЙФ» 188660, Russia, Leningrad Region, Vse- volozhsky District, Korabselki, Aleksandra Nevskogo str. building 4, block 1 P.O. Box 36 195220 St. Petersburg	Tel. +7 812 3332522 / +7 812 5357142 Fax +7 812 3332523 http://www.sew-eurodrive.ru sew@sew-eurodrive.ru
Technical Offices	Ekaterinburg	ЗАО «СБ-ЕВРОДРАЙФ» Komintern Str. 16 Office 614 620078 Ekaterinburg	Tel. +7 343 310 3977 Fax +7 343 310 3978 eso@sew-eurodrive.ru

Irkutsk	ЗАО «СЕВ-ЕВРОДРАЙФ» 5-Armii Str., 31 664011 Irkutsk	Tel. +7 3952 25 5880 Fax +7 3952 25 5881 iso@sew-eurodrive.ru
Moscow	ЗАО «СЕВ-ЕВРОДРАЙФ» Malaja Semjonovskaja Str. д. 9, корпус 2 107023 Moskau	Tel. +7 495 9337090 Fax +7 495 9337094 mso@sew-eurodrive.ru
Novosibirsk	ЗАО «СЕВ-ЕВРОДРАЙФ» пр. К Маркса 30 630087 Novosibirsk	Tel. +7 383 3350200 Fax +7 383 3462544 nso@sew-eurodrive.ru
Perm	ЗАО «СЕВ-ЕВРОДРАЙФ» Stakhanovskaya str., 45 Office 512 614066 Perm	Tel. +7 342 2219494 Fax +7 342 2219444 pso@sew-eurodrive.ru
Togliatti	ЗАО «СЕВ-ЕВРОДРАЙФ» Sportivnaya Str. 4B, office 2 Samarskaya obl. 445057 Togliatti	Tel. +7 8482 710529 Fax +7 8482 810590 tso@sew-eurodrive.ru

Zambia

Representation: South Africa

Senegal

Sales	Dakar	SENEMECA Mécanique Générale Km 8, Route de Rufisque B.P. 3251, Dakar	Tel. +221 338 494 770 Fax +221 338 494 771 http://www.senemeca.com senemeca@senemeca.sn
-------	-------	---	--

Serbia

Sales	Belgrade	DIPAR d.o.o. Ustanicka 128a PC Košum, IV floor 11000 Beograd	Tel. +381 11 347 3244 / +381 11 288 0393 Fax +381 11 347 1337 office@dipar.rs
-------	----------	---	---

Singapore

Assembly Sales Service	Singapore	SEW-EURODRIVE PTE. LTD. 9, Tuas Drive 2 Singapore 638644	Tel. +65 68621701 Fax +65 68612827 http://www.sew-eurodrive.com.sg sewsingapore@sew-eurodrive.com
------------------------------	-----------	--	--

Slovakia

Sales	Bernolákovo	SEW-Eurodrive SK s.r.o. Priemysel'ná ulica 6267/7 900 27 Bernolákovo	Tel. +421 2 48 212 800 http://www.sew-eurodrive.sk sew@sew-eurodrive.sk
-------	-------------	--	---

Slovenia

Sales Service	Celje	Pakman - Pogonska Tehnika d.o.o. Ul. XIV. divizije 14 3000 Celje	Tel. +386 3 490 83-20 Fax +386 3 490 83-21 pakman@siol.net
------------------	-------	--	--

South Africa

Assembly Sales Service	Johannesburg	SEW-EURODRIVE (PROPRIETARY) LIMITED 32 O'Connor Place Eurodrive House Aeroton Johannesburg 2190 P.O.Box 90004 Bertsham 2013	Tel. +27 11 248-7000 Fax +27 11 248-7289 http://www.sew.co.za info@sew.co.za
	Cape Town	SEW-EURODRIVE (PROPRIETARY) LIMITED Rainbow Park Cnr. Racecourse & Omuramba Road Montague Gardens Cape Town P.O.Box 36556 Chempet 7442	Tel. +27 21 552-9820 Fax +27 21 552-9830 Telex 576 062 bgriffiths@sew.co.za
	Durban	SEW-EURODRIVE (PROPRIETARY) LIMITED 48 Prospecton Road Isipingo Durban P.O. Box 10433, Ashwood 3605	Tel. +27 31 902 3815 Fax +27 31 902 3826 cdejager@sew.co.za

South Africa

	Nelspruit	SEW-EURODRIVE (PROPRIETARY) LIMITED 7 Christie Crescent Vintonia P.O.Box 1942 Nelspruit 1200	Tel. +27 13 752-8007 Fax +27 13 752-8008 robermeyer@sew.co.za
Technical Office	Port Elizabeth	SEW-EURODRIVE (PROPRIETARY) LIMITED 8 Ruan Access Park Old Cape Road Greenbushes 6000 Port Elizabeth	Tel. +27 41 3722246 Fax +27 41 3722247 http://www.sew.co.za fsieberhagen@sew-co-za

South Korea

Assembly Sales Service	Ansan	SEW-EURODRIVE Korea Co., Ltd. 7, Dangjaengi-ro, Danwon-gu, Ansan-si, Gyeonggi-do, Zip 425-839	Tel. +82 31 492-8051 Fax +82 31 492-8056 http://www.sew-eurodrive.kr master.korea@sew-eurodrive.com
	Busan	SEW-EURODRIVE Korea Co., Ltd. 28, Noksansandan 262-ro 50beon-gil, Gangseo-gu, Busan, Zip 618-820	Tel. +82 51 832-0204 Fax +82 51 832-0230
Assembly Service	Siheung	SEW-EURODRIVE Korea Co., Ltd. 35, Emtibeui 26-ro 58beon-gil, Siheung-si, Gyeonggi-do	http://www.sew-eurodrive.kr
Technical Offices	Daegu	SEW-EURODRIVE Korea Co., Ltd. No.303 Sungan officetel, 1834, Dalgubeol-daero, Dalseo-gu, Daegu, Zip 704-712	Tel. +82 53 650-7111 Fax +82 53 650-7112
	Daejeon	SEW-EURODRIVE Korea Co., Ltd. No.302 Hongin officetel, 28, Daehak-ro, Yuseong-gu, Daejeon, Zip 305-710	Tel. +82 42 828-6461 Fax +82 42 828-6463
	Gwangju	SEW-EURODRIVE Korea Co., Ltd. 5fl., Hyundai B/D B, 40, Bungmun-daero, Buk-gu, Gwangju, Zip 500-855	Tel. +82 62 511-9172 Fax +82 62 511-9174
	Seoul	SEW-EURODRIVE Korea Co., Ltd. No.1804 Ace Hiend Tower 8th, 84, Gasam digital 1-ro, Geumcheon-gu, Seoul, Zip 153-797	Tel. +82 2 862-8051 Fax +82 2 862-8199

Spain

Assembly Sales Service	Bilbao	SEW-EURODRIVE ESPAÑA, S.L. Parque Tecnológico, Edificio, 302 48170 Zamudio (Vizcaya)	Tel. +34 94 43184-70 http://www.sew-eurodrive.es sew.spain@sew-eurodrive.es
Technical Offices	Barcelona	SEW-EURODRIVE ESPAÑA, S.L. Avda. Francesc Macià, 60 – Planta 12, porta 3 Eix Macià – “Torre Milenium” 08208 Sabadell (Barcelona)	Tel. +34 93 7162200
	Madrid	SEW-EURODRIVE ESPAÑA, S.L. Gran Vía. 48-2° A-D 28220 Majadahonda (Madrid)	Tel. +34 91 6342250

Sri Lanka

Sales	Colombo	SM International (Pte) Ltd 254, Galle Raod Colombo 4, Sri Lanka	Tel. +94 1 2584887 Fax +94 1 2582981
-------	---------	---	---

Swaziland

Sales	Manzini	C G Trading Co. (Pty) Ltd Simunye street Matsapha, Manzini	Tel. +268 7602 0790 Fax +268 2 518 5033 charles@cgtrading.co.sz www.cgtradingswaziland.com
-------	---------	--	---

Sweden			
Assembly Sales Service	Jönköping	SEW-EURODRIVE AB Gnejsvägen 6-8 553 03 Jönköping Box 3100 S-550 03 Jönköping	Tel. +46 36 34 42 00 Fax +46 36 34 42 80 http://www.sew-eurodrive.se jonkoping@sew.se
Sales	Gothemburg	SEW-EURODRIVE AB Stora Ävägen 21 436 34 Askim	Tel. +46 31 709 68 80 Fax +46 31 709 68 93 goteborg@sew.se
	Stockholm	SEW-EURODRIVE AB Björkholmsvägen 10 141 46 Huddinge	Tel. +46 8 449 86 80 Fax +46 8 449 86 93 stockholm@sew.se
	Malmö	SEW-EURODRIVE AB Borrgatan 5 211 24 Malmö	Tel. +46 40 680 64 80 Fax +46 40 680 64 93 malmö@sew.se
	Skellefteå	SEW-EURODRIVE AB Trädgårdsgatan 8 931 31 Skellefteå	Tel. +46 910 71 53 80 Fax +46 910 71 53 93 skelleftea@sew.se
Switzerland			
Assembly Sales Service	Basel	Alfred Imhof A.G. Jurastrasse 10 4142 Münchenstein bei Basel	Tel. +41 61 417 1717 Fax +41 61 417 1700 http://www.imhof-sew.ch info@imhof-sew.ch
Technical Offices	Rhaetian Switzerland	Ivan Grumelli Z.I. Moulin du choc C 1122 Romanel-sur-Morges, VD	Tel. +41 79 725 4499 Fax +41 61 417 1700
	Bern / Solo- thurn	Rudolf Bühler Muntersweg 5 2540 Grenchen	Tel. +41 32 652 2339 Fax +41 32 652 2331
	Central Switzerland, Aargau	Armin Pfister Stierenweid 4950 Huttwil, BE	Tel. +41 62 962 54 55 Fax +41 62 962 54 56
	Zürich, Ticino	Gian-Michele Muletta Fischerstrasse 61 8132 Egg bei Zürich	Tel. +41 44 994 81 15 Fax +41 44 994 81 16
	Lake Con- stance and East Switzer- land	Markus Künzle Eichweg 4 9403 Goldach	Tel. +41 71 845 2808 Fax +41 71 845 2809
Taiwan			
Sales	Taipei	Ting Shou Trading Co., Ltd. 6F-3, No. 267, Sec. 2 Tung Huw S. Road Taipei	Tel. +886 2 27383535 Fax +886 2 27368268 Telex 27 245 sewtwn@ms63.hinet.net http://www.tingshou.com.tw
	Nan Tou	Ting Shou Trading Co., Ltd. No. 55 Kung Yeh N. Road Industrial District Nan Tou 540	Tel. +886 49 255353 Fax +886 49 257878 sewtwn@ms63.hinet.net http://www.tingshou.com.tw
Tanzania			
Sales	Daressalam	SEW-EURODRIVE PTY LIMITED TANZANIA Plot 52, Regent Estate PO Box 106274 Dar Es Salaam	Tel. +255 0 22 277 5780 Fax +255 0 22 277 5788 http://www.sew-eurodrive.co.tz info@sew.co.tz
Thailand			
Assembly Sales Service	Chonburi	SEW-EURODRIVE (Thailand) Ltd. 700/456, Moo.7, Donhuaroh Muang Chonburi 20000	Tel. +66 38 454281 Fax +66 38 454288 sewthailand@sew-eurodrive.com https://www.sew-eurodrive.co.th
Technical Offices	Bangkok	SEW-EURODRIVE (Thailand) Ltd. 6th floor, TPS Building 1023, Phattanakarn Road Suanluang Bangkok, 10250	Tel. +66 2 7178149 Fax +66 2 7178152 sewthailand@sew-eurodrive.com

Hat Yai	SEW-EURODRIVE (Thailand) Ltd. Hadyai Country Home Condominium 59/101 Soi.17/1 Rachas-Utd Road. Hadyai, Songkhla 90110	Tel. +66 74 359441 Fax +66 74 359442 sewthailand@sew-eurodrive.com
Khon Kaen	SEW-EURODRIVE (Thailand) Ltd. 4th Floor, Kaow-U-HA MOTOR Bldg, 359/2, Mitraphab Road. Muang District Khonkaen 40000	Tel. +66 43 225745 Fax +66 43 324871 sewthailand@sew-eurodrive.com
Surat Thani	SEW-EURODRIVE (Thailand) Ltd. 66/58 Moo.4, Wat Pradu Muang district Surat Thani 84000	Tel. +66 80 928 9463 sewthailand@sew-eurodrive.com

Tunisia

Sales	Tunis	T. M.S. Technic Marketing Service Zone Industrielle Mghira 2 Lot No. 39 2082 Fouchana	Tel. +216 79 40 88 77 Fax +216 79 40 88 66 http://www.tms.com.tn tms@tms.com.tn
-------	-------	--	--

Turkey

Assembly Sales Service	Kocaeli-Gebze	SEW-EURODRIVE Ana Merkez Gebze Organize Sanayi Böl. 400 Sok No. 401 41480 Gebze Kocaeli	Tel. +90 262 9991000 04 Fax +90 262 9991009 http://www.sew-eurodrive.com.tr sew@sew-eurodrive.com.tr
------------------------------	---------------	---	---

Technical Offices		SEW-EURODRIVE Home Ofis	Tel. +90 533 491 81 77 / +90 542 660 34 89
	Ankara	SEW-EURODRIVE Ankara Ofis 1368.Cadde Eminel İş Merkezi No: 18/68 İvedik OSB/Yenimahalle/Ankara	Tel. +90 312 385 33 90
	Bursa	SEW-EURODRIVE Bursa Ofis Beşevler Mah. Yıldırım Cd. No: 254 Karya Güçlü İş Merkezi B Blok Kat:5 No: 28 Nilüfer/Bursa	Tel. +90 224 443 45 60
	Istanbul	SEW-EURODRIVE İstanbul Ofis Yakuplu Merkez Mh. Hürriyet Bulvarı Skyport Residence No:1 D:66 Beylikdüzü/İSTANBUL	Tel. +90 212 438 41 62-63
	Izmir	SEW-EURODRIVE İzmir Ofis IAOSB Küçük Parseller Grubu Sosyal Tesis merkezi 1030 Sokak No: 16 / 110 Kara Hasan Atılı İş Merkezi Kat:6 Çiğli/Izmir	Tel. +90 232 469 62 64

United Arab Emirates

Drive Technology Center	Dubai	SEW-EURODRIVE FZE PO Box 263835 Jebel Ali Free Zone – South, P.O. Box Dubai, United Arab Emirates	Tel. +971 (0)4 8806461 Fax +971 (0)4 8806464 info@sew-eurodrive.ae
----------------------------	-------	---	--

Ukraine

Assembly Sales Service	Dnipropetrovsk	SEW-EURODRIVE, LLC Robochya str., bld. 23-B, office 409 49008 Dnipro	Tel. +380 56 370 3211 Fax +380 56 372 2078 http://www.sew-eurodrive.ua sew@sew-eurodrive.ua
Sales	Kiev	SEW-EURODRIVE, LLC Velyka Vasylkivska street, 77-A 03150 Kiev	Tel. +380 44 503 95 77 Fax +380 44 503 95 78 kso@sew-eurodrive.ua
	Ivano-Frankivsk	SEW-EURODRIVE, LLC Symona Petlyury Str. 27 76018 Ivano-Frankivsk	Tel. +380 342 725 190 Fax +380 342 725 191 ifso@sew-eurodrive.ua

Uruguay

Assembly Sales	Montevideo	SEW-EURODRIVE Uruguay, S. A. Jose Serrato 3569 Esquina Corumbe CP 12000 Montevideo	Tel. +598 2 21181-89 Fax +598 2 21181-90 sewuy@sew-eurodrive.com.uy
-------------------	------------	--	---

USA

Production Sales Service	Southeast Region	SEW-EURODRIVE INC. 1295 Old Spartanburg Highway P.O. Box 518 Lyman, S.C. 29365	Tel. +1 864 439-7537 Fax Sales +1 864 439-7830 Fax Production +1 864 439-9948 Fax Assembly +1 864 439-0566 Fax Confidential/HR +1 864 949-5557 http://www.seweurodrive.com cslyman@seweurodrive.com
Assembly Sales Service	Northeast Region	SEW-EURODRIVE INC. Pureland Ind. Complex 2107 High Hill Road, P.O. Box 481 Bridgeport, New Jersey 08014	Tel. +1 856 467-2277 Fax +1 856 845-3179 csbridgeport@seweurodrive.com
	Midwest Region	SEW-EURODRIVE INC. 2001 West Main Street Troy, Ohio 45373	Tel. +1 937 335-0036 Fax +1 937 332-0038 cstroy@seweurodrive.com
	Southwest Region	SEW-EURODRIVE INC. 202 W. Daniieldale Rd. DeSoto, TX 75115	Tel. +1 214 330-4824 Fax +1 214 330-4724 csdallas@seweurodrive.com
	Western Region	SEW-EURODRIVE INC. 30599 San Antonio St. Hayward, CA 94544	Tel. +1 510 487-3560 Fax +1 510 487-6433 cshayward@seweurodrive.com
	Wellford	SEW-EURODRIVE INC. 148/150 Finch Rd. Wellford, S.C. 29385	Tel. +1 864 439-7537 Fax +1 864 661 1167 IGOrders@seweurodrive.com
		SEW-EURODRIVE INC. 220 Finch Rd. Wellford, S.C. 29385-9630	

Additional addresses for service provided on request!

Vietnam

Sales	Ho Chi Minh City	SEW-EURODRIVE PTE. LTD. RO at Hochim- inh City Floor 8, KV I, Loyal building, 151-151 Bis Vo Thi Sau street, ward 6, District 3, Ho Chi Minh City, Vietnam	Tel. +84 937 299 700 huytam.phan@sew-eurodrive.com
	Hanoi	MICO LTD Quảng Trị - North Vietnam / All sectors except Construction Materials 8th Floor, Ocean Park Building, 01 Dao Duy Anh St, Ha Noi, Viet Nam	Tel. +84 4 39386666 Fax +84 4 3938 6888 nam_ph@micogroup.com.vn http://www.micogroup.com.vn

Index

A

Abbreviation key	96
Adapter for mounting of NEMA motors	211
Adapters	47
Adapters for mounting Servomotors	214
Additional documentation	12
Additional documentation for Project Planning for Drives	95
Agitator gear units	56
Strength class of the screws	224
Alternative connections	71
Assembly kit for gear units with hollow shaft and key	183

B

Backstop	47
Bearing greases	163
Brakemotors	47
Breather valve	181, 248
Breather valve in motor flange	118

C

Centering shoulder	47
Churning losses	103
Compound gear unit Position of the oil level plug	115
Copyright notice	13

D

Decimal separator	13
Design types	
Helical gearmotors	81
Helical-bevel gearmotors	85, 87, 89
Helical-worm gearmotors	91
SPIROPLAN® gear units	94
SPIROPLAN® gearmotors	771
Designs	
Helical gearmotors	474
Helical-worm gearmotors	706
Parallel-shaft helical gearmotors	83, 529
SPIROPLAN® gearmotors	93

Designs, possible

Brakemotors	47
Reduced backlash	182
SPIROPLAN® gear units	46
Directions of rotation	44
Disassembly kit for gear units with hollow shaft and key	183
Disassembly with the SEW-EURODRIVE as- sembly/disassembly kit	190
Drive and gear unit selection data	96

E

EDR.. type designation	
Bearing	72
Connection variants	71
Explosion-proof motors	67
Explosion-protected motors	68
Efficiency	103
Efficiency of R, F, K, S, W gear units	101
Encoder	70
Explosion-proof motors	67
Explosion-protected motors	68
Extended storage	53, 54

F

Fan	71
Fixed safety cover	241
Part numbers and dimensions	242
Flange contours	
FAF., KAF., SAF.. und WAF	231
FF., KF., SF.. and WF..	229
RF.. and R..F	227
Force application - definition	110

G

Gear unit mounting	224
Strength class	224
Gear units	
Extended storage	53
Gear units with hollow shaft	193
Special motor/gear unit combinations	194
Gear units with hollow shaft and key Assembly/disassembly kit	183
Gearmotor	
Accessibility	43

Heat dissipation	43	Motor mounting positions	159
Installation altitude	42	Motor platform	47
Noise	42	Mounting gear units with hollow shaft and key	
Grease filling	163	Supplied fastening parts	183
H		Using the assembly/disassembly kit by SEW-EURODRIVE	187
Heavy load range	12	Mounting of gear units	224
Helical gear units		Mounting position	
Mounting positions	127	Changing the mounting position	117
Type designation	65	Pivoted mounting position (dynamic)	117
Helical gearmotors		Universal mounting position M0	117
Designs	474	Mounting position sheets	126
Helical-bevel gear unit		Notes	126
Mounting positions	135	Mounting positions	
Helical-bevel gear units K..		Helical gear units	127
Type designation	66	Helical-bevel gear unit	135
Helical-bevel gearmotors		Helical-worm gear units	148
Design types	85, 87, 89	Overview	116
Variants	606	Parallel-shaft helical gear units	132
Helical-worm gear units		SPIROPLAN® gear units	154
Mounting positions	148	Multi-stage gearmotors	114
Type designation	66	N	
Helical-worm gearmotors		NOCO® fluid	51
Design types	91	Notes on the gearmotor dimension sheets	246
Designs	706	O	
Higher permitted overhung loads		Oil drain plug in motor flange	118
Gear unit	110	Oil expansion tank	55
Hollow shaft and key, assembly/disassembly ...	183	Oil level plug	
I		Position for compound gear units	115
Inch output shaft	246	Oil seals	
Installation altitude	42	Lubricant compatibility	165
L		Operating temperature	
Light load range	12	Gear units	41
Lubricant table	164	Motor	41
Lubricants		Options	
Compatibility with oil seal	165	R., F., K., S., W.	67
Lubricant table	164	Order information	121
M		Overhung load	
Mechanical attachments	69	Permitted overhung load	109
Motor		Reduced overhung load	109
Operating temperature	41	Overhung load conversion, gear unit constants	112
Motor flange		P	
Breather valve, oil drain plug	118	Painting	42

Parallel-shaft helical gear unit	
Type designation	65
Parallel-shaft helical gear units	
Mounting positions	132
Parallel-shaft helical gearmotors	
Designs	83, 529
Permitted axial load	110
Pivoted mounting position	
Stationary	117
Pivoted mounting position (dynamic)	117
Position of the torque arm	249
Product names	13
Project Planning for Drives	
Additional documentation	95
Multi-stage gearmotors	114
Project Planning for Gear Units	
Service factor	104
Pt100	243
Pt1000	244

R

R, F, K, S, W gear units	
Operating temperature	41
Reduced backlash gear units	46
Reduced-backlash gear units	182
Rubber buffer for FA/FH/FV/FT	249

S

Safety cover	241
Fixed	241
Selection tables	
Gearmotors, structure of the selection tables	245
Self-locking of worm or SPIROPLAN® gear units	101
Service factor	
Determining the service factor	104
SEW fB	104
Service factor for explosion-protected motors	96, 104
SEW service factor	104
Shouldered hollow shaft with shrink disk	197
Helical-bevel gear unit	200
Helical-worm gear unit	202
Parallel-shaft helical gear units	198
Shrink disk connection	248

SPIROPLAN® gear units	
Design types	94
Mounting positions	154
Type designation	67
SPIROPLAN® gearmotors	
Design types	771
Designs	93
Splined hollow shaft	248
Stainless shrink disk or output shaft	
Notes	203
Stainless steel shrink disk or output shaft	
Notes	203
Storage conditions	54
Strength class	
Gear unit mounting	224
Structure of the selection tables	245
Surface protection	53
Swing base	47

T

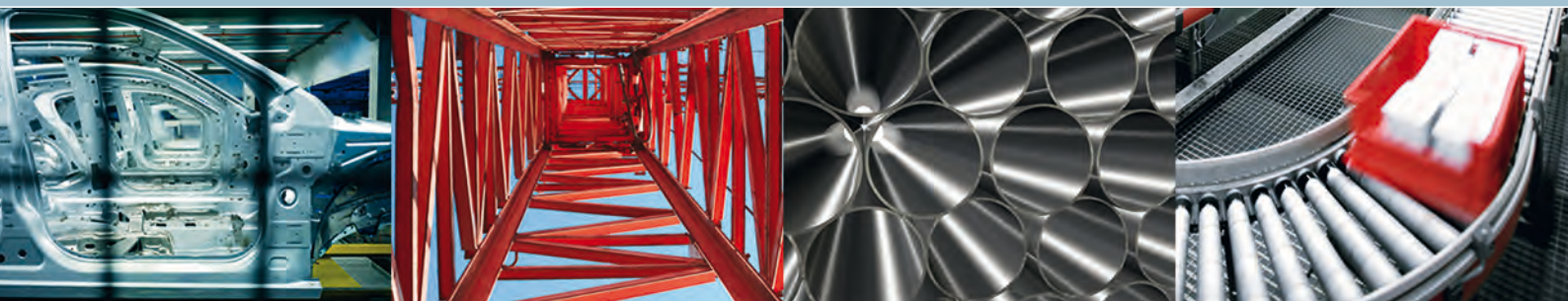
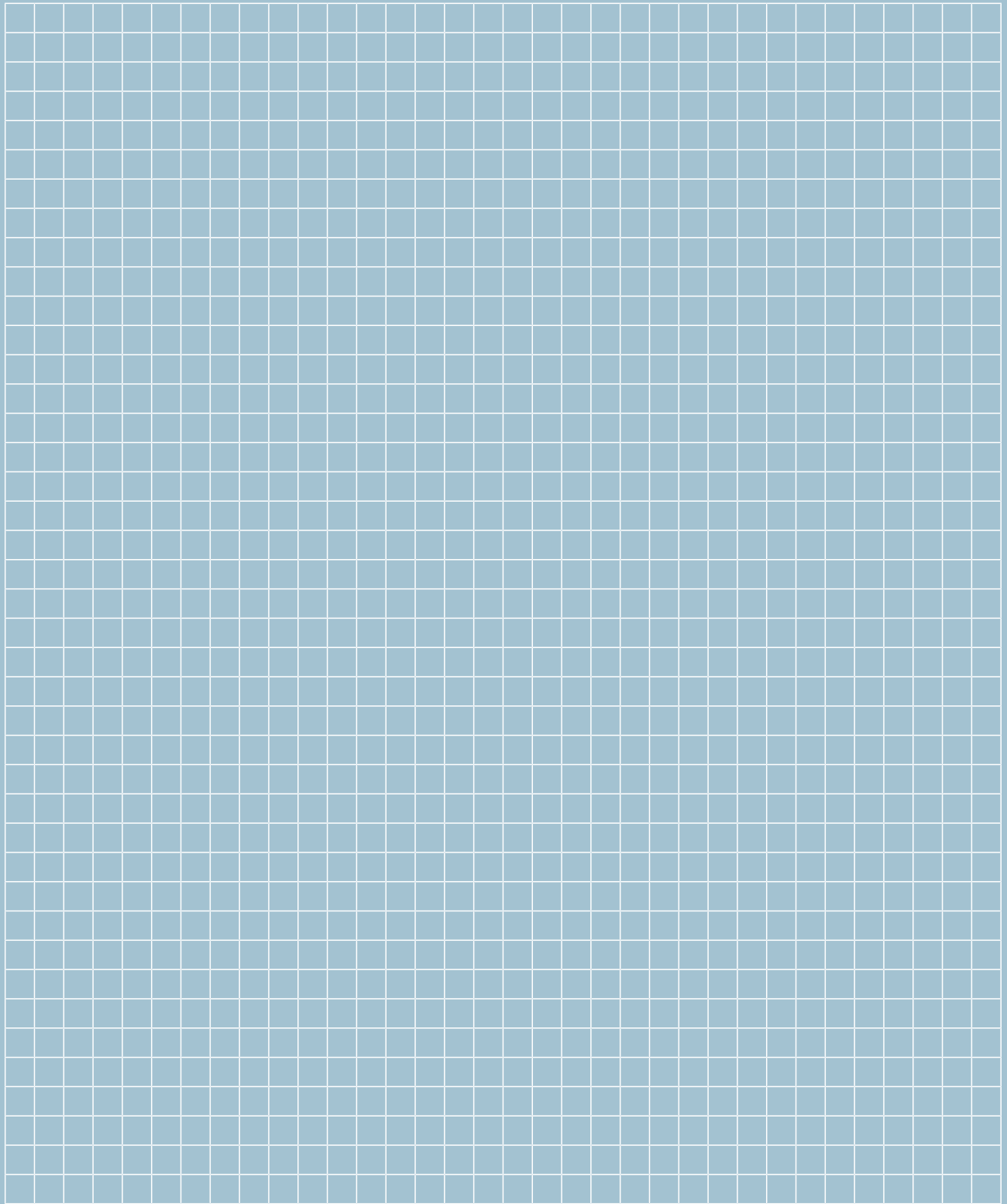
Temperature sensor/temperature detection	69
Thermal rating	103
Tolerances	246
Flanges	247
Hollow shafts	247
Multiple-spline shafts	247
Shaft ends	246
Shaft heights	246
TorqLOC® hollow shaft mounting system	195
Torque arm	249
Trademarks	13
Type designation	73
Helical gear units	65
Helical-bevel gear units K	66
Helical-worm gear units	66
Parallel-shaft helical gear unit	65
SPIROPLAN® gear units	67
Temperature detection	69
Type designation AC motors and options	68
Type designation EDR..	
Fan	71
Mechanical attachments	69
Temperature sensor and temperature detection	69
Type designation EDRN..	
Encoder	70

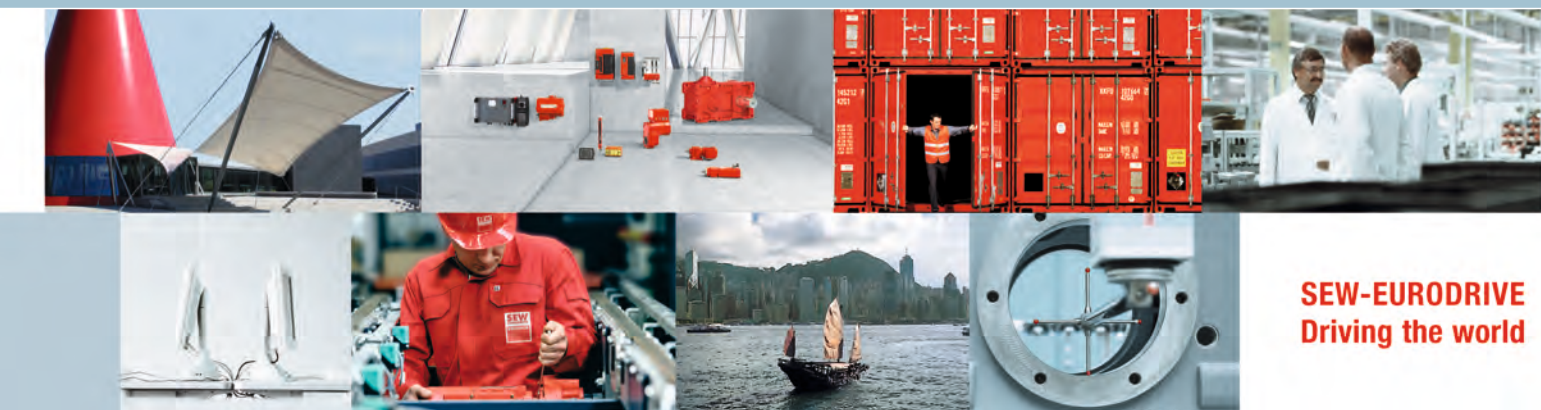
U

Universal mounting position M0 117

V

Variants
 Helical-bevel gearmotors..... 606
Variants, possible
 RM Gearmotors..... 46





SEW-EURODRIVE
Driving the world

SEW
EURODRIVE

SEW-EURODRIVE GmbH & Co KG
Ernst-Blickle-Str. 42
76646 BRUCHSAL
GERMANY
Tel. +49 7251 75-0
Fax +49 7251 75-1970
sew@sew-eurodrive.com
→ www.sew-eurodrive.com