STROJNA® is a company with tradition. The company's beginnings go back into the year of 1906, when manufacturer Eylert established a workshop to repair textile machines. At that time, the company has already been producing gears and worm pairs.

During the World War II the company moved from Melje to 11 Linhartova street, where it is still located today. Until 1959, the company officiated under the name Remont, and later under the name Strojna.

Under the new name, it has begun a new period for the company. In 1962, Strojna started its own production program has began with serial production of helical and later with worm gear units.

During the years we developed a complete program of drive technique, which includes: helical gear units, worm gear units, helical worm gear units, planetary gear units, variable speed drives, Screw Jack, TA-STA gear units, modified gear units, flexible couplings and other elements of drive technique.

Our production capacities include modern high productive machines, which enable us to achieve high quality production with large series. Highly qualified staff, constant equipment updating, technology and quality improvement by using up to date technology, achievements and modern materials, make us recognizable and competitive in drive technique market.

Our research and development department is constantly working on new products of drive technique, closely cooperating with institutes, foreign partners and faculties. We are constantly looking in the future in order to offer modern and efficient gear units to our customers, in order to ensure us a leading position along with the biggest world manufacturers of drive technique.

Regardless of whether we mass-produce for you, deliver popular models on short-term notice, or manufacture individualized single components according to your specifications - we are consistently working on optimizing our customer-oriented service.

STROJNA® ist eine Firma mit Tradition. Der Anfang der Firma reicht ins Jahr 1906 zurück, als der Fabrikant Eylert eine Werkstatt zur Reparatur von Textilmaschinen gründete. Schon damals hat die Firma Zahnräder und Schneckenpaare hergestellt.

Im zweiten Weltkrieg zog die Firma von Melje zum neuen Standort Linhartova 11, wo sie sich noch heute befindet. Nach 1959 arbeitete die Firma unter dem Namen Remont und später unter dem Namen Strojna. Mit dem Wechsel des Namens begann für unsere Firma eine neue Ära. Im Jahre 1962 begann unsere eigene Produktion, die Herstellung von Stirnradgetrieben und später auch Schneckengetrieben.

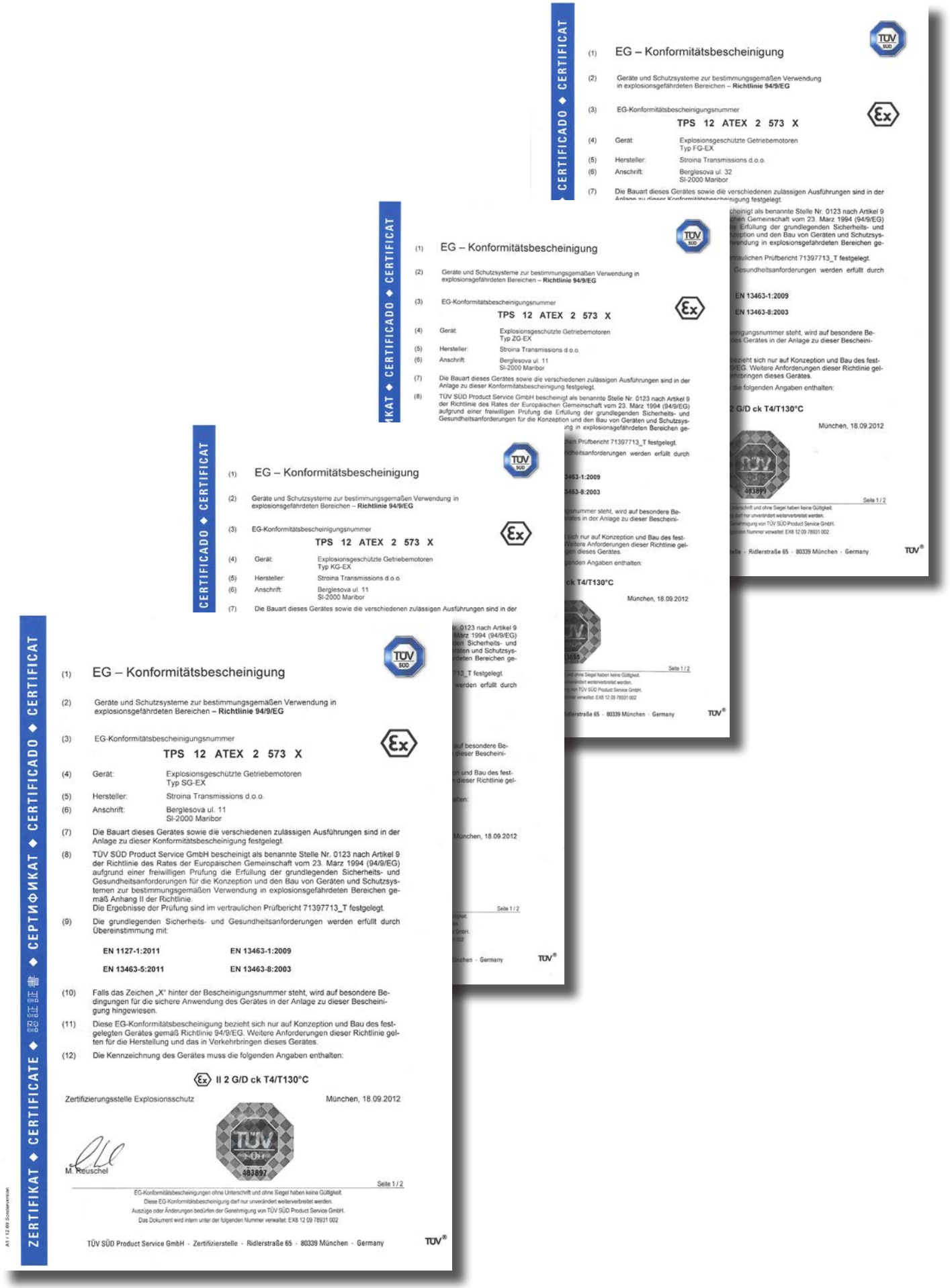
Durch die Jahre haben wir ein komplettes Program für Antriebstechnik entwickelt, dass Stirnradgetriebe, Schneckengetriebe, Stirnschneckenradgetriebe, Planetengetriebe, Variatoren, Hubspindelgetriebe, TA-STA Getriebe, modifizierte Getriebe, elastische Kupplungen und Elemente für die Antriebstechnik beinhaltet.

Unsere Produktionskapazitäten enthalten moderne, hochproduktive Einheiten, die uns sowohl eine hochqualitative Produktion als auch Massenproduktion erlauben. Durch die ständigen Erneuerungen des Maschinenparks und dem Gebrauch von allerneuster Technologie in der Produktion und der Kontrolle von Stirn-, Schneckenradgetrieben, sowie der Gehäusebearbeitung, können wir auf dem Weltmarkt und der Konkurenz mithalten. In unserer Entwicklungsabteilung entwickeln wir, im Bereich Antriebstechnik, in Zusammenarbeit mit der Marburger Fakultät für Maschienenbau und verschiedenen ausländischen Partnern, ständig neue Produkte. Wir wollen unseren Kunden einen Service anbieten, der auf dem letzten Stand der Technik ist und uns so neben anderen Herstellern einen ebenbürdigen Platz auf dem Markt sichert.

Unser Auftrag ist, den Kunden mit unserer Qualität, die Kundenorientiert ist und dessen hohen Erwartungen entspricht, zu überzeugen. Der moderne Maschinenpark, die Qualitätskontrolle durch den ganzen Fertigungsprozess und die optimale Technologie machen es möglich, schnell, präzise und billig zu produzieren.

Wir bearbeiten nur hochwertige Materiale, setzen modernste Technologie ein, haben hochqualifizierten Mitarbeiter, Kontrollen und Testläufe, Dies Alles bedeutet Qualität, für die, die Firma Strojna bekannt.

Was auch immer wir für sie herstellen, sei es reguläre Produktion oder Teile nach ihrer Anfrage, bemühen wir uns die Arbeit ständig zu optimalisieren und Kundenorientiert zu sein.



ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

(1) EG – Konformitätsbescheinigung

(2) Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen – **Richtlinie 94/9/EG**

(3) EG-Konformitätsbescheinigungsnummer

TPS 12 ATEX 2 573 X

(4) Gerät: Explosionsgeschützte Getriebemotoren Typ SG-EX

(5) Hersteller: Stroina Transmissions d.o.o.

(6) Anschrift: Berglesova ul. 11 SI-2000 Maribor

(7) Die Bauart dieses Gerätes sowie die verschiedenen zulässigen Ausführungen sind in der Anlage zu dieser Konformitätsbescheinigung festgelegt.

(8) TÜV SÜD Product Service GmbH bescheinigt als benannte Stelle Nr. 0123 nach Artikel 9 der Richtlinie des Rates der Europäischen Gemeinschaft vom 23. März 1994 (94/9/EG) aufgrund einer freiwilligen Prüfung die Erfüllung der grundlegenden Sicherheits- und Gesundheitsanforderungen für die Konzeption und den Bau von Geräten und Schutzsystemen zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie.
Die Ergebnisse der Prüfung sind im vertraulichen Prüfbericht 71397713_T festgelegt.

(9) Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit:

EN 1127-1:2011 **EN 13463-1:2009**

EN 13463-5:2011 **EN 13463-8:2003**

(10) Falls das Zeichen „X" hinter der Bescheinigungsnummer steht, wird auf besondere Bedingungen für die sichere Anwendung des Gerätes in der Anlage zu dieser Bescheinigung hingewiesen.

(11) Diese EG-Konformitätsbescheinigung bezieht sich nur auf Konzeption und Bau des festgelegten Gerätes gemäß Richtlinie 94/9/EG. Weitere Anforderungen dieser Richtlinie gelten für die Herstellung und das in Verkehrbringen dieses Gerätes.

(12) Die Kennzeichnung des Gerätes muss die folgenden Angaben enthalten:

Ex II 2 G/D ck T4/T130°C

Zertifizierungsstelle Explosionsschutz — München, 18.09.2012

M. Reuschel

483897

Seite 1 / 2

EG-Konformitätsbescheinigungen ohne Unterschrift und ohne Siegel haben keine Gültigkeit.
Diese EG-Konformitätsbescheinigung darf nur unverändert weiterverbreitet werden.
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Das Dokument wird intern unter der folgenden Nummer verwaltet: EX8 12 09 78931 002

TÜV SÜD Product Service GmbH · Zertifizierstelle · Ridlerstraße 65 · 80339 München · Germany

TÜV®

A1 / 12.09 Sonderversion

WORLD INTELLECTUAL PROPERTY ORGANIZATION

THE HAGUE AGREEMENT CONCERNING THE INTERNATIONAL REGISTRATION OF INDUSTRIAL DESIGNS

INTERNATIONAL REGISTRATION CERTIFICATE

The International Bureau of the World Intellectual Property Organization (WIPO) hereby certifies that the particulars given below correspond to the recording made in the International Register of Industrial Designs, at the date of the international registration, under the Hague Agreement Concerning the International Registration of Industrial Designs.

Patrick CARTANT
Head, Examination Section
International Designs Registry
Sector of Trademarks, Industrial Designs and Geographical indications

Geneva, November 4, 2009

DM/072 414 **16.09.2009**

NANOTEHNOLOGIJA D.O.O.
Pohorska ulica 13A,
SI-2000 Maribor
(Slovenia).

Filing date: 16.09.2009
Contracting Party of whic
European Community.
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commercial establishment
Applicant's Contracting P
Name and address of th
D.O.O. Čopova 14, POB 1
Number of designs: 1.
Locarno Classification: C
Indication of products: 1.
Contracting Parties desig
gro, Serbia.
Contracting Parties desig
and Herzegovina, Croatia
Macedonia.
Data relating to priority a
for designs No(s) 1: 21.05
munity.

URAD - ZA USKLAJEVANJE NA NOTRANJEM TRGU
BLAGOVNE ZNAMKE IN MODELI

OHIM – OFFICE FOR HARMONIZATION IN THE INTERNAL MARKET
TRADE MARKS AND DESIGNS

(21) 001520115-0001
(25) SL - EN
(22) 21/05/2009
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(11) 001520115-0001
(73) Nanotehnologija d.o.o.
Pohorska ulica 13A
SI-2000 Maribor
ESLOVENIA
(74) PATENTNA PISARNA d.o.o. Ljubljana
Čopova 14
SI-1001 Ljubljana
ESLOVENIA
(51) 15 - 01
(54) BG - Редуктори (Калъфи за -)
ES - Reductores (Estuches para -)
CS - Reduktory (Pouzdra na -)
DA - Reduktionsenheder (Etuier til -)
DE - Untersetzungsgetriebe (Etuis für -)
ET - Reduktorid (Karbid -)
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EN - Reducers (Cases for -)
FR - Réducteurs (Etuis pour -)
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LT - Riboluvai (Dažuiės -/ Dėtiuiu
HU - Redukторok (Tásкák -/ Tokok
MT - Attrazzatura li tghaqqad żew
differenti (Kaxxelli ghal -)
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PT - Redutores (Estojos para -)
RU - Редукторы (Кассеты для -)
SK - Znižovače (Puzdrá na -)
SL - Reduktorji (Etuiji za -)
FI - Planetvaihteet (Kotelot -)
SV - Reducerväxlar (Fodral för -)

0001.1

BUREAU VERITAS Certification

Certificate

Awarded to

STROJNA MARIBOR d.o.o.

LINHARTOVA ULICA 11, 2000 MARIBOR, SLOVENIJA

Bureau Veritas Certification certify that the Management System of the above organization has been audited and found to be in accordance with the requirements of the management system standard detailed below

STANDARD

ISO 9001:2008

SCOPE OF CERTIFICATION

RESEARCH, DEVELOPMENT, TRADING AND PRODUCTION OF HELICAL SHAFT MOUNTED, HELICAL BEVEL, HELICAL WORM, PLANETARY GEARBOXES AND OTHER PARTS OF DRIVING TECHNOLOGY

Certification cycle start date: **25/07/2013**

Subject to the continued satisfactory operation of the organisation's Management System, this certificate expires on: **25/07/2016**

Original certification date: **11/09/2007**

Certificate number: **SL20174Q** *Version number:* **02** *Revision date:* **11/07/2014**

Certification Authority

Certification body address: Brandon House, 180 Borough High Street, London SE1 1LB, United Kingdom
Local office: Linhartova cesta 49a, 1000 Ljubljana, Slovenia

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organization.

To check this certificate validity please call: + 386 1 47 57 670.

Page 1 of 1

UKAS MANAGEMENT SYSTEMS
008

1. Data for drive selection

When gear unit is going to work in:
- dusty atmosphere,
- chemically aggressive atmosphere,
- at increased temperatures,
- at extremely low temperatures,
- and the specific requirements for upgrading an changing at the input or output,
- other... ,

the following information in this questionnaire is important, for selecting the right gear unit:

Required information	simbol	units / dimension	value / description
Type designation			
Geometric shape			
Mounting position			
Output speed (min max)	n_2	min^{-1}	
Gear ratio	i		
Output torque (min max)	Mt_2	Nm	
Braking torque	Tk	Nm	
Minimal operating coefficient of machine	f_{BR}		
Radial loads at output shaft	F_{rr}	N	
Axial loads at output shaft	F_{ar}	N	
Rated power of motor	P	kW	
Motor rated voltage	U	V	
Brake rated voltage	U_K	V	
Frequency	f	Hz	
Type of motor , EN 60034	S1, S2,.		
Ambient temperature			
Altitude of installation location	H	m	
*Type of load	I, II, III		
*Relative cyclic duration factor	ED	%	
*Duration of work	T	h/dan	
*Number of starts per hour	Z	1/h	
*Shaft execution			

The gear units are made in according to the valid DIN, ISO and AGMA standards. The technical data and details about allowed working conditions are written on a name plate and accompanying documents.

When ordering gear units it is necessary to indicate the form of mounting (the position of terminal box of the motor) that is chosen from appropriate scheme. All later changes of mounting are possible only with consultation and written binding confirmation.

2. Type designation geared units

FG	4	2			-	50	VS	SMB		71B4	K1	N3	0	0
1	2	3	4	4a		5	6	7	8	9	10	11	12	13
FG	1	2	-	L / D		50	GO	SMB	B14	63A	K2	B3	0	0
ZG	2	3	V			50	VS	SMR	B5	...	EN	...	1	1
KG	3	4	Z			50	ZP	B1		250M	PH	N3	2	2
SG	4		D				ZD	...				...	3	3
	5		P			300/50		...				V1		
	6		P/V			300/50		B7				...		
	7		P/D			300		A63						
	8		P/Z			300/50		...						
	...		M					...						
	13		S					A250						

LEGEND:

1. Gear unit type
2. Size of gear unit
3. Gear stages code
4. Shaft execution
   - `-` hollow shaft
   - V output shaft
   - FV output shaft
   - D hollow shaft whit shrink disc
   - Z with outputshaft on both sides
   - P hollow shaft with bolt-on flange
   - P/V output shaft with bolt-on flange
   - P/D hollow shaft with bolt-on flange and shrink disc
   - P/Z with output shaft on both sides and with flange
   - FP/V outfut shaft whit bolt-on flange
   - M mixer
   - S separator

4a. Shaft position
   - L left side from electric motor point of view
   - D right side from electric motor point of view

5. Dimensions output shafts, see dimensioned drawing
   - Whitout mark, hole diameter in hollow shaft in mm
   - Variant V, diameter of output shaft in mm
   - Variant Z, diameter of shaft in mm
   - Variant P, diameter of flange in mm / hole diameter in hollow shaft in mm
   - Variant P/V, diameter of flange in mm / diameter of shaft in mm
   - Variant P/D, diameter of flange in mm
   - Variant P/Z, diameter of flange in mm / diameter of shaft in mm

6. Additional elements
   - MR -torque arm
   - VS -link circuit
   - ZP -protective lid
   - ZD -protective lid for shrink disc

7. Input connector
   - SMB STROJNA motor type B
   - SMR STROJNA motor type R
   - B with input shaft from size 1 - 7
   - A IEC adapter for motors with axle height 63 - 250 mm

8. Motor flange according to IEC
9. Motor size and number of poles
10. Additional marking motor
    - K1 brake without arm
    - K2 brake with arm
    - EN encoder
    - PH forced cooling
11. Basic mounting position
12. Position of the terminal box
13. Position of the cable entry

General tehnical data:

Case

Material	Cast iron

Solid shaft

Shaft diameter	to D = 50 mm in ISO k6 (DIN 748 Page1) as of D = 50 mm in ISO m6 (DIN 748 Page 1)
Keyway	ISO P9 (DIN 6885 Page 1)
Key, height	ISO h9 (DIN 6885 Page 1 and DIN 6880)
Bore - customer	ISO H7

Cirucal error of the shaft ends DIN EN 50347

Material	42CrMo4 or C45E

Hollow shaft with keyway

Bore diameter	ISO H7 (DIN 748)
Keyway	ISO JS9 (DIN 6885 Page 1)
Key, height	ISO h9 (DIN 6885 Page 1 and DIN 6880)
Customer shaft	ISO h6
Material	42CrMo4 or C45E

Hollow shaft for shrink-on disc coupling

Outside diameter	ISO f7
Inside diameter	ISO H7
Customer shaft	ISO h6

Flanges

Outside diameter	to D = 230 mm ISO j6 as of D = 230 mm ISO h6

Coaxial error and axial run out of the fixing flanges DIN 42955-N

Gears

Material	16MnCr5, 20MnCr5 or 18CrNiMo7-6

Shaft seals

Type	with dust lip according to DIN3760 AS
Material	NBR/FPM

Bearing

Type	ball bearings or tapered roller bearings

3. Drive selection

The gear units are made in according to the valid DIN, ISO and AGMA standards. The technical data and details about allowed working conditions are written on a name plate and accompanying documents.

When ordering gear units it is necessary to indicate the form of mounting (the position of terminal box of the motor) that is chosen from appropriate scheme. All later changes of mounting are possible only with consultation and written binding confirmation.

The efficiency of gear units is mainly determined by the gearing and bearing friction. Keep in mind that the starting efficiency of a gear unit is always less than its efficiency at operating speed. This factor is especially pronounced in the case of helical-worm gear units.

In order to choose correct gearbox and driving electric motor it is necessary to know the following data:
- required output torque Mt_2,
- gearbox output speed n_2,
- way of gearbox load and corresponding operational factor f_B.

Based on these input values, it is possible to determine the size, box power output and gear ratio i as well.

Determination of service factor

The gear unit reliable performs its function by required working conditions. The value of service factor f_B in table of gear units is given for the way of load I – continuous, smooth running without rocking up to 8 hours/daily.

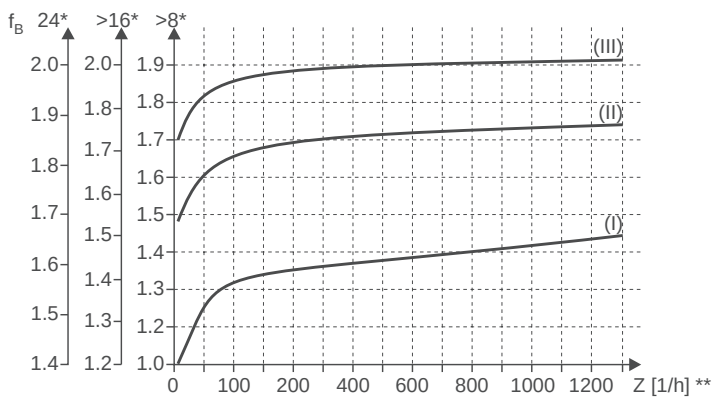
The way of determining the service factor f_B is not standardized. The gear units with electro motor's SMR or SMB have got f_B=1.0, and it is satisfied then, when by long-term load with output torque does not come to permanent damage of the gear (or / and pitting).

The chosen service factor must be multiply with:

- At least 1.2, when the gear is running with internal combustion engine, hydraulic motor,... , the way of rotation is changing and hard start - if occasionally comes to torque fluctuations at the input of the gear unit,
- At least 1.5, when for driving the gear is used electro-break motor,
- At least 1.6, when for driving the gear is used servomotor,
- At least 1.7, when using frequency regulator.

It is recommended to determine the service factor f_B of the gear, because the influence of the provided environment temperature is important. The service factor is f_{Bmin}≥0.8, according to AGMA standards. The gear unit made by ATEX requirements has to have the service factor f_{Bmin}≥1.25.

The factor of the driven machine on the gear unit is taken into account to a sufficient level of accuracy useing the service factor f_B. The service factor is determined according to the daily operating time and the starting frequency. Three load classifications are considered depending on load factor. You can read off the service factor applicable to your application in graph. The service factor determined using this diagram must be less than or equal to the service factor as given in the selection tables.



* Operating hours
** Starts per hour

Load factor

Class I:
A gearmotor can operate with steady loads not exceeding the normal rating and 8 - 10 hours of running time per day.

As for instance : fans, gear pumps, mounting belts, conveyer worms, liquid mixers, filling and packing machines.

Class II:
A gearmotor can operate with steady loads not exceeding the normal rating and 24 hours of running time per day.

or

A gearmotor can operate with moderate shock loads not exceeding 1.25 x rated load torque
and 8 - 10 hours of running time per day.

As for instance: conveyer belts, lifts, winches, masticating mills, textile and printing machines, wood-working machines.

Class III:
A gearmotor can operate with moderate shock loads which are a maximum 1.25 x rated load torque and 24 hours of running time per day.

or

A gearmotor can operate with heavy shock loads in excess 1.25 x rated load torque and 8 - 10 hours of running time per day.

As for instance: concrete mixing machine, suction pumps, compressors, power hammers, roll stand, conveyers of heavy goods, bending and pressing machines, machines with alternating movement.

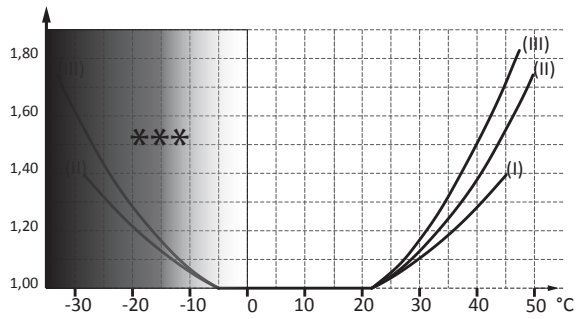
The method for determining the maximum permitted continuous torque M_a max and using this value to derive the service factor $f_B = M_a max/M$ is not defined in a standard and varies greatly from manufacturer to manufacturer. Under certain circumstances, the service factor may not be comparable with the information given by other gear unit manufacturers. If in doubt, please contact Strojna to find out more detailed information for your specific drive.

Operating time h/day	4 h			8 h			16 h			24 h		
Number of starts/h	<10	10...200	>200	<10	10...200	>200	>10	10...200	>200	<10	10...200	>200
Load type I	0,9	1,15	1,2	1,0	1,30	1,35	1,2	1,35	1,4	1,4	1,55	1,6
Load type II	1,4	1,55	1,6	1,45	1,65	1,7	1,55	1,70	1,75	1,7	1,8	1,85
Load type III	1,6	1,75	1,8	1,7	1,85	1,9	1,75	1,85	2,0	1,85	1,95	2,0

In case that gear unit is not operating in enclosed environment 20°C, additional service factor will have to be taken into consideration besides service factor f_B derived:

- f_{B1} = Service factor from the ambient temperature

The additional service factor f_{B1} can be determined by referring to the diagram. The load classification is taken into consideration in f_{B1} in the same way as in f_B.



Total service factor is calculated : $f_{BT}=f_B \times f_{B1}$

For special requests, demands or if you are in doubt please contact us with completed questionnaire.

****Contact Strojna / Stroina Transmissions in case of temperatures below -20°C.**

Output torque Mt_2

Torque Mt_2 is given by required load of gearbox. It can be expressed as a force of F_2, which acts at certain distance on arm r_2.

Mt2 [Nm] = F2 [N] x r2 [m]

Radial and axial loads

-acting on the shaft center, should always be less than or equal to the avaliable loads for the chosen type of gear unit.

$F_r \geq F_{rr}$ and $F_a \geq F_{ar}$

Actual radial force depends on the transmission element mounted.

$F_{rr} = ((2000 \times Mt_2) / d_0) \times f_z$ [N]

Mt_2 (Nm) - output torque
d_0 (mm) - middle diameter of transmission element

Transmission element	$f_=$	Note
Gear wheel	1,15	Z≤17
Sprocket	1,25	Z>13
Sprocket	1,4	Z≥13
V- belt	1,8	Influence of tensile force
Flat belt	2,5	Influence of tensile force

Thermal power limit

Thermal power limit represents maximal permissible power of gear unit surface temperature 80°C

Data in tables are valid for:
- standard gear unit with STROJNA motor
- mountig position B7, B6, B3, N1, N2, N3, N4, N5, V1, V2
- input speed ≤ 1700 min^{-1}
- operating mode: S1

FG	Thermal power limit P_t [kW]								
	Ambient temperature Θ [°C]								
	-20	-10	0	10	20	30	40	50	60
12	8,2	7,2	6,3	4,1	4,3	3,5	1,9	1,4	0,9
22	12	10,2	8,8	5,9	6,2	4,0	3,0	1,9	1,1
23	7,3	6,4	5,4	3,7	3,7	2,9	1,8	1,0	0,7
32	23,0	19,8	17,0	13,8	12,5	8,9	6,5	4,1	2,6
33	13,8	11,7	11,5	8,0	7,9	5,0	3,9	2,3	1,6
42	39,0	36,0	28,0	23,5	21	15,0	10,8	7,4	4,5
43	23,0	22,0	16,9	13,9	13,0	9,0	6,6	4,1	2,7
44	15,2	13,0	11,9	9,0	8,8	6,0	4,1	2,9	1,8
52	60,0	51,0	44,0	35,2	29	23,0	16,7	11,1	6,7
53	35,8	29,0	25,8	20,8	17	13,8	9,8	6,7	4,0
54	24,3	19,0	17,9	14,1	11,8	9,1	6,7	4,5	2,3
62	108	93,0	79,0	63,8	54,0	42,0	30,2	20,2	12,2
63	64,0	56,0	47,8	38,2	32,0	25,0	18,2	12,2	7,4
64	43,5	37,0	32,0	25,5	21,0	16,8	12,0	8,1	4,9
72	135	124	101	82,4	73	54,0	40,0	26,1	15,8
73	82	75	59,0	49,6	44,0	32,5	23,4	15,7	9,5
74	53	47	41,0	32,8	30,0	21,6	15,5	10,4	6,3
83	127	114	93,0	75,3	67,0	49,0	35,6	23,8	14,4
84	79,0	69,1	58,3	46,1	42,0	30,4	21,8	14,6	8,8
85	39	34,0	28,7	22,6	20,0	15,0	10,7	7,2	4,3

KG	Thermal power limit P_t [kW]								
	Ambient temperature Θ [°C]								
	-20	-10	0	10	20	30	40	50	60
12	7,7	6,4	5,3	4,5	3,6	2,8	2,3	1,9	1,2
22	12,1	10,5	9,1	7,6	6,3	5,0	3,7	2,5	1,6
23	6,1	5,2	4,4	3,7	3,2	2,9	2,1	1,6	1,2
32	20,5	17,8	14,8	12,6	10,7	9,0	7,0	5,5	3,0
33	9,6	8,0	7,1	6,4	5,4	4,7	3,8	2,5	1,5
42	31,5	26,3	26,9	22,3	18,7	15,0	9,0	6,7	4,1
43	19,0	16,0	13,3	11,3	9,4	8,1	6,2	5,2	3,2
44	12,8	10,9	9,1	7,7	6,5	5,4	4,5	3,2	2,2
53	25,3	21,5	18,2	15,6	13	9,7	8,1	5,5	3,5
54	15,5	12,7	10,8	9	7,8	6,5	4,8	3,2	1,7
55	10,7	8,7	7,4	6,2	5,2	3,8	2,8	2,0	1,4
63	37,2	32,4	27,3	22,0	19,2	15,3	11,3	7,2	4,8
64	22,8	18,9	16,0	13,5	11,5	9,1	5,9	4,5	2,8
65	16,0	13,2	11,0	9,3	7,7	5,2	4,0	3,4	2,0
73	60,0	52,9	44,6	37,8	32	25,2	18,3	12,1	7,2
74	39,0	33,0	28,0	23,0	19,2	16,0	12,3	8,3	5,2
75	30,0	26	21,9	16,0	12,8	11,3	8,5	5,8	3,6
83	82,6	70,0	58,0	48,0	41,5	33,0	25,5	15,2	9,6
84	50,0	42,0	35,5	30,0	24,9	21	17,3	10,5	7,2
85	38,0	31,5	26,2	21,0	16,6	14,2	11,5	8,2	5,3
93	135,0	114,0	91,0	77,0	62,3	51,0	42,0	30,0	15,5
94	72,0	61,0	52,0	44,0	37,3	31,5	25,9	18,0	9,8
95	51,0	41,0	34,7	29,4	24,9	21,0	15,8	10,9	7,2

ZG	Thermal power limit P_t [kW]								
	Ambient temperature Θ [°C]								
	-20	-10	0	10	20	30	40	50	60
12	3,4	2,6	2,2	1,8	1,6	1,4	1	0,8	0,6
22	5,6	4,9	4,2	3,6	3,2	2,8	2,4	1,9	1,1
23	5	4,3	3,5	3,1	2,8	2,5	2,2	1,3	0,8
32	7,7	6,8	5,9	5,3	4,6	3,6	3,1	2,4	1,6
33	6,6	5,9	5,1	4,2	3,9	3,1	2,8	1,9	1,4
42	10,2	8,9	8,2	6,8	5,8	5,1	4,3	3,6	2,5
43	8,9	7,3	6,8	5,7	5	4,6	3,8	2,9	1,8
52	14,7	12,2	10,3	9,3	7,9	7,1	6,3	5,4	4,3
53	12,4	11,3	9,2	8,6	7,1	6,5	5,3	4,7	3,1
62	18,2	16,3	14,5	13	12	11,2	10,3	9,2	8,4
63	16,5	14,2	13,2	12,3	10	8,9	7,2	6,5	5,6
64	14,2	13,2	11,8	9,3	8,3	8	6,8	5,6	4,7
72	26,6	24	22,3	20,8	19,3	18,6	17,4	16,1	14,2
73	25	23	20,1	18,5	17,4	16,8	15,2	14,3	11,8
74	22,6	19,2	17,5	16,2	15,3	13,1	12,2	10,6	9,1
82	36,7	32,4	28	26	24	22,2	20,4	18,3	16,3
83	32	29	25	23	19	17,5	16,2	15,3	14
84	29	26	19,8	18,3	17	16	14,2	13,2	12,7
92	51,5	47	42,8	38	35	33,5	30,6	28,2	24,3
93	48	43	39	31	29	27	25	23,1	20,7
94	45	39	31	29	26	23,8	20,2	18,4	17,5
102	58	54	47	44	42	39	34	28	22
103	53	49	44	41	39	36	31,5	24,8	18,5
104	50	46	39,1	35,5	34	32,5	28,4	23,1	16,8
112	92	86	78	67	62	55	51	47	38
113	85	79	68	61	57	51,5	48	43	36
114	80	76	63	57	51	48	44	39	34
122	110,5	106,6	98,8	94,9	91	84,5	79,3	74,1	68,9
123	106,6	97,5	91	88,4	84,5	78	71,5	65	58,5
124	96,2	91	88,4	83,2	78	71,5	65	58,5	52
132	193,8	182,4	174,8	167,2	161,5	153,9	140,6	131,1	121,6
133	186,2	178,6	171	163,4	157,7	148,2	140,6	133	123,5
134	180,5	172,9	169,1	159,6	152	138,7	127,3	114	102,6

SG	Permissible thermal power loss, P_g [kW]								
	Ambient temperature, Θ [°C]								
	-20	-10	0	10	20	30	40	50	60
1	0,25	0,23	0,20	0,18	0,15	0,12	0,09	0,06	0,04
2	0,40	0,35	0,32	0,28	0,23	0,18	0,15	0,11	0,07
3	0,61	0,56	0,50	0,42	0,35	0,30	0,22	0,17	0,11
4	0,76	0,70	0,60	0,53	0,43	0,38	0,30	0,22	0,13
5	0,95	0,87	0,77	0,68	0,57	0,48	0,36	0,25	0,15
6	1,21	1,10	0,96	0,80	0,70	0,60	0,40	0,32	0,21

For SG gear units we have to include additional formula for calculation. Shown in example:

The table above shows that Pg for the ambient temperature of 30 °C is 0,18kW; (Pg=0,18kW).

If we include this in formula Pt we get:

$$Pt = \frac{Pg}{1 - \frac{\eta}{100}} \; [kW] \qquad Pt = \frac{0,18}{1 - \frac{62}{100}} = 0,47 \; [kW]$$

The value Ptd according to the following formula represents maximum permissible input power of the gear unit:

$$Ptd = P_1 \times k_1 \times k_2 \times k_3 \times k_4 \times k_5$$

IEC adapter or input shaft		k1	0,70
Mounting position: N4, N5, N6		k2	0,75
Input speed > 1700 min^{-1}		k3	0,70
Duty on intermittent load S3...S6	40 min	k4	1,25
	25 min		1,50
	15 min		1,80
	10 min		2,00
Synthetic lubricant + FPM		k5	1,60

Thermal power limit represents maximal permissible power of gear unit surface temperature 80°C

Data in tables are valid for:
- standard gear unit with STROJNA motor
- mountig position B7, B6, B3, N1, N2, N3, N4, N5, V1, V2
- input speed ≤ 1700 min^{-1}
- operating mode: S1

4. Gear unit Mounting positions

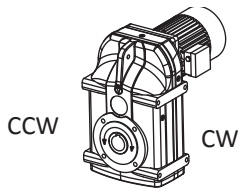
Stroina differentiates between six mounting positions for gear units and gearmotors.

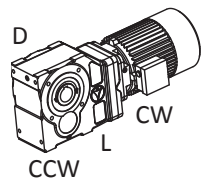
Output direction of rotation with backstop.

If the drive has a backstop, you also have to indicate the direction of rotation of the output for the drive. The following definition applies:

As viewed at the output shaft:

- Clockwise (CW)
- Counterclockwise (CCW)





In the right-angle gear units, you also have to indicate whether the direction of rotation is given looking into the L or D end.

Position of the output shaft and output flange:

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

- L or D or L+D (L is for Left-side, D is for Right-side)

<u>The position of the output shaft will be determined from the motor side</u>

Changing the mounting position:

It is important that you read the following information when you operate the gearmotor in a mounting position other then indicated in the order:

- Adjust the lubricant fill quantity to match new mounting position
- Adjust the position of the breather valve
- For helical-bevel gearmotors: contact Stroina customer service prior to changing to mounting position V1 to V2 or vice versa
- For helical-worm gearmotors: contact Stroina customer service when changing to mounting position N5 or N4

INFORMATION	
	Notes on the shafts illustrated on the mounting position sheets: -For gear units with solid shaft: The displayed shaft is always on the L end. -For shaft-mounted gear units: The shaft with dashed lines represents the customer shaft. the output end (shaft position) is always shown on the L end.

INFORMATION	
	Notes on the depicted motors. Motors are only represented symbolically on the mounting position sheets.

INFORMATION	
	When the terminal box is in the 3 position, check to see if the gearmotor has to be supported. Not all cable entry positions (0,1,2,3) and terminal box positions (0,1,2,3) can be selected. Some additional features for the motor require a connection inside the terminal box, wich means this terminal box is larger then the standard terminal box due to the normative air gaps. The dimension sheets only depic the standard terminal box.

5. Oil type and quantity

Type	Ambient °C	DIN (ISO)	ISO VG	ARAL	CASTROL	*SHELL	MOBIL
FG	-10°C ... +60°C	CLP	220	Degol BG 220	Alpha SP 220	Omala 220	Mobilgear 600 XP 220
	-20°C ... +80°C	CLP PG	460	Degol GS 460	Alphasyn PG 460	Tivela S 460	Glygoyle 460
ZG	-25°C ... +60°C	CLP PG	220	Degol GS 220	Alphasyn PG 220	Tivela S 220	Glygoyle 220
	-40°C ... +60°C	CLP HC	220	Degol PAS 220	Alphasyn T 220	Omala S4 GX 220	SHC 630
KG	-20°C ... +40°C	HCE	220	Eural gear 220	Optileb GT 220	Cassida GL 220	SHC Cibus 220
	-20°C ... +80°C	CLP PG	460	Degol GS 460	Alphasyn PG 460	Tivela S 460	Glygoyle 460
SG	-25°C ... +60°C	CLP PG	220	Degol GS 220	Alphasyn PG 220	Tivela S 220	Glygoyle 220
	-40°C ... +20°C	CLP-HC	220	Degol PAS 220	Alphasyn T 220	Omala 220 HD	SHC 630
	-20°C ... +40°C	HCE	460	-	-	-	Glygoyle 460

CLP -Mineral oil

CLP PG -Polyglycol oil

CLP HC -Polyalphaolefin oil

HCE -Lubricants for food processing industry

1) Standard lubrication according DIN 51517 - CLP ISO 220

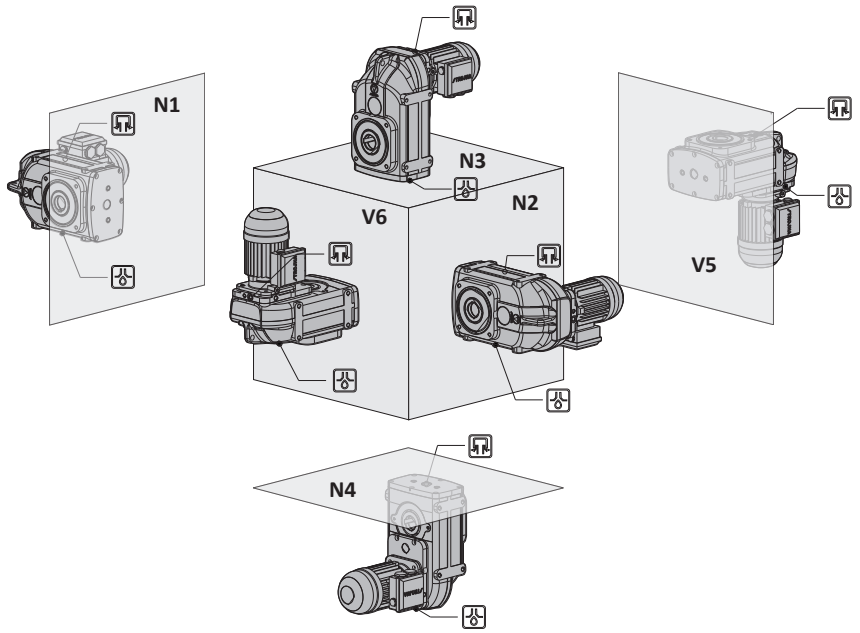
2) Standard lubrication according DIN 51517 - CLP ISO VG 460

3) Special starting procedure

Special lubricants on inquiry

***Standard**

FG	Mounting position					
	N1	N2	N3	N4	V5	V6
12	1,1	1,1	1,5	1,6	1,7	1,9
22	1,2	1,2	1,7	1,8	1,9	2,3
23	1,4	1,4	2,0	2,2	2,4	2,9
32	1,9	1,9	3,0	3,1	3,4	4,0
33	2,3	2,3	3,8	4,0	4,3	5,0
42	3,1	3,1	4,2	4,8	4,8	7,0
43	3,5	3,5	5,8	6,2	6,8	7,7
44	3,7	3,7	7,0	7,5	8,0	9,0
52	6,2	6,2	9	9,2	10	12
53	6,5	6,5	9,7	10	12	15
54	6,8	6,8	10	12	13	16
62	10	10	12	13	14	17
63	9,3	9,3	13	14	16	19
64	10	10	14	15	18	22
72	14	14	16	17	19	24
73	15	15	21	24	25	27
74	15,5	15,5	23,5	26	27	33
83	28	28	40	43	46	50
84	29,5	29,5	48	54	56	60
85	31	31	50	58	61	66

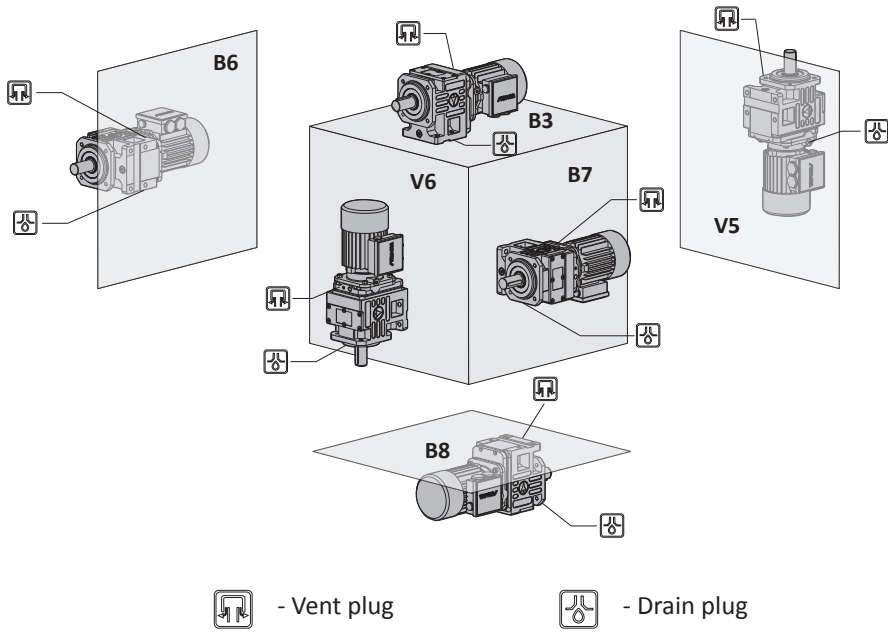


- Vent plug

- Drain plug

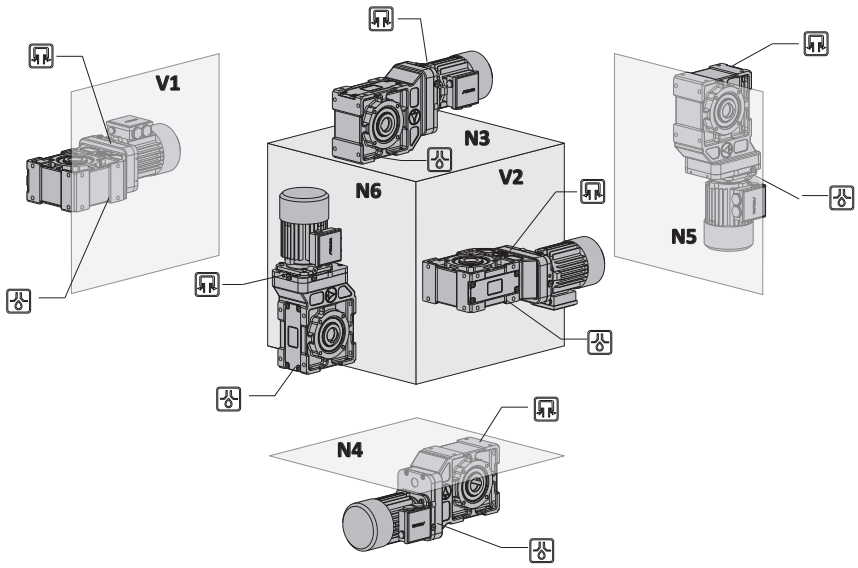
Gear units and geared motors are supplied ready for operation. Gear units sizes FG1, FG2, FG3 are filled with synthetic gear oil labeling according to DIN51502 CLP PG ISO VG220 (according to ISO viscosity grade VG 220 from DIN51519). Sizes from FG4 to FG8 have standard filling with mineral gear oil labeling according to DIN51502 CLP ISO VG220 (acording to ISO viscosity grade VG 220 from DIN51519) for ambient temperature -10 °C (14 °F) to +40 °C (104 °F).

ZG	Mounting position					
	B7	B6	B3	B8	V6	V5
12	0,4	0,4	0,2	0,4	0,3	0,4
22	0,8	0,8	0,7	1,4	1,3	1,5
23	0,9	0,9	0,8	1,6	1,5	1,7
32	0,9	0,9	0,7	1,4	1,4	1,6
33	1	1	0,9	1,9	1,8	2
42	1,2	1,2	1	2,1	2	2,2
43	1,4	1,4	1,3	2,7	2,6	2,8
44	1,9	1,9	1,8	3,5	3,4	3,7
52	1,2	1,2	0,9	1,9	1,8	2,2
53	1,6	1,6	1,5	3,2	3,1	3,5
54	2,2	4,4	4,6	5,6	3,7	3,7
62	1,5	1,5	1,2	2,5	2,6	2,7
63	2,1	2,1	1,8	3,5	3,7	3,7
64	2,7	2,7	2,3	4,5	4,6	4,8
72	2,9	2,9	2,1	4,3	4,5	4,5
73	3,6	3,6	3,2	6,4	6,5	6,8
74	4,2	4,2	3,7	7,5	7,5	7,8
82	3,3	3,3	2,7	5,5	5,7	5,9
83	3,9	3,9	3,5	7,2	7,4	7,8
84	5,2	5	4,6	9,3	9,5	10,5
92	8,1	8,1	7	14,4	14,3	15
93	9,3	9,3	8,5	17,5	17,2	18,5
94	10,5	10,5	8,5	18,5	18,5	20
102	11	11,8	10,2	20,6	20,3	22
103	13,8	13,8	12,5	25,6	25,2	27
104	15,7	15,7	14,3	28,5	28,9	31
112	17	17	15,9	32	32,5	33
113	18,4	18,4	17,5	36	37	39
114	24	24	22	45	46	48
122	24	24	22	45	46	46
123	28	28	26	54	56	59
124	36	36	34	68	69	72
132	33	33	31	63	64	65
133	41	41	39	81	83	88
134	55	55	50	101	104	108



Gear units and geared motors are supplied ready for operation. Gear units sizes from ZG1 to ZG6 are filled with synthetic gear oil labeling according to DIN51502 CLP PG ISO VG220 (according to ISO viscosity grade VG 220 from DIN51519). Sizes from ZG7 to ZG13 have standard filling with mineral gear oil labeling according to DIN51502 CLP ISO VG220 (according to ISO viscosity grade VG 220 from DIN51519) for ambient temperature -10 °C (14 °F) to +40 °C (104 °F). Gear units and geared motors are supplied ready for operation. Gear units sizes from ZG1 to ZG6 are filled with synthetic gear oil labeling according to DIN51502 CLP PG ISO VG220 (according to ISO viscosity grade VG 220 from DIN51519). Sizes from ZG7 to ZG13 have standard filling with mineral gear oil labeling according to DIN51502 CLP ISO VG220 (according to ISO viscosity grade VG 220 from DIN51519) for ambient temperature -10 °C (14 °F) to +40 °C (104°F).

KG	Mounting position					
	N3	N4	N5	N6	V1	V2
12	0,8	0,9	1,2	1,5	1,3	1,4
22	1	1	1,45	1,6	1,5	1,6
23	1	1,1	1,45	1,8	1,7	1,8
32	1,6	1,6	2,2	2,1	2,2	2,2
33	1,7	1,8	2,6	2,8	2,6	2,7
42	2,5	2,6	3,0	4,5	4,5	4,0
43	2,6	2,7	3,3	4,7	4,3	4,4
44	2,8	3,2	3,5	5,0	4,8	4,8
53	3,0	3,8	4,2	5,3	3,2	3,3
54	3,5	4,1	4,7	5,7	3,8	4
55	4,2	4,8	5,3	6,2	5,6	6,0
63	5,0	6,8	7,0	9,2	5,2	5,4
64	5,8	7,5	7,5	9,8	6,0	6,5
65	6,7	8,2	7,9	10,5	7,5	8,0
73	7,8	11	14	16	8	8,2
74	8,5	12	15	17	15	15
75	9,6	12,8	16,5	18,5	17	17
83	17	20	22	28	18	19
84	17	18,5	25	32	20	21
85	20	21,5	26,5	36	23	25
93	35	48	45	67	40	42
94	38	52	48	72	45	47
95	42	56	53	77	52	56

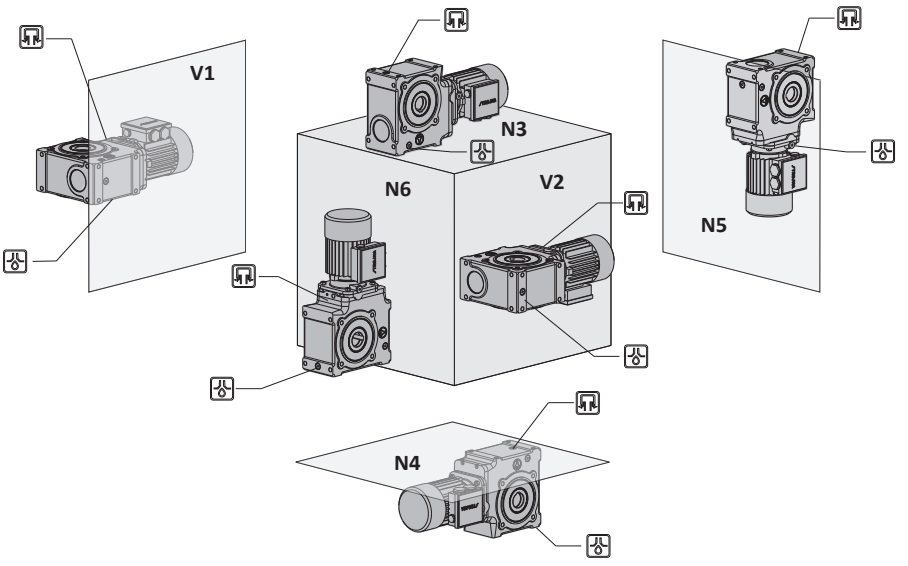


- Vent plug

- Drain plug

Gear units and geared motors are supplied ready for operation. Gear units sizes KG1 to KG4 are filled with synthetic gear oil labeling according to DIN51502 CLP PG ISO VG220 (according to ISO viscosity grade VG 220 from DIN51519). Sizes from KG5 to KG9 have standard filling with mineral gear oil labeling according to DIN51502 CLP ISO VG220 (according to ISO viscosity grade VG 220 from DIN51519) for ambient temperature -10 °C (14 °F) to +40 °C (104 °F).

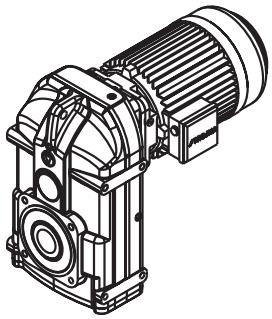
SG	Mounting position					
	N1	N2	N3	N4	N5	N6
12	0,9	0,9	0,9	1,1	1,1	0,9
22	0,9	1,2	1,2	1,2	1,2	1,2
32	1,1	1,6	1,6	1,6	1,6	1,6
33	1,7	1,7	2,5	2,5	2,5	2,9
42	2	2	3,4	3,4	3,4	3,4
43	3,1	3	4,5	4,5	4,5	5,1
52	3,2	3,2	5,5	5,5	5,5	5,5
53	3,5	3,5	6,3	6,3	6,3	6,3
62	5,6	5,6	9	9	9	9,6
63	5,9	5,9	10,3	10,3	10,3	10,3
55	4,4	4,4	4,6	5,6	3,7	3,7
63	6,2	6,2	6,8	8,2	4,8	4,8



- Vent plug

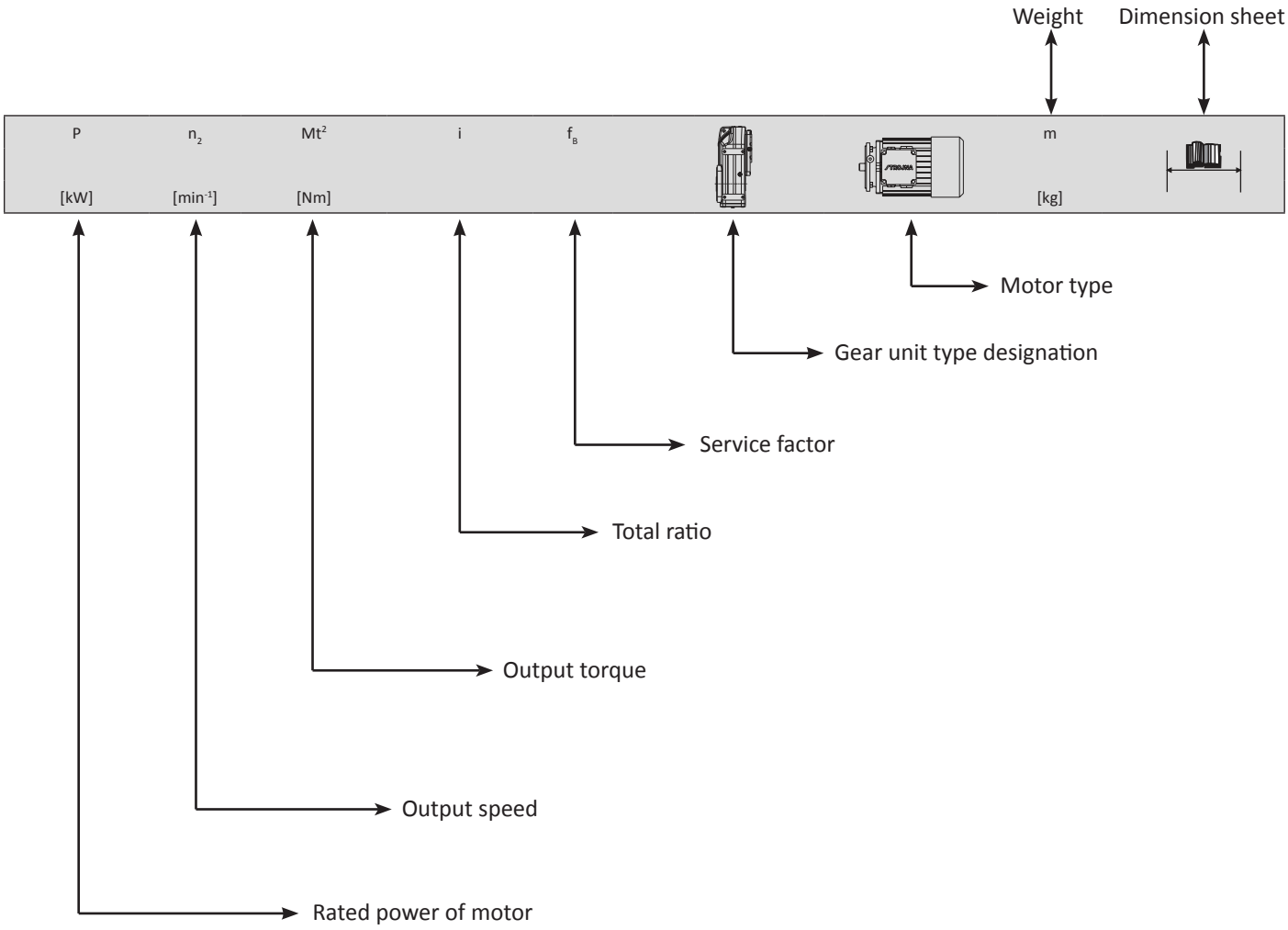
- Drain plug

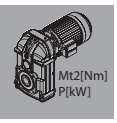
Gear units and geared motors are supplied ready for operation. SG gear units are filled with synthetic gear oil labeling according to DIN51502 CLP PG ISO VG460 (according to ISO viscosity grade VG 460 from DIN51519) for ambient temperature -10 °C (14 °F) to +40 °C (104 °F).



FG

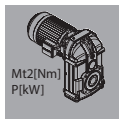
HELICAL SHAFT MOUNTED GEAR UNITS

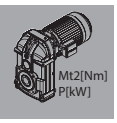




P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,12	0,15	6906	8517,82	1,95		FG85	SMB	63A4		
	0,17	6093	7588,60	2,22		FG85	SMB	63A4		
	0,19	5452	6828,33	2,48		FG85	SMB	63A4		
	0,21	4933	6323,83	2,74		FG85	SMB	63A4	513	158
	0,23	4504	5777,82	3,00		FG85	SMB	63A4		
	0,27	3837	4927,66	3,52		FG85	SMB	63A4		
	0,29	3572	4452,50	3,78		FG85	SMB	63A4		
	0,32	3237	4050,43	4,17		FG85	SMB	63A4		
	0,31	3410	4176,00	2,40		FG74	SMB	63A4		
	0,35	3020	3720,44	2,72		FG74	SMB	63A4		
	0,39	2710	3347,70	3,03		FG74	SMB	63A4	327	152
	0,42	2517	3100,36	3,26		FG74	SMB	63A4		
	0,46	2298	2832,67	3,57		FG74	SMB	63A4		
	0,54	1957	2415,87	4,19		FG74	SMB	63A4		
	0,30	3523	4391,10	1,39		FG64	SMB	63A4		
	0,33	3203	3912,07	1,53		FG64	SMB	63A4		
	0,37	2857	3520,13	1,72		FG64	SMB	63A4		
	0,40	2643	3260,06	1,85		FG64	SMB	63A4		
	0,44	2402	2978,58	2,04		FG64	SMB	63A4		
	0,52	2033	2540,30	2,41		FG64	SMB	63A4	215	146
	0,57	1854	2295,35	2,64		FG64	SMB	63A4		
	0,63	1678	2088,07	2,92		FG64	SMB	63A4		
	0,69	1532	1910,41	3,20		FG64	SMB	63A4		
	0,73	1448	1796,36	3,38		FG64	SMB	63A4		
	0,80	1321	1627,47	3,71		FG64	SMB	63A4		
	0,92	1149	1430,43	4,26		FG64	SMB	63A4		
	0,37	2857	3551,48	1,02		FG54	SMB	63A4		
	0,40	2643	3270,01	1,10		FG54	SMB	63A4		
	0,44	2402	2959,57	1,21		FG54	SMB	63A4		
	0,50	2114	2626,84	1,37		FG54	SMB	63A4		
	0,58	1822	2276,59	1,59		FG54	SMB	63A4		
	0,64	1652	2048,93	1,76		FG54	SMB	63A4		
	0,71	1489	1856,30	1,95		FG54	SMB	63A4	108	140
	0,77	1373	1691,18	2,11		FG54	SMB	63A4		
	0,86	1229	1517,73	2,36		FG54	SMB	63A4		
	0,91	1162	1436,00	2,50		FG54	SMB	63A4		
	1,00	1057	1252,13	2,74		FG54	SMB	63A4		
	1,20	881	1081,38	3,29		FG54	SMR	63A4		
	1,40	755	964,20	3,84		FG54	SMR	63A4		
	1,50	705	860,05	4,12		FG54	SMR	63A4		
	1,40	770	945,00	3,11		FG53	SMB	63A4	106	138
	1,60	674	841,91	4,30		FG53	SMB	63A4		
	0,67	1578	1946,55	0,98		FG44	SMB	63A4		
	0,75	1409	1751,89	1,10		FG44	SMB	63A4		
	0,83	1274	1587,18	1,22		FG44	SMB	63A4	66	134
	0,91	1162	1446,01	1,33		FG44	SMB	63A4		
	1,00	1057	1297,70	1,47		FG44	SMB	63A4		
	1,10	961	1227,82	1,61		FG44	SMB	63A4		

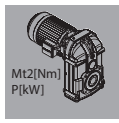
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,12	1,20	881	1070,60	1,76		FG44	SMB	63A4		
	1,40	755	924,61	2,05		FG44	SMR	63A4		
	1,60	661	824,42	2,35		FG44	SMR	63A4		
	1,80	587	735,36	2,64		FG44	SMR	63A4	66	134
	2,00	529	661,83	2,93		FG44	SMR	63A4		
	2,10	503	613,91	3,08		FG44	SMR	63A4		
	2,50	423	528,35	3,67		FG44	SMR	63A4		
	3,00	352	439,54	4,40		FG44	SMR	63A4		
	1,60	674	808,00	2,30		FG43	SMB	63A4		
	1,80	599	719,85	2,59		FG43	SMB	63A4		
	2,00	539	647,74	2,87		FG43	SMB	63A4		
	2,20	490	599,88	3,16		FG43	SMB	63A4	63	132
	2,40	449	548,08	3,45		FG43	SMB	63A4		
	2,80	385	467,44	4,02		FG43	SMB	63A4		
	3,10	348	422,36	4,45		FG43	SMB	63A4		
	1,80	599	715,02	1,37		FG33	SMB	63A4		
	2,10	514	635,38	1,60		FG33	SMB	63A4		
	2,20	490	585,02	1,67		FG33	SMB	63A4		
	2,50	431	529,48	1,90		FG33	SMB	63A4		
	2,80	385	469,95	2,13		FG33	SMB	63A4		
	3,20	337	407,29	2,43		FG33	SMB	63A4		
	3,60	300	366,56	2,74		FG33	SMB	63A4	40	128
	3,90	277	332,10	2,96		FG33	SMB	63A4		
	4,30	251	302,56	3,27		FG33	SMB	63A4		
	4,80	225	271,53	3,65		FG33	SMB	63A4		
	5,10	211	256,91	3,88		FG33	SMB	63A4		
	5,80	186	224,01	4,41		FG33	SMB	63A4		
	2,90	372	456,76	1,13		FG23	SMB	63A4		
	3,20	337	405,88	1,25		FG23	SMB	63A4		
	3,50	308	373,72	1,36		FG23	SMB	63A4		
	3,90	277	338,24	1,52		FG23	SMB	63A4		
	4,40	245	300,21	1,71		FG23	SMB	63A4		
	5,00	216	260,18	1,95		FG23	SMB	63A4		
	5,60	193	234,16	2,18		FG23	SMB	63A4		
	6,20	174	212,15	2,41		FG23	SMB	63A4		
	6,80	159	193,28	2,65		FG23	SMB	63A4		
	7,60	142	173,45	2,96		FG23	SMB	63A4		
	8,00	135	164,11	3,12		FG23	SMB	63A4	24	124
	9,20	117	143,10	3,58		FG23	SMB	63A4		
	11,00	98	123,59	4,28		FG23	SMR	63A4		
	12,00	90	110,19	4,67		FG23	SMR	63A4		
	13,00	83	98,29	5,06		FG23	SMR	63A4		
	15,00	72	88,46	5,84		FG23	SMR	63A4		
	16,00	67	82,06	6,23		FG23	SMR	63A4		
	19,00	57	70,62	7,40		FG23	SMR	63A4		
	22,00	49	58,75	8,57		FG23	SMR	63A4		
	25,00	43	52,04	9,73		FG23	SMR	63A4		
	12,00	92	108,00	3,04		FG22	SMB	63A4	22	122



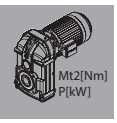


P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,12	14,00	79	96,22	4,87		FG22	SMB	63A4		
	15,00	73	86,58	5,72		FG22	SMB	63A4		
	16,00	69	80,18	6,11		FG22	SMB	63A4		
	18,00	61	73,26	6,87		FG22	SMB	63A4		
	21,00	52	62,48	8,01		FG22	SMB	63A4		
	23,00	48	56,45	8,78		FG22	SMB	63A4		
	26,00	42	51,36	9,92		FG22	SMB	63A4		
	28,00	39	46,99	10,68		FG22	SMB	63A4	22	122
	30,00	37	44,18	11,45		FG22	SMB	63A4		
	33,00	33	40,03	12,59		FG22	SMB	63A4		
	37,00	30	35,18	14,12		FG22	SMB	63A4		
	25,00	44	51,58	5,70		FG22	SMB	63A4		
	39,00	28	33,49	11,20		FG22	SMB	63A4		
	43,00	26	30,26	12,35		FG22	SMB	63A4		
	48,00	23	27,53	13,78		FG22	SMB	63A4		
	52,00	21	25,19	14,88		FG22	SMB	63A4		
	14,00	79	94,16	2,67		FG12	SMB	63A4		
	16,00	69	83,67	3,05		FG12	SMB	63A4		
	17,00	65	77,04	3,24		FG12	SMB	63A4		
	19,00	58	69,73	3,63		FG12	SMB	63A4		
	21,00	52	61,89	4,01		FG12	SMB	63A4		
	24,00	46	53,64	4,58		FG12	SMB	63A4		
	27,00	41	48,27	5,15		FG12	SMB	63A4		
	30,00	37	43,73	5,72		FG12	SMB	63A4		
	33,00	33	39,84	6,30		FG12	SMB	63A4		
	37,00	30	35,76	7,06		FG12	SMB	63A4		
	39,00	28	33,83	7,44		FG12	SMB	63A4		
	44,00	25	29,50	8,40		FG12	SMB	63A4		
	51,00	22	25,48	9,73		FG12	SMR	63A4		
	58,00	19	22,72	11,07		FG12	SMR	63A4		
	65,00	17	20,26	12,40		FG12	SMR	63A4	17	120
	72,00	15	18,24	13,74		FG12	SMR	63A4		
	77,00	14	16,92	14,69		FG12	SMR	63A4		
	41,00	27	31,98	3,09		FG12	SMB	63A4		
	46,00	24	28,41	4,30		FG12	SMB	63A4		
	50,00	22	26,16	4,82		FG12	SMB	63A4		
	55,00	20	23,68	5,30		FG12	SMB	63A4		
	62,00	18	21,02	5,91		FG12	SMB	63A4		
	80,00	14	16,39	7,49		FG12	SMB	63A4		
	88,00	13	14,85	8,24		FG12	SMB	63A4		
	97,00	11	13,53	8,99		FG12	SMB	63A4		
	108,00	10	12,14	9,91		FG12	SMB	63A4		
	114,00	10	11,49	10,46		FG12	SMB	63A4		
	131,00	8	10,02	11,90		FG12	SMB	63A4		
	151,00	7	8,65	13,58		FG12	SMR	63A4		
	170,00	6	7,71	14,98		FG12	SMR	63A4		
0,18	0,16	9711	8517,82	1,39		FG85	SMB	63B4	514	158
	0,18	8632	7588,60	1,56		FG85	SMB	63B4		

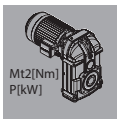
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,18	0,19	8178	6828,33	1,65		FG85	SMB	63B4		
	0,21	7399	6323,83	1,82		FG85	SMB	63B4		
	0,23	6756	5777,82	2,00		FG85	SMB	63B4		
	0,27	5755	4927,66	2,35		FG85	SMB	63B4		
	0,3	5179	4452,50	2,61		FG85	SMB	63B4	514	158
	0,33	4709	4050,43	2,87		FG85	SMB	63B4		
	0,36	4316	3705,80	3,13		FG85	SMB	63B4		
	0,38	4089	3484,56	3,30		FG85	SMB	63B4		
	0,42	3700	3156,95	3,65		FG85	SMB	63B4		
	0,48	3237	2774,74	4,17		FG85	SMB	63B4		
	0,32	4955	4176,00	1,65		FG74	SMB	63B4		
	0,36	4404	3720,44	1,86		FG74	SMB	63B4		
	0,4	3964	3347,70	2,07		FG74	SMB	63B4		
	0,43	3687	3100,36	2,22		FG74	SMB	63B4		
	0,47	3374	2832,67	2,43		FG74	SMB	63B4		
	0,55	2883	2415,87	2,84		FG74	SMB	63B4	328	152
	0,61	2599	2182,91	3,15		FG74	SMB	63B4		
	0,67	2366	1985,79	3,47		FG74	SMB	63B4		
	0,73	2172	1816,83	3,78		FG74	SMB	63B4		
	0,78	2033	1708,36	4,03		FG74	SMB	63B4		
	0,86	1844	1547,75	4,45		FG74	SMB	63B4		
	0,34	4663	3912,07	1,05		FG64	SMB	63B4		
	0,38	4173	3520,13	1,17		FG64	SMB	63B4		
	0,41	3867	3260,06	1,27		FG64	SMB	63B4		
	0,45	3523	2978,58	1,39		FG64	SMB	63B4		
	0,52	3049	2540,30	1,61		FG64	SMB	63B4		
	0,58	2734	2295,35	1,79		FG64	SMB	63B4		
	0,64	2477	2088,07	1,98		FG64	SMB	63B4	216	146
	0,7	2265	1910,41	2,16		FG64	SMB	63B4		
	0,74	2143	1796,36	2,29		FG64	SMB	63B4		
	0,82	1934	1627,47	2,53		FG64	SMB	63B4		
	0,93	1705	1430,43	2,87		FG64	SMB	63B4		
	1,1	1441	1247,47	3,40		FG64	SMR	63B4		
	1,2	1321	1150,61	3,71		FG64	SMR	63B4		
	1,4	1133	918,14	4,33		FG64	SMR	63B4		
	0,58	2734	2276,59	1,06		FG54	SMB	63B4		
	0,65	2439	2048,93	1,19		FG54	SMB	63B4		
	0,72	2202	1856,30	1,32		FG54	SMB	63B4		
	0,79	2007	1691,18	1,44		FG54	SMB	63B4		
	0,88	1802	1517,73	1,61		FG54	SMB	63B4		
	0,93	1705	1436,00	1,70		FG54	SMB	63B4		
	1,1	1441	1252,13	2,01		FG54	SMB	63B4	109	140
	1,2	1321	1081,38	2,19		FG54	SMR	63B4		
	1,4	1133	964,20	2,56		FG54	SMR	63B4		
	1,5	1057	860,05	2,74		FG54	SMR	63B4		
	1,7	933	774,04	3,11		FG54	SMR	63B4		
	1,9	835	718,00	3,48		FG54	SMR	63B4		
	2,2	721	617,93	4,02		FG54	SMR	63B4		

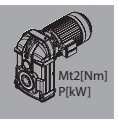


P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,18	1,4	1156	945,00	2,07	FG53	SMB	63B4		
	1,6	1011	841,91	2,87	FG53	SMB	63B4		
	1,8	899	757,56	3,23	FG53	SMB	63B4		
	1,9	852	701,59	3,41	FG53	SMB	63B4	107	138
	2,1	770	641,01	3,76	FG53	SMB	63B4		
	2,4	674	546,69	4,30	FG53	SMB	63B4		
	1	1586	1297,70	0,98	FG44	SMB	63B4		
	1,1	1441	1227,82	1,08	FG44	SMB	63B4		
	1,2	1321	1070,60	1,17	FG44	SMB	63B4		
	1,4	1133	924,61	1,37	FG44	SMR	63B4		
	1,6	991	824,42	1,56	FG44	SMR	63B4		
	1,8	881	735,36	1,76	FG44	SMR	63B4	67	134
	2	793	661,83	1,96	FG44	SMR	63B4		
	2,2	721	613,91	2,15	FG44	SMR	63B4		
	2,5	634	528,35	2,44	FG44	SMR	63B4		
	3	529	439,54	2,93	FG44	SMR	63B4		
	3,4	466	389,31	3,32	FG44	SMR	63B4		
	1,6	1011	808,00	1,53	FG43	SMB	63B4		
	1,8	899	719,85	1,72	FG43	SMB	63B4		
	2,1	770	647,74	2,01	FG43	SMB	63B4		
	2,2	735	599,88	2,11	FG43	SMB	63B4		
	2,4	674	548,08	2,30	FG43	SMB	63B4		
	2,8	578	467,44	2,68	FG43	SMB	63B4	64	132
	3,1	522	422,36	2,97	FG43	SMB	63B4		
	3,5	462	384,22	3,35	FG43	SMB	63B4		
	3,8	426	351,53	3,64	FG43	SMB	63B4		
	4	404	330,55	3,83	FG43	SMB	63B4		
	4,4	368	299,47	4,22	FG43	SMB	63B4		
	1,9	852	715,02	0,96	FG33	SMB	63B4		
	2,1	770	635,38	1,06	FG33	SMB	63B4		
	2,3	703	585,02	1,17	FG33	SMB	63B4		
	2,5	647	529,48	1,27	FG33	SMB	63B4		
	2,8	578	469,95	1,42	FG33	SMB	63B4		
	3,3	490	407,29	1,67	FG33	SMB	63B4		
	3,6	449	366,56	1,82	FG33	SMB	63B4		
	4	404	332,10	2,03	FG33	SMB	63B4	41	128
	4,4	368	302,56	2,23	FG33	SMB	63B4		
	4,9	330	271,53	2,48	FG33	SMB	63B4		
	5,2	311	256,91	2,64	FG33	SMB	63B4		
	5,9	274	224,01	2,99	FG33	SMB	63B4		
	6,9	234	193,46	3,50	FG33	SMR	63B4		
	7,7	210	172,50	3,90	FG33	SMR	63B4		
	8,6	188	153,87	4,36	FG33	SMR	63B4		
	12	138	111,52	4,29	FG32	SMB	63B4	38	126
	21	79	62,25	4,20	FG32	SMB	63B4		
	3,9	415	338,24	1,01	FG23	SMB	63B4		
	4,4	368	300,21	1,14	FG23	SMB	63B4	25	124
	5,1	317	260,18	1,32	FG23	SMB	63B4		



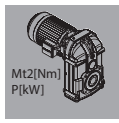
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,18	5,7	284	234,16	1,48		FG23	SMB	63B4		
	6,3	257	212,15	1,64		FG23	SMB	63B4		
	6,9	234	193,28	1,79		FG23	SMB	63B4		
	7,7	210	173,45	2,00		FG23	SMB	63B4		
	8,1	200	164,11	2,10		FG23	SMB	63B4		
	9,3	174	143,10	2,41		FG23	SMB	63B4		
	11	147	123,59	2,86		FG23	SMR	63B4	25	124
	12	135	110,19	3,12		FG23	SMR	63B4		
	14	116	98,29	3,63		FG23	SMR	63B4		
	15	108	88,46	3,89		FG23	SMR	63B4		
	16	101	82,06	4,15		FG23	SMR	63B4		
	19	85	70,62	4,93		FG23	SMR	63B4		
	23	70	58,75	5,97		FG23	SMR	63B4		
	26	62	52,04	6,75		FG23	SMR	63B4		
	12	138	108,00	2,03		FG22	SMB	63B4		
	14	118	96,22	3,25		FG22	SMB	63B4		
	15	110	86,58	3,82		FG22	SMB	63B4		
	17	97	80,18	4,32		FG22	SMB	63B4		
	18	92	73,26	4,58		FG22	SMB	63B4		
	21	79	62,48	5,34		FG22	SMB	63B4		
	24	69	56,45	6,11		FG22	SMB	63B4		
	26	63	51,36	6,61		FG22	SMB	63B4		
	28	59	46,99	7,12		FG22	SMB	63B4		
	30	55	44,18	7,63		FG22	SMB	63B4		
	33	50	40,03	8,40		FG22	SMB	63B4		
	38	43	35,18	9,67		FG22	SMB	63B4		
	43	38	30,68	10,94		FG22	SMR	63B4	23	122
	47	35	28,30	11,96		FG22	SMR	63B4		
	51	32	26,18	12,97		FG22	SMR	63B4		
	23	72	57,89	2,09		FG22	SMB	63B4		
	29	57	46,41	4,64		FG22	SMB	63B4		
	31	53	42,98	5,95		FG22	SMB	63B4		
	34	49	39,27	6,53		FG22	SMB	63B4		
	40	41	33,49	7,66		FG22	SMB	63B4		
	44	38	30,26	8,42		FG22	SMB	63B4		
	48	34	27,53	9,19		FG22	SMB	63B4		
	53	31	25,19	10,11		FG22	SMB	63B4		
	56	29	23,68	10,68		FG22	SMB	63B4		
	62	27	21,46	11,79		FG22	SMB	63B4		
	71	23	18,86	13,46		FG22	SMB	63B4		
	14	118	94,16	1,78		FG12	SMB	63B4		
	16	103	83,67	2,04		FG12	SMB	63B4		
	17	97	77,04	2,16		FG12	SMB	63B4		
	19	87	69,73	2,42		FG12	SMB	63B4	18	120
	21	79	61,89	2,67		FG12	SMB	63B4		
	25	66	53,64	3,18		FG12	SMB	63B4		
	28	59	48,27	3,56		FG12	SMB	63B4		
	30	55	43,73	3,82		FG12	SMB	63B4		



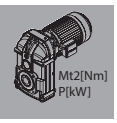


P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,18	33	50	39,84	4,20	FG12	SMB	63B4		
	37	45	35,76	4,71	FG12	SMB	63B4		
	39	42	33,83	4,96	FG12	SMB	63B4		
	45	37	29,50	5,72	FG12	SMB	63B4		
	52	32	25,48	6,61	FG12	SMR	63B4		
	59	28	22,72	7,50	FG12	SMR	63B4		
	66	25	20,26	8,40	FG12	SMR	63B4		
	73	23	18,24	9,29	FG12	SMR	63B4		
	79	21	16,92	10,05	FG12	SMR	63B4		
	91	18	14,56	11,58	FG12	SMR	63B4		
	110	15	12,11	13,99	FG12	SMR	63B4		
	42	39	31,98	2,11	FG12	SMB	63B4		
	47	35	28,41	2,93	FG12	SMB	63B4		
	51	32	26,16	3,27	FG12	SMB	63B4	18	120
	56	29	23,68	3,60	FG12	SMB	63B4		
	63	26	21,02	4,01	FG12	SMB	63B4		
	81	20	16,39	5,05	FG12	SMB	63B4		
	90	18	14,85	5,62	FG12	SMB	63B4		
	98	17	13,53	6,05	FG12	SMB	63B4		
	116	14	11,49	7,10	FG12	SMB	63B4		
	133	12	10,02	8,06	FG12	SMB	63B4		
	154	11	8,65	9,23	FG12	SMR	63B4		
	172	10	7,71	10,11	FG12	SMR	63B4		
	193	9	6,88	11,11	FG12	SMR	63B4		
	215	8	6,19	11,98	FG12	SMR	63B4		
	232	7	5,74	12,51	FG12	SMR	63B4		
	269	6	4,94	13,69	FG12	SMR	63B4		
	323	5	4,11	14,87	FG12	SMR	63B4		
0,25	0,16	13488	8517,82	1,00	FG85	SMB	71A4		
	0,18	11990	7588,60	1,13	FG85	SMB	71A4		
	0,2	10791	6828,33	1,25	FG85	SMB	71A4		
	0,21	10277	6323,83	1,31	FG85	SMB	71A4		
	0,23	9383	5777,82	1,44	FG85	SMB	71A4		
	0,27	7993	4927,66	1,69	FG85	SMB	71A4		
	0,3	7194	4452,50	1,88	FG85	SMB	71A4		
	0,33	6540	4050,43	2,06	FG85	SMB	71A4	514	158
	0,36	5995	3705,80	2,25	FG85	SMB	71A4		
	0,38	5679	3484,56	2,38	FG85	SMB	71A4		
	0,42	5138	3156,95	2,63	FG85	SMB	71A4		
	0,48	4496	2774,74	3,00	FG85	SMB	71A4		
	0,55	3924	2419,83	3,44	FG85	SMR	71A4		
	0,6	3597	2231,94	3,75	FG85	SMR	71A4		
	0,65	3320	2064,93	4,07	FG85	SMR	71A4		
	0,32	6882	4176,00	1,19	FG74	SMB	71A4		
	0,36	6117	3720,44	1,34	FG74	SMB	71A4		
	0,4	5505	3347,70	1,49	FG74	SMB	71A4	328	152
	0,43	5121	3100,36	1,60	FG74	SMB	71A4		
	0,47	4685	2832,67	1,75	FG74	SMB	71A4		

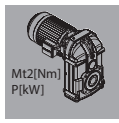
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,25	0,55	4004	2415,87	2,05	FG74	SMB	71A4		
	0,61	3610	2182,91	2,27	FG74	SMB	71A4		
	0,67	3287	1985,79	2,49	FG74	SMB	71A4		
	0,74	2976	1816,83	2,76	FG74	SMB	71A4		
	0,78	2823	1708,36	2,90	FG74	SMB	71A4	328	152
	0,87	2531	1547,75	3,24	FG74	SMB	71A4		
	0,99	2224	1360,36	3,69	FG74	SMB	71A4		
	1,1	2002	1186,36	4,10	FG74	SMR	71A4		
	1,2	1835	1094,25	4,47	FG74	SMR	71A4		
	0,45	4894	2978,58	1,00	FG64	SMB	71A4		
	0,53	4155	2540,30	1,18	FG64	SMB	71A4		
	0,58	3797	2295,35	1,29	FG64	SMB	71A4		
	0,64	3441	2088,07	1,42	FG64	SMB	71A4		
	0,7	3146	1910,41	1,56	FG64	SMB	71A4		
	0,75	2936	1796,36	1,67	FG64	SMB	71A4		
	0,82	2686	1627,47	1,82	FG64	SMB	71A4		
	0,94	2343	1430,43	2,09	FG64	SMB	71A4	216	146
	1,1	2002	1247,47	2,45	FG64	SMR	71A4		
	1,2	1835	1150,61	2,67	FG64	SMR	71A4		
	1,3	1694	1064,51	2,89	FG64	SMR	71A4		
	1,5	1468	918,14	3,34	FG64	SMR	71A4		
	1,7	1295	784,12	3,78	FG64	SMR	71A4		
	2	1101	669,61	4,45	FG64	SMR	71A4		
	0,79	2788	1691,18	1,04	FG54	SMB	71A4		
	0,88	2502	1517,73	1,16	FG54	SMB	71A4		
	0,93	2368	1436,00	1,22	FG54	SMB	71A4		
	1,1	2002	1252,13	1,45	FG54	SMB	71A4		
	1,2	1835	1081,38	1,58	FG54	SMR	71A4		
	1,4	1573	964,20	1,84	FG54	SMR	71A4		
	1,6	1376	860,05	2,11	FG54	SMR	71A4	109	140
	1,7	1295	774,04	2,24	FG54	SMR	71A4		
	1,9	1159	718,00	2,50	FG54	SMR	71A4		
	2,2	1001	617,93	2,90	FG54	SMR	71A4		
	2,6	847	514,07	3,42	FG54	SMR	71A4		
	2,9	759	455,32	3,82	FG54	SMR	71A4		
	1,4	1605	945,00	1,49	FG53	SMB	71A4		
	1,6	1404	841,91	2,06	FG53	SMB	71A4		
	1,8	1248	757,56	2,32	FG53	SMB	71A4		
	1,9	1183	701,59	2,45	FG53	SMB	71A4		
	2,1	1070	641,01	2,71	FG53	SMB	71A4	107	138
	2,5	899	546,69	3,23	FG53	SMB	71A4		
	2,7	832	493,98	3,48	FG53	SMB	71A4		
	3	749	449,37	3,87	FG53	SMB	71A4		
	3,3	681	411,14	4,26	FG53	SMB	71A4		
	1,4	1573	924,61	0,99	FG44	SMR	71A4		
	1,6	1376	824,42	1,13	FG44	SMR	71A4		
	1,8	1223	735,36	1,27	FG44	SMR	71A4	67	134
	2	1101	661,83	1,41	FG44	SMR	71A4		

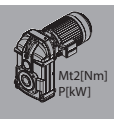


P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,25	2,2	1001	613,91	1,55		FG44	SMR	71A4		
	2,5	881	528,35	1,76		FG44	SMR	71A4	67	134
	3	734	439,54	2,11		FG44	SMR	71A4		
	3,4	648	389,31	2,39		FG44	SMR	71A4		
	1,7	1322	808,00	1,17		FG43	SMB	71A4		
	1,9	1183	719,85	1,31		FG43	SMB	71A4		
	2,1	1070	647,74	1,45		FG43	SMB	71A4		
	2,2	1021	599,88	1,52		FG43	SMB	71A4		
	2,4	936	548,08	1,66		FG43	SMB	71A4		
	2,9	775	467,44	2,00		FG43	SMB	71A4		
	3,2	702	422,36	2,21		FG43	SMB	71A4	64	132
	3,5	642	384,22	2,41		FG43	SMB	71A4		
	3,8	591	351,53	2,62		FG43	SMB	71A4		
	4,1	548	330,55	2,83		FG43	SMB	71A4		
	4,5	499	299,47	3,10		FG43	SMB	71A4		
	5,1	441	263,21	3,52		FG43	SMB	71A4		
	5,8	387	229,55	4,00		FG43	SMR	71A4		
	6,3	357	211,72	4,35		FG43	SMR	71A4		
	2,9	775	469,95	1,06		FG33	SMB	71A4		
	3,3	681	407,29	1,20		FG33	SMB	71A4		
	3,7	607	366,56	1,35		FG33	SMB	71A4		
	4	562	332,10	1,46		FG33	SMB	71A4		
	4,4	511	302,56	1,61		FG33	SMB	71A4		
	4,9	459	271,53	1,79		FG33	SMB	71A4		
	5,2	432	256,91	1,90		FG33	SMB	71A4	41	128
	6	375	224,01	2,19		FG33	SMB	71A4		
	6,9	326	193,46	2,52		FG33	SMR	71A4		
	7,8	288	172,50	2,85		FG33	SMR	71A4		
	8,7	258	153,87	3,17		FG33	SMR	71A4		
	9,7	232	138,48	3,54		FG33	SMR	71A4		
	10	225	128,45	3,65		FG33	SMR	71A4		
	12	187	110,55	4,38		FG33	SMR	71A4		
	12	191	111,52	3,09		FG32	SMB	71A4		
	13	176	101,42	4,46		FG32	SMB	71A4	38	126
	22	104	62,25	3,17		FG32	SMB	71A4		
	5,2	432	260,18	0,97		FG23	SMB	71A4		
	5,7	394	234,16	1,07		FG23	SMB	71A4		
	6,3	357	212,15	1,18		FG23	SMB	71A4		
	6,9	326	193,28	1,29		FG23	SMB	71A4		
	7,7	292	173,45	1,44		FG23	SMB	71A4		
	8,2	274	164,11	1,53		FG23	SMB	71A4		
	9,4	239	143,10	1,76		FG23	SMB	71A4	25	124
	11	204	123,59	2,06		FG23	SMR	71A4		
	12	187	110,19	2,24		FG23	SMR	71A4		
	14	161	98,29	2,62		FG23	SMR	71A4		
	15	150	88,46	2,80		FG23	SMR	71A4		
	16	140	82,06	2,99		FG23	SMR	71A4		
	19	118	70,62	3,55		FG23	SMR	71A4		



P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,25	23	98	58,75	4,30		FG23	SMR 71A4	25	124
	26	86	52,04	4,86		FG23	SMR 71A4		
	12	191	108,00	1,46		FG22	SMB 71A4		
	14	164	96,22	2,34		FG22	SMB 71A4		
	15	153	86,58	2,75		FG22	SMB 71A4		
	17	135	80,18	3,11		FG22	SMB 71A4		
	18	127	73,26	3,30		FG22	SMB 71A4		
	21	109	62,48	3,85		FG22	SMB 71A4		
	24	96	56,45	4,40		FG22	SMB 71A4		
	26	88	51,36	4,76		FG22	SMB 71A4		
	29	79	46,99	5,31		FG22	SMB 71A4		
	30	76	44,18	5,50		FG22	SMB 71A4		
	33	69	40,03	6,04		FG22	SMB 71A4		
	38	60	35,18	6,96		FG22	SMB 71A4		
	44	52	30,68	8,06		FG22	SMR 71A4		
	47	49	28,30	8,61		FG22	SMR 71A4		
	51	45	26,18	9,34		FG22	SMR 71A4	23	122
	59	39	22,58	10,81		FG22	SMR 71A4		
	62	37	21,52	11,36		FG22	SMR 71A4		
	69	33	19,29	12,64		FG22	SMR 71A4		
	81	28	16,47	14,84		FG22	SMR 71A4		
	23	100	57,89	1,50		FG22	SMB 71A4		
	31	74	42,98	4,29		FG22	SMB 71A4		
	34	67	39,27	4,70		FG22	SMB 71A4		
	40	57	33,49	5,51		FG22	SMB 71A4		
	49	47	27,53	6,75		FG22	SMB 71A4		
	53	43	25,19	7,28		FG22	SMB 71A4		
	57	40	23,68	7,83		FG22	SMB 71A4		
	71	32	18,86	9,69		FG22	SMB 71A4		
	88	26	15,17	11,90		FG22	SMR 71A4		
	95	24	14,04	12,80		FG22	SMR 71A4		
	111	21	12,11	14,81		FG22	SMR 71A4		
	14	164	94,16	1,28		FG12	SMB 71A4		
	16	143	83,67	1,47		FG12	SMB 71A4		
	17	135	77,04	1,56		FG12	SMB 71A4		
	19	121	69,73	1,74		FG12	SMB 71A4		
	22	104	61,89	2,01		FG12	SMB 71A4		
	25	92	53,64	2,29		FG12	SMB 71A4		
	28	82	48,27	2,56		FG12	SMB 71A4		
	31	74	43,73	2,84		FG12	SMB 71A4	18	120
	34	67	39,84	3,11		FG12	SMB 71A4		
	37	62	35,76	3,39		FG12	SMB 71A4		
	40	57	33,83	3,66		FG12	SMB 71A4		
	45	51	29,50	4,12		FG12	SMB 71A4		
	53	43	25,48	4,85		FG12	SMR 71A4		
	59	39	22,72	5,40		FG12	SMR 71A4		
	66	35	20,26	6,04		FG12	SMR 71A4		
	73	31	18,24	6,69		FG12	SMR 71A4		

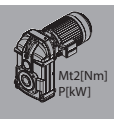




P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,25	79	29	16,92	7,24		FG12	SMR	71A4		
	92	25	14,56	8,43		FG12	SMR	71A4		
	111	21	12,11	10,17		FG12	SMR	71A4		
	125	18	10,73	11,45		FG12	SMR	71A4		
	42	55	31,98	1,52		FG12	SMB	71A4		
	47	49	28,41	2,11		FG12	SMB	71A4		
	51	45	26,16	2,36		FG12	SMB	71A4		
	57	40	23,68	2,64		FG12	SMB	71A4		
	64	36	21,02	2,93		FG12	SMB	71A4		
	74	31	18,21	3,36		FG12	SMB	71A4		
	82	28	16,39	3,68		FG12	SMB	71A4		
	90	25	14,85	4,04		FG12	SMB	71A4	18	120
	99	23	13,53	4,40		FG12	SMB	71A4		
	110	21	12,14	4,85		FG12	SMB	71A4		
	117	20	11,49	5,15		FG12	SMB	71A4		
	134	17	10,02	5,84		FG12	SMB	71A4		
	155	15	8,65	6,69		FG12	SMR	71A4		
	174	13	7,71	7,36		FG12	SMR	71A4		
	195	12	6,88	8,08		FG12	SMR	71A4		
	216	11	6,19	8,67		FG12	SMR	71A4		
	233	10	5,74	9,04		FG12	SMR	71A4		
	271	8	4,94	9,93		FG12	SMR	71A4		
	326	7	4,11	10,81		FG12	SMR	71A4		
	368	6	3,64	11,23		FG12	SMR	71A4		
0,37	0,23	13887	5777,82	0,97		FG85	SMB	71B4		
	0,27	11830	4927,66	1,14		FG85	SMB	71B4		
	0,3	10647	4452,50	1,27		FG85	SMB	71B4		
	0,33	9679	4050,43	1,39		FG85	SMB	71B4		
	0,36	8872	3705,80	1,52		FG85	SMB	71B4		
	0,38	8405	3484,56	1,61		FG85	SMB	71B4		
	0,42	7605	3156,95	1,78		FG85	SMB	71B4		
	0,48	6654	2774,74	2,03		FG85	SMB	71B4	515	158
	0,55	5807	2419,83	2,32		FG85	SMR	71B4		
	0,6	5323	2231,94	2,54		FG85	SMR	71B4		
	0,65	4914	2064,93	2,75		FG85	SMR	71B4		
	0,75	4259	1781,00	3,17		FG85	SMR	71B4		
	0,79	4043	1697,61	3,34		FG85	SMR	71B4		
	0,88	3630	1521,04	3,72		FG85	SMR	71B4		
	1	3194	1298,90	4,23		FG85	SMR	71B4		
	0,4	8148	3347,70	1,01		FG74	SMB	71B4		
	0,43	7580	3100,36	1,08		FG74	SMB	71B4		
	0,47	6934	2832,67	1,18		FG74	SMB	71B4		
	0,55	5926	2415,87	1,38		FG74	SMB	71B4		
	0,61	5343	2182,91	1,53		FG74	SMB	71B4	329	152
	0,67	4864	1985,79	1,69		FG74	SMB	71B4		
	0,74	4404	1816,83	1,86		FG74	SMB	71B4		
	0,78	4178	1708,36	1,96		FG74	SMB	71B4		
	0,87	3746	1547,75	2,19		FG74	SMB	71B4		

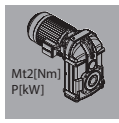
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,37	0,99	3292	1360,36	2,49		FG74	SMB	71B4		
	1,1	2963	1186,36	2,77		FG74	SMR	71B4		
	1,2	2716	1094,25	3,02		FG74	SMR	71B4	329	152
	1,3	2507	1012,36	3,27		FG74	SMR	71B4		
	1,5	2173	873,16	3,77		FG74	SMR	71B4		
	1,6	2037	832,28	4,03		FG74	SMR	71B4		
	0,64	5092	2088,07	0,96		FG64	SMB	71B4		
	0,7	4656	1910,41	1,05		FG64	SMB	71B4		
	0,75	4346	1796,36	1,13		FG64	SMB	71B4		
	0,82	3975	1627,47	1,23		FG64	SMB	71B4		
	0,94	3467	1430,43	1,41		FG64	SMB	71B4		
	1,1	2963	1247,47	1,65		FG64	SMR	71B4		
	1,2	2716	1150,61	1,80		FG64	SMR	71B4	217	146
	1,3	2507	1064,51	1,95		FG64	SMR	71B4		
	1,5	2173	918,14	2,26		FG64	SMR	71B4		
	1,7	1917	784,12	2,56		FG64	SMR	71B4		
	2	1630	669,61	3,01		FG64	SMR	71B4		
	2,3	1417	575,30	3,46		FG64	SMR	71B4		
	2,7	1207	496,29	4,06		FG64	SMR	71B4		
	2,5	1330	535,28	3,68		FG63	SMB	71B4		
	2,8	1188	486,51	4,13		FG63	SMB	71B4	212	144
	3	1109	445,25	4,42		FG63	SMB	71B4		
	1,1	2963	1252,13	0,98		FG54	SMB	71B4		
	1,2	2716	1081,38	1,07		FG54	SMR	71B4		
	1,4	2328	964,20	1,25		FG54	SMR	71B4		
	1,6	2037	860,05	1,42		FG54	SMR	71B4		
	1,7	1917	774,04	1,51		FG54	SMR	71B4	110	140
	1,9	1715	718,00	1,69		FG54	SMR	71B4		
	2,2	1481	617,93	1,96		FG54	SMR	71B4		
	2,6	1254	514,07	2,31		FG54	SMR	71B4		
	2,9	1124	455,32	2,58		FG54	SMR	71B4		
	1,4	2376	945,00	1,01		FG53	SMB	71B4		
	1,6	2079	841,91	1,40		FG53	SMB	71B4		
	1,8	1848	757,56	1,57		FG53	SMB	71B4		
	1,9	1750	701,59	1,66		FG53	SMB	71B4		
	2,1	1584	641,01	1,83		FG53	SMB	71B4		
	2,5	1330	546,69	2,18		FG53	SMB	71B4		
	2,7	1232	493,98	2,35		FG53	SMB	71B4	108	138
	3	1109	449,37	2,62		FG53	SMB	71B4		
	3,3	1008	411,14	2,88		FG53	SMB	71B4		
	3,5	950	386,59	3,05		FG53	SMB	71B4		
	3,8	875	350,24	3,31		FG53	SMB	71B4		
	4,4	756	307,84	3,84		FG53	SMB	71B4		
	5	665	268,47	4,36		FG53	SMR	71B4		
	2	1630	661,83	0,95		FG44	SMR	71B4		
	2,2	1481	613,91	1,05		FG44	SMR	71B4	68	134
	2,5	1304	528,35	1,19		FG44	SMR	71B4		
	3	1086	439,54	1,43		FG44	SMR	71B4		

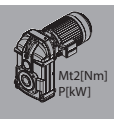
Mt2[Nm]
P[kW]



P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,37	3,4	959	389,31	1,62		FG44	SMR	71B4	68	134
	2,1	1584	647,74	0,98		FG43	SMB	71B4		
	2,2	1512	599,88	1,03		FG43	SMB	71B4		
	2,4	1386	548,08	1,12		FG43	SMB	71B4		
	2,9	1147	467,44	1,35		FG43	SMB	71B4		
	3,2	1039	422,36	1,49		FG43	SMB	71B4		
	3,5	950	384,22	1,63		FG43	SMB	71B4		
	3,8	875	351,53	1,77		FG43	SMB	71B4		
	4,1	811	330,55	1,91		FG43	SMB	71B4	65	132
	4,5	739	299,47	2,10		FG43	SMB	71B4		
	5,1	652	263,21	2,38		FG43	SMB	71B4		
	5,8	573	229,55	2,70		FG43	SMR	71B4		
	6,3	528	211,72	2,94		FG43	SMR	71B4		
	6,8	489	195,88	3,17		FG43	SMR	71B4		
	7,9	421	168,95	3,68		FG43	SMR	71B4		
	8,3	401	161,03	3,87		FG43	SMR	71B4		
	9,3	358	144,29	4,33		FG43	SMR	71B4		
	4	831	332,10	0,99		FG33	SMB	71B4		
	4,4	756	302,56	1,08		FG33	SMB	71B4		
	4,9	679	271,53	1,21		FG33	SMB	71B4		
	5,2	640	256,91	1,28		FG33	SMB	71B4		
	6	554	224,01	1,48		FG33	SMB	71B4		
	6,9	482	193,46	1,70		FG33	SMR	71B4		
	7,8	426	172,50	1,92		FG33	SMR	71B4	42	128
	8,7	382	153,87	2,15		FG33	SMR	71B4		
	9,7	343	138,48	2,39		FG33	SMR	71B4		
	10	333	128,45	2,47		FG33	SMR	71B4		
	12	277	110,55	2,96		FG33	SMR	71B4		
	15	222	91,97	3,70		FG33	SMR	71B4		
	16	208	81,46	3,95		FG33	SMR	71B4		
	12	283	111,52	2,09		FG32	SMB	71B4		
	13	261	101,42	3,01		FG32	SMB	71B4		
	14	242	94,36	3,38		FG32	SMB	71B4		
	17	200	81,02	4,11		FG32	SMB	71B4	39	126
	18	189	73,47	4,35		FG32	SMB	71B4		
	22	154	62,25	2,14		FG32	SMB	71B4		
	24	141	56,62	3,10		FG32	SMB	71B4		
	25	136	52,68	3,58		FG32	SMB	71B4		
	7,7	432	173,45	0,97		FG23	SMB	71B4		
	8,2	406	164,11	1,04		FG23	SMB	71B4		
	9,4	354	143,10	1,19		FG23	SMB	71B4		
	11	302	123,59	1,39		FG23	SMR	71B4		
	12	277	110,19	1,52		FG23	SMR	71B4	26	124
	14	238	98,29	1,77		FG23	SMR	71B4		
	15	222	88,46	1,89		FG23	SMR	71B4		
	16	208	82,06	2,02		FG23	SMR	71B4		
	19	175	70,62	2,40		FG23	SMR	71B4		
	23	145	58,75	2,90		FG23	SMR	71B4		

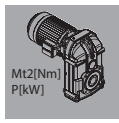
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,37	26	128	52,04	3,28	FG23	SMR	71B4	26	124
	12	283	108,00	0,99	FG22	SMB	71B4		
	14	242	96,22	1,58	FG22	SMB	71B4		
	15	226	86,58	1,86	FG22	SMB	71B4		
	17	200	80,18	2,10	FG22	SMB	71B4		
	18	189	73,26	2,23	FG22	SMB	71B4		
	21	162	62,48	2,60	FG22	SMB	71B4		
	24	141	56,45	2,97	FG22	SMB	71B4		
	26	131	51,36	3,22	FG22	SMB	71B4		
	29	117	46,99	3,59	FG22	SMB	71B4		
	30	113	44,18	3,71	FG22	SMB	71B4		
	33	103	40,03	4,08	FG22	SMB	71B4		
	38	89	35,18	4,70	FG22	SMB	71B4		
	44	77	30,68	5,45	FG22	SMR	71B4		
	47	72	28,30	5,82	FG22	SMR	71B4		
	51	67	26,18	6,31	FG22	SMR	71B4		
	59	58	22,58	7,30	FG22	SMR	71B4		
	62	55	21,52	7,67	FG22	SMR	71B4	24	122
	69	49	19,29	8,54	FG22	SMR	71B4		
	81	42	16,47	10,02	FG22	SMR	71B4		
	95	36	14,15	11,76	FG22	SMR	71B4		
	110	31	12,21	13,61	FG22	SMR	71B4		
	23	148	57,89	1,02	FG22	SMB	71B4		
	31	109	42,98	2,90	FG22	SMB	71B4		
	34	100	39,27	3,18	FG22	SMB	71B4		
	40	85	33,49	3,72	FG22	SMB	71B4		
	49	69	27,53	4,56	FG22	SMB	71B4		
	53	64	25,19	4,92	FG22	SMB	71B4		
	57	60	23,68	5,29	FG22	SMB	71B4		
	71	48	18,86	6,55	FG22	SMB	71B4		
	88	39	15,17	8,04	FG22	SMR	71B4		
	111	31	12,11	10,01	FG22	SMR	71B4		
	116	29	11,54	10,39	FG22	SMR	71B4		
	130	26	10,34	11,61	FG22	SMR	71B4		
	152	22	8,83	13,44	FG22	SMR	71B4		
	16	212	83,67	0,99	FG12	SMB	71B4		
	17	200	77,04	1,05	FG12	SMB	71B4		
	19	179	69,73	1,18	FG12	SMB	71B4		
	22	154	61,89	1,36	FG12	SMB	71B4		
	25	136	53,64	1,55	FG12	SMB	71B4		
	28	121	48,27	1,73	FG12	SMB	71B4		
	31	109	43,73	1,92	FG12	SMB	71B4	19	120
	34	100	39,84	2,10	FG12	SMB	71B4		
	37	92	35,76	2,29	FG12	SMB	71B4		
	40	85	33,83	2,48	FG12	SMB	71B4		
	45	75	29,50	2,78	FG12	SMB	71B4		
	53	64	25,48	3,28	FG12	SMR	71B4		
	59	58	22,72	3,65	FG12	SMR	71B4		

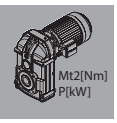




P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,37	66	51	20,26	4,08		FG12	SMR	71B4		
	73	46	18,24	4,52		FG12	SMR	71B4		
	79	43	16,92	4,89		FG12	SMR	71B4		
	92	37	14,56	5,69		FG12	SMR	71B4		
	111	31	12,11	6,87		FG12	SMR	71B4		
	125	27	10,73	7,74		FG12	SMR	71B4		
	42	81	31,98	1,03		FG12	SMB	71B4		
	47	72	28,41	1,43		FG12	SMB	71B4		
	51	67	26,16	1,59		FG12	SMB	71B4		
	57	60	23,68	1,78		FG12	SMB	71B4		
	64	53	21,02	1,98		FG12	SMB	71B4		
	74	46	18,21	2,27		FG12	SMB	71B4		
	82	41	16,39	2,49		FG12	SMB	71B4	19	120
	90	38	14,85	2,73		FG12	SMB	71B4		
	99	34	13,53	2,98		FG12	SMB	71B4		
	110	31	12,14	3,27		FG12	SMB	71B4		
	117	29	11,49	3,48		FG12	SMB	71B4		
	134	25	10,02	3,95		FG12	SMB	71B4		
	155	22	8,65	4,52		FG12	SMR	71B4		
	174	20	7,71	4,97		FG12	SMR	71B4		
	195	17	6,88	5,46		FG12	SMR	71B4		
	216	16	6,19	5,86		FG12	SMR	71B4		
	233	15	5,74	6,11		FG12	SMR	71B4		
	271	13	4,94	6,71		FG12	SMR	71B4		
	326	10	4,11	7,30		FG12	SMR	71B4		
	368	9	3,64	7,59		FG12	SMR	71B4		
0,55	0,34	13964	4050,43	0,97		FG85	SMB	80A4		
	0,37	12832	3705,80	1,05		FG85	SMB	80A4		
	0,39	12174	3484,56	1,11		FG85	SMB	80A4		
	0,44	10791	3156,95	1,25		FG85	SMB	80A4		
	0,5	9496	2774,74	1,42		FG85	SMB	80A4		
	0,57	8330	2419,83	1,62		FG85	SMR	80A4		
	0,62	7658	2231,94	1,76		FG85	SMR	80A4		
	0,67	7086	2064,93	1,91		FG85	SMR	80A4	517	158
	0,77	6166	1781,00	2,19		FG85	SMR	80A4		
	0,81	5862	1697,61	2,30		FG85	SMR	80A4		
	0,9	5275	1521,04	2,56		FG85	SMR	80A4		
	1,1	4316	1298,90	3,13		FG85	SMR	80A4		
	1,2	3957	1115,97	3,41		FG85	SMR	80A4		
	1,4	3391	962,70	3,98		FG85	SMR	80A4		
	0,57	8500	2415,87	0,96		FG74	SMB	80A4		
	0,63	7690	2182,91	1,07		FG74	SMB	80A4		
	0,69	7021	1985,79	1,17		FG74	SMB	80A4		
	0,76	6375	1816,83	1,29		FG74	SMB	80A4	331	152
	0,8	6056	1708,36	1,35		FG74	SMB	80A4		
	0,89	5444	1547,75	1,51		FG74	SMB	80A4		
	1	4845	1360,36	1,69		FG74	SMB	80A4		
	1,2	4037	1186,36	2,03		FG74	SMR	80A4		

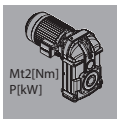
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,55	1,3	3727	1094,25	2,20	FG74	SMR	80A4		
	1,4	3461	1012,36	2,37	FG74	SMR	80A4		
	1,6	3028	873,16	2,71	FG74	SMR	80A4		
	1,7	2850	832,28	2,88	FG74	SMR	80A4	331	152
	1,8	2692	745,71	3,05	FG74	SMR	80A4		
	2,2	2202	636,81	3,72	FG74	SMR	80A4		
	2,5	1938	547,12	4,23	FG74	SMR	80A4		
	0,96	5047	1430,43	0,97	FG64	SMB	80A4		
	1,1	4404	1247,47	1,11	FG64	SMR	80A4		
	1,2	4037	1150,61	1,21	FG64	SMR	80A4		
	1,3	3727	1064,51	1,31	FG64	SMR	80A4		
	1,5	3230	918,14	1,52	FG64	SMR	80A4		
	1,6	3028	875,15	1,62	FG64	SMR	80A4	219	146
	1,8	2692	784,12	1,82	FG64	SMR	80A4		
	2,1	2307	669,61	2,12	FG64	SMR	80A4		
	2,4	2019	575,30	2,43	FG64	SMR	80A4		
	2,8	1730	496,29	2,83	FG64	SMR	80A4		
	3,4	1425	408,93	3,44	FG64	SMR	80A4		
	2,6	1901	535,28	2,58	FG63	SMB	80A4		
	2,8	1766	486,51	2,78	FG63	SMB	80A4		
	3,1	1595	445,25	3,07	FG63	SMB	80A4		
	3,4	1454	409,88	3,37	FG63	SMB	80A4	214	144
	3,7	1336	374,24	3,67	FG63	SMB	80A4		
	4	1236	341,61	3,96	FG63	SMB	80A4		
	4,5	1099	307,71	4,46	FG63	SMB	80A4		
	1,6	3028	860,05	0,96	FG54	SMR	80A4		
	1,8	2692	774,04	1,08	FG54	SMR	80A4		
	1,9	2550	718,00	1,14	FG54	SMR	80A4	112	140
	2,2	2202	617,93	1,32	FG54	SMR	80A4		
	2,7	1794	514,07	1,62	FG54	SMR	80A4		
	3	1615	455,32	1,80	FG54	SMR	80A4		
	1,8	2746	757,56	1,06	FG53	SMB	80A4		
	2	2472	701,59	1,17	FG53	SMB	80A4		
	2,1	2354	641,01	1,23	FG53	SMB	80A4		
	2,5	1977	546,69	1,47	FG53	SMB	80A4		
	2,8	1766	493,98	1,64	FG53	SMB	80A4		
	3,1	1595	449,37	1,82	FG53	SMB	80A4		
	3,3	1498	411,14	1,94	FG53	SMB	80A4		
	3,6	1373	386,59	2,11	FG53	SMB	80A4	110	138
	3,9	1268	350,24	2,29	FG53	SMB	80A4		
	4,5	1099	307,84	2,64	FG53	SMB	80A4		
	5,1	969	268,47	2,99	FG53	SMR	80A4		
	5,6	883	247,62	3,29	FG53	SMR	80A4		
	6	824	229,09	3,52	FG53	SMR	80A4		
	7	706	197,59	4,11	FG53	SMR	80A4		
	7,3	677	188,34	4,28	FG53	SMR	80A4		
	3,1	1563	439,54	0,99	FG44	SMR	80A4	70	134
	3,5	1384	389,31	1,12	FG44	SMR	80A4		



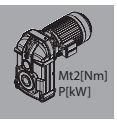


P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,55	3,3	1498	422,36	1,03		FG43	SMB	80A4		
	3,6	1373	384,22	1,13		FG43	SMB	80A4		
	3,9	1268	351,53	1,22		FG43	SMB	80A4		
	4,2	1177	330,55	1,32		FG43	SMB	80A4		
	4,6	1075	299,47	1,44		FG43	SMB	80A4		
	5,2	951	263,21	1,63		FG43	SMB	80A4		
	6	824	229,55	1,88		FG43	SMR	80A4	67	132
	6,5	761	211,72	2,04		FG43	SMR	80A4		
	7	706	195,88	2,19		FG43	SMR	80A4		
	8,1	610	168,95	2,54		FG43	SMR	80A4		
	8,5	582	161,03	2,67		FG43	SMR	80A4		
	9,5	520	144,29	2,98		FG43	SMR	80A4		
	11	449	123,21	3,45		FG43	SMR	80A4		
	13	380	105,86	4,08		FG43	SMR	80A4		
	14	360	98,50	3,78		FG42	SMB	80A4	65	130
	25	202	56,02	3,84		FG42	SMB	80A4		
	6,1	810	224,01	1,01		FG33	SMB	80A4		
	7,1	696	193,46	1,18		FG33	SMR	80A4		
	8	618	172,50	1,33		FG33	SMR	80A4		
	8,9	555	153,87	1,48		FG33	SMR	80A4		
	9,9	499	138,48	1,64		FG33	SMR	80A4	44	128
	11	449	128,45	1,82		FG33	SMR	80A4		
	12	412	110,55	1,99		FG33	SMR	80A4		
	15	330	91,97	2,49		FG33	SMR	80A4		
	17	291	81,46	2,82		FG33	SMR	80A4		
	12	420	111,52	1,40		FG32	SMB	80A4		
	14	360	101,42	2,18		FG32	SMB	80A4		
	15	336	94,36	2,44		FG32	SMB	80A4		
	17	297	81,02	2,76		FG32	SMB	80A4		
	19	266	73,47	3,09		FG32	SMB	80A4		
	20	252	68,56	3,25		FG32	SMB	80A4	41	126
	22	229	62,29	3,58		FG32	SMB	80A4		
	24	210	56,70	3,90		FG32	SMB	80A4		
	27	187	51,60	4,39		FG32	SMB	80A4		
	26	194	52,68	2,50		FG32	SMB	80A4		
	30	168	45,23	3,21		FG32	SMB	80A4		
	34	148	41,02	3,98		FG32	SMB	80A4		
	12	412	110,19	1,02		FG23	SMR	80A4		
	14	353	98,29	1,19		FG23	SMR	80A4		
	16	309	88,46	1,36		FG23	SMR	80A4		
	17	291	82,06	1,44		FG23	SMR	80A4	28	124
	19	260	70,62	1,61		FG23	SMR	80A4		
	23	215	58,75	1,95		FG23	SMR	80A4		
	26	190	52,04	2,21		FG23	SMR	80A4		
	14	360	96,22	1,06		FG22	SMB	80A4		
	16	315	86,58	1,33		FG22	SMB	80A4	26	122
	17	297	80,18	1,42		FG22	SMB	80A4		
	19	266	73,26	1,58		FG22	SMB	80A4		

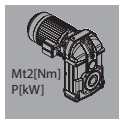
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,55	22	229	62,48	1,83	FG22	SMB	80A4		
	24	210	56,45	2,00	FG22	SMB	80A4		
	27	187	51,36	2,25	FG22	SMB	80A4		
	29	174	46,99	2,41	FG22	SMB	80A4		
	31	163	44,18	2,58	FG22	SMB	80A4		
	34	148	40,03	2,83	FG22	SMB	80A4		
	39	129	35,18	3,25	FG22	SMB	80A4		
	45	112	30,68	3,75	FG22	SMR	80A4		
	49	103	28,30	4,08	FG22	SMR	80A4	26	122
	53	95	26,18	4,41	FG22	SMR	80A4		
	30	168	46,41	1,57	FG22	SMB	80A4		
	32	158	42,98	2,01	FG22	SMB	80A4		
	35	144	39,27	2,20	FG22	SMB	80A4		
	41	123	33,49	2,57	FG22	SMB	80A4		
	50	101	27,53	3,13	FG22	SMB	80A4		
	55	92	25,19	3,43	FG22	SMB	80A4		
	58	87	23,68	3,62	FG22	SMB	80A4		
	64	79	21,46	3,98	FG22	SMB	80A4		
	26	194	53,64	1,08	FG12	SMB	80A4		
	28	180	48,27	1,17	FG12	SMB	80A4		
	31	163	43,73	1,29	FG12	SMB	80A4		
	35	144	39,84	1,46	FG12	SMB	80A4		
	38	133	35,76	1,58	FG12	SMB	80A4		
	41	123	33,83	1,71	FG12	SMB	80A4		
	47	107	29,50	1,96	FG12	SMB	80A4		
	54	93	25,48	2,25	FG12	SMR	80A4		
	61	83	22,72	2,54	FG12	SMR	80A4		
	68	74	20,26	2,83	FG12	SMR	80A4		
	75	67	18,24	3,12	FG12	SMR	80A4		
	81	62	16,92	3,37	FG12	SMR	80A4		
	94	54	14,56	3,91	FG12	SMR	80A4		
	53	95	26,16	1,11	FG12	SMB	80A4	21	120
	58	87	23,68	1,22	FG12	SMB	80A4		
	65	78	21,02	1,35	FG12	SMB	80A4		
	84	60	16,39	1,72	FG12	SMB	80A4		
	93	54	14,85	1,90	FG12	SMB	80A4		
	102	49	13,53	2,06	FG12	SMB	80A4		
	113	45	12,14	2,26	FG12	SMB	80A4		
	120	42	11,49	2,40	FG12	SMB	80A4		
	137	37	10,02	2,72	FG12	SMB	80A4		
	159	32	8,65	3,12	FG12	SMR	80A4		
	178	28	7,71	3,42	FG12	SMR	80A4		
	200	25	6,88	3,77	FG12	SMR	80A4		
	222	23	6,19	4,05	FG12	SMR	80A4		
	239	21	5,74	4,22	FG12	SMR	80A4		
0,75	0,5	12949	2774,74	1,04	FG85	SMB	80B4		
	0,57	11358	2419,83	1,19	FG85	SMR	80B4	518	158
	0,62	10442	2231,94	1,29	FG85	SMR	80B4		



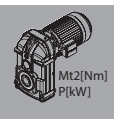
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,75	0,67	9663	2064,93	1,40	FG85	SMR	80B4		
	0,77	8408	1781,00	1,61	FG85	SMR	80B4		
	0,81	7993	1697,61	1,69	FG85	SMR	80B4		
	0,9	7194	1521,04	1,88	FG85	SMR	80B4	518	158
	1,1	5886	1298,90	2,29	FG85	SMR	80B4		
	1,2	5395	1115,97	2,50	FG85	SMR	80B4		
	1,4	4625	962,70	2,92	FG85	SMR	80B4		
	1,7	3808	793,23	3,54	FG85	SMR	80B4		
	0,8	8258	1708,36	0,99	FG74	SMB	80B4		
	0,89	7423	1547,75	1,10	FG74	SMB	80B4		
	1	6606	1360,36	1,24	FG74	SMB	80B4		
	1,2	5505	1186,36	1,49	FG74	SMR	80B4		
	1,3	5082	1094,25	1,61	FG74	SMR	80B4		
	1,4	4719	1012,36	1,74	FG74	SMR	80B4		
	1,6	4129	873,16	1,99	FG74	SMR	80B4	332	152
	1,7	3886	832,28	2,11	FG74	SMR	80B4		
	1,8	3670	745,71	2,23	FG74	SMR	80B4		
	2,2	3003	636,81	2,73	FG74	SMR	80B4		
	2,5	2643	547,12	3,10	FG74	SMR	80B4		
	2,9	2278	471,98	3,60	FG74	SMR	80B4		
	3,5	1888	388,90	4,34	FG74	SMR	80B4		
	1,3	5082	1064,51	0,96	FG64	SMR	80B4		
	1,5	4404	918,14	1,11	FG64	SMR	80B4		
	1,6	4129	875,15	1,19	FG64	SMR	80B4		
	1,8	3670	784,12	1,34	FG64	SMR	80B4	220	146
	2,1	3146	669,61	1,56	FG64	SMR	80B4		
	2,4	2753	575,30	1,78	FG64	SMR	80B4		
	2,8	2359	496,29	2,08	FG64	SMR	80B4		
	3,4	1943	408,93	2,52	FG64	SMR	80B4		
	2,6	2593	535,28	1,89	FG63	SMB	80B4		
	2,8	2408	486,51	2,04	FG63	SMB	80B4		
	3,1	2175	445,25	2,25	FG63	SMB	80B4		
	3,4	1983	409,88	2,47	FG63	SMB	80B4		
	3,7	1822	374,24	2,69	FG63	SMB	80B4	215	144
	4	1685	341,61	2,91	FG63	SMB	80B4		
	4,5	1498	307,71	3,27	FG63	SMB	80B4		
	5,1	1322	268,21	3,71	FG63	SMR	80B4		
	5,4	1248	252,43	3,93	FG63	SMR	80B4		
	5,9	1143	232,86	4,29	FG63	SMR	80B4		
	2,2	3003	617,93	0,97	FG54	SMR	80B4		
	2,7	2447	514,07	1,19	FG54	SMR	80B4	113	140
	3	2202	455,32	1,32	FG54	SMR	80B4		
	2,5	2697	546,69	1,08	FG53	SMB	80B4		
	2,8	2408	493,98	1,20	FG53	SMB	80B4		
	3,1	2175	449,37	1,33	FG53	SMB	80B4	111	138
	3,3	2043	411,14	1,42	FG53	SMB	80B4		
	3,6	1873	386,59	1,55	FG53	SMB	80B4		
	3,9	1729	350,24	1,68	FG53	SMB	80B4		



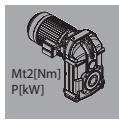
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,75	4,5	1498	307,84	1,94	FG53	SMB	80B4		
	5,1	1322	268,47	2,19	FG53	SMR	80B4		
	5,6	1204	247,62	2,41	FG53	SMR	80B4		
	6	1124	229,09	2,58	FG53	SMR	80B4		
	7	963	197,59	3,01	FG53	SMR	80B4	111	138
	7,3	923	188,34	3,14	FG53	SMR	80B4		
	8,1	832	168,75	3,48	FG53	SMR	80B4		
	9,5	710	144,11	4,09	FG53	SMR	80B4		
	4,2	1605	330,55	0,97	FG43	SMB	80B4		
	4,6	1465	299,47	1,06	FG43	SMB	80B4		
	5,2	1296	263,21	1,20	FG43	SMB	80B4		
	6	1124	229,55	1,38	FG43	SMR	80B4		
	6,5	1037	211,72	1,49	FG43	SMR	80B4		
	7	963	195,88	1,61	FG43	SMR	80B4		
	8,1	832	168,95	1,86	FG43	SMR	80B4	68	132
	8,5	793	161,03	1,95	FG43	SMR	80B4		
	9,5	710	144,29	2,18	FG43	SMR	80B4		
	11	613	123,21	2,53	FG43	SMR	80B4		
	13	519	105,86	2,99	FG43	SMR	80B4		
	15	449	91,32	3,45	FG43	SMR	80B4		
	18	375	75,25	4,14	FG43	SMR	80B4		
	14	491	98,50	2,77	FG42	SMB	80B4		
	15	459	89,52	3,38	FG42	SMB	80B4		
	17	405	81,93	3,83	FG42	SMB	80B4		
	18	382	75,42	4,06	FG42	SMB	80B4	66	130
	25	275	56,02	2,81	FG42	SMB	80B4		
	27	255	50,92	3,57	FG42	SMB	80B4		
	30	229	46,60	4,31	FG42	SMB	80B4		
	8	843	172,50	0,97	FG33	SMR	80B4		
	8,9	757	153,87	1,08	FG33	SMR	80B4		
	9,9	681	138,48	1,20	FG33	SMR	80B4		
	11	613	128,45	1,34	FG33	SMR	80B4	45	128
	12	562	110,55	1,46	FG33	SMR	80B4		
	15	449	91,97	1,82	FG33	SMR	80B4		
	17	397	81,46	2,07	FG33	SMR	80B4		
	12	573	111,52	1,03	FG32	SMB	80B4		
	14	491	101,42	1,60	FG32	SMB	80B4		
	15	459	94,36	1,79	FG32	SMB	80B4		
	17	405	81,02	2,03	FG32	SMB	80B4		
	19	362	73,47	2,26	FG32	SMB	80B4		
	20	344	68,56	2,38	FG32	SMB	80B4		
	22	313	62,29	2,62	FG32	SMB	80B4	42	126
	24	287	56,70	2,86	FG32	SMB	80B4		
	27	255	51,60	3,22	FG32	SMB	80B4		
	30	229	45,52	3,58	FG32	SMB	80B4		
	33	208	41,33	3,93	FG32	SMR	80B4		
	36	191	37,77	4,29	FG32	SMR	80B4		
	26	265	52,68	1,84	FG32	SMB	80B4		

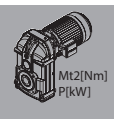


P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,75	34	202	41,02	2,92	FG32	SMB	80B4		
	40	172	34,78	3,79	FG32	SMB	80B4	42	126
	43	160	31,65	4,14	FG32	SMB	80B4		
	16	421	88,46	1,00	FG23	SMR	80B4		
	17	397	82,06	1,06	FG23	SMR	80B4		
	19	355	70,62	1,18	FG23	SMR	80B4	29	124
	23	293	58,75	1,43	FG23	SMR	80B4		
	26	259	52,04	1,62	FG23	SMR	80B4		
	16	430	86,58	0,98	FG22	SMB	80B4		
	17	405	80,18	1,04	FG22	SMB	80B4		
	19	362	73,26	1,16	FG22	SMB	80B4		
	22	313	62,48	1,34	FG22	SMB	80B4		
	24	287	56,45	1,47	FG22	SMB	80B4		
	27	255	51,36	1,65	FG22	SMB	80B4		
	29	237	46,99	1,77	FG22	SMB	80B4		
	31	222	44,18	1,89	FG22	SMB	80B4		
	34	202	40,03	2,08	FG22	SMB	80B4		
	39	176	35,18	2,38	FG22	SMB	80B4		
	45	153	30,68	2,75	FG22	SMR	80B4		
	49	140	28,30	2,99	FG22	SMR	80B4		
	53	130	26,18	3,24	FG22	SMR	80B4		
	61	113	22,58	3,72	FG22	SMR	80B4	27	122
	64	107	21,52	3,91	FG22	SMR	80B4		
	71	97	19,29	4,34	FG22	SMR	80B4		
	30	229	46,41	1,15	FG22	SMB	80B4		
	32	215	42,98	1,47	FG22	SMB	80B4		
	35	197	39,27	1,61	FG22	SMB	80B4		
	41	168	33,49	1,88	FG22	SMB	80B4		
	50	138	27,53	2,30	FG22	SMB	80B4		
	55	125	25,19	2,52	FG22	SMB	80B4		
	58	119	23,68	2,66	FG22	SMB	80B4		
	73	94	18,86	3,32	FG22	SMB	80B4		
	84	82	16,45	3,80	FG22	SMR	80B4		
	91	76	15,17	4,10	FG22	SMR	80B4		
	98	70	14,04	4,40	FG22	SMR	80B4		
	35	197	39,84	1,07	FG12	SMB	80B4		
	38	181	35,76	1,16	FG12	SMB	80B4		
	41	168	33,83	1,25	FG12	SMB	80B4		
	47	146	29,50	1,43	FG12	SMB	80B4		
	54	127	25,48	1,65	FG12	SMR	80B4		
	61	113	22,72	1,86	FG12	SMR	80B4		
	68	101	20,26	2,08	FG12	SMR	80B4	22	120
	75	92	18,24	2,29	FG12	SMR	80B4		
	81	85	16,92	2,47	FG12	SMR	80B4		
	94	73	14,56	2,87	FG12	SMR	80B4		
	114	60	12,11	3,48	FG12	SMR	80B4		
	128	54	10,73	3,91	FG12	SMR	80B4		
	84	82	16,39	1,26	FG12	SMB	80B4		



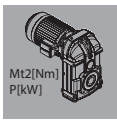
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
0,75	93	74	14,85	1,39	FG12	SMB	80B4		
	102	67	13,53	1,51	FG12	SMB	80B4		
	113	61	12,14	1,66	FG12	SMB	80B4		
	120	57	11,49	1,76	FG12	SMB	80B4		
	137	50	10,02	1,99	FG12	SMB	80B4		
	159	43	8,65	2,29	FG12	SMR	80B4		
	178	39	7,71	2,51	FG12	SMR	80B4	22	120
	200	34	6,88	2,76	FG12	SMR	80B4		
	222	31	6,19	2,97	FG12	SMR	80B4		
	239	29	5,74	3,09	FG12	SMR	80B4		
	278	25	4,94	3,39	FG12	SMR	80B4		
	334	21	4,11	3,69	FG12	SMR	80B4		
	377	18	3,64	3,84	FG12	SMR	80B4		
1,10	0,68	13964	2064,93	0,97	FG85	SMR	90S4		
	0,79	12020	1781,00	1,12	FG85	SMR	90S4		
	0,83	11441	1697,61	1,18	FG85	SMR	90S4		
	0,93	10210	1521,04	1,32	FG85	SMR	90S4	522	158
	1,1	8632	1298,90	1,56	FG85	SMR	90S4		
	1,3	7304	1115,97	1,85	FG85	SMR	90S4		
	1,5	6330	962,70	2,13	FG85	SMR	90S4		
	1,8	5275	793,23	2,56	FG85	SMR	90S4		
	1,2	8075	1186,36	1,02	FG74	SMB	90S4		
	1,3	7453	1094,25	1,10	FG74	SMB	90S4		
	1,4	6921	1012,36	1,18	FG74	SMR	90S4		
	1,6	6056	873,16	1,35	FG74	SMR	90S4		
	1,7	5700	832,28	1,44	FG74	SMR	90S4	336	152
	1,9	5100	745,71	1,61	FG74	SMR	90S4		
	2,2	4404	636,81	1,86	FG74	SMR	90S4		
	2,6	3727	547,12	2,20	FG74	SMR	90S4		
	3	3230	471,98	2,54	FG74	SMR	90S4		
	3,6	2692	388,90	3,05	FG74	SMR	90S4		
	2,1	4614	669,61	1,06	FG64	SMR	90S4		
	2,5	3876	575,30	1,26	FG64	SMR	90S4	224	146
	2,8	3461	496,29	1,42	FG64	SMR	90S4		
	3,4	2850	408,93	1,72	FG64	SMR	90S4		
	2,6	3803	535,28	1,29	FG63	SMB	90S4		
	2,9	3409	486,51	1,44	FG63	SMB	90S4		
	3,2	3090	445,25	1,59	FG63	SMB	90S4		
	3,4	2908	409,88	1,69	FG63	SMB	90S4		
	3,8	2602	374,24	1,88	FG63	SMB	90S4		
	4,1	2412	341,61	2,03	FG63	SMB	90S4		
	4,6	2149	307,71	2,28	FG63	SMB	90S4	219	144
	5,3	1866	268,21	2,63	FG63	SMB	90S4		
	5,6	1766	252,43	2,78	FG63	SMB	90S4		
	6,1	1621	232,86	3,02	FG63	SMR	90S4		
	6,7	1476	209,58	3,32	FG63	SMR	90S4		
	7,5	1318	188,51	3,72	FG63	SMR	90S4		
	8	1236	175,96	3,96	FG63	SMR	90S4		

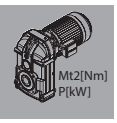




P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
1,10	3,4	2908	411,14	1,00	FG53	SMB	90S4		
	3,6	2746	386,59	1,06	FG53	SMB	90S4		
	4	2472	350,24	1,17	FG53	SMB	90S4		
	4,6	2149	307,84	1,35	FG53	SMB	90S4		
	5,3	1866	268,47	1,55	FG53	SMB	90S4		
	5,7	1735	247,62	1,67	FG53	SMB	90S4		
	6,2	1595	229,09	1,82	FG53	SMR	90S4	115	138
	7,1	1393	197,59	2,08	FG53	SMR	90S4		
	7,5	1318	188,34	2,20	FG53	SMR	90S4		
	8,4	1177	168,75	2,46	FG53	SMR	90S4		
	9,8	1009	144,11	2,87	FG53	SMR	90S4		
	11	899	123,81	3,23	FG53	SMR	90S4		
	13	761	106,81	3,81	FG53	SMR	90S4		
	6,1	1621	229,55	0,96	FG43	SMB	90S4		
	6,7	1476	211,72	1,05	FG43	SMB	90S4		
	7,2	1373	195,88	1,13	FG43	SMR	90S4		
	8,3	1191	168,95	1,30	FG43	SMR	90S4		
	8,8	1124	161,03	1,38	FG43	SMR	90S4	72	132
	9,8	1009	144,29	1,54	FG43	SMR	90S4		
	11	899	123,21	1,72	FG43	SMR	90S4		
	13	761	105,86	2,04	FG43	SMR	90S4		
	15	659	91,32	2,35	FG43	SMR	90S4		
	19	520	75,25	2,98	FG43	SMR	90S4		
	14	721	98,50	1,89	FG42	SMB	90S4		
	16	631	89,52	2,46	FG42	SMB	90S4		
	17	593	81,93	2,61	FG42	SMB	90S4		
	19	531	75,42	2,92	FG42	SMB	90S4		
	20	504	68,86	3,07	FG42	SMB	90S4		
	22	459	62,86	3,38	FG42	SMB	90S4	70	130
	25	404	56,62	3,84	FG42	SMB	90S4		
	29	348	49,35	4,46	FG42	SMB	90S4		
	28	360	50,92	2,52	FG42	SMB	90S4		
	30	336	46,60	2,94	FG42	SMB	90S4		
	33	306	42,90	3,40	FG42	SMB	90S4		
	36	280	39,17	3,88	FG42	SMB	90S4		
	13	761	110,55	1,08	FG33	SMR	90S4		
	15	659	91,97	1,24	FG33	SMR	90S4	49	128
	17	582	81,46	1,41	FG33	SMR	90S4		
	14	721	101,42	1,09	FG32	SMB	90S4		
	15	673	94,36	1,22	FG32	SMB	90S4		
	17	593	81,02	1,38	FG32	SMB	90S4		
	19	531	73,47	1,54	FG32	SMB	90S4		
	21	480	68,56	1,71	FG32	SMB	90S4	46	126
	23	439	62,29	1,87	FG32	SMB	90S4		
	25	404	56,70	2,03	FG32	SMB	90S4		
	27	374	51,60	2,19	FG32	SMB	90S4		
	31	325	45,52	2,52	FG32	SMB	90S4		
	34	297	41,33	2,76	FG32	SMB	90S4		

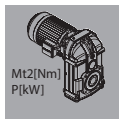
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
1,10	37	273	37,77	3,01		FG32	SMB	90S4		
	40	252	35,67	3,25		FG32	SMR	90S4		
	45	224	31,15	3,66		FG32	SMR	90S4		
	51	198	27,69	4,15		FG32	SMR	90S4		
	41	246	34,78	2,65		FG32	SMB	90S4	46	126
	49	206	28,81	3,21		FG32	SMB	90S4		
	55	183	25,41	3,58		FG32	SMB	90S4		
	61	165	23,07	3,93		FG32	SMB	90S4		
	67	151	21,09	4,30		FG32	SMB	90S4		
	24	412	58,75	1,02		FG23	SMR	90S4	33	124
	27	366	52,04	1,15		FG23	SMR	90S4		
	23	439	62,48	0,96		FG22	SMB	90S4		
	25	404	56,45	1,04		FG22	SMB	90S4		
	27	374	51,36	1,12		FG22	SMB	90S4		
	30	336	46,99	1,25		FG22	SMB	90S4		
	32	315	44,18	1,33		FG22	SMB	90S4		
	35	288	40,03	1,46		FG22	SMB	90S4		
	40	252	35,18	1,67		FG22	SMB	90S4		
	46	219	30,68	1,91		FG22	SMB	90S4		
	50	202	28,30	2,08		FG22	SMB	90S4		
	54	187	26,18	2,25		FG22	SMR	90S4		
	62	163	22,58	2,58		FG22	SMR	90S4		
	66	153	21,52	2,75		FG22	SMR	90S4		
	73	138	19,29	3,04		FG22	SMR	90S4		
	86	117	16,47	3,58		FG22	SMR	90S4	31	122
	100	101	14,15	4,16		FG22	SMR	90S4		
	33	306	42,98	1,04		FG22	SMB	90S4		
	36	280	39,27	1,13		FG22	SMB	90S4		
	42	240	33,49	1,32		FG22	SMB	90S4		
	47	215	30,26	1,47		FG22	SMB	90S4		
	51	198	27,53	1,60		FG22	SMB	90S4		
	56	180	25,19	1,75		FG22	SMB	90S4		
	60	168	23,68	1,87		FG22	SMB	90S4		
	75	135	18,86	2,33		FG22	SMB	90S4		
	93	108	15,17	2,86		FG22	SMB	90S4		
	116	87	12,11	3,52		FG22	SMR	90S4		
	122	83	11,54	3,68		FG22	SMR	90S4		
	136	74	10,34	4,08		FG22	SMR	90S4		
	48	210	29,50	1,00		FG12	SMB	90S4		
	55	183	25,48	1,14		FG12	SMB	90S4		
	62	163	22,72	1,29		FG12	SMB	90S4		
	70	144	20,26	1,46		FG12	SMR	90S4		
	77	131	18,24	1,60		FG12	SMR	90S4	26	120
	83	122	16,92	1,73		FG12	SMR	90S4		
	97	104	14,56	2,02		FG12	SMR	90S4		
	116	87	12,11	2,41		FG12	SMR	90S4		
	131	77	10,73	2,73		FG12	SMR	90S4		
	104	97	13,53	1,05		FG12	SMB	90S4		

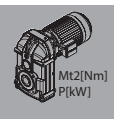




P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
1,10	123	82	11,49	1,23		FG12	SMB	90S4		
	141	72	10,02	1,40		FG12	SMB	90S4		
	163	62	8,65	1,60		FG12	SMB	90S4		
	183	55	7,71	1,76		FG12	SMB	90S4		
	205	49	6,88	1,93		FG12	SMR	90S4	26	120
	228	44	6,19	2,08		FG12	SMR	90S4		
	245	41	5,74	2,16		FG12	SMR	90S4		
	285	35	4,94	2,37		FG12	SMR	90S4		
	343	29	4,11	2,58		FG12	SMR	90S4		
	387	26	3,64	2,69		FG12	SMR	90S4		
1,50	0,92	14075	1521,04	0,96		FG85	SMR	90L4		
	1,1	11772	1298,90	1,15		FG85	SMR	90L4		
	1,3	9961	1115,97	1,36		FG85	SMR	90L4	525	158
	1,5	8632	962,70	1,56		FG85	SMR	90L4		
	1,8	7194	793,23	1,88		FG85	SMR	90L4		
	1,6	8258	873,16	0,99		FG74	SMR	90L4		
	1,7	7772	832,28	1,06		FG74	SMR	90L4		
	1,9	6954	745,71	1,18		FG74	SMR	90L4		
	2,2	6006	636,81	1,37		FG74	SMR	90L4	339	152
	2,6	5082	547,12	1,61		FG74	SMR	90L4		
	3	4404	471,98	1,86		FG74	SMR	90L4		
	3,6	3670	388,90	2,23		FG74	SMR	90L4		
	2,8	4719	496,29	1,04		FG64	SMR	90L4	227	146
	3,4	3886	408,93	1,26		FG64	SMR	90L4		
	2,9	4649	486,51	1,05		FG63	SMB	90L4		
	3,2	4213	445,25	1,16		FG63	SMB	90L4		
	3,4	3965	409,88	1,24		FG63	SMB	90L4		
	3,8	3548	374,24	1,38		FG63	SMB	90L4		
	4,1	3288	341,61	1,49		FG63	SMB	90L4		
	4,6	2931	307,71	1,67		FG63	SMB	90L4		
	5,2	2593	268,21	1,89		FG63	SMB	90L4	222	144
	5,6	2408	252,43	2,04		FG63	SMB	90L4		
	6	2247	232,86	2,18		FG63	SMR	90L4		
	6,7	2012	209,58	2,43		FG63	SMR	90L4		
	7,5	1798	188,51	2,73		FG63	SMR	90L4		
	8	1685	175,96	2,91		FG63	SMR	90L4		
	9,1	1482	154,45	3,31		FG63	SMR	90L4		
	10	1348	136,68	3,63		FG63	SMR	90L4		
	4,6	2931	307,84	0,99		FG53	SMB	90L4		
	5,2	2593	268,47	1,12		FG53	SMB	90L4		
	5,7	2365	247,62	1,23		FG53	SMB	90L4		
	6,1	2210	229,09	1,31		FG53	SMR	90L4		
	7,1	1899	197,59	1,53		FG53	SMR	90L4	118	138
	7,5	1798	188,34	1,61		FG53	SMR	90L4		
	8,3	1624	168,75	1,79		FG53	SMR	90L4		
	9,7	1390	144,11	2,09		FG53	SMR	90L4		
	11	1226	123,81	2,37		FG53	SMR	90L4		
	13	1037	106,81	2,80		FG53	SMR	90L4		

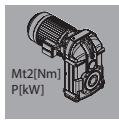
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
1,50	16	843	88,00	3,44	FG53	SMR	90L4	118	138
	8,3	1624	168,95	0,95	FG43	SMR	90L4		
	8,7	1550	161,03	1,00	FG43	SMR	90L4		
	9,7	1390	144,29	1,12	FG43	SMR	90L4		
	11	1226	123,21	1,26	FG43	SMR	90L4	75	132
	13	1037	105,86	1,49	FG43	SMR	90L4		
	15	899	91,32	1,72	FG43	SMR	90L4		
	19	710	75,25	2,18	FG43	SMR	90L4		
	14	983	98,50	1,39	FG42	SMB	90L4		
	16	860	89,52	1,80	FG42	SMB	90L4		
	17	809	81,93	1,92	FG42	SMB	90L4		
	19	724	75,42	2,14	FG42	SMB	90L4		
	22	625	62,86	2,48	FG42	SMB	90L4		
	25	550	56,62	2,82	FG42	SMB	90L4		
	28	491	49,35	3,15	FG42	SMB	90L4	73	130
	30	459	46,45	3,38	FG42	SMB	90L4		
	33	417	42,85	3,72	FG42	SMR	90L4		
	36	382	38,56	4,06	FG42	SMR	90L4		
	39	353	35,75	3,32	FG42	SMB	90L4		
	44	313	32,20	3,92	FG42	SMB	90L4		
	50	275	28,07	4,50	FG42	SMB	90L4		
	17	793	81,46	1,03	FG33	SMR	90L4	52	126
	17	809	81,02	1,01	FG32	SMB	90L4		
	19	724	73,47	1,13	FG32	SMB	90L4		
	20	688	68,56	1,19	FG32	SMB	90L4		
	23	598	62,29	1,37	FG32	SMB	90L4		
	25	550	56,70	1,49	FG32	SMB	90L4		
	27	510	51,60	1,61	FG32	SMB	90L4		
	31	444	45,52	1,85	FG32	SMB	90L4		
	34	405	41,33	2,03	FG32	SMB	90L4		
	37	372	37,77	2,21	FG32	SMB	90L4		
	39	353	35,67	2,32	FG32	SMR	90L4		
	45	306	31,15	2,68	FG32	SMR	90L4		
	51	270	27,69	3,04	FG32	SMR	90L4	49	124
	56	246	25,22	3,34	FG32	SMR	90L4		
	64	215	21,90	3,81	FG32	SMR	90L4		
	73	188	19,17	4,35	FG32	SMR	90L4		
	40	344	34,78	1,90	FG32	SMB	90L4		
	44	313	31,65	2,12	FG32	SMB	90L4		
	49	281	28,81	2,35	FG32	SMB	90L4		
	55	250	25,41	2,63	FG32	SMB	90L4		
	61	226	23,07	2,88	FG32	SMB	90L4		
	67	205	21,09	3,16	FG32	SMB	90L4		
	71	194	19,91	3,33	FG32	SMR	90L4		
	81	170	17,39	3,79	FG32	SMR	90L4		
	91	151	15,46	4,25	FG32	SMR	90L4		
	32	430	44,18	0,98	FG22	SMB	90L4	34	122
	35	393	40,03	1,07	FG22	SMB	90L4		



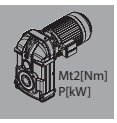


P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
1,50	40	344	35,18	1,22		FG22	SMB	90L4		
	46	299	30,68	1,40		FG22	SMB	90L4		
	50	275	28,30	1,53		FG22	SMB	90L4		
	54	255	26,18	1,65		FG22	SMR	90L4		
	62	222	22,58	1,89		FG22	SMR	90L4		
	65	212	21,52	1,98		FG22	SMR	90L4		
	73	188	19,29	2,23		FG22	SMR	90L4		
	85	162	16,47	2,59		FG22	SMR	90L4		
	99	139	14,15	3,02		FG22	SMR	90L4		
	115	120	12,21	3,51		FG22	SMR	90L4		
	140	98	10,06	4,27		FG22	SMR	90L4	34	122
	51	270	27,53	1,17		FG22	SMB	90L4		
	56	246	25,19	1,28		FG22	SMB	90L4		
	59	233	23,68	1,35		FG22	SMB	90L4		
	74	186	18,86	1,68		FG22	SMB	90L4		
	93	148	15,17	2,10		FG22	SMB	90L4		
	100	138	14,04	2,25		FG22	SMR	90L4		
	116	119	12,11	2,58		FG22	SMR	90L4		
	122	113	11,54	2,70		FG22	SMR	90L4		
	136	101	10,34	3,00		FG22	SMR	90L4		
	159	87	8,83	3,47		FG22	SMR	90L4		
	185	74	7,59	3,98		FG22	SMR	90L4		
	69	199	20,26	1,05		FG12	SMR	90L4		
	77	179	18,24	1,18		FG12	SMR	90L4		
	83	166	16,92	1,27		FG12	SMR	90L4		
	97	142	14,56	1,48		FG12	SMR	90L4		
	116	119	12,11	1,77		FG12	SMR	90L4		
	131	105	10,73	2,00		FG12	SMR	90L4		
	140	98	10,02	1,02		FG12	SMB	90L4		
	162	85	8,65	1,17		FG12	SMB	90L4	29	120
	182	76	7,71	1,28		FG12	SMB	90L4		
	204	67	6,88	1,41		FG12	SMR	90L4		
	227	61	6,19	1,52		FG12	SMR	90L4		
	245	56	5,74	1,58		FG12	SMR	90L4		
	284	48	4,94	1,73		FG12	SMR	90L4		
	342	40	4,11	1,89		FG12	SMR	90L4		
	386	36	3,64	1,96		FG12	SMR	90L4		
2,20	1,5	12661	962,70	1,07		FG85	SMR	100L4	530	158
	1,8	10551	793,23	1,28		FG85	SMR	100L4		
	1,6	12112	886,86	1,11		FG84	SMB	100L4		
	1,9	10199	760,01	1,32		FG84	SMB	100L4		
	2	9689	694,93	1,39		FG84	SMB	100L4		
	2,3	8426	616,61	1,60		FG84	SMB	100L4		
	2,6	7453	548,50	1,81		FG84	SMB	100L4	526	156
	2,7	7177	516,23	1,88		FG84	SMB	100L4		
	3	6460	469,90	2,09		FG84	SMB	100L4		
	3,3	5872	421,59	2,30		FG84	SMR	100L4		
	3,7	5238	382,39	2,58		FG84	SMR	100L4		

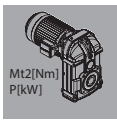
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
2,20	4	4845	353,21	2,79	FG84	SMR	100L4		
	4,5	4306	311,38	3,13	FG84	SMR	100L4		
	5,1	3800	276,82	3,55	FG84	SMR	100L4	526	156
	5,7	3400	246,38	3,97	FG84	SMR	100L4		
	6	3230	234,95	4,18	FG84	SMR	100L4		
	2,6	7453	547,12	1,10	FG74	SMR	100L4		
	3	6460	471,98	1,27	FG74	SMR	100L4	344	152
	3,6	5383	388,90	1,52	FG73	SMR	100L4		
	3,2	6180	434,80	1,33	FG73	SMB	100L4		
	3,8	5204	372,61	1,58	FG73	SMB	100L4		
	4,1	4823	340,70	1,70	FG73	SMB	100L4		
	4,7	4207	302,30	1,95	FG73	SMB	100L4		
	5,2	3803	268,91	2,16	FG73	SMB	100L4		
	5,6	3531	253,09	2,32	FG73	SMB	100L4	341	150
	6,1	3242	230,38	2,53	FG73	SMB	100L4		
	6,8	2908	206,69	2,82	FG73	SMR	100L4		
	7,5	2637	187,47	3,11	FG73	SMR	100L4		
	8,1	2441	173,17	3,36	FG73	SMR	100L4		
	9,2	2149	152,66	3,82	FG73	SMR	100L4		
	10	1977	135,72	4,15	FG73	SMR	100L4		
	4,1	4823	341,61	1,02	FG63	SMB	100L4		
	4,6	4299	307,71	1,14	FG63	SMB	100L4		
	5,3	3731	268,21	1,31	FG63	SMB	100L4		
	5,6	3531	252,43	1,39	FG63	SMB	100L4		
	6,1	3242	232,86	1,51	FG63	SMB	100L4		
	6,7	2951	209,58	1,66	FG63	SMR	100L4		
	7,5	2637	188,51	1,86	FG63	SMR	100L4	227	144
	8	2472	175,96	1,98	FG63	SMR	100L4		
	9,1	2173	154,45	2,25	FG63	SMR	100L4		
	10	1977	136,68	2,48	FG63	SMR	100L4		
	12	1648	115,15	2,97	FG63	SMR	100L4		
	14	1412	98,08	3,47	FG63	SMR	100L4		
	17	1163	84,20	4,21	FG63	SMR	100L4		
	7,1	2785	197,59	1,04	FG53	SMR	100L4		
	7,5	2637	188,34	1,10	FG53	SMR	100L4		
	8,4	2354	168,75	1,23	FG53	SMR	100L4		
	9,8	2018	144,11	1,44	FG53	SMR	100L4	123	138
	11	1798	123,81	1,61	FG53	SMR	100L4		
	13	1521	106,81	1,91	FG53	SMR	100L4		
	16	1236	88,00	2,35	FG53	SMR	100L4		
	14	1441	98,39	1,68	FG52	SMB	100L4		
	17	1187	84,32	2,44	FG52	SMB	100L4		
	18	1121	77,10	2,59	FG52	SMB	100L4		
	21	961	68,41	3,02	FG52	SMB	100L4	122	136
	23	877	60,85	3,31	FG52	SMB	100L4		
	25	807	57,27	3,59	FG52	SMB	100L4		
	27	747	52,13	3,88	FG52	SMB	100L4		
	30	673	46,77	4,31	FG52	SMR	100L4		



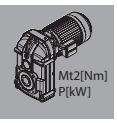
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
2,20	34	593	41,74	3,97	FG52	SMB	100L4	122	136
	13	1521	105,86	1,02	FG43	SMR	100L4		
	15	1318	91,32	1,18	FG43	SMR	100L4	80	132
	19	1041	75,25	1,49	FG43	SMR	100L4		
	16	1261	89,52	1,23	FG42	SMB	100L4		
	17	1187	81,93	1,31	FG42	SMB	100L4		
	19	1062	75,42	1,46	FG42	SMB	100L4		
	20	1009	68,86	1,54	FG42	SMB	100L4		
	22	917	62,86	1,69	FG42	SMB	100L4		
	25	807	56,62	1,92	FG42	SMB	100L4		
	29	696	49,35	2,23	FG42	SMB	100L4		
	30	673	46,45	2,30	FG42	SMB	100L4		
	33	611	42,85	2,53	FG42	SMB	100L4		
	37	545	38,56	2,84	FG42	SMR	100L4		
	41	492	34,69	3,15	FG42	SMR	100L4	78	130
	44	459	32,38	3,38	FG42	SMR	100L4		
	50	404	28,42	3,84	FG42	SMR	100L4		
	56	360	25,15	4,30	FG42	SMR	100L4		
	28	721	50,92	1,26	FG42	SMB	100L4		
	36	561	39,17	1,94	FG42	SMB	100L4		
	39	517	35,75	2,26	FG42	SMB	100L4		
	53	381	26,42	3,23	FG42	SMB	100L4		
	58	348	24,37	3,51	FG42	SMB	100L4		
	64	315	21,93	3,86	FG42	SMR	100L4		
	71	284	19,73	4,27	FG42	SMR	100L4		
	25	807	56,70	1,02	FG32	SMB	100L4		
	27	747	51,60	1,10	FG32	SMB	100L4		
	31	651	45,52	1,26	FG32	SMB	100L4		
	34	593	41,33	1,38	FG32	SMB	100L4		
	37	545	37,77	1,50	FG32	SMB	100L4		
	40	504	35,67	1,63	FG32	SMB	100L4		
	45	448	31,15	1,83	FG32	SMR	100L4		
	51	396	27,69	2,07	FG32	SMR	100L4		
	56	360	25,22	2,28	FG32	SMR	100L4		
	64	315	21,90	2,60	FG32	SMR	100L4		
	74	273	19,17	3,01	FG32	SMR	100L4		
	89	227	15,85	3,62	FG32	SMR	100L4	54	126
	107	189	13,22	4,35	FG32	SMR	100L4		
	41	492	34,78	1,32	FG32	SMB	100L4		
	49	412	28,81	1,61	FG32	SMB	100L4		
	55	367	25,41	1,79	FG32	SMB	100L4		
	61	331	23,07	1,97	FG32	SMB	100L4		
	67	301	21,09	2,15	FG32	SMB	100L4		
	71	284	19,91	2,27	FG32	SMB	100L4		
	81	249	17,39	2,59	FG32	SMR	100L4		
	91	222	15,46	2,90	FG32	SMR	100L4		
	100	202	14,08	3,18	FG32	SMR	100L4		
	115	175	12,23	3,64	FG32	SMR	100L4		



P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
2,20	132	153	10,70	4,14	FG32	SMR	100L4	54	126
	46	439	30,68	0,96	FG22	SMB	100L4		
	50	404	28,30	1,04	FG22	SMB	100L4		
	54	374	26,18	1,12	FG22	SMB	100L4		
	62	325	22,58	1,29	FG22	SMR	100L4		
	66	306	21,52	1,37	FG22	SMR	100L4		
	73	276	19,29	1,52	FG22	SMR	100L4		
	86	235	16,47	1,79	FG22	SMR	100L4		
	100	202	14,15	2,08	FG22	SMR	100L4		
	116	174	12,21	2,41	FG22	SMR	100L4	39	122
	140	144	10,06	2,91	FG22	SMR	100L4		
	75	269	18,86	1,16	FG22	SMB	100L4		
	93	217	15,17	1,43	FG22	SMB	100L4		
	122	165	11,54	1,84	FG22	SMR	100L4		
	136	148	10,34	2,04	FG22	SMR	100L4		
	160	126	8,83	2,38	FG22	SMR	100L4		
	186	108	7,59	2,73	FG22	SMR	100L4		
	215	94	6,54	3,11	FG22	SMR	100L4		
	262	77	5,39	3,58	FG22	SMR	100L4		
3,00	1,9	13908	760,01	0,97	FG84	SMB	100Ld4		
	2	13213	694,93	1,02	FG84	SMB	100Ld4		
	2,3	11489	616,61	1,17	FG84	SMB	100Ld4		
	2,6	10164	548,50	1,33	FG84	SMB	100Ld4		
	2,7	9787	516,23	1,38	FG84	SMB	100Ld4		
	3	8809	469,90	1,53	FG84	SMB	100Ld4		
	3,3	8008	421,59	1,69	FG84	SMR	100Ld4		
	3,7	7142	382,39	1,89	FG84	SMR	100Ld4	528	156
	4	6606	353,21	2,04	FG84	SMR	100Ld4		
	4,5	5872	311,38	2,30	FG84	SMR	100Ld4		
	5,1	5182	276,82	2,61	FG84	SMR	100Ld4		
	5,7	4636	246,38	2,91	FG84	SMR	100Ld4		
	6	4404	234,95	3,07	FG84	SMR	100Ld4		
	7	3775	201,75	3,58	FG84	SMR	100Ld4		
	8,1	3262	174,77	4,14	FG84	SMR	100Ld4		
	3,6	7341	388,90	1,12	FG74	SMR	100Ld4	346	152
	3,2	8427	434,80	0,97	FG73	SMB	100Ld4		
	3,8	7096	372,61	1,16	FG73	SMB	100Ld4		
	4,1	6577	340,70	1,25	FG73	SMB	100Ld4		
	4,7	5737	302,30	1,43	FG73	SMB	100Ld4		
	5,2	5186	268,91	1,58	FG73	SMB	100Ld4		
	5,6	4815	253,09	1,70	FG73	SMB	100Ld4		
	6,1	4421	230,38	1,85	FG73	SMB	100Ld4	343	150
	6,8	3965	206,69	2,07	FG73	SMR	100Ld4		
	7,5	3595	187,47	2,28	FG73	SMR	100Ld4		
	8,1	3329	173,17	2,46	FG73	SMR	100Ld4		
	9,2	2931	152,66	2,80	FG73	SMR	100Ld4		
	10	2697	135,72	3,04	FG73	SMR	100Ld4		
	12	2247	120,79	3,65	FG73	SMR	100Ld4		

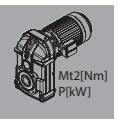


P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
3,00	14	1926	98,91	4,26	FG73	SMR	100Ld4	343	150
	5,3	5088	268,21	0,96	FG63	SMB	100Ld4		
	5,6	4815	252,43	1,02	FG63	SMB	100Ld4		
	6,1	4421	232,86	1,11	FG63	SMB	100Ld4		
	6,7	4025	209,58	1,22	FG63	SMR	100Ld4		
	7,5	3595	188,51	1,36	FG63	SMR	100Ld4		
	8	3371	175,96	1,45	FG63	SMR	100Ld4		
	9,1	2963	154,45	1,65	FG63	SMR	100Ld4	229	144
	10	2697	136,68	1,82	FG63	SMR	100Ld4		
	12	2247	115,15	2,18	FG63	SMR	100Ld4		
	14	1926	98,08	2,54	FG63	SMR	100Ld4		
	17	1586	84,20	3,09	FG63	SMR	100Ld4		
	19	1419	72,71	3,45	FG63	SMR	100Ld4		
	22	1226	63,03	4,00	FG63	SMR	100Ld4		
	9,8	2752	144,11	1,05	FG53	SMR	100Ld4		
	11	2451	123,81	1,18	FG53	SMR	100Ld4	125	138
	13	2074	106,81	1,40	FG53	SMR	100Ld4		
	16	1685	88,00	1,72	FG53	SMR	100Ld4		
	14	1965	98,39	1,23	FG52	SMB	100Ld4		
	17	1619	84,32	1,79	FG52	SMB	100Ld4		
	18	1529	77,10	1,90	FG52	SMB	100Ld4		
	21	1310	68,41	2,21	FG52	SMB	100Ld4		
	23	1196	60,85	2,42	FG52	SMB	100Ld4		
	25	1101	57,27	2,63	FG52	SMB	100Ld4		
	27	1019	52,13	2,85	FG52	SMB	100Ld4		
	30	917	46,77	3,16	FG52	SMR	100Ld4		
	33	834	42,42	3,48	FG52	SMR	100Ld4	124	136
	36	764	39,19	3,79	FG52	SMR	100Ld4		
	41	671	34,55	4,32	FG52	SMR	100Ld4		
	34	809	41,74	2,91	FG52	SMB	100Ld4		
	38	724	37,13	3,39	FG52	SMB	100Ld4		
	40	688	34,94	3,63	FG52	SMB	100Ld4		
	44	625	31,81	3,98	FG52	SMB	100Ld4		
	49	562	28,54	4,37	FG52	SMR	100Ld4		
	19	1419	75,25	1,09	FG43	SMR	100Ld4	82	132
	17	1619	81,93	0,96	FG42	SMB	100Ld4		
	19	1448	75,42	1,07	FG42	SMB	100Ld4		
	20	1376	68,86	1,13	FG42	SMB	100Ld4		
	22	1251	62,86	1,24	FG42	SMB	100Ld4		
	25	1101	56,62	1,41	FG42	SMB	100Ld4		
	29	949	49,35	1,63	FG42	SMB	100Ld4		
	30	917	46,45	1,69	FG42	SMB	100Ld4	80	130
	33	834	42,85	1,86	FG42	SMB	100Ld4		
	37	744	38,56	2,08	FG42	SMR	100Ld4		
	41	671	34,69	2,31	FG42	SMR	100Ld4		
	44	625	32,38	2,48	FG42	SMR	100Ld4		
	50	550	28,42	2,82	FG42	SMR	100Ld4		
	56	491	25,15	3,15	FG42	SMR	100Ld4		

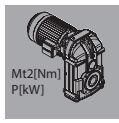


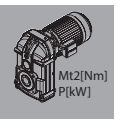
P	n_2	Mt_2	i	f_B				m	
[kW]	[min^{-1}]	[Nm]						[kg]	
3,00	67	411	21,19	3,77	FG42	SMR	100Ld4		
	78	353	18,05	4,39	FG42	SMR	100Ld4		
	36	764	39,17	1,42	FG42	SMB	100Ld4		
	39	706	35,75	1,66	FG42	SMB	100Ld4		
	53	519	26,42	2,37	FG42	SMB	100Ld4		
	58	474	24,37	2,57	FG42	SMB	100Ld4	80	130
	64	430	21,93	2,83	FG42	SMR	100Ld4		
	71	388	19,73	3,13	FG42	SMR	100Ld4		
	77	357	18,42	3,39	FG42	SMR	100Ld4		
	87	316	16,16	3,81	FG42	SMR	100Ld4		
	99	278	14,30	4,31	FG42	SMR	100Ld4		
	34	809	41,33	1,01	FG32	SMB	100Ld4		
	37	744	37,77	1,10	FG32	SMB	100Ld4		
	40	688	35,67	1,19	FG32	SMB	100Ld4		
	45	611	31,15	1,34	FG32	SMR	100Ld4		
	51	540	27,69	1,52	FG32	SMR	100Ld4		
	56	491	25,22	1,67	FG32	SMR	100Ld4		
	64	430	21,90	1,91	FG32	SMR	100Ld4		
	74	372	19,17	2,21	FG32	SMR	100Ld4		
	89	309	15,85	2,65	FG32	SMR	100Ld4		
	107	257	13,22	3,19	FG32	SMR	100Ld4		
	127	217	11,08	3,78	FG32	SMR	100Ld4		
	143	192	9,86	4,26	FG32	SMR	100Ld4		
	41	671	34,78	0,97	FG32	SMB	100Ld4	56	126
	49	562	28,81	1,18	FG32	SMB	100Ld4		
	55	500	25,41	1,31	FG32	SMB	100Ld4		
	61	451	23,07	1,44	FG32	SMB	100Ld4		
	67	411	21,09	1,58	FG32	SMB	100Ld4		
	71	388	19,91	1,67	FG32	SMB	100Ld4		
	81	340	17,39	1,90	FG32	SMR	100Ld4		
	91	302	15,46	2,13	FG32	SMR	100Ld4		
	100	275	14,08	2,33	FG32	SMR	100Ld4		
	115	239	12,23	2,67	FG32	SMR	100Ld4		
	132	208	10,70	3,04	FG32	SMR	100Ld4		
	159	173	8,85	3,61	FG32	SMR	100Ld4		
	191	144	7,38	4,26	FG32	SMR	100Ld4		
	66	417	21,52	1,01	FG22	SMR	100Ld4		
	73	377	19,29	1,11	FG22	SMR	100Ld4		
	86	320	16,47	1,31	FG22	SMR	100Ld4		
	100	275	14,15	1,53	FG22	SMR	100Ld4		
	116	237	12,21	1,77	FG22	SMR	100Ld4		
	140	197	10,06	2,14	FG22	SMR	100Ld4	41	122
	93	296	15,17	1,05	FG22	SMB	100Ld4		
	122	226	11,54	1,35	FG22	SMR	100Ld4		
	136	202	10,34	1,50	FG22	SMR	100Ld4		
	160	172	8,83	1,74	FG22	SMR	100Ld4		
	186	148	7,59	2,00	FG22	SMR	100Ld4		
	215	128	6,54	2,28	FG22	SMR	100Ld4		

P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
3,00	262	105	5,39	2,63	FG22	SMR	100Ld4	41	122
4,00	2,6	13552	548,50	1,00	FG84	SMB	112M4		
	2,8	12584	516,23	1,07	FG84	SMB	112M4		
	3	11745	469,90	1,15	FG84	SMB	112M4		
	3,4	10363	421,59	1,30	FG84	SMR	112M4		
	3,7	9523	382,39	1,42	FG84	SMR	112M4		
	4	8809	353,21	1,53	FG84	SMR	112M4		
	4,6	7660	311,38	1,76	FG84	SMR	112M4	533	156
	5,1	6909	276,82	1,95	FG84	SMR	112M4		
	5,8	6075	246,38	2,22	FG84	SMR	112M4		
	6	5872	234,95	2,30	FG84	SMR	112M4		
	7	5033	201,75	2,68	FG84	SMR	112M4		
	8,1	4350	174,77	3,10	FG84	SMR	112M4		
	9	3915	157,33	3,45	FG84	SMR	112M4		
	11	3203	133,59	4,21	FG84	SMR	112M4		
	4,2	8560	340,70	0,96	FG73	SMB	112M4		
	4,7	7650	302,30	1,07	FG73	SMB	112M4		
	5,3	6784	268,91	1,21	FG73	SMB	112M4		
	5,6	6420	253,09	1,28	FG73	SMB	112M4		
	6,2	5799	230,38	1,41	FG73	SMB	112M4		
	6,9	5211	206,69	1,57	FG73	SMR	112M4		
	7,6	4731	187,47	1,73	FG73	SMR	112M4	348	150
	8,2	4385	173,17	1,87	FG73	SMR	112M4		
	9,3	3866	152,66	2,12	FG73	SMR	112M4		
	10	3595	135,72	2,28	FG73	SMR	112M4		
	12	2996	120,79	2,74	FG73	SMR	112M4		
	14	2568	98,91	3,19	FG73	SMR	112M4		
	17	2115	85,68	3,88	FG73	SMR	112M4		
	18	1997	77,13	4,11	FG73	SMR	112M4		
	7,5	4794	188,51	1,02	FG63	SMR	112M4		
	8,1	4439	175,96	1,10	FG63	SMR	112M4		
	9,2	3908	154,45	1,25	FG63	SMR	112M4		
	10	3595	136,68	1,36	FG63	SMR	112M4		
	12	2996	115,15	1,64	FG63	SMR	112M4	234	144
	14	2568	98,08	1,91	FG63	SMR	112M4		
	17	2115	84,20	2,32	FG63	SMR	112M4		
	20	1798	72,71	2,73	FG63	SMR	112M4		
	23	1563	63,03	3,13	FG63	SMR	112M4		
	27	1332	52,27	3,68	FG63	SMR	112M4		
	13	2766	106,81	1,05	FG53	SMR	112M4	130	138
	16	2247	88,00	1,29	FG53	SMR	112M4		
	17	2158	84,32	1,34	FG52	SMB	112M4		
	18	2038	77,10	1,42	FG52	SMB	112M4		
	21	1747	68,41	1,66	FG52	SMB	112M4		
	23	1595	60,85	1,82	FG52	SMB	112M4	129	136
	25	1467	57,27	1,98	FG52	SMB	112M4		
	27	1359	52,13	2,13	FG52	SMB	112M4		
	30	1223	46,77	2,37	FG52	SMR	112M4		



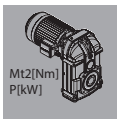
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
4,00	33	1112	42,42	2,61	FG52	SMR	112M4		
	36	1019	39,19	2,85	FG52	SMR	112M4		
	41	895	34,55	3,24	FG52	SMR	112M4		
	46	798	30,71	3,64	FG52	SMR	112M4		
	52	706	27,33	4,11	FG52	SMR	112M4		
	54	679	26,07	4,27	FG52	SMR	112M4		
	24	1529	60,03	0,96	FG52	SMB	112M4		
	28	1310	51,44	1,41	FG52	SMB	112M4	129	136
	34	1079	41,74	2,18	FG52	SMB	112M4		
	38	965	37,13	2,54	FG52	SMB	112M4		
	45	815	31,81	3,06	FG52	SMB	112M4		
	50	734	28,54	3,35	FG52	SMR	112M4		
	55	667	25,88	3,65	FG52	SMR	112M4		
	59	622	23,91	3,89	FG52	SMR	112M4		
	67	548	21,08	4,40	FG52	SMR	112M4		
	23	1595	62,86	0,97	FG42	SMB	112M4		
	25	1467	56,62	1,06	FG42	SMB	112M4		
	29	1265	49,35	1,23	FG42	SMB	112M4		
	31	1183	46,45	1,31	FG42	SMB	112M4		
	33	1112	42,85	1,39	FG42	SMB	112M4		
	37	992	38,56	1,56	FG42	SMR	112M4		
	41	895	34,69	1,73	FG42	SMR	112M4		
	44	834	32,38	1,86	FG42	SMR	112M4		
	50	734	28,42	2,11	FG42	SMR	112M4		
	56	655	25,15	2,37	FG42	SMR	112M4		
	67	548	21,19	2,83	FG42	SMR	112M4		
	79	464	18,05	3,34	FG42	SMR	112M4		
	92	399	15,49	3,89	FG42	SMR	112M4	85	130
	106	346	13,38	4,48	FG42	SMR	112M4		
	36	1019	39,17	1,07	FG42	SMB	112M4		
	40	917	35,75	1,28	FG42	SMB	112M4		
	51	719	28,07	1,72	FG42	SMB	112M4		
	54	679	26,42	1,81	FG42	SMB	112M4		
	58	633	24,37	1,93	FG42	SMB	112M4		
	65	564	21,93	2,16	FG42	SMR	112M4		
	72	510	19,73	2,38	FG42	SMR	112M4		
	77	476	18,42	2,54	FG42	SMR	112M4		
	88	417	16,16	2,89	FG42	SMR	112M4		
	99	371	14,30	3,24	FG42	SMR	112M4		
	118	311	12,05	3,83	FG42	SMR	112M4		
	138	266	10,26	4,43	FG42	SMR	112M4		
	46	798	31,15	1,03	FG32	SMR	112M4		
	51	719	27,69	1,14	FG32	SMR	112M4		
	56	655	25,22	1,25	FG32	SMR	112M4		
	65	564	21,90	1,45	FG32	SMR	112M4	61	126
	74	496	19,17	1,65	FG32	SMR	112M4		
	90	408	15,85	2,01	FG32	SMR	112M4		
	107	343	13,22	2,39	FG32	SMR	112M4		





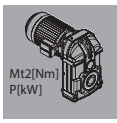
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
4,00	128	287	11,08	2,86	FG32	SMR	112M4		
	144	255	9,86	3,22	FG32	SMR	112M4		
	62	592	23,07	1,10	FG32	SMB	112M4		
	67	548	21,09	1,18	FG32	SMB	112M4		
	71	517	19,91	1,25	FG32	SMB	112M4		
	82	447	17,39	1,44	FG32	SMR	112M4		
	92	399	15,46	1,61	FG32	SMR	112M4	61	126
	101	363	14,08	1,77	FG32	SMR	112M4		
	116	316	12,23	2,02	FG32	SMR	112M4		
	133	276	10,70	2,29	FG32	SMR	112M4		
	160	229	8,85	2,72	FG32	SMR	112M4		
	192	191	7,38	3,21	FG32	SMR	112M4		
	230	160	6,19	3,81	FG32	SMR	112M4		
	258	142	5,50	4,25	FG32	SMR	112M4		
5,50	3,8	12749	382,39	1,06	FG84	SMB	132S4		
	4,1	11816	353,21	1,14	FG84	SMB	132S4		
	4,7	10308	311,38	1,31	FG84	SMR	132S4		
	5,2	9317	276,82	1,45	FG84	SMR	132S4		
	5,9	8211	246,38	1,64	FG84	SMR	132S4		
	6,2	7814	234,95	1,73	FG84	SMR	132S4	558	156
	7,2	6729	201,75	2,01	FG84	SMR	132S4		
	8,3	5837	174,77	2,31	FG84	SMR	132S4		
	9,2	5266	157,33	2,56	FG84	SMR	132S4		
	11	4404	133,59	3,07	FG84	SMR	132S4		
	13	3727	112,67	3,62	FG84	SMR	132S4		
	15	3230	99,13	4,18	FG84	SMR	132S4		
	8,5	5816	170,73	2,32	FG83	SMB	132S4		
	9,3	5316	156,36	2,54	FG83	SMB	132S4		
	10	4944	140,35	2,73	FG83	SMB	132S4		
	11	4494	126,12	3,00	FG83	SMB	132S4	531	154
	13	3803	114,27	3,55	FG83	SMB	132S4		
	14	3531	104,24	3,82	FG83	SMB	132S4		
	15	3296	95,64	4,10	FG83	SMB	132S4		
	6,3	7847	230,38	1,04	FG73	SMB	132S4		
	7	7062	206,69	1,16	FG73	SMB	132S4		
	7,7	6420	187,47	1,28	FG73	SMB	132S4		
	8,4	5885	173,17	1,39	FG73	SMB	132S4		
	9,5	5204	152,66	1,58	FG73	SMR	132S4		
	11	4494	135,72	1,82	FG73	SMR	132S4		
	12	4120	120,79	1,99	FG73	SMR	132S4	373	150
	13	3803	115,19	2,16	FG73	SMR	132S4		
	15	3296	98,91	2,49	FG73	SMR	132S4		
	17	2908	85,68	2,82	FG73	SMR	132S4		
	19	2602	77,13	3,15	FG73	SMR	132S4		
	22	2247	65,49	3,65	FG73	SMR	132S4		
	26	1901	55,24	4,31	FG73	SMR	132S4		
	17	2967	83,70	2,58	FG72	SMB	132S4	346	148
	19	2655	76,66	3,09	FG72	SMB	132S4		

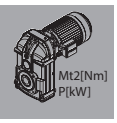
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
5,50	21	2402	68,81	3,41	FG72	SMB	132S4		
	23	2193	61,83	3,74	FG72	SMB	132S4		
	26	1940	56,02	4,23	FG72	SMB	132S4		
	37	1363	38,81	2,60	FG72	SMB	132S4	346	148
	41	1230	35,54	3,42	FG72	SMB	132S4		
	45	1121	31,90	4,07	FG72	SMB	132S4		
	11	4494	136,68	1,09	FG63	SMR	132S4		
	13	3803	115,15	1,29	FG63	SMR	132S4		
	15	3296	98,08	1,49	FG63	SMR	132S4		
	17	2908	84,20	1,69	FG63	SMR	132S4	259	144
	20	2472	72,71	1,98	FG63	SMR	132S4		
	23	2149	63,03	2,28	FG63	SMR	132S4		
	28	1766	52,27	2,78	FG63	SMR	132S4		
	15	3363	99,71	1,20	FG62	SMB	132S4		
	16	3153	89,08	1,55	FG62	SMB	132S4		
	19	2655	75,05	1,85	FG62	SMB	132S4		
	21	2402	68,63	2,04	FG62	SMB	132S4		
	24	2102	61,44	2,33	FG62	SMB	132S4		
	26	1940	55,09	2,53	FG62	SMB	132S4		
	29	1739	49,80	2,82	FG62	SMB	132S4		
	32	1576	45,32	3,11	FG62	SMB	132S4		
	35	1441	41,48	3,40	FG62	SMB	132S4	248	142
	41	1230	35,24	3,98	FG62	SMR	132S4		
	44	1146	32,68	4,27	FG62	SMR	132S4		
	33	1529	44,42	1,17	FG62	SMB	132S4		
	37	1363	39,69	1,64	FG62	SMB	132S4		
	43	1173	33,44	2,32	FG62	SMB	132S4		
	47	1073	30,58	2,71	FG62	SMB	132S4		
	53	952	27,38	3,29	FG62	SMB	132S4		
	59	855	24,55	4,12	FG62	SMB	132S4		
	17	2967	84,32	0,98	FG52	SMB	132S4		
	19	2655	77,10	1,09	FG52	SMB	132S4		
	21	2402	68,41	1,21	FG52	SMB	132S4		
	24	2102	60,85	1,38	FG52	SMB	132S4		
	25	2018	57,27	1,44	FG52	SMB	132S4		
	28	1802	52,13	1,61	FG52	SMB	132S4		
	31	1627	46,77	1,78	FG52	SMB	132S4		
	34	1484	42,42	1,95	FG52	SMB	132S4		
	37	1363	39,19	2,13	FG52	SMB	132S4	154	136
	42	1201	34,55	2,41	FG52	SMR	132S4		
	47	1073	30,71	2,70	FG52	SMR	132S4		
	53	952	27,33	3,05	FG52	SMR	132S4		
	56	901	26,07	3,22	FG52	SMR	132S4		
	65	776	22,38	3,74	FG52	SMR	132S4		
	75	673	19,39	4,31	FG52	SMR	132S4		
	35	1441	41,74	1,63	FG52	SMB	132S4		
	39	1293	37,13	1,90	FG52	SMB	132S4		
	41	1230	34,94	2,03	FG52	SMB	132S4		



P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
5,50	46	1097	31,81	2,27	FG52	SMB	132S4		
	51	989	28,54	2,48	FG52	SMB	132S4		
	61	827	23,91	2,93	FG52	SMB	132S4		
	69	731	21,08	3,30	FG52	SMR	132S4	154	136
	77	655	18,74	3,66	FG52	SMR	132S4		
	87	580	16,68	4,12	FG52	SMR	132S4		
	91	554	15,90	4,30	FG52	SMR	132S4		
	31	1627	46,45	0,95	FG42	SMB	132S4		
	34	1484	42,85	1,04	FG42	SMB	132S4		
	38	1328	38,56	1,17	FG42	SMB	132S4		
	42	1201	34,69	1,29	FG42	SMB	132S4		
	45	1121	32,38	1,38	FG42	SMB	132S4		
	51	989	28,42	1,57	FG42	SMR	132S4		
	58	870	25,15	1,78	FG42	SMR	132S4		
	68	742	21,19	2,09	FG42	SMR	132S4		
	80	631	18,05	2,46	FG42	SMR	132S4		
	94	537	15,49	2,89	FG42	SMR	132S4		
	108	467	13,38	3,32	FG42	SMR	132S4		
	125	404	11,60	3,84	FG42	SMR	132S4	110	130
	52	970	28,07	1,28	FG42	SMB	132S4		
	55	917	26,42	1,34	FG42	SMB	132S4		
	59	855	24,37	1,43	FG42	SMB	132S4		
	66	764	21,93	1,59	FG42	SMB	132S4		
	73	691	19,73	1,76	FG42	SMB	132S4		
	79	639	18,42	1,89	FG42	SMB	132S4		
	90	561	16,16	2,15	FG42	SMR	132S4		
	101	499	14,30	2,40	FG42	SMR	132S4		
	120	420	12,05	2,83	FG42	SMR	132S4		
	141	358	10,26	3,30	FG42	SMR	132S4		
	165	306	8,81	3,82	FG42	SMR	132S4		
	191	264	7,61	4,37	FG42	SMR	132S4		
	66	764	21,90	1,07	FG32	SMR	132S4		
	76	664	19,17	1,24	FG32	SMR	132S4		
	91	554	15,85	1,48	FG32	SMR	132S4		
	110	459	13,22	1,79	FG32	SMR	132S4		
	131	385	11,08	2,13	FG32	SMR	132S4		
	147	343	9,86	2,39	FG32	SMR	132S4		
	83	608	17,39	1,06	FG32	SMB	132S4		
	94	537	15,46	1,20	FG32	SMB	132S4	86	126
	103	490	14,08	1,31	FG32	SMB	132S4		
	119	424	12,23	1,51	FG32	SMR	132S4		
	136	371	10,70	1,71	FG32	SMR	132S4		
	164	308	8,85	2,03	FG32	SMR	132S4		
	196	257	7,38	2,38	FG32	SMR	132S4		
	234	216	6,19	2,82	FG32	SMR	132S4		
	263	192	5,50	3,15	FG32	SMR	132S4		
7,50	4,7	14056	311,38	0,96	FG84	SMR	132M4	569	156
	5,2	12705	276,82	1,06	FG84	SMR	132M4		

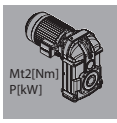
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
7,50	5,9	11197	246,38	1,21	FG84	SMR	132M4		
	6,2	10656	234,95	1,27	FG84	SMR	132M4		
	7,2	9176	201,75	1,47	FG84	SMR	132M4		
	8,3	7960	174,77	1,70	FG84	SMR	132M4		
	9,2	7181	157,33	1,88	FG84	SMR	132M4	569	156
	11	6006	133,59	2,25	FG84	SMR	132M4		
	13	5082	112,67	2,66	FG84	SMR	132M4		
	15	4404	99,13	3,07	FG84	SMR	132M4		
	17	3886	87,83	3,47	FG84	SMR	132M4		
	8,5	7931	170,73	1,70	FG83	SMB	132M4		
	9,3	7249	156,36	1,86	FG83	SMB	132M4		
	10	6741	140,35	2,00	FG83	SMB	132M4		
	11	6128	126,12	2,20	FG83	SMB	132M4		
	13	5186	114,27	2,60	FG83	SMB	132M4	542	154
	14	4815	104,24	2,80	FG83	SMB	132M4		
	15	4494	95,64	3,00	FG83	SMB	132M4		
	18	3745	81,67	3,60	FG83	SMR	132M4		
	19	3548	75,92	3,80	FG83	SMR	132M4		
	20	3371	70,80	4,01	FG83	SMR	132M4		
	8,4	8025	173,17	1,02	FG73	SMB	132M4		
	9,5	7096	152,66	1,16	FG73	SMR	132M4		
	11	6128	135,72	1,34	FG73	SMR	132M4		
	12	5618	120,79	1,46	FG73	SMR	132M4		
	13	5186	115,19	1,58	FG73	SMR	132M4		
	15	4494	98,91	1,82	FG73	SMR	132M4	384	150
	17	3965	85,68	2,07	FG73	SMR	132M4		
	19	3548	77,13	2,31	FG73	SMR	132M4		
	22	3064	65,49	2,68	FG73	SMR	132M4		
	26	2593	55,24	3,16	FG73	SMR	132M4		
	30	2247	48,60	3,65	FG73	SMR	132M4		
	34	1983	43,06	4,14	FG73	SMR	132M4		
	17	4046	83,70	1,89	FG72	SMB	132M4		
	19	3620	76,66	2,26	FG72	SMB	132M4		
	21	3276	68,81	2,50	FG72	SMB	132M4		
	23	2991	61,83	2,74	FG72	SMB	132M4		
	26	2646	56,02	3,10	FG72	SMB	132M4		
	28	2457	51,10	3,34	FG72	SMB	132M4	357	148
	31	2219	46,89	3,70	FG72	SMB	132M4		
	36	1911	40,04	4,29	FG72	SMR	132M4		
	37	1859	38,81	1,91	FG72	SMB	132M4		
	41	1678	35,54	2,51	FG72	SMB	132M4		
	45	1529	31,90	2,98	FG72	SMB	132M4		
	51	1349	28,67	3,93	FG72	SMB	132M4		
	15	4494	98,08	1,09	FG63	SMR	132M4		
	17	3965	84,20	1,24	FG63	SMR	132M4		
	20	3371	72,71	1,45	FG63	SMR	132M4	270	144
	23	2931	63,03	1,67	FG63	SMR	132M4		
	28	2408	52,27	2,04	FG63	SMR	132M4		



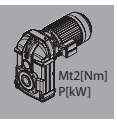


P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
7,50	16	4299	89,08	1,14	FG62	SMB	132M4		
	19	3620	75,05	1,35	FG62	SMB	132M4		
	21	3276	68,63	1,50	FG62	SMB	132M4		
	24	2866	61,44	1,71	FG62	SMB	132M4		
	26	2646	55,09	1,85	FG62	SMB	132M4		
	29	2372	49,80	2,07	FG62	SMB	132M4		
	32	2150	45,32	2,28	FG62	SMB	132M4		
	35	1965	41,48	2,49	FG62	SMB	132M4		
	41	1678	35,24	2,92	FG62	SMR	132M4		
	44	1563	32,68	3,13	FG62	SMR	132M4	259	142
	48	1433	30,39	3,42	FG62	SMR	132M4		
	55	1251	26,51	3,92	FG62	SMR	132M4		
	62	1109	23,34	4,42	FG62	SMR	132M4		
	37	1859	39,69	1,20	FG62	SMB	132M4		
	43	1600	33,44	1,70	FG62	SMB	132M4		
	47	1464	30,58	1,99	FG62	SMB	132M4		
	53	1298	27,38	2,41	FG62	SMB	132M4		
	59	1166	24,55	3,02	FG62	SMB	132M4		
	65	1058	22,19	3,64	FG62	SMB	132M4		
	72	955	20,19	4,32	FG62	SMB	132M4		
	24	2866	60,85	1,01	FG52	SMB	132M4		
	25	2752	57,27	1,05	FG52	SMB	132M4		
	28	2457	52,13	1,18	FG52	SMB	132M4		
	31	2219	46,77	1,31	FG52	SMB	132M4		
	34	2023	42,42	1,43	FG52	SMB	132M4		
	37	1859	39,19	1,56	FG52	SMB	132M4		
	42	1638	34,55	1,77	FG52	SMR	132M4		
	47	1464	30,71	1,98	FG52	SMR	132M4		
	53	1298	27,33	2,23	FG52	SMR	132M4		
	56	1228	26,07	2,36	FG52	SMR	132M4		
	65	1058	22,38	2,74	FG52	SMR	132M4		
	75	917	19,39	3,16	FG52	SMR	132M4		
	83	829	17,45	3,50	FG52	SMR	132M4		
	98	702	14,82	4,13	FG52	SMR	132M4	165	136
	35	1965	41,74	1,20	FG52	SMB	132M4		
	39	1764	37,13	1,39	FG52	SMB	132M4		
	41	1678	34,94	1,49	FG52	SMB	132M4		
	46	1495	31,81	1,67	FG52	SMB	132M4		
	51	1349	28,54	1,82	FG52	SMB	132M4		
	61	1128	23,91	2,15	FG52	SMB	132M4		
	69	997	21,08	2,42	FG52	SMR	132M4		
	77	893	18,74	2,69	FG52	SMR	132M4		
	87	791	16,68	3,02	FG52	SMR	132M4		
	91	756	15,90	3,15	FG52	SMR	132M4		
	106	649	13,66	3,64	FG52	SMR	132M4		
	123	559	11,83	4,11	FG52	SMR	132M4		
	136	506	10,65	4,45	FG52	SMR	132M4		
	45	1529	32,38	1,01	FG42	SMB	132M4	121	130

P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B					m [kg]	
7,50	51	1349	28,42	1,15		FG42	SMR	132M4		
	58	1186	25,15	1,31		FG42	SMR	132M4		
	68	1012	21,19	1,53		FG42	SMR	132M4		
	80	860	18,05	1,80		FG42	SMR	132M4		
	94	732	15,49	2,12		FG42	SMR	132M4		
	108	637	13,38	2,43		FG42	SMR	132M4		
	125	550	11,60	2,82		FG42	SMR	132M4		
	151	456	9,62	3,40		FG42	SMR	132M4		
	59	1166	24,37	1,05		FG42	SMB	132M4		
	66	1042	21,93	1,17		FG42	SMB	132M4	121	130
	73	942	19,73	1,29		FG42	SMB	132M4		
	79	871	18,42	1,39		FG42	SMB	132M4		
	90	764	16,16	1,58		FG42	SMR	132M4		
	101	681	14,30	1,76		FG42	SMR	132M4		
	120	573	12,05	2,08		FG42	SMR	132M4		
	141	488	10,26	2,42		FG42	SMR	132M4		
	165	417	8,81	2,80		FG42	SMR	132M4		
	191	360	7,61	3,21		FG42	SMR	132M4		
	220	313	6,60	3,64		FG42	SMR	132M4		
	265	260	5,47	4,19		FG42	SMR	132M4		
	91	756	15,85	1,08		FG32	SMR	132M4		
	110	625	13,22	1,31		FG32	SMR	132M4		
	131	525	11,08	1,56		FG32	SMR	132M4		
	147	468	9,86	1,75		FG32	SMR	132M4		
	119	578	12,23	1,10		FG32	SMR	132M4	97	126
	136	506	10,70	1,25		FG32	SMR	132M4		
	164	419	8,85	1,49		FG32	SMR	132M4		
	196	351	7,38	1,75		FG32	SMR	132M4		
	234	294	6,19	2,07		FG32	SMR	132M4		
	263	262	5,50	2,31		FG32	SMR	132M4		
9,20	5,8	13972	246,38	0,97		FG84	SMR	132Ma4		
	6,1	13285	234,95	1,02		FG84	SMR	132Ma4		
	7,1	11414	201,75	1,18		FG84	SMR	132Ma4		
	8,2	9883	174,77	1,37		FG84	SMR	132Ma4		
	9,2	8809	157,33	1,53		FG84	SMR	132Ma4	580	156
	11	7367	133,59	1,83		FG84	SMR	132Ma4		
	13	6234	112,67	2,17		FG84	SMR	132Ma4		
	15	5403	99,13	2,50		FG84	SMR	132Ma4		
	16	5065	87,83	2,67		FG84	SMR	132Ma4		
	8,4	9844	170,73	1,37		FG83	SMB	132Ma4		
	9,2	8988	156,36	1,50		FG83	SMB	132Ma4		
	10	8269	140,35	1,63		FG83	SMB	132Ma4		
	11	7518	126,12	1,80		FG83	SMB	132Ma4		
	13	6361	114,27	2,12		FG83	SMB	132Ma4	553	154
	14	5907	104,24	2,29		FG83	SMB	132Ma4		
	15	5513	95,64	2,45		FG83	SMB	132Ma4		
	18	4594	81,67	2,94		FG83	SMR	132Ma4		
	19	4352	75,92	3,10		FG83	SMR	132Ma4		

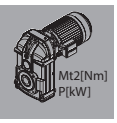


P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
9,20	20	4135	70,80	3,27	FG83	SMR	132Ma4		
	23	3595	62,11	3,75	FG83	SMR	132Ma4	553	154
	26	3181	55,00	4,24	FG83	SMR	132Ma4		
	11	7518	135,72	1,09	FG73	SMR	132Ma4		
	12	6891	120,79	1,19	FG73	SMR	132Ma4		
	13	6361	115,19	1,29	FG73	SMR	132Ma4		
	15	5513	98,91	1,49	FG73	SMR	132Ma4		
	17	4864	85,68	1,69	FG73	SMR	132Ma4		
	19	4352	77,13	1,88	FG73	SMR	132Ma4	395	150
	22	3759	65,49	2,18	FG73	SMR	132Ma4		
	26	3181	55,24	2,58	FG73	SMR	132Ma4		
	30	2756	48,60	2,97	FG73	SMR	132Ma4		
	33	2506	43,06	3,27	FG73	SMR	132Ma4		
	17	4964	83,70	1,54	FG72	SMB	132Ma4		
	19	4441	76,66	1,85	FG72	SMB	132Ma4		
	21	4018	68,81	2,04	FG72	SMB	132Ma4		
	23	3669	61,83	2,24	FG72	SMB	132Ma4		
	26	3245	56,02	2,53	FG72	SMB	132Ma4		
	28	3014	51,10	2,72	FG72	SMB	132Ma4		
	31	2722	46,89	3,01	FG72	SMB	132Ma4		
	36	2344	40,04	3,50	FG72	SMR	132Ma4	368	148
	39	2164	37,22	3,79	FG72	SMR	132Ma4		
	41	2058	34,71	3,98	FG72	SMR	132Ma4		
	37	2281	38,81	1,55	FG72	SMB	132Ma4		
	45	1875	31,90	2,43	FG72	SMB	132Ma4		
	50	1688	28,67	3,14	FG72	SMB	132Ma4		
	55	1534	25,97	3,84	FG72	SMB	132Ma4		
	17	4864	84,20	1,01	FG63	SMR	132Ma4		
	20	4135	72,71	1,19	FG63	SMR	132Ma4		
	23	3595	63,03	1,36	FG63	SMR	132Ma4	281	144
	28	2953	52,27	1,66	FG63	SMR	132Ma4		
	19	4441	75,05	1,10	FG62	SMB	132Ma4		
	21	4018	68,63	1,22	FG62	SMB	132Ma4		
	23	3669	61,44	1,34	FG62	SMB	132Ma4		
	26	3245	55,09	1,51	FG62	SMB	132Ma4		
	29	2910	49,80	1,68	FG62	SMB	132Ma4		
	32	2637	45,32	1,86	FG62	SMB	132Ma4		
	35	2411	41,48	2,03	FG62	SMB	132Ma4		
	41	2058	35,24	2,38	FG62	SMR	132Ma4		
	44	1918	32,68	2,56	FG62	SMR	132Ma4	270	142
	47	1795	30,39	2,73	FG62	SMR	132Ma4		
	54	1563	26,51	3,14	FG62	SMR	132Ma4		
	62	1361	23,34	3,60	FG62	SMR	132Ma4		
	70	1205	20,69	4,06	FG62	SMR	132Ma4		
	43	1962	33,44	1,39	FG62	SMB	132Ma4		
	53	1592	27,38	1,97	FG62	SMB	132Ma4		
	59	1430	24,55	2,46	FG62	SMB	132Ma4		
	65	1298	22,19	2,96	FG62	SMB	132Ma4		

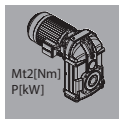


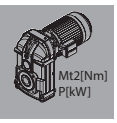
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
9,20	71	1188	20,19	3,47	FG62	SMB	132Ma4	270	142
	78	1082	18,48	4,01	FG62	SMB	132Ma4		
	28	3014	52,13	0,96	FG52	SMB	132Ma4		
	31	2722	46,77	1,07	FG52	SMB	132Ma4		
	34	2482	42,42	1,17	FG52	SMB	132Ma4		
	37	2281	39,19	1,27	FG52	SMB	132Ma4		
	42	2009	34,55	1,44	FG52	SMR	132Ma4		
	47	1795	30,71	1,62	FG52	SMR	132Ma4		
	53	1592	27,33	1,82	FG52	SMR	132Ma4		
	55	1534	26,07	1,89	FG52	SMR	132Ma4		
	64	1318	22,38	2,20	FG52	SMR	132Ma4		
	74	1140	19,39	2,54	FG52	SMR	132Ma4		
	83	1017	17,45	2,85	FG52	SMR	132Ma4		
	97	870	14,82	3,33	FG52	SMR	132Ma4		
	115	734	12,50	3,95	FG52	SMR	132Ma4		
	39	2164	37,13	1,14	FG52	SMB	132Ma4	176	136
	41	2058	34,94	1,21	FG52	SMB	132Ma4		
	45	1875	31,81	1,33	FG52	SMB	132Ma4		
	50	1688	28,54	1,46	FG52	SMB	132Ma4		
	56	1507	25,88	1,62	FG52	SMB	132Ma4		
	60	1406	23,91	1,72	FG52	SMB	132Ma4		
	68	1241	21,08	1,94	FG52	SMR	132Ma4		
	77	1096	18,74	2,19	FG52	SMR	132Ma4		
	86	981	16,68	2,44	FG52	SMR	132Ma4		
	91	927	15,90	2,57	FG52	SMR	132Ma4		
	105	804	13,66	2,94	FG52	SMR	132Ma4		
	122	692	11,83	3,33	FG52	SMR	132Ma4		
	135	625	10,65	3,60	FG52	SMR	132Ma4		
	159	531	9,04	4,09	FG52	SMR	132Ma4		
	57	1480	25,15	1,05	FG42	SMR	132Ma4		
	68	1241	21,19	1,25	FG42	SMR	132Ma4		
	80	1055	18,05	1,47	FG42	SMR	132Ma4		
	93	907	15,49	1,71	FG42	SMR	132Ma4		
	108	781	13,38	1,98	FG42	SMR	132Ma4		
	124	680	11,60	2,28	FG42	SMR	132Ma4		
	150	563	9,62	2,76	FG42	SMR	132Ma4		
	73	1156	19,73	1,05	FG42	SMB	132Ma4		
	78	1082	18,42	1,12	FG42	SMB	132Ma4	132	130
	89	948	16,16	1,27	FG42	SMR	132Ma4		
	101	835	14,30	1,44	FG42	SMR	132Ma4		
	119	709	12,05	1,68	FG42	SMR	132Ma4		
	140	603	10,26	1,96	FG42	SMR	132Ma4		
	163	518	8,81	2,25	FG42	SMR	132Ma4		
	189	446	7,61	2,59	FG42	SMR	132Ma4		
	218	387	6,60	2,94	FG42	SMR	132Ma4		
	263	321	5,47	3,39	FG42	SMR	132Ma4		
11,00	7,1	13647	201,75	0,99	FG84	SMR	160M4	594	156
	8,2	11816	174,77	1,14	FG84	SMR	160M4		

P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
11,00	9,2	10532	157,33	1,28	FG84	SMR	160M4		
	11	8809	133,59	1,53	FG84	SMR	160M4		
	13	7453	112,67	1,81	FG84	SMR	160M4	594	156
	15	6460	99,13	2,09	FG84	SMR	160M4		
	16	6056	87,83	2,23	FG84	SMR	160M4		
	8,4	11771	170,73	1,15	FG83	SMB	160M4		
	9,2	10747	156,36	1,26	FG83	SMB	160M4		
	10	9887	140,35	1,37	FG83	SMB	160M4		
	11	8988	126,12	1,50	FG83	SMB	160M4		
	13	7606	114,27	1,78	FG83	SMB	160M4		
	14	7062	104,24	1,91	FG83	SMB	160M4		
	15	6591	95,64	2,05	FG83	SMB	160M4	567	154
	18	5493	81,67	2,46	FG83	SMB	160M4		
	19	5204	75,92	2,59	FG83	SMB	160M4		
	20	4944	70,80	2,73	FG83	SMR	160M4		
	23	4299	62,11	3,14	FG83	SMR	160M4		
	26	3803	55,00	3,55	FG83	SMR	160M4		
	29	3409	49,07	3,96	FG83	SMR	160M4		
	12	8239	120,79	1,00	FG73	SMB	160M4		
	13	7606	115,19	1,08	FG73	SMR	160M4		
	15	6591	98,91	1,24	FG73	SMR	160M4		
	17	5816	85,68	1,41	FG73	SMR	160M4		
	19	5204	77,13	1,58	FG73	SMR	160M4	409	150
	22	4494	65,49	1,82	FG73	SMR	160M4		
	26	3803	55,24	2,16	FG73	SMR	160M4		
	30	3296	48,60	2,49	FG73	SMR	160M4		
	33	2996	43,06	2,74	FG73	SMR	160M4		
	17	5935	83,70	1,29	FG72	SMB	160M4		
	19	5310	76,66	1,54	FG72	SMB	160M4		
	21	4804	68,81	1,71	FG72	SMB	160M4		
	23	4387	61,83	1,87	FG72	SMB	160M4		
	26	3880	56,02	2,11	FG72	SMB	160M4		
	28	3603	51,10	2,28	FG72	SMB	160M4		
	31	3255	46,89	2,52	FG72	SMB	160M4		
	36	2803	40,04	2,93	FG72	SMB	160M4		
	39	2587	37,22	3,17	FG72	SMB	160M4	382	148
	41	2461	34,71	3,33	FG72	SMR	160M4		
	47	2147	30,45	3,82	FG72	SMR	160M4		
	53	1904	26,96	4,31	FG72	SMR	160M4		
	37	2727	38,81	1,30	FG72	SMB	160M4		
	45	2242	31,90	2,03	FG72	SMB	160M4		
	50	2018	28,67	2,63	FG72	SMB	160M4		
	55	1834	25,97	3,21	FG72	SMB	160M4		
	61	1654	23,69	3,88	FG72	SMB	160M4		
	66	1529	21,74	4,45	FG72	SMB	160M4		
	20	4944	72,71	0,99	FG63	SMR	160M4		
	23	4299	63,03	1,14	FG63	SMR	160M4	295	144
	28	3531	52,27	1,39	FG63	SMR	160M4		



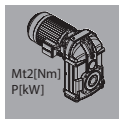
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B					m [kg]	
11,00	21	4804	68,63	1,02		FG62	SMB	160M4		
	23	4387	61,44	1,12		FG62	SMB	160M4		
	26	3880	55,09	1,26		FG62	SMB	160M4		
	29	3479	49,80	1,41		FG62	SMB	160M4		
	32	3153	45,32	1,55		FG62	SMB	160M4		
	35	2883	41,48	1,70		FG62	SMB	160M4		
	41	2461	35,24	1,99		FG62	SMB	160M4		
	44	2293	32,68	2,14		FG62	SMB	160M4		
	47	2147	30,39	2,28		FG62	SMR	160M4		
	54	1868	26,51	2,62		FG62	SMR	160M4		
	62	1627	23,34	3,01		FG62	SMR	160M4	284	142
	70	1441	20,69	3,40		FG62	SMR	160M4		
	78	1293	18,45	3,79		FG62	SMR	160M4		
	87	1160	16,53	4,23		FG62	SMR	160M4		
	43	2346	33,44	1,16		FG62	SMB	160M4		
	53	1904	27,38	1,65		FG62	SMB	160M4		
	59	1710	24,55	2,06		FG62	SMB	160M4		
	65	1552	22,19	2,48		FG62	SMB	160M4		
	71	1421	20,19	2,90		FG62	SMB	160M4		
	92	1097	15,70	4,13		FG62	SMB	160M4		
	99	1019	14,56	4,43		FG62	SMB	160M4		
	34	2967	42,42	0,98		FG52	SMB	160M4		
	37	2727	39,19	1,06		FG52	SMB	160M4		
	42	2402	34,55	1,21		FG52	SMB	160M4		
	47	2147	30,71	1,35		FG52	SMB	160M4		
	53	1904	27,33	1,52		FG52	SMB	160M4		
	55	1834	26,07	1,58		FG52	SMR	160M4		
	64	1576	22,38	1,84		FG52	SMR	160M4		
	74	1363	19,39	2,13		FG52	SMR	160M4		
	83	1216	17,45	2,39		FG52	SMR	160M4		
	97	1040	14,82	2,79		FG52	SMR	160M4		
	115	877	12,50	3,31		FG52	SMR	160M4		
	131	770	11,00	3,77		FG52	SMR	160M4		
	148	682	9,74	4,25		FG52	SMR	160M4		
	41	2461	34,94	1,01		FG52	SMB	160M4	190	136
	45	2242	31,81	1,11		FG52	SMB	160M4		
	50	2018	28,54	1,22		FG52	SMB	160M4		
	60	1682	23,91	1,44		FG52	SMB	160M4		
	68	1484	21,08	1,63		FG52	SMB	160M4		
	77	1310	18,74	1,83		FG52	SMB	160M4		
	86	1173	16,68	2,04		FG52	SMB	160M4		
	91	1109	15,90	2,15		FG52	SMR	160M4		
	105	961	13,66	2,46		FG52	SMR	160M4		
	122	827	11,83	2,78		FG52	SMR	160M4		
	135	747	10,65	3,01		FG52	SMR	160M4		
	159	635	9,04	3,42		FG52	SMR	160M4		
	189	534	7,63	3,80		FG52	SMR	160M4		
	215	469	6,71	4,20		FG52	SMR	160M4		





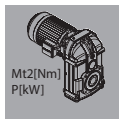
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
11,00	242	417	5,94	4,34	FG52	SMR	160M4	190	136
	68	1484	21,19	1,04	FG42	SMR	160M4		
	80	1261	18,05	1,23	FG42	SMR	160M4		
	93	1085	15,49	1,43	FG42	SMR	160M4		
	108	934	13,38	1,66	FG42	SMR	160M4		
	124	814	11,60	1,91	FG42	SMR	160M4		
	150	673	9,62	2,30	FG42	SMR	160M4		
	89	1134	16,16	1,06	FG42	SMB	160M4	146	130
	101	999	14,30	1,20	FG42	SMB	160M4		
	119	848	12,05	1,40	FG42	SMR	160M4		
	140	721	10,26	1,64	FG42	SMR	160M4		
	163	619	8,81	1,89	FG42	SMR	160M4		
	189	534	7,61	2,16	FG42	SMR	160M4		
	218	463	6,60	2,46	FG42	SMR	160M4		
	263	384	5,47	2,84	FG42	SMR	160M4		
15,00	11	12012	133,59	1,12	FG84	SMR	160L4		
	13	10164	112,67	1,33	FG84	SMR	160L4	623	156
	15	8809	99,13	1,53	FG84	SMR	160L4		
	16	8258	87,83	1,63	FG84	SMR	160L4		
	10	13483	140,35	1,00	FG83	SMB	160L4		
	11	12257	126,12	1,10	FG83	SMB	160L4		
	13	10371	114,27	1,30	FG83	SMB	160L4		
	14	9630	104,24	1,40	FG83	SMB	160L4		
	15	8988	95,64	1,50	FG83	SMB	160L4		
	18	7490	81,67	1,80	FG83	SMB	160L4		
	19	7096	75,92	1,90	FG83	SMB	160L4		
	20	6741	70,80	2,00	FG83	SMR	160L4	596	154
	23	5862	62,11	2,30	FG83	SMR	160L4		
	26	5186	55,00	2,60	FG83	SMR	160L4		
	29	4649	49,07	2,90	FG83	SMR	160L4		
	33	4086	44,05	3,30	FG83	SMR	160L4		
	36	3745	39,75	3,60	FG83	SMR	160L4		
	40	3371	36,03	4,01	FG83	SMR	160L4		
	42	3210	34,35	4,21	FG83	SMR	160L4		
	17	7931	85,68	1,03	FG73	SMR	160L4		
	19	7096	77,13	1,16	FG73	SMR	160L4		
	22	6128	65,49	1,34	FG73	SMR	160L4	438	150
	26	5186	55,24	1,58	FG73	SMR	160L4		
	30	4494	48,60	1,82	FG73	SMR	160L4		
	33	4086	43,06	2,01	FG73	SMR	160L4		
	19	7241	76,66	1,13	FG72	SMB	160L4		
	21	6551	68,81	1,25	FG72	SMB	160L4		
	23	5982	61,83	1,37	FG72	SMB	160L4		
	26	5291	56,02	1,55	FG72	SMB	160L4	411	148
	28	4913	51,10	1,67	FG72	SMB	160L4		
	31	4438	46,89	1,85	FG72	SMB	160L4		
	36	3822	40,04	2,15	FG72	SMB	160L4		
	39	3528	37,22	2,32	FG72	SMB	160L4		

P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
15,00	41	3356	34,71	2,44	FG72	SMR	160L4		
	47	2927	30,45	2,80	FG72	SMR	160L4		
	53	2596	26,96	3,16	FG72	SMR	160L4		
	60	2293	24,06	3,58	FG72	SMR	160L4		
	67	2053	21,60	3,99	FG72	SMR	160L4		
	74	1859	19,49	4,41	FG72	SMR	160L4		
	45	3057	31,90	1,49	FG72	SMB	160L4	411	148
	50	2752	28,67	1,93	FG72	SMB	160L4		
	55	2501	25,97	2,35	FG72	SMB	160L4		
	61	2255	23,69	2,85	FG72	SMB	160L4		
	66	2085	21,74	3,27	FG72	SMB	160L4		
	78	1764	18,56	4,02	FG72	SMB	160L4		
	83	1658	17,25	4,29	FG72	SMB	160L4		
	28	4815	52,27	1,02	FG63	SMR	160L4	324	144
	29	4744	49,80	1,03	FG62	SMB	160L4		
	32	4299	45,32	1,14	FG62	SMB	160L4		
	35	3931	41,48	1,25	FG62	SMB	160L4		
	41	3356	35,24	1,46	FG62	SMB	160L4		
	44	3127	32,68	1,57	FG62	SMB	160L4		
	47	2927	30,39	1,67	FG62	SMR	160L4		
	54	2548	26,51	1,92	FG62	SMR	160L4		
	62	2219	23,34	2,21	FG62	SMR	160L4		
	70	1965	20,69	2,49	FG62	SMR	160L4		
	78	1764	18,45	2,78	FG62	SMR	160L4		
	87	1581	16,53	3,10	FG62	SMR	160L4		
	97	1418	14,87	3,45	FG62	SMR	160L4	313	142
	102	1349	14,12	3,63	FG62	SMR	160L4		
	119	1156	12,13	4,24	FG62	SMR	160L4		
	53	2596	27,38	1,21	FG62	SMB	160L4		
	59	2332	24,55	1,51	FG62	SMB	160L4		
	65	2117	22,19	1,82	FG62	SMB	160L4		
	71	1938	20,19	2,13	FG62	SMB	160L4		
	92	1495	15,70	3,03	FG62	SMB	160L4		
	99	1390	14,56	3,25	FG62	SMB	160L4		
	106	1298	13,54	3,46	FG62	SMR	160L4		
	122	1128	11,81	3,93	FG62	SMR	160L4		
	138	997	10,40	4,36	FG62	SMR	160L4		
	47	2927	30,71	0,99	FG52	SMB	160L4		
	55	2501	26,07	1,16	FG52	SMR	160L4		
	64	2150	22,38	1,35	FG52	SMR	160L4		
	74	1859	19,39	1,56	FG52	SMR	160L4		
	83	1658	17,45	1,75	FG52	SMR	160L4		
	97	1418	14,82	2,04	FG52	SMR	160L4	219	136
	115	1196	12,50	2,42	FG52	SMR	160L4		
	131	1050	11,00	2,76	FG52	SMR	160L4		
	148	930	9,74	3,12	FG52	SMR	160L4		
	60	2293	23,91	1,06	FG52	SMB	160L4		
	68	2023	21,08	1,19	FG52	SMB	160L4		



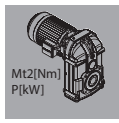
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
15,00	77	1787	18,74	1,34	FG52	SMB	160L4		
	86	1600	16,68	1,49	FG52	SMB	160L4		
	91	1512	15,90	1,58	FG52	SMR	160L4		
	105	1310	13,66	1,80	FG52	SMR	160L4		
	122	1128	11,83	2,04	FG52	SMR	160L4	219	136
	135	1019	10,65	2,21	FG52	SMR	160L4		
	159	865	9,04	2,51	FG52	SMR	160L4		
	189	728	7,63	2,79	FG52	SMR	160L4		
	215	640	6,71	3,08	FG52	SMR	160L4		
	242	569	5,94	3,19	FG52	SMR	160L4		
18,50	13	12535	112,67	1,08	FG84	SMR	180M4		
	15	10864	99,13	1,24	FG84	SMR	180M4	645	156
	17	9586	87,83	1,41	FG84	SMR	180M4		
	12	13857	126,12	0,97	FG83	SMB	180M4		
	13	12791	114,27	1,06	FG83	SMB	180M4		
	14	11878	104,24	1,14	FG83	SMB	180M4		
	15	11086	95,64	1,22	FG83	SMB	180M4		
	18	9238	81,67	1,46	FG83	SMB	180M4		
	19	8752	75,92	1,54	FG83	SMB	180M4		
	21	7918	70,80	1,70	FG83	SMB	180M4		
	24	6929	62,11	1,95	FG83	SMR	180M4	618	154
	27	6159	55,00	2,19	FG83	SMR	180M4		
	30	5543	49,07	2,44	FG83	SMR	180M4		
	33	5039	44,05	2,68	FG83	SMR	180M4		
	37	4494	39,75	3,00	FG83	SMR	180M4		
	41	4056	36,03	3,33	FG83	SMR	180M4		
	43	3867	34,35	3,49	FG83	SMR	180M4		
	49	3394	29,89	3,98	FG83	SMR	180M4		
	22	7558	65,49	1,08	FG73	SMR	180M4		
	26	6396	55,24	1,28	FG73	SMR	180M4	460	150
	30	5543	48,60	1,48	FG73	SMR	180M4		
	34	4891	43,06	1,68	FG73	SMR	180M4		
	21	8080	68,81	1,01	FG72	SMB	180M4		
	24	7070	61,83	1,16	FG72	SMB	180M4		
	26	6526	56,02	1,26	FG72	SMB	180M4		
	29	5851	51,10	1,40	FG72	SMB	180M4		
	31	5474	46,89	1,50	FG72	SMB	180M4		
	36	4713	40,04	1,74	FG72	SMB	180M4		
	39	4351	37,22	1,88	FG72	SMB	180M4		
	42	4040	34,71	2,03	FG72	SMB	180M4	433	148
	48	3535	30,45	2,32	FG72	SMR	180M4		
	54	3142	26,96	2,61	FG72	SMR	180M4		
	61	2782	24,06	2,95	FG72	SMR	180M4		
	68	2495	21,60	3,29	FG72	SMR	180M4		
	75	2262	19,49	3,62	FG72	SMR	180M4		
	83	2044	17,66	4,01	FG72	SMR	180M4		
	87	1950	16,84	4,20	FG72	SMR	180M4		
	46	3689	31,90	1,24	FG72	SMB	180M4		

P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
18,50	51	3327	28,67	1,59	FG72	SMB	180M4		
	56	3030	25,97	1,94	FG72	SMB	180M4		
	62	2737	23,69	2,35	FG72	SMB	180M4		
	67	2533	21,74	2,69	FG72	SMB	180M4	433	148
	79	2148	18,56	3,30	FG72	SMB	180M4		
	85	1996	17,25	3,56	FG72	SMB	180M4		
	91	1865	16,09	3,82	FG72	SMB	180M4		
	103	1647	14,12	4,32	FG72	SMR	180M4		
	35	4848	41,48	1,01	FG62	SMB	180M4		
	41	4139	35,24	1,18	FG62	SMB	180M4		
	45	3771	32,68	1,30	FG62	SMB	180M4		
	48	3535	30,39	1,39	FG62	SMB	180M4		
	55	3085	26,51	1,59	FG62	SMR	180M4		
	63	2693	23,34	1,82	FG62	SMR	180M4		
	71	2390	20,69	2,05	FG62	SMR	180M4		
	79	2148	18,45	2,28	FG62	SMR	180M4		
	88	1928	16,53	2,54	FG62	SMR	180M4		
	98	1731	14,87	2,83	FG62	SMR	180M4		
	103	1647	14,12	2,97	FG62	SMR	180M4	335	142
	120	1414	12,13	3,47	FG62	SMR	180M4		
	140	1212	10,46	4,04	FG62	SMR	180M4		
	59	2876	24,55	1,22	FG62	SMB	180M4		
	66	2571	22,19	1,50	FG62	SMB	180M4		
	72	2357	20,19	1,75	FG62	SMB	180M4		
	93	1825	15,70	2,48	FG62	SMB	180M4		
	100	1697	14,56	2,66	FG62	SMB	180M4		
	108	1571	13,54	2,86	FG62	SMB	180M4		
	124	1368	11,81	3,24	FG62	SMR	180M4		
	158	1074	9,22	3,94	FG62	SMR	180M4		
	178	953	8,22	4,35	FG62	SMR	180M4		
	56	3030	26,07	0,96	FG52	SMB	180M4		
	65	2610	22,38	1,11	FG52	SMR	180M4		
	75	2262	19,39	1,28	FG52	SMR	180M4		
	84	2020	17,45	1,44	FG52	SMR	180M4		
	99	1714	14,82	1,69	FG52	SMR	180M4		
	117	1450	12,50	2,00	FG52	SMR	180M4		
	133	1276	11,00	2,27	FG52	SMR	180M4		
	150	1131	9,74	2,56	FG52	SMR	180M4		
	78	2175	18,74	1,10	FG52	SMB	180M4	241	136
	88	1928	16,68	1,24	FG52	SMB	180M4		
	92	1844	15,90	1,29	FG52	SMB	180M4		
	107	1586	13,66	1,49	FG52	SMR	180M4		
	123	1380	11,83	1,67	FG52	SMR	180M4		
	137	1239	10,65	1,82	FG52	SMR	180M4		
	161	1054	9,04	2,06	FG52	SMR	180M4		
	191	888	7,63	2,29	FG52	SMR	180M4		
	218	778	6,71	2,53	FG52	SMR	180M4		
	246	690	5,94	2,63	FG52	SMR	180M4		

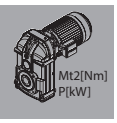


P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
22,00	15	12919	99,13	1,04	FG84	SMR	180L4	660	156
	17	11399	87,83	1,18	FG84	SMR	180L4		
	14	14125	104,24	0,96	FG83	SMB	180L4		
	15	13183	95,64	1,02	FG83	SMB	180L4		
	18	10986	81,67	1,23	FG83	SMB	180L4		
	19	10408	75,92	1,30	FG83	SMB	180L4		
	21	9416	70,80	1,43	FG83	SMB	180L4		
	24	8239	62,11	1,64	FG83	SMR	180L4		
	27	7324	55,00	1,84	FG83	SMR	180L4		
	30	6591	49,07	2,05	FG83	SMR	180L4	633	154
	33	5992	44,05	2,25	FG83	SMR	180L4		
	37	5344	39,75	2,53	FG83	SMR	180L4		
	41	4823	36,03	2,80	FG83	SMR	180L4		
	43	4599	34,35	2,94	FG83	SMR	180L4		
	49	4036	29,89	3,35	FG83	SMR	180L4		
	56	3531	26,16	3,82	FG83	SMR	180L4		
	64	3090	22,99	4,37	FG83	SMR	180L4		
	26	7606	55,24	1,08	FG73	SMR	180L4		
	30	6591	48,60	1,24	FG73	SMR	180L4	475	150
	34	5816	43,06	1,41	FG73	SMR	180L4		
	24	8408	61,83	0,98	FG72	SMB	180L4		
	26	7761	56,02	1,06	FG72	SMB	180L4		
	29	6958	51,10	1,18	FG72	SMB	180L4		
	31	6509	46,89	1,26	FG72	SMB	180L4		
	36	5605	40,04	1,46	FG72	SMB	180L4		
	39	5174	37,22	1,58	FG72	SMB	180L4		
	42	4804	34,71	1,71	FG72	SMB	180L4		
	48	4204	30,45	1,95	FG72	SMR	180L4		
	54	3737	26,96	2,19	FG72	SMR	180L4		
	61	3308	24,06	2,48	FG72	SMR	180L4		
	68	2967	21,60	2,76	FG72	SMR	180L4		
	75	2690	19,49	3,05	FG72	SMR	180L4		
	83	2431	17,66	3,37	FG72	SMR	180L4	448	148
	87	2319	16,84	3,54	FG72	SMR	180L4		
	100	2018	14,66	4,06	FG72	SMR	180L4		
	51	3956	28,67	1,34	FG72	SMB	180L4		
	56	3603	25,97	1,63	FG72	SMB	180L4		
	62	3255	23,69	1,97	FG72	SMB	180L4		
	67	3012	21,74	2,26	FG72	SMB	180L4		
	79	2554	18,56	2,78	FG72	SMB	180L4		
	85	2374	17,25	3,00	FG72	SMB	180L4		
	91	2217	16,09	3,22	FG72	SMB	180L4		
	103	1959	14,12	3,63	FG72	SMR	180L4		
	117	1725	12,50	4,09	FG72	SMR	180L4		
	131	1540	11,15	4,49	FG72	SMR	180L4		
	41	4921	35,24	1,00	FG62	SMB	180L4		
	45	4484	32,68	1,09	FG62	SMB	180L4	350	142
	48	4204	30,39	1,17	FG62	SMB	180L4		

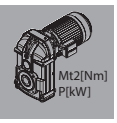
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
22,00	55	3669	26,51	1,34	FG62	SMR	180L4		
	63	3203	23,34	1,53	FG62	SMR	180L4		
	71	2842	20,69	1,72	FG62	SMR	180L4		
	79	2554	18,45	1,92	FG62	SMR	180L4		
	88	2293	16,53	2,14	FG62	SMR	180L4		
	98	2059	14,87	2,38	FG62	SMR	180L4		
	103	1959	14,12	2,50	FG62	SMR	180L4		
	120	1682	12,13	2,91	FG62	SMR	180L4		
	140	1441	10,46	3,40	FG62	SMR	180L4		
	161	1253	9,05	3,91	FG62	SMR	180L4		
	59	3420	24,55	1,03	FG62	SMB	180L4	350	142
	66	3057	22,19	1,26	FG62	SMB	180L4		
	72	2803	20,19	1,47	FG62	SMB	180L4		
	93	2170	15,70	2,09	FG62	SMB	180L4		
	100	2018	14,56	2,24	FG62	SMB	180L4		
	108	1868	13,54	2,41	FG62	SMB	180L4		
	124	1627	11,81	2,72	FG62	SMR	180L4		
	158	1277	9,22	3,31	FG62	SMR	180L4		
	178	1134	8,22	3,65	FG62	SMR	180L4		
	198	1019	7,37	3,95	FG62	SMR	180L4		
	220	917	6,63	4,27	FG62	SMR	180L4		
	232	870	6,29	4,42	FG62	SMR	180L4		
	75	2690	19,39	1,08	FG52	SMR	180L4		
	84	2402	17,45	1,21	FG52	SMR	180L4		
	99	2038	14,82	1,42	FG52	SMR	180L4		
	117	1725	12,50	1,68	FG52	SMR	180L4		
	133	1517	11,00	1,91	FG52	SMR	180L4		
	150	1345	9,74	2,16	FG52	SMR	180L4		
	88	2293	16,68	1,04	FG52	SMB	180L4		
	92	2193	15,90	1,09	FG52	SMB	180L4	256	136
	107	1886	13,66	1,25	FG52	SMR	180L4		
	123	1640	11,83	1,40	FG52	SMR	180L4		
	137	1473	10,65	1,53	FG52	SMR	180L4		
	161	1253	9,04	1,73	FG52	SMR	180L4		
	191	1056	7,63	1,92	FG52	SMR	180L4		
	218	926	6,71	2,13	FG52	SMR	180L4		
	246	820	5,94	2,21	FG52	SMR	180L4		
30,00	19	14192	75,92	0,95	FG83	SMB	200L4		
	21	12841	70,80	1,05	FG83	SMB	200L4		
	24	11235	62,11	1,20	FG83	SMR	200L4		
	27	9987	55,00	1,35	FG83	SMR	200L4		
	30	8988	49,07	1,50	FG83	SMR	200L4		
	33	8171	44,05	1,65	FG83	SMR	200L4	708	154
	37	7288	39,75	1,85	FG83	SMR	200L4		
	41	6577	36,03	2,05	FG83	SMR	200L4		
	43	6271	34,35	2,15	FG83	SMR	200L4		
	49	5503	29,89	2,45	FG83	SMR	200L4		
	56	4815	26,16	2,80	FG83	SMR	200L4		



P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
30,00	64	4213	22,99	3,20	FG83	SMR	200L4		
	76	3548	19,43	3,56	FG83	SMR	200L4	708	154
	89	3030	16,47	3,53	FG83	SMR	200L4		
	37	7437	40,04	1,10	FG72	SMB	200L4		
	39	7055	37,22	1,16	FG72	SMB	200L4		
	42	6551	34,71	1,25	FG72	SMB	200L4		
	48	5732	30,45	1,43	FG72	SMR	200L4		
	55	5003	26,96	1,64	FG72	SMR	200L4		
	61	4511	24,06	1,82	FG72	SMR	200L4		
	68	4046	21,60	2,03	FG72	SMR	200L4		
	75	3669	19,49	2,24	FG72	SMR	200L4		
	83	3315	17,66	2,47	FG72	SMR	200L4		
	87	3163	16,84	2,59	FG72	SMR	200L4		
	100	2752	14,66	2,98	FG72	SMR	200L4		
	115	2393	12,83	3,43	FG72	SMR	200L4		
	130	2117	11,27	3,57	FG72	SMR	200L4		
	154	1787	9,53	3,58	FG72	SMR	200L4		
	182	1512	8,07	3,58	FG72	SMR	200L4		
	51	5395	28,67	0,98	FG72	SMB	200L4		
	57	4827	25,97	1,22	FG72	SMB	200L4	523	148
	62	4438	23,69	1,45	FG72	SMB	200L4		
	79	3483	18,56	2,04	FG72	SMB	200L4		
	85	3237	17,25	2,20	FG72	SMB	200L4		
	91	3024	16,09	2,36	FG72	SMB	200L4		
	104	2646	14,12	2,69	FG72	SMR	200L4		
	118	2332	12,50	3,02	FG72	SMR	200L4		
	132	2085	11,15	3,32	FG72	SMR	200L4		
	147	1872	10,01	3,59	FG72	SMR	200L4		
	163	1688	9,04	3,59	FG72	SMR	200L4		
	180	1529	8,19	3,63	FG72	SMR	200L4		
	188	1464	7,81	3,58	FG72	SMR	200L4		
	216	1274	6,79	3,58	FG72	SMR	200L4		
	247	1114	5,95	3,58	FG72	SMR	200L4		
	281	979	5,23	3,58	FG72	SMR	200L4		
	333	826	4,42	3,58	FG72	SMR	200L4		
	393	700	3,74	3,58	FG72	SMR	200L4		
	55	5003	26,51	0,98	FG62	SMR	200L4		
	63	4368	23,34	1,12	FG62	SMR	200L4		
	71	3875	20,69	1,26	FG62	SMR	200L4		
	80	3439	18,45	1,42	FG62	SMR	200L4		
	89	3092	16,53	1,58	FG62	SMR	200L4		
	99	2779	14,87	1,76	FG62	SMR	200L4	425	142
	104	2646	14,12	1,85	FG62	SMR	200L4		
	121	2274	12,13	2,15	FG62	SMR	200L4		
	140	1965	10,46	2,49	FG62	SMR	200L4		
	162	1698	9,05	2,88	FG62	SMR	200L4		
	73	3769	20,19	1,09	FG62	SMB	200L4		
	94	2927	15,70	1,55	FG62	SMB	200L4		



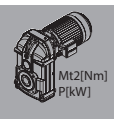
P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
30,00	101	2724	14,56	1,66		FG62	SMB	200L4		
	109	2524	13,54	1,78		FG62	SMB	200L4		
	124	2219	11,81	2,00		FG62	SMR	200L4		
	141	1951	10,40	2,23		FG62	SMR	200L4		
	159	1731	9,22	2,44		FG62	SMR	200L4		
	179	1537	8,22	2,69		FG62	SMR	200L4	425	142
	200	1376	7,37	2,92		FG62	SMR	200L4		
	222	1239	6,63	3,16		FG62	SMR	200L4		
	234	1176	6,29	3,27		FG62	SMR	200L4		
	272	1012	5,40	3,47		FG62	SMR	200L4		
	315	874	4,66	3,47		FG62	SMR	200L4		
	365	754	4,03	3,48		FG62	SMR	200L4		
37,00	24	13857	62,11	0,97		FG83	SMB	225S4		
	27	12317	55,00	1,10		FG83	SMR	225S4		
	30	11086	49,07	1,22		FG83	SMR	225S4		
	33	10078	44,05	1,34		FG83	SMR	225S4		
	37	8988	39,75	1,50		FG83	SMR	225S4		
	41	8111	36,03	1,66		FG83	SMR	225S4		
	43	7734	34,35	1,75		FG83	SMR	225S4	773	154
	49	6787	29,89	1,99		FG83	SMR	225S4		
	56	5939	26,16	2,27		FG83	SMR	225S4		
	64	5196	22,99	2,60		FG83	SMR	225S4		
	76	4376	19,43	2,89		FG83	SMR	225S4		
	89	3737	16,47	2,86		FG83	SMR	225S4		
	42	8080	34,71	1,01		FG72	SMB	225S4		
	48	7070	30,45	1,16		FG72	SMB	225S4		
	55	6170	26,96	1,33		FG72	SMR	225S4		
	61	5563	24,06	1,47		FG72	SMR	225S4		
	68	4991	21,60	1,64		FG72	SMR	225S4		
	75	4525	19,49	1,81		FG72	SMR	225S4		
	83	4089	17,66	2,01		FG72	SMR	225S4		
	87	3901	16,84	2,10		FG72	SMR	225S4		
	100	3394	14,66	2,42		FG72	SMR	225S4		
	115	2951	12,83	2,78		FG72	SMR	225S4		
	130	2610	11,27	2,89		FG72	SMR	225S4		
	154	2204	9,53	2,90		FG72	SMR	225S4		
	182	1865	8,07	2,90		FG72	SMR	225S4	588	148
	79	4296	18,56	1,65		FG72	SMB	225S4		
	85	3992	17,25	1,78		FG72	SMB	225S4		
	91	3729	16,09	1,91		FG72	SMB	225S4		
	104	3263	14,12	2,18		FG72	SMB	225S4		
	118	2876	12,50	2,45		FG72	SMR	225S4		
	132	2571	11,15	2,69		FG72	SMR	225S4		
	147	2309	10,01	2,91		FG72	SMR	225S4		
	163	2082	9,04	2,91		FG72	SMR	225S4		
	180	1885	8,19	2,94		FG72	SMR	225S4		
	188	1805	7,81	2,90		FG72	SMR	225S4		
	216	1571	6,79	2,90		FG72	SMR	225S4		



P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
37,00	247	1374	5,95	2,90		FG72	SMR	225S4		
	281	1208	5,23	2,90		FG72	SMR	225S4	588	148
	333	1019	4,42	2,91		FG72	SMR	225S4		
	393	864	3,74	2,91		FG72	SMR	225S4		
	71	4780	20,69	1,03		FG62	SMR	225S4		
	80	4242	18,45	1,16		FG62	SMR	225S4		
	89	3813	16,53	1,29		FG62	SMR	225S4		
	99	3428	14,87	1,43		FG62	SMR	225S4		
	104	3263	14,12	1,50		FG62	SMR	225S4		
	121	2805	12,13	1,75		FG62	SMR	225S4		
	140	2424	10,46	2,02		FG62	SMR	225S4		
	162	2095	9,05	2,34		FG62	SMR	225S4		
	94	3610	15,70	1,25		FG62	SMB	225S4		
	101	3360	14,56	1,34		FG62	SMB	225S4		
	109	3113	13,54	1,44		FG62	SMB	225S4	490	142
	124	2737	11,81	1,62		FG62	SMB	225S4		
	141	2407	10,40	1,81		FG62	SMR	225S4		
	159	2134	9,22	1,98		FG62	SMR	225S4		
	179	1896	8,22	2,18		FG62	SMR	225S4		
	200	1697	7,37	2,37		FG62	SMR	225S4		
	222	1529	6,63	2,56		FG62	SMR	225S4		
	234	1450	6,29	2,65		FG62	SMR	225S4		
	272	1248	5,40	2,82		FG62	SMR	225S4		
	315	1077	4,66	2,81		FG62	SMR	225S4		
	365	930	4,03	2,82		FG62	SMR	225S4		
45,00	30	13483	49,07	1,00		FG83	SMR	225M4		
	33	12257	44,05	1,10		FG83	SMR	225M4		
	37	10932	39,75	1,23		FG83	SMR	225M4		
	41	9865	36,03	1,37		FG83	SMR	225M4		
	43	9406	34,35	1,44		FG83	SMR	225M4		
	49	8255	29,89	1,64		FG83	SMR	225M4	805	154
	56	7223	26,16	1,87		FG83	SMR	225M4		
	64	6320	22,99	2,14		FG83	SMR	225M4		
	76	5322	19,43	2,37		FG83	SMR	225M4		
	89	4545	16,47	2,36		FG83	SMR	225M4		
	48	8599	30,45	0,95		FG72	SMB	225M4		
	55	7504	26,96	1,09		FG72	SMR	225M4		
	61	6766	24,06	1,21		FG72	SMR	225M4		
	68	6070	21,60	1,35		FG72	SMR	225M4		
	75	5503	19,49	1,49		FG72	SMR	225M4		
	83	4973	17,66	1,65		FG72	SMR	225M4		
	87	4744	16,84	1,73		FG72	SMR	225M4	620	148
	100	4127	14,66	1,99		FG72	SMR	225M4		
	115	3589	12,83	2,28		FG72	SMR	225M4		
	130	3175	11,27	2,38		FG72	SMR	225M4		
	154	2680	9,53	2,38		FG72	SMR	225M4		
	182	2268	8,07	2,39		FG72	SMR	225M4		
	79	5224	18,56	1,36		FG72	SMB	225M4		

P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
45,00	91	4536	16,09	1,57		FG72	SMB	225M4		
	104	3969	14,12	1,79		FG72	SMB	225M4		
	118	3498	12,50	2,02		FG72	SMR	225M4		
	132	3127	11,15	2,21		FG72	SMR	225M4		
	147	2808	10,01	2,39		FG72	SMR	225M4		
	163	2532	9,04	2,39		FG72	SMR	225M4		
	180	2293	8,19	2,42		FG72	SMR	225M4	620	148
	188	2195	7,81	2,38		FG72	SMR	225M4		
	216	1911	6,79	2,38		FG72	SMR	225M4		
	247	1671	5,95	2,39		FG72	SMR	225M4		
	281	1469	5,23	2,38		FG72	SMR	225M4		
	333	1239	4,42	2,39		FG72	SMR	225M4		
	393	1050	3,74	2,39		FG72	SMR	225M4		
	89	4637	16,53	1,06		FG62	SMR	225M4		
	99	4169	14,87	1,18		FG62	SMR	225M4		
	104	3969	14,12	1,23		FG62	SMR	225M4		
	121	3411	12,13	1,44		FG62	SMR	225M4		
	140	2948	10,46	1,66		FG62	SMR	225M4		
	162	2548	9,05	1,92		FG62	SMR	225M4		
	94	4391	15,70	1,03		FG62	SMB	225M4		
	101	4086	14,56	1,10		FG62	SMB	225M4		
	109	3787	13,54	1,19		FG62	SMB	225M4		
	124	3328	11,81	1,33		FG62	SMB	225M4	522	142
	141	2927	10,40	1,49		FG62	SMR	225M4		
	159	2596	9,22	1,63		FG62	SMR	225M4		
	179	2306	8,22	1,80		FG62	SMR	225M4		
	200	2064	7,37	1,95		FG62	SMR	225M4		
	222	1859	6,63	2,11		FG62	SMR	225M4		
	234	1764	6,29	2,18		FG62	SMR	225M4		
	272	1517	5,40	2,32		FG62	SMR	225M4		
	315	1310	4,66	2,31		FG62	SMR	225M4		
	365	1131	4,03	2,32		FG62	SMR	225M4		
55,00	37	13361	39,75	1,01		FG83	SMR	250M4		
	41	12058	36,03	1,12		FG83	SMR	250M4		
	43	11497	34,35	1,17		FG83	SMR	250M4		
	50	9887	29,89	1,37		FG83	SMR	250M4	888	154
	57	8673	26,16	1,56		FG83	SMR	250M4		
	64	7724	22,99	1,75		FG83	SMR	250M4		
	76	6505	19,43	1,94		FG83	SMR	250M4		
	90	5493	16,47	1,95		FG83	SMR	250M4		
	62	8136	24,06	1,01		FG72	SMB	250M4		
	69	7311	21,60	1,12		FG72	SMR	250M4		
	76	6638	19,49	1,24		FG72	SMR	250M4		
	84	6005	17,66	1,37		FG72	SMR	250M4	703	148
	88	5732	16,84	1,43		FG72	SMR	250M4		
	101	4995	14,66	1,64		FG72	SMR	250M4		
	115	4387	12,83	1,87		FG72	SMR	250M4		
	131	3851	11,27	1,96		FG72	SMR	250M4		

Mt2[Nm]
P[kW]

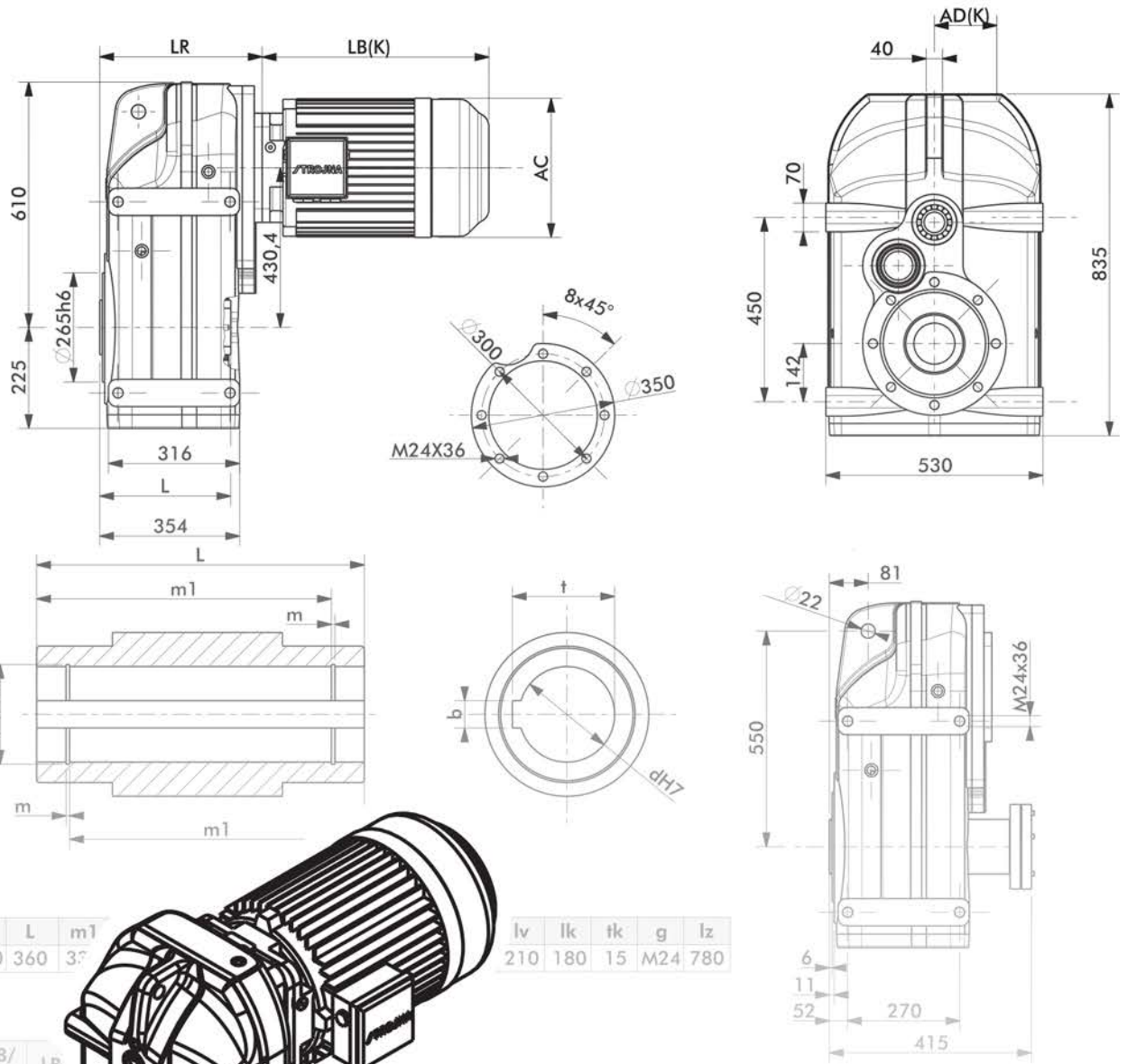


P [kW]	n_2 [min^{-1}]	Mt_2 [Nm]	i	f_B				m [kg]	
55,00	155	3255	9,53	1,96		FG72	SMR	250M4		
	183	2757	8,07	1,96		FG72	SMR	250M4		
	80	6306	18,56	1,13		FG72	SMB	250M4		
	86	5866	17,25	1,21		FG72	SMB	250M4		
	92	5483	16,09	1,30		FG72	SMB	250M4		
	105	4804	14,12	1,48		FG72	SMB	250M4		
	118	4275	12,50	1,65		FG72	SMB	250M4		
	133	3793	11,15	1,82		FG72	SMB	250M4		
	148	3408	10,01	1,97		FG72	SMR	250M4	703	148
	164	3076	9,04	1,97		FG72	SMR	250M4		
	181	2787	8,19	1,99		FG72	SMR	250M4		
	190	2655	7,81	1,97		FG72	SMR	250M4		
	218	2314	6,79	1,97		FG72	SMR	250M4		
	249	2026	5,95	1,97		FG72	SMR	250M4		
	283	1783	5,23	1,97		FG72	SMR	250M4		
	335	1506	4,42	1,97		FG72	SMR	250M4		
	395	1277	3,74	1,96		FG72	SMR	250M4		

FG

HELICAL SHAFT MOUNTED GEAR UNITS

Dimension sheets - Geared motors



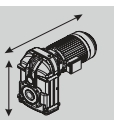
d	L	m1	lv	lk	tk	g	lz
*100	360	3?	210	180	15	M24	780

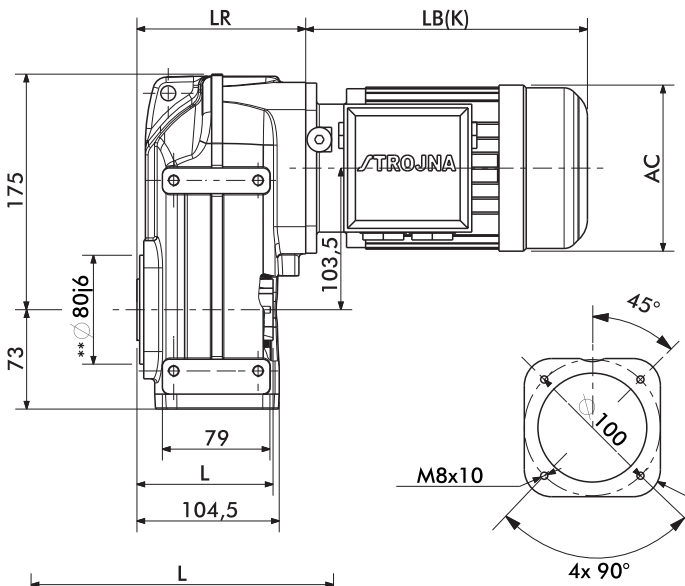
SMB/ SMR	LB
63	
71	
80	
90S	
90L	
100	
112M	
132S	377
132M	415

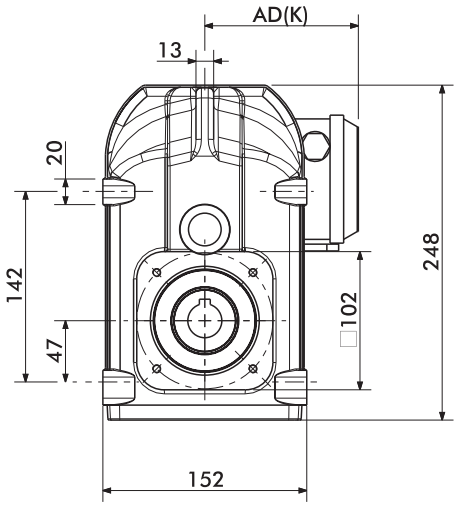
Drawings are for reference dimensions only and subject to change.

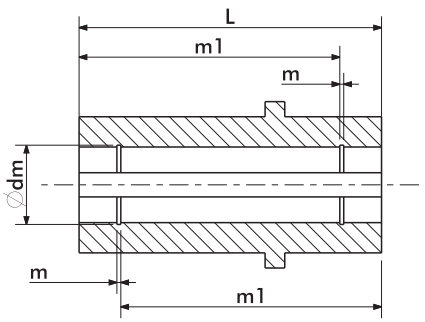
We reserve the right to change tehnical data or dimensions due to modifications.

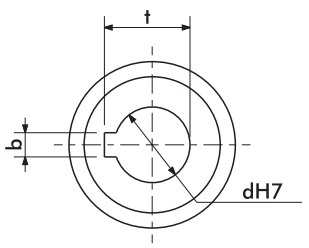
FG12...SMB/SMR







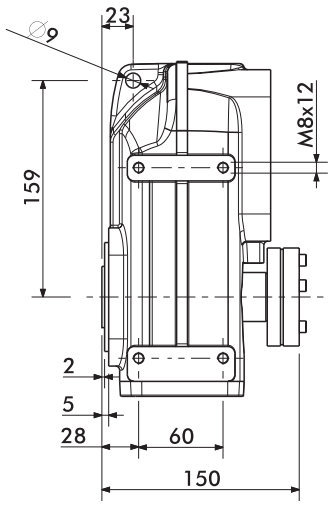




d	L	m1	dm	m	t	b
25	105	91	26,2	1,3	28,3	8
*30	105	91	31,4	1,3	33,3	8

dv	tv	bv	lv	lk	tk	g	lz
25	28	8	50	40	5	M10	205
*30	33	8	60	50	5	M10	225

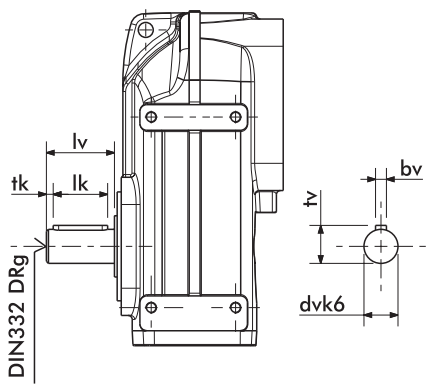
FG12D...



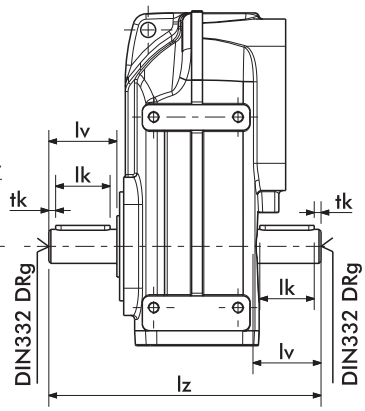
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	124
71	223	105	280	137	140	124
80	251	110	311	147	154	124
90S	276	121	360	164	170	124
90L	301	121	385	164	170	124
100						
112M						
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard
**C Flange DIN42948

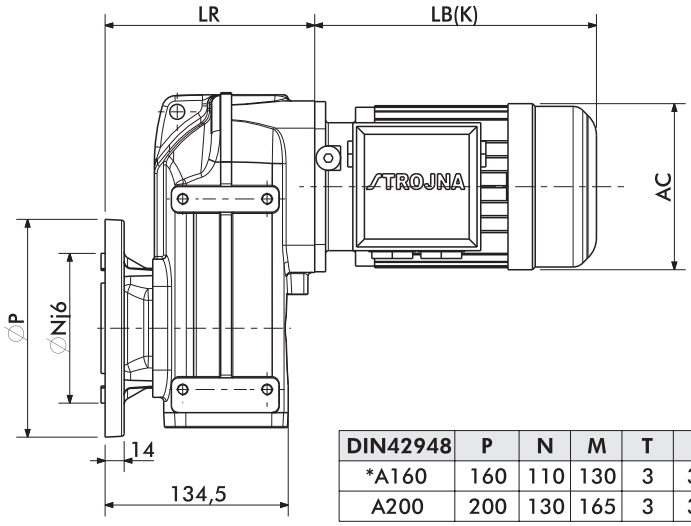
FG12V...

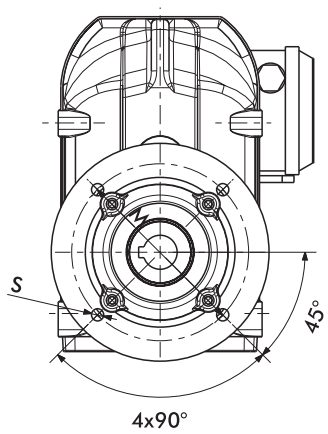


FG12Z...



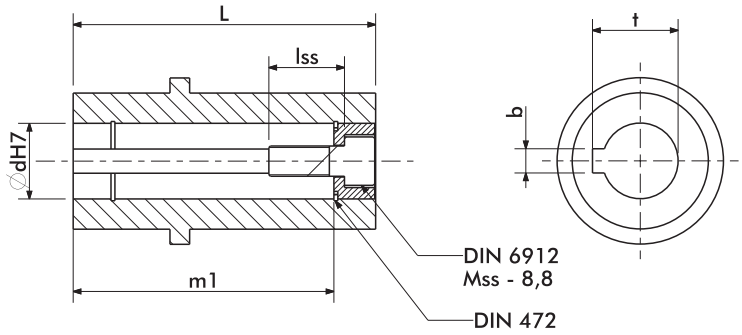
FG12P...SMB/SMR

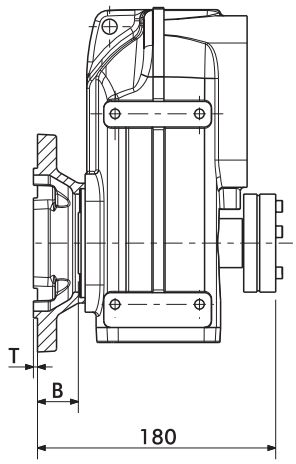




DIN42948	P	N	M	T	B	S
*A160	160	110	130	3	30	9
A200	200	130	165	3	30	11

FG12PD...





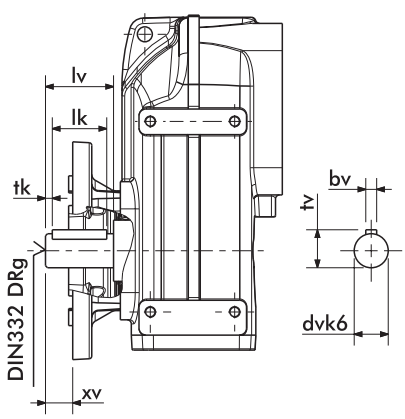
d	L	m1	lss	Mss	t	b
25	105	91	25	M10	28,3	8
*30	105	91	25	M10	33,3	8

dv	tv	bv	lv	lk	tk	xv	g	lz
25	28	8	50	40	5	20	M10	205
*30	33	8	60	50	5	30	M10	225

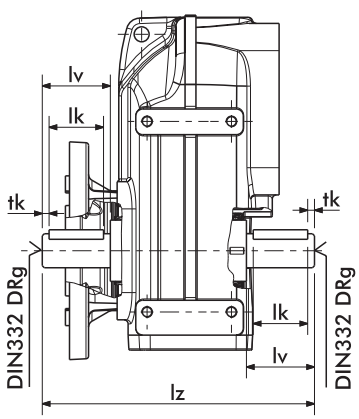
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	154
71	223	105	280	137	140	154
80	251	110	311	147	154	154
90S	276	121	360	164	170	154
90L	301	121	385	164	170	154
100						
112M						
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard

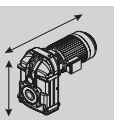
FG12PV...

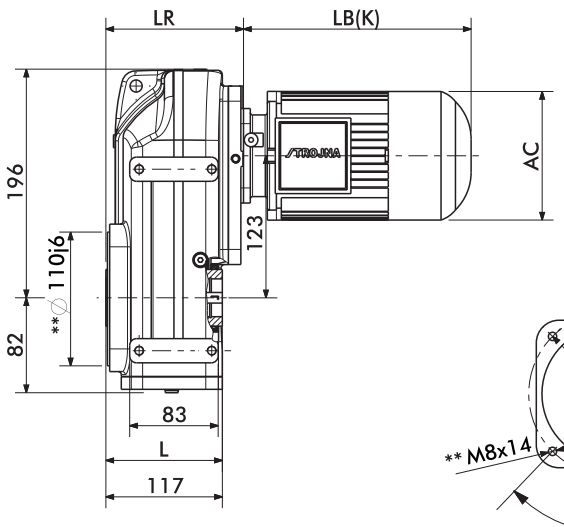


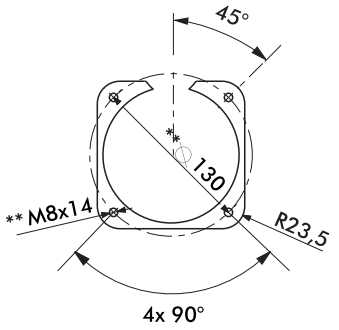
FG12PZ...

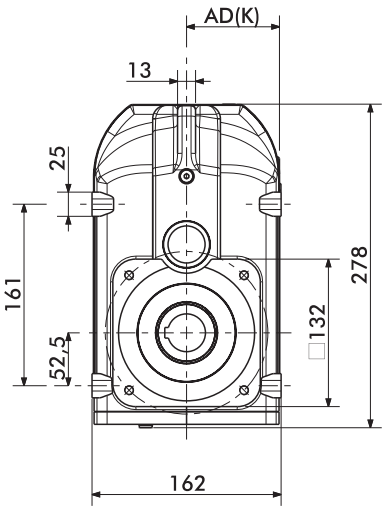


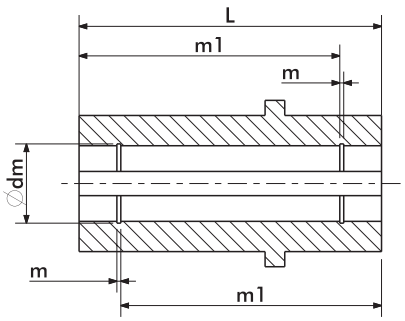
FG22...SMB/SMR

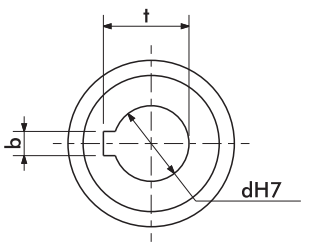








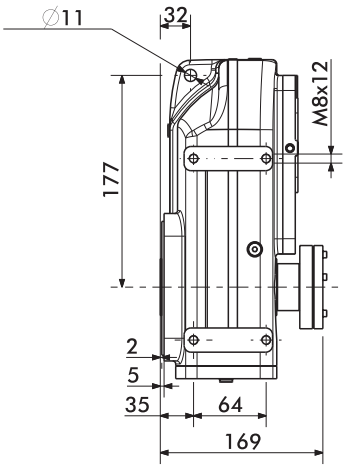




d	L	m1	dm	m	t	b
30	115	101	31,4	1,3	33,3	8
*35	115	100	37	1,6	38,3	10

dv	tv	bv	lv	lk	tk	g	lz
30	33	8	60	50	5	M10	235
*35	38	10	70	60	5	M12	255

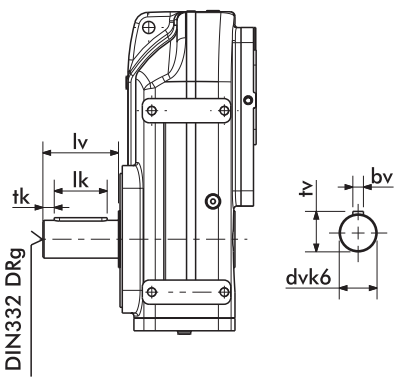
FG22D...



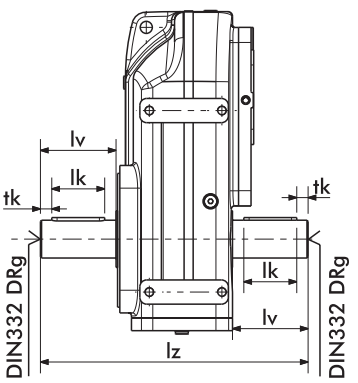
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	138
71	223	105	280	137	140	138
80	251	110	311	147	154	138
90S	276	121	360	164	170	138
90L	301	121	385	164	170	138
100	329	157	418	174	193	142
112M	334	169	434	199	216	142
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard
** C Flange DIN42948

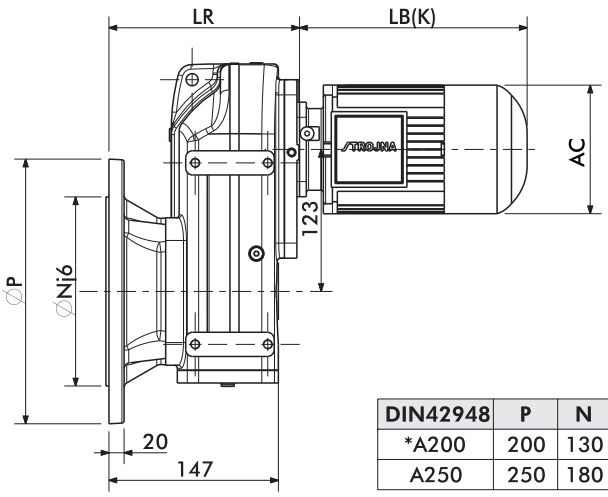
FG22V...

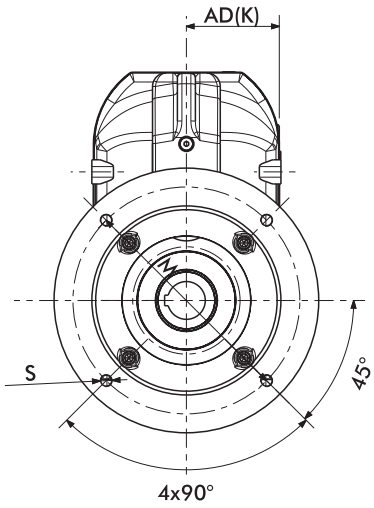


FG22Z...

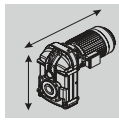


FG22P...SMB/SMR

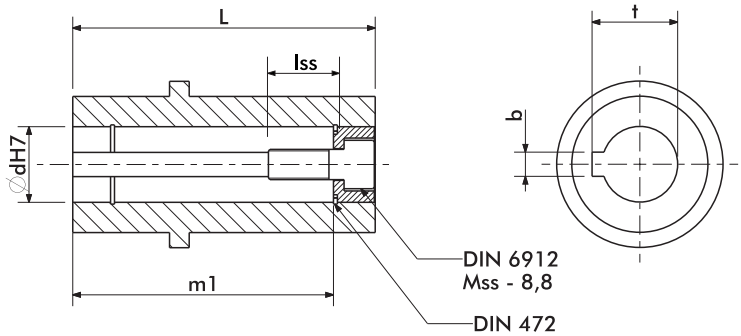


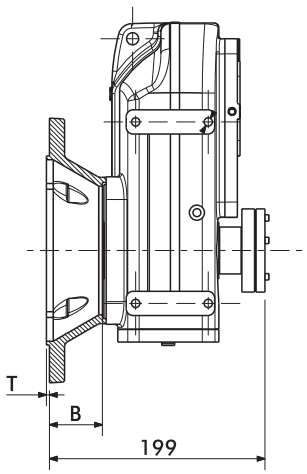


DIN42948	P	N	M	T	B	S
*A200	200	130	165	3	30	11
A250	250	180	215	4	30	14



FG22PD...





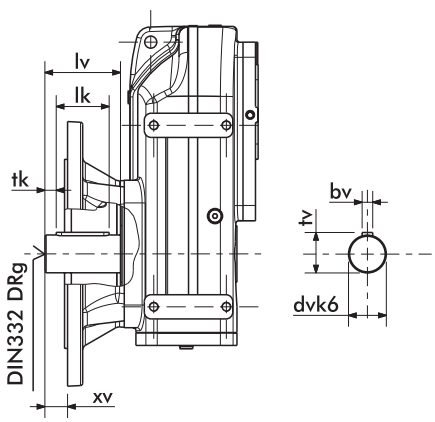
d	L	m1	lss	Mss	t	b
30	115	101	25	M10	33,3	8
*35	115	100	30	M12	38,3	10

dv	tv	bv	lv	lk	tk	xv	g	lz
30	33	8	60	50	5	30	M10	235
*35	38	10	70	60	5	40	M12	255

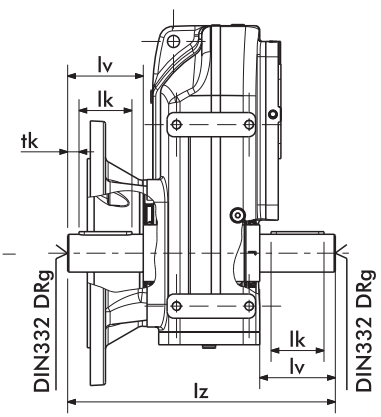
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	168
71	223	105	280	137	140	168
80	251	110	311	147	154	168
90S	276	121	360	164	170	168
90L	301	121	385	164	170	168
100	329	157	418	174	193	172
112M	334	169	434	199	216	172
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard

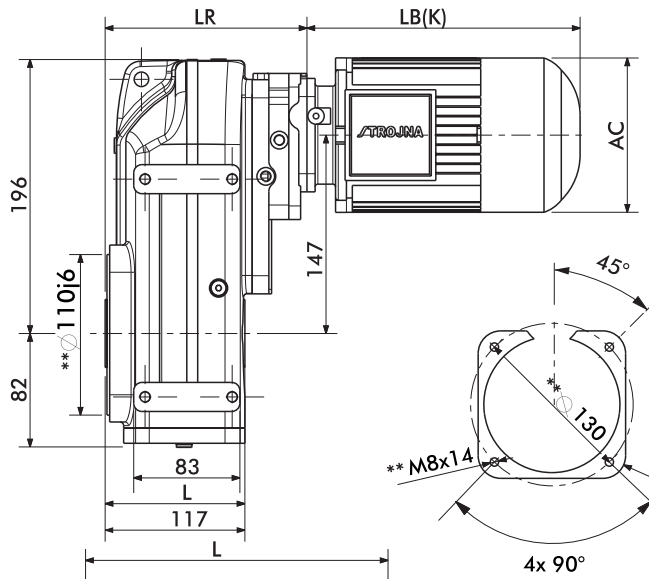
FG22PV...

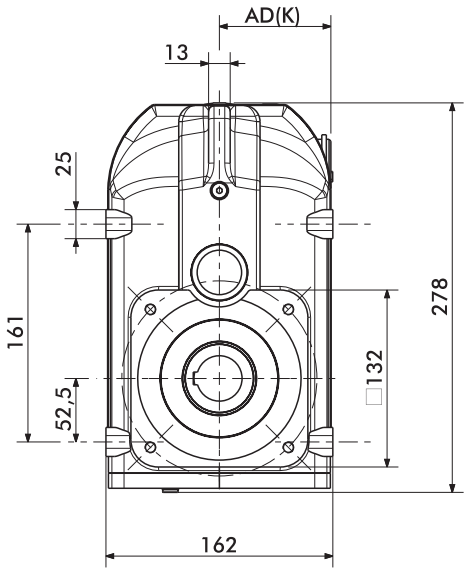


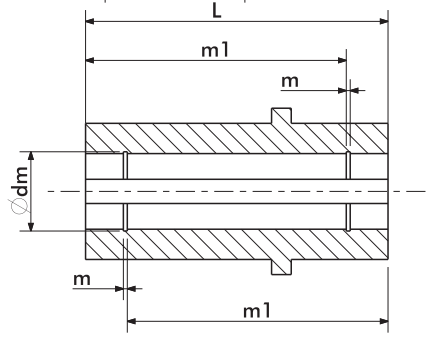
FG22PZ...

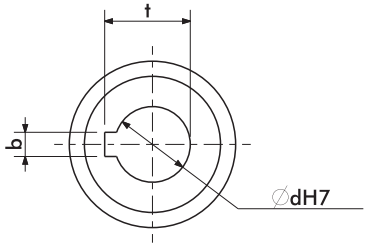


FG23...SMB/SMR









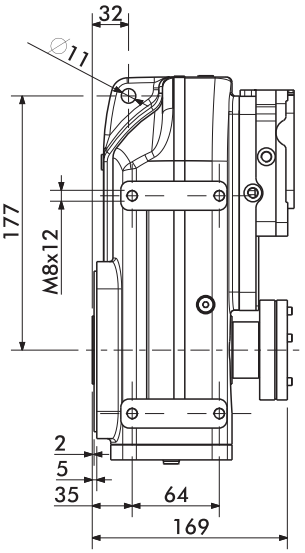
d	L	m1	dm	m	t	b
30	115	101	31,4	1,3	33,3	8
*35	115	100	37	1,6	38,3	10

dv	tv	bv	lv	lk	tk	g	lz
30	33	8	60	50	5	M10	235
*35	38	10	70	60	5	M12	255

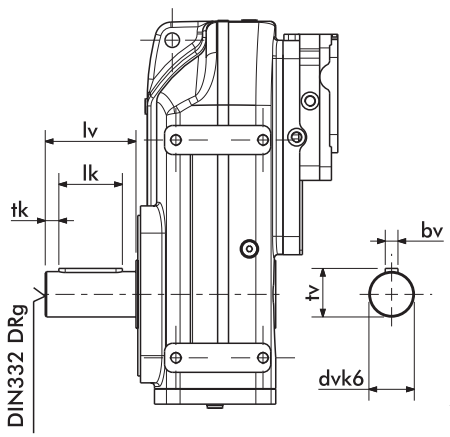
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	172
71	223	105	280	137	140	172
80	251	110	311	147	154	172
90S	276	121	360	164	170	172
90L	301	121	385	164	170	172
100						
112M						
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard
** C Flange DIN42948

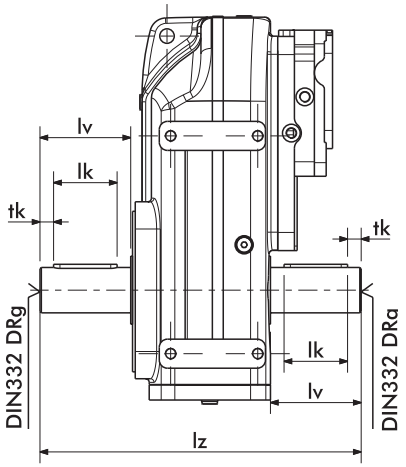
FG23D...



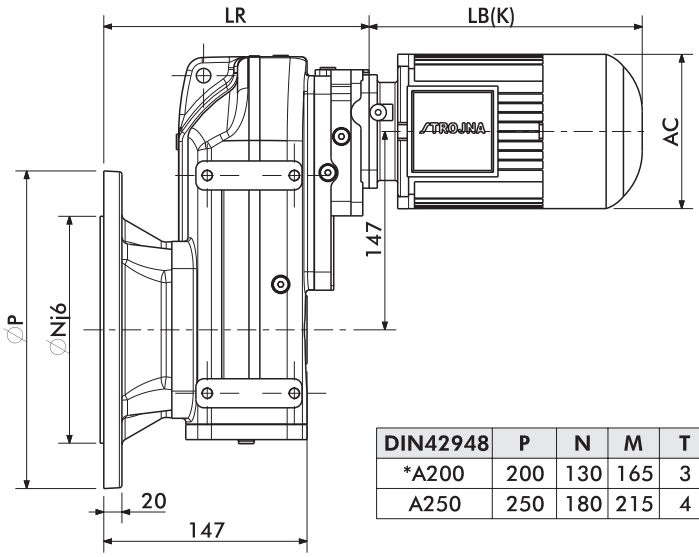
FG23V...

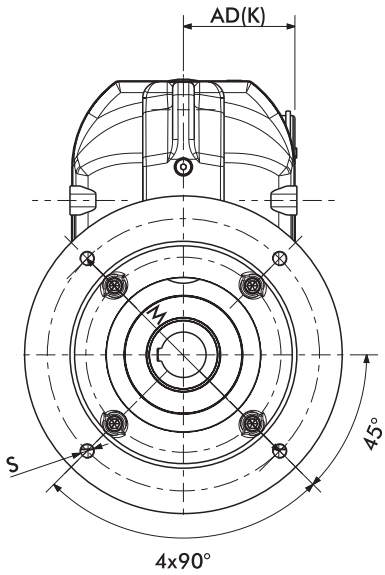


FG23Z...

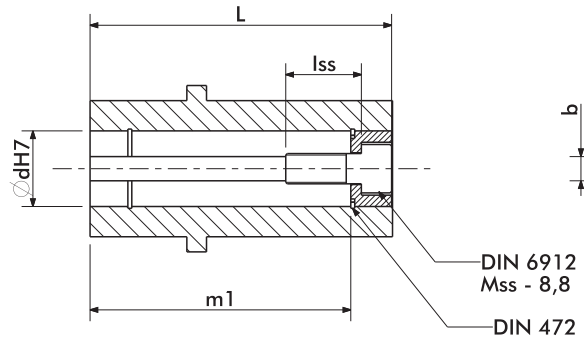


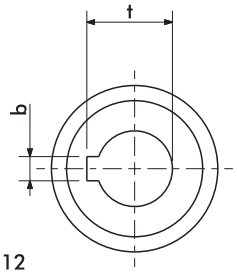
FG23P...SMB/SMR





DIN42948	P	N	M	T	B	S
*A200	200	130	165	3	30	11
A250	250	180	215	4	30	14

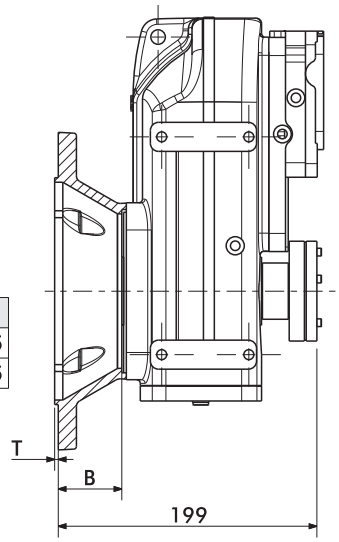




d	L	m1	lss	Mss	t	b
30	115	101	25	M10	33,3	8
*35	115	100	30	M12	38,3	10

dv	tv	bv	lv	lk	xv	tk	g	lz
30	33	8	60	50	30	5	M10	235
*35	38	10	70	60	40	5	M12	255

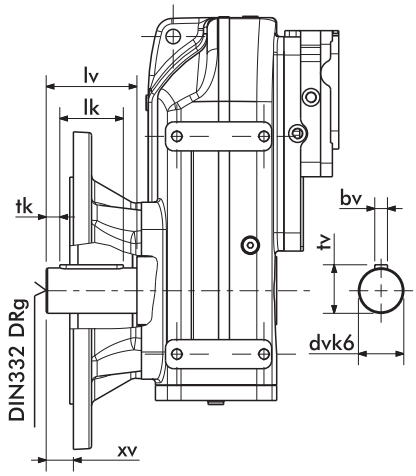
FG23PD...



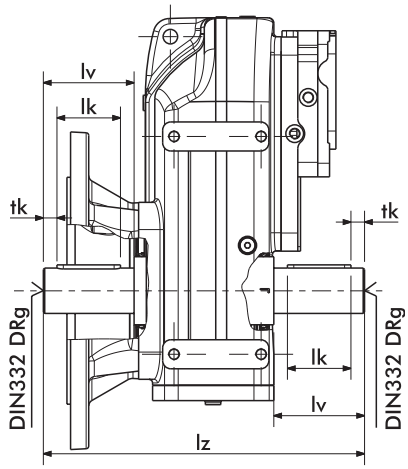
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	202
71	223	105	280	137	140	202
80	251	110	311	147	154	202
90S	276	121	360	164	170	202
90L	301	121	385	164	170	202
100						
112M						
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard

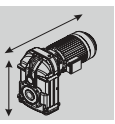
FG23PV...

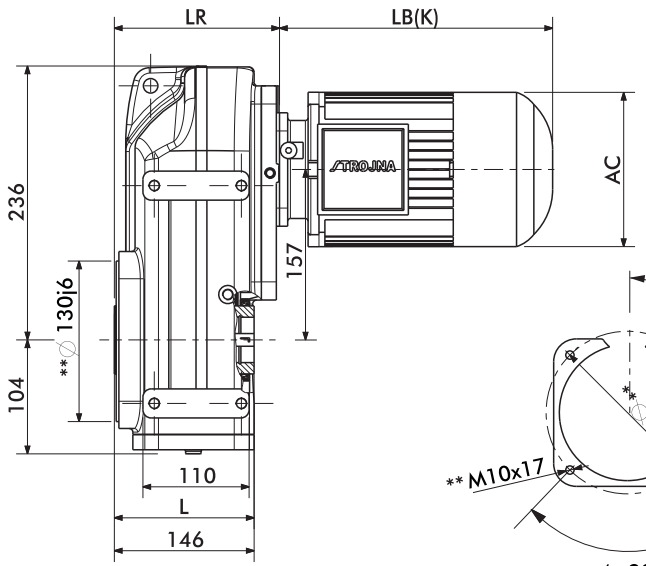


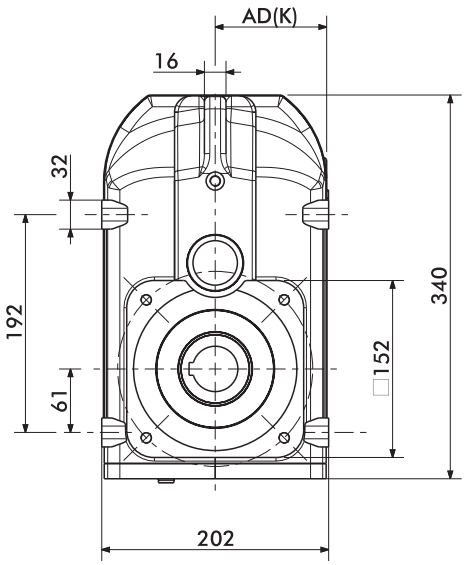
FG23PZ...

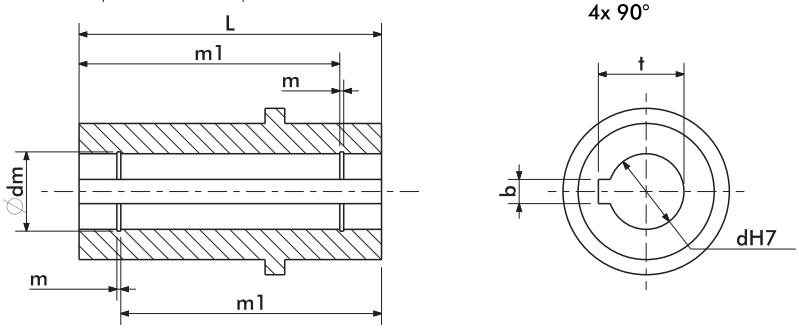


FG32...SMB/SMR









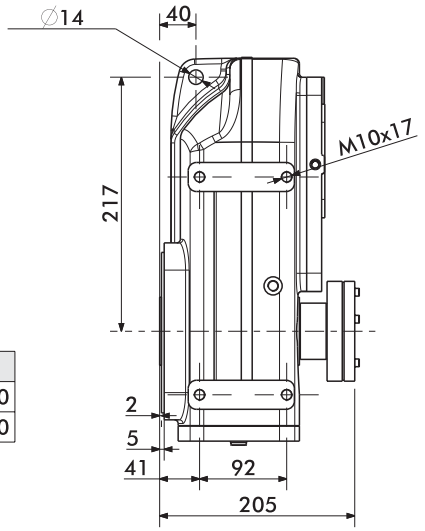
d	L	m1	dm	m	t	b
*40	150	138	42,5	1,85	43,3	12
45	150	133	47,5	1,85	48,8	14

dv	tv	bv	lv	lk	tk	g	lz
*40	43	12	80	70	5	M16	310
45	48,5	14	90	80	5	M16	330

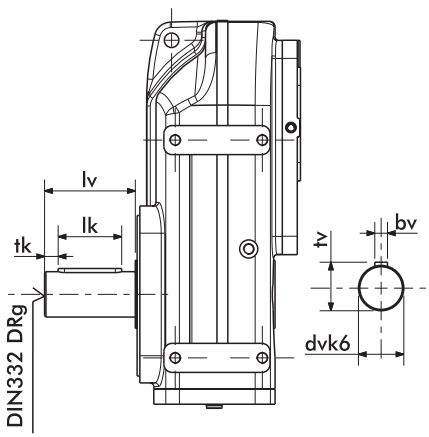
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	169
71	223	105	280	137	140	169
80	251	110	311	147	154	169
90S	276	121	360	164	170	169
90L	301	121	385	164	170	169
100	329	157	418	174	193	173
112M	334	169	434	199	216	173
132S	377	190	492	183	247	186
132M	415	190	532	183	247	186
132Ma	415	190	532	183	247	186
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

*Standard
** C Flange DIN42948

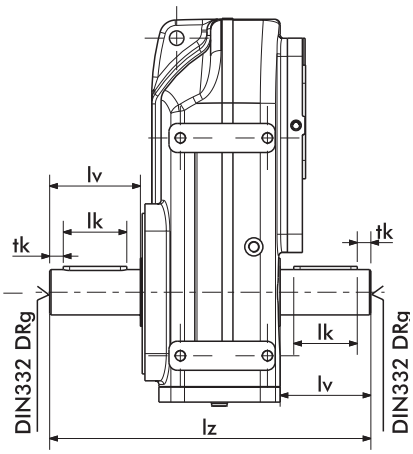
FG32D...



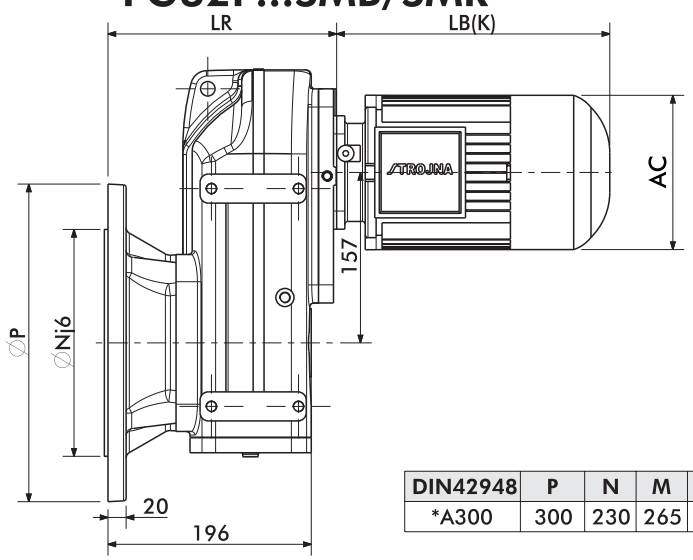
FG32V...

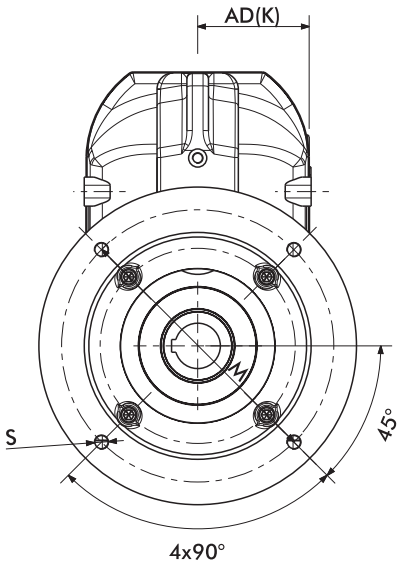


FG32Z...

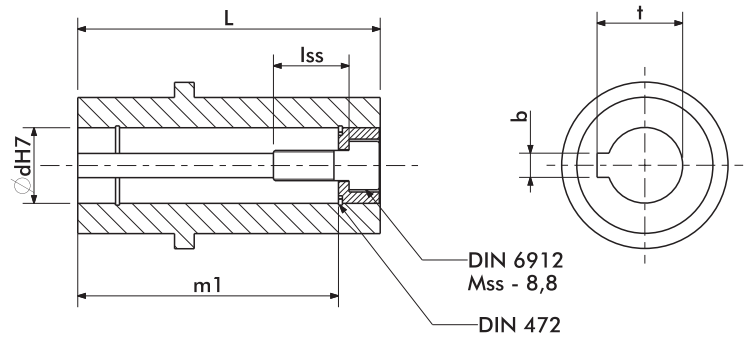


FG32P...SMB/SMR





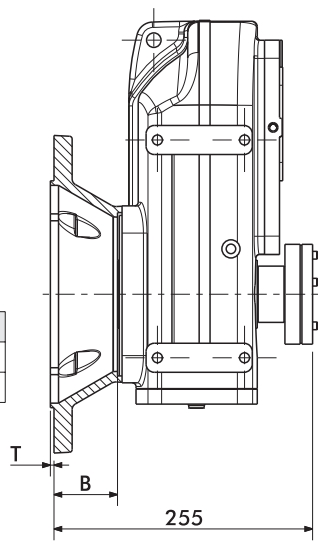
DIN42948	P	N	M	T	B	S
*A300	300	230	265	4	50	14



d	L	m1	lss	Mss	t	b
*40	150	138	40	M16	43,3	12
45	150	133	40	M16	48,8	14

dv	tv	bv	lv	lk	tk	xv	g	lz
*40	43	12	80	70	5	30	M16	310
45	48,5	14	90	80	5	40	M16	330

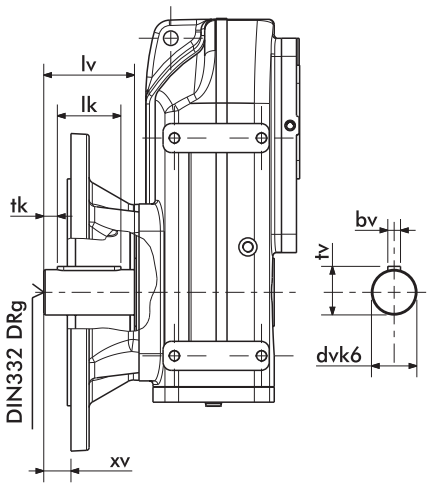
FG32PD...



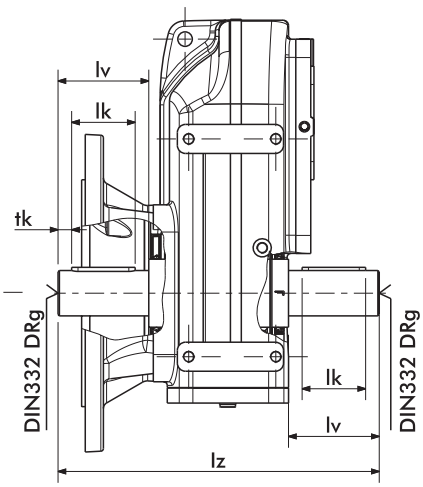
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	219
71	223	105	280	137	140	219
80	251	110	311	147	154	219
90S	276	121	360	164	170	219
90L	301	121	385	164	170	219
100	329	157	418	174	193	223
112M	334	169	434	199	216	223
132S	377	190	492	183	247	236
132M	415	190	532	183	247	236
132Ma	415	190	532	183	247	236
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

*Standard

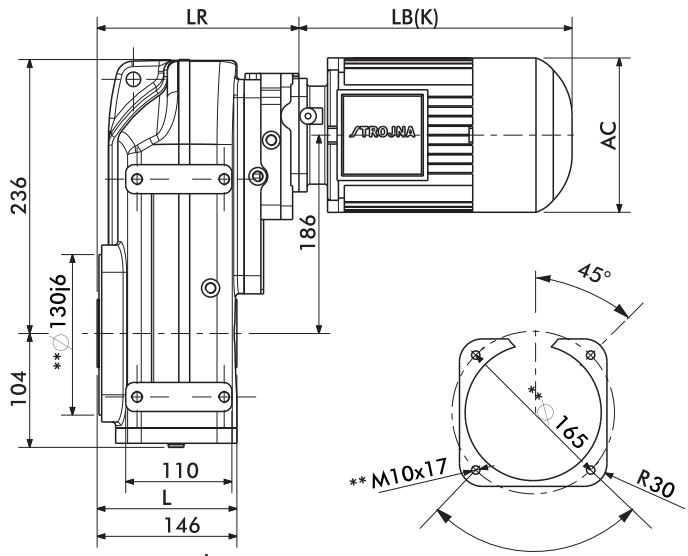
FG32PV...

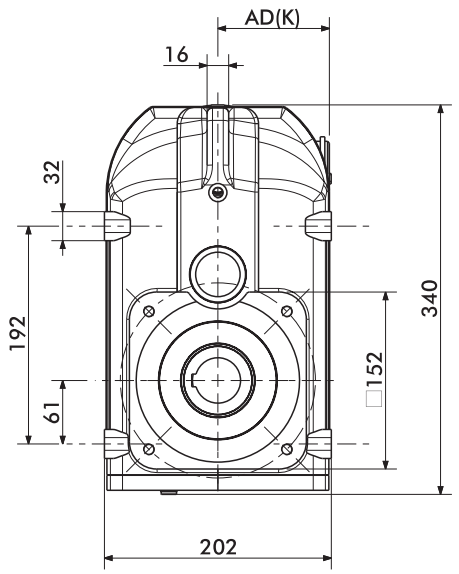


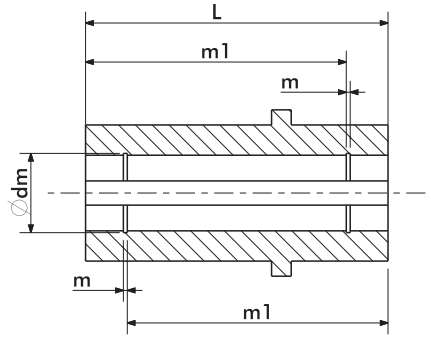
FG32PZ...

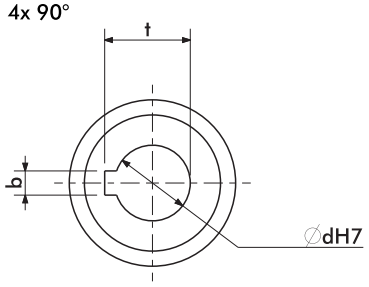


FG33...SMB/SMR









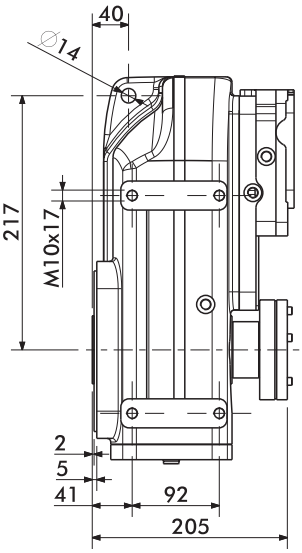
d	L	m1	dm	m	t	b
*40	150	138	42,5	1,85	43,3	12
45	150	133	47,5	1,85	48,8	14

dv	tv	bv	lv	lk	tk	g	lz
*40	43	12	80	70	5	M16	310
50	53,5	14	100	90	5	M16	350

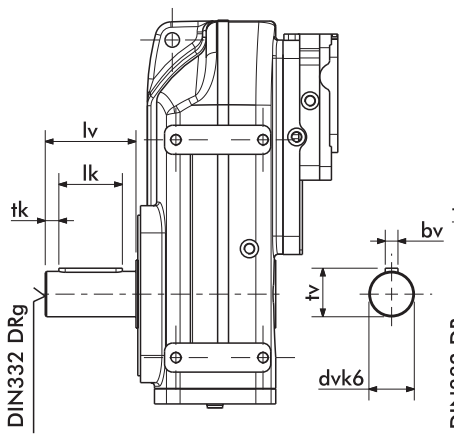
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	203
71	223	105	280	137	140	203
80	251	110	311	147	154	203
90S	276	121	360	164	170	203
90L	301	121	385	164	170	203
100						
112M						
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard
** C Flange DIN42948

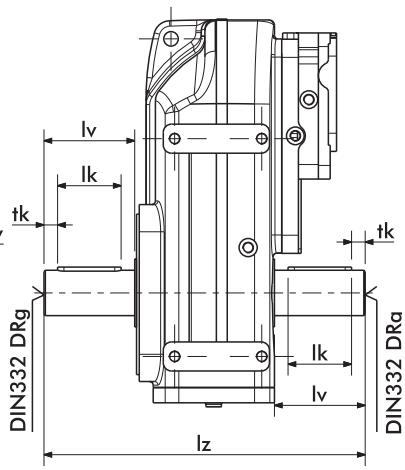
FG33D...



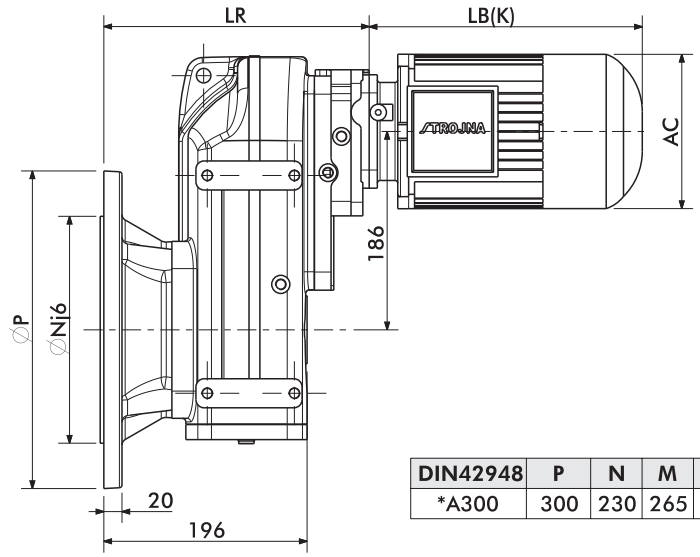
FG33V...

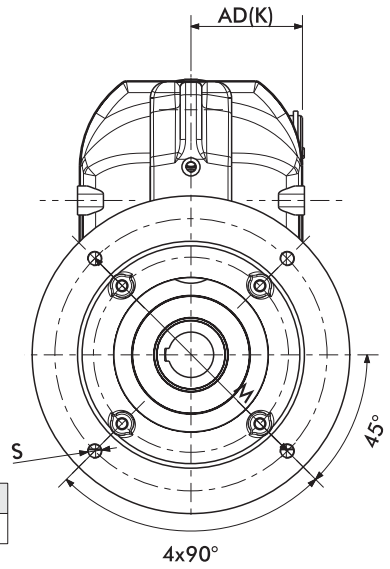


FG33Z...

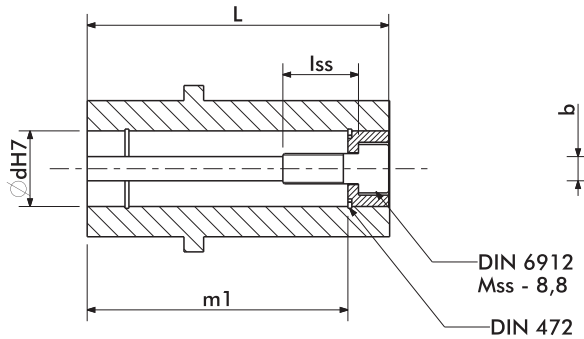


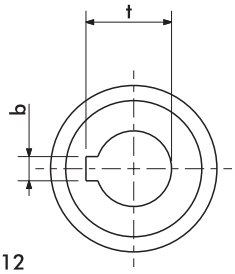
FG33P...SMB/SMR





DIN42948	P	N	M	T	B	S
*A300	300	230	265	4	50	14

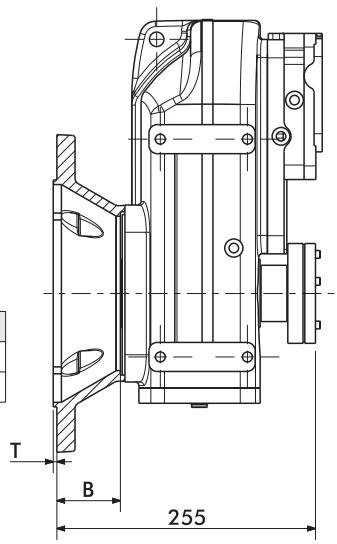




d	L	m1	lss	Mss	t	b
*40	150	138	40	M16	43,3	12
45	150	133	40	M16	48,8	14

dv	tv	bv	lv	lk	xv	tk	g	lz
*40	43	12	80	70	30	5	M16	310
50	53,5	14	100	90	50	5	M16	350

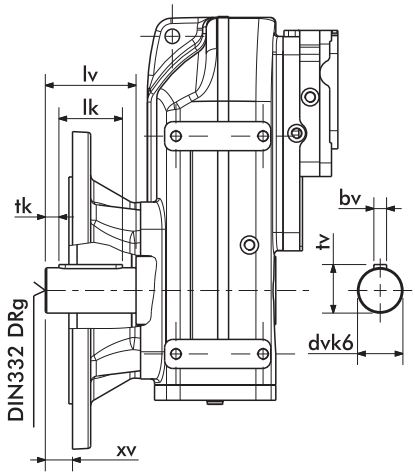
FG33PD...



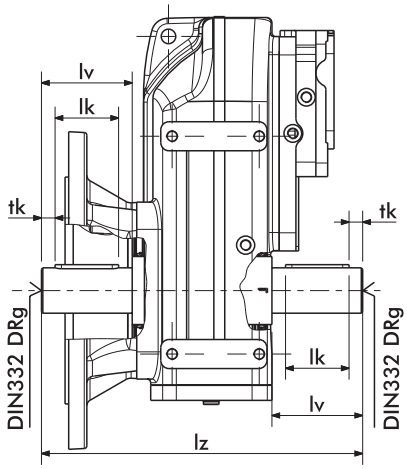
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	273
71	223	105	280	137	140	273
80	251	110	311	147	154	273
90S	276	121	360	164	170	273
90L	301	121	385	164	170	273
100						
112M						
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard

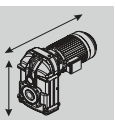
FG33PV...

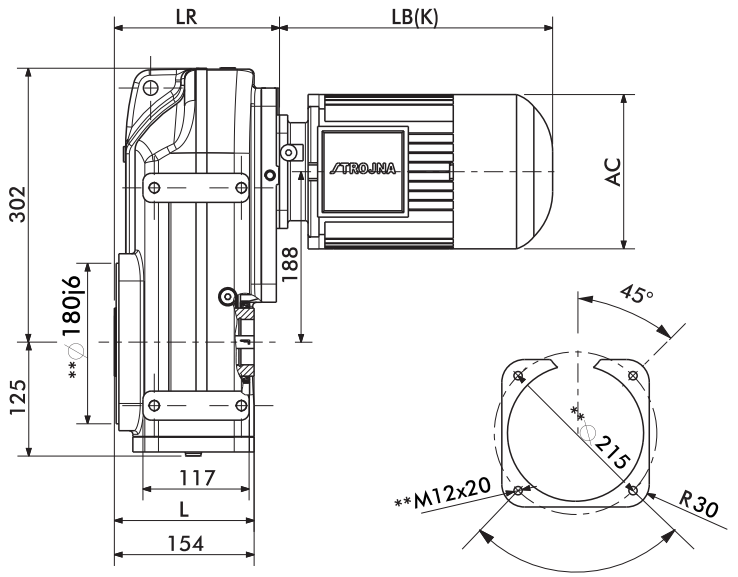


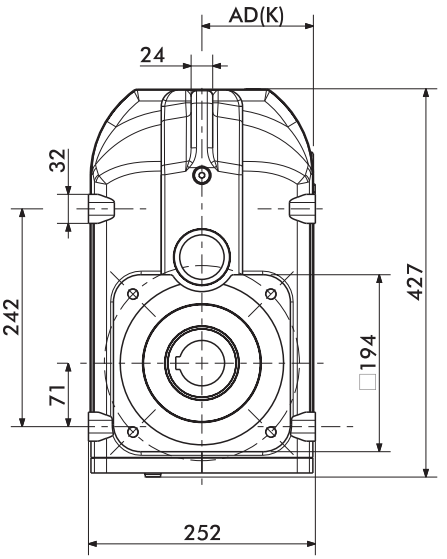
FG33PZ...

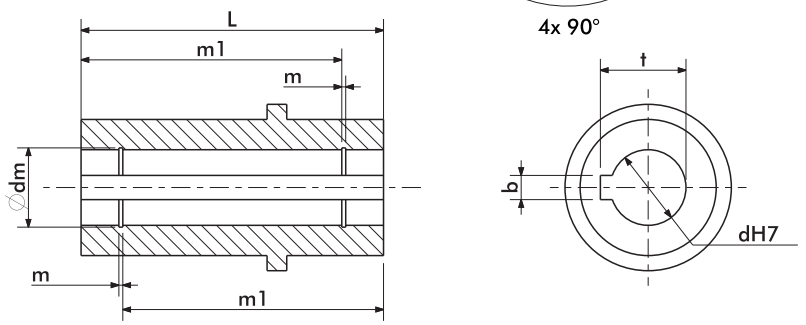


FG42...SMB/SMR





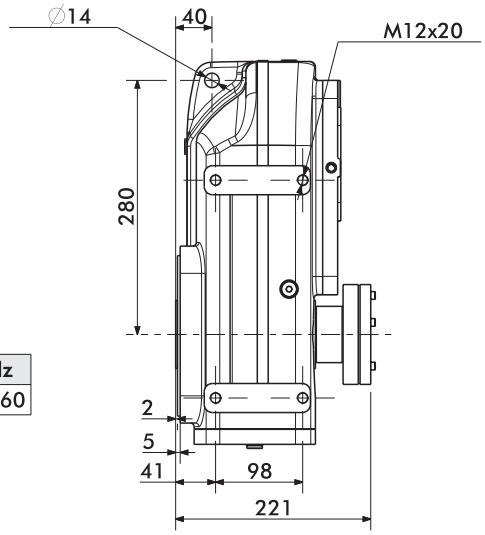




d	L	m1	dm	m	t	b
*50	160	143	53	2,15	53,8	14

dv	tv	bv	lv	lk	tk	g	lz
*50	53,5	14	100	80	10	M16	360

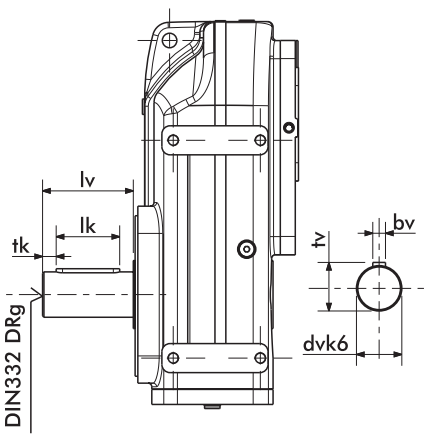
FG42D...



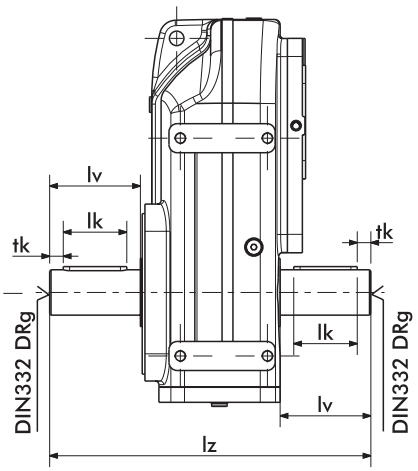
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	181
71	223	105	280	137	140	181
80	251	110	311	147	154	181
90S	276	121	360	164	170	181
90L	301	121	385	164	170	181
100	329	157	418	174	193	185
112M	334	169	434	199	216	185
132S	377	190	492	183	247	198
132M	415	190	532	183	247	198
132Ma	415	190	532	183	247	198
160M	489	246	613	246	285	207
160L	533	246	657	246	285	207
180M	554	260	739	260	323	207
180L	592	260	777	260	323	207
200L						
225S						
225M						
250M						

* Standard
** C Flange DIN42948

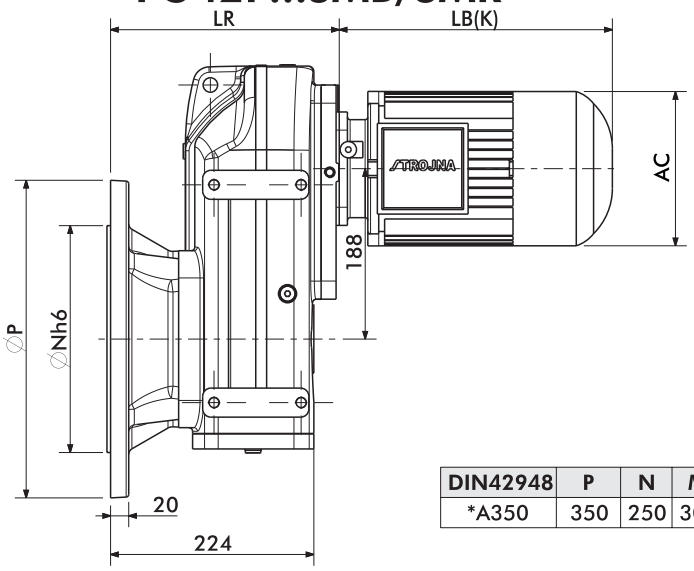
FG42V...

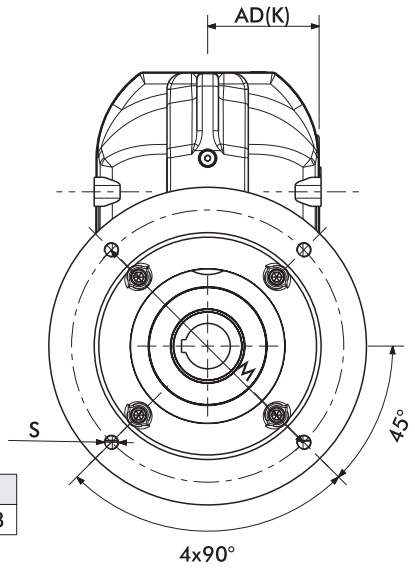


FG42Z...

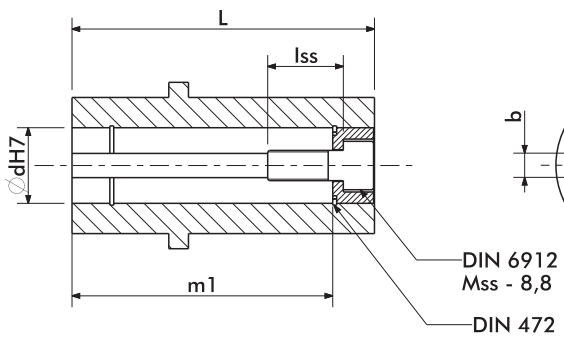


FG42P...SMB/SMR





DIN42948	P	N	M	T	B	S
*A350	350	250	300	4	70	18



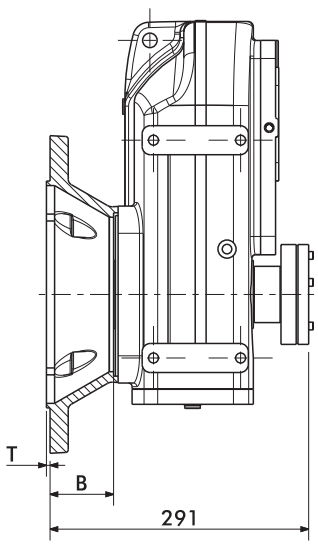
d	L	m1	lss	Mss	t	b
*50	160	143	40	M16	53,8	14

dv	tv	bv	lv	lk	tk	xv	g	lz
*50	53,5	14	100	80	10	30	M16	360

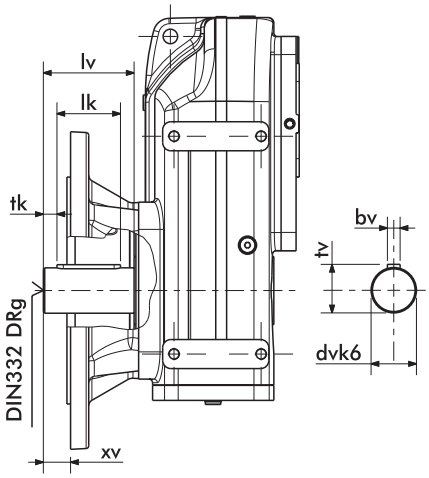
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	251
71	223	105	280	137	140	251
80	251	110	311	147	154	251
90S	276	121	360	164	170	251
90L	301	121	385	164	170	251
100	329	157	418	174	193	255
112M	334	169	434	199	216	255
132S	377	190	492	183	247	268
132M	415	190	532	183	247	268
132Ma	415	190	532	183	247	268
160M	489	246	613	246	285	278
160L	533	246	657	246	285	278
180M	554	260	739	260	323	278
180L	592	260	777	260	323	278
200L						
225S						
225M						
250M						

* Standard

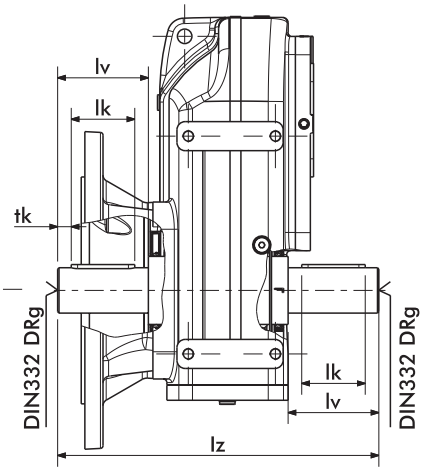
FG42PD...



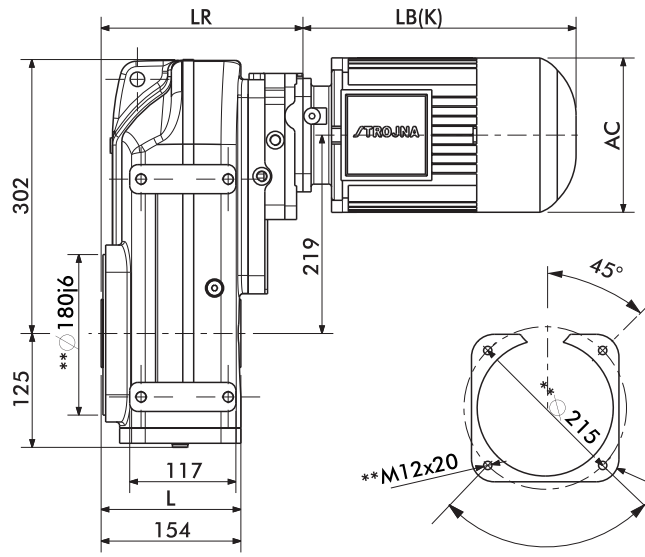
FG42PV...

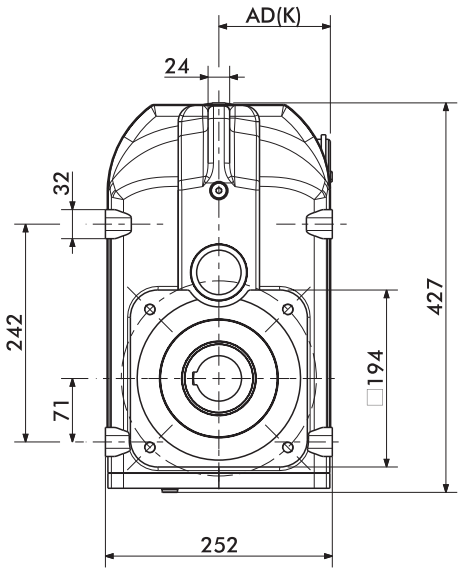


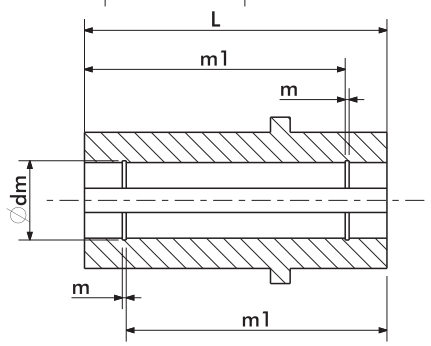
FG42PZ...

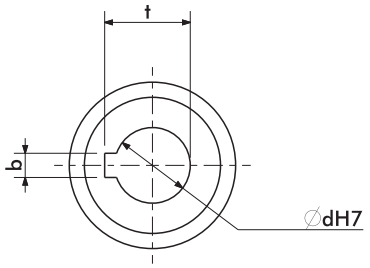


FG43...SMB/SMR









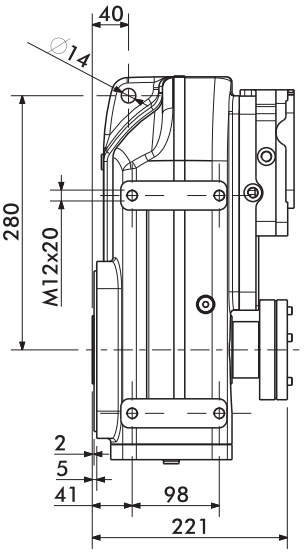
d	L	m1	dm	m	t	b
*50	160	143	53	2,15	53,8	14

dv	tv	bv	lv	lk	tk	g	lz
*50	53,5	14	100	80	10	M16	360

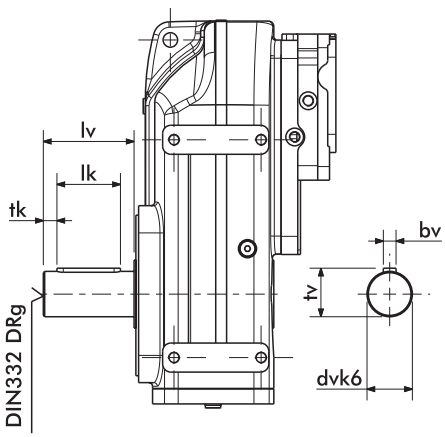
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	221
71	223	105	280	137	140	221
80	251	110	311	147	154	221
90S	276	121	360	164	170	221
90L	301	121	385	164	170	221
100	329	157	418	174	193	225
112M	334	169	434	199	216	225
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard
** C Flange DIN42948

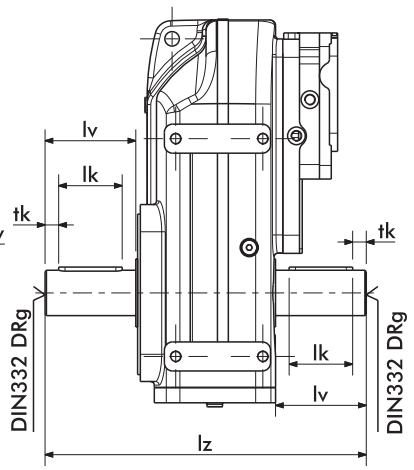
FG43D...



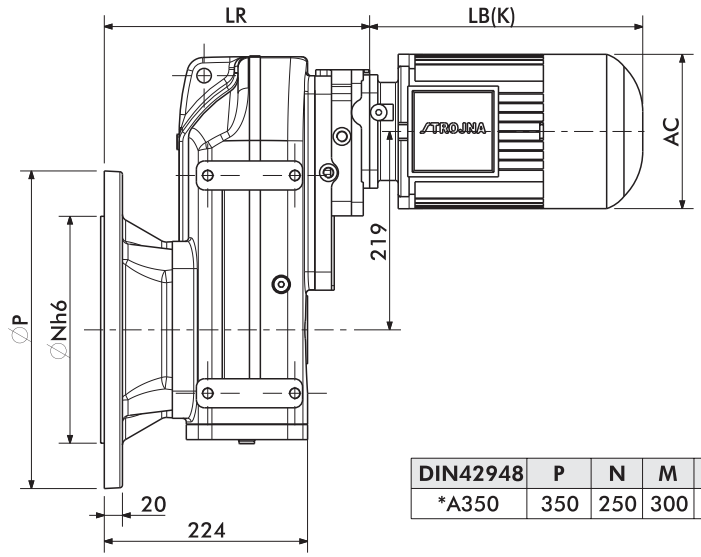
FG43V...

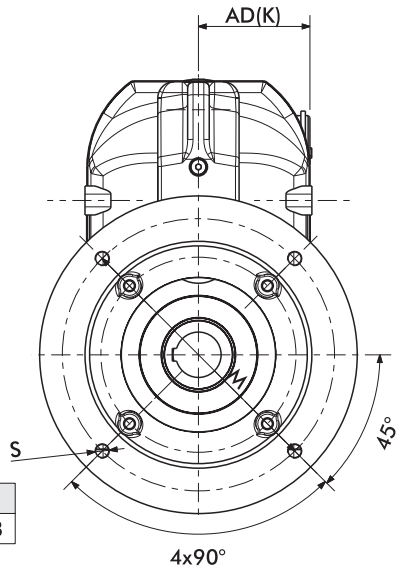


FG43Z...

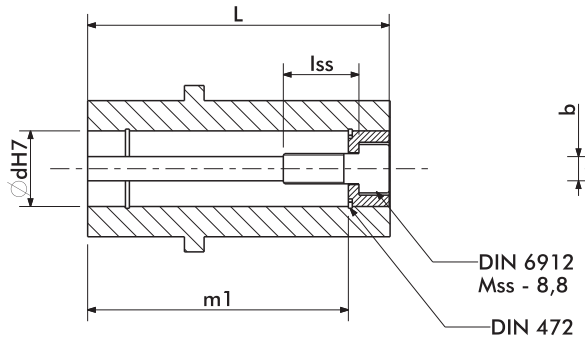


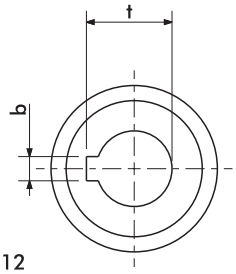
FG43P...SMB/SMR





DIN42948	P	N	M	T	B	S
*A350	350	250	300	4	70	18





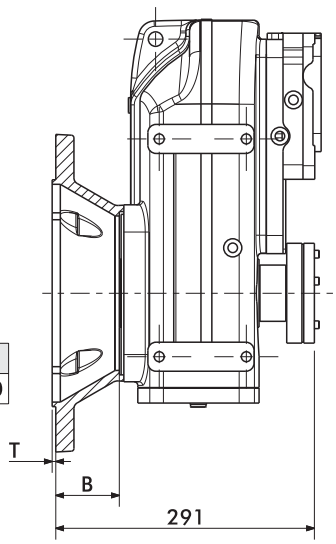
d	L	m1	lss	Mss	t	b
*50	160	143	40	M16	53,8	14

dv	tv	bv	lv	lk	tk	xv	g	lz
*50	53,5	14	100	80	10	30	M16	360

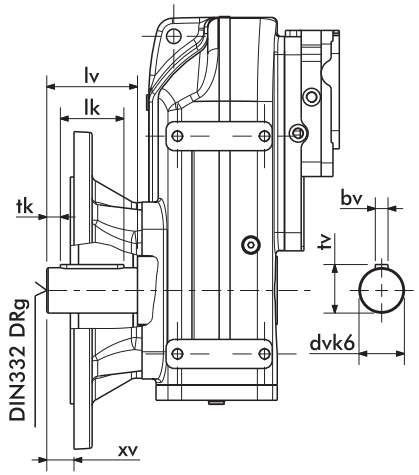
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	291
71	223	105	280	137	140	291
80	251	110	311	147	154	291
90S	276	121	360	164	170	291
90L	301	121	385	164	170	291
100	329	157	418	174	193	295
112M	334	169	434	199	216	295
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard

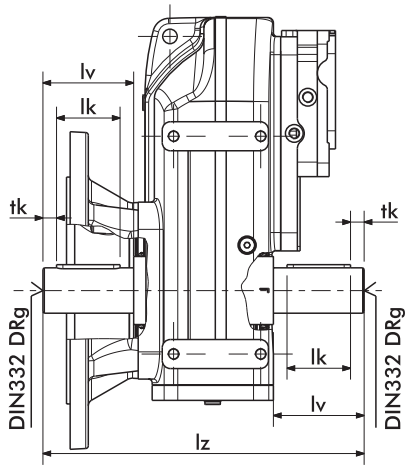
FG43PD...



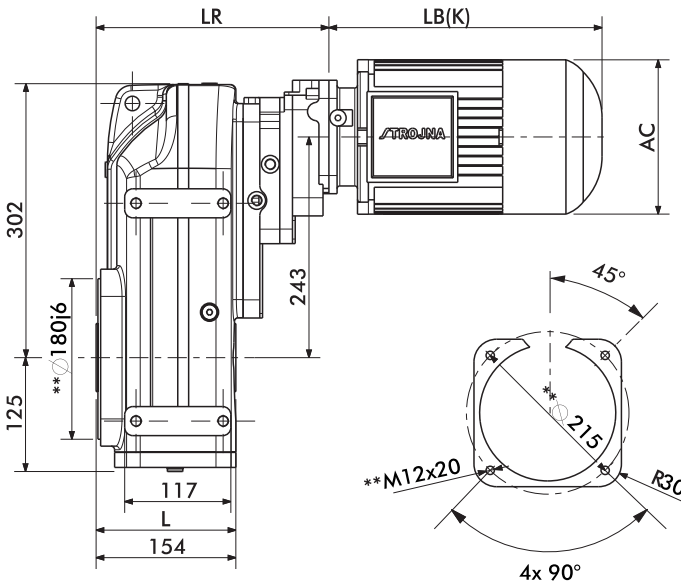
FG43PV...

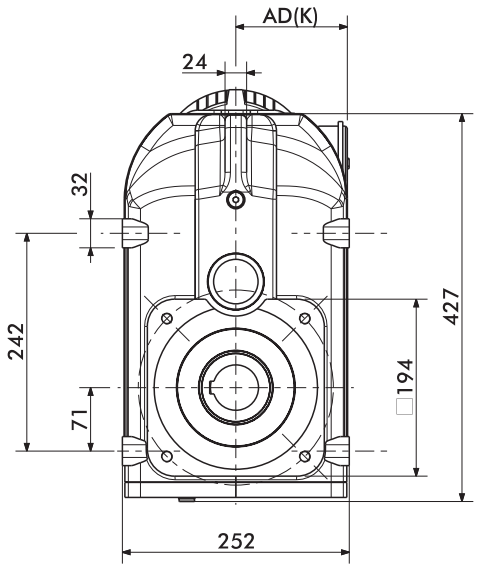


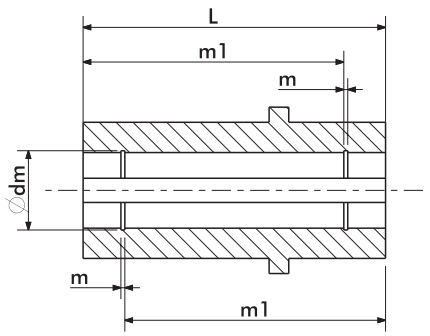
FG43PZ...

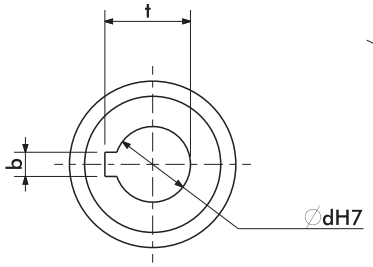


FG44...SMB/SMR





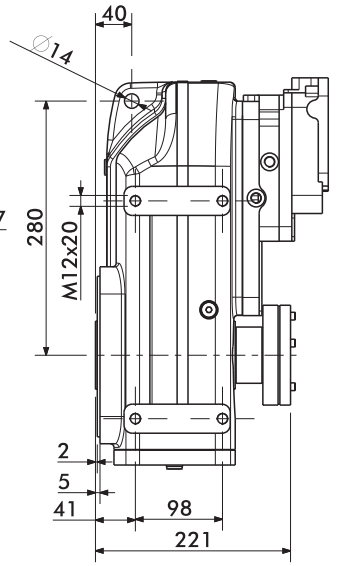




d	L	m1	dm	m	t	b
*50	160	143	53	2,15	53,8	14

dv	tv	bv	lv	lk	tk	g	lz
*50	53,5	14	100	80	10	M16	360

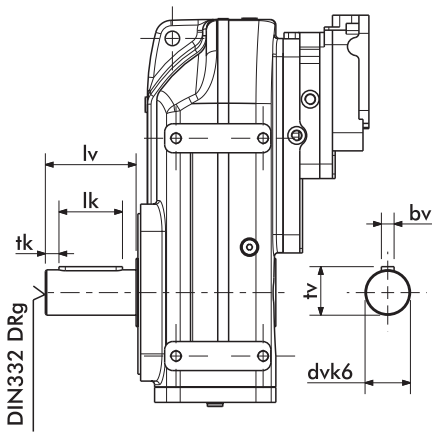
FG44D...



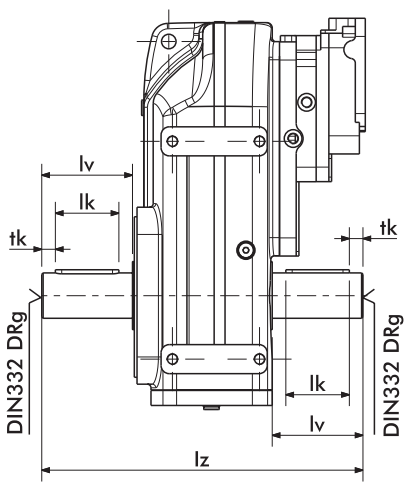
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	257
71	223	105	280	137	140	257
80	251	110	311	147	154	257
90S	276	121	360	164	170	257
90L	301	121	385	164	170	257
100						
112M						
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard
** C Flange DIN42948

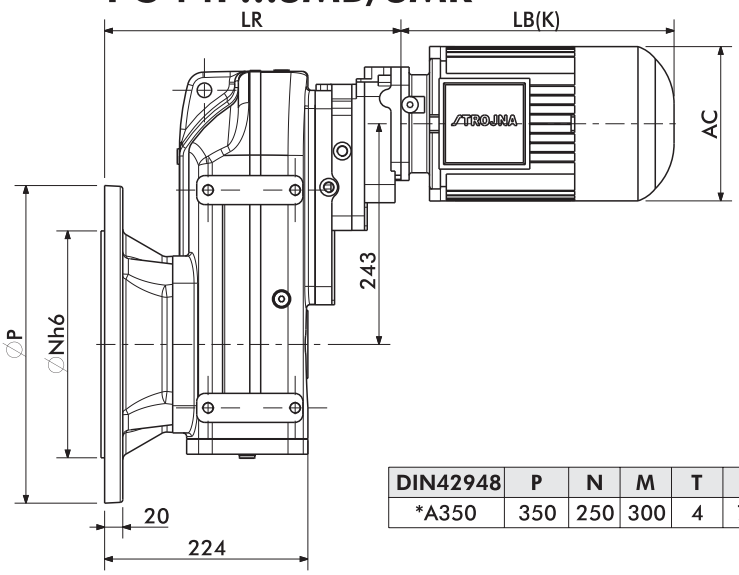
FG44V...

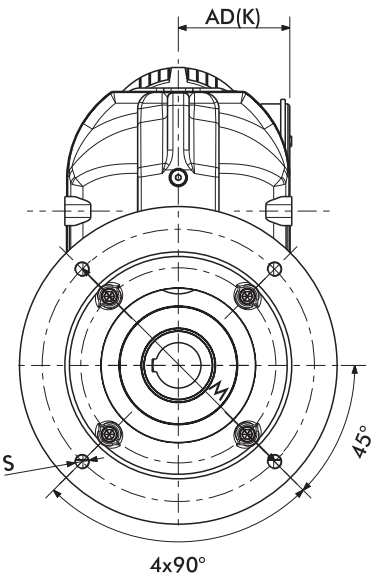


FG44Z...

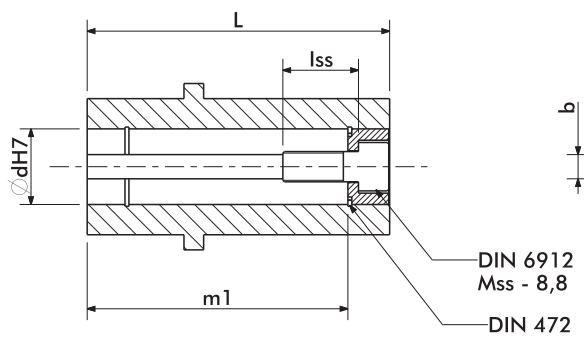


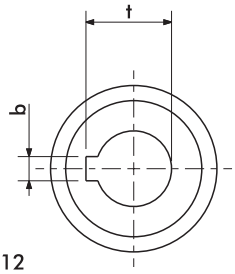
FG44P...SMB/SMR





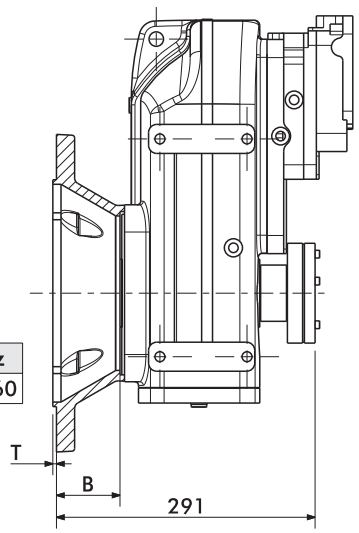
DIN42948	P	N	M	T	B	S
*A350	350	250	300	4	70	18





d	L	m1	lss	Mss	t	b
*50	160	143	40	M16	53,8	14

FG44PD...

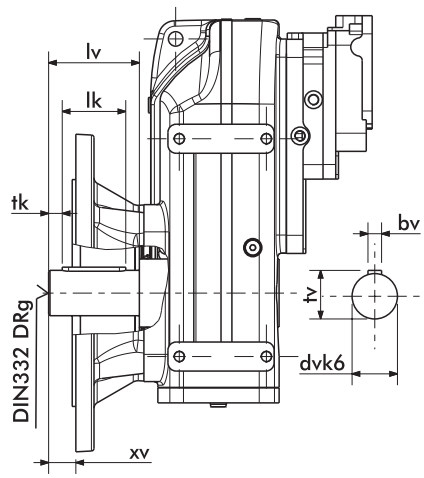


dv	tv	bv	lv	lk	tk	xv	g	lz
*50	53,5	14	100	80	10	30	M16	360

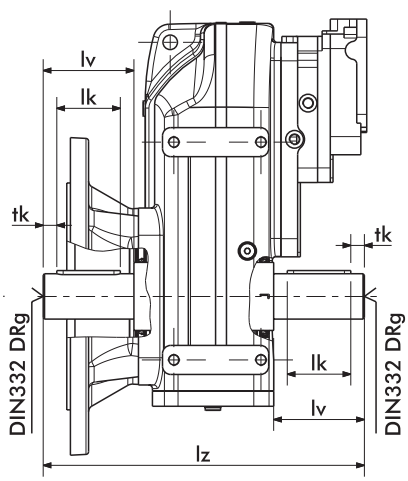
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	327
71	223	105	280	137	140	327
80	251	110	311	147	154	327
90S	276	121	360	164	170	327
90L	301	121	385	164	170	327
100						
112M						
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard

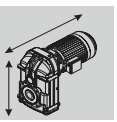
FG44PV...

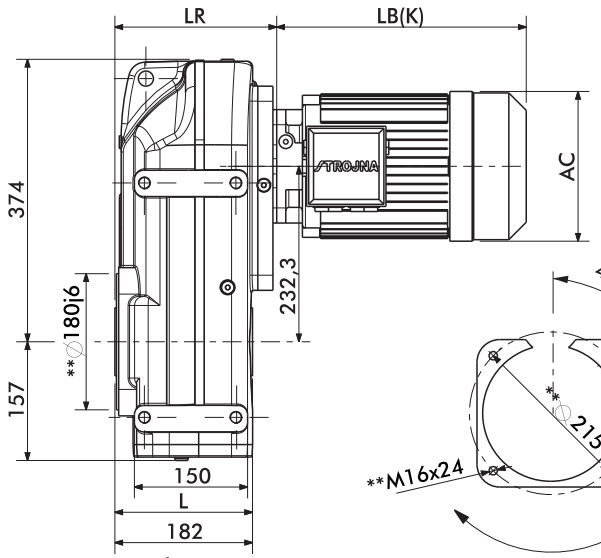


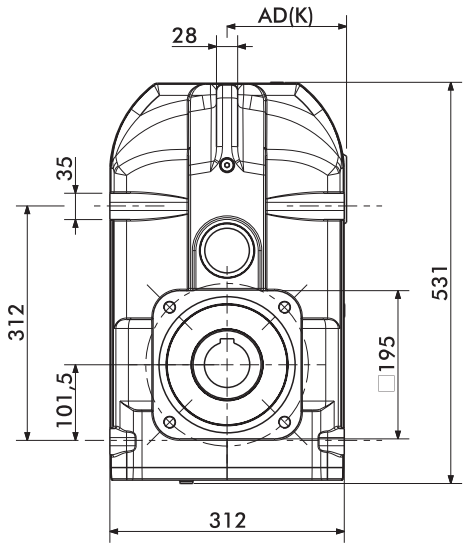
FG44PZ...

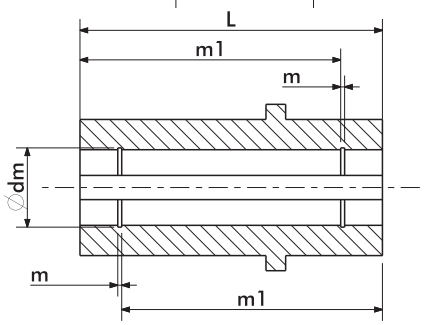


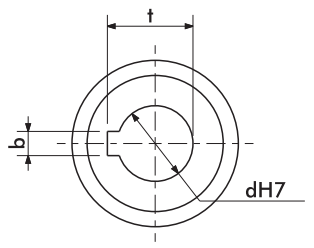
FG52...SMB/SMR







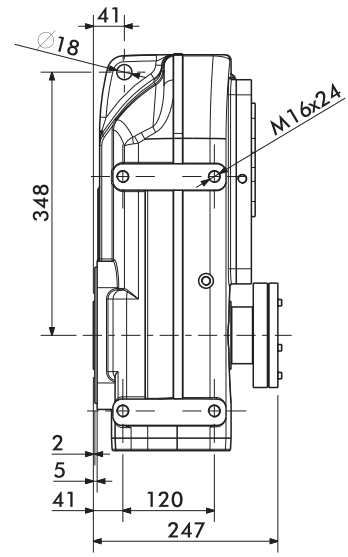




d	L	m1	dm	m	t	b
*60	185	164	63	2,15	64,4	18

dv	tv	bv	lv	lk	tk	g	lz
*60	64	18	110	100	5	M20	405

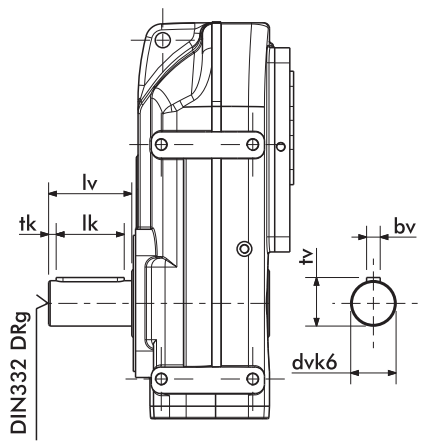
FG52D...



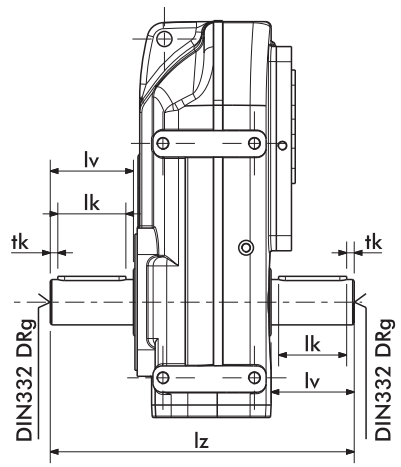
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63						
71						
80						
90S						
90L						
100	329	157	418	174	193	209
112M	334	169	434	199	216	209
132S	377	190	492	183	247	223
132M	415	190	532	183	247	223
132Ma	415	190	532	183	247	223
160M	489	246	611	246	285	231
160L	533	246	655	246	285	231
180M	554	260	739	260	323	231
180L	592	260	777	260	323	231
200L						
225S						
225M						
250M						

* Standard
** C Flange DIN42948

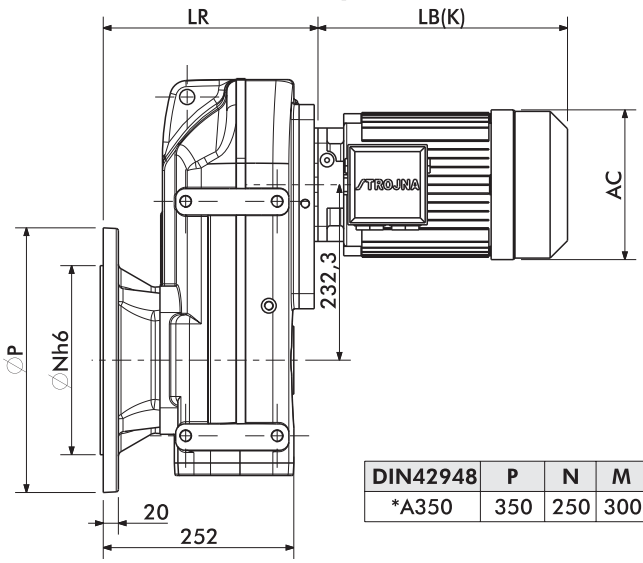
FG52V...

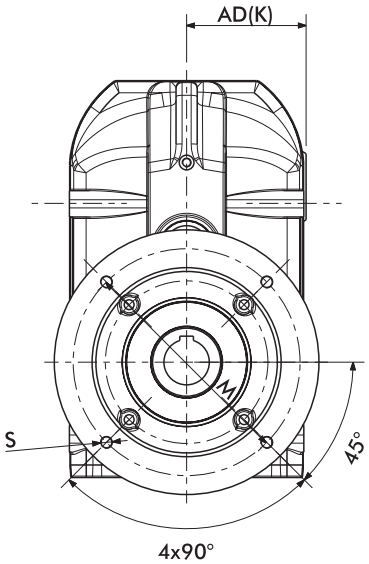


FG52Z...

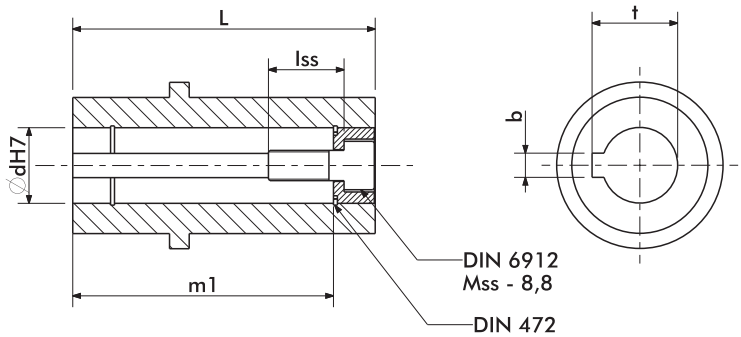


FG52P...SMB/SMR



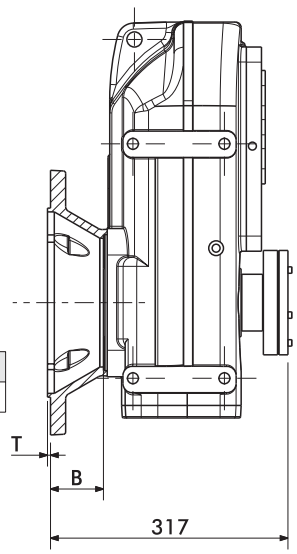


DIN42948	P	N	M	T	B	S
*A350	350	250	300	4	70	18



d	L	m1	lss	Mss	t	b
*60	185	164	50	M20	64,4	18

FG52PD...

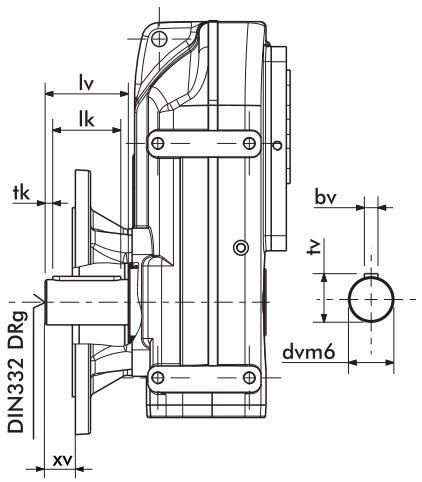


dv	tv	bv	lv	lk	tk	xv	g	lz
*60	64	18	110	100	5	40	M20	405

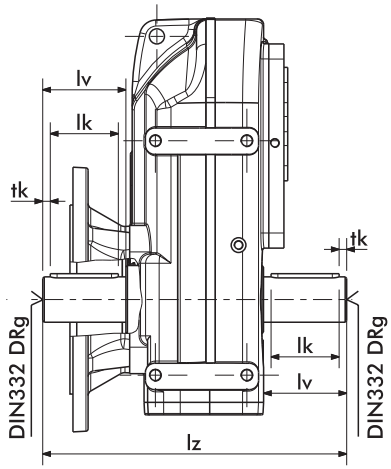
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63						
71						
80						
90S						
90L						
100	329	157	418	174	193	279
112M	334	169	434	199	216	279
132S	377	190	492	183	247	293
132M	415	190	532	183	247	293
132Ma	415	190	532	183	247	293
160M	489	246	611	246	285	301
160L	533	246	655	246	285	301
180M	554	260	739	260	323	301
180L	592	260	777	260	323	301
200L						
225S						
225M						
250M						

* Standard

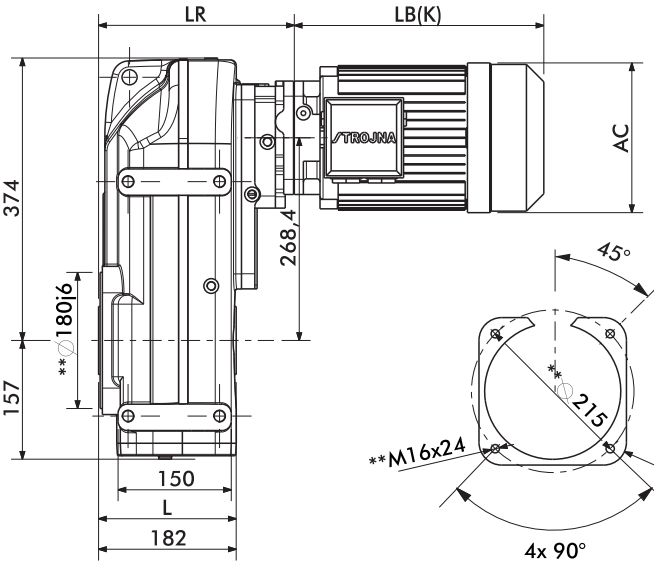
FG52PV...

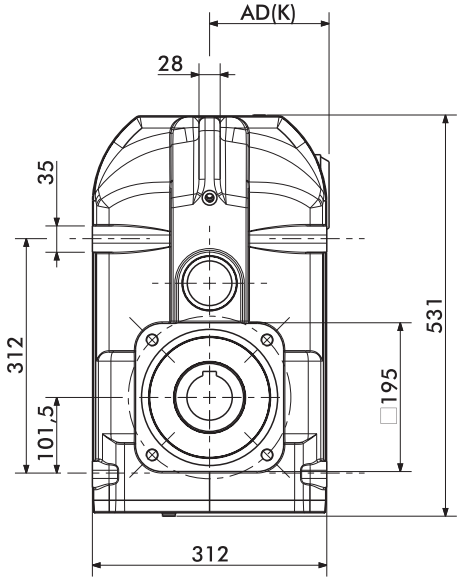


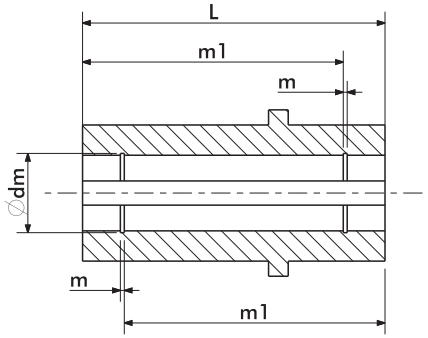
FG52PZ...

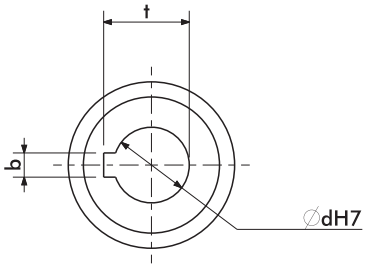


FG53...SMB/SMR





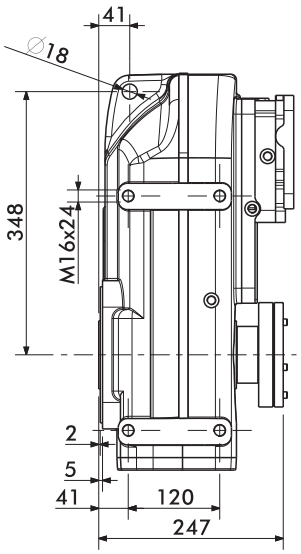




d	L	m1	dm	m	t	b
*60	185	164	63	2,15	64,4	18

dv	tv	bv	lv	lk	tk	g	lz
*60	64	18	110	100	5	M20	405

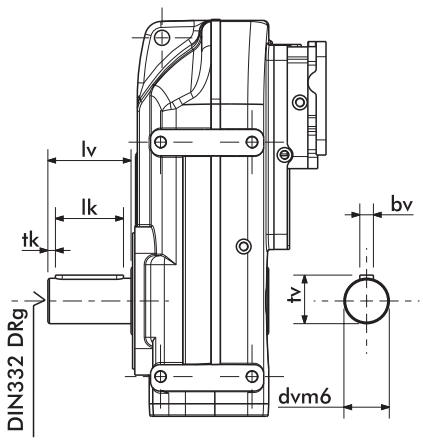
FG53D...



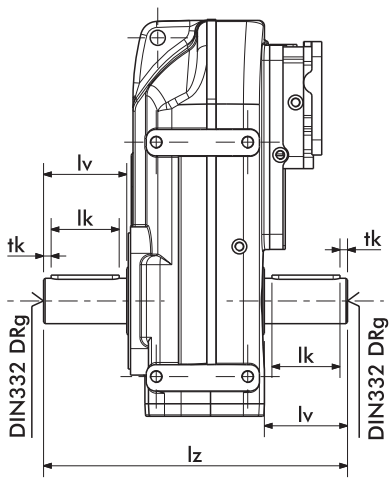
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	241
71	223	105	280	137	140	241
80	251	110	311	147	154	241
90S	276	121	360	164	170	241
90L	301	121	385	164	170	241
100	329	157	418	174	193	257
112M	334	169	434	199	216	257
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard
** C Flange DIN42948

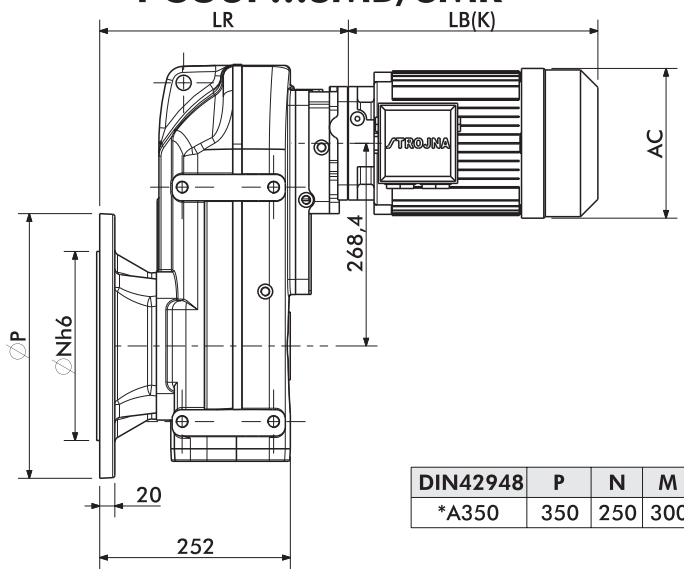
FG53V...

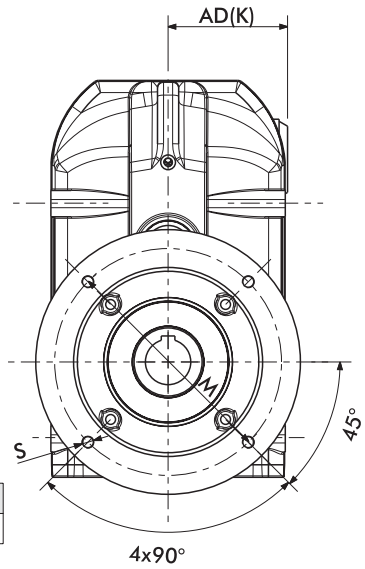


FG53Z...

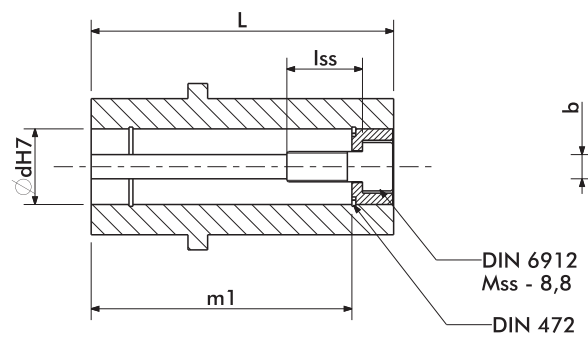


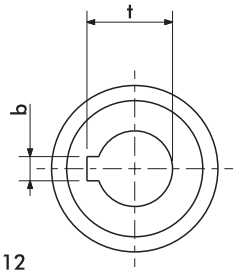
FG53P...SMB/SMR





DIN42948	P	N	M	T	B	S
*A350	350	250	300	4	70	18

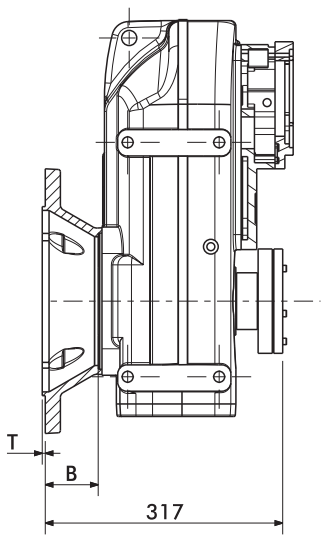




d	L	m1	lss	Mss	t	b
*60	185	164	50	M20	64,4	18

dv	tv	bv	lv	lk	tk	xv	g	lz
*60	64	18	110	100	5	40	M20	405

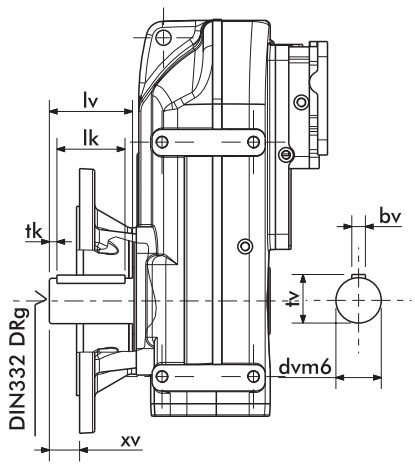
FG53PD...



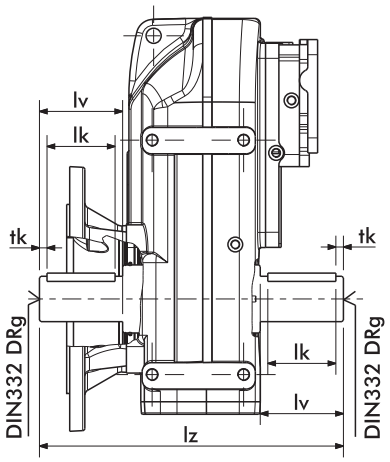
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	311
71	223	105	280	137	140	311
80	251	110	311	147	154	311
90S	276	121	360	164	170	311
90L	301	121	385	164	170	311
100	329	157	418	174	193	327
112M	334	169	434	199	216	327
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard

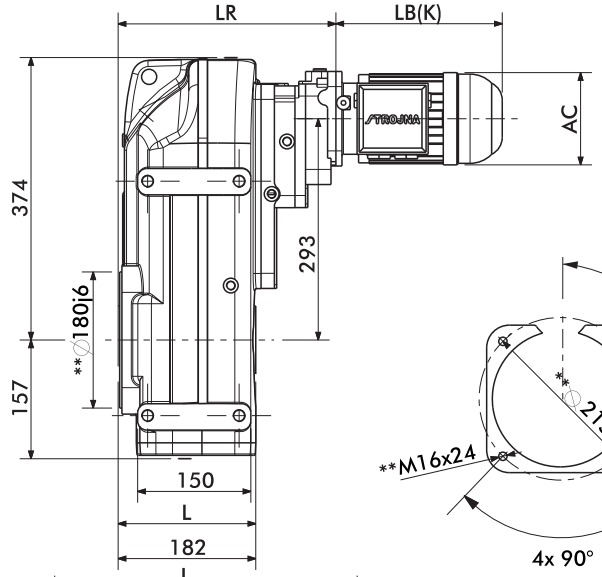
FG53PV...

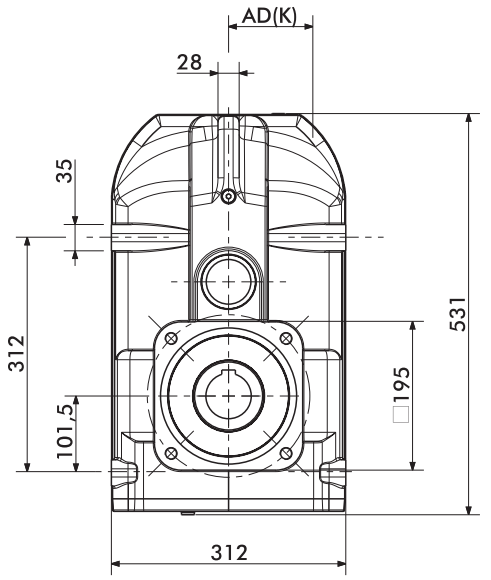


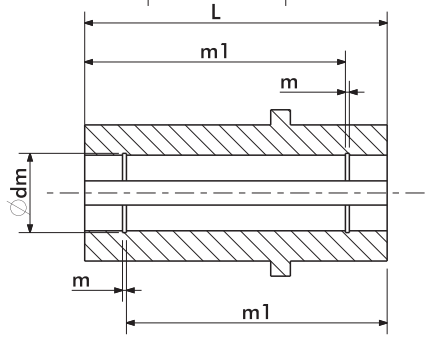
FG53PZ...

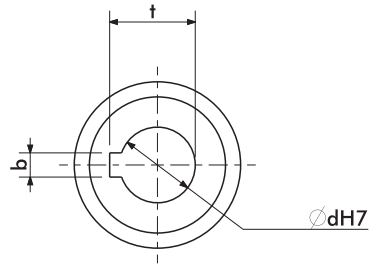


FG54...SMB/SMR









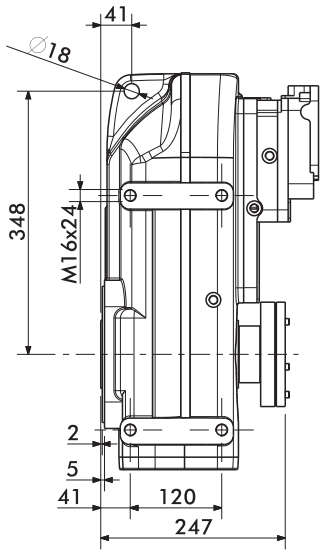
d	L	m1	dm	m	t	b
*60	185	164	63	2,15	64,4	18

dv	tv	bv	lv	lk	tk	g	lz
*60	64	18	110	100	5	M20	405

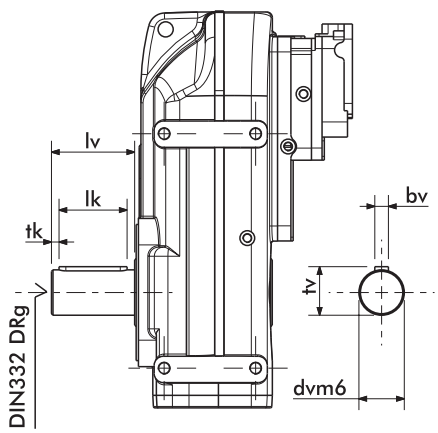
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	288
71	223	105	280	137	140	288
80	251	110	311	147	154	288
90S	276	121	360	164	170	288
90L	301	121	385	164	170	288
100						
112M						
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard
** C Flange DIN42948

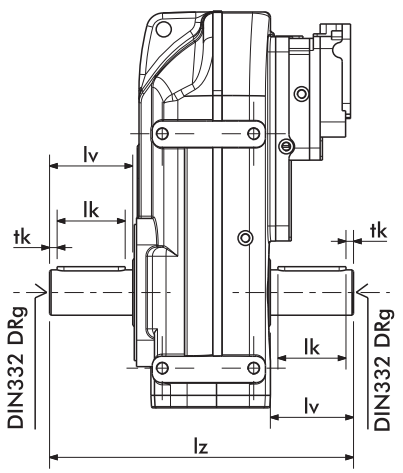
FG54D...



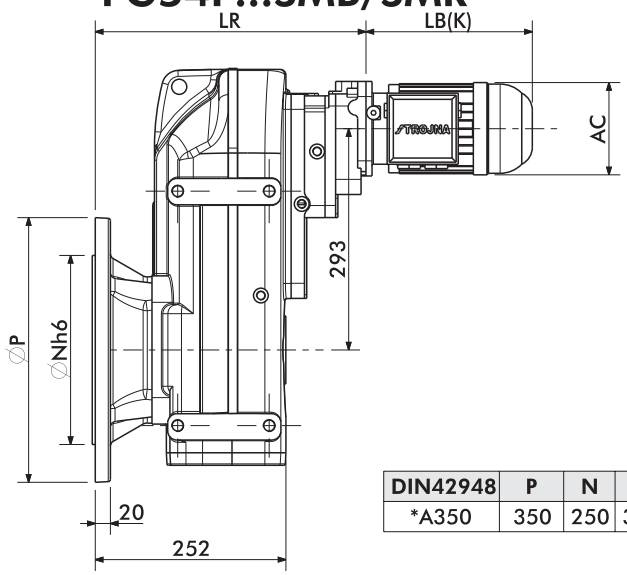
FG54V...

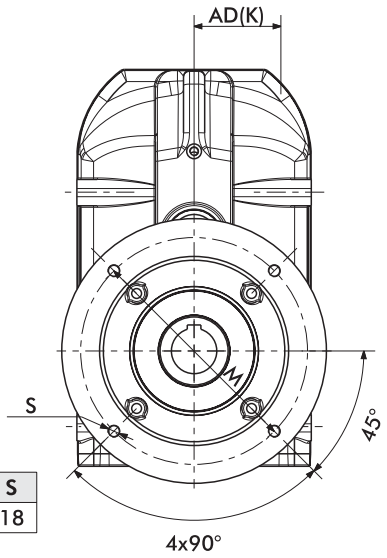


FG54Z...

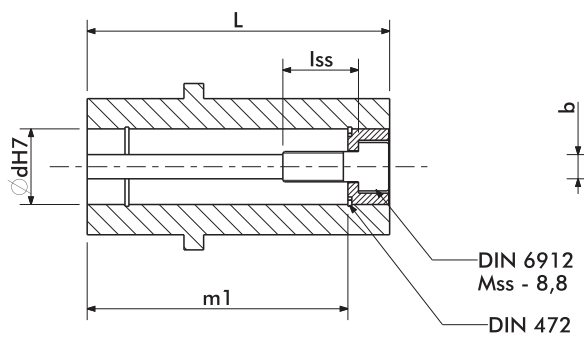


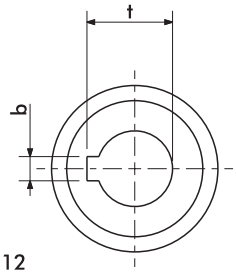
FG54P...SMB/SMR





DIN42948	P	N	M	T	B	S
*A350	350	250	300	4	70	18

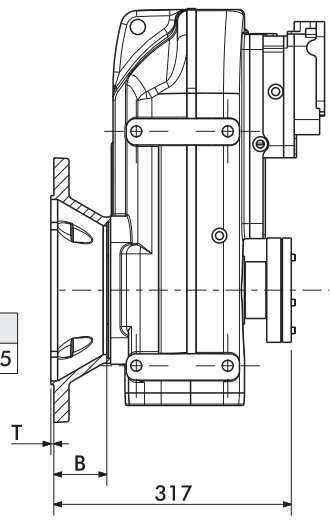




d	L	m1	lss	Mss	t	b
*60	185	164	50	M20	64,4	18

dv	tv	bv	lv	lk	tk	xv	g	lz
*60	64	18	110	100	5	40	M20	405

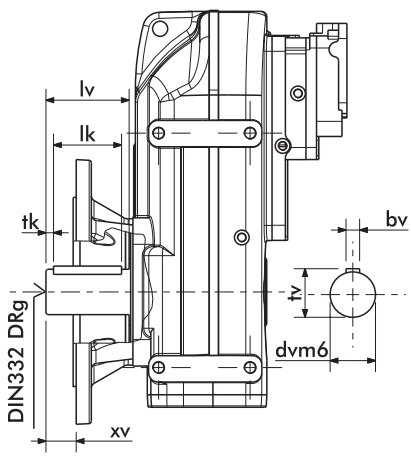
FG54PD...



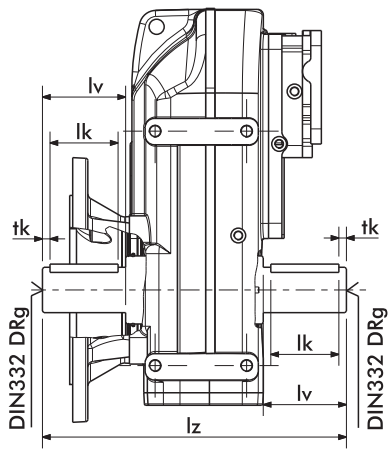
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	358
71	223	105	280	137	140	358
80	251	110	311	147	154	358
90S	276	121	360	164	170	358
90L	301	121	385	164	170	358
100						
112M						
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard

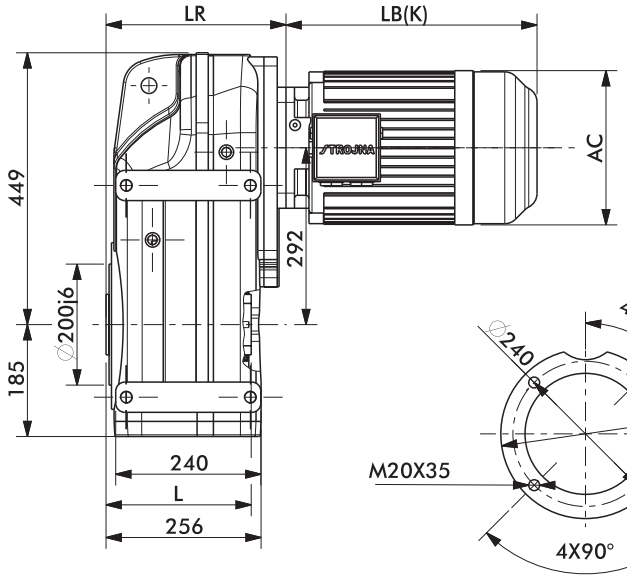
FG54PV...

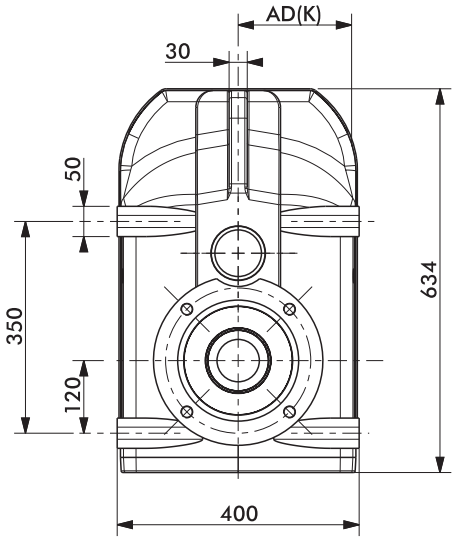


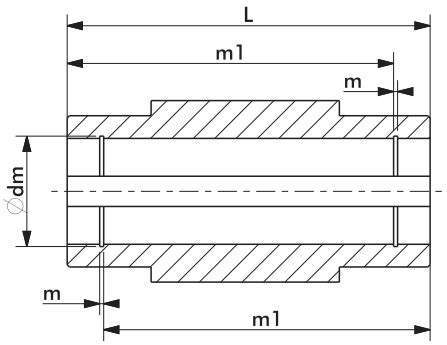
FG54PZ...

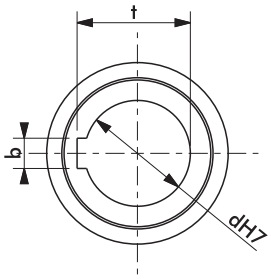


FG62...SMB/SMR





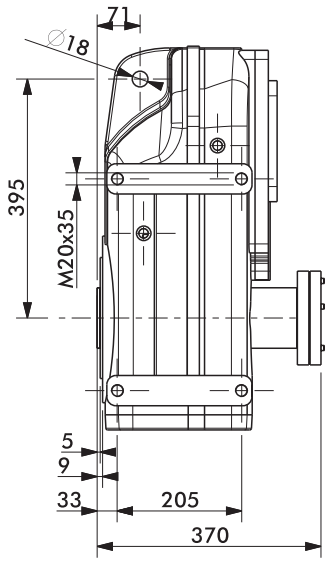




d	L	m1	dm	m	t	b
*70	240	218,5	73	2,65	74,9	20

dv	tv	bv	lv	lk	tk	g	lz
*70	74,5	20	120	100	10	M20	480

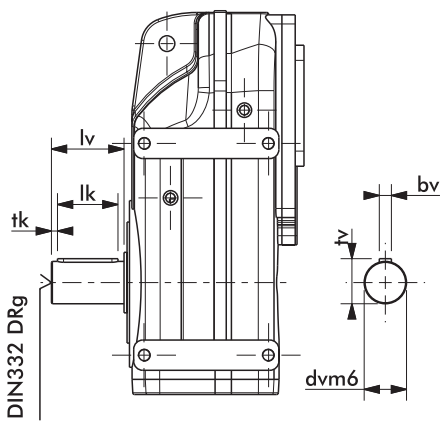
FG62D...



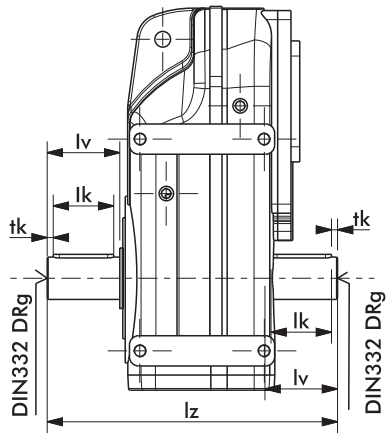
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63						
71						
80						
90S						
90L						
100						
112M						
132S	377	190	492	183	247	292
132M	415	190	532	183	247	292
132Ma	415	190	532	183	247	292
160M	489	246	611	246	285	301
160L	533	246	655	246	285	301
180M	554	260	739	260	323	301
180L	592	260	777	260	323	301
200L	658	299	828	299	369	316
225S	677	337	848	337	418	316
225M	702	337	873	337	418	316
250M	778	360	968	400	471	318

* Standard

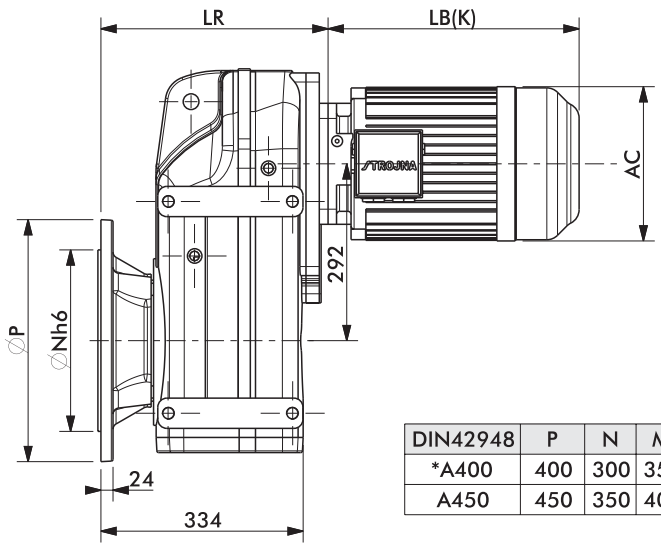
FG62V...

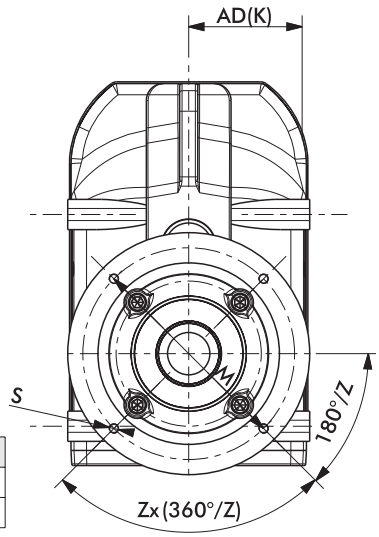


FG62Z...



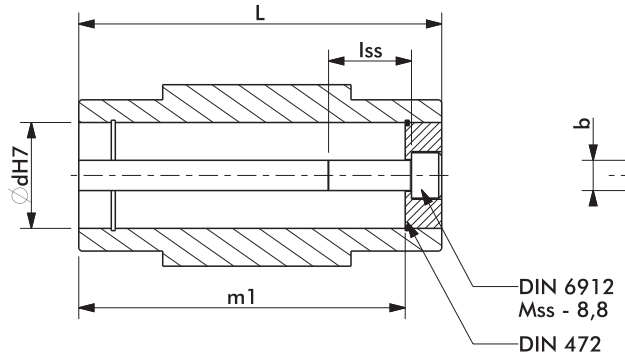
FG62P...SMB/SMR

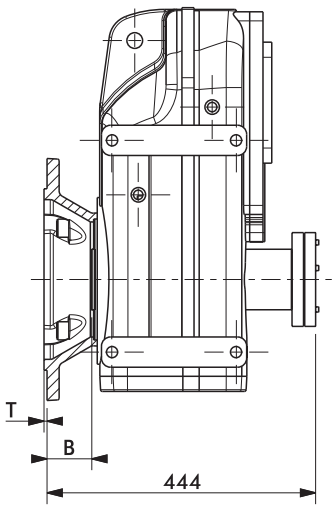




DIN42948	P	N	M	T	B	Z	S
*A400	400	300	350	5	74	4	18
A450	450	350	400	5	74	8	18

FG62PD...





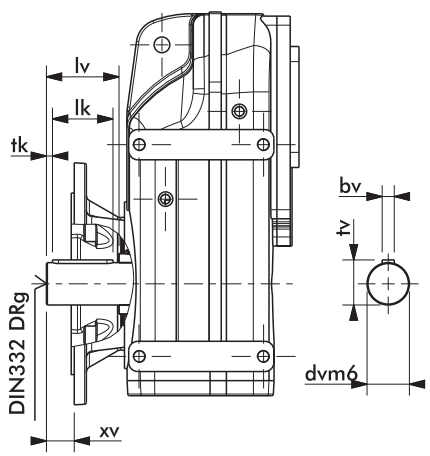
d	L	m1	lss	Mss	t	b
*70	240	218,5	55	M20	74,6	20

dv	tv	bv	lv	lk	tk	xv	g	lz
*70	74,5	20	120	100	10	46	M20	480

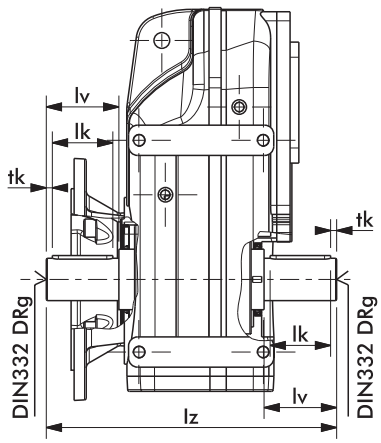
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63						
71						
80						
90S						
90L						
100						
112M						
132S	377	190	492	183	247	366
132M	415	190	532	183	247	366
132Ma	415	190	532	183	247	366
160M	489	246	611	246	285	375
160L	533	246	655	246	285	375
180M	554	260	739	260	323	375
180L	592	260	777	260	323	375
200L	658	299	828	299	369	390
225S	677	337	848	337	418	390
225M	702	337	873	337	418	390
250M	778	360	968	400	471	392

* Standard

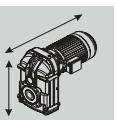
FG62PV...

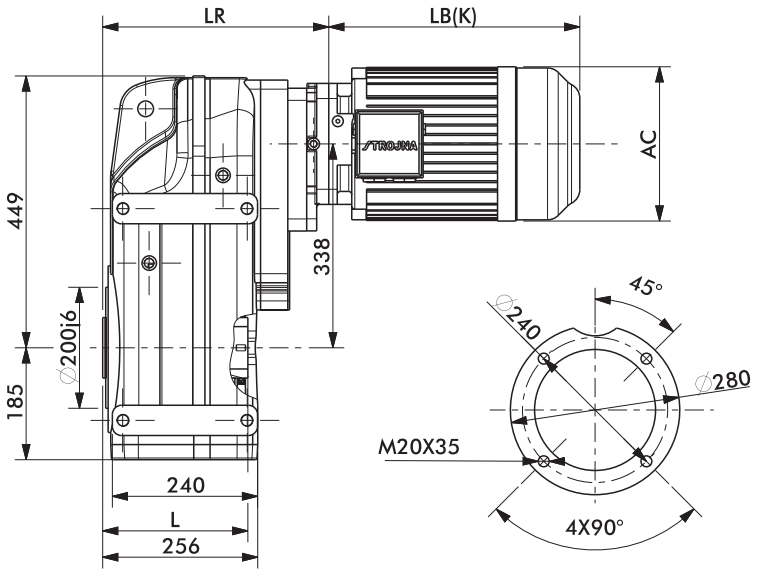


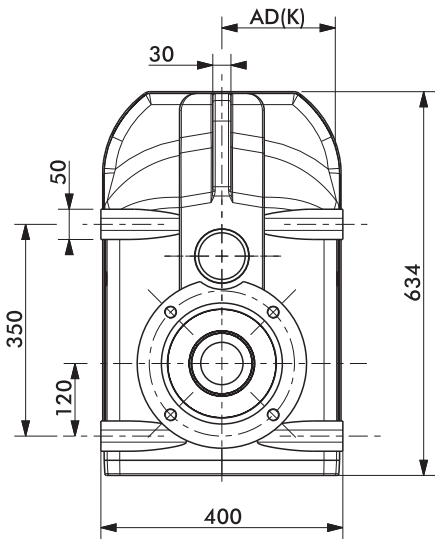
FG62PZ...

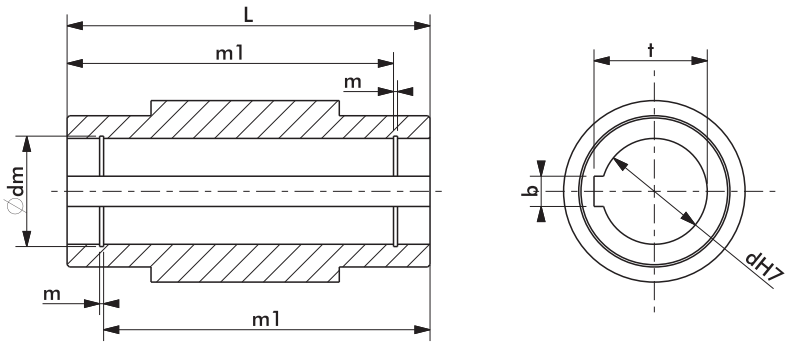


FG63...SMB/SMR









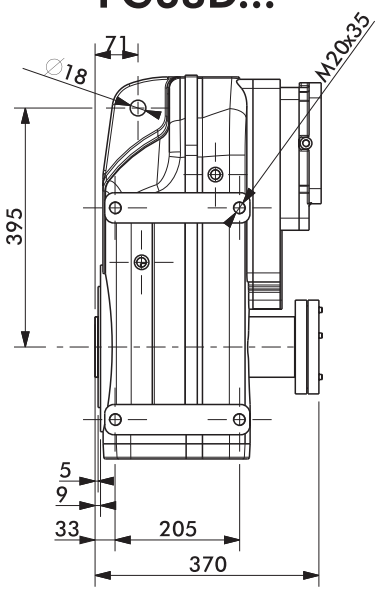
d	L	m1	dm	m	t	b
*70	240	218,5	73	2,65	74,9	20

dv	tv	bv	lv	lk	tk	g	lz
*70	74,5	20	120	100	10	M20	480

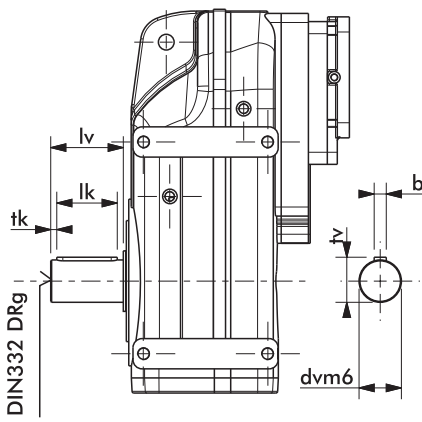
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	358
71	223	105	280	137	140	358
80	251	110	311	147	154	358
90S	276	121	360	164	170	358
90L	301	121	358	164	170	358
100	329	157	418	174	193	362
112M	334	169	434	199	216	362
132S	377	190	492	183	247	374
132M	415	190	532	183	247	374
132Ma	415	190	532	183	247	374
160M	489	246	611	246	285	383
160L	533	246	655	246	285	383
180M	554	260	739	260	323	383
180L	592	260	777	260	323	383
200L						
225S						
225M						
250M						

* Standard

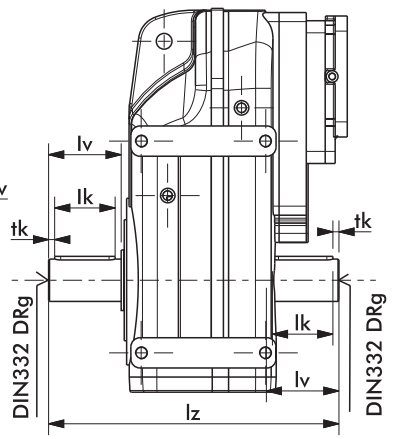
FG63D...



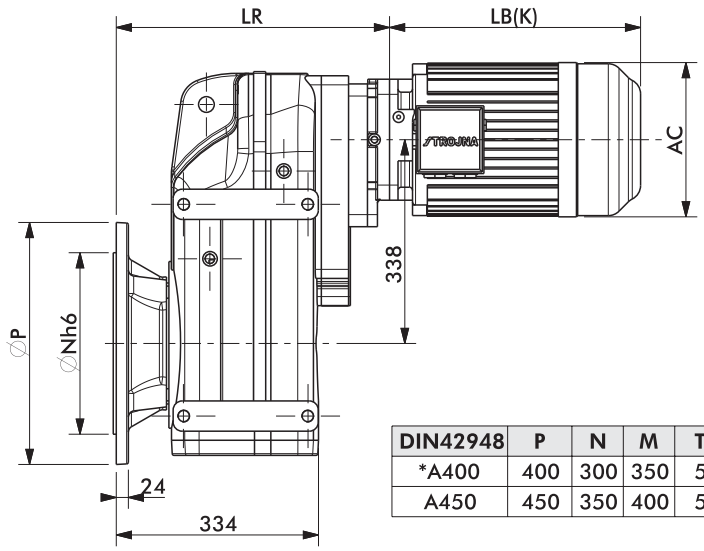
FG63V...

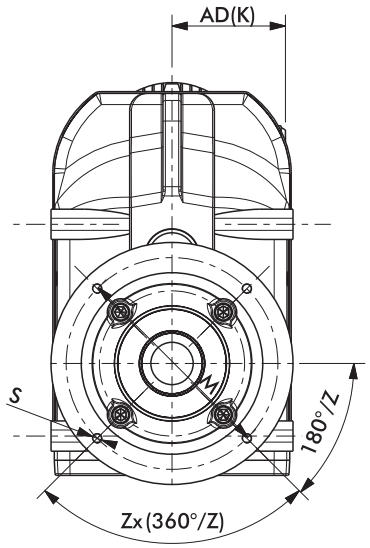


FG63Z...

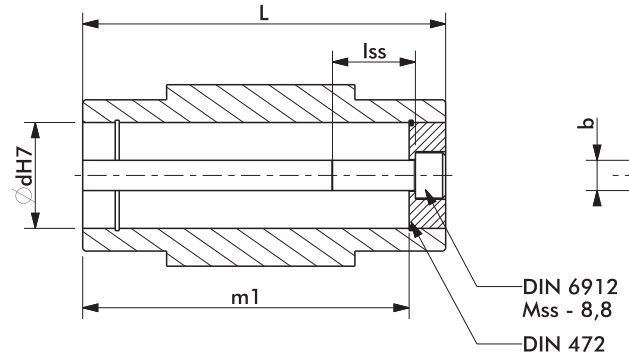


FG63P...SMB/SMR



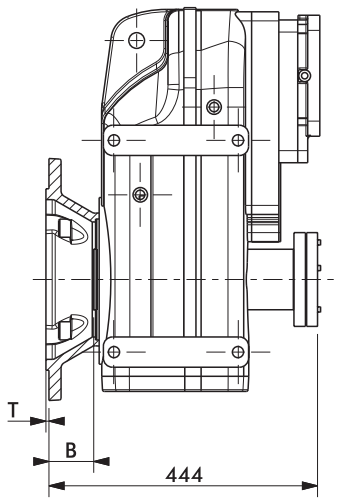


DIN42948	P	N	M	T	B	T	S
*A400	400	300	350	5	74	4	18
A450	450	350	400	5	74	8	18



d	L	m1	lss	Mss	t	b
*70	240	218,5	55	M20	74,6	20

FG63PD...

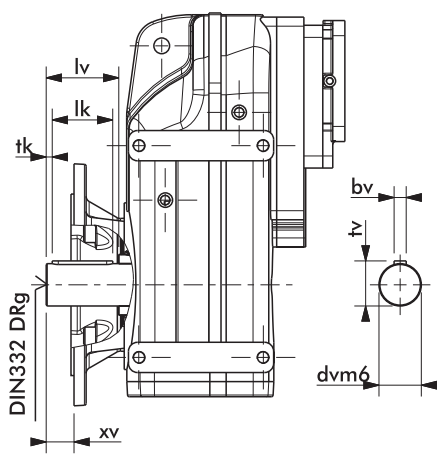


dv	tv	bv	lv	lk	tk	xv	g	lz
*70	74,5	20	120	100	10	46	M20	480

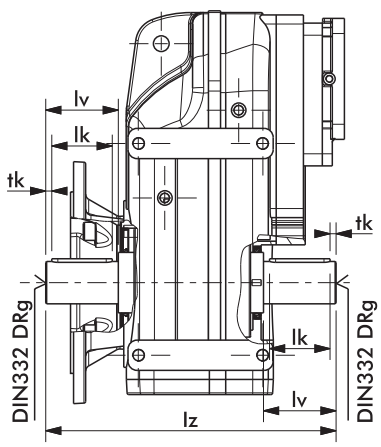
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	432
71	223	105	280	137	140	432
80	251	110	311	147	154	432
90S	276	121	360	164	170	432
90L	301	121	358	164	170	432
100	329	157	418	174	193	436
112M	334	169	434	199	216	436
132S	377	190	492	183	247	448
132M	415	190	532	183	247	448
132Ma	415	190	532	183	247	448
160M	489	246	611	246	285	457
160L	533	246	655	246	285	457
180M	554	260	739	260	323	457
180L	592	260	777	260	323	457
200L						
225S						
225M						
250M						

* Standard

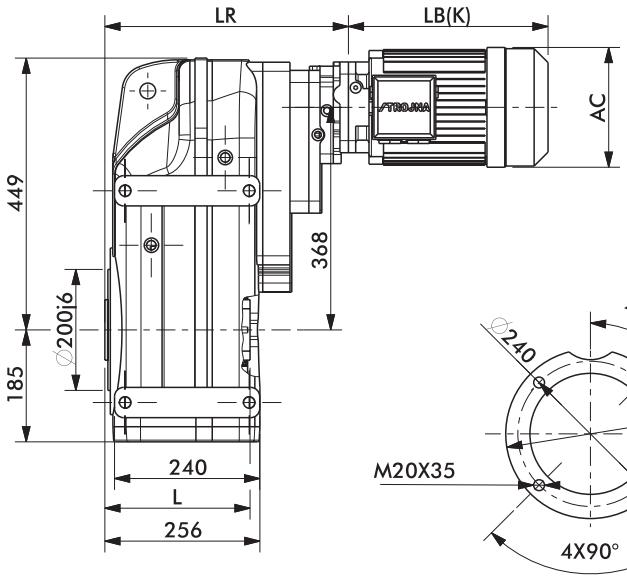
FG63PV...

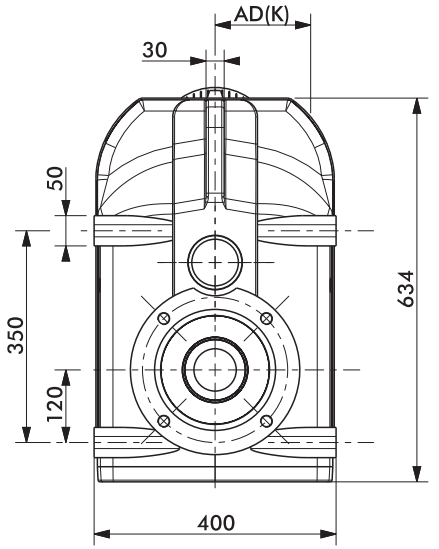


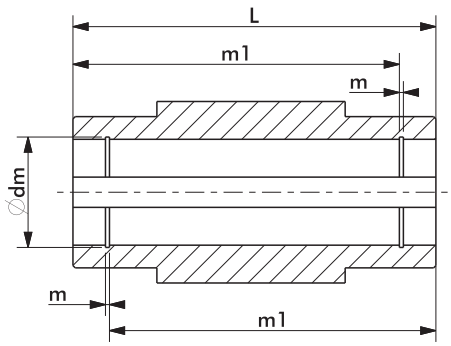
FG63PZ...

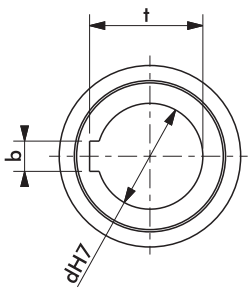


FG64...SMB/SMR









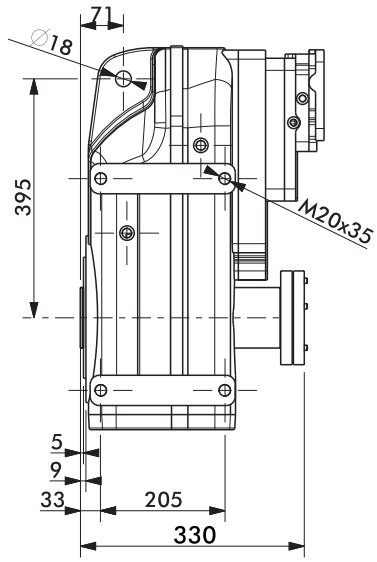
d	L	m1	dm	m	t	b
*70	240	218,5	73	2,65	74,9	20

dv	tv	bv	lv	lk	tk	g	lz
*70	74,5	20	120	100	10	M20	480

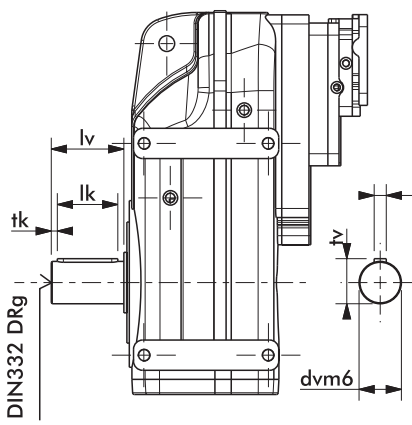
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	398
71	223	105	280	137	140	398
80	251	110	311	147	154	398
90S	276	121	360	164	170	398
90L	301	121	358	164	170	398
100	329	157	418	174	193	403
112M	334	169	434	199	216	403
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard

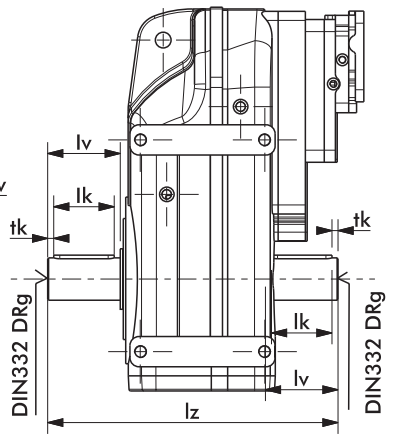
FG64D...



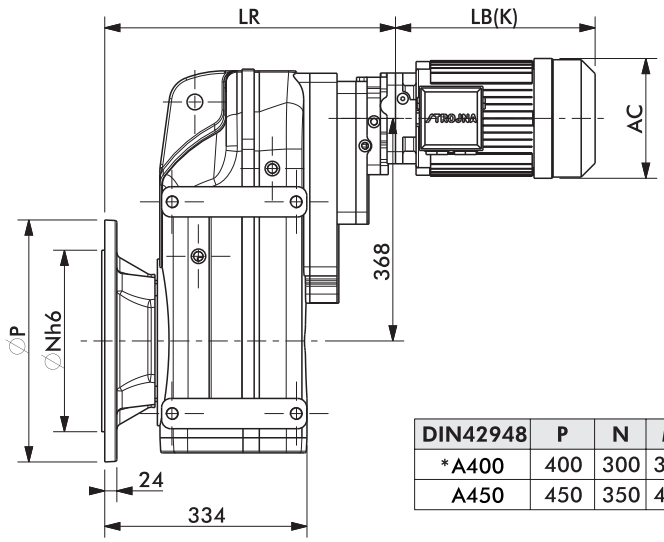
FG64V...

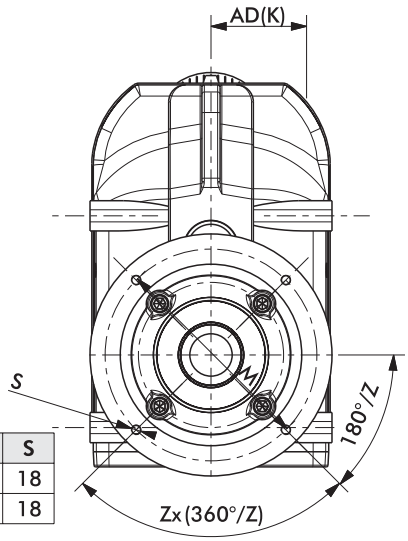


FG64Z...

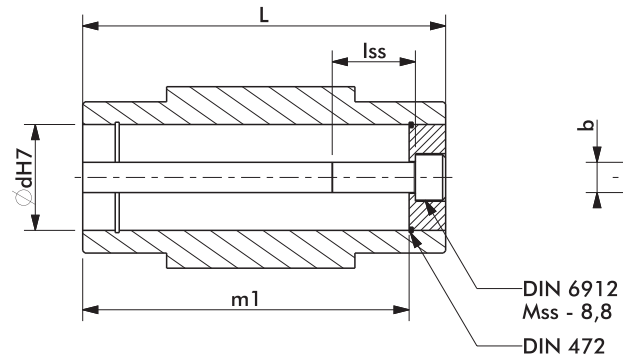


FG64P...SMB/SMR



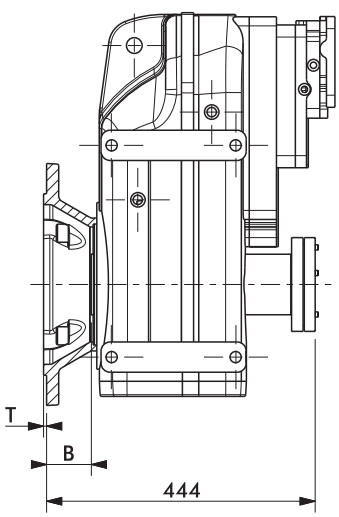


DIN42948	P	N	M	T	B	Z	S
*A400	400	300	350	5	74	4	18
A450	450	350	400	5	74	8	18



d	L	m1	lss	Mss	t	b
*70	240	218,5	55	M20	74,6	20

FG64PD...

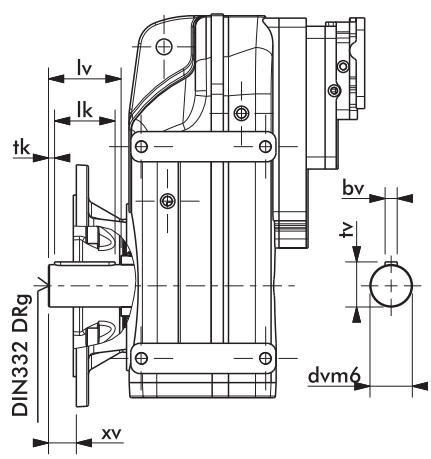


dv	tv	bv	lv	lk	tk	xv	g	lz
*70	74,5	20	120	100	10	46	M20	480

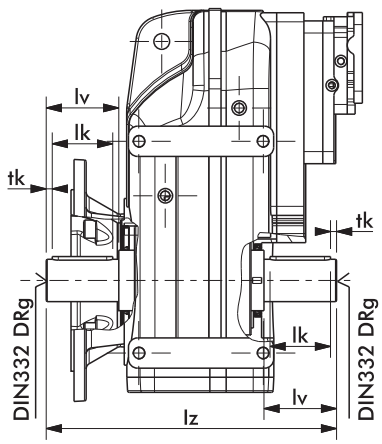
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	472
71	223	105	280	137	140	472
80	251	110	311	147	154	472
90S	276	121	360	164	170	472
90L	301	121	358	164	170	472
100	329	157	418	174	193	477
112M	334	169	434	199	216	477
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard

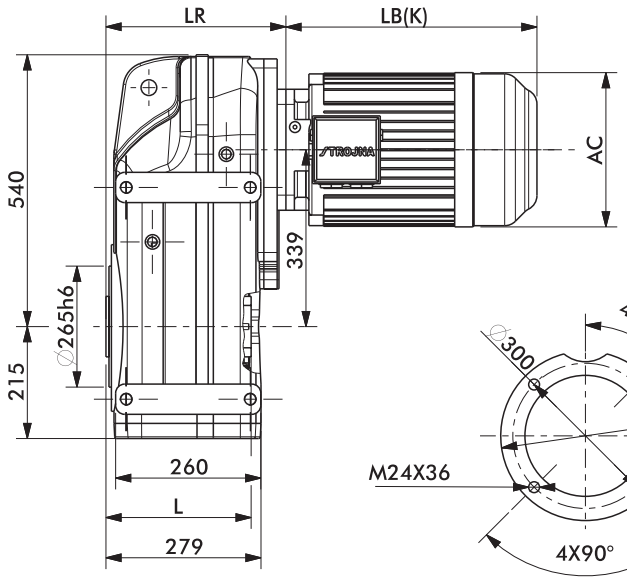
FG64PV...

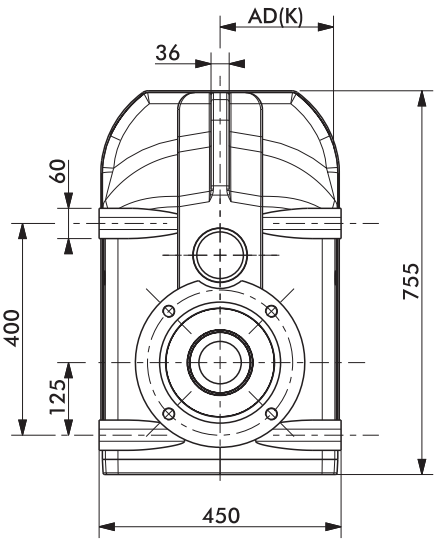


FG64PZ...

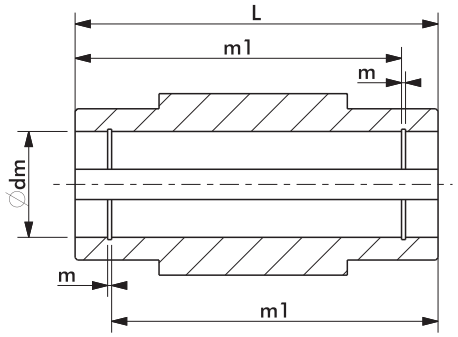


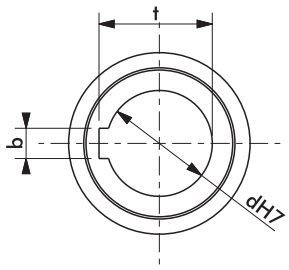
FG72...SMB/SMR

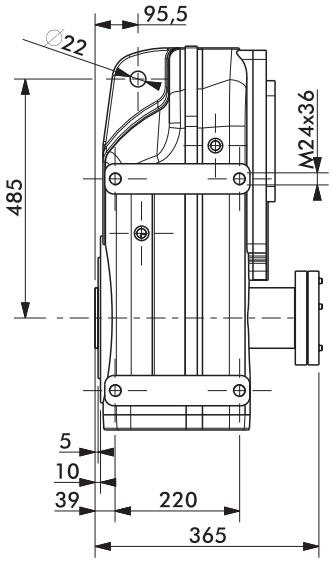




FG72D...







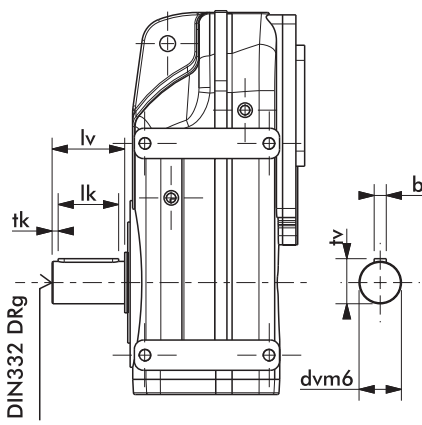
d	L	m1	dm	m	t	b
*90	280	256,5	93,5	3,15	95,4	25

dv	tv	bv	lv	lk	tk	g	lz
*90	95	25	170	160	5	M24	620

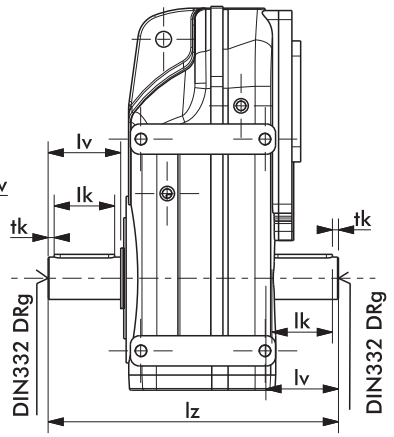
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63						
71						
80						
90S						
90L						
100						
112M						
132S	377	190	492	183	247	311
132M	415	190	532	183	247	311
132Ma	415	190	532	183	247	311
160M	489	246	611	246	285	320
160L	533	246	655	246	285	320
180M	554	260	739	260	323	320
180L	592	260	777	260	323	320
200L	658	299	828	299	369	335
225S	677	337	848	337	418	337
225M	702	337	873	337	481	337
250M	778	360	968	400	471	337

* Standard

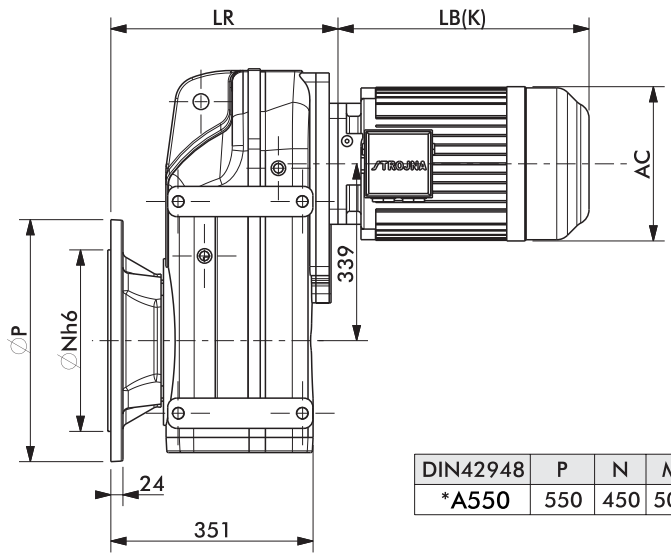
FG72V...

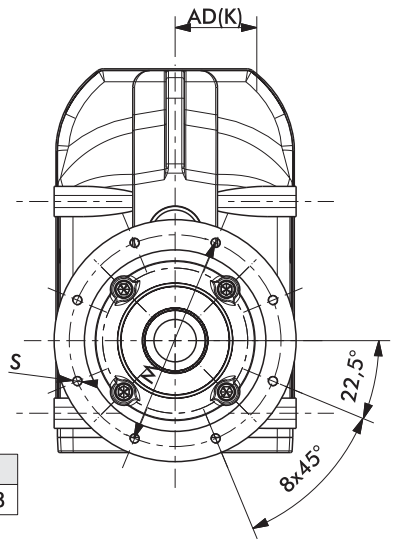


FG72Z...

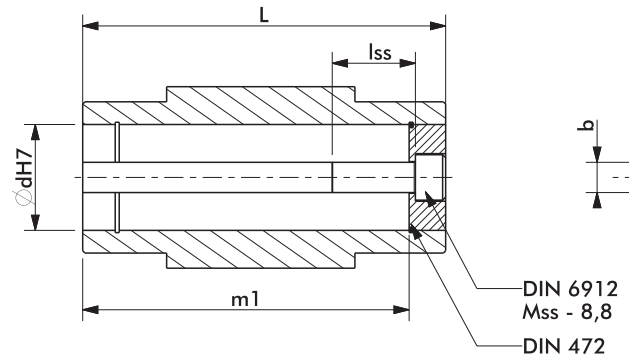


FG72P..SMB/SMR



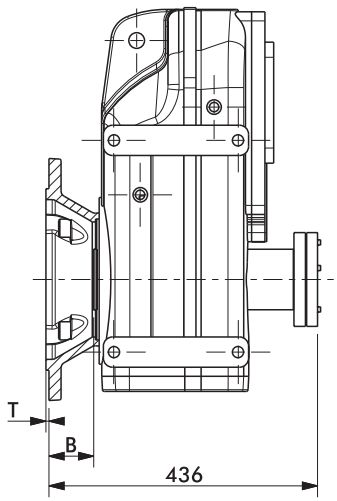


DIN42948	P	N	M	T	B	S
*A550	550	450	500	5	71	18



d	L	m1	lss	Mss	t	b
*90	280	256,5	50	M24	95,4	25

FG72PD...

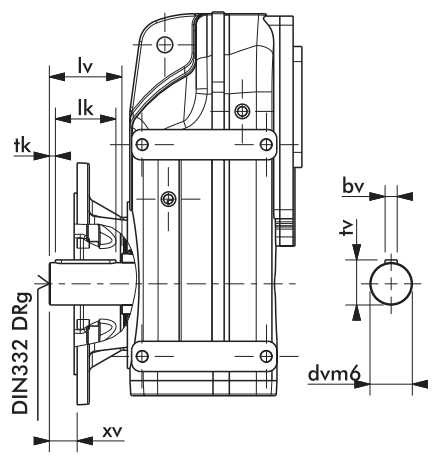


dv	tv	bv	lv	lk	tk	xv	g	lz
*90	95	25	170	160	5	99	M24	620

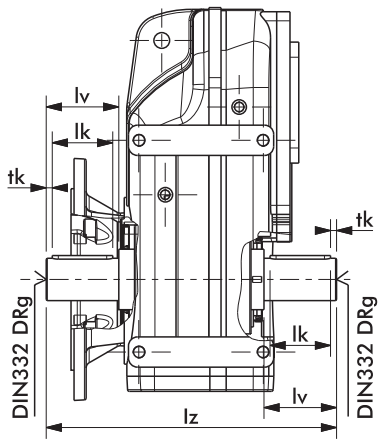
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63						
71						
80						
90S						
90L						
100						
112M						
132S	377	190	492	183	247	382
132M	415	190	532	183	247	382
132Ma	415	190	532	183	247	382
160M	489	246	611	246	285	391
160L	533	246	655	246	285	391
180M	554	260	739	260	323	391
180L	592	260	777	260	323	391
200L	658	299	828	299	369	406
225S	677	337	848	337	418	406
225M	702	337	873	337	481	406
250M	778	360	968	400	471	408

* Standard

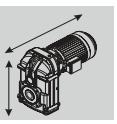
FG72PV...

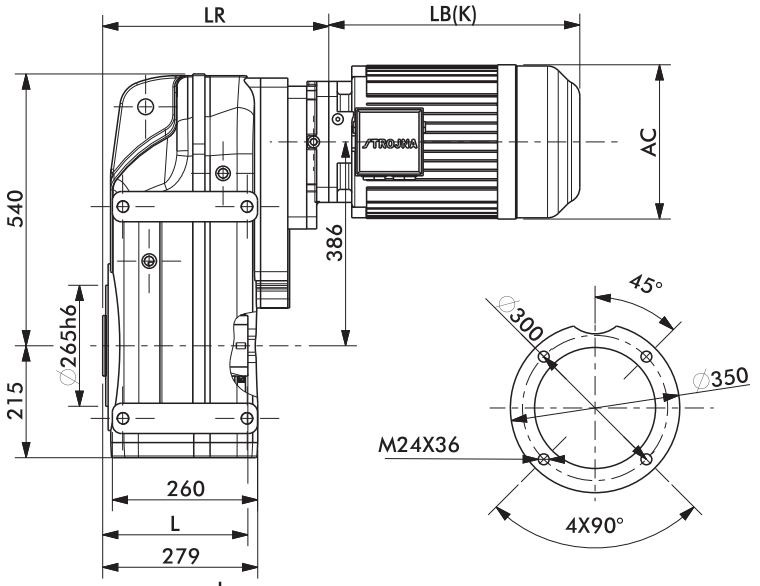


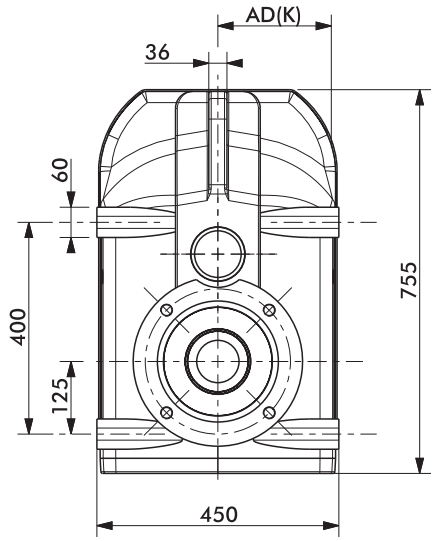
FG72PZ...

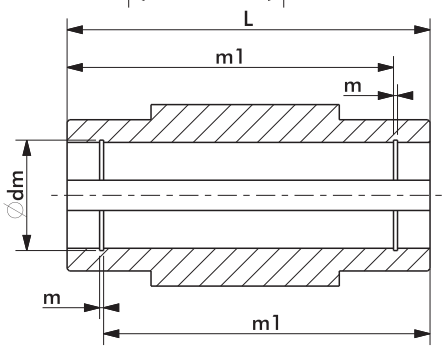


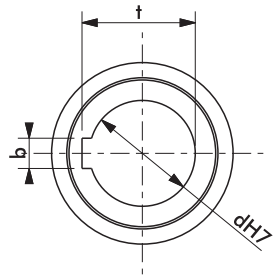
FG73...SMB/SMR











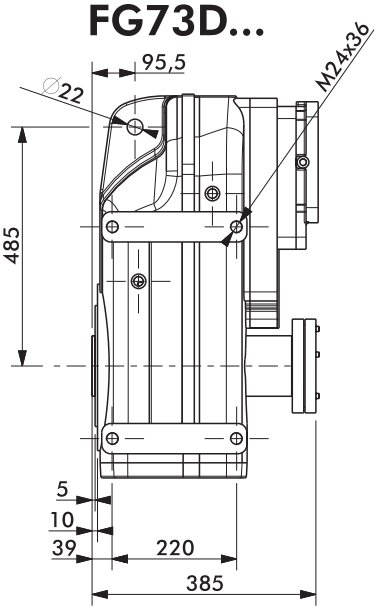
d	L	m1	dm	m	t	b
*90	280	256,5	93,5	3,15	95,4	25

dv	tv	bv	lv	lk	tk	g	lz
*90	95	25	170	160	5	M24	620

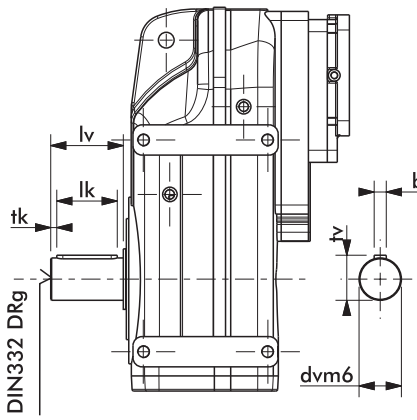
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63						
71						
80						
90S						
90L						
100	329	157	418	174	193	400
112M	334	169	434	199	216	400
132S	377	190	492	183	247	412
132M	415	190	532	183	247	412
132Ma	415	190	532	183	247	412
160M	489	246	611	246	285	417
160L	533	246	655	246	285	417
180M	554	260	739	260	323	417
180L	592	260	777	260	323	417
200L						
225S						
225M						
250M						

* Standard

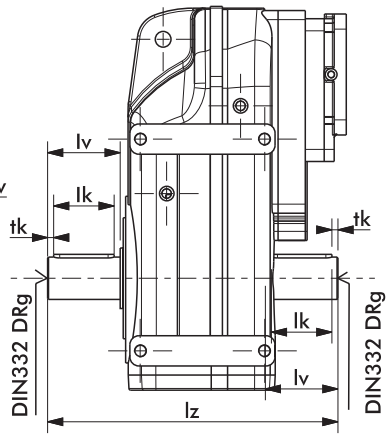
FG73D...



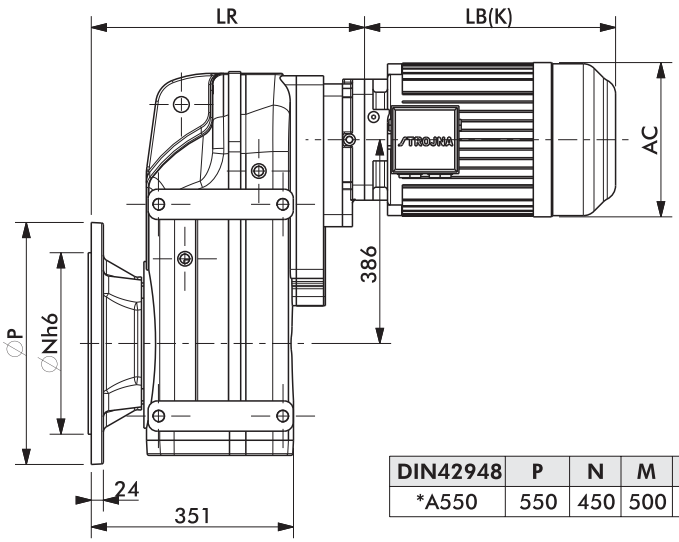
FG73V...

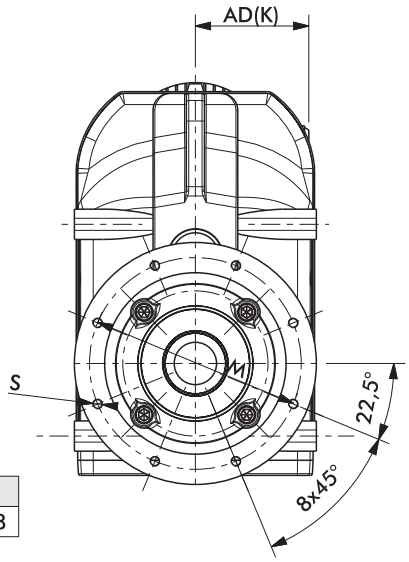


FG73Z...

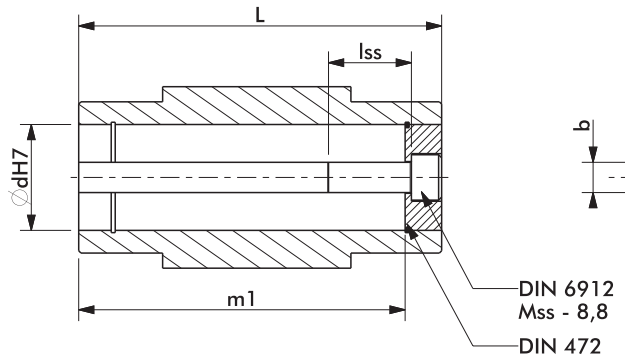


FG73P...SMB/SMR

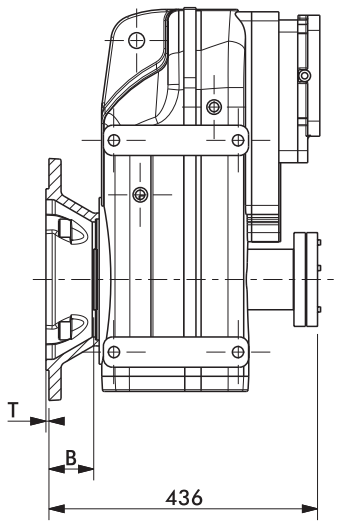




DIN42948	P	N	M	T	B	S
*A550	550	450	500	5	71	18



FG73PD...



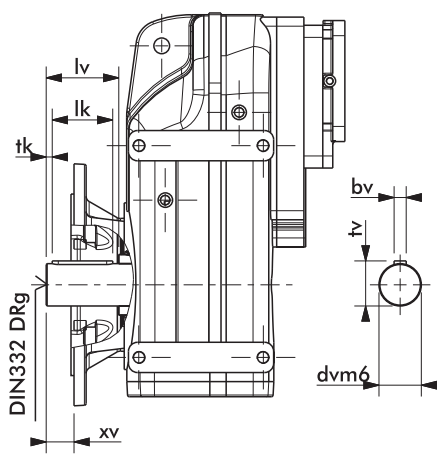
d	L	m1	lss	Mss	t	b
*90	280	256,5	50	M24	95,4	25

dv	tv	bv	lv	lk	tk	xv	g	lz
*90	95	25	170	160	5	99	M24	620

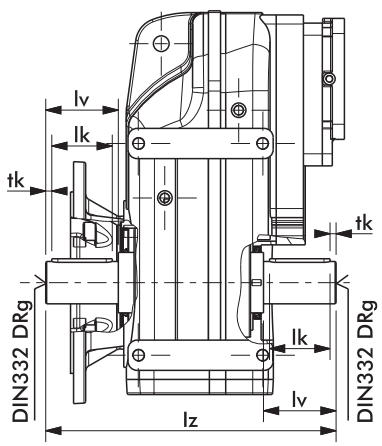
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63						
71						
80						
90S						
90L						
100	329	157	418	174	193	471
112M	334	169	434	199	216	471
132S	377	190	492	183	247	483
132M	415	190	532	183	247	483
132Ma	415	190	532	183	247	483
160M	489	246	611	246	285	488
160L	533	246	655	246	285	488
180M	554	260	739	260	323	488
180L	592	260	777	260	323	488
200L						
225S						
225M						
250M						

* Standard

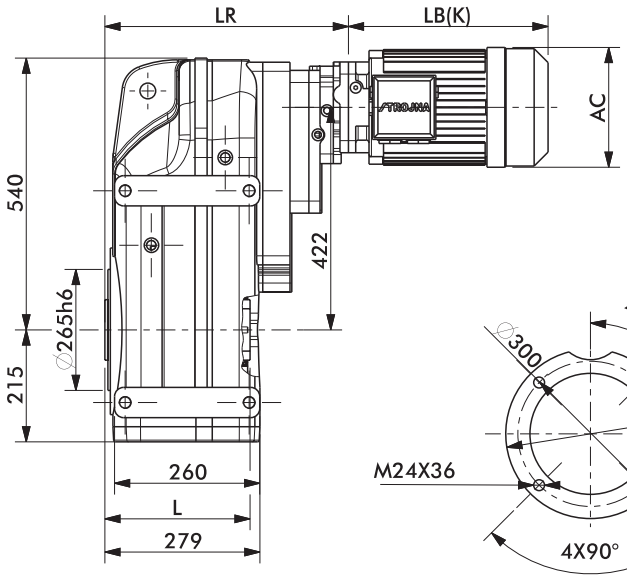
FG73PV...

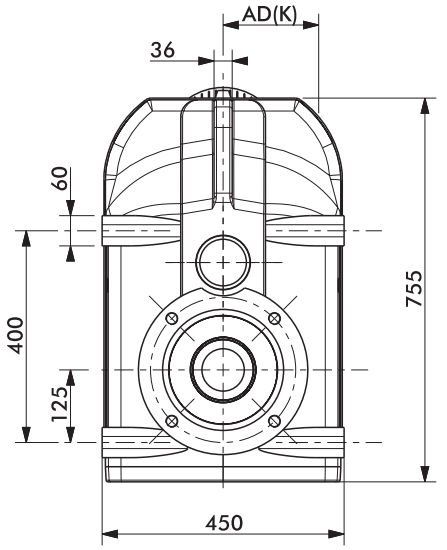


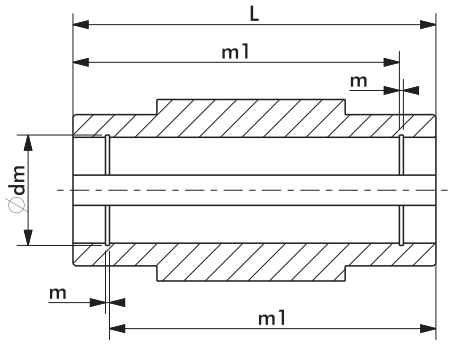
FG73PZ...

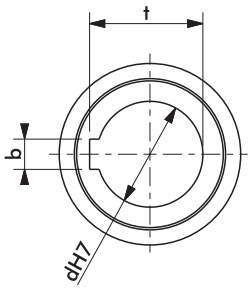


FG74...SMB/SMR









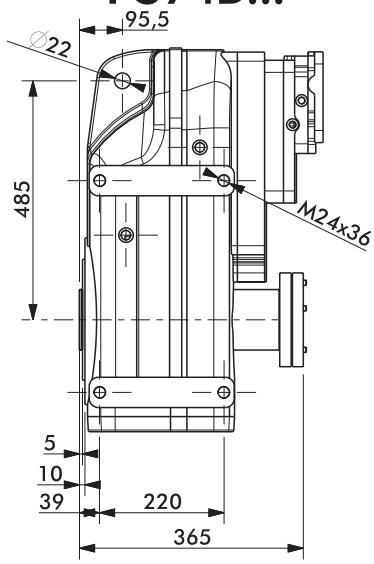
d	L	m1	dm	m	t	b
*90	280	256,5	93,5	3,15	95,4	25

dv	tv	bv	lv	lk	tk	g	lz
*90	95	25	170	160	5	M24	620

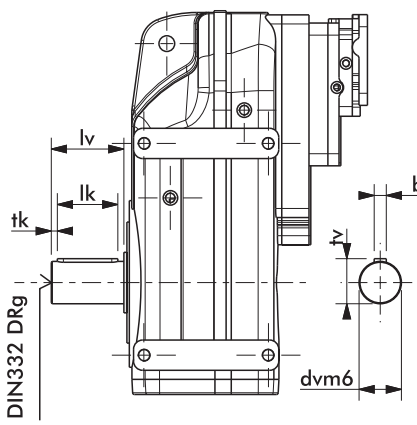
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	440
71	223	105	280	137	140	440
80	251	110	311	147	154	440
90S	276	121	360	164	170	440
90L	301	121	385	164	170	440
100	329	157	418	174	193	445
112M	334	169	434	199	216	445
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard

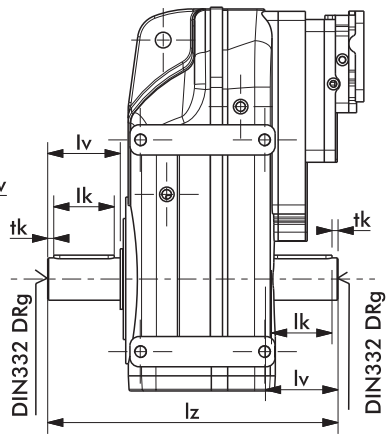
FG74D...



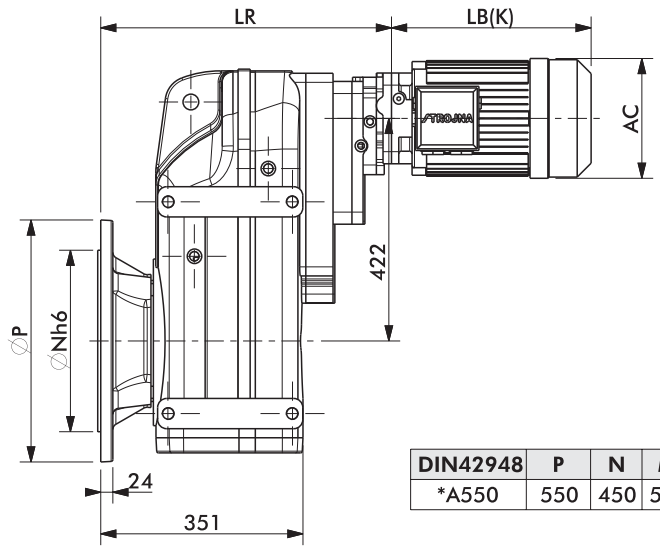
FG74V...

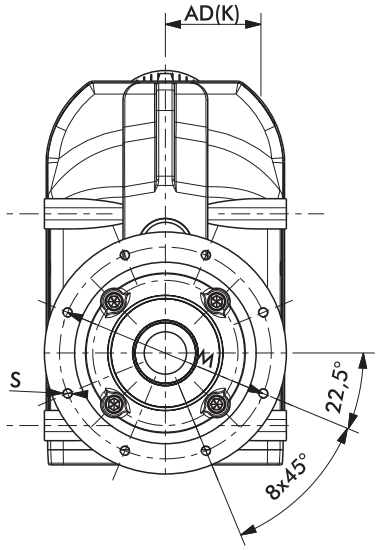


FG74Z...

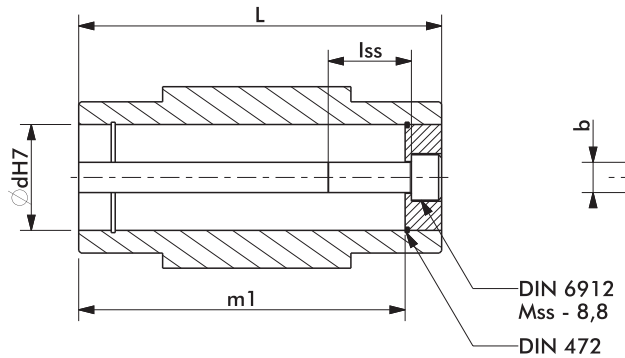


FG74P...SMB/SMR



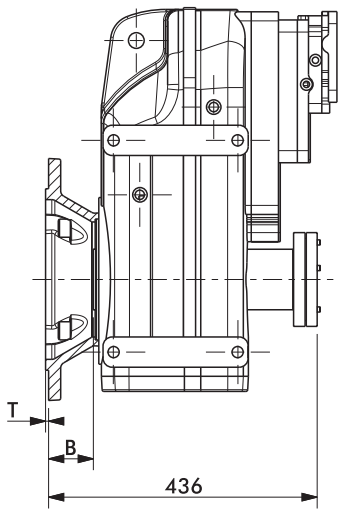


DIN42948	P	N	M	T	B	S
*A550	550	450	500	5	71	18



d	L	m1	lss	Mss	t	b
*90	280	256,5	50	M24	95,4	25

FG74PD...

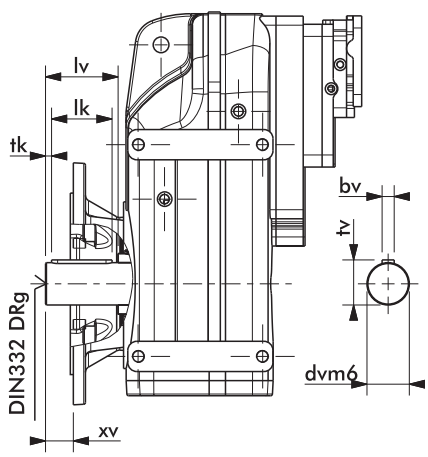


dv	tv	bv	lv	lk	tk	xv	g	lz
*90	95	25	170	160	5	99	M24	620

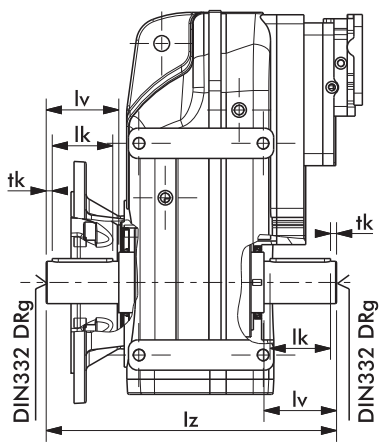
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	511
71	223	105	280	137	140	511
80	251	110	311	147	154	511
90S	276	121	360	164	170	511
90L	301	121	385	164	170	511
100	329	157	418	174	193	518
112M	334	169	434	199	216	518
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard

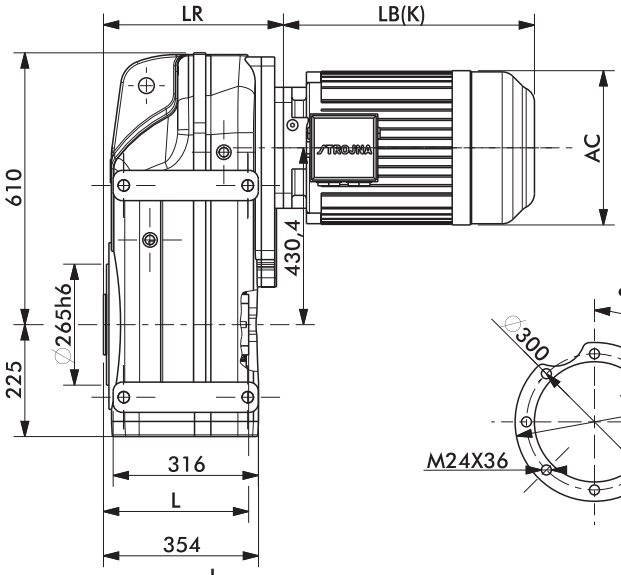
FG74PV...

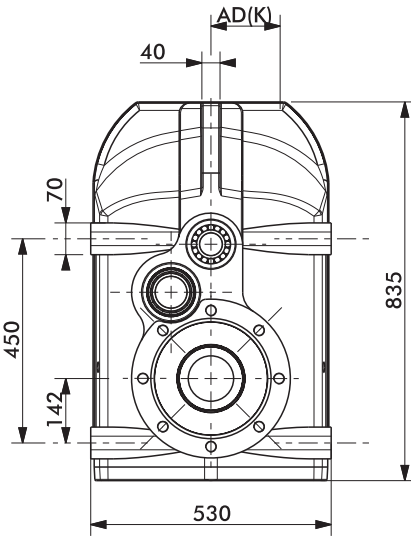


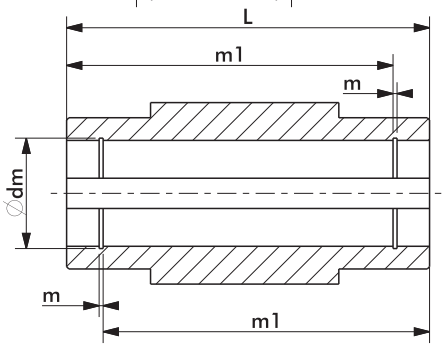
FG74PZ...

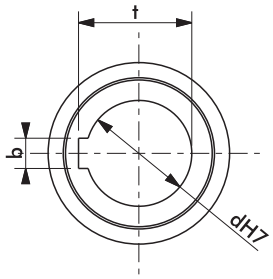


FG83...SMB/SMR









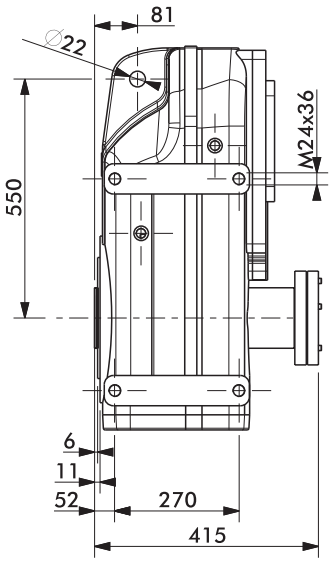
d	L	m1	dm	m	t	b
*100	360	335	103,5	3,15	106,4	28

dv	tv	bv	lv	lk	tk	g	lz
*110	116	28	210	180	15	M24	780

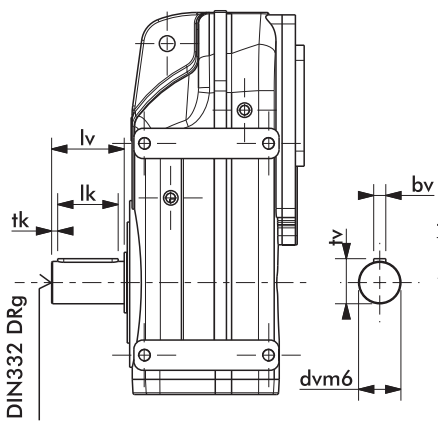
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63						
71						
80						
90S						
90L						
100						
112M						
132S	377	190	492	183	247	394
132M	415	190	532	183	247	394
132Ma	415	190	532	183	247	394
160M	489	246	611	246	285	403
160L	533	246	655	246	285	403
180M	554	260	739	260	323	403
180L	592	260	777	260	323	403
200L	658	299	828	299	369	418
225S	677	337	848	337	418	418
225M	702	337	873	337	418	420
250M	778	360	968	400	471	420

* Standard

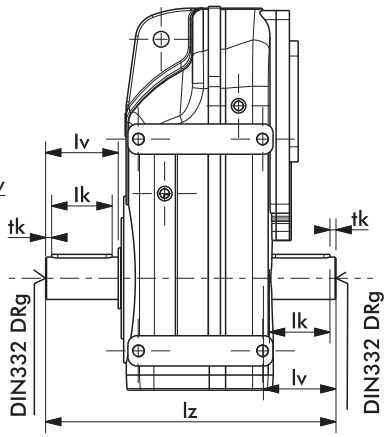
FG83D...



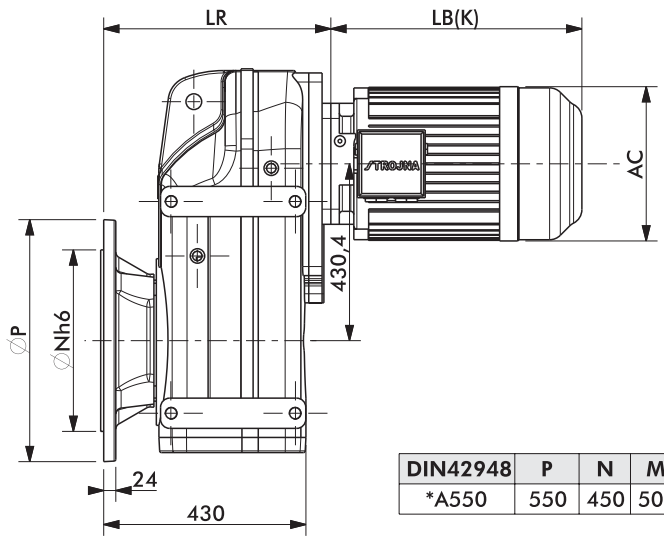
FG83V...

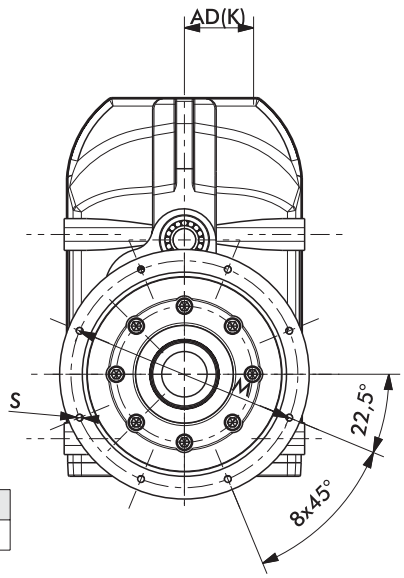


FG83Z...

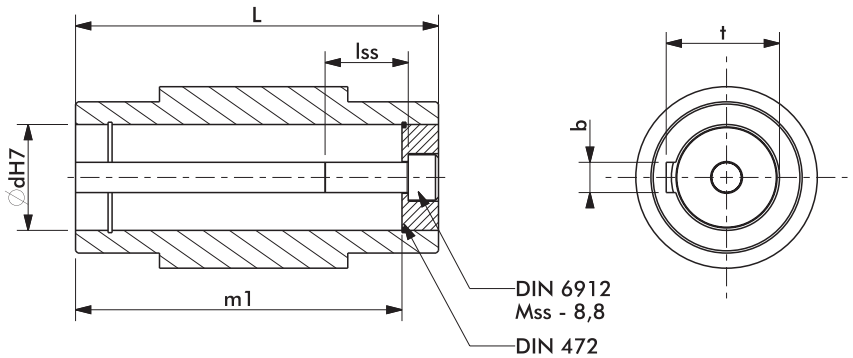


FG83P...SMB/SMR





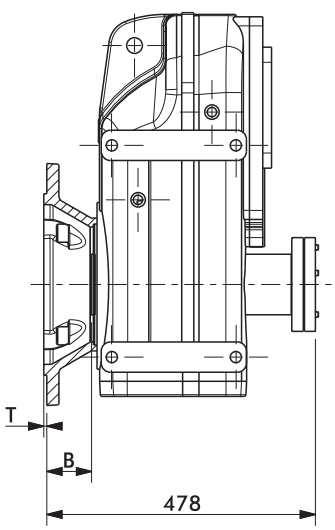
DIN42948	P	N	M	T	B	S
*A550	550	450	500	5	71	18



d	L	m1	lss	Mss	t	b
*100	360	335	50	M24	106,4	28

dv	tv	bv	lv	lk	tk	xv	g	lz
*110	116	28	210	180	15	140	M24	780

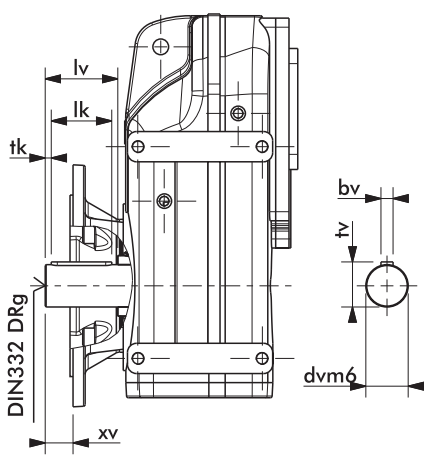
FG83PD...



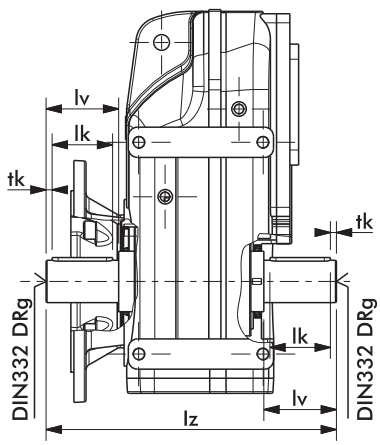
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63						
71						
80						
90S						
90L						
100						
112M						
132S	377	190	492	183	247	464
132M	415	190	532	183	247	464
132Ma	415	190	532	183	247	464
160M	489	246	611	246	285	473
160L	533	246	655	246	285	473
180M	554	260	739	260	323	473
180L	592	260	777	260	323	473
200L	658	299	828	299	369	488
225S	677	337	848	337	418	488
225M	702	337	873	337	418	488
250M	778	360	968	400	471	490

* Standard

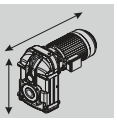
FG83PV...

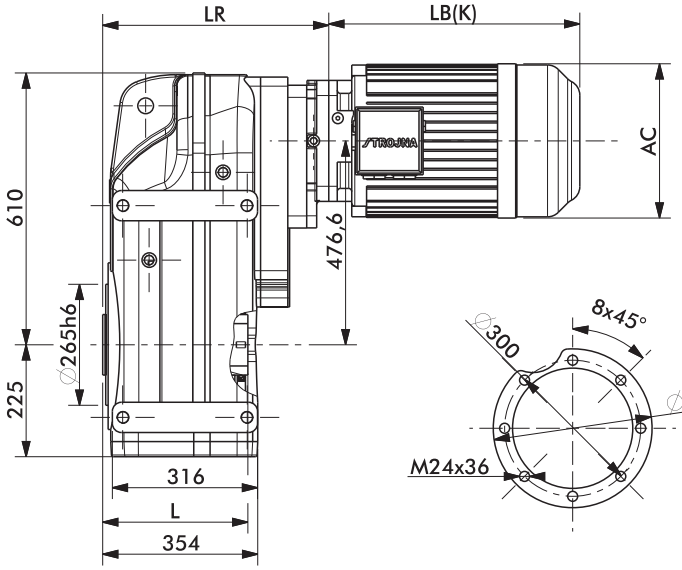


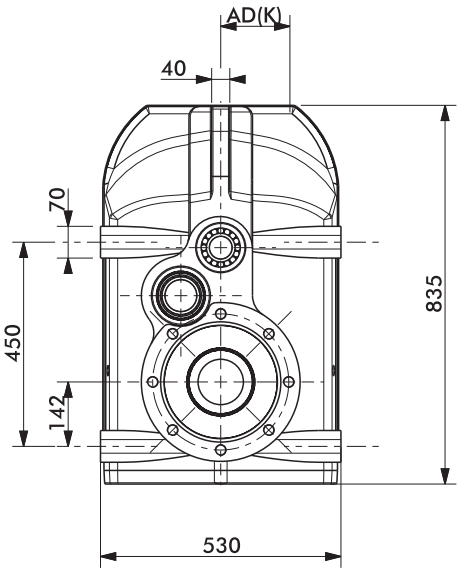
FG83PZ...

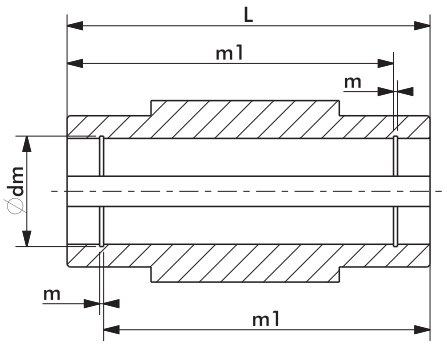


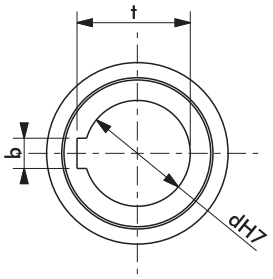
FG84...SMB/SMR











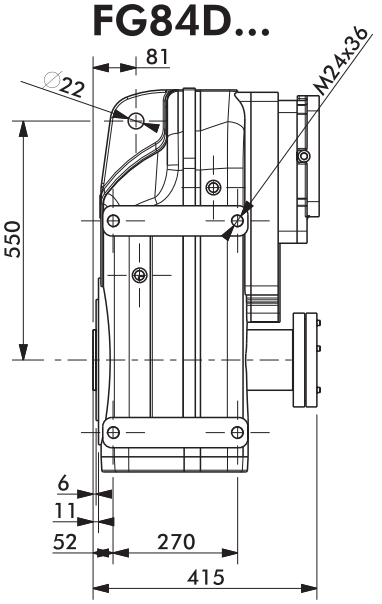
d	L	m1	dm	m	t	b
*100	360	335	103,5	3,15	106,4	28

dv	tv	bv	lv	lk	tk	g	lz
*110	116	28	210	180	15	M24	780

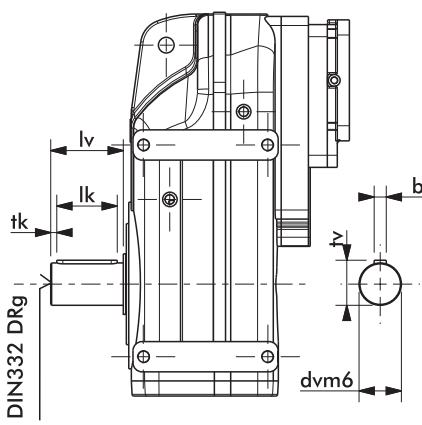
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63						
71						
80						
90S						
90L						
100	329	157	418	174	193	483
112M	334	169	434	199	216	483
132S	377	190	492	183	247	495
132M	415	190	532	183	247	495
132Ma	415	190	532	183	247	495
160M	489	246	611	246	285	500
160L	533	246	655	246	285	500
180M	554	260	739	260	323	500
180L	592	260	777	260	323	500
200L						
225S						
225M						
250M						

* Standard

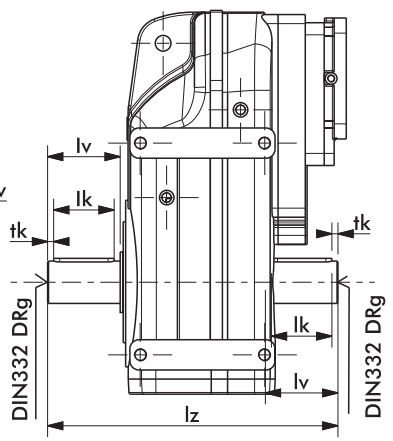
FG84D...



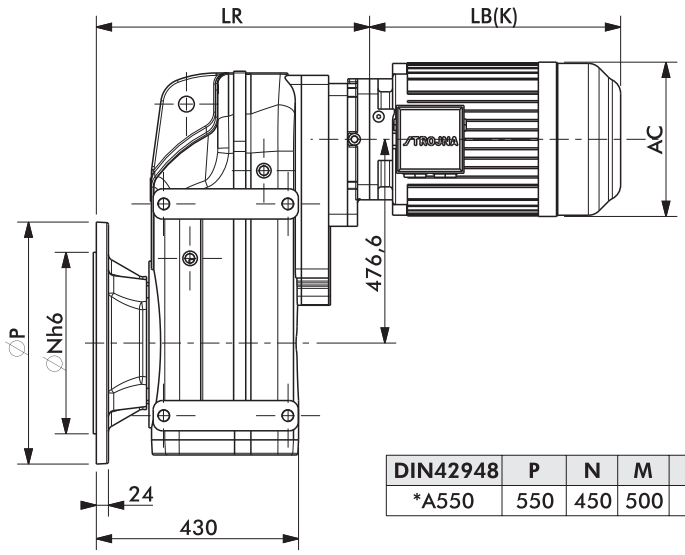
FG84V...

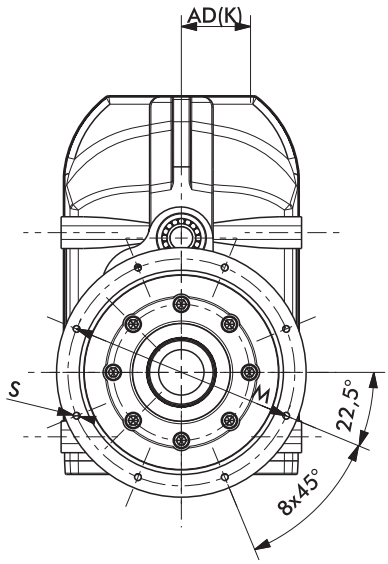


FG84Z...

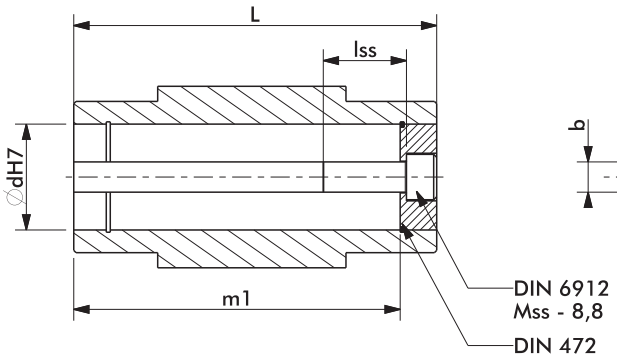


FG84P...SMB/SMR



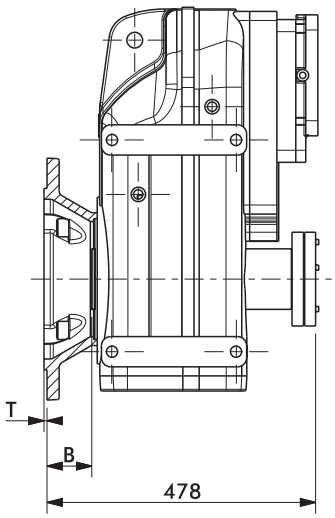


DIN42948	P	N	M	T	B	S
*A550	550	450	500	5	71	18



d	L	m1	lss	Mss	t	b
*100	360	335	50	M24	106,4	28

FG84PD...

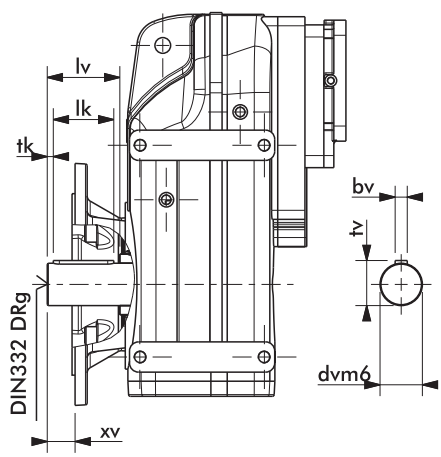


dv	tv	bv	lv	lk	tk	xv	g	lz
*110	116	28	210	180	15	140	M24	780

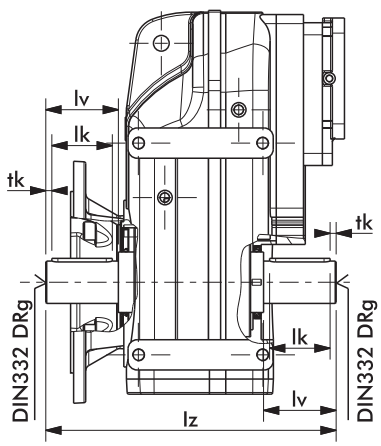
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63						
71						
80						
90S						
90L						
100	329	157	418	174	193	553
112M	334	169	434	199	216	553
132S	377	190	492	183	247	565
132M	415	190	532	183	247	565
132Ma	415	190	532	183	247	565
160M	489	246	611	246	285	570
160L	533	246	655	246	285	570
180M	554	260	739	260	323	570
180L	592	260	777	260	323	570
200L						
225S						
225M						
250M						

* Standard

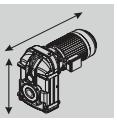
FG84PV...

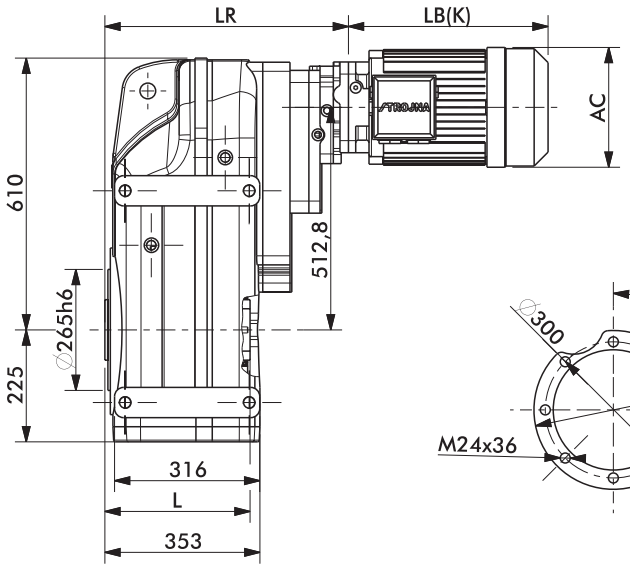


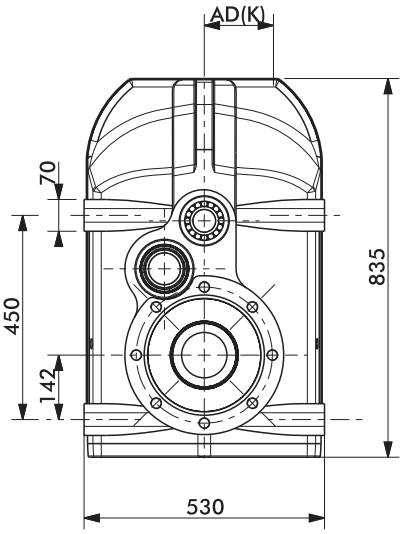
FG84PZ...

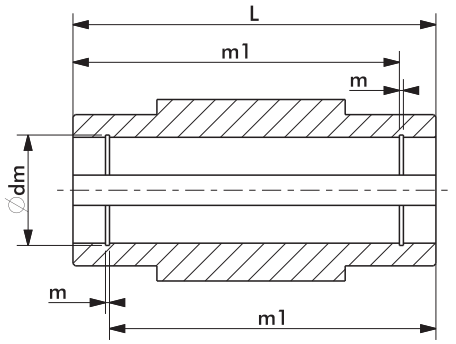


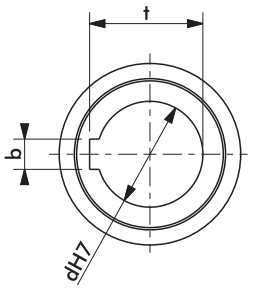
FG85...SMB/SMR



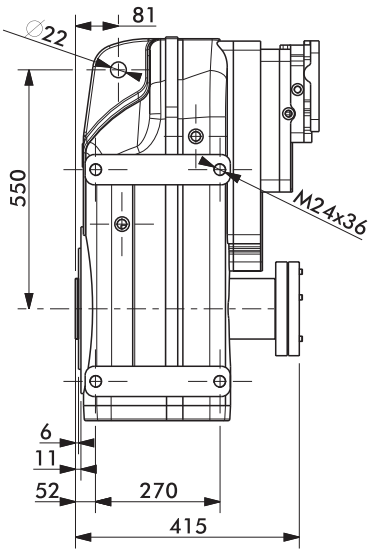








FG85D...



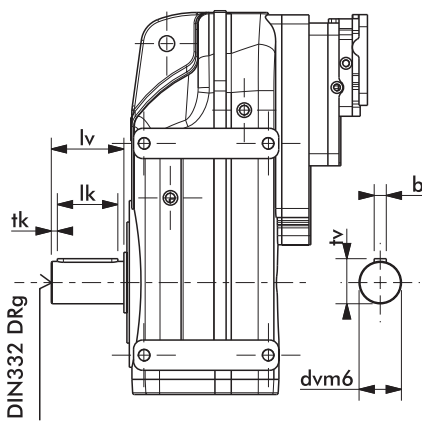
d	L	m1	lss	Mss	t	b
*100	360	335	50	M24	106,4	28

dv	tv	bv	lv	lk	tk	xv	g	lz
*110	116	28	210	180	15	140	M24	780

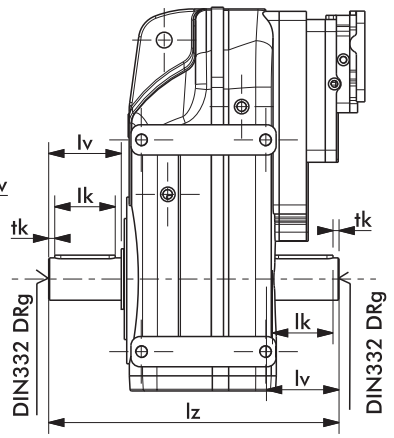
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	523
71	223	105	280	137	140	523
80	251	110	311	147	154	523
90S	276	121	360	164	170	523
90L	301	121	385	164	170	523
100	329	157	418	174	193	528
112M	334	169	434	199	216	528
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard

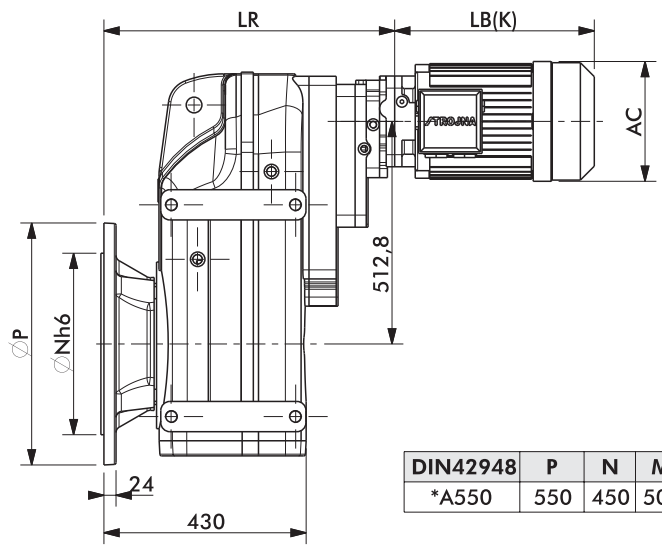
FG85V...

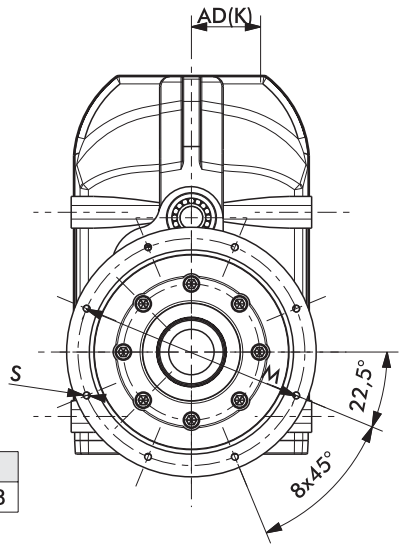


FG85Z...



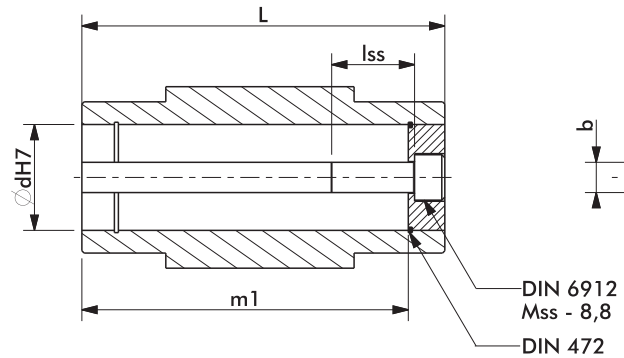
FG85P...SMB/SMR

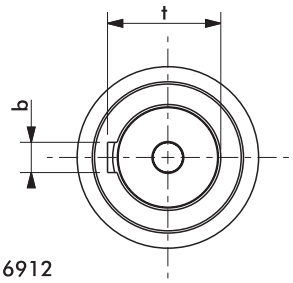


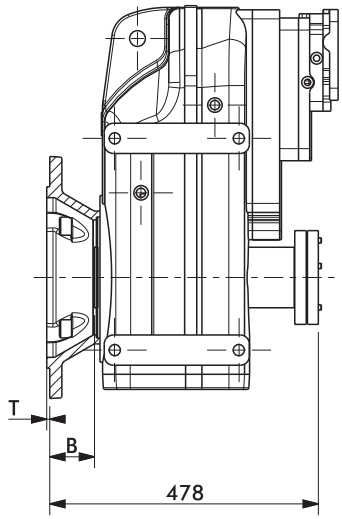


DIN42948	P	N	M	T	B	S
*A550	550	450	500	5	71	18

FG85PD...







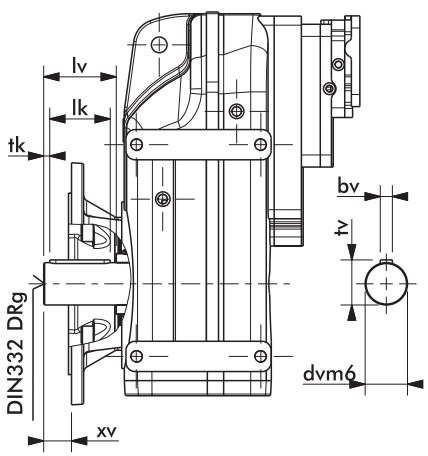
d	L	m1	lss	Mss	t	b
*100	360	335	50	M24	106,4	28

dv	tv	bv	lv	lk	tk	xv	g	lz
*110	116	28	210	180	15	140	M24	780

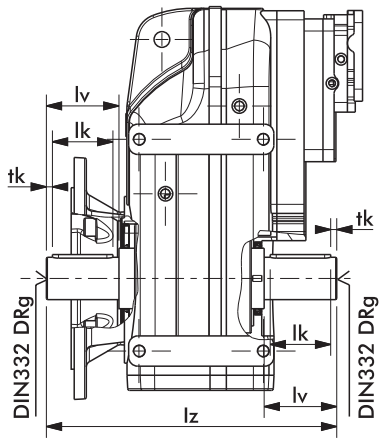
SMB/ SMR	LB	AD	LBK	ADK	AC	LR
63	207	97	260	125	125	593
71	223	105	280	137	140	593
80	251	110	311	147	154	593
90S	276	121	360	164	170	593
90L	301	121	385	164	170	593
100	329	157	418	174	193	598
112M	334	169	434	199	216	598
132S						
132M						
132Ma						
160M						
160L						
180M						
180L						
200L						
225S						
225M						
250M						

* Standard

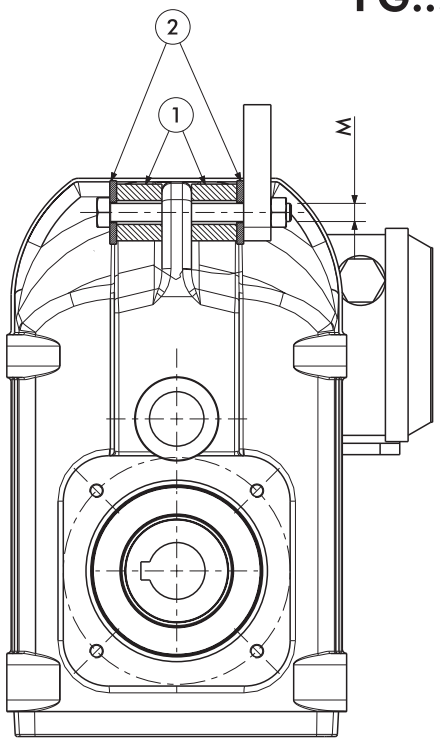
FG85PV...

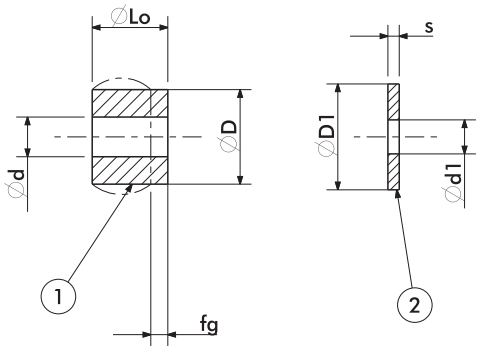


FG85PZ...



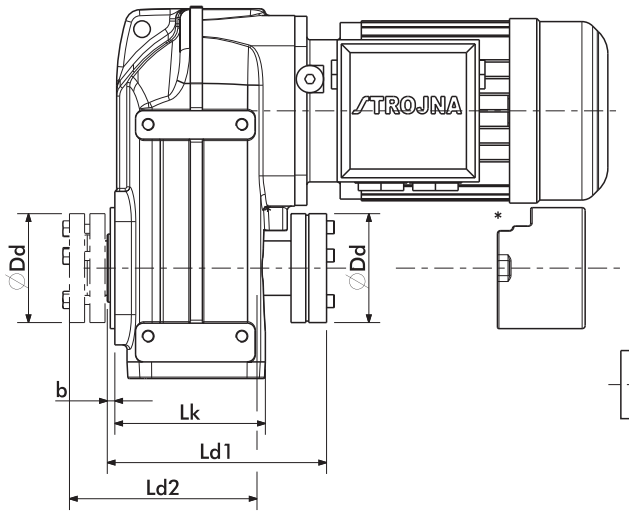
FG...SM/GO

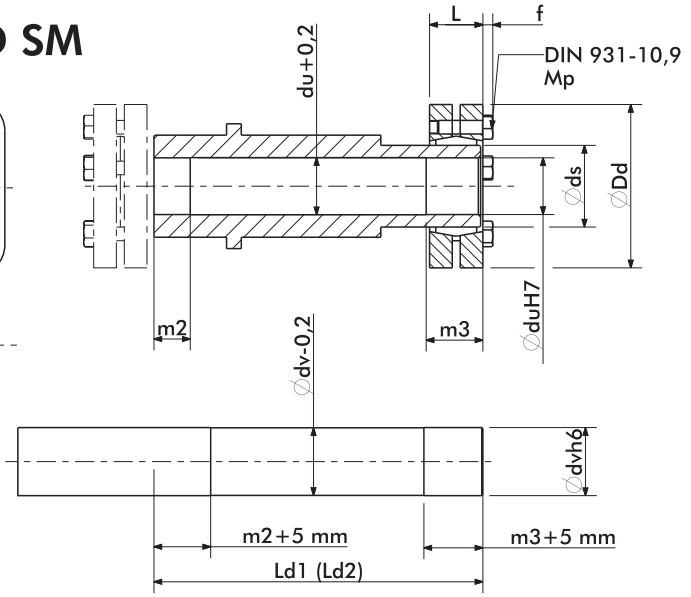




	D	d	Lo	D1	d1	s	M	fg
FG1	20	8,5	20	25	8,5	4	M8	1,50
FG2	25	10,5	20	30	10,5	5	M8	1,50
FG3	32	13,5	32	40	13,5	5	M10	2,00
FG4	40	13,5	32	50	13,5	5	M12	2,00
FG5	50	17	32	60	16,5	6	M16	2,00
FG6	63	17	32	80	16,5	6	M16	2,00
FG7	80	21	32	100	20,5	8	M20	1,50
FG8	100	21	32	120	20,5	8	M20	1,50

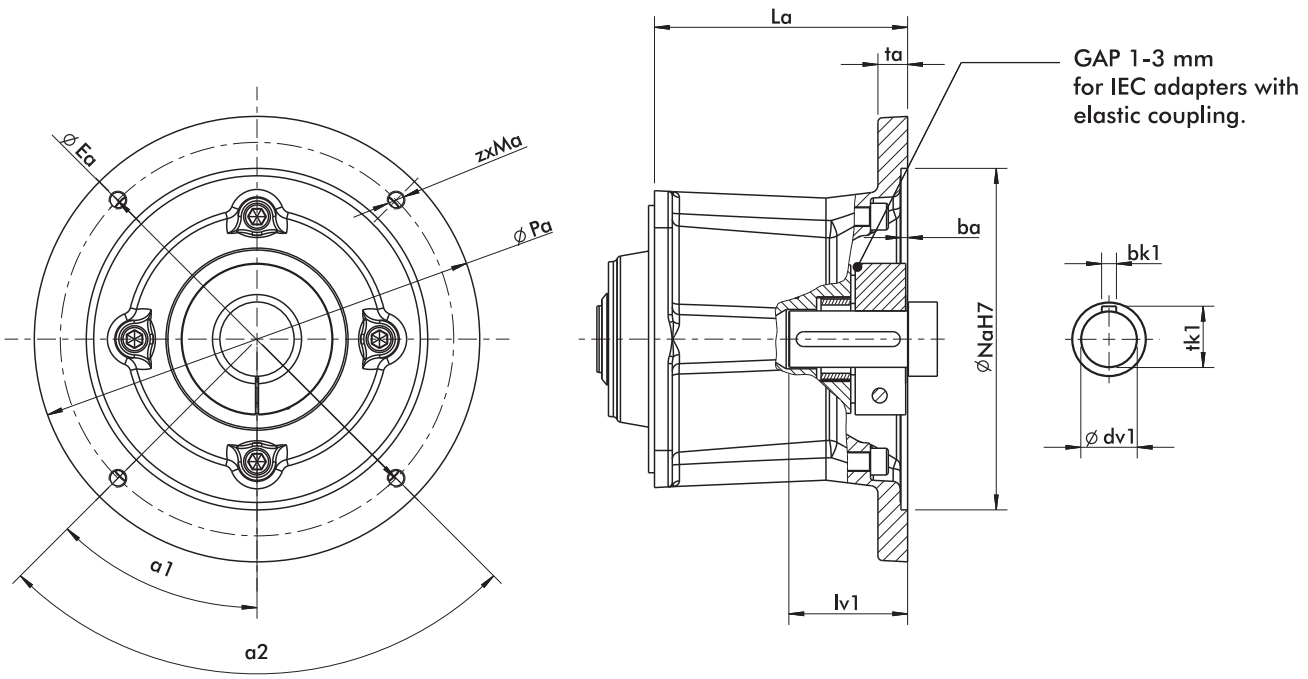
FG...PD SM



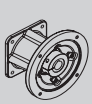


	SMB/SMR		m2	m3	Lk	b	Ld1	Ld2	du/dv	ds	Dd	L	f	Msmax	Famax	Mp
	max	*max												[Nm]	[kN]	[Nm]
FG1	63		20	20	99,5	5	150	130	30	36	72	23,5	4	570	58	12
FG2	80	71	20	25	112	5	169	143	35	44	80	25,5	4	780	74	12
FG3	112	100	20	30	141	5	205	180	40	50	90	27,5	4	1160	86	12
FG4	132	112	30	30	149	5	221	192	50	62	110	30,5	4	2200	111	12
FG5	160	132	30	30	177	5	247	220	65	75	138	32,5	5,3	3950	137	30
FG6	200	200	50	40	247	9	330	280	75	90	155	39	5,3	7250	210	30
FG7	225	225	60	45	269	10	365	330	90	110	185	49	6,4	13600	302	100
FG8	250	250	60	50	343	11	415	415	100	125	215	53	10	21300	395	121

Dimensions - IEC adapter



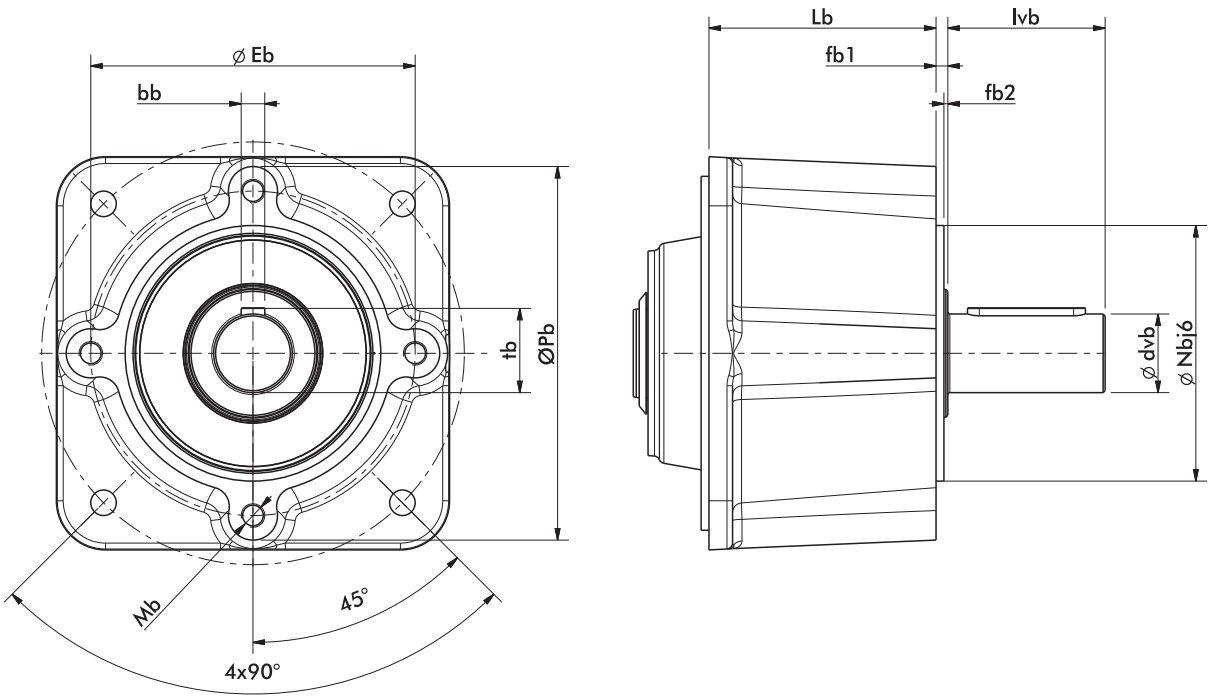
IEC-B5	Pa	Na	ba	Ea	zxMa	a1	a2	La	ta	dv1	lv1	tk1	bk1	m (kg)
A63	140	95	3,5	115	4xM8	45°	90°	68	10	11j6	23	12,5	4	3
A71	160	110	4	130	4xM8	45°	90°	68	10	14j6	30	16	5	3
A80	200	130	4	165	4xM10	45°	90°	96	14	19j6	40	21,5	6	6
A90	200	130	4	165	4xM10	45°	90°	96	14	24j6	50	27	8	6
A100	250	180	4,5	215	4xM12	45°	90°	113	18	28j6	60	31	8	13
A112	250	180	4,5	215	4xM12	45°	90°	113	18	28j6	60	31	8	13
A132	300	230	4,5	265	4xM12	45°	90°	170,5	20	38k6	80	41	10	26
A160	350	250	4,5	300	4xM16	45°	90°	233	20	42k6	110	45	12	52
A180	350	250	5,5	300	4xM16	45°	90°	233	20	48k6	110	51,5	14	52
A200	400	300	6	350	4xM16	45°	90°	239	24	55m6	110	59	14	75
A225	450	350	6	400	8xM16	22,5°	45°	239	24	60m6	140	64	18	80
A250	550	450	6	500	8xM16	22,5°	45°	245	24	65m6	140	69	18	140
A280	550	450	6	500	8xM16	22,5°	45°	245	24	65m6	140	69	18	160
A315	660	550	7	600	8xM20	22,5°	45°	381	26	80m6	170	85,4	22	250



IEC-B14	Pa	Na	ba	Ea	zxMa	a1	a2	La	ta	dv1	lv1	tk1	bk1	m (kg)
A63	120	80	3,5	100	4xØ 7	45°	90°	68	8	11j6	23	12,5	4	2,5
A71	140	95	3,5	115	4xØ 9	45°	90°	68	10	14j6	30	16	5	3
A80	160	110	4	130	4xØ 9	45°	90°	96	14	19j6	40	21,5	6	5
A90	160	110	4	130	4xØ 9	45°	90°	96	14	24j6	50	27	8	5
A100	200	130	4	165	4xØ 11	45°	90°	113	18	28j6	60	31	8	11
A112	200	130	4	165	4x Ø 11	45°	90°	113	18	28j6	60	31	8	11
A132	250	180	4,5	215	4XØ13	45°	90°	140	20	38j6	80	41	10	23

IEC adapters are delivered by standard without elastic coupling with direct mounting.
For IEC adapter with elastic coupling please specify request in order.
NOTICE: Please check with Stroina on using 2-pole IEC motors

Dimensions Input shaft



Input shaft													
Type		Lb	lvb	fb1	fb2	dvb	tb	bb	Nb	Eb	Mb	Pb	m (kg)
B1	(63-71)	48,5	40	5	2	20j6	22,5	6	55	68	M6X10	80	2,5
B2	(80-90)	61	50	5	2	25j6	28	8	80	100	M8X14	116	4
B3	(100-112)	78	60	5	2	30k6	33	8	110	130	M10X17	150	8
B4	(132)	116	80	6	2	40k6	43	12	130	165	M12x20	190	17
B5	(160-180)	158	110	6	2	60m6	64	18	180	215	M16X24	245	38
B6	(200-225)	156	120	9	4	70m6	74,5	20	200	240	M20X35	280	60
B7	(250-280)	164	140	9	4	80m6	85	22	265	300	M24x36	350	110
B8	(315)	177	170	10	5	90m6	95	25	300	350	M24x36	450	200

Intruduction on IEC motors:

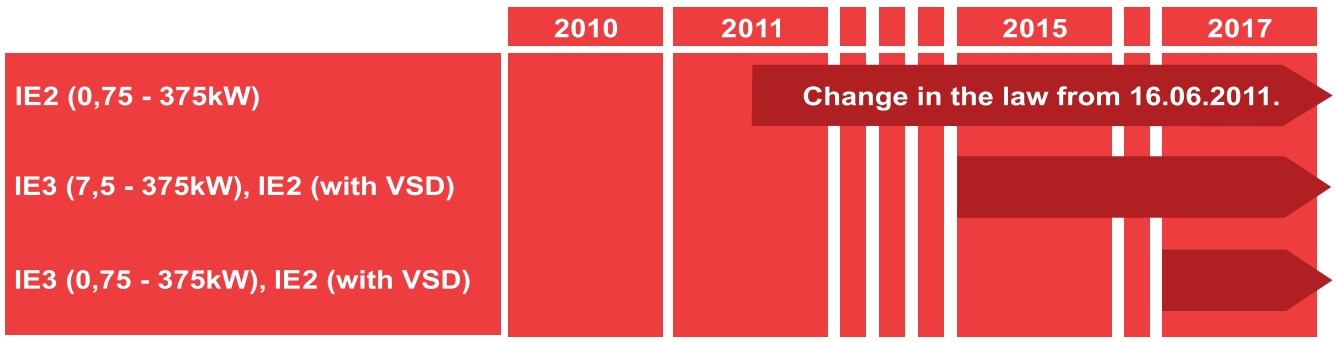
New efficiency classes for the low-voltage three-phase motors (IE = International Efficiency)

Along with the international discussion on the energy efficiency a worldwide harmonized energy efficiency classification system has been established for low-voltage three-phase asynchronous motors.
For many years low-voltage three-phase motors in the European Union have been sold in three efficiency classes EFF3, EFF2 and EFF1. Aside from this, many different efficiency classification systems have been introduced and well-proven in many countries all over the world.

This was the reason for the International Electrotehnical Commission IEC to develop and publish an energy efficiency standard which replaces all previous national issues. In parallel IEC developed and issued a new standard for determining motor efficiency. The new standard IEC 60034-30 defines and harmonizes worldwide the efficiency classes IE1, IE2 and IE3 for low-voltage three--phase motors in the power range from 0.75 kW to 375 kW (2p=2, 4, 6):

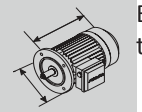
IE1 = Standard Efficiency
IE2 = High Efficiency
IE3 = Premium Efficiency

From now motors can be offered and sold with the new classes IE1, IE2 and IE3.
In that case the efficiency has to be determined according to the new requirements given in the IEC 60034-2-1 standard.

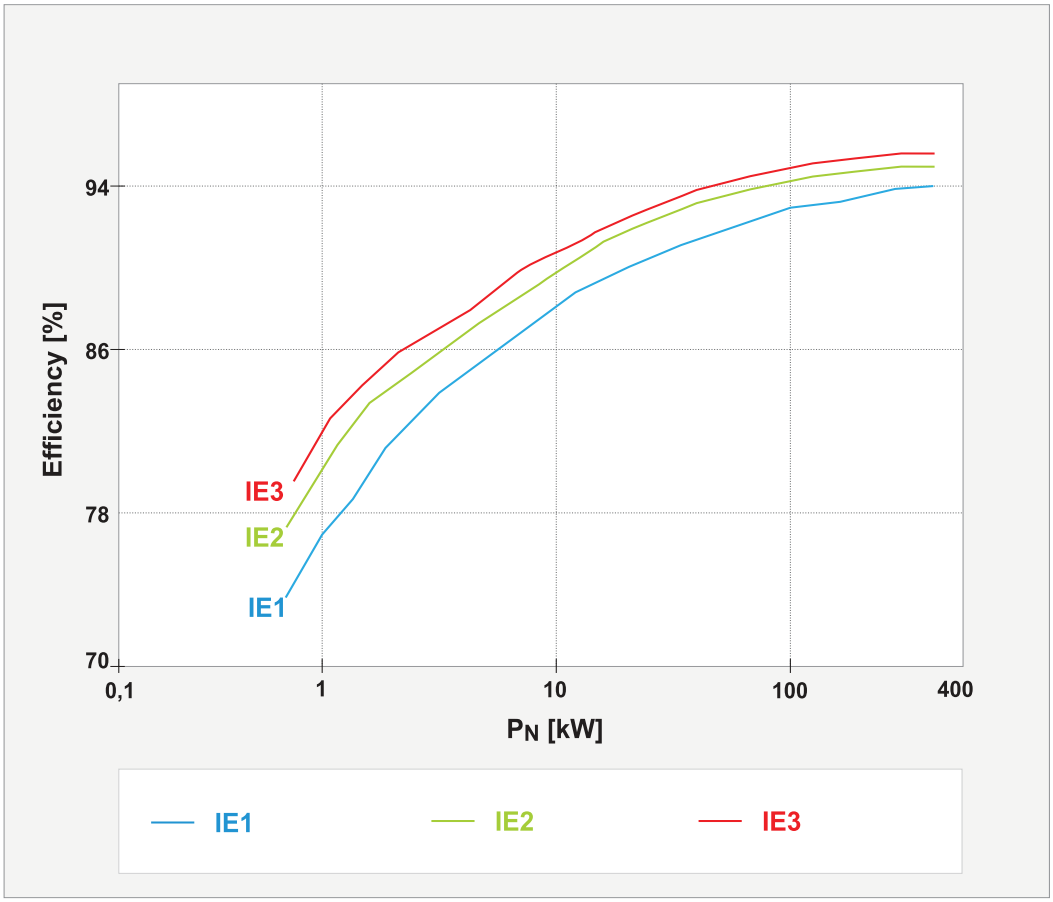


According to the Comission Regulation (EC) No 640/2009 (introduced in July 2009) the required efficiency class of general--purpose motors (introduced to the market in future) will be as follows:

- From 16 June 2011, motors placed for the first-time on the market shall have a minimum efficency class of IE2.
- From 1 January 2015, motors with a rated output between 7.5 - 375 kW shall have a minimum efficiency class of IE3, or IE2 if they are operated / equipped with electronic speed control (VSD).
- From 1 January 2017, motors with a rated output between 0.75 - 375 kW shall have a minimum efficiency class of IE3, or IE2 if they are operated / equipped with electronic speed control (VSD).



Electronic speed control is carried out using frequency converter (VSD) that adjusts the speed of the motor - and therefore the torque produced - based on the energy needed.



The efficiency class system specified under IEC 60034-30 is valid for low voltage three phase squirrel cage induction motors with the following specifications:

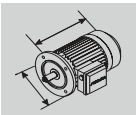
- Rated voltage up to 1000V
- Rated output between 0,75kW and 375kW
- Either 2,4 or 6 poles
- Rated on the basis of continous duty (S1) or intermittent periodic duty (S3) with cyclic duration factor of 80% or higher
- Capable of operating direct on-line
- Rated for operation conditions in accordance with IEC 60034-1 (temperature, installation altitude, etc.)

In accordance with IEC34-1 the normal climate is characterized by:

- Environment temperature: -16°C ÷ +40°C
- Altitude: up to 1000m
- Atmospheric pressure: 1050mbar
- Relative humidity: 60% ÷90%

This regulation shall not apply to:

- Motors specified to operate wholly immersed in a liquid
- Motors completly integrated into a product (for example pump, fan or compressor) of wich the energy performance cannot be tested independently from the product
- At altitudes exceeding 4000 meters above sea level
- Where ambient air temperatures exceed 60°C
- Where ambient air temperatures are less than -30°C for any motor or less then 0°C for a motor with water cooling
- In potentially explosive atmosheres as defined in Directive 94/4EC of the European Parliament
- Break motors



Construction of the motors

1. Housing:
The housing of the frame sizes 63 to 112 is made of Aluminium.

The feet for the motors:
- frame size 63 to 112 - Aluminium - screwed
- frame size 132 - Cast iron - screwed or integrated
- frame size 160 to 280 - Cast iron - integrated
- frame size 315 - Cast iron - screwed or integrated

Cable glands:

Frame size 63-100 : M20 / 112 and 132: M25 / 160 and 180: M40 / 200 and 255: M50 / 250 and 280 : M63 / 315 and 355ML : M76

2. End-shields:
End-shields for motors of the frame sizes 63 to 100 are made of Aluminium (flange B5 and B14 are made of cast iron). End-shields and flanges for motors of the frame sizes 112 to 355 are made of cast iron. Motors of frame 80, 90 and 100 : on request end shields may be made of cast iron.

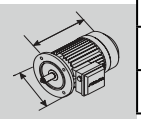
3.Rotor:
The winding of the rotor is made of die-casted aluminium. The rotor together with the shaft is dynamically balanced with half key according to DIN ISO 8821.

4.Terminal boxes located on top
For request, the position of the terminal box can be located at the right or left side looking from the shaft end, for frame size 80 to 315. The terminal box can be rotated in steps of 180° at frame size 63 to 180. The terminal box can be rotated in steps of 90° at frame size 200 to 355.

5.Cooling
The motors are air cooled by means of external surface ventilation (standard IEC 60034-6; cooling according to IC 411). Standard motors have a radial flow centrifugal fan allowing fully reversible rotation. Please chek the minimum distance between cover and wall by mounting the motor.

6.Degree of protection:
All motors of this catalogue are manufactured with the degree of protection IP 55 (IP - International Protection). On request the motors are available with a higher degree of protection.

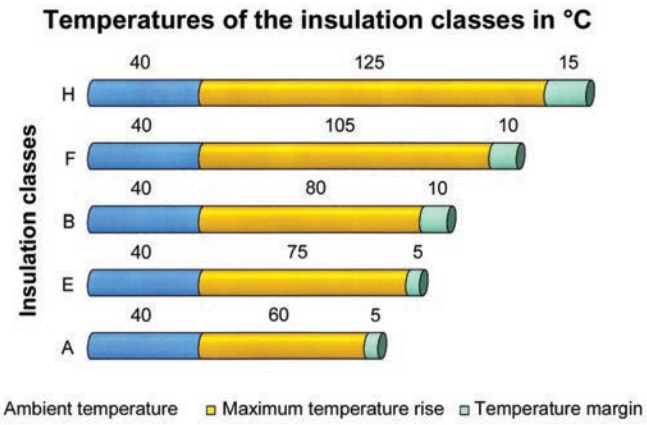
IP	Protection of work equipment	Protection of people	**IP**	Protection of work equipment
First prefix	Against penetrate of solid foreign bodies	Against access of dangerous parts with	**Second prefix**	Against penetrate of water with detrimental action
0.	(no protection)	(no protection)	**.0**	(no protection)
1.	≥50 mm diameter	back of hand	**.1**	drip - proof vertical
2.	≥12,5 mm diameter	finger	**.2**	drip - proof (15° inclination)
3.	≥2,5 mm diameter	tool	**.3**	spray - proof
4.	≥1,0 mm diameter	wire	**.4**	splash - proof
5.	dustproof	wire	**.5**	jet - proof
6.	dust - tight	wire	**.6**	strong jet - proof
			.7	short-time immersion
			.8	permanent immersion



7.Nominal voltage and frequency
The nominal voltage of three phase motors is 400 V at the nominal frequency of 50Hz. Motors for another nominal voltage and / or another nominal frequency are available on request.

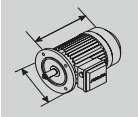
8.Nominal output
The motors will properly operate with the nominal output at continuous duty (S1) when the following conditions are observed:
- Motor is supplied with nominal voltage and frequency
- Ambient temperature is not higher than +40°C
- Altitude of site is up to 1000m above sea level

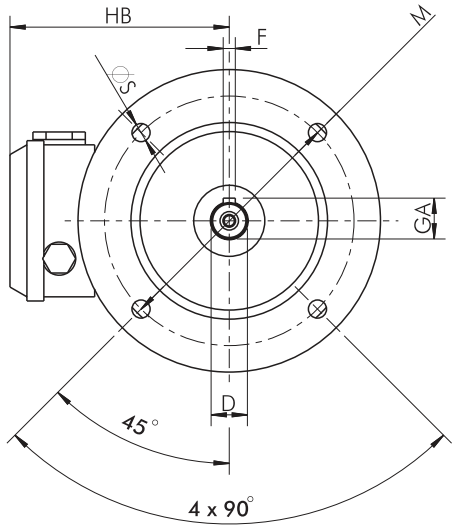
9.Insulation
Standard motors are manufactured in the insulation class F.

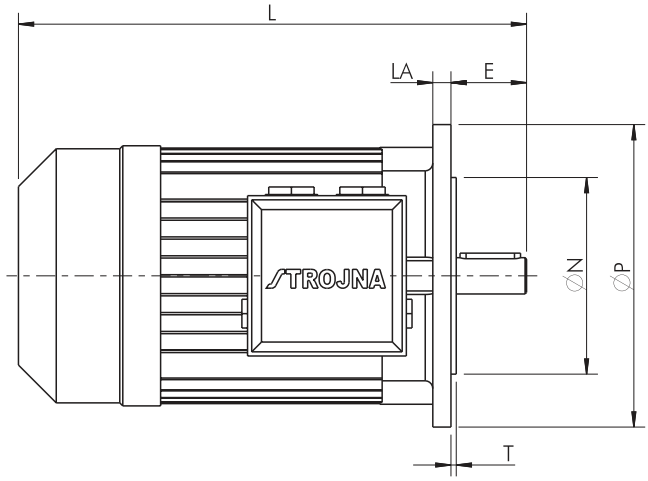


10.Options
The motors can be equipped with optional accessories (e.g. PTC, Pt100, anti-condensation heater, external fan).

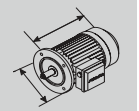
11.Ordering
When ordering motors please specify the following information:
- Quantitiy
- Motor size
- Nominal output, kW
- Rated speed
- Type of mounting
- Nominal voltage and frequency
- Any special features or options

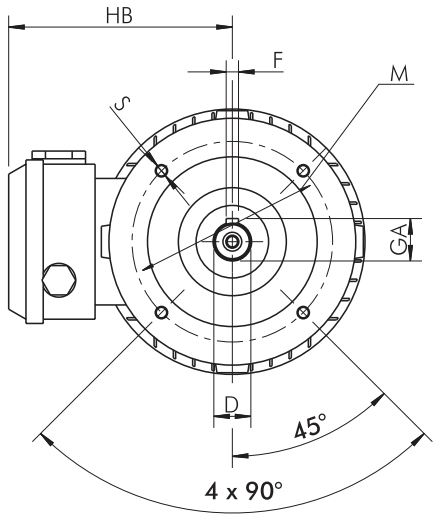


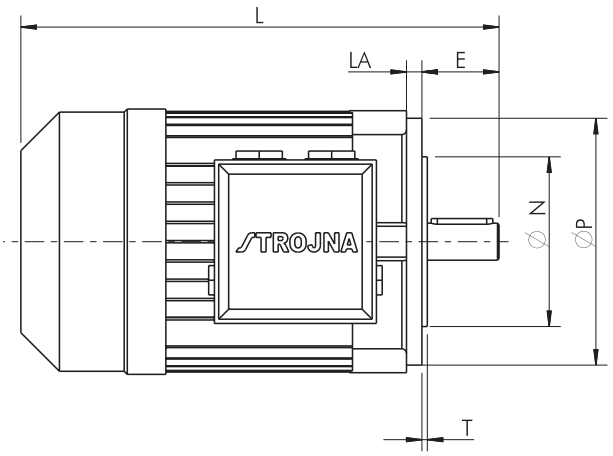




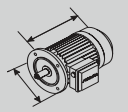
Type		D	E	F	GA	M	N	P	LA	T	S	HB	L	Pole
63	A	11j6	23	4h9	12,5	115	95j6	140	9	3	10	102	200	2, 4, 6, 8
	B												210	2, 4, 6, 8
71	A	14j6	30	5h9	16	130	110j6	160	9	3,5	10	111	223	2, 4, 6, 8
	B												245	2, 4, 6, 8
80	A	19j6	40	6h9	21,5	165	130j6	200	10	3,5	12	120	266	2, 4, 6, 8
	B													2, 4, 6, 8
90	S	24j6	50	8h9	27	165	130j6	200	8	3,5	12	130	330	2, 4, 6
													305	8
	L												330	2, 8
													355	4, 6
100	LA	28j6	60	8h9	31	215	180j6	250	11	4	15	140	420	2, 4
	LB												440	4
	L												376	6, 8
112	M	28j6	60	8h9	31	215	180j6	250	12	4	15	164	384	2, 6, 8
													411	4
132	S	38k6	80	10h9	41	265	230j6	300	12	4	15	178	463	2, 6, 8
													501	2, 4
	M												501	4, 6, 8
160	M	42k6	110	12h9	45	300	250j6	350	13	5	19	210	612	2, 4, 6, 8
	L	42k6	110	12h9	45	300	250j6	350	13	5	19	210	612	2, 4, 6, 8
180	M	48k6	110	14h9	51,5	300	250j6	350	13	5	19	228	705	2, 4
	L	48k6	110	14h9	51,5	300	250j6	350	13	5	19	228	705	4, 6, 8
200	L	55	110	16	59	350	300	400	16,5	5	19	320	850	2, 4, 6, 8
225	S	60	140	18	64	400	350	450	18	5	19	345	960	4, 8
	M	55	110	16	59	400	350	450	18	5	19	345	930	2
		60	140	18	64	400	350	450	18	5	19	345	960	4, 6, 8
250	M	60	140	18	64	500	450	550	23	5	19	385	1010	2
		65	140	18	64	500	450	550	23	5	19	385	1040	4, 6, 8



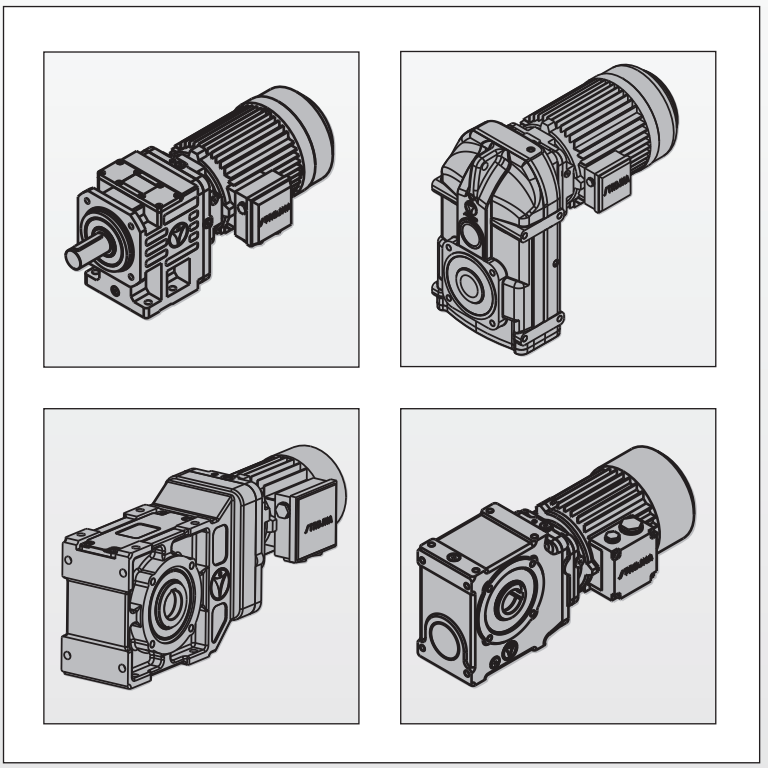




Type		D	E	F	GA	M	N	P	S	T	LE	HB	L	Pole
63	A	11j6	23	4h9	12,5	100	80j6	120	M5	3	14	102	210	2, 4, 6, 8
	B												210	2, 4, 6, 8
71	A	14j6	30	5h9	16	115	95j6	140	M8	3	14	111	223	2, 4, 6, 8
	B												245	2, 4, 6, 8
80	A	19j6	40	6h9	21,5	130	110j6	160	M8	3,5	14	120	266	2, 4, 6, 8
	B												278	2, 4, 6, 8
90	S	24j6	50	8h9	27	130	110j6	160	M8	3,5	10	130	330	2, 4, 6, 8
	L												330	2, 4, 6, 8
100	LA	28j6	60	8h9	31	165	130j6	200	M10	3,5	12	140	420	2, 4
	LB												440	4
	L												376	6, 8
112	M	28j6	60	8h9	31	165	130j6	200	M10	3,5	12	164	384	2, 6, 8
													411	4



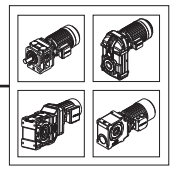
STROINA TRANSMISSIONS



OPERATING AND MAINTENANCE MANUAL

ZG FG
KG SG

GEAR UNITS



1. INFORMATION

1.1 General information

These Operating manual (OM) is part of the gear unit as supplied, and you must read them before you work with the gear unit. The instructions in the OM must be followed. Keep the OM close to the gear unit.

Warning! We assume no liability for damages or disruptions of operations resulting from the failure to observe this OM

1.2 Safety and information markings

- After being delivered, the unit must be inspected for any damage that may have occurred during transport. If the unit's condition warrants, it may be necessary to take action to prevent the unit from being put into operation.
- The customer is responsible for setting up the drive in accordance with good engineering practices. The instructions in these Operation Manual must be followed to achieve the confirmed characteristics of the drive units and if any warranty claims are to be met.
- Make certain that you never put damaged products into operation!
- Read these Operating Manual carefully before you begin any setup, installation, or maintenance work. Installation, startup, maintenance and repair work on the gear unit / gear motor as well as on electrical accessory equipment may only be performed by qualified technical personnel, taking the following items into account:
  - operating manual, information labels/tags on the gear unit / geared motor,
  - all other project documents, setup manuals, operating manuals,
  - the applicable regional and national regulations on safety and accident prevention.

2. STORAGE

The following items must be taken into account when storing the gear units:

- In general, the storage of drive units must be done in closed rooms.
- Ambient temperature max. 25 °C (77 °F)
- Relative humidity max. 80%.
- The drive units are to be protected from exposure to the sun or UV light.
- No aggressive or corrosive materials are to be stored in the vicinity of the unit.
- The gear units are to be stored in the same position that is intended for a later use.
- The gear units are to be rotated 1-2 revolutions on the output side every 6 months to ensure that the interior parts are wetted with lubricant.
- The units are to be protected from mechanical loads and exposure to outside forces.

2.1 Long-term storage:

- When the gear units are to be stored for longer than 12 months, they must be completely filled with lubricant per the nameplate or lubricant plate.
- Unfinished, bare-metal parts on the outside of the unit are to be protected with a corrosion protection product (inspection every 6 months is recommended). The corrosion protection must be replaced after one year.
- Before starting the gear unit, drain the lubricant from it. If more than one lubricant chamber is present, make certain that all of the lubricant chambers have been drained out.
- If the gear units are stored for longer than 24 months before being put into service, they must be checked for leaks. If there are any visible cracks on the surfaces of sealing elements, such parts must be replaced.

3. MECHANICAL INSTALLATION - PREPARATIONS

The gear unit must not be put into operation unless:

- The information on the gear unit specifications plate matches the permissible local usage conditions.
- No damage caused, for example, by storage or transport, is apparent.
- And in particular, the shaft seals, cover caps, and guard hoods are not damaged.
- No leaks or loss of oil are visible.
- No corrosion or other indication of improper storage or storage under damp conditions is present.
- All of the packaging materials were removed.

As a general rule, drive shafts and flange surfaces must have all corrosion protection products and dirt cleaned from them, standard commercial solvents can be used.

IMPORTANT! The sealing lips on the shaft seals must not be allowed to come in contact with the solvent. Material can be damaged!

3.1 Bleeding the gear unit

Case 1: Gear drives lacking a vent plug: Sealed-design gear drives are supplied without a vent plug.
Case 2: The vent plug with transport locking device is installed at the proper position for the mounting position. The rubber strip must be completely turned off before the unit is put into operation.

The rubber strip must be completely turned off!
Gear units that are ordered without oil filling are supplied with internal rust proofing consisting of anti-corrosion oil. The anti--corrosion oil can however be mixed with the recommended lubricant indicated on the nameplate. This means that the unit does not have to be flushed before filling with oil.

4. SETTING UP THE GEAR UNIT

The proper oil level for the mounting position is designed by the plant.
When installing please ensure that the unit is not exposed to any shocks or vibrations in order to avoid noise during operation. The mounting surface should be even and torsionally rigid. Distortion of the gear case should also be avoided. The cooling air for gear unit motors must be able to flow unhindered around the gear unit.
Reduce reaction torque with a torque arm or a rubber buffer kit (no rigid joints!).

4.1 Installation and removal of hollow-shaft gear units

The customer-side machine shaft must be carefully cleaned and checked for any damage such as grooves or compressed areas before the hollow-shaft gear unit is installed.

The hollow-shaft are manufactured with tolerance ISO H7 class.

Before tightening the hallow-shaft gear unit on to the machine shaft, paint the surface of the machine shaft with lubricating pastesuch as Klüber Paste 46MR401.

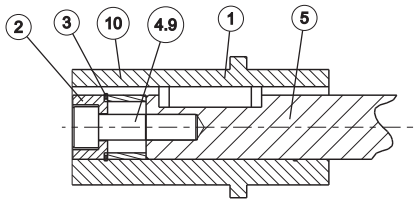


Figure 1
Mounting the customer shaft with a shoulder

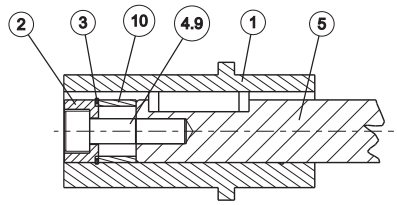


Figure 2
Mounting the customer shaft without a shoulder

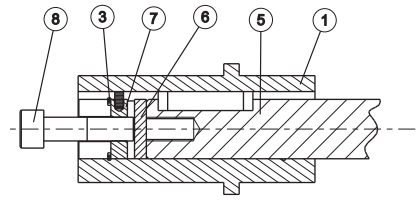


Figure 3
Removing the customer shaft with or without shoulder

4.1.1 Installation: (Figure 1 and Figure 2)

Draw the gear unit with hollow shaft onto the machine shaft. Insert the spacer ring, item 10, with there is a customer shaft without a shoulder, the circlip, item 3, and washer, item 2, into the hollow shaft and attach using the bolt, item 4.

4.1.2 Removal: (Figure 3)

Remove the screw (4), disc (2) and circlip (3), place the thrust washer (6) and jack nut (7) in the hollow shaft, insert the circlip and remove the gear unit from the shaft with jack screw (8).

Parts 4, 6, 7, 8 and 10 are not supplied with the gear unit. Parts 2, 3 and 9 are included in fixing kit.

1. Hollow shaft
2. Disc
3. Circlip DIN 472
4. Socket head screw DIN 6912 (to customer specification, length according to machine shaft length)
5. Customer's shaft with centering thread DIN332.2, Form DR
6. Thrust washer
7. Jack nut
8. Jack screw
9. Socket head screw DIN 6912
10. Spacer tube

5. LUBRICATION, INSPECTION AND MAINTENANCE

5.1 Lubrication

5.1.1 ZG gear units

Gear units and geared motors are supplied ready for operation. Gear units sizes from ZG1 to ZG6 are filled with synthetic gear oil labeling according to DIN51502 CLP PG ISO VG220 (according to ISO viscosity grade VG 220 from DIN51519). Sizes from ZG7 to ZG13 have standard filling with mineral gear oil labeling according to DIN51502 CLP ISO VG220 (according to ISO viscosity grade VG 220 from DIN51519) for ambient temperature -10 °C (14 °F) to +40 °C (104 °F).

5.1.2 FG gear units

Gear units and geared motors are supplied ready for operation. Gear units sizes FG1, FG2, FG3 are filled with synthetic gear oil labeling according to DIN51502 CLP PG ISO VG220 (according to ISO viscosity grade VG 220 from DIN51519). Sizes from FG4 to FG8 have standard filling with mineral gear oil labeling according to DIN51502 CLP ISO VG220 (according to ISO viscosity grade VG 220 from DIN51519) for ambient temperature -10 °C (14 °F) to +40 °C (104 °F).

5.1.3 KG gear units

Gear units and geared motors are supplied ready for operation. Gear units sizes KG1 to KG4 are filled with synthetic gear oil labeling according to DIN51502 CLP PG ISO VG220 (according to ISO viscosity grade VG 220 from DIN51519). Sizes from KG5 to KG9 have standard filling with mineral gear oil labeling according to DIN51502 CLP ISO VG220 (according to ISO viscosity grade VG 220 from DIN51519) for ambient temperature -10 °C (14 °F) to +40 °C (104 °F).

5.1.4 SG gear units

Gear units and geared motors are supplied ready for operation. SG gear units are filled with synthetic gear oil labeling according to DIN51502 CLP PG ISO VG460 (according to ISO viscosity grade VG 460 from DIN51519) for ambient temperature -10 °C (14 °F) to +40 °C (104 °F).

5.2 Inspection and maintenance

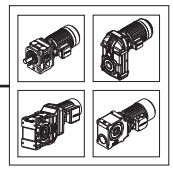
Gear units of the model range sizes ZG sizes ZG1 to ZG6; model range FG sizes FG1 to FG3; model range KG sizes KG1 to KG4, model range SG; are maintenance-free, and oil change is not necessary. The gear units are executed without breather plug, there are no oil drain, oil level respectively oil filling screws.

In the case of gear units of the model range ZG sizes ZG7 to ZG13; model range FG sizes FG4 to FG8; model range KG sizes KG5 to KG9, an oil change has to be executed corresponding to the maintenance periods. The gear units are executed with oil drain, respectively oil filling screws for the main mounting positions.

For special applications under difficult / aggressive ambient conditions, an oil change has to be done frequently! The exact quantities of oil are signs on the oil table.

5.3 Inspection and maintenance intervals

Time interval	Inspection and maintenance work
monthly	• Gear units must be checked for noise changes (running noise of the gearing and rolling bearings) • Check the housing temperature (max. 90 °C, 194 °F) • Visible inspection of seals for leakage • Remove dust deposit
every 3 months	• Clean the exterior of the vent plug
every half year	• Check the rubber buffer set • Check the fixing bolts to make certain they are tight
every 5.000 service hours, no later than every 4 years	• Visual check of the shaft seals; if applicable replace the shaft seals
every 10.000 service hours, no later than every 5 years	• Oil change: ZG7 to ZG13 • Oil change: FG4 to FG8 • Oil change: KG5 to KG9
every 10 years	• General overhaul



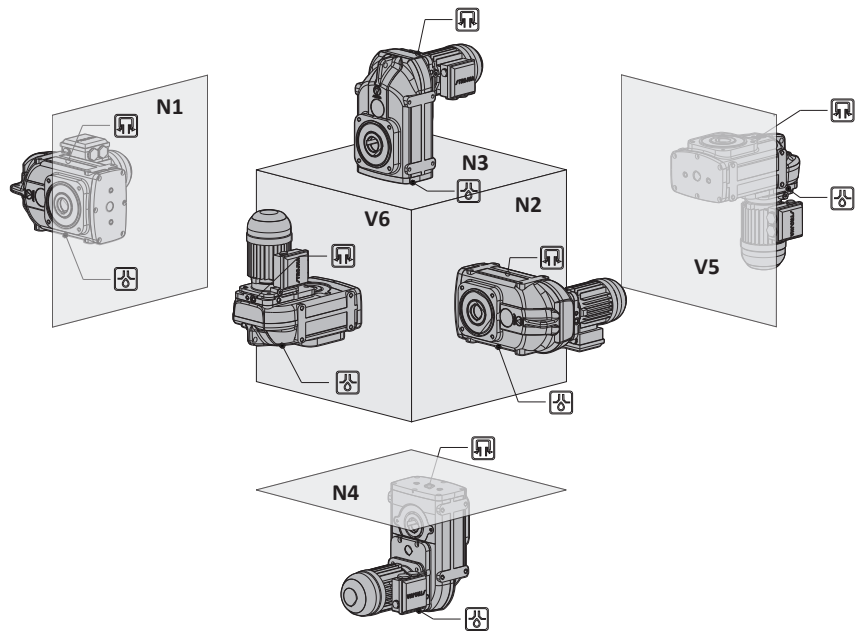
5.4 Oil quantity (in liters)

Tip	Ambijent °C	DIN (ISO)	ISO VG	ARAL	CASTROL	SHELL	MOBIL
FG	-10°C ... +60°C	CLP	220	Degol BG 220	Alpha SP 220	Omala 220	Mobilgear 600 XP 220
	-20°C ... +80°C	CLP PG	460	Degol GS 460	Alphasyn PG 460	Tivela S 460	Glygoyle 460
ZG	-25°C ... +60°C	CLP PG	220	Degol GS 220	Alphasyn PG 220	Tivela S 220	Glygoyle 220
	-40°C ... +60°C	CLP HC	220	Degol PAS 220	Alphasyn T 220	Omala S4 GX 220	SHC 630
KG	-20°C ... +40°C	HCE	220	Eural gear 220	Optileb GT 220	Cassida GL 220	SHC Cibus 220
	-20°C ... +80°C	CLP PG	460	Degol GS 460	Alphasyn PG 460	Tivela S 460	Glygoyle 460
SG	-25°C ... +60°C	CLP PG	220	Degol GS 220	Alphasyn PG 220	Tivela S 220	Glygoyle 220
	-40°C ... +20°C	CLP-HC	220	Degol PAS 220	Alphasyn T 220	Omala 220 HD	SHC 630
	-20°C ... +40°C	HCE	460	-	-	-	Glygoyle 460

CLP	-Mineral oil	1) Standard lubrication according DIN 51517 - CLP ISO 220
CLP PG	-Polyglycol oil	2) Standard lubrication according DIN 51517 - CLP ISO VG 460
CLP HC	-Polyalphaolefin oil	3) Special starting procedure
HCE	-Lubricants for food processing industry	Special lubricants on inquiry

5.4.1 FG gear units

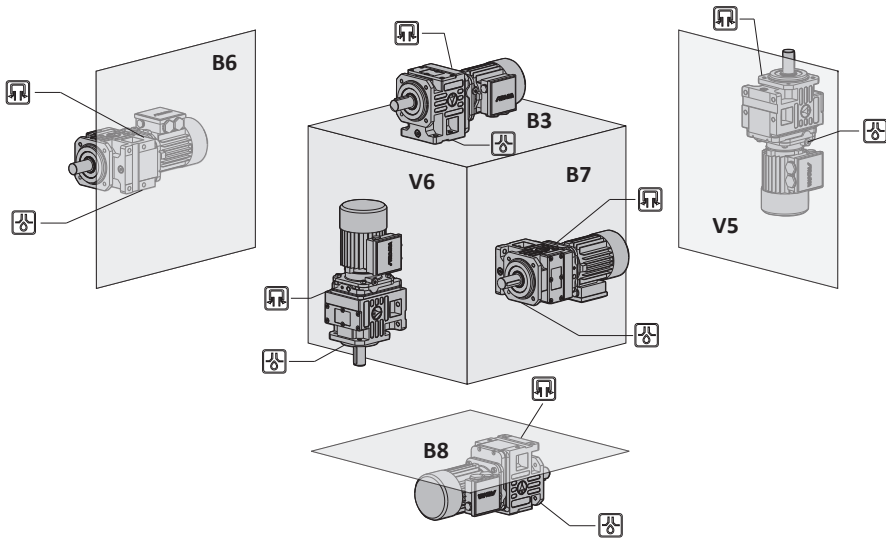
FG	Mounting position					
	N1	N2	N3	N4	V5	V6
12	1,1	1,1	1,5	1,6	1,7	1,9
22	1,2	1,2	1,7	1,8	1,9	2,3
23	1,4	1,4	2,0	2,2	2,4	2,9
32	1,9	1,9	3,0	3,1	3,4	4,0
33	2,3	2,3	3,8	4,0	4,3	5,0
42	3,1	3,1	4,2	4,8	4,8	7,0
43	3,5	3,5	5,8	6,2	6,8	7,7
44	3,7	3,7	7,0	7,5	8,0	9,0
52	6,2	6,2	9	9,2	10	12
53	6,5	6,5	9,7	10	12	15
54	6,8	6,8	10	12	13	16
62	10	10	12	13	14	17
63	9,3	9,3	13	14	16	19
64	10	10	14	15	18	22
72	14	14	16	17	19	24
73	15	15	21	24	25	27
74	15,5	15,5	23,5	26	27	33
83	28	28	40	43	46	50
84	29,5	29,5	48	54	56	60
85	31	31	50	58	61	66



- Vent plug - Drain plug

5.4.2 ZG gear units

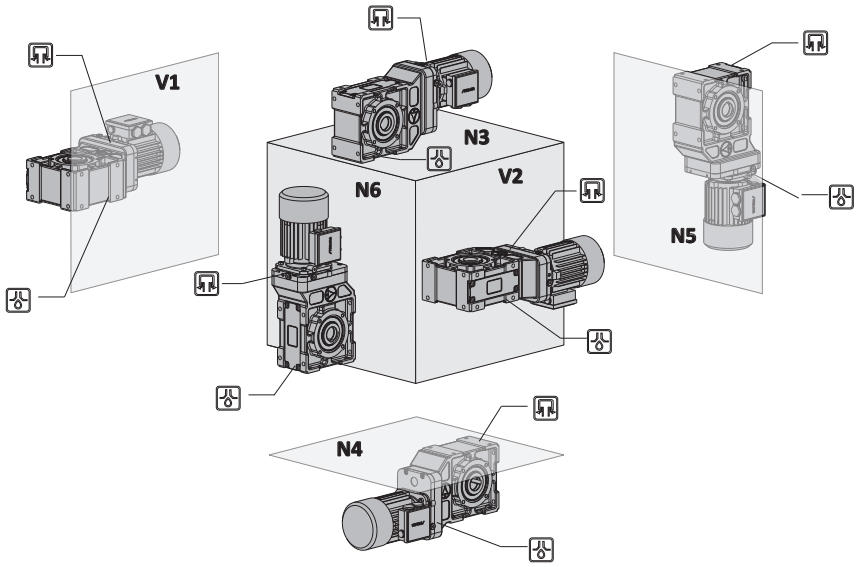
ZG	Mounting position					
	B7	B6	B3	B8	V6	V5
12	0,4	0,4	0,2	0,4	0,3	0,4
22	0,8	0,8	0,7	1,4	1,3	1,5
23	0,9	0,9	0,8	1,6	1,5	1,7
32	0,9	0,9	0,7	1,4	1,4	1,6
33	1	1	0,9	1,9	1,8	2
42	1,2	1,2	1	2,1	2	2,2
43	1,4	1,4	1,3	2,7	2,6	2,8
44	1,9	1,9	1,8	3,5	3,4	3,7
52	1,2	1,2	0,9	1,9	1,8	2,2
53	1,6	1,6	1,5	3,2	3,1	3,5
54	2,2	4,4	4,6	5,6	3,7	3,7
62	1,5	1,5	1,2	2,5	2,6	2,7
63	2,1	2,1	1,8	3,5	3,7	3,7
64	2,7	2,7	2,3	4,5	4,6	4,8
72	2,9	2,9	2,1	4,3	4,5	4,5
73	3,6	3,6	3,2	6,4	6,5	6,8
74	4,2	4,2	3,7	7,5	7,5	7,8
82	3,3	3,3	2,7	5,5	5,7	5,9
83	3,9	3,9	3,5	7,2	7,4	7,8
84	5,2	5	4,6	9,3	9,5	10,5
92	8,1	8,1	7	14,4	14,3	15
93	9,3	9,3	8,5	17,5	17,2	18,5
94	10,5	10,5	8,5	18,5	18,5	20
102	11	11,8	10,2	20,6	20,3	22
103	13,8	13,8	12,5	25,6	25,2	27
104	15,7	15,7	14,3	28,5	28,9	31
112	17	17	15,9	32	32,5	33
113	18,4	18,4	17,5	36	37	39
114	24	24	22	45	46	48
122	24	24	22	45	46	46
123	28	28	26	54	56	59
124	36	36	34	68	69	72
132	33	33	31	63	64	65
133	41	41	39	81	83	88
134	55	55	50	101	104	108



- Vent plug - Drain plug

5.4.3 KG gear units

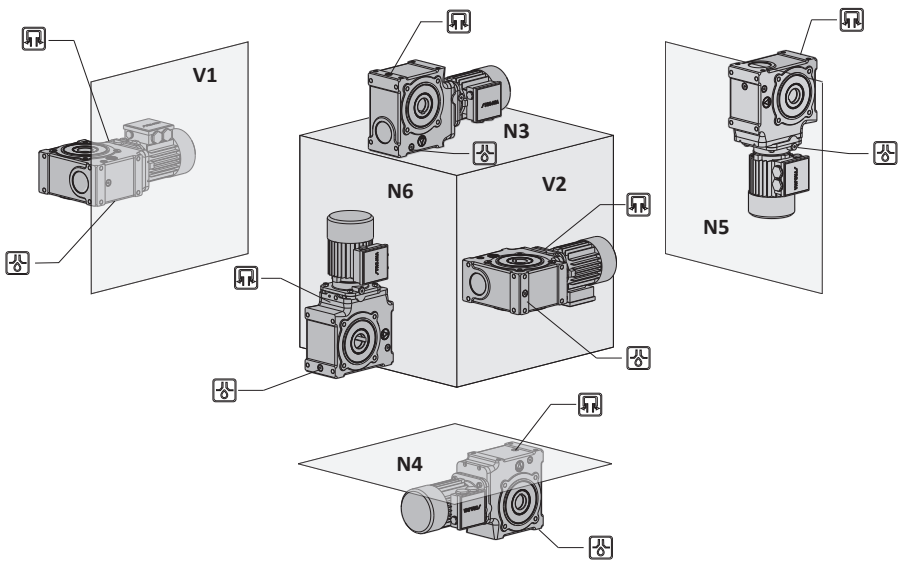
KG	Mounting position					
	N3	N4	N5	N6	V1	V2
12	0,8	0,9	1,2	1,5	1,3	1,4
22	1	1	1,45	1,6	1,5	1,6
23	1	1,1	1,45	1,8	1,7	1,8
32	1,6	1,6	2,2	2,1	2,2	2,2
33	1,7	1,8	2,6	2,8	2,6	2,7
42	2,5	2,6	3,0	4,5	4,5	4,0
43	2,6	2,7	3,3	4,7	4,3	4,4
44	2,8	3,2	3,5	5,0	4,8	4,8
53	3,0	3,8	4,2	5,3	3,2	3,3
54	3,5	4,1	4,7	5,7	3,8	4
55	4,2	4,8	5,3	6,2	5,6	6,0
63	5,0	6,8	7,0	9,2	5,2	5,4
64	5,8	7,5	7,5	9,8	6,0	6,5
65	6,7	8,2	7,9	10,5	7,5	8,0
73	7,8	11	14	16	8	8,2
74	8,5	12	15	17	15	15
75	9,6	12,8	16,5	18,5	17	17
83	17	20	22	28	18	19
84	17	18,5	25	32	20	21
85	20	21,5	26,5	36	23	25
93	35	48	45	67	40	42
94	38	52	48	72	45	47
95	42	56	53	77	52	56



- Vent plug - Drain plug

5.4.4 SG gear units

SG	Mounting position					
	N1	N2	N3	N4	N5	N6
12	0,9	0,9	0,9	1,1	1,1	0,9
22	0,9	1,2	1,2	1,2	1,2	1,2
32	1,1	1,6	1,6	1,6	1,6	1,6
33	1,7	1,7	2,5	2,5	2,5	2,9
42	2	2	3,4	3,4	3,4	3,4
43	3,1	3	4,5	4,5	4,5	5,1
52	3,2	3,2	5,5	5,5	5,5	5,5
53	3,5	3,5	6,3	6,3	6,3	6,3
62	5,6	5,6	9	9	9	9,6
63	5,9	5,9	10,3	10,3	10,3	10,3
55	4,4	4,4	4,6	5,6	3,7	3,7
63	6,2	6,2	6,8	8,2	4,8	4,8



- Vent plug
- Drain plug

6. ELECTRICAL CONNECTION

Work is only permitted to be carried out by qualified specialists on the stationary motor while disconnected and prevented form being switched on again. This also applies for the auxiliary power circuits (e.g. optional anti-condensation heaters).

Before starting work, make sure that a protective conductor is securely connected! Check for isolation from supply! Observe the rules of electrical engineering and electronics in the applicable rules and regulations, particularly with regard to protective measures. Observe requirements of the national or local energy companies.

- check that the mains voltage and frequency correspond to the data on the motor rating plate;
- connect the motor only as shown in the wiring diagram included in the terminal box of the motor;
- implement safe installation;
- correct the direction of rotation by replacing 2 phases;
- terminal box must be dust and watertight;
- protect phases with the safety switch;
- the insulation resistance needs to be checked prior to start-up and again after any extended periods of storage; Exceeding the tolerances in EN 60034-1/IEC 34-1 – voltage + 5 %, frequency +2 %, curve shape, symmetry – increases the temperature and influences electromagnetic compatibility. Observe nameplate data and the wiring diagram in the terminal box. Connections must be made in such a way as to ensure that a permanently safe electrical connection is maintained (no protruding wire ends); use the corresponding cable end pieces.

Air clearances between bare live parts themselves and between bare live parts and earth must be 5.5 mm (0.2 inch) (Un = 690 V).

6.1 Preparation for connecting the electrical motor

Attention! Wear safety glasses - danger of injury from fragments!

- Put on the terminal box cover and fasten with screws.
- Determine which cable entries to open.
- Open the cable entries:
  - o with a chisel or similar (hold at angle),
  - o by a light tap with a hammer

Caution! Do not penetrate inside the terminal box!

- Open the terminal box, remove blasted lid
- With provided lock nuts fix the cable entry,
- Seal the cable entry.

Terminal box should be free of any foreign objects, dirt and moisture. Unused cable entries and terminal box seal tightly. For a test run, secure electrical motor shaft key. For the break motors, please ensure that brake is functioning properly before putting electrical motor in to the operation.

Caution! It is mandatory to install protective switch with for an over current protection for windings of electrical motor. Voltage fuses does not protect the motor against overload, only the supply system leads or switching devices.

6.2 Connecting the motor

Use the circuit diagrams in the terminal box and the motor nameplate data to connect a motor on electrical grid.
For electric motor with Y/Δ starting it is necessary to remove all bridging (connecting sheets), and connect all six terminal strips according to motor circuit diagram. For electrical motors with direct start (Y or Δ) it is necessary to connect all bridging according to circuit diagram.

6.3 Direction of rotation

The standard motors are suitable for clockwise and counter-clockwise rotation. Connection of the power cables in the phase sequence L1, L2, L3 to U1, V1, W1 results in clockwise rotation (looking at the shaft end on the drive side). If two connections are interchanged, this results in counterclockwise rotation

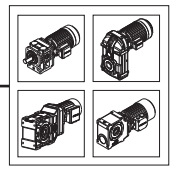
6.4 Motor installation

Standard motors are designed for use at temperatures of -20°C (-4 °F) to +40 °C (104 °F) and altitudes of 1,000 m (3280 ft) above sea level. When installing the motor, ensure that the intake is not obstructed and air can circulate freely. Do not remove the fan blade or cowl, or enclose the motor with a casing because in both cases there would not be enough air for cooling and the motor could overheat.

6.5 Operation

Vibration levels of Veff = 3,5 mm/s for Pn ≤ 15 kW (Veff = 0,14 inch/sec for Pn ≤ 20 HP) or. Veff = 4,5 mm/s for Pn > 15 kW (Veff = 0,18 inch/sec for Pn > 20 HP) are quiet acceptable in the coupled state. Whenever changes occur in relation to normal operation, such as increased temperatures, noise, oscillation, determine the cause and contact the manufacturer, if required. Never bypass or disable protection devices, not even in test mode. If you are in doubt, switch off the motor. Regularly clean air ducts in dusty or dirty environments. Remove the optionally condensation water plug to drain from time to time and reinsert the plug!

For motors without re-lubrication facility: change the bearings or grease but no later than every 3 years (see manufacturer's specifications).
For motors without re-lubrication facility: see time interval!
Switch on forced cooling every time when you start the motor (if you have that option).

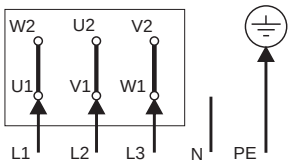


7. MOTOR CIRCUIT DIAGRAM

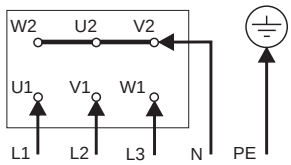
7.1 Three-phase single-speed induction motors type:

- numbers of poles: 2p = 2, 2p = 4, 2p = 6, 2p = 8

Δ CONNECTION



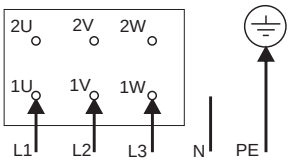
Y CONNECTION



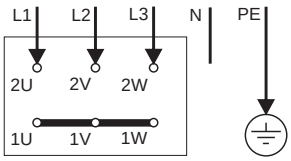
7.2 Three-phase two-speed induction motors type:

- numbers of poles: 2p = 4/2 and 2p = 8/4 (single-winding)

Δ CONNECTION

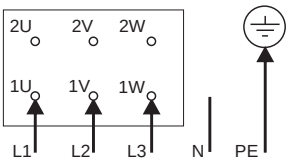


YY CONNECTION

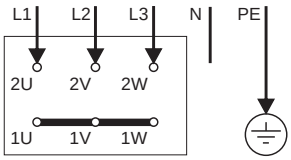


- number of poles 2p = 4/2 and 2p = 8/4 (single-winding , for ventilator drive)

2p = 4(8)
Y CONNECTION

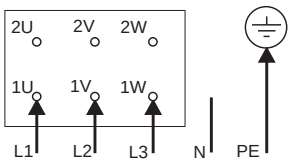


2p = 2(4)
YY CONNECTION

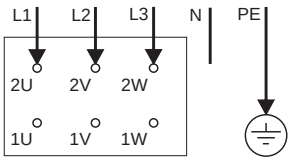


- number of poles 2p = 6/4 and 2p = 8/6 (double-winding)

2p = 6(8)
Y CONNECTION



2p = 4(6)
Y CONNECTION



8. MOTOR INSTALLATION ON IEC ADAPTER

For IEC adapters with elastic coupling.

8.1 Pay attention before assembly:

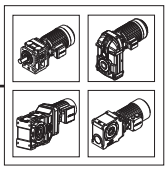
- **Danger of injuries!**
- **Disconnect the drive before carrying out any work on the coupling!**
- **Seccure the drive against unintetional re-start rotation!**
- **Incorrectly tighten bolts can cause serius personal injuries and property damages!**
- **In compliance with accident prevention regulations, you are obligated to protect all freely rotating parts by means of permanetly installed guards/ covers against unintentional contact and falling down objects.**
- **To avoid sparts, the covers for coupling used in explosive atmospheres should be made of stainless steel!**
- **As a minimum, the covers have to fulfil the requirements of protection type IP2X.**
- **The covers have to be designed to prevent dust from depositing on the coupling.**
- **The cover must not contact the coupling or impair the proper function of the coupling.**
- Make sure that the speeds, torques and ambient temperatures as stated in Tehnical Data are not exceeded.
- The maximum permissible bore diameters must not be exceeded.
- Check whether the shaft-hub connections safely transmit the occurring operating torques.
- The standard tolerance of STROJNA for finish bores is fit H7.
- Standard keyways comply with DIN 6885.
- Check the dimensions and tolerances of shafts, hub bores, keys and keyways.
- Set screws as required.

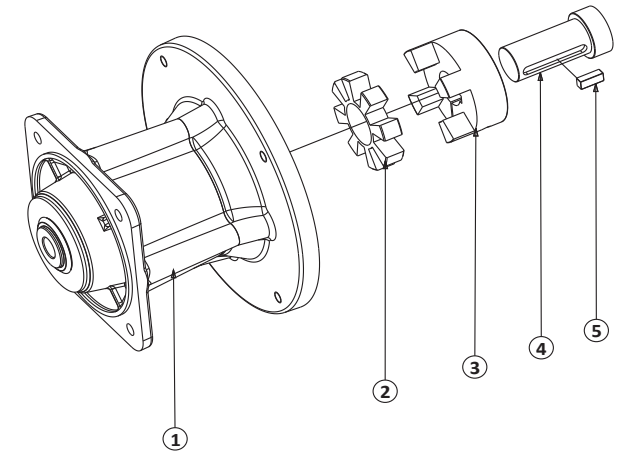
Tehnical table:

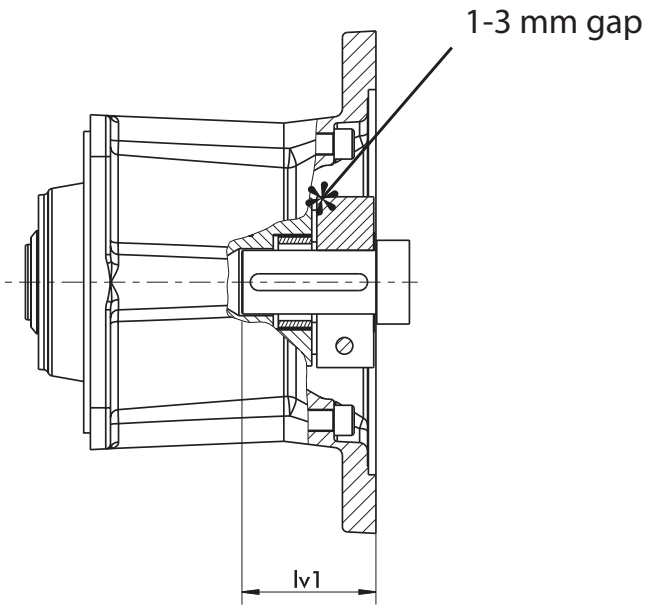
IEC Size				63-71 10	80-90 60	100-112 150	132-180 450	200-250 800
Nominal torque		(Nm)	T_{kn}	12,5	60	160	530	950
Maximal torque		(Nm)	T_{kmax}	25	120	320	1060	1900
Distance A		(mm)	A	11,5	18	20	26	31
Radial displacement		(mm)	Max. Values	0,1	0,12	0,15	0,2	0,25
Angular misalignment		(Grad)		1	1	1	1	1
Axial displacement		(mm)		±1	±2	±2	±2	±2
Moment of inertia per hub			J1/J2	0,003	0,04	0,08	0,66	8

Type	Shore hardness	Color	Material	Temperature range	Features
A*	98 Sh A	Red	TPU	-30°C to +100°C	good damping
B	64 Sh D	Green	TPU	-30°C to +120°C	high torsion
C	80 Sh A	Yellow	TPU	-30°C to +100°C	very good damping
D	64 Sh D	Beige	Hytrel	-50°C to +150°C	temperature resistant

*** Standard Strojna**







IEC adapter (1) is delivered with following parts:
- Elastic insert (2)
- Jaw (3)

8.2 Installation

To mount your IEC motor on IEC adapter it is necessary to follow following procedure:
1.Remove the jaw (3) from IEC adapter.
2.Remove key from the motor shaft keyway (4).
3.Reduce the key length to fit jaw length.
4.Clear motor shaft (4) from dirt and grease.
5.Put reduced key (5) on the motor shaft keyway.
6.Lose mounting screw on the jaw (3), put the jaw on the motor shaft (4), up to the motor shaft shoulder.
7.Tighten the mounting screw using tightening torque given in the table.
8.Assemble the motor with the jaw with elastic insert (2). Ensure that foreign objects do not come to the junction between the jaw (3) and elastic insert (2).
9.Use the screws to tighten the motor on the IEC adapter Flange.

	A63/71	A80/90	A100/112	A132	A160/180	A200/225	A250/280
Mounting screw (ISO 4762/12.9)	M4	M6	M8	M12	M12	M16	M16
Tightening torque of the mounting screw (Nm)	4	15	35	120	120	290	290

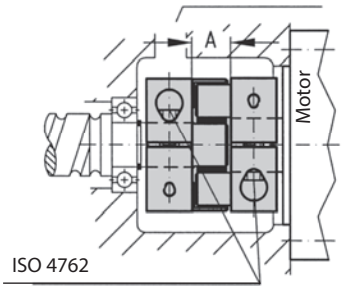
8.3 Adjusting coupling

- **Injury hazard!**
- **Switch-off the drive before all work on the coupling!**
- **Secure the drive against unintentional switching on and rotating!**
- **Reference:**
- **An exact alignment of the coupling increases the service life of the elastic intermediate.**
- **Do not exceed the maximum permissible displacement values. The overstepping of these values results in coupling damage and breakdown!**

- When aligning the cold equipment take into account the expected thermal growth of the components, so that the permissible misalignment values for the coupling are not exceeded in operation.
- Be aware that the coupling under misalignment imposes restoring forces on the adjacent shafts and bearings. Take into account that the larger the misalignment, the greater the restoring forces will be.
- The displacements values indicated in the tables are maximum permissible guide numbers. We recommend not to fully utilise these values during the alignment, so that in operation sufficient reserves remain for thermal expansions, foundation settlements etc.
- In special cases with high demands on quiet running or high rotating speeds it is possible that, in the three displacement levels, an alignment accuracy of ≤0,1 mm is necessary.
- If the coupling is mounted in a closed housing / casing so that a subsequent alignment is not possible any more, it must be guaranteed that the geometry and fit accuracy of the contact surfaces in operation aligns the shafts exactly within the mentioned tolerances.

8.4 Axial displacement ΔA:

- Calculate the axial gap measurement. Simbolic image for reference.
- Keep, when aligning the gap measurment A , to the maximum permissible tolerance according to table.



ISO 4762

ATTENTION!

If greater axial displacements are expected in operation, consultation with STROJNA is necessary.

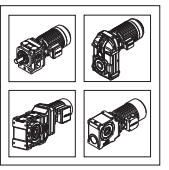
8.5 Radial displacement:

- Measure a complete rotation (360°) between coupling and flange.
- The values of the table are valid for reference rotation speed of 1500 min^{-1}

8.6 Angular misalignment:

- Measure the face of flange and coupling on complete rotation (360°)
- The values of the table are valid for reference rotation speed of 1500 min^{-1}

IEC			63-71	80-90	100-112	132-180	200-250
Size			10	60	150	450	800
Distance A	(mm)	A	11,5	18	20	26	31
Radial displacement	(mm)	Max. Values	0,1	0,12	0,15	0,2	0,25
Angular misalignment	(Grad)		1	1	1	1	1
Axial displacement	(mm)		±1	±2	±2	±2	±2



8.3 Operation and maintenance

IEC adapter is delivered filled with grease, so there is no additional maintenance.

Daily check: housing temperature and oil leakage.
Monthly check: clear IEC adapter from dirt and dust to ensure appropriate cooling.
Every 10 years or 10 000 working hours (whatever comes first) general overhaul the IEC adapter.

On the occasion of routine inspection or maintenance work on the drive equipment, or after 3 year at least:

- Replace the elastic buffer ring.
- If the wear limit has been reached or exceeded, replace the buffer ring immediately, irrespective of the inspection intervals of the equipment.
- Check the alignment of the coupling.
- Remove dust deposits from the coupling components and buffer ring.

ATTENTION! Risk of burns! During operation IEC adapter housing temperature can arise up to to 90 °C (194 °F)!

In case there is a strange noise or the housing temperature oversize 90 °C (194 °F), switch of the motor and disconnect it from the electrical power supply. Inform your dealer about the improper work of the IEC adapter.

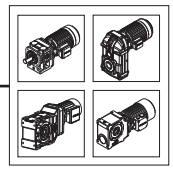
8.8 Operating faults and their possible causes

Trouble	Cause	Risk Warning	Correction
Irregular running noises / vibration	Alignment fault	Considerable increase in coupling temperature. Premature wear of elastic buffers. Increased reaction forces act on connected machines.	-Disconnect drive
			-Remove cause for alignment fault
			-Re-align coupling
			-Inspect elastomer for wear
	Elastomer worn out	Coupling claws strike against each other. Spark formation, claw fracture, increased reaction forces.	-Disconnect drive
			-Check coupling components for damages and replace parts, if necessary
			-Replace elastomer
	Unbalance	Considerable increase in coupling temperature. Premature wear of elastic buffers. Increased reaction forces act on connected machines.	-Disconnect drive
			-Verify balance state of plant components and correct it, if necessary
			-Inspect elastomer for wear
	Loose screw connections	Flying off parts can cause serius injuries and considerable damages.	-Disconnect drive
			-Check coupling parts for damages, replace parts, if necessary
			-Verify alignment of coupling
			-Tighten screws to the specified tightening torque and secure them against working loose, if necessary
			-Inspect elastomer for wear

Trouble	Cause	Risk Warning	Correction
Premature wear of elastomer	Alignment fault	Considerable increase in coupling temperature. Premature wear of elastic buffers. Increased reaction forces act on connected machines.	-Disconnect drive
			-Remove cause for alignment fault
			-Re-align coupling
			-Inspect elastomer for wear
	Unacceptable temperatures	Material properties of elastic buffers change. The torque transmission capability s adversely affected	-Disconnect drive
			-Replace elastomer
			-Re-align coupling
			-Adjust ambient temperature
	Torsional vibrations in the drive line	Considerable increase in coupling temperature. Premature wear of elastic buffers. Increased reaction forces act on connected machines.	-Disconnect drive
			-Analyse and eliminate cause for torsional vibrations
			-Check coupling parts for damages, replace parts, if necessary
			-Replace elastomer and consult STROJNA concerning eventual use of another Shore-hardness*
Claw breakage	Wear limit of elastomer exceeded = contact of claws	Coupling is destroyed. Conected machines can be affected, too.	-Disconnect drive
			- Connect STROJNA for replace parts
			- inspect the elastomer for wear at shorter intervals
	Overload due to too high torque	Coupling is destroyed. Conected machines can be affected, too.	-Disconnect drive
			- Connect STROJNA for assistance

* Default Strojna Type A - 98 Sh A

When using accessories and spare parts which were not originally manufactured or supplied by STROJNA, no liability or guarantee for any damages will be accepted.



9. INSTALLATION AND REMOVAL INSTRUCTION FOR SHRINK DISCS

Shrink discs are supplied ready for installation. However, prior to tightening of locking screws it is necessary to remove wooden spacers that may have been used during shipping.

9.1 Installation

Important! Never tighten locking screws prior to shaft installation, as inner ring of shrink disc and/or hub can be permanently contracted even at relatively low tightening torques.

1.Clean hub OD and shrink disc bore. Lightly lubricate hub OD before assembling shrink disc on hub.

2.Carefully solvent clean and dry shaft and hub bore of any lubricant prior to mounting hub onto shaft. This step is critical, as any lubricant on the shaft/hub bore interface will greatly reduce the torque transmitting capacity of the shrink disc connection.

3.Insert shaft into hub, then position shrink disc onto hub. After confirming correct position of hub and shrink disc, handtighten three (3) or four (4) evenly spaced locking screws and make sure that outer collars of shrink disc are parallel. Handtighten remaining locking screws.

4.Use torque wrench and set it approximately 5% higher than specified locking screw tightening torque Mp. Tighten locking screws in either a clockwise or counterclockwise sequence, using approx. ¼ (i.e., 90°) turns (even if initially some locking screws require a very low tightening torque to achieve ¼ turns) for several passes until ¼ turns can no longer be achieved.

5.Continue to apply overtorque for 1 or 2 more passes. This is required to compensate for a system-related relaxation of locking screws since tightening of a given screw will always relax adjacent screws. Without overtorquing, an infinite number of passes would be needed to reach specified tightening torque.

6.Reset torque wrench to specified torque (Mp) and check all locking screws. No screw should turn at this point, otherwise repeat Step 5 for 1 or 2 more passes. Once the screws are tightened, check the parallelism of the outer collars, considering that the maximum allowed error is 0.35% of the outer diameter of shrink disc. A larger error could cause a loss of pressure and, as a consequence, reduced performances.

It is not necessary to re-check tightening torque after equipment has been in operation.

9.2 Removal

Prior to initiating the following removal procedure, check to ensure that no torque or thrust loads are acting on the shrink disc, shaft or any mounted components.

Loosen all locking screws in several stages by using approx. ½ turns, following either a clockwise or counterclockwise sequence, until shrink disc can be moved on hub. The shrink disc, hub and shaft will return to their original fit clearances.

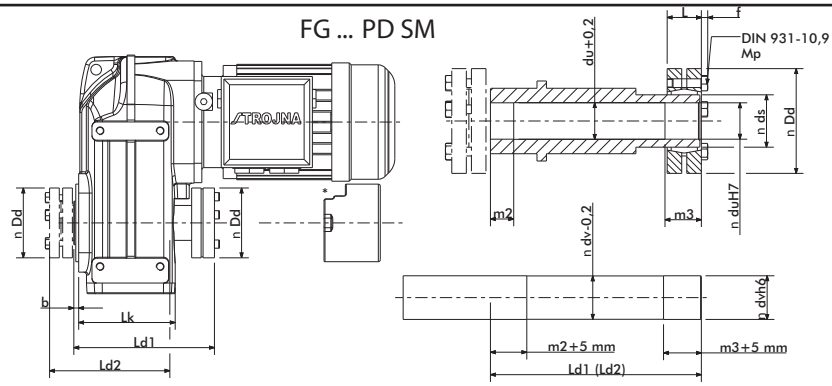
WARNING! DO NOT completely remove locking screws before locking rings are disengaged. As sudden separation of locking rings could involve high separation forces that may result in permanent injury or death. Be certain that locking rings are disengaged before completely removing locking screws.

9.3 Reinstallation of shrink discs

In relatively clean operating conditions, shrink discs may be reused without prior cleaning. In all other cases, shrink discs require thorough cleaning a re – lubrication as follows:

- Dow Corning® Molykote BR 2 Plus (or equivalent) on locking screw threads and under screw heads;
- Dow Corning® Molykote G-Rapid Plus (or equivalent) on inner and outer ring tapers.

FG ... PD SM

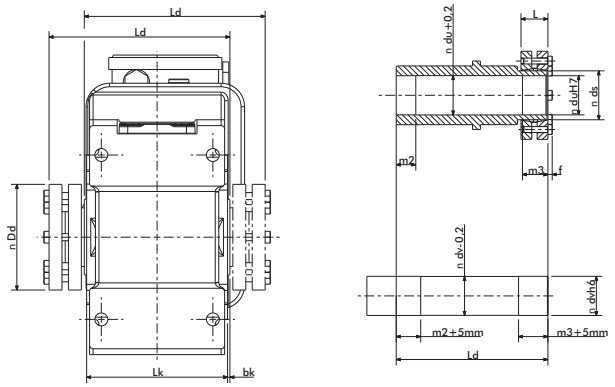


	SMB/SMR		m2	m3	Lk	b	Ld1	Ld2	du/dv	ds	Dd	L	f	Msmax [Nm] [Lb-Ft]	Famax [kN] [Lbf]	Mp [Nm] [Lb-Ft]
	max	max*														
FG1		63	20	21	99,5	5	150	130	30	36	72	23.5	4	570 (420)	58 (13000)	12 (9)
FG2	80	71	20	24	112	5	169	143	35	44	80	25.5	4	780 (575)	74 (16600)	12 (9)
FG3	112	100	20	27	141	5	205	180	40	50	90	27.5	4	1160 (855)	86 (19300)	12 (9)
FG4	132	112	30	28	149	5	221	192	50	62	110	30.5	4	2200 (1623)	111 (25000)	12 (9)
FG5	160	132	30	29	177	5	247	220	65	75	138	32.5	5.3	3200 (2360)	137 (30800)	30 (22)
FG6	200	200	50	40	247	5	323	280	75	90	155	39	5.3	7250 (5350)	210 (47200)	30 (22)
FG7	225	225	60	45	269	5	365	330	90	110	185	49	6.4	13600 (10030)	302 (67900)	59 (44)
FG8	250	250	60	50	343	6	415	415	100	125	215	53	10	21300 (15710)	395 (88800)	59 (44)

* Maximum possible motor frame size when using shrink disc protective lid.

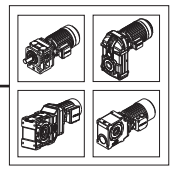
All other units in mm!

KG...(P)D SM

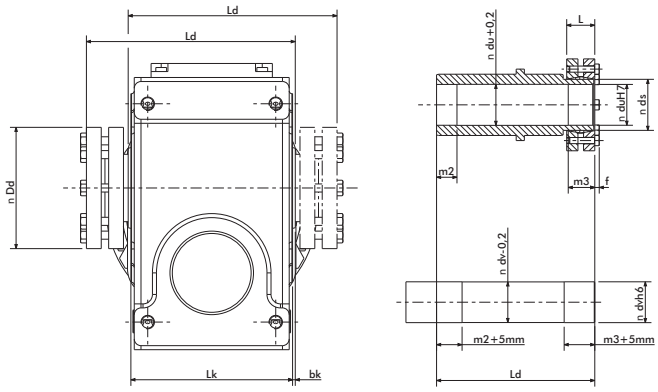


	SMB/SMR		m2	m3	Lk	b	Ld1	Ld2	du/dv	ds	Dd	L	f	Msmax [Nm] [Lb-Ft]	Famax [kN] [Lbf]	Mp [Nm] [Lb-Ft]
	max	max*														
KG1			20	20	95	5	130	130	30	36	72	23.5	4	570 (420)	58 (13000)	12 (9)
KG2			20	20	105	5	140	140	30	36	72	23.5	4	570 (420)	58 (13000)	12 (9)
KG3			20	25	120	5	160	160	35	44	80	25.5	4	780 (575)	74 (16600)	12 (9)
KG4			30	25	140	5	180	180	40	50	90	27.5	4	1160 (855)	86 (19300)	12 (9)
KG5			30	30	154	3	192	192	50	62	110	30.5	4	2200 (1623)	111 (25000)	12 (9)
KG6			30	30	176	7	195	195	65	75	138	32.5	5.3	3200 (2360)	137 (30800)	30 (22)
KG7			50	40	206	7	260	260	75	90	155	39	5.3	7250 (5350)	210 (47200)	30 (22)
KG8			60	45	252	8	320	320	90	110	185	49	6.4	13600 (10030	302 (67900)	59 (44)
KG9			60	50	340	10	415	415	100	125	215	53	10	21300 (15710)	395 (88800)	59 (44)

All other units in mm!



SG...(P)D SM



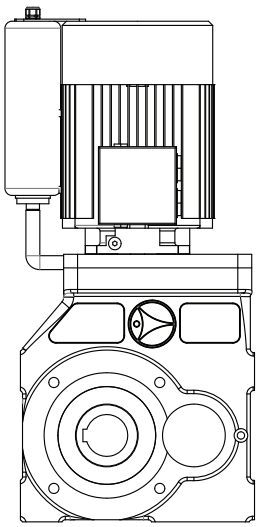
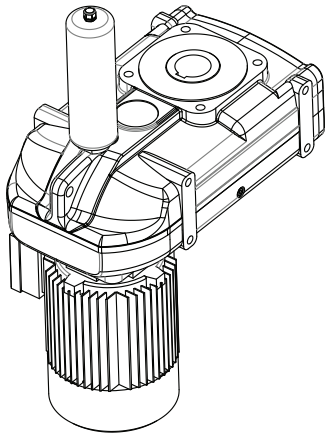
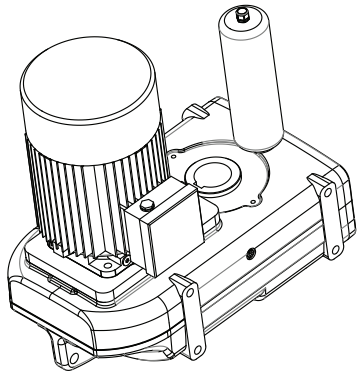
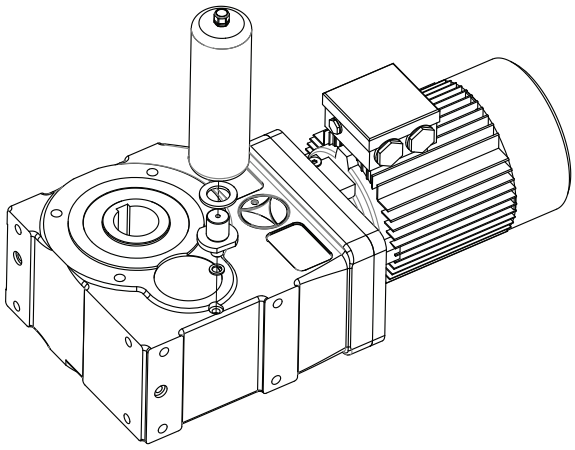
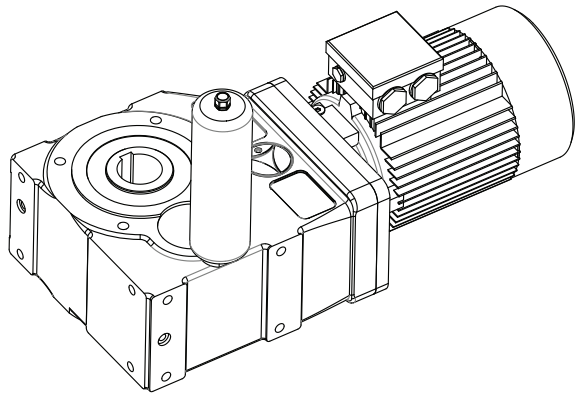
	SMB/SMR		m2	m3	Lk	b	Ld1	Ld2	du/dv	ds	Dd	L	f	Msmax [Nm] [Lb-Ft]	Famax [kN] [Lbf]	Mp [Nm] [Lb-Ft]
	max	max*														
SG1			20	20	95	5	130	130	30	36	72	23.5	4	570 (420)	58 (13000)	12 (9)
SG2			20	25	105	5	140	140	35	44	80	25.5	4	780 (575)	74 (16600)	12 (9)
SG3			30	25	124	3	160	160	40	50	90	27.5	4	1160 (855)	86 (19300)	12 (9)
SG4			30	25	120	5	160	160	40	50	90	27.5	4	1160 (855)	86 (19300)	12 (9)
SG5			30	30	140	5	180	180	50	62	110	30.5	4	2200 (1623)	111 (25000)	12 (9)
SG6			30	30	150	5	192	192	50	62	110	30.5	4	2200 (1623)	111 (25000)	12 (9)

All other units in mm!

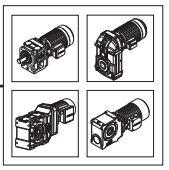
10. OIL COMPENSATOR

Oil compensator allows the lubricant/air space in gear unit to expand. This means lowering pressure inside gear unit at high operation temperatures and preventing lubrication to escape into breather valve.

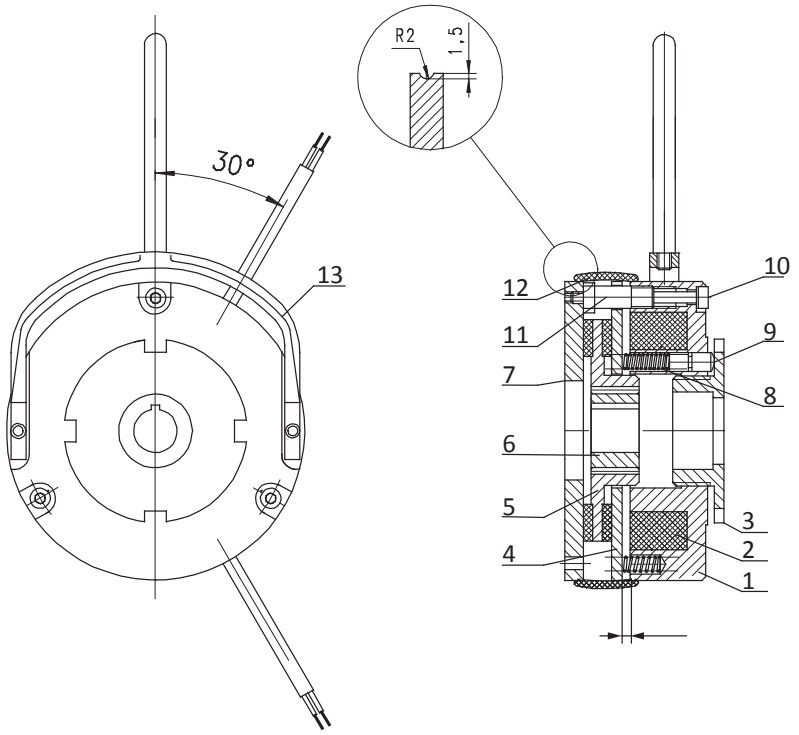
The oil compensator is supplied as assembly kit. It is intended for mounting onto the highest point of gear unit. however, if installation space is limited, there are many variations how to mount oil compensator. And on request and order-specific dimension from STROJNA can be made.

Variations and kits are adjusted to customer demands.



11. OPERATING INSTRUCTION OF DIRECT CURRENT ELECTROMAGNETIC BRAKE



1. Electromagnet body
2. Coil
3. Nut
4. Armature
5. Brake disk
6. Gear wheel
7. Spring
8. Spring
9. Thrust pin
10. Mounting bolt
11. Adjusting bolt
12. Brake casing
13. manual release lever

11.1 Construction and operating principle

The brake design is presented in the drawing. When coil (2) is not energized, the brake disk (5) with the friction linings is pressed by armature (4) to the mounting disk (7) or directly to the friction surface of the given equipment with force of springs (8), the brake then being in the on state (braking). The braking torque is transferred via the brake disk (5) onto the gear wheel (6) mounted on the shaft of the motor or equipment cooperating with the brake, secured against axial displacement by circlip. The amount of torque can be regulated by screwing in the nut (3) or reducing the number of springs.

The direct current fed to the electromagnetic winding (2), through its induction causes attraction of the armature |a=0| simultaneously eliminating the pressure of springs on the armature and brake disk (5). The brake is released. In case of voltage faliure or damaged electromagnet, in brakes with release lever - it is possible to release the brake by shifting the lever. Releasing the pressure on the lever causes its return and re-braking.

The distance between electromagnet and disc brake (5) that is, a width of air gap, is adjusted by manes of adjusting bolts (11). Type HPS brake in mounted to motor bearing cover with mounting bolts (19). The air gap »a« is set in factory for its nominal value which is later reduced by screwing in the adjusting bolts (11) to compensate for the progressive wear of brake disc lining.

11.2 Mounting and dismounting of brake

Mounting procedur of brake is very simple. The gear (6) is mounted to the shaft and protected with circlip against axial movement. Then couple the brake disc (5) with gear (6) and fix the brake using mounting bolts (10) to the motor bearing cover or to the wall of device to be braked. When the brake is provided with locking elements (14), these should be removed after the brake is installed. Check the value of air gap width as instructed in 10.3. Install the brake casing.
To disassembly, reverse the above procedure.

Type	HPS06	HPS08	HPS10	HPS12	HPS14	HPS16	HPS18	HPS20	HPS25
a nom.	$0,2^{+/- 0,05}$	$0,2^{+/- 0,05}$	$0,3^{+/-0,05}$	$0,3^{+/-0,05}$	$0,3^{+/-0,05}$	$0,3^{+/-0,05}$	$0,4^{+/-0,05}$	$0,4^{+/-0,05}$	$0,5^{+/-0,05}$
a max.	0,5	0,5	0,5	0,7	0,8	1,0	1,0	1,2	1,4

11.3 Adjustment of air gap

The air gap »a« grows gradually larger in consequence of wear of brake disc lining (5). The nominal value of the air gap »a nom« may be restored by screwing in the adjusting bolts (11). Prior to adjustment, slacken mounting bolts (10) and then set the nominal value of air gap using the feeler guage inserted between armature (4) and body and screwing in the adjusting bolts (11). Tighten the mounting (10) and secure the position by screwing out the adjusting bolts as far as they go.

11.4 Wiring system

When the DC brake is to be connected to the AC source, a rectifying circuit must be used. The solenoid of in electro-magnet circuit may be disconnected either on DC side or on AC side.

DISCONNECTION ON AC SIDE

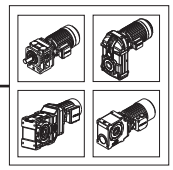
The coil current is broken between the coil and the supply (rectifying) system. The magnetic field reduces gradually causing extension of brake acuating time and simultaneous delay in rise of braking torque. If actuation times are not of significance, the brake on the alterantig current side should be actuated since no protection facilities are then required for the coil and contacts. While switching off, the supply systems operate as unidirectional diodes.

DISCONECTION ON DC SIDE

The coil current is broken between the coil and the supply (rectifying) system. The magnetic field is reduced very rapidly, short brake actuation time, resulting in rapid rise in braking torque. While switching off on direct current side, high peak voltage is formed in the coil causing rapid wear of contacts due to sparking.

11.5 Maintenance

The brakes do not require special maintenance procedures, however during regular intervals of time depending on intensity of brake operation, perform inspections and regulation of air gap »a«. When the brake disk reaches maximum wear, replace it with a new one.
While replacing the brake disk, take care that the friction surface of the disk, armature and elements cooperating with the friction linings are free from grease and oil. Remove all dirt accumulated from the brake interior. If in spite of correct mounting and proper regulation, the brake does not operate, failure is due to:
-electromagnet : burnt coil, daqmaged supply cable
-rectifier system (installed in the motor terminal box)
-electrical connections : check for correctness and quality of connections
-damaged elements - replace them with new ones.

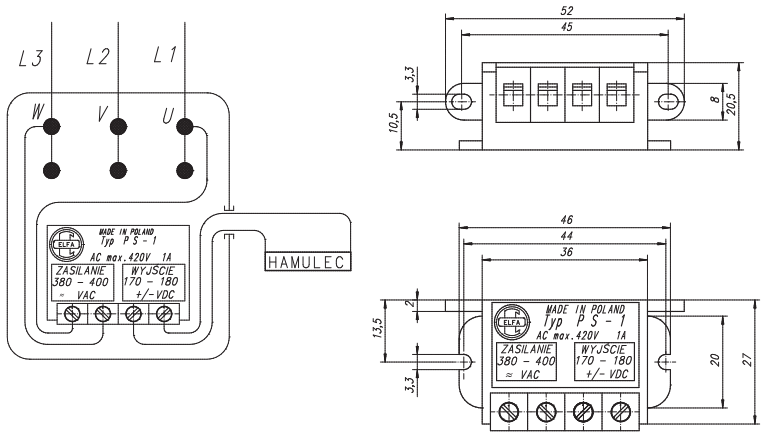


12. DC BRAKE SUPPLY CIRCUITS

12.1 Circuit PS 1

Circuit PS 1 is built on the basis of MOSFET type semiconductor technique which enabled achieving effects not available in traditional designs. the brake electromagnet energized through circuit of this construction enables the brake to achieve connection and disconnection time parameters analogous to breaking of circuit on direct current side. The parameters obtained are not however gained through utilization of additional electrical circuits and switches.
Simplicity of installation and parameters achieved enable very wide application, particularly in cases requiring positioning of drives, operation with high frequency of actuations compounded with repeatability of brake connecting and disconnecting times.
Supply circuit PS1 forms a complete unit for direct installation. Provided with a four-terminal strip, it enables unhindered adaptation in every cooperating circuit.
the circuit is adapted for supply from alternating current source of 380-400 VAC max. 420 VAC which after rectification and appropriate formation enables obtaining direct voltage of 170V-180 VDC for brake supply.

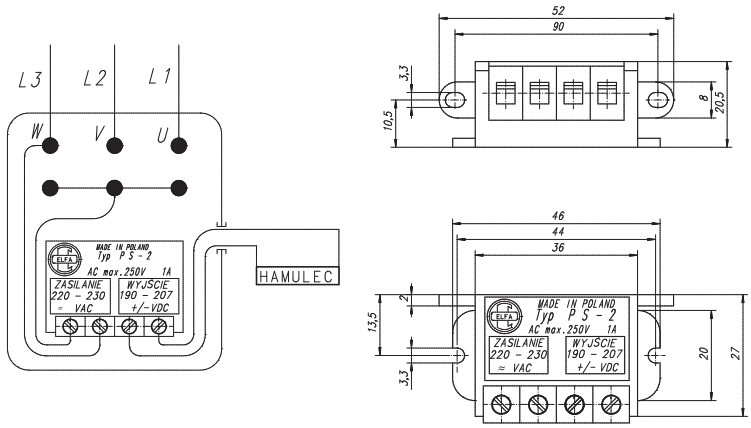
The diagram below shows the method of connecting the circuit PS 1 into supply circuit of brake cooperating with 3x400 VAC electric motor with star-connected winding.



12.2 Circuit PS 2

Circuit PS 2 is built on the basis of MOSFET type semiconductor technique which enabled achieving effects not available in traditional designs. the brake electromagnet energized through circuit of this construction enables the brake to achieve connection and disconnection time parameters analogous to breaking of circuit on direct current side. The parameters obtained are not however gained through utilization of additional electrical circuits and switches.
Simplicity of installation and parameters achieved enable very wide application, particularly in cases requiring positioning of drives, operation with high frequency of actuations compounded with repeatability of brake connecting and disconnecting times.
Supply circuit PS2 forms a complete unit for direct installation. Provided with a four-terminal strip, it enables unhindered adaptation in every cooperating circuit.
the circuit is adapted for supply from alternating current source of 220-230 VAC max. 250 VAC which after rectification and appropriate formation enables obtaining direct voltage of 190V-207 VDC for brake supply.

The diagram below shows the method of connecting the circuit PS 2 into supply circuit of brake cooperating with 3x400 VAC electric motor with star-connected winding.



SINGLE ELECTROMAGNETIC BRAKES:
Disk brake HPS

Spring actuated and electromagnetically released disk brake type HPS by direct current. Designed for braking rotating machine parts and their precision positioning. Utilized as safety brake. High repeatability even with large number of actuations. The brake characterizes relatively simple construction, facility for regulating brake parameters such as braking torque, braking time and also possibility of supply from alternating current source after connecting up a rectifier circuit delivered at customer's request along with the brake. An additional feature is quiet operation, particularly important when the equipment is operated by a number of drives operating additionally with high frequency of actuations. Braking trque can be accurately set by means of regulation nut. Brake design guarantees simple and problem -free installation. Various options of executions are at disposal with respect to fittings/acessories, brake supply, climatic conditions of utilization, enabling selection of appropriate option for definite utilization conditions.

Parameters			Unit	Brake type									
				HPS 04	HPS 06	HPS 08	HPS 10	HPS 12	HPS 14	HPS 16	HPS 18	HPS 20	HPS 25
Supply voltage Un			V	24, 104, 180, 207 VDC									
Power drawn P_{20}			W	16	20	25	30	40	50	55	65	75	100
Power drawn n_{max}			min^{-1}	3000									
Braking torque M_h			Nm	4	4	8	16	32	60	80	150	240	360
Weight			kg	0,5	0,7	1,8	3,2	6,6	7,5	11,2	17,0	24,8	29,0
Ambient temperature			°C	– 25 – + 40									
Operating time	on direct voltage side	t_{01}	ms	20	35	65	90	120	150	180	300	400	500
		t_{09}		10	17	35	40	50	65	90	110	200	270
	on alternating voltage side	t_{01}	ms	20	35	65	90	120	150	180	300	400	500
		t_{09}		Brake disconnection on alternating current side causes about five-times growth in braking time t_{09} with respect to disconnection on direct current side									

$t_{0,1}$ - releasing time (from switching on current to drop in braking torque to 10% M_{nom})
$t_{0,9}$- braking time (from switching off current to attaining 90% M_{nom})

Values of releasing and braking times are given as approximations, since they depend on mode of assembly/installation, temperature and power supply.

SINGLE ELECTROMAGNETIC BRAKES WITH HANDREALEASE:
Disk brake HPS ...AT

Spring actuated and electromagnetically released disk brake type HPS ...AT forms a variation of HPS brake. Designed for braking rotating machine parts and their precision positioning, in all applications where the drive is required to have limited level of noise. The specifics of this type of drive has made us draw up a brake version whose crucial units are so designed that the »quiet operation« requirement demanded by the user is fulfilled. Drives fitted with brake series HPS ...AT can be used in objects where limited level of noise has huge significance, e.g. theatres, concert halls, etc. where, as stage equipment drives, they meet strict safety requirements. Brake configuration is analogous to variant HPS, and the diagram below facilitates selection of appropriate option.

HPS [ ] **AT** [ ] [ ] • [ ] **V DC** [ ] **Nm** [ ]

Mechanical size
04, 06, 08, 10, 12, 14, 16, 18, 20, 25

without fittings/accesories	1
lever for manual release	2
securing disk "A"	3
lever for manual release + securing disk "A"	4
securing disk "B"	8
lever for manual release + securing disk "B"	9
securing disk "C"	10
lever for manual release + securing disk "C"	11

Operating voltage
24, 104, 180, 207 VDC

Climatic version according to standard: e.g. MT, TH

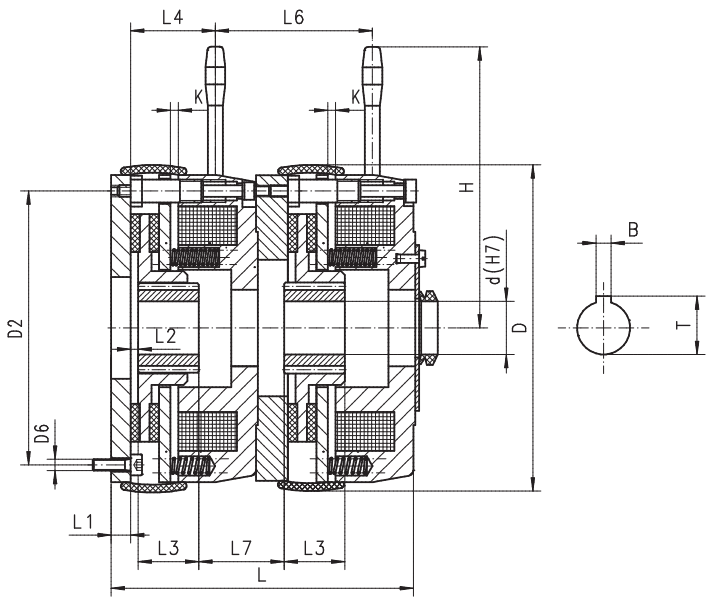
Nominal braking torque Nm								
HPS 06AT	HPS 08AT	HPS 10AT	HPS 12AT	HPS 14AT	HPS 16AT	HPS 18AT	HPS 20AT	HPS 25AT
4	8	20	32	60	80	150	240	360
	6	16	24	45	60	120	180	270
	3	12	16	30	40	75	120	180
		5						
		4						

Protection rating	
basic version – nut with hole	0
version IP 54 – nut without hole	1
version IP 54 – nut with hole + sealing V-ring	2
version IP 55 – nut without hole	3
version IP 55 – nut with hole + sealing V-ring	4

Ordering example:
HPS 12AT 20. 180 V DC 2x32 Nm

DOUBLE ELECTROMAGNETIC BRAKES WITH OR WITHOUT HANDRELEASE:
Disk brake 2HPS

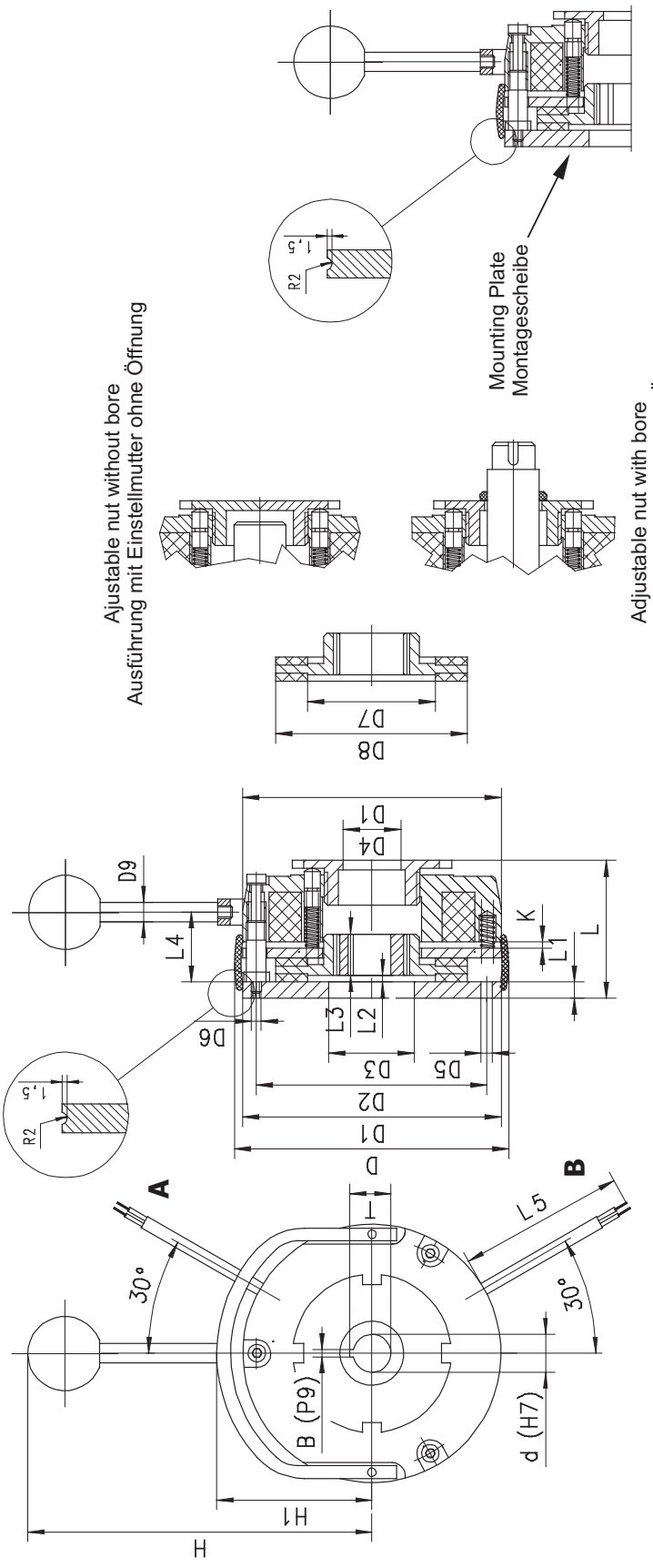
Overall dimensions



Type	d	D	D2	D6	L	L7	L3	L1	L2	L4	L6	H	K	B	T
2HPS06	15	87	72	3xM4	76	14	24	6	1,8	25	40	100	0,2	5	17,3
2HPS08	15	106	90	3xM6	90	18	27	7	2,5	28	48	115	0,2	5	17,3
2HPS10	19	132	112	3xM6	110	25	28	9	3,5	34	61	170	0,2	8	27,3
2HPS12	25	157	132	3xM6	128	25	34	9	3,0	37	69	184	0,3	8	28,3
2HPS14	30	169	145	3xM8	145	25	42	11	3,0	40	74	191	0,3	8	33,3
2HPS16	35	195	170	3xM8	160	33	42	11	3,0	40	88	204	0,3	8	38,3
2HPS18	40	221	196	4xM8	180	48	45	11	4,5	52	98	230	0,3	12	43,3
2HPS20	42	257	230	6xM10	215	45	55	11	5	62	115	270	0,3	12	45,3
2HPS25	42	308	278	6xM10	230	42	65	12,5	6	80	123	360	0,4	12	45,3

Used in lifting mechanisms are mechanical brakes, electrically released spring actuated disk brakes, designed on the basis of brake HPS. This brake immobilizes the weight during damage, incorrect manoeuvre or breakdown. The brake must transfer all forces occurring in such situations. To meet such requirements while maintaining the drive as simple as possible in the mechanical part and definite in operation, simple asynchronous motor is used controlled by frequency converters, provided with electromagnetic disk brake of design specific for hoisting system. Safety considerations have required designing a braking mechanism with dual safety circuit and maximum reduction of noise level during dynamic operation of brake unit. Drive system fitted whit brake 2HPS operates very quietly in spite of maintaining all electrical and mechanical parameters. This brake is characterized by two brake disks being mounted on common motor shaft, with independent electromagnetic circuits while maintaining required braking torque for proper operation of the drive. The simple and compact construction enables utillization in motors for driving lifting mechanisms required of which is smooth operation along with dual safety circuit. Brake of such design has the mechanical parameters indispensable for functioning of the drive, whereas assembly and mounting dimensions analogous as for traditional brake enabling mounting within dimensions of the drive motor. Applications: drives of passenger lifts, cranes, hoists and whereever compliance with rigorous regulations of Technical Inspection Office in the scope of lifting equipment is essential.

DIMENSION OF BRAKES:



Typ	D	D1	D2	D3	D4	D5	D6	D7	D8	D9	L	L1	L2	L3	L4	L5	K	H	H1	d	d max	d * smax	B	T
HPS04	80	74	62	25	13	4,3x3	M4x3	30	50	6	40	6	1,8	18	22	450	0,2	90	45	11	11		4	12,8
HPS06	87	84	72	25	17	4,5x3	M4x3	47	62	8	46	6	1,8	18	25	450	0,2	100	56	15	15		5	17,3
HPS08	106	102	90	30	17	5,5x3	M5x3	59	76	8	53	7	2,5	20	28	450	0,2	115	66	15	15		5	17,3
HPS10	132	125	112	40	26	6,4x3	M6x3	61	95	10	63	9	3,5	20	34	450	0,2	170	82	24	25		6	21,8
HPS12	157	148	132	45	27	6,4x3	M6x3	74	114	10	72	9	3	25	37	450	0,3	184	92	25	25		8	28,3
HPS14	169	162	145	55	27	8,4x3	M8x3	90	124	12	83	11	3	30	40	450	0,3	191	102	25	25		8	28,3
HPS16	195	188	170	65	38	8,4x3	M8x3	100	154	12	89	11	3	30	40	450	0,3	204	115	35	35		8	38,3
HPS18	221	215	196	75	43	9,0x4	M8x4	130	176	12	104	11	4,5	35	52	450	0,3	230	125	40	45	50	12	43,3
HPS20	257	252	230	90	45	11x6	M10x6	176	207	14	122	11	5	40	62	450	0,3	270	152	42	45	50	12	45,3
HPS25	308	302	278	120	45	11x6	M10x6	198	255	14	135	12,5	6	50	80	450	0,4	360	176	42	45	75	12	45,3

SYSTEMS OF FOREIGN VENTILATION - SINGLE PHASE SUPPLY

Application :

- System of foreign ventilation should be used in case adjusting speed under 60% rated speed of motor,
- System of foreign ventilation can be assembled on standard motors after removing the fan cover and fan without necessity of cutting the shaft.

Features on request:

- Factory produces various types of system ventilation but constructional details and delivery time are to be individual agreed.

SPECIFICATION OF COOLING FAN

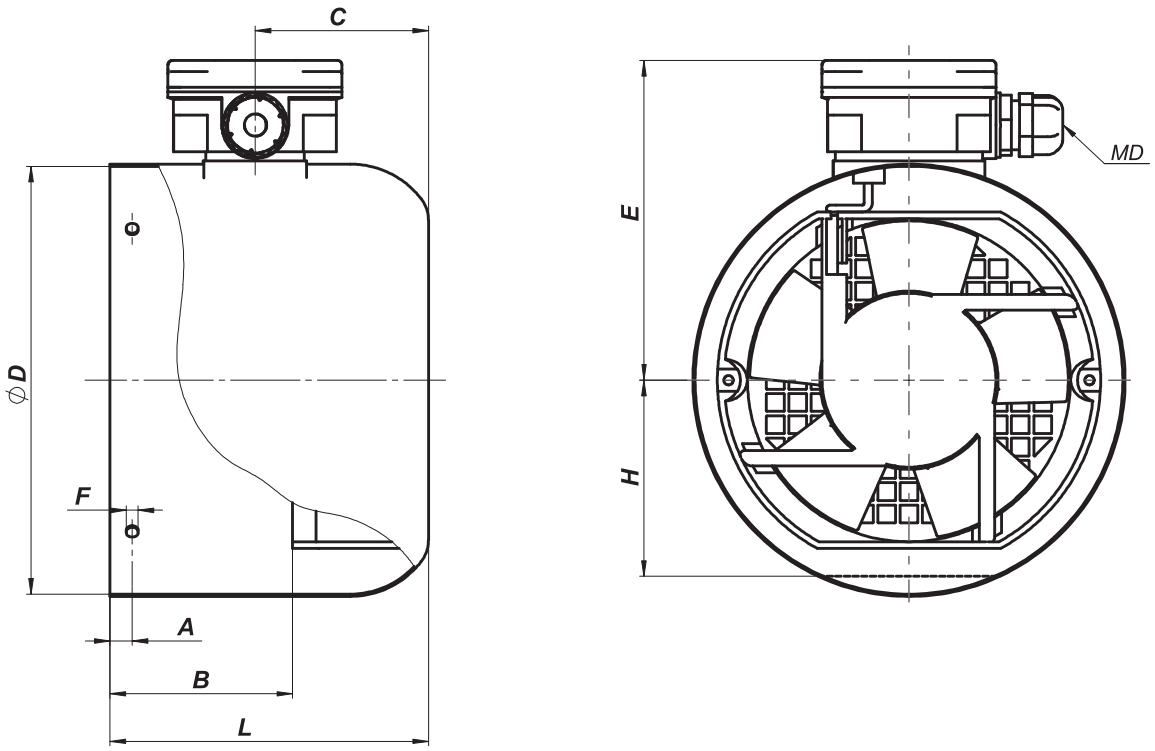
Motor size	Rated voltage	Frequency	Rated current	Input power	Speed	Air flow	Nosie level	Thermal protection
	[V]	[Hz]	[A]	[W]	[min-1]	[m3/min]	[dB]	
90/100/112	1 x 230	50/60	0,23/0,21	32/31	2800/3100	5,40/6,60	50/55	Impedance protection
132/160/180	1 x 230	50/60	0,24/0,27	56/60	2100/1900	24,0/21,8	57/55	Thermally protection

- environment temperature -20 to +80[°C]
- altitude up to 1000 [m] above sea level,
- life – 50 000 h at temperature 30°C,
- insulation class B,
- motor safety protection:
  – thermally protection - auto power off after motor coil winding temperature reaches 110°C, restart at temperature down to 70°C,

  – impedance protection – the motor withstands work even, in abnormal situations such as a lockedrotor condition,
- protection degree IP 55,
- ball bearing.

The manufacturer reserves the right to modify the performances of the products shown in this catalogue.

Dimensions



Typ / Type	A	B	C	D	E	F	H	L	MD
	[mm]								
FVS 90S	5	75	105	174	134	φ4,6	-	150	M20 x 1,5
FVS 90L	5	100	105	174	134	φ4,6	-	175	M20 x 1,5
FVS 100	5,5	80	75	192	145	φ6,0	-	153	M20 x 1,5
FVS 112	13	93	75	231	163	φ7,0	108	156	M20 x 1,5
FVS 132	18	121	80	264	180	φ7,0	127	237	M20 x 1,5
FVS 160	23	158	80	313	204	φ7,0	-	271	M20 x 1,5
FVS 180	21	143	80	348	221	φ7,0	-	246	M20 x 1,5