FAMCO
هایپرصنعت

ALTRA INDUSTRIAL MOTION

Super Premium Efficient Geared Motors
Catalogue Edition 10/2013 EN



Bauer®
Gear Motor

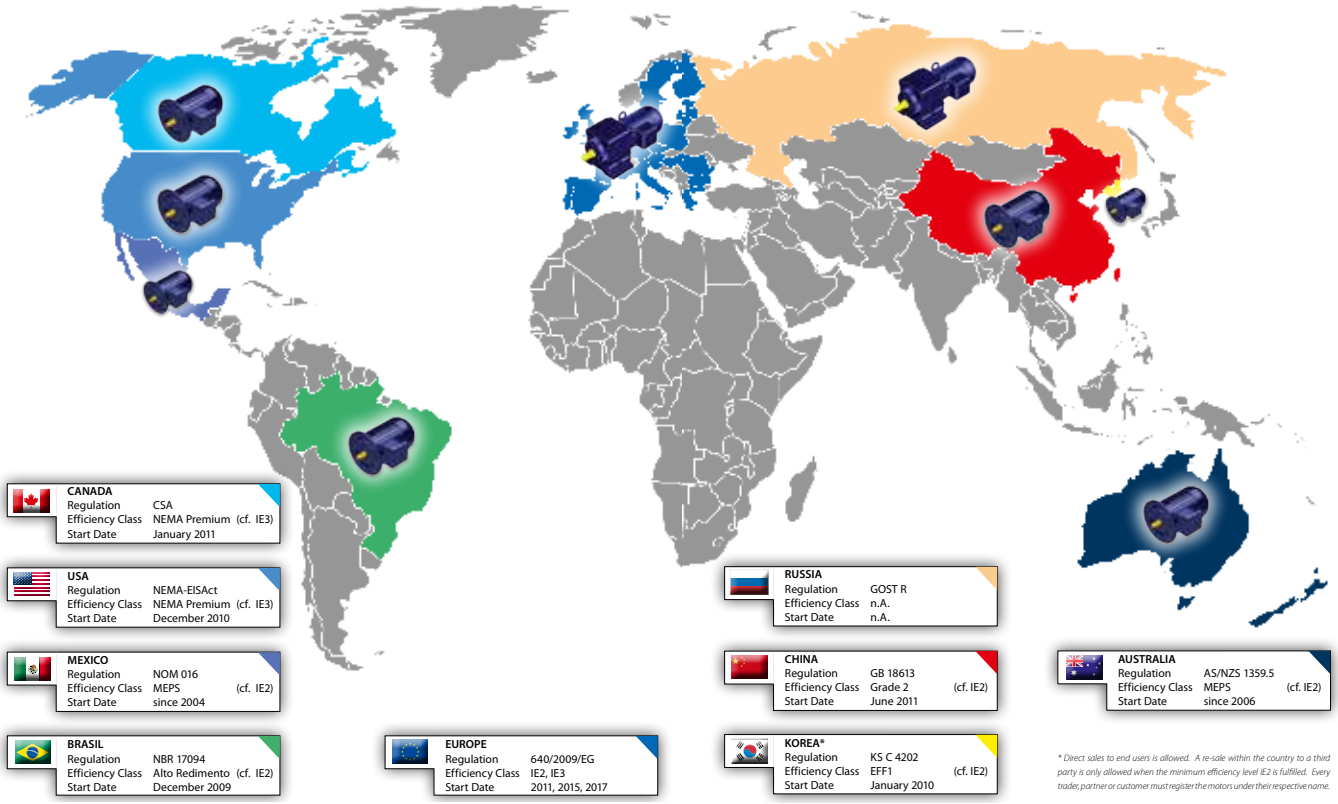
An Altra Industrial Motion Company

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group

Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲

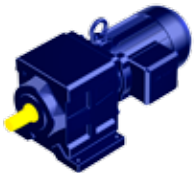
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

rldwide Efficiency Regulations



** Direct sales to end users is allowed. A re-sale within the country to a third party is only allowed when the minimum efficiency level IE2 is fulfilled. Every trader, partner or customer must register the motors under their respective name.*

Legend



Efficiency requirements are valid for geared motors and solo motors



Efficiency requirements are valid only for solo motors

Exceptions to regulation (EC) no. 640/2009/EC of 22 July 2009:

Operating conditions

- Motors designed to operate fully submerged in a liquid (IP68)

Construction

- motors that are completely integrated in a product (such as a transmission, pump, fan or compressor) whose energy efficiency cannot be determined independently of this product

Ambient conditions

- at heights above 1,000 metres above sea level
- at ambient temperatures above 40° C
- at maximum operating temperatures above 400 °C
- at ambient temperatures below -15° C (all motors) or ambient temperatures below 0° C (air cooled motors)
- with coolant temperatures at product intake below 5 °C or above 25 °C

from November 2013

- at heights above 4,000 metres above sea level
- at ambient temperatures above 60° C
- at ambient temperatures below -30° C (all motors) or ambient temperatures below 0° C (air cooled motors)

Ambient conditions

- in areas with a potentially explosive atmosphere as mentioned in Directive 94/9/EC of the European Parliament and Council

Other

- Brake motors
- Pole changing motors
- 8,10,12 pole motors
- Single phase motors
- DC motors
- Duty cycles other than S1
- Motors exclusively designed for inverter duty

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
۲۱ بزرگراه لشگری (جاده مخصوص کرج)
پژوهشگاه نفت پارس، پلاک ۱۲

Type Designations

BK 50 Z - 1 1 U W A / S.. 09L A 4 - TF - S / ES 010 A 9 HN / C2

B K 50 Z X - 1 1 U W A

- A = SSV Cover
- W = Double Shaft Seals
- V H = Front and Rear
- V = Flange A or C or Torque Arm front
- H = Flange, A or C or screw-on Torque Arm rear
- U = Foot bottom or screw-on Torque Arm to bottom
- O = Foot top or Torque Arm angeschraubt in Richtung to top
- R = Foot right or Torque Arm angeschraubt in Richtung to right
- L = Foot left or Torque Arm angeschraubt in Richtung to left

- 0 = Splined Shaft acc. to DIN 5480
- 1 = Solid Shaft, front
- 2 = Solid Shaft, rear
- 3 = Solid Shaft, front and rear
- 4 = Hollow Shaft with Keyway
- 5 = Hollow Shaft for Shrink disk connection, rear (Standard)
- 6 = Hollow Shaft for Shrink disk connection, front (Special)
- 7 = Solid Shaft front, flush with Standard-Flange only BG10-BG90 and BS02+BS03
- 8 = Solid Shaft rear, flush with Standard-Flange only BS02+BS03
- 9 = Solid Shaft front and rear, flush with Standard-Flange only BS02+BS03

- 0 = Gear Housing, no surfaces except torque arm bore for BF
- 1 = Gear Housing, Foot
- 2 = Gear Housing, Standard flange diameter 1 small A-Flange
- 3 = Gear Housing, Standard flange diameter 2 Standard A-Flange
- 4 = Gear Housing, Standard flange diameter 3 large A-Flange
- 5 = Gear Housing, with Torque Arm for BK + BS as screw-on
- 6 = Gear Housing, Foot-threaded bores
- 7 = Gear Housing, C - Flange
- 8 = Gear Housing, completely machined
- 9 = Gear Housing, with Footplate only BG (Universal housing)

- \- = seperates gear type from gear design
- X = reinforced bearings (radial)
- Z = Gearbox with pre-stage
- •• = Gear Size (03, 04, 05, 06, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100)

B • = Gear type (BG, BF, BK, BS)

S .. 09 L A 4 - TF - S

- S = rectifier (see chapter 3)
- TF = Motor monitoring (see chapter 3)
- 4 = No. of pole for motor
- LA = Motor core length and design
- 09 = Motor size
- .. = A Aseptic motor
- .. = NF Motor without Gearbox, Motor in flange design
- .. = XE Expl.-Motor with increased safety – Zone 1 (Gas)
- .. = XN Expl.-Motor with increased safety – Zone 2 (Gas)
- .. = XC Expl.-Motor with increased safety – Zone 21 (Dust)
- .. = XS Expl.-Motor with increased safety – Zone 22 (Dust)
- .. = U Non-Ventilated

S = Permanent Magnet Synchronous Motor

ES 010 A 9 HN

- HA = Hand Release (lockable)
- HN = Hand Release (none lockable)
- 9 = Code for setting torque
- A = Design
- 010 = Brake size

ES = Single disk brakes - HOLDING BRAKE

ZS = Double disk brakes - HOLDING BRAKE

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
۲۱ بزرگراه لشگری (جاده مخصوص کرج)
پژوهشگاه نفت پارس، پلاک ۱۲

ective 640/2009/EC

What does the EU directive mean?
EN 60034-30 is an international standard for energy-efficient motors and will in future years be used worldwide in this area.
Electric motors account for approximately 1.07 billion kWh of the total energy demand of the EU. Using energy efficient motors would achieve energy savings of 20 to 30 per cent, thereby reducing the total cost of ownership (TCO) and reducing global warming.

As things stand today
New IE (International Energy Efficiency) efficiency classes were introduced at the beginning of 2009:

IE1 = Standard Efficiency (~ EFF2)

IE2 = High Efficiency (~ EFF1)

IE3 = Premium Efficiency (10–15 % higher efficiency than IE2)

IE4 = Super Premium Efficiency

The IE classes cover the following:

Rated voltage
up to 1,000 V
Power
0.75 kW to 375 kW
Number of poles
2, 4 or 6 (50 and 60 Hz)
Operation
Mains Duty
Operating modes
S1
Remarks
Geared motors are considered

What happens when?

August 2009
EN 60034-30 standard introduced.

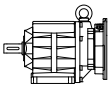
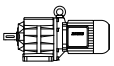
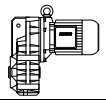
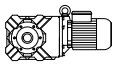
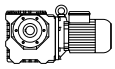
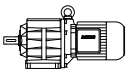
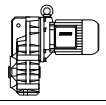
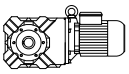
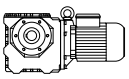
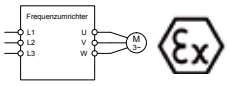
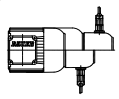
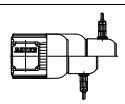
Starting 16 June 2011
IE2 efficiency class is mandatory.
(640/2009/EG)

From 1 January 2015
Efficiency class IE3 is a legal requirement for motors rated at 7.5 kW or more. Alternatively, IE2 motors may be used in combination with a frequency converter.
(640/2009/EG)

2017 onward
Efficiency class IE3 is also mandatory for motors rated less than 7.5 kW.
(640/2009/EG)

2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

		Page
General		9-12
Product Description		13-18
Type Designations		19-28
Gear Motor Selection		29-46
Gearboxes and Lubrication		47-70
Helical-Geared Motors Series BG Selection		71-100
Parallel Shaft-Geared Motors Series BF Selection		101-130
Bevel-Geared Motors Series BK Selection		131-154
Worm-Geared Motors Series BS Selection		155-166
Helical-Geared Motors Series BG Dimensions		167-216
Shaft-Mounted-Geared Motors Series BF Dimensions		217-268
Bevel-Geared Motors Series BK Dimensions		269-322
Worm-Geared Motors Series BS Dimensions		323-354
Motors		355-410
Motor Mounted Components		411-434
Motor Mounted Components Dimensions		435-452
BAUER global		453-468

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group

Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲

تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

Fast - Flexible - Reliable

…As one of the leading manufacturers of intelligent drive technology, we have lived this motto for more than 80 years.
Innovative products, modern processes and responsible employees realise this motto with the target of conserving resources and the environment together with efficient energy use over our whole field of activity.
The success of our efforts assumes that we know and master our customers applications and the requirements on drive technology.
We do this perfectly - from engineering, design and calculation through procurement, production and logistic to special application knowledge in the most important branch sectors.

CD Rom:



Internet:

WWW.BAUERGEARS.COM

The most recent version of the Terms and Conditions can be found under „www.bauergears.com".

gue geared motors PMSM

Product Overview

Helical-Geared Motor Series BG



Compact and economical inline helical geared motors for long lifetime under arduous conditions.

- Motor power from 0.03 kW to 75 kW
- 13 gearbox sizes for torques from 20 Nm to 18500 Nm
- New attachment possibilities with low design height
- High efficiency through 2 stage base design
- Enclosure IP 65 as standard

Shaft-Mounted Geared Motor Series BF



Shaft-mounted geared motors with integrated torque arm are easily integrated and economically applied.

- Motor power from 0.03 kW to 75 kW
- 10 gearbox sizes for torques from 90 Nm to 18500 Nm
- Gearbox housing with integral torque arm
- High efficiency through 2 stage base design
- Enclosure IP 65 as standard

Bevel-Geared Motor Series BK



Power-dense, right-angle, bevel-geared motors ensure the highest efficiency especially when used with frequency inverters.

- Motor power from 0.03 kW to 75 kW
- 10 gearbox sizes for torques from 80 Nm to 18500 Nm
- The right angle gearbox with universal attachement possibilities
- High efficiency through 2 stage base design
- Enclosure IP 65 as standard

Small Industry Geared Motors KIG



Gearbox and motor build a compact unit. Small industrial gear motors are spacesaving and versatile and can be supplied for any mounting position.

- Available for three-phase and single-phase
- Lightweight, compact drives help to reduce the weight of the machine
- Saves space and reduces costs, especially for conveyor systems
- Motor connection via CAGE CLAMP® is vibration-proof and saves you money
- Motor parts for many installation situations and supply voltages
- In self- or non-ventilated design

AsepticDrive™



Geared motors for the food & beverage industry as well as for all applications with high cleaning intensity or ambient conditions such as dust, fluff etc.

- Motor without fan and cooling fins
- Motor power
  DA08 0.25 kW - 0.55 kW
  DA09 0.37 kW - 1.5 kW
  DA11 1.1 kW - 2.2 kW
- Available with helical, parallel shaft, bevel and worm gears
- Motor winding in Iso Class F with thermistors as standard
- Enclosure IP 67 and IP 69K with acid and alkali resistant coating as standard
- Motor connection through standard stainless steel plug connector

CleanDrive™



Geared motors for the Food & Beverage industry in enclosure IP 66 with acid and alkali resistant coating as standard.

- Motor without fan and cooling fins
- Motor power 0.12 kW
- Motor winding in Iso Class F with thermistors as standard
- Motor connection through standard terminal box or stainless steel cable gland

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group

Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲

تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Worm-Geared Motor Series BS



Economical, right-angle, worm-geared motors install easily in the tightest applications.

- Motor power from 0.03 kW to 5.5 kW
- 8 gearbox sizes for torques from 25 Nm to 1000 Nm
- Hollow shaft version already available from 25 Nm
- High loadable worm gearing for long lifetime
- Enclosure IP 65 as standard

Overhead Monorail Geared Motor Series BM



A completely new range of monorail drives for light and heavy load monorail applications.

- Torques from 30 Nm up to 680 Nm
- Radial force up to 25.000 N
- Flexible mounting on the running gear
- Enclosure IP 65 as standard
- Improved efficiency – lower energy consumption – ideal as travelling drives
- Reverse motion of the gearbox is possible

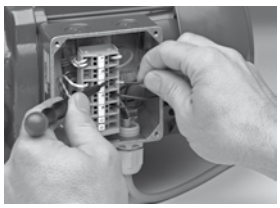
Frequency Converter Geared Motor Series Eta-K



Eta-K solutions are combinations of geared motors and frequency converters. They provide compact drive solutions with infinite speed control.

- Saving space and costs
- No shielded motor cables required
- Mechatronic adaption of VLT drive and geared motor
- Motor power range 0.12 kW up to 7.5 kW
- Supply voltage 3 x 380 V - 480 V
- Compliance to all EMC standards
- Standard RS485-Interface, optional Profibus-Interface
- Ⓔx Zone 2 and 22 possible
- UL approved

CAGE CLAMP®



The use of Bauer geared motors up to 30 kW with CAGE CLAMP® connection technology reduce costs both during installation and in service cases.

- Cost reduction during connection
- Simple handling
- Cable core diameters up to 25 mm² without wire-end sleeves
- Cost saving in material and tooling
- Vibration and shock resistant
- Ⓔx approved

Explosion-proof BAUER Geared Motors

Geared motors suitable for use in explosive areas:

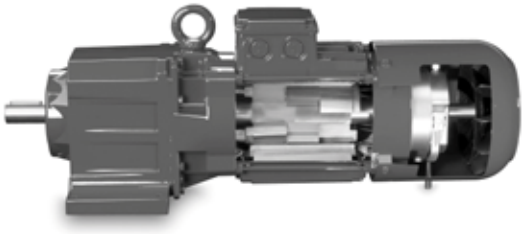
GAS	Zones 1, 2		
DUST	Zones 21, 22		
DXD	Zone 1,	II 2 G Ex d(e) IIC T3…T4 Gb	0,12… 75 kW
DXE	Zone 1,	II 2 G Ex e IIC TT1…T4 Gb	0,12… 11 kW
SXE	Zone 1,	II 2 G Ex e IIC TT1…T4 Gb	0,55 … 15 kW
DXN	Zone 2,	II 3 G Ex nA IIC T3 Gc	0,03… 30 kW
DXC	Zone 21,	II 2 D Ex tb IIIC T160°C IP66 Db	0,03… 30 kW
DXC	Zone 21,	II 2 D Ex tb IIIC T120°C IP66 Db	0,03… 22 kW
SXC	Zone 21,	II 2 D Ex tb IIIC T120°C…160°C IP66 Db	
DXS	Zone 22,	II 3 D Ex tc IIIC T120°C…160°C IP65 Dc	0,03… 30 kW
DXD	Zone 1/21,	II 2 G Ex d(e) IIC T3…T4 Gb	
		II 2 D Ex tb IIIC T120°C…160°C IP65 Db	0,12… 75 kW
DXE	Zone 1/21,	II 2 G Ex e IIC T1…T4 Gb	
		II 2 D Ex tb IIIC T120°C…160°C IP66 Db	0,12… 11 kW
SXE	Zone 1/21,	II 2 G Ex e IIC T1…T4 Gb	
		II 2 D Ex tb IIIC T120°C…160°C IP66 Db	0,55… 15 kW
DXS	Zone 2/22,	II 3 G Ex nA IIC T1…T3 Gc	
		II 3 D Ex tc IIIC T120°C…160°C IP65 Dc	0,03… 30 kW

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group

Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲

تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Energy Saving Geared Motors



η	Advantages	Your benefits
Without	• Motor design according to duty • Small installation volume and minimum weight • Higher motor powers	• Economical • Small installation space • Efficient motor utilisation • Tailored to customer application • Smaller motor frame size
IE1	• Standard efficiency in continuous operation • Small installation volume and minimum weight	• Economical • Small installation space • For general-purpose use inside or outside Europe
IE2	• Higher efficiency in continuous operation • Higher start-up torque	• Economical • Small installation space • Up to 34% more energy savings compared to IE1 • Lower rated motor power than IE1 for dynamic load applications • Short amortisation period
IE3	• Premium efficiency in continuous operation • Higher start-up torque	• Up to 18% more energy savings compared to IE2 • Already meets minimum efficiency requirements for 2015/2017
IE4	• Super Premium efficiency • Speed control with highest possible efficiency • Small installation volume and minimum weight • Considerably better efficiency than IE2 motors, even under partial load conditions • High torque and power density • High overload capacity	• Up to 39% more energy savings compared to IE2 • Short amortisation period • Small installation space • Compact drive unit • More torque with same size motor frame • Requires smaller installation space with same power • Reduced number of variants thanks to higher efficiency over the entire torque range • Design security thanks to spare drive unit capacity • Technology leader • Already meets the efficiency requirements of future standards

Energy Saving Geared Motors Series S in IE4 for explosion hazardous areas



Permanent magnet synchronous motors (PMSM) Series S as variable-speed motors in efficiency class IE4 for use in explosion hazardous areas.

- Design torque M_N: 5 Nm – 48 Nm
- Rated power P_N: 0,75 kW – 15 kW
- Protection type: Increased Safety Zone 1

Ex II 2 G Ex e IIC T1 - T3 Gb

S.XE.08MA4
S.XE.08LA4
S.XE.09SA4
S.XE.09XA4
S.XE.11SA6
S.XE.11MA6
S.XE.11LA6

- Dust explosion protection Zone 21

Ex II 2 D Ex tb IIIC T 160°C ... 120° Db

S.XC.08MA4
S.XC.08LA4
S.XC.09SA4
S.XC.09XA4
S.XC.11SA6
S.XC.11MA6
S.XC.11LA6

The highest energy efficiency that can be achieved with the current state of motor technology.

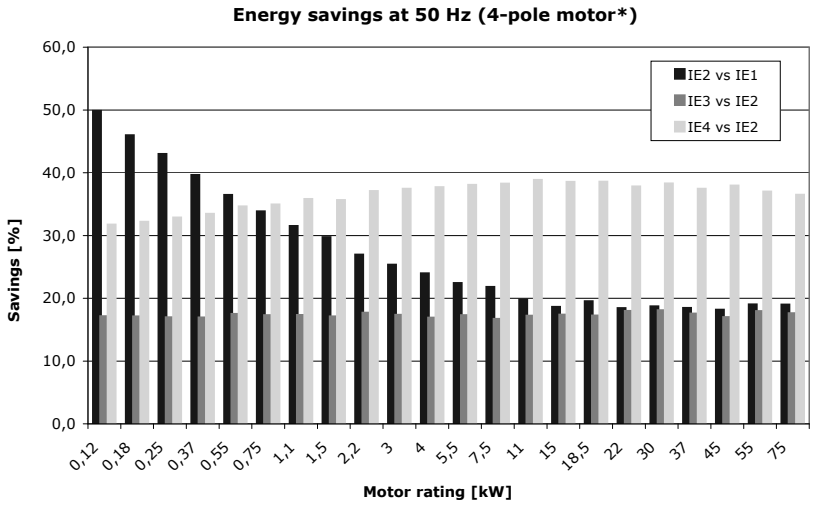
WORLD FIRST

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Investment security for the future

Electrically driven machinery accounts for around 70% of overall energy demand for industrial consumption. If existing drives which have already been in service for decades were to be replaced by modern drive systems, energy savings of 135 billion kilowatt-hours per year would be possible within Europe. The Bauer Gear Motor range of motors offers trend-setting technologies for energy-efficient drives and for motor designs tailored to specific applications. The latter option enables highly efficient drive solutions without requiring additional space.

Potential for energy savings in drive technology



P_N [kW]	IE1*	IE2*	IE3*	IE3*	IE4*
0,55	DSE08MA4	DHE08LA4			SU08MA4
0,75	DSE08LA4	DHE08XA4	DPE09LA4		S08MA4
1,1	DSE09SA4	DHE09LA4	DPE09XA4		S08LA4
1,5	DSE09LA4	DHE09XA4	DPE09XA4C	S08LA4	S09SA4
2,2	DSE09XA4	DHE09XA4C	DPE11MA4	S09SA4	S09XA4
3	DSE11SA4	DHE11MA4	DPE11LA4	S09XA4	S11SA6
4	DSE11MA4	DHE11LA4	DPE11LA4C	S11SA6	S11MA6
5,5	DSE11LA4	DHE11LA4C	DPE13LA4	S11MA6	S11LA6
7,5	DSE13MA4	DHE13LA4	DPE16LA4	S11LA6	
9,5	DSE13LA4	DHE16MA4	DPE16XA4		
11	DSE16MA4	DHE16LA4	DPE18LA4		
15	DSE16LA4	DHE16XA4	DPE18XA4		
18,5	DSE16XA4	DHE18LA4			
22	DSE18LA4	DHE18XA4			
30	DSE18XA4	DHENF20LG4			

*at 1,500 rpm

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

1



Page

Advantages for Bauer Geared Motors 9-12
Bauer Geared Motors
Bauer Gearboxes
Bauer-Motors
Bauer-Brakes

1

Bauer-Gearmotors

- Low operating costs due to a high total efficiency
- 2-stage gearbox concept gives a longer lifetime due to a reduced number of moving parts
- Lower servicing costs due to a modular system
- No additonal protective measures (e.g. dusty environment) through the IP65 enclosure as standard
- The electrical design of the motor is aligned to the gearbox
- Quick reaction time in emergency situations (Breakdowns etc.) through Fast Assembly Delivery (within 24 hours

Bauer Gearboxes

- Easy access to the fixation points reduces assembly times and installation costs
- Low servicing costs as the lubrication change results in normal duty with a lubrication temperature of approx. 80°C first after 15.000 operating hours when using CLP 220 or 25.000 operating hours when using PGLP 220 / PGLP 460.
- 2-stage gearbox concept reduces the spare part stocking
- A variety of attachment possibilities (Foot, Flange, Solid and Hollow shafts, Torque arms)
- Sealed housing design reduces the risk of oil leakage and increases the oil lifetime
- The large housing volume allows usage in very harsh environments

Bauer Motors

- Low operating costs due to high motor efficiencies (IE1, IE2, IE3 and IE4 as Standard)
- Low installation costs through CAGE CLAMP® instead of the classical terminal block connection
- A variety of additional designs (connectors, brakes, backstops, rain covers, forced cooling, encoders etc.)
- Cost reduction of connection cabling and avoidance of additional protective elements (chokes, filters etc.), through built-on inverters (ETA-K)
- Ideal for frequency inverter duty though insulation class F as standard

Bauer Brakes

- Low servicing costs through long lifetime of the brake discs (without adjustment)
- Brake-Motor correlation tailor made to the application by virtue of on average three brake sizes per motor size
- A variety of designs (lockable and non-lockable hand release, microswitch, heaters)
- Robust design for heavy duty applications
- Enclosure IP65 as Standard
- Very high wear resistance

1

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

2



	Page
Selection of geared motors	**13-18**
Notes on safety	
Guards for rotating parts	
Protection against accidental contact	
Operating noise	
Paint finish and corrosion protection	
Modular system overview	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

Installed positions of geared motors

Bauer geared motors can be supplied for any type of fitting position. Vertical installation positions (motor-down) place a particularly severe strain on the shaft seal. It is advisable to avoid this arrangement especially at high motor speeds (e.g. above 1800 r/min) and continuous operation

Notes on safety

See the notes on safety regarding installation in Operationg Indstructions.

Guards for rotating parts

The shrink disk (SSV) guards required under the German law relating to technical materials (Law Concerning Industrial Equipment - Equipment safety law GPSG) or by the Accident Prevention Regulations (UVV) are not included in the standard scope of supply because they are fitted by the customer in most cases, or the risk of accident can be eliminated by suitable installation.

See the Operating Instruction.

Protection against accidental contact

In some instances, protection against accidental contact may have to be installed by the customer because for technical reasons, the surface temperatures of motors with smooth housings can be high, especially in continuous operation

Operating noise

The typical operating noise levels of BAUER geared motors are within the limits stipulated by VDI directive 2159 for gears and EN 60034-9, Table 2 for motors.

For physical reasons, low-ratio, high-speed gears produce more noise than medium- and high-ratio gears operating at low speeds.

See BAUER special imprint SD18.. for more information

Paint finish and corrosion protection

BAUER geared motors are spray-painted in RAL 7031 to DIN 1843 as standard. Other RAL colours are available at extra cost.

The output shafts are shipped in protective sleeves or with a protective coating to prevent corrosion.

If high requirements for corrosion resistance are required, the drives are available with enhanced corrosion protection: CORO 1, CORO 2, CORO 3 or CORO 4.

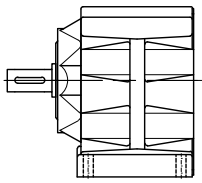
Paint finishes up to 200 µm in thickness are available on request at extra cost. Thicker paint finishes for geared motors are impractical, because the paint tends to flake at the ribs and when the terminal box is opened.

2

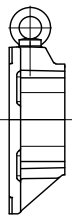
Gear design

Motor terminal box design

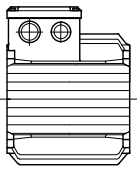
BG



Helical gear

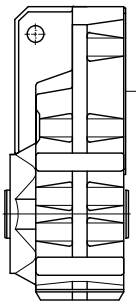


System cover

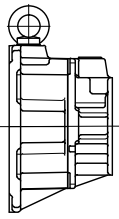


Motor with cast-in terminal box (KAG)

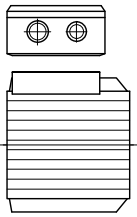
BF



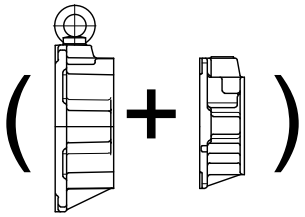
Shaft-mounted gear



Pre-stage

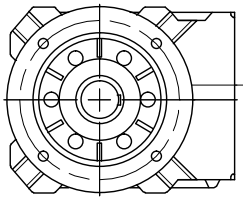


Motor with screw-on terminal box (TB)

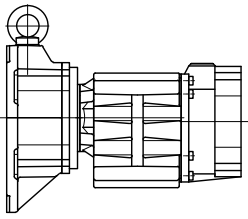


Pre-stage + System cover

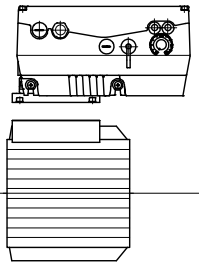
BK



Bevel gear

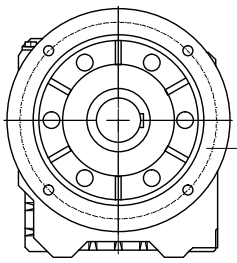


Intermediate gear

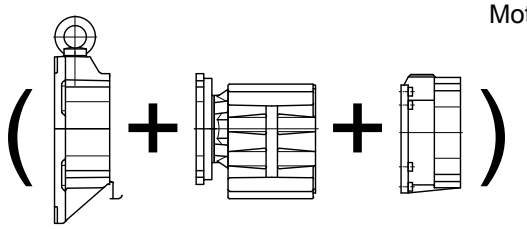


Motor with INVEOR-Inverter

BS



Worm gear

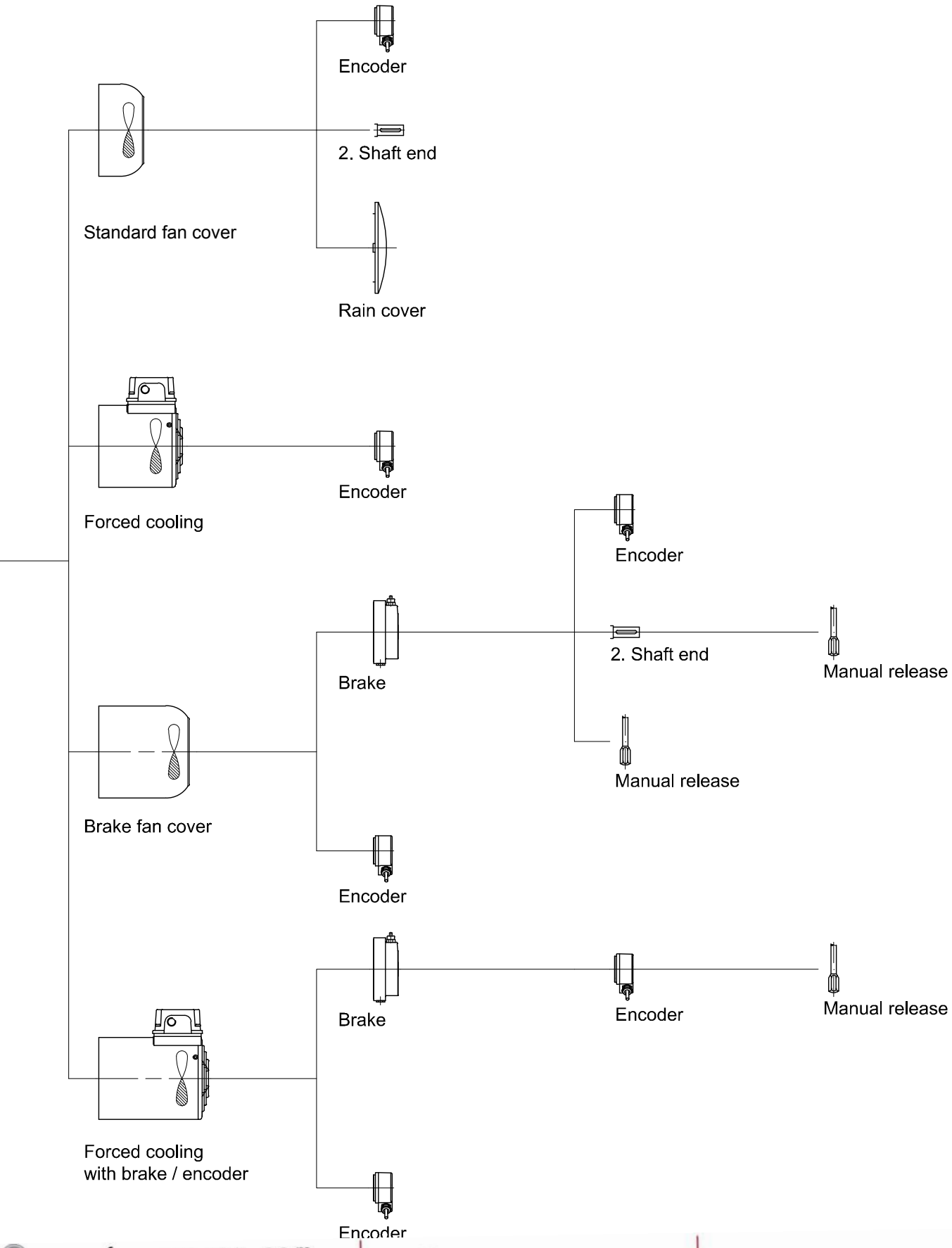


(System cover + Intermediate gear + System cover)

Covers
B-side

Extensions
Standard motor

Extensions
Motor with brake



www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

3



Page

Type Designations 19-28
Significance of type designation
BG-series helical-geared motor
BF-series shaft-mounted geared motor
BK-series bevel-geared motor
BS-series worm-geared motor
Description of the Designs
General Description

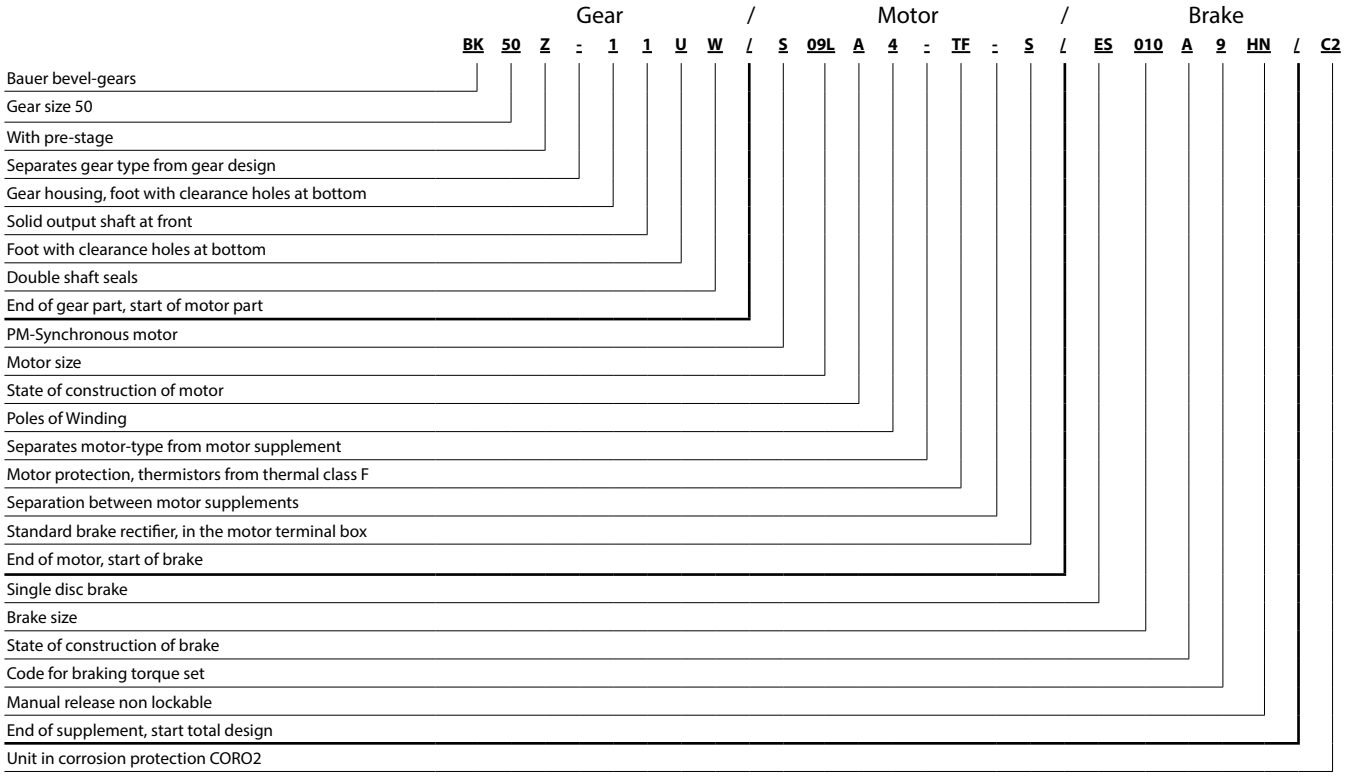
Bauer bevel-geared motor with brake and standard add-ons

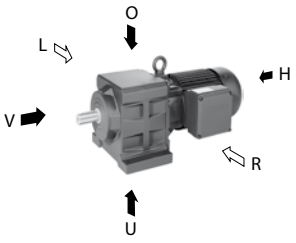
Example: Bauer bevel-geared motor with brake and standard add-ons

Significance of type designation

The type designation of a BAUER geared motor is a code designating all the features in the drive configuration.

The build-up of the type designation is explained with the help of the following example of a bevel geared motor with brake and series options.





gear type
gear size
pre-stage
re-inforced bearings (only BG10)
code for gear design
code for shaft design
permanent magnet synchronous motor
motor size
core length
design edition
number of poles

BG10 Z X-71 / S..08 LA4

Z-. . gear with pre-stage
G-. . tandem gear

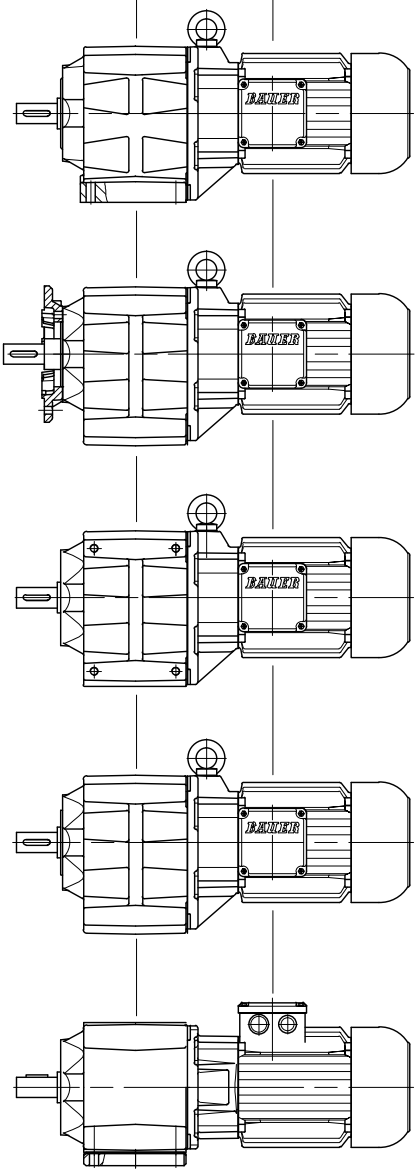
1 . foot with through holes

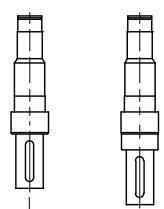
2 . small A-flange with through holes
3 . standard A-flange with through holes
4 . large A-flange with through holes

6 . L foot with threaded holes, left
6 . R foot with threaded holes, right
6 . LR foot with threaded holes, left and right

7 . C-flange with threaded holes
8 . completely machined

9 . L footplate, left
9 . R footplate, right
9 . LR footplate, left and right

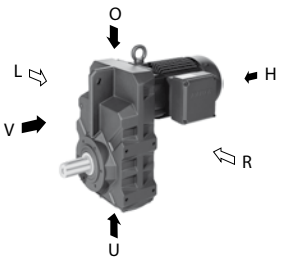




. 1 solid shaft on gear side V
. 7 solid shaft on gear side V for flange as from BG10

. . W double shaft seals

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲



gear type
gear size
pre-stage
re-inforced bearing (≥BF60)
code for gear design
code for shaft design
permanent magnet synchronous motor
motor size
core length
design edition
number of poles

BF70 Z X-74 / S..11 LA4

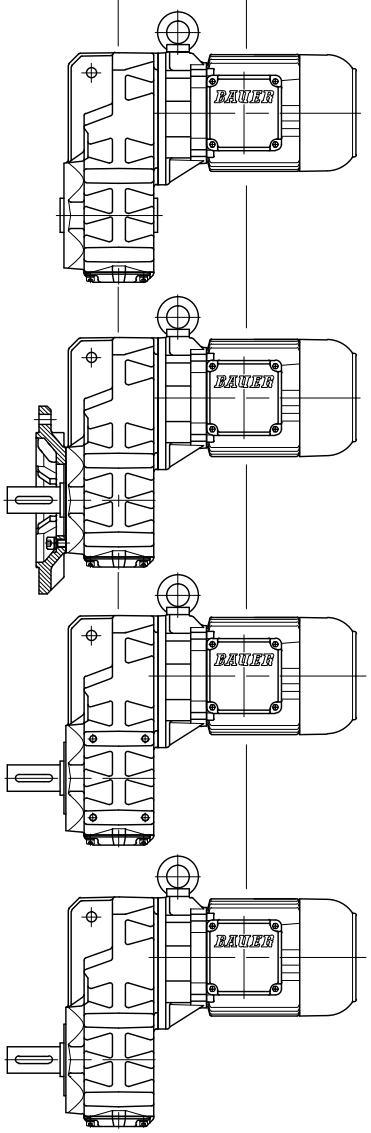
Z-.. — gear with pre-stage
X-.. — gear with reinforced bearings
G-.. — tandem gear

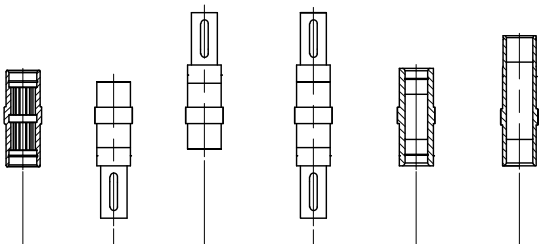
0 . — cast-in torque arm

2 . — small A-flange with through holes
3 . — standard A-flange with through holes
4 . — large A-flange with through holes

1 . LR — foot with through holes, right and left
6 . L — foot with threaded holes, left
6 . R — foot with threaded holes, right
6 . LR — foot with threaded holes, right and left

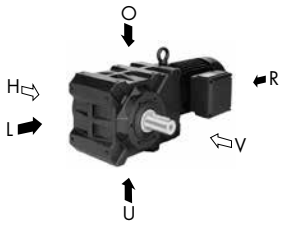
7 . — C-flange with threaded holes
8 . — completely machined





. 0 splined shaft acc. DIN 5480
. 1 solid shaft on gear side V
. 2 solid shaft on gear side H
. 3 solid shaft on gear side V and H
. 4 hollow shaft with keyway
. 5 hollow shaft with shrink disk SSV on side H

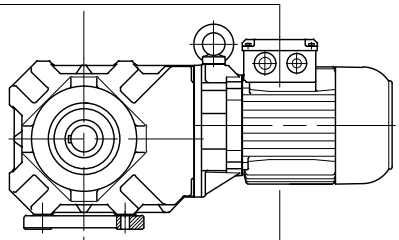
. . W double shaft seals
. . A cover for shrink disk SSV



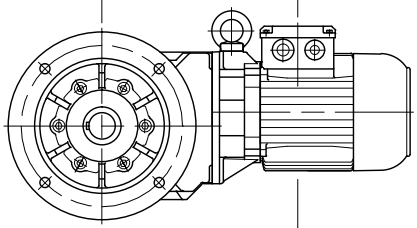
gear type
gear size
pre-stage
re-inforced bearing (≥BK20)
code for gear design
code for shaft design
permanent magnet synchronous motor
motor size
core length
design edition
number of poles

BK20 Z X-64U / S08 LA4

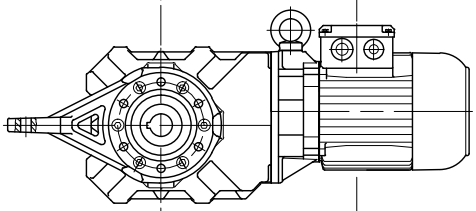
1 . U — foot with through holes, bottom
1 . L — foot with through holes, left
1 . O — foot with through holes, top



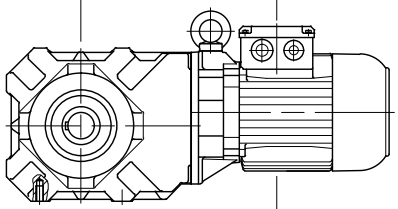
2 . V — small A-flange with through holes, front
3 . V — standard A-flange with through holes, front
4 . V — large A-flange with through holes, front
. . H — A-flange, rear
. . VH — A-flange, front and rear



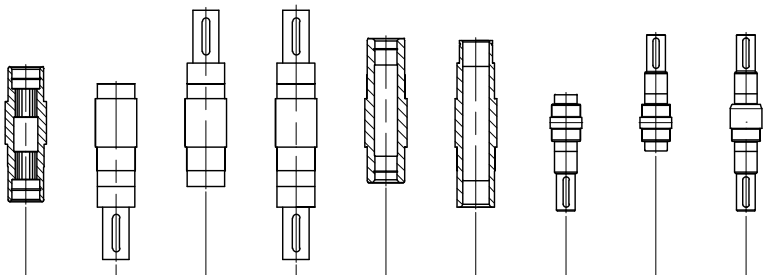
5 . V — torque arm, front
5 . VL — torque arm, front to left
5 . VO — torque arm, front to top
5 . VU — torque arm, front to bottom
5 . HL — torque arm, rear to left
5 . HO — torque arm, rear to top
5 . HU — torque arm, rear to bottom



6 . U — foot with threaded holes, bottom
6 . L — foot with threaded holes, left
6 . O — foot with threaded holes, top

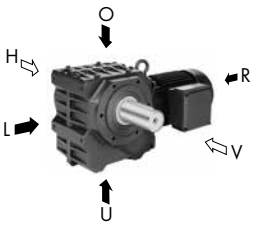


7 . V — C-flange with threaded holes, front
7 . H — C-flange with threaded holes, rear
7 . VH — C-flange with threaded holes, front and rear
8 . — completely machined



. 0 Splined shaft acc. DIN 5480
. 1 solid shaft on gear side V
. 2 solid shaft on gear side H
. 3 solid shaft on gear side V and H
. 4 hollow shaft with keyway
. 5 hollow shaft with shrink disk SSV on gear side H
. 7 solid shaft at gear side V for flange (only BK06)
. 8 solid shaft at gear side H for flange (only BK06)
. 9 solid shaft at gear side V and H for flange (only BK06)
. . W double shaft seals
. . A cover for shrink disk SSV

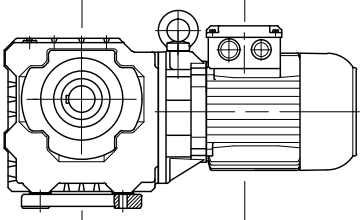
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲



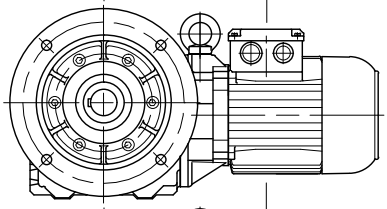
gear type
gear size
pre-stage
code for gear design
code for shaft design
permanent magnet synchronous motor
motor size
core length
design edition
number of poles

BS40 Z-64U/ S..08 LA4

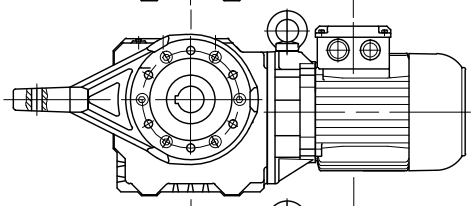
1 . U — foot with through holes, bottom
1 . L — foot with through holes, left
1 . O — foot with through holes, top



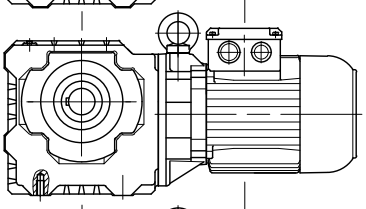
2 . V — small A-Flange with through holes, front
3 . V — standard A-Flange with through holes, front
4 . V — large A-Flange with through holes, front
. . H — A-flange, rear (standard flange)
. . VH — A-flange, front and rear (standard flange)



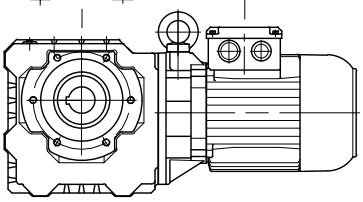
5 . V — torque arm, front
5 . VL — torque arm, front to left
5 . VO — torque arm, front to top
5 . VU — torque arm, front to bottom
5 . HL — torque arm, rear to left
5 . HO — torque arm, rear to top
5 . HU — torque arm, rear to bottom

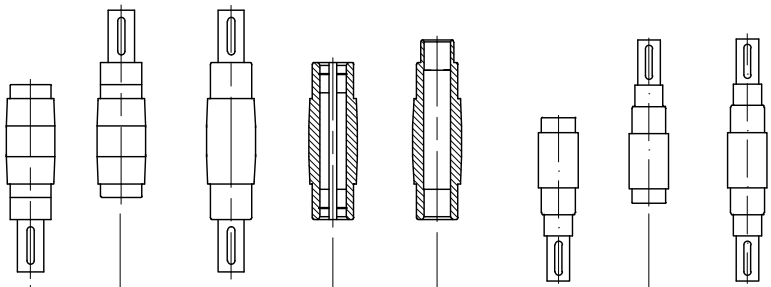


6 . U — foot with threaded holes, bottom
6 . L — foot with threaded holes, left
6 . O — foot with threaded holes, top



7 . V — C-flange with threaded holes, front
7 . H — C-flange with threaded holes, rear
7 . VH — C-flange with threaded holes, front and rear
8 . — completely machined

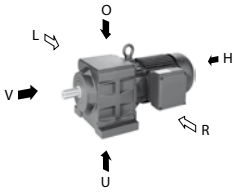




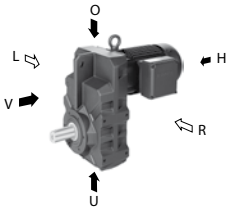
. 1 solid shaft at gear side V
. 2 solid shaft at gear side H
. 3 solid shaft at gear side V and H
. 4 hollow shaft with keyway
. 5 hollow shaft with shrink disk SSV on side H
. 7 solid shaft at gear side V for flange (only BS02 and BS03)
. 8 solid shaft at gear side H for flange (only BS02 and BS03)
. 9 solid shaft at gear side V and H for flange (only BS02 and BS03)
. W double shaft seals as from BS10

BG and BF series

BG series: type B3



BF series: type H4



V = Front
The side of the gear unit facing away from the motor or the source of motive power

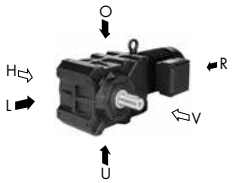
H = Rear
The side of the gear unit facing toward the motor or the source of motive power

L = Left
The left side of the gear unit as viewed from the output shaft side of type B3 for the BG series or type H4 for the BF series

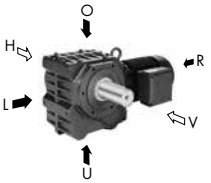
R = Right
The right side of the gear unit as viewed from the output shaft side of type B3 for the BG series or type H4 for the BF series

BK and BS series

BK series: type H1



BS series: type H1



V = Front
The side of the gear unit facing toward the viewer looking toward the type H1 unit

H = Rear
The side of the gear unit facing away from the viewer looking toward the type H1 unit

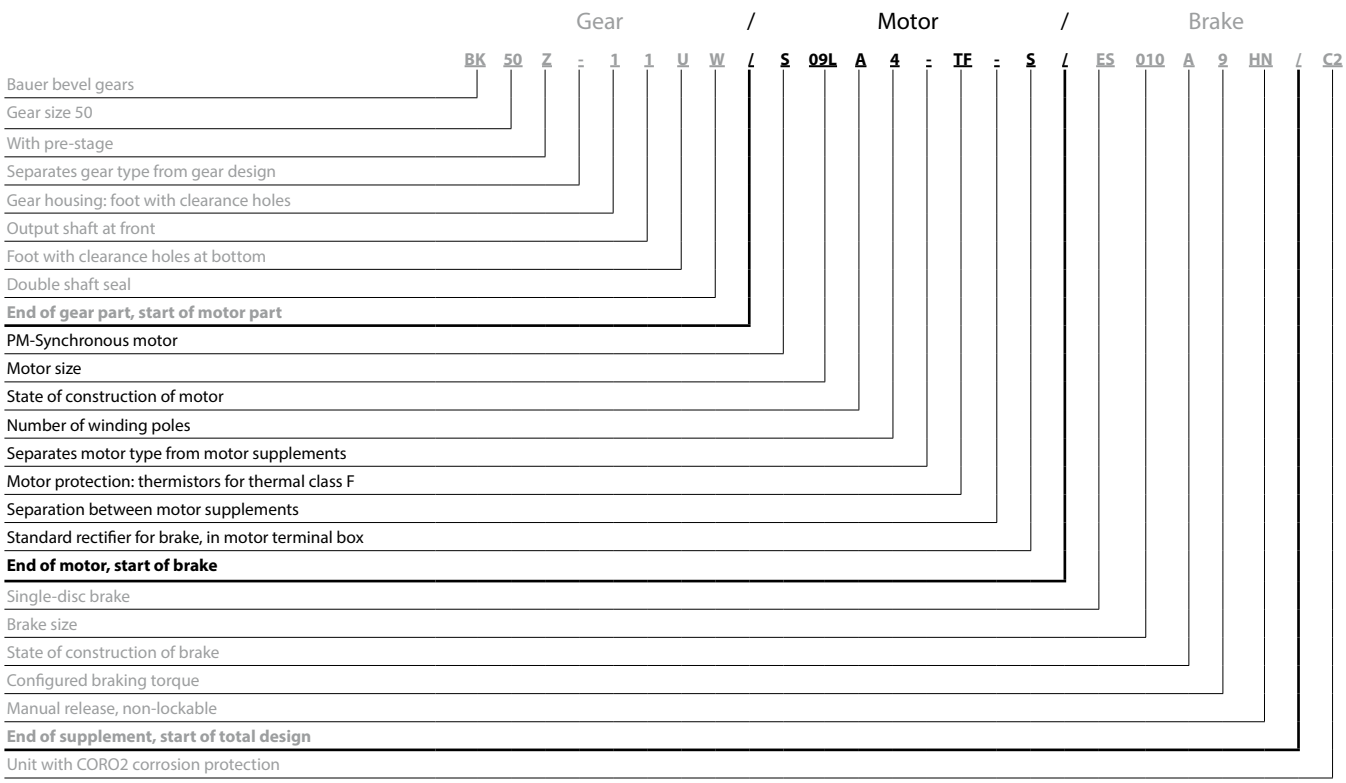
L = Links
The left side of the gear unit as viewed from the output shaft side of type H1, or the torque brace oriented to the left

O = Top
The top side of the gear unit as viewed from the output shaft side of type H1, or the torque brace oriented upwards

U = Bottom
The bottom side of the gear unit as viewed from the output shaft side of type H1, or the torque brace oriented downwards

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Designations construction:



3

PM-Synchronous motor

S	=	PM-Synchronous motor
. A	=	Aseptic motor (germ-free drive)
. N	=	Motor without gear unit; foot-mount version
. NF	=	Motor without gear unit; flange-mount version
. U	=	Unventilated (no forced ventilation)

Motor protection

TB	=	Thermistor 140°
TF	=	Thermistor 160°
TH	=	Thermistor 180°
TEB	=	Thermistor warning/shutdown 120°/140°
TBF	=	Thermistor warning/shutdown 140°/160°
TFH	=	Thermistor warning/shutdown 160°/180°
TOB	=	Thermostatic switch, NC 140°
TOF	=	Thermostatic switch, NC 160°
TOH	=	Thermostatic switch, NC 180°
TSB	=	Thermostatic switch, NO 125°
TSF	=	Thermostatic switch, NO 160°
TSH	=	Thermostatic switch, NO 180°
TX	=	Other

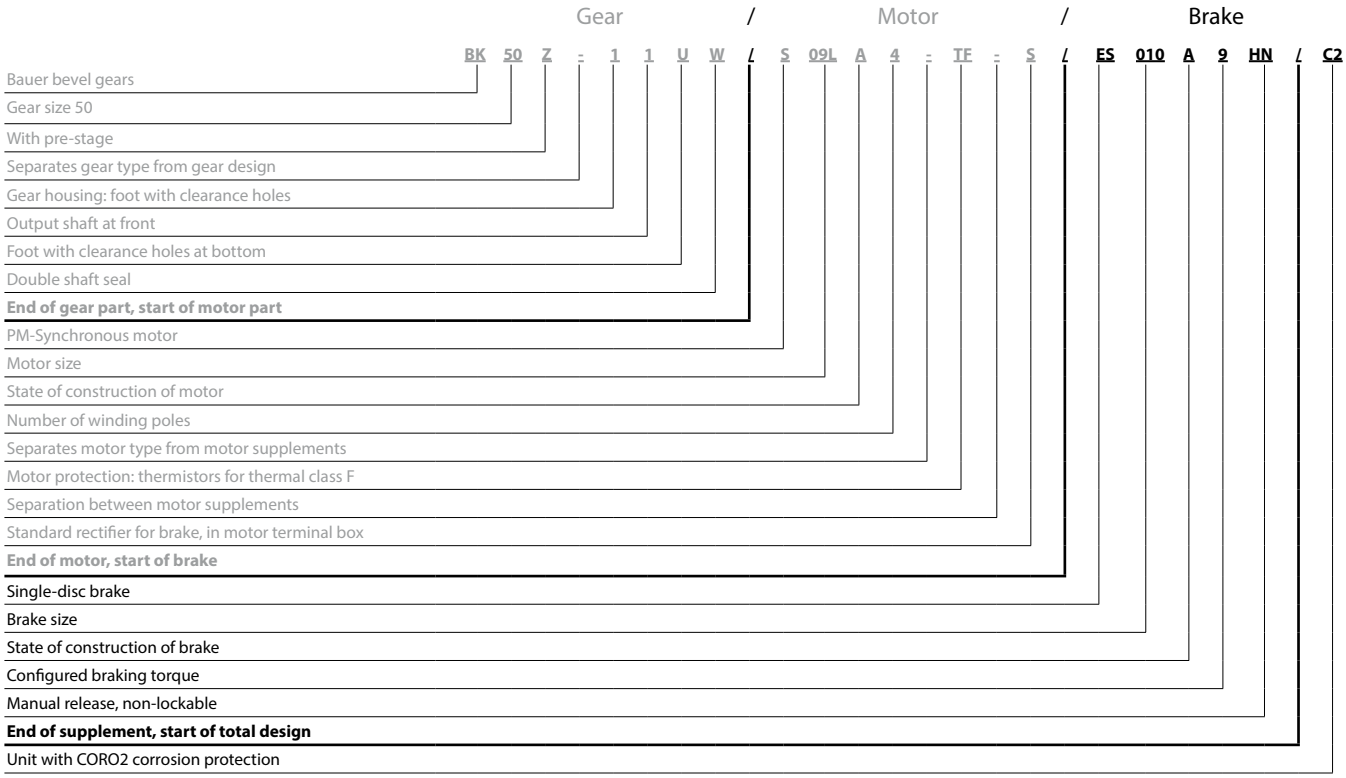
Brake rectifier in motor terminal box

S	=	Standard rectifier	SG
E	=	Special rectifier	ESG
M	=	Special rectifier	MSG

Plug connector	ST	= Harting (other)
Heavy-duty fan	SL	
Protective cover	D	
CleanDrive™	CD	= Aseptic drive with cable

Type Designations

Supplement types



Brake

E		= Single-disc brake
ES		= Single-disc holding brake
EH		= Single-disc holding brake in heavy duty
ZS		= Two-disc holding brake
ESX		= Single-disc service brake
EHX		= Single-disc service brake in heavy duty version
ZSX		= Two-disc service brake
… 010		= Brake size
… …	A	= Construction state
… …	. 9	= Code for configured braking torque
… …	. . HN	= Manual release (not lockable)
… …	. . HA	= Manual release (lockable)

Digital and analogue encoder G

Second shaft end

ZW	= With key
ZV	= With square shaft

Forced ventilation FV

Overall design

UL	= US version
C1	= Coro1 corrosion protection
C2	= Coro2 corrosion protection
C3	= Coro3 corrosion protection
SP	= Non-catalogue version

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

4

Bauer Gear Motor

	Page
Gear Motor Selection	**29-46**
Selection of geared motors	
Drive configuration	
Radial and axial forces on the output shaft	
Shock loads of machinery	

otor Selection
n of geared motors

Information for inquiries and orders

Bauer Gear Motor GmbH
Fax: + 49 (0)711 3518 381

Application: _____
(e.g. traction drive, hoist/lift drive, roller conveyor, feedscrew, etc.)

Gearbox type






BG ☐ BF ☐ BK ☐ BS ☐

4

Number of items _____

Type _____
Power _____ kW or motor torque _____ Nm
Output speed _____ 1/min
Output torque _____ Nm Service factor f_B= _____
Mounting arrangement
Type of installation _____ Terminal box position _____
☐ **RAL 7031** or ☐ special RAL shade _____
Korrosionsschutz ☐ **Standard** or ☐ CORO1 ☐ CORO2 ☐ CORO3
Nominal frequency of the motor _____ Hz
Ambient temperature _____ °C Altitude [m] _____
Ambient conditions & installation site _____
Transmission component (direct, chain, gearwheel, belt, etc.) _____
Radial force on output shaft _____ N at a distance x from the shaft junction _____ mm
Axial force on output shaft _____ N

Operating on field-oriented inverter suitable for operation of permanent magnet synchronous motors

Speeds of _____ 1/min to _____ 1/min

Gear unit design

☐ Foot with clearance holes
☐ A-Flange with clearance holes D = _____ mm
☐ C-Flange with tapped holes
☐ Torque restraining arms with rubber buffers in ☐ L ☐ T ☐ B direction
☐ Foot with tapped holes on
☐ L ☐ R ☐ LR ☐ T ☐ B side

Output shaft

☐ Solid shaft on ☐ F ☐ B ☐ FB end
☐ Hollow shaft
☐ Hollow shaft for shrink-on disk ☐ with shrink disc ☐ with cover
☐ Hollow shaft with spline acc. to DIN 5480

Motor-mounted components

☐ Brake
Type _____ Braking torque = _____ Nm
Supply voltage = _____ VAC _____ Hz or _____ V DC
Manual release yes ☐ no ☐
Microswitch Function monitoring ☐ Wear monitoring ☐

☐ Encoder

☐ Absolute Multiturn ☐ with Profibus
☐ Resolver
☐ Sin/Cos
☐ Forced ventilation

Special design features

_____

_____

Drive configuration

Motions are necessary in production plants and equipment for the manufacture of goods and products. Geared motors are used to implement these motions in stationary production equipment. The objective of drive configuration is to obtain the optimal motor for each type of motion.

Motions in machines and equipment vary considerably. Experienced design engineers reduce the necessary motions to a few standard types:

These are:

- continuous linear motion
- reciprocating linear motion
- horizontal linear motion
- vertical or oblique linear motion for lifting and lowering loads
- continuous rotary motion and reciprocating rotary motion

All motions can be divided into:

- an acceleration phase
- a constant-velocity phase
- a braking (deceleration) phase

These motion phases must be examined separately when sizing a drive, in order to determine the phase with the highest load. After the maximum load has been determined, the drive system can be selected.
See our separate "Design Guide" publication for assistance with various use cases.

Required data for drive configuration

In addition to the data on (Specification of geared motors), the following data is necessary for drive configuration:

Designation	Description	Unit
t_d	Operating time per day	[h]
t_a	Deceleration time	[s]
n_2	Output speed	[rpm]
n	Rated rotor shaft speed	[rpm]
J	Moment of inertia	[kgm^2]
J_{ext}	External moment of inertia	[kgm^2]
J_{ext}	External moment of inertia referred to the rotor shaft	[kgm^2]
J_{rot}	Rotor moment of inertia	[kgm^2]
F	Force	[N]
m	Mass	[kg]
v	Velocity	[m/s]
a	Acceleration	[m/s^2]
g	Earth gravitational constant	[m/s^2]
P_{dyn}	Dynamic power	[kW]
P_s	Static power	[kW]
P	Power	[kW]
M_2	Output torque	[Nm]
M_N	Rated torque at rotor shaft	[Nm]
M_a	Deceleration torque	[Nm]
M_L	Braking or driving load torque	[Nm]
M_{grenz}	Specific limiting torque of gearbox at gear ratio i	[Nm]
M_{Br}	Rated braking torque	[Nm]
i	Gear reduction ratio	
FI	Inertia ratio	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Drive configuration process

Motor configuration

Determining the motor power

The required power can generally be calculated as follows:

$$P = \frac{F \times v}{\eta}$$

As previously described, all motions are divided into an acceleration phase (dynamic power), a constant-velocity phase (static power), and a braking (deceleration) phase. Depending on the type of motion, the force F necessary to overcome all opposing forces such as rolling friction, linear friction, gravitational force, acceleration and so on arising from the drive train has a strong influence on the required power and must be determined explicitly for each use case.

4

Determining the required torque

After the motor power has been determined, the required gearbox output torque can be calculated with:

$$M_2 = \frac{P \times 9550}{n_2}$$

Determining the gear reduction ratio

The gear reduction ratio is the ratio of the rated speed of the motor (see the motor data in Section 13) to the desired output speed of the geared motor.

$$i = \frac{n}{n_2}$$

Gearbox size selection

Determining the factor of inertia

The inertia ratio is the ratio of the sum of the moments of inertia of all masses driven by the motor and converted to the motor speed, including the moment of inertia of the motor rotor, to the moment of inertia of the rotor:

$$FI = \frac{J_{ext'} + J_{rot}}{J_{rot}} \quad \text{where} \quad J_{ext'} = \frac{J_{ext}}{i^2}$$

Determining the shock load

The shock load (see Sections 6, 7, 8 and 9) is determined from the inertia factor, the type of transmission component and the relative moment of acceleration.

Determining the minimum service factor f_{Bmin}

Based on the operating time per day, the cycle rate and the ascertained shock load, the service factor f_{Bmin} can be taken from the tables in Sections 6, 7, 8 and 9.

Based on this minimum service factor f_{Bmin}, select a geared motor from the tables that has a higher service factor as well as the required output speed, output torque and motor power.

Note: The service factor relates solely to the required torque for static operation needed by the application, which should be covered by the output torque of the selected geared motor.
The dynamic portion is not taken into consideration here.

The actual service factor of the geared motor with regard to required torque for static operation can therefore be calculated as follows:

$$f_B = \frac{M_{gr}}{M_{2erf}}$$

The final step is to specify the accessory options for the geared motor.

Brake specification

Essentially it is necessary to determine, based on the amount of friction energy to be dissipated by the brake, whether the brake is a holding brake or a service brake.
See Section 14 for the definitions of holding brakes and service brakes.

Once all the necessary data and requirements are known, the required braking torque can be calculated as follows:

$$M_{Br} = M_a \pm M_L$$

$$M_a = \frac{J \times n}{9{,}55 \times t_a}$$

If the specific application data is not known, for horizontally driven equipment we recommend selecting a braking torque that is 1.0 to 1.5 times the rated torque of the motor.

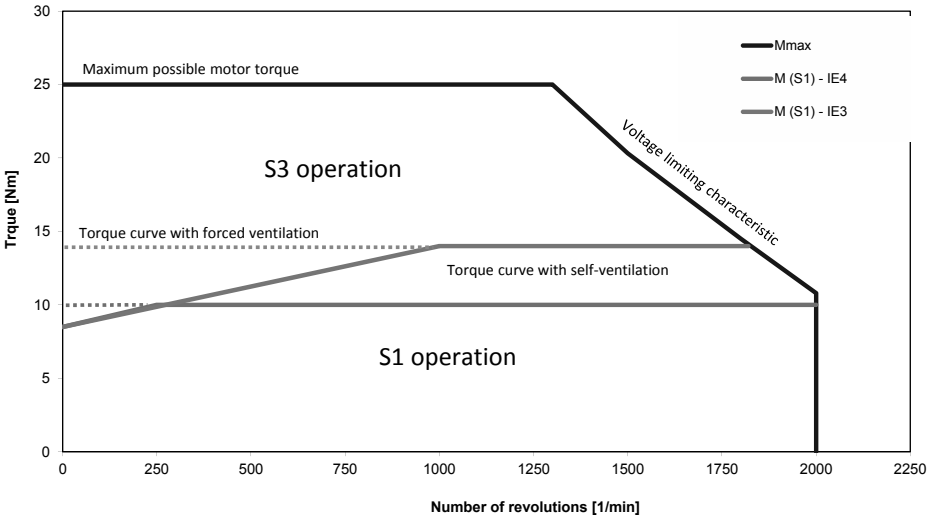
In the case of applications with significant external moments of inertia (FI greater than 2) and with operating cycles per hour, the brake size must always be selected on the basis of the thermally allowable braking energy. See Section 14 for detailed information on brake configuration.

In the case of lifting equipment, for safety reasons a braking torque twice as large as the rated torque of the motor should always be selected.

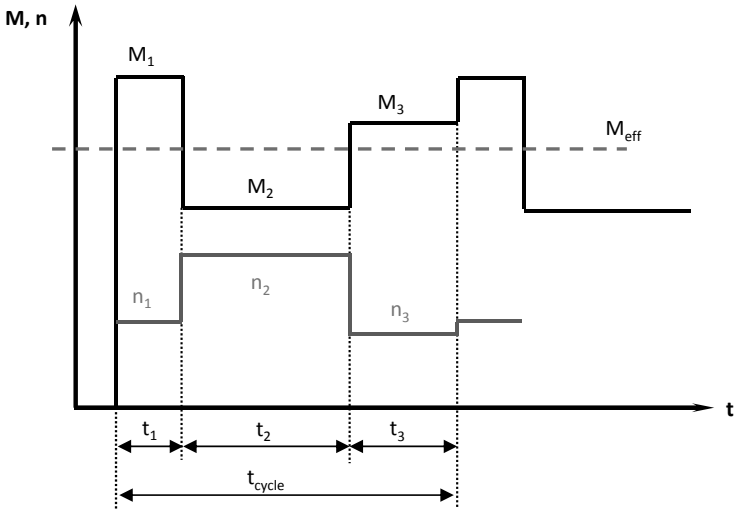
Torque–speed characteristic

The torque versus speed curve shows the operating characteristics of the PMSM.
The reference points shown schematically on the torque versus speed curve are significant criteria for motor selection.

Torque vs. Speed Curve



The motor is determined by the effective motor torque and the average motor speed.
Both values Meff and neff must be below the S1 limit characteristic curve of the motor to be selected.



Effective torque

$$M_{eff} = \sqrt{\frac{M_1^2 \cdot t_1 + M_2^2 \cdot t_2 + M_3^2 \cdot t_3 + \ldots + M_n^2 \cdot t_n}{t_1 + t_2 + t_3 + \ldots + t_n}}$$

Effective rpm

$$n_{eff} = \frac{n_1 \cdot t_1 + n_2 \cdot t_2 + n_3 \cdot t_3 + \ldots + n_n \cdot t_n}{t_1 + t_2 + t_3 + \ldots + t_n}$$

Acceleration

Dynamic power
The dynamic power is the power that accelerates the entire system (load, transmission components, gears and motor)

$$P_{dyn} = \frac{m \times a \times v}{\eta}$$

P_{dyn}	Dynamic power [W]
m	Mass [kg]
a	Acceleration [m/s²]
v	Speed [m/s]
η	Level of efficiency

Dynamic load torque

$$M_{dyn_1} = m \cdot a \cdot \frac{1}{\eta} \cdot \frac{D}{2} \cdot \frac{1}{i}$$

D	Impeller diameter
i	Gear reduction ratio

Constant speed

Static performance
The static power takes into account all forces that occur in the unaccelerated state. These include: rolling friction, frictional forces, lifting capacity on slopes and wind force.

$$P_S = \frac{F_F \times v}{\eta}$$

P_S	Static power [W]
F_F	Driving resistance [N]

Static load torque (simplified)

$$M_{statt} = m \cdot g \cdot \frac{1}{\eta} \cdot \frac{D}{2} \cdot \frac{1}{i}$$

g	Acceleration due to gravity

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Deceleration

Deceleration torque

$$M_{dyn2} = m \cdot (-a) \cdot \eta_L \cdot \frac{D}{2} \cdot \frac{1}{i}$$

$$M_{Verz} = M_{stat} + M_{dyn2}$$

M_{Verz} Deceleration torque

Load torques in the driving cycle

Acceleration phase

$$M_{Motor} = M_{stat} + M_{dyn1}$$

Constant speed

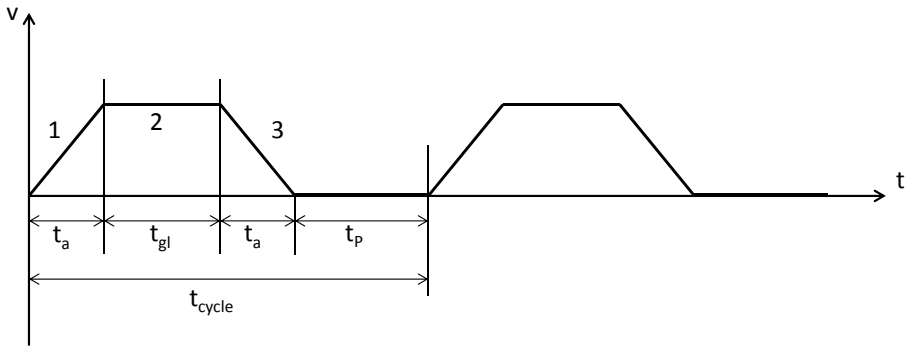
$$M_{Motor} = M_{stat}$$

Braking phase

$$M_{Motor} = M_{stat} + M_{dyn2}$$

Motor selection

Example:



Required dynamic torque on the motor (acceleration):	M1	=	20Nm
Required static torque on the motor:	M2	=	8,0Nm
Deceleration torque:	M3	=	10Nm
Acceleration time/deceleration time	t_a	=	0,5s
Duration constant travel	t_{gl}	=	5s
Cycle time	t_{Zykl}	=	10s
Motor speed for constant travel	n	=	1450 1/min

Effective motor torque and moderate motor speed

$$M_{eff} = \sqrt{\frac{M_1^2 \cdot t_a + M_2^2 \cdot t_{gl} + M_3^2 \cdot t_a}{t_{Zykl}}} = 7{,}55 \text{ Nm}$$

$$n_{eff} = \frac{n \cdot t_a + n \cdot t_{gl} + n \cdot t_a}{t_{Zykl}} = \frac{n \cdot (2 \cdot t_a + t_{gl})}{t_{Zykl}} = 870 \text{ min}^{-1}$$

The following motor is selected:

Type: S08LA4
Rated power P_n = 1,5 kW
Rated torque M_n = 9,55 Nm
Rated speed n_n = 1500 min^{-1}

Motor Data		S08LA4					
Rated output P_n	kW	1,1	1,5	1,65	2,2	2,2	3
Rated torque M_n	Nm	7	9,55	7	9,55	7	9,55
Rated current I_n	A	2,5	3,4	4,4	6	5,1	6,9
No. of Motor Poles 2p		4	4	4	4	4	4
Motor power n_n	1/min	1500	1500	2250	2250	3000	3000
Nominal Frequency	Hz	50	50	75	75	100	100
Motor efficiency η	%	IE4 - 88,0	IE3-85,3	IE4-89,3	IE3-86,7	IE4-91,0	IE4-89,8
Motorcircuit		Y	Y	D	D	Y	Y
Phase Resistance U-V R_{20}	Ohm	11,34	11,34	3,74	3,74	2,86	2,86
Winding Resistance Rs_{20}	Ohm	5,64	5,67	5,67	5,67	1,43	1,43
Inductance D-Axis Ld	mH	80	80	26,7	26,7	20,2	20,2
Inductance Q-Axis Lq	mH	118	118	39,3	39,3	29,4	29,4
Voltage constant ke	V/1000 1/min	174	174	100	100	84	84
Torque constant kt	Nm/A	2,8	2,8	1,6	1,6	1,4	1,4
Peak Torque $M_{max\ (60s)}$	Nm	16	16	16	16	16	16
Peak Current $I_{max\ (60s)}$	A	5,9	5,9	10,5	10,5	12	12
Moment of inertia	kgm^2	0,0015					

With proper utilisation of the gears by doubling the reduction and increasing the revs of the motor to 3000 min-1, the torque requirement for the motor can be halved, and this makes it possible to decrease the size of the motor.

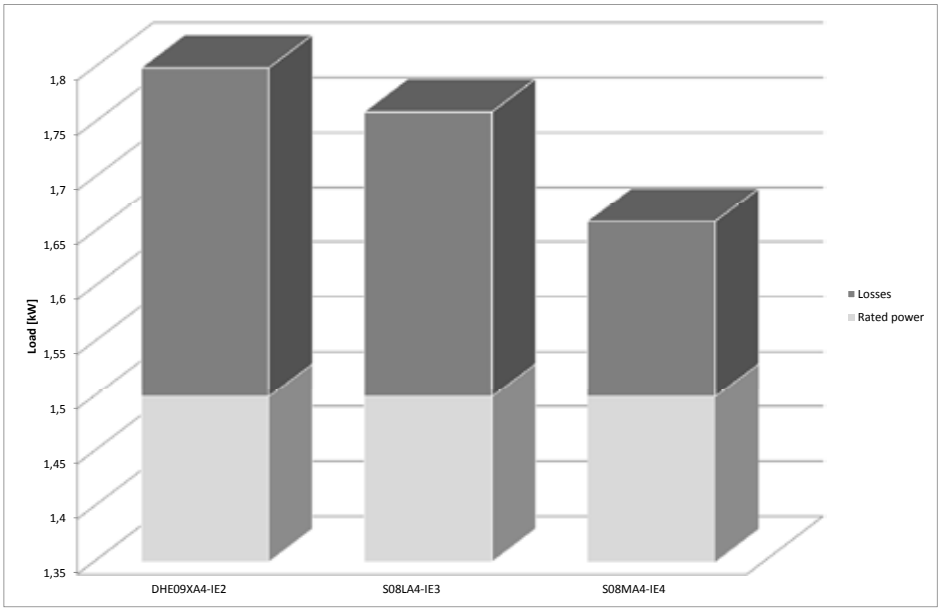
Instead of the S08LA4, the following motor could be selected in this case:

Type: S08MA4
Rated power P_n=1,5 kW
Rated torque M_n=4,75 Nm
Rated speed n_n=3000 min^{-1}

Motor Data		S08MA4				
Rated output P_n	kW	0,75	1,1	1,65	1,5	2,2
Rated torque M_n	Nm	4,75	4,75	7	4,75	7
Rated current I_n	A	1,7	2,9	4,3	3,4	5
No. of Motor Poles 2p		4	4	4	4	4
Motor power n_n	1/min	1500	2250	2250	3000	3000
Nominal Frequency	Hz	50	75	75	1000	100
Motor efficiency η	%	IE4-87,4	IE4-89,0	IE3-84,7	IE4-90,1	IE3-87,8
Motorcircuit		Y	D	D	Y	Y
Phase Resistance U-V R_{20}	Ohm	18,8	6,27	6,27	4,8	4,8
Winding Resistance Rs_{20}	Ohm	9,4	9,4	9,4	2,4	2,4
Inductance D-Axis Ld	mH	114	38	38	29,3	29,3
Inductance Q-Axis Lq	mH	136	45	45	34,2	34,2
Voltage constant ke	V/1000 1/min	177	102	102	89	89
Torque constant kt	Nm/A	2,8	1,6	1,6	1,4	1,4
Peak Torque $M_{max\ (60s)}$	Nm	12	12	12	12	12
Peak Current $I_{max\ (60s)}$	A	4,5	7,5	7,5	8,9	8,9
Moment of inertia	kgm^2	0,00115				

This increases the efficiency of the motor on the one hand, while also reducing the package length. The result is a cheaper drive with increased energy savings.

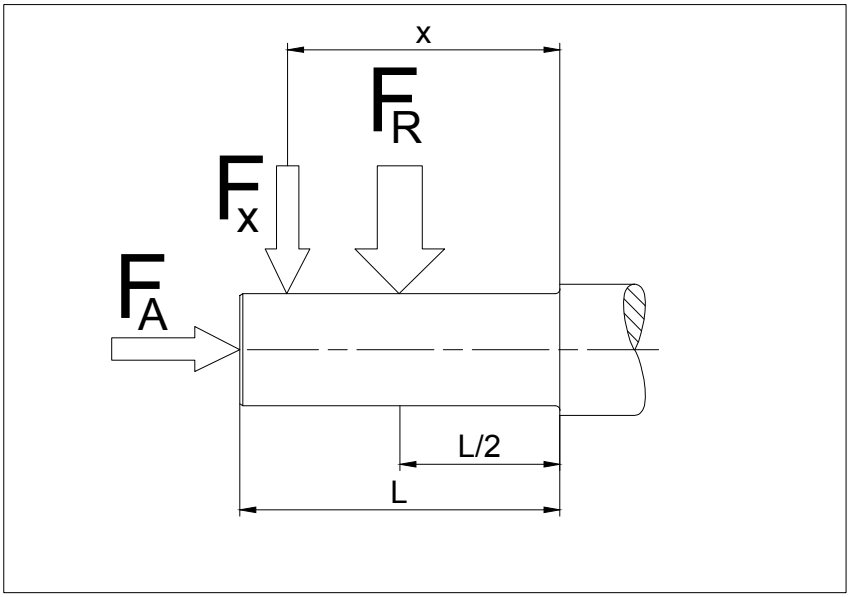
The diagram below shows the potential energy savings of using the different IE efficiency motors.
With the utilisation of the gears and the **use** of the **S08MA4 IE4** motor, **compared** with the **IE3 S08LA4** the **power loss can be reduced by 36.24%** and **by 45.58%** compared with the **IE2 DHE09XA4**.
With 8 hours of operation, 5 days a week and 50 weeks of the year, this results in an **energy saving** of **187.37 kW/h** compared with the **IE3 S08LA4** and **276.14 kW/h compared with** the **IE2 DHE09XA4**.



Radial and axial forces on the output shaft

For each geared motor with a solid shaft, the allowable radial force $F_{R(N,V)}$ referred to the centre of the output shaft, x = l/2, is listed in the selection tables. The listed data applies to both foot-mounted and flange-mounted versions. If the force application point F_X is off centre, the allowable radial force must be recalculated taking into account the bearing lifetime and the shaft strength.

Maximum allowable radial force at force application point X



$F_{R(N,V)}$	Allowable radial force (x = l/2) according to the selection tables [N]
X	Distance from shaft junction to the force application point [mm]
F_A	Axial force [N]

To evaluate the radial force present at the force application point X, the allowable radial forces at position X must be determined with respect to the load limits of the bearings and the shaft strength.

If the calculated allowable radial forces at the force application point X are greater than the radial force that is present, the gearbox may be selected for the application.
If the calculated values are not sufficient or the force application point X is not within the stub shaft length l, please consult us.

Bearing load limit

$$F_{XL1} = F_q \times \frac{0{,}5 + b}{\left(\frac{X}{l} + b\right)}$$

$$F_{XL2} = F_q \times \frac{0{,}5 + a}{\left(\frac{X}{l} + a\right)}$$

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Shaft strength

$$F_{XW1} = F_{qmax} \times \frac{0,5}{\left(\frac{X}{l}\right)}$$

$$F_{XW2} = F_{qmax} \times \frac{0,5 + c}{\left(\frac{X}{l} + c\right)}$$

For the selected gear ratio and bearing type (normal or reinforced), F_q is the allowable perpendicular force F_{RN} or F_{RV} from the geared motor selection tables.

F_{qmax} is the maximum allowable perpendicular force for the selected gearbox size as listed in the geared motor selection tables, independent of the bearing type (normal or reinforced).

The factors a, b and c for the individual gearbox types are listed in the following tables.

Helical gear unit BG series

Frame size	Bearings	Output shaft code	l	a	b	c
BG04	Normal	-.1	24	0,5625	1,5	-
BG05	Normal	-.1	28	0,5893	1,3929	-
BG06	Normal	-.1	30	0,6667	1,4167	-
BG10	Normal	-.1	40	0,7125	1,6750	-
		-.7		1,1000	2,0625	-
BG20	Normal	-.1	50	0,6100	2,2500	-
		-.7		0,9400	2,5800	-
BG30	Normal	-.1	60	0,5917	2,1750	-
		-.7		0,9417	2,5250	-
BG40	Normal	-.1	60	0,6917	2,3667	-
		-.7		1,0083	2,6833	-
BG50	Normal	-.1	80	0,5625	2,0000	-
		-.7		0,8563	2,2938	-
BG60	Normal	-.1	100	0,5300	2,0200	-
		-.7		0,7650	2,2550	-
BG70	Normal	-.1	120	0,4750	1,7292	-
		-.7		0,7292	1,9833	-
BG80	Normal	-.1	140	0,4286	1,7000	-
		-.7		0,6000	1,8714	-
BG90	Normal	-.1	200	0,3675	1,5300	-
		-.7		0,5825	1,7450	-
BG100	Normal	-.1	220	0,3477	1,4341	-
		-.7		0,5386	1,625	-

Shaft-mounted gear unit BF series

Frame size	Bearings	Output shaft code	l	a	b	c
BF06	Normal	-.1	50	0,4500	1,4100	-
BF10	Normal	-.1	60	0,5083	1,4833	-
		-.2		0,6500	1,6250	-
BF20	Normal	-.1	70	0,4286	1,3571	-
		-.2		0,5571	1,4857	-
BF30	Normal	-.1	80	0,3875	1,2563	-
		-.2		0,5688	1,4375	-
BF40	Normal	-.1	100	0,4050	1,2250	-
		-.2		0,5250	1,3450	-
BF50	Normal	-.1	120	0,3125	1,0625	-
		-.2		0,3959	1,1458	-
BF60	Normal	-.1	140	0,3286	1,0821	-
		-.2		0,4036	1,1571	-
	Reinforced	-.1		-	-	0,2750
		-.2		-	-	0,3643
BF70	Normal	-.1	180	0,2722	1,0566	-
		-.2		0,3056	1,0889	-
	Reinforced	-.1		-	-	0,2194
		-.2		-	-	0,2639
BF80	Normal	-.1	220	0,2878	1,3536	-
		-.2		0,2873	1,3518	-
	Reinforced	-.1		-	-	0,2364
		-.2		-	-	0,2268

Bevel gear unit BK series

Frame size	Bearings	Output shaft code	l	a	b	c
BK06	Normal	-.1	40	0,4375	1,9875	-
		-.2		0,4375	1,9875	-
		-.7		0,9125	2,4625	-
		-.8		0,9125	2,4625	-
BK10	Normal	-.1	60	0,5917	2,2417	-
		-.2		0,5917	2,2417	-
BK20	Normal	-.1	70	0,5071	2,2357	-
		-.2		0,5071	2,2357	-
	Reinforced	-.1		-	-	0,3929
		-.2		-	-	0,3929
BK30	Normal	-.1	80	0,5250	2,2750	-
		-.2		0,5250	2,2750	-
	Reinforced	-.1		-	-	0,4125
		-.2		-	-	0,4125
BK40	Normal	-.1	100	0,4300	2,1700	-
		-.2		0,4300	2,1700	-
	Reinforced	-.1		-	-	0,3400
		-.2		-	-	0,3400
BK50	Normal	-.1	120	0,4083	1,9417	-
		-.2		0,4083	1,417	-
	Reinforced	-.1		-	-	0,3250
		-.2		-	-	0,3250
BK60	Normal	-.1	140	0,3536	1,8036	-
		-.2		0,3536	1,0836	-
	Reinforced	-.1		-	-	0,3121
		-.2		-	-	0,2979
BK70	Normal	-.1	180	0,2861	1,6694	-
		-.2		0,2861	1,6694	-
	Reinforced	-.1		-	-	0,2428
		-.2		-	-	0,2317
BK80	Normal	-.1	220	0,2818	1,5545	-
		-.2		0,2818	1,5545	-
	Reinforced	-.1		-	-	0,2305
		-.2		-	-	0,2214
BK90	Normal	-.1		0,2519	1,6096	-
		-.2		0,2519	1,6096	-
	Reinforced	-.1		-	-	0,1989
		-.2		-	-	0,1912

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Worm gear unit BS series

Frame size	Bearings	Output shaft code	l	a	b	c
BS02	Normal	-.1	30	0,6	2,1	-
		-.2		-	-	-
		-.7		1,3333	2,8333	-
		-.8		-	-	-
BS03	Normal	-.1	40	0,4375	1,9875	-
		-.2		-	-	-
		-.7		0,9125	2,4625	-
		-.8		-	-	-
BS04	Normal	-.1	40	0,5375	1,7875	-
		-.2		-	-	-
BS06	Normal	-.1	50	0,4800	1,9400	-
		-.2		-	-	-
BS10	Normal	-.1	60	0,5917	2,3083	-
		-.2		-	-	-
BS20	Normal	-.1	70	0,5500	2,4357	-
		-.2		-	-	-
BS30	Normal	-.1	80	0,5312	2,4313	-
		-.2		-	-	-
BS40	Normal	-.1	120	0,4292	1,7042	-
		-.2		-	-	-

Transmission components

If a transmission component is used (gearwheels, chainwheels, V-belt, etc.), the resulting radial forces can be determined as follows.

$$F_R = \frac{2000 \times M}{D_T} \times f_Z \leq F_{R(N,V)}$$

F_R Radial force [N]
M Torque [Nm]
D_T Pitch radius of the transmission component [mm]
f_Z Safety factor

A safety factor f_Z depending on the type of transmission component attached to the output shaft must be included when determining the value of the radial force FR that is present.

Factor f_z for the type of transmission component

Transmission component	Safety factor f_z	Note
Gearwheel	1	=> 17 teeth
Gearwheel	1,15	< 17 teeth
Chainwheel	1	=> 17 teeth
Chainwheel	1,25	< 17 teeth
Toothed rack	1,15	< 17 teeth (pinion)
V-belt	2……2,5	From tensioning force
Flat belt	2….3	From tensioning force
Friction wheel	3….4	

Axial force

The following specification applies to the allowable axial force FA on the output shaft (either tension or compression) for all Bauer geared motors and for foot, flange or hollow-shaft versions:

$$F_A = 0{,}5 \times F_{R(N,V)}$$

Please consult us in case of larger axial forces.

Shock loads of machinery

Shock loads for various types of machinery are listed in standards and guidelines as well as industry-specific documents and manufacturer's documents. If for example a crusher or a press is listed here with an shock load class of III, this is justified. On the other hand, under favourable conditions a belt conveyor could have an shock load class of I, but this could quickly change to III with on/off operation, high speed and overdrive due to a loose chain. Consequently, the classifications in the following table should by no means be taken blindly. They provide a rough point of reference, but the ultimate classification of the shock load should always take into account the factors specified by Bauer, in particular the inertia ratio, the cycle rate and the transmission component(s).

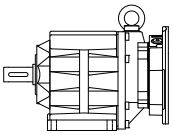
Drive	Shock load		
Construction machinery			
Construction lifts		II	
Concrete mixers		II	
Road construction machinery		II	
Chemical industry			
Cooling drums		II	
Mixers		II	
Stirrers (light media)	I		
Stirrers (viscous media)		II	
Drying drums		II	
Centrifuges (light)	I		
Centrifuges (heavy)		II	
Transport and conveying systems			
Hauling winches		II	
Conveying machines			III
Apron conveyors		II	
Belt conveyors (bulk material)	I		
Belt conveyors (piece goods)		II	
Bucket belt conveyors		II	
Chain conveyors		II	
Circular conveyors		II	
Freight lifts		II	
Flour bucket conveyors	I		
Passenger lifts		II	
Flat belts		II	
Screw conveyors		II	
Gravel bucket conveyors		II	
Inclined lifts			III
Steel belt conveyors		II	
Chain conveyors		II	
Blowers and fans			
Roots blowers		II	
Blowers (axial and radial)	I		
Cooling tower fans		II	
Suction blowers		II	

Drive	Shock load		
Rubber			
Extruders			III
Calenders		II	
Kneaders			III
Mixers		II	
Rolling mills			III
Timber processing and woodworking			
Debarking drums			III
Planers		II	
Woodworking machinery	I		
Saw frames			III
Crane systems			
Luffing mechanisms	I		
Traversing mechanisms			III
Hoisting mechanisms	I		
Slewing mechanisms		II	
Jib mechanisms		II	
Plastics			
Extruders		II	
Calenders		II	
Mixers		II	
Grinders and pulverisers		II	
Metalworking			
Plate bending machines		II	
Plate straightening machines			III
Hammers			III
Planers			III
Presses			III
Shears		II	
Forging presses			III
Punches			III
Countershafts and driveshafts	I		
Machine tools (principal)		II	
Machine tools (ancillary)	I		

Drive	Shock load		
Food processing			
Filling machines	I		
Kneading machines		II	
Mashing machines		II	
Packaging machines	I		
Sugar cane cutters		II	
Sugar cane mills			III
Sugar beet cutters		II	
Sugar beet washers		II	
Paper			
Couching			III
Smoothing rolls			III
Hollander		II	
Pulp grinder			III
Calender		II	
Wet presses			III
Shredders			III
Suction presses			III
Suction rolls			III
Drying rolls			III
Stone and soil			
Crushers			III
Rotary kilns			III
Hammer mills			III
Tube mills			III
Beating mills			III
Tile and block presses			III
Fabrics			
Winders		II	
Printing and dying machines		II	
Tanning vats		II	
Shredders		II	
Looms		II	

Drive	Shock load		
Rolling mills			
Plate shears			III
Plate turners		II	
Billet presses			III
Billet and slab lines			III
Billet conveyors			III
Wire drawing machines		II	
Descaling machines			III
Sheet metal mills			III
Plate mills			III
Winders (strip and wire)		II	
Cold rolling mills			III
Chain transports		II	
Billet shears			III
Cooling beds		II	
Cross transports		II	
Roller tables (light)		II	
Roller tables (heavy)			III
Roll straighteners		II	
Tube welders			III
Trimming shears		II	
Cropping shears			III
Continuous casting machines			III
Roll adjustment devices		II	
Manipulators			III
Laundry			
Drum dryers		II	
Washing machines		II	
Water treatment			
Centrifugal aerators		II	
Archimedes screw		II	

5



Page

Gearboxes and Lubrication 47-70

Standard mounting
- BG and BF
- BK and BS

Position of the terminal box and the cable entry
- BG and BF
- BK and BS

Radial and axial forces at the output shaft
Dimensions and fits of output shafts and keyways
Installing transmission elements
Gear with solid shaft
Gear with hollow shaft
Shrink disc coupling
Torque restraint
Notes for installing shaft mount gears with hollow shaft and keyway
Gear ventilation
Output shaft seals

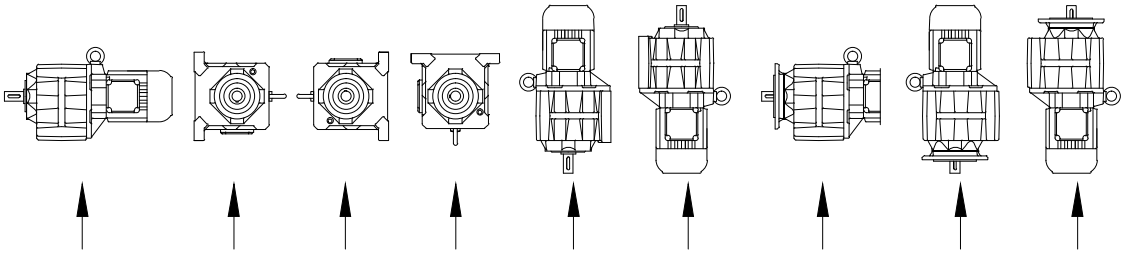
Lubricants

Lubricant quantities
- Lubricant quantities, BG-series gears
- Lubricant quantities, BG-20-01R
- Lubricant quantities, BF-series gears
- Lubricant quantities, BK-series gears
- Lubricant quantities, BS-series gears
- Lubricant quantities, pre-stage gears (Z)
- Lubricant quantities, intermediate gears

Position of threaded plugs
- BG-series gears
- BG-20-01R
- BF-series gears
- BK-series gears
- BS-series gears
- pre-stage gears (Z)

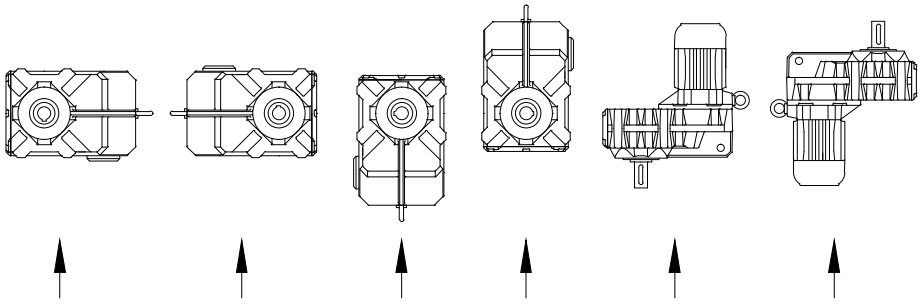
Position of the drain plugs in the System Cover

BG Series



Gear side	(U)	(R)	(L)	(O)	(V)	(H)	(U)	(V)	(H)
Mounting position (foot housing) cast foot with clearance holes (Code -1.)	B3	B6	B7	B8	V5	V6			
Mounting position (attachment housing with flange or foot mounting) flange with threaded holes (Code -2./Code -3./Code -4./Code -7.) / foot with threaded holes (Code -6.) foot with clearance holes (Code -9.)	H4	H1	H2	H3	H5	H6	B5	V1	V3

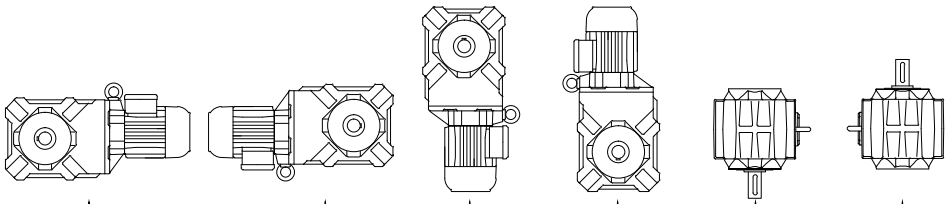
BF series



Gear side	(R)	(L)	(O)	(U)	(V)	(H)
Mounting position	H1	H2	H3	H4	V1	V2

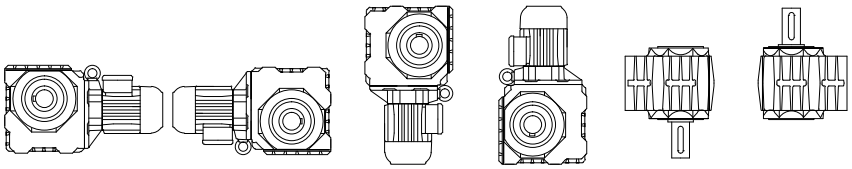
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK series



Gear side	(U)	(O)	(R)	(L)	(V)	(H)
Mounting position	H1	H2	H3	H4	V1	V2

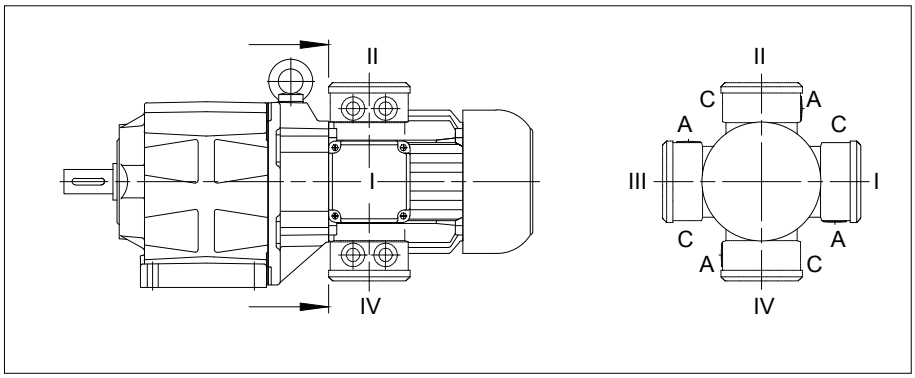
BS series

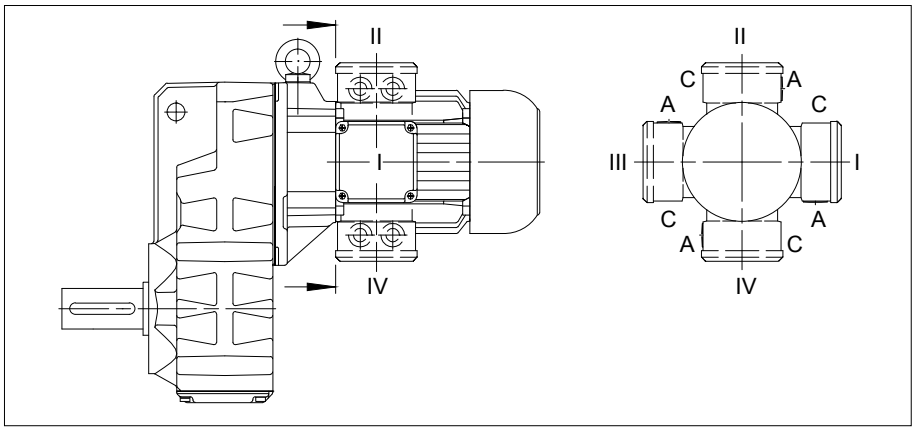


Gear side	(U)	(O)	(R)	(L)	(V)	(H)
Mounting position	H1	H2	H3	H4	V1	V2

Position of the terminal box and the cable entry points (BG and BF)

The standard position of the terminal box for helical-gear and shaft- mounted geared motors is position I. Cables may be introduced from side A or C.





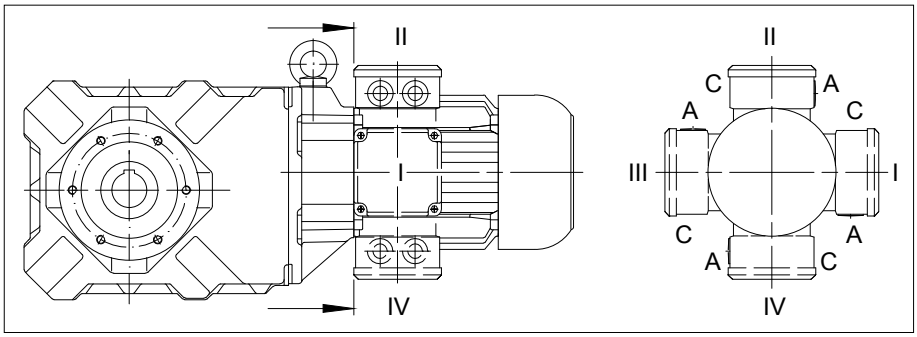
Turning or rotating the gearbox in space in the different mounting positions according to DIN 42950 does not influence the marking as shown. The details of the terminal box always show the position of the terminal box and the cable entry in relation to the gearbox and not in space. The mounting according to DIN 42950 is to be given separately.

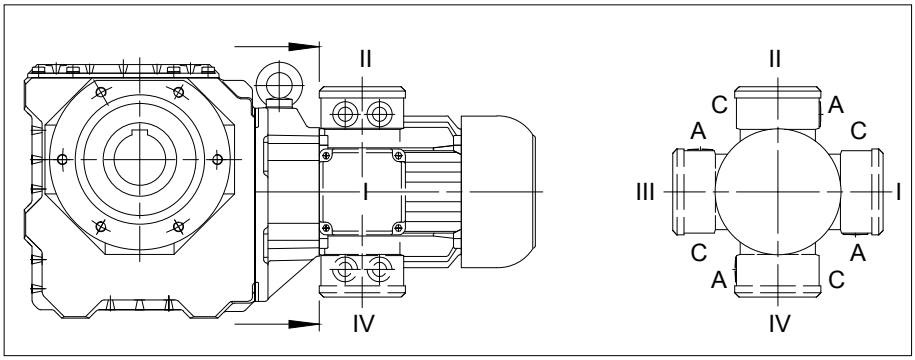
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Position of the terminal box and the cable entry points (BK and BS)

The standard position of the terminal box for bevel-geared and worm- geared motors is position II.

Cable entry through side A or side C is possible





Turning or rotating the gearbox in space in the different mounting positions according to DIN 42950 does not influence the marking as shown. The details of the terminal box always show the position of the terminal box and the cable entry in relation to the gearbox and not in space. The mounting according to DIN 42950 is to be given separately.

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Radial and axial forces at the output shaft

The output shafts and output-shaft bearings are matched to the motor torques. It is advisable to locate the drive-transmission element's point of application as close as possible to the shaft collar to ensure that the load imposed by external radial forces is not unnecessarily high. Permissible values for radial forces referred to the output shaft centreline are listed in the selection tables. Please consult us if your application involves extra-high axial loading.

Dimensions and fits of output shafts and keyways

Output shaft and second shaft stub, keyway and key are in compliance with the DIN standards and ISO fits listed below:

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

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

Hollow shaft for shrink-on disc coupling (SSV)

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

Installing transmission elements

Note:
Gearboxes using torque reaction by means of a flange (Code 2.; 3; 4.; 7.; 8.) or torque arm (Code 5.), must have the side for the torque reaction the same as where the radial force on the output shaft occurs (see rubber buffers for torque arms)! Please consult the factory for other designs.

Gear with solid shaft

Always exercise meticulous care when fitting transmission elements onto output shafts and, whenever possible, use the DIN 332 tapped bore provided for this purpose. Fitting is usually easier if the transmission element can be heated to approximately 100° C for installation. Dimension the locating bore to ISO H7.

Gears with solid shaft at each end (gear code -.3/): alignment of the two keys is subject to the DIN 7168 tolerances, the degree of accuracy is "fine**".**

Gear with hollow shaft

Hollow shafts usually engage solid shafts of the driven machinery. The gear unit must be mounted such as to be free of constraint and be fixed axially (e.g. by means of assembly help acc. following description "notes for installing shaft mount gears with hollow shaft and keyway"). Special contract provision must be made if the hollow shaft has to guide the solid shaft or, for any other reason, close out-of-round tolerance referenced to a point on the gear housing (such as a flange, for instance) is required.

Shrink disc coupling

A shrink disc coupling (SSV) can transmit high torque from the non- grooved hub to the smooth shaft. The SSV is easily secured and released, using commercially available bolts. SSVs are the ideal supplement for shaft mount gears. The maximum transmittable torque for the selected shrink discs when fitted and mounted according to instructions is above the breakaway torque of the respective motors classified as standard (for classification of shrink disc sizes see chapter 11, 12, 13 "Additional dimensional drawings for Shrink disc coupling)

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Torque restraint

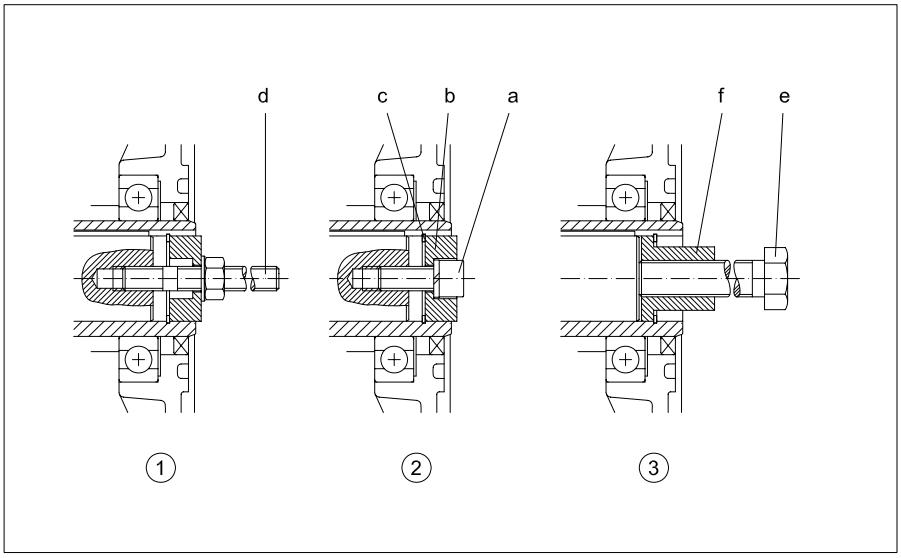
Shaft-mounted geared motors require a suitable torque restraint to resist the reaction torque. Shaft-mounted gears have cast torque arms as standard. Bevel gears and worm gears are available with bolt-on torque arms on request. The torque arm is screwed onto the front "V" on the side of the gear unit. It is always important to ensure that the torque arm does not create excessive constraining forces due to the driven shaft running untrue, for example. Excessive play can result in excessive shock torques in switching or reversing operations. Consequently, we recommend the use of pre-tensioned rubber damping elements. These rubber buffers are part of the scope of supply for designs with a torque arm (see chaper 11, 12., 13 dimensional drawings "Rubber buffer for torque restraint")

Notes for installing shaft mount gears with hollow shaft and keyway

(1) Attaching the hollow shaft to the customer shaft
Threaded bolt (d) is screwed into the end thread of the shaft to be driven. By tightening the nut, apply force to thrust plate (b) and locating ring (c) to draw the gear unit onto the shaft.

(2) Axial fastening
Pressure piece (b) is rotated and fitted against retaining ring (c) using fixing screw (a).

(3) Removing
Extractor (f) is fitted between the end face of the shaft and retainer ring (c). Tighten press-off screw (e) against the end of the shaft and pull the gear unit off the shaft. Manufacturing drawings for the required parts are available on request. These parts are not included in the scope of supply.



Detailed information on shaft-mounted gear units, bevel-gear units and worm-gear units is available (see chaper 11, 12., 13 dimensional drawings "Tools for fitting shaft-mounted gear with hollow shaft and keyway").

Gear ventilation

The lifetime of the gearbox lubricant increases the better it is protected from negative environmental influences. Should the oil level or the gearbox ratio cause a very high lubricant temperature, the gearbox will be supplied as standard with a breather plug. Either on request or for corresponding high ambient temperatures, all gearboxes from size 10 can be supplied with a breather plug.

For the position of the threaded plugs see chapter 5 theraded plugs.

Output shaft seals

All size 10 and larger gears are available with double seals for the output shaft on request and at extra cost. Double seals are particularly effective if the output shaft points down and as protection against external influences

Lubricants

The drives are shipped ready-filled with gear lubricant. Lubricated in this way, the gear units are suitable for ambient temperatures in the range -20°C to + 40°C. The quantity of lubricant is optimised for the desired installed position as is stated on the nameplate. The type of lubricant is stated in the Operating Instructions. Lubricants for other temperature ranges or special applications available on request.

Wear-protective EP gear oils as indicated in the following table have proven particularly effective:

	Lubricant type					
	Mineral Oil	Synthetic Oil				USDA H1 Oil
	ISO VG 220	ISO VG 68		ISO VG 220	ISO VG 460	ISO VG 220
Disposal No.	ASN13 02 05	ASN 13 02 06*	ASN 13 02 06	ASN 13 02 06	ASN 13 02 06	ASN 13 02 06*
Lubricant Manufacturer	Standard oil for gearboxes in the series **BF06-BF90 BG04-BG100 BK60-BK90**	Low temperature oil for gearboxes in the series **BF06-BF90 BG04-BG100**	**BK06-BK90 BM09-BM40 BS02-BS40**	Standard oil for gearboxes in the series **BS02-BS10 BK06-BK10 BM09-BM40** High temperature oil for gearboxes in the series **BS02-BS10 BK06-BK10 BF06-BF90 BG04-BG100 BK60-BK90 BM09-BM10**	Standard oil for gearboxes in the series **BS20-BS40 BK20-BK50 BM20-BM40** High temperature oil for gearboxes in the series **BS20-BS40 BK20-BK50 BM20-BM40**	Food and Beverage Industry Oil for gearboxes in the series **BF06-BF90 BG04-BG100 BK06-BK90 BM09-BM40 BS02-BS40**
AGIP	**BLASIA 220**					
ARAL	**DEGOL BMB220 DEGOL BG220**			**DEGOL GS220**	**DEGOL GS460**	
BECHEM RHUS	**STAROIL SMO220**					
BP	**ENERGOL GR-XP220**			**ENERSYN SG-XP 220**	**ENERSYN SG-XP 460**	
CASTROL	**ALPHA SP 220 ALPHA BMB 220 OPTIGEAR BM 220 TRIBOL 1100/220**	**Alphasyn T68**		**ALPHASYN PG 220 TRIBOL 800/220 ALPHASYN GS 220**	**ALPHASYN PG 460 TRIBOL 800/460 ALPHASYN 460**	**CASTROL OPTILEB GT 220 CASTOL TRIBOL FOOD-FROOF 1800/220**
CHEVRON	**GEARTEX EP-A SAE 85W-90 Meropa 220**		**Synlube WS 68**	**Synlube WS 220**	**Synlube WS 460**	**Chevron lubricating oils FM 220 (USA)**
FUCHS	**RENOLIN CLP 220 RENOLIN CLPF 220 SUPER**	**RENOLIN UNISYN CLP 68**	**RENOLIN PG 68**	**RENOLIN PG 220**	**RENOLIN PG 460**	
KLÜBER	**KLÜBEROIL GEM 1-220 N**		**KLÜBER-SYNTH GH6-80**	**KLÜBERSYNTH GH6-220**	**KLÜBERSYNTH GH6-460**	**KLÜBEROIL 4UH1-220N KLÜBERSYNTH UH1 6-220**
MOBIL	**MOBILGEAR 600 XP 220 MOBILUBE HD PLUS 80W-90**	**MOBIL SHC 626**		**GLYGOYLE 220 GLYGOYLE 30**	**GLYGOYLE 460**	
OEST	**Gearol C-LP 220**					
SHELL	**OMALA S2 G220 FALCON CLP 220**			**OMALA S4 WE 220**	**OMALA S4 WE 460**	**CASSIDA FLUID GL 220**
TOTAL	**CARTER EP 220**					**NEVASTANE SL220**
WINTERSHALL	**SRS ERSOLAN 220**					

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Important:
Synthetic gear oils of a Polyglykol base (e.g. PGLP…) must be disposed of separately to mineral oil as **Special Waste** .

So long as the ambient temperature does not fall below – 20 °C the international definition of the viscosity class at 40 °C according to ISO 3448 and DIN 51519 ISO the viscosity class VG220 (SAE90) is recommended according, in North America AGMA 5EP.

For lower temperatures it is recommended to use oils of a lower nominal viscosity with a corresponding better starting characteristic, for instance a PGLP with a nominal viscosity VG68 (SAE80) or AGMA 2EP respectively. These types of oil can already be necessary at a temperature around the freezing point, if the break away torque of a drive is reduced by some smooth starting device or if the motor has a relatively low power

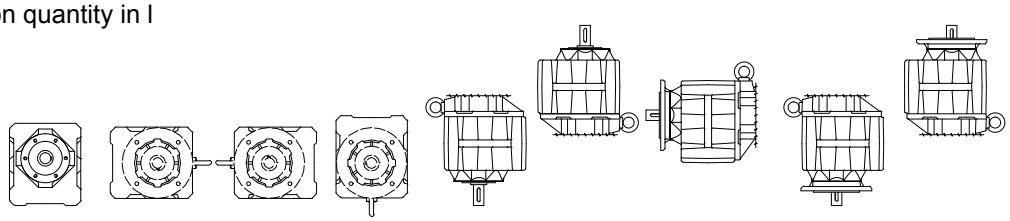
Lubricant quantities

The preferred quantity of lubricant for the planned type of installation is stated on the motor's rating plate (symbol "oil can"). When topping up care should be taken to ensure that, depending on the fitting position, gearwheels and rolling contact bearings positioned at the top are also properly oiled. In special versions the oil level mark should be noted. Information about the quantity of lubricant required for other types of installation can be obtained from the factory

Lubricant quantities, BG-series gears

Lubrication quantity in l

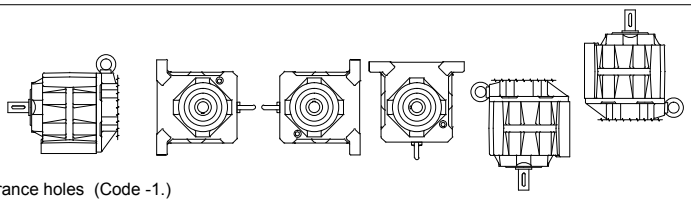
Gearbox type



BG06-BG100 (gear-housing with flange or foot)

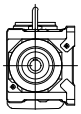
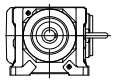
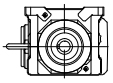
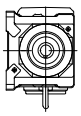
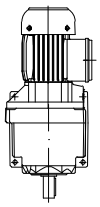
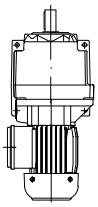
Flange (Code-2./Code-3./Code-4./Code-7.)
Foot with threads (Code-6.)

Foot with clearance holes (Code-9.)
[Completely machined (Code -8.)]

	H4	H1	H2	H3	H5	H6	B5	V1	V3
BG06-BG100 (Gearbox housing) cast-on-foot with clearance holes (Code -1.)									
	B3	B6	B7	B8	V5	V6			
BG04 ✳	-	0.03	0.03	0.03	-	-	0.03	0.05	0.05
BG04 ✳✳	0.05	0.05	0.05	0.05	0.1	0.05	-	-	-
BG05 ✳	-	0.05	0.05	0.05	-	-	0.05	0.08	0.08
BG05 ✳✳	0.08	0.08	0.08	0.08	0.16	0.08	-	-	-
BG06 ✳	-	0.08	0.08	0.08	-	-	0.08	0.15	0.15
BG06 ✳✳	0.12	0.12	0.12	0.12	0.24	0.15	-	-	-
BG10 ✳	0.65	0.65	0.65	0.85	1.05	0.85	0.65	1.05	0.85
BG10 ✳✳	0.45	0.45	0.45	0.6	0.75	0.6	-	-	-
BG15 ✳✳	0.4	0.4	0.4	0.35	0.62	0.55	-	-	-
BG20 ✳	0.8	0.8	0.8	1.1	1.4	1.1	0.8	1.4	1.1
BG20 ✳✳	0.6	0.6	0.6	1.0	1.15	0.9	-	-	-
BG30 ✳	1.0	1.0	1.0	1.7	2.4	1.6	1.0	2.4	1.6
BG30 ✳✳	1.0	1.0	1.0	1.7	2.3	1.7	-	-	-
BG40 ✳	1.7	1.7	1.7	2.5	3.5	2.1	1.7	3.5	2.1
BG40 ✳✳	1.7	1.7	1.7	2.5	3.5	2.1	-	-	-
BG50 ✳	3.0	3.0	3.0	4.5	5.5	3.3	3.0	5.5	3.3
BG50 ✳✳	3.0	3.0	3.0	4.5	5.5	3.3	-	-	-
BG60 ✳	5.5	5.5	5.5	7.0	10.9	6.4	5.5	10.9	6.4
BG60 ✳✳	5.5	5.5	5.5	7.0	10.9	6.4	-	-	-
BG70	6.5	6.5	6.5	8.0	13.5	9.0	6.5	13.5	9.0
BG80	11.0	11.0	11.0	11.0	22.5	15.0	11.0	22.5	15.0
BG90	19.0	19.0	19.0	19.0	40.0	26.0	19.0	40.0	26.0
BG100	35.0	35.0	55.0	50.0	66.0	50.0	35.0	66.0	50.0

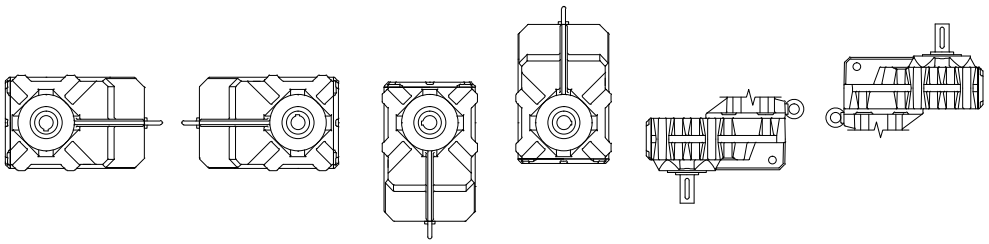
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Lubricant quantities, BG20-01R

Gear type	Lubrication quantity in l					
	 H4	 H1	 H2	 H3	 V5	 V6
BG20R	0.8	1.0	0.8	1.4	1.65	1.0

Lubricant quantities, BF-series gears

Lubrication quantity in l

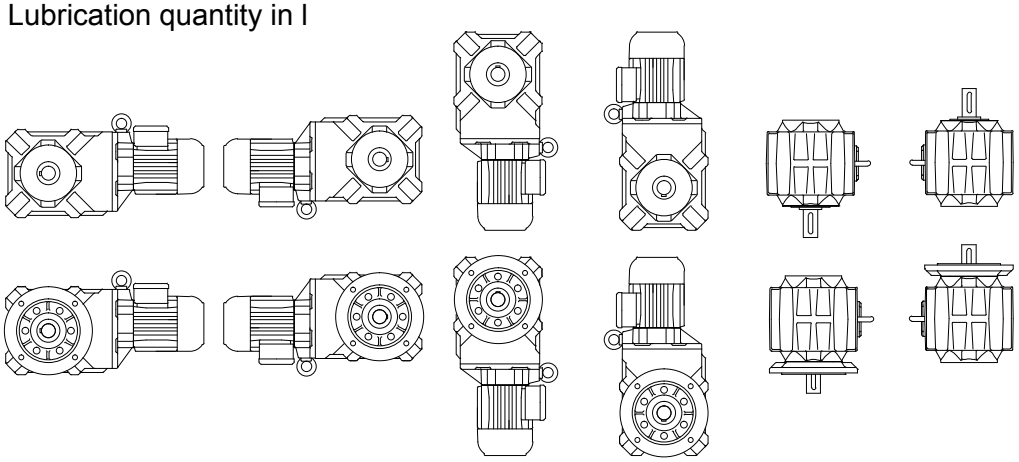


Gear type	H1	H2	H3	H4	V1	V2
BF06	0.25	0.25	0.25	0.37	0.35	0.3
BF10	0.85	0.85	0.85	1.1	1.45	1.5
BF20	1.3	1.3	1.3	1.7	2.2	2.25
BF30	1.7	1.7	1.7	2.2	3.2	3.0
BF40	2.7	2.7	2.7	3.5	4.9	4.8
BF50	3.8	3.8	3.8	5.0	6.7	6.7
BF60	6.7	6.7	6.7	9.0	12.3	12.0
BF70	12.2	12.2	12.2	16.0	24.2	21.8
BF80	17.0	17.0	17.0	21.0	32.2	27.5
BF90	32.0	32.0	32.0	41.0	62.0	53.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Lubricant quantities, BK-series gears

Lubrication quantity in l

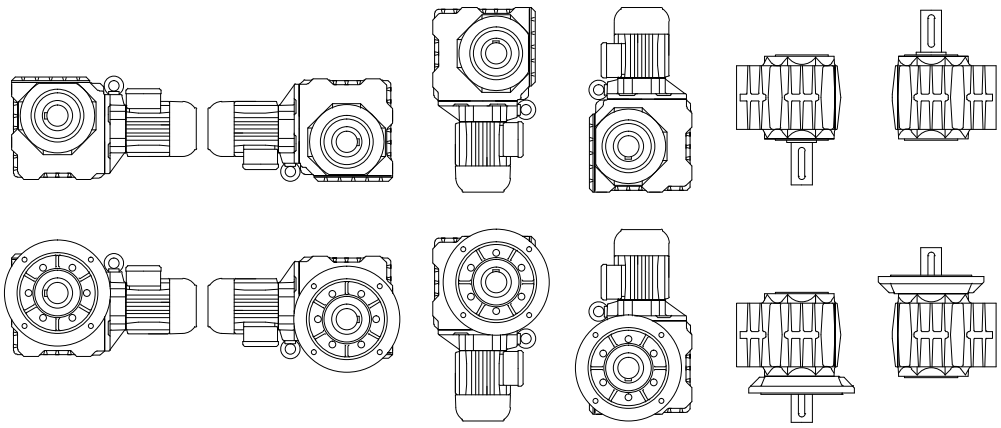


Gear box type	H1	H2	H3	H4	V1	V2
BK06	0.15	0.23	0.29	0.31	0.18	0.23
BK10	0.83	0.83	0.92	1.75	0.92	0.92
BK20	1.5	1.5	1.6	2.9	1.65	1.65
BK30	2.2	2.2	2.3	4.4	2.4	2.4
BK40	3.5	3.5	3.5	6.7	3.7	3.7
BK50	5.8	5.8	5.8	11.5	6.0	6.0
BK60	6.0	8.7	6.9	12.0	8.6	8.6
BK70	10.2	15.0	11.5	20.5	13.5	14.5
BK80	18.0	25.5	19.0	37.0	23.5	25.5
BK90	33.0	48.0	36.0	69.0	45.0	48.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Lubricant quantities, BS-series gears

Lubrication quantity in l

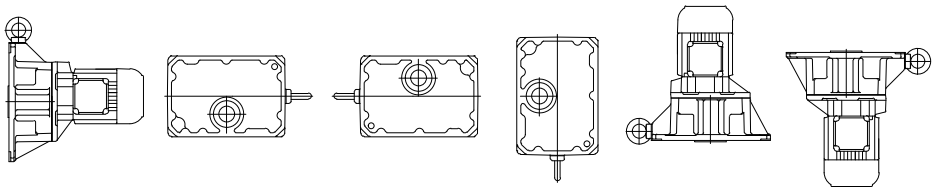


Gear type	H1	H2	H3	H4	V1	V2
BS03	0.17	0.17	0.17	0.17	0.17	0.17
BS06	0.24	0.36	0.24	0.45	0.24	0.24
BS10	0.9	1.3	0.9	1.6	0.9	0.9
BS20	1.5	2.1	1.5	2.7	1.5	1.5
BS30	2.2	3.0	2.2	3.8	2.2	2.2
BS40	3.5	4.7	3.5	6.0	3.5	3.5

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Lubricant quantities, pre-stage gears (Z)

Lubrication quantity in l



BF	H4	H1	H2	H3	V1	V2
BG	H4 B3/B5	H1 B6	H2 B7	H3 B8	V1 V5/H5	V3 V6/H6
BK und BS	H1	V1	V2	H2	H4	H3

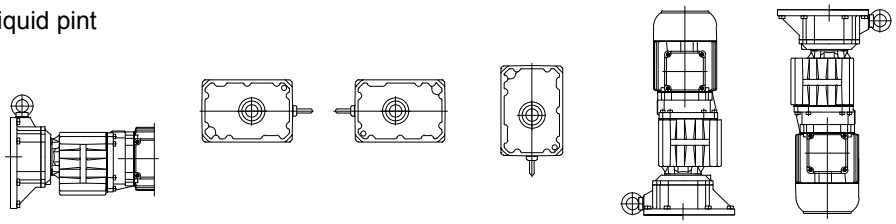
Gear type						
BG10Z BF10Z BK10Z BS10Z	0.10	0.05	0.12	0.07	0.16	0.07
BG20Z BF20Z BK20Z BS20Z	0.15	0.07	0.19	0.17	0.27	0.10
BG30Z BF30Z BK30Z BS30Z BM30Z	0.2*	0.10	0.35	0.22	0.35	0.19
BG40Z BF40Z BK40Z BS40Z BM40Z	0.32*	0.17	0.50	0.37	0.6	0.32
BG50Z BF50Z BK50Z	0.5	0.3	0.92	0.7	1.15	0.5
BG60Z BF60Z BK60Z	0.9	0.5	1.55	1.1	2.0	0.7
BG70Z BF70Z BK70Z BF80Z	1.2	0.6	1.8	1.6	2.4	1.4
BG80Z BF90Z BK80Z BG100Z	3.1	1.3	4.0	2.6	5.2	2.0
BG90Z BK90Z	4.2	1.5	5.4	3.5	7.7	3.0

Lubrication quantity for intermediate gear

Definition of the terminal box position

Terminal box position for intermediate gear
is similar to the main gearbox that means
Main gearbox BG,BF terminal box pos. I
-> intermediate gearbox terminal box pos. I
Main gearbox BK,BS terminal box pos. II
-> intermediate gearbox terminal box pos. II

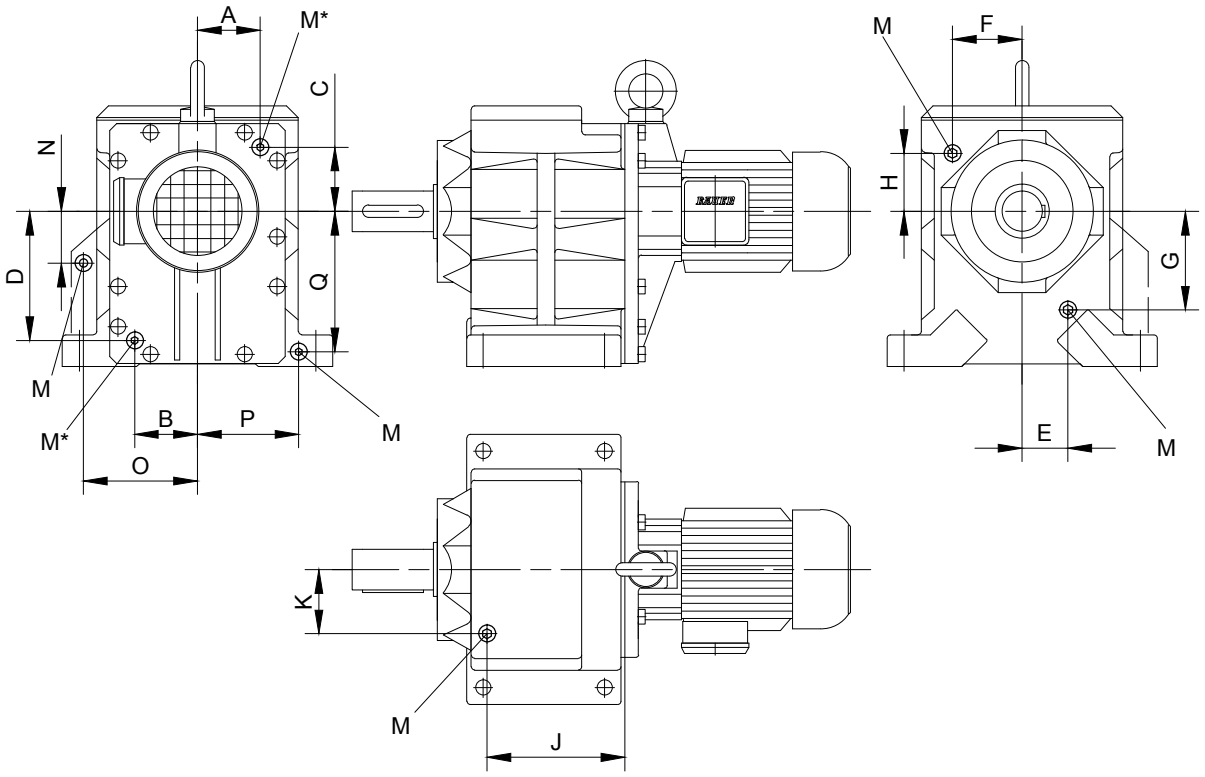
Lubrication quantity in liquid pint



Mounting position of main gearbox								
	BF BG	H4 H4 B3/B5	H1 H1 B6	H2 H2 B7	H3 H3 B8	V1 V1 V5/H5	V2 V3 V6/H6	
	BK und BS	H1	V1	V2	H2	H4	H3	
Standard position of KLK mounting position H1,H2,H3, B5,V1,V3 for mounting with screwed resp. casted flange		B5	H1	H2	H3	V1	V3	
Type designation of double gearbox combination								
BG10G06 BF10G06 BK10G06 BS10G06		0.08	0.08	0.08	0.08	0.15	0.15	
BG20G06 BF20G06 BK20G06 BS20G06		0.08	0.08	0.08	0.08	0.15	0.15	
BG30G06 BF30G06 BK30G06 BS30G06		0.08	0.08	0.08	0.08	0.15	0.15	
BG40G10 BF40G10 BK40G10 BS40G10		0.65	0.65	0.65	0.85	1.05	0.85	
BG50G10 BF50G10 BK50G10		0.65	0.65	0.65	0.85	1.05	0.85	
BG60G20 BF60G20 BK60G20		0.8	0.8	0.8	1.1	1.4	1.1	
BG70G20 BF70G20 BK70G20		0.8	0.8	0.8	1.1	1.4	1.1	
BG80G40 BF80G40 BK80G40		1.7	1.7	1.7	2.5	3.3	2.1	
BG90G50 BF90G50 BK90G50 BG100G50		3.0	3.0	3.0	4.5	5.5	3.3	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Position of threaded plugs, BG-series gears

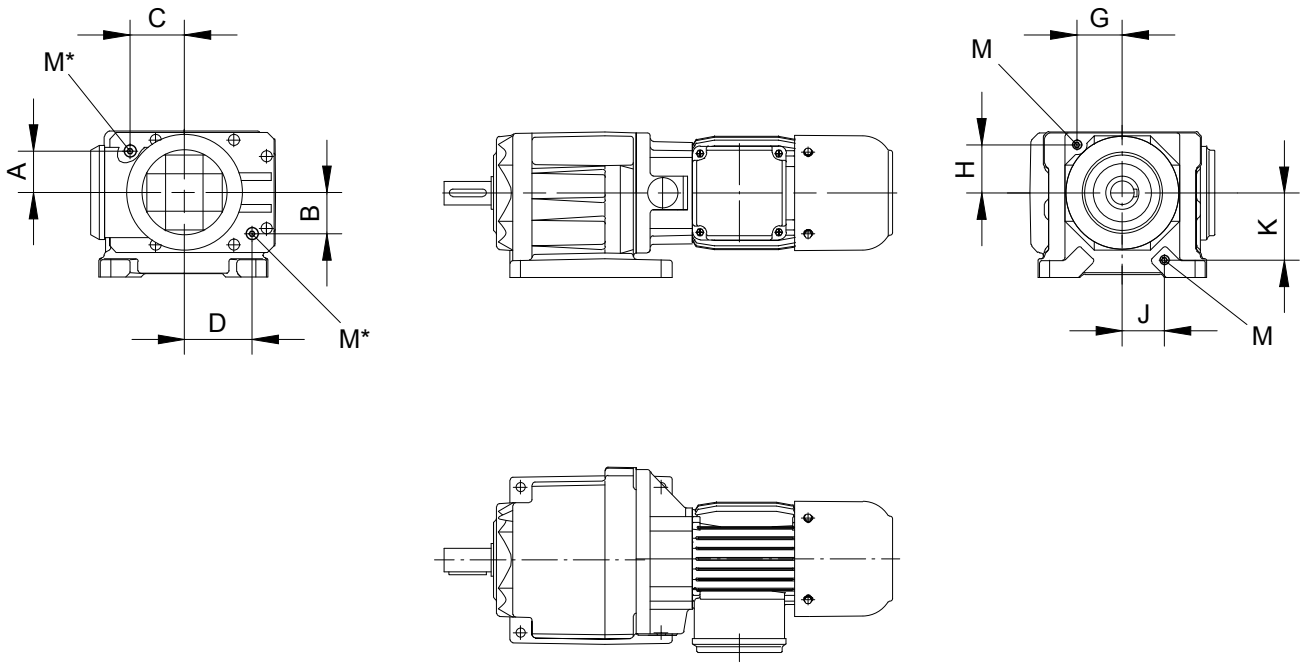


M = Plug according to DIN 908

Type	A	B	C	D	E	F	G	H	J	K	N	O	P	Q	M
BG10 Foot housing	see osition of the oil drain and filler plugs on the system cover	Tab.I-Tab.III size B10			33	42	48	41.5	-	-	-	-	-	-	M10x1
BG10 Attachment housing		Tab.I-Tab.III size B10			27	-	73	-	-	-	-	-	-	-	M10x1
BG15 Foot housing		Tab.I-Tab.III size B10			-	-	-	-	-	-	-	-	-	-	-
BG20 Foot housing		Tab.I-Tab.III size B20			-	47	-	52.5	-	-	-	-	-	-	M10x1
BG20 Attachment housing		Tab.I-Tab.III size B20			-	28	-	68	-	-	-	-	-	-	M10x1
BG30 Foot housing		Tab.I-Tab.III size B30			-	54	-	58	-	-	-	-	-	-	M10x1
BG30 Attachment housing		Tab.I-Tab.III size B30			-	58	-	48	-	-	-	-	-	-	M10x1
BG40 Foot housing		Tab.I-Tab.III size B40			-	75	-	48	-	-	-	-	-	-	M14x1.5
BG40 Attachment housing		Tab.I-Tab.III size B40			-	75	-	48	-	-	-	-	-	-	M14x1.5
BG50 Foot housing		Tab.I-Tab.III size B50			-	53	-	100	-	-	-	-	-	-	M14x1.5
BG50 Attachment housing		Tab.I-Tab.III size B50			-	53	-	100	-	-	-	-	-	-	M14x1.5
BG60 Foot housing		Tab.I-Tab.III size B60			-	70	-	119	-	-	-	-	-	-	M20x1.5
BG60 Attachment housing		Tab.I-Tab.III size B60			-	70	-	119	-	-	-	-	-	-	M20x1.5
BG70		Tab.I-Tab.III size B70			-	103	-	86	204	95	-	-	-	-	M20x1.5
BG80		Tab.I-Tab.III size B80			-	133	-	110	237	111	-	-	-	-	M20x1.5
BG90		Tab.I-Tab.III size B90			-	165	-	124	297	140	-	-	-	-	M24x1.5
BG100		Tab.I-Tab.III size B80			-	202	-	128	420	165	135	263	202	293	M24x1.5

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

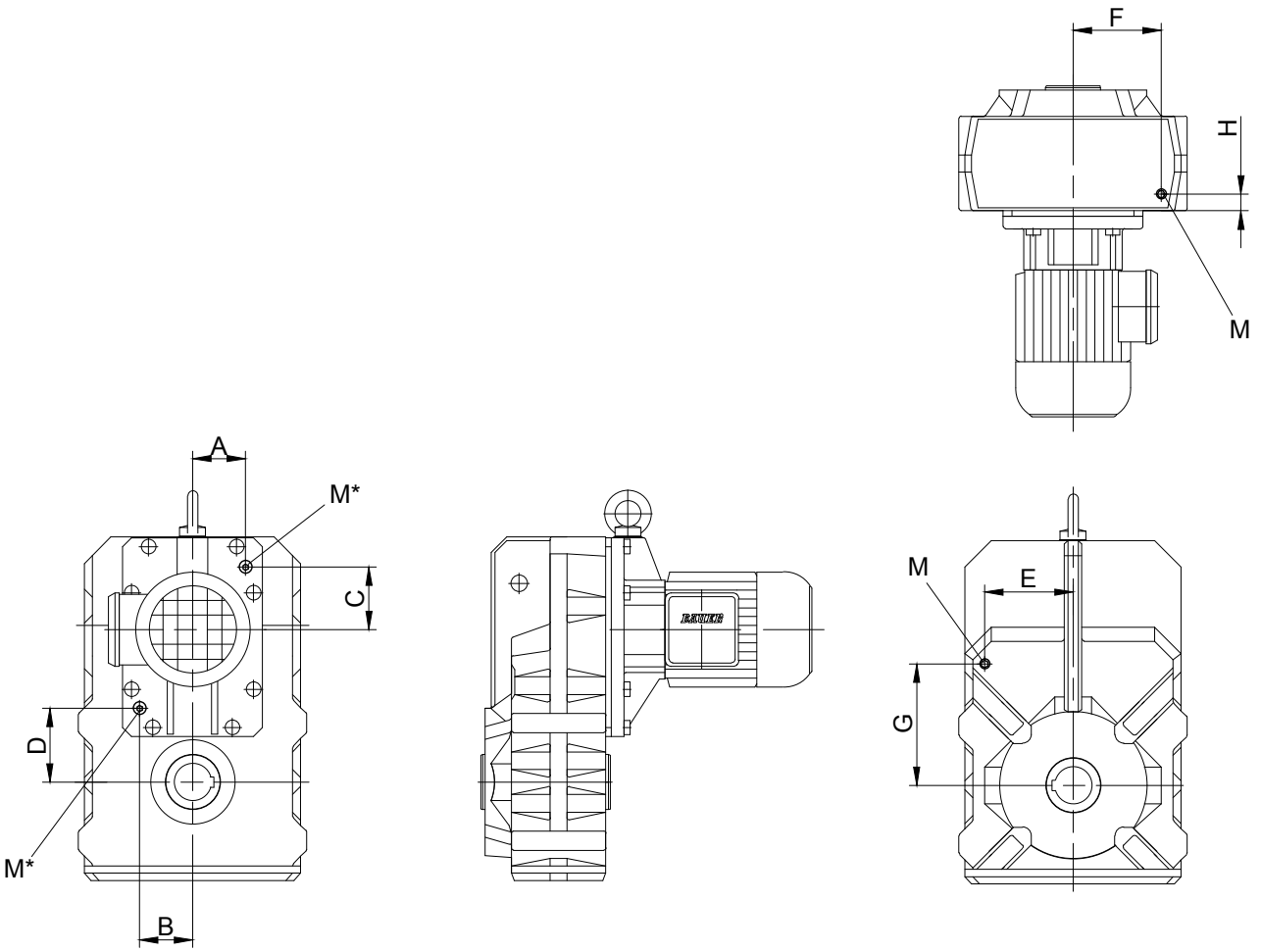
Position of threaded plugs, BG-20-01R



M = Plug according to DIN 908

Type	A	B	C	D	G	H	J	K	M
BG20-01R Rollerbed	see Position of the oil drain and filler plugs on the system cover Tab.I-Tab.III size B20				48.5	51.5	45	71.5	M10x1

Position of threaded plugs, BF-series gears



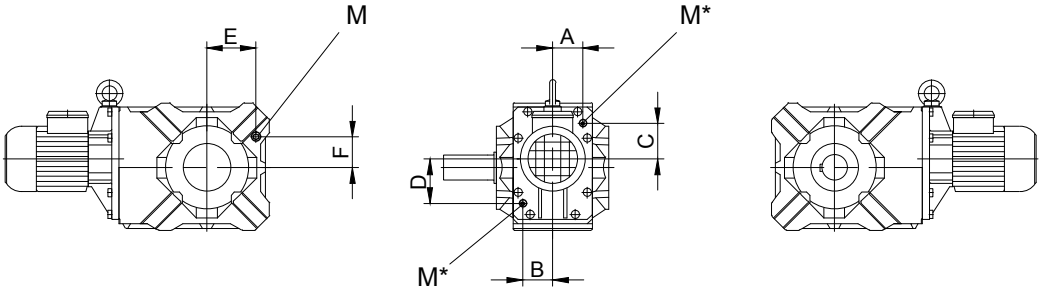
M = Plug according to DIN 908

Type	A	B	C	D	E	F	G	H	M
BF06	see position of the oil drain and filler plugs on the system cover		on request						
BF10			Tab.I - Tab.III size B.10		64	65	97	28	M10x1
BF20			Tab.I - Tab.III size B.20		77	70	115	30.5	M10x1
BF30			Tab.I - Tab.III size B.30		88	82	125	36.5	M10x1
BF40			Tab.I - Tab.III size B.40		100	86	141	33	M14x1.5
BF50			Tab.I - Tab.III size B.50		120	105	165	42.5	M14x1.5
BF60			Tab.I - Tab.III size B.60		140	145	200	50.5	M20x1.5
BF70			Tab.I - Tab.III size B.70		165	177	235	52.5	M20x1.5
BF80			Tab.I - Tab.III size B.70		145	148	255	123	M20x1.5
BF90			Tab.I - Tab.III size B.80		155	176	347.5	260	M24x1.5

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

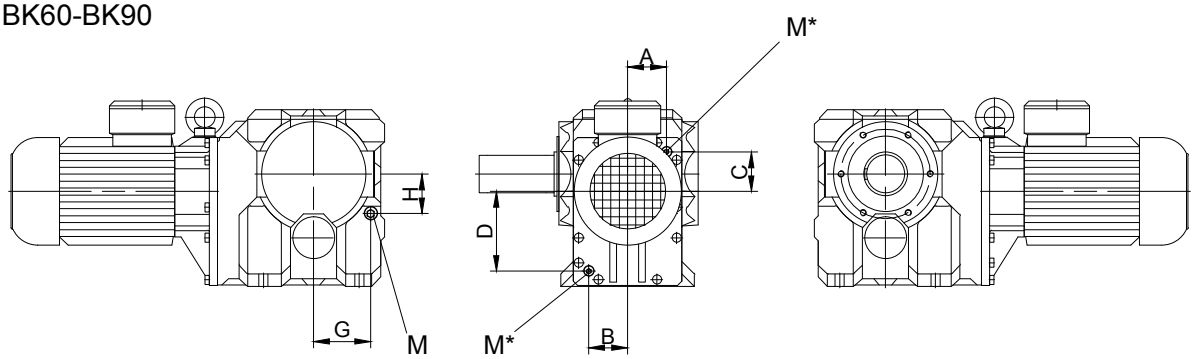
Position of threaded plugs, BK-series gears

BK10-BK50



5

BK60-BK90

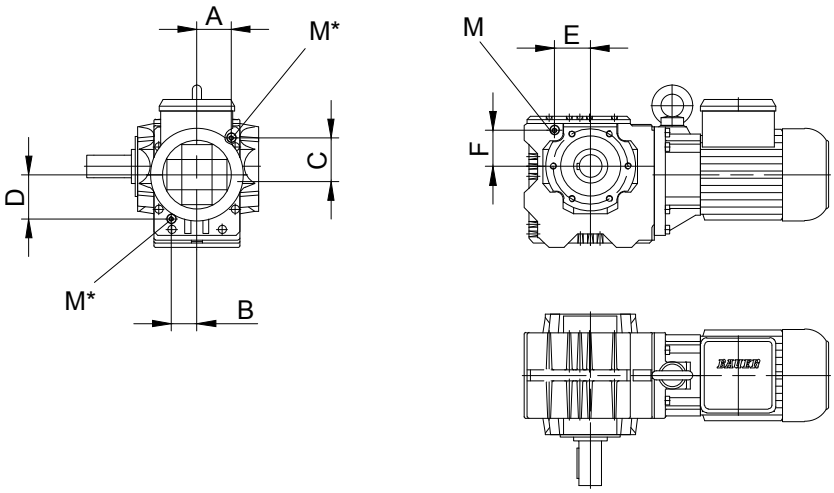


M = Plug according to DIN 908

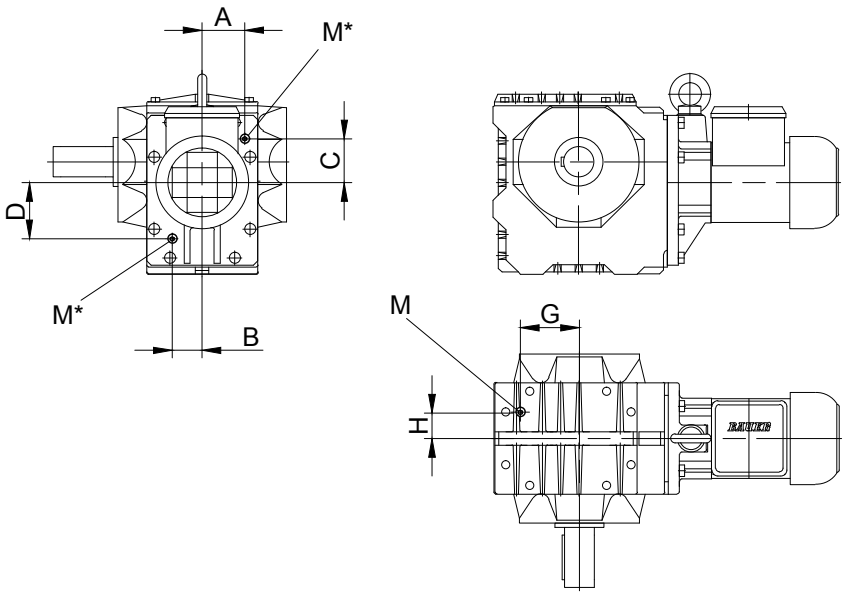
Type	A	B	C	D	E	F	G	H	M
BK06	see position of the oil drain and filler plugs on the system cover		on request						
BK10			Tab.I- Tab.III size B.10		62	32.5	-	-	M10x1
BK20			Tab.I- Tab.III size B.20		73.5	37.5	-	-	M10x1
BK30			Tab.I- Tab.III size B.30		80	43	-	-	**M10x1**
BK40			Tab.I- Tab.III size B.40		88	49	-	-	M14x1.5
BK50			Tab.I- Tab.III size B.50		118	74	-	-	M14x1.5
BK60			Tab.I- Tab.III size B.60		-	-	93	87	M20x1.5
BK70			Tab.I- Tab.III size B.70		-	-	137	95	M20x1.5
BK80			Tab.I- Tab.III size B.80		-	-	150	117	M20x1.5
BK90			Tab.I- Tab.III size B.90		-	-	208	135	M24x1.5

Position of threaded plugs, BS-series gears

BS10 - BS20



BS30 - BS40

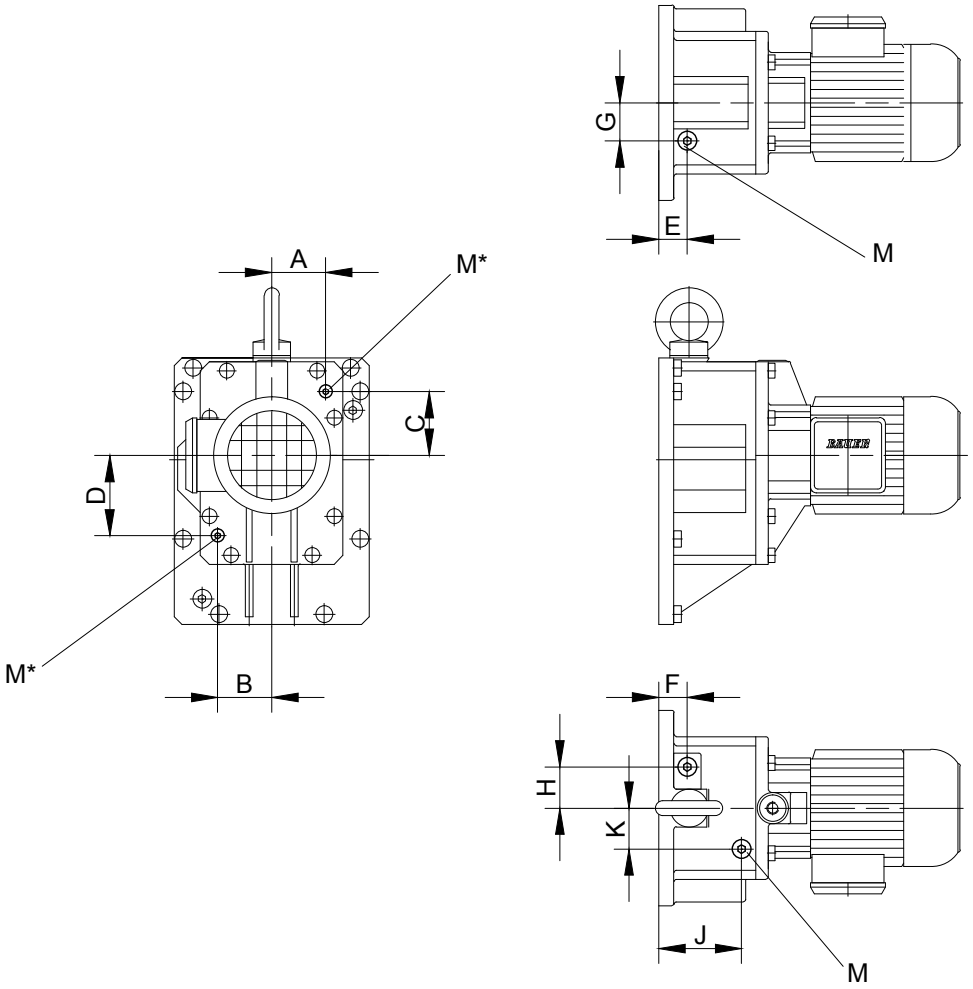


M = Plug according to DIN 908

Type	A	B	C	D	E	F	G	H	M
BS10	see position of the oil drain and filler plugs on the system cover		Tab.I-Tab.III size B.10		48	50	-	-	M10x1
BS20			Tab.I-Tab.III size B.20		59	63	-	-	M10x1
BS30			Tab.I-Tab.III size B.30		-	-	79	35	M10x1
BS40			Tab.I-Tab.III size B.40		-	-	93.5	41.5	M14x1.5

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Position of threaded plugs, pre-stage gears (Z)

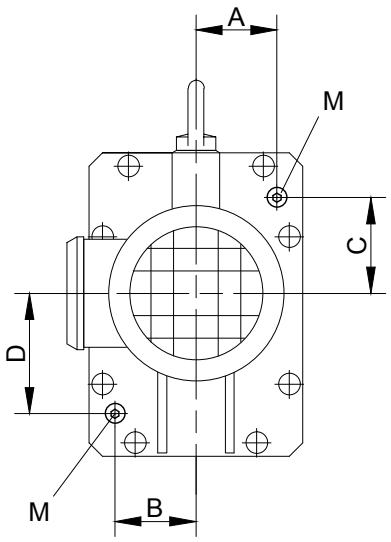


M = Plug according to DIN 908

Gear	A	B	C	D	E	F	G	H	J	K	M
BG10(Z);BK10(Z); BF10(Z);BS10(Z)	-	-	-	-	25	-	17.5	-	44	25	M10x1
BG20(Z);BK20(Z); BF20(Z);BS20(Z)	-	-	-	-	49	-	28.5	-	23.5	28	M10x1
BG30(Z);BK30(Z); BF30(Z): BS30(Z)	see position of the oil drain and filler plugs on the system cover	Tab.I u. II size B.10			-	24	-	30	-	-	M10x1
BG40(Z);BK40(Z); BF40(Z); BS40(Z)		Tab.I u. II size B.20			-	27.5	-	36.5	-	-	M14x1.5
BG50(Z);BK50(Z); BF50(Z)		Tab.I u. II size B.30			-		-	-	29	43	M14x1.5
BG60(Z);BK60(Z); BF60(Z)		Tab.I u. II size B.40			-	33	-	48	-	-	M20x1.5
BG70(Z);BK70(Z); BF70(Z);BF80(Z)		Tab.I u. II size B.50			-	38	-	55	-	-	M20x1.5
BG80(Z);BK80(Z); BF90(Z);BG100(Z)		Tab.I u. II size B.60			-	45	-	73	-	-	M20x1.5
BG90(Z);BK90(Z)		Tab.I u. II size B.70			-	45	-	62	-	-	M24x1.5

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Position of the drain plugs in the System Cover Design with Standard Geared Motor



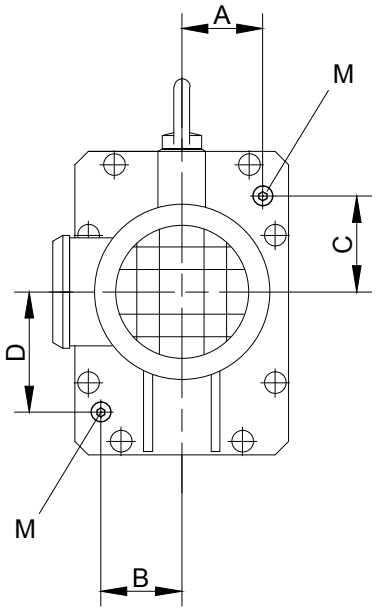
M = Plug according to DIN 908

Table I: Design with standard geared motor

Gear	Size	A	B	C	D	M
BG10(Z); BK10(Z); BF10(Z); BS10(Z)	S..08-S..09	36	34	43.5	59	M10x1
BG20(Z); BK20(Z); BF20(Z); BS20(Z)	S..08-S..09	44	44	58	72.5	M10x1
BG30(Z); BK30(Z); BF30(Z); BS30(Z)	S08-S..09	56.5	40	58.2	75	M10x1
BG40(Z); BK40(Z); BF40(Z); BS40(Z)	S..08-S..11	66	71	71	94	M14x1.5
BG50(Z); BK50(Z); BF50(Z)	S..08-S..11	72	74	85	109	M14x1.5
BG60(Z); BK60(Z); BF60(Z)	S..09-S..11	84	81	120	155	M20x1.5
BG70(Z); BK70(Z); BF70(Z); BF80(Z)	S..09-S..11	95	85	97	193	M20x1.5
BG80(Z); BK80(Z); BF90(Z); BG100(Z)	S..11	118	118	110	245	M20x1.5

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Position of the drain plugs in the System Cover
Design with pre-stage Z



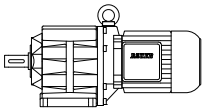
M = Plug according to DIN 908
Table III: Design with pre-stage Z

Gear	A	B	C	D	M
B.10	38	39.5	44	61.5	M10x1
B.20	44	44	58	72	M10x1
B.30	59	42	58.2	77	M10x1
B.40	66	71	71	96	M14x1.5
B.50	72	73	85	111	M14x1.5
B.60	85	81	120	192	M20x1.5
B.70	95	95	97	193	M20x1.5
B.80	118	118	110	245	M20x1.5
B.90	139	139	124	302	M24x1.5

Position of the drain plugs for BG, BK, BS and BF

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

6



	Page
BG-series helical-geared motors Selection	**71-100**

Description of helical-geared units
- Sizes
- Bauer service factors (f_B) for helical-geared motors
- Continuous operation without switching frequency Z ≤1/h
- Switching duty
- Bauer service factor
- Explanation of shock classification
- Key to abbreviations
- Selection tables, helical-geared motors

Selection - helical geared motors 1500 $^1/_{min}$
Selection - helical geared motors 3000 $^1/_{mi}$

Sizes

Bauer BG-series helical-geared motors are available in 13 standard sizes with torques from 20 Nm to 18,500 Nm. Higher torques are available on request. The geared unit is accommodated in a sturdy cast housing.

Bauer service factors (f_B) for helical- geared motors

Of the numerous factors influencing the total loading of a geared unit, the most important include:

- Mean torque (rated torque)
- Daily operating hours
- Severity of torque peaks (shock classification)
- Frequency of torque peaks (switching duty)

These factors can be represented in a simplified and practical manner by *service factors*. The tables and explanations below aim to provide an objective description of the *shock classification*, rather than a classification of the driven machinery. Experience has shown that, in addition to the torque shocks caused by the driven machinery (M_x/M_N), above all the power transmission components (clutches, chains etc.) plus the mass ratios play a decisive role in this.

See Bauer special imprint SD32 for more information (available on request).

Continuous operation without switchingfrequency Z ≤1/h

Factor f_1 for shock classification and operating time

Shock classification	Operating hours per day t_d	>4 h	>8 h	>16 h
		≤8 h	≤16 h	≤24 h
I		0,8	1,0	1,2
II		1,05	1,25	1,45
III		1,45	1,55	1,7

Switching duty

Factor f_2 for shock classification and switching frequency

Switching frequency in single-shift operation t_d ≤8 h/d

Shock classification	1 <Z ≤100	100 <Z ≤1000	1000 <Z
I	0,95	1,1	1,15
II	1,2	1,35	1,4
III	1,55	1,6	1,6

Switching frequency in multiple-shift operation t_d >8 h/d

Shock classification	1 <Z ≤100	100 <Z ≤1000	1000 <Z
I	1,3	1,45	1,5
II	1,5	1,6	1,65
III	1,75	1,8	1,8

Bauer service factor

Bauer service factor $f_B = f_1$ or $f_B = f_2$

For example: Shock classification II for Z = 100 switching operations per hour and multiple-shift operation yields a service factor $f_B = f_2 = 1.5$

Explanation of shock classification

Shock classification I:
Uniform without shock loads. All the following requirements must be satisfied:
- FI ≤1,3
- M_x/M_N ≤1,0
- Shock-absorbing power transmission components (e.g. highly resilient, zero-play coupling, φ N≥ 5°)

Shock classification II:
Moderate shock loads. At least one of the following conditions applies:
- 1,3 <FI ≤4
- 1 <M_x/M_N ≤1,6
- Shock-neutral power transmission components (e.g. gear wheels, zero- play rigid coupling or resilient coupling with φ N <5°)

Shock classification III:
Heavy shock loads. At least one of the following conditions applies:
- FI >4
- 1,6 <M_x/M_N ≤2,0
- Shock-amplifying power transmission components (e.g. coupling with play or chain drive)

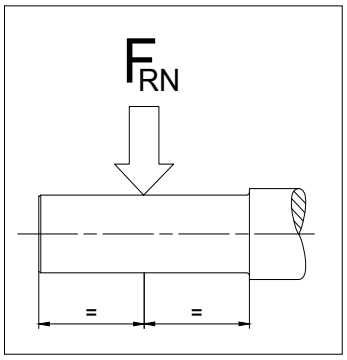
Key to abbreviations

Z	Switching duty number of switching operations per hour
t_d	Daily operating time in hours (h/d)
FI	Factor of inertia FI = $(J_{ext} + J_{rot})/J_{rot}$
J_{ext}	Mass moment of inertia of the machine to be driven, in relation to the motor's rotor shaft (kgm^2)
J_{rot}	Mass moment of inertia of the motor rotor (kgm^2)
M_x	Highest impact torque above the static torque which can occur during normal operation or in emergency situations
M_N	Required static load torque for the application
M_x/M_N	Relative torque - Factor
φ_N	Torsional offset of the resilient coupling under rated torque

Selection tables, helical-geared motors

Key to abbreviations

P	Rated output Power
n_2	Rated speed of the output shaft
i	Gear reduction ratio
M_2	Rated torque at the output shaft
f_B	Bauer service factor
F_{RN}	Maximum permissible radial force with a standard solid shaft (Code -.1 and -.7)
F_{RV}	Maximum permissible radial force with reinforced bearings in each case with standard solid shaft (Code -.1 and -.7)



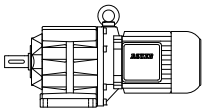
Use the selection tables to determine the size of geared motor required. The codes clearly define the Type of gear (see chapter 10 "dimensional drawings, helical-geared motors").

The torques marked (*) are maximum permissible torques for service factor f_B=1,0.

Motor power overload protection
Motor-power ratings, particularly in conjunction with four-stage and multi-stage gear units, are more than ample in some instances. Consequently, and in much the same way as with low-power motors, rated current is not a measure of gear loading and cannot be used to protect the gear unit against overloading. It is advisable to provide gears at risk from excessive load or blockage with a protective mechanism (e. g., slip clutch, slip hub, shear pin or an alternative).

M_1 = 4,75 Nm

n_1 = 1500 $^1/_{min}$

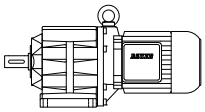


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
530	18,3	BG06-../S08MA4	53	177	350	530	630	14,1	15,7	18,3	18,3	18,3	**0,98**	2,82	16	470	
395	24,5		39,5	132	260	395	475	18,8	21	24,5	24,5	24,5	**0,81**	3,78	16	520	
435	22	BG10-../S08MA4	43,5	146	290	435	520	17,1	19,1	22	22	22	**2,8**	3,42	16	630	880.0
340	28		34	114	225	340	410	21,5	24	28	28	28	**2,4**	4,36	16	650	910.0
280	34,5		28	93	187	280	335	26,5	29,5	34,5	34,5	34,5	**2,2**	5,34	16	620	910.0
220	44		22	73	147	220	265	33,5	37,5	44	44	44	**1,8**	6,78	16	660	920.0
185	52		18,5	61	123	185	220	40	45	52	52	52	**1,7**	8,07	16	660	920.0
160	60		16	53	107	160	192	46,5	52	60	60	60	**1,6**	9,33	16	950	1330.0
145	67		14,5	48	96	145	174	51	57	67	67	67	**1,5**	10,34	16	1000	1400.0
125	77		12,5	41,5	83	125	151	59	66	77	77	77	**1,4**	11,92	16	1030	1440.0
113	85		11	37,5	75	113	136	66	73	85	85	85	**1,3**	13,21	16	1070	1490.0
102	94		10	34	68	102	123	72	81	94	94	94	**1,2**	14,58	16	1100	1540.0
92	104		9,2	30,5	61	92	111	80	90	104	104	104	**1,1**	16,15	16	1140	1590.0
81	120		8,1	27	54	81	97	92	103	120	120	120	**1,0**	18,51	16	1210	1690.0
73	133		7,3	24	48,5	73	87	102	114	133	133	133	**0,9**	20,51	16	1290	1800.0
68	143		6,8	22,5	45	68	81	110	123	143	143	143	**0,84**	22,04	16	1330	1860.0
230	42	BG20-../S08MA4	23	77	154	230	275	32	36	42	42	42	**2,9**	6,48	19	2250	
187	52		18,5	62	124	187	220	40	44,5	52	52	52	**2,6**	8,02	19	2500	
180	53		18	60	120	180	215	41	46	53	53	53	**2,3**	8,29	19	2250	
168	57		16,5	56	112	168	200	44,5	49,5	57	57	57	**2,5**	8,91	19	2600	
155	62		15,5	51	103	155	186	48	54	62	62	62	**1,9**	9,65	19	2250	
142	68		14	47	94	142	170	52	59	68	68	68	**2,2**	10,54	19	2700	
128	76		12,5	42,5	85	128	153	58	65	76	76	76	**2,1**	11,71	19	2800	
113	85		11	37,5	75	113	136	66	73	85	85	85	**1,9**	13,21	19	2900	
102	95		10	34	68	102	122	73	82	95	95	95	**1,8**	14,67	19	3050	
96	101		9,6	32	64	96	115	77	87	101	101	101	**1,7**	15,58	19	3100	
86	112		8,6	28,5	57	86	103	86	96	112	112	112	**1,6**	17,31	19	3200	
75	129		7,5	25	50	75	90	99	111	129	129	129	**1,5**	19,95	19	3350	
67	144		6,7	22,5	45	67	81	110	124	144	144	144	**1,4**	22,16	19	3500	
64	150		6,4	21,5	43	64	77	116	130	150	150	150	**1,3**	23,22	19	3550	
58	167		5,8	19	38,5	58	69	128	144	167	167	167	**1,2**	25,79	19	3700	
53	181		5,3	17,5	35,5	53	64	139	155	181	181	181	**1,1**	27,85	19	3800	
48	200		4,8	16	32	48	58	154	173	200	200	200	**0,99**	30,94	19	4000	
45	215		4,5	15	30	45	54	166	186	215	215	215	**0,92**	33,33	19	4100	
40,5	240		4,0	13,5	27	40,5	48,5	185	205	240	240	240	**0,83**	37,02	19	4300	
98	99	BG30-../S08MA4	9,8	32,5	65	98	117	76	85	99	99	99	**3,0**	15,27	23	3450	
87	110		8,7	29	58	87	105	85	95	110	110	110	**2,7**	17,06	23	3700	
79	123		7,9	26	52	79	95	94	106	123	123	123	**2,4**	18,93	23	4100	
75	129		7,5	25	50	75	90	99	111	129	129	129	**2,3**	19,99	23	4200	
67	144		6,7	22,5	45	67	81	110	124	144	144	144	**2,1**	22,18	23	4600	
58	165		5,8	19,5	39	58	70	127	142	165	165	165	**1,8**	25,45	23	4850	
53	183		5,3	17,5	35	53	63	141	158	183	183	183	**1,6**	28,24	23	5100	
50	193		5,0	16,5	33,5	50	60	149	167	193	193	193	**1,5**	29,83	23	5200	
45	215		4,5	15	30	45	54	165	185	215	215	215	**1,4**	33,09	23	5400	
42,5	225		4,2	14	28	42,5	51	175	196	225	225	225	**1,3**	35,17	23	5500	
38	250		3,8	12,5	25,5	38	46	195	215	250	250	250	**1,2**	39,02	23	5800	
35	275		3,5	11,5	23,5	35	42	210	235	275	275	275	**1,1**	42,46	23	5900	
31,5	305		3,1	10,5	21	31,5	38	235	260	305	305	305	**0,98**	47,11	23	6000	
28,5	340		2,8	9,5	19	28,5	34	260	290	340	340	340	**0,88**	52,44	23	6000	
68	143	BG40-../S08MA4	6,8	22,5	45	68	81	110	123	143	143	143	**3,0**	22,02	38	6000	
64	152		6,4	21	42,5	64	76	117	131	152	152	152	**2,8**	23,43	38	6200	
57	169		5,7	19	38	57	69	130	145	169	169	169	**2,5**	26,01	38	6500	
51	190		5,1	17	34	51	61	146	164	190	190	190	**2,2**	29,34	38	6800	
46	210		4,6	15	30,5	46	55	162	182	210	210	210	**2,0**	32,57	38	7000	
43,5	220		4,3	14,5	29	43,5	52	171	191	220	220	220	**1,9**	34,2	38	7000	
39,5	245		3,9	13	26	39,5	47	189	210	245	245	245	**1,7**	37,96	38	7000	
37	260		3,7	12	24,5	37	44,5	200	225	260	260	260	**1,6**	40,19	38	7000	
33,5	290		3,3	11	22	33,5	40	220	245	290	290	290	**1,5**	44,62	38	7000	
31	310		3,1	10	20,5	31	37	240	270	310	310	310	**1,4**	48,36	38	7000	
27,5	345		2,7	9,3	18,5	27,5	33,5	265	300	345	345	345	**1,2**	53,69	38	7000	
25	385		2,5	8,3	16,5	25	30	295	330	385	385	385	**1,1**	59,64	38	7000	
22,5	430		2,2	7,5	15	22,5	27	330	370	430	430	430	**0,99**	66,2	38	7000	
22	440	BG40Z-../S08MA4	2,2	7,3	14,5	22	26,5	335	375	440	440	440	**0,97**	67,74	42	7000	
19,5	485		1,9	6,6	13	19,5	23,5	375	420	485	485	485	**0,87**	75,19	42	7000	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 4,75 Nm

n_1 = 1500 $^1/_{min}$

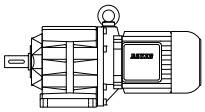


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
45,5	210	BG50-../S08MA4	4,5	15	30	45,5	54	164	183	210	210	210	3,0	32,84	46	8700	
39,5	245		3,9	13	26	39,5	47,5	189	210	245	245	245	2,6	37,89	46	10000	
35,5	270		3,5	11,5	23,5	35,5	42,5	210	235	270	270	270	2,3	42	46	10000	
31,5	305		3,1	10,5	21	31,5	38	235	260	305	305	305	2,1	47,02	46	10000	
28,5	335		2,8	9,5	19	28,5	34,5	260	290	335	335	335	1,9	52,12	46	10000	
25	385		2,5	8,4	16,5	25	30	295	330	385	385	385	1,6	59,42	46	10000	
22,5	425		2,2	7,5	15	22,5	27	325	365	425	425	425	1,5	65,86	46	10000	
20,5	465	BG50Z-../S08MA4	2,0	6,9	13,5	20,5	25	355	400	465	465	465	1,3	71,97	51	10000	
18,5	510		1,8	6,2	12,5	18,5	22,5	395	445	510	510	510	1,2	79,78	51	10000	
15,5	620		1,5	5,2	10	15,5	18,5	475	530	620	620	620	1,0	95,58	51	10000	
14	680		1,4	4,7	9,4	14	16,5	530	590	680	680	680	0,91	106	51	10000	
21,5	440	BG60Z-../S08MA4	2,1	7,3	14,5	21,5	26	340	380	440	440	440	2,7	68,32	96	16000	
19,5	490		1,9	6,6	13	19,5	23,5	375	420	490	490	490	2,4	75,71	96	16000	
16	590		1,6	5,4	10,5	16	19,5	455	510	590	590	590	2,0	91,09	96	16000	
14,5	650		1,4	4,9	9,9	14,5	17,5	500	560	650	650	650	1,8	101	96	16000	
12,5	770		1,2	4,1	8,3	12,5	15	590	660	770	770	770	1,5	119,2	96	16000	
11	850		1,1	3,7	7,5	11	13,5	660	730	850	850	850	1,4	132,1	96	16000	
9,4	1020		0,9	3,1	6,3	9,4	11	790	880	1020	1020	1020	1,2	158	96	16000	
8,5	1130		0,85	2,8	5,7	8,5	10	870	980	1130	1130	1130	1,1	175,1	96	16000	
7,3	1320		0,7	2,4	4,8	7,3	8,7	1020	1140	1320	1320	1320	0,9	204,6	96	16000	
6,6	1470		0,65	2,2	4,4	6,6	7,9	1130	1260	1470	1470	1470	0,81	226,7	96	16000	
5,8	1660	BG70G20-../S08MA4	0,55	1,9	3,9	5,8	7,0	1270	1430	1660	1660	1660	1,5	255,5	133	20000	
5,4	1790		0,5	1,8	3,6	5,4	6,5	1380	1540	1790	1790	1790	1,4	276,7	133	20000	
4,5	2100		0,45	1,5	3,0	4,5	5,4	1640	1830	2100	2100	2100	1,2	328,4	133	20000	
3,8	2500		0,38	1,2	2,5	3,8	4,6	1930	2150	2500	2500	2500	0,99	387,6	133	20000	
3,5	2700		0,35	1,1	2,3	3,5	4,3	2050	2300	2700	2700	2700	0,92	417,8	133	20000	
12	800	BG70Z-../S08MA4	1,2	4,0	8,0	12	14,5	620	690	800	800	800	2,9	124	136	20000	
10	950		1,0	3,3	6,7	10	12	730	820	950	950	950	2,4	147,2	136	20000	
9,1	1060		0,9	3,0	6,1	9,1	10,5	810	910	1060	1060	1060	2,2	163,8	136	20000	
7,7	1260		0,75	2,5	5,1	7,7	9,2	970	1080	1260	1260	1260	1,8	194,4	136	20000	
7,1	1360		0,7	2,3	4,7	7,1	8,5	1050	1170	1360	1360	1360	1,7	210,5	136	20000	
6,0	1620		0,6	2,0	4,0	6,0	7,2	1240	1390	1620	1620	1620	1,4	249,8	136	20000	
5,9	1630	BG80G40-../S08MA4	0,55	1,9	3,9	5,9	7,1	1260	1410	1630	1630	1630	2,8	252,3	215	26000	
5,3	1830		0,5	1,7	3,5	5,3	6,3	1410	1580	1830	1830	1830	2,5	282,8	215	26000	
4,7	2000		0,47	1,5	3,1	4,7	5,7	1570	1750	2000	2000	2000	2,3	314	215	26000	
4,1	2300		0,41	1,3	2,7	4,1	5,0	1800	2000	2300	2300	2300	2,0	360	215	26000	
3,7	2550		0,37	1,2	2,5	3,7	4,5	1990	2200	2550	2550	2550	1,8	399,8	215	26000	
3,4	2800		0,34	1,1	2,2	3,4	4,1	2150	2400	2800	2800	2800	1,6	436,2	215	26000	
3,0	3100		0,3	1,0	2,0	30	3,7	2400	2700	3100	3100	3100	1,5	484,3	215	26000	
2,6	3700		0,26	0,85	1,7	2,6	3,1	2850	3200	3700	3700	3700	1,2	572	215	26000	
2,2	4250		0,22	0,75	1,5	2,2	2,7	3250	3650	4250	4250	4250	1,1	657,8	215	26000	
2,0	4700		0,2	0,65	1,3	2,0	2,4	3650	4050	4700	4700	4700	0,97	730,3	215	26000	
1,8	5300		0,18	0,6	1,2	1,8	2,2	4050	4550	5300	5300	5300	0,87	817,4	215	26000	
2,9	3250	BG90G50-../S08MA4	0,29	0,95	1,9	2,9	3,5	2500	2800	3250	3250	3250	2,8	504,7	324	65000	
2,5	3800		0,25	0,8	1,6	2,5	3,0	2900	3250	3800	3800	3800	2,4	588,8	324	65000	
2,3	4150		0,23	0,75	1,5	2,3	2,7	3200	3600	4150	4150	4150	2,2	644,7	324	65000	
2,1	4600		0,21	0,7	1,4	2,1	2,5	3550	3950	4600	4600	4600	2,0	714,2	324	65000	
1,6	5700		0,16	0,55	1,1	1,6	2,0	4400	4900	5700	5700	5700	1,6	883,7	324	65000	
1,2	7600		0,12	0,42	0,85	1,2	1,5	5800	6500	7600	7600	7600	1,2	1174	324	65000	
1,1	8400		0,11	0,38	0,75	1,1	1,3	6500	7200	8400	8400	8400	1,1	1301	324	65000	
0,9	10200		0,09	0,31	0,6	0,9	1,1	7900	8800	10200	10200	10200	0,89	1583	324	65000	
0,85	11400		0,085	0,28	0,55	0,85	1,0	8700	9800	11400	11400	11400	0,81	1756	324	65000	
1,5	6300	BG100G50-../S08MA4	0,15	0,5	1,0	1,5	1,8	4850	5400	6300	6300	6300	2,9	976,1	512	90000	
1,4	6700		0,14	0,47	0,95	1,4	1,7	5200	5800	6700	6700	6700	2,7	1043	512	90000	
1,2	7800		0,12	0,41	0,8	1,2	1,4	6000	6700	7800	7800	7800	2,4	1204	512	90000	
1,0	9300		0,1	0,34	0,65	1,0	1,2	7200	8000	9300	9300	9300	2,0	1444	512	90000	
0,85	10900		0,085	0,29	0,55	0,85	1,0	8300	9300	10900	10900	10900	1,7	1678	512	90000	
0,8	12100		0,08	0,26	0,5	0,8	0,95	9300	10400	12100	12100	12100	1,5	1867	512	90000	
0,65	14000		0,065	0,23	0,46	0,65	0,8	10700	12000	14000	14000	14000	1,3	2154	512	90000	
0,55	17200		0,055	0,18	0,37	0,55	0,65	13200	14800	17200	17200	17200	1,1	2656	512	90000	
0,5	19100		0,05	0,16	0,33	0,5	0,6	14700	16500	19100	19100	19100	0,96	2952	512	90000	
0,45	21000		0,045	0,15	0,3	0,45	0,5	16400	18400	21000	21000	21000	0,87	3286	512	90000	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 9,55 Nm

n_1 = 1500 $^1/_{min}$

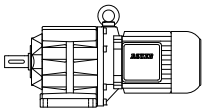


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
590	24	BG10-../S08LA4	59	198	395	590	710	16,3	20	24	24	24	**2,3**	2,52	18	560	790.0
435	32,5		43,5	146	290	435	520	22	27	32,5	32,5	32,5	**1,9**	3,42	18	630	880.0
340	41,5		34	114	225	340	410	28	34,5	41,5	41,5	41,5	**1,6**	4,36	18	650	910.0
280	50		28	93	187	280	335	34,5	42,5	50	50	50	**1,5**	5,34	18	620	910.0
220	64		22	73	147	220	265	44	54	64	64	64	**1,3**	6,78	18	660	920.0
185	77		18,5	61	123	185	220	52	64	77	77	77	**1,1**	8,07	18	660	920.0
160	89		16	53	107	160	192	60	74	89	89	89	**1,1**	9,33	18	950	1330.0
145	98		14,5	48	96	145	174	67	82	98	98	98	**1,0**	10,34	18	1000	1400.0
125	113		12,5	41,5	83	125	151	77	95	113	113	113	**0,92**	11,92	18	1030	1440.0
113	126		11	37,5	75	113	136	85	105	126	126	126	**0,87**	13,21	18	1070	1490.0
102	139		10	34	68	102	123	94	116	139	139	139	**0,82**	14,58	18	1100	1540.0
450	31,5	BG20-../S08LA4	45	150	300	450	540	21,5	26,5	31,5	31,5	31,5	**2,9**	3,33	20	1830	
340	41,5		34	114	225	340	410	28	35	41,5	41,5	41,5	**2,5**	4,38	20	1990	
270	52		27	91	182	270	325	35,5	43,5	52	52	52	**2,2**	5,49	20	2100	
230	61		23	77	154	230	275	42	51	61	61	61	**2,0**	6,48	20	2250	
187	76		18,5	62	124	187	220	52	64	76	76	76	**1,8**	8,02	20	2500	
180	79		18	60	120	180	215	53	66	79	79	79	**1,5**	8,29	20	2250	
168	85		16,5	56	112	168	200	57	71	85	85	85	**1,7**	8,91	20	2600	
155	92		15,5	51	103	155	186	62	77	92	92	92	**1,3**	9,65	20	2250	
142	100		14	47	94	142	170	68	84	100	100	100	**1,5**	10,54	20	2700	
128	111		12,5	42,5	85	128	153	76	93	111	111	111	**1,4**	11,71	20	2800	
113	126		11	37,5	75	113	136	85	105	126	126	126	**1,3**	13,21	20	2900	
102	140		10	34	68	102	122	95	117	140	140	140	**1,2**	14,67	20	3050	
96	148		9,6	32	64	96	115	101	124	148	148	148	**1,2**	15,58	20	3100	
86	165		8,6	28,5	57	86	103	112	138	165	165	165	**1,1**	17,31	20	3200	
75	190		7,5	25	50	75	90	129	159	190	190	190	**1,0**	19,95	20	3350	
67	210		6,7	22,5	45	67	81	144	177	210	210	210	**0,95**	22,16	20	3500	
64	220		6,4	21,5	43	64	77	150	185	220	220	220	**0,9**	23,22	20	3550	
58	245		5,8	19	38,5	58	69	167	205	245	245	245	**0,81**	25,79	20	3700	
189	75	BG30-../S08LA4	18,5	63	126	189	225	51	63	75	75	75	**2,8**	7,91	25	1760	
174	82		17	58	116	174	205	55	68	82	82	82	**3,0**	8,6	25	2800	
157	91		15,5	52	104	157	188	62	76	91	91	91	**2,7**	9,55	25	3000	
140	101		14	46,5	93	140	169	69	85	101	101	101	**2,6**	10,65	25	2950	
126	112		12,5	42	84	126	152	76	94	112	112	112	**2,4**	11,82	25	3200	
108	131		10,5	36	72	108	130	89	110	131	131	131	**2,2**	13,77	25	3150	
98	145		9,8	32,5	65	98	117	99	122	145	145	145	**2,1**	15,27	25	3450	
87	162		8,7	29	58	87	105	110	136	162	162	162	**1,8**	17,06	25	3700	
79	180		7,9	26	52	79	95	123	151	180	180	180	**1,7**	18,93	25	4100	
75	190		7,5	25	50	75	90	129	159	190	190	190	**1,6**	19,99	25	4200	
67	210		6,7	22,5	45	67	81	144	177	210	210	210	**1,4**	22,18	25	4600	
58	240		5,8	19,5	39	58	70	165	200	240	240	240	**1,2**	25,45	25	4850	
53	265		5,3	17,5	35	53	63	183	225	265	265	265	**1,1**	28,24	25	5100	
50	280		5,0	16,5	33,5	50	60	193	235	280	280	280	**1,1**	29,83	25	5200	
45	315		4,5	15	30	45	54	215	260	315	315	315	**0,95**	33,09	25	5400	
42,5	335		4,2	14	28	42,5	51	225	280	335	335	335	**0,89**	35,17	25	5500	
38	370		3,8	12,5	25,5	38	46	250	310	370	370	370	**0,81**	39,02	25	5800	
91	156	BG40-../S08LA4	9,1	30,5	61	91	109	106	131	156	156	156	**2,7**	16,39	40	5300	
82	173		8,2	27	54	82	98	118	145	173	173	173	**2,4**	18,19	40	5600	
75	189		7,5	25	50	75	90	128	158	189	189	189	**2,2**	19,84	40	5800	
68	210		6,8	22,5	45	68	81	143	176	210	210	210	**2,0**	22,02	40	6000	
64	220		6,4	21	42,5	64	76	152	187	220	220	220	**1,9**	23,43	40	6200	
57	245		5,7	19	38	57	69	169	205	245	245	245	**1,7**	26,01	40	6500	
51	280		5,1	17	34	51	61	190	230	280	280	280	**1,5**	29,34	40	6800	
46	310		4,6	15	30,5	46	55	210	260	310	310	310	**1,4**	32,57	40	7000	
43,5	325		4,3	14,5	29	43,5	52	220	270	325	325	325	**1,3**	34,2	40	7000	
39,5	360		3,9	13	26	39,5	47	245	300	360	360	360	**1,2**	37,96	40	7000	
37	380		3,7	12	24,5	37	44,5	260	320	380	380	380	**1,1**	40,19	40	7000	
33,5	425		3,3	11	22	33,5	40	290	355	425	425	425	**1,0**	44,62	40	7000	
31	460		3,1	10	20,5	31	37	310	385	460	460	460	**0,92**	48,36	40	7000	
27,5	510		2,7	9,3	18,5	27,5	33,5	345	425	510	510	510	**0,83**	53,69	40	7000	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

$M_1 = 9{,}55$ Nm

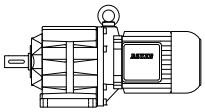
$n_1 = 1500\ ^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
68	**205**	**BG50-../S08LA4**	6,8	22,5	45,5	68	81	142	175	205	205	205	**3,0**	21,96	48	8000	
61	**230**		6,1	20,5	41	61	73	158	194	230	230	230	**2,7**	24,34	48	8700	
50	**280**		5,0	16,5	33,5	50	60	192	235	280	280	280	**2,2**	29,62	48	8000	
45,5	**310**		4,5	15	30	45,5	54	210	260	310	310	310	**2,0**	32,84	48	8700	
39,5	**360**		3,9	13	26	39,5	47,5	245	300	360	360	360	**1,7**	37,89	48	10000	
35,5	**400**		3,5	11,5	23,5	35,5	42,5	270	335	400	400	400	**1,6**	42	48	10000	
31,5	**445**		3,1	10,5	21	31,5	38	305	375	445	445	445	**1,4**	47,02	48	10000	
28,5	**495**		2,8	9,5	19	28,5	34,5	335	415	495	495	495	**1,3**	52,12	48	10000	
25	**560**		2,5	8,4	16,5	25	30	385	475	560	560	560	**1,1**	59,42	48	10000	
22,5	**620**		2,2	7,5	15	22,5	27	425	520	620	620	620	**1,0**	65,86	48	10000	
20,5	**680**	**BG50Z-../S08LA4**	2,0	6,9	13,5	20,5	25	465	570	680	680	680	**0,92**	71,97	52	10000	
18,5	**760**		1,8	6,2	12,5	18,5	22,5	510	630	760	760	760	**0,83**	79,78	52	10000	
21,5	**650**	**BG60Z-../S08LA4**	2,1	7,3	14,5	21,5	26	440	540	650	650	650	**1,8**	68,32	97	16000	
19,5	**720**		1,9	6,6	13	19,5	23,5	490	600	720	720	720	**1,7**	75,71	97	16000	
16	**860**		1,6	5,4	10,5	16	19,5	590	720	860	860	860	**1,4**	91,09	97	16000	
14,5	**960**		1,4	4,9	9,9	14,5	17,5	650	800	960	960	960	**1,2**	101	97	16000	
12,5	**1130**		1,2	4,1	8,3	12,5	15	770	950	1130	1130	1130	**1,1**	119,2	97	16000	
11	**1260**		1,1	3,7	7,5	11	13,5	850	1050	1260	1260	1260	**0,95**	132,1	97	16000	
9,4	**1500**		0,9	3,1	6,3	9,4	11	1020	1260	1500	1500	1500	**0,8**	158	97	16000	
5,8	**2400**	**BG70G20-../S08LA4**	0,55	1,9	3,9	5,8	7,0	1660	2000	2400	2400	2400	**1,0**	255,5	135	20000	
5,4	**2600**		0,5	1,8	3,6	5,4	6,5	1790	2200	2600	2600	2600	**0,95**	276,7	135	20000	
4,5	**3100**		0,45	1,5	3,0	4,5	5,4	2100	2600	3100	3100	3100	**0,8**	328,4	135	20000	
17	**830**	**BG70Z-../S08LA4**	1,7	5,7	11	17	20,5	560	700	830	830	830	**2,7**	87,61	137	20000	
15,5	**910**		1,5	5,2	10	15,5	18,5	620	760	910	910	910	**2,5**	95,74	137	20000	
13	**1080**		1,3	4,4	8,8	13	15,5	730	900	1080	1080	1080	**2,1**	113,6	137	20000	
12	**1180**		1,2	4,0	8,0	12	14,5	800	990	1180	1180	1180	**1,9**	124	137	20000	
10	**1400**		1,0	3,3	6,7	10	12	950	1170	1400	1400	1400	**1,6**	147,2	137	20000	
9,1	**1560**		0,9	3,0	6,1	9,1	10,5	1060	1310	1560	1560	1560	**1,5**	163,8	137	20000	
7,7	**1850**		0,75	2,5	5,1	7,7	9,2	1260	1550	1850	1850	1850	**1,2**	194,4	137	20000	
7,1	**2000**		0,7	2,3	4,7	7,1	8,5	1360	1680	2000	2000	2000	**1,1**	210,5	137	20000	
6,0	**2350**		0,6	2,0	4,0	6,0	7,2	1620	1990	2350	2350	2350	**0,96**	249,8	137	20000	
6,6	**2150**	**BG80G40-../S08LA4**	0,65	2,2	4,4	6,6	7,9	1470	1810	2150	2150	2150	**2,1**	227,2	216	26000	
5,9	**2400**		0,55	1,9	3,9	5,9	7,1	1630	2000	2400	2400	2400	**1,9**	252,3	216	26000	
5,3	**2700**		0,5	1,7	3,5	5,3	6,3	1830	2250	2700	2700	2700	**1,7**	282,8	216	26000	
4,7	**2950**		0,47	1,5	3,1	4,7	5,7	2000	2500	2950	2950	2950	**1,5**	314	216	26000	
4,1	**3400**		0,41	1,3	2,7	4,1	5,0	2300	2850	3400	3400	3400	**1,3**	360	216	26000	
3,7	**3800**		0,37	1,2	2,5	3,7	4,5	2550	3150	3800	3800	3800	**1,2**	399,8	216	26000	
3,4	**4150**		0,34	1,1	2,2	3,4	4,1	2800	3450	4150	4150	4150	**1,1**	436,2	216	26000	
3,0	**4600**		0,3	1,0	2,0	3,0	3,7	3100	3850	4600	4600	4600	**0,99**	484,3	216	26000	
2,6	**5400**		0,26	0,85	1,7	2,6	3,1	3700	4550	5400	5400	5400	**0,84**	572	216	26000	
4,1	**3400**		0,41	1,3	2,7	4,1	4,9	2300	2850	3400	3400	3400	**2,7**	360,3	326	65000	
3,4	**4150**		0,34	1,1	2,2	3,4	4,1	2800	3450	4150	4150	4150	**2,2**	435,8	326	65000	
2,9	**4800**		0,29	0,95	1,9	2,9	3,5	3250	4000	4800	4800	4800	**1,9**	504,7	326	65000	
2,5	**5600**		0,25	0,8	1,6	2,5	3	3800	4700	5600	5600	5600	**1,6**	588,8	326	65000	
2,3	**6100**		0,23	0,75	1,5	2,3	2,7	4150	5100	6100	6100	6100	**1,5**	644,7	326	65000	
2,1	**6800**		0,21	0,7	1,4	2,1	2,5	4600	5700	6800	6800	6800	**1,3**	714,2	326	65000	
1,6	**8400**		0,16	0,55	1,1	1,6	2	5700	7000	8400	8400	8400	**1,1**	883,7	326	65000	
1,2	**11200**		0,12	0,42	0,85	1,2	1,5	7600	9300	11200	11200	11200	**0,82**	1174	326	65000	
1,5	**9300**	**BG100G50-../S08LA4**	0,15	0,5	1,0	1,5	1,8	6300	7800	9300	9300	9300	**2,0**	976,1	513	90000	
1,4	**9900**		0,14	0,47	0,95	1,4	1,7	6700	8300	9900	9900	9900	**1,9**	1043	513	90000	
1,2	**11400**		0,12	0,41	0,8	1,2	1,4	7800	9600	11400	11400	11400	**1,6**	1204	513	90000	
1,0	**13700**		0,1	0,34	0,65	1,0	1,2	9300	11500	13700	13700	13700	**1,3**	1444	513	90000	
0,85	**16000**		0,085	0,29	0,55	0,85	1,0	10900	13400	16000	16000	16000	**1,2**	1678	513	90000	
0,8	**17800**		0,08	0,26	0,5	0,8	0,95	12100	14900	17800	17800	17800	**1,0**	1867	513	90000	
0,65	**20500**		0,065	0,23	0,46	0,65	0,8	14000	17200	20500	20500	20500	**0,9**	2154	513	90000	

M_1 = 14 Nm

n_1 = 1500 $^1/_{min}$

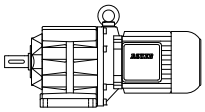


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
590	**32,5**	**BG10-../S09SA4**	59	198	395	590	710	20	25	32,5	32,5	28,5	**1,7**	2,52	22	560	790.0
435	**44**		43,5	146	290	435	520	27	34	44	44	39	**1,4**	3,42	22	630	880.0
340	**56**		34	114	225	340	410	34,5	43,5	56	56	50	**1,2**	4,36	22	650	910.0
280	**69**		28	93	187	280	335	42,5	53	69	69	61	**1,1**	5,34	22	620	910.0
220	**88**		22	73	147	220	265	54	67	88	88	77	**0,92**	6,78	22	660	920.0
185	**104**		18,5	61	123	185	220	64	80	104	104	92	**0,84**	8,07	22	660	920.0
160	**121**		16	53	107	160	192	74	93	121	121	107	**0,8**	9,33	22	950	1330.0
590	**32,5**	**BG20-../S09SA4**	59	198	395	590	710	20	25	32,5	32,5	28,5	**2,6**	2,52	24	1660	
450	**43**		45	150	300	450	540	26,5	33	43	43	38	**2,1**	3,33	24	1830	
340	**56**		34	114	225	340	410	35	43,5	56	56	50	**1,8**	4,38	24	1990	
270	**71**		27	91	182	270	325	43,5	54	71	71	63	**1,6**	5,49	24	2100	
230	**84**		23	77	154	230	275	51	64	84	84	74	**1,4**	6,48	24	2250	
187	**104**		18,5	62	124	187	220	64	80	104	104	92	**1,3**	8,02	24	2500	
180	**107**		18	60	120	180	215	66	82	107	107	95	**1,1**	8,29	24	2250	
168	**115**		16,5	56	112	168	200	71	89	115	115	102	**1,2**	8,91	24	2600	
155	**125**		15,5	51	103	155	186	77	96	125	125	110	**0,97**	9,65	24	2250	
142	**137**		14	47	94	142	170	84	105	137	137	121	**1,1**	10,54	24	2700	
128	**152**		12,5	42,5	85	128	153	93	117	152	152	134	**1,0**	11,71	24	2800	
113	**171**		11	37,5	75	113	136	105	132	171	171	151	**0,97**	13,21	24	2900	
102	**190**		10	34	68	102	122	117	146	190	190	168	**0,9**	14,67	24	3050	
96	**200**		9,6	32	64	96	115	124	155	200	200	179	**0,87**	15,58	24	3100	
86	**225**		8,6	28,5	57	86	103	138	173	225	225	199	**0,81**	17,31	24	3200	
275	**70**	**BG30-../S09SA4**	27,5	91	183	275	330	43,5	54	70	70	62	**2,8**	5,44	29	1670	
220	**87**		22	74	148	220	265	54	67	87	87	77	**2,5**	6,75	29	1760	
189	**102**		18,5	63	126	189	225	63	79	102	102	90	**2,1**	7,91	29	1760	
174	**111**		17	58	116	174	205	68	86	111	111	98	**2,2**	8,6	29	2800	
157	**124**		15,5	52	104	157	188	76	95	124	124	109	**2,0**	9,55	29	3000	
140	**138**		14	46,5	93	140	169	85	106	138	138	122	**1,9**	10,65	29	2950	
126	**153**		12,5	42	84	126	152	94	118	153	153	135	**1,8**	11,82	29	3200	
108	**179**		10,5	36	72	108	130	110	137	179	179	158	**1,6**	13,77	29	3150	
98	**198**		9,8	32,5	65	98	117	122	152	198	198	175	**1,5**	15,27	29	3450	
87	**220**		8,7	29	58	87	105	136	170	220	220	196	**1,4**	17,06	29	3700	
79	**245**		7,9	26	52	79	95	151	189	245	245	215	**1,2**	18,93	29	4100	
75	**255**		7,5	25	50	75	90	159	199	255	255	225	**1,2**	19,99	29	4200	
67	**285**		6,7	22,5	45	67	81	177	220	285	285	255	**1,0**	22,18	29	4600	
58	**330**		5,8	19,5	39	58	70	200	250	330	330	290	**0,91**	25,45	29	4850	
53	**365**		5,3	17,5	35	53	63	225	280	365	365	320	**0,82**	28,24	29	5100	
196	**99**	**BG40-../S09SA4**	19,5	65	131	196	235	60	76	99	99	87	**3,0**	7,62	43	2650	
166	**117**		16,5	55	111	166	200	72	90	117	117	103	**2,5**	9,0	43	2650	
162	**119**		16	54	108	162	195	73	92	119	119	106	**3,0**	9,23	43	4350	
144	**134**		14	48	96	144	173	82	103	134	134	119	**2,8**	10,35	43	4350	
130	**149**		13	43,5	87	130	156	91	114	149	149	132	**2,6**	11,49	43	4600	
116	**167**		11,5	38,5	77	116	139	102	128	167	167	147	**2,5**	12,86	43	4500	
105	**185**		10,5	35	70	105	126	114	142	185	185	164	**2,3**	14,28	43	4900	
91	**210**		9,1	30,5	61	91	109	131	163	210	210	188	**2,0**	16,39	43	5300	
82	**235**		8,2	27	54	82	98	145	181	235	235	205	**1,8**	18,19	43	5600	
75	**255**		7,5	25	50	75	90	158	198	255	255	225	**1,6**	19,84	43	5800	
68	**285**		6,8	22,5	45	68	81	176	220	285	285	250	**1,5**	22,02	43	6000	
64	**300**		6,4	21	42,5	64	76	187	230	300	300	265	**1,4**	23,43	43	6200	
57	**335**		5,7	19	38	57	69	205	260	335	335	295	**1,3**	26,01	43	6500	
51	**380**		5,1	17	34	51	61	230	290	380	380	335	**1,1**	29,34	43	6800	
46	**420**		4,6	15	30,5	46	55	260	325	420	420	370	**1,0**	32,57	43	7000	
43,5	**440**		4,3	14,5	29	43,5	52	270	340	440	440	390	**0,96**	34,2	43	7000	
39,5	**490**		3,9	13	26	39,5	47	300	375	490	490	435	**0,86**	37,96	43	7000	
37	**520**		3,7	12	24,5	37	44,5	320	400	520	520	460	**0,81**	40,19	43	7000	
90	**210**	**BG50-../S09SA4**	9,0	30	60	90	108	132	165	210	210	190	2,9	16,53	51	6500	
81	**235**		8,1	27	54	81	98	146	183	235	235	210	2,6	18,33	51	7200	
68	**285**		6,8	22,5	45,5	68	81	175	215	285	285	250	2,2	21,96	51	8000	
61	**315**		6,1	20,5	41	61	73	194	240	315	315	275	2,0	24,34	51	8700	
50	**385**		5,0	16,5	33,5	50	60	235	295	385	385	340	1,6	29,62	51	8000	
45,5	**425**		4,5	15	30	45,5	54	260	325	425	425	375	1,5	32,84	51	8700	
39,5	**490**		3,9	13	26	39,5	47,5	300	375	490	490	435	1,3	37,89	51	10000	
35,5	**540**		3,5	11,5	23,5	35,5	42,5	335	420	540	540	480	1,2	42	51	10000	
31,5	**610**		3,1	10,5	21	31,5	38	375	470	610	610	540	1,0	47,02	51	10000	
28,5	**670**		2,8	9,5	19	28,5	34,5	415	520	670	670	590	0,93	52,12	51	10000	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 14 Nm

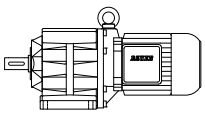
n_1 = 1500 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
46	420	BG60-../S09SA4	4,6	15	30,5	46	55	255	320	420	420	370	2,8	32,48	82	15400	
38,5	500		3,8	12,5	25,5	38,5	46	310	385	500	500	445	2,4	38,85	82	16000	
34,5	550		3,4	11,5	23	34,5	41,5	340	430	550	550	495	2,1	43,05	82	16000	
29,5	650		2,9	9,9	19,5	29,5	35,5	400	500	650	650	570	1,8	50,31	82	16000	
26,5	720		2,6	8,9	17,5	26,5	32	445	550	720	720	640	1,7	55,76	82	16000	
24,5	790		2,4	8,2	16	24,5	29,5	485	600	790	790	700	1,5	60,9	82	16000	
22	870		2,2	7,4	14,5	22	26,5	530	670	870	870	770	1,4	67,49	82	16000	
21,5	880	BG60Z-../S09SA4	2,1	7,3	14,5	21,5	26	540	680	880	880	780	1,4	68,32	101	16000	
19,5	980		1,9	6,6	13	19,5	23,5	600	750	980	980	870	1,2	75,71	101	16000	
16	1180		1,6	5,4	10,5	16	19,5	720	910	1180	1180	1040	1,0	91,09	101	16000	
14,5	1310		1,4	4,9	9,9	14,5	17,5	800	1010	1310	1310	1160	0,91	101	101	16000	
25	770	BG70-../S09SA4	2,5	8,3	16,5	25	30	475	590	770	770	680	3,0	59,82	120	20000	
27	710	BG70Z-../S09SA4	2,7	9,1	18	27	32,5	435	540	710	710	620	2,7	54,64	141	20000	
23	840		2,3	7,7	15	23	27,5	510	640	840	840	740	2,7	64,85	141	20000	
20	950		2	6,7	13,5	20	24	590	730	950	950	840	2,4	73,82	141	20000	
17	1130		1,7	5,7	11	17	20,5	700	870	1130	1130	1000	2,0	87,61	141	20000	
15,5	1240		1,5	5,2	10	15,5	18,5	760	950	1240	1240	1100	1,8	95,74	141	20000	
13	1470		1,3	4,4	8,8	13	15,5	900	1130	1470	1470	1300	1,6	113,6	141	20000	
12	1610		1,2	4,0	8,0	12	14,5	990	1240	1610	1610	1420	1,4	124	141	20000	
10	1910		1,0	3,3	6,7	10	12	1170	1470	1910	1910	1690	1,2	147,2	141	20000	
9,1	2100		0,9	3	6,1	9,1	10,5	1310	1630	2100	2100	1880	1,1	163,8	141	20000	
7,7	2500		0,75	2,5	5,1	7,7	9,2	1550	1940	2500	2500	2200	0,91	194,4	141	20000	
7,1	2700		0,7	2,3	4,7	7,1	8,5	1680	2100	2700	2700	2400	0,84	210,5	141	20000	
6,6	2950	BG80G40-../S09SA4	0,65	2,2	4,4	6,6	7,9	1810	2250	2950	2950	2600	1,6	227,2	220	26000	
5,9	3250		0,55	1,9	3,9	5,9	7,1	2000	2500	3250	3250	2900	1,4	252,3	220	26000	
5,3	3650		0,5	1,7	3,5	5,3	6,3	2250	2800	3650	3650	3250	1,3	282,8	220	26000	
4,7	4050		0,47	1,5	3,1	4,7	5,7	2500	3100	4050	4050	3600	1,1	314	220	26000	
4,1	4650		0,41	1,3	2,7	4,1	5	2850	3600	4650	4650	4100	0,98	360	220	26000	
3,7	5100		0,37	1,2	2,5	3,7	4,5	3150	3950	5100	5100	4550	0,89	399,8	220	26000	
3,4	5600		0,34	1,1	2,2	3,4	4,1	3450	4350	5600	5600	5000	0,81	436,2	220	26000	
13	1460	BG80Z-../S09SA4	1,3	4,4	8,8	13	16	890	1120	1460	1460	1290	2,9	112,4	209	26000	
12	1620		1,2	4,0	8,0	12	14	990	1240	1620	1620	1430	2,6	124,8	209	26000	
10	1890		1,0	3,4	6,8	10	12	1160	1450	1890	1890	1670	2,2	145,4	209	26000	
9,2	2050		0,9	3,0	6,1	9,2	11	1290	1610	2050	2050	1850	2,0	161,5	209	26000	
8,0	2400		0,8	2,6	5,3	8,0	9,6	1490	1860	2400	2400	2100	1,7	186,8	209	26000	
7,2	2650		0,7	2,4	4,8	7,2	8,6	1650	2050	2650	2650	2350	1,6	207,4	209	26000	
5,7	3400	BG90G50-../S09SA4	0,55	1,9	3,8	5,7	6,8	2100	2600	3400	3400	3000	2,7	262,5	330	65000	
5,0	3850		0,5	1,6	3,3	5,0	6,0	2350	2950	3850	3850	3400	2,4	298,8	330	65000	
4,1	4650		0,41	1,3	2,7	4,1	4,9	2850	3600	4650	4650	4100	2,0	360,3	330	65000	
3,4	5600		0,34	1,1	2,2	3,4	4,1	3450	4350	5600	5600	5000	1,6	435,8	330	65000	
2,9	6500		0,29	0,95	1,9	2,9	3,5	4000	5000	6500	6500	5800	1,4	504,7	330	65000	
2,5	7600		0,25	0,8	1,6	2,5	3,0	4700	5800	7600	7600	6700	1,2	588,8	330	65000	
2,3	8300		0,23	0,75	1,5	2,3	2,7	5100	6400	8300	8300	7400	1,1	644,7	330	65000	
2,1	9200		0,21	0,7	1,4	2,1	2,5	5700	7100	9200	9200	8200	0,99	714,2	330	65000	
1,6	11400		0,16	0,55	1,1	1,6	2,0	7000	8800	11400	11400	10100	0,8	883,7	330	65000	
6,5	2950	BG90Z-../S09SA4	0,65	2,1	4,3	6,5	7,8	1820	2250	2950	2950	2600	2,8	228,1	319	65000	
2,9	6600	BG100Z-../S09SA4	0,29	0,95	1,9	2,9	3,5	4050	5000	6600	6600	5800	2,8	508,5	518	90000	
2,5	7600		0,25	0,8	1,6	2,5	3,0	4700	5900	7600	7600	6700	2,4	591,1	518	90000	
2,2	8500		0,22	0,75	1,5	2,2	2,7	5200	6500	8500	8500	7500	2,2	658,1	518	90000	
1,9	9800		0,19	0,65	1,3	1,9	2,3	6000	7500	9800	9800	8700	1,9	759	518	90000	
1,7	10900		0,17	0,55	1,1	1,7	2,1	6700	8400	10900	10900	9700	1,7	845,1	518	90000	
1,5	12600	BG100G50-../S09SA4	0,15	0,5	1,0	1,5	1,8	7800	9700	12600	12600	11200	1,5	976,1	517	90000	
1,4	13500		0,14	0,47	0,95	1,4	1,7	8300	10400	13500	13500	11900	1,4	1043	517	90000	
1,2	15600		0,12	0,41	0,8	1,2	1,4	9600	12000	15600	15600	13800	1,2	1204	517	90000	
1,0	18700		0,1	0,34	0,65	1,0	1,2	11500	14400	18700	18700	16600	0,99	1444	517	90000	
0,85	21500		0,085	0,29	0,55	0,85	1,0	13400	16700	21500	21500	19200	0,85	1678	517	90000	

M_1 = 19 Nm

n_1 = 1500 $^1/_{min}$

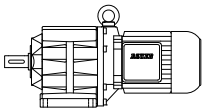


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
590	50	BG10-../S09XA4	59	198	395	590	710	31,5	40	50	50	47,5	**1,1**	2,52	30	560	790.0
435	68		43,5	146	290	435	520	42,5	54	68	68	64	**0,91**	3,42	30	630	880.0
590	50	BG20-../S09XA4	59	198	395	590	710	31,5	40	50	50	47,5	**1,7**	2,52	32	1660	
450	66		45	150	300	450	540	41,5	53	66	66	63	**1,4**	3,33	32	1830	
340	87		34	114	225	340	410	54	70	87	87	83	**1,2**	4,38	32	1990	
270	109		27	91	182	270	325	68	87	109	109	104	**1,0**	5,49	32	2100	
230	129		23	77	154	230	275	81	103	129	129	123	**0,94**	6,48	32	2250	
187	160		18,5	62	124	187	220	100	128	160	160	152	**0,85**	8,02	32	2500	
168	178		16,5	56	112	168	200	111	142	178	178	169	**0,8**	8,91	32	2600	
560	53	BG30-../S09XA4	56	187	370	560	670	33	42,5	53	53	50	**2,4**	2,67	37	1450	
440	68		44	147	290	440	520	42,5	54	68	68	64	**2,0**	3,4	37	1580	
355	84		35,5	118	235	355	425	52	67	84	84	79	**2,0**	4,21	37	1630	
275	108		27,5	91	183	275	330	68	87	108	108	103	**1,8**	5,44	37	1670	
220	135		22	74	148	220	265	84	108	135	135	128	**1,6**	6,75	37	1760	
189	158		18,5	63	126	189	225	98	126	158	158	150	**1,4**	7,91	37	1760	
174	172		17	58	116	174	205	107	137	172	172	163	**1,4**	8,6	37	2800	
157	191		15,5	52	104	157	188	119	152	191	191	181	**1,3**	9,55	37	3000	
140	210		14	46,5	93	140	169	133	170	210	210	200	**1,2**	10,65	37	2950	
126	235		12,5	42	84	126	152	147	189	235	235	220	**1,1**	11,82	37	3200	
108	275		10,5	36	72	108	130	172	220	275	275	260	**1,1**	13,77	37	3150	
98	305		9,8	32,5	65	98	117	190	240	305	305	290	**0,98**	15,27	37	3450	
87	340		8,7	29	58	87	105	210	270	340	340	320	**0,88**	17,06	37	3700	
375	79	BG40-../S09XA4	37,5	125	250	375	450	49,5	63	79	79	75	**3,0**	3,97	51	2400	
300	98		30	101	200	300	360	61	79	98	98	93	**2,7**	4,94	51	2450	
235	125		23,5	79	158	235	285	78	100	125	125	119	**2,3**	6,29	51	2600	
196	152		19,5	65	131	196	235	95	121	152	152	144	**1,9**	7,62	51	2650	
180	166		18	60	120	180	215	103	132	166	166	157	**2,0**	8,31	51	4100	
166	180		16,5	55	111	166	200	112	144	180	180	171	**1,6**	9,0	51	2650	
162	184		16	54	108	162	195	115	147	184	184	175	**1,9**	9,23	51	4350	
144	205		14	48	96	144	173	129	165	205	205	196	**1,8**	10,35	51	4350	
130	225		13	43,5	87	130	156	143	183	225	225	215	**1,7**	11,49	51	4600	
116	255		11,5	38,5	77	116	139	160	205	255	255	240	**1,6**	12,86	51	4500	
105	285		10,5	35	70	105	126	178	225	285	285	270	**1,5**	14,28	51	4900	
91	325		9,1	30,5	61	91	109	200	260	325	325	310	**1,3**	16,39	51	5300	
82	360		8,2	27	54	82	98	225	290	360	360	345	**1,2**	18,19	51	5600	
75	395		7,5	25	50	75	90	245	315	395	395	375	**1,1**	19,84	51	5800	
68	440		6,8	22,5	45	68	81	275	350	440	440	415	**0,97**	22,02	51	6000	
64	465		6,4	21	42,5	64	76	290	370	465	465	445	**0,91**	23,43	51	6200	
57	520		5,7	19	38	57	69	325	415	520	520	490	**0,82**	26,01	51	6500	
124	240	BG50-../S09XA4	12	41	82	124	149	150	192	240	240	225	**2,4**	12,06	59	5700	
112	265		11	37	74	112	134	167	210	265	265	250	**2,2**	13,36	59	6100	
90	330		9,0	30	60	90	108	205	260	330	330	310	**1,9**	16,53	59	6500	
81	365		8,1	27	54	81	98	225	290	365	365	345	**1,7**	18,33	59	7200	
68	435		6,8	22,5	45,5	68	81	270	350	435	435	415	**1,4**	21,96	59	8000	
61	485		6,1	20,5	41	61	73	300	385	485	485	460	**1,3**	24,34	59	8700	
50	590		5,0	16,5	33,5	50	60	370	470	590	590	560	**1,1**	29,62	59	8000	
45,5	650		4,5	15	30	45,5	54	410	520	650	650	620	**0,96**	32,84	59	8700	
39,5	750		3,9	13	26	39,5	47,5	470	600	750	750	710	**0,83**	37,89	59	10000	
66	445	BG60-../S09XA4	6,6	22	44,5	66	80	280	355	445	445	425	**2,7**	22,4	90	13300	
60	495		6,0	20	40	60	72	310	395	495	495	470	**2,4**	24,82	90	13800	
51	580		5,1	17	34	51	61	365	465	580	580	550	**2,0**	29,31	90	14800	
46	640		4,6	15	30,5	46	55	405	510	640	640	610	**1,8**	32,48	90	15400	
38,5	770		3,8	12,5	25,5	38,5	46	485	620	770	770	730	**1,5**	38,85	90	16000	
34,5	860		3,4	11,5	23	34,5	41,5	530	680	860	860	810	**1,4**	43,05	90	16000	
29,5	1000		2,9	9,9	19,5	29,5	35,5	620	800	1000	1000	950	**1,2**	50,31	90	16000	
26,5	1110		2,6	8,9	17,5	26,5	32	690	890	1110	1110	1050	**1,1**	55,76	90	16000	
24,5	1210		2,4	8,2	16	24,5	29,5	760	970	1210	1210	1150	**0,99**	60,9	90	16000	
22	1340		2,2	7,4	14,5	22	26,5	840	1070	1340	1340	1280	**0,89**	67,49	90	16000	
21,5	1360	BG60Z-../S09XA4	2,1	7,3	14,5	21,5	26	850	1090	1360	1360	1290	**0,88**	68,32	109	16000	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 19 Nm

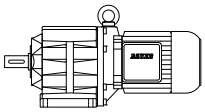
n_1 = 1500 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
38	**780**	**BG70-../S09XA4**	3,8	12,5	25	38	45,5	490	620	780	780	740	**2,9**	39,22	128	19100	
32	**930**		3,2	10,5	21	32	38,5	580	740	930	930	880	**2,5**	46,54	128	20000	
29,5	**1000**		2,9	9,9	19,5	29,5	35,5	630	800	1000	1000	950	**2,3**	50,4	128	20000	
25	**1190**		2,5	8,3	16,5	25	30	740	950	1190	1190	1130	**1,9**	59,82	128	20000	
27	**1090**	**BG70Z-../S09XA4**	2,7	9,1	18	27	32,5	680	870	1090	1090	1030	**1,8**	54,64	149	20000	
23	**1290**		2,3	7,7	15	23	27,5	810	1030	1290	1290	1230	**1,8**	64,85	149	20000	
20	**1470**		2,0	6,7	13,5	20	24	920	1180	1470	1470	1400	**1,6**	73,82	149	20000	
17	**1750**		1,7	5,7	11	17	20,5	1090	1400	1750	1750	1660	**1,3**	87,61	149	20000	
15,5	**1910**		1,5	5,2	10	15,5	18,5	1190	1530	1910	1910	1810	**1,2**	95,74	149	20000	
13	**2250**		1,3	4,4	8,8	13	15,5	1420	1810	2250	2250	2150	**1,0**	113,6	149	20000	
12	**2450**		1,2	4,0	8,0	12	14,5	1550	1980	2450	2450	2350	**0,93**	124	149	20000	
6,6	**4500**	**BG80G40-../S09XA4**	0,65	2,2	4,4	6,6	7,9	2800	3600	4500	4500	4300	**1,0**	227,2	228	26000	
5,9	**5000**		0,55	1,9	3,9	5,9	7,1	3150	4000	5000	5000	4750	**0,91**	252,3	228	26000	
5,3	**5600**		0,5	1,7	3,5	5,3	6,3	3500	4500	5600	5600	5300	**0,81**	282,8	228	26000	
20	**1470**	**BG80Z-../S09XA4**	2,0	6,7	13,5	20	24	920	1170	1470	1470	1400	**2,8**	73,73	217	26000	
17,5	**1690**		1,7	5,9	11,5	17,5	21	1050	1350	1690	1690	1600	**2,5**	84,55	217	26000	
15,5	**1870**		1,5	5,3	10,5	15,5	19	1170	1500	1870	1870	1780	**2,2**	93,89	217	26000	
13	**2200**		1,3	4,4	8,8	13	16	1400	1790	2200	2200	2100	**1,9**	112,4	217	26000	
12	**2450**		1,2	4,0	8,0	12	14	1560	1990	2450	2450	2350	**1,7**	124,8	217	26000	
10	**2900**		1,0	3,4	6,8	10	12	1810	2300	2900	2900	2750	**1,4**	145,4	217	26000	
9,2	**3200**		0,9	3,0	6,1	9,2	11	2000	2550	3200	3200	3050	**1,3**	161,5	217	26000	
8,0	**3700**		0,8	2,6	5,3	8,0	9,6	2300	2950	3700	3700	3500	**1,1**	186,8	217	26000	
7,2	**4100**		0,7	2,4	4,8	7,2	8,6	2550	3300	4100	4100	3900	**1,0**	207,4	217	26000	
6,8	**4350**	**BG90G50-../S09XA4**	0,65	2,2	4,5	6,8	8,1	2700	3500	4350	4350	4150	**2,1**	219,9	338	65000	
5,7	**5200**		0,55	1,9	3,8	5,7	6,8	3250	4200	5200	5200	4950	**1,8**	262,5	338	65000	
5,0	**5900**		0,5	1,6	3,3	5,0	6,0	3700	4750	5900	5900	5600	**1,5**	298,8	338	65000	
4,1	**7200**		0,41	1,3	2,7	4,1	4,9	4500	5700	7200	7200	6800	**1,3**	360,3	338	65000	
3,4	**8700**		0,34	1,1	2,2	3,4	4,1	5400	6900	8700	8700	8200	**1,1**	435,8	338	65000	
2,9	**10000**		0,29	0,95	1,9	2,9	3,5	6300	8000	10000	10000	9500	**0,91**	504,7	338	65000	
10,5	**2750**	**BG90Z-../S09XA4**	1,0	3,5	7,1	10,5	12,5	1730	2200	2750	2750	2600	**3,0**	139,2	327	65000	
9,2	**3250**		0,9	3,0	6,1	9,2	11	2000	2600	3250	3250	3050	**2,6**	163	327	65000	
8,4	**3550**		0,8	2,8	5,6	8,4	10	2200	2850	3550	3550	3350	**2,4**	178,5	327	65000	
7,2	**4150**		0,7	2,4	4,8	7,2	8,6	2600	3300	4150	4150	3950	**2,0**	208,3	327	65000	
6,5	**4550**		0,65	2,1	4,3	6,5	7,8	2850	3600	4550	4550	4300	**1,8**	228,1	327	65000	
1,5	**19500**	**BG100G50-../S09XA4**	0,15	0,5	1,0	1,5	1,8	12200	15600	19500	19500	18500	**0,95**	976,1	525	90000	
1,4	**20500**		0,14	0,47	0,95	1,4	1,7	13000	16600	20500	20500	19800	**0,89**	1043	525	90000	
4,3	**6800**	**BG100Z-../S09XA4**	0,43	1,4	2,9	4,3	5,2	4250	5400	6800	6800	6500	**2,7**	343,6	526	90000	
3,9	**7600**		0,39	1,3	2,6	3,9	4,7	4750	6100	7600	7600	7200	**2,4**	382,6	526	90000	
3,2	**9100**		0,32	1,0	2,1	3,2	3,9	5700	7300	9100	9100	8600	**2,0**	456,7	526	90000	
2,9	**10100**		0,29	0,95	1,9	2,9	3,5	6300	8100	10100	10100	9600	**1,8**	508,5	526	90000	
2,5	**11800**		0,25	0,8	1,6	2,5	3,0	7300	9400	11800	11800	11200	**1,6**	591,1	526	90000	
2,2	**13100**		0,22	0,75	1,5	2,2	2,7	8200	10500	13100	13100	12500	**1,4**	658,1	526	90000	
1,9	**15100**		0,19	0,65	1,3	1,9	2,3	9400	12100	15100	15100	14400	**1,2**	759	526	90000	
1,7	**16900**		0,17	0,55	1,1	1,7	2,1	10500	13500	16900	16900	16000	**1,1**	845,1	526	90000	

M_1 = 25,5 Nm

n_1 = 1500 $^1/_{min}$

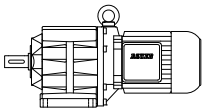


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
560	60	BG30-../S11SA6	56	187	370	560	670	48	53	60	60	60	2,1	2,67	40	1450	
440	76		44	147	290	440	520	61	68	76	76	76	1,8	3,4	40	1580	
355	94		35,5	118	235	355	425	75	84	94	94	94	1,8	4,21	40	1630	
275	122		27,5	91	183	275	330	97	108	122	122	122	1,6	5,44	40	1670	
220	151		22	74	148	220	265	121	135	151	151	151	1,4	6,75	40	1760	
189	177		18,5	63	126	189	225	142	158	177	177	177	1,2	7,91	40	1760	
174	193		17	58	116	174	205	154	172	193	193	193	1,3	8,6	40	2800	
157	210		15,5	52	104	157	188	171	191	210	210	210	1,2	9,55	40	3000	
140	235		14	46,5	93	140	169	191	210	235	235	235	1,1	10,65	40	2950	
126	265		12,5	42	84	126	152	210	235	265	265	265	1,0	11,82	40	3200	
108	305		10,5	36	72	108	130	245	275	305	305	305	0,94	13,77	40	3150	
98	340		9,8	32,5	65	98	117	270	305	340	340	340	0,87	15,27	40	3450	
375	89	BG40-../S11SA6	37,5	125	250	375	450	71	79	89	89	89	2,7	3,97	59	2400	
300	111		30	101	200	300	360	88	98	111	111	111	2,4	4,94	59	2450	
235	141		23,5	79	158	235	285	113	125	141	141	141	2,1	6,29	59	2600	
196	171		19,5	65	131	196	235	137	152	171	171	171	1,7	7,62	59	2650	
180	186		18	60	120	180	215	149	166	186	186	186	1,8	8,31	59	4100	
166	200		16,5	55	111	166	200	162	180	200	200	200	1,5	9,0	59	2650	
162	205		16	54	108	162	195	166	184	205	205	205	1,7	9,23	59	4350	
144	230		14	48	96	144	173	186	205	230	230	230	1,6	10,35	59	4350	
130	255		13	43,5	87	130	156	205	225	255	255	255	1,5	11,49	59	4600	
116	285		11,5	38,5	77	116	139	230	255	285	285	285	1,4	12,86	59	4500	
105	320		10,5	35	70	105	126	255	285	320	320	320	1,3	14,28	59	4900	
91	365		9,1	30,5	61	91	109	295	325	365	365	365	1,2	16,39	59	5300	
82	405		8,2	27	54	82	98	325	360	405	405	405	1,0	18,19	59	5600	
75	445		7,5	25	50	75	90	355	395	445	445	445	0,95	19,84	59	5800	
68	495		6,8	22,5	45	68	81	395	440	495	495	495	0,86	22,02	59	6000	
64	520		6,4	21	42,5	64	76	420	465	520	520	520	0,81	23,43	59	6200	
220	151	BG50-../S11SA6	22	74	148	220	265	121	134	151	151	151	3,0	6,74	69	3750	
172	195		17	57	114	172	205	156	174	195	195	195	2,6	8,7	69	5300	
155	215		15,5	51	103	155	186	173	193	215	215	215	2,4	9,65	69	5600	
124	270		12	41	82	124	149	215	240	270	270	270	2,1	12,06	69	5700	
112	300		11	37	74	112	134	240	265	300	300	300	2,0	13,36	69	6100	
90	370		9,0	30	60	90	108	295	330	370	370	370	1,7	16,53	69	6500	
81	410		8,1	27	54	81	98	325	365	410	410	410	1,5	18,33	69	7200	
68	490		6,8	22,5	45,5	68	81	395	435	490	490	490	1,3	21,96	69	8000	
61	540		6,1	20,5	41	61	73	435	485	540	540	540	1,2	24,34	69	8700	
50	660		5,0	16,5	33,5	50	60	530	590	660	660	660	0,95	29,62	69	8000	
45,5	730		4,5	15	30	45,5	54	590	650	730	730	730	0,85	32,84	69	8700	
89	375	BG60-../S11SA6	8,9	29,5	59	89	107	300	335	375	375	375	2,9	16,8	101	12000	
80	415		8,0	26,5	53	80	96	335	370	415	415	415	2,7	18,62	101	12400	
66	500		6,6	22	44,5	66	80	400	445	500	500	500	2,4	22,4	101	13300	
60	550		6,0	20	40	60	72	445	495	550	550	550	2,1	24,82	101	13800	
51	650		5,1	17	34	51	61	520	580	650	650	650	1,8	29,31	101	14800	
46	730		4,6	15	30,5	46	55	580	640	730	730	730	1,6	32,48	101	15400	
38,5	870		3,8	12,5	25,5	38,5	46	690	770	870	870	870	1,4	38,85	101	16000	
34,5	960		3,4	11,5	23	34,5	41,5	770	860	960	960	960	1,2	43,05	101	16000	
29,5	1130		2,9	9,9	19,5	29,5	35,5	900	1000	1130	1130	1130	1,1	50,31	101	16000	
26,5	1250		2,6	8,9	17,5	26,5	32	1000	1110	1250	1250	1250	0,96	55,76	101	16000	
24,5	1370		2,4	8,2	16	24,5	29,5	1090	1210	1370	1370	1370	0,88	60,9	101	16000	
42,5	790	BG70-../S11SA6	4,2	14	28	42,5	51	630	700	790	790	790	2,9	35,24	132	18300	
38	880		3,8	12,5	25	38	45,5	700	780	880	880	880	2,6	39,22	132	19100	
32	1040		3,2	10,5	21	32	38,5	830	930	1040	1040	1040	2,2	46,54	132	20000	
29,5	1130		2,9	9,9	19,5	29,5	35,5	900	1000	1130	1130	1130	2,0	50,4	132	20000	
25	1340		2,5	8,3	16,5	25	30	1070	1190	1340	1340	1340	1,7	59,82	132	20000	
27	1220	BG70Z-../S11SA6	2,7	9,1	18	27	32,5	980	1090	1220	1220	1220	1,6	54,64	158	20000	
23	1450		2,3	7,7	15	23	27,5	1160	1290	1450	1450	1450	1,6	64,85	158	20000	
20	1660		2,0	6,7	13,5	20	24	1320	1470	1660	1660	1660	1,4	73,82	158	20000	
17	1970		1,7	5,7	11	17	20,5	1570	1750	1970	1970	1970	1,2	87,61	158	20000	
15,5	2150		1,5	5,2	10	15,5	18,5	1720	1910	2150	2150	2150	1,1	95,74	158	20000	
13	2550		1,3	4,4	8,8	13	15,5	2000	2250	2550	2550	2550	0,9	113,6	158	20000	
12	2750		1,2	4,0	8,0	12	14,5	2200	2450	2750	2750	2750	0,82	124	158	20000	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 25,5 Nm

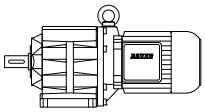
n_1 = 1500 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
23,5	**1430**	**BG80-../S11SA6**	2,3	7,8	15,5	23,5	28	1140	1270	1430	1430	1430	**2,9**	63,56	186	26000	
6,6	**5100**	**BG80G40-../S11SA6**	0,65	2,2	4,4	6,6	7,9	4050	4500	5100	5100	5100	**0,9**	227,2	236	26000	
5,9	**5600**		0,55	1,9	3,9	5,9	7,1	4500	5000	5600	5600	5600	**0,81**	252,3	236	26000	
22,5	**1490**	**BG80Z-../S11SA6**	2,2	7,5	15	22,5	27	1190	1320	1490	1490	1490	**2,8**	66,4	228	26000	
20	**1650**		2,0	6,7	13,5	20	24	1320	1470	1650	1650	1650	**2,5**	73,73	228	26000	
17,5	**1900**		1,7	5,9	11,5	17,5	21	1520	1690	1900	1900	1900	**2,2**	84,55	228	26000	
15,5	**2100**		1,5	5,3	10,5	15,5	19	1690	1870	2100	2100	2100	**2,0**	93,89	228	26000	
13	**2500**		1,3	4,4	8,8	13	16	2000	2200	2500	2500	2500	**1,7**	112,4	228	26000	
12	**2800**		1,2	4,0	8,0	12	14	2200	2450	2800	2800	2800	**1,5**	124,8	228	26000	
10	**3250**		1,0	3,4	6,8	10	12	2600	2900	3250	3250	3250	**1,3**	145,4	228	26000	
9,2	**3600**		0,9	3,0	6,1	9,2	11	2900	3200	3600	3600	3600	**1,2**	161,5	228	26000	
8,0	**4200**		0,8	2,6	5,3	8,0	9,6	3350	3700	4200	4200	4200	**1,0**	186,8	228	26000	
7,2	**4650**		0,7	2,4	4,8	7,2	8,6	3700	4100	4650	4650	4650	**0,9**	207,4	228	26000	
6,8	**4900**	**BG90G50-../S11SA6**	0,65	2,2	4,5	6,8	8,1	3950	4350	4900	4900	4900	**1,9**	219,9	347	65000	
5,7	**5900**		0,55	1,9	3,8	5,7	6,8	4700	5200	5900	5900	5900	**1,6**	262,5	347	65000	
5,0	**6700**		0,5	1,6	3,3	5,0	6	5300	5900	6700	6700	6700	**1,4**	298,8	347	65000	
4,1	**8100**		0,41	1,3	2,7	4,1	4,9	6400	7200	8100	8100	8100	**1,1**	360,3	347	65000	
3,4	**9800**		0,34	1,1	2,2	3,4	4,1	7800	8700	9800	9800	9800	**0,94**	435,8	347	65000	
2,9	**11300**		0,29	0,95	1,9	2,9	3,5	9000	10000	11300	11300	11300	**0,81**	504,7	347	65000	
11,5	**2850**	**BG90Z-../S11SA6**	1,1	3,9	7,8	11,5	14	2250	2500	2850	2850	2850	**2,9**	127,1	330	65000	
10,5	**3100**		1,0	3,5	7,1	10,5	12,5	2500	2750	3100	3100	3100	**2,7**	139,2	330	65000	
9,2	**3650**		0,9	3	6,1	9,2	11	2900	3250	3650	3650	3650	**2,3**	163	330	65000	
8,4	**4000**		0,8	2,8	5,6	8,4	10	3200	3550	4000	4000	4000	**2,1**	178,5	330	65000	
7,2	**4650**		0,7	2,4	4,8	7,2	8,6	3700	4150	4650	4650	4650	**1,8**	208,3	330	65000	
6,5	**5100**		0,65	2,1	4,3	6,5	7,8	4100	4550	5100	5100	5100	**1,6**	228,1	330	65000	
5,7	**5800**		0,55	1,9	3,8	5,7	6,9	4650	5100	5800	5800	5800	**2,9**	259	447	90000	
1,5	**21500**	**BG100G50-../S11SA6**	0,15	0,5	1,0	1,5	1,8	17500	19500	21500	21500	21500	**0,84**	976,1	534	90000	
5,5	**6000**	**BG100Z-../S11SA6**	0,55	1,8	3,7	5,5	6,6	4850	5300	6000	6000	6000	**3,0**	269,8	537	90000	
4,9	**6700**		0,49	1,6	3,3	4,9	5,9	5400	6000	6700	6700	6700	**2,7**	300,4	537	90000	
4,3	**7700**		0,43	1,4	2,9	4,3	5,2	6100	6800	7700	7700	7700	**2,4**	343,6	537	90000	
3,9	**8600**		0,39	1,3	2,6	3,9	4,7	6800	7600	8600	8600	8600	**2,1**	382,6	537	90000	
3,2	**10200**		0,32	1,0	2,1	3,2	3,9	8200	9100	10200	10200	10200	**1,8**	456,7	537	90000	
2,9	**11400**		0,29	0,95	1,9	2,9	3,5	9100	10100	11400	11400	11400	**1,6**	508,5	537	90000	
2,5	**13200**		0,25	0,8	1,6	2,5	3,0	10600	11800	13200	13200	13200	**1,4**	591,1	537	90000	
2,2	**14800**		0,22	0,75	1,5	2,2	2,7	11800	13100	14800	14800	14800	**1,2**	658,1	537	90000	
1,9	**17000**		0,19	0,65	1,3	1,9	2,3	13600	15100	17000	17000	17000	**1,1**	759	537	90000	
1,7	**19000**		0,17	0,55	1,1	1,7	2,1	15200	16900	19000	19000	19000	**0,97**	845,1	537	90000	

M_1 = 35 Nm

n_1 = 1500 $^1/_{min}$

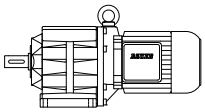


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
560	93	BG30-../S11MA6	56	187	370	560	670	70	80	93	93	93	1,4	2,67	46	1450	
440	119		44	147	290	440	520	90	102	119	119	119	1,2	3,4	46	1580	
355	147		35,5	118	235	355	425	111	126	147	147	147	1,2	4,21	46	1630	
275	190		27,5	91	183	275	330	144	163	190	190	190	1,1	5,44	46	1670	
220	235		22	74	148	220	265	178	200	235	235	235	0,91	6,75	46	1760	
174	300		17	58	116	174	205	225	255	300	300	300	0,81	8,6	46	2800	
600	86	BG40-../S11MA6	60	200	405	600	730	65	73	86	86	86	2,3	2,46	65	2150	
470	111		47	156	310	470	560	84	95	111	111	111	2,0	3,19	65	2350	
375	138		37,5	125	250	375	450	105	119	138	138	138	1,7	3,97	65	2400	
300	172		30	101	200	300	360	130	148	172	172	172	1,5	4,94	65	2450	
235	220		23,5	79	158	235	285	166	188	220	220	220	1,3	6,29	65	2600	
196	265		19,5	65	131	196	235	200	225	265	265	265	1,1	7,62	65	2650	
180	290		18	60	120	180	215	220	245	290	290	290	1,2	8,31	65	4100	
166	315		16,5	55	111	166	200	235	270	315	315	315	0,94	9,0	65	2650	
162	320		16	54	108	162	195	240	275	320	320	320	1,1	9,23	65	4350	
144	360		14	48	96	144	173	270	310	360	360	360	1,0	10,35	65	4350	
130	400		13	43,5	87	130	156	300	340	400	400	400	0,96	11,49	65	4600	
116	450		11,5	38,5	77	116	139	340	385	450	450	450	0,91	12,86	65	4500	
105	495		10,5	35	70	105	126	375	425	495	495	495	0,84	14,28	65	4900	
420	124	BG50-../S11MA6	42	140	280	420	500	94	106	124	124	124	2,8	3,55	75	3300	
305	171		30,5	101	200	305	365	130	147	171	171	171	2,3	4,91	75	3500	
220	235		22	74	148	220	265	178	200	235	235	235	1,9	6,74	75	3750	
172	300		17	57	114	172	205	230	260	300	300	300	1,6	8,7	75	5300	
155	335		15,5	51	103	155	186	255	285	335	335	335	1,5	9,65	75	5600	
124	420		12	41	82	124	149	315	360	420	420	420	1,4	12,06	75	5700	
112	465		11	37	74	112	134	350	400	465	465	465	1,3	13,36	75	6100	
90	570		9,0	30	60	90	108	435	495	570	570	570	1,1	16,53	75	6500	
81	640		8,1	27	54	81	98	485	540	640	640	640	0,98	18,33	75	7200	
68	760		6,8	22,5	45,5	68	81	580	650	760	760	760	0,82	21,96	75	8000	
164	315	BG60-../S11MA6	16	54	109	164	197	240	270	315	315	315	2,8	9,13	107	9800	
148	350		14,5	49	98	148	177	265	300	350	350	350	2,6	10,12	107	10200	
123	425		12	41	82	123	148	320	360	425	425	425	2,3	12,16	107	10800	
111	470		11	37	74	111	133	355	400	470	470	470	2,2	13,47	107	11200	
89	580		8,9	29,5	59	89	107	445	500	580	580	580	1,9	16,8	107	12000	
80	650		8,0	26,5	53	80	96	490	550	650	650	650	1,7	18,62	107	12400	
66	780		6,6	22	44,5	66	80	590	670	780	780	780	1,5	22,4	107	13300	
60	860		6,0	20	40	60	72	650	740	860	860	860	1,4	24,82	107	13800	
51	1020		5,1	17	34	51	61	770	870	1020	1020	1020	1,2	29,31	107	14800	
46	1130		4,6	15	30,5	46	55	860	970	1130	1130	1130	1,1	32,48	107	15400	
38,5	1350		3,8	12,5	25,5	38,5	46	1020	1160	1350	1350	1350	0,88	38,85	107	16000	
34,5	1500		3,4	11,5	23	34,5	41,5	1140	1290	1500	1500	1500	0,8	43,05	107	16000	
65	800	BG70-../S11MA6	6,5	21,5	43,5	65	78	600	680	800	800	800	2,9	22,92	138	15100	
55	950		5,5	18	36,5	55	66	720	810	950	950	950	2,4	27,21	138	16400	
50	1030		5,0	16,5	33,5	50	60	780	890	1030	1030	1030	2,2	29,69	138	16900	
42,5	1230		4,2	14	28	42,5	51	930	1050	1230	1230	1230	1,9	35,24	138	18300	
38	1370		3,8	12,5	25	38	45,5	1030	1170	1370	1370	1370	1,7	39,22	138	19100	
32	1620		3,2	10,5	21	32	38,5	1230	1390	1620	1620	1620	1,4	46,54	138	20000	
29,5	1760		2,9	9,9	19,5	29,5	35,5	1330	1510	1760	1760	1760	1,3	50,4	138	20000	
25	2050		2,5	8,3	16,5	25	30	1580	1790	2050	2050	2050	1,1	59,82	138	20000	
27	1910	BG70Z-../S11MA6	2,7	9,1	18	27	32,5	1440	1630	1910	1910	1910	1,0	54,64	164	20000	
23	2250		2,3	7,7	15	23	27,5	1710	1940	2250	2250	2250	1,0	64,85	164	20000	
20	2550		2,0	6,7	13,5	20	24	1950	2200	2550	2550	2550	0,89	73,82	164	20000	
34	1530	BG80-../S11MA6	3,4	11	22,5	34	40,5	1160	1310	1530	1530	1530	2,7	43,94	192	22600	
30,5	1700		3,0	10	20	30,5	36,5	1290	1460	1700	1700	1700	2,5	48,8	192	23800	
26	2000		2,6	8,7	17	26	31	1510	1710	2000	2000	2000	2,1	57,24	192	25400	
23,5	2200		2,3	7,8	15,5	23,5	28	1680	1900	2200	2200	2200	1,9	63,56	192	26000	
22,5	2300	BG80Z-../S11MA6	2,2	7,5	15	22,5	27	1750	1990	2300	2300	2300	1,8	66,4	234	26000	
20	2550		2,0	6,7	13,5	20	24	1950	2200	2550	2550	2550	1,6	73,73	234	26000	
17,5	2950		1,7	5,9	11,5	17,5	21	2200	2500	2950	2950	2950	1,4	84,55	234	26000	
15,5	3250		1,5	5,3	10,5	15,5	19	2450	2800	3250	3250	3250	1,3	93,89	234	26000	
13	3900		1,3	4,4	8,8	13	16	2950	3350	3900	3900	3900	1,1	112,4	234	26000	
12	4350		1,2	4,0	8,0	12	14	3300	3700	4350	4350	4350	0,96	124,8	234	26000	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 35 Nm

n_1 = 1500 $^1/_{min}$



n2	M2												fB	i_{ges}	m	F_{RN}	F_{RV}
			150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
6,8	**7600**	**BG90G50-../S11MA6**	0,65	2,2	4,5	6,8	8,1	5800	6500	7600	7600	7600	**1,2**	219,9	353	65000	
5,7	**9100**		0,55	1,9	3,8	5,7	6,8	6900	7800	9100	9100	9100	**1,0**	262,5	353	65000	
5,0	**10400**		0,5	1,6	3,3	5,0	6,0	7900	8900	10400	10400	10400	**0,88**	298,8	353	65000	
17,5	**2900**	**BG90Z-../S11MA6**	1,7	5,9	11,5	17,5	21	2200	2500	2900	2900	2900	**2,9**	83,91	336	65000	
15,5	**3350**		1,5	5,1	10	15,5	18,5	2550	2850	3350	3350	3350	**2,5**	96,53	336	65000	
14	**3650**		1,4	4,7	9,4	14	17	2800	3150	3650	3650	3650	**2,3**	105,7	336	65000	
11,5	**4400**		1,1	3,9	7,8	11,5	14	3350	3800	4400	4400	4400	**1,9**	127,1	336	65000	
10,5	**4850**		1,0	3,5	7,1	10,5	12,5	3650	4150	4850	4850	4850	**1,7**	139,2	336	65000	
9,2	**5700**		0,9	3,0	6,1	9,2	11	4300	4850	5700	5700	5700	**1,5**	163	336	65000	
8,4	**6200**		0,8	2,8	5,6	8,4	10	4700	5300	6200	6200	6200	**1,3**	178,5	336	65000	
7,2	**7200**		0,7	2,4	4,8	7,2	8,6	5500	6200	7200	7200	7200	**1,2**	208,3	336	65000	
6,5	**7900**		0,65	2,1	4,3	6,5	7,8	6000	6800	7900	7900	7900	**1,1**	228,1	336	65000	
8,3	**6200**	**BG100-../S11MA6**	0,8	2,7	5,5	8,3	10	4700	5300	6200	6200	6200	**2,7**	178,6	453	90000	
7,5	**6900**		0,75	2,5	5	7,5	9	5200	5900	6900	6900	6900	**2,4**	198,8	453	90000	
6,4	**8100**		0,6	2,1	4,2	6,4	7,7	6100	6900	8100	8100	8100	**2,1**	232,6	453	90000	
5,7	**9000**		0,55	1,9	3,8	5,7	6,9	6800	7700	9000	9000	9000	**1,9**	259	453	90000	
5,5	**9400**	**BG100Z-../S11MA6**	0,55	1,8	3,7	5,5	6,6	7100	8000	9400	9400	9400	**2,0**	269,8	543	90000	
4,9	**10500**		0,49	1,6	3,3	4,9	5,9	7900	9000	10500	10500	10500	**1,8**	300,4	543	90000	
4,3	**12000**		0,43	1,4	2,9	4,3	5,2	9100	10300	12000	12000	12000	**1,5**	343,6	543	90000	
3,9	**13300**		0,39	1,3	2,6	3,9	4,7	10100	11400	13300	13300	13300	**1,4**	382,6	543	90000	
3,2	**15900**		0,32	1,0	2,1	3,2	3,9	12100	13700	15900	15900	15900	**1,2**	456,7	543	90000	
2,9	**17700**		0,29	0,95	1,9	2,9	3,5	13400	15200	17700	17700	17700	**1,0**	508,5	543	90000	
2,5	**20500**		0,25	0,8	1,6	2,5	3,0	15600	17700	20500	20500	20500	**0,89**	591,1	543	90000	
2,2	**23000**		0,22	0,75	1,5	2,2	2,7	17400	19700	23000	23000	23000	**0,8**	658,1	543	90000	

M_1 = 48 Nm

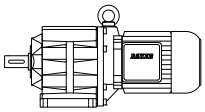
n_1 = 1500 $^1/_{min}$

n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
560	**128**	**BG30-../S11LA6**	56	187	370	560	670	86	105	128	128	126	**1,0**	2,67	58	1450	
440	**163**		44	147	290	440	520	110	133	163	163	161	**0,85**	3,4	58	1580	
355	**200**		35,5	118	235	355	425	136	165	200	200	199	**0,85**	4,21	58	1630	
600	**118**	**BG40-../S11LA6**	60	200	405	600	730	79	96	118	118	116	**1,7**	2,46	77	2150	
470	**153**		47	156	310	470	560	103	125	153	153	151	**1,4**	3,19	77	2350	
375	**190**		37,5	125	250	375	450	129	156	190	190	188	**1,3**	3,97	77	2400	
300	**235**		30	101	200	300	360	160	194	235	235	230	**1,1**	4,94	77	2450	
235	**300**		23,5	79	158	235	285	200	245	300	300	295	**0,98**	6,29	77	2600	
196	**365**		19,5	65	131	196	235	245	300	365	365	360	**0,81**	7,62	77	2650	
180	**395**		18	60	120	180	215	270	325	395	395	390	**0,85**	8,31	77	4100	
162	**440**		16	54	108	162	195	295	360	440	440	435	**0,8**	9,23	77	4350	
600	**118**	**BG50-../S11LA6**	60	200	400	600	720	80	97	118	118	117	**2,6**	2,47	86	2900	
420	**170**		42	140	280	420	500	115	139	170	170	168	**2,0**	3,55	86	3300	
305	**235**		30,5	101	200	305	365	159	193	235	235	230	**1,7**	4,91	86	3500	
220	**320**		22	74	148	220	265	215	265	320	320	320	**1,4**	6,74	86	3750	
172	**415**		17	57	114	172	205	280	340	415	415	410	**1,2**	8,7	86	5300	
155	**460**		15,5	51	103	155	186	310	380	460	460	455	**1,1**	9,65	86	5600	
124	**570**		12	41	82	124	149	390	475	570	570	570	**0,98**	12,06	86	5700	
112	**640**		11	37	74	112	134	430	520	640	640	630	**0,92**	13,36	86	6100	
300	**235**	**BG60-../S11LA6**	30	100	200	300	360	161	196	235	235	235	**2,8**	4,98	119	7800	
215	**330**		21,5	72	145	215	260	220	270	330	330	325	**2,4**	6,88	119	8600	
164	**435**		16	54	109	164	197	295	355	435	435	430	**2,0**	9,13	119	9800	
148	**485**		14,5	49	98	148	177	325	395	485	485	480	**1,9**	10,12	119	10200	
123	**580**		12	41	82	123	148	395	475	580	580	570	**1,7**	12,16	119	10800	
111	**640**		11	37	74	111	133	435	530	640	640	630	**1,6**	13,47	119	11200	
89	**800**		8,9	29,5	59	89	107	540	660	800	800	790	**1,4**	16,8	119	12000	
80	**890**		8,0	26,5	53	80	96	600	730	890	890	880	**1,3**	18,62	119	12400	
66	**1070**		6,6	22	44,5	66	80	720	880	1070	1070	1060	**1,1**	22,4	119	13300	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 48 Nm

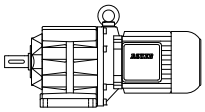
n_1 = 1500 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
84	**840**	**BG70-../S11LA6**	8,4	28	56	84	101	570	690	840	840	830	**2,7**	17,68	149	13400	
71	**1000**		7,1	23,5	47,5	71	85	680	820	1000	1000	990	**2,3**	20,98	149	14600	
65	**1100**		6,5	21,5	43,5	65	78	740	900	1100	1100	1080	**2,1**	22,92	149	15100	
55	**1300**		5,5	18	36,5	55	66	880	1070	1300	1300	1290	**1,8**	27,21	149	16400	
50	**1420**		5,0	16,5	33,5	50	60	960	1160	1420	1420	1410	**1,6**	29,69	149	16900	
42,5	**1690**		4,2	14	28	42,5	51	1140	1380	1690	1690	1670	**1,4**	35,24	149	18300	
38	**1880**		3,8	12,5	25	38	45,5	1270	1540	1880	1880	1860	**1,2**	39,22	149	19100	
32	**2200**		3,2	10,5	21	32	38,5	1510	1830	2200	2200	2200	**1,0**	46,54	149	20000	
29,5	**2400**		2,9	9,9	19,5	29,5	35,5	1630	1980	2400	2400	2350	**0,95**	50,4	149	20000	
25	**2850**		2,5	8,3	16,5	25	30	1940	2350	2850	2850	2800	**0,8**	59,82	149	20000	
51	**1400**	**BG80-../S11LA6**	5,1	17	34	51	61	950	1150	1400	1400	1390	**3,0**	29,36	204	18900	
43,5	**1640**		4,3	14,5	29	43,5	52	1110	1340	1640	1640	1620	**2,6**	34,22	204	20200	
39	**1820**		3,9	13	26	39	47	1230	1490	1820	1820	1800	**2,3**	38	204	21300	
34	**2100**		3,4	11	22,5	34	40,5	1420	1730	2100	2100	2050	**2,0**	43,94	204	22600	
30,5	**2300**		3,0	10	20	30,5	36,5	1580	1920	2300	2300	2300	**1,8**	48,8	204	23800	
26	**2700**		2,6	8,7	17	26	31	1860	2250	2700	2700	2700	**1,5**	57,24	204	25400	
23,5	**3050**		2,3	7,8	15,5	23,5	28	2050	2500	3050	3050	3000	**1,4**	63,56	204	26000	
22,5	**3150**	**BG80Z-../S11LA6**	2,2	7,5	15	22,5	27	2150	2600	3150	3150	3150	**1,3**	66,4	246	26000	
20	**3500**		2,0	6,7	13,5	20	24	2350	2900	3500	3500	3500	**1,2**	73,73	246	26000	
17,5	**4050**		1,7	5,9	11,5	17,5	21	2700	3300	4050	4050	4000	**1,0**	84,55	246	26000	
15,5	**4500**		1,5	5,3	10,5	15,5	19	3050	3650	4500	4500	4450	**0,93**	93,89	246	26000	
6,8	**10500**	**BG90G50-../S11LA6**	0,65	2,2	4,5	6,8	8,1	7100	8600	10500	10500	10400	**0,87**	219,9	365	65000	
26	**2700**	**BG90Z-../S11LA6**	2,6	8,7	17,5	26	31,5	1850	2200	2700	2700	2700	**2,5**	57,04	348	65000	
24	**2950**		2,4	8	16	24	28,5	2000	2450	2950	2950	2950	**2,5**	62,47	348	65000	
19,5	**3650**		1,9	6,5	13	19,5	23	2450	3000	3650	3650	3600	**2,3**	76,61	348	65000	
17,5	**4000**		1,7	5,9	11,5	17,5	21	2700	3300	4000	4000	3950	**2,1**	83,91	348	65000	
15,5	**4600**		1,5	5,1	10	15,5	18,5	3100	3800	4600	4600	4550	**1,8**	96,53	348	65000	
14	**5000**		1,4	4,7	9,4	14	17	3400	4150	5000	5000	5000	**1,7**	105,7	348	65000	
11,5	**6100**		1,1	3,9	7,8	11,5	14	4100	5000	6100	6100	6000	**1,4**	127,1	348	65000	
10,5	**6600**		1,0	3,5	7,1	10,5	12,5	4500	5400	6600	6600	6600	**1,3**	139,2	348	65000	
9,2	**7800**		0,9	3	6,1	9,2	11	5200	6400	7800	7800	7700	**1,1**	163	348	65000	
8,4	**8500**		0,8	2,8	5,6	8,4	10	5800	7000	8500	8500	8400	**0,98**	178,5	348	65000	
7,2	**9900**		0,7	2,4	4,8	7,2	8,6	6700	8200	9900	9900	9800	**0,84**	208,3	348	65000	
12,5	**5700**	**BG100-../S11LA6**	1,2	4,1	8,3	12,5	15	3850	4700	5700	5700	5600	**2,9**	119,7	465	90000	
10,5	**6600**		1,0	3,5	7,1	10,5	12,5	4500	5400	6600	6600	6600	**2,5**	139,1	465	90000	
9,6	**7400**		0,95	3,2	6,4	9,6	11,5	5000	6000	7400	7400	7300	**2,3**	154,8	465	90000	
8,3	**8500**		0,8	2,7	5,5	8,3	10	5800	7000	8500	8500	8400	**2,0**	178,6	465	90000	
7,5	**9500**		0,75	2,5	5,0	7,5	9,0	6400	7800	9500	9500	9400	**1,8**	198,8	465	90000	
6,4	**11100**		0,6	2,1	4,2	6,4	7,7	7500	9100	11100	11100	11000	**1,5**	232,6	465	90000	
5,7	**12400**		0,55	1,9	3,8	5,7	6,9	8400	10200	12400	12400	12300	**1,4**	259	465	90000	
5,5	**12900**	**BG100Z-../S11LA6**	0,55	1,8	3,7	5,5	6,6	8700	10600	12900	12900	12800	**1,4**	269,8	555	90000	
4,9	**14400**		0,49	1,6	3,3	4,9	5,9	9700	11800	14400	14400	14200	**1,3**	300,4	555	90000	
4,3	**16400**		0,43	1,4	2,9	4,3	5,2	11100	13500	16400	16400	16300	**1,1**	343,6	555	90000	
3,9	**18300**		0,39	1,3	2,6	3,9	4,7	12400	15000	18300	18300	18100	**1,0**	382,6	555	90000	
3,2	**21500**		0,32	1,0	2,1	3,2	3,9	14800	17900	21500	21500	21500	**0,84**	456,7	555	90000	

$M_1 = 7$ Nm

$n_1 = 3000\ ^1/_{min}$

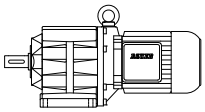


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
1060	**18,3**	**BG06-../S08MA4**	53	177	350	1060	1270	14,1	15,7	18,3	18,3	18,3	**0,98**	2,82	16	470	
790	**24,5**		39,5	132	260	790	950	18,8	21	24,5	24,5	24,5	**0,81**	3,78	16	520	
870	**22**	**BG10-../S08MA4**	43,5	146	290	870	1050	17,1	19,1	22	22	22	**2,8**	3,42	16	630	880.0
680	**28**		34	114	225	680	820	21,5	24	28	28	28	**2,4**	4,36	16	650	910.0
560	**34,5**		28	93	187	560	670	26,5	29,5	34,5	34,5	34,5	**2,2**	5,34	16	620	910.0
440	**44**		22	73	147	440	530	33,5	37,5	44	44	44	**1,8**	6,78	16	660	920.0
370	**52**		18,5	61	123	370	445	40	45	52	52	52	**1,7**	8,07	16	660	920.0
320	**60**		16	53	107	320	385	46,5	52	60	60	60	**1,6**	9,33	16	950	1330.0
290	**67**		14,5	48	96	290	345	51	57	67	67	67	**1,5**	10,34	16	1000	1400.0
250	**77**		12,5	41,5	83	250	300	59	66	77	77	77	**1,4**	11,92	16	1030	1440.0
225	**85**		11	37,5	75	225	270	66	73	85	85	85	**1,3**	13,21	16	1070	1490.0
205	**94**		10	34	68	205	245	72	81	94	94	94	**1,2**	14,58	16	1100	1540.0
185	**104**		9,2	30,5	61	185	220	80	90	104	104	104	**1,1**	16,15	16	1140	1590.0
162	**120**		8,1	27	54	162	194	92	103	120	120	120	**1,0**	18,51	16	1210	1690.0
146	**133**		7,3	24	48,5	146	175	102	114	133	133	133	**0,9**	20,51	16	1290	1800.0
136	**143**		6,8	22,5	45	136	163	110	123	143	143	143	**0,84**	22,04	16	1330	1860.0
460	**42**	**BG20-../S08MA4**	23	77	154	460	550	32	36	42	42	42	**2,9**	6,48	19	2250	
370	**52**		18,5	62	124	370	445	40	44,5	52	52	52	**2,6**	8,02	19	2500	
360	**53**		18	60	120	360	430	41	46	53	53	53	**2,3**	8,29	19	2250	
335	**57**		16,5	56	112	335	400	44,5	49,5	57	57	57	**2,5**	8,91	19	2600	
310	**62**		15,5	51	103	310	370	48	54	62	62	62	**1,9**	9,65	19	2250	
280	**68**		14	47	94	280	340	52	59	68	68	68	**2,2**	10,54	19	2700	
255	**76**		12,5	42,5	85	255	305	58	65	76	76	76	**2,1**	11,71	19	2800	
225	**85**		11	37,5	75	225	270	66	73	85	85	85	**1,9**	13,21	19	2900	
200	**95**		10	34	68	200	245	73	82	95	95	95	**1,8**	14,67	19	3050	
192	**101**		9,6	32	64	192	230	77	87	101	101	101	**1,7**	15,58	19	3100	
173	**112**		8,6	28,5	57	173	205	86	96	112	112	112	**1,6**	17,31	19	3200	
150	**129**		7,5	25	50	150	180	99	111	129	129	129	**1,5**	19,95	19	3350	
135	**144**		6,7	22,5	45	135	162	110	124	144	144	144	**1,4**	22,16	19	3500	
129	**150**		6,4	21,5	43	129	155	116	130	150	150	150	**1,3**	23,22	19	3550	
116	**167**		5,8	19	38,5	116	139	128	144	167	167	167	**1,2**	25,79	19	3700	
107	**181**		5,3	17,5	35,5	107	129	139	155	181	181	181	**1,1**	27,85	19	3800	
96	**200**		4,8	16	32	96	116	154	173	200	200	200	**0,99**	30,94	19	4000	
90	**215**		4,5	15	30	90	108	166	186	215	215	215	**0,92**	33,33	19	4100	
81	**240**		4,0	13,5	27	81	97	185	205	240	240	240	**0,83**	37,02	19	4300	
196	**99**	**BG30-../S08MA4**	9,8	32,5	65	196	235	76	85	99	99	99	**3,0**	15,27	23	3450	
175	**110**		8,7	29	58	175	210	85	95	110	110	110	**2,7**	17,06	23	3700	
158	**123**		7,9	26	52	158	190	94	106	123	123	123	**2,4**	18,93	23	4100	
150	**129**		7,5	25	50	150	180	99	111	129	129	129	**2,3**	19,99	23	4200	
135	**144**		6,7	22,5	45	135	162	110	124	144	144	144	**2,1**	22,18	23	4600	
117	**165**		5,8	19,5	39	117	141	127	142	165	165	165	**1,8**	25,45	23	4850	
106	**183**		5,3	17,5	35	106	127	141	158	183	183	183	**1,6**	28,24	23	5100	
100	**193**		5,0	16,5	33,5	100	120	149	167	193	193	193	**1,5**	29,83	23	5200	
90	**215**		4,5	15	30	90	108	165	185	215	215	215	**1,4**	33,09	23	5400	
85	**225**		4,2	14	28	85	102	175	196	225	225	225	**1,3**	35,17	23	5500	
76	**250**		3,8	12,5	25,5	76	92	195	215	250	250	250	**1,2**	39,02	23	5800	
70	**275**		3,5	11,5	23,5	70	84	210	235	275	275	275	**1,1**	42,46	23	5900	
63	**305**		3,1	10,5	21	63	76	235	260	305	305	305	**0,98**	47,11	23	6000	
57	**340**		2,8	9,5	19	57	68	260	290	340	340	340	**0,88**	52,44	23	6000	
136	**143**	**BG40-../S08MA4**	6,8	22,5	45	136	163	110	123	143	143	143	**3,0**	22,02	38	6000	
128	**152**		6,4	21	42,5	128	153	117	131	152	152	152	**2,8**	23,43	38	6200	
115	**169**		5,7	19	38	115	138	130	145	169	169	169	**2,5**	26,01	38	6500	
102	**190**		5,1	17	34	102	122	146	164	190	190	190	**2,2**	29,34	38	6800	
92	**210**		4,6	15	30,5	92	110	162	182	210	210	210	**2,0**	32,57	38	7000	
87	**220**		4,3	14,5	29	87	105	171	191	220	220	220	**1,9**	34,2	38	7000	
79	**245**		3,9	13	26	79	94	189	210	245	245	245	**1,7**	37,96	38	7000	
74	**260**		3,7	12	24,5	74	89	200	225	260	260	260	**1,6**	40,19	38	7000	
67	**290**		3,3	11	22	67	80	220	245	290	290	290	**1,5**	44,62	38	7000	
62	**310**		3,1	10	20,5	62	74	240	270	310	310	310	**1,4**	48,36	38	7000	
55	**345**		2,7	9,3	18,5	55	67	265	300	345	345	345	**1,2**	53,69	38	7000	
50	**385**		2,5	8,3	16,5	50	60	295	330	385	385	385	**1,1**	59,64	38	7000	
45	**430**		2,2	7,5	15	45	54	330	370	430	430	430	**0,99**	66,2	38	7000	
44	**440**	**BG40Z-../S08MA4**	2,2	7,3	14,5	44	53	335	375	440	440	440	**0,97**	67,74	42	7000	
39,5	**485**		1,9	6,6	13	39,5	47,5	375	420	485	485	485	**0,87**	75,19	42	7000	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 7 Nm

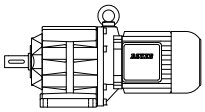
n_1 = 3000 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
91	**210**	**BG50-../S08MA4**	4,5	15	30	91	109	164	183	210	210	210	**3,0**	32,84	46	8700	
79	**245**		3,9	13	26	79	95	189	210	245	245	245	**2,6**	37,89	46	10000	
71	**270**		3,5	11,5	23,5	71	85	210	235	270	270	270	**2,3**	42	46	10000	
63	**305**		3,1	10,5	21	63	76	235	260	305	305	305	**2,1**	47,02	46	10000	
57	**335**		2,8	9,5	19	57	69	260	290	335	335	335	**1,9**	52,12	46	10000	
50	**385**		2,5	8,4	16,5	50	60	295	330	385	385	385	**1,6**	59,42	46	10000	
45,5	**425**		2,2	7,5	15	45,5	54	325	365	425	425	425	**1,5**	65,86	46	10000	
41,5	**465**	**BG50Z-../S08MA4**	2,0	6,9	13,5	41,5	50	355	400	465	465	465	**1,3**	71,97	51	10000	
37,5	**510**		1,8	6,2	12,5	37,5	45	395	445	510	510	510	**1,2**	79,78	51	10000	
31	**620**		1,5	5,2	10	31	37,5	475	530	620	620	620	**1,0**	95,58	51	10000	
28	**680**		1,4	4,7	9,4	28	33,5	530	590	680	680	680	**0,91**	106	51	10000	
43,5	**440**	**BG60Z-../S08MA4**	2,1	7,3	14,5	43,5	52	340	380	440	440	440	**2,7**	68,32	96	16000	
39,5	**490**		1,9	6,6	13	39,5	47,5	375	420	490	490	490	**2,4**	75,71	96	16000	
32,5	**590**		1,6	5,4	10,5	32,5	39,5	455	510	590	590	590	**2,0**	91,09	96	16000	
29,5	**650**		1,4	4,9	9,9	29,5	35,5	500	560	650	650	650	**1,8**	101	96	16000	
25	**770**		1,2	4,1	8,3	25	30	590	660	770	770	770	**1,5**	119,2	96	16000	
22,5	**850**		1,1	3,7	7,5	22,5	27	660	730	850	850	850	**1,4**	132,1	96	16000	
18,5	**1020**		0,9	3,1	6,3	18,5	22,5	790	880	1020	1020	1020	**1,2**	158	96	16000	
17	**1130**		0,85	2,8	5,7	17	20,5	870	980	1130	1130	1130	**1,1**	175,1	96	16000	
14,5	**1320**		0,7	2,4	4,8	14,5	17,5	1020	1140	1320	1320	1320	**0,9**	204,6	96	16000	
13	**1470**		0,65	2,2	4,4	13	15,5	1130	1260	1470	1470	1470	**0,81**	226,7	96	16000	
11,5	**1660**	**BG70G20-../S08MA4**	0,55	1,9	3,9	11,5	14	1270	1430	1660	1660	1660	**1,5**	255,5	133	20000	
10,5	**1790**		0,5	1,8	3,6	10,5	13	1380	1540	1790	1790	1790	**1,4**	276,7	133	20000	
9,1	**2100**		0,45	1,5	3	9,1	10,5	1640	1830	2100	2100	2100	**1,2**	328,4	133	20000	
7,7	**2500**		0,38	1,2	2,5	7,7	9,2	1930	2150	2500	2500	2500	**0,99**	387,6	133	20000	
7,1	**2700**		0,35	1,1	2,3	7,1	8,6	2050	2300	2700	2700	2700	**0,92**	417,8	133	20000	
24	**800**	**BG70Z-../S08MA4**	1,2	4,0	8,0	24	29	620	690	800	800	800	**2,9**	124	136	20000	
20	**950**		1,0	3,3	6,7	20	24	730	820	950	950	950	**2,4**	147,2	136	20000	
18	**1060**		0,9	3	6,1	18	21,5	810	910	1060	1060	1060	**2,2**	163,8	136	20000	
15	**1260**		0,75	2,5	5,1	15	18,5	970	1080	1260	1260	1260	**1,8**	194,4	136	20000	
14	**1360**		0,7	2,3	4,7	14	17	1050	1170	1360	1360	1360	**1,7**	210,5	136	20000	
12	**1620**		0,6	2,0	4,0	12	14	1240	1390	1620	1620	1620	**1,4**	249,8	136	20000	
11,5	**1630**	**BG80G40-../S08MA4**	0,55	1,9	3,9	11,5	14	1260	1410	1630	1630	1630	**2,8**	252,3	215	26000	
10,5	**1830**		0,5	1,7	3,5	10,5	12,5	1410	1580	1830	1830	1830	**2,5**	282,8	215	26000	
9,5	**2000**		0,47	1,5	3,1	9,5	11	1570	1750	2000	2000	2000	**2,3**	314	215	26000	
8,3	**2300**		0,41	1,3	2,7	8,3	10	1800	2000	2300	2300	2300	**2,0**	360	215	26000	
7,5	**2550**		0,37	1,2	2,5	7,5	9,0	1990	2200	2550	2550	2550	**1,8**	399,8	215	26000	
6,8	**2800**		0,34	1,1	2,2	6,8	8,2	2150	2400	2800	2800	2800	**1,6**	436,2	215	26000	
6,1	**3100**		0,3	1,0	2,0	6,1	7,4	2400	2700	3100	3100	3100	**1,5**	484,3	215	26000	
5,2	**3700**		0,26	0,85	1,7	5,2	6,2	2850	3200	3700	3700	3700	**1,2**	572	215	26000	
4,5	**4250**		0,22	0,75	1,5	4,5	5,4	3250	3650	4250	4250	4250	**1,1**	657,8	215	26000	
4,1	**4700**		0,2	0,65	1,3	4,1	4,9	3650	4050	4700	4700	4700	**0,97**	730,3	215	26000	
3,6	**5300**		0,18	0,6	1,2	3,6	4,4	4050	4550	5300	5300	5300	**0,87**	817,4	215	26000	
5,9	**3250**	**BG90G50-../S08MA4**	0,29	0,95	1,9	5,9	7,1	2500	2800	3250	3250	3250	**2,8**	504,7	324	65000	
5,0	**3800**		0,25	0,8	1,6	5	6,1	2900	3250	3800	3800	3800	**2,4**	588,8	324	65000	
4,6	**4150**		0,23	0,75	1,5	4,6	5,5	3200	3600	4150	4150	4150	**2,2**	644,7	324	65000	
4,2	**4600**		0,21	0,7	1,4	4,2	5,0	3550	3950	4600	4600	4600	**2,0**	714,2	324	65000	
3,3	**5700**		0,16	0,55	1,1	3,3	4,0	4400	4900	5700	5700	5700	**1,6**	883,7	324	65000	
2,5	**7600**		0,12	0,42	0,85	2,5	3,0	5800	6500	7600	7600	7600	**1,2**	1174	324	65000	
2,3	**8400**		0,11	0,38	0,75	2,3	2,7	6500	7200	8400	8400	8400	**1,1**	1301	324	65000	
1,8	**10200**		0,09	0,31	0,6	1,8	2,2	7900	8800	10200	10200	10200	**0,89**	1583	324	65000	
1,7	**11400**		0,085	0,28	0,55	1,7	2,0	8700	9800	11400	11400	11400	**0,81**	1756	324	65000	
3,0	**6300**	**BG100G50-../S08MA4**	0,15	0,5	1,0	3,0	3,6	4850	5400	6300	6300	6300	**2,9**	976,1	512	90000	
2,8	**6700**		0,14	0,47	0,95	2,8	3,4	5200	5800	6700	6700	6700	**2,7**	1043	512	90000	
2,4	**7800**		0,12	0,41	0,8	2,4	2,9	6000	6700	7800	7800	7800	**2,4**	1204	512	90000	
2,0	**9300**		0,1	0,34	0,65	2,0	2,4	7200	8000	9300	9300	9300	**2,0**	1444	512	90000	
1,7	**10900**		0,085	0,29	0,55	1,7	2,1	8300	9300	10900	10900	10900	**1,7**	1678	512	90000	
1,6	**12100**		0,08	0,26	0,5	1,6	1,9	9300	10400	12100	12100	12100	**1,5**	1867	512	90000	
1,3	**14000**		0,065	0,23	0,46	1,3	1,6	10700	12000	14000	14000	14000	**1,3**	2154	512	90000	
1,1	**17200**		0,055	0,18	0,37	1,1	1,3	13200	14800	17200	17200	17200	**1,1**	2656	512	90000	
1,0	**19100**		0,05	0,16	0,33	1,0	1,2	14700	16500	19100	19100	19100	**0,96**	2952	512	90000	
0,9	**21000**		0,045	0,15	0,3	0,9	1,0	16400	18400	21000	21000	21000	**0,87**	3286	512	90000	

$M_1 = 9{,}55$ Nm

$n_1 = 3000\ ^1/_{min}$

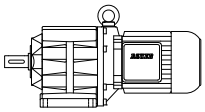


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
1190	**24**	**BG10-../S08LA4**	59	198	395	1190	1420	16,3	20	24	24	24	**2,3**	2,52	18	560	790.0
870	**32,5**		43,5	146	290	870	1050	22	27	32,5	32,5	32,5	**1,9**	3,42	18	630	880.0
680	**41,5**		34	114	225	680	820	28	34,5	41,5	41,5	41,5	**1,6**	4,36	18	650	910.0
560	**50**		28	93	187	560	670	34,5	42,5	50	50	50	**1,5**	5,34	18	620	910.0
440	**64**		22	73	147	440	530	44	54	64	64	64	**1,3**	6,78	18	660	920.0
370	**77**		18,5	61	123	370	445	52	64	77	77	77	**1,1**	8,07	18	660	920.0
320	**89**		16	53	107	320	385	60	74	89	89	89	**1,1**	9,33	18	950	1330.0
290	**98**		14,5	48	96	290	345	67	82	98	98	98	**1,0**	10,34	18	1000	1400.0
250	**113**		12,5	41,5	83	250	300	77	95	113	113	113	**0,92**	11,92	18	1030	1440.0
225	**126**		11	37,5	75	225	270	85	105	126	126	126	**0,87**	13,21	18	1070	1490.0
205	**139**		10	34	68	205	245	94	116	139	139	139	**0,82**	14,58	18	1100	1540.0
900	**31,5**	**BG20-../S08LA4**	45	150	300	900	1080	21,5	26,5	31,5	31,5	31,5	**2,9**	3,33	20	1830	
680	**41,5**		34	114	225	680	820	28	35	41,5	41,5	41,5	**2,5**	4,38	20	1990	
540	**52**		27	91	182	540	650	35,5	43,5	52	52	52	**2,2**	5,49	20	2100	
460	**61**		23	77	154	460	550	42	51	61	61	61	**2,0**	6,48	20	2250	
370	**76**		18,5	62	124	370	445	52	64	76	76	76	**1,8**	8,02	20	2500	
360	**79**		18	60	120	360	430	53	66	79	79	79	**1,5**	8,29	20	2250	
335	**85**		16,5	56	112	335	400	57	71	85	85	85	**1,7**	8,91	20	2600	
310	**92**		15,5	51	103	310	370	62	77	92	92	92	**1,3**	9,65	20	2250	
280	**100**		14	47	94	280	340	68	84	100	100	100	**1,5**	10,54	20	2700	
255	**111**		12,5	42,5	85	255	305	76	93	111	111	111	**1,4**	11,71	20	2800	
225	**126**		11	37,5	75	225	270	85	105	126	126	126	**1,3**	13,21	20	2900	
200	**140**		10	34	68	200	245	95	117	140	140	140	**1,2**	14,67	20	3050	
192	**148**		9,6	32	64	192	230	101	124	148	148	148	**1,2**	15,58	20	3100	
173	**165**		8,6	28,5	57	173	205	112	138	165	165	165	**1,1**	17,31	20	3200	
150	**190**		7,5	25	50	150	180	129	159	190	190	190	**1,0**	19,95	20	3350	
135	**210**		6,7	22,5	45	135	162	144	177	210	210	210	**0,95**	22,16	20	3500	
129	**220**		6,4	21,5	43	129	155	150	185	220	220	220	**0,9**	23,22	20	3550	
116	**245**		5,8	19	38,5	116	139	167	205	245	245	245	**0,81**	25,79	20	3700	
375	**75**	**BG30-../S08LA4**	18,5	63	126	375	455	51	63	75	75	75	**2,8**	7,91	25	1760	
345	**82**		17	58	116	345	415	55	68	82	82	82	**3,0**	8,6	25	2800	
310	**91**		15,5	52	104	310	375	62	76	91	91	91	**2,7**	9,55	25	3000	
280	**101**		14	46,5	93	280	335	69	85	101	101	101	**2,6**	10,65	25	2950	
250	**112**		12,5	42	84	250	300	76	94	112	112	112	**2,4**	11,82	25	3200	
215	**131**		10,5	36	72	215	260	89	110	131	131	131	**2,2**	13,77	25	3150	
196	**145**		9,8	32,5	65	196	235	99	122	145	145	145	**2,1**	15,27	25	3450	
175	**162**		8,7	29	58	175	210	110	136	162	162	162	**1,8**	17,06	25	3700	
158	**180**		7,9	26	52	158	190	123	151	180	180	180	**1,7**	18,93	25	4100	
150	**190**		7,5	25	50	150	180	129	159	190	190	190	**1,6**	19,99	25	4200	
135	**210**		6,7	22,5	45	135	162	144	177	210	210	210	**1,4**	22,18	25	4600	
117	**240**		5,8	19,5	39	117	141	165	200	240	240	240	**1,2**	25,45	25	4850	
106	**265**		5,3	17,5	35	106	127	183	225	265	265	265	**1,1**	28,24	25	5100	
100	**280**		5,0	16,5	33,5	100	120	193	235	280	280	280	**1,1**	29,83	25	5200	
90	**315**		4,5	15	30	90	108	215	260	315	315	315	**0,95**	33,09	25	5400	
85	**335**		4,2	14	28	85	102	225	280	335	335	335	**0,89**	35,17	25	5500	
76	**370**		3,8	12,5	25,5	76	92	250	310	370	370	370	**0,81**	39,02	25	5800	
183	**156**	**BG40-../S08LA4**	9,1	30,5	61	183	215	106	131	156	156	156	**2,7**	16,39	40	5300	
164	**173**		8,2	27	54	164	197	118	145	173	173	173	**2,4**	18,19	40	5600	
151	**189**		7,5	25	50	151	181	128	158	189	189	189	**2,2**	19,84	40	5800	
136	**210**		6,8	22,5	45	136	163	143	176	210	210	210	**2,0**	22,02	40	6000	
128	**220**		6,4	21	42,5	128	153	152	187	220	220	220	**1,9**	23,43	40	6200	
115	**245**		5,7	19	38	115	138	169	205	245	245	245	**1,7**	26,01	40	6500	
102	**280**		5,1	17	34	102	122	190	230	280	280	280	**1,5**	29,34	40	6800	
92	**310**		4,6	15	30,5	92	110	210	260	310	310	310	**1,4**	32,57	40	7000	
87	**325**		4,3	14,5	29	87	105	220	270	325	325	325	**1,3**	34,2	40	7000	
79	**360**		3,9	13	26	79	94	245	300	360	360	360	**1,2**	37,96	40	7000	
74	**380**		3,7	12	24,5	74	89	260	320	380	380	380	**1,1**	40,19	40	7000	
67	**425**		3,3	11	22	67	80	290	355	425	425	425	**1,0**	44,62	40	7000	
62	**460**		3,1	10	20,5	62	74	310	385	460	460	460	**0,92**	48,36	40	7000	
55	**510**		2,7	9,3	18,5	55	67	345	425	510	510	510	**0,83**	53,69	40	7000	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 9,55 Nm

n_1 = 3000 $^1/_{min}$

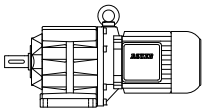


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
136	205	BG50-../S08LA4	6,8	22,5	45,5	136	163	142	175	205	205	205	**3,0**	21,96	48	8000	
123	230		6,1	20,5	41	123	147	158	194	230	230	230	**2,7**	24,34	48	8700	
101	280		5,0	16,5	33,5	101	121	192	235	280	280	280	**2,2**	29,62	48	8000	
91	310		4,5	15	30	91	109	210	260	310	310	310	**2,0**	32,84	48	8700	
79	360		3,9	13	26	79	95	245	300	360	360	360	**1,7**	37,89	48	10000	
71	400		3,5	11,5	23,5	71	85	270	335	400	400	400	**1,6**	42	48	10000	
63	445		3,1	10,5	21	63	76	305	375	445	445	445	**1,4**	47,02	48	10000	
57	495		2,8	9,5	19	57	69	335	415	495	495	495	**1,3**	52,12	48	10000	
50	560		2,5	8,4	16,5	50	60	385	475	560	560	560	**1,1**	59,42	48	10000	
45,5	620		2,2	7,5	15	45,5	54	425	520	620	620	620	**1,0**	65,86	48	10000	
41,5	680	BG50Z-../S08LA4	2,0	6,9	13,5	41,5	50	465	570	680	680	680	**0,92**	71,97	52	10000	
37,5	760		1,8	6,2	12,5	37,5	45	510	630	760	760	760	**0,83**	79,78	52	10000	
43,5	650	BG60Z-../S08LA4	2,1	7,3	14,5	43,5	52	440	540	650	650	650	**1,8**	68,32	97	16000	
39,5	720		1,9	6,6	13	39,5	47,5	490	600	720	720	720	**1,7**	75,71	97	16000	
32,5	860		1,6	5,4	10,5	32,5	39,5	590	720	860	860	860	**1,4**	91,09	97	16000	
29,5	960		1,4	4,9	9,9	29,5	35,5	650	800	960	960	960	**1,2**	101	97	16000	
25	1130		1,2	4,1	8,3	25	30	770	950	1130	1130	1130	**1,1**	119,2	97	16000	
22,5	1260		1,1	3,7	7,5	22,5	27	850	1050	1260	1260	1260	**0,95**	132,1	97	16000	
18,5	1500		0,9	3,1	6,3	18,5	22,5	1020	1260	1500	1500	1500	**0,8**	158	97	16000	
11,5	2400	BG70G20-../S08LA4	0,55	1,9	3,9	11,5	14	1660	2000	2400	2400	2400	**1,0**	255,5	135	20000	
10,5	2600		0,5	1,8	3,6	10,5	13	1790	2200	2600	2600	2600	**0,95**	276,7	135	20000	
9,1	3100		0,45	1,5	3,0	9,1	10,5	2100	2600	3100	3100	3100	**0,8**	328,4	135	20000	
34	830	BG70Z-../S08LA4	1,7	5,7	11	34	41	560	700	830	830	830	**2,7**	87,61	137	20000	
31	910		1,5	5,2	10	31	37,5	620	760	910	910	910	**2,5**	95,74	137	20000	
26	1080		1,3	4,4	8,8	26	31,5	730	900	1080	1080	1080	**2,1**	113,6	137	20000	
24	1180		1,2	4,0	8,0	24	29	800	990	1180	1180	1180	**1,9**	124	137	20000	
20	1400		1,0	3,3	6,7	20	24	950	1170	1400	1400	1400	**1,6**	147,2	137	20000	
18	1560		0,9	3	6,1	18	21,5	1060	1310	1560	1560	1560	**1,5**	163,8	137	20000	
15	1850		0,75	2,5	5,1	15	18,5	1260	1550	1850	1850	1850	**1,2**	194,4	137	20000	
14	2000		0,7	2,3	4,7	14	17	1360	1680	2000	2000	2000	**1,1**	210,5	137	20000	
12	2350		0,6	2,0	4,0	12	14	1620	1990	2350	2350	2350	**0,96**	249,8	137	20000	
13	2150	BG80G40-../S08LA4	0,65	2,2	4,4	13	15,5	1470	1810	2150	2150	2150	**2,1**	227,2	216	26000	
11,5	2400		0,55	1,9	3,9	11,5	14	1630	2000	2400	2400	2400	**1,9**	252,3	216	26000	
10,5	2700		0,5	1,7	3,5	10,5	12,5	1830	2250	2700	2700	2700	**1,7**	282,8	216	26000	
9,5	2950		0,47	1,5	3,1	9,5	11	2000	2500	2950	2950	2950	**1,5**	314	216	26000	
8,3	3400		0,41	1,3	2,7	8,3	10	2300	2850	3400	3400	3400	**1,3**	360	216	26000	
7,5	3800		0,37	1,2	2,5	7,5	9,0	2550	3150	3800	3800	3800	**1,2**	399,8	216	26000	
6,8	4150		0,34	1,1	2,2	6,8	8,2	2800	3450	4150	4150	4150	**1,1**	436,2	216	26000	
6,1	4600		0,3	1,0	2,0	6,1	7,4	3100	3850	4600	4600	4600	**0,99**	484,3	216	26000	
5,2	5400		0,26	0,85	1,7	5,2	6,2	3700	4550	5400	5400	5400	**0,84**	572	216	26000	
8,3	3400	BG90G50-../S08LA4	0,41	1,3	2,7	8,3	9,9	2300	2850	3400	3400	3400	**2,7**	360,3	326	65000	
6,8	4150		0,34	1,1	2,2	6,8	8,2	2800	3450	4150	4150	4150	**2,2**	435,8	326	65000	
5,9	4800		0,29	0,95	1,9	5,9	7,1	3250	4000	4800	4800	4800	**1,9**	504,7	326	65000	
5,0	5600		0,25	0,8	1,6	5	6,1	3800	4700	5600	5600	5600	**1,6**	588,8	326	65000	
4,6	6100		0,23	0,75	1,5	4,6	5,5	4150	5100	6100	6100	6100	**1,5**	644,7	326	65000	
4,2	6800		0,21	0,7	1,4	4,2	5,0	4600	5700	6800	6800	6800	**1,3**	714,2	326	65000	
3,3	8400		0,16	0,55	1,1	3,3	4,0	5700	7000	8400	8400	8400	**1,1**	883,7	326	65000	
2,5	11200		0,12	0,42	0,85	2,5	3,0	7600	9300	11200	11200	11200	**0,82**	1174	326	65000	
3,0	9300	BG100G50-../S08LA4	0,15	0,5	1,0	3,0	3,6	6300	7800	9300	9300	9300	**2,0**	976,1	513	90000	
2,8	9900		0,14	0,47	0,95	2,8	3,4	6700	8300	9900	9900	9900	**1,9**	1043	513	90000	
2,4	11400		0,12	0,41	0,8	2,4	2,9	7800	9600	11400	11400	11400	**1,6**	1204	513	90000	
2,0	13700		0,1	0,34	0,65	2,0	2,4	9300	11500	13700	13700	13700	**1,3**	1444	513	90000	
1,7	16000		0,085	0,29	0,55	1,7	2,1	10900	13400	16000	16000	16000	**1,2**	1678	513	90000	
1,6	17800		0,08	0,26	0,5	1,6	1,9	12100	14900	17800	17800	17800	**1,0**	1867	513	90000	
1,3	20500		0,065	0,23	0,46	1,3	1,6	14000	17200	20500	20500	20500	**0,9**	2154	513	90000	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 12,75 Nm

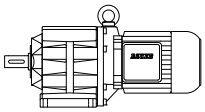
n_1 = 3000 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
1190	32,5	BG10-../S09SA4	59	198	395	1190	1420	20	25	32,5	32,5	27,5	1,7	2,52	22	560	790.0
870	44		43,5	146	290	870	1050	27	34	44	44	37,5	1,4	3,42	22	630	880.0
680	56		34	114	225	680	820	34,5	43,5	56	56	47,5	1,2	4,36	22	650	910.0
560	69		28	93	187	560	670	42,5	53	69	69	58	1,1	5,34	22	620	910.0
440	88		22	73	147	440	530	54	67	88	88	74	0,92	6,78	22	660	920.0
370	104		18,5	61	123	370	445	64	80	104	104	88	0,84	8,07	22	660	920.0
320	121		16	53	107	320	385	74	93	121	121	102	0,8	9,33	22	950	1330.0
1190	32,5	BG20-../S09SA4	59	198	395	1190	1420	20	25	32,5	32,5	27,5	2,6	2,52	24	1660	
900	43		45	150	300	900	1080	26,5	33	43	43	36,5	2,1	3,33	24	1830	
680	56		34	114	225	680	820	35	43,5	56	56	48	1,8	4,38	24	1990	
540	71		27	91	182	540	650	43,5	54	71	71	60	1,6	5,49	24	2100	
460	84		23	77	154	460	550	51	64	84	84	71	1,4	6,48	24	2250	
370	104		18,5	62	124	370	445	64	80	104	104	88	1,3	8,02	24	2500	
360	107		18	60	120	360	430	66	82	107	107	91	1,1	8,29	24	2250	
335	115		16,5	56	112	335	400	71	89	115	115	98	1,2	8,91	24	2600	
310	125		15,5	51	103	310	370	77	96	125	125	106	0,97	9,65	24	2250	
280	137		14	47	94	280	340	84	105	137	137	115	1,1	10,54	24	2700	
255	152		12,5	42,5	85	255	305	93	117	152	152	128	1,0	11,71	24	2800	
225	171		11	37,5	75	225	270	105	132	171	171	145	0,97	13,21	24	2900	
200	190		10	34	68	200	245	117	146	190	190	161	0,9	14,67	24	3050	
192	200		9,6	32	64	192	230	124	155	200	200	171	0,87	15,58	24	3100	
173	225		8,6	28,5	57	173	205	138	173	225	225	190	0,81	17,31	24	3200	
550	70	BG30-../S09SA4	27,5	91	183	550	660	43,5	54	70	70	59	2,8	5,44	29	1670	
440	87		22	74	148	440	530	54	67	87	87	74	2,5	6,75	29	1760	
375	102		18,5	63	126	375	455	63	79	102	102	87	2,1	7,91	29	1760	
345	111		17	58	116	345	415	68	86	111	111	94	2,2	8,6	29	2800	
310	124		15,5	52	104	310	375	76	95	124	124	105	2,0	9,55	29	3000	
280	138		14	46,5	93	280	335	85	106	138	138	117	1,9	10,65	29	2950	
250	153		12,5	42	84	250	300	94	118	153	153	130	1,8	11,82	29	3200	
215	179		10,5	36	72	215	260	110	137	179	179	151	1,6	13,77	29	3150	
196	198		9,8	32,5	65	196	235	122	152	198	198	167	1,5	15,27	29	3450	
175	220		8,7	29	58	175	210	136	170	220	220	187	1,4	17,06	29	3700	
158	245		7,9	26	52	158	190	151	189	245	245	205	1,2	18,93	29	4100	
150	255		7,5	25	50	150	180	159	199	255	255	215	1,2	19,99	29	4200	
135	285		6,7	22,5	45	135	162	177	220	285	285	240	1,0	22,18	29	4600	
117	330		5,8	19,5	39	117	141	200	250	330	330	275	0,91	25,45	29	4850	
106	365		5,3	17,5	35	106	127	225	280	365	365	310	0,82	28,24	29	5100	
390	99	BG40-../S09SA4	19,5	65	131	390	470	60	76	99	99	83	3,0	7,62	43	2650	
330	117		16,5	55	111	330	400	72	90	117	117	99	2,5	9,0	43	2650	
325	119		16	54	108	325	390	73	92	119	119	101	3,0	9,23	43	4350	
285	134		14	48	96	285	345	82	103	134	134	113	2,8	10,35	43	4350	
260	149		13	43,5	87	260	310	91	114	149	149	126	2,6	11,49	43	4600	
230	167		11,5	38,5	77	230	275	102	128	167	167	141	2,5	12,86	43	4500	
210	185		10,5	35	70	210	250	114	142	185	185	157	2,3	14,28	43	4900	
183	210		9,1	30,5	61	183	215	131	163	210	210	180	2,0	16,39	43	5300	
164	235		8,2	27	54	164	197	145	181	235	235	200	1,8	18,19	43	5600	
151	255		7,5	25	50	151	181	158	198	255	255	215	1,6	19,84	43	5800	
136	285		6,8	22,5	45	136	163	176	220	285	285	240	1,5	22,02	43	6000	
128	300		6,4	21	42,5	128	153	187	230	300	300	255	1,4	23,43	43	6200	
115	335		5,7	19	38	115	138	205	260	335	335	285	1,3	26,01	43	6500	
102	380		5,1	17	34	102	122	230	290	380	380	320	1,1	29,34	43	6800	
92	420		4,6	15	30,5	92	110	260	325	420	420	355	1,0	32,57	43	7000	
87	440		4,3	14,5	29	87	105	270	340	440	440	375	0,96	34,2	43	7000	
79	490		3,9	13	26	79	94	300	375	490	490	415	0,86	37,96	43	7000	
74	520		3,7	12	24,5	74	89	320	400	520	520	440	0,81	40,19	43	7000	
181	210	BG50-../S09SA4	9,0	30	60	181	215	132	165	210	210	181	2,9	16,53	51	6500	
163	235		8,1	27	54	163	196	146	183	235	235	200	2,6	18,33	51	7200	
136	285		6,8	22,5	45,5	136	163	175	215	285	285	240	2,2	21,96	51	8000	
123	315		6,1	20,5	41	123	147	194	240	315	315	265	2,0	24,34	51	8700	
101	385		5,0	16,5	33,5	101	121	235	295	385	385	325	1,6	29,62	51	8000	
91	425		4,5	15	30	91	109	260	325	425	425	360	1,5	32,84	51	8700	
79	490		3,9	13	26	79	95	300	375	490	490	415	1,3	37,89	51	10000	
71	540		3,5	11,5	23,5	71	85	335	420	540	540	460	1,2	42	51	10000	
63	610		3,1	10,5	21	63	76	375	470	610	610	510	1,0	47,02	51	10000	
57	670		2,8	9,5	19	57	69	415	520	670	670	570	0,93	52,12	51	10000	

M_1 = 12,75 Nm

n_1 = 3000 $^1/_{min}$

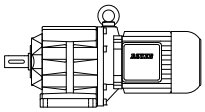


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
92	**420**	**BG60-../S09SA4**	4,6	15	30,5	92	110	255	320	420	420	355	**2,8**	32,48	82	15400	
77	**500**		3,8	12,5	25,5	77	92	310	385	500	500	425	**2,4**	38,85	82	16000	
69	**550**		3,4	11,5	23	69	83	340	430	550	550	470	**2,1**	43,05	82	16000	
59	**650**		2,9	9,9	19,5	59	71	400	500	650	650	550	**1,8**	50,31	82	16000	
53	**720**		2,6	8,9	17,5	53	64	445	550	720	720	610	**1,7**	55,76	82	16000	
49	**790**		2,4	8,2	16	49	59	485	600	790	790	660	**1,5**	60,9	82	16000	
44	**870**		2,2	7,4	14,5	44	53	530	670	870	870	740	**1,4**	67,49	82	16000	
43,5	**880**	**BG60Z-../S09SA4**	2,1	7,3	14,5	43,5	52	540	680	880	880	750	**1,4**	68,32	101	16000	
39,5	**980**		1,9	6,6	13	39,5	47,5	600	750	980	980	830	**1,2**	75,71	101	16000	
32,5	**1180**		1,6	5,4	10,5	32,5	39,5	720	910	1180	1180	1000	**1,0**	91,09	101	16000	
29,5	**1310**		1,4	4,9	9,9	29,5	35,5	800	1010	1310	1310	1110	**0,91**	101	101	16000	
50	**770**	**BG70-../S09SA4**	2,5	8,3	16,5	50	60	475	590	770	770	650	**3,0**	59,82	120	20000	
54	**710**	**BG70Z-../S09SA4**	2,7	9,1	18	54	65	435	540	710	710	600	**2,7**	54,64	141	20000	
46	**840**		2,3	7,7	15	46	55	510	640	840	840	710	**2,7**	64,85	141	20000	
40,5	**950**		2,0	6,7	13,5	40,5	48,5	590	730	950	950	810	**2,4**	73,82	141	20000	
34	**1130**		1,7	5,7	11	34	41	700	870	1130	1130	960	**2,0**	87,61	141	20000	
31	**1240**		1,5	5,2	10	31	37,5	760	950	1240	1240	1050	**1,8**	95,74	141	20000	
26	**1470**		1,3	4,4	8,8	26	31,5	900	1130	1470	1470	1240	**1,6**	113,6	141	20000	
24	**1610**		1,2	4,0	8,0	24	29	990	1240	1610	1610	1360	**1,4**	124	141	20000	
20	**1910**		1,0	3,3	6,7	20	24	1170	1470	1910	1910	1610	**1,2**	147,2	141	20000	
18	**2100**		0,9	3,0	6,1	18	21,5	1310	1630	2100	2100	1800	**1,1**	163,8	141	20000	
15	**2500**		0,75	2,5	5,1	15	18,5	1550	1940	2500	2500	2100	**0,91**	194,4	141	20000	
14	**2700**		0,7	2,3	4,7	14	17	1680	2100	2700	2700	2300	**0,84**	210,5	141	20000	
13	**2950**	**BG80G40-../S09SA4**	0,65	2,2	4,4	13	15,5	1810	2250	2950	2950	2450	**1,6**	227,2	220	26000	
11,5	**3250**		0,55	1,9	3,9	11,5	14	2000	2500	3250	3250	2750	**1,4**	252,3	220	26000	
10,5	**3650**		0,5	1,7	3,5	10,5	12,5	2250	2800	3650	3650	3100	**1,3**	282,8	220	26000	
9,5	**4050**		0,47	1,5	3,1	9,5	11	2500	3100	4050	4050	3450	**1,1**	314	220	26000	
8,3	**4650**		0,41	1,3	2,7	8,3	10	2850	3600	4650	4650	3950	**0,98**	360	220	26000	
7,5	**5100**		0,37	1,2	2,5	7,5	9,0	3150	3950	5100	5100	4350	**0,89**	399,8	220	26000	
6,8	**5600**		0,34	1,1	2,2	6,8	8,2	3450	4350	5600	5600	4750	**0,81**	436,2	220	26000	
26,5	**1460**	**BG80Z-../S09SA4**	1,3	4,4	8,8	26,5	32	890	1120	1460	1460	1230	**2,9**	112,4	209	26000	
24	**1620**		1,2	4,0	8,0	24	28,5	990	1240	1620	1620	1370	**2,6**	124,8	209	26000	
20,5	**1890**		1,0	3,4	6,8	20,5	24,5	1160	1450	1890	1890	1590	**2,2**	145,4	209	26000	
18,5	**2050**		0,9	3,0	6,1	18,5	22	1290	1610	2050	2050	1770	**2,0**	161,5	209	26000	
16	**2400**		0,8	2,6	5,3	16	19	1490	1860	2400	2400	2050	**1,7**	186,8	209	26000	
14	**2650**		0,7	2,4	4,8	14	17	1650	2050	2650	2650	2250	**1,6**	207,4	209	26000	
11	**3400**	**BG90G50-../S09SA4**	0,55	1,9	3,8	11	13,5	2100	2600	3400	3400	2850	**2,7**	262,5	330	65000	
10	**3850**		0,5	1,6	3,3	10	12	2350	2950	3850	3850	3250	**2,4**	298,8	330	65000	
8,3	**4650**		0,41	1,3	2,7	8,3	9,9	2850	3600	4650	4650	3950	**2,0**	360,3	330	65000	
6,8	**5600**		0,34	1,1	2,2	6,8	8,2	3450	4350	5600	5600	4750	**1,6**	435,8	330	65000	
5,9	**6500**		0,29	0,95	1,9	5,9	7,1	4000	5000	6500	6500	5500	**1,4**	504,7	330	65000	
5,0	**7600**		0,25	0,8	1,6	5	6,1	4700	5800	7600	7600	6400	**1,2**	588,8	330	65000	
4,6	**8300**		0,23	0,75	1,5	4,6	5,5	5100	6400	8300	8300	7000	**1,1**	644,7	330	65000	
4,2	**9200**		0,21	0,7	1,4	4,2	5,0	5700	7100	9200	9200	7800	**0,99**	714,2	330	65000	
3,3	**11400**		0,16	0,55	1,1	3,3	4,0	7000	8800	11400	11400	9700	**0,8**	883,7	330	65000	
13	**2950**	**BG90Z-../S09SA4**	0,65	2,1	4,3	13	15,5	1820	2250	2950	2950	2500	**2,8**	228,1	319	65000	
5,8	**6600**	**BG100Z-../S09SA4**	0,29	0,95	1,9	5,8	7,0	4050	5000	6600	6600	5500	**2,8**	508,5	518	90000	
5,0	**7600**		0,25	0,8	1,6	5,0	6,0	4700	5900	7600	7600	6500	**2,4**	591,1	518	90000	
4,5	**8500**		0,22	0,75	1,5	4,5	5,4	5200	6500	8500	8500	7200	**2,2**	658,1	518	90000	
3,9	**9800**		0,19	0,65	1,3	3,9	4,7	6000	7500	9800	9800	8300	**1,9**	759	518	90000	
3,5	**10900**		0,17	0,55	1,1	3,5	4,2	6700	8400	10900	10900	9200	**1,7**	845,1	518	90000	
3,0	**12600**	**BG100G50-../S09SA4**	0,15	0,5	1,0	3,0	3,6	7800	9700	12600	12600	10700	**1,5**	976,1	517	90000	
2,8	**13500**		0,14	0,47	0,95	2,8	3,4	8300	10400	13500	13500	11400	**1,4**	1043	517	90000	
2,4	**15600**		0,12	0,41	0,8	2,4	2,9	9600	12000	15600	15600	13200	**1,2**	1204	517	90000	
2,0	**18700**		0,1	0,34	0,65	2,0	2,4	11500	14400	18700	18700	15800	**0,99**	1444	517	90000	
1,7	**21500**		0,085	0,29	0,55	1,7	2,1	13400	16700	21500	21500	18400	**0,85**	1678	517	90000	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 24 Nm

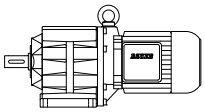
n_1 = 3000 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
1190	50	BG10-../S09XA4	59	198	395	1190	1420	31,5	40	50	50	36,5	1,1	2,52	30	560	790.0
870	68		43,5	146	290	870	1050	42,5	54	68	68	49,5	0,91	3,42	30	630	880.0
1190	50	BG20-../S09XA4	59	198	395	1190	1420	31,5	40	50	50	36,5	1,7	2,52	32	1660	
900	66		45	150	300	900	1080	41,5	53	66	66	48	1,4	3,33	32	1830	
680	87		34	114	225	680	820	54	70	87	87	63	1,2	4,38	32	1990	
540	109		27	91	182	540	650	68	87	109	109	79	1,0	5,49	32	2100	
460	129		23	77	154	460	550	81	103	129	129	93	0,94	6,48	32	2250	
370	160		18,5	62	124	370	445	100	128	160	160	116	0,85	8,02	32	2500	
335	178		16,5	56	112	335	400	111	142	178	178	129	0,8	8,91	32	2600	
1120	53	BG30-../S09XA4	56	187	370	1120	1340	33	42,5	53	53	38,5	2,4	2,67	37	1450	
880	68		44	147	290	880	1050	42,5	54	68	68	49	2,0	3,4	37	1580	
710	84		35,5	118	235	710	850	52	67	84	84	61	2,0	4,21	37	1630	
550	108		27,5	91	183	550	660	68	87	108	108	78	1,8	5,44	37	1670	
440	135		22	74	148	440	530	84	108	135	135	97	1,6	6,75	37	1760	
375	158		18,5	63	126	375	455	98	126	158	158	114	1,4	7,91	37	1760	
345	172		17	58	116	345	415	107	137	172	172	124	1,4	8,6	37	2800	
310	191		15,5	52	104	310	375	119	152	191	191	138	1,3	9,55	37	3000	
280	210		14	46,5	93	280	335	133	170	210	210	154	1,2	10,65	37	2950	
250	235		12,5	42	84	250	300	147	189	235	235	171	1,1	11,82	37	3200	
215	275		10,5	36	72	215	260	172	220	275	275	199	1,1	13,77	37	3150	
196	305		9,8	32,5	65	196	235	190	240	305	305	220	0,98	15,27	37	3450	
175	340		8,7	29	58	175	210	210	270	340	340	245	0,88	17,06	37	3700	
750	79	BG40-../S09XA4	37,5	125	250	750	900	49,5	63	79	79	57	3,0	3,97	51	2400	
600	98		30	101	200	600	720	61	79	98	98	71	2,7	4,94	51	2450	
475	125		23,5	79	158	475	570	78	100	125	125	91	2,3	6,29	51	2600	
390	152		19,5	65	131	390	470	95	121	152	152	110	1,9	7,62	51	2650	
360	166		18	60	120	360	430	103	132	166	166	120	2,0	8,31	51	4100	
330	180		16,5	55	111	330	400	112	144	180	180	130	1,6	9,0	51	2650	
325	184		16	54	108	325	390	115	147	184	184	133	1,9	9,23	51	4350	
285	205		14	48	96	285	345	129	165	205	205	150	1,8	10,35	51	4350	
260	225		13	43,5	87	260	310	143	183	225	225	166	1,7	11,49	51	4600	
230	255		11,5	38,5	77	230	275	160	205	255	255	186	1,6	12,86	51	4500	
210	285		10,5	35	70	210	250	178	225	285	285	205	1,5	14,28	51	4900	
183	325		9,1	30,5	61	183	215	200	260	325	325	235	1,3	16,39	51	5300	
164	360		8,2	27	54	164	197	225	290	360	360	260	1,2	18,19	51	5600	
151	395		7,5	25	50	151	181	245	315	395	395	285	1,1	19,84	51	5800	
136	440		6,8	22,5	45	136	163	275	350	440	440	315	0,97	22,02	51	6000	
128	465		6,4	21	42,5	128	153	290	370	465	465	335	0,91	23,43	51	6200	
115	520		5,7	19	38	115	138	325	415	520	520	375	0,82	26,01	51	6500	
245	240	BG50-../S09XA4	12	41	82	245	295	150	192	240	240	174	2,4	12,06	59	5700	
220	265		11	37	74	220	265	167	210	265	265	193	2,2	13,36	59	6100	
181	330		9,0	30	60	181	215	205	260	330	330	235	1,9	16,53	59	6500	
163	365		8,1	27	54	163	196	225	290	365	365	265	1,7	18,33	59	7200	
136	435		6,8	22,5	45,5	136	163	270	350	435	435	315	1,4	21,96	59	8000	
123	485		6,1	20,5	41	123	147	300	385	485	485	350	1,3	24,34	59	8700	
101	590		5,0	16,5	33,5	101	121	370	470	590	590	425	1,1	29,62	59	8000	
91	650		4,5	15	30	91	109	410	520	650	650	475	0,96	32,84	59	8700	
79	750		3,9	13	26	79	95	470	600	750	750	540	0,83	37,89	59	10000	
133	445	BG60-../S09XA4	6,6	22	44,5	133	160	280	355	445	445	320	2,7	22,4	90	13300	
120	495		6,0	20	40	120	145	310	395	495	495	355	2,4	24,82	90	13800	
102	580		5,1	17	34	102	122	365	465	580	580	420	2,0	29,31	90	14800	
92	640		4,6	15	30,5	92	110	405	510	640	640	470	1,8	32,48	90	15400	
77	770		3,8	12,5	25,5	77	92	485	620	770	770	560	1,5	38,85	90	16000	
69	860		3,4	11,5	23	69	83	530	680	860	860	620	1,4	43,05	90	16000	
59	1000		2,9	9,9	19,5	59	71	620	800	1000	1000	720	1,2	50,31	90	16000	
53	1110		2,6	8,9	17,5	53	64	690	890	1110	1110	800	1,1	55,76	90	16000	
49	1210		2,4	8,2	16	49	59	760	970	1210	1210	880	0,99	60,9	90	16000	
44	1340		2,2	7,4	14,5	44	53	840	1070	1340	1340	970	0,89	67,49	90	16000	
43,5	1360	BG60Z-../S09XA4	2,1	7,3	14,5	43,5	52	850	1090	1360	1360	990	0,88	68,32	109	16000	

M_1 = 20 Nm

n_1 = 3000 $^1/_{min}$

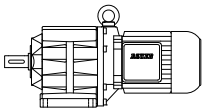


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
76	**780**	**BG70-../S09XA4**	3,8	12,5	25	76	91	490	620	780	780	560	**2,9**	39,22	128	19100	
64	**930**		3,2	10,5	21	64	77	580	740	930	930	670	**2,5**	46,54	128	20000	
59	**1000**		2,9	9,9	19,5	59	71	630	800	1000	1000	730	**2,3**	50,4	128	20000	
50	**1190**		2,5	8,3	16,5	50	60	740	950	1190	1190	860	**1,9**	59,82	128	20000	
54	**1090**	**BG70Z-../S09XA4**	2,7	9,1	18	54	65	680	870	1090	1090	790	**1,8**	54,64	149	20000	
46	**1290**		2,3	7,7	15	46	55	810	1030	1290	1290	940	**1,8**	64,85	149	20000	
40,5	**1470**		2,0	6,7	13,5	40,5	48,5	920	1180	1470	1470	1070	**1,6**	73,82	149	20000	
34	**1750**		1,7	5,7	11	34	41	1090	1400	1750	1750	1270	**1,3**	87,61	149	20000	
31	**1910**		1,5	5,2	10	31	37,5	1190	1530	1910	1910	1380	**1,2**	95,74	149	20000	
26	**2250**		1,3	4,4	8,8	26	31,5	1420	1810	2250	2250	1640	**1,0**	113,6	149	20000	
24	**2450**		1,2	4,0	8,0	24	29	1550	1980	2450	2450	1790	**0,93**	124	149	20000	
13	**4500**	**BG80G40-../S09XA4**	0,65	2,2	4,4	13	15,5	2800	3600	4500	4500	3250	**1,0**	227,2	228	26000	
11,5	**5000**		0,55	1,9	3,9	11,5	14	3150	4000	5000	5000	3650	**0,91**	252,3	228	26000	
10,5	**5600**		0,5	1,7	3,5	10,5	12,5	3500	4500	5600	5600	4100	**0,81**	282,8	228	26000	
40,5	**1470**	**BG80Z-../S09XA4**	2,0	6,7	13,5	40,5	48,5	920	1170	1470	1470	1060	**2,8**	73,73	217	26000	
35	**1690**		1,7	5,9	11,5	35	42,5	1050	1350	1690	1690	1220	**2,5**	84,55	217	26000	
31,5	**1870**		1,5	5,3	10,5	31,5	38	1170	1500	1870	1870	1360	**2,2**	93,89	217	26000	
26,5	**2200**		1,3	4,4	8,8	26,5	32	1400	1790	2200	2200	1620	**1,9**	112,4	217	26000	
24	**2450**		1,2	4,0	8,0	24	28,5	1560	1990	2450	2450	1800	**1,7**	124,8	217	26000	
20,5	**2900**		1,0	3,4	6,8	20,5	24,5	1810	2300	2900	2900	2100	**1,4**	145,4	217	26000	
18,5	**3200**		0,9	3	6,1	18,5	22	2000	2550	3200	3200	2300	**1,3**	161,5	217	26000	
16	**3700**		0,8	2,6	5,3	16	19	2300	2950	3700	3700	2700	**1,1**	186,8	217	26000	
14	**4100**		0,7	2,4	4,8	14	17	2550	3300	4100	4100	3000	**1,0**	207,4	217	26000	
13,5	**4350**	**BG90G50-../S09XA4**	0,65	2,2	4,5	13,5	16	2700	3500	4350	4350	3150	**2,1**	219,9	338	65000	
11	**5200**		0,55	1,9	3,8	11	13,5	3250	4200	5200	5200	3800	**1,8**	262,5	338	65000	
10	**5900**		0,5	1,6	3,3	10	12	3700	4750	5900	5900	4300	**1,5**	298,8	338	65000	
8,3	**7200**		0,41	1,3	2,7	8,3	9,9	4500	5700	7200	7200	5200	**1,3**	360,3	338	65000	
6,8	**8700**		0,34	1,1	2,2	6,8	8,2	5400	6900	8700	8700	6300	**1,1**	435,8	338	65000	
5,9	**10000**		0,29	0,95	1,9	5,9	7,1	6300	8000	10000	10000	7300	**0,91**	504,7	338	65000	
21,5	**2750**	**BG90Z-../S09XA4**	1,0	3,5	7,1	21,5	25,5	1730	2200	2750	2750	2000	**3,0**	139,2	327	65000	
18	**3250**		0,9	3,0	6,1	18	22	2000	2600	3250	3250	2350	**2,6**	163	327	65000	
16,5	**3550**		0,8	2,8	5,6	16,5	20	2200	2850	3550	3550	2550	**2,4**	178,5	327	65000	
14	**4150**		0,7	2,4	4,8	14	17	2600	3300	4150	4150	3000	**2,0**	208,3	327	65000	
13	**4550**		0,65	2,1	4,3	13	15,5	2850	3600	4550	4550	3300	**1,8**	228,1	327	65000	
3,0	**19500**	**BG100G50-../S09XA4**	0,15	0,5	1,0	3,0	3,6	12200	15600	19500	19500	14100	**0,95**	976,1	525	90000	
2,8	**20500**		0,14	0,47	0,95	2,8	3,4	13000	16600	20500	20500	15100	**0,89**	1043	525	90000	
8,7	**6800**	**BG100Z-../S09XA4**	0,43	1,4	2,9	8,7	10	4250	5400	6800	6800	4950	**2,7**	343,6	526	90000	
7,8	**7600**		0,39	1,3	2,6	7,8	9,4	4750	6100	7600	7600	5500	**2,4**	382,6	526	90000	
6,5	**9100**		0,32	1,0	2,1	6,5	7,8	5700	7300	9100	9100	6600	**2,0**	456,7	526	90000	
5,8	**10100**		0,29	0,95	1,9	5,8	7,0	6300	8100	10100	10100	7300	**1,8**	508,5	526	90000	
5,0	**11800**		0,25	0,8	1,6	5,0	6,0	7300	9400	11800	11800	8500	**1,6**	591,1	526	90000	
4,5	**13100**		0,22	0,75	1,5	4,5	5,4	8200	10500	13100	13100	9500	**1,4**	658,1	526	90000	
3,9	**15100**		0,19	0,65	1,3	3,9	4,7	9400	12100	15100	15100	11000	**1,2**	759	526	90000	
3,5	**16900**		0,17	0,55	1,1	3,5	4,2	10500	13500	16900	16900	12200	**1,1**	845,1	526	90000	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 23,9 Nm

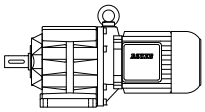
n_1 = 3000 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
1120	60	BG30-../S11SA6	56	187	370	1120	1340	48	53	60	60	60	2,1	2,67	40	1450	
880	76		44	147	290	880	1050	61	68	76	76	76	1,8	3,4	40	1580	
710	94		35,5	118	235	710	850	75	84	94	94	94	1,8	4,21	40	1630	
550	122		27,5	91	183	550	660	97	108	122	122	122	1,6	5,44	40	1670	
440	151		22	74	148	440	530	121	135	151	151	151	1,4	6,75	40	1760	
375	177		18,5	63	126	375	455	142	158	177	177	177	1,2	7,91	40	1760	
345	193		17	58	116	345	415	154	172	193	193	193	1,3	8,6	40	2800	
310	210		15,5	52	104	310	375	171	191	210	210	210	1,2	9,55	40	3000	
280	235		14	46,5	93	280	335	191	210	235	235	235	1,1	10,65	40	2950	
250	265		12,5	42	84	250	300	210	235	265	265	265	1,0	11,82	40	3200	
215	305		10,5	36	72	215	260	245	275	305	305	305	0,94	13,77	40	3150	
196	340		9,8	32,5	65	196	235	270	305	340	340	340	0,87	15,27	40	3450	
750	89	BG40-../S11SA6	37,5	125	250	750	900	71	79	89	89	89	2,7	3,97	59	2400	
600	111		30	101	200	600	720	88	98	111	111	111	2,4	4,94	59	2450	
475	141		23,5	79	158	475	570	113	125	141	141	141	2,1	6,29	59	2600	
390	171		19,5	65	131	390	470	137	152	171	171	171	1,7	7,62	59	2650	
360	186		18	60	120	360	430	149	166	186	186	186	1,8	8,31	59	4100	
330	200		16,5	55	111	330	400	162	180	200	200	200	1,5	9,0	59	2650	
325	205		16	54	108	325	390	166	184	205	205	205	1,7	9,23	59	4350	
285	230		14	48	96	285	345	186	205	230	230	230	1,6	10,35	59	4350	
260	255		13	43,5	87	260	310	205	225	255	255	255	1,5	11,49	59	4600	
230	285		11,5	38,5	77	230	275	230	255	285	285	285	1,4	12,86	59	4500	
210	320		10,5	35	70	210	250	255	285	320	320	320	1,3	14,28	59	4900	
183	365		9,1	30,5	61	183	215	295	325	365	365	365	1,2	16,39	59	5300	
164	405		8,2	27	54	164	197	325	360	405	405	405	1,0	18,19	59	5600	
151	445		7,5	25	50	151	181	355	395	445	445	445	0,95	19,84	59	5800	
136	495		6,8	22,5	45	136	163	395	440	495	495	495	0,86	22,02	59	6000	
128	520		6,4	21	42,5	128	153	420	465	520	520	520	0,81	23,43	59	6200	
445	151	BG50-../S11SA6	22	74	148	445	530	121	134	151	151	151	3,0	6,74	69	3750	
340	195		17	57	114	340	410	156	174	195	195	195	2,6	8,7	69	5300	
310	215		15,5	51	103	310	370	173	193	215	215	215	2,4	9,65	69	5600	
245	270		12	41	82	245	295	215	240	270	270	270	2,1	12,06	69	5700	
220	300		11	37	74	220	265	240	265	300	300	300	2,0	13,36	69	6100	
181	370		9,0	30	60	181	215	295	330	370	370	370	1,7	16,53	69	6500	
163	410		8,1	27	54	163	196	325	365	410	410	410	1,5	18,33	69	7200	
136	490		6,8	22,5	45,5	136	163	395	435	490	490	490	1,3	21,96	69	8000	
123	540		6,1	20,5	41	123	147	435	485	540	540	540	1,2	24,34	69	8700	
101	660		5,0	16,5	33,5	101	121	530	590	660	660	660	0,95	29,62	69	8000	
91	730		4,5	15	30	91	109	590	650	730	730	730	0,85	32,84	69	8700	
178	375	BG60-../S11SA6	8,9	29,5	59	178	210	300	335	375	375	375	2,9	16,8	101	12000	
161	415		8,0	26,5	53	161	193	335	370	415	415	415	2,7	18,62	101	12400	
133	500		6,6	22	44,5	133	160	400	445	500	500	500	2,4	22,4	101	13300	
120	550		6,0	20	40	120	145	445	495	550	550	550	2,1	24,82	101	13800	
102	650		5,1	17	34	102	122	520	580	650	650	650	1,8	29,31	101	14800	
92	730		4,6	15	30,5	92	110	580	640	730	730	730	1,6	32,48	101	15400	
77	870		3,8	12,5	25,5	77	92	690	770	870	870	870	1,4	38,85	101	16000	
69	960		3,4	11,5	23	69	83	770	860	960	960	960	1,2	43,05	101	16000	
59	1130		2,9	9,9	19,5	59	71	900	1000	1130	1130	1130	1,1	50,31	101	16000	
53	1250		2,6	8,9	17,5	53	64	1000	1110	1250	1250	1250	0,96	55,76	101	16000	
49	1370		2,4	8,2	16	49	59	1090	1210	1370	1370	1370	0,88	60,9	101	16000	
85	790	BG70-../S11SA6	4,2	14	28	85	102	630	700	790	790	790	2,9	35,24	132	18300	
76	880		3,8	12,5	25	76	91	700	780	880	880	880	2,6	39,22	132	19100	
64	1040		3,2	10,5	21	64	77	830	930	1040	1040	1040	2,2	46,54	132	20000	
59	1130		2,9	9,9	19,5	59	71	900	1000	1130	1130	1130	2,0	50,4	132	20000	
50	1340		2,5	8,3	16,5	50	60	1070	1190	1340	1340	1340	1,7	59,82	132	20000	
54	1220	BG70Z-../S11SA6	2,7	9,1	18	54	65	980	1090	1220	1220	1220	1,6	54,64	158	20000	
46	1450		2,3	7,7	15	46	55	1160	1290	1450	1450	1450	1,6	64,85	158	20000	
40,5	1660		2,0	6,7	13,5	40,5	48,5	1320	1470	1660	1660	1660	1,4	73,82	158	20000	
34	1970		1,7	5,7	11	34	41	1570	1750	1970	1970	1970	1,2	87,61	158	20000	
31	2150		1,5	5,2	10	31	37,5	1720	1910	2150	2150	2150	1,1	95,74	158	20000	
26	2550		1,3	4,4	8,8	26	31,5	2000	2250	2550	2550	2550	0,9	113,6	158	20000	
24	2750		1,2	4,0	8,0	24	29	2200	2450	2750	2750	2750	0,82	124	158	20000	

M_1 = 23,9 Nm

n_1 = 3000 $^1/_{min}$

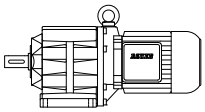


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
47	1430	BG80-../S11SA6	2,3	7,8	15,5	47	56	1140	1270	1430	1430	1430	2,9	63,56	186	26000	
13	5100	BG80G40-../S11SA6	0,65	2,2	4,4	13	15,5	4050	4500	5100	5100	5100	0,9	227,2	236	26000	
11,5	5600		0,55	1,9	3,9	11,5	14	4500	5000	5600	5600	5600	0,81	252,3	236	26000	
45	1490	BG80Z-../S11SA6	2,2	7,5	15	45	54	1190	1320	1490	1490	1490	2,8	66,4	228	26000	
40,5	1650		2,0	6,7	13,5	40,5	48,5	1320	1470	1650	1650	1650	2,5	73,73	228	26000	
35	1900		1,7	5,9	11,5	35	42,5	1520	1690	1900	1900	1900	2,2	84,55	228	26000	
31,5	2100		1,5	5,3	10,5	31,5	38	1690	1870	2100	2100	2100	2,0	93,89	228	26000	
26,5	2500		1,3	4,4	8,8	26,5	32	2000	2200	2500	2500	2500	1,7	112,4	228	26000	
24	2800		1,2	4,0	8,0	24	28,5	2200	2450	2800	2800	2800	1,5	124,8	228	26000	
20,5	3250		1,0	3,4	6,8	20,5	24,5	2600	2900	3250	3250	3250	1,3	145,4	228	26000	
18,5	3600		0,9	3,0	6,1	18,5	22	2900	3200	3600	3600	3600	1,2	161,5	228	26000	
16	4200		0,8	2,6	5,3	16	19	3350	3700	4200	4200	4200	1,0	186,8	228	26000	
14	4650		0,7	2,4	4,8	14	17	3700	4100	4650	4650	4650	0,9	207,4	228	26000	
13,5	4900	BG90G50-../S11SA6	0,65	2,2	4,5	13,5	16	3950	4350	4900	4900	4900	1,9	219,9	347	65000	
11	5900		0,55	1,9	3,8	11	13,5	4700	5200	5900	5900	5900	1,6	262,5	347	65000	
10	6700		0,5	1,6	3,3	10	12	5300	5900	6700	6700	6700	1,4	298,8	347	65000	
8,3	8100		0,41	1,3	2,7	8,3	9,9	6400	7200	8100	8100	8100	1,1	360,3	347	65000	
6,8	9800		0,34	1,1	2,2	6,8	8,2	7800	8700	9800	9800	9800	0,94	435,8	347	65000	
5,9	11300		0,29	0,95	1,9	5,9	7,1	9000	10000	11300	11300	11300	0,81	504,7	347	65000	
23,5	2850	BG90Z-../S11SA6	1,1	3,9	7,8	23,5	28	2250	2500	2850	2850	2850	2,9	127,1	330	65000	
21,5	3100		1,0	3,5	7,1	21,5	25,5	2500	2750	3100	3100	3100	2,7	139,2	330	65000	
18	3650		0,9	3,0	6,1	18	22	2900	3250	3650	3650	3650	2,3	163	330	65000	
16,5	4000		0,8	2,8	5,6	16,5	20	3200	3550	4000	4000	4000	2,1	178,5	330	65000	
14	4650		0,7	2,4	4,8	14	17	3700	4150	4650	4650	4650	1,8	208,3	330	65000	
13	5100		0,65	2,1	4,3	13	15,5	4100	4550	5100	5100	5100	1,6	228,1	330	65000	
11,5	5800		0,55	1,9	3,8	11,5	13,5	4650	5100	5800	5800	5800	2,9	259	447	90000	
3,0	21500	BG100G50-../S11SA6	0,15	0,5	1,0	3,0	3,6	17500	19500	21500	21500	21500	0,84	976,1	534	90000	
11	6000	BG100Z-../S11SA6	0,55	1,8	3,7	11	13	4850	5300	6000	6000	6000	3,0	269,8	537	90000	
9,9	6700		0,49	1,6	3,3	9,9	11,5	5400	6000	6700	6700	6700	2,7	300,4	537	90000	
8,7	7700		0,43	1,4	2,9	8,7	10	6100	6800	7700	7700	7700	2,4	343,6	537	90000	
7,8	8600		0,39	1,3	2,6	7,8	9,4	6800	7600	8600	8600	8600	2,1	382,6	537	90000	
6,5	10200		0,32	1,0	2,1	6,5	7,8	8200	9100	10200	10200	10200	1,8	456,7	537	90000	
5,8	11400		0,29	0,95	1,9	5,8	7,0	9100	10100	11400	11400	11400	1,6	508,5	537	90000	
5,0	13200		0,25	0,8	1,6	5,0	6,0	10600	11800	13200	13200	13200	1,4	591,1	537	90000	
4,5	14800		0,22	0,75	1,5	4,5	5,4	11800	13100	14800	14800	14800	1,2	658,1	537	90000	
3,9	17000		0,19	0,65	1,3	3,9	4,7	13600	15100	17000	17000	17000	1,1	759	537	90000	
3,5	19000		0,17	0,55	1,1	3,5	4,2	15200	16900	19000	19000	19000	0,97	845,1	537	90000	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 35 Nm

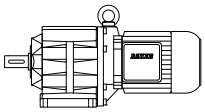
n_1 = 3000 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
1120	93	BG30-../S11MA6	56	187	370	1120	1340	70	74	93	93	91	1,4	2,67	46	1450	
880	119		44	147	290	880	1050	90	95	119	119	116	1,2	3,4	46	1580	
710	147		35,5	118	235	710	850	111	117	147	147	144	1,2	4,21	46	1630	
550	190		27,5	91	183	550	660	144	152	190	190	186	1,1	5,44	46	1670	
440	235		22	74	148	440	530	178	189	235	235	230	0,91	6,75	46	1760	
345	300		17	58	116	345	415	225	240	300	300	290	0,81	8,6	46	2800	
1210	86	BG40-../S11MA6	60	200	405	1210	1460	65	68	86	86	84	2,3	2,46	65	2150	
940	111		47	156	310	940	1120	84	89	111	111	109	2,0	3,19	65	2350	
750	138		37,5	125	250	750	900	105	111	138	138	136	1,7	3,97	65	2400	
600	172		30	101	200	600	720	130	138	172	172	169	1,5	4,94	65	2450	
475	220		23,5	79	158	475	570	166	176	220	220	215	1,3	6,29	65	2600	
390	265		19,5	65	131	390	470	200	210	265	265	260	1,1	7,62	65	2650	
360	290		18	60	120	360	430	220	230	290	290	285	1,2	8,31	65	4100	
330	315		16,5	55	111	330	400	235	250	315	315	305	0,94	9,0	65	2650	
325	320		16	54	108	325	390	240	255	320	320	315	1,1	9,23	65	4350	
285	360		14	48	96	285	345	270	285	360	360	355	1,0	10,35	65	4350	
260	400		13	43,5	87	260	310	300	320	400	400	390	0,96	11,49	65	4600	
230	450		11,5	38,5	77	230	275	340	360	450	450	440	0,91	12,86	65	4500	
210	495		10,5	35	70	210	250	375	395	495	495	485	0,84	14,28	65	4900	
840	124	BG50-../S11MA6	42	140	280	840	1010	94	99	124	124	121	2,8	3,55	75	3300	
610	171		30,5	101	200	610	730	130	137	171	171	168	2,3	4,91	75	3500	
445	235		22	74	148	445	530	178	188	235	235	230	1,9	6,74	75	3750	
340	300		17	57	114	340	410	230	240	300	300	295	1,6	8,7	75	5300	
310	335		15,5	51	103	310	370	255	270	335	335	330	1,5	9,65	75	5600	
245	420		12	41	82	245	295	315	335	420	420	410	1,4	12,06	75	5700	
220	465		11	37	74	220	265	350	370	465	465	455	1,3	13,36	75	6100	
181	570		9,0	30	60	181	215	435	460	570	570	560	1,1	16,53	75	6500	
163	640		8,1	27	54	163	196	485	510	640	640	620	0,98	18,33	75	7200	
136	760		6,8	22,5	45,5	136	163	580	610	760	760	750	0,82	21,96	75	8000	
325	315	BG60-../S11MA6	16	54	109	325	390	240	255	315	315	310	2,8	9,13	107	9800	
295	350		14,5	49	98	295	355	265	280	350	350	345	2,6	10,12	107	10200	
245	425		12	41	82	245	295	320	340	425	425	415	2,3	12,16	107	10800	
220	470		11	37	74	220	265	355	375	470	470	460	2,2	13,47	107	11200	
178	580		8,9	29,5	59	178	210	445	470	580	580	570	1,9	16,8	107	12000	
161	650		8,0	26,5	53	161	193	490	520	650	650	630	1,7	18,62	107	12400	
133	780		6,6	22	44,5	133	160	590	620	780	780	760	1,5	22,4	107	13300	
120	860		6,0	20	40	120	145	650	690	860	860	850	1,4	24,82	107	13800	
102	1020		5,1	17	34	102	122	770	820	1020	1020	1000	1,2	29,31	107	14800	
92	1130		4,6	15	30,5	92	110	860	900	1130	1130	1110	1,1	32,48	107	15400	
77	1350		3,8	12,5	25,5	77	92	1020	1080	1350	1350	1330	0,88	38,85	107	16000	
69	1500		3,4	11,5	23	69	83	1140	1200	1500	1500	1470	0,8	43,05	107	16000	
130	800	BG70-../S11MA6	6,5	21,5	43,5	130	157	600	640	800	800	780	2,9	22,92	138	15100	
110	950		5,5	18	36,5	110	132	720	760	950	950	930	2,4	27,21	138	16400	
101	1030		5,0	16,5	33,5	101	121	780	830	1030	1030	1010	2,2	29,69	138	16900	
85	1230		4,2	14	28	85	102	930	980	1230	1230	1200	1,9	35,24	138	18300	
76	1370		3,8	12,5	25	76	91	1030	1090	1370	1370	1340	1,7	39,22	138	19100	
64	1620		3,2	10,5	21	64	77	1230	1300	1620	1620	1590	1,4	46,54	138	20000	
59	1760		2,9	9,9	19,5	59	71	1330	1410	1760	1760	1720	1,3	50,4	138	20000	
50	2050		2,5	8,3	16,5	50	60	1580	1670	2050	2050	2050	1,1	59,82	138	20000	
54	1910	BG70Z-../S11MA6	2,7	9,1	18	54	65	1440	1520	1910	1910	1870	1,0	54,64	164	20000	
46	2250		2,3	7,7	15	46	55	1710	1810	2250	2250	2200	1,0	64,85	164	20000	
40,5	2550		2,0	6,7	13,5	40,5	48,5	1950	2050	2550	2550	2500	0,89	73,82	164	20000	
68	1530	BG80-../S11MA6	3,4	11	22,5	68	81	1160	1230	1530	1530	1500	2,7	43,94	192	22600	
61	1700		3,0	10	20	61	73	1290	1360	1700	1700	1670	2,5	48,8	192	23800	
52	2000		2,6	8,7	17	52	62	1510	1600	2000	2000	1960	2,1	57,24	192	25400	
47	2200		2,3	7,8	15,5	47	56	1680	1770	2200	2200	2150	1,9	63,56	192	26000	
45	2300	BG80Z-../S11MA6	2,2	7,5	15	45	54	1750	1850	2300	2300	2250	1,8	66,4	234	26000	
40,5	2550		2,0	6,7	13,5	40,5	48,5	1950	2050	2550	2550	2500	1,6	73,73	234	26000	
35	2950		1,7	5,9	11,5	35	42,5	2200	2350	2950	2950	2900	1,4	84,55	234	26000	
31,5	3250		1,5	5,3	10,5	31,5	38	2450	2600	3250	3250	3200	1,3	93,89	234	26000	
26,5	3900		1,3	4,4	8,8	26,5	32	2950	3100	3900	3900	3850	1,1	112,4	234	26000	
24	4350		1,2	4,0	8,0	24	28,5	3300	3450	4350	4350	4250	0,96	124,8	234	26000	

M_1 = 35 Nm

n_1 = 3000 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
13,5	7600	BG90G50-../S11MA6	0,65	2,2	4,5	13,5	16	5800	6100	7600	7600	7500	**1,2**	219,9	353	65000	
11	9100		0,55	1,9	3,8	11	13,5	6900	7300	9100	9100	9000	**1,0**	262,5	353	65000	
10	10400		0,5	1,6	3,3	10	12	7900	8300	10400	10400	10200	**0,88**	298,8	353	65000	
35,5	2900	BG90Z-../S11MA6	1,7	5,9	11,5	35,5	42,5	2200	2300	2900	2900	2850	**2,9**	83,91	336	65000	
31	3350		1,5	5,1	10	31	37	2550	2700	3350	3350	3300	**2,5**	96,53	336	65000	
28	3650		1,4	4,7	9,4	28	34	2800	2950	3650	3650	3600	**2,3**	105,7	336	65000	
23,5	4400		1,1	3,9	7,8	23,5	28	3350	3550	4400	4400	4350	**1,9**	127,1	336	65000	
21,5	4850		1,0	3,5	7,1	21,5	25,5	3650	3850	4850	4850	4750	**1,7**	139,2	336	65000	
18	5700		0,9	3,0	6,1	18	22	4300	4550	5700	5700	5500	**1,5**	163	336	65000	
16,5	6200		0,8	2,8	5,6	16,5	20	4700	4950	6200	6200	6100	**1,3**	178,5	336	65000	
14	7200		0,7	2,4	4,8	14	17	5500	5800	7200	7200	7100	**1,2**	208,3	336	65000	
13	7900		0,65	2,1	4,3	13	15,5	6000	6300	7900	7900	7800	**1,1**	228,1	336	65000	
16,5	6200	BG100-../S11MA6	0,8	2,7	5,5	16,5	20	4700	5000	6200	6200	6100	**2,7**	178,6	453	90000	
15	6900		0,75	2,5	5,0	15	18	5200	5500	6900	6900	6800	**2,4**	198,8	453	90000	
12,5	8100		0,6	2,1	4,2	12,5	15	6100	6500	8100	8100	7900	**2,1**	232,6	453	90000	
11,5	9000		0,55	1,9	3,8	11,5	13,5	6800	7200	9000	9000	8800	**1,9**	259	453	90000	
11	9400	BG100Z-../S11MA6	0,55	1,8	3,7	11	13	7100	7500	9400	9400	9200	**2,0**	269,8	543	90000	
9,9	10500		0,49	1,6	3,3	9,9	11,5	7900	8400	10500	10500	10300	**1,8**	300,4	543	90000	
8,7	12000		0,43	1,4	2,9	8,7	10	9100	9600	12000	12000	11700	**1,5**	343,6	543	90000	
7,8	13300		0,39	1,3	2,6	7,8	9,4	10100	10700	13300	13300	13100	**1,4**	382,6	543	90000	
6,5	15900		0,32	1,0	2,1	6,5	7,8	12100	12700	15900	15900	15600	**1,2**	456,7	543	90000	
5,8	17700		0,29	0,95	1,9	5,8	7,0	13400	14200	17700	17700	17400	**1,0**	508,5	543	90000	
5,0	20500		0,25	0,8	1,6	5,0	6,0	15600	16500	20500	20500	20000	**0,89**	591,1	543	90000	
4,5	23000		0,22	0,75	1,5	4,5	5,4	17400	18400	23000	23000	22500	**0,8**	658,1	543	90000	

M_1 = 48 Nm

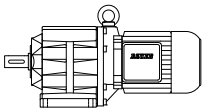
n_1 = 3000 $^1/_{min}$

n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
1120	128	BG30-../S11LA6	56	187	370	1120	1340	86	105	128	128	106	**1,0**	2,67	58	1450	
880	163		44	147	290	880	1050	110	134	163	163	136	**0,85**	3,4	58	1580	
710	200		35,5	118	235	710	850	136	166	200	200	168	**0,85**	4,21	58	1630	
1210	118	BG40-../S11LA6	60	200	405	1210	1460	79	97	118	118	98	**1,7**	2,46	77	2150	
940	153		47	156	310	940	1120	103	126	153	153	127	**1,4**	3,19	77	2350	
750	190		37,5	125	250	750	900	129	156	190	190	158	**1,3**	3,97	77	2400	
600	235		30	101	200	600	720	160	195	235	235	197	**1,1**	4,94	77	2450	
475	300		23,5	79	158	475	570	200	245	300	300	250	**0,98**	6,29	77	2600	
390	365		19,5	65	131	390	470	245	300	365	365	300	**0,81**	7,62	77	2650	
360	395		18	60	120	360	430	270	325	395	395	330	**0,85**	8,31	77	4100	
325	440		16	54	108	325	390	295	360	440	440	365	**0,8**	9,23	77	4350	
1210	118	BG50-../S11LA6	60	200	400	1210	1450	80	97	118	118	98	**2,6**	2,47	86	2900	
840	170		42	140	280	840	1010	115	140	170	170	142	**2,0**	3,55	86	3300	
610	235		30,5	101	200	610	730	159	193	235	235	196	**1,7**	4,91	86	3500	
445	320		22	74	148	445	530	215	265	320	320	265	**1,4**	6,74	86	3750	
340	415		17	57	114	340	410	280	340	415	415	345	**1,2**	8,7	86	5300	
310	460		15,5	51	103	310	370	310	380	460	460	385	**1,1**	9,65	86	5600	
245	570		12	41	82	245	295	390	475	570	570	480	**0,98**	12,06	86	5700	
220	640		11	37	74	220	265	430	520	640	640	530	**0,92**	13,36	86	6100	
600	235	BG60-../S11LA6	30	100	200	600	720	161	196	235	235	199	**2,8**	4,98	119	7800	
435	330		21,5	72	145	435	520	220	270	330	330	275	**2,4**	6,88	119	8600	
325	435		16	54	109	325	390	295	360	435	435	365	**2,0**	9,13	119	9800	
295	485		14,5	49	98	295	355	325	395	485	485	400	**1,9**	10,12	119	10200	
245	580		12	41	82	245	295	395	480	580	580	485	**1,7**	12,16	119	10800	
220	640		11	37	74	220	265	435	530	640	640	530	**1,6**	13,47	119	11200	
178	800		8,9	29,5	59	178	210	540	660	800	800	670	**1,4**	16,8	119	12000	
161	890		8,0	26,5	53	161	193	600	730	890	890	740	**1,3**	18,62	119	12400	
133	1070		6,6	22	44,5	133	160	720	880	1070	1070	890	**1,1**	22,4	119	13300	
120	1190		6,0	20	40	120	145	800	980	1190	1190	990	**1.0**	24.82	119	13800	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

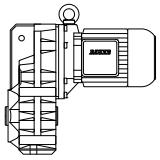
M_1 = 48 Nm

n_1 = 3000 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
169	**840**	**BG70-../S11LA6**	8,4	28	56	169	200	570	690	840	840	700	**2,7**	17,68	149	13400	
142	**1000**		7,1	23,5	47,5	142	171	680	820	1000	1000	830	**2,3**	20,98	149	14600	
130	**1100**		6,5	21,5	43,5	130	157	740	900	1100	1100	910	**2,1**	22,92	149	15100	
110	**1300**		5,5	18	36,5	110	132	880	1070	1300	1300	1080	**1,8**	27,21	149	16400	
101	**1420**		5,0	16,5	33,5	101	121	960	1170	1420	1420	1180	**1,6**	29,69	149	16900	
85	**1690**		4,2	14	28	85	102	1140	1390	1690	1690	1400	**1,4**	35,24	149	18300	
76	**1880**		3,8	12,5	25	76	91	1270	1540	1880	1880	1560	**1,2**	39,22	149	19100	
64	**2200**		3,2	10,5	21	64	77	1510	1830	2200	2200	1860	**1,0**	46,54	149	20000	
59	**2400**		2,9	9,9	19,5	59	71	1630	1990	2400	2400	2000	**0,95**	50,4	149	20000	
50	**2850**		2,5	8,3	16,5	50	60	1940	2350	2850	2850	2350	**0,8**	59,82	149	20000	
102	**1400**	**BG80-../S11LA6**	5,1	17	34	102	122	950	1150	1400	1400	1170	**3,0**	29,36	204	18900	
87	**1640**		4,3	14,5	29	87	105	1110	1350	1640	1640	1360	**2,6**	34,22	204	20200	
78	**1820**		3,9	13	26	78	94	1230	1500	1820	1820	1520	**2,3**	38	204	21300	
68	**2100**		3,4	11	22,5	68	81	1420	1730	2100	2100	1750	**2,0**	43,94	204	22600	
61	**2300**		3,0	10	20	61	73	1580	1920	2300	2300	1950	**1,8**	48,8	204	23800	
52	**2700**		2,6	8,7	17	52	62	1860	2250	2700	2700	2250	**1,5**	57,24	204	25400	
47	**3050**		2,3	7,8	15,5	47	56	2050	2500	3050	3050	2500	**1,4**	63,56	204	26000	
45	**3150**	**BG80Z-../S11LA6**	2,2	7,5	15	45	54	2150	2600	3150	3150	2650	**1,3**	66,4	246	26000	
40,5	**3500**		2,0	6,7	13,5	40,5	48,5	2350	2900	3500	3500	2900	**1,2**	73,73	246	26000	
35	**4050**		1,7	5,9	11,5	35	42,5	2700	3300	4050	4050	3350	**1,0**	84,55	246	26000	
31,5	**4500**		1,5	5,3	10,5	31,5	38	3050	3700	4500	4500	3750	**0,93**	93,89	246	26000	
13,5	**10500**	**BG90G50-../S11LA6**	0,65	2,2	4,5	13,5	16	7100	8600	10500	10500	8700	**0,87**	219,9	365	65000	
52	**2700**	**BG90Z-../S11LA6**	2,6	8,7	17,5	52	63	1850	2250	2700	2700	2250	**2,5**	57,04	348	65000	
48	**2950**		2,4	8,0	16	48	57	2000	2450	2950	2950	2450	**2,5**	62,47	348	65000	
39	**3650**		1,9	6,5	13	39	46,5	2450	3000	3650	3650	3050	**2,3**	76,61	348	65000	
35,5	**4000**		1,7	5,9	11,5	35,5	42,5	2700	3300	4000	4000	3350	**2,1**	83,91	348	65000	
31	**4600**		1,5	5,1	10	31	37	3100	3800	4600	4600	3850	**1,8**	96,53	348	65000	
28	**5000**		1,4	4,7	9,4	28	34	3400	4150	5000	5000	4200	**1,7**	105,7	348	65000	
23,5	**6100**		1,1	3,9	7,8	23,5	28	4100	5000	6100	6100	5000	**1,4**	127,1	348	65000	
21,5	**6600**		1,0	3,5	7,1	21,5	25,5	4500	5400	6600	6600	5500	**1,3**	139,2	348	65000	
18	**7800**		0,9	3,0	6,1	18	22	5200	6400	7800	7800	6500	**1,1**	163	348	65000	
16,5	**8500**		0,8	2,8	5,6	16,5	20	5800	7000	8500	8500	7100	**0,98**	178,5	348	65000	
14	**9900**		0,7	2,4	4,8	14	17	6700	8200	9900	9900	8300	**0,84**	208,3	348	65000	
25	**5700**	**BG100-../S11LA6**	1,2	4,1	8,3	25	30	3850	4700	5700	5700	4750	**2,9**	119,7	465	90000	
21,5	**6600**		1,0	3,5	7,1	21,5	25,5	4500	5400	6600	6600	5500	**2,5**	139,1	465	90000	
19	**7400**		0,95	3,2	6,4	19	23	5000	6100	7400	7400	6100	**2,3**	154,8	465	90000	
16,5	**8500**		0,8	2,7	5,5	16,5	20	5800	7000	8500	8500	7100	**2,0**	178,6	465	90000	
15	**9500**		0,75	2,5	5,0	15	18	6400	7800	9500	9500	7900	**1,8**	198,8	465	90000	
12,5	**11100**		0,6	2,1	4,2	12,5	15	7500	9100	11100	11100	9300	**1,5**	232,6	465	90000	
11,5	**12400**		0,55	1,9	3,8	11,5	13,5	8400	10200	12400	12400	10300	**1,4**	259	465	90000	
11	**12900**	**BG100Z-../S11LA6**	0,55	1,8	3,7	11	13	8700	10600	12900	12900	10700	**1,4**	269,8	555	90000	
9,9	**14400**		0,49	1,6	3,3	9,9	11,5	9700	11800	14400	14400	12000	**1,3**	300,4	555	90000	
8,7	**16400**		0,43	1,4	2,9	8,7	10	11100	13500	16400	16400	13700	**1,1**	343,6	555	90000	
7,8	**18300**		0,39	1,3	2,6	7,8	9,4	12400	15100	18300	18300	15300	**1,0**	382,6	555	90000	
6,5	**21500**		0,32	1,0	2,1	6,5	7,8	14800	18000	21500	21500	18200	**0,84**	456,7	555	90000	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲



Page

BF-series shaft-mounted geared motors Selection 101-130

Description of shaft mounted-geared units
- Sizes
- Bauer service factors (f_B) for shaft-mounted geared motors
- Continuous operation without switching frequency Z ≤1/h
- Switching duty
- Bauer service factor
- Explanation of shock classification
- Key to abbreviations
- **Selection tables, shaft mounted-geared motors 1500 $^1/_{min}$**
- **Selection tables, shaft mounted-geared motors 3000 $^1/_{min}$**

Sizes

Bauer BF-series shaft-mounted geared motors are normally supplied in ten frame sizes and with torques of 90 to 18,500 Nm. Higher torques are available on request. The gear unit is accommodated in a sturdy cast housing

Bauer service factors (f_B) for shaft-mounted geared motors

Of the numerous factors influencing the total loading of a gear unit, the most important include:

- Mean torque (rated torque)
- Daily operating hours
- Severity of torque peaks (shock classification)
- Frequency of torque peaks (switching duty)

These factors can be represented in a simplified and practical manner by **service factors**. The tables and explanations below attempt to provide an objective description of the **shock classification**, rather than a classification of the driven machinery. Experience has shown that, in addition to the torque shocks caused by the driven machinery (M_x/M_N), above all the power transmission components (clutches, chains etc.) plus the mass ratios play a decisive role in this.

See Bauer special imprint SD32 for more information.

Continuous operation without switching frequency Z ≤1/h

Factor f_1 for shock classification and operating time

Shock classification	Operating hours per day t_d	>4 h ≤8 h	>8 h ≤16 h	>16 h ≤24 h
I		0,8	1,0	1,2
II		1,05	1,25	1,45
III		1,45	1,55	1,7

Switching duty

Factor f_2 for shock classification and switching frequency

Switching frequency in single- shift operation t_d ≤8 h/d

Shock classification	1 <Z ≤100	100 <Z ≤1000	1000 <Z
I	0,95	1,1	1,15
II	1,2	1,35	1,4
III	1,55	1,6	1,6

Switching frequency in multiple- shift operation t_d >8 h/d

Shock classification	1 <Z ≤100	100 <Z ≤1000	1000 <Z
I	1,3	1,45	1,5
II	1,5	1,6	1,65
III	1,75	1,8	1,8

Bauer service factor

Bauer Service factor $f_B = f_1$ or $f_B = f_2$

For example: Shock classification II for Z = 100 switching operations per hour and multiple-shift operation yields a service factor $f_B = f_2 = 1.5$

Explanation of shock classification

Shock classification I:
Uniform without shock loads. All the following requirements must be satisfied:

- FI ≤1,3
- M_x/M_N ≤1,0
- Shock-absorbing power transmission components (e.g. highly resilient, zero-play coupling, φ N ≥5°)

Shock classification II:
Moderate shock loads. At least one of the following conditions applies:
- 1,3 <FI ≤4
- 1 <M_x/M_N ≤1,6
- Shock-neutral power transmission components (e.g. gear wheels, zero- play rigid coupling or resilient coupling with φ N <5°)

Shock classification III:
Heavy shock loads. At least one of the following conditions applies:
- FI >4
- 1,6 <M_x/M_N ≤2,0
- Shock-amplifying power transmission components (e.g. coupling with play or chain drive)

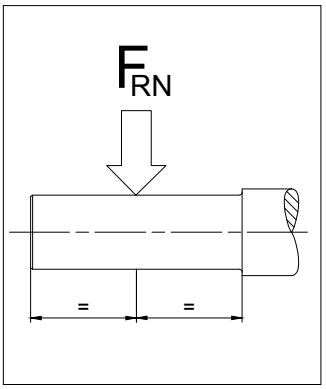
Key to abbreviations

Z	Switching duty number of switching operations per hour
t_d	Daily operating time in hours (h/d)
FI	Factor of inertia FI = $(J_{ext} + J_{rot})/J_{rot}$
J_{ext}	Mass moment of inertia of the machine to be driven, in relation to the motor's rotor shaft (kgm^2)
J_{rot}	Mass moment of inertia of the motor rotor (kgm^2)
M_x	Highest impact torque above the static torque which can occur during normal operation or in emergency situations
M_N	Required static load torque for the application
M_x/M_N	Relative torque - Factor
φ_N	Torsional offset of the resilient coupling under rated torque

Selection tables, shaft-mounted geared motors

Key to abbreviations

P	Rated output
n_2	Rated speed of the output shaft
i	Gear reduction ratio
M_2	Rated torque at the output shaft
f_B	Bauer service factor
F_{RN}	Maximum permissible radial force with normal bearings
F_{RV}	Maximum permissible radial force with reinforced bearings in each case with standard solid shaft (Code -.1 und -.2)



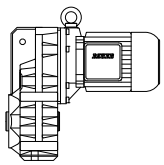
Use the selection tables to determine the size of geared motor required. The codes clearly define the Type of gear unit and output shaft (see chapter 11 „dimensional drawings shaft-mounted gear motors").

The torques marked (*) are maximum permissible torques for service factor f_B=1,0.

Motor power overload protection
Motor-power ratings, particularly in conjunction with four-stage and multi-stage gear units, are more than ample in some instances. Consequently, and in much the same way as with low-power motors, rated current is not a measure of gear loading and cannot be used to protect the gear unit against overloading. It is advisable to provide gears at risk from excessive load or blockage with a protective mechanism (e. g., sliding clutch, sliding hub, shear pin or an alternative).

M_1 = 4,75 Nm

n_1 = 1500 $^1/_{min}$

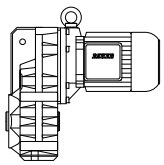


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
260	37	BF06-../S08MA4	26	87	174	260	310	28,5	32	37	37	37	**1,7**	5,72	16	1630	
195	49,5		19,5	65	130	195	230	38	42,5	49,5	49,5	49,5	**1,4**	7,66	16	1800	
162	59		16	54	108	162	195	46	51	59	59	59	**1,2**	9,21	16	1900	
124	78		12	41	82	124	149	60	67	78	78	78	**0,96**	12,07	16	2000	
105	92		10,5	35	70	105	126	71	79	92	92	92	**0,92**	14,21	16	2100	
88	110		8,8	29	58	88	105	84	95	110	110	110	**0,86**	16,99	16	2500	
154	62	BF10-../S08MA4	15	51	103	154	185	48	54	62	62	62	**2,8**	9,69	27	2350	
126	76		12,5	42	84	126	152	59	66	76	76	76	**2,4**	11,84	27	2500	
99	97		9,9	33	66	99	119	75	84	97	97	97	**1,9**	15,04	27	2800	
82	118		8,2	27	54	82	98	91	102	118	118	118	**2,0**	18,23	27	2900	
74	130		7,4	24,5	49,5	74	89	100	112	130	130	130	**1,8**	20,05	27	3000	
64	151		6,4	21	42,5	64	77	116	130	151	151	151	**1,6**	23,28	27	3200	
58	166		5,8	19,5	39	58	70	128	143	166	166	166	**1,4**	25,6	27	3350	
52	185		5,2	17,5	35	52	63	142	159	185	185	185	**1,3**	28,47	27	3450	
47,5	200		4,7	15,5	31,5	47,5	57	156	175	200	200	200	**1,2**	31,31	27	3600	
41	230		4,1	13,5	27,5	41	49,5	180	200	230	230	230	**1,0**	36,15	27	3800	
37,5	255		3,7	12,5	25	37,5	45	198	220	255	255	255	**0,93**	39,75	27	3950	
34,5	275		3,4	11,5	23	34,5	41,5	215	240	275	275	275	**0,86**	43,06	27	4100	
96	101	BF20-../S08MA4	9,6	32	64	96	115	77	87	101	101	101	**3,0**	15,54	33	3450	
68	143		6,8	22,5	45	68	81	110	123	143	143	143	**2,8**	22,04	33	3800	
61	157		6,1	20,5	41	61	74	121	135	157	157	157	**2,5**	24,25	33	3950	
54	179		5,4	18	36	54	65	138	154	179	179	179	**2,3**	27,62	33	4150	
49	197		4,9	16	32,5	49	59	152	170	197	197	197	**2,1**	30,4	33	4400	
46	210		4,6	15	30,5	46	55	162	182	210	210	210	**2,0**	32,58	33	4450	
41,5	230		4,1	13,5	27,5	41,5	50	179	200	230	230	230	**1,8**	35,85	33	4650	
35,5	270		3,5	11,5	23,5	35,5	43	205	230	270	270	270	**1,5**	41,72	33	4950	
32,5	295		3,2	10,5	21,5	32,5	39	225	255	295	295	295	**1,4**	45,9	33	5100	
30,5	315		3,0	10	20,5	30,5	37	240	270	315	315	315	**1,3**	48,56	33	5200	
28	345		2,8	9,3	18,5	28	33,5	265	295	345	345	345	**1,2**	53,43	33	5500	
25,5	375		2,5	8,5	17	25,5	30,5	290	325	375	375	375	**1,1**	58,24	33	5600	
23	415		2,3	7,8	15,5	23	28	320	355	415	415	415	**1,0**	64,08	33	5900	
21,5	450		2,1	7,1	14	21,5	25,5	345	390	450	450	450	**0,93**	69,7	33	6100	
19,5	495		1,9	6,5	13	19,5	23	380	425	495	495	495	**0,84**	76,69	33	6300	
48	200	BF30-../S08MA4	4,8	16	32	48	57	155	173	200	200	200	**2,8**	31,05	43	4000	
42,5	225		4,2	14	28,5	42,5	51	175	196	225	225	225	**2,5**	35	43	4200	
38,5	250		3,8	12,5	25,5	38,5	46,5	192	215	250	250	250	**2,3**	38,49	43	4400	
36,5	265		3,6	12	24	36,5	43,5	205	225	265	265	265	**2,1**	41,01	43	4500	
33	290		3,3	11	22	33	39,5	225	250	290	290	290	**1,9**	45,1	43	4700	
28,5	335		2,8	9,5	19	28,5	34	260	290	335	335	335	**1,7**	52,2	43	5000	
26	370		2,6	8,7	17	26	31	285	320	370	370	370	**1,5**	57,41	43	5200	
24,5	395		2,4	8,1	16	24,5	29	305	340	395	395	395	**1,4**	61,17	43	5300	
22	435		2,2	7,4	14,5	22	26,5	335	375	435	435	435	**1,3**	67,28	43	5500	
20,5	465		2,0	6,9	13,5	20,5	24,5	360	400	465	465	465	**1,2**	72,13	43	5700	
18,5	510		1,8	6,3	12,5	18,5	22,5	395	440	510	510	510	**1,1**	79,34	43	5900	
17	560		1,7	5,7	11	17	20,5	435	485	560	560	560	**1,0**	87,08	43	6200	
15,5	620		1,5	5,2	10	15,5	18,5	475	530	620	620	620	**0,92**	95,79	43	6400	
13,5	690		1,3	4,6	9,2	13,5	16,5	530	600	690	690	690	**0,81**	107,6	43	6700	
32,5	295	BF40-../S08MA4	3,2	10,5	21,5	32,5	39,5	225	255	295	295	295	**3,0**	45,56	53	6800	
30,5	315		3,0	10	20	30,5	36,5	240	270	315	315	315	**2,8**	48,92	53	7000	
27,5	345		2,7	9,2	18,5	27,5	33	265	300	345	345	345	**2,6**	53,82	53	7200	
24	395		2,4	8,1	16	24	29	305	340	395	395	395	**2,3**	61,25	53	7600	
22	435		2,2	7,4	14,5	22	26,5	335	375	435	435	435	**2,1**	67,38	53	8000	
21	460		2,1	7,0	14	21	25	355	395	460	460	460	**1,9**	71,4	53	8100	
19	510		1,9	6,3	12,5	19	22,5	390	435	510	510	510	**1,8**	78,55	53	8500	
17,5	540		1,7	5,9	11,5	17,5	21	415	465	540	540	540	**1,7**	83,91	53	8700	
16	600		1,6	5,4	10,5	16	19	460	510	600	600	600	**1,5**	92,31	53	9100	
14,5	650		1,4	4,9	9,9	14,5	17,5	500	560	650	650	650	**1,4**	101	53	9400	
13,5	720		1,3	4,5	9,0	13,5	16	550	620	720	720	720	**1,2**	111,1	53	9800	
12	800		1,2	4,0	8,0	12	14	620	690	800	800	800	**1,1**	124,5	53	10200	
10,5	890		1,0	3,6	7,2	10,5	13	680	760	890	890	890	**1,0**	137	53	10600	
10,5	910	BF40Z-../S08MA4	1,0	3,5	7,0	10,5	12,5	700	790	910	910	910	**0,98**	141,4	56	10600	
9,6	1010		0,95	3,2	6,4	9,6	11,5	770	870	1010	1010	1010	**0,89**	155,6	56	10600	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

$M_1 = 4{,}75$ Nm

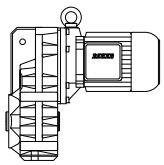
$n_1 = 1500\ ^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
20,5	**470**	**BF50-../S08MA4**	2,0	6,8	13,5	20,5	24,5	360	405	470	470	470	**2,8**	72,72	81	10700	
18	**520**		1,8	6,1	12	18	22	405	455	520	520	520	**2,5**	81,33	81	11300	
16,5	**580**		1,6	5,5	11	16,5	19,5	450	500	580	580	580	**2,2**	90,24	81	11800	
14,5	**650**		1,4	4,9	9,9	14,5	17,5	500	560	650	650	650	**2,0**	100,9	81	12300	
13	**740**		1,3	4,3	8,7	13	15,5	570	630	740	740	740	**1,8**	114	81	12900	
11,5	**820**		1,1	3,9	7,8	11,5	14	630	710	820	820	820	**1,6**	127,5	81	13600	
10,5	**890**	**BF50Z-../S08MA4**	1,0	3,6	7,2	10,5	13	690	770	890	890	890	**1,4**	138,1	86	13600	
9,7	**1000**		0,95	3,2	6,4	9,7	11,5	770	860	1000	1000	1000	**1,3**	154,5	86	13600	
8,1	**1190**		0,8	2,7	5,4	8,1	9,8	910	1020	1190	1190	1190	**1,1**	183,5	86	13600	
7,3	**1330**		0,7	2,4	4,8	7,3	8,7	1020	1140	1330	1330	1330	**0,97**	205,2	86	13600	
6,0	**1600**		0,6	2,0	4,0	6,0	7,2	1230	1380	1600	1600	1600	**0,81**	247,5	86	13600	
10,5	**910**		1,0	3,5	7,1	10,5	12,5	700	780	910	910	910	**2,5**	140,8	130	15300	43300.0
8,8	**1090**		0,85	2,9	5,9	8,8	10,5	840	940	1090	1090	1090	**2,1**	169,2	130	15300	43300.0
7,9	**1220**		0,75	2,6	5,3	7,9	9,5	930	1050	1220	1220	1220	**1,9**	187,7	130	15300	43300.0
6,7	**1430**		0,65	2,2	4,5	6,7	8,1	1100	1230	1430	1430	1430	**1,6**	221,4	130	15300	43300.0
6,1	**1590**		0,6	2,0	4,0	6,1	7,3	1220	1370	1590	1590	1590	**1,4**	245,6	130	15300	43300.0
5,1	**1900**		0,5	1,7	3,4	5,1	6,1	1460	1640	1900	1900	1900	**1,2**	293,4	130	15300	43300.0
4,6	**2100**		0,46	1,5	3,0	4,6	5,5	1620	1820	2100	2100	2100	**1,1**	325,6	130	15300	43300.0
3,9	**2450**		0,39	1,3	2,6	3,9	4,7	1900	2100	2450	2450	2450	**0,93**	380	130	15300	43300.0
3,5	**2700**		0,35	1,1	2,3	3,5	4,2	2100	2350	2700	2700	2700	**0,84**	421,6	130	15300	43300.0
2,8	**3400**	**BF70G20-../S08MA4**	0,28	0,95	1,9	2,8	3,4	2600	2900	3400	3400	3400	**1,7**	524,1	216	16100	47700.0
2,5	**3750**		0,25	0,85	1,7	2,5	3,1	2850	3200	3750	3750	3750	**1,5**	577,5	216	16100	47700.0
2,2	**4350**		0,22	0,7	1,4	2,2	2,6	3350	3750	4350	4350	4350	**1,3**	673,6	216	16100	47700.0
1,7	**5600**		0,17	0,55	1,1	1,7	2,0	4350	4850	5600	5600	5600	**1,0**	872,1	216	16100	47700.0
1,4	**6600**		0,14	0,49	0,95	1,4	1,7	5000	5600	6600	6600	6600	**0,86**	1017	216	16100	47700.0
4,9	**1960**	**BF70Z-../S08MA4**	0,49	1,6	3,3	4,9	5,9	1500	1690	1960	1960	1960	**2,7**	301,8	218	16100	47700.0
4,3	**2200**		0,43	1,4	2,9	4,3	5,2	1700	1910	2200	2200	2200	**2,3**	341,7	218	16100	47700.0
3,7	**2550**		0,37	1,2	2,5	3,7	4,5	1990	2200	2550	2550	2550	**2,0**	398,7	218	16100	47700.0
3,4	**2850**		0,34	1,1	2,2	3,4	4,0	2150	2450	2850	2850	2850	**1,8**	439,2	218	16100	47700.0
2,9	**3300**		0,29	0,95	1,9	2,9	3,5	2550	2850	3300	3300	3300	**1,6**	512,4	218	16100	47700.0
1,1	**8600**	**BF80G40-../S08MA4**	0,11	0,37	0,75	1,1	1,3	6600	7400	8600	8600	8600	**1,2**	1329	340	39600	75000.0
1,0	**9600**		0,1	0,33	0,65	1,0	1,2	7400	8300	9600	9600	9600	**1,1**	1491	340	39600	75000.0
0,85	**11000**		0,085	0,29	0,55	0,85	1,0	8400	9400	11000	11000	11000	**0,95**	1693	340	39600	75000.0
2,5	**3750**	**BF80Z-../S08MA4**	0,25	0,85	1,7	2,5	3,0	2900	3250	3750	3750	3750	**2,8**	583,4	334	39600	75000.0
2,2	**4300**		0,22	0,75	1,5	2,2	2,7	3300	3700	4300	4300	4300	**2,4**	662,1	334	39600	75000.0
1,9	**5000**		0,19	0,6	1,2	1,9	2,3	3850	4300	5000	5000	5000	**2,1**	770,6	334	39600	75000.0
1,7	**5600**		0,17	0,55	1,1	1,7	2,0	4350	4850	5600	5600	5600	**1,8**	874,6	334	39600	75000.0
1,5	**6400**		0,15	0,5	1,0	1,5	1,8	4950	5500	6400	6400	6400	**1,6**	990,4	334	39600	75000.0
1,3	**7300**		0,13	0,44	0,85	1,3	1,6	5600	6200	7300	7300	7300	**1,4**	1124	334	39600	75000.0
1,5	**6300**	**BF90G50-../S08MA4**	0,15	0,5	1,0	1,5	1,8	4850	5400	6300	6300	6300	**2,9**	976,1	610	42800	120000.0
1,4	**6700**		0,14	0,47	0,95	1,4	1,7	5200	5800	6700	6700	6700	**2,7**	1043	610	42800	120000.0
1,2	**7800**		0,12	0,41	0,8	1,2	1,4	6000	6700	7800	7800	7800	**2,4**	1204	610	42800	120000.0
1,0	**9300**		0,1	0,34	0,65	1,0	1,2	7200	8000	9300	9300	9300	**2,0**	1444	610	42800	120000.0
0,85	**10900**		0,085	0,29	0,55	0,85	1,0	8300	9300	10900	10900	10900	**1,7**	1678	610	42800	120000.0
0,8	**12100**		0,08	0,26	0,5	0,8	0,95	9300	10400	12100	12100	12100	**1,5**	1867	610	42800	120000.0
0,65	**14000**		0,065	0,23	0,46	0,65	0,8	10700	12000	14000	14000	14000	**1,3**	2154	610	42800	120000.0
0,55	**17200**		0,055	0,18	0,37	0,55	0,65	13200	14800	17200	17200	17200	**1,1**	2656	610	42800	120000.0
0,5	**19100**		0,05	0,16	0,33	0,5	0,6	14700	16500	19100	19100	19100	**0,96**	2952	610	42800	120000.0
0,45	**21000**		0,045	0,15	0,3	0,45	0,5	16400	18400	21000	21000	21000	**0,87**	3286	610	42800	120000.0

M_1 = 9,55 Nm

n_1 = 1500 $^1/_{min}$

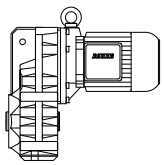


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
260	54	BF06-../S08LA4	26	87	174	260	310	37	45,5	54	54	54	**1,1**	5,72	17	1630	
195	73		19,5	65	130	195	230	49,5	61	73	73	73	**0,93**	7,66	17	1800	
162	87		16	54	108	162	195	59	73	87	87	87	**0,8**	9,21	17	1900	
265	53	BF10-../S08LA4	26,5	89	178	265	320	36	44,5	53	53	53	**2,6**	5,6	28	1980	
197	72		19,5	65	131	197	235	49	60	72	72	72	**2,1**	7,58	28	2200	
154	92		15	51	103	154	185	62	77	92	92	92	**1,9**	9,69	28	2350	
126	113		12,5	42	84	126	152	76	94	113	113	113	**1,6**	11,84	28	2500	
99	143		9,9	33	66	99	119	97	120	143	143	143	**1,3**	15,04	28	2800	
82	174		8,2	27	54	82	98	118	145	174	174	174	**1,4**	18,23	28	2900	
74	191		7,4	24,5	49,5	74	89	130	160	191	191	191	**1,3**	20,05	28	3000	
64	220		6,4	21	42,5	64	77	151	186	220	220	220	**1,1**	23,28	28	3200	
58	240		5,8	19,5	39	58	70	166	200	240	240	240	**0,98**	25,6	28	3350	
52	270		5,2	17,5	35	52	63	185	225	270	270	270	**0,88**	28,47	28	3450	
47,5	295		4,7	15,5	31,5	47,5	57	200	250	295	295	295	**0,8**	31,31	28	3600	
187	76	BF20-../S08LA4	18,5	62	125	187	225	52	64	76	76	76	**2,9**	8,0	35	2850	
142	100		14	47,5	95	142	171	68	84	100	100	100	**2,5**	10,51	35	3100	
113	125		11	37,5	75	113	136	85	105	125	125	125	**2,3**	13,18	35	3300	
96	148		9,6	32	64	96	115	101	124	148	148	148	**2,1**	15,54	35	3450	
89	160		8,9	29,5	59	89	107	109	134	160	160	160	**2,2**	16,77	35	3500	
81	176		8,1	27	54	81	97	119	147	176	176	176	**2,1**	18,45	35	3600	
68	210		6,8	22,5	45	68	81	143	176	210	210	210	**1,9**	22,04	35	3800	
61	230		6,1	20,5	41	61	74	157	194	230	230	230	**1,7**	24,25	35	3950	
54	260		5,4	18	36	54	65	179	220	260	260	260	**1,6**	27,62	35	4150	
49	290		4,9	16	32,5	49	59	197	240	290	290	290	**1,4**	30,4	35	4400	
46	310		4,6	15	30,5	46	55	210	260	310	310	310	**1,3**	32,58	35	4450	
41,5	340		4,1	13,5	27,5	41,5	50	230	285	340	340	340	**1,2**	35,85	35	4650	
35,5	395		3,5	11,5	23,5	35,5	43	270	330	395	395	395	**1,1**	41,72	35	4950	
32,5	435		3,2	10,5	21,5	32,5	39	295	365	435	435	435	**0,96**	45,9	35	5100	
30,5	460		3,0	10	20,5	30,5	37	315	385	460	460	460	**0,91**	48,56	35	5200	
28	510		2,8	9,3	18,5	28	33,5	345	425	510	510	510	**0,82**	53,43	35	5500	
116	123	BF30-../S08LA4	11,5	38,5	77	116	139	83	103	123	123	123	**3,0**	12,91	45	3050	
93	152		9,3	31	62	93	112	104	128	152	152	152	**2,7**	16	45	3250	
84	168		8,4	28	56	84	101	114	141	168	168	168	**2,8**	17,65	45	3300	
77	185		7,7	25,5	51	77	92	126	155	185	185	185	**2,7**	19,41	45	3400	
68	205		6,8	22,5	45,5	68	82	142	174	205	205	205	**2,5**	21,85	45	3500	
62	225		6,2	20,5	41,5	62	74	156	192	225	225	225	**2,4**	24,03	45	3600	
53	265		5,3	17,5	35	53	63	183	225	265	265	265	**2,1**	28,23	45	3800	
48	295		4,8	16	32	48	57	200	245	295	295	295	**1,9**	31,05	45	4000	
42,5	330		4,2	14	28,5	42,5	51	225	280	330	330	330	**1,7**	35	45	4200	
38,5	365		3,8	12,5	25,5	38,5	46,5	250	305	365	365	365	**1,6**	38,49	45	4400	
36,5	390		3,6	12	24	36,5	43,5	265	325	390	390	390	**1,5**	41,01	45	4500	
33	430		3,3	11	22	33	39,5	290	360	430	430	430	**1,3**	45,1	45	4700	
28,5	495		2,8	9,5	19	28,5	34	335	415	495	495	495	**1,1**	52,2	45	5000	
26	540		2,6	8,7	17	26	31	370	455	540	540	540	**1,0**	57,41	45	5200	
24,5	580		2,4	8,1	16	24,5	29	395	485	580	580	580	**0,98**	61,17	45	5300	
22	640		2,2	7,4	14,5	22	26,5	435	530	640	640	640	**0,89**	67,28	45	5500	
20,5	680		2,0	6,9	13,5	20,5	24,5	465	570	680	680	680	**0,83**	72,13	45	5700	
55	255	BF40-../S08LA4	5,5	18,5	37	55	67	174	210	255	255	255	**3,0**	26,86	54	5600	
50	280		5,0	16,5	33,5	50	60	192	235	280	280	280	**2,8**	29,55	54	5800	
43,5	325		4,3	14,5	29	43,5	52	220	270	325	325	325	**2,6**	34,21	54	6000	
39,5	355		3,9	13	26,5	39,5	47,5	240	300	355	355	355	**2,5**	37,64	54	6200	
36	395		3,6	12	24	36	43	265	330	395	395	395	**2,3**	41,42	54	6500	
32,5	435		3,2	10,5	21,5	32,5	39,5	295	360	435	435	435	**2,1**	45,56	54	6800	
30,5	465		3,0	10	20	30,5	36,5	315	390	465	465	465	**1,9**	48,92	54	7000	
27,5	510		2,7	9,2	18,5	27,5	33	345	430	510	510	510	**1,8**	53,82	54	7200	
24	580		2,4	8,1	16	24	29	395	490	580	580	580	**1,5**	61,25	54	7600	
22	640		2,2	7,4	14,5	22	26,5	435	530	640	640	640	**1,4**	67,38	54	8000	
21	680		2,1	7,0	14	21	25	460	570	680	680	680	**1,3**	71,4	54	8100	
19	750		1,9	6,3	12,5	19	22,5	510	620	750	750	750	**1,2**	78,55	54	8500	
17,5	800		1,7	5,9	11,5	17,5	21	540	670	800	800	800	**1,1**	83,91	54	8700	
16	880		1,6	5,4	10,5	16	19	600	730	880	880	880	**1,0**	92,31	54	9100	
14,5	960		1,4	4,9	9,9	14,5	17,5	650	800	960	960	960	**0,93**	101	54	9400	
13,5	1060		1,3	4,5	9,0	13,5	16	720	880	1060	1060	1060	**0,85**	111,1	54	9800	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

$M_1 = 9{,}55$ Nm

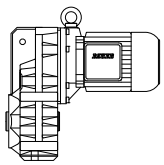
$n_1 = 1500\ ^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
31,5	450	BF50-../S08LA4	3,1	10,5	21	31,5	38	305	375	450	450	450	2,9	47,14	83	8900	
26	540		2,6	8,7	17,5	26	31,5	365	450	540	540	540	2,4	56,86	83	9300	
23,5	600		2,3	7,8	15,5	23,5	28	410	500	600	600	600	2,1	63,59	83	9800	
20,5	690		2,0	6,8	13,5	20,5	24,5	470	580	690	690	690	1,9	72,72	83	10700	
18	770		1,8	6,1	12	18	22	520	650	770	770	770	1,7	81,33	83	11300	
16,5	860		1,6	5,5	11	16,5	19,5	580	720	860	860	860	1,5	90,24	83	11800	
14,5	960		1,4	4,9	9,9	14,5	17,5	650	800	960	960	960	1,3	100,9	83	12300	
13	1080		1,3	4,3	8,7	13	15,5	740	910	1080	1080	1080	1,2	114	83	12900	
11,5	1210		1,1	3,9	7,8	11,5	14	820	1020	1210	1210	1210	1,1	127,5	83	13600	
10,5	1310	BF50Z-../S08LA4	1,0	3,6	7,2	10,5	13	890	1100	1310	1310	1310	0,99	138,1	88	13600	
9,7	1470		0,95	3,2	6,4	9,7	11,5	1000	1230	1470	1470	1470	0,88	154,5	88	13600	
10,5	1340		1,0	3,5	7,1	10,5	12,5	910	1120	1340	1340	1340	1,7	140,8	131	15300	43300.0
8,8	1610		0,85	2,9	5,9	8,8	10,5	1090	1350	1610	1610	1610	1,4	169,2	131	15300	43300.0
7,9	1790		0,75	2,6	5,3	7,9	9,5	1220	1500	1790	1790	1790	1,3	187,7	131	15300	43300.0
6,7	2100		0,65	2,2	4,5	6,7	8,1	1430	1770	2100	2100	2100	1,1	221,4	131	15300	43300.0
6,1	2300		0,6	2,0	4,0	6,1	7,3	1590	1960	2300	2300	2300	0,98	245,6	131	15300	43300.0
5,1	2800		0,5	1,7	3,4	5,1	6,1	1900	2300	2800	2800	2800	0,82	293,4	131	15300	43300.0
2,8	5000	BF70G20-../S08LA4	0,28	0,95	1,9	2,8	3,4	3400	4150	5000	5000	5000	1,1	524,1	217	16100	47700.0
2,5	5500		0,25	0,85	1,7	2,5	3,1	3750	4600	5500	5500	5500	1,0	577,5	217	16100	47700.0
2,2	6400		0,22	0,7	1,4	2,2	2,6	4350	5300	6400	6400	6400	0,89	673,6	217	16100	47700.0
8,3	1710	BF70Z-../S08LA4	0,8	2,7	5,5	8,3	10	1160	1430	1710	1710	1710	3,0	179,7	220	16100	47700.0
7,5	1900		0,75	2,5	5,0	7,5	9,0	1290	1590	1900	1900	1900	2,7	199,7	220	16100	47700.0
6,4	2200		0,6	2,1	4,2	6,4	7,7	1510	1860	2200	2200	2200	2,3	233	220	16100	47700.0
5,7	2450		0,55	1,9	3,8	5,7	6,9	1680	2050	2450	2450	2450	2,1	258,7	220	16100	47700.0
4,9	2850		0,49	1,6	3,3	4,9	5,9	1960	2400	2850	2850	2850	1,8	301,8	220	16100	47700.0
4,3	3250		0,43	1,4	2,9	4,3	5,2	2200	2700	3250	3250	3250	1,6	341,7	220	16100	47700.0
3,7	3800		0,37	1,2	2,5	3,7	4,5	2550	3150	3800	3800	3800	1,4	398,7	220	16100	47700.0
3,4	4150		0,34	1,1	2,2	3,4	4,0	2850	3500	4150	4150	4150	1,2	439,2	220	16100	47700.0
2,9	4850		0,29	0,95	1,9	2,9	3,5	3300	4050	4850	4850	4850	1,1	512,4	220	16100	47700.0
1,1	12600	BF80G40-../S08LA4	0,11	0,37	0,75	1,1	1,3	8600	10600	12600	12600	12600	0,83	1329	341	39600	75000.0
3,8	3750	BF80Z-../S08LA4	0,38	1,2	2,5	3,8	4,5	2550	3150	3750	3750	3750	2,8	394,2	336	39600	75000.0
3,3	4300		0,33	1,1	2,2	3,3	3,9	2900	3600	4300	4300	4300	2,4	450,4	336	39600	75000.0
2,9	4850		0,29	0,95	1,9	2,9	3,5	3300	4050	4850	4850	4850	2,2	511,2	336	39600	75000.0
2,5	5500		0,25	0,85	1,7	2,5	3	3750	4650	5500	5500	5500	1,9	583,4	336	39600	75000.0
2,2	6300		0,22	0,75	1,5	2,2	2,7	4300	5200	6300	6300	6300	1,7	662,1	336	39600	75000.0
1,9	7300		0,19	0,6	1,2	1,9	2,3	5000	6100	7300	7300	7300	1,4	770,6	336	39600	75000.0
1,7	8300		0,17	0,55	1,1	1,7	2,0	5600	6900	8300	8300	8300	1,3	874,6	336	39600	75000.0
1,5	9400		0,15	0,5	1,0	1,5	1,8	6400	7900	9400	9400	9400	1,1	990,4	336	39600	75000.0
1,3	10700		0,13	0,44	0,85	1,3	1,6	7300	8900	10700	10700	10700	0,98	1124	336	39600	75000.0
1,5	9300	BF90G50-../S08LA4	0,15	0,5	1,0	1,5	1,8	6300	7800	9300	9300	9300	2,0	976,1	612	42800	120000.0
1,4	9900		0,14	0,47	0,95	1,4	1,7	6700	8300	9900	9900	9900	1,9	1043	612	42800	120000.0
1,2	11400		0,12	0,41	0,8	1,2	1,4	7800	9600	11400	11400	11400	1,6	1204	612	42800	120000.0
1,0	13700		0,1	0,34	0,65	1,0	1,2	9300	11500	13700	13700	13700	1,3	1444	612	42800	120000.0
0,85	16000		0,085	0,29	0,55	0,85	1,0	10900	13400	16000	16000	16000	1,2	1678	612	42800	120000.0
0,8	17800		0,08	0,26	0,5	0,8	0,95	12100	14900	17800	17800	17800	1,0	1867	612	42800	120000.0
0,65	20500		0,065	0,23	0,46	0,65	0,8	14000	17200	20500	20500	20500	0,9	2154	612	42800	120000.0

M_1 = 14 Nm

n_1 = 1500 $^1/_{min}$

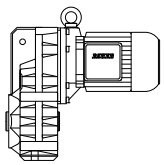


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
265	72	BF10-../S09SA4	26,5	89	178	265	320	44,5	56	72	72	64	**1,9**	5,6	32	1980	
197	98		19,5	65	131	197	235	60	75	98	98	87	**1,6**	7,58	32	2200	
154	125		15	51	103	154	185	77	96	125	125	111	**1,4**	9,69	32	2350	
126	153		12,5	42	84	126	152	94	118	153	153	136	**1,2**	11,84	32	2500	
99	195		9,9	33	66	99	119	120	150	195	195	172	**0,94**	15,04	32	2800	
82	235		8,2	27	54	82	98	145	182	235	235	205	**1,0**	18,23	32	2900	
74	260		7,4	24,5	49,5	74	89	160	200	260	260	230	**0,92**	20,05	32	3000	
245	78	BF20-../S09SA4	24,5	82	165	245	295	48	60	78	78	69	**2,5**	6,04	38	2550	
187	104		18,5	62	125	187	225	64	80	104	104	92	**2,1**	8,0	38	2850	
142	136		14	47,5	95	142	171	84	105	136	136	120	**1,9**	10,51	38	3100	
113	171		11	37,5	75	113	136	105	131	171	171	151	**1,7**	13,18	38	3300	
96	200		9,6	32	64	96	115	124	155	200	200	178	**1,5**	15,54	38	3450	
89	215		8,9	29,5	59	89	107	134	167	215	215	192	**1,7**	16,77	38	3500	
81	235		8,1	27	54	81	97	147	184	235	235	210	**1,5**	18,45	38	3600	
68	285		6,8	22,5	45	68	81	176	220	285	285	250	**1,4**	22,04	38	3800	
61	315		6,1	20,5	41	61	74	194	240	315	315	275	**1,3**	24,25	38	3950	
54	355		5,4	18	36	54	65	220	275	355	355	315	**1,2**	27,62	38	4150	
49	395		4,9	16	32,5	49	59	240	300	395	395	345	**1,1**	30,4	38	4400	
46	420		4,6	15	30,5	46	55	260	325	420	420	370	**0,99**	32,58	38	4450	
41,5	465		4,1	13,5	27,5	41,5	50	285	355	465	465	410	**0,9**	35,85	38	4650	
185	104	BF30-../S09SA4	18,5	61	123	185	220	64	80	104	104	92	**2,7**	8,07	49	2650	
150	129		15	50	100	150	180	79	99	129	129	114	**2,5**	9,99	49	2850	
116	167		11,5	38,5	77	116	139	103	129	167	167	148	**2,2**	12,91	49	3050	
93	205		9,3	31	62	93	112	128	160	205	205	184	**1,9**	16	49	3250	
84	225		8,4	28	56	84	101	141	176	225	225	200	**2,1**	17,65	49	3300	
77	250		7,7	25,5	51	77	92	155	194	250	250	220	**2,0**	19,41	49	3400	
68	280		6,8	22,5	45,5	68	82	174	215	280	280	250	**1,8**	21,85	49	3500	
62	310		6,2	20,5	41,5	62	74	192	240	310	310	275	**1,8**	24,03	49	3600	
53	365		5,3	17,5	35	53	63	225	280	365	365	320	**1,6**	28,23	49	3800	
48	400		4,8	16	32	48	57	245	310	400	400	355	**1,4**	31,05	49	4000	
42,5	455		4,2	14	28,5	42,5	51	280	350	455	455	400	**1,3**	35	49	4200	
38,5	500		3,8	12,5	25,5	38,5	46,5	305	380	500	500	440	**1,1**	38,49	49	4400	
36,5	530		3,6	12	24	36,5	43,5	325	410	530	530	470	**1,1**	41,01	49	4500	
33	580		3,3	11	22	33	39,5	360	450	580	580	510	**0,97**	45,1	49	4700	
28,5	670		2,8	9,5	19	28,5	34	415	520	670	670	600	**0,84**	52,2	49	5000	
127	153	BF40-../S09SA4	12,5	42	84	127	152	94	117	153	153	135	**3,0**	11,79	58	4450	
99	195		9,9	33	66	99	119	120	150	195	195	172	**2,7**	15,02	58	4800	
86	225		8,6	28,5	57	86	103	138	173	225	225	199	**2,8**	17,35	58	4950	
78	245		7,8	26	52	78	94	152	190	245	245	215	**2,7**	19,09	58	5100	
69	280		6,9	23	46	69	83	172	215	280	280	245	**2,5**	21,6	58	5200	
63	305		6,3	21	42	63	75	190	235	305	305	270	**2,4**	23,77	58	5400	
55	345		5,5	18,5	37	55	67	210	265	345	345	305	**2,2**	26,86	58	5600	
50	380		5,0	16,5	33,5	50	60	235	295	380	380	335	**2,1**	29,55	58	5800	
43,5	440		4,3	14,5	29	43,5	52	270	340	440	440	390	**1,9**	34,21	58	6000	
39,5	485		3,9	13	26,5	39,5	47,5	300	375	485	485	430	**1,8**	37,64	58	6200	
36	530		3,6	12	24	36	43	330	410	530	530	475	**1,7**	41,42	58	6500	
32,5	590		3,2	10,5	21,5	32,5	39,5	360	455	590	590	520	**1,5**	45,56	58	6800	
30,5	630		3,0	10	20	30,5	36,5	390	485	630	630	560	**1,4**	48,92	58	7000	
27,5	690		2,7	9,2	18,5	27,5	33	430	530	690	690	610	**1,3**	53,82	58	7200	
24	790		2,4	8,1	16	24	29	490	610	790	790	700	**1,1**	61,25	58	7600	
22	870		2,2	7,4	14,5	22	26,5	530	670	870	870	770	**1,0**	67,38	58	8000	
21	920		2,1	7,0	14	21	25	570	710	920	920	820	**0,97**	71,4	58	8100	
19	1020		1,9	6,3	12,5	19	22,5	620	780	1020	1020	900	**0,88**	78,55	58	8500	
17,5	1090		1,7	5,9	11,5	17,5	21	670	830	1090	1090	960	**0,83**	83,91	58	8700	
42	460	BF50-../S09SA4	4,2	14	28	42	50	280	350	460	460	405	**2,8**	35,49	86	7800	
35,5	540		3,5	11,5	23,5	35,5	42,5	335	420	540	540	480	**2,4**	42,15	86	8500	
31,5	610		3,1	10,5	21	31,5	38	375	470	610	610	540	**2,1**	47,14	86	8900	
26	730		2,6	8,7	17,5	26	31,5	450	560	730	730	650	**1,8**	56,86	86	9300	
23,5	820		2,3	7,8	15,5	23,5	28	500	630	820	820	730	**1,6**	63,59	86	9800	
20,5	940		2,0	6,8	13,5	20,5	24,5	580	720	940	940	830	**1,4**	72,72	86	10700	
18	1050		1,8	6,1	12	18	22	650	810	1050	1050	930	**1,2**	81,33	86	11300	
16,5	1170		1,6	5,5	11	16,5	19,5	720	900	1170	1170	1030	**1,1**	90,24	86	11800	
14,5	1310		1,4	4,9	9,9	14,5	17,5	800	1000	1310	1310	1160	**0,99**	100,9	86	13200	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 14 Nm

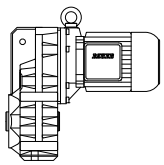
n_1 = 1500 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
24,5	780	BF60-../S09SA4	2,4	8,2	16,5	24,5	29,5	480	600	780	780	690	2,9	60,4	116	11100	31400.0
20,5	930		2,0	6,9	13,5	20,5	24,5	570	720	930	930	820	2,5	72,15	116	12000	34000.0
18,5	1040		1,8	6,2	12	18,5	22	640	800	1040	1040	920	2,2	80,05	116	12600	35600.0
16	1210		1,6	5,3	10,5	16	19	740	930	1210	1210	1070	1,9	93,44	116	13500	38200.0
14	1340		1,4	4,8	9,6	14	17	820	1030	1340	1340	1190	1,7	103,7	116	14100	39900.0
13	1470		1,3	4,4	8,8	13	15,5	900	1130	1470	1470	1300	1,6	113,1	116	14600	41300.0
11,5	1630		1,1	3,9	7,9	11,5	14	1000	1250	1630	1630	1440	1,4	125,5	116	15300	43300.0
10,5	1830	BF60Z-../S09SA4	1,0	3,5	7,1	10,5	12,5	1120	1400	1830	1830	1610	1,3	140,8	135	15300	43300.0
8,8	2150		0,85	2,9	5,9	8,8	10,5	1350	1690	2150	2150	1940	1,0	169,2	135	15300	43300.0
7,9	2400		0,75	2,6	5,3	7,9	9,5	1500	1870	2400	2400	2150	0,94	187,7	135	15300	43300.0
6,7	2850		0,65	2,2	4,5	6,7	8,1	1770	2200	2850	2850	2500	0,8	221,4	135	15300	43300.0
2,8	6800	BF70G20-../S09SA4	0,28	0,95	1,9	2,8	3,4	4150	5200	6800	6800	6000	0,84	524,1	221	16100	47700.0
11	1720	BF70Z-../S09SA4	1,1	3,7	7,5	11	13,5	1060	1330	1720	1720	1520	3,0	133	223	16100	47700.0
9,7	2000		0,95	3,2	6,4	9,7	11,5	1230	1540	2000	2000	1770	2,6	154	223	16100	47700.0
8,3	2300		0,8	2,7	5,5	8,3	10	1430	1790	2300	2300	2050	2,2	179,7	223	16100	47700.0
7,5	2550		0,75	2,5	5,0	7,5	9,0	1590	1990	2550	2550	2250	2,0	199,7	223	16100	47700.0
6,4	3000		0,6	2,1	4,2	6,4	7,7	1860	2300	3000	3000	2650	1,7	233	223	16100	47700.0
5,7	3350		0,55	1,9	3,8	5,7	6,9	2050	2550	3350	3350	2950	1,5	258,7	223	16100	47700.0
4,9	3900		0,49	1,6	3,3	4,9	5,9	2400	3000	3900	3900	3450	1,3	301,8	223	16100	47700.0
4,3	4400		0,43	1,4	2,9	4,3	5,2	2700	3400	4400	4400	3900	1,2	341,7	223	16100	47700.0
3,7	5100		0,37	1,2	2,5	3,7	4,5	3150	3950	5100	5100	4550	1,0	398,7	223	16100	47700.0
3,4	5700		0,34	1,1	2,2	3,4	4,0	3500	4350	5700	5700	5000	0,91	439,2	223	16100	47700.0
5,5	3450	BF80-../S09SA4	0,55	1,8	3,7	5,5	6,6	2150	2650	3450	3450	3050	2,7	269,1	299	39600	75000.0
5,1	3750	BF80Z-../S09SA4	0,5	1,7	3,4	5,1	6,1	2300	2900	3750	3750	3350	2,8	291,7	340	39600	75000.0
4,3	4500		0,43	1,4	2,8	4,3	5,1	2750	3450	4500	4500	3950	2,3	347,3	340	39600	75000.0
3,8	5100		0,38	1,2	2,5	3,8	4,5	3150	3900	5100	5100	4500	2,0	394,2	340	39600	75000.0
3,3	5800		0,33	1,1	2,2	3,3	3,9	3600	4500	5800	5800	5100	1,8	450,4	340	39600	75000.0
2,9	6600		0,29	0,95	1,9	2,9	3,5	4050	5100	6600	6600	5800	1,6	511,2	340	39600	75000.0
2,5	7500		0,25	0,85	1,7	2,5	3,0	4650	5800	7500	7500	6700	1,4	583,4	340	39600	75000.0
2,2	8600		0,22	0,75	1,5	2,2	2,7	5200	6600	8600	8600	7600	1,2	662,1	340	39600	75000.0
1,9	10000		0,19	0,6	1,2	1,9	2,3	6100	7700	10000	10000	8800	1,0	770,6	340	39600	75000.0
1,7	11300		0,17	0,55	1,1	1,7	2,0	6900	8700	11300	11300	10000	0,92	874,6	340	39600	75000.0
1,5	12800		0,15	0,5	1,0	1,5	1,8	7900	9900	12800	12800	11300	0,82	990,4	340	39600	75000.0
1,5	12600	BF90G50-../S09SA4	0,15	0,5	1,0	1,5	1,8	7800	9700	12600	12600	11200	1,5	976,1	616	42800	120000.0
1,4	13500		0,14	0,47	0,95	1,4	1,7	8300	10400	13500	13500	11900	1,4	1043	616	42800	120000.0
1,2	15600		0,12	0,41	0,8	1,2	1,4	9600	12000	15600	15600	13800	1,2	1204	616	42800	120000.0
1,0	18700		0,1	0,34	0,65	1,0	1,2	11500	14400	18700	18700	16600	0,99	1444	616	42800	120000.0
0,85	21500		0,085	0,29	0,55	0,85	1,0	13400	16700	21500	21500	19200	0,85	1678	616	42800	120000.0
2,9	6600	BF90Z-../S09SA4	0,29	0,95	1,9	2,9	3,5	4050	5000	6600	6600	5800	2,8	508,5	604	42800	120000.0
2,5	7600		0,25	0,8	1,6	2,5	3,0	4700	5900	7600	7600	6700	2,4	591,1	604	42800	120000.0
2,2	8500		0,22	0,75	1,5	2,2	2,7	5200	6500	8500	8500	7500	2,2	658,1	604	42800	120000.0
1,9	9800		0,19	0,65	1,3	1,9	2,3	6000	7500	9800	9800	8700	1,9	759	604	42800	120000.0
1,7	10900		0,17	0,55	1,1	1,7	2,1	6700	8400	10900	10900	9700	1,7	845,1	604	42800	120000.0

M_1 = 19 Nm

n_1 = 1500 $^1/_{min}$

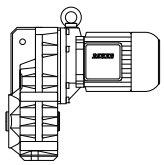


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
265	112	BF10-../S09XA4	26,5	89	178	265	320	70	89	112	112	106	**1,2**	5,6	40	1980	
197	151		19,5	65	131	197	235	94	121	151	151	144	**1,0**	7,58	40	2200	
154	193		15	51	103	154	185	121	155	193	193	184	**0,91**	9,69	40	2350	
245	120	BF20-../S09XA4	24,5	82	165	245	295	75	96	120	120	114	**1,7**	6,04	46	2550	
187	160		18,5	62	125	187	225	100	128	160	160	152	**1,4**	8,0	46	2850	
142	210		14	47,5	95	142	171	131	168	210	210	199	**1,2**	10,51	46	3100	
113	260		11	37,5	75	113	136	164	210	260	260	250	**1,1**	13,18	46	3300	
96	310		9,6	32	64	96	115	194	245	310	310	295	**0,98**	15,54	46	3450	
89	335		8,9	29,5	59	89	107	205	265	335	335	315	**1,1**	16,77	46	3500	
81	365		8,1	27	54	81	97	230	295	365	365	350	**1,0**	18,45	46	3600	
68	440		6,8	22,5	45	68	81	275	350	440	440	415	**0,9**	22,04	46	3800	
61	485		6,1	20,5	41	61	74	300	385	485	485	460	**0,82**	24,25	46	3950	
235	126	BF30-../S09XA4	23,5	78	157	235	280	79	101	126	126	120	**2,1**	6,34	57	2400	
185	161		18,5	61	123	185	220	100	129	161	161	153	**1,8**	8,07	57	2650	
150	199		15	50	100	150	180	124	159	199	199	189	**1,6**	9,99	57	2850	
116	255		11,5	38,5	77	116	139	161	205	255	255	245	**1,4**	12,91	57	3050	
93	320		9,3	31	62	93	112	200	255	320	320	300	**1,3**	16	57	3250	
84	350		8,4	28	56	84	101	220	280	350	350	335	**1,3**	17,65	57	3300	
77	385		7,7	25,5	51	77	92	240	310	385	385	365	**1,3**	19,41	57	3400	
68	435		6,8	22,5	45,5	68	82	270	345	435	435	415	**1,2**	21,85	57	3500	
62	480		6,2	20,5	41,5	62	74	300	380	480	480	455	**1,1**	24,03	57	3600	
53	560		5,3	17,5	35	53	63	350	450	560	560	530	**1,0**	28,23	57	3800	
48	620		4,8	16	32	48	57	385	495	620	620	580	**0,92**	31,05	57	4000	
42,5	700		4,2	14	28,5	42,5	51	435	560	700	700	660	**0,81**	35	57	4200	
255	117	BF40-../S09XA4	25,5	85	170	255	305	73	93	117	117	111	**2,9**	5,87	66	3550	
196	152		19,5	65	131	196	235	95	121	152	152	144	**2,4**	7,62	66	3900	
158	189		15,5	52	105	158	189	118	151	189	189	180	**2,2**	9,48	66	4150	
127	235		12,5	42	84	127	152	147	188	235	235	220	**2,0**	11,79	66	4450	
99	300		9,9	33	66	99	119	187	240	300	300	285	**1,7**	15,02	66	4800	
86	345		8,6	28,5	57	86	103	215	275	345	345	325	**1,8**	17,35	66	4950	
78	380		7,8	26	52	78	94	235	305	380	380	360	**1,7**	19,09	66	5100	
69	430		6,9	23	46	69	83	270	345	430	430	410	**1,6**	21,6	66	5200	
63	475		6,3	21	42	63	75	295	380	475	475	450	**1,5**	23,77	66	5400	
55	530		5,5	18,5	37	55	67	335	425	530	530	510	**1,4**	26,86	66	5600	
50	590		5,0	16,5	33,5	50	60	365	470	590	590	560	**1,4**	29,55	66	5800	
43,5	680		4,3	14,5	29	43,5	52	425	540	680	680	640	**1,2**	34,21	66	6000	
39,5	750		3,9	13	26,5	39,5	47,5	470	600	750	750	710	**1,2**	37,64	66	6200	
36	820		3,6	12	24	36	43	510	660	820	820	780	**1,1**	41,42	66	6500	
32,5	910		3,2	10,5	21,5	32,5	39,5	560	720	910	910	860	**0,99**	45,56	66	6800	
30,5	970		3,0	10	20	30,5	36,5	610	780	970	970	920	**0,92**	48,92	66	7000	
27,5	1070		2,7	9,2	18,5	27,5	33	670	860	1070	1070	1020	**0,84**	53,82	66	7200	
102	290	BF50-../S09XA4	10	34	68	102	122	183	230	290	290	275	**2,7**	14,65	94	6100	
64	460		6,4	21,5	43	64	77	285	370	460	460	435	**2,4**	23,14	94	6800	
57	510		5,7	19	38,5	57	69	320	410	510	510	490	**2,2**	25,88	94	7100	
47	630		4,7	15,5	31,5	47	56	395	500	630	630	600	**2,0**	31,73	94	7500	
42	700		4,2	14	28	42	50	440	560	700	700	670	**1,8**	35,49	94	7800	
35,5	840		3,5	11,5	23,5	35,5	42,5	520	670	840	840	800	**1,5**	42,15	94	8500	
31,5	940		3,1	10,5	21	31,5	38	580	750	940	940	890	**1,4**	47,14	94	8900	
26	1130		2,6	8,7	17,5	26	31,5	710	900	1130	1130	1080	**1,1**	56,86	94	9300	
23,5	1270		2,3	7,8	15,5	23,5	28	790	1010	1270	1270	1200	**1,0**	63,59	94	9800	
20,5	1450		2,0	6,8	13,5	20,5	24,5	900	1160	1450	1450	1380	**0,89**	72,72	94	10700	
18	1620		1,8	6,1	12	18	22	1010	1300	1620	1620	1540	**0,8**	81,33	94	11300	
48	620	BF60-../S09XA4	4,8	16	32	48	57	390	495	620	620	590	**3,0**	31,2	124	8800	24900.0
43	690		4,3	14	28,5	43	51	430	550	690	690	650	**2,9**	34,62	124	9100	25700.0
36	830		3,6	12	24	36	43	520	660	830	830	790	**2,5**	41,6	124	9600	27100.0
32	920		3,2	10,5	21,5	32	38,5	570	730	920	920	870	**2,4**	46,16	124	9900	28000.0
27,5	1080		2,7	9,1	18	27,5	33	680	870	1080	1080	1030	**2,1**	54,44	124	10500	29700.0
24,5	1200		2,4	8,2	16,5	24,5	29,5	750	960	1200	1200	1140	**1,9**	60,4	124	11100	31400.0
20,5	1440		2,0	6,9	13,5	20,5	24,5	900	1150	1440	1440	1370	**1,6**	72,15	124	12000	34000.0
18,5	1600		1,8	6,2	12	18,5	22	1000	1280	1600	1600	1520	**1,4**	80,05	124	12600	35600.0
16	1860		1,6	5,3	10,5	16	19	1160	1490	1860	1860	1770	**1,2**	93,44	124	13500	38200.0
14	2050		1,4	4,8	9,6	14	17	1290	1650	2050	2050	1970	**1,1**	102,7	124	14100	39900.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 19 Nm

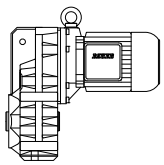
n_1 = 1500 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
10,5	**2800**	**BF60Z-../S09XA4**	1,0	3,5	7,1	10,5	12,5	1760	2250	2800	2800	2650	**0,82**	140,8	143	15300	43300.0
15,5	**1900**	**BF70-../S09XA4**	1,5	5,2	10	15,5	18,5	1190	1520	1900	1900	1810	**2,7**	95,46	210	14000	43700.0
14	**2100**		1,4	4,7	9,5	14	17	1310	1680	2100	2100	1990	**2,5**	105,2	210	14700	45100.0
12	**2450**		1,2	4,0	8,1	12	14,5	1530	1960	2450	2450	2300	**2,1**	122,7	210	16100	47700.0
11	**2650**	**BF70Z-../S09XA4**	1,1	3,7	7,5	11	13,5	1660	2100	2650	2650	2500	**2,0**	133	231	16100	47700.0
9,7	**3050**		0,95	3,2	6,4	9,7	11,5	1920	2450	3050	3050	2900	**1,7**	154	231	16100	47700.0
8,3	**3550**		0,8	2,7	5,5	8,3	10	2200	2850	3550	3550	3400	**1,4**	179,7	231	16100	47700.0
7,5	**3950**		0,75	2,5	5,0	7,5	9,0	2450	3150	3950	3950	3750	**1,3**	199,7	231	16100	47700.0
6,4	**4650**		0,6	2,1	4,2	6,4	7,7	2900	3700	4650	4650	4400	**1,1**	233	231	16100	47700.0
5,7	**5100**		0,55	1,9	3,8	5,7	6,9	3200	4100	5100	5100	4900	**1,0**	258,7	231	16100	47700.0
4,9	**6000**		0,49	1,6	3,3	4,9	5,9	3750	4800	6000	6000	5700	**0,86**	301,8	231	16100	47700.0
9,4	**3150**	**BF80-../S09XA4**	0,9	3,1	6,3	9,4	11	1980	2500	3150	3150	3000	**3,0**	158,5	307	29000	75000.0
8,1	**3650**		0,8	2,7	5,4	8,1	9,7	2300	2950	3650	3650	3500	**2,6**	184,5	307	31800	75000.0
7,1	**4150**		0,7	2,3	4,7	7,1	8,5	2600	3350	4150	4150	3950	**2,3**	209,4	307	34300	75000.0
6,3	**4700**		0,6	2,1	4,2	6,3	7,5	2950	3750	4700	4700	4500	**2,0**	237,1	307	36900	75000.0
5,5	**5300**		0,55	1,8	3,7	5,5	6,6	3350	4300	5300	5300	5100	**1,8**	269,1	307	39600	75000.0
5,1	**5800**	**BF80Z-../S09XA4**	0,5	1,7	3,4	5,1	6,1	3600	4650	5800	5800	5500	**1,8**	291,7	348	39600	75000.0
4,3	**6900**		0,43	1,4	2,8	4,3	5,1	4300	5500	6900	6900	6500	**1,5**	347,3	348	39600	75000.0
3,8	**7800**		0,38	1,2	2,5	3,8	4,5	4900	6300	7800	7800	7400	**1,3**	394,2	348	39600	75000.0
3,3	**9000**		0,33	1,1	2,2	3,3	3,9	5600	7200	9000	9000	8500	**1,2**	450,4	348	39600	75000.0
2,9	**10200**		0,29	0,95	1,9	2,9	3,5	6300	8100	10200	10200	9700	**1,0**	511,2	348	39600	75000.0
2,5	**11600**		0,25	0,85	1,7	2,5	3,0	7200	9300	11600	11600	11000	**0,9**	583,4	348	39600	75000.0
1,5	**19500**	**BF90G50-../S09XA4**	0,15	0,5	1,0	1,5	1,8	12200	15600	19500	19500	18500	**0,95**	976,1	624	42800	120000.0
1,4	**20500**		0,14	0,47	0,95	1,4	1,7	13000	16600	20500	20500	19800	**0,89**	1043	624	42800	120000.0
4,3	**6800**	**BF90Z-../S09XA4**	0,43	1,4	2,9	4,3	5,2	4250	5400	6800	6800	6500	**2,7**	343,6	612	42800	120000.0
3,9	**7600**		0,39	1,3	2,6	3,9	4,7	4750	6100	7600	7600	7200	**2,4**	382,6	612	42800	120000.0
3,2	**9100**		0,32	1,0	2,1	3,2	3,9	5700	7300	9100	9100	8600	**2,0**	456,7	612	42800	120000.0
2,9	**10100**		0,29	0,95	1,9	2,9	3,5	6300	8100	10100	10100	9600	**1,8**	508,5	612	42800	120000.0
2,5	**11800**		0,25	0,8	1,6	2,5	3,0	7300	9400	11800	11800	11200	**1,6**	591,1	612	42800	120000.0
2,2	**13100**		0,22	0,75	1,5	2,2	2,7	8200	10500	13100	13100	12500	**1,4**	658,1	612	42800	120000.0
1,9	**15100**		0,19	0,65	1,3	1,9	2,3	9400	12100	15100	15100	14400	**1,2**	759	612	42800	120000.0
1,7	**16900**		0,17	0,55	1,1	1,7	2,1	10500	13500	16900	16900	16000	**1,1**	845,1	612	42800	120000.0

M_1 = 25,5 Nm

n_1 = 1500 $^1/_{min}$

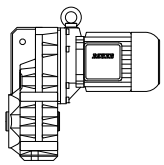


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
235	142	BF30-../S11SA6	23,5	78	157	235	280	114	126	142	142	142	1,8	6,34	60	2400	
185	181		18,5	61	123	185	220	145	161	181	181	181	1,6	8,07	60	2650	
150	220		15	50	100	150	180	179	199	220	220	220	1,4	9,99	60	2850	
116	290		11,5	38,5	77	116	139	230	255	290	290	290	1,3	12,91	60	3050	
93	360		9,3	31	62	93	112	285	320	360	360	360	1,1	16	60	3250	
84	395		8,4	28	56	84	101	315	350	395	395	395	1,2	17,65	60	3300	
77	435		7,7	25,5	51	77	92	345	385	435	435	435	1,1	19,41	60	3400	
68	490		6,8	22,5	45,5	68	82	390	435	490	490	490	1,1	21,85	60	3500	
62	540		6,2	20,5	41,5	62	74	430	480	540	540	540	1,0	24,03	60	3600	
53	630		5,3	17,5	35	53	63	500	560	630	630	630	0,9	28,23	60	3800	
48	690		4,8	16	32	48	57	550	620	690	690	690	0,82	31,05	60	4000	
255	132	BF40-../S11SA6	25,5	85	170	255	305	105	117	132	132	132	2,5	5,87	74	3550	
196	171		19,5	65	131	196	235	137	152	171	171	171	2,1	7,62	74	3900	
158	210		15,5	52	105	158	189	170	189	210	210	210	1,9	9,48	74	4150	
127	265		12,5	42	84	127	152	210	235	265	265	265	1,8	11,79	74	4450	
99	335		9,9	33	66	99	119	270	300	335	335	335	1,5	15,02	74	4800	
86	390		8,6	28,5	57	86	103	310	345	390	390	390	1,6	17,35	74	4950	
78	425		7,8	26	52	78	94	340	380	425	425	425	1,5	19,09	74	5100	
69	485		6,9	23	46	69	83	385	430	485	485	485	1,4	21,6	74	5200	
63	530		6,3	21	42	63	75	425	475	530	530	530	1,4	23,77	74	5400	
55	600		5,5	18,5	37	55	67	480	530	600	600	600	1,3	26,86	74	5600	
50	660		5,0	16,5	33,5	50	60	530	590	660	660	660	1,2	29,55	74	5800	
43,5	760		4,3	14,5	29	43,5	52	610	680	760	760	760	1,1	34,21	74	6000	
39,5	840		3,9	13	26,5	39,5	47,5	670	750	840	840	840	1,1	37,64	74	6200	
36	930		3,6	12	24	36	43	740	820	930	930	930	0,97	41,42	74	6500	
32,5	1020		3,2	10,5	21,5	32,5	39,5	820	910	1020	1020	1020	0,88	45,56	74	6800	
30,5	1100		3,0	10	20	30,5	36,5	880	970	1100	1100	1100	0,82	48,92	74	7000	
140	240	BF50-../S11SA6	14	46,5	93	140	168	192	210	240	240	240	2,8	10,68	104	5600	
102	325		10	34	68	102	122	260	290	325	325	325	2,4	14,65	104	6100	
89	375		8,9	29,5	59	89	107	300	330	375	375	375	2,5	16,7	104	6200	
80	420		8,0	26,5	53	80	96	335	370	420	420	420	2,4	18,68	104	6400	
64	520		6,4	21,5	43	64	77	415	460	520	520	520	2,1	23,14	104	6800	
57	580		5,7	19	38,5	57	69	465	510	580	580	580	2,0	25,88	104	7100	
47	710		4,7	15,5	31,5	47	56	570	630	710	710	710	1,8	31,73	104	7500	
42	790		4,2	14	28	42	50	630	700	790	790	790	1,6	35,49	104	7800	
35,5	940		3,5	11,5	23,5	35,5	42,5	750	840	940	940	940	1,4	42,15	104	8500	
31,5	1060		3,1	10,5	21	31,5	38	840	940	1060	1060	1060	1,2	47,14	104	8900	
26	1270		2,6	8,7	17,5	26	31,5	1020	1130	1270	1270	1270	1,0	56,86	104	9300	
23,5	1430		2,3	7,8	15,5	23,5	28	1140	1270	1430	1430	1430	0,91	63,59	104	9800	
48	700	BF60-../S11SA6	4,8	16	32	48	57	560	620	700	700	700	2,7	31,2	135	8800	24900.0
43	770		4,3	14	28,5	43	51	620	690	770	770	770	2,5	34,62	135	9100	25700.0
36	930		3,6	12	24	36	43	740	830	930	930	930	2,2	41,6	135	9600	27100.0
32	1030		3,2	10,5	21,5	32	38,5	830	920	1030	1030	1030	2,1	46,16	135	9900	28000.0
27,5	1220		2,7	9,1	18	27,5	33	970	1080	1220	1220	1220	1,9	54,44	135	10500	29700.0
24,5	1350		2,4	8,2	16,5	24,5	29,5	1080	1200	1350	1350	1350	1,7	60,4	135	11100	31400.0
20,5	1620		2,0	6,9	13,5	20,5	24,5	1290	1440	1620	1620	1620	1,4	72,15	135	12000	34000.0
18,5	1800		1,8	6,2	12	18,5	22	1440	1600	1800	1800	1800	1,3	80,05	135	12600	35600.0
16	2100		1,6	5,3	10,5	16	19	1680	1860	2100	2100	2100	1,1	93,44	135	13500	38200.0
14	2300		1,4	4,8	9,6	14	17	1860	2050	2300	2300	2300	0,99	103,7	135	14100	39900.0
13	2500		1,3	4,4	8,8	13	15,5	2000	2250	2500	2500	2500	0,9	113,1	135	14600	41300.0
11,5	2800		1,1	3,9	7,9	11,5	14	2250	2500	2800	2800	2800	0,81	125,5	135	15300	43300.0
18	1840	BF70-../S11SA6	1,8	6,1	12	18	21,5	1470	1630	1840	1840	1840	2,8	81,82	214	12800	41300.0
15,5	2100		1,5	5,2	10	15,5	18,5	1710	1900	2100	2100	2100	2,4	95,46	214	14000	43700.0
14	2350		1,4	4,7	9,5	14	17	1890	2100	2350	2350	2350	2,2	105,2	214	14700	45100.0
12	2750		1,2	4,0	8,1	12	14,5	2200	2450	2750	2750	2750	1,9	122,7	214	16100	47700.0
11	2950	BF70Z-../S11SA6	1,1	3,7	7,5	11	13,5	2350	2650	2950	2950	2950	1,7	133	241	16100	47700.0
9,7	3450		0,95	3,2	6,4	9,7	11,5	2750	3050	3450	3450	3450	1,5	154	241	16100	47700.0
8,3	4000		0,8	2,7	5,5	8,3	10	3200	3550	4000	4000	4000	1,3	179,7	241	16100	47700.0
7,5	4450		0,75	2,5	5,0	7,5	9,0	3550	3950	4450	4450	4450	1,2	199,7	241	16100	47700.0
6,4	5200		0,6	2,1	4,2	6,4	7,7	4150	4650	5200	5200	5200	0,99	233	241	16100	47700.0
5,7	5800		0,55	1,9	3,8	5,7	6,9	4650	5100	5800	5800	5800	0,89	258,7	241	16100	47700.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 25,5 Nm

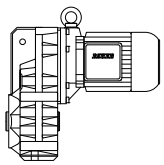
n_1 = 1500 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
10,5	3100	BF80-../S11SA6	1,0	3,5	7,1	10,5	12,5	2500	2750	3100	3100	3100	**3,0**	139,7	310	26700	75000.0
9,4	3550		0,9	3,1	6,3	9,4	11	2850	3150	3550	3550	3550	**2,7**	158,5	310	29000	75000.0
8,1	4150		0,8	2,7	5,4	8,1	9,7	3300	3650	4150	4150	4150	**2,3**	184,5	310	31800	75000.0
7,1	4700		0,7	2,3	4,7	7,1	8,5	3750	4150	4700	4700	4700	**2,0**	209,4	310	34300	75000.0
6,3	5300		0,6	2,1	4,2	6,3	7,5	4250	4700	5300	5300	5300	**1,8**	237,1	310	36900	75000.0
5,5	6000		0,55	1,8	3,7	5,5	6,6	4800	5300	6000	6000	6000	**1,6**	269,1	310	39600	75000.0
5,1	6500	BF80Z-../S11SA6	0,5	1,7	3,4	5,1	6,1	5200	5800	6500	6500	6500	**1,6**	291,7	357	39600	75000.0
4,3	7800		0,43	1,4	2,8	4,3	5,1	6200	6900	7800	7800	7800	**1,3**	347,3	357	39600	75000.0
3,8	8800		0,38	1,2	2,5	3,8	4,5	7000	7800	8800	8800	8800	**1,2**	394,2	357	39600	75000.0
3,3	10100		0,33	1,1	2,2	3,3	3,9	8100	9000	10100	10100	10100	**1,0**	450,4	357	39600	75000.0
2,9	11500		0,29	0,95	1,9	2,9	3,5	9200	10200	11500	11500	11500	**0,91**	511,2	357	39600	75000.0
2,5	13100		0,25	0,85	1,7	2,5	3,0	10500	11600	13100	13100	13100	**0,8**	583,4	357	39600	75000.0
5,7	5800	BF90-../S11SA6	0,55	1,9	3,8	5,7	6,9	4650	5100	5800	5800	5800	**2,9**	259	563	42800	120000.0
1,5	21500	BF90G50-../S11SA6	0,15	0,5	1,0	1,5	1,8	17500	19500	21500	21500	21500	**0,84**	976,1	633	42800	120000.0
5,5	6000	BF90Z-../S11SA6	0,55	1,8	3,7	5,5	6,6	4850	5300	6000	6000	6000	**3,0**	269,8	623	42800	120000.0
4,9	6700		0,49	1,6	3,3	4,9	5,9	5400	6000	6700	6700	6700	**2,7**	300,4	623	42800	120000.0
4,3	7700		0,43	1,4	2,9	4,3	5,2	6100	6800	7700	7700	7700	**2,4**	343,6	623	42800	120000.0
3,9	8600		0,39	1,3	2,6	3,9	4,7	6800	7600	8600	8600	8600	**2,1**	382,6	623	42800	120000.0
3,2	10200		0,32	1,0	2,1	3,2	3,9	8200	9100	10200	10200	10200	**1,8**	456,7	623	42800	120000.0
2,9	11400		0,29	0,95	1,9	2,9	3,5	9100	10100	11400	11400	11400	**1,6**	508,5	623	42800	120000.0
2,5	13200		0,25	0,8	1,6	2,5	3,0	10600	11800	13200	13200	13200	**1,4**	591,1	623	42800	120000.0
2,2	14800		0,22	0,75	1,5	2,2	2,7	11800	13100	14800	14800	14800	**1,2**	658,1	623	42800	120000.0
1,9	17000		0,19	0,65	1,3	1,9	2,3	13600	15100	17000	17000	17000	**1,1**	759	623	42800	120000.0
1,7	19000		0,17	0,55	1,1	1,7	2,1	15200	16900	19000	19000	19000	**0,97**	845,1	623	42800	120000.0

M_1 = 35 Nm

n_1 = 1500 $^1/_{min}$

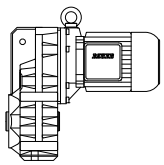


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
235	220	BF30-../S11MA6	23,5	78	157	235	280	168	190	220	220	220	**1,2**	6,34	66	2400	
185	280		18,5	61	123	185	220	210	240	280	280	280	**1,0**	8,07	66	2650	
150	345		15	50	100	150	180	260	295	345	345	345	**0,92**	9,99	66	2850	
116	450		11,5	38,5	77	116	139	340	385	450	450	450	**0,81**	12,91	66	3050	
255	205	BF40-../S11MA6	25,5	85	170	255	305	155	176	205	205	205	**1,6**	5,87	80	3550	
196	265		19,5	65	131	196	235	200	225	265	265	265	**1,4**	7,62	80	3900	
158	330		15,5	52	105	158	189	250	280	330	330	330	**1,3**	9,48	80	4150	
127	410		12,5	42	84	127	152	310	350	410	410	410	**1,1**	11,79	80	4450	
99	520		9,9	33	66	99	119	395	450	520	520	520	**0,99**	15,02	80	4800	
86	600		8,6	28,5	57	86	103	455	520	600	600	600	**1,0**	17,35	80	4950	
78	660		7,8	26	52	78	94	500	570	660	660	660	**0,99**	19,09	80	5100	
69	750		6,9	23	46	69	83	570	640	750	750	750	**0,93**	21,6	80	5200	
63	830		6,3	21	42	63	75	620	710	830	830	830	**0,88**	23,77	80	5400	
55	940		5,5	18,5	37	55	67	710	800	940	940	940	**0,82**	26,86	80	5600	
275	188	BF50-../S11MA6	27,5	92	185	275	330	142	161	188	188	188	**2,6**	5,38	110	4500	
194	265		19	64	129	194	230	200	230	265	265	265	**2,1**	7,71	110	5100	
140	370		14	46,5	93	140	168	280	320	370	370	370	**1,8**	10,68	110	5600	
102	510		10	34	68	102	122	385	435	510	510	510	**1,5**	14,65	110	6100	
89	580		8,9	29,5	59	89	107	440	500	580	580	580	**1,6**	16,7	110	6200	
80	650		8,0	26,5	53	80	96	495	560	650	650	650	**1,5**	18,68	110	6400	
64	800		6,4	21,5	43	64	77	610	690	800	800	800	**1,4**	23,14	110	6800	
57	900		5,7	19	38,5	57	69	680	770	900	900	900	**1,3**	25,88	110	7100	
47	1110		4,7	15,5	31,5	47	56	840	950	1110	1110	1110	**1,1**	31,73	110	7500	
42	1240		4,2	14	28	42	50	940	1060	1240	1240	1240	**1,0**	35,49	110	7800	
35,5	1470		3,5	11,5	23,5	35,5	42,5	1110	1260	1470	1470	1470	**0,88**	42,15	110	8500	
145	360	BF60-../S11MA6	14,5	48	96	145	174	270	305	360	360	360	**2,8**	10,31	141	6500	18400.0
105	495		10,5	35	70	105	126	375	425	495	495	495	**2,4**	14,24	141	7100	20000.0
88	590		8,8	29	58	88	106	445	500	590	590	590	**2,4**	16,96	141	7300	20600.0
79	650		7,9	26,5	53	79	95	495	560	650	650	650	**2,3**	18,81	141	7600	21500.0
66	790		6,6	22	44	66	79	590	670	790	790	790	**2,1**	22,58	141	8000	22600.0
59	870		5,9	19,5	39,5	59	71	660	750	870	870	870	**2,0**	25,05	141	8200	23200.0
48	1090		4,8	16	32	48	57	820	930	1090	1090	1090	**1,7**	31,2	141	8800	24900.0
43	1210		4,3	14	28,5	43	51	910	1030	1210	1210	1210	**1,6**	34,62	141	9100	25700.0
36	1450		3,6	12	24	36	43	1100	1240	1450	1450	1450	**1,4**	41,6	141	9600	27100.0
32	1610		3,2	10,5	21,5	32	38,5	1220	1380	1610	1610	1610	**1,4**	46,16	141	9900	28000.0
27,5	1900		2,7	9,1	18	27,5	33	1440	1630	1900	1900	1900	**1,2**	54,44	141	10500	29700.0
24,5	2100		2,4	8,2	16,5	24,5	29,5	1600	1810	2100	2100	2100	**1,1**	60,4	141	11100	31400.0
20,5	2500		2,0	6,9	13,5	20,5	24,5	1910	2150	2500	2500	2500	**0,91**	72,15	141	12000	34000.0
18,5	2800		1,8	6,2	12	18,5	22	2100	2400	2800	2800	2800	**0,82**	80,05	141	12600	35600.0
26,5	1950	BF70-../S11MA6	2,6	8,9	17,5	26,5	32	1470	1670	1950	1950	1950	**2,7**	55,79	220	10200	36000.0
24	2150		2,4	8,0	16	24	29	1640	1850	2150	2150	2150	**2,4**	61,94	220	10800	37400.0
20,5	2500		2,0	6,9	13,5	20,5	24,5	1910	2150	2500	2500	2500	**2,1**	72,26	220	12000	39600.0
18	2850		1,8	6,1	12	18	21,5	2150	2450	2850	2850	2850	**1,8**	81,82	220	12800	41300.0
15,5	3300		1,5	5,2	10	15,5	18,5	2500	2850	3300	3300	3300	**1,6**	95,46	220	14000	43700.0
14	3650		1,4	4,7	9,5	14	17	2750	3150	3650	3650	3650	**1,4**	105,2	220	14700	45100.0
12	4250		1,2	4,0	8,1	12	14,5	3250	3650	4250	4250	4250	**1,2**	122,7	220	16100	47700.0
11	4650	BF70Z-../S11MA6	1,1	3,7	7,5	11	13,5	3500	3950	4650	4650	4650	**1,1**	133	247	16100	47700.0
9,7	5300		0,95	3,2	6,4	9,7	11,5	4050	4600	5300	5300	5300	**0,96**	154	247	16100	47700.0
8,3	6200		0,8	2,7	5,5	8,3	10	4750	5300	6200	6200	6200	**0,83**	179,7	247	16100	47700.0
15,5	3300	BF80-../S11MA6	1,5	5,2	10,5	15,5	19	2500	2800	3300	3300	3300	**2,9**	94,38	316	20300	68500.0
13,5	3750		1,3	4,6	9,2	13,5	16,5	2850	3200	3750	3750	3750	**2,5**	107,9	316	22400	72300.0
12	4250		1,2	4	8,1	12	14,5	3200	3650	4250	4250	4250	**2,2**	122,4	316	24500	75000.0
10,5	4850		1,0	3,5	7,1	10,5	12,5	3700	4150	4850	4850	4850	**1,9**	139,7	316	26700	75000.0
9,4	5500		0,9	3,1	6,3	9,4	11	4200	4750	5500	5500	5500	**1,7**	158,5	316	29000	75000.0
8,1	6400		0,8	2,7	5,4	8,1	9,7	4850	5500	6400	6400	6400	**1,5**	184,5	316	31800	75000.0
7,1	7300		0,7	2,3	4,7	7,1	8,5	5500	6200	7300	7300	7300	**1,3**	209,4	316	34300	75000.0
6,3	8200		0,6	2,1	4,2	6,3	7,5	6200	7100	8200	8200	8200	**1,1**	237,1	316	36900	75000.0
5,5	9400		0,55	1,8	3,7	5,5	6,6	7100	8000	9400	9400	9400	**1,0**	269,1	316	39600	75000.0
5,1	10200	BF80Z-../S11MA6	0,5	1,7	3,4	5,1	6,1	7700	8700	10200	10200	10200	**1,0**	291,7	363	39600	75000.0
4,3	12100		0,43	1,4	2,8	4,3	5,1	9200	10400	12100	12100	12100	**0,86**	347,3	363	39600	75000.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 35 Nm

n_1 = 1500 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
8,3	6200	BF90-../S11MA6	0,8	2,7	5,5	8,3	10	4700	5300	6200	6200	6200	2,7	178,6	569	33400	106700.0
7,5	6900		0,75	2,5	5,0	7,5	9,0	5200	5900	6900	6900	6900	2,4	198,8	569	36000	111300.0
6,4	8100		0,6	2,1	4,2	6,4	7,7	6100	6900	8100	8100	8100	2,1	232,6	569	39900	118300.0
5,7	9000		0,55	1,9	3,8	5,7	6,9	6800	7700	9000	9000	9000	1,9	259	569	42800	120000.0
5,5	9400	BF90Z-../S11MA6	0,55	1,8	3,7	5,5	6,6	7100	8000	9400	9400	9400	2,0	269,8	629	42800	120000.0
4,9	10500		0,49	1,6	3,3	4,9	5,9	7900	9000	10500	10500	10500	1,8	300,4	629	42800	120000.0
4,3	12000		0,43	1,4	2,9	4,3	5,2	9100	10300	12000	12000	12000	1,5	343,6	629	42800	120000.0
3,9	13300		0,39	1,3	2,6	3,9	4,7	10100	11400	13300	13300	13300	1,4	382,6	629	42800	120000.0
3,2	15900		0,32	1,0	2,1	3,2	3,9	12100	13700	15900	15900	15900	1,2	456,7	629	42800	120000.0
2,9	17700		0,29	0,95	1,9	2,9	3,5	13400	15200	17700	17700	17700	1,0	508,5	629	42800	120000.0
2,5	20500		0,25	0,8	1,6	2,5	3,0	15600	17700	20500	20500	20500	0,89	591,1	629	42800	120000.0
2,2	23000		0,22	0,75	1,5	2,2	2,7	17400	19700	23000	23000	23000	0,8	658,1	629	42800	120000.0

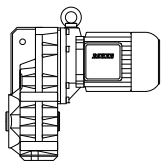
M_1 = 48 Nm

n_1 = 1500 $^1/_{min}$

n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
235	300	BF30-../S11LA6	23,5	78	157	235	280	205	245	300	300	300	0,86	6,34	78	2400	
255	280	BF40-../S11LA6	25,5	85	170	255	305	190	230	280	280	275	1,2	5,87	92	3550	
196	365		19,5	65	131	196	235	245	300	365	365	360	1,0	7,62	92	3900	
158	455		15,5	52	105	158	189	305	370	455	455	450	0,91	9,48	92	4150	
127	560		12,5	42	84	127	152	380	460	560	560	560	0,82	11,79	92	4450	
275	255	BF50-../S11LA6	27,5	92	185	275	330	174	210	255	255	255	1,9	5,38	122	4500	
194	370		19	64	129	194	230	250	300	370	370	365	1,5	7,71	122	5100	
140	510		14	46,5	93	140	168	345	420	510	510	500	1,3	10,68	122	5600	
102	700		10	34	68	102	122	475	570	700	700	690	1,1	14,65	122	6100	
89	800		8,9	29,5	59	89	107	540	650	800	800	790	1,2	16,7	122	6200	
80	890		8	26,5	53	80	96	600	730	890	890	880	1,1	18,68	122	6400	
64	1110		6,4	21,5	43	64	77	750	910	1110	1110	1090	0,99	23,14	122	6800	
57	1240		5,7	19	38,5	57	69	840	1010	1240	1240	1220	0,93	25,88	122	7100	
47	1520		4,7	15,5	31,5	47	56	1030	1250	1520	1520	1500	0,83	31,73	122	7500	
285	250	BF60-../S11LA6	28,5	95	191	285	340	169	205	250	250	245	3,0	5,22	153	5200	14800.0
193	370		19	64	129	193	230	250	300	370	370	365	2,3	7,74	153	6000	16900.0
145	490		14,5	48	96	145	174	335	405	490	490	485	2,0	10,31	153	6500	18400.0
105	680		10,5	35	70	105	126	460	560	680	680	670	1,7	14,24	153	7100	20000.0
88	810		8,8	29	58	88	106	550	660	810	810	800	1,8	16,96	153	7300	20600.0
79	900		7,9	26,5	53	79	95	610	740	900	900	890	1,7	18,81	153	7600	21500.0
66	1080		6,6	22	44	66	79	730	880	1080	1080	1070	1,5	22,58	153	8000	22600.0
59	1200		5,9	19,5	39,5	59	71	810	980	1200	1200	1180	1,4	25,05	153	8200	23200.0
48	1490		4,8	16	32	48	57	1010	1220	1490	1490	1480	1,3	31,2	153	8800	24900.0
43	1660		4,3	14	28,5	43	51	1120	1360	1660	1660	1640	1,2	34,62	153	9100	25700.0
36	1990		3,6	12	24	36	43	1350	1630	1990	1990	1970	1,1	41,6	153	9600	27100.0
32	2200		3,2	10,5	21,5	32	38,5	1500	1810	2200	2200	2150	0,99	46,16	153	9900	28000.0
27,5	2600		2,7	9,1	18	27,5	33	1760	2100	2600	2600	2550	0,88	54,44	153	10500	29700.0
40,5	1770	BF70-../S11LA6	4,0	13,5	27	40,5	48,5	1190	1450	1770	1770	1750	2,9	36,88	232	7900	31100.0
34,5	2050		3,4	11,5	23	34,5	41,5	1390	1690	2050	2050	2000	2,5	43,02	232	8700	32800.0
31	2250		3,1	10	20,5	31	37,5	1550	1880	2250	2250	2250	2,3	47,82	232	9100	34000.0
26,5	2650		2,6	8,9	17,5	26,5	32	1810	2150	2650	2650	2650	1,9	55,79	232	10200	36000.0
24	2950		2,4	8,0	16	24	29	2000	2400	2950	2950	2900	1,7	61,94	232	10800	37400.0
20,5	3450		2,0	6,9	13,5	20,5	24,5	2300	2800	3450	3450	3400	1,5	72,26	232	12000	39600.0
18	3900		1,8	6,1	12	18	21,5	2650	3200	3900	3900	3850	1,3	81,82	232	12800	41300.0
15,5	4550		1,5	5,2	10	15,5	18,5	3100	3750	4550	4550	4500	1,1	95,46	232	14000	43700.0
14	5000		1,4	4,7	9,5	14	17	3400	4100	5000	5000	4950	1,0	105,2	232	14700	45100.0
12	5800		1,2	4	8,1	12	14,5	3950	4800	5800	5800	5800	0,88	122,7	232	16100	47700.0
11	6300	BF70Z-../S11LA6	1,1	3,7	7,5	11	13,5	4300	5200	6300	6300	6300	0,81	133	258	16100	47700.0

M_1 = 48 Nm

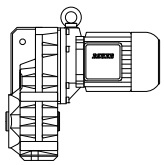
n_1 = 1500 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
21	3350	BF80-../S11LA6	2,1	7,1	14	21	25,5	2250	2750	3350	3350	3300	**2,8**	69,86	328	15900	60600.0
18	3950		1,8	6,0	12	18	21,5	2700	3250	3950	3950	3950	**2,4**	83,16	328	18400	65100.0
15,5	4500		1,5	5,2	10,5	15,5	19	3050	3700	4500	4500	4450	**2,1**	94,38	328	20300	68500.0
13,5	5100		1,3	4,6	9,2	13,5	16,5	3500	4250	5100	5100	5100	**1,8**	107,9	328	22400	72300.0
12	5800		1,2	4,0	8,1	12	14,5	3950	4800	5800	5800	5800	**1,6**	122,4	328	24500	75000.0
10,5	6700		1,0	3,5	7,1	10,5	12,5	4500	5500	6700	6700	6600	**1,4**	139,7	328	26700	75000.0
9,4	7600		0,9	3,1	6,3	9,4	11	5100	6200	7600	7600	7500	**1,2**	158,5	328	29000	75000.0
8,1	8800		0,8	2,7	5,4	8,1	9,7	5900	7200	8800	8800	8700	**1,1**	184,5	328	31800	75000.0
7,1	10000		0,7	2,3	4,7	7,1	8,5	6800	8200	10000	10000	9900	**0,95**	209,4	328	34300	75000.0
6,3	11300		0,6	2,1	4,2	6,3	7,5	7700	9300	11300	11300	11200	**0,83**	237,1	328	36900	75000.0
12,5	5700	BF90-../S11LA6	1,2	4,1	8,3	12,5	15	3850	4700	5700	5700	5600	**2,9**	119,7	581	24500	90800.0
10,5	6600		1,0	3,5	7,1	10,5	12,5	4500	5400	6600	6600	6600	**2,5**	139,1	581	27700	96300.0
9,6	7400		0,95	3,2	6,4	9,6	11,5	5000	6000	7400	7400	7300	**2,3**	154,8	581	30100	100800.0
8,3	8500		0,8	2,7	5,5	8,3	10	5800	7000	8500	8500	8400	**2,0**	178,6	581	33400	106700.0
7,5	9500		0,75	2,5	5,0	7,5	9,0	6400	7800	9500	9500	9400	**1,8**	198,8	581	36000	111300.0
6,4	11100		0,6	2,1	4,2	6,4	7,7	7500	9100	11100	11100	11000	**1,5**	232,6	581	39900	118300.0
5,7	12400		0,55	1,9	3,8	5,7	6,9	8400	10200	12400	12400	12300	**1,4**	259	581	42800	120000.0
5,5	12900	BF90Z-../S11LA6	0,55	1,8	3,7	5,5	6,6	8700	10600	12900	12900	12800	**1,4**	269,8	641	42800	120000.0
4,9	14400		0,49	1,6	3,3	4,9	5,9	9700	11800	14400	14400	14200	**1,3**	300,4	641	42800	120000.0
4,3	16400		0,43	1,4	2,9	4,3	5,2	11100	13500	16400	16400	16300	**1,1**	343,6	641	42800	120000.0
3,9	18300		0,39	1,3	2,6	3,9	4,7	12400	15000	18300	18300	18100	**1,0**	382,6	641	42800	120000.0
3,2	21500		0,32	1,0	2,1	3,2	3,9	14800	17900	21500	21500	21500	**0,84**	456,7	641	42800	120000.0

$M_1 = 7$ Nm

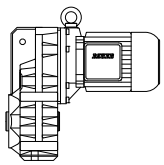
$n_1 = 3000\ ^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
520	37	BF06-../S08MA4	26	87	174	520	620	28,5	32	37	37	37	**1,7**	5,72	16	1630	
390	49,5		19,5	65	130	390	465	38	42,5	49,5	49,5	49,5	**1,4**	7,66	16	1800	
325	59		16	54	108	325	390	46	51	59	59	59	**1,2**	9,21	16	1900	
245	78		12	41	82	245	295	60	67	78	78	78	**0,96**	12,07	16	2000	
210	92		10,5	35	70	210	250	71	79	92	92	92	**0,92**	14,21	16	2100	
176	110		8,8	29	58	176	210	84	95	110	110	110	**0,86**	16,99	16	2500	
305	62	BF10-../S08MA4	15	51	103	305	370	48	54	62	62	62	**2,8**	9,69	27	2350	
250	76		12,5	42	84	250	300	59	66	76	76	76	**2,4**	11,84	27	2500	
199	97		9,9	33	66	199	235	75	84	97	97	97	**1,9**	15,04	27	2800	
164	118		8,2	27	54	164	197	91	102	118	118	118	**2,0**	18,23	27	2900	
149	130		7,4	24,5	49,5	149	179	100	112	130	130	130	**1,8**	20,05	27	3000	
128	151		6,4	21	42,5	128	154	116	130	151	151	151	**1,6**	23,28	27	3200	
117	166		5,8	19,5	39	117	140	128	143	166	166	166	**1,4**	25,6	27	3350	
105	185		5,2	17,5	35	105	126	142	159	185	185	185	**1,3**	28,47	27	3450	
95	200		4,7	15,5	31,5	95	114	156	175	200	200	200	**1,2**	31,31	27	3600	
82	230		4,1	13,5	27,5	82	99	180	200	230	230	230	**1,0**	36,15	27	3800	
75	255		3,7	12,5	25	75	90	198	220	255	255	255	**0,93**	39,75	27	3950	
69	275		3,4	11,5	23	69	83	215	240	275	275	275	**0,86**	43,06	27	4100	
193	101	BF20-../S08MA4	9,6	32	64	193	230	77	87	101	101	101	**3,0**	15,54	33	3450	
136	143		6,8	22,5	45	136	163	110	123	143	143	143	**2,8**	22,04	33	3800	
123	157		6,1	20,5	41	123	148	121	135	157	157	157	**2,5**	24,25	33	3950	
108	179		5,4	18	36	108	130	138	154	179	179	179	**2,3**	27,62	33	4150	
98	197		4,9	16	32,5	98	118	152	170	197	197	197	**2,1**	30,4	33	4400	
92	210		4,6	15	30,5	92	110	162	182	210	210	210	**2,0**	32,58	33	4450	
83	230		4,1	13,5	27,5	83	100	179	200	230	230	230	**1,8**	35,85	33	4650	
71	270		3,5	11,5	23,5	71	86	205	230	270	270	270	**1,5**	41,72	33	4950	
65	295		3,2	10,5	21,5	65	78	225	255	295	295	295	**1,4**	45,9	33	5100	
61	315		3,0	10	20,5	61	74	240	270	315	315	315	**1,3**	48,56	33	5200	
56	345		2,8	9,3	18,5	56	67	265	295	345	345	345	**1,2**	53,43	33	5500	
51	375		2,5	8,5	17	51	61	290	325	375	375	375	**1,1**	58,24	33	5600	
46,5	415		2,3	7,8	15,5	46,5	56	320	355	415	415	415	**1,0**	64,08	33	5900	
43	450		2,1	7,1	14	43	51	345	390	450	450	450	**0,93**	69,7	33	6100	
39	495		1,9	6,5	13	39	46,5	380	425	495	495	495	**0,84**	76,69	33	6300	
96	200	BF30-../S08MA4	4,8	16	32	96	115	155	173	200	200	200	**2,8**	31,05	43	4000	
85	225		4,2	14	28,5	85	102	175	196	225	225	225	**2,5**	35	43	4200	
77	250		3,8	12,5	25,5	77	93	192	215	250	250	250	**2,3**	38,49	43	4400	
73	265		3,6	12	24	73	87	205	225	265	265	265	**2,1**	41,01	43	4500	
66	290		3,3	11	22	66	79	225	250	290	290	290	**1,9**	45,1	43	4700	
57	335		2,8	9,5	19	57	68	260	290	335	335	335	**1,7**	52,2	43	5000	
52	370		2,6	8,7	17	52	62	285	320	370	370	370	**1,5**	57,41	43	5200	
49	395		2,4	8,1	16	49	58	305	340	395	395	395	**1,4**	61,17	43	5300	
44,5	435		2,2	7,4	14,5	44,5	53	335	375	435	435	435	**1,3**	67,28	43	5500	
41,5	465		2,0	6,9	13,5	41,5	49,5	360	400	465	465	465	**1,2**	72,13	43	5700	
37,5	510		1,8	6,3	12,5	37,5	45	395	440	510	510	510	**1,1**	79,34	43	5900	
34	560		1,7	5,7	11	34	41	435	485	560	560	560	**1,0**	87,08	43	6200	
31	620		1,5	5,2	10	31	37,5	475	530	620	620	620	**0,92**	95,79	43	6400	
27,5	690		1,3	4,6	9,2	27,5	33	530	600	690	690	690	**0,81**	107,6	43	6700	
65	295	BF40-../S08MA4	3,2	10,5	21,5	65	79	225	255	295	295	295	**3,0**	45,56	53	6800	
61	315		3,0	10	20	61	73	240	270	315	315	315	**2,8**	48,92	53	7000	
55	345		2,7	9,2	18,5	55	66	265	300	345	345	345	**2,6**	53,82	53	7200	
48,5	395		2,4	8,1	16	48,5	58	305	340	395	395	395	**2,3**	61,25	53	7600	
44,5	435		2,2	7,4	14,5	44,5	53	335	375	435	435	435	**2,1**	67,38	53	8000	
42	460		2,1	7,0	14	42	50	355	395	460	460	460	**1,9**	71,4	53	8100	
38	510		1,9	6,3	12,5	38	45,5	390	435	510	510	510	**1,8**	78,55	53	8500	
35,5	540		1,7	5,9	11,5	35,5	42,5	415	465	540	540	540	**1,7**	83,91	53	8700	
32	600		1,6	5,4	10,5	32	38,5	460	510	600	600	600	**1,5**	92,31	53	9100	
29,5	650		1,4	4,9	9,9	29,5	35,5	500	560	650	650	650	**1,4**	101	53	9400	
27	720		1,3	4,5	9,0	27	32	550	620	720	720	720	**1,2**	111,1	53	9800	
24	800		1,2	4,0	8,0	24	28,5	620	690	800	800	800	**1,1**	124,5	53	10200	
21,5	890		1,0	3,6	7,2	21,5	26	680	760	890	890	890	**1,0**	137	53	10600	
21	910	BF40Z-../S08MA4	1,0	3,5	7,0	21	25	700	790	910	910	910	**0,98**	141,4	56	10600	
19	1010		0,95	3,2	6,4	19	23	770	870	1010	1010	1010	**0,89**	155,6	56	10600	

M_1 = 7 Nm

n_1 = 3000 $^1/_{min}$

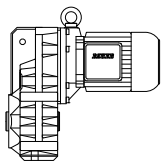


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
41	470	BF50-../S08MA4	2,0	6,8	13,5	41	49,5	360	405	470	470	470	2,8	72,72	81	10700	
36,5	520		1,8	6,1	12	36,5	44	405	455	520	520	520	2,5	81,33	81	11300	
33	580		1,6	5,5	11	33	39,5	450	500	580	580	580	2,2	90,24	81	11800	
29,5	650		1,4	4,9	9,9	29,5	35,5	500	560	650	650	650	2,0	100,9	81	12300	
26	740		1,3	4,3	8,7	26	31,5	570	630	740	740	740	1,8	114	81	12900	
23,5	820		1,1	3,9	7,8	23,5	28	630	710	820	820	820	1,6	127,5	81	13600	
21,5	890	BF50Z-../S08MA4	1,0	3,6	7,2	21,5	26	690	770	890	890	890	1,4	138,1	86	13600	
19	1000		0,95	3,2	6,4	19	23	770	860	1000	1000	1000	1,3	154,5	86	13600	
16	1190		0,8	2,7	5,4	16	19,5	910	1020	1190	1190	1190	1,1	183,5	86	13600	
14,5	1330		0,7	2,4	4,8	14,5	17,5	1020	1140	1330	1330	1330	0,97	205,2	86	13600	
12	1600		0,6	2,0	4,0	12	14,5	1230	1380	1600	1600	1600	0,81	247,5	86	13600	
21	910	BF60Z-../S08MA4	1,0	3,5	7,1	21	25,5	700	780	910	910	910	2,5	140,8	130	15300	43300.0
17,5	1090		0,85	2,9	5,9	17,5	21	840	940	1090	1090	1090	2,1	169,2	130	15300	43300.0
15,5	1220		0,75	2,6	5,3	15,5	19	930	1050	1220	1220	1220	1,9	187,7	130	15300	43300.0
13,5	1430		0,65	2,2	4,5	13,5	16	1100	1230	1430	1430	1430	1,6	221,4	130	15300	43300.0
12	1590		0,6	2,0	4,0	12	14,5	1220	1370	1590	1590	1590	1,4	245,6	130	15300	43300.0
10	1900		0,5	1,7	3,4	10	12	1460	1640	1900	1900	1900	1,2	293,4	130	15300	43300.0
9,2	2100		0,46	1,5	3,0	9,2	11	1620	1820	2100	2100	2100	1,1	325,6	130	15300	43300.0
7,8	2450		0,39	1,3	2,6	7,8	9,4	1900	2100	2450	2450	2450	0,93	380	130	15300	43300.0
7,1	2700		0,35	1,1	2,3	7,1	8,5	2100	2350	2700	2700	2700	0,84	421,6	130	15300	43300.0
5,7	3400	BF70G20-../S08MA4	0,28	0,95	1,9	5,7	6,8	2600	2900	3400	3400	3400	1,7	524,1	216	16100	47700.0
5,1	3750		0,25	0,85	1,7	5,1	6,2	2850	3200	3750	3750	3750	1,5	577,5	216	16100	47700.0
4,4	4350		0,22	0,7	1,4	4,4	5,3	3350	3750	4350	4350	4350	1,3	673,6	216	16100	47700.0
3,4	5600		0,17	0,55	1,1	3,4	4,1	4350	4850	5600	5600	5600	1,0	872,1	216	16100	47700.0
2,9	6600		0,14	0,49	0,95	2,9	3,5	5000	5600	6600	6600	6600	0,86	1017	216	16100	47700.0
9,9	1960	BF70Z-../S08MA4	0,49	1,6	3,3	9,9	11,5	1500	1690	1960	1960	1960	2,7	301,8	218	16100	47700.0
8,7	2200		0,43	1,4	2,9	8,7	10,5	1700	1910	2200	2200	2200	2,3	341,7	218	16100	47700.0
7,5	2550		0,37	1,2	2,5	7,5	9,0	1990	2200	2550	2550	2550	2,0	398,7	218	16100	47700.0
6,8	2850		0,34	1,1	2,2	6,8	8,1	2150	2450	2850	2850	2850	1,8	439,2	218	16100	47700.0
5,8	3300		0,29	0,95	1,9	5,8	7,0	2550	2850	3300	3300	3300	1,6	512,4	218	16100	47700.0
2,2	8600	BF80G40-../S08MA4	0,11	0,37	0,75	2,2	2,7	6600	7400	8600	8600	8600	1,2	1329	340	39600	75000.0
2,0	9600		0,1	0,33	0,65	2,0	2,4	7400	8300	9600	9600	9600	1,1	1491	340	39600	75000.0
1,7	11000		0,085	0,29	0,55	1,7	2,1	8400	9400	11000	11000	11000	0,95	1693	340	39600	75000.0
5,1	3750	BF80Z-../S08MA4	0,25	0,85	1,7	5,1	6,1	2900	3250	3750	3750	3750	2,8	583,4	334	39600	75000.0
4,5	4300		0,22	0,75	1,5	4,5	5,4	3300	3700	4300	4300	4300	2,4	662,1	334	39600	75000.0
3,8	5000		0,19	0,6	1,2	3,8	4,6	3850	4300	5000	5000	5000	2,1	770,6	334	39600	75000.0
3,4	5600		0,17	0,55	1,1	3,4	4,1	4350	4850	5600	5600	5600	1,8	874,6	334	39600	75000.0
3,0	6400		0,15	0,5	1,0	3,0	3,6	4950	5500	6400	6400	6400	1,6	990,4	334	39600	75000.0
2,6	7300		0,13	0,44	0,85	2,6	3,2	5600	6200	7300	7300	7300	1,4	1124	334	39600	75000.0
3,0	6300	BF90G50-../S08MA4	0,15	0,5	1,0	3,0	3,6	4850	5400	6300	6300	6300	2,9	976,1	610	42800	120000.0
2,8	6700		0,14	0,47	0,95	2,8	3,4	5200	5800	6700	6700	6700	2,7	1043	610	42800	120000.0
2,4	7800		0,12	0,41	0,8	2,4	2,9	6000	6700	7800	7800	7800	2,4	1204	610	42800	120000.0
2,0	9300		0,1	0,34	0,65	2,0	2,4	7200	8000	9300	9300	9300	2,0	1444	610	42800	120000.0
1,7	10900		0,085	0,29	0,55	1,7	2,1	8300	9300	10900	10900	10900	1,7	1678	610	42800	120000.0
1,6	12100		0,08	0,26	0,5	1,6	1,9	9300	10400	12100	12100	12100	1,5	1867	610	42800	120000.0
1,3	14000		0,065	0,23	0,46	1,3	1,6	10700	12000	14000	14000	14000	1,3	2154	610	42800	120000.0
1,1	17200		0,055	0,18	0,37	1,1	1,3	13200	14800	17200	17200	17200	1,1	2656	610	42800	120000.0
1,0	19100		0,05	0,16	0,33	1,0	1,2	14700	16500	19100	19100	19100	0,96	2952	610	42800	120000.0
0,9	21000		0,045	0,15	0,3	0,9	1,0	16400	18400	21000	21000	21000	0,87	3286	610	42800	120000.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

$M_1 = 9{,}55$ Nm

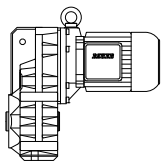
$n_1 = 3000\ ^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
520	54	BF06-../S08LA4	26	87	174	520	620	37	45,5	54	54	54	**1,1**	5,72	17	1630	
390	73		19,5	65	130	390	465	49,5	61	73	73	73	**0,93**	7,66	17	1800	
325	87		16	54	108	325	390	59	73	87	87	87	**0,8**	9,21	17	1900	
530	53	BF10-../S08LA4	26,5	89	178	530	640	36	44,5	53	53	53	**2,6**	5,6	28	1980	
395	72		19,5	65	131	395	470	49	60	72	72	72	**2,1**	7,58	28	2200	
305	92		15	51	103	305	370	62	77	92	92	92	**1,9**	9,69	28	2350	
250	113		12,5	42	84	250	300	76	94	113	113	113	**1,6**	11,84	28	2500	
199	143		9,9	33	66	199	235	97	120	143	143	143	**1,3**	15,04	28	2800	
164	174		8,2	27	54	164	197	118	145	174	174	174	**1,4**	18,23	28	2900	
149	191		7,4	24,5	49,5	149	179	130	160	191	191	191	**1,3**	20,05	28	3000	
128	220		6,4	21	42,5	128	154	151	186	220	220	220	**1,1**	23,28	28	3200	
117	240		5,8	19,5	39	117	140	166	200	240	240	240	**0,98**	25,6	28	3350	
105	270		5,2	17,5	35	105	126	185	225	270	270	270	**0,88**	28,47	28	3450	
95	295		4,7	15,5	31,5	95	114	200	250	295	295	295	**0,8**	31,31	28	3600	
375	76	BF20-../S08LA4	18,5	62	125	375	450	52	64	76	76	76	**2,9**	8,0	35	2850	
285	100		14	47,5	95	285	340	68	84	100	100	100	**2,5**	10,51	35	3100	
225	125		11	37,5	75	225	270	85	105	125	125	125	**2,3**	13,18	35	3300	
193	148		9,6	32	64	193	230	101	124	148	148	148	**2,1**	15,54	35	3450	
178	160		8,9	29,5	59	178	210	109	134	160	160	160	**2,2**	16,77	35	3500	
162	176		8,1	27	54	162	195	119	147	176	176	176	**2,1**	18,45	35	3600	
136	210		6,8	22,5	45	136	163	143	176	210	210	210	**1,9**	22,04	35	3800	
123	230		6,1	20,5	41	123	148	157	194	230	230	230	**1,7**	24,25	35	3950	
108	260		5,4	18	36	108	130	179	220	260	260	260	**1,6**	27,62	35	4150	
98	290		4,9	16	32,5	98	118	197	240	290	290	290	**1,4**	30,4	35	4400	
92	310		4,6	15	30,5	92	110	210	260	310	310	310	**1,3**	32,58	35	4450	
83	340		4,1	13,5	27,5	83	100	230	285	340	340	340	**1,2**	35,85	35	4650	
71	395		3,5	11,5	23,5	71	86	270	330	395	395	395	**1,1**	41,72	35	4950	
65	435		3,2	10,5	21,5	65	78	295	365	435	435	435	**0,96**	45,9	35	5100	
61	460		3,0	10	20,5	61	74	315	385	460	460	460	**0,91**	48,56	35	5200	
56	510		2,8	9,3	18,5	56	67	345	425	510	510	510	**0,82**	53,43	35	5500	
230	123	BF30-../S08LA4	11,5	38,5	77	230	275	83	103	123	123	123	**3,0**	12,91	45	3050	
187	152		9,3	31	62	187	225	104	128	152	152	152	**2,7**	16	45	3250	
169	168		8,4	28	56	169	200	114	141	168	168	168	**2,8**	17,65	45	3300	
154	185		7,7	25,5	51	154	185	126	155	185	185	185	**2,7**	19,41	45	3400	
137	205		6,8	22,5	45,5	137	164	142	174	205	205	205	**2,5**	21,85	45	3500	
124	225		6,2	20,5	41,5	124	149	156	192	225	225	225	**2,4**	24,03	45	3600	
106	265		5,3	17,5	35	106	127	183	225	265	265	265	**2,1**	28,23	45	3800	
96	295		4,8	16	32	96	115	200	245	295	295	295	**1,9**	31,05	45	4000	
85	330		4,2	14	28,5	85	102	225	280	330	330	330	**1,7**	35	45	4200	
77	365		3,8	12,5	25,5	77	93	250	305	365	365	365	**1,6**	38,49	45	4400	
73	390		3,6	12	24	73	87	265	325	390	390	390	**1,5**	41,01	45	4500	
66	430		3,3	11	22	66	79	290	360	430	430	430	**1,3**	45,1	45	4700	
57	495		2,8	9,5	19	57	68	335	415	495	495	495	**1,1**	52,2	45	5000	
52	540		2,6	8,7	17	52	62	370	455	540	540	540	**1,0**	57,41	45	5200	
49	580		2,4	8,1	16	49	58	395	485	580	580	580	**0,98**	61,17	45	5300	
44,5	640		2,2	7,4	14,5	44,5	53	435	530	640	640	640	**0,89**	67,28	45	5500	
41,5	680		2,0	6,9	13,5	41,5	49,5	465	570	680	680	680	**0,83**	72,13	45	5700	
111	255	BF40-../S08LA4	5,5	18,5	37	111	134	174	210	255	255	255	**3,0**	26,86	54	5600	
101	280		5,0	16,5	33,5	101	121	192	235	280	280	280	**2,8**	29,55	54	5800	
87	325		4,3	14,5	29	87	105	220	270	325	325	325	**2,6**	34,21	54	6000	
79	355		3,9	13	26,5	79	95	240	300	355	355	355	**2,5**	37,64	54	6200	
72	395		3,6	12	24	72	86	265	330	395	395	395	**2,3**	41,42	54	6500	
65	435		3,2	10,5	21,5	65	79	295	360	435	435	435	**2,1**	45,56	54	6800	
61	465		3,0	10	20	61	73	315	390	465	465	465	**1,9**	48,92	54	7000	
55	510		2,7	9,2	18,5	55	66	345	430	510	510	510	**1,8**	53,82	54	7200	
48,5	580		2,4	8,1	16	48,5	58	395	490	580	580	580	**1,5**	61,25	54	7600	
44,5	640		2,2	7,4	14,5	44,5	53	435	530	640	640	640	**1,4**	67,38	54	8000	
42	680		2,1	7,0	14	42	50	460	570	680	680	680	**1,3**	71,4	54	8100	
38	750		1,9	6,3	12,5	38	45,5	510	620	750	750	750	**1,2**	78,55	54	8500	
35,5	800		1,7	5,9	11,5	35,5	42,5	540	670	800	800	800	**1,1**	83,91	54	8700	
32	880		1,6	5,4	10,5	32	38,5	600	730	880	880	880	**1,0**	92,31	54	9100	
29,5	960		1,4	4,9	9,9	29,5	35,5	650	800	960	960	960	**0,93**	101	54	9400	
27	1060		1,3	4,5	9,0	27	32	720	880	1060	1060	1060	**0,85**	111,1	54	9800	

M_1 = 9,55 Nm

n_1 = 3000 $^1/_{min}$

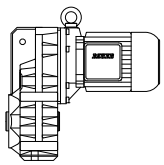


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
63	450	BF50-../S08LA4	3,1	10,5	21	63	76	305	375	450	450	450	**2,9**	47,14	83	8900	
52	540		2,6	8,7	17,5	52	63	365	450	540	540	540	**2,4**	56,86	83	9300	
47	600		2,3	7,8	15,5	47	56	410	500	600	600	600	**2,1**	63,59	83	9800	
41	690		2,0	6,8	13,5	41	49,5	470	580	690	690	690	**1,9**	72,72	83	10700	
36,5	770		1,8	6,1	12	36,5	44	520	650	770	770	770	**1,7**	81,33	83	11300	
33	860		1,6	5,5	11	33	39,5	580	720	860	860	860	**1,5**	90,24	83	11800	
29,5	960		1,4	4,9	9,9	29,5	35,5	650	800	960	960	960	**1,3**	100,9	83	12300	
26	1080		1,3	4,3	8,7	26	31,5	740	910	1080	1080	1080	**1,2**	114	83	12900	
23,5	1210		1,1	3,9	7,8	23,5	28	820	1020	1210	1210	1210	**1,1**	127,5	83	13600	
21,5	1310	BF50Z-../S08LA4	1,0	3,6	7,2	21,5	26	890	1100	1310	1310	1310	**0,99**	138,1	88	13600	
19	1470		0,95	3,2	6,4	19	23	1000	1230	1470	1470	1470	**0,88**	154,5	88	13600	
21	1340	BF60Z-../S08LA4	1,0	3,5	7,1	21	25,5	910	1120	1340	1340	1340	**1,7**	140,8	131	15300	43300.0
17,5	1610		0,85	2,9	5,9	17,5	21	1090	1350	1610	1610	1610	**1,4**	169,2	131	15300	43300.0
15,5	1790		0,75	2,6	5,3	15,5	19	1220	1500	1790	1790	1790	**1,3**	187,7	131	15300	43300.0
13,5	2100		0,65	2,2	4,5	13,5	16	1430	1770	2100	2100	2100	**1,1**	221,4	131	15300	43300.0
12	2300		0,6	2,0	4,0	12	14,5	1590	1960	2300	2300	2300	**0,98**	245,6	131	15300	43300.0
10	2800		0,5	1,7	3,4	10	12	1900	2300	2800	2800	2800	**0,82**	293,4	131	15300	43300.0
5,7	5000	BF70G20-../S08LA4	0,28	0,95	1,9	5,7	6,8	3400	4150	5000	5000	5000	**1,1**	524,1	217	16100	47700.0
5,1	5500		0,25	0,85	1,7	5,1	6,2	3750	4600	5500	5500	5500	**1,0**	577,5	217	16100	47700.0
4,4	6400		0,22	0,7	1,4	4,4	5,3	4350	5300	6400	6400	6400	**0,89**	673,6	217	16100	47700.0
16,5	1710	BF70Z-../S08LA4	0,8	2,7	5,5	16,5	20	1160	1430	1710	1710	1710	**3,0**	179,7	220	16100	47700.0
15	1900		0,75	2,5	5,0	15	18	1290	1590	1900	1900	1900	**2,7**	199,7	220	16100	47700.0
12,5	2200		0,6	2,1	4,2	12,5	15	1510	1860	2200	2200	2200	**2,3**	233	220	16100	47700.0
11,5	2450		0,55	1,9	3,8	11,5	13,5	1680	2050	2450	2450	2450	**2,1**	258,7	220	16100	47700.0
9,9	2850		0,49	1,6	3,3	9,9	11,5	1960	2400	2850	2850	2850	**1,8**	301,8	220	16100	47700.0
8,7	3250		0,43	1,4	2,9	8,7	10,5	2200	2700	3250	3250	3250	**1,6**	341,7	220	16100	47700.0
7,5	3800		0,37	1,2	2,5	7,5	9,0	2550	3150	3800	3800	3800	**1,4**	398,7	220	16100	47700.0
6,8	4150		0,34	1,1	2,2	6,8	8,1	2850	3500	4150	4150	4150	**1,2**	439,2	220	16100	47700.0
5,8	4850		0,29	0,95	1,9	5,8	7,0	3300	4050	4850	4850	4850	**1,1**	512,4	220	16100	47700.0
2,2	12600	BF80G40-../S08LA4	0,11	0,37	0,75	2,2	2,7	8600	10600	12600	12600	12600	**0,83**	1329	341	39600	75000.0
7,6	3750	BF80Z-../S08LA4	0,38	1,2	2,5	7,6	9,1	2550	3150	3750	3750	3750	**2,8**	394,2	336	39600	75000.0
6,6	4300		0,33	1,1	2,2	6,6	7,9	2900	3600	4300	4300	4300	**2,4**	450,4	336	39600	75000.0
5,8	4850		0,29	0,95	1,9	5,8	7,0	3300	4050	4850	4850	4850	**2,2**	511,2	336	39600	75000.0
5,1	5500		0,25	0,85	1,7	5,1	6,1	3750	4650	5500	5500	5500	**1,9**	583,4	336	39600	75000.0
4,5	6300		0,22	0,75	1,5	4,5	5,4	4300	5200	6300	6300	6300	**1,7**	662,1	336	39600	75000.0
3,8	7300		0,19	0,6	1,2	3,8	4,6	5000	6100	7300	7300	7300	**1,4**	770,6	336	39600	75000.0
3,4	8300		0,17	0,55	1,1	3,4	4,1	5600	6900	8300	8300	8300	**1,3**	874,6	336	39600	75000.0
3,0	9400		0,15	0,5	1,0	3,0	3,6	6400	7900	9400	9400	9400	**1,1**	990,4	336	39600	75000.0
2,6	10700		0,13	0,44	0,85	2,6	3,2	7300	8900	10700	10700	10700	**0,98**	1124	336	39600	75000.0
3,0	9300	BF90G50-../S08LA4	0,15	0,5	1,0	3,0	3,6	6300	7800	9300	9300	9300	**2,0**	976,1	612	42800	120000.0
2,8	9900		0,14	0,47	0,95	2,8	3,4	6700	8300	9900	9900	9900	**1,9**	1043	612	42800	120000.0
2,4	11400		0,12	0,41	0,8	2,4	2,9	7800	9600	11400	11400	11400	**1,6**	1204	612	42800	120000.0
2,0	13700		0,1	0,34	0,65	2,0	2,4	9300	11500	13700	13700	13700	**1,3**	1444	612	42800	120000.0
1,7	16000		0,085	0,29	0,55	1,7	2,1	10900	13400	16000	16000	16000	**1,2**	1678	612	42800	120000.0
1,6	17800		0,08	0,26	0,5	1,6	1,9	12100	14900	17800	17800	17800	**1,0**	1867	612	42800	120000.0
1,3	20500		0,065	0,23	0,46	1,3	1,6	14000	17200	20500	20500	20500	**0,9**	2154	612	42800	120000.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 12,75 Nm

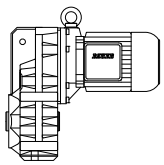
n_1 = 3000 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
530	72	BF10-../S09SA4	26,5	89	178	530	640	44,5	56	72	72	61	**1,9**	5,6	32	1980	
395	98		19,5	65	131	395	470	60	75	98	98	83	**1,6**	7,58	32	2200	
305	125		15	51	103	305	370	77	96	125	125	106	**1,4**	9,69	32	2350	
250	153		12,5	42	84	250	300	94	118	153	153	130	**1,2**	11,84	32	2500	
199	195		9,9	33	66	199	235	120	150	195	195	165	**0,94**	15,04	32	2800	
164	235		8,2	27	54	164	197	145	182	235	235	200	**1,0**	18,23	32	2900	
149	260		7,4	24,5	49,5	149	179	160	200	260	260	220	**0,92**	20,05	32	3000	
495	78	BF20-../S09SA4	24,5	82	165	495	590	48	60	78	78	66	**2,5**	6,04	38	2550	
375	104		18,5	62	125	375	450	64	80	104	104	88	**2,1**	8	38	2850	
285	136		14	47,5	95	285	340	84	105	136	136	115	**1,9**	10,51	38	3100	
225	171		11	37,5	75	225	270	105	131	171	171	144	**1,7**	13,18	38	3300	
193	200		9,6	32	64	193	230	124	155	200	200	170	**1,5**	15,54	38	3450	
178	215		8,9	29,5	59	178	210	134	167	215	215	184	**1,7**	16,77	38	3500	
162	235		8,1	27	54	162	195	147	184	235	235	200	**1,5**	18,45	38	3600	
136	285		6,8	22,5	45	136	163	176	220	285	285	240	**1,4**	22,04	38	3800	
123	315		6,1	20,5	41	123	148	194	240	315	315	265	**1,3**	24,25	38	3950	
108	355		5,4	18	36	108	130	220	275	355	355	300	**1,2**	27,62	38	4150	
98	395		4,9	16	32,5	98	118	240	300	395	395	330	**1,1**	30,4	38	4400	
92	420		4,6	15	30,5	92	110	260	325	420	420	355	**0,99**	32,58	38	4450	
83	465		4,1	13,5	27,5	83	100	285	355	465	465	390	**0,9**	35,85	38	4650	
370	104	BF30-../S09SA4	18,5	61	123	370	445	64	80	104	104	88	**2,7**	8,07	49	2650	
300	129		15	50	100	300	360	79	99	129	129	109	**2,5**	9,99	49	2850	
230	167		11,5	38,5	77	230	275	103	129	167	167	142	**2,2**	12,91	49	3050	
187	205		9,3	31	62	187	225	128	160	205	205	176	**1,9**	16	49	3250	
169	225		8,4	28	56	169	200	141	176	225	225	194	**2,1**	17,65	49	3300	
154	250		7,7	25,5	51	154	185	155	194	250	250	210	**2,0**	19,41	49	3400	
137	280		6,8	22,5	45,5	137	164	174	215	280	280	240	**1,8**	21,85	49	3500	
124	310		6,2	20,5	41,5	124	149	192	240	310	310	260	**1,8**	24,03	49	3600	
106	365		5,3	17,5	35	106	127	225	280	365	365	310	**1,6**	28,23	49	3800	
96	400		4,8	16	32	96	115	245	310	400	400	340	**1,4**	31,05	49	4000	
85	455		4,2	14	28,5	85	102	280	350	455	455	385	**1,3**	35	49	4200	
77	500		3,8	12,5	25,5	77	93	305	380	500	500	420	**1,1**	38,49	49	4400	
73	530		3,6	12	24	73	87	325	410	530	530	450	**1,1**	41,01	49	4500	
66	580		3,3	11	22	66	79	360	450	580	580	495	**0,97**	45,1	49	4700	
57	670		2,8	9,5	19	57	68	415	520	670	670	570	**0,84**	52,2	49	5000	
250	153	BF40-../S09SA4	12,5	42	84	250	305	94	117	153	153	129	**3,0**	11,79	58	4450	
199	195		9,9	33	66	199	235	120	150	195	195	165	**2,7**	15,02	58	4800	
172	225		8,6	28,5	57	172	205	138	173	225	225	190	**2,8**	17,35	58	4950	
157	245		7,8	26	52	157	188	152	190	245	245	205	**2,7**	19,09	58	5100	
138	280		6,9	23	46	138	166	172	215	280	280	235	**2,5**	21,6	58	5200	
126	305		6,3	21	42	126	151	190	235	305	305	260	**2,4**	23,77	58	5400	
111	345		5,5	18,5	37	111	134	210	265	345	345	295	**2,2**	26,86	58	5600	
101	380		5,0	16,5	33,5	101	121	235	295	380	380	325	**2,1**	29,55	58	5800	
87	440		4,3	14,5	29	87	105	270	340	440	440	375	**1,9**	34,21	58	6000	
79	485		3,9	13	26,5	79	95	300	375	485	485	410	**1,8**	37,64	58	6200	
72	530		3,6	12	24	72	86	330	410	530	530	455	**1,7**	41,42	58	6500	
65	590		3,2	10,5	21,5	65	79	360	455	590	590	500	**1,5**	45,56	58	6800	
61	630		3,0	10	20	61	73	390	485	630	630	530	**1,4**	48,92	58	7000	
55	690		2,7	9,2	18,5	55	66	430	530	690	690	590	**1,3**	53,82	58	7200	
48,5	790		2,4	8,1	16	48,5	58	490	610	790	790	670	**1,1**	61,25	58	7600	
44,5	870		2,2	7,4	14,5	44,5	53	530	670	870	870	740	**1,0**	67,38	58	8000	
42	920		2,1	7,0	14	42	50	570	710	920	920	780	**0,97**	71,4	58	8100	
38	1020		1,9	6,3	12,5	38	45,5	620	780	1020	1020	860	**0,88**	78,55	58	8500	
35,5	1090		1,7	5,9	11,5	35,5	42,5	670	830	1090	1090	920	**0,83**	83,91	58	8700	
84	460	BF50-../S09SA4	4,2	14	28	84	101	280	350	460	460	390	2,8	35,49	86	7800	
71	540		3,5	11,5	23,5	71	85	335	420	540	540	460	2,4	42,15	86	8500	
63	610		3,1	10,5	21	63	76	375	470	610	610	510	2,1	47,14	86	8900	
52	730		2,6	8,7	17,5	52	63	450	560	730	730	620	1,8	56,86	86	9300	
47	820		2,3	7,8	15,5	47	56	500	630	820	820	690	1,6	63,59	86	9800	
41	940		2,0	6,8	13,5	41	49,5	580	720	940	940	790	1,4	72,72	86	10700	
36,5	1050		1,8	6,1	12	36,5	44	650	810	1050	1050	890	1,2	81,33	86	11300	
33	1170		1,6	5,5	11	33	39,5	720	900	1170	1170	990	1,1	90,24	86	11800	
29,5	1310		1,4	4,9	9,9	29,5	35,5	800	1000	1310	1310	1100	0,99	100,9	86	13200	

M_1 = 12,75 Nm

n_1 = 3000 $^1/_{min}$

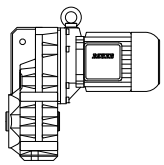


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
49,5	780	BF60-../S09SA4	2,4	8,2	16,5	49,5	59	480	600	780	780	660	**2,9**	60,4	116	11100	31400.0
41,5	930		2,0	6,9	13,5	41,5	49,5	570	720	930	930	790	**2,5**	72,15	116	12000	34000.0
37	1040		1,8	6,2	12	37	44,5	640	800	1040	1040	880	**2,2**	80,05	116	12600	35600.0
32	1210		1,6	5,3	10,5	32	38,5	740	930	1210	1210	1020	**1,9**	93,44	116	13500	38200.0
28,5	1340		1,4	4,8	9,6	28,5	34,5	820	1030	1340	1340	1140	**1,7**	103,7	116	14100	39900.0
26,5	1470		1,3	4,4	8,8	26,5	31,5	900	1130	1470	1470	1240	**1,6**	113,1	116	14600	41300.0
23,5	1630		1,1	3,9	7,9	23,5	28,5	1000	1250	1630	1630	1380	**1,4**	125,5	116	15300	43300.0
21	1830	BF60Z-../S09SA4	1,0	3,5	7,1	21	25,5	1120	1400	1830	1830	1540	**1,3**	140,8	135	15300	43300.0
17,5	2150		0,85	2,9	5,9	17,5	21	1350	1690	2150	2150	1860	**1,0**	169,2	135	15300	43300.0
15,5	2400		0,75	2,6	5,3	15,5	19	1500	1870	2400	2400	2050	**0,94**	187,7	135	15300	43300.0
13,5	2850		0,65	2,2	4,5	13,5	16	1770	2200	2850	2850	2400	**0,8**	221,4	135	15300	43300.0
5,7	6800	BF70G20-../S09SA4	0,28	0,95	1,9	5,7	6,8	4150	5200	6800	6800	5700	**0,84**	524,1	221	16100	47700.0
22,5	1720	BF70Z-../S09SA4	1,1	3,7	7,5	22,5	27	1060	1330	1720	1720	1460	**3,0**	133	223	16100	47700.0
19	2000		0,95	3,2	6,4	19	23	1230	1540	2000	2000	1690	**2,6**	154	223	16100	47700.0
16,5	2300		0,8	2,7	5,5	16,5	20	1430	1790	2300	2300	1970	**2,2**	179,7	223	16100	47700.0
15	2550		0,75	2,5	5,0	15	18	1590	1990	2550	2550	2150	**2,0**	199,7	223	16100	47700.0
12,5	3000		0,6	2,1	4,2	12,5	15	1860	2300	3000	3000	2550	**1,7**	233	223	16100	47700.0
11,5	3350		0,55	1,9	3,8	11,5	13,5	2050	2550	3350	3350	2800	**1,5**	258,7	223	16100	47700.0
9,9	3900		0,49	1,6	3,3	9,9	11,5	2400	3000	3900	3900	3300	**1,3**	301,8	223	16100	47700.0
8,7	4400		0,43	1,4	2,9	8,7	10,5	2700	3400	4400	4400	3750	**1,2**	341,7	223	16100	47700.0
7,5	5100		0,37	1,2	2,5	7,5	9,0	3150	3950	5100	5100	4350	**1,0**	398,7	223	16100	47700.0
6,8	5700		0,34	1,1	2,2	6,8	8,1	3500	4350	5700	5700	4800	**0,91**	439,2	223	16100	47700.0
11	3450	BF80-../S09SA4	0,55	1,8	3,7	11	13	2150	2650	3450	3450	2950	**2,7**	269,1	299	39600	75000.0
10	3750	BF80Z-../S09SA4	0,5	1,7	3,4	10	12	2300	2900	3750	3750	3200	**2,8**	291,7	340	39600	75000.0
8,6	4500		0,43	1,4	2,8	8,6	10	2750	3450	4500	4500	3800	**2,3**	347,3	340	39600	75000.0
7,6	5100		0,38	1,2	2,5	7,6	9,1	3150	3900	5100	5100	4300	**2,0**	394,2	340	39600	75000.0
6,6	5800		0,33	1,1	2,2	6,6	7,9	3600	4500	5800	5800	4950	**1,8**	450,4	340	39600	75000.0
5,8	6600		0,29	0,95	1,9	5,8	7,0	4050	5100	6600	6600	5600	**1,6**	511,2	340	39600	75000.0
5,1	7500		0,25	0,85	1,7	5,1	6,1	4650	5800	7500	7500	6400	**1,4**	583,4	340	39600	75000.0
4,5	8600		0,22	0,75	1,5	4,5	5,4	5200	6600	8600	8600	7200	**1,2**	662,1	340	39600	75000.0
3,8	10000		0,19	0,6	1,2	3,8	4,6	6100	7700	10000	10000	8400	**1,0**	770,6	340	39600	75000.0
3,4	11300		0,17	0,55	1,1	3,4	4,1	6900	8700	11300	11300	9600	**0,92**	874,6	340	39600	75000.0
3,0	12800		0,15	0,5	1,0	3,0	3,6	7900	9900	12800	12800	10800	**0,82**	990,4	340	39600	75000.0
3,0	12600	BF90G50-../S09SA4	0,15	0,5	1,0	3,0	3,6	7800	9700	12600	12600	10700	**1,5**	976,1	616	42800	120000.0
2,8	13500		0,14	0,47	0,95	2,8	3,4	8300	10400	13500	13500	11400	**1,4**	1043	616	42800	120000.0
2,4	15600		0,12	0,41	0,8	2,4	2,9	9600	12000	15600	15600	13200	**1,2**	1204	616	42800	120000.0
2,0	18700		0,1	0,34	0,65	2,0	2,4	11500	14400	18700	18700	15800	**0,99**	1444	616	42800	120000.0
1,7	21500		0,085	0,29	0,55	1,7	2,1	13400	16700	21500	21500	18400	**0,85**	1678	616	42800	120000.0
5,8	6600	BF90Z-../S09SA4	0,29	0,95	1,9	5,8	7,0	4050	5000	6600	6600	5500	**2,8**	508,5	604	42800	120000.0
5,0	7600		0,25	0,8	1,6	5,0	6,0	4700	5900	7600	7600	6500	**2,4**	591,1	604	42800	120000.0
4,5	8500		0,22	0,75	1,5	4,5	5,4	5200	6500	8500	8500	7200	**2,2**	658,1	604	42800	120000.0
3,9	9800		0,19	0,65	1,3	3,9	4,7	6000	7500	9800	9800	8300	**1,9**	759	604	42800	120000.0
3,5	10900		0,17	0,55	1,1	3,5	4,2	6700	8400	10900	10900	9200	**1,7**	845,1	604	42800	120000.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

$M_1 = 20$ Nm

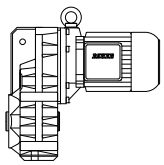
$n_1 = 3000\ ^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
530	112	BF10-../S09XA4	26,5	89	178	530	640	70	89	112	112	81	**1,2**	5,6	40	1980	
395	151		19,5	65	131	395	470	94	121	151	151	109	**1,0**	7,58	40	2200	
305	193		15	51	103	305	370	121	155	193	193	140	**0,91**	9,69	40	2350	
495	120	BF20-../S09XA4	24,5	82	165	495	590	75	96	120	120	87	**1,7**	6,04	46	2550	
375	160		18,5	62	125	375	450	100	128	160	160	116	**1,4**	8,0	46	2850	
285	210		14	47,5	95	285	340	131	168	210	210	152	**1,2**	10,51	46	3100	
225	260		11	37,5	75	225	270	164	210	260	260	191	**1,1**	13,18	46	3300	
193	310		9,6	32	64	193	230	194	245	310	310	225	**0,98**	15,54	46	3450	
178	335		8,9	29,5	59	178	210	205	265	335	335	240	**1,1**	16,77	46	3500	
162	365		8,1	27	54	162	195	230	295	365	365	265	**1,0**	18,45	46	3600	
136	440		6,8	22,5	45	136	163	275	350	440	440	315	**0,9**	22,04	46	3800	
123	485		6,1	20,5	41	123	148	300	385	485	485	350	**0,82**	24,25	46	3950	
470	126	BF30-../S09XA4	23,5	78	157	470	560	79	101	126	126	91	**2,1**	6,34	57	2400	
370	161		18,5	61	123	370	445	100	129	161	161	117	**1,8**	8,07	57	2650	
300	199		15	50	100	300	360	124	159	199	199	144	**1,6**	9,99	57	2850	
230	255		11,5	38,5	77	230	275	161	205	255	255	187	**1,4**	12,91	57	3050	
187	320		9,3	31	62	187	225	200	255	320	320	230	**1,3**	16	57	3250	
169	350		8,4	28	56	169	200	220	280	350	350	255	**1,3**	17,65	57	3300	
154	385		7,7	25,5	51	154	185	240	310	385	385	280	**1,3**	19,41	57	3400	
137	435		6,8	22,5	45,5	137	164	270	345	435	435	315	**1,2**	21,85	57	3500	
124	480		6,2	20,5	41,5	124	149	300	380	480	480	345	**1,1**	24,03	57	3600	
106	560		5,3	17,5	35	106	127	350	450	560	560	405	**1,0**	28,23	57	3800	
96	620		4,8	16	32	96	115	385	495	620	620	450	**0,92**	31,05	57	4000	
85	700		4,2	14	28,5	85	102	435	560	700	700	500	**0,81**	35	57	4200	
510	117	BF40-../S09XA4	25,5	85	170	510	610	73	93	117	117	85	**2,9**	5,87	66	3550	
390	152		19,5	65	131	390	470	95	121	152	152	110	**2,4**	7,62	66	3900	
315	189		15,5	52	105	315	375	118	151	189	189	137	**2,2**	9,48	66	4150	
250	235		12,5	42	84	250	305	147	188	235	235	170	**2,0**	11,79	66	4450	
199	300		9,9	33	66	199	235	187	240	300	300	215	**1,7**	15,02	66	4800	
172	345		8,6	28,5	57	172	205	215	275	345	345	250	**1,8**	17,35	66	4950	
157	380		7,8	26	52	157	188	235	305	380	380	275	**1,7**	19,09	66	5100	
138	430		6,9	23	46	138	166	270	345	430	430	310	**1,6**	21,6	66	5200	
126	475		6,3	21	42	126	151	295	380	475	475	340	**1,5**	23,77	66	5400	
111	530		5,5	18,5	37	111	134	335	425	530	530	385	**1,4**	26,86	66	5600	
101	590		5,0	16,5	33,5	101	121	365	470	590	590	425	**1,4**	29,55	66	5800	
87	680		4,3	14,5	29	87	105	425	540	680	680	495	**1,2**	34,21	66	6000	
79	750		3,9	13	26,5	79	95	470	600	750	750	540	**1,2**	37,64	66	6200	
72	820		3,6	12	24	72	86	510	660	820	820	600	**1,1**	41,42	66	6500	
65	910		3,2	10,5	21,5	65	79	560	720	910	910	660	**0,99**	45,56	66	6800	
61	970		3,0	10	20	61	73	610	780	970	970	700	**0,92**	48,92	66	7000	
55	1070		2,7	9,2	18,5	55	66	670	860	1070	1070	780	**0,84**	53,82	66	7200	
200	290	BF50-../S09XA4	10	34	68	200	245	183	230	290	290	210	**2,7**	14,65	94	6100	
129	460		6,4	21,5	43	129	155	285	370	460	460	335	**2,4**	23,14	94	6800	
115	510		5,7	19	38,5	115	139	320	410	510	510	375	**2,2**	25,88	94	7100	
94	630		4,7	15,5	31,5	94	113	395	500	630	630	460	**2,0**	31,73	94	7500	
84	700		4,2	14	28	84	101	440	560	700	700	510	**1,8**	35,49	94	7800	
71	840		3,5	11,5	23,5	71	85	520	670	840	840	610	**1,5**	42,15	94	8500	
63	940		3,1	10,5	21	63	76	580	750	940	940	680	**1,4**	47,14	94	8900	
52	1130		2,6	8,7	17,5	52	63	710	900	1130	1130	820	**1,1**	56,86	94	9300	
47	1270		2,3	7,8	15,5	47	56	790	1010	1270	1270	920	**1,0**	63,59	94	9800	
41	1450		2,0	6,8	13,5	41	49,5	900	1160	1450	1450	1050	**0,89**	72,72	94	10700	
36,5	1620		1,8	6,1	12	36,5	44	1010	1300	1620	1620	1170	**0,8**	81,33	94	11300	

M_1 = 20 Nm

n_1 = 3000 $^1/_{min}$

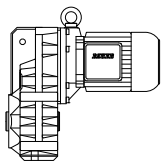


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
96	620	BF60-../S09XA4	4,8	16	32	96	115	390	495	620	620	450	**3,0**	31,2	124	8800	24900.0
86	690		4,3	14	28,5	86	103	430	550	690	690	500	**2,9**	34,62	124	9100	25700.0
72	830		3,6	12	24	72	86	520	660	830	830	600	**2,5**	41,6	124	9600	27100.0
64	920		3,2	10,5	21,5	64	77	570	730	920	920	660	**2,4**	46,16	124	9900	28000.0
55	1080		2,7	9,1	18	55	66	680	870	1080	1080	780	**2,1**	54,44	124	10500	29700.0
49,5	1200		2,4	8,2	16,5	49,5	59	750	960	1200	1200	870	**1,9**	60,4	124	11100	31400.0
41,5	1440		2,0	6,9	13,5	41,5	49,5	900	1150	1440	1440	1040	**1,6**	72,15	124	12000	34000.0
37	1600		1,8	6,2	12	37	44,5	1000	1280	1600	1600	1160	**1,4**	80,05	124	12600	35600.0
32	1860		1,6	5,3	10,5	32	38,5	1160	1490	1860	1860	1350	**1,2**	93,44	124	13500	38200.0
28,5	2050		1,4	4,8	9,6	28,5	34,5	1290	1650	2050	2050	1500	**1,1**	103,7	124	14100	39900.0
26,5	2250		1,3	4,4	8,8	26,5	31,5	1410	1800	2250	2250	1630	**1,0**	113,1	124	14600	41300.0
23,5	2500		1,1	3,9	7,9	23,5	28,5	1560	2000	2500	2500	1810	**0,92**	125,5	124	15300	43300.0
21	2800	BF60Z-../S09XA4	1,0	3,5	7,1	21	25,5	1760	2250	2800	2800	2000	**0,82**	140,8	143	15300	43300.0
31	1900	BF70-../S09XA4	1,5	5,2	10	31	37,5	1190	1520	1900	1900	1380	**2,7**	95,46	210	14000	43700.0
28,5	2100		1,4	4,7	9,5	28,5	34	1310	1680	2100	2100	1520	**2,5**	105,2	210	14700	45100.0
24	2450		1,2	4,0	8,1	24	29	1530	1960	2450	2450	1770	**2,1**	122,7	210	16100	47700.0
22,5	2650	BF70Z-../S09XA4	1,1	3,7	7,5	22,5	27	1660	2100	2650	2650	1920	**2,0**	133	231	16100	47700.0
19	3050		0,95	3,2	6,4	19	23	1920	2450	3050	3050	2200	**1,7**	154	231	16100	47700.0
16,5	3550		0,8	2,7	5,5	16,5	20	2200	2850	3550	3550	2600	**1,4**	179,7	231	16100	47700.0
15	3950		0,75	2,5	5,0	15	18	2450	3150	3950	3950	2850	**1,3**	199,7	231	16100	47700.0
12,5	4650		0,6	2,1	4,2	12,5	15	2900	3700	4650	4650	3350	**1,1**	233	231	16100	47700.0
11,5	5100		0,55	1,9	3,8	11,5	13,5	3200	4100	5100	5100	3750	**1,0**	258,7	231	16100	47700.0
9,9	6000		0,49	1,6	3,3	9,9	11,5	3750	4800	6000	6000	4350	**0,86**	301,8	231	16100	47700.0
18,5	3150	BF80-../S09XA4	0,9	3,1	6,3	18,5	22,5	1980	2500	3150	3150	2250	**3,0**	158,5	307	29000	75000.0
16	3650		0,8	2,7	5,4	16	19,5	2300	2950	3650	3650	2650	**2,6**	184,5	307	31800	75000.0
14	4150		0,7	2,3	4,7	14	17	2600	3350	4150	4150	3000	**2,3**	209,4	307	34300	75000.0
12,5	4700		0,6	2,1	4,2	12,5	15	2950	3750	4700	4700	3400	**2,0**	237,1	307	36900	75000.0
11	5300		0,55	1,8	3,7	11	13	3350	4300	5300	5300	3900	**1,8**	269,1	307	39600	75000.0
10	5800	BF80Z-../S09XA4	0,5	1,7	3,4	10	12	3600	4650	5800	5800	4200	**1,8**	291,7	348	39600	75000.0
8,6	6900		0,43	1,4	2,8	8,6	10	4300	5500	6900	6900	5000	**1,5**	347,3	348	39600	75000.0
7,6	7800		0,38	1,2	2,5	7,6	9,1	4900	6300	7800	7800	5700	**1,3**	394,2	348	39600	75000.0
6,6	9000		0,33	1,1	2,2	6,6	7,9	5600	7200	9000	9000	6500	**1,2**	450,4	348	39600	75000.0
5,8	10200		0,29	0,95	1,9	5,8	7,0	6300	8100	10200	10200	7400	**1,0**	511,2	348	39600	75000.0
5,1	11600		0,25	0,85	1,7	5,1	6,1	7200	9300	11600	11600	8400	**0,9**	583,4	348	39600	75000.0
3,0	19500	BF90G50-../S09XA4	0,15	0,5	1,0	3,0	3,6	12200	15600	19500	19500	14100	**0,95**	976,1	624	42800	120000.0
2,8	20500		0,14	0,47	0,95	2,8	3,4	13000	16600	20500	20500	15100	**0,89**	1043	624	42800	120000.0
8,7	6800	BF90Z-../S09XA4	0,43	1,4	2,9	8,7	10	4250	5400	6800	6800	4950	**2,7**	343,6	612	42800	120000.0
7,8	7600		0,39	1,3	2,6	7,8	9,4	4750	6100	7600	7600	5500	**2,4**	382,6	612	42800	120000.0
6,5	9100		0,32	1,0	2,1	6,5	7,8	5700	7300	9100	9100	6600	**2,0**	456,7	612	42800	120000.0
5,8	10100		0,29	0,95	1,9	5,8	7,0	6300	8100	10100	10100	7300	**1,8**	508,5	612	42800	120000.0
5,0	11800		0,25	0,8	1,6	5,0	6,0	7300	9400	11800	11800	8500	**1,6**	591,1	612	42800	120000.0
4,5	13100		0,22	0,75	1,5	4,5	5,4	8200	10500	13100	13100	9500	**1,4**	658,1	612	42800	120000.0
3,9	15100		0,19	0,65	1,3	3,9	4,7	9400	12100	15100	15100	11000	**1,2**	759	612	42800	120000.0
3,5	16900		0,17	0,55	1,1	3,5	4,2	10500	13500	16900	16900	12200	**1,1**	845,1	612	42800	120000.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 23,9 Nm

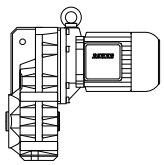
n_1 = 3000 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
470	142	BF30-../S11SA6	23,5	78	157	470	560	114	126	142	142	142	1,8	6,34	60	2400	
370	181		18,5	61	123	370	445	145	161	181	181	181	1,6	8,07	60	2650	
300	220		15	50	100	300	360	179	199	220	220	220	1,4	9,99	60	2850	
230	290		11,5	38,5	77	230	275	230	255	290	290	290	1,3	12,91	60	3050	
187	360		9,3	31	62	187	225	285	320	360	360	360	1,1	16	60	3250	
169	395		8,4	28	56	169	200	315	350	395	395	395	1,2	17,65	60	3300	
154	435		7,7	25,5	51	154	185	345	385	435	435	435	1,1	19,41	60	3400	
137	490		6,8	22,5	45,5	137	164	390	435	490	490	490	1,1	21,85	60	3500	
124	540		6,2	20,5	41,5	124	149	430	480	540	540	540	1,0	24,03	60	3600	
106	630		5,3	17,5	35	106	127	500	560	630	630	630	0,9	28,23	60	3800	
96	690		4,8	16	32	96	115	550	620	690	690	690	0,82	31,05	60	4000	
510	132	BF40-../S11SA6	25,5	85	170	510	610	105	117	132	132	132	2,5	5,87	74	3550	
390	171		19,5	65	131	390	470	137	152	171	171	171	2,1	7,62	74	3900	
315	210		15,5	52	105	315	375	170	189	210	210	210	1,9	9,48	74	4150	
250	265		12,5	42	84	250	305	210	235	265	265	265	1,8	11,79	74	4450	
199	335		9,9	33	66	199	235	270	300	335	335	335	1,5	15,02	74	4800	
172	390		8,6	28,5	57	172	205	310	345	390	390	390	1,6	17,35	74	4950	
157	425		7,8	26	52	157	188	340	380	425	425	425	1,5	19,09	74	5100	
138	485		6,9	23	46	138	166	385	430	485	485	485	1,4	21,6	74	5200	
126	530		6,3	21	42	126	151	425	475	530	530	530	1,4	23,77	74	5400	
111	600		5,5	18,5	37	111	134	480	530	600	600	600	1,3	26,86	74	5600	
101	660		5,0	16,5	33,5	101	121	530	590	660	660	660	1,2	29,55	74	5800	
87	760		4,3	14,5	29	87	105	610	680	760	760	760	1,1	34,21	74	6000	
79	840		3,9	13	26,5	79	95	670	750	840	840	840	1,1	37,64	74	6200	
72	930		3,6	12	24	72	86	740	820	930	930	930	0,97	41,42	74	6500	
65	1020		3,2	10,5	21,5	65	79	820	910	1020	1020	1020	0,88	45,56	74	6800	
61	1100		3,0	10	20	61	73	880	970	1100	1100	1100	0,82	48,92	74	7000	
280	240	BF50-../S11SA6	14	46,5	93	280	335	192	210	240	240	240	2,8	10,68	104	5600	
200	325		10	34	68	200	245	260	290	325	325	325	2,4	14,65	104	6100	
179	375		8,9	29,5	59	179	215	300	330	375	375	375	2,5	16,7	104	6200	
160	420		8	26,5	53	160	192	335	370	420	420	420	2,4	18,68	104	6400	
129	520		6,4	21,5	43	129	155	415	460	520	520	520	2,1	23,14	104	6800	
115	580		5,7	19	38,5	115	139	465	510	580	580	580	2,0	25,88	104	7100	
94	710		4,7	15,5	31,5	94	113	570	630	710	710	710	1,8	31,73	104	7500	
84	790		4,2	14	28	84	101	630	700	790	790	790	1,6	35,49	104	7800	
71	940		3,5	11,5	23,5	71	85	750	840	940	940	940	1,4	42,15	104	8500	
63	1060		3,1	10,5	21	63	76	840	940	1060	1060	1060	1,2	47,14	104	8900	
52	1270		2,6	8,7	17,5	52	63	1020	1130	1270	1270	1270	1,0	56,86	104	9300	
47	1430		2,3	7,8	15,5	47	56	1140	1270	1430	1430	1430	0,91	63,59	104	9800	
96	700	BF60-../S11SA6	4,8	16	32	96	115	560	620	700	700	700	2,7	31,2	135	8800	24900.0
86	770		4,3	14	28,5	86	103	620	690	770	770	770	2,5	34,62	135	9100	25700.0
72	930		3,6	12	24	72	86	740	830	930	930	930	2,2	41,6	135	9600	27100.0
64	1030		3,2	10,5	21,5	64	77	830	920	1030	1030	1030	2,1	46,16	135	9900	28000.0
55	1220		2,7	9,1	18	55	66	970	1080	1220	1220	1220	1,9	54,44	135	10500	29700.0
49,5	1350		2,4	8,2	16,5	49,5	59	1080	1200	1350	1350	1350	1,7	60,4	135	11100	31400.0
41,5	1620		2,0	6,9	13,5	41,5	49,5	1290	1440	1620	1620	1620	1,4	72,15	135	12000	34000.0
37	1800		1,8	6,2	12	37	44,5	1440	1600	1800	1800	1800	1,3	80,05	135	12600	35600.0
32	2100		1,6	5,3	10,5	32	38,5	1680	1860	2100	2100	2100	1,1	93,44	135	13500	38200.0
28,5	2300		1,4	4,8	9,6	28,5	34,5	1860	2050	2300	2300	2300	0,99	103,7	135	14100	39900.0
26,5	2500		1,3	4,4	8,8	26,5	31,5	2000	2250	2500	2500	2500	0,9	113,1	135	14600	41300.0
23,5	2800		1,1	3,9	7,9	23,5	28,5	2250	2500	2800	2800	2800	0,81	125,5	135	15300	43300.0
36,5	1840	BF70-../S11SA6	1,8	6,1	12	36,5	43,5	1470	1630	1840	1840	1840	2,8	81,82	214	12800	41300.0
31	2100		1,5	5,2	10	31	37,5	1710	1900	2100	2100	2100	2,4	95,46	214	14000	43700.0
28,5	2350		1,4	4,7	9,5	28,5	34	1890	2100	2350	2350	2350	2,2	105,2	214	14700	45100.0
24	2750		1,2	4,0	8,1	24	29	2200	2450	2750	2750	2750	1,9	122,7	214	16100	47700.0
22,5	2950	BF70Z-../S11SA6	1,1	3,7	7,5	22,5	27	2350	2650	2950	2950	2950	1,7	133	241	16100	47700.0
19	3450		0,95	3,2	6,4	19	23	2750	3050	3450	3450	3450	1,5	154	241	16100	47700.0
16,5	4000		0,8	2,7	5,5	16,5	20	3200	3550	4000	4000	4000	1,3	179,7	241	16100	47700.0
15	4450		0,75	2,5	5,0	15	18	3550	3950	4450	4450	4450	1,2	199,7	241	16100	47700.0
12,5	5200		0,6	2,1	4,2	12,5	15	4150	4650	5200	5200	5200	0,99	233	241	16100	47700.0
11,5	5800		0,55	1,9	3,8	11,5	13,5	4650	5100	5800	5800	5800	0,89	258,7	241	16100	47700.0

M_1 = 23,9 Nm

n_1 = 3000 $^1/_{min}$

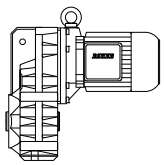


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
21	3100	BF80-../S11SA6	1,0	3,5	7,1	21	25,5	2500	2750	3100	3100	3100	**3,0**	139,7	310	26700	75000.0
18,5	3550		0,9	3,1	6,3	18,5	22,5	2850	3150	3550	3550	3550	**2,7**	158,5	310	29000	75000.0
16	4150		0,8	2,7	5,4	16	19,5	3300	3650	4150	4150	4150	**2,3**	184,5	310	31800	75000.0
14	4700		0,7	2,3	4,7	14	17	3750	4150	4700	4700	4700	**2,0**	209,4	310	34300	75000.0
12,5	5300		0,6	2,1	4,2	12,5	15	4250	4700	5300	5300	5300	**1,8**	237,1	310	36900	75000.0
11	6000		0,55	1,8	3,7	11	13	4800	5300	6000	6000	6000	**1,6**	269,1	310	39600	75000.0
10	6500	BF80Z-../S11SA6	0,5	1,7	3,4	10	12	5200	5800	6500	6500	6500	**1,6**	291,7	357	39600	75000.0
8,6	7800		0,43	1,4	2,8	8,6	10	6200	6900	7800	7800	7800	**1,3**	347,3	357	39600	75000.0
7,6	8800		0,38	1,2	2,5	7,6	9,1	7000	7800	8800	8800	8800	**1,2**	394,2	357	39600	75000.0
6,6	10100		0,33	1,1	2,2	6,6	7,9	8100	9000	10100	10100	10100	**1,0**	450,4	357	39600	75000.0
5,8	11500		0,29	0,95	1,9	5,8	7,0	9200	10200	11500	11500	11500	**0,91**	511,2	357	39600	75000.0
5,1	13100		0,25	0,85	1,7	5,1	6,1	10500	11600	13100	13100	13100	**0,8**	583,4	357	39600	75000.0
11,5	5800	BF90-../S11SA6	0,55	1,9	3,8	11,5	13,5	4650	5100	5800	5800	5800	**2,9**	259	563	42800	120000.0
3,0	21500	BF90G50-../S11SA6	0,15	0,5	1,0	3,0	3,6	17500	19500	21500	21500	21500	**0,84**	976,1	633	42800	120000.0
11	6000	BF90Z-../S11SA6	0,55	1,8	3,7	11	13	4850	5300	6000	6000	6000	**3,0**	269,8	623	42800	120000.0
9,9	6700		0,49	1,6	3,3	9,9	11,5	5400	6000	6700	6700	6700	**2,7**	300,4	623	42800	120000.0
8,7	7700		0,43	1,4	2,9	8,7	10	6100	6800	7700	7700	7700	**2,4**	343,6	623	42800	120000.0
7,8	8600		0,39	1,3	2,6	7,8	9,4	6800	7600	8600	8600	8600	**2,1**	382,6	623	42800	120000.0
6,5	10200		0,32	1,0	2,1	6,5	7,8	8200	9100	10200	10200	10200	**1,8**	456,7	623	42800	120000.0
5,8	11400		0,29	0,95	1,9	5,8	7,0	9100	10100	11400	11400	11400	**1,6**	508,5	623	42800	120000.0
5,0	13200		0,25	0,8	1,6	5,0	6,0	10600	11800	13200	13200	13200	**1,4**	591,1	623	42800	120000.0
4,5	14800		0,22	0,75	1,5	4,5	5,4	11800	13100	14800	14800	14800	**1,2**	658,1	623	42800	120000.0
3,9	17000		0,19	0,65	1,3	3,9	4,7	13600	15100	17000	17000	17000	**1,1**	759	623	42800	120000.0
3,5	19000		0,17	0,55	1,1	3,5	4,2	15200	16900	19000	19000	19000	**0,97**	845,1	623	42800	120000.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

$M_1 = 35$ Nm

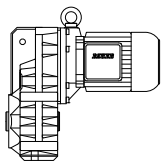
$n_1 = 3000\ ^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
470	220	BF30-../S11MA6	23,5	78	157	470	560	168	177	220	220	215	**1,2**	6,34	66	2400	
370	280		18,5	61	123	370	445	210	225	280	280	275	**1,0**	8,07	66	2650	
300	345		15	50	100	300	360	260	275	345	345	340	**0,92**	9,99	66	2850	
230	450		11,5	38,5	77	230	275	340	360	450	450	440	**0,81**	12,91	66	3050	
510	205	BF40-../S11MA6	25,5	85	170	510	610	155	164	205	205	200	**1,6**	5,87	80	3550	
390	265		19,5	65	131	390	470	200	210	265	265	260	**1,4**	7,62	80	3900	
315	330		15,5	52	105	315	375	250	265	330	330	325	**1,3**	9,48	80	4150	
250	410		12,5	42	84	250	305	310	330	410	410	400	**1,1**	11,79	80	4450	
199	520		9,9	33	66	199	235	395	420	520	520	510	**0,99**	15,02	80	4800	
172	600		8,6	28,5	57	172	205	455	485	600	600	590	**1,0**	17,35	80	4950	
157	660		7,8	26	52	157	188	500	530	660	660	650	**0,99**	19,09	80	5100	
138	750		6,9	23	46	138	166	570	600	750	750	740	**0,93**	21,6	80	5200	
126	830		6,3	21	42	126	151	620	660	830	830	810	**0,88**	23,77	80	5400	
111	940		5,5	18,5	37	111	134	710	750	940	940	920	**0,82**	26,86	80	5600	
550	188	BF50-../S11MA6	27,5	92	185	550	660	142	150	188	188	184	**2,6**	5,38	110	4500	
385	265		19	64	129	385	465	200	215	265	265	260	**2,1**	7,71	110	5100	
280	370		14	46,5	93	280	335	280	295	370	370	365	**1,8**	10,68	110	5600	
200	510		10	34	68	200	245	385	410	510	510	500	**1,5**	14,65	110	6100	
179	580		8,9	29,5	59	179	215	440	465	580	580	570	**1,6**	16,7	110	6200	
160	650		8,0	26,5	53	160	192	495	520	650	650	640	**1,5**	18,68	110	6400	
129	800		6,4	21,5	43	129	155	610	640	800	800	790	**1,4**	23,14	110	6800	
115	900		5,7	19	38,5	115	139	680	720	900	900	880	**1,3**	25,88	110	7100	
94	1110		4,7	15,5	31,5	94	113	840	880	1110	1110	1080	**1,1**	31,73	110	7500	
84	1240		4,2	14	28	84	101	940	990	1240	1240	1210	**1,0**	35,49	110	7800	
71	1470		3,5	11,5	23,5	71	85	1110	1180	1470	1470	1440	**0,88**	42,15	110	8500	
290	360	BF60-../S11MA6	14,5	48	96	290	345	270	285	360	360	350	**2,8**	10,31	141	6500	18400.0
210	495		10,5	35	70	210	250	375	395	495	495	485	**2,4**	14,24	141	7100	20000.0
176	590		8,8	29	58	176	210	445	470	590	590	580	**2,4**	16,96	141	7300	20600.0
159	650		7,9	26,5	53	159	191	495	520	650	650	640	**2,3**	18,81	141	7600	21500.0
132	790		6,6	22	44	132	159	590	630	790	790	770	**2,1**	22,58	141	8000	22600.0
119	870		5,9	19,5	39,5	119	143	660	700	870	870	850	**2,0**	25,05	141	8200	23200.0
96	1090		4,8	16	32	96	115	820	870	1090	1090	1070	**1,7**	31,2	141	8800	24900.0
86	1210		4,3	14	28,5	86	103	910	960	1210	1210	1180	**1,6**	34,62	141	9100	25700.0
72	1450		3,6	12	24	72	86	1100	1160	1450	1450	1420	**1,4**	41,6	141	9600	27100.0
64	1610		3,2	10,5	21,5	64	77	1220	1290	1610	1610	1580	**1,4**	46,16	141	9900	28000.0
55	1900		2,7	9,1	18	55	66	1440	1520	1900	1900	1860	**1,2**	54,44	141	10500	29700.0
49,5	2100		2,4	8,2	16,5	49,5	59	1600	1690	2100	2100	2050	**1,1**	60,4	141	11100	31400.0
41,5	2500		2,0	6,9	13,5	41,5	49,5	1910	2000	2500	2500	2450	**0,91**	72,15	141	12000	34000.0
37	2800		1,8	6,2	12	37	44,5	2100	2200	2800	2800	2700	**0,82**	80,05	141	12600	35600.0
53	1950	BF70-../S11MA6	2,6	8,9	17,5	53	64	1470	1560	1950	1950	1910	**2,7**	55,79	220	10200	36000.0
48	2150		2,4	8,0	16	48	58	1640	1730	2150	2150	2100	**2,4**	61,94	220	10800	37400.0
41,5	2500		2,0	6,9	13,5	41,5	49,5	1910	2000	2500	2500	2450	**2,1**	72,26	220	12000	39600.0
36,5	2850		1,8	6,1	12	36,5	43,5	2150	2250	2850	2850	2800	**1,8**	81,82	220	12800	41300.0
31	3300		1,5	5,2	10	31	37,5	2500	2650	3300	3300	3250	**1,6**	95,46	220	14000	43700.0
28,5	3650		1,4	4,7	9,5	28,5	34	2750	2900	3650	3650	3600	**1,4**	105,2	220	14700	45100.0
24	4250		1,2	4,0	8,1	24	29	3250	3400	4250	4250	4200	**1,2**	122,7	220	16100	47700.0
22,5	4650	BF70Z-../S11MA6	1,1	3,7	7,5	22,5	27	3500	3700	4650	4650	4550	**1,1**	133	247	16100	47700.0
19	5300		0,95	3,2	6,4	19	23	4050	4300	5300	5300	5200	**0,96**	154	247	16100	47700.0
16,5	6200		0,8	2,7	5,5	16,5	20	4750	5000	6200	6200	6100	**0,83**	179,7	247	16100	47700.0
31,5	3300	BF80-../S11MA6	1,5	5,2	10,5	31,5	38	2500	2600	3300	3300	3200	2,9	94,38	316	20300	68500.0
27,5	3750		1,3	4,6	9,2	27,5	33	2850	3000	3750	3750	3700	2,5	107,9	316	22400	72300.0
24,5	4250		1,2	4,0	8,1	24,5	29	3200	3400	4250	4250	4150	2,2	122,4	316	24500	75000.0
21	4850		1,0	3,5	7,1	21	25,5	3700	3900	4850	4850	4750	1,9	139,7	316	26700	75000.0
18,5	5500		0,9	3,1	6,3	18,5	22,5	4200	4400	5500	5500	5400	1,7	158,5	316	29000	75000.0
16	6400		0,8	2,7	5,4	16	19,5	4850	5100	6400	6400	6300	1,5	184,5	316	31800	75000.0
14	7300		0,7	2,3	4,7	14	17	5500	5800	7300	7300	7100	1,3	209,4	316	34300	75000.0
12,5	8200		0,6	2,1	4,2	12,5	15	6200	6600	8200	8200	8100	1,1	237,1	316	36900	75000.0
11	9400		0,55	1,8	3,7	11	13	7100	7500	9400	9400	9200	1,0	269,1	316	39600	75000.0
10	10200	BF80Z-../S11MA6	0,5	1,7	3,4	10	12	7700	8100	10200	10200	10000	1,0	291,7	363	39600	75000.0
8,6	12100		0,43	1,4	2,8	8,6	10	9200	9700	12100	12100	11900	0,86	347,2	363	39600	75000.0

M_1 = 35 Nm

n_1 = 3000 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
16,5	6200	BF90-../S11MA6	0,8	2,7	5,5	16,5	20	4700	5000	6200	6200	6100	2,7	178,6	569	33400	106700.0
15	6900		0,75	2,5	5,0	15	18	5200	5500	6900	6900	6800	2,4	198,8	569	36000	111300.0
12,5	8100		0,6	2,1	4,2	12,5	15	6100	6500	8100	8100	7900	2,1	232,6	569	39900	118300.0
11,5	9000		0,55	1,9	3,8	11,5	13,5	6800	7200	9000	9000	8800	1,9	259	569	42800	120000.0
11	9400	BF90Z-../S11MA6	0,55	1,8	3,7	11	13	7100	7500	9400	9400	9200	2,0	269,8	629	42800	120000.0
9,9	10500		0,49	1,6	3,3	9,9	11,5	7900	8400	10500	10500	10300	1,8	300,4	629	42800	120000.0
8,7	12000		0,43	1,4	2,9	8,7	10	9100	9600	12000	12000	11700	1,5	343,6	629	42800	120000.0
7,8	13300		0,39	1,3	2,6	7,8	9,4	10100	10700	13300	13300	13100	1,4	382,6	629	42800	120000.0
6,5	15900		0,32	1,0	2,1	6,5	7,8	12100	12700	15900	15900	15600	1,2	456,7	629	42800	120000.0
5,8	17700		0,29	0,95	1,9	5,8	7,0	13400	14200	17700	17700	17400	1,0	508,5	629	42800	120000.0
5,0	20500		0,25	0,8	1,6	5,0	6,0	15600	16500	20500	20500	20000	0,89	591,1	629	42800	120000.0
4,5	23000		0,22	0,75	1,5	4,5	5,4	17400	18400	23000	23000	22500	0,8	658,1	629	42800	120000.0

M_1 = 48 Nm

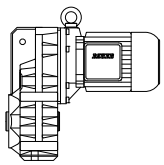
n_1 = 3000 $^1/_{min}$

n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
470	300	BF30-../S11LA6	23,5	78	157	470	560	205	250	300	300	250	0,86	6,34	78	2400	
510	280	BF40-../S11LA6	25,5	85	170	510	610	190	230	280	280	230	1,2	5,87	92	3550	
390	365		19,5	65	131	390	470	245	300	365	365	300	1,0	7,62	92	3900	
315	455		15,5	52	105	315	375	305	370	455	455	375	0,91	9,48	92	4150	
250	560		12,5	42	84	250	305	380	465	560	560	470	0,82	11,79	92	4450	
550	255	BF50-../S11LA6	27,5	92	185	550	660	174	210	255	255	215	1,9	5,38	122	4500	
385	370		19	64	129	385	465	250	300	370	370	305	1,5	7,71	122	5100	
280	510		14	46,5	93	280	335	345	420	510	510	425	1,3	10,68	122	5600	
200	700		10	34	68	200	245	475	570	700	700	580	1,1	14,65	122	6100	
179	800		8,9	29,5	59	179	215	540	650	800	800	660	1,2	16,7	122	6200	
160	890		8,0	26,5	53	160	192	600	730	890	890	740	1,1	18,68	122	6400	
129	1110		6,4	21,5	43	129	155	750	910	1110	1110	920	0,99	23,14	122	6800	
115	1240		5,7	19	38,5	115	139	840	1020	1240	1240	1030	0,93	25,88	122	7100	
94	1520		4,7	15,5	31,5	94	113	1030	1250	1520	1520	1260	0,83	31,73	122	7500	
570	250	BF60-../S11LA6	28,5	95	191	570	680	169	205	250	250	205	3,0	5,22	153	5200	14800.0
385	370		19	64	129	385	465	250	305	370	370	305	2,3	7,74	153	6000	16900.0
290	490		14,5	48	96	290	345	335	405	490	490	410	2,0	10,31	153	6500	18400.0
210	680		10,5	35	70	210	250	460	560	680	680	560	1,7	14,24	153	7100	20000.0
176	810		8,8	29	58	176	210	550	660	810	810	670	1,8	16,96	153	7300	20600.0
159	900		7,9	26,5	53	159	191	610	740	900	900	750	1,7	18,81	153	7600	21500.0
132	1080		6,6	22	44	132	159	730	890	1080	1080	900	1,5	22,58	153	8000	22600.0
119	1200		5,9	19,5	39,5	119	143	810	980	1200	1200	1000	1,4	25,05	153	8200	23200.0
96	1490		4,8	16	32	96	115	1010	1230	1490	1490	1240	1,3	31,2	153	8800	24900.0
86	1660		4,3	14	28,5	86	103	1120	1360	1660	1660	1380	1,2	34,62	153	9100	25700.0
72	1990		3,6	12	24	72	86	1350	1640	1990	1990	1660	1,1	41,6	153	9600	27100.0
64	2200		3,2	10,5	21,5	64	77	1500	1820	2200	2200	1840	0,99	46,16	153	9900	28000.0
55	2600		2,7	9,1	18	55	66	1760	2150	2600	2600	2150	0,88	54,44	153	10500	29700.0
81	1770	BF70-../S11LA6	4,0	13,5	27	81	97	1190	1450	1770	1770	1470	2,9	36,88	232	7900	31100.0
69	2050		3,4	11,5	23	69	83	1390	1690	2050	2050	1720	2,5	43,02	232	8700	32800.0
62	2250		3,1	10	20,5	62	75	1550	1880	2250	2250	1910	2,3	47,82	232	9100	34000.0
53	2650		2,6	8,9	17,5	53	64	1810	2200	2650	2650	2200	1,9	55,79	232	10200	36000.0
48	2950		2,4	8,0	16	48	58	2000	2400	2950	2950	2450	1,7	61,94	232	10800	37400.0
41,5	3450		2,0	6,9	13,5	41,5	49,5	2300	2850	3450	3450	2850	1,5	72,26	232	12000	39600.0
36,5	3900		1,8	6,1	12	36,5	43,5	2650	3200	3900	3900	3250	1,3	81,82	232	12800	41300.0
31	4550		1,5	5,2	10	31	37,5	3100	3750	4550	4550	3800	1,1	95,46	232	14000	43700.0
28,5	5000		1,4	4,7	9,5	28,5	34	3400	4150	5000	5000	4200	1,0	105,2	232	14700	45100.0
24	5800		1,2	4,0	8,1	24	29	3950	4800	5800	5800	4900	0,88	122,7	232	16100	47700.0
22,5	6300	BF70Z-../S11LA6	1,1	3,7	7,5	22,5	27	4300	5200	6300	6300	5300	0,81	133	258	16100	47700.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

$M_1 = 48$ Nm

$n_1 = 3000\ ^1/_{min}$

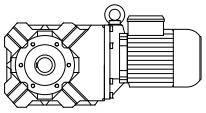


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
42,5	**3350**	**BF80-../S11LA6**	2,1	7,1	14	42,5	51	2250	2750	3350	3350	2750	**2,8**	69,86	328	15900	60600.0
36	**3950**		1,8	6,0	12	36	43	2700	3250	3950	3950	3300	**2,4**	83,16	328	18400	65100.0
31,5	**4500**		1,5	5,2	10,5	31,5	38	3050	3700	4500	4500	3750	**2,1**	94,38	328	20300	68500.0
27,5	**5100**		1,3	4,6	9,2	27,5	33	3500	4250	5100	5100	4300	**1,8**	107,9	328	22400	72300.0
24,5	**5800**		1,2	4,0	8,1	24,5	29	3950	4800	5800	5800	4850	**1,6**	122,4	328	24500	75000.0
21	**6700**		1,0	3,5	7,1	21	25,5	4500	5500	6700	6700	5500	**1,4**	139,7	328	26700	75000.0
18,5	**7600**		0,9	3,1	6,3	18,5	22,5	5100	6200	7600	7600	6300	**1,2**	158,5	328	29000	75000.0
16	**8800**		0,8	2,7	5,4	16	19,5	5900	7200	8800	8800	7300	**1,1**	184,5	328	31800	75000.0
14	**10000**		0,7	2,3	4,7	14	17	6800	8200	10000	10000	8300	**0,95**	209,4	328	34300	75000.0
12,5	**11300**		0,6	2,1	4,2	12,5	15	7700	9300	11300	11300	9400	**0,83**	237,1	328	36900	75000.0
25	**5700**	**BF90-../S11LA6**	1,2	4,1	8,3	25	30	3850	4700	5700	5700	4750	**2,9**	119,7	581	24500	90800.0
21,5	**6600**		1,0	3,5	7,1	21,5	25,5	4500	5400	6600	6600	5500	**2,5**	139,1	581	27700	96300.0
19	**7400**		0,95	3,2	6,4	19	23	5000	6100	7400	7400	6100	**2,3**	154,8	581	30100	100800.0
16,5	**8500**		0,8	2,7	5,5	16,5	20	5800	7000	8500	8500	7100	**2,0**	178,6	581	33400	106700.0
15	**9500**		0,75	2,5	5,0	15	18	6400	7800	9500	9500	7900	**1,8**	198,8	581	36000	111300.0
12,5	**11100**		0,6	2,1	4,2	12,5	15	7500	9100	11100	11100	9300	**1,5**	232,6	581	39900	118300.0
11,5	**12400**		0,55	1,9	3,8	11,5	13,5	8400	10200	12400	12400	10300	**1,4**	259	581	42800	120000.0
11	**12900**	**BF90Z-../S11LA6**	0,55	1,8	3,7	11	13	8700	10600	12900	12900	10700	**1,4**	269,8	641	42800	120000.0
9,9	**14400**		0,49	1,6	3,3	9,9	11,5	9700	11800	14400	14400	12000	**1,3**	300,4	641	42800	120000.0
8,7	**16400**		0,43	1,4	2,9	8,7	10	11100	13500	16400	16400	13700	**1,1**	343,6	641	42800	120000.0
7,8	**18300**		0,39	1,3	2,6	7,8	9,4	12400	15100	18300	18300	15300	**1,0**	382,6	641	42800	120000.0
6,5	**21500**		0,32	1,0	2,1	6,5	7,8	14800	18000	21500	21500	18200	**0,84**	456,7	641	42800	120000.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

8



Page

BK-series bevel-geared motors 131-154
Selection

Description of bevel-geared units
- Sizes
- Bauer service factors (f_B) for bevel-geared motors
- Continuous operation without switching frequency Z ≤1/h
- Switching duty
- Bauer service factor
- Explanation of shock classification
- Key to abbreviations
- Selection tables, bevel-geared motors

Selection - bevel geared motors 1500 $^1/_{min}$
Selection - bevel geared motors 3000 $^1/_{min}$

Sizes

Bauer BK-series bevel-geared motors are normally supplied in ten frame sizes and with torques of 80 to 18,500 Nm. Higher torques are available on request. The gear unit is accommodated in a sturdy cast housing

Bauer service factors (f_B) for bevel-geared motors

Of the numerous factors influencing the total loading of a gear unit, the most important include:

- Mean torque (rated torque)
- Daily operating hours
- Severity of torque peaks (shock classification)
- Frequency of torque peaks (switching duty)

These factors can be represented in a simplified and practical manner by **service factors**. The tables and explanations below attempt to provide an objective description of the **shock classification**, rather than a classification of the driven machinery. Experience has shown that, in addition to the torque shocks caused by the driven machinery (M_x/M_N), above all the power transmission components (clutches, chains etc.) plus the mass ratios play a decisive role in this.

See Bauer special imprint SD32 for more information.

Continuous operation without switching frequency Z ≤1/h

Factor f_1 for shock classification and operating time

Shock classification	Operating hours per day t_d	>4 h	>8 h	>16 h
		≤8 h	≤16 h	≤24 h
I		0,8	1,0	1,2
II		1,05	1,25	1,45
III		1,45	1,55	1,7

Switching duty

Factor f_2 for shock classification and switching frequency

Switching frequency in single- shift operation t_d ≤8 h/d

Shock classification	1 <Z ≤100	100 <Z ≤1000	1000 <Z
I	0,95	1,1	1,15
II	1,2	1,35	1,4
III	1,55	1,6	1,6

Switching frequency in multiple- shift operation t_d >8 h/d

Shock classification	1 <Z ≤100	100 <Z ≤1000	1000 <Z
I	1,3	1,45	1,5
II	1,5	1,6	1,65
III	1,75	1,8	1,8

Bauer Service factor

Bauer service factor $f_B = f_1$ or $f_B = f_2$
For example: Shock classification II for Z = 100 switching operations per hour and multiple-shift operation yields a service factor $f_B = f_2 = 1,5$

Explanation of shock classification

Shock classification I:
Uniform without shock loads. All the following requirements must be satisfied:
- FI ≤1,3

- $M_x/M_N \leq 1,0$
- Shock-absorbing power transmission components (e.g. highly resilient, zero-play coupling, φ N ≥5°)

Shock classification II:
Moderate shock loads. At least one of the following conditions applies:
- 1,3 <FI ≤4
- 1 <M_x/M_N ≤1,6
- Shock-neutral power transmission components (e.g. gear wheels, zero- playrigid coupling or resilient coupling with φ N <5°)

Shock classification III:
Heavy shock loads. At least one of the following conditions applies:
- FI >4
- 1,6 <M_x/M_N ≤2,0
- Shock-amplifying power transmission components (e.g. coupling with play or chain drive)

Key to abbreviations

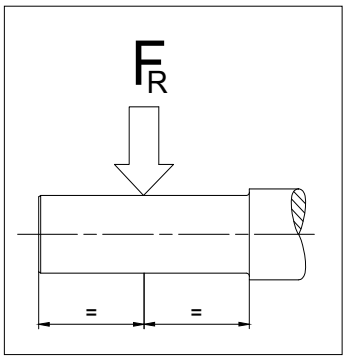
Z	Switching duty number of switching operations per hour
t_d	Daily operating time in hours (h/d)
FI	Factor of inertia FI = $(J_{ext} + J_{rot})/J_{rot}$
J_{ext}	Mass moment of inertia of the machine to be driven, in relation to the motor's rotor shaft (kgm²)
J_{rot}	Mass moment of inertia of the motor rotor (kgm²)
M_x	Highest impact torque above the static torque which can occur during normal operation or in emergency situations
M_N	Required static load torque for the application
M_x/M_N	Relative torque - Factor
φ_N	Torsional offset of the resilient coupling under rated torque

8

Selection tables, bevel-geared motors

Key to abbreviations

P	Rated output
n_2	Rated speed of the output shaft
i	Gear reduction ratio
M_2	Rated torque at the output shaft
f_B	Bauer service factor
F_{RN}	Maximum permissible radial force with normal bearings
F_{RV}	Maximum permissible radial force with reinforced bearings in each case with standard solid shaft (Code -.1 and -.2)



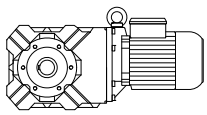
Use the selection tables to determine the size of geared motor required. The codes clearly define the Type of gear unit and output shaft (see chapter 12 "dimensional drawing bevel-geared motors").

The torques marked (*) are maximum permissible torques for service factor f_B = 1,0.

Motor power overload protection
Motor-power ratings, particularly in conjunction with four-stage and multi-stage gear units, are more than ample in some instances. Consequently, and in much the same way as with low-power motors, rated current is not a measure of gear loading and cannot be used to protect the gear unit against overloading. It is advisable to provide gears at risk from excessive load or blockage with a protective mechanism (e. g., slip clutch, slip hub, shear pin or an alternative)

M_1 = 4,75 Nm

n_1 = 1500 $^1/_{min}$

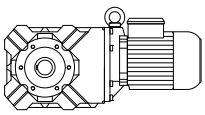


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
205	**43**	**BK06-../S08MA4**	20,5	68	137	205	245	33	37	43	43	43	**1,7**	7,25	15	790	
154	**58**		15	51	102	154	185	44,5	50	58	58	58	**1,4**	9,71	15	880	
128	**69**		12,5	42,5	85	128	154	53	60	69	69	69	**1,1**	11,67	15	930	
98	**90**		9,8	32,5	65	98	117	69	77	90	90	90	**0,88**	15,29	15	1020	
245	**35,5**	**BK10-../S08MA4**	24,5	83	166	245	295	27,5	31	35,5	35,5	35,5	**2,9**	6,02	27	2100	
195	**45,5**		19,5	65	130	195	230	35	39,5	45,5	45,5	45,5	**2,5**	7,68	27	2400	
159	**56**		15,5	53	106	159	191	43	48	56	56	56	**2,0**	9,4	27	2700	
140	**62**		14	46,5	93	140	168	48	53	62	62	62	**2,9**	10,7	27	3500	
125	**71**		12,5	41,5	83	125	150	54	61	71	71	71	**1,6**	11,93	27	3100	
103	**84**		10	34	68	103	124	65	73	84	84	84	**2,4**	14,5	27	3900	
88	**98**		8,8	29,5	59	88	106	76	85	98	98	98	**1,4**	16,92	27	3700	
80	**108**		8,0	26,5	53	80	97	83	93	108	108	108	**1,8**	18,52	27	4300	
66	**132**		6,6	22	44	66	79	101	114	132	132	132	**1,5**	22,65	27	4650	
52	**168**		5,2	17	34,5	52	62	129	144	168	168	168	**1,2**	28,76	27	5200	
43,5	**200**		4,3	14,5	29	43,5	52	154	172	200	200	200	**1,0**	34,25	27	5600	
36,5	**235**		3,6	12	24,5	36,5	44	183	205	235	235	235	**0,84**	40,79	27	6000	
86	**103**	**BK20-../S08MA4**	8,6	28,5	57	86	103	79	88	103	103	103	**2,2**	17,42	36	3250	9000.0
77	**113**		7,7	25,5	51	77	92	87	97	113	113	113	**2,9**	19,39	36	4050	9000.0
61	**142**		6,1	20,5	41	61	74	109	122	142	142	142	**2,3**	24,29	36	4500	9000.0
52	**167**		5,2	17	34,5	52	62	128	144	167	167	167	**2,0**	28,66	36	4850	9000.0
40,5	**210**		4,0	13,5	27	40,5	49	165	184	210	210	210	**1,5**	36,69	36	5400	9000.0
35	**245**		3,5	11,5	23	35	42	192	215	245	245	245	**1,3**	42,7	36	5800	9000.0
29	**295**		2,9	9,7	19,5	29	35	225	255	295	295	295	**1,1**	51,22	36	6300	9000.0
24	**350**		2,4	8,1	16	24	29	270	305	350	350	350	**0,93**	61,3	36	6500	9000.0
71	**123**	**BK30-../S08MA4**	7,1	23,5	47,5	71	86	94	106	123	123	123	**2,6**	20,85	42	5000	12000.0
52	**168**		5,2	17	34,5	52	62	129	144	168	168	168	**2,7**	28,76	42	6500	12000.0
44,5	**197**		4,4	14,5	29,5	44,5	53	151	169	197	197	197	**2,3**	33,7	42	7000	12000.0
34,5	**245**		3,4	11,5	23	34,5	41,5	190	210	245	245	245	**1,8**	42,89	42	7800	12000.0
29,5	**285**		2,9	9,9	19,5	29,5	35,5	220	245	285	285	285	**1,6**	50,27	42	8300	12000.0
25	**335**		2,5	8,4	16,5	25	30	260	290	335	335	335	**1,3**	59,27	42	8900	12000.0
20,5	**400**		2,0	6,9	13,5	20,5	25	310	345	400	400	400	**1,1**	71,56	42	9700	12000.0
16,5	**490**		1,6	5,6	11	16,5	20	380	425	490	490	490	**0,91**	88,38	42	10600	12000.0
14,5	**560**		1,4	4,8	9,7	14,5	17,5	435	485	560	560	560	**0,8**	102,4	42	11200	12000.0
29	**290**	**BK40-../S08MA4**	2,9	9,7	19,5	29	35	225	250	290	290	290	**2,7**	51,18	63	8400	17000.0
25	**340**		2,5	8,3	16,5	25	30	260	290	340	340	340	**2,3**	59,66	63	9100	17000.0
21	**395**		2,1	7,1	14	21	25,5	300	340	395	395	395	**2,0**	70,11	63	9800	17000.0
17,5	**475**		1,7	5,9	11,5	17,5	21	365	410	475	475	475	**1,6**	84,36	63	10700	17000.0
14	**570**		1,4	4,8	9,6	14	17	440	495	570	570	570	**1,4**	104	63	11700	17000.0
12,5	**650**	**BK40Z-../S08MA4**	1,2	4,2	8,4	12,5	15	500	560	650	650	650	**1,2**	118,2	67	11700	17000.0
10	**780**		1,0	3,4	6,9	10	12,5	600	670	780	780	780	**1,0**	143	67	11700	17000.0
8,8	**910**		0,85	2,9	5,9	8,8	10,5	700	780	910	910	910	**0,86**	169	67	11700	17000.0
24,5	**345**	**BK50-../S08MA4**	2,4	8,2	16	24,5	29,5	265	295	345	345	345	**3,0**	60,76	91	11400	26000.0
19,5	**425**		1,9	6,6	13	19,5	23,5	325	365	425	425	425	**2,5**	75,4	91	12600	26000.0
15,5	**530**		1,5	5,2	10	15,5	18,5	405	455	530	530	530	**2,0**	95,29	91	14100	26000.0
12,5	**630**	**BK50Z-../S08MA4**	1,2	4,3	8,6	12,5	15,5	490	540	630	630	630	**1,6**	115,4	96	14100	26000.0
9,7	**820**		0,95	3,2	6,5	9,7	11,5	630	710	820	820	820	**1,3**	153,3	96	14100	26000.0
7,2	**1100**		0,7	2,4	4,8	7,2	8,7	840	940	1100	1100	1100	**0,95**	206,8	96	14100	26000.0
9,7	**990**	**BK60Z-../S08MA4**	0,95	3,2	6,5	9,7	11,5	760	860	990	990	990	**2,3**	153,7	119	16600	34000.0
8,1	**1190**		0,8	2,7	5,4	8,1	9,8	910	1020	1190	1190	1190	**1,9**	183,2	119	16600	34000.0
7,3	**1330**		0,7	2,4	4,8	7,3	8,7	1020	1140	1330	1330	1330	**1,7**	205	119	16600	34000.0
6,2	**1550**		0,6	2,0	4,1	6,2	7,5	1190	1340	1550	1550	1550	**1,5**	239,7	119	16600	34000.0
5,5	**1740**		0,55	1,8	3,7	5,5	6,7	1340	1500	1740	1740	1740	**1,3**	268,2	119	16600	34000.0
4,7	**2050**		0,47	1,5	3,1	4,7	5,6	1580	1770	2050	2050	2050	**1,1**	317,7	119	16600	34000.0
4,2	**2300**		0,42	1,4	2,8	4,2	5,0	1770	1990	2300	2300	2300	**1,0**	355,5	119	16600	34000.0
3,6	**2650**		0,36	1,2	2,4	3,6	4,3	2050	2300	2650	2650	2650	**0,86**	411,5	119	16600	34000.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

$M_1 = 4{,}75$ Nm

$n_1 = 1500\ ^1/_{min}$

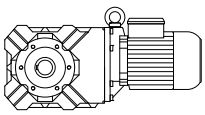


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
1,7	**5500**	**BK70G20-../S08MA4**	0,17	0,55	1,1	1,7	2,1	4200	4700	5500	5500	5500	**1,0**	847,7	205	24100	50000.0
1,5	**6200**		0,15	0,5	1,0	1,5	1,8	4800	5400	6200	6200	6200	**0,91**	964,6	205	24100	50000.0
5,1	**1900**	**BK70Z-../S08MA4**	0,5	1,7	3,4	5,1	6,1	1460	1640	1900	1900	1900	**2,7**	293,3	207	24100	50000.0
4,4	**2150**		0,44	1,4	2,9	4,4	5,3	1660	1860	2150	2150	2150	**2,4**	333,6	207	24100	50000.0
3,9	**2450**		0,39	1,3	2,6	3,9	4,7	1890	2100	2450	2450	2450	**2,1**	379,9	207	24100	50000.0
3,4	**2800**		0,34	1,1	2,3	3,4	4,1	2150	2400	2800	2800	2800	**1,9**	432,1	207	24100	50000.0
2,9	**3250**		0,29	0,95	1,9	2,9	3,5	2500	2800	3250	3250	3250	**1,6**	501,8	207	24100	50000.0
2,6	**3700**		0,26	0,85	1,7	2,6	3,1	2850	3150	3700	3700	3700	**1,4**	570,8	207	24100	50000.0
2,3	**4150**		0,23	0,75	1,5	2,3	2,7	3200	3600	4150	4150	4150	**1,2**	644,9	207	24100	50000.0
2,0	**4750**		0,2	0,65	1,3	2	2,4	3650	4100	4750	4750	4750	**1,1**	733,6	207	24100	50000.0
2,4	**3950**	**BK80G40-../S08MA4**	0,24	0,8	1,6	2,4	2,9	3000	3400	3950	3950	3950	**2,9**	607,8	347	30000	75000.0
2,2	**4400**		0,22	0,7	1,4	2,2	2,6	3400	3800	4400	4400	4400	**2,6**	680,9	347	30000	75000.0
1,9	**4900**		0,19	0,65	1,3	1,9	2,3	3750	4200	4900	4900	4900	**2,3**	756,3	347	30000	75000.0
1,7	**5500**		0,17	0,55	1,1	1,7	2,1	4200	4700	5500	5500	5500	**2,1**	847,2	347	30000	75000.0
1,5	**6200**		0,15	0,5	1,0	1,5	1,8	4800	5300	6200	6200	6200	**1,8**	963	347	30000	75000.0
1,3	**7000**		0,13	0,46	0,9	1,3	1,6	5300	6000	7000	7000	7000	**1,6**	1079	347	30000	75000.0
1,1	**8400**		0,11	0,38	0,75	1,1	1,3	6500	7300	8400	8400	8400	**1,4**	1307	347	30000	75000.0
1,0	**9200**		0,1	0,35	0,7	1,0	1,2	7100	7900	9200	9200	9200	**1,2**	1425	347	30000	75000.0
0,9	**10200**		0,09	0,31	0,6	0,9	1,1	7900	8800	10200	10200	10200	**1,1**	1583	347	30000	75000.0
0,8	**11500**		0,08	0,28	0,55	0,8	1,0	8800	9900	11500	11500	11500	**1,0**	1775	347	30000	75000.0
0,65	**14300**		0,065	0,22	0,45	0,65	0,8	11000	12300	14300	14300	14300	**0,8**	2205	347	30000	75000.0
1,4	**6500**	**BK90G50-../S08MA4**	0,14	0,49	0,95	1,4	1,7	5000	5600	6500	6500	6500	**2,8**	1008	620	49400	120000.0
1,3	**7300**		0,13	0,44	0,85	1,3	1,5	5600	6300	7300	7300	7300	**2,5**	1127	620	49400	120000.0
1,1	**8800**		0,11	0,36	0,7	1,1	1,3	6800	7600	8800	8800	8800	**2,1**	1363	620	49400	120000.0
0,9	**10200**		0,09	0,31	0,6	0,9	1,1	7800	8800	10200	10200	10200	**1,8**	1579	620	49400	120000.0
0,8	**11700**		0,08	0,27	0,55	0,8	0,95	9000	10000	11700	11700	11700	**1,6**	1803	620	49400	120000.0
0,7	**13100**		0,07	0,24	0,49	0,7	0,85	10000	11200	13100	13100	13100	**1,4**	2016	620	49400	120000.0
0,5	**17900**		0,05	0,18	0,36	0,5	0,65	13800	15400	17900	17900	17900	**1,0**	2764	620	49400	120000.0
0,48	**19900**		0,048	0,16	0,32	0,48	0,55	15300	17100	19900	19900	19900	**0,93**	3065	620	49400	120000.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 9,55 Nm

n_1 = 1500 $^1/_{min}$

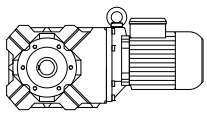


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
205	**63**	**BK06-../S08LA4**	20,5	68	137	205	245	43	53	63	63	63	**1,1**	7,25	16	790	
154	**85**		15	51	102	154	185	58	71	85	85	85	**0,94**	9,71	16	880	
335	**39**	**BK10-../S08LA4**	33,5	112	225	335	405	26,5	32,5	39	39	39	**2,4**	4,44	28	1890	
245	**52**		24,5	83	166	245	295	35,5	44	52	52	52	**2,0**	6,02	28	2100	
195	**67**		19,5	65	130	195	230	45,5	56	67	67	67	**1,7**	7,68	28	2400	
159	**82**		15,5	53	106	159	191	56	69	82	82	82	**1,4**	9,4	28	2700	
140	**91**		14	46,5	93	140	168	62	77	91	91	91	**2,0**	10,7	28	3500	
125	**104**		12,5	41,5	83	125	150	71	87	104	104	104	**1,1**	11,93	28	3100	
103	**124**		10	34	68	103	124	84	104	124	124	124	**1,6**	14,5	28	3900	
88	**145**		8,8	29,5	59	88	106	98	121	145	145	145	**0,94**	16,92	28	3700	
80	**159**		8,0	26,5	53	80	97	108	133	159	159	159	**1,3**	18,52	28	4300	
66	**194**		6,6	22	44	66	79	132	163	194	194	194	**1,0**	22,65	28	4650	
52	**245**		5,2	17	34,5	52	62	168	205	245	245	245	**0,81**	28,76	28	5200	
151	**87**	**BK20-../S08LA4**	15	50	100	151	181	59	72	87	87	87	**2,6**	9,91	38	1910	8300.0
128	**102**		12,5	42,5	85	128	153	69	86	102	102	102	**2,2**	11,69	38	2400	8800.0
101	**126**		10	33,5	67	101	122	86	106	126	126	126	**2,6**	14,75	38	3650	9000.0
86	**151**		8,6	28,5	57	86	103	103	126	151	151	151	**1,5**	17,42	38	3250	9000.0
77	**166**		7,7	25,5	51	77	92	113	139	166	166	166	**2,0**	19,39	38	4050	9000.0
61	**205**		6,1	20,5	41	61	74	142	174	205	205	205	**1,6**	24,29	38	4500	9000.0
52	**245**		5,2	17	34,5	52	62	167	205	245	245	245	**1,3**	28,66	38	4850	9000.0
40,5	**315**		4,0	13,5	27	40,5	49	210	260	315	315	315	**1,0**	36,69	38	5400	9000.0
35	**365**		3,5	11,5	23	35	42	245	305	365	365	365	**0,9**	42,7	38	5800	9000.0
107	**121**	**BK30-../S08LA4**	10,5	35,5	71	107	128	82	101	121	121	121	**2,6**	13,98	44	4050	12000.0
83	**154**		8,3	27,5	55	83	100	105	129	154	154	154	**2,9**	17,95	44	5300	12000.0
71	**181**		7,1	23,5	47,5	71	86	123	151	181	181	181	**1,8**	20,85	44	5000	12000.0
64	**199**		6,4	21,5	43	64	77	135	167	199	199	199	**2,3**	23,2	44	5900	12000.0
52	**245**		5,2	17	34,5	52	62	168	205	245	245	245	**1,8**	28,76	44	6500	12000.0
44,5	**285**		4,4	14,5	29,5	44,5	53	197	240	285	285	285	**1,6**	33,7	44	7000	12000.0
34,5	**360**		3,4	11,5	23	34,5	41,5	245	305	360	360	360	**1,2**	42,89	44	7800	12000.0
29,5	**420**		2,9	9,9	19,5	29,5	35,5	285	350	420	420	420	**1,1**	50,27	44	8300	12000.0
25	**495**		2,5	8,4	16,5	25	30	335	415	495	495	495	**0,9**	59,27	44	8900	12000.0
43	**295**	**BK40-../S08LA4**	4,3	14	28,5	43	52	200	245	295	295	295	**2,6**	34,61	64	6900	17000.0
36,5	**350**		3,6	12	24	36,5	44	235	290	350	350	350	**2,2**	40,88	64	7600	17000.0
29	**430**		2,9	9,7	19,5	29	35	290	360	430	430	430	**1,8**	51,18	64	8400	17000.0
25	**500**		2,5	8,3	16,5	25	30	340	420	500	500	500	**1,6**	59,66	64	9100	17000.0
21	**580**		2,1	7,1	14	21	25,5	395	485	580	580	580	**1,3**	70,11	64	9800	17000.0
17,5	**700**		1,7	5,9	11,5	17,5	21	475	580	700	700	700	**1,1**	84,36	64	10700	17000.0
14	**840**		1,4	4,8	9,6	14	17	570	700	840	840	840	**0,92**	104	64	11700	17000.0
12,5	**950**	**BK40Z-../S08LA4**	1,2	4,2	8,4	12,5	15	650	800	950	950	950	**0,81**	118,2	69	11700	17000.0
31,5	**400**	**BK50-../S08LA4**	3,1	10,5	21	31,5	37,5	270	335	400	400	400	**2,6**	47,5	93	10100	25700.0
24,5	**510**		2,4	8,2	16	24,5	29,5	345	425	510	510	510	**2,1**	60,76	93	11400	26000.0
19,5	**620**		1,9	6,6	13	19,5	23,5	425	520	620	620	620	**1,7**	75,4	93	12600	26000.0
15,5	**780**		1,5	5,2	10	15,5	18,5	530	650	780	780	780	**1,3**	95,29	93	14100	26000.0
12,5	**930**	**BK50Z-../S08LA4**	1,2	4,3	8,6	12,5	15,5	630	780	930	930	930	**1,1**	115,4	98	14100	26000.0
9,7	**1210**		0,95	3,2	6,5	9,7	11,5	820	1010	1210	1210	1210	**0,86**	153,3	98	14100	26000.0
9,7	**1460**	**BK60Z-../S08LA4**	0,95	3,2	6,5	9,7	11,5	990	1220	1460	1460	1460	**1,6**	153,7	120	16600	34000.0
8,1	**1740**		0,8	2,7	5,4	8,1	9,8	1190	1460	1740	1740	1740	**1,3**	183,2	120	16600	34000.0
7,3	**1950**		0,7	2,4	4,8	7,3	8,7	1330	1640	1950	1950	1950	**1,2**	205	120	16600	34000.0
6,2	**2250**		0,6	2,0	4,1	6,2	7,5	1550	1910	2250	2250	2250	**1,0**	239,7	120	16600	34000.0
5,5	**2550**		0,55	1,8	3,7	5,5	6,7	1740	2100	2550	2550	2550	**0,9**	268,2	120	16600	34000.0
7,8	**1810**	**BK70Z-../S08LA4**	0,75	2,6	5,2	7,8	9,4	1230	1520	1810	1810	1810	**2,9**	190,4	208	24100	50000.0
6,6	**2150**		0,65	2,2	4,4	6,6	7,9	1470	1800	2150	2150	2150	**2,4**	226,2	208	24100	50000.0
5,8	**2450**		0,55	1,9	3,8	5,8	6,9	1670	2050	2450	2450	2450	**2,1**	257,3	208	24100	50000.0
5,1	**2800**		0,5	1,7	3,4	5,1	6,1	1900	2300	2800	2800	2800	**1,9**	293,3	208	24100	50000.0
4,4	**3150**		0,44	1,4	2,9	4,4	5,3	2150	2650	3150	3150	3150	**1,6**	333,6	208	24100	50000.0
3,9	**3600**		0,39	1,3	2,6	3,9	4,7	2450	3000	3600	3600	3600	**1,4**	379,9	208	24100	50000.0
3,4	**4100**		0,34	1,1	2,3	3,4	4,1	2800	3450	4100	4100	4100	**1,3**	432,1	208	24100	50000.0
2,9	**4750**		0,29	0,95	1,9	2,9	3,5	3250	4000	4750	4750	4750	**1,1**	501,8	208	24100	50000.0
2,6	**5400**		0,26	0,85	1,7	2,6	3,1	3700	4550	5400	5400	5400	**0,95**	570,8	208	24100	50000.0
2,3	**6100**		0,23	0,75	1,5	2,3	2,7	4150	5100	6100	6100	6100	**0,84**	644,9	208	24100	50000.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 9,55 Nm

n_1 = 1500 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
2,4	5800	BK80G40-../S08LA4	0,24	0,8	1,6	2,4	2,9	3950	4850	5800	5800	5800	2,0	607,8	348	30000	75000.0
2,2	6500		0,22	0,7	1,4	2,2	2,6	4400	5400	6500	6500	6500	1,8	680,9	348	30000	75000.0
1,9	7200		0,19	0,65	1,3	1,9	2,3	4900	6000	7200	7200	7200	1,6	756,3	348	30000	75000.0
1,7	8000		0,17	0,55	1,1	1,7	2,1	5500	6700	8000	8000	8000	1,4	847,2	348	30000	75000.0
1,5	9100		0,15	0,5	1,0	1,5	1,8	6200	7700	9100	9100	9100	1,3	963	348	30000	75000.0
1,3	10300		0,13	0,46	0,9	1,3	1,6	7000	8600	10300	10300	10300	1,1	1079	348	30000	75000.0
1,1	12400		0,11	0,38	0,75	1,1	1,3	8400	10400	12400	12400	12400	0,92	1307	348	30000	75000.0
1,0	13600		0,1	0,35	0,7	1,0	1,2	9200	11400	13600	13600	13600	0,85	1425	348	30000	75000.0
1,8	7800	BK90G50-../S08LA4	0,18	0,6	1,2	1,8	2,1	5300	6500	7800	7800	7800	2,4	821	621	49400	120000.0
1,7	8400		0,17	0,55	1,1	1,7	2,0	5700	7000	8400	8400	8400	2,2	882,3	621	49400	120000.0
1,4	9600		0,14	0,49	0,95	1,4	1,7	6500	8000	9600	9600	9600	1,9	1008	621	49400	120000.0
1,3	10700		0,13	0,44	0,85	1,3	1,5	7300	9000	10700	10700	10700	1,7	1127	621	49400	120000.0
1,1	13000		0,11	0,36	0,7	1,1	1,3	8800	10900	13000	13000	13000	1,4	1363	621	49400	120000.0
0,9	15000		0,09	0,31	0,6	0,9	1,1	10200	12600	15000	15000	15000	1,2	1579	621	49400	120000.0
0,8	17200		0,08	0,27	0,55	0,8	0,95	11700	14400	17200	17200	17200	1,1	1803	621	49400	120000.0
0,7	19200		0,07	0,24	0,49	0,7	0,85	13100	16100	19200	19200	19200	0,96	2016	621	49400	120000.0

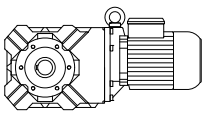
M_1 = 14 Nm

n_1 = 1500 $^1/_{min}$

n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
335	53	BK10-../S09SA4	33,5	112	225	335	405	32,5	40,5	53	53	46,5	1,8	4,44	32	1890	
245	71		24,5	83	166	245	295	44	55	71	71	63	1,5	6,02	32	2100	
195	91		19,5	65	130	195	230	56	70	91	91	81	1,3	7,68	32	2400	
159	112		15,5	53	106	159	191	69	86	112	112	99	1,0	9,4	32	2700	
140	125		14	46,5	93	140	168	77	96	125	125	110	1,4	10,7	32	3500	
125	142		12,5	41,5	83	125	150	87	109	142	142	126	0,81	11,93	32	3100	
103	169		10	34	68	103	124	104	130	169	169	150	1,2	14,5	32	3900	
80	215		8,0	26,5	53	80	97	133	166	215	215	191	0,92	18,52	32	4300	
245	71	BK20-../S09SA4	24,5	83	166	245	295	44	55	71	71	63	3,0	6,02	42	580	6800.0
189	94		18,5	63	126	189	225	58	72	94	94	83	2,4	7,91	42	1330	7600.0
151	118		15	50	100	151	181	72	91	118	118	104	1,9	9,91	42	1910	8300.0
134	130		13	44,5	89	134	161	80	100	130	130	115	2,3	11,14	42	3300	8100.0
128	139		12,5	42,5	85	128	153	86	107	139	139	123	1,6	11,69	42	2400	8800.0
101	172		10	33,5	67	101	122	106	132	172	172	152	1,9	14,75	42	3650	9000.0
86	205		8,6	28,5	57	86	103	126	158	205	205	182	1,1	17,42	42	3250	9000.0
77	225		7,7	25,5	51	77	92	139	174	225	225	200	1,5	19,39	42	4050	9000.0
61	280		6,1	20,5	41	61	74	174	215	280	280	250	1,2	24,29	42	4500	9000.0
52	335		5,2	17	34,5	52	62	205	255	335	335	295	0,98	28,66	42	4850	9000.0
245	71	BK30-../S09SA4	24,5	83	166	245	295	44	55	71	71	63	2,9	6,02	48	1690	9600.0
200	89		20	67	134	200	240	54	68	89	89	78	3,0	7,45	48	2200	10400.0
155	115		15,5	51	103	155	186	70	88	115	115	101	2,8	9,63	48	3150	11500.0
125	142		12,5	41,5	83	125	150	87	109	142	142	126	2,2	11,93	48	3650	12000.0
107	165		10,5	35,5	71	107	128	101	127	165	165	146	1,9	13,98	48	4050	12000.0
103	169		10	34	68	103	124	104	130	169	169	150	2,7	14,5	48	4900	12000.0
83	210		8,3	27,5	55	83	100	129	161	210	210	185	2,1	17,95	48	5300	12000.0
71	245		7,1	23,5	47,5	71	86	151	189	245	245	215	1,3	20,85	48	5000	12000.0
64	270		6,4	21,5	43	64	77	167	205	270	270	240	1,7	23,2	48	5900	12000.0
52	335		5,2	17	34,5	52	62	205	255	335	335	295	1,3	28,76	48	6500	12000.0
44,5	390		4,4	14,5	29,5	44,5	53	240	300	390	390	345	1,1	33,7	48	7000	12000.0
34,5	495		3,4	11,5	23	34,5	41,5	305	380	495	495	435	0,91	42,89	48	7800	12000.0
66	260	BK40-../S09SA4	6,6	22	44,5	66	80	161	200	260	260	230	3,0	22,44	68	5500	16500.0
52	330		5,2	17	34,5	52	62	205	255	330	330	295	2,3	28,59	68	6300	17000.0
43	400		4,3	14	28,5	43	52	245	310	400	400	355	1,9	34,61	68	6900	17000.0
36,5	475		3,6	12	24	36,5	44	290	365	475	475	420	1,6	40,88	68	7600	17000.0
29	580		2,9	9,7	19,5	29	35	360	450	580	580	510	1,3	51,18	68	8400	17000.0
25	680		2,5	8,3	16,5	25	30	420	520	680	680	600	1,1	59,66	68	9100	17000.0
21	790		2,1	7,1	14	21	25,5	485	600	790	790	700	0,98	70,11	68	9800	17000.0
17,5	950		1,7	5,9	11,5	17,5	21	580	730	950	950	840	0,82	84,36	68	10700	17000.0

M_1 = 14 Nm

n_1 = 1500 $^1/_{min}$

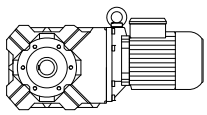


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
42,5	410	BK50-../S09SA4	4,2	14	28	42,5	51	250	315	410	410	360	2,5	35,21	96	8700	23100.0
31,5	540		3,1	10,5	21	31,5	37,5	335	420	540	540	485	1,9	47,5	96	10100	25700.0
24,5	690		2,4	8,2	16	24,5	29,5	425	530	690	690	610	1,5	60,76	96	11400	26000.0
19,5	850		1,9	6,6	13	19,5	23,5	520	650	850	850	750	1,2	75,4	96	12600	26000.0
15,5	1060		1,5	5,2	10	15,5	18,5	650	810	1060	1060	940	0,99	95,29	96	14100	26000.0
12,5	1270	BK50Z-../S09SA4	1,2	4,3	8,6	12,5	15,5	780	980	1270	1270	1120	0,82	115,4	101	14100	26000.0
25	760	BK60-../S09SA4	2,5	8,4	16,5	25	30,5	470	580	760	760	670	3,0	58,95	105	9900	31500.0
22,5	850		2,2	7,5	15	22,5	27	520	650	850	850	750	2,7	65,95	105	10900	33000.0
19	1010		1,9	6,3	12,5	19	23	620	780	1010	1010	890	2,3	78,13	105	11900	34000.0
17	1130		1,7	5,7	11	17	20,5	690	870	1130	1130	1000	2,0	87,41	105	12900	34000.0
14,5	1310		1,4	4,9	9,8	14,5	17,5	800	1010	1310	1310	1160	1,7	101,2	105	13900	34000.0
13	1470		1,3	4,4	8,8	13	15,5	900	1130	1470	1470	1300	1,6	113,2	105	15000	34000.0
12	1590		1,2	4,0	8,1	12	14,5	980	1220	1590	1590	1400	1,4	122,5	105	15500	34000.0
10,5	1780		1,0	3,6	7,2	10,5	13	1090	1370	1780	1780	1570	1,3	137	105	16600	34000.0
9,7	1990	BK60Z-../S09SA4	0,95	3,2	6,5	9,7	11,5	1220	1530	1990	1990	1760	1,2	153,7	124	16600	34000
8,1	2350		0,8	2,7	5,4	8,1	9,8	1460	1830	2350	2350	2100	0,97	183,2	124	16600	34000
7,3	2650		0,7	2,4	4,8	7,3	8,7	1640	2050	2650	2650	2350	0,86	205	124	16600	34000
10,5	1770	BK70-../S09SA4	1,0	3,6	7,3	10,5	13	1090	1360	1770	1770	1570	2,9	136,7	191	20700	50000
9,7	2000		0,95	3,2	6,4	9,7	11,5	1230	1540	2000	2000	1770	2,6	154,4	191	21900	50000
8,5	2250		0,85	2,8	5,6	8,5	10	1400	1750	2250	2250	2000	2,3	175,7	191	24100	50000
7,8	2450	BK70Z-../S09SA4	0,75	2,6	5,2	7,8	9,4	1520	1900	2450	2450	2150	2,1	190,4	212	24100	50000
6,6	2900		0,65	2,2	4,4	6,6	7,9	1800	2250	2900	2900	2600	1,8	226,2	212	24100	50000
5,8	3300		0,55	1,9	3,8	5,8	6,9	2050	2550	3300	3300	2950	1,6	257,3	212	24100	50000
5,1	3800		0,5	1,7	3,4	5,1	6,1	2300	2900	3800	3800	3350	1,4	293,3	212	24100	50000
4,4	4300		0,44	1,4	2,9	4,4	5,3	2650	3300	4300	4300	3800	1,2	333,6	212	24100	50000
3,9	4900		0,39	1,3	2,6	3,9	4,7	3000	3750	4900	4900	4350	1,1	379,9	212	24100	50000
3,4	5600		0,34	1,1	2,3	3,4	4,1	3450	4300	5600	5600	4950	0,93	432,1	212	24100	50000
2,9	6500		0,29	0,95	1,9	2,9	3,5	4000	5000	6500	6500	5700	0,8	501,8	212	24100	50000
2,4	7900	BK80G40-../S09SA4	0,24	0,8	1,6	2,4	2,9	4850	6000	7900	7900	6900	1,5	607,8	352	30000	75000
2,2	8800		0,22	0,7	1,4	2,2	2,6	5400	6800	8800	8800	7800	1,3	680,9	352	30000	75000
1,9	9800		0,19	0,65	1,3	1,9	2,3	6000	7500	9800	9800	8600	1,2	756,3	352	30000	75000
1,7	11000		0,17	0,55	1,1	1,7	2,1	6700	8400	11000	11000	9700	1,0	847,2	352	30000	75000
1,5	12500		0,15	0,5	1,0	1,5	1,8	7700	9600	12500	12500	11000	0,92	963	352	30000	75000
1,3	14000		0,13	0,46	0,9	1,3	1,6	8600	10700	14000	14000	12400	0,82	1079	352	30000	75000
4,9	3900	BK80Z-../S09SA4	0,49	1,6	3,3	4,9	5,9	2400	3000	3900	3900	3450	2,9	300,6	341	30000	75000
4,4	4350		0,44	1,4	2,9	4,4	5,3	2650	3350	4350	4350	3850	2,6	336,7	341	30000	75000
3,8	5000		0,38	1,2	2,5	3,8	4,6	3100	3850	5000	5000	4450	2,3	389	341	30000	75000
3,4	5600		0,34	1,1	2,2	3,4	4,1	3450	4350	5600	5600	5000	2,0	435,7	341	30000	75000
3,0	6400		0,3	1,0	2,0	3,0	3,6	3950	4950	6400	6400	5700	1,8	499,5	341	30000	75000
2,6	7200		0,26	0,85	1,7	2,6	3,2	4450	5500	7200	7200	6400	1,6	559,5	341	30000	75000
1,8	10600	BK90G50-../S09SA4	0,18	0,6	1,2	1,8	2,1	6500	8200	10600	10600	9400	1,7	821	625	49400	120000
1,7	11400		0,17	0,55	1,1	1,7	2,0	7000	8800	11400	11400	10100	1,6	882,3	625	49400	120000
1,4	13100		0,14	0,49	0,95	1,4	1,7	8000	10000	13100	13100	11500	1,4	1008	625	49400	120000
1,3	14600		0,13	0,44	0,85	1,3	1,5	9000	11200	14600	14600	12900	1,3	1127	625	49400	120000
1,1	17700		0,11	0,36	0,7	1,1	1,3	10900	13600	17700	17700	15600	1,0	1363	625	49400	120000
0,9	20500		0,09	0,31	0,6	0,9	1,1	12600	15700	20500	20500	18100	0,9	1579	625	49400	120000
3,0	6400	BK90Z-../S09SA4	0,3	1,0	2,0	3,0	3,6	3950	4950	6400	6400	5700	2,9	499,2	614	49400	120000
2,6	7200		0,26	0,85	1,7	2,6	3,2	4450	5500	7200	7200	6400	2,5	558,5	614	49400	120000
2,3	8200		0,23	0,75	1,5	2,3	2,8	5100	6300	8200	8200	7300	2,2	637,7	614	49400	120000
2,1	9200		0,21	0,7	1,4	2,1	2,5	5700	7100	9200	9200	8200	2,0	713,5	614	49400	120000

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 19 Nm

n_1 = 1500 $^1/_{min}$

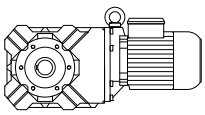


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
335	**81**	**BK10-../S09XA4**	33,5	112	225	335	405	51	65	81	81	77	**1,2**	4,44	40	1890	
245	**110**		24,5	83	166	245	295	69	88	110	110	105	**0,95**	6,02	40	2100	
195	**141**		19,5	65	130	195	230	88	113	141	141	134	**0,81**	7,68	40	2400	
140	**192**		14	46,5	93	140	168	120	154	192	192	182	**0,94**	10,7	40	3500	
330	**83**	**BK20-../S09XA4**	33	110	220	330	395	52	66	83	83	79	**2,3**	4,54	50	520	6100.0
245	**110**		24,5	83	166	245	295	69	88	110	110	105	**1,9**	6,02	50	580	6800.0
189	**145**		18,5	63	126	189	225	90	116	145	145	138	**1,6**	7,91	50	1330	7600.0
151	**182**		15	50	100	151	181	113	145	182	182	173	**1,3**	9,91	50	1910	8300.0
134	**200**		13	44,5	89	134	161	125	160	200	200	190	**1,5**	11,14	50	3300	8100.0
128	**215**		12,5	42,5	85	128	153	134	172	215	215	200	**1,1**	11,69	50	2400	8800.0
101	**265**		10	33,5	67	101	122	165	210	265	265	250	**1,2**	14,75	50	3650	9000.0
77	**345**		7,7	25,5	51	77	92	215	275	345	345	330	**0,95**	19,39	50	4050	9000.0
315	**87**	**BK30-../S09XA4**	31,5	105	210	315	380	54	69	87	87	82	**2,2**	4,73	56	1550	8800.0
245	**110**		24,5	83	166	245	295	69	88	110	110	105	**1,9**	6,02	56	1690	9600.0
200	**137**		20	67	134	200	240	85	109	137	137	130	**1,9**	7,45	56	2200	10400.0
155	**177**		15,5	51	103	155	186	110	141	177	177	168	**1,8**	9,63	56	3150	11500.0
131	**205**		13	43,5	87	131	158	128	164	205	205	194	**2,0**	11,39	56	4150	11000.0
125	**215**		12,5	41,5	83	125	150	137	175	215	215	205	**1,5**	11,93	56	3650	12000.0
107	**250**		10,5	35,5	71	107	128	159	200	250	250	240	**1,3**	13,98	56	4050	12000.0
103	**260**		10	34	68	103	124	163	205	260	260	245	**1,7**	14,5	56	4900	12000.0
83	**320**		8,3	27,5	55	83	100	200	255	320	320	305	**1,4**	17,95	56	5300	12000.0
71	**375**		7,1	23,5	47,5	71	86	235	300	375	375	360	**0,84**	20,85	56	5000	12000.0
64	**415**		6,4	21,5	43	64	77	260	330	415	415	395	**1,1**	23,2	56	5900	12000.0
52	**510**		5,2	17	34,5	52	62	320	410	510	510	490	**0,87**	28,76	56	6500	12000.0
161	**171**	**BK40-../S09XA4**	16	53	107	161	193	107	137	171	171	162	**2,9**	9,31	76	1040	11200.0
126	**215**		12,5	42	84	126	151	136	174	215	215	205	**2,2**	11,86	76	1770	12200.0
103	**260**		10	34	68	103	124	163	205	260	260	245	**3,0**	14,5	76	4500	14300.0
83	**320**		8,3	27,5	55	83	99	200	255	320	320	305	**2,4**	18,05	76	4900	15300.0
66	**400**		6,6	22	44,5	66	80	250	320	400	400	380	**1,9**	22,44	76	5500	16500.0
52	**510**		5,2	17	34,5	52	62	320	410	510	510	485	**1,5**	28,59	76	6300	17000.0
43	**620**		4,3	14	28,5	43	52	385	495	620	620	590	**1,3**	34,61	76	6900	17000.0
36,5	**730**		3,6	12	24	36,5	44	455	580	730	730	690	**1,1**	40,88	76	7600	17000.0
29	**900**		2,9	9,7	19,5	29	35	560	720	900	900	850	**0,87**	51,18	76	8400	17000.0
83	**325**	**BK50-../S09XA4**	8,3	27,5	55	83	100	200	260	325	325	305	**2,2**	17,92	104	4600	16800.0
77	**345**		7,7	25,5	51	77	93	215	275	345	345	330	**3,0**	19,33	104	6900	19200.0
56	**475**		5,6	18,5	37,5	56	67	295	380	475	475	450	**2,2**	26,51	104	7800	21200.0
42,5	**630**		4,2	14	28	42,5	51	395	500	630	630	600	**1,7**	35,21	104	8700	23100.0
31,5	**840**		3,1	10,5	21	31,5	37,5	520	670	840	840	800	**1,2**	47,5	104	10100	25700.0
24,5	**1060**		2,4	8,2	16	24,5	29,5	660	850	1060	1060	1010	**0,98**	60,76	104	11400	26000.0
19,5	**1310**		1,9	6,6	13	19,5	23,5	810	1040	1310	1310	1240	**0,8**	75,4	104	12600	26000.0
39,5	**750**	**BK60-../S09XA4**	3,9	13	26	39,5	47,5	470	600	750	750	710	**3,0**	37,8	113	7300	26500.0
33	**900**		3,3	11	22	33	39,5	560	720	900	900	850	**2,6**	45,05	113	8200	28300
29,5	**1000**		2,9	9,9	19,5	29,5	35,5	630	800	1000	1000	950	**2,3**	50,4	113	9100	29800
25	**1170**		2,5	8,4	16,5	25	30,5	730	940	1170	1170	1120	**2,0**	58,95	113	9900	31500
22,5	**1310**		2,2	7,5	15	22,5	27	820	1050	1310	1310	1250	**1,7**	65,95	113	10900	33000
19	**1560**		1,9	6,3	12,5	19	23	970	1250	1560	1560	1480	**1,5**	78,13	113	11900	34000
17	**1740**		1,7	5,7	11	17	20,5	1090	1390	1740	1740	1660	**1,3**	87,41	113	12900	34000
14,5	**2000**		1,4	4,9	9,8	14,5	17,5	1260	1610	2000	2000	1920	**1,1**	101,2	113	13900	34000
13	**2250**		1,3	4,4	8,8	13	15,5	1410	1810	2250	2250	2150	**1,0**	113,2	113	15000	34000
12	**2450**		1,2	4,0	8,1	12	14,5	1530	1960	2450	2450	2300	**0,94**	122,5	113	15500	34000
10,5	**2700**		1,0	3,6	7,2	10,5	13	1710	2150	2700	2700	2600	**0,84**	137	113	16600	34000
16	**1810**	**BK70-../S09XA4**	1,6	5,4	10,5	16	19,5	1130	1450	1810	1810	1720	**2,9**	90,96	199	15300	49900
14	**2050**		1,4	4,8	9,6	14	17	1290	1650	2050	2050	1960	**2,5**	103,5	199	17200	50000
12	**2400**		1,2	4,1	8,3	12	14,5	1500	1920	2400	2400	2250	**2,2**	120,2	199	18600	50000
10,5	**2700**		1,0	3,6	7,3	10,5	13	1700	2150	2700	2700	2550	**1,9**	136,7	199	20700	50000
9,7	**3050**		0,95	3,2	6,4	9,7	11,5	1930	2450	3050	3050	2900	**1,7**	154,4	199	21900	50000
8,5	**3500**		0,85	2,8	5,6	8,5	10	2150	2800	3500	3500	3300	**1,5**	175,7	199	24100	50000
7,8	**3800**	**BK70Z-../S09XA4**	0,75	2,6	5,2	7,8	9,4	2350	3000	3800	3800	3600	**1,4**	190,4	220	24100	50000
6,6	**4500**		0,65	2,2	4,4	6,6	7,9	2800	3600	4500	4500	4250	**1,1**	226,2	220	24100	50000
5,8	**5100**		0,55	1,9	3,8	5,8	6,9	3200	4100	5100	5100	4850	**1,0**	257,3	220	24100	50000
5,1	**5800**		0,5	1,7	3,4	5,1	6,1	3650	4650	5800	5800	5500	**0,89**	293,3	220	24100	50000

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 19 Nm

n_1 = 1500 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
2,4	12100	BK80G40-../S09XA4	0,24	0,8	1,6	2,4	2,9	7500	9700	12100	12100	11500	**0,95**	607,8	360	30000	75000
2,2	13600		0,22	0,7	1,4	2,2	2,6	8500	10800	13600	13600	12900	**0,84**	680,9	360	30000	75000
7,5	3950	BK80Z-../S09XA4	0,75	2,5	5,0	7,5	9,0	2450	3150	3950	3950	3750	**2,9**	198,9	349	30000	75000
6,6	4500		0,65	2,2	4,4	6,6	7,9	2800	3600	4500	4500	4250	**2,5**	226,1	349	30000	75000
5,9	5000		0,55	1,9	3,9	5,9	7,1	3150	4050	5000	5000	4800	**2,3**	253,3	349	30000	75000
4,9	6000		0,49	1,6	3,3	4,9	5,9	3750	4800	6000	6000	5700	**1,9**	300,6	349	30000	75000
4,4	6700		0,44	1,4	2,9	4,4	5,3	4200	5300	6700	6700	6300	**1,7**	336,7	349	30000	75000
3,8	7700		0,38	1,2	2,5	3,8	4,6	4850	6200	7700	7700	7300	**1,5**	389	349	30000	75000
3,4	8700		0,34	1,1	2,2	3,4	4,1	5400	6900	8700	8700	8200	**1,3**	435,7	349	30000	75000
3,0	9900		0,3	1,0	2,0	3,0	3,6	6200	7900	9900	9900	9400	**1,2**	499,5	349	30000	75000
2,6	11100		0,26	0,85	1,7	2,6	3,2	6900	8900	11100	11100	10600	**1,0**	559,5	349	30000	75000
1,8	16400	BK90G50-../S09XA4	0,18	0,6	1,2	1,8	2,1	10200	13100	16400	16400	15500	**1,1**	821	633	49400	120000
1,7	17600		0,17	0,55	1,1	1,7	2,0	11000	14100	17600	17600	16700	**1,0**	882,3	633	49400	120000
1,4	20000		0,14	0,49	0,95	1,4	1,7	12600	16100	20000	20000	19100	**0,92**	1008	633	49400	120000
1,3	22500		0,13	0,44	0,85	1,3	1,5	14000	18000	22500	22500	21000	**0,82**	1127	633	49400	120000
4,5	6600	BK90Z-../S09XA4	0,45	1,5	3,0	4,5	5,4	4100	5200	6600	6600	6200	**2,8**	330,7	622	49400	120000
3,8	7700		0,38	1,2	2,5	3,8	4,6	4850	6200	7700	7700	7300	**2,4**	389,1	622	49400	120000
3,4	8700		0,34	1,1	2,2	3,4	4,1	5400	6900	8700	8700	8200	**2,1**	435,3	622	49400	120000
3,0	9900		0,3	1,0	2,0	3,0	3,6	6200	7900	9900	9900	9400	**1,9**	499,2	622	49400	120000
2,6	11100		0,26	0,85	1,7	2,6	3,2	6900	8900	11100	11100	10600	**1,7**	558,5	622	49400	120000
2,3	12700		0,23	0,75	1,5	2,3	2,8	7900	10200	12700	12700	12100	**1,5**	637,7	622	49400	120000
2,1	14200		0,21	0,7	1,4	2,1	2,5	8900	11400	14200	14200	13500	**1,3**	713,5	622	49400	120000

M_1 = 25,5 Nm

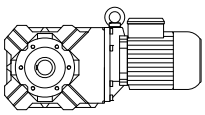
n_1 = 1500 $^1/_{min}$

n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
315	97	BK30-../S11SA6	31,5	105	210	315	380	78	87	97	97	97	**2,0**	4,73	59	1550	8800.0
245	124		24,5	83	166	245	295	99	110	124	124	124	**1,7**	6,02	59	1690	9600.0
200	154		20	67	134	200	240	123	137	154	154	154	**1,7**	7,45	59	2200	10400.0
155	199		15,5	51	103	155	186	159	177	199	199	199	**1,6**	9,63	59	3150	11500.0
131	230		13	43,5	87	131	158	184	205	230	230	230	**1,8**	11,39	59	4150	11000.0
125	245		12,5	41,5	83	125	150	197	215	245	245	245	**1,3**	11,93	59	3650	12000.0
107	285		10,5	35,5	71	107	128	225	250	285	285	285	**1,1**	13,98	59	4050	12000.0
103	290		10	34	68	103	124	230	260	290	290	290	**1,5**	14,5	59	4900	12000.0
83	360		8,3	27,5	55	83	100	290	320	360	360	360	**1,2**	17,95	59	5300	12000.0
64	465		6,4	21,5	43	64	77	375	415	465	465	465	**0,96**	23,2	59	5900	12000.0
161	192	BK40-../S11SA6	16	53	107	161	193	154	171	192	192	192	**2,5**	9,31	84	1040	11200.0
126	245		12,5	42	84	126	151	196	215	245	245	245	**2,0**	11,86	84	1770	12200.0
103	290		10	34	68	103	124	230	260	290	290	290	**2,7**	14,5	84	4500	14300.0
83	365		8,3	27,5	55	83	99	290	320	365	365	365	**2,1**	18,05	84	4900	15300.0
66	450		6,6	22	44,5	66	80	360	400	450	450	450	**1,7**	22,44	84	5500	16500.0
52	570		5,2	17	34,5	52	62	460	510	570	570	570	**1,3**	28,59	84	6300	17000.0
43	700		4,3	14	28,5	43	52	560	620	700	700	700	**1,1**	34,61	84	6900	17000.0
36,5	820		3,6	12	24	36,5	44	660	730	820	820	820	**0,94**	40,88	84	7600	17000.0
83	365	BK50-../S11SA6	8,3	27,5	55	83	100	290	325	365	365	365	**2,0**	17,92	114	4600	16800.0
77	390		7,7	25,5	51	77	93	310	345	390	390	390	**2,7**	19,33	114	6900	19200.0
56	530		5,6	18,5	37,5	56	67	425	475	530	530	530	**2,0**	26,51	114	7800	21200.0
42,5	710		4,2	14	28	42,5	51	570	630	710	710	710	**1,5**	35,21	114	8700	23100.0
31,5	950		3,1	10,5	21	31,5	37,5	760	840	950	950	950	**1,1**	47,5	114	10100	25700.0
24,5	1200		2,4	8,2	16	24,5	29,5	960	1060	1200	1200	1200	**0,87**	60,76	114	11400	26000.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 25,5 Nm

n_1 = 1500 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
44	760	BK60-../S11SA6	4,4	14,5	29,5	44	53	600	670	760	760	760	**3,0**	33,78	124	6500	25200.0
39,5	850		3,9	13	26	39,5	47,5	680	750	850	850	850	**2,7**	37,8	124	7300	26500.0
33	1010		3,3	11	22	33	39,5	810	900	1010	1010	1010	**2,3**	45,05	124	8200	28300.0
29,5	1130		2,9	9,9	19,5	29,5	35,5	900	1000	1130	1130	1130	**2,0**	50,4	124	9100	29800.0
25	1320		2,5	8,4	16,5	25	30,5	1060	1170	1320	1320	1320	**1,7**	58,95	124	9900	31500.0
22,5	1480		2,2	7,5	15	22,5	27	1180	1310	1480	1480	1480	**1,5**	65,95	124	10900	33000.0
19	1750		1,9	6,3	12,5	19	23	1400	1560	1750	1750	1750	**1,3**	78,13	124	11900	34000.0
17	1960		1,7	5,7	11	17	20,5	1570	1740	1960	1960	1960	**1,2**	87,41	124	12900	34000.0
14,5	2250		1,4	4,9	9,8	14,5	17,5	1820	2000	2250	2250	2250	**1,0**	101,2	124	13900	34000.0
13	2500		1,3	4,4	8,8	13	15,5	2000	2250	2500	2500	2500	**0,9**	113,2	124	15000	34000.0
12	2750		1,2	4,0	8,1	12	14,5	2200	2450	2750	2750	2750	**0,83**	122,5	124	15500	34000.0
18,5	1790	BK70-../S11SA6	1,8	6,2	12,5	18,5	22,5	1430	1590	1790	1790	1790	**2,9**	79,89	203	14300	47600.0
16	2000		1,6	5,4	10,5	16	19,5	1630	1810	2000	2000	2000	**2,5**	90,96	203	15300	49900.0
14	2300		1,4	4,8	9,6	14	17	1860	2050	2300	2300	2300	**2,2**	103,5	203	17200	50000.0
12	2700		1,2	4,1	8,3	12	14,5	2150	2400	2700	2700	2700	**1,9**	120,2	203	18600	50000.0
10,5	3050		1,0	3,6	7,3	10,5	13	2450	2700	3050	3050	3050	**1,7**	136,7	203	20700	50000.0
9,7	3450		0,95	3,2	6,4	9,7	11,5	2750	3050	3450	3450	3450	**1,5**	154,4	203	21900	50000.0
8,5	3950		0,85	2,8	5,6	8,5	10	3150	3500	3950	3950	3950	**1,3**	175,7	203	24100	50000.0
7,8	4250	BK70Z-../S11SA6	0,75	2,6	5,2	7,8	9,4	3400	3800	4250	4250	4250	**1,2**	190,4	230	24100	50000.0
6,6	5000		0,65	2,2	4,4	6,6	7,9	4050	4500	5000	5000	5000	**1,0**	226,2	230	24100	50000.0
5,8	5700		0,55	1,9	3,8	5,8	6,9	4600	5100	5700	5700	5700	**0,9**	257,3	230	24100	50000.0
9,7	3400	BK80-../S11SA6	0,95	3,2	6,5	9,7	11,5	2750	3050	3400	3400	3400	**3,0**	153,1	318	27200	75000.0
8,7	3850		0,85	2,9	5,8	8,7	10	3050	3400	3850	3850	3850	**2,7**	171,5	318	30000	75000.0
2,4	13600	BK80G40-../S11SA6	0,24	0,8	1,6	2,4	2,9	10900	12100	13600	13600	13600	**0,84**	607,8	368	30000	75000.0
8,4	3950	BK80Z-../S11SA6	0,8	2,8	5,6	8,4	10	3150	3550	3950	3950	3950	**2,9**	177,6	360	30000	75000.0
7,5	4450		0,75	2,5	5,0	7,5	9,0	3550	3950	4450	4450	4450	**2,6**	198,9	360	30000	75000.0
6,6	5000		0,65	2,2	4,4	6,6	7,9	4050	4500	5000	5000	5000	**2,3**	226,1	360	30000	75000.0
5,9	5600		0,55	1,9	3,9	5,9	7,1	4550	5000	5600	5600	5600	**2,0**	253,3	360	30000	75000.0
4,9	6700		0,49	1,6	3,3	4,9	5,9	5400	6000	6700	6700	6700	**1,7**	300,6	360	30000	75000.0
4,4	7500		0,44	1,4	2,9	4,4	5,3	6000	6700	7500	7500	7500	**1,5**	336,7	360	30000	75000.0
3,8	8700		0,38	1,2	2,5	3,8	4,6	7000	7700	8700	8700	8700	**1,3**	389	360	30000	75000.0
3,4	9800		0,34	1,1	2,2	3,4	4,1	7800	8700	9800	9800	9800	**1,2**	435,7	360	30000	75000.0
3,0	11200		0,3	1,0	2,0	3,0	3,6	8900	9900	11200	11200	11200	**1,0**	499,5	360	30000	75000.0
2,6	12500		0,26	0,85	1,7	2,6	3,2	10000	11100	12500	12500	12500	**0,91**	559,5	360	30000	75000.0
1,8	18400	BK90G50-../S11SA6	0,18	0,6	1,2	1,8	2,1	14700	16400	18400	18400	18400	**1,0**	821	642	49400	120000.0
1,7	19800		0,17	0,55	1,1	1,7	2,0	15800	17600	19800	19800	19800	**0,93**	882,3	642	49400	120000.0
1,4	22500		0,14	0,49	0,95	1,4	1,7	18100	20000	22500	22500	22500	**0,82**	1008	642	49400	120000.0
5,0	6600	BK90Z-../S11SA6	0,5	1,6	3,3	5,0	6,0	5300	5900	6600	6600	6600	**2,8**	295,6	626	49400	120000.0
4,5	7400		0,45	1,5	3,0	4,5	5,4	5900	6600	7400	7400	7400	**2,5**	330,7	626	49400	120000.0
3,8	8700		0,38	1,2	2,5	3,8	4,6	7000	7700	8700	8700	8700	**2,1**	389,1	626	49400	120000.0
3,4	9700		0,34	1,1	2,2	3,4	4,1	7800	8700	9700	9700	9700	**1,9**	435,3	626	49400	120000.0
3,0	11200		0,3	1,0	2,0	3,0	3,6	8900	9900	11200	11200	11200	**1,6**	499,2	626	49400	120000.0
2,6	12500		0,26	0,85	1,7	2,6	3,2	10000	11100	12500	12500	12500	**1,5**	558,5	626	49400	120000.0
2,3	14300		0,23	0,75	1,5	2,3	2,8	11400	12700	14300	14300	14300	**1,3**	637,7	626	49400	120000.0
2,1	16000		0,21	0,7	1,4	2,1	2,5	12800	14200	16000	16000	16000	**1,2**	713,5	626	49400	120000.0

M_1 = 35 Nm

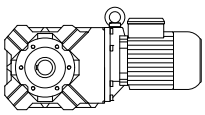
n_1 = 1500 $^1/_{min}$

n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
315	152	BK30-../S11MA6	31,5	105	210	315	380	115	130	152	152	152	**1,3**	4,73	65	1550	8800.0
245	193		24,5	83	166	245	295	146	166	193	193	193	**1,1**	6,02	65	1690	9600.0
200	235		20	67	134	200	240	181	205	235	235	235	**1,1**	7,45	65	2200	10400.0
155	310		15,5	51	103	155	186	230	265	310	310	310	**1,0**	9,63	65	3150	11500.0
131	355		13	43,5	87	131	158	270	305	355	355	355	**1,2**	11,39	65	4150	11000.0
125	380		12,5	41,5	83	125	150	290	325	380	380	380	**0,83**	11,93	65	3650	12000.0
103	455		10	34	68	103	124	345	390	455	455	455					

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 35 Nm

n_1 = 1500 $^1/_{min}$

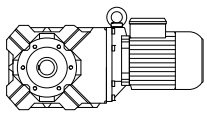


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
320	149	BK40-../S11MA6	32	107	215	320	385	112	127	149	149	149	2,9	4,63	90	430	8900.0
245	193		24,5	83	166	245	295	146	166	193	193	193	2,4	6,02	90	470	9800.0
200	240		20	66	133	200	240	182	205	240	240	240	2,0	7,49	90	750	10500.0
161	295		16	53	107	161	193	225	255	295	295	295	1,6	9,31	90	1040	11200.0
134	350		13	44,5	89	134	161	265	300	350	350	350	2,0	11,17	90	4100	13100.0
126	380		12,5	42	84	126	151	285	325	380	380	380	1,3	11,86	90	1770	12200.0
103	455		10	34	68	103	124	345	390	455	455	455	1,7	14,5	90	4500	14300.0
83	560		8,3	27,5	55	83	99	430	485	560	560	560	1,4	18,05	90	4900	15300.0
66	700		6,6	22	44,5	66	80	530	600	700	700	700	1,1	22,44	90	5500	16500.0
52	900		5,2	17	34,5	52	62	680	770	900	900	900	0,87	28,59	90	6300	17000.0
154	305	BK50-../S11MA6	15	51	102	154	184	230	260	305	305	305	3,0	9,73	120	5400	15400.0
150	320		15	50	100	150	180	240	275	320	320	320	2,5	10	120	1220	13200.0
107	435		10,5	35,5	71	107	129	330	375	435	435	435	2,4	13,95	120	6100	17400.0
83	570		8,3	27,5	55	83	100	430	485	570	570	570	1,3	17,92	120	4600	16800.0
77	600		7,7	25,5	51	77	93	460	520	600	600	600	1,7	19,33	120	6900	19200.0
56	830		5,6	18,5	37,5	56	67	630	710	830	830	830	1,3	26,51	120	7800	21200.0
42,5	1100		4,2	14	28	42,5	51	830	950	1100	1100	1100	0,95	35,21	120	8700	23100.0
61	850	BK60-../S11MA6	6,1	20	40,5	61	73	640	730	850	850	850	2,7	24,45	130	4850	22000.0
54	950		5,4	18	36,5	54	65	720	820	950	950	950	2,4	27,36	130	5600	23200.0
44	1180		4,4	14,5	29,5	44	53	890	1010	1180	1180	1180	1,9	33,78	130	6500	25200.0
39,5	1320		3,9	13	26	39,5	47,5	1000	1130	1320	1320	1320	1,7	37,8	130	7300	26500.0
33	1570		3,3	11	22	33	39,5	1190	1350	1570	1570	1570	1,5	45,05	130	8200	28300.0
29,5	1760		2,9	9,9	19,5	29,5	35,5	1330	1510	1760	1760	1760	1,3	50,4	130	9100	29800.0
25	2050		2,5	8,4	16,5	25	30,5	1560	1760	2050	2050	2050	1,1	58,95	130	9900	31500.0
22,5	2300		2,2	7,5	15	22,5	27	1740	1970	2300	2300	2300	1,0	65,95	130	10900	33000.0
19	2700		1,9	6,3	12,5	19	23	2050	2300	2700	2700	2700	0,84	78,13	130	11900	34000.0
27,5	1890	BK70-../S11MA6	2,7	9,2	18	27,5	33	1430	1620	1890	1890	1890	2,7	54,15	209	9900	40200.0
24	2150		2,4	8,1	16	24	29	1630	1840	2150	2150	2150	2,4	61,6	209	11500	42800.0
21	2450		2,1	7,1	14	21	25,5	1860	2100	2450	2450	2450	2,1	70,23	209	12500	44800.0
18,5	2750		1,8	6,2	12,5	18,5	22,5	2100	2350	2750	2750	2750	1,9	79,89	209	14300	47600.0
16	3150		1,6	5,4	10,5	16	19,5	2400	2700	3150	3150	3150	1,6	90,96	209	15300	49900.0
14	3600		1,4	4,8	9,6	14	17	2700	3100	3600	3600	3600	1,4	103,5	209	17200	50000.0
12	4200		1,2	4,1	8,3	12	14,5	3150	3600	4200	4200	4200	1,2	120,2	209	18600	50000.0
10,5	4750		1,0	3,6	7,3	10,5	13	3600	4100	4750	4750	4750	1,1	136,7	209	20700	50000.0
9,7	5400		0,95	3,2	6,4	9,7	11,5	4050	4600	5400	5400	5400	0,96	154,4	209	21900	50000.0
8,5	6100		0,85	2,8	5,6	8,5	10	4650	5200	6100	6100	6100	0,85	175,7	209	24100	50000.0
14,5	3550	BK80-../S11MA6	1,4	4,8	9,7	14,5	17,5	2700	3050	3550	3550	3550	2,9	102,5	324	20500	75000.0
12,5	4100		1,2	4,2	8,5	12,5	15	3100	3500	4100	4100	4100	2,6	117,5	324	22300	75000.0
11	4600		1,1	3,7	7,5	11	13,5	3450	3900	4600	4600	4600	2,3	131,6	324	24900	75000.0
9,7	5300		0,95	3,2	6,5	9,7	11,5	4050	4550	5300	5300	5300	2,0	153,1	324	27200	75000.0
8,7	6000		0,85	2,9	5,8	8,7	10	4500	5100	6000	6000	6000	1,7	171,5	324	30000	75000.0
8,4	6200	BK80Z-../S11MA6	0,8	2,8	5,6	8,4	10	4700	5300	6200	6200	6200	1,9	177,6	366	30000	75000.0
7,5	6900		0,75	2,5	5,0	7,5	9,0	5200	5900	6900	6900	6900	1,7	198,9	366	30000	75000.0
6,6	7900		0,65	2,2	4,4	6,6	7,9	5900	6700	7900	7900	7900	1,5	226,1	366	30000	75000.0
5,9	8800		0,55	1,9	3,9	5,9	7,1	6700	7500	8800	8800	8800	1,3	253,3	366	30000	75000.0
4,9	10500		0,49	1,6	3,3	4,9	5,9	7900	9000	10500	10500	10500	1,1	300,6	366	30000	75000.0
4,4	11700		0,44	1,4	2,9	4,4	5,3	8900	10100	11700	11700	11700	0,98	336,7	366	30000	75000.0
3,8	13600		0,38	1,2	2,5	3,8	4,6	10300	11600	13600	13600	13600	0,84	389	366	30000	75000.0
8,5	6100	BK90Z-../S11MA6	0,85	2,8	5,7	8,5	10	4600	5200	6100	6100	6100	3,0	174,7	632	49400	120000.0
7,6	6800		0,75	2,5	5,1	7,6	9,2	5100	5800	6800	6800	6800	2,7	195,4	632	49400	120000.0
6,3	8200		0,6	2,1	4,2	6,3	7,6	6200	7000	8200	8200	8200	2,3	234,6	632	49400	120000.0
5,7	9100		0,55	1,9	3,8	5,7	6,8	6900	7800	9100	9100	9100	2,0	262,5	632	49400	120000.0
5,0	10300		0,5	1,6	3,3	5,0	6,0	7800	8800	10300	10300	10300	1,8	295,6	632	49400	120000.0
4,5	11500		0,45	1,5	3,0	4,5	5,4	8700	9900	11500	11500	11500	1,6	330,7	632	49400	120000.0
3,8	13600		0,38	1,2	2,5	3,8	4,6	10300	11600	13600	13600	13600	1,4	389,1	632	49400	120000.0
3,4	15200		0,34	1,1	2,2	3,4	4,1	11500	13000	15200	15200	15200	1,2	435,3	632	49400	120000.0
3,0	17400		0,3	1,0	2,0	3,0	3,6	13200	14900	17400	17400	17400	1,1	499,2	632	49400	120000.0
2,6	19500		0,26	0,85	1,7	2,6	3,2	14800	16700	19500	19500	19500	0,95	558,5	632	49400	120000.0
2,3	22000		0,23	0,75	1,5	2,3	2,8	16800	19100	22000	22000	22000	0,83	637,7	632	49400	120000.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 48 Nm

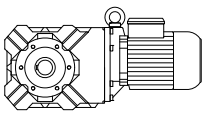
n_1 = 1500 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
315	205	BK30-../S11LA6	31,5	105	210	315	380	141	171	205	205	205	**0,93**	4,73	76	1550	8800.0
200	325		20	67	134	200	240	220	270	325	325	325	**0,81**	7,45	76	2200	10400.0
131	490		13	43,5	87	131	158	330	400	490	490	485	**0,84**	11,39	76	4150	11000.0
320	200	BK40-../S11LA6	32	107	215	320	385	138	167	200	200	200	**2,1**	4,63	102	430	8900.0
245	265		24,5	83	166	245	295	179	215	265	265	260	**1,8**	6,02	102	470	9800.0
200	330		20	66	133	200	240	220	270	330	330	325	**1,5**	7,49	102	750	10500.0
161	410		16	53	107	161	193	275	335	410	410	405	**1,2**	9,31	102	1040	11200.0
134	480		13	44,5	89	134	161	325	395	480	480	475	**1,5**	11,17	102	4100	13100.0
126	520		12,5	42	84	126	151	350	425	520	520	510	**0,94**	11,86	102	1770	12200.0
103	620		10	34	68	103	124	420	510	620	620	610	**1,2**	14,5	102	4500	14300.0
83	770		8,3	27,5	55	83	99	520	640	770	770	770	**1,0**	18,05	102	4900	15300.0
66	960		6,6	22	44,5	66	80	650	790	960	960	950	**0,8**	22,44	102	5500	16500.0
205	320	BK50-../S11LA6	20,5	68	137	205	245	215	260	320	320	315	**2,5**	7,29	132	620	11900.0
154	420		15	51	102	154	184	280	345	420	420	415	**2,2**	9,73	132	5400	15400.0
150	440		15	50	100	150	180	295	360	440	440	435	**1,8**	10	132	1220	13200.0
107	600		10,5	35,5	71	107	129	405	490	600	600	590	**1,7**	13,95	132	6100	17400.0
83	780		8,3	27,5	55	83	100	520	640	780	780	770	**0,92**	17,92	132	4600	16800.0
77	830		7,7	25,5	51	77	93	560	680	830	830	820	**1,3**	19,33	132	6900	19200.0
56	1140		5,6	18,5	37,5	56	67	770	940	1140	1140	1130	**0,92**	26,51	132	7800	21200.0
108	660	BK60-../S11LA6	10,5	36	72	108	129	450	540	660	660	650	**3,0**	13,85	142	3850	18000.0
104	690		10	34,5	69	104	124	465	560	690	690	680	**2,8**	14,41	142	3650	18600.0
81	880		8,1	27	54	81	98	590	720	880	880	870	**2,4**	18,36	142	4000	19900.0
73	980		7,3	24	48,5	73	87	660	800	980	980	970	**2,3**	20,54	142	4400	20600.0
61	1170		6,1	20	40,5	61	73	790	960	1170	1170	1160	**2,0**	24,45	142	4850	22000.0
54	1310		5,4	18	36,5	54	65	880	1070	1310	1310	1290	**1,8**	27,36	142	5600	23200.0
44	1620		4,4	14,5	29,5	44	53	1090	1330	1620	1620	1600	**1,4**	33,78	142	6500	25200.0
39,5	1810		3,9	13	26	39,5	47,5	1220	1480	1810	1810	1790	**1,3**	37,8	142	7300	26500.0
33	2150		3,3	11	22	33	39,5	1460	1770	2150	2150	2100	**1,1**	45,05	142	8200	28300.0
29,5	2400		2,9	9,9	19,5	29,5	35,5	1630	1980	2400	2400	2350	**0,95**	50,4	142	9100	29800.0
25	2800		2,5	8,4	16,5	25	30,5	1910	2300	2800	2800	2800	**0,81**	58,95	142	9900	31500.0
48,5	1480	BK70-../S11LA6	4,8	16	32	48,5	58	1000	1210	1480	1480	1460	**3,0**	30,9	221	7500	33600.0
42,5	1680		4,2	14	28	42,5	51	1140	1380	1680	1680	1660	**2,8**	35,15	221	8000	35000.0
37	1920		3,7	12	24,5	37	44,5	1300	1570	1920	1920	1900	**2,5**	40,08	221	8300	36300.0
32,5	2150		3,2	10,5	21,5	32,5	39	1480	1790	2150	2150	2150	**2,3**	45,59	221	9000	37900.0
27,5	2550		2,7	9,2	18	27,5	33	1750	2100	2550	2550	2550	**2,0**	54,15	221	9900	40200.0
24	2950		2,4	8,1	16	24	29	2000	2400	2950	2950	2900	**1,8**	61,6	221	11500	42800.0
21	3350		2,1	7,1	14	21	25,5	2250	2750	3350	3350	3300	**1,5**	70,23	221	12500	44800.0
18,5	3800		1,8	6,2	12,5	18,5	22,5	2550	3100	3800	3800	3750	**1,4**	79,89	221	14300	47600.0
16	4350		1,6	5,4	10,5	16	19,5	2950	3550	4350	4350	4300	**1,2**	90,96	221	15300	49900.0
14	4950		1,4	4,8	9,6	14	17	3350	4050	4950	4950	4900	**1,0**	103,5	221	17200	50000.0
12	5700		1,2	4,1	8,3	12	14,5	3900	4700	5700	5700	5700	**0,9**	120,2	221	18600	50000.0
21	3350	BK80-../S11LA6	2,1	7,0	14	21	25	2250	2750	3350	3350	3350	**2,8**	70,72	336	16600	68700.0
18,5	3800		1,8	6,3	12,5	18,5	22,5	2550	3100	3800	3800	3750	**2,6**	79,22	336	17600	71300.0
16	4350		1,6	5,4	10,5	16	19,5	2950	3600	4350	4350	4300	**2,3**	91,53	336	18300	74200.0
14,5	4900		1,4	4,8	9,7	14,5	17,5	3300	4000	4900	4900	4850	**2,1**	102,5	336	20500	75000.0
12,5	5600		1,2	4,2	8,5	12,5	15	3800	4600	5600	5600	5500	**1,9**	117,5	336	22300	75000.0
11	6300		1,1	3,7	7,5	11	13,5	4250	5100	6300	6300	6200	**1,7**	131,6	336	24900	75000.0
9,7	7300		0,95	3,2	6,5	9,7	11,5	4950	6000	7300	7300	7200	**1,4**	153,1	336	27200	75000.0
8,7	8200		0,85	2,9	5,8	8,7	10	5500	6700	8200	8200	8100	**1,3**	171,5	336	30000	75000.0
8,4	8500	BK80Z-../S11LA6	0,8	2,8	5,6	8,4	10	5700	6900	8500	8500	8400	**1,3**	177,6	378	30000	75000.0
7,5	9500		0,75	2,5	5,0	7,5	9,0	6400	7800	9500	9500	9400	**1,2**	198,9	378	30000	75000.0
6,6	10800		0,65	2,2	4,4	6,6	7,9	7300	8900	10800	10800	10700	**1,1**	226,1	378	30000	75000.0
5,9	12100		0,55	1,9	3,9	5,9	7,1	8200	9900	12100	12100	12000	**0,95**	253,3	378	30000	75000.0
4,9	14400		0,49	1,6	3,3	4,9	5,9	9700	11800	14400	14400	14200	**0,8**	300,6	378	30000	75000.0
8,5	8300	BK90Z-../S11LA6	0,85	2,8	5,7	8,5	10	5600	6800	8300	8300	8200	**2,2**	174,7	643	49400	120000.0
7,6	9300		0,75	2,5	5,1	7,6	9,2	6300	7600	9300	9300	9200	**2,0**	195,4	643	49400	120000.0
6,3	11200		0,6	2,1	4,2	6,3	7,6	7600	9200	11200	11200	11100	**1,6**	234,6	643	49400	120000.0
5,7	12600		0,55	1,9	3,8	5,7	6,8	8500	10300	12600	12600	12400	**1,5**	262,5	643	49400	120000.0
5,0	14100		0,5	1,6	3,3	5,0	6,0	9600	11600	14100	14100	14000	**1,3**	295,6	643	49400	120000.0
4,5	15800		0,45	1,5	3,0	4,5	5,4	10700	13000	15800	15800	15700	**1,2**	330,7	643	49400	120000.0
3,8	18600		0,38	1,2	2,5	3,8	4,6	12600	15300	18600	18600	18400	**0,99**	389,1	643	49400	120000.0
3,4	20500		0,34	1,1	2,2	3,4	4,1	14100	17100	20500	20500	20500	**0,89**	435,3	643	49400	120000.0

M_1 = 7 Nm

n_1 = 3000 $^1/_{min}$

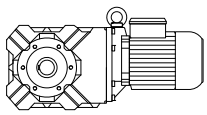


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	3000	3600	1800	150	500	1000	3000	3600			kg	N	N
410	43	BK06-../S08MA4	20,5	68	137	410	495	33	37	43	43	43	1,7	7,25	15	790	
305	58		15	51	102	305	370	44,5	50	58	58	58	1,4	9,71	15	880	
255	69		12,5	42,5	85	255	305	53	60	69	69	69	1,1	11,67	15	930	
196	90		9,8	32,5	65	196	235	69	77	90	90	90	0,88	15,29	15	1020	
495	35,5	BK10-../S08MA4	24,5	83	166	495	590	27,5	31	35,5	35,5	35,5	2,9	6,02	27	2100	
390	45,5		19,5	65	130	390	465	35	39,5	45,5	45,5	45,5	2,5	7,68	27	2400	
315	56		15,5	53	106	315	380	43	48	56	56	56	2,0	9,4	27	2700	
280	62		14	46,5	93	280	335	48	53	62	62	62	2,9	10,7	27	3500	
250	71		12,5	41,5	83	250	300	54	61	71	71	71	1,6	11,93	27	3100	
205	84		10	34	68	205	245	65	73	84	84	84	2,4	14,5	27	3900	
177	98		8,8	29,5	59	177	210	76	85	98	98	98	1,4	16,92	27	3700	
161	108		8,0	26,5	53	161	194	83	93	108	108	108	1,8	18,52	27	4300	
132	132		6,6	22	44	132	158	101	114	132	132	132	1,5	22,65	27	4650	
104	168		5,2	17	34,5	104	125	129	144	168	168	168	1,2	28,76	27	5200	
87	200		4,3	14,5	29	87	105	154	172	200	200	200	1,0	34,25	27	5600	
73	235		3,6	12	24,5	73	88	183	205	235	235	235	0,84	40,79	27	6000	
172	103	BK20-../S08MA4	8,6	28,5	57	172	205	79	88	103	103	103	2,2	17,42	36	3250	9000.0
154	113		7,7	25,5	51	154	185	87	97	113	113	113	2,9	19,39	36	4050	9000.0
123	142		6,1	20,5	41	123	148	109	122	142	142	142	2,3	24,29	36	4500	9000.0
104	167		5,2	17	34,5	104	125	128	144	167	167	167	2,0	28,66	36	4850	9000.0
81	210		4,0	13,5	27	81	98	165	184	210	210	210	1,5	36,69	36	5400	9000.0
70	245		3,5	11,5	23	70	84	192	215	245	245	245	1,3	42,7	36	5800	9000.0
58	295		2,9	9,7	19,5	58	70	225	255	295	295	295	1,1	51,22	36	6300	9000.0
48,5	350		2,4	8,1	16	48,5	58	270	305	350	350	350	0,93	61,3	36	6500	9000.0
143	123	BK30-../S08MA4	7,1	23,5	47,5	143	172	94	106	123	123	123	2,6	20,85	42	5000	12000.0
104	168		5,2	17	34,5	104	125	129	144	168	168	168	2,7	28,76	42	6500	12000.0
89	197		4,4	14,5	29,5	89	106	151	169	197	197	197	2,3	33,7	42	7000	12000.0
69	245		3,4	11,5	23	69	83	190	210	245	245	245	1,8	42,89	42	7800	12000.0
59	285		2,9	9,9	19,5	59	71	220	245	285	285	285	1,6	50,27	42	8300	12000.0
50	335		2,5	8,4	16,5	50	60	260	290	335	335	335	1,3	59,27	42	8900	12000.0
41,5	400		2,0	6,9	13,5	41,5	50	310	345	400	400	400	1,1	71,56	42	9700	12000.0
33,5	490		1,6	5,6	11	33,5	40,5	380	425	490	490	490	0,91	88,38	42	10600	12000.0
29	560		1,4	4,8	9,7	29	35	435	485	560	560	560	0,8	102,4	42	11200	12000.0
58	290	BK40-../S08MA4	2,9	9,7	19,5	58	70	225	250	290	290	290	2,7	51,18	63	8400	17000.0
50	340		2,5	8,3	16,5	50	60	260	290	340	340	340	2,3	59,66	63	9100	17000.0
42,5	395		2,1	7,1	14	42,5	51	300	340	395	395	395	2,0	70,11	63	9800	17000.0
35,5	475		1,7	5,9	11,5	35,5	42,5	365	410	475	475	475	1,6	84,36	63	10700	17000.0
28,5	570		1,4	4,8	9,6	28,5	34,5	440	495	570	570	570	1,4	104	63	11700	17000.0
25	650	BK40Z-../S08MA4	1,2	4,2	8,4	25	30	500	560	650	650	650	1,2	118,2	67	11700	17000.0
20,5	780		1,0	3,4	6,9	20,5	25	600	670	780	780	780	1,0	143	67	11700	17000.0
17,5	910		0,85	2,9	5,9	17,5	21	700	780	910	910	910	0,86	169	67	11700	17000.0
49	345	BK50-../S08MA4	2,4	8,2	16	49	59	265	295	345	345	345	3,0	60,76	91	11400	26000.0
39,5	425		1,9	6,6	13	39,5	47,5	325	365	425	425	425	2,5	75,4	91	12600	26000.0
31	530		1,5	5,2	10	31	37,5	405	455	530	530	530	2,0	95,29	91	14100	26000.0
25,5	630	BK50Z-../S08MA4	1,2	4,3	8,6	25,5	31	490	540	630	630	630	1,6	115,4	96	14100	26000.0
19,5	820		0,95	3,2	6,5	19,5	23	630	710	820	820	820	1,3	153,3	96	14100	26000.0
14,5	1100		0,7	2,4	4,8	14,5	17	840	940	1100	1100	1100	0,95	206,8	96	14100	26000.0
19,5	990	BK60Z-../S08MA4	0,95	3,2	6,5	19,5	23	760	860	990	990	990	2,3	153,7	119	16600	34000.0
16	1190		0,8	2,7	5,4	16	19,5	910	1020	1190	1190	1190	1,9	183,2	119	16600	34000.0
14,5	1330		0,7	2,4	4,8	14,5	17,5	1020	1140	1330	1330	1330	1,7	205	119	16600	34000.0
12,5	1550		0,6	2,0	4,1	12,5	15	1190	1340	1550	1550	1550	1,5	239,7	119	16600	34000.0
11	1740		0,55	1,8	3,7	11	13	1340	1500	1740	1740	1740	1,3	268,2	119	16600	34000.0
9,4	2050		0,47	1,5	3,1	9,4	11	1580	1770	2050	2050	2050	1,1	317,7	119	16600	34000.0
8,4	2300		0,42	1,4	2,8	8,4	10	1770	1990	2300	2300	2300	1,0	355,5	119	16600	34000.0
7,2	2650		0,36	1,2	2,4	7,2	8,7	2050	2300	2650	2650	2650	0,86	411,5	119	16600	34000.0
3,5	5500	BK70G20-../S08MA4	0,17	0,55	1,1	3,5	4,2	4200	4700	5500	5500	5500	1,0	847,7	205	24100	50000.0
3,1	6200		0,15	0,5	1	3,1	3,7	4800	5400	6200	6200	6200	0,91	964,6	205	24100	50000.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

$M_1 = 7$ Nm

$n_1 = 3000\ ^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
10	1900	BK70Z-../S08MA4	0,5	1,7	3,4	10	12	1460	1640	1900	1900	1900	2,7	293,3	207	24100	50000.0
8,9	2150		0,44	1,4	2,9	8,9	10,5	1660	1860	2150	2150	2150	2,4	333,6	207	24100	50000.0
7,8	2450		0,39	1,3	2,6	7,8	9,4	1890	2100	2450	2450	2450	2,1	379,9	207	24100	50000.0
6,9	2800		0,34	1,1	2,3	6,9	8,3	2150	2400	2800	2800	2800	1,9	432,1	207	24100	50000.0
5,9	3250		0,29	0,95	1,9	5,9	7,1	2500	2800	3250	3250	3250	1,6	501,8	207	24100	50000.0
5,2	3700		0,26	0,85	1,7	5,2	6,3	2850	3150	3700	3700	3700	1,4	570,8	207	24100	50000.0
4,6	4150		0,23	0,75	1,5	4,6	5,5	3200	3600	4150	4150	4150	1,2	644,9	207	24100	50000.0
4,0	4750		0,2	0,65	1,3	4,0	4,9	3650	4100	4750	4750	4750	1,1	733,6	207	24100	50000.0
4,9	3950	BK80G40-../S08MA4	0,24	0,8	1,6	4,9	5,9	3000	3400	3950	3950	3950	2,9	607,8	347	30000	75000.0
4,4	4400		0,22	0,7	1,4	4,4	5,2	3400	3800	4400	4400	4400	2,6	680,9	347	30000	75000.0
3,9	4900		0,19	0,65	1,3	3,9	4,7	3750	4200	4900	4900	4900	2,3	756,3	347	30000	75000.0
3,5	5500		0,17	0,55	1,1	3,5	4,2	4200	4700	5500	5500	5500	2,1	847,2	347	30000	75000.0
3,1	6200		0,15	0,5	1,0	3,1	3,7	4800	5300	6200	6200	6200	1,8	963	347	30000	75000.0
2,7	7000		0,13	0,46	0,9	2,7	3,3	5300	6000	7000	7000	7000	1,6	1079	347	30000	75000.0
2,2	8400		0,11	0,38	0,75	2,2	2,7	6500	7300	8400	8400	8400	1,4	1307	347	30000	75000.0
2,1	9200		0,1	0,35	0,7	2,1	2,5	7100	7900	9200	9200	9200	1,2	1425	347	30000	75000.0
1,8	10200		0,09	0,31	0,6	1,8	2,2	7900	8800	10200	10200	10200	1,1	1583	347	30000	75000.0
1,6	11500		0,08	0,28	0,55	1,6	2,0	8800	9900	11500	11500	11500	1,0	1775	347	30000	75000.0
1,3	14300		0,065	0,22	0,45	1,3	1,6	11000	12300	14300	14300	14300	0,8	2205	347	30000	75000.0
2,9	6500	BK90G50-../S08MA4	0,14	0,49	0,95	2,9	3,5	5000	5600	6500	6500	6500	2,8	1008	620	49400	120000.0
2,6	7300		0,13	0,44	0,85	2,6	3,1	5600	6300	7300	7300	7300	2,5	1127	620	49400	120000.0
2,2	8800		0,11	0,36	0,7	2,2	2,6	6800	7600	8800	8800	8800	2,1	1363	620	49400	120000.0
1,8	10200		0,09	0,31	0,6	1,8	2,2	7800	8800	10200	10200	10200	1,8	1579	620	49400	120000.0
1,6	11700		0,08	0,27	0,55	1,6	1,9	9000	10000	11700	11700	11700	1,6	1803	620	49400	120000.0
1,4	13100		0,07	0,24	0,49	1,4	1,7	10000	11200	13100	13100	13100	1,4	2016	620	49400	120000.0
1,0	17900		0,05	0,18	0,36	1,0	1,3	13800	15400	17900	17900	17900	1,0	2764	620	49400	120000.0
0,95	19900		0,048	0,16	0,32	0,95	1,1	15300	17100	19900	19900	19900	0,93	3065	620	49400	120000.0

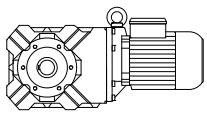
$M_1 = 9,55$ Nm

$n_1 = 3000\ ^1/_{min}$

n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
410	63	BK06-../S08LA4	20,5	68	137	410	495	43	53	63	63	63	1,1	7,25	16	790	
305	85		15	51	102	305	370	58	71	85	85	85	0,94	9,71	16	880	
670	39	BK10-../S08LA4	33,5	112	225	670	810	26,5	32,5	39	39	39	2,4	4,44	28	1890	
495	52		24,5	83	166	495	590	35,5	44	52	52	52	2,0	6,02	28	2100	
390	67		19,5	65	130	390	465	45,5	56	67	67	67	1,7	7,68	28	2400	
315	82		15,5	53	106	315	380	56	69	82	82	82	1,4	9,4	28	2700	
280	91		14	46,5	93	280	335	62	77	91	91	91	2,0	10,7	28	3500	
250	104		12,5	41,5	83	250	300	71	87	104	104	104	1,1	11,93	28	3100	
205	124		10	34	68	205	245	84	104	124	124	124	1,6	14,5	28	3900	
177	145		8,8	29,5	59	177	210	98	121	145	145	145	0,94	16,92	28	3700	
161	159		8,0	26,5	53	161	194	108	133	159	159	159	1,3	18,52	28	4300	
132	194		6,6	22	44	132	158	132	163	194	194	194	1,0	22,65	28	4650	
104	245		5,2	17	34,5	104	125	168	205	245	245	245	0,81	28,76	28	5200	
300	87	BK20-../S08LA4	15	50	100	300	360	59	72	87	87	87	2,6	9,91	38	1910	8300.0
255	102		12,5	42,5	85	255	305	69	86	102	102	102	2,2	11,69	38	2400	8800.0
200	126		10	33,5	67	200	240	86	106	126	126	126	2,6	14,75	38	3650	9000.0
172	151		8,6	28,5	57	172	205	103	126	151	151	151	1,5	17,42	38	3250	9000.0
154	166		7,7	25,5	51	154	185	113	139	166	166	166	2,0	19,39	38	4050	9000.0
123	205		6,1	20,5	41	123	148	142	174	205	205	205	1,6	24,29	38	4500	9000.0
104	245		5,2	17	34,5	104	125	167	205	245	245	245	1,3	28,66	38	4850	9000.0
81	315		4,0	13,5	27	81	98	210	260	315	315	315	1,0	36,69	38	5400	9000.0
70	365		3,5	11,5	23	70	84	245	305	365	365	365	0,9	42,7	38	5800	9000.0

M_1 = 9,55 Nm

n_1 = 3000 $^1/_{min}$

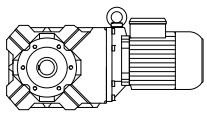


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	3000	3600	1800	150	500	1000	3000	3600			kg	N	N
210	121	BK30-../S08LA4	10,5	35,5	71	210	255	82	101	121	121	121	2,6	13,98	44	4050	12000.0
167	154		8,3	27,5	55	167	200	105	129	154	154	154	2,9	17,95	44	5300	12000.0
143	181		7,1	23,5	47,5	143	172	123	151	181	181	181	1,8	20,85	44	5000	12000.0
129	199		6,4	21,5	43	129	155	135	167	199	199	199	2,3	23,2	44	5900	12000.0
104	245		5,2	17	34,5	104	125	168	205	245	245	245	1,8	28,76	44	6500	12000.0
89	285		4,4	14,5	29,5	89	106	197	240	285	285	285	1,6	33,7	44	7000	12000.0
69	360		3,4	11,5	23	69	83	245	305	360	360	360	1,2	42,89	44	7800	12000.0
59	420		2,9	9,9	19,5	59	71	285	350	420	420	420	1,1	50,27	44	8300	12000.0
50	495		2,5	8,4	16,5	50	60	335	415	495	495	495	0,9	59,27	44	8900	12000.0
86	295	BK40-../S08LA4	4,3	14	28,5	86	104	200	245	295	295	295	2,6	34,61	64	6900	17000.0
73	350		3,6	12	24	73	88	235	290	350	350	350	2,2	40,88	64	7600	17000.0
58	430		2,9	9,7	19,5	58	70	290	360	430	430	430	1,8	51,18	64	8400	17000.0
50	500		2,5	8,3	16,5	50	60	340	420	500	500	500	1,6	59,66	64	9100	17000.0
42,5	580		2,1	7,1	14	42,5	51	395	485	580	580	580	1,3	70,11	64	9800	17000.0
35,5	700		1,7	5,9	11,5	35,5	42,5	475	580	700	700	700	1,1	84,36	64	10700	17000.0
28,5	840		1,4	4,8	9,6	28,5	34,5	570	700	840	840	840	0,92	104	64	11700	17000.0
25	950	BK40Z-../S08LA4	1,2	4,2	8,4	25	30	650	800	950	950	950	0,81	118,2	69	11700	17000.0
63	400	BK50-../S08LA4	3,1	10,5	21	63	75	270	335	400	400	400	2,6	47,5	93	10100	25700.0
49	510		2,4	8,2	16	49	59	345	425	510	510	510	2,1	60,76	93	11400	26000.0
39,5	620		1,9	6,6	13	39,5	47,5	425	520	620	620	620	1,7	75,4	93	12600	26000.0
31	780		1,5	5,2	10	31	37,5	530	650	780	780	780	1,3	95,29	93	14100	26000.0
25,5	930	BK50Z-../S08LA4	1,2	4,3	8,6	25,5	31	630	780	930	930	930	1,1	115,4	98	14100	26000.0
19,5	1210		0,95	3,2	6,5	19,5	23	820	1010	1210	1210	1210	0,86	153,3	98	14100	26000.0
19,5	1460	BK60Z-../S08LA4	0,95	3,2	6,5	19,5	23	990	1220	1460	1460	1460	1,6	153,7	120	16600	34000.0
16	1740		0,8	2,7	5,4	16	19,5	1190	1460	1740	1740	1740	1,3	183,2	120	16600	34000.0
14,5	1950		0,7	2,4	4,8	14,5	17,5	1330	1640	1950	1950	1950	1,2	205	120	16600	34000.0
12,5	2250		0,6	2	4,1	12,5	15	1550	1910	2250	2250	2250	1,0	239,7	120	16600	34000.0
11	2550		0,55	1,8	3,7	11	13	1740	2100	2550	2550	2550	0,9	268,2	120	16600	34000.0
15,5	1810	BK70Z-../S08LA4	0,75	2,6	5,2	15,5	18,5	1230	1520	1810	1810	1810	2,9	190,4	208	24100	50000.0
13	2150		0,65	2,2	4,4	13	15,5	1470	1800	2150	2150	2150	2,4	226,2	208	24100	50000.0
11,5	2450		0,55	1,9	3,8	11,5	13,5	1670	2050	2450	2450	2450	2,1	257,3	208	24100	50000.0
10	2800		0,5	1,7	3,4	10	12	1900	2300	2800	2800	2800	1,9	293,3	208	24100	50000.0
8,9	3150		0,44	1,4	2,9	8,9	10,5	2150	2650	3150	3150	3150	1,6	333,6	208	24100	50000.0
7,8	3600		0,39	1,3	2,6	7,8	9,4	2450	3000	3600	3600	3600	1,4	379,9	208	24100	50000.0
6,9	4100		0,34	1,1	2,3	6,9	8,3	2800	3450	4100	4100	4100	1,3	432,1	208	24100	50000.0
5,9	4750		0,29	0,95	1,9	5,9	7,1	3250	4000	4750	4750	4750	1,1	501,8	208	24100	50000.0
5,2	5400		0,26	0,85	1,7	5,2	6,3	3700	4550	5400	5400	5400	0,95	570,8	208	24100	50000.0
4,6	6100		0,23	0,75	1,5	4,6	5,5	4150	5100	6100	6100	6100	0,84	644,9	208	24100	50000.0
4,9	5800	BK80G40-../S08LA4	0,24	0,8	1,6	4,9	5,9	3950	4850	5800	5800	5800	2,0	607,8	348	30000	75000.0
4,4	6500		0,22	0,7	1,4	4,4	5,2	4400	5400	6500	6500	6500	1,8	680,9	348	30000	75000.0
3,9	7200		0,19	0,65	1,3	3,9	4,7	4900	6000	7200	7200	7200	1,6	756,3	348	30000	75000.0
3,5	8000		0,17	0,55	1,1	3,5	4,2	5500	6700	8000	8000	8000	1,4	847,2	348	30000	75000.0
3,1	9100		0,15	0,5	1,0	3,1	3,7	6200	7700	9100	9100	9100	1,3	963	348	30000	75000.0
2,7	10300		0,13	0,46	0,9	2,7	3,3	7000	8600	10300	10300	10300	1,1	1079	348	30000	75000.0
2,2	12400		0,11	0,38	0,75	2,2	2,7	8400	10400	12400	12400	12400	0,92	1307	348	30000	75000.0
2,1	13600		0,1	0,35	0,7	2,1	2,5	9200	11400	13600	13600	13600	0,85	1425	348	30000	75000.0
3,6	7800	BK90G50-../S08LA4	0,18	0,6	1,2	3,6	4,3	5300	6500	7800	7800	7800	2,4	821	621	49400	120000.0
3,4	8400		0,17	0,55	1,1	3,4	4,0	5700	7000	8400	8400	8400	2,2	882,3	621	49400	120000.0
2,9	9600		0,14	0,49	0,95	2,9	3,5	6500	8000	9600	9600	9600	1,9	1008	621	49400	120000.0
2,6	10700		0,13	0,44	0,85	2,6	3,1	7300	9000	10700	10700	10700	1,7	1127	621	49400	120000.0
2,2	13000		0,11	0,36	0,7	2,2	2,6	8800	10900	13000	13000	13000	1,4	1363	621	49400	120000.0
1,8	15000		0,09	0,31	0,6	1,8	2,2	10200	12600	15000	15000	15000	1,2	1579	621	49400	120000.0
1,6	17200		0,08	0,27	0,55	1,6	1,9	11700	14400	17200	17200	17200	1,1	1803	621	49400	120000.0
1,4	19200		0,07	0,24	0,49	1,4	1,7	13100	16100	19200	19200	19200	0,96	2016	621	49400	120000.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 12,75 Nm

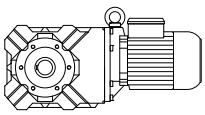
n_1 = 3000 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
670	53	BK10-../S09SA4	33,5	112	225	670	810	32,5	40,5	53	53	44,5	1,8	4,44	32	1890	
495	71		24,5	83	166	495	590	44	55	71	71	60	1,5	6,02	32	2100	
390	91		19,5	65	130	390	465	56	70	91	91	77	1,3	7,68	32	2400	
315	112		15,5	53	106	315	380	69	86	112	112	95	1,0	9,4	32	2700	
280	125		14	46,5	93	280	335	77	96	125	125	105	1,4	10,7	32	3500	
250	142		12,5	41,5	83	250	300	87	109	142	142	120	0,81	11,93	32	3100	
205	169		10	34	68	205	245	104	130	169	169	143	1,2	14,5	32	3900	
161	215		8,0	26,5	53	161	194	133	166	215	215	183	0,92	18,52	32	4300	
495	71	BK20-../S09SA4	24,5	83	166	495	590	44	55	71	71	60	3,0	6,02	42	580	6800.0
375	94		18,5	63	126	375	455	58	72	94	94	80	2,4	7,91	42	1330	7600.0
300	118		15	50	100	300	360	72	91	118	118	100	1,9	9,91	42	1910	8300.0
265	130		13	44,5	89	265	320	80	100	130	130	110	2,3	11,14	42	3300	8100.0
255	139		12,5	42,5	85	255	305	86	107	139	139	118	1,6	11,69	42	2400	8800.0
200	172		10	33,5	67	200	240	106	132	172	172	146	1,9	14,75	42	3650	9000.0
172	205		8,6	28,5	57	172	205	126	158	205	205	174	1,1	17,42	42	3250	9000.0
154	225		7,7	25,5	51	154	185	139	174	225	225	191	1,5	19,39	42	4050	9000.0
123	280		6,1	20,5	41	123	148	174	215	280	280	240	1,2	24,29	42	4500	9000.0
104	335		5,2	17	34,5	104	125	205	255	335	335	280	0,98	28,66	42	4850	9000.0
495	71	BK30-../S09SA4	24,5	83	166	495	590	44	55	71	71	60	2,9	6,02	48	1690	9600.0
400	89		20	67	134	400	480	54	68	89	89	75	3,0	7,45	48	2200	10400.0
310	115		15,5	51	103	310	370	70	88	115	115	97	2,8	9,63	48	3150	11500.0
250	142		12,5	41,5	83	250	300	87	109	142	142	120	2,2	11,93	48	3650	12000.0
210	165		10,5	35,5	71	210	255	101	127	165	165	139	1,9	13,98	48	4050	12000.0
205	169		10	34	68	205	245	104	130	169	169	143	2,7	14,5	48	4900	12000.0
167	210		8,3	27,5	55	167	200	129	161	210	210	177	2,1	17,95	48	5300	12000.0
143	245		7,1	23,5	47,5	143	172	151	189	245	245	205	1,3	20,85	48	5000	12000.0
129	270		6,4	21,5	43	129	155	167	205	270	270	225	1,7	23,2	48	5900	12000.0
104	335		5,2	17	34,5	104	125	205	255	335	335	280	1,3	28,76	48	6500	12000.0
89	390		4,4	14,5	29,5	89	106	240	300	390	390	330	1,1	33,7	48	7000	12000.0
69	495		3,4	11,5	23	69	83	305	380	495	495	415	0,91	42,89	48	7800	12000.0
133	260	BK40-../S09SA4	6,6	22	44,5	133	160	161	200	260	260	220	3,0	22,44	68	5500	16500.0
104	330		5,2	17	34,5	104	125	205	255	330	330	280	2,3	28,59	68	6300	17000.0
86	400		4,3	14	28,5	86	104	245	310	400	400	340	1,9	34,61	68	6900	17000.0
73	475		3,6	12	24	73	88	290	365	475	475	400	1,6	40,88	68	7600	17000.0
58	580		2,9	9,7	19,5	58	70	360	450	580	580	495	1,3	51,18	68	8400	17000.0
50	680		2,5	8,3	16,5	50	60	420	520	680	680	570	1,1	59,66	68	9100	17000.0
42,5	790		2,1	7,1	14	42,5	51	485	600	790	790	670	0,98	70,11	68	9800	17000.0
35,5	950		1,7	5,9	11,5	35,5	42,5	580	730	950	950	800	0,82	84,36	68	10700	17000.0
85	410	BK50-../S09SA4	4,2	14	28	85	102	250	315	410	410	345	2,5	35,21	96	8700	23100.0
63	540		3,1	10,5	21	63	75	335	420	540	540	465	1,9	47,5	96	10100	25700.0
49	690		2,4	8,2	16	49	59	425	530	690	690	580	1,5	60,76	96	11400	26000.0
39,5	850		1,9	6,6	13	39,5	47,5	520	650	850	850	720	1,2	75,4	96	12600	26000.0
31	1060		1,5	5,2	10	31	37,5	650	810	1060	1060	900	0,99	95,29	96	14100	26000.0
25,5	1270	BK50Z-../S09SA4	1,2	4,3	8,6	25,5	31	780	980	1270	1270	1070	0,82	115,4	101	14100	26000.0
50	760	BK60-../S09SA4	2,5	8,4	16,5	50	61	470	580	760	760	640	3,0	58,95	105	9900	31500.0
45	850		2,2	7,5	15	45	54	520	650	850	850	720	2,7	65,95	105	10900	33000.0
38	1010		1,9	6,3	12,5	38	46	620	780	1010	1010	850	2,3	78,13	105	11900	34000.0
34	1130		1,7	5,7	11	34	41	690	870	1130	1130	960	2,0	87,41	105	12900	34000.0
29,5	1310		1,4	4,9	9,8	29,5	35,5	800	1010	1310	1310	1110	1,7	101,2	105	13900	34000.0
26,5	1470		1,3	4,4	8,8	26,5	31,5	900	1130	1470	1470	1240	1,6	113,2	105	15000	34000.0
24	1590		1,2	4,0	8,1	24	29	980	1220	1590	1590	1340	1,4	122,5	105	15500	34000.0
21,5	1780		1,0	3,6	7,2	21,5	26	1090	1370	1780	1780	1500	1,3	137	105	16600	34000.0
19,5	1990	BK60Z-../S09SA4	0,95	3,2	6,5	19,5	23	1220	1530	1990	1990	1690	1,2	153,7	124	16600	34000
16	2350		0,8	2,7	5,4	16	19,5	1460	1830	2350	2350	2000	0,97	183,2	124	16600	34000
14,5	2650		0,7	2,4	4,8	14,5	17,5	1640	2050	2650	2650	2250	0,86	205	124	16600	34000
21,5	1770	BK70-../S09SA4	1,0	3,6	7,3	21,5	26	1090	1360	1770	1770	1500	2,9	136,7	191	20700	50000
19	2000		0,95	3,2	6,4	19	23	1230	1540	2000	2000	1690	2,6	154,4	191	21900	50000
17	2250		0,85	2,8	5,6	17	20	1400	1750	2250	2250	1930	2,3	175,7	191	24100	50000

M_1 = 12,75 Nm

n_1 = 3000 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	3000	3600	1800	150	500	1000	3000	3600			kg	N	N
15,5	2450	BK70Z-../S09SA4	0,75	2,6	5,2	15,5	18,5	1520	1900	2450	2450	2050	2,1	190,4	212	24100	50000
13	2900		0,65	2,2	4,4	13	15,5	1800	2250	2900	2900	2450	1,8	226,2	212	24100	50000
11,5	3300		0,55	1,9	3,8	11,5	13,5	2050	2550	3300	3300	2800	1,6	257,3	212	24100	50000
10	3800		0,5	1,7	3,4	10	12	2300	2900	3800	3800	3200	1,4	293,3	212	24100	50000
8,9	4300		0,44	1,4	2,9	8,9	10,5	2650	3300	4300	4300	3650	1,2	333,6	212	24100	50000
7,8	4900		0,39	1,3	2,6	7,8	9,4	3000	3750	4900	4900	4150	1,1	379,9	212	24100	50000
6,9	5600		0,34	1,1	2,3	6,9	8,3	3450	4300	5600	5600	4750	0,93	432,1	212	24100	50000
5,9	6500		0,29	0,95	1,9	5,9	7,1	4000	5000	6500	6500	5500	0,8	501,8	212	24100	50000
4,9	7900	BK80G40-../S09SA4	0,24	0,8	1,6	4,9	5,9	4850	6000	7900	7900	6600	1,5	607,8	352	30000	75000
4,4	8800		0,22	0,7	1,4	4,4	5,2	5400	6800	8800	8800	7400	1,3	680,9	352	30000	75000
3,9	9800		0,19	0,65	1,3	3,9	4,7	6000	7500	9800	9800	8300	1,2	756,3	352	30000	75000
3,5	11000		0,17	0,55	1,1	3,5	4,2	6700	8400	11000	11000	9300	1,0	847,2	352	30000	75000
3,1	12500		0,15	0,5	1,0	3,1	3,7	7700	9600	12500	12500	10500	0,92	963	352	30000	75000
2,7	14000		0,13	0,46	0,9	2,7	3,3	8600	10700	14000	14000	11800	0,82	1079	352	30000	75000
9,9	3900	BK80Z-../S09SA4	0,49	1,6	3,3	9,9	11,5	2400	3000	3900	3900	3300	2,9	300,6	341	30000	75000
8,9	4350		0,44	1,4	2,9	8,9	10,5	2650	3350	4350	4350	3700	2,6	336,7	341	30000	75000
7,7	5000		0,38	1,2	2,5	7,7	9,2	3100	3850	5000	5000	4250	2,3	389	341	30000	75000
6,8	5600		0,34	1,1	2,2	6,8	8,2	3450	4350	5600	5600	4750	2,0	435,7	341	30000	75000
6,0	6400		0,3	1,0	2,0	6,0	7,2	3950	4950	6400	6400	5400	1,8	499,5	341	30000	75000
5,3	7200		0,26	0,85	1,7	5,3	6,4	4450	5500	7200	7200	6100	1,6	559,5	341	30000	75000
3,6	10600	BK90G50-../S09SA4	0,18	0,6	1,2	3,6	4,3	6500	8200	10600	10600	9000	1,7	821	625	49400	120000
3,4	11400		0,17	0,55	1,1	3,4	4,0	7000	8800	11400	11400	9700	1,6	882,3	625	49400	120000
2,9	13100		0,14	0,49	0,95	2,9	3,5	8000	10000	13100	13100	11000	1,4	1008	625	49400	120000
2,6	14600		0,13	0,44	0,85	2,6	3,1	9000	11200	14600	14600	12300	1,3	1127	625	49400	120000
2,2	17700		0,11	0,36	0,7	2,2	2,6	10900	13600	17700	17700	14900	1,0	1363	625	49400	120000
1,8	20500		0,09	0,31	0,6	1,8	2,2	12600	15700	20500	20500	17300	0,9	1579	625	49400	120000
6,0	6400	BK90Z-../S09SA4	0,3	1,0	2,0	6,0	7,2	3950	4950	6400	6400	5400	2,9	499,2	614	49400	120000
5,3	7200		0,26	0,85	1,7	5,3	6,4	4450	5500	7200	7200	6100	2,5	558,5	614	49400	120000
4,7	8200		0,23	0,75	1,5	4,7	5,6	5100	6300	8200	8200	7000	2,2	637,7	614	49400	120000
4,2	9200		0,21	0,7	1,4	4,2	5,0	5700	7100	9200	9200	7800	2,0	713,5	614	49400	120000

M_1 = 20 Nm

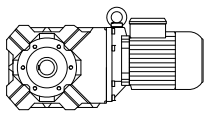
n_1 = 3000 $^1/_{min}$

n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	3000	3600	1800	150	500	1000	3000	3600			kg	N	N
670	81	BK10-../S09XA4	33,5	112	225	670	810	51	65	81	81	59	1,2	4,44	40	1890	
495	110		24,5	83	166	495	590	69	88	110	110	80	0,95	6,02	40	2100	
390	141		19,5	65	130	390	465	88	113	141	141	102	0,81	7,68	40	2400	
280	192		14	46,5	93	280	335	120	154	192	192	139	0,94	10,7	40	3500	
660	83	BK20-../S09XA4	33	110	220	660	790	52	66	83	83	60	2,3	4,54	50	520	6100.0
495	110		24,5	83	166	495	590	69	88	110	110	80	1,9	6,02	50	580	6800.0
375	145		18,5	63	126	375	455	90	116	145	145	105	1,6	7,91	50	1330	7600.0
300	182		15	50	100	300	360	113	145	182	182	132	1,3	9,91	50	1910	8300.0
265	200		13	44,5	89	265	320	125	160	200	200	145	1,5	11,14	50	3300	8100.0
255	215		12,5	42,5	85	255	305	134	172	215	215	155	1,1	11,69	50	2400	8800.0
200	265		10	33,5	67	200	240	165	210	265	265	192	1,2	14,75	50	3650	9000.0
154	345		7,7	25,5	51	154	185	215	275	345	345	250	0,95	19,39	50	4050	9000.0
630	87	BK30-../S09XA4	31,5	105	210	630	760	54	69	87	87	63	2,2	4,73	56	1550	8800.0
495	110		24,5	83	166	495	590	69	88	110	110	80	1,9	6,02	56	1690	9600.0
400	137		20	67	134	400	480	85	109	137	137	99	1,9	7,45	56	2200	10400.0
310	177		15,5	51	103	310	370	110	141	177	177	128	1,8	9,63	56	3150	11500.0
260	205		13	43,5	87	260	315	128	164	205	205	148	2,0	11,39	56	4150	11000.0
250	215		12,5	41,5	83	250	300	137	175	215	215	159	1,5	11,93	56	3650	12000.0
210	250		10,5	35,5	71	210	255	159	200	250	250	184	1,3	13,98	56	4050	12000.0
205	260		10	34	68	205	245	163	205	260	260	189	1,7	14,5	56	4900	12000.0
167	320		8,3	27,5	55	167	200	200	255	320	320	230	1,4	17,95	56	5300	12000.0
143	375		7,1	23,5	47,5	143	172	235	300	375	375	275	0,84	20,85	56	5000	12000.0
129	415		6,4	21,5	43	129	155	260	330	415	415	300					

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 20 Nm

n_1 = 3000 $^1/_{min}$

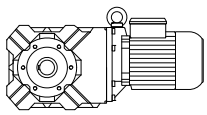


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
320	171	BK40-../S09XA4	16	53	107	320	385	107	137	171	171	124	2,9	9,31	76	1040	11200.0
250	215		12,5	42	84	250	300	136	174	215	215	158	2,2	11,86	76	1770	12200.0
205	260		10	34	68	205	245	163	205	260	260	189	3,0	14,5	76	4500	14300.0
166	320		8,3	27,5	55	166	199	200	255	320	320	235	2,4	18,05	76	4900	15300.0
133	400		6,6	22	44,5	133	160	250	320	400	400	290	1,9	22,44	76	5500	16500.0
104	510		5,2	17	34,5	104	125	320	410	510	510	370	1,5	28,59	76	6300	17000.0
86	620		4,3	14	28,5	86	104	385	495	620	620	450	1,3	34,61	76	6900	17000.0
73	730		3,6	12	24	73	88	455	580	730	730	530	1,1	40,88	76	7600	17000.0
58	900		2,9	9,7	19,5	58	70	560	720	900	900	650	0,87	51,18	76	8400	17000.0
167	325	BK50-../S09XA4	8,3	27,5	55	167	200	200	260	325	325	235	2,2	17,92	104	4600	16800.0
155	345		7,7	25,5	51	155	186	215	275	345	345	250	3,0	19,33	104	6900	19200.0
113	475		5,6	18,5	37,5	113	135	295	380	475	475	345	2,2	26,51	104	7800	21200.0
85	630		4,2	14	28	85	102	395	500	630	630	455	1,7	35,21	104	8700	23100.0
63	840		3,1	10,5	21	63	75	520	670	840	840	610	1,2	47,5	104	10100	25700.0
49	1060		2,4	8,2	16	49	59	660	850	1060	1060	770	0,98	60,76	104	11400	26000.0
39,5	1310		1,9	6,6	13	39,5	47,5	810	1040	1310	1310	950	0,8	75,4	104	12600	26000.0
79	750	BK60-../S09XA4	3,9	13	26	79	95	470	600	750	750	540	3,0	37,8	113	7300	26500.0
66	900		3,3	11	22	66	79	560	720	900	900	650	2,6	45,05	113	8200	28300
59	1000		2,9	9,9	19,5	59	71	630	800	1000	1000	730	2,3	50,4	113	9100	29800
50	1170		2,5	8,4	16,5	50	61	730	940	1170	1170	850	2,0	58,95	113	9900	31500
45	1310		2,2	7,5	15	45	54	820	1050	1310	1310	950	1,7	65,95	113	10900	33000
38	1560		1,9	6,3	12,5	38	46	970	1250	1560	1560	1130	1,5	78,13	113	11900	34000
34	1740		1,7	5,7	11	34	41	1090	1390	1740	1740	1260	1,3	87,41	113	12900	34000
29,5	2000		1,4	4,9	9,8	29,5	35,5	1260	1610	2000	2000	1460	1,1	101,2	113	13900	34000
26,5	2250		1,3	4,4	8,8	26,5	31,5	1410	1810	2250	2250	1640	1,0	113,2	113	15000	34000
24	2450		1,2	4	8,1	24	29	1530	1960	2450	2450	1770	0,94	122,5	113	15500	34000
21,5	2700		1,0	3,6	7,2	21,5	26	1710	2150	2700	2700	1980	0,84	137	113	16600	34000
32,5	1810	BK70-../S09XA4	1,6	5,4	10,5	32,5	39,5	1130	1450	1810	1810	1310	2,9	90,96	199	15300	49900
28,5	2050		1,4	4,8	9,6	28,5	34,5	1290	1650	2050	2050	1500	2,5	103,5	199	17200	50000
24,5	2400		1,2	4,1	8,3	24,5	29,5	1500	1920	2400	2400	1740	2,2	120,2	199	18600	50000
21,5	2700		1,0	3,6	7,3	21,5	26	1700	2150	2700	2700	1980	1,9	136,7	199	20700	50000
19	3050		0,95	3,2	6,4	19	23	1930	2450	3050	3050	2200	1,7	154,4	199	21900	50000
17	3500		0,85	2,8	5,6	17	20	2150	2800	3500	3500	2500	1,5	175,7	199	24100	50000
15,5	3800	BK70Z-../S09XA4	0,75	2,6	5,2	15,5	18,5	2350	3000	3800	3800	2750	1,4	190,4	220	24100	50000
13	4500		0,65	2,2	4,4	13	15,5	2800	3600	4500	4500	3250	1,1	226,2	220	24100	50000
11,5	5100		0,55	1,9	3,8	11,5	13,5	3200	4100	5100	5100	3700	1,0	257,3	220	24100	50000
10	5800		0,5	1,7	3,4	10	12	3650	4650	5800	5800	4250	0,89	293,3	220	24100	50000
4,9	12100	BK80G40-../S09XA4	0,24	0,8	1,6	4,9	5,9	7500	9700	12100	12100	8800	0,95	607,8	360	30000	75000
4,4	13600		0,22	0,7	1,4	4,4	5,2	8500	10800	13600	13600	9800	0,84	680,9	360	30000	75000
15	3950	BK80Z-../S09XA4	0,75	2,5	5,0	15	18	2450	3150	3950	3950	2850	2,9	198,9	349	30000	75000
13	4500		0,65	2,2	4,4	13	15,5	2800	3600	4500	4500	3250	2,5	226,1	349	30000	75000
11,5	5000		0,55	1,9	3,9	11,5	14	3150	4050	5000	5000	3650	2,3	253,3	349	30000	75000
9,9	6000		0,49	1,6	3,3	9,9	11,5	3750	4800	6000	6000	4350	1,9	300,6	349	30000	75000
8,9	6700		0,44	1,4	2,9	8,9	10,5	4200	5300	6700	6700	4850	1,7	336,7	349	30000	75000
7,7	7700		0,38	1,2	2,5	7,7	9,2	4850	6200	7700	7700	5600	1,5	389	349	30000	75000
6,8	8700		0,34	1,1	2,2	6,8	8,2	5400	6900	8700	8700	6300	1,3	435,7	349	30000	75000
6,0	9900		0,3	1,0	2,0	6,0	7,2	6200	7900	9900	9900	7200	1,2	499,5	349	30000	75000
5,3	11100		0,26	0,85	1,7	5,3	6,4	6900	8900	11100	11100	8100	1,0	559,5	349	30000	75000
3,6	16400	BK90G50-../S09XA4	0,18	0,6	1,2	3,6	4,3	10200	13100	16400	16400	11900	1,1	821	633	49400	120000
3,4	17600		0,17	0,55	1,1	3,4	4,0	11000	14100	17600	17600	12700	1,0	882,3	633	49400	120000
2,9	20000		0,14	0,49	0,95	2,9	3,5	12600	16100	20000	20000	14600	0,92	1008	633	49400	120000
2,6	22500		0,13	0,44	0,85	2,6	3,1	14000	18000	22500	22500	16300	0,82	1127	633	49400	120000
9,0	6600	BK90Z-../S09XA4	0,45	1,5	3,0	9,0	10,5	4100	5200	6600	6600	4750	2,8	330,7	622	49400	120000
7,7	7700		0,38	1,2	2,5	7,7	9,2	4850	6200	7700	7700	5600	2,4	389,1	622	49400	120000
6,8	8700		0,34	1,1	2,2	6,8	8,2	5400	6900	8700	8700	6300	2,1	435,3	622	49400	120000
6,0	9900		0,3	1,0	2,0	6,0	7,2	6200	7900	9900	9900	7200	1,9	499,2	622	49400	120000
5,3	11100		0,26	0,85	1,7	5,3	6,4	6900	8900	11100	11100	8000	1,7	558,5	622	49400	120000
4,7	12700		0,23	0,75	1,5	4,7	5,6	7900	10200	12700	12700	9200	1,5	637,7	622	49400	120000
4,2	14200		0,21	0,7	1,4	4,2	5,0	8900	11400	14200	14200	10300	1,3	713,5	622	49400	120000

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 23,9 Nm

n_1 = 3000 $^1/_{min}$

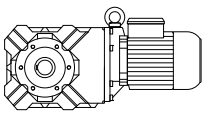


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	3000	3600	1800	150	500	1000	3000	3600			kg	N	N
630	**97**	**BK30-../S11SA6**	31,5	105	210	630	760	78	87	97	97	97	**2,0**	4,73	59	1550	8800.0
495	**124**		24,5	83	166	495	590	99	110	124	124	124	**1,7**	6,02	59	1690	9600.0
400	**154**		20	67	134	400	480	123	137	154	154	154	**1,7**	7,45	59	2200	10400.0
310	**199**		15,5	51	103	310	370	159	177	199	199	199	**1,6**	9,63	59	3150	11500.0
260	**230**		13	43,5	87	260	315	184	205	230	230	230	**1,8**	11,39	59	4150	11000.0
250	**245**		12,5	41,5	83	250	300	197	215	245	245	245	**1,3**	11,93	59	3650	12000.0
210	**285**		10,5	35,5	71	210	255	225	250	285	285	285	**1,1**	13,98	59	4050	12000.0
205	**290**		10	34	68	205	245	230	260	290	290	290	**1,5**	14,5	59	4900	12000.0
167	**360**		8,3	27,5	55	167	200	290	320	360	360	360	**1,2**	17,95	59	5300	12000.0
129	**465**		6,4	21,5	43	129	155	375	415	465	465	465	**0,96**	23,2	59	5900	12000.0
320	**192**	**BK40-../S11SA6**	16	53	107	320	385	154	171	192	192	192	**2,5**	9,31	84	1040	11200.0
250	**245**		12,5	42	84	250	300	196	215	245	245	245	**2,0**	11,86	84	1770	12200.0
205	**290**		10	34	68	205	245	230	260	290	290	290	**2,7**	14,5	84	4500	14300.0
166	**365**		8,3	27,5	55	166	199	290	320	365	365	365	**2,1**	18,05	84	4900	15300.0
133	**450**		6,6	22	44,5	133	160	360	400	450	450	450	**1,7**	22,44	84	5500	16500.0
104	**570**		5,2	17	34,5	104	125	460	510	570	570	570	**1,3**	28,59	84	6300	17000.0
86	**700**		4,3	14	28,5	86	104	560	620	700	700	700	**1,1**	34,61	84	6900	17000.0
73	**820**		3,6	12	24	73	88	660	730	820	820	820	**0,94**	40,88	84	7600	17000.0
167	**365**	**BK50-../S11SA6**	8,3	27,5	55	167	200	290	325	365	365	365	**2,0**	17,92	114	4600	16800.0
155	**390**		7,7	25,5	51	155	186	310	345	390	390	390	**2,7**	19,33	114	6900	19200.0
113	**530**		5,6	18,5	37,5	113	135	425	475	530	530	530	**2,0**	26,51	114	7800	21200.0
85	**710**		4,2	14	28	85	102	570	630	710	710	710	**1,5**	35,21	114	8700	23100.0
63	**950**		3,1	10,5	21	63	75	760	840	950	950	950	**1,1**	47,5	114	10100	25700.0
49	**1200**		2,4	8,2	16	49	59	960	1060	1200	1200	1200	**0,87**	60,76	114	11400	26000.0
88	**760**	**BK60-../S11SA6**	4,4	14,5	29,5	88	106	600	670	760	760	760	**3,0**	33,78	124	6500	25200.0
79	**850**		3,9	13	26	79	95	680	750	850	850	850	**2,7**	37,8	124	7300	26500.0
66	**1010**		3,3	11	22	66	79	810	900	1010	1010	1010	**2,3**	45,05	124	8200	28300.0
59	**1130**		2,9	9,9	19,5	59	71	900	1000	1130	1130	1130	**2,0**	50,4	124	9100	29800.0
50	**1320**		2,5	8,4	16,5	50	61	1060	1170	1320	1320	1320	**1,7**	58,95	124	9900	31500.0
45	**1480**		2,2	7,5	15	45	54	1180	1310	1480	1480	1480	**1,5**	65,95	124	10900	33000.0
38	**1750**		1,9	6,3	12,5	38	46	1400	1560	1750	1750	1750	**1,3**	78,13	124	11900	34000.0
34	**1960**		1,7	5,7	11	34	41	1570	1740	1960	1960	1960	**1,2**	87,41	124	12900	34000.0
29,5	**2250**		1,4	4,9	9,8	29,5	35,5	1820	2000	2250	2250	2250	**1,0**	101,2	124	13900	34000.0
26,5	**2500**		1,3	4,4	8,8	26,5	31,5	2000	2250	2500	2500	2500	**0,9**	113,2	124	15000	34000.0
24	**2750**		1,2	4,0	8,1	24	29	2200	2450	2750	2750	2750	**0,83**	122,5	124	15500	34000.0
37,5	**1790**	**BK70-../S11SA6**	1,8	6,2	12,5	37,5	45	1430	1590	1790	1790	1790	**2,9**	79,89	203	14300	47600.0
32,5	**2000**		1,6	5,4	10,5	32,5	39,5	1630	1810	2000	2000	2000	**2,5**	90,96	203	15300	49900.0
28,5	**2300**		1,4	4,8	9,6	28,5	34,5	1860	2050	2300	2300	2300	**2,2**	103,5	203	17200	50000.0
24,5	**2700**		1,2	4,1	8,3	24,5	29,5	2150	2400	2700	2700	2700	**1,9**	120,2	203	18600	50000.0
21,5	**3050**		1,0	3,6	7,3	21,5	26	2450	2700	3050	3050	3050	**1,7**	136,7	203	20700	50000.0
19	**3450**		0,95	3,2	6,4	19	23	2750	3050	3450	3450	3450	**1,5**	154,4	203	21900	50000.0
17	**3950**		0,85	2,8	5,6	17	20	3150	3500	3950	3950	3950	**1,3**	175,7	203	24100	50000.0
15,5	**4250**	**BK70Z-../S11SA6**	0,75	2,6	5,2	15,5	18,5	3400	3800	4250	4250	4250	**1,2**	190,4	230	24100	50000.0
13	**5000**		0,65	2,2	4,4	13	15,5	4050	4500	5000	5000	5000	**1,0**	226,2	230	24100	50000.0
11,5	**5700**		0,55	1,9	3,8	11,5	13,5	4600	5100	5700	5700	5700	**0,9**	257,3	230	24100	50000.0
19,5	**3400**	**BK80-../S11SA6**	0,95	3,2	6,5	19,5	23,5	2750	3050	3400	3400	3400	**3,0**	153,1	318	27200	75000.0
17	**3850**		0,85	2,9	5,8	17	20,5	3050	3400	3850	3850	3850	**2,7**	171,5	318	30000	75000.0
4,9	**13600**	**BK80G40-../S11SA6**	0,24	0,8	1,6	4,9	5,9	10900	12100	13600	13600	13600	**0,84**	607,8	368	30000	75000.0
16,5	**3950**	**BK80Z-../S11SA6**	0,8	2,8	5,6	16,5	20	3150	3550	3950	3950	3950	**2,9**	177,6	360	30000	75000.0
15	**4450**		0,75	2,5	5,0	15	18	3550	3950	4450	4450	4450	**2,6**	198,9	360	30000	75000.0
13	**5000**		0,65	2,2	4,4	13	15,5	4050	4500	5000	5000	5000	**2,3**	226,1	360	30000	75000.0
11,5	**5600**		0,55	1,9	3,9	11,5	14	4550	5000	5600	5600	5600	**2,0**	253,3	360	30000	75000.0
9,9	**6700**		0,49	1,6	3,3	9,9	11,5	5400	6000	6700	6700	6700	**1,7**	300,6	360	30000	75000.0
8,9	**7500**		0,44	1,4	2,9	8,9	10,5	6000	6700	7500	7500	7500	**1,5**	336,7	360	30000	75000.0
7,7	**8700**		0,38	1,2	2,5	7,7	9,2	7000	7700	8700	8700	8700	**1,3**	389	360	30000	75000.0
6,8	**9800**		0,34	1,1	2,2	6,8	8,2	7800	8700	9800	9800	9800	**1,2**	435,7	360	30000	75000.0
6,0	**11200**		0,3	1,0	2,0	6,0	7,2	8900	9900	11200	11200	11200	**1,0**	499,5	360	30000	75000.0
5,3	**12500**		0,26	0,85	1,7	5,3	6,4	10000	11100	12500	12500	12500	**0,91**	559,5	360	30000	75000.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 23,9 Nm

n_1 = 3000 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
3,6	18400	BK90G50-../S11SA6	0,18	0,6	1,2	3,6	4,3	14700	16400	18400	18400	18400	**1,0**	821	642	49400	120000.0
3,4	19800		0,17	0,55	1,1	3,4	4,0	15800	17600	19800	19800	19800	**0,93**	882,3	642	49400	120000.0
2,9	22500		0,14	0,49	0,95	2,9	3,5	18100	20000	22500	22500	22500	**0,82**	1008	642	49400	120000.0
10	6600	BK90Z-../S11SA6	0,5	1,6	3,3	10	12	5300	5900	6600	6600	6600	**2,8**	295,6	626	49400	120000.0
9,0	7400		0,45	1,5	3,0	9,0	10,5	5900	6600	7400	7400	7400	**2,5**	330,7	626	49400	120000.0
7,7	8700		0,38	1,2	2,5	7,7	9,2	7000	7700	8700	8700	8700	**2,1**	389,1	626	49400	120000.0
6,8	9700		0,34	1,1	2,2	6,8	8,2	7800	8700	9700	9700	9700	**1,9**	435,3	626	49400	120000.0
6,0	11200		0,3	1,0	2,0	6,0	7,2	8900	9900	11200	11200	11200	**1,6**	499,2	626	49400	120000.0
5,3	12500		0,26	0,85	1,7	5,3	6,4	10000	11100	12500	12500	12500	**1,5**	558,5	626	49400	120000.0
4,7	14300		0,23	0,75	1,5	4,7	5,6	11400	12700	14300	14300	14300	**1,3**	637,7	626	49400	120000.0
4,2	16000		0,21	0,7	1,4	4,2	5,0	12800	14200	16000	16000	16000	**1,2**	713,5	626	49400	120000.0

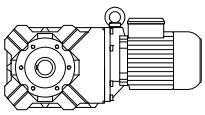
M_1 = 35 Nm

n_1 = 3000 $^1/_{min}$

n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
630	152	BK30-../S11MA6	31,5	105	210	630	760	115	121	152	152	149	**1,3**	4,73	65	1550	8800.0
495	193		24,5	83	166	495	590	146	155	193	193	189	**1,1**	6,02	65	1690	9600.0
400	235		20	67	134	400	480	181	191	235	235	235	**1,1**	7,45	65	2200	10400.0
310	310		15,5	51	103	310	370	230	245	310	310	300	**1,0**	9,63	65	3150	11500.0
260	355		13	43,5	87	260	315	270	285	355	355	350	**1,2**	11,39	65	4150	11000.0
250	380		12,5	41,5	83	250	300	290	305	380	380	375	**0,83**	11,93	65	3650	12000.0
205	455		10	34	68	205	245	345	365	455	455	445	**0,99**	14,5	65	4900	12000.0
167	560		8,3	27,5	55	167	200	425	450	560	560	550	**0,8**	17,95	65	5300	12000.0
640	149	BK40-../S11MA6	32	107	215	640	770	112	119	149	149	146	**2,9**	4,63	90	430	8900.0
495	193		24,5	83	166	495	590	146	155	193	193	189	**2,4**	6,02	90	470	9800.0
400	240		20	66	133	400	480	182	192	240	240	235	**2,0**	7,49	90	750	10500.0
320	295		16	53	107	320	385	225	235	295	295	290	**1,6**	9,31	90	1040	11200.0
265	350		13	44,5	89	265	320	265	280	350	350	340	**2,0**	11,17	90	4100	13100.0
250	380		12,5	42	84	250	300	285	305	380	380	370	**1,3**	11,86	90	1770	12200.0
205	455		10	34	68	205	245	345	365	455	455	445	**1,7**	14,5	90	4500	14300.0
166	560		8,3	27,5	55	166	199	430	450	560	560	550	**1,4**	18,05	90	4900	15300.0
133	700		6,6	22	44,5	133	160	530	560	700	700	690	**1,1**	22,44	90	5500	16500.0
104	900		5,2	17	34,5	104	125	680	720	900	900	880	**0,87**	28,59	90	6300	17000.0
305	305	BK50-../S11MA6	15	51	102	305	365	230	245	305	305	300	**3,0**	9,73	120	5400	15400.0
300	320		15	50	100	300	360	240	255	320	320	315	**2,5**	10	120	1220	13200.0
215	435		10,5	35,5	71	215	255	330	350	435	435	430	**2,4**	13,95	120	6100	17400.0
167	570		8,3	27,5	55	167	200	430	455	570	570	550	**1,3**	17,92	120	4600	16800.0
155	600		7,7	25,5	51	155	186	460	485	600	600	590	**1,7**	19,33	120	6900	19200.0
113	830		5,6	18,5	37,5	113	135	630	660	830	830	810	**1,3**	26,51	120	7800	21200.0
85	1100		4,2	14	28	85	102	830	880	1100	1100	1080	**0,95**	35,21	120	8700	23100.0
122	850	BK60-../S11MA6	6,1	20	40,5	122	147	640	680	850	850	830	**2,7**	24,45	130	4850	22000.0
109	950		5,4	18	36,5	109	131	720	760	950	950	930	**2,4**	27,36	130	5600	23200.0
88	1180		4,4	14,5	29,5	88	106	890	940	1180	1180	1150	**1,9**	33,78	130	6500	25200.0
79	1320		3,9	13	26	79	95	1000	1050	1320	1320	1290	**1,7**	37,8	130	7300	26500.0
66	1570		3,3	11	22	66	79	1190	1260	1570	1570	1540	**1,5**	45,05	130	8200	28300.0
59	1760		2,9	9,9	19,5	59	71	1330	1410	1760	1760	1720	**1,3**	50,4	130	9100	29800.0
50	2050		2,5	8,4	16,5	50	61	1560	1650	2050	2050	2000	**1,1**	58,95	130	9900	31500.0
45	2300		2,2	7,5	15	45	54	1740	1840	2300	2300	2250	**1,0**	65,95	130	10900	33000.0
38	2700		1,9	6,3	12,5	38	46	2050	2150	2700	2700	2650	**0,84**	78,13	130	11900	34000.0
55	1890	BK70-../S11MA6	2,7	9,2	18	55	66	1430	1510	1890	1890	1850	2,7	54,15	209	9900	40200.0
48,5	2150		2,4	8,1	16	48,5	58	1630	1720	2150	2150	2100	2,4	61,6	209	11500	42800.0
42,5	2450		2,1	7,1	14	42,5	51	1860	1960	2450	2450	2400	2,1	70,23	209	12500	44800.0
37,5	2750		1,8	6,2	12,5	37,5	45	2100	2200	2750	2750	2700	1,9	79,89	209	14300	47600.0
32,5	3150		1,6	5,4	10,5	32,5	39,5	2400	2500	3150	3150	3100	1,6	90,96	209	15300	49900.0
28,5	3600		1,4	4,8	9,6	28,5	34,5	2700	2850	3600	3600	3550	1,4	103,5	209	17200	50000.0
24,5	4200		1,2	4,1	8,3	24,5	29,5	3150	3350	4200	4200	4100	1,2	120,2	209	18600	50000.0
21,5	4750		1,0	3,6	7,3	21,5	26	3600	3800	4750	4750	4650					

M_1 = 35 Nm

n_1 = 3000 $^1/_{min}$

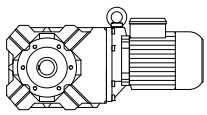


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	3000	3600	1800	150	500	1000	3000	3600			kg	N	N
29	**3550**	**BK80-../S11MA6**	1,4	4,8	9,7	29	35	2700	2850	3550	3550	3500	**2,9**	102,5	324	20500	75000.0
25,5	**4100**		1,2	4,2	8,5	25,5	30,5	3100	3250	4100	4100	4000	**2,6**	117,5	324	22300	75000.0
22,5	**4600**		1,1	3,7	7,5	22,5	27	3450	3650	4600	4600	4500	**2,3**	131,6	324	24900	75000.0
19,5	**5300**		0,95	3,2	6,5	19,5	23,5	4050	4250	5300	5300	5200	**2,0**	153,1	324	27200	75000.0
17	**6000**		0,85	2,9	5,8	17	20,5	4500	4800	6000	6000	5800	**1,7**	171,5	324	30000	75000.0
16,5	**6200**	**BK80Z-../S11MA6**	0,8	2,8	5,6	16,5	20	4700	4950	6200	6200	6000	**1,9**	177,6	366	30000	75000.0
15	**6900**		0,75	2,5	5,0	15	18	5200	5500	6900	6900	6800	**1,7**	198,9	366	30000	75000.0
13	**7900**		0,65	2,2	4,4	13	15,5	5900	6300	7900	7900	7700	**1,5**	226,1	366	30000	75000.0
11,5	**8800**		0,55	1,9	3,9	11,5	14	6700	7000	8800	8800	8600	**1,3**	253,3	366	30000	75000.0
9,9	**10500**		0,49	1,6	3,3	9,9	11,5	7900	8400	10500	10500	10300	**1,1**	300,6	366	30000	75000.0
8,9	**11700**		0,44	1,4	2,9	8,9	10,5	8900	9400	11700	11700	11500	**0,98**	336,7	366	30000	75000.0
7,7	**13600**		0,38	1,2	2,5	7,7	9,2	10300	10800	13600	13600	13300	**0,84**	389	366	30000	75000.0
17	**6100**	**BK90Z-../S11MA6**	0,85	2,8	5,7	17	20,5	4600	4850	6100	6100	5900	**3,0**	174,7	632	49400	120000.0
15	**6800**		0,75	2,5	5,1	15	18	5100	5400	6800	6800	6700	**2,7**	195,4	632	49400	120000.0
12,5	**8200**		0,6	2,1	4,2	12,5	15	6200	6500	8200	8200	8000	**2,3**	234,6	632	49400	120000.0
11	**9100**		0,55	1,9	3,8	11	13,5	6900	7300	9100	9100	9000	**2,0**	262,5	632	49400	120000.0
10	**10300**		0,5	1,6	3,3	10	12	7800	8200	10300	10300	10100	**1,8**	295,6	632	49400	120000.0
9,0	**11500**		0,45	1,5	3,0	9,0	10,5	8700	9200	11500	11500	11300	**1,6**	330,7	632	49400	120000.0
7,7	**13600**		0,38	1,2	2,5	7,7	9,2	10300	10800	13600	13600	13300	**1,4**	389,1	632	49400	120000.0
6,8	**15200**		0,34	1,1	2,2	6,8	8,2	11500	12100	15200	15200	14900	**1,2**	435,3	632	49400	120000.0
6,0	**17400**		0,3	1,0	2,0	6,0	7,2	13200	13900	17400	17400	17100	**1,1**	499,2	632	49400	120000.0
5,3	**19500**		0,26	0,85	1,7	5,3	6,4	14800	15600	19500	19500	19100	**0,95**	558,5	632	49400	120000.0
4,7	**22000**		0,23	0,75	1,5	4,7	5,6	16800	17800	22000	22000	21500	**0,83**	637,7	632	49400	120000.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 48 Nm

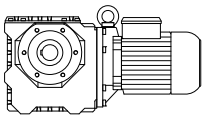
n_1 = 3000 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
630	205	BK30-../S11LA6	31,5	105	210	630	760	141	171	205	205	174	**0,93**	4,73	76	1550	8800.0
400	325		20	67	134	400	480	220	270	325	325	270	**0,81**	7,45	76	2200	10400.0
260	490		13	43,5	87	260	315	330	400	490	490	410	**0,84**	11,39	76	4150	11000.0
640	200	BK40-../S11LA6	32	107	215	640	770	138	168	200	200	170	**2,1**	4,63	102	430	8900.0
495	265		24,5	83	166	495	590	179	215	265	265	220	**1,8**	6,02	102	470	9800.0
400	330		20	66	133	400	480	220	270	330	330	275	**1,5**	7,49	102	750	10500.0
320	410		16	53	107	320	385	275	335	410	410	340	**1,2**	9,31	102	1040	11200.0
265	480		13	44,5	89	265	320	325	395	480	480	400	**1,5**	11,17	102	4100	13100.0
250	520		12,5	42	84	250	300	350	430	520	520	435	**0,94**	11,86	102	1770	12200.0
205	620		10	34	68	205	245	420	510	620	620	520	**1,2**	14,5	102	4500	14300.0
166	770		8,3	27,5	55	166	199	520	640	770	770	640	**1,0**	18,05	102	4900	15300.0
133	960		6,6	22	44,5	133	160	650	790	960	960	800	**0,8**	22,44	102	5500	16500.0
410	320	BK50-../S11LA6	20,5	68	137	410	490	215	260	320	320	265	**2,5**	7,29	132	620	11900.0
305	420		15	51	102	305	365	280	345	420	420	350	**2,2**	9,73	132	5400	15400.0
300	440		15	50	100	300	360	295	360	440	440	365	**1,8**	10	132	1220	13200.0
215	600		10,5	35,5	71	215	255	405	495	600	600	500	**1,7**	13,95	132	6100	17400.0
167	780		8,3	27,5	55	167	200	520	640	780	780	650	**0,92**	17,92	132	4600	16800.0
155	830		7,7	25,5	51	155	186	560	680	830	830	690	**1,3**	19,33	132	6900	19200.0
113	1140		5,6	18,5	37,5	113	135	770	940	1140	1140	950	**0,92**	26,51	132	7800	21200.0
215	660	BK60-../S11LA6	10,5	36	72	215	255	450	540	660	660	550	**3,0**	13,85	142	3850	18000.0
205	690		10	34,5	69	205	245	465	560	690	690	570	**2,8**	14,41	142	3650	18600.0
163	880		8,1	27	54	163	196	590	720	880	880	730	**2,4**	18,36	142	4000	19900.0
146	980		7,3	24	48,5	146	175	660	810	980	980	820	**2,3**	20,54	142	4400	20600.0
122	1170		6,1	20	40,5	122	147	790	960	1170	1170	970	**2,0**	24,45	142	4850	22000.0
109	1310		5,4	18	36,5	109	131	880	1080	1310	1310	1090	**1,8**	27,36	142	5600	23200.0
88	1620		4,4	14,5	29,5	88	106	1090	1330	1620	1620	1350	**1,4**	33,78	142	6500	25200.0
79	1810		3,9	13	26	79	95	1220	1490	1810	1810	1510	**1,3**	37,8	142	7300	26500.0
66	2150		3,3	11	22	66	79	1460	1770	2150	2150	1800	**1,1**	45,05	142	8200	28300.0
59	2400		2,9	9,9	19,5	59	71	1630	1990	2400	2400	2000	**0,95**	50,4	142	9100	29800.0
50	2800		2,5	8,4	16,5	50	61	1910	2300	2800	2800	2350	**0,81**	58,95	142	9900	31500.0
97	1480	BK70-../S11LA6	4,8	16	32	97	116	1000	1220	1480	1480	1230	**3,0**	30,9	221	7500	33600.0
85	1680		4,2	14	28	85	102	1140	1380	1680	1680	1400	**2,8**	35,15	221	8000	35000.0
74	1920		3,7	12	24,5	74	89	1300	1580	1920	1920	1600	**2,5**	40,08	221	8300	36300.0
65	2150		3,2	10,5	21,5	65	78	1480	1800	2150	2150	1820	**2,3**	45,59	221	9000	37900.0
55	2550		2,7	9,2	18	55	66	1750	2100	2550	2550	2150	**2,0**	54,15	221	9900	40200.0
48,5	2950		2,4	8,1	16	48,5	58	2000	2400	2950	2950	2450	**1,8**	61,6	221	11500	42800.0
42,5	3350		2,1	7,1	14	42,5	51	2250	2750	3350	3350	2800	**1,5**	70,23	221	12500	44800.0
37,5	3800		1,8	6,2	12,5	37,5	45	2550	3150	3800	3800	3150	**1,4**	79,89	221	14300	47600.0
32,5	4350		1,6	5,4	10,5	32,5	39,5	2950	3550	4350	4350	3600	**1,2**	90,96	221	15300	49900.0
28,5	4950		1,4	4,8	9,6	28,5	34,5	3350	4050	4950	4950	4100	**1,0**	103,5	221	17200	50000.0
24,5	5700		1,2	4,1	8,3	24,5	29,5	3900	4700	5700	5700	4800	**0,9**	120,2	221	18600	50000.0
42	3350	BK80-../S11LA6	2,1	7,0	14	42	50	2250	2750	3350	3350	2800	**2,8**	70,72	336	16600	68700.0
37,5	3800		1,8	6,3	12,5	37,5	45	2550	3100	3800	3800	3150	**2,6**	79,22	336	17600	71300.0
32,5	4350		1,6	5,4	10,5	32,5	39	2950	3600	4350	4350	3650	**2,3**	91,53	336	18300	74200.0
29	4900		1,4	4,8	9,7	29	35	3300	4000	4900	4900	4100	**2,1**	102,5	336	20500	75000.0
25,5	5600		1,2	4,2	8,5	25,5	30,5	3800	4600	5600	5600	4700	**1,9**	117,5	336	22300	75000.0
22,5	6300		1,1	3,7	7,5	22,5	27	4250	5100	6300	6300	5200	**1,7**	131,6	336	24900	75000.0
19,5	7300		0,95	3,2	6,5	19,5	23,5	4950	6000	7300	7300	6100	**1,4**	153,1	336	27200	75000.0
17	8200		0,85	2,9	5,8	17	20,5	5500	6700	8200	8200	6800	**1,3**	171,5	336	30000	75000.0
16,5	8500	BK80Z-../S11LA6	0,8	2,8	5,6	16,5	20	5700	7000	8500	8500	7100	**1,3**	177,6	378	30000	75000.0
15	9500		0,75	2,5	5	15	18	6400	7800	9500	9500	7900	**1,2**	198,9	378	30000	75000.0
13	10800		0,65	2,2	4,4	13	15,5	7300	8900	10800	10800	9000	**1,1**	226,1	378	30000	75000.0
11,5	12100		0,55	1,9	3,9	11,5	14	8200	10000	12100	12100	10100	**0,95**	253,3	378	30000	75000.0
9,9	14400		0,49	1,6	3,3	9,9	11,5	9700	11800	14400	14400	12000	**0,8**	300,6	378	30000	75000.0
17	8300	BK90Z-../S11LA6	0,85	2,8	5,7	17	20,5	5600	6900	8300	8300	6900	**2,2**	174,7	643	49400	120000.0
15	9300		0,75	2,5	5,1	15	18	6300	7700	9300	9300	7800	**2,0**	195,4	643	49400	120000.0
12,5	11200		0,6	2,1	4,2	12,5	15	7600	9200	11200	11200	9300	**1,6**	234,6	643	49400	120000.0
11	12600		0,55	1,9	3,8	11	13,5	8500	10300	12600	12600	10500	**1,5**	262,5	643	49400	120000.0
10	14100		0,5	1,6	3,3	10	12	9600	11600	14100	14100	11800	**1,3**	295,6	643	49400	120000.0
9,0	15800		0,45	1,5	3,0	9,0	10,5	10700	13000	15800	15800	13200	**1,2**	330,7	643	49400	120000.0
7,7	18600		0,38	1,2	2,5	7,7	9,2	12600	15300	18600	18600	15500	**0,99**	389,1	643	49400	120000.0
6,8	20500		0,34	1,1	2,2	6,8	8,2	14100	17100	20500	20500	17400	**0,89**	435,3	643	49400	120000.0

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

9



Page

BS-series worm-geared motors 155-166
Selection

Description of worm-geared units
- Sizes
- Bauer service factors (f_B) for worm-geared motors
- Continuous operation without switching frequency Z ≤1/h
- Switching duty
- Bauer service factor
- Explanation of shock classification
- Key to abbreviations
- Selection tables, worm-geared motors

Selection - worm geared motors 1500 $^1/_{min}$
Selection - worm geared motors 3000 $^1/_{min}$

Sizes

Bauer BS-series worm-geared motors are normally supplied in eight frame sizes and with torques of 25 to 1,000 Nm. Higher torques are available on request. The gear unit is accommodated in a sturdy cast housing.

Efficiency

The efficiency of worm-geared motors depends on numerous factors, including lubrication, extent of wear, temperature and vibration. Calculated efficiency, therefore, is merely a guideline value. Please consult BAUER and state the boundary conditions if efficiency or self-locking capability are important factors for your application.

Bauer service factors (f_B) for worm-geared motors

Worm gears transmit torque by sliding friction only, which means that losses and temperature are inevitably higher than with helical-gear arrangements.
Of the numerous factors influencing the total loading of a worm-gear unit, the most important include:

- Mean torque (rated torque)
- Daily operating hours
- Severity of torque peaks (shock classification)
- Frequency of torque peaks (switching duty)
- Ambient temperature

These factors can be represented in a simplified and practical manner by **service factors**. The tables and explanations below attempt to provide an objective description of the **shock classification**, rather than a classification of the driven machinery. Experience has shown that, in addition to the torque shocks caused by the driven machinery (M_x/M_N), above all the power transmission components (clutches, chains etc.) plus the mass ratios play a decisive role in this.

See Bauer special imprint SD32 for more information.

Continuous operation without switching frequency Z ≤1/h

Factor f_1 for shock classification and operating time

Shock classification	Operating hours per day t_d ≤10 min	≤1 h	>1 h	>4 h	>8 h	>16 h
			≤4 h	≤8 h	≤16 h	≤24 h
I	0,7	0,8	0,9	1,0	1,25	1,4
II	0,9	1,0	1,12	1,25	1,6	1,8
III	1,25	1,4	1,6	1,8	2,2	2,5

Switching duty

Factor f_2 or shock classification and switching frequency

Switching frequency in single- shift operation t_d ≤8 h/d

Shock classification	1 <Z ≤100	100 <Z ≤1000	1000 <Z
I	1,25	1,4	1,6
II	1,6	1,8	2,0
III	1,8	2,0	2,2

Switching frequency in multiple- shift operation t_d >8 h/d

Shock classification	1 <Z ≤100	100 <Z ≤1000	1000 <Z
I	1,4	1,6	1,8
II	1,8	2,0	2,2
III	2,0	2,2	2,5

Ambient temperature

Factor f_3 for increased ambient temperature

AT	-10°C .. +25°C	>25°C	>30°C	>35°C	>40°C	>45°C	>50°C	>55°C
	no Factor	1,1	1,2	1,3	1,4	1,5	1,6	Enquiry

Bauer service factor

Bauer service factor f_B = maximum value f_1, f_2, f_3 (at daily operating hours > 1h)

For example: Shock classification II for Z = 100 switching operations per hour and multiple-shift operation yields a service factor $f_B = f_2 = 1,8$

Explanation of shock classification

Shock classification I:
Uniform without shock loads. All the following requirements must be satisfied:
- FI ≤1,3
- M_x/M_N ≤1,0
- Shock-absorbing power transmission components (e.g. highly resilient, zero-play coupling, φ N ≥5°)

Shock classification II:
Moderate shock loads. At least one of the following conditions applies:
- 1,3 <FI ≤2
- 1 ≤M_x/M_N ≤1,4
- Shock-neutral power transmission components (e.g. gear wheels, zero- playrigid coupling or resilient coupling with φ N <5 °)

Shock classification III:
Heavy shock loads. At least one of the following conditions applies:
- FI >2
- 1,4 <M_x/M_N ≤2,0
- Shock-amplifying power transmission components (e.g. coupling with play or chain drive)

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

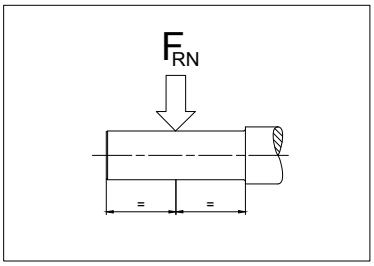
Key to abbreviations

Z	Switching duty number of switching operations per hour
t_d	Daily operating time in hours (h/d)
FI	Factor of inertia FI = $(J_{ext} + J_{rot})/J_{rot}$
J_{ext}	Mass moment of inertia of the machine to be driven, in relation to the motor's rotor shaft (kgm^2)
J_{rot}	Mass moment of inertia of the motor rotor (kgm^2)
M_x	Highest impact torque above the static torque which can occur during normal operation or in emergency situations
M_N	Required static load torque for the application
M_x/M_N	Relative torque - Factor
φ_N	Torsional offset of the resilient coupling under rated torque
UT	Ambient temperature (°C)

Selection tables, worm-geared motors

Key to abbreviations

P	Rated output
n_2	Rated speed of the output shaft
i	Gear reduction ratio
M_2	Rated torque at the output shaft
f_B	Bauer Service factor
F_{RN}	Maximum permissible radial force with standard solid shaft (Code -.1 und -.2)



Use the selection tables to determine the size of geared motor required. The codes clearly define the Type of gear unit and output shaft (see chapter 13 "dimensional drawings worm-geared motors").

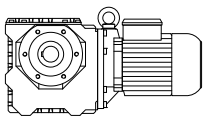
The torques marked (*) are maximum permissible torques for service factor f_B=1,0.

Motor power overload protection
Motor-power ratings, particularly in conjunction with four-stage and multi-stage gear units, are more than ample in some instances. Consequently, and in much the same way as with low-power motors, rated current is not a measure of gear loading and cannot be used to protect the gear unit against overloading. It is advisable to provide gears at risk from excessive load or blockage with a protective mechanism (e. g., slip clutch, slip hub, shear pin or an alternative).

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

$M_1 = 4{,}75$ Nm

$n_1 = 1500\ ^1/_{min}$

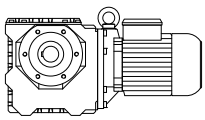


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
325	**26**	**BS03-../S08MA4**	32,5	108	215	325	390	20	22,5	26	26	26	**1,5**	4,6	10	1070	
250	**34**		25	83	166	250	300	26	29,5	34	34	34	**1,3**	6,0	10	1170	
187	**44,5**		18,5	62	125	187	225	34	38,5	44,5	44,5	44,5	**1,1**	8,0	10	1320	
150	**54**		15	50	100	150	180	42	47	54	54	54	**0,95**	10	10	1450	
111	**68**		11	37	74	111	133	52	58	68	68	68	**0,8**	13,5	10	1600	
220	**35**	**BS06-../S08MA4**	22	74	149	220	265	27	30	35	35	35	**1,6**	6,67	16	1550	
167	**47**		16,5	55	111	167	200	36	40,5	47	47	47	**1,3**	8,93	16	1710	
139	**56**		13,5	46,5	93	139	167	43	48,5	56	56	56	**1,2**	10,73	16	1850	
106	**74**		10,5	35,5	71	106	127	56	63	74	74	74	**0,92**	14,07	16	2200	
90	**86**		9,0	30	60	90	108	66	74	86	86	86	**0,84**	16,56	16	2400	
120	**64**	**BS10-../S08MA4**	12	40	80	120	144	49,5	55	64	64	64	**1,7**	12,49	27	2400	
88	**87**		8,8	29,5	59	88	106	67	75	87	87	87	**1,4**	16,92	27	2700	
69	**112**		6,9	23	46	69	83	86	96	112	112	112	**1,1**	21,61	27	3000	
56	**133**		5,6	18,5	37,5	56	68	103	115	133	133	133	**0,97**	26,42	27	3250	
48,5	**137**		4,8	16	32,5	48,5	58	105	118	137	137	137	**0,95**	30,63	27	3550	
44,5	**165**		4,4	14,5	29,5	44,5	53	127	142	165	165	165	**0,81**	33,55	27	3550	
117	**67**	**BS20-../S08MA4**	11,5	39	78	117	140	51	57	67	67	67	**3,0**	12,77	37	3350	
88	**89**		8,8	29,5	59	88	106	68	76	89	89	89	**2,5**	16,92	37	3700	
67	**117**		6,7	22	44,5	67	80	90	100	117	117	117	**2,0**	22,23	37	4100	
53	**141**		5,3	17,5	35,5	53	64	108	121	141	141	141	**1,8**	27,86	37	4450	
48,5	**143**		4,8	16	32,5	48,5	58	110	123	143	143	143	**1,7**	30,63	37	4750	
45,5	**164**		4,5	15	30	45,5	54	126	141	164	164	164	**1,6**	32,87	37	4750	
37	**188**		3,7	12	24,5	37	44,5	144	162	188	188	188	**1,4**	40,25	37	5300	
35,5	**205**		3,5	11,5	23,5	35,5	42,5	159	179	205	205	205	**1,3**	42,08	37	5200	
30,5	**235**		3,0	10	20	30,5	36,5	183	205	235	235	235	**1,1**	48,98	37	5500	
29,5	**215**		2,9	9,9	19,5	29,5	35,5	168	189	215	215	215	**1,2**	50,44	37	5700	
25,5	**285**		2,5	8,5	17	25,5	30,5	220	245	285	285	285	**0,98**	58,74	37	5900	
21	**340**		2,1	7,1	14	21	25,5	260	295	340	340	340	**0,88**	70,3	37	6300	
19,5	**325**		1,9	6,5	13	19,5	23,5	250	280	325	325	325	**0,83**	76,18	37	6600	
55	**146**	**BS30-../S08MA4**	5,5	18	36,5	55	66	112	125	146	146	146	**2,7**	27,07	55	4750	
48,5	**149**		4,8	16	32,5	48,5	58	114	128	149	149	149	**2,7**	30,63	55	5000	
44,5	**178**		4,4	14,5	29,5	44,5	53	137	154	178	178	178	**2,3**	33,55	55	5200	
39,5	**184**		3,9	13	26	39,5	47	142	159	184	184	184	**2,3**	37,92	55	5500	
38	**205**		3,8	12,5	25	38	45,5	159	178	205	205	205	**2,1**	39,31	55	5500	
29,5	**250**		2,9	9,9	19,5	29,5	35,5	192	215	250	250	250	**1,8**	50,04	55	5900	
25,5	**290**		2,5	8,5	17	25,5	30,5	225	250	290	290	290	**1,6**	58,64	55	6900	
21	**320**		2,1	7,0	14	21	25	245	275	320	320	320	**1,5**	71,17	55	7000	
17,5	**415**		1,7	5,9	11,5	17,5	21,5	320	355	415	415	415	**0,97**	83,48	55	6800	
16,5	**405**		1,6	5,5	11	16,5	19,5	310	350	405	405	405	**1,2**	90,59	55	7700	
14	**465**		1,4	4,7	9,4	14	16,5	360	400	465	465	465	**1,1**	106,2	55	8200	
11,5	**550**		1,1	3,9	7,9	11,5	14	425	475	550	550	550	**0,94**	125,2	55	8700	
9,9	**650**		0,95	3,3	6,6	9,9	11,5	500	560	650	650	650	**0,82**	151,1	55	9500	
21,5	**345**	**BS40-../S08MA4**	2,1	7,1	14	21,5	25,5	265	300	345	345	345	**2,1**	69,6	68	11800	
20,5	**330**		2,0	6,8	13,5	20,5	24,5	255	285	330	330	330	**2,6**	73,09	68	12100	
17	**385**		1,7	5,7	11,5	17	20,5	295	330	385	385	385	**2,3**	86,33	68	12900	
13,5	**470**		1,3	4,6	9,2	13,5	16,5	360	405	470	470	470	**2,0**	108,1	68	14000	
11,5	**540**		1,1	3,9	7,9	11,5	14	420	470	540	540	540	**1,8**	126	68	14900	
10	**620**		1,0	3,3	6,7	10	12	480	530	620	620	620	**1,5**	148,1	68	15000	
8,4	**750**		0,8	2,8	5,6	8,4	10	570	640	750	750	750	**1,1**	178,2	68	15000	
6,8	**890**		0,65	2,2	4,5	6,8	8,1	690	770	890	890	890	**0,88**	219,7	68	15000	
6,0	**1020**	**BS40Z-../S08MA4**	0,6	2,0	4,0	6,0	7,2	780	880	1020	1020	1020	**0,88**	249,6	71	15000	
4,9	**1230**		0,49	1,6	3,3	4,9	5,9	950	1060	1230	1230	1230	**0,86**	302,1	71	15000	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 9,55 Nm

n_1 = 1500 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
325	38,5	BS03-../S08LA4	32,5	108	215	325	390	26	32	38,5	38,5	38,5	1,0	4,6	12	1070	
250	50		25	83	166	250	300	34	42	50	50	50	0,87	6,0	12	1170	
220	51	BS06-../S08LA4	22	74	149	220	265	35	43	51	51	51	1,1	6,67	17	1550	
167	69		16,5	55	111	167	200	47	57	69	69	69	0,9	8,93	17	1710	
120	95	BS10-../S08LA4	12	40	80	120	144	64	79	95	95	95	1,1	12,49	28	2400	
88	129		8,8	29,5	59	88	106	87	108	129	129	129	0,93	16,92	28	2700	
117	98	BS20-../S08LA4	11,5	39	78	117	140	67	82	98	98	98	2,0	12,77	39	3350	
88	130		8,8	29,5	59	88	106	89	109	130	130	130	1,7	16,92	39	3700	
67	171		6,7	22	44,5	67	80	117	144	171	171	171	1,3	22,23	39	4100	
53	205		5,3	17,5	35,5	53	64	141	173	205	205	205	1,2	27,86	39	4450	
48,5	210		4,8	16	32,5	48,5	58	143	176	210	210	210	1,2	30,63	39	4750	
45,5	240		4,5	15	30	45,5	54	164	200	240	240	240	1,1	32,87	39	4750	
37	275		3,7	12	24,5	37	44,5	188	230	275	275	275	0,94	40,25	39	5300	
35,5	305		3,5	11,5	23,5	35,5	42,5	205	255	305	305	305	0,88	42,08	39	5200	
29,5	320		2,9	9,9	19,5	29,5	35,5	215	270	320	320	320	0,84	50,44	39	5700	
88	134	BS30-../S08LA4	8,8	29,5	59	88	106	91	112	134	134	134	2,7	16,92	56	3950	
71	165		7,1	23,5	47,5	71	85	112	139	165	165	165	2,3	20,94	56	4300	
55	210		5,5	18	36,5	55	66	146	179	210	210	210	1,9	27,07	56	4750	
48,5	215		4,8	16	32,5	48,5	58	149	183	215	215	215	1,8	30,63	56	5000	
44,5	260		4,4	14,5	29,5	44,5	53	178	220	260	260	260	1,6	33,55	56	5200	
39,5	270		3,9	13	26	39,5	47	184	225	270	270	270	1,5	37,92	56	5500	
38	300		3,8	12,5	25	38	45,5	205	250	300	300	300	1,4	39,31	56	5500	
29,5	365		2,9	9,9	19,5	29,5	35,5	250	305	365	365	365	1,2	50,04	56	5900	
25,5	430		2,5	8,5	17	25,5	30,5	290	360	430	430	430	1,1	58,64	56	6900	
21	475		2,1	7,0	14	21	25	320	395	475	475	475	1,0	71,17	56	7000	
16,5	590		1,6	5,5	11	16,5	19,5	405	500	590	590	590	0,82	90,59	56	7700	
39	265	BS40-../S08LA4	3,9	13	26	39	47	180	220	265	265	265	2,9	38,13	69	9400	
37	300		3,7	12	24,5	37	44,5	205	255	300	300	300	2,6	40,37	69	9000	
31	355		3,1	10	20,5	31	37,5	240	295	355	355	355	2,3	47,69	69	9600	
24,5	405		2,4	8,2	16,5	24,5	29,5	275	340	405	405	405	2,1	60,38	69	11200	
21,5	510		2,1	7,1	14	21,5	25,5	345	425	510	510	510	1,4	69,6	69	11800	
20,5	485		2,0	6,8	13,5	20,5	24,5	330	405	485	485	485	1,8	73,09	69	12100	
17	560		1,7	5,7	11,5	17	20,5	385	475	560	560	560	1,6	86,33	69	12900	
13,5	690		1,3	4,6	9,2	13,5	16,5	470	570	690	690	690	1,4	108,1	69	14000	
11,5	800		1,1	3,9	7,9	11,5	14	540	670	800	800	800	1,2	126	69	14900	
10	910		1,0	3,3	6,7	10	12	620	770	910	910	910	1,0	148,1	69	15000	

M_1 = 14 Nm

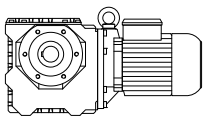
n_1 = 1500 $^1/_{min}$

n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
120	129	BS10-../S09SA4	12	40	80	120	144	79	99	129	129	114	0,83	12,49	32	2400	
117	134	BS20-../S09SA4	11,5	39	78	117	140	82	103	134	134	118	1,5	12,77	42	3350	
88	178		8,8	29,5	59	88	106	109	137	178	178	157	1,2	16,92	42	3700	
67	230		6,7	22	44,5	67	80	144	180	230	230	205	0,98	22,23	42	4100	
53	280		5,3	17,5	35,5	53	64	173	215	280	280	245	0,88	27,86	42	4450	
48,5	285		4,8	16	32,5	48,5	58	176	220	285	285	250	0,87	30,63	42	4750	
45,5	325		4,5	15	30	45,5	54	200	250	325	325	290	0,82	32,87	42	4750	
112	143	BS30-../S09SA4	11	37,5	75	112	135	88	110	143	143	126	2,3	13,29	60	3600	
88	182		8,8	29,5	59	88	106	112	140	182	182	161	2,0	16,92	60	3950	
71	225		7,1	23,5	47,5	71	85	139	173	225	225	199	1,7	20,94	60	4300	
55	290		5,5	18	36,5	55	66	179	220	290	290	255	1,4	27,07	60	4750	
48,5	295		4,8	16	32,5	48,5	58	183	225	295	295	260	1,3	30,63	60	5000	
44,5	355		4,4	14,5	29,5	44,5	53	220	275	355	355	315	1,2	33,55	60	5200	
39,5	365		3,9	13	26	39,5	47	225	280	365	365	325	1,1	37,92	60	5500	
38	410		3,8	12,5	25	38	45,5	250	315	410	410	365	1,0	39,31	60	5500	
29,5	500		2,9	9,9	19,5	29,5	35,5	305	385	500	500	440	0,9	50,04	60	5900	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 14 Nm

n_1 = 1500 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
57	275	BS40-../S09SA4	5,7	19	38	57	68	171	210	275	275	245	2,7	26,18	73	7500	
48,5	290		4,8	16	32,5	48,5	58	181	225	290	290	260	2,5	30,63	73	8700	
44,5	345		4,4	14,5	29,5	44,5	53	210	265	345	345	305	2,2	33,35	73	8300	
39	360		3,9	13	26	39	47	220	275	360	360	320	2,2	38,13	73	9400	
37	410		3,7	12	24,5	37	44,5	255	315	410	410	365	1,9	40,37	73	9000	
31	480		3,1	10	20,5	31	37,5	295	370	480	480	425	1,7	47,69	73	9600	
24,5	550		2,4	8,2	16,5	24,5	29,5	340	425	550	550	490	1,5	60,38	73	11200	
21,5	690		2,1	7,1	14	21,5	25,5	425	530	690	690	610	1,1	69,6	73	11800	
20,5	660		2,0	6,8	13,5	20,5	24,5	405	510	660	660	580	1,3	73,09	73	12100	
17	770		1,7	5,7	11,5	17	20,5	475	590	770	770	680	1,2	86,33	73	12900	
13,5	940		1,3	4,6	9,2	13,5	16,5	570	720	940	940	830	1,0	108,1	73	14000	
11,5	1090		1,1	3,9	7,9	11,5	14	670	840	1090	1090	970	0,89	126	73	14900	

M_1 = 19 Nm

n_1 = 1500 $^1/_{min}$

n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
117	205	BS20-../S09XA4	11,5	39	78	117	140	129	165	205	205	196	0,97	12,77	50	3350	
88	270		8,8	29,5	59	88	106	171	215	270	270	260	0,8	16,92	50	3700	
112	220	BS30-../S09XA4	11	37,5	75	112	135	137	176	220	220	205	1,5	13,29	68	3600	
88	280		8,8	29,5	59	88	106	175	220	280	280	265	1,3	16,92	68	3950	
71	345		7,1	23,5	47,5	71	85	215	275	345	345	330	1,1	20,94	68	4300	
55	445		5,5	18	36,5	55	66	280	355	445	445	425	0,89	27,07	68	4750	
48,5	455		4,8	16	32,5	48,5	58	285	365	455	455	435	0,87	30,63	68	5000	
115	220	BS40-../S09XA4	11,5	38	76	115	138	138	177	220	220	210	2,8	13,03	81	5800	
88	285		8,8	29,5	59	88	106	179	230	285	285	270	2,3	16,92	81	6400	
71	345		7,1	23,5	47	71	85	215	275	345	345	325	2,1	21,06	81	6900	
57	425		5,7	19	38	57	68	265	340	425	425	405	1,7	26,18	81	7500	
48,5	450		4,8	16	32,5	48,5	58	280	360	450	450	430	1,7	30,63	81	8700	
44,5	530		4,4	14,5	29,5	44,5	53	330	425	530	530	500	1,5	33,35	81	8300	
39	550		3,9	13	26	39	47	345	445	550	550	520	1,4	38,13	81	9400	
37	630		3,7	12	24,5	37	44,5	395	510	630	630	600	1,3	40,37	81	9000	
31	740		3,1	10	20,5	31	37,5	460	590	740	740	700	1,1	47,69	81	9600	
24,5	850		2,4	8,2	16,5	24,5	29,5	530	680	850	850	810	1,0	60,38	81	11200	
20,5	1020		2,0	6,8	13,5	20,5	24,5	630	810	1020	1020	970	0,86	73,09	81	12100	

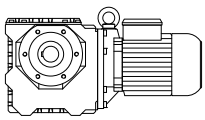
M_1 = 25,5 Nm

n_1 = 1500 $^1/_{min}$

n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
112	245	BS30-../S11SA6	11	37,5	75	112	135	198	220	245	245	245	1,3	13,29	71	3600	
88	315		8,8	29,5	59	88	106	250	280	315	315	315	1,1	16,92	71	3950	
71	390		7,1	23,5	47,5	71	85	310	345	390	390	390	0,97	20,94	71	4300	
115	245	BS40-../S11SA6	11,5	38	76	115	138	199	220	245	245	245	2,5	13,03	89	5800	
88	320		8,8	29,5	59	88	106	255	285	320	320	320	2,1	16,92	89	6400	
71	385		7,1	23,5	47	71	85	310	345	385	385	385	1,8	21,06	89	6900	
57	480		5,7	19	38	57	68	385	425	480	480	480	1,5	26,18	89	7500	
48,5	500		4,8	16	32,5	48,5	58	405	450	500	500	500	1,5	30,63	89	8700	
44,5	600		4,4	14,5	29,5	44,5	53	480	530	600	600	600	1,3	33,35	89	8300	
39	620		3,9	13	26	39	47	500	550	620	620	620	1,2	38,13	89	9400	
37	710		3,7	12	24,5	37	44,5	570	630	710	710	710	1,1	40,37	89	9000	
31	830		3,1	10	20,5	31	37,5	660	740	830	830	830	0,99	47,69	89	9600	
24,5	960		2,4	8,2	16,5	24,5	29,5	770	850	960	960	960	0,89	60,38	89	11200	

M_1 = 35 Nm

n_1 = 1500 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
112	385	BS30-../S11MA6	11	37,5	75	112	135	290	330	385	385	385	**0,86**	13,29	77	3600	
115	385	BS40-../S11MA6	11,5	38	76	115	138	290	330	385	385	385	**1,6**	13,03	95	5800	
88	500		8,8	29,5	59	88	106	380	430	500	500	500	**1,3**	16,92	95	6400	
71	600		7,1	23,5	47	71	85	455	510	600	600	600	**1,2**	21,06	95	6900	
57	750		5,7	19	38	57	68	560	640	750	750	750	**0,98**	26,18	95	7500	
48,5	790		4,8	16	32,5	48,5	58	600	670	790	790	790	**0,95**	30,63	95	8700	
44,5	930		4,4	14,5	29,5	44,5	53	700	800	930	930	930	**0,84**	33,35	95	8300	
39	970		3,9	13	26	39	47	730	830	970	970	970	**0,8**	38,13	95	9400	

M_1 = 48 Nm

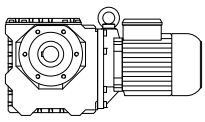
n_1 = 1500 $^1/_{min}$

n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	1500	1800	150	500	1000	1500	1800			kg	N	N
115	530	BS40-../S11LA6	11,5	38	76	115	138	355	435	530	530	520	**1,2**	13,03	107	5800	
88	690		8,8	29,5	59	88	106	465	560	690	690	680	**0,97**	16,92	107	6400	
71	820		7,1	23,5	47	71	85	560	680	820	820	820	**0,86**	21,06	107	6900	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

$M_1 = 7$ Nm

$n_1 = 3000\ ^1/_{min}$

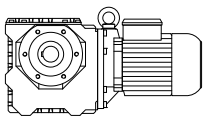


n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
650	**26**	**BS03-../S08MA4**	32,5	108	215	650	780	20	22,5	26	26	26	**1,5**	4,6	10	1070	
500	**34**		25	83	166	500	600	26	29,5	34	34	34	**1,3**	6,0	10	1170	
375	**44,5**		18,5	62	125	375	450	34	38,5	44,5	44,5	44,5	**1,1**	8,0	10	1320	
300	**54**		15	50	100	300	360	42	47	54	54	54	**0,95**	10	10	1450	
220	**68**		11	37	74	220	265	52	58	68	68	68	**0,8**	13,5	10	1600	
445	**35**	**BS06-../S08MA4**	22	74	149	445	530	27	30	35	35	35	**1,6**	6,67	16	1550	
335	**47**		16,5	55	111	335	400	36	40,5	47	47	47	**1,3**	8,93	16	1710	
275	**56**		13,5	46,5	93	275	335	43	48,5	56	56	56	**1,2**	10,73	16	1850	
210	**74**		10,5	35,5	71	210	255	56	63	74	74	74	**0,92**	14,07	16	2200	
181	**86**		9,0	30	60	181	215	66	74	86	86	86	**0,84**	16,56	16	2400	
240	**64**	**BS10-../S08MA4**	12	40	80	240	285	49,5	55	64	64	64	**1,7**	12,49	27	2400	
177	**87**		8,8	29,5	59	177	210	67	75	87	87	87	**1,4**	16,92	27	2700	
138	**112**		6,9	23	46	138	166	86	96	112	112	112	**1,1**	21,61	27	3000	
113	**133**		5,6	18,5	37,5	113	136	103	115	133	133	133	**0,97**	26,42	27	3250	
97	**137**		4,8	16	32,5	97	117	105	118	137	137	137	**0,95**	30,63	27	3550	
89	**165**		4,4	14,5	29,5	89	107	127	142	165	165	165	**0,81**	33,55	27	3550	
230	**67**	**BS20-../S08MA4**	11,5	39	78	230	280	51	57	67	67	67	**3,0**	12,77	37	3350	
177	**89**		8,8	29,5	59	177	210	68	76	89	89	89	**2,5**	16,92	37	3700	
134	**117**		6,7	22	44,5	134	161	90	100	117	117	117	**2,0**	22,23	37	4100	
107	**141**		5,3	17,5	35,5	107	129	108	121	141	141	141	**1,8**	27,86	37	4450	
97	**143**		4,8	16	32,5	97	117	110	123	143	143	143	**1,7**	30,63	37	4750	
91	**164**		4,5	15	30	91	109	126	141	164	164	164	**1,6**	32,87	37	4750	
74	**188**		3,7	12	24,5	74	89	144	162	188	188	188	**1,4**	40,25	37	5300	
71	**205**		3,5	11,5	23,5	71	85	159	179	205	205	205	**1,3**	42,08	37	5200	
61	**235**		3,0	10	20	61	73	183	205	235	235	235	**1,1**	48,98	37	5500	
59	**215**		2,9	9,9	19,5	59	71	168	189	215	215	215	**1,2**	50,44	37	5700	
51	**285**		2,5	8,5	17	51	61	220	245	285	285	285	**0,98**	58,74	37	5900	
42,5	**340**		2,1	7,1	14	42,5	51	260	295	340	340	340	**0,88**	70,3	37	6300	
39	**325**		1,9	6,5	13	39	47	250	280	325	325	325	**0,83**	76,18	37	6600	
110	**146**	**BS30-../S08MA4**	5,5	18	36,5	110	132	112	125	146	146	146	**2,7**	27,07	55	4750	
97	**149**		4,8	16	32,5	97	117	114	128	149	149	149	**2,7**	30,63	55	5000	
89	**178**		4,4	14,5	29,5	89	107	137	154	178	178	178	**2,3**	33,55	55	5200	
79	**184**		3,9	13	26	79	94	142	159	184	184	184	**2,3**	37,92	55	5500	
76	**205**		3,8	12,5	25	76	91	159	178	205	205	205	**2,1**	39,31	55	5500	
59	**250**		2,9	9,9	19,5	59	71	192	215	250	250	250	**1,8**	50,04	55	5900	
51	**290**		2,5	8,5	17	51	61	225	250	290	290	290	**1,6**	58,64	55	6900	
42	**320**		2,1	7,0	14	42	50	245	275	320	320	320	**1,5**	71,17	55	7000	
35,5	**415**		1,7	5,9	11,5	35,5	43	320	355	415	415	415	**0,97**	83,48	55	6800	
33	**405**		1,6	5,5	11	33	39,5	310	350	405	405	405	**1,2**	90,59	55	7700	
28	**465**		1,4	4,7	9,4	28	33,5	360	400	465	465	465	**1,1**	106,2	55	8200	
23,5	**550**		1,1	3,9	7,9	23,5	28,5	425	475	550	550	550	**0,94**	125,2	55	8700	
19,5	**650**		0,95	3,3	6,6	19,5	23,5	500	560	650	650	650	**0,82**	151,1	55	9500	
43	**345**	**BS40-../S08MA4**	2,1	7,1	14	43	51	265	300	345	345	345	**2,1**	69,6	68	11800	
41	**330**		2,0	6,8	13,5	41	49	255	285	330	330	330	**2,6**	73,09	68	12100	
34,5	**385**		1,7	5,7	11,5	34,5	41,5	295	330	385	385	385	**2,3**	86,33	68	12900	
27,5	**470**		1,3	4,6	9,2	27,5	33	360	405	470	470	470	**2,0**	108,1	68	14000	
23,5	**540**		1,1	3,9	7,9	23,5	28,5	420	470	540	540	540	**1,8**	126	68	14900	
20	**620**		1,0	3,3	6,7	20	24	480	530	620	620	620	**1,5**	148,1	68	15000	
16,5	**750**		0,8	2,8	5,6	16,5	20	570	640	750	750	750	**1,1**	178,2	68	15000	
13,5	**890**		0,65	2,2	4,5	13,5	16	690	770	890	890	890	**0,88**	219,7	68	15000	
12	**1020**	**BS40Z-../S08MA4**	0,6	2,0	4,0	12	14	780	880	1020	1020	1020	**0,88**	249,6	71	15000	
9,9	**1230**		0,49	1,6	3,3	9,9	11,5	950	1060	1230	1230	1230	**0,86**	302,1	71	15000	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 9,55 Nm

n_1 = 3000 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
650	38,5	BS03-../S08LA4	32,5	108	215	650	780	26	32	38,5	38,5	38,5	1,0	4,6	12	1070	
650	38,5		32,5	108	215	650	780	26	32	38,5	38,5	38,5	1,0	4,6	12	1070	
500	50		25	83	166	500	600	34	42	50	50	50	0,87	6,0	12	1170	
445	51	BS06-../S08LA4	22	74	149	445	530	35	43	51	51	51	1,1	6,67	17	1550	
335	69		16,5	55	111	335	400	47	57	69	69	69	0,9	8,93	17	1710	
240	95	BS10-../S08LA4	12	40	80	240	285	64	79	95	95	95	1,1	12,49	28	2400	
177	129		8,8	29,5	59	177	210	87	108	129	129	129	0,93	16,92	28	2700	
230	98	BS20-../S08LA4	11,5	39	78	230	280	67	82	98	98	98	2,0	12,77	39	3350	
177	130		8,8	29,5	59	177	210	89	109	130	130	130	1,7	16,92	39	3700	
134	171		6,7	22	44,5	134	161	117	144	171	171	171	1,3	22,23	39	4100	
107	205		5,3	17,5	35,5	107	129	141	173	205	205	205	1,2	27,86	39	4450	
97	210		4,8	16	32,5	97	117	143	176	210	210	210	1,2	30,63	39	4750	
91	240		4,5	15	30	91	109	164	200	240	240	240	1,1	32,87	39	4750	
74	275		3,7	12	24,5	74	89	188	230	275	275	275	0,94	40,25	39	5300	
71	305		3,5	11,5	23,5	71	85	205	255	305	305	305	0,88	42,08	39	5200	
59	320		2,9	9,9	19,5	59	71	215	270	320	320	320	0,84	50,44	39	5700	
177	134	BS30-../S08LA4	8,8	29,5	59	177	210	91	112	134	134	134	2,7	16,92	56	3950	
143	165		7,1	23,5	47,5	143	171	112	139	165	165	165	2,3	20,94	56	4300	
110	210		5,5	18	36,5	110	132	146	179	210	210	210	1,9	27,07	56	4750	
97	215		4,8	16	32,5	97	117	149	183	215	215	215	1,8	30,63	56	5000	
89	260		4,4	14,5	29,5	89	107	178	220	260	260	260	1,6	33,55	56	5200	
79	270		3,9	13	26	79	94	184	225	270	270	270	1,5	37,92	56	5500	
76	300		3,8	12,5	25	76	91	205	250	300	300	300	1,4	39,31	56	5500	
59	365		2,9	9,9	19,5	59	71	250	305	365	365	365	1,2	50,04	56	5900	
51	430		2,5	8,5	17	51	61	290	360	430	430	430	1,1	58,64	56	6900	
42	475		2,1	7,0	14	42	50	320	395	475	475	475	1,0	71,17	56	7000	
33	590		1,6	5,5	11	33	39,5	405	500	590	590	590	0,82	90,59	56	7700	
78	265	BS40-../S08LA4	3,9	13	26	78	94	180	220	265	265	265	2,9	38,13	69	9400	
74	300		3,7	12	24,5	74	89	205	255	300	300	300	2,6	40,37	69	9000	
62	355		3,1	10	20,5	62	75	240	295	355	355	355	2,3	47,69	69	9600	
49,5	405		2,4	8,2	16,5	49,5	59	275	340	405	405	405	2,1	60,38	69	11200	
43	510		2,1	7,1	14	43	51	345	425	510	510	510	1,4	69,6	69	11800	
41	485		2,0	6,8	13,5	41	49	330	405	485	485	485	1,8	73,09	69	12100	
34,5	560		1,7	5,7	11,5	34,5	41,5	385	475	560	560	560	1,6	86,33	69	12900	
27,5	690		1,3	4,6	9,2	27,5	33	470	570	690	690	690	1,4	108,1	69	14000	
23,5	800		1,1	3,9	7,9	23,5	28,5	540	670	800	800	800	1,2	126	69	14900	
20	910		1,0	3,3	6,7	20	24	620	770	910	910	910	1,0	148,1	69	15000	

M_1 = 12,75 Nm

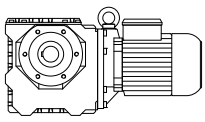
n_1 = 3000 $^1/_{min}$

n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
240	129	BS10-../S09SA4	12	40	80	240	285	79	99	129	129	109	0,83	12,49	32	2400	
230	134	BS20-../S09SA4	11,5	39	78	230	280	82	103	134	134	113	1,5	12,77	42	3350	
177	178		8,8	29,5	59	177	210	109	137	178	178	150	1,2	16,92	42	3700	
134	230		6,7	22	44,5	134	161	144	180	230	230	198	0,98	22,23	42	4100	
107	280		5,3	17,5	35,5	107	129	173	215	280	280	235	0,88	27,86	42	4450	
97	285		4,8	16	32,5	97	117	176	220	285	285	240	0,87	30,63	42	4750	
91	325		4,5	15	30	91	109	200	250	325	325	275	0,82	32,87	42	4750	
225	143	BS30-../S09SA4	11	37,5	75	225	270	88	110	143	143	121	2,3	13,29	60	3600	
177	182		8,8	29,5	59	177	210	112	140	182	182	154	2,0	16,92	60	3950	
143	225		7,1	23,5	47,5	143	171	139	173	225	225	191	1,7	20,94	60	4300	
110	290		5,5	18	36,5	110	132	179	220	290	290	245	1,4	27,07	60	4750	
97	295		4,8	16	32,5	97	117	183	225	295	295	250	1,3	30,63	60	5000	
89	355		4,4	14,5	29,5	89	107	220	275	355	355	300	1,2	33,55	60	5200	
79	365		3,9	13	26	79	94	225	280	365	365	310	1,1	37,92	60	5500	
76	410		3,8	12,5	25	76	91	250	315	410							

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

M_1 = 12,75 Nm

n_1 = 3000 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
114	275	BS40-../S09SA4	5,7	19	38	114	137	171	210	275	275	235	2,7	26,18	73	7500	
97	290		4,8	16	32,5	97	117	181	225	290	290	245	2,5	30,63	73	8700	
89	345		4,4	14,5	29,5	89	107	210	265	345	345	290	2,2	33,35	73	8300	
78	360		3,9	13	26	78	94	220	275	360	360	305	2,2	38,13	73	9400	
74	410		3,7	12	24,5	74	89	255	315	410	410	350	1,9	40,37	73	9000	
62	480		3,1	10	20,5	62	75	295	370	480	480	405	1,7	47,69	73	9600	
49,5	550		2,4	8,2	16,5	49,5	59	340	425	550	550	470	1,5	60,38	73	11200	
43	690		2,1	7,1	14	43	51	425	530	690	690	580	1,1	69,6	73	11800	
41	660		2,0	6,8	13,5	41	49	405	510	660	660	560	1,3	73,09	73	12100	
34,5	770		1,7	5,7	11,5	34,5	41,5	475	590	770	770	650	1,2	86,33	73	12900	
27,5	940		1,3	4,6	9,2	27,5	33	570	720	940	940	790	1,0	108,1	73	14000	
23,5	1090		1,1	3,9	7,9	23,5	28,5	670	840	1090	1090	920	0,89	126	73	14900	

M_1 = 20 Nm

n_1 = 3000 $^1/_{min}$

n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
230	205	BS20-../S09XA4	11,5	39	78	230	280	129	165	205	205	149	0,97	12,77	50	3350	
177	270		8,8	29,5	59	177	210	171	215	270	270	198	0,8	16,92	50	3700	
225	220	BS30-../S09XA4	11	37,5	75	225	270	137	176	220	220	159	1,5	13,29	68	3600	
177	280		8,8	29,5	59	177	210	175	220	280	280	200	1,3	16,92	68	3950	
143	345		7,1	23,5	47,5	143	171	215	275	345	345	250	1,1	20,94	68	4300	
110	445		5,5	18	36,5	110	132	280	355	445	445	325	0,89	27,07	68	4750	
97	455		4,8	16	32,5	97	117	285	365	455	455	330	0,87	30,63	68	5000	
230	220	BS40-../S09XA4	11,5	38	76	230	275	138	177	220	220	160	2,8	13,03	81	5800	
177	285		8,8	29,5	59	177	210	179	230	285	285	205	2,3	16,92	81	6400	
142	345		7,1	23,5	47	142	170	215	275	345	345	250	2,1	21,06	81	6900	
114	425		5,7	19	38	114	137	265	340	425	425	310	1,7	26,18	81	7500	
97	450		4,8	16	32,5	97	117	280	360	450	450	325	1,7	30,63	81	8700	
89	530		4,4	14,5	29,5	89	107	330	425	530	530	385	1,5	33,35	81	8300	
78	550		3,9	13	26	78	94	345	445	550	550	400	1,4	38,13	81	9400	
74	630		3,7	12	24,5	74	89	395	510	630	630	460	1,3	40,37	81	9000	
62	740		3,1	10	20,5	62	75	460	590	740	740	530	1,1	47,69	81	9600	
49,5	850		2,4	8,2	16,5	49,5	59	530	680	850	850	620	1,0	60,38	81	11200	
41	1020		2,0	6,8	13,5	41	49	630	810	1020	1020	740	0,86	73,09	81	12100	

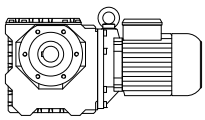
M_1 = 23,9 Nm

n_1 = 3000 $^1/_{min}$

n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
225	245	BS30-../S11SA6	11	37,5	75	225	270	198	220	245	245	245	1,3	13,29	71	3600	
177	315		8,8	29,5	59	177	210	250	280	315	315	315	1,1	16,92	71	3950	
143	390		7,1	23,5	47,5	143	171	310	345	390	390	390	0,97	20,94	71	4300	
230	245	BS40-../S11SA6	11,5	38	76	230	275	199	220	245	245	245	2,5	13,03	89	5800	
177	320		8,8	29,5	59	177	210	255	285	320	320	320	2,1	16,92	89	6400	
142	385		7,1	23,5	47	142	170	310	345	385	385	385	1,8	21,06	89	6900	
114	480		5,7	19	38	114	137	385	425	480	480	480	1,5	26,18	89	7500	
97	500		4,8	16	32,5	97	117	405	450	500	500	500	1,5	30,63	89	8700	
89	600		4,4	14,5	29,5	89	107	480	530	600	600	600	1,3	33,35	89	8300	
78	620		3,9	13	26	78	94	500	550	620	620	620	1,2	38,13	89	9400	
74	710		3,7	12	24,5	74	89	570	630	710	710	710	1,1	40,37	89	9000	
62	830		3,1	10	20,5	62	75	660	740	830	830	830	0,99	47,69	89	9600	
49,5	960		2,4	8,2	16,5	49,5	59	770	850	960	960	960	0,89	60,38	89	11200	

M_1 = 35 Nm

n_1 = 3000 $^1/_{min}$



n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
225	**385**	**BS30-../S11MA6**	11	37,5	75	225	270	290	305	385	385	375	**0,86**	13,29	77	3600	
230	**385**	**BS40-../S11MA6**	11,5	38	76	230	275	290	310	385	385	375	**1,6**	13,03	95	5800	
177	**500**		8,8	29,5	59	177	210	380	400	500	500	490	**1,3**	16,92	95	6400	
142	**600**		7,1	23,5	47	142	170	455	480	600	600	590	**1,2**	21,06	95	6900	
114	**750**		5,7	19	38	114	137	560	600	750	750	730	**0,98**	26,18	95	7500	
97	**790**		4,8	16	32,5	97	117	600	630	790	790	770	**0,95**	30,63	95	8700	
89	**930**		4,4	14,5	29,5	89	107	700	740	930	930	910	**0,84**	33,35	95	8300	
78	**970**		3,9	13	26	78	94	730	770	970	970	950	**0,8**	38,13	95	9400	

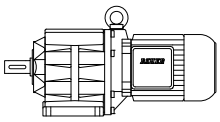
M_1 = 48 Nm

n_1 = 3000 $^1/_{min}$

n2	M2	Type	Speed range n2 [1/min] at engine speed n1 [1/min]					torque range M2 [Nm] at engine speed n1 [1/min]					fB	i_{ges}	m	F_{RN}	F_{RV}
1/min	Nm		150	500	1000	3000	3600	150	500	1000	3000	3600			kg	N	N
230	**530**	**BS40-../S11LA6**	11,5	38	76	230	275	355	435	530	530	440	**1,2**	13,03	107	5800	
177	**690**		8,8	29,5	59	177	210	465	560	690	690	570	**0,97**	16,92	107	6400	
142	**820**		7,1	23,5	47	142	170	560	680	820	820	690	**0,86**	21,06	107	6900	

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

10



Page

Dimensional drawings helical-geared motors 167-216
- **Standard**
- **Tandem Gearbox**

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group

Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲

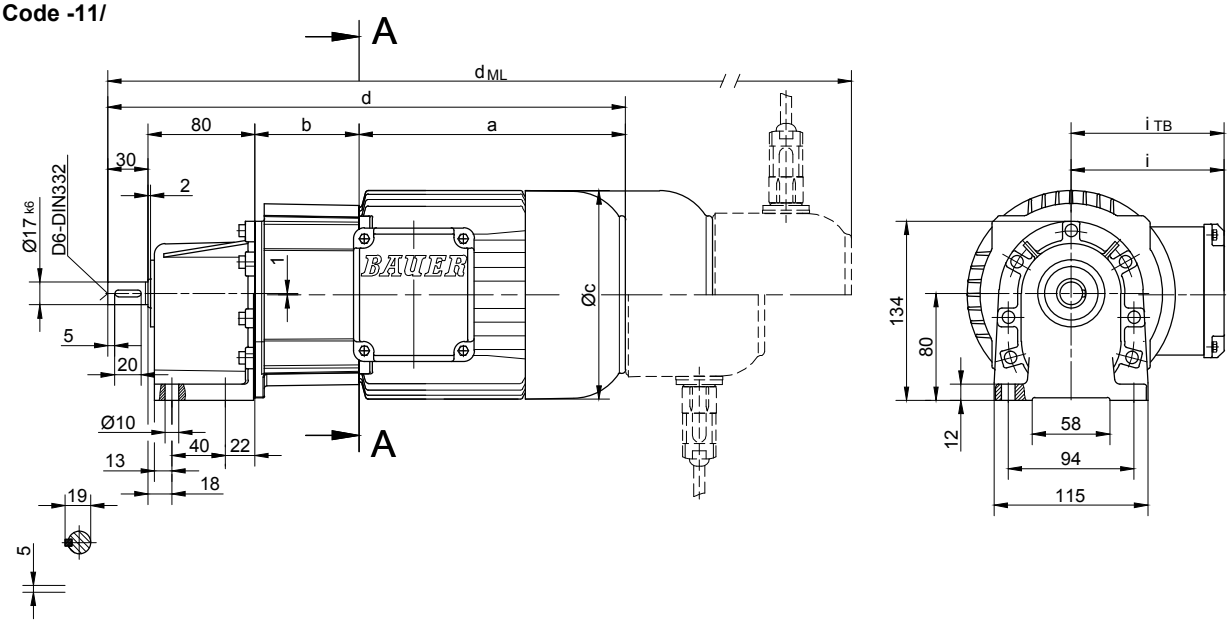
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

BG06

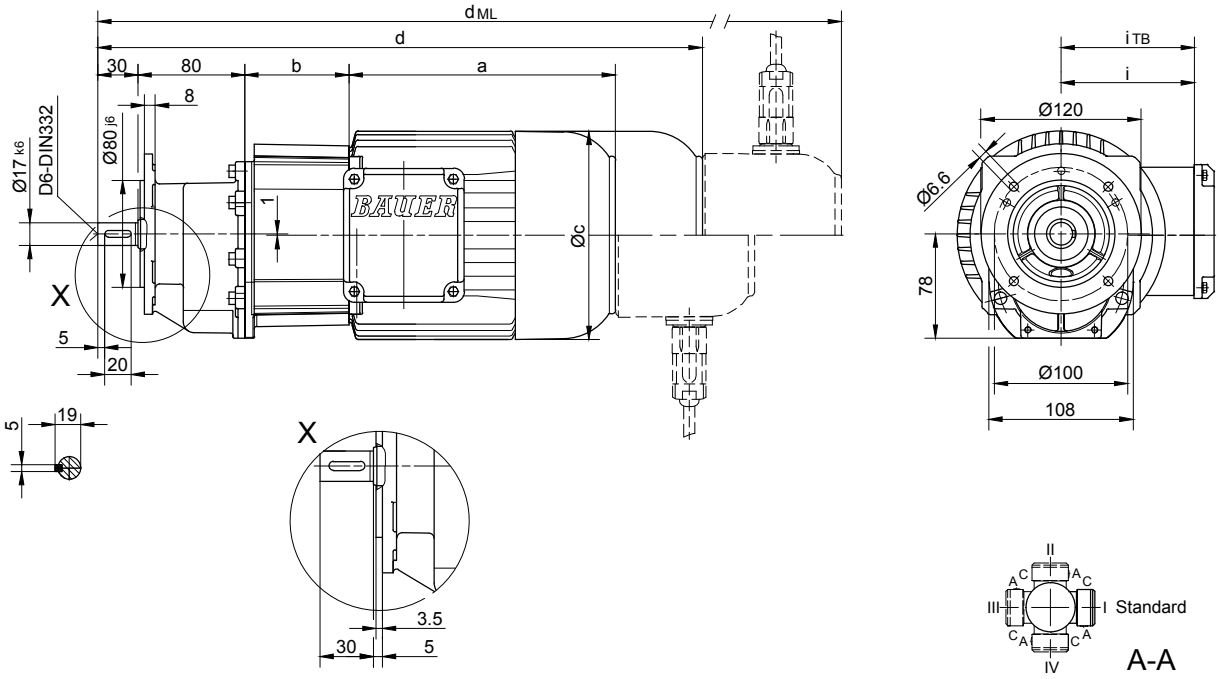
Foot mounting

Code -11/



Flange with clearance holes

Code -31/



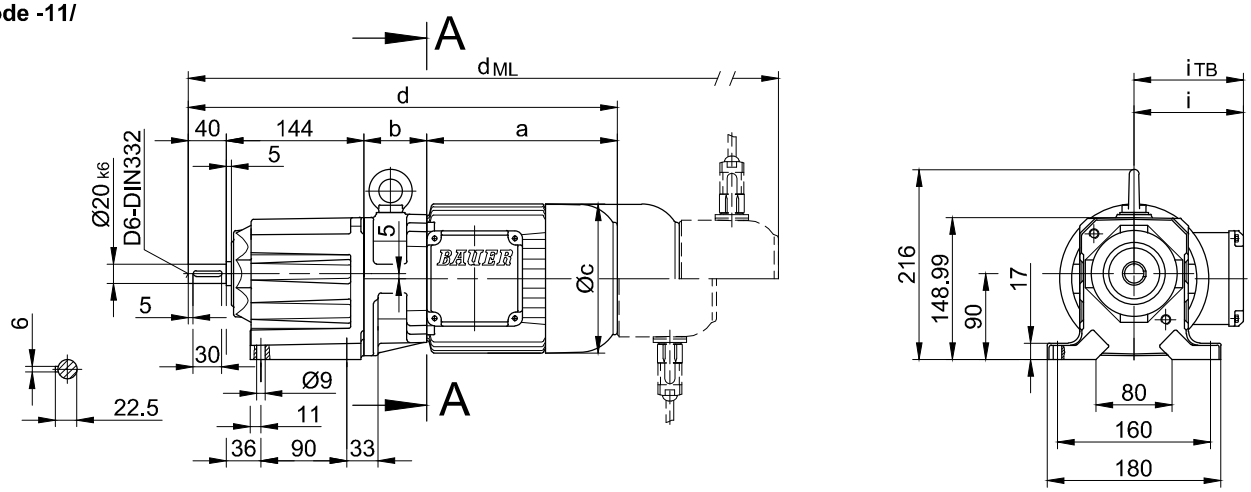
Type	a	b	c	d	i	r	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG06-../S..08..	200	78	156	388	115	156	136,5	454	495.5	561.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG10 - BG10Z

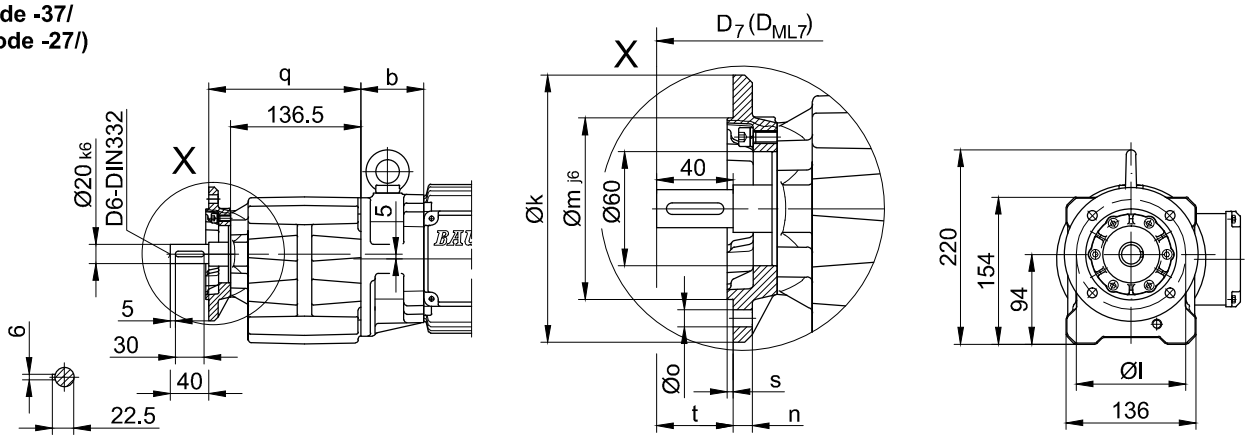
Foot mounting with clearance holes

Code -11/



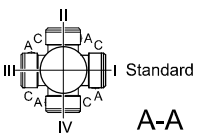
Flange with clearance holes

Code -37/
(Code -27/)



Flange dimensions

BG10(Z)	k	l	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	140	115	95	10	9	159.5	3	40	d+15.5	d_{ML}+15.5
small -27/	120	100	80	8	6.6	154.5	3	45	d+15.5	d_{ML}+15.5



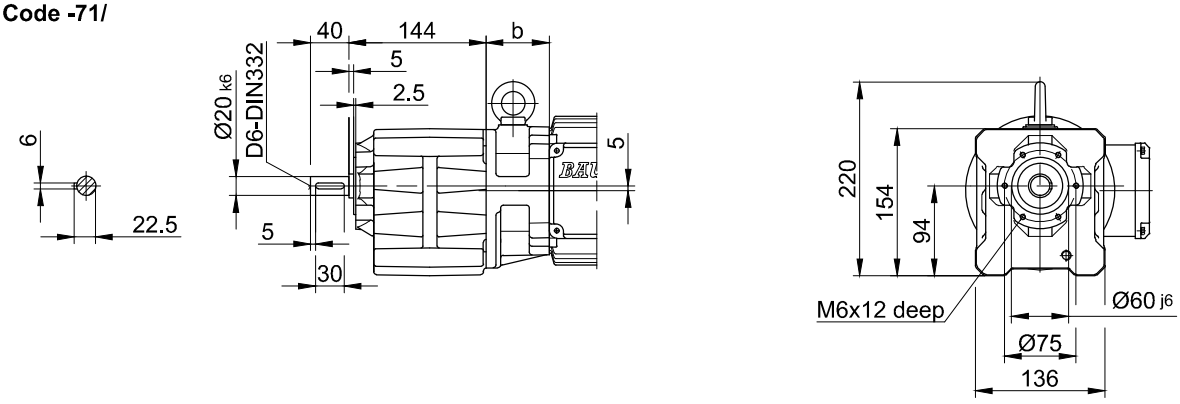
Type	a	b	c	d	i	i_{TB}	Design with motor extensions			
							E../ES..	G	E../ES..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG10-../S..08..	200	66	156	450	115	136.5	516	557	623.5	-
BG10Z-../S..08..	200	132	156	516	115	136.5	582	623	689.5	-
BG10-../S..09..	251	80.5	181	515.5	124	158	608.5	622.5	713	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG10 - BG10Z

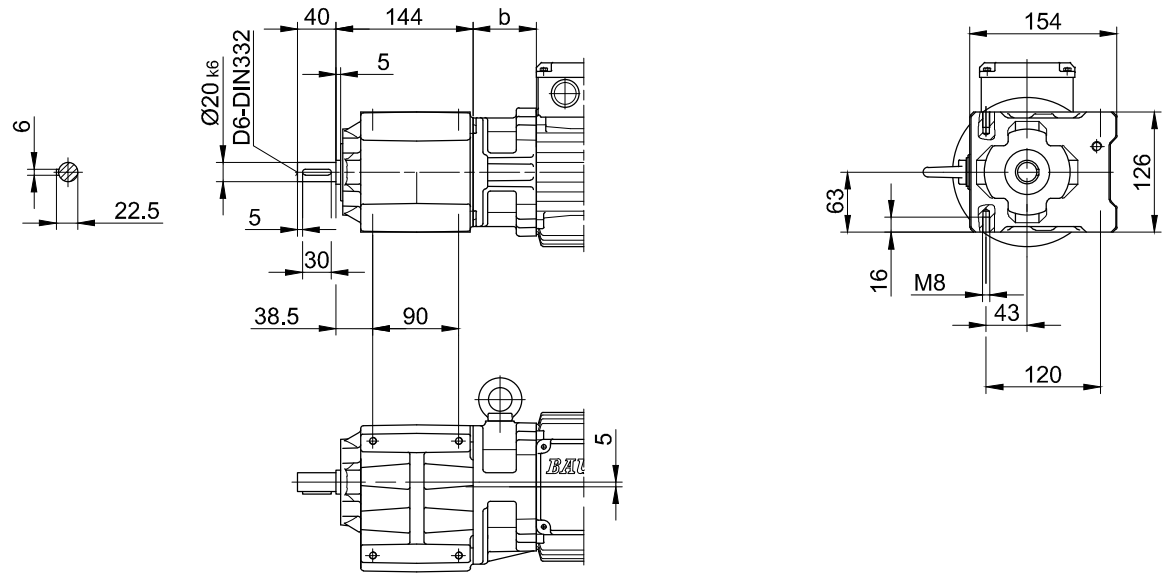
Flange with tapped holes

Code -71/



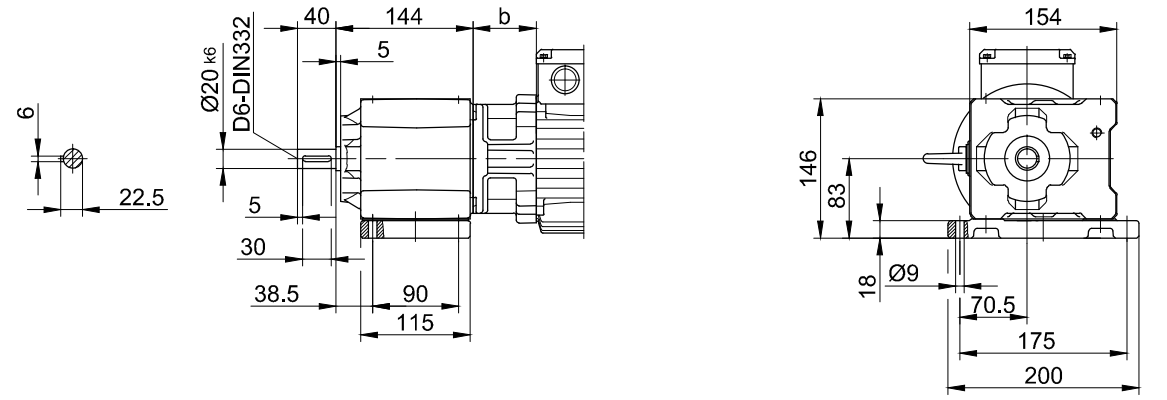
Foot with tapped holes left and right

Code -61LR/



Foot plate left

Code -91L/

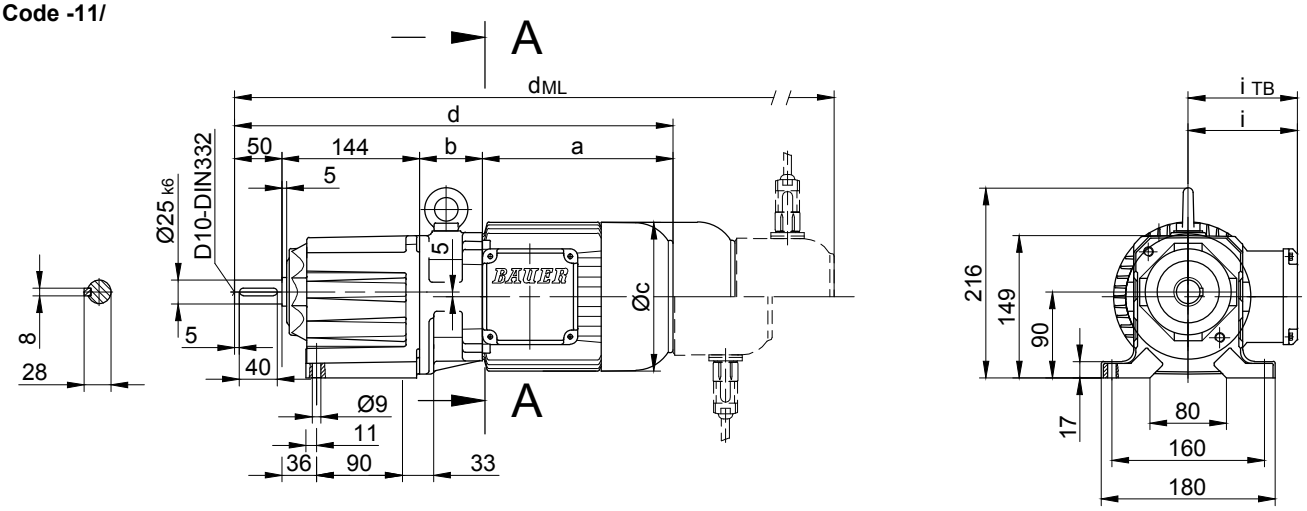


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG10X - BG10XZ

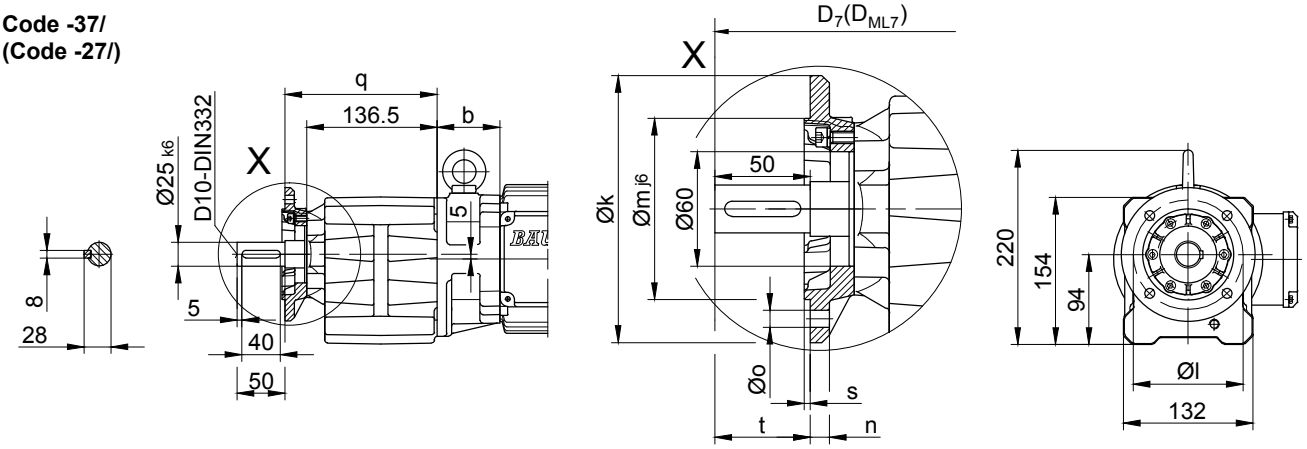
Foot mounting with clearance holes

Code -11/



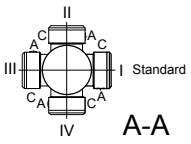
Flange with clearance holes

Code -37/
(Code -27/)



Flange dimensions

BG10X(Z)	k	I	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	Ø140	Ø115	Ø95	10	Ø9	159.5	3	50	d+15.5	d_{ML}+15.5
small -27/	Ø120	Ø100	Ø80	8	Ø6.6	154.5	3	55	d+15.5	d_{ML}+15.5



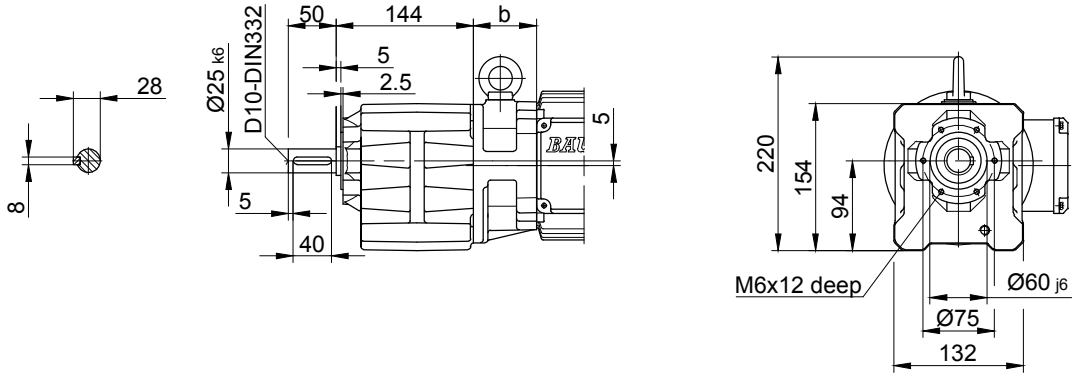
Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	ES../ZS..	G	ES../ZS..G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG10X-.1/S..08..	200	66	156	460	115	136.5	526	567	633.5	-
BG10XZ-.1/S..08..	200	132	156	526	115	136.5	592	633	699.5	-
BG10X-.1/S..09..	251	80.5	176	525.5	124	158	618.5	632.5	723	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG10X - BG10XZ

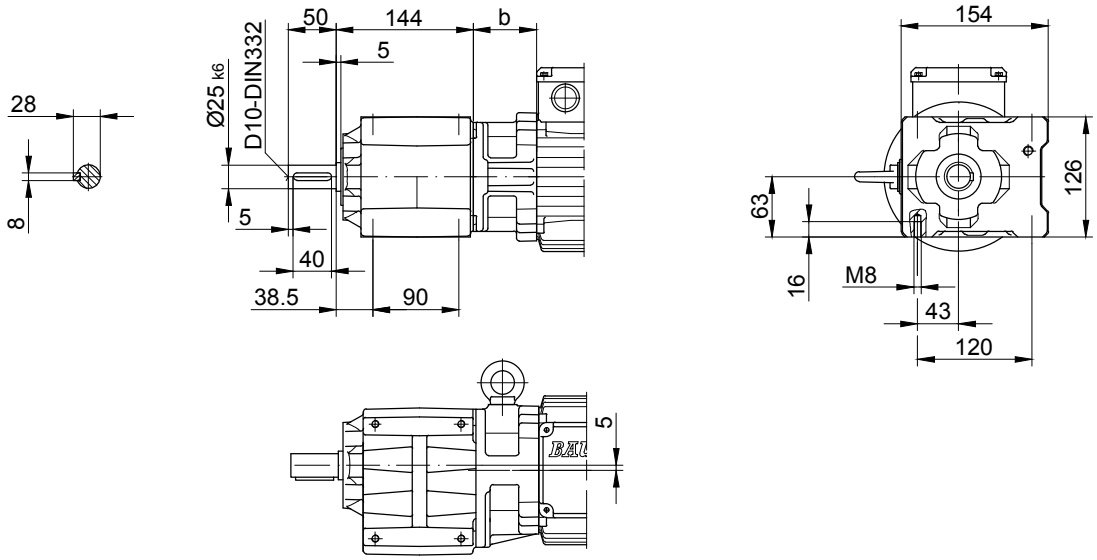
Flange with tapped holes

Code -71/



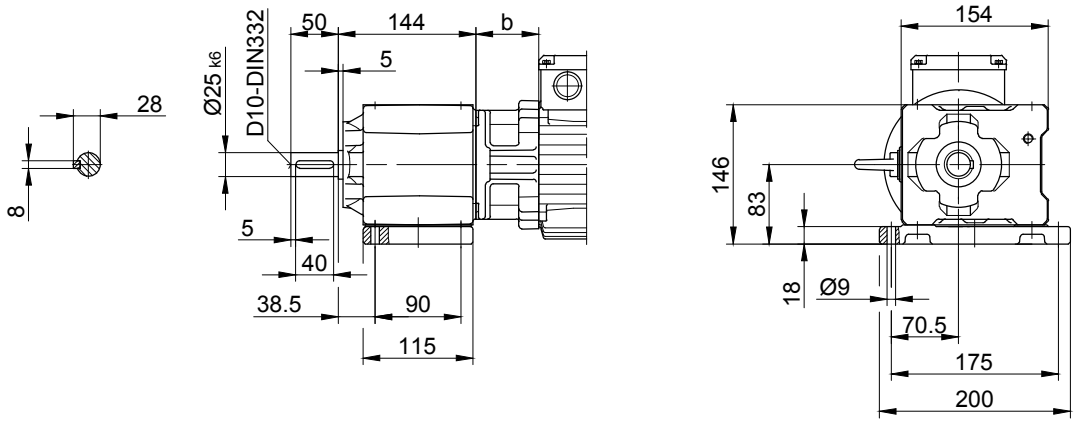
Foot with tapped holes left and right

Code -61LR/



Foot plate left

Code -91L/



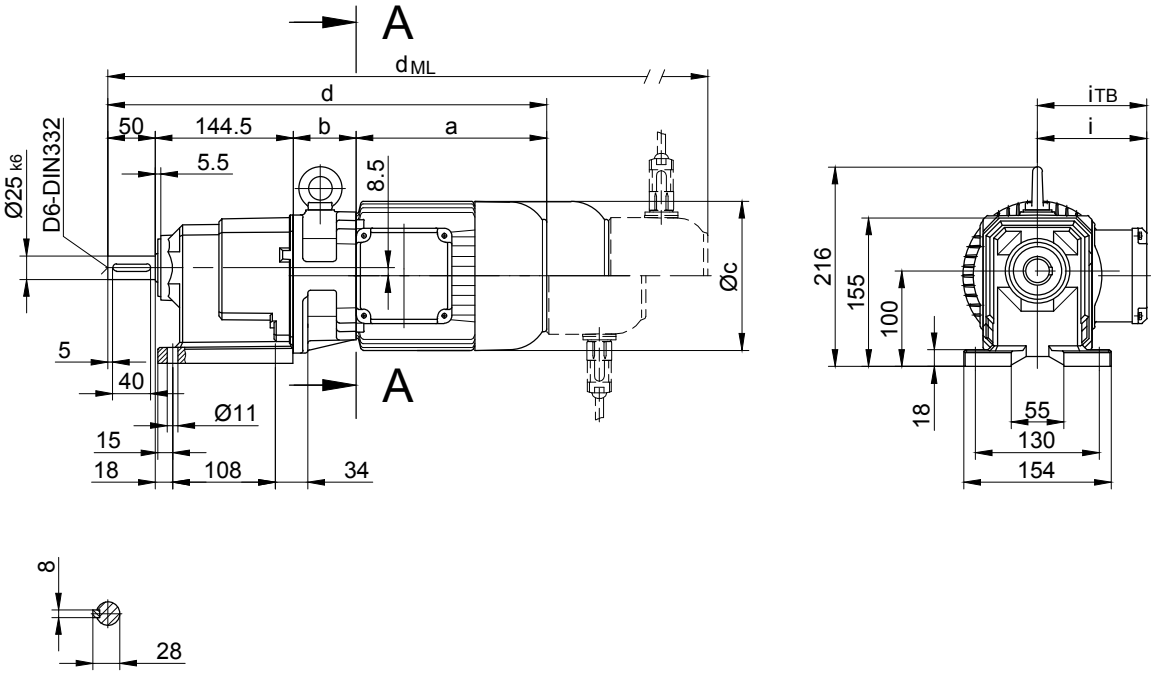
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

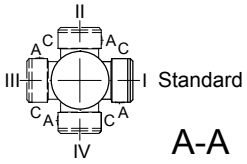
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

BG15

Foot mounting with clearance holes

Code -11/





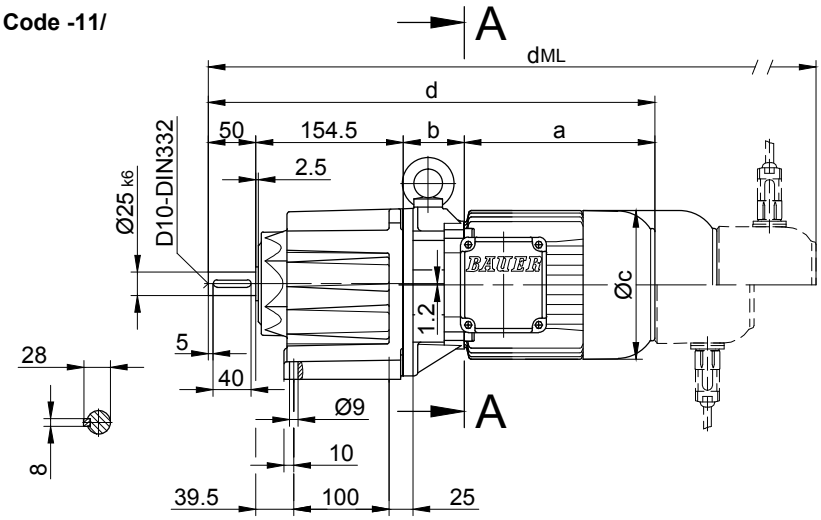
Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	ES../ZS..	G	ES../ZS..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG15-../S..08..	200	66	156	460.5	115	149.5	526.5	567.5	634	-
BG15-../S..09..	251	80.5	181	526	124	164	619	633	723.5	-

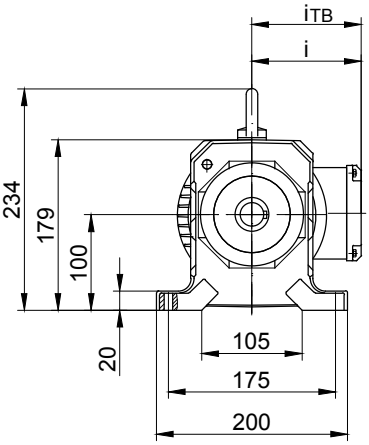
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG20 - BG20Z

Foot mounting with clearance holes

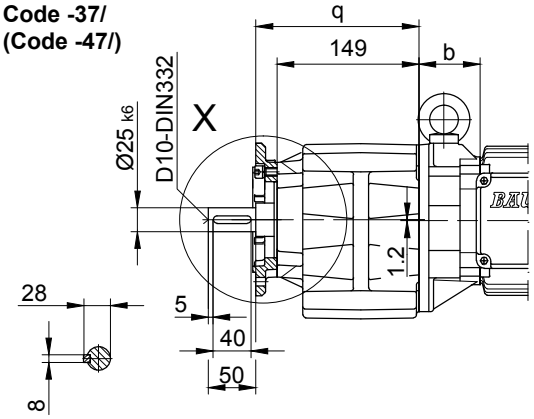
Code -11/

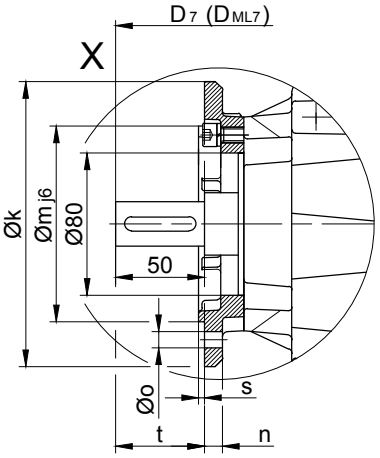


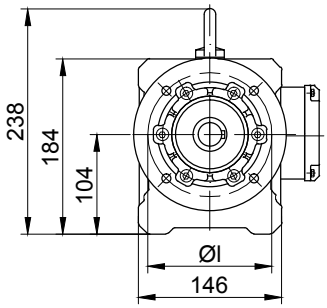


Flange with clearance holes

Code -37/
(Code -47/)

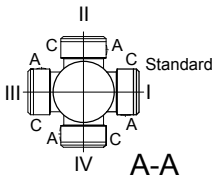






Flange dimensions

BG20(Z)	k	l	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	160	130	110	10	9	171	3.5	50	d+16.5	d_{ML}+16.5
big -47/	200	165	130	12	11	178	3.5	43	d+16.5	d_{ML}+16.5



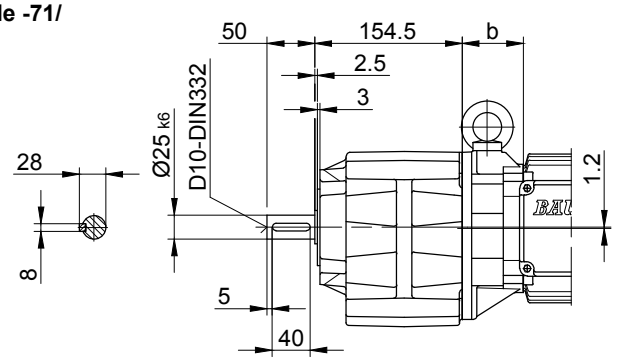
Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	E../ES..	G	E../ES..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG20-../S..08..	200	64	156	468.5	115	136.5	534.5	575.5	642	-
BG20Z-../S..08..	200	146	156	550.5	115	136.5	616.5	657.5	724	-
BG20-../S..09..	251	78.5	181	534	124	158	627	641	731.5	-

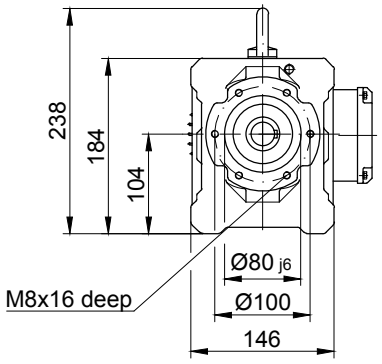
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG20 - BG20Z

Flange with tapped holes

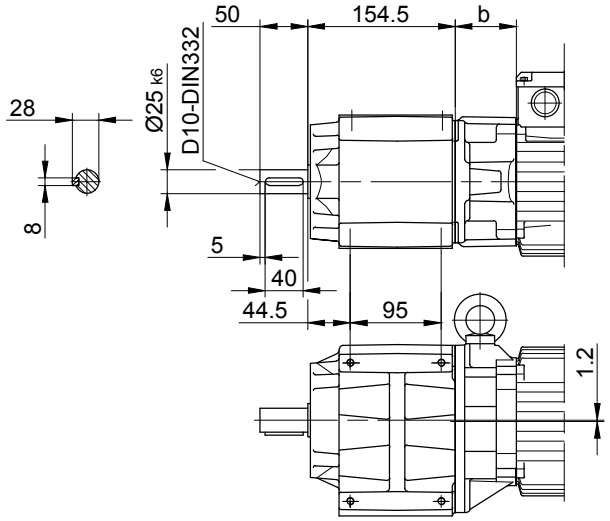
Code -71/

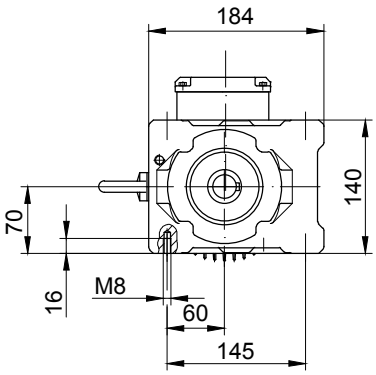




Foot with tapped holes left and right

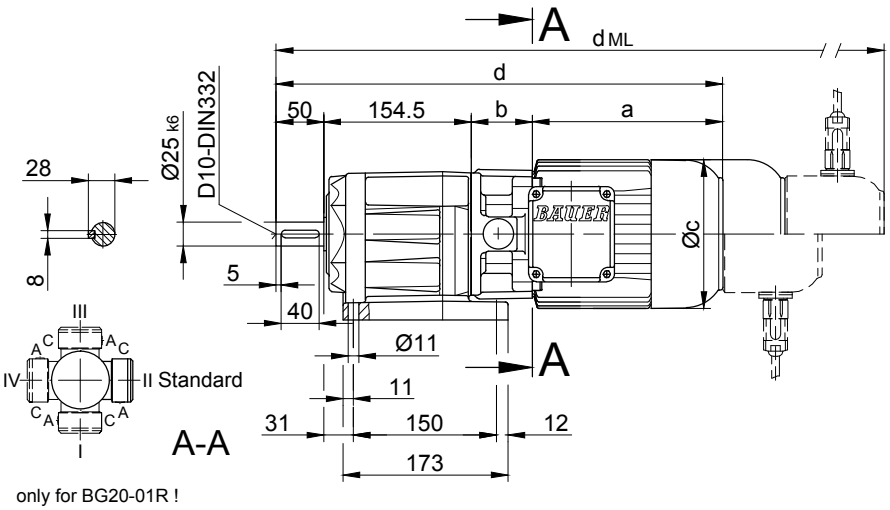
Code -61LR/



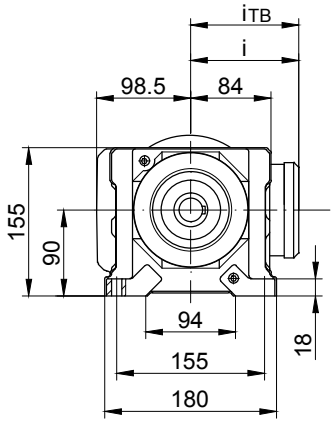


Foot mounting right with clearance holes

Code -01R



only for BG20-01R !

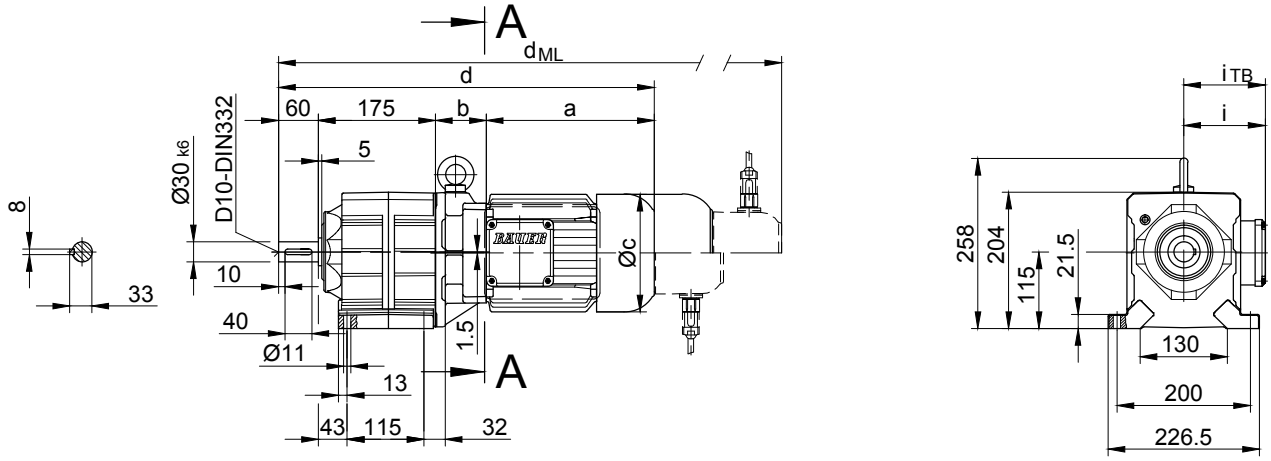


10

BG30 - BG30Z

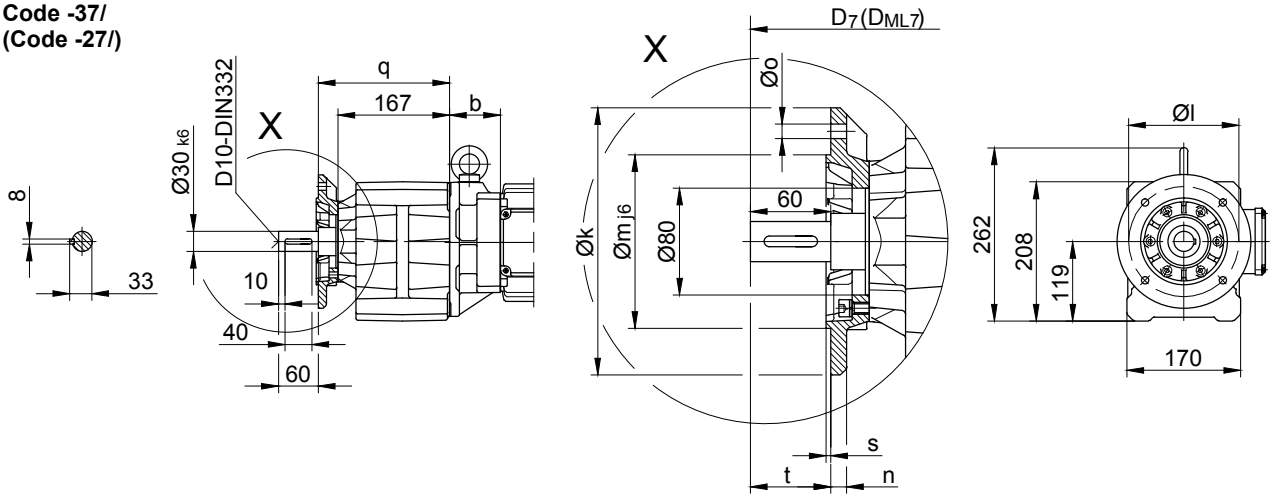
Foot mounting with clearance holes

Code -11/



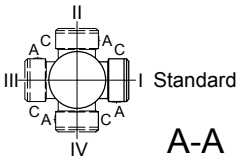
Flange with clearance holes

Code -37/
(Code -27/)



Flange dimensions

BG30(Z)	k	l	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	200	165	130	12	11	196	3.5	60	d+21	d_{ML}+21
small -27/	160	130	110	10	9	189	3.5	67	d+21	d_{ML}+21



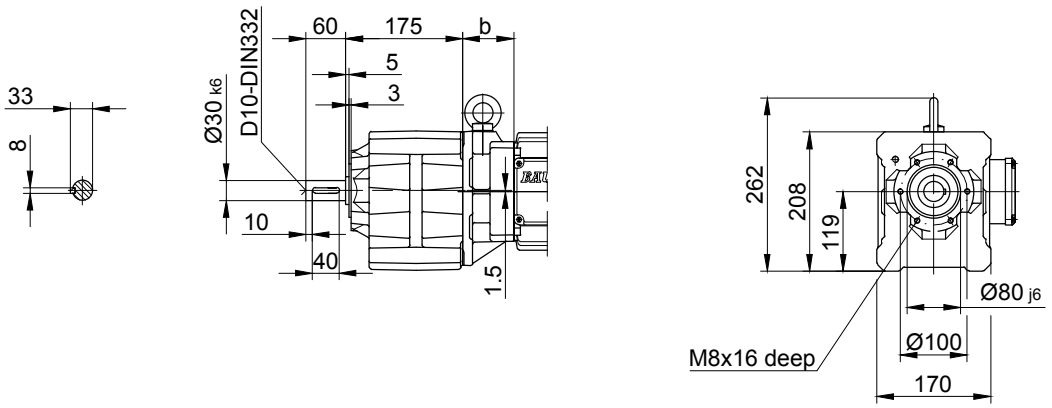
Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	E../ES..	G	E../ES..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG30-../S..08..	200	62	156	497	115	136.5	563	604	670.5	-
BG30Z-../S..08..	200	137.5	156	572.5	115	136.5	638.5	679.5	746	-
BG30-../S..09..	251	76.5	181	562.5	124	158	655.5	669.5	760	-
BG30Z-../S..09..	251	152	181	638	124	158	731	745	835.5	-
BG30-../S..11..	319	83	228	637	181	182	735	744	839.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG30 - BG30Z

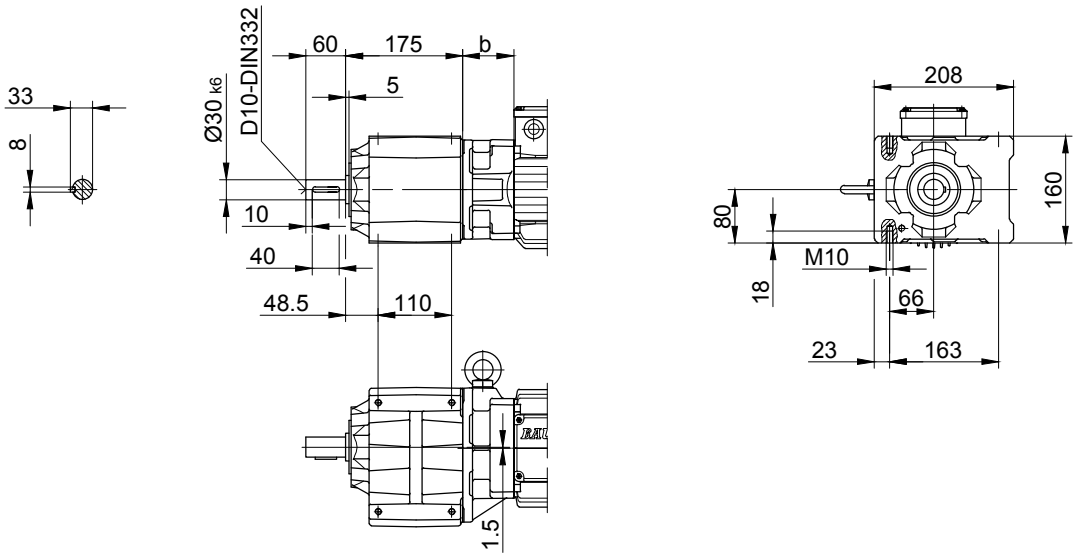
Flange with tapped holes

Code -71/



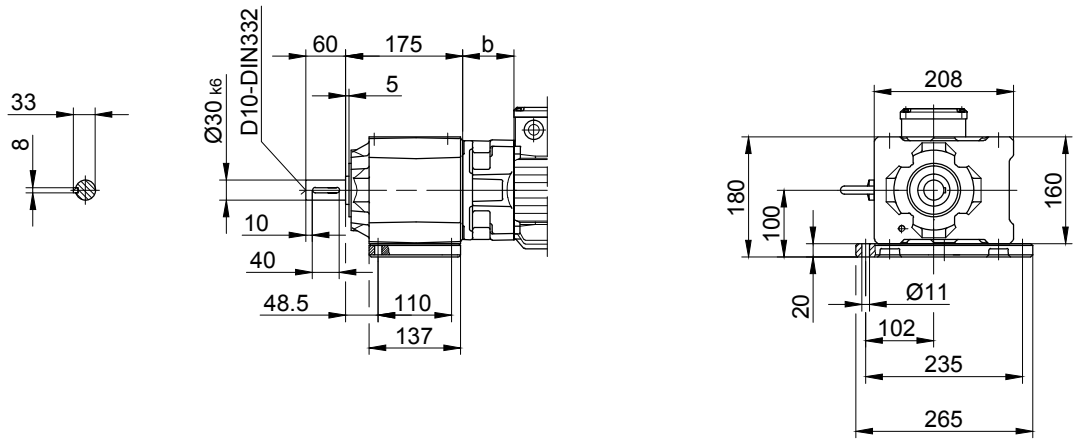
Foot with tapped holes left and right

Code -61LR/



Foot plate left

Code -91L/

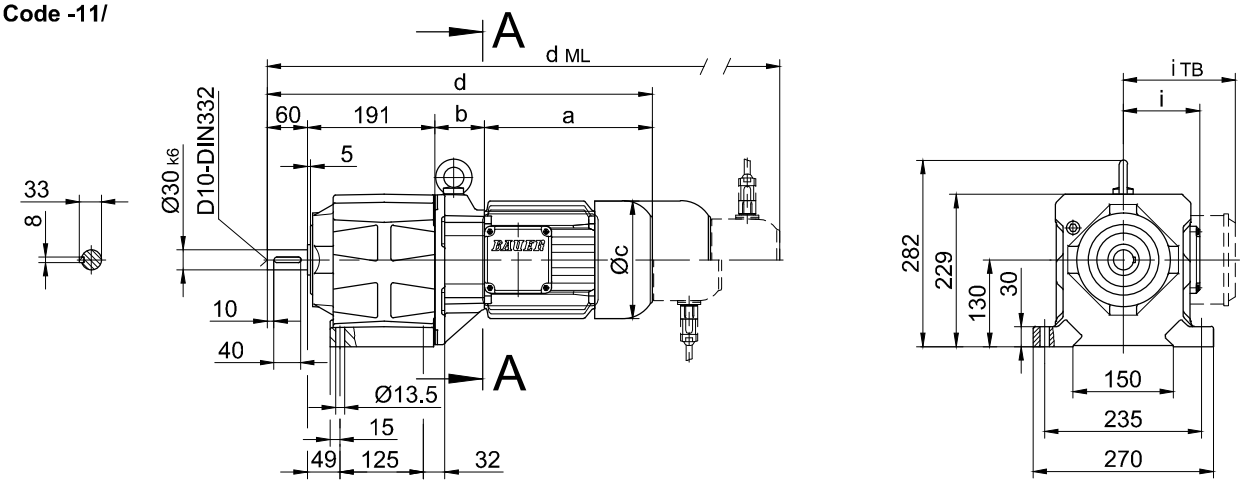


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG40 - BG40Z

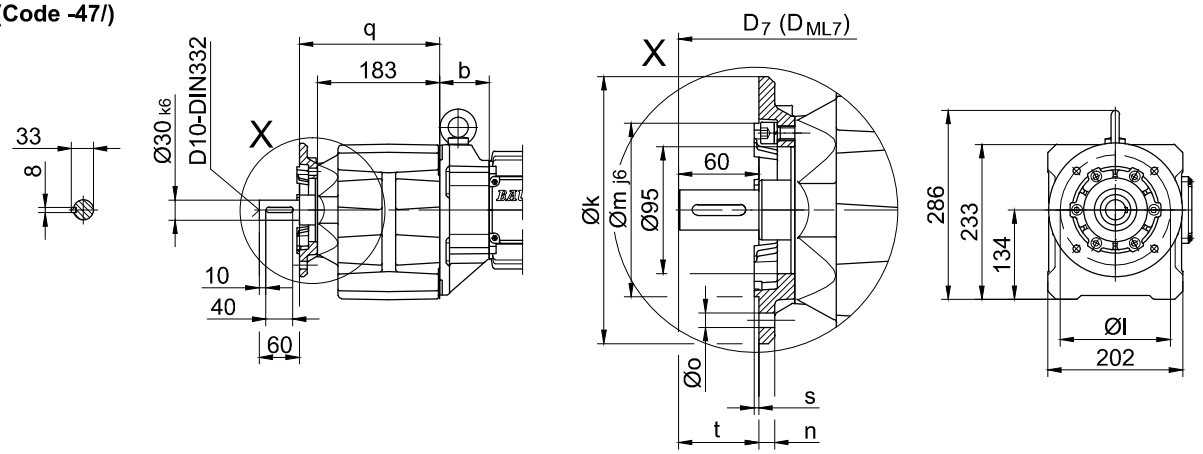
Foot mounting with clearance holes

Code -11/



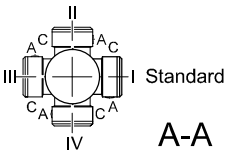
Flange with clearance holes

Code -37/
(Code -47/)



Flange dimensions

BG40(Z)	k	l	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	200	165	130	12	11	210	3.5	60	d+19	d_{ML}+19
big -47/	250	215	180	16	13.5	219	4	51	d+19	d_{ML}+19



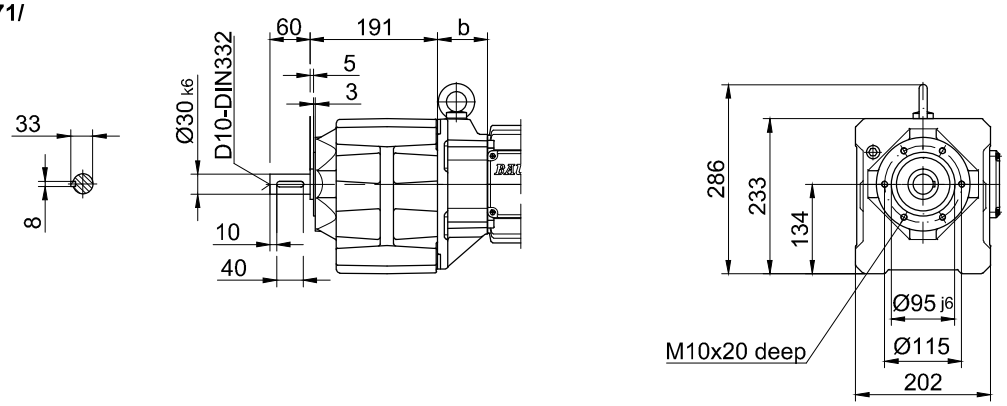
Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	E../ES..	G	E../ES..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG40-../S..08..	200	60	156	511	115	136.5	577	618	684.5	-
BG40Z-../S..08..	200	142.5	156	593.5	115	136.5	659.5	700.5	767	-
BG40-../S..09..	251	74.5	181	576.5	124	158	669.5	683.5	774	-
BG40Z-../S..09..	251	157	181	659	124	158	752	766	856.5	-
BG40-../S..11..	319	81	228	651	181	181	749	758	853.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG40 - BG40Z

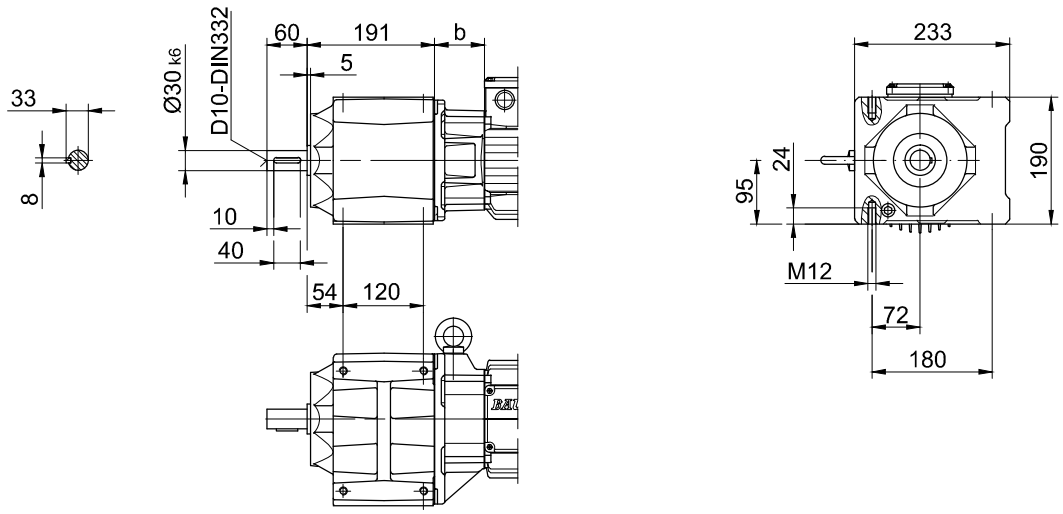
Flange with tapped holes

Code -71/



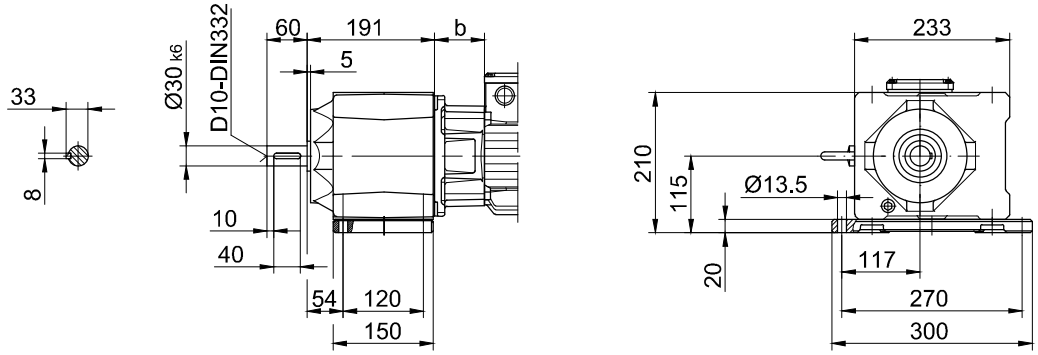
Foot with tapped holes left and right

Code -61LR/



Foot plate left

Code -91L/

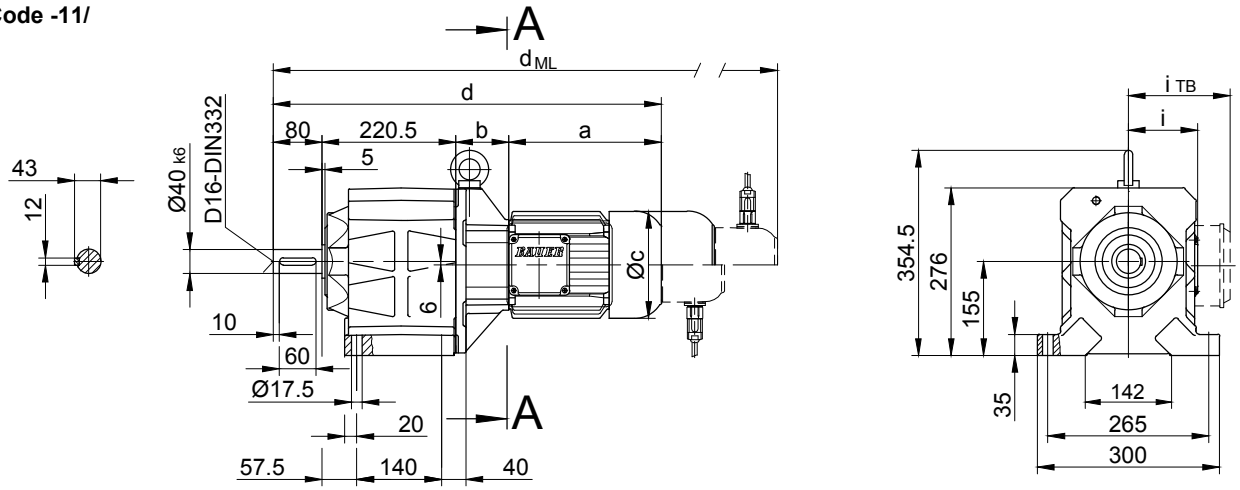


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG50 - BG50Z

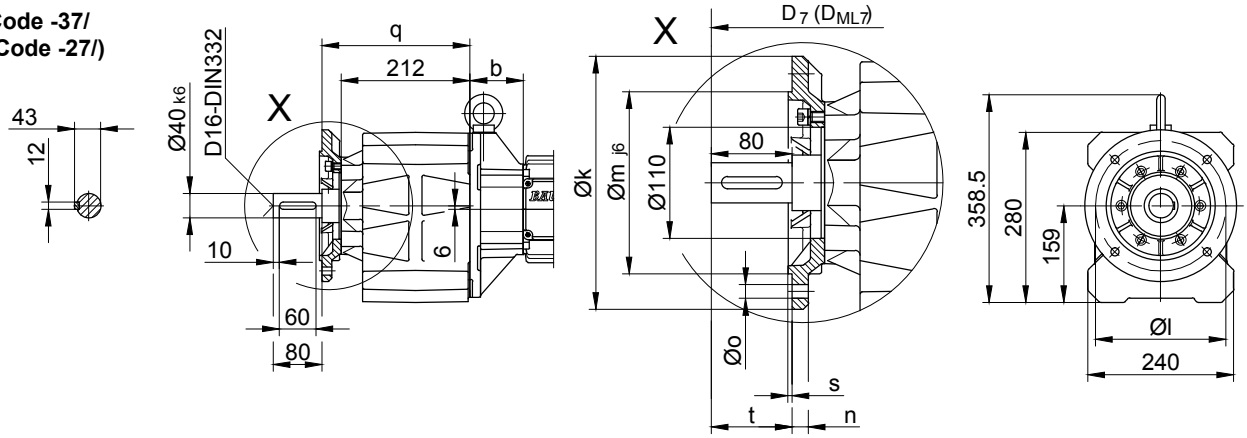
Foot mounting with clearance holes

Code -11/



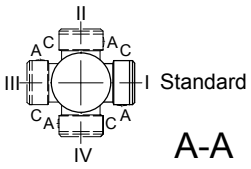
Flange with clearance holes

Code -37/
(Code -27/)



Flange dimensions

BG50(Z)	k	l	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	250	215	180	16	13.5	244	4	80	d+23.5	d_{ML}+23.5
small -27/	200	165	130	12	11	241	3.5	83	d+23.5	d_{ML}+23.5

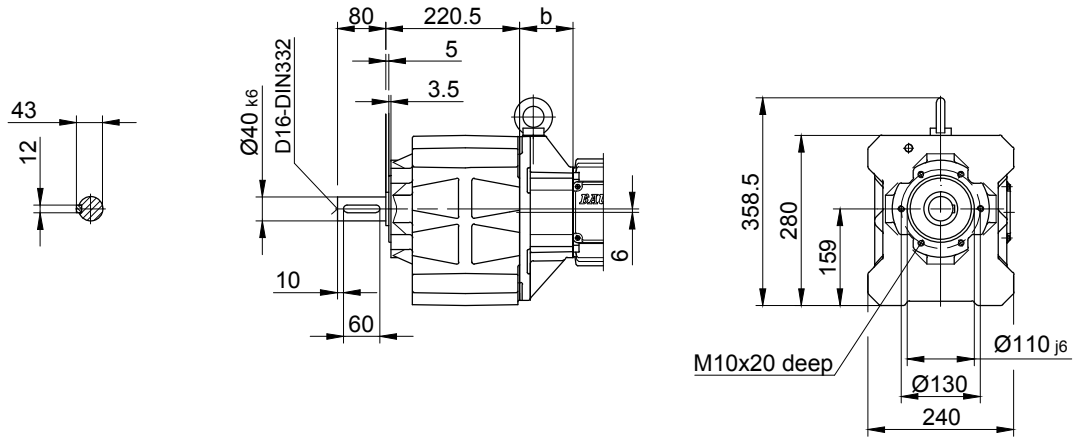


Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	E../ES..	G	E../ES..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG50-../S..08..	200	73	156	573.5	115	136.5	639.5	680.5	746	-
BG50Z-../S..08..	200	159	156	659.5	115	136.5	725.5	766.5	832	-
BG50-../S..09..	251	87.5	181	639	124	158	732	746	833	-
BG50Z-../S..09..	251	173.5	181	725	124	158	818	832	919	-
BG50-../S..11..	319	94	228	713.5	181	181	811.5	820.5	917	-

BG50 - BG50Z

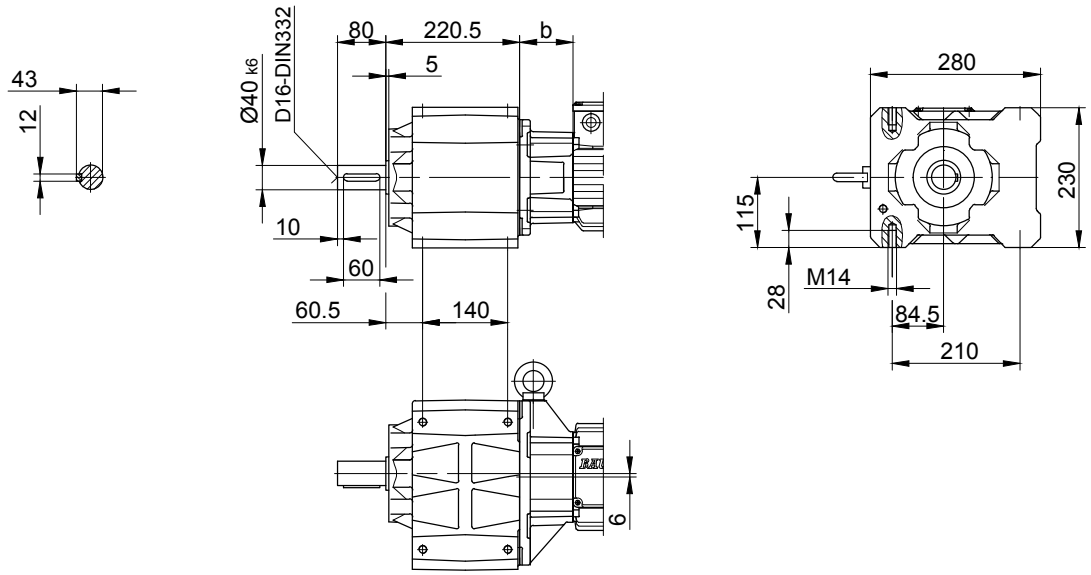
Flange with tapped holes

Code -71/



Foot with tapped holes left and right

Code -61LR/

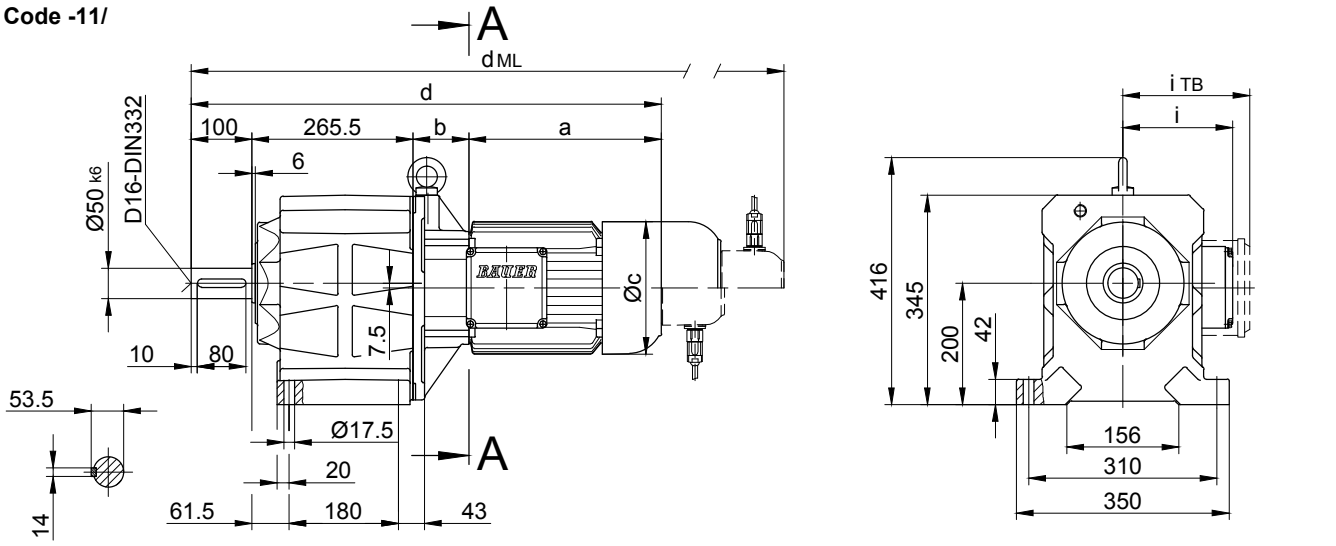


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG60 - BG60Z

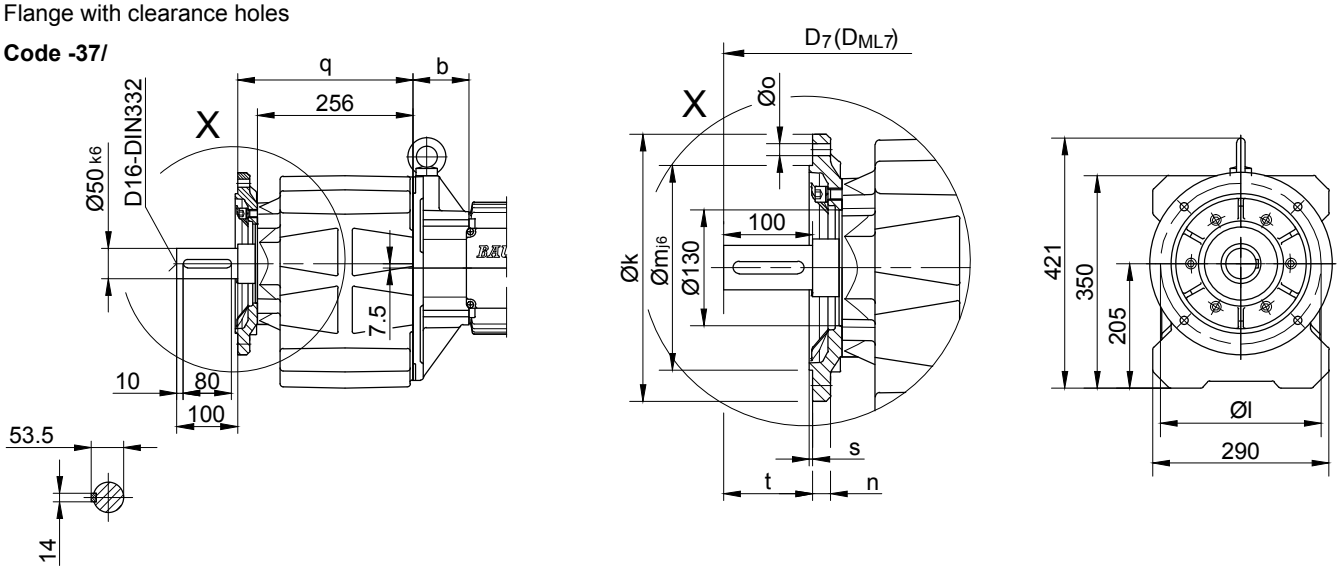
Foot mounting with clearance holes

Code -11/



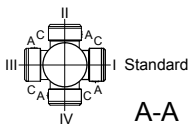
Flange with clearance holes

Code -37/



Flange dimensions

BG60(Z)	k	l	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	300	265	230	20	13.5	289	4	100	d+23.5	d_{ML}+23.5
small -27/	250	215	180	16	13.5	286	4	103	d+23.5	d_{ML}+23.5



A-A

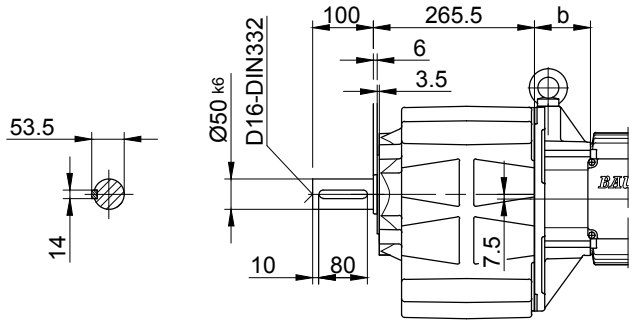
Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	ES../ZS..	G	ES../ZS..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG60Z-../S..08..	200	181	156	746.6	115	136.5	812.5	853.5	920	-
BG60-../S..09..	251	85.5	181	702	124	158	795	809	899.5	-
BG60Z-../S..09..	251	195.5	181	812	124	158	905	919	1009.5	-
BG60-../S..11..	319	92	228	776.5	181	181	874.5	883.5	979	-
BG60Z-../S..11..	319	202	228	886.5	181	181	984.5	993.5	1089	-

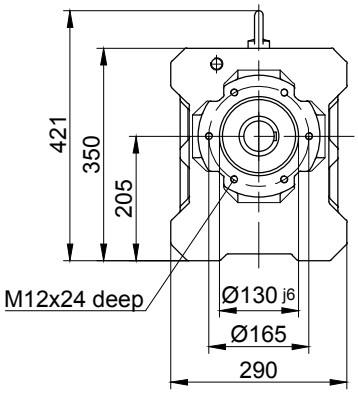
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG60 - BG60Z

Flange with tapped holes

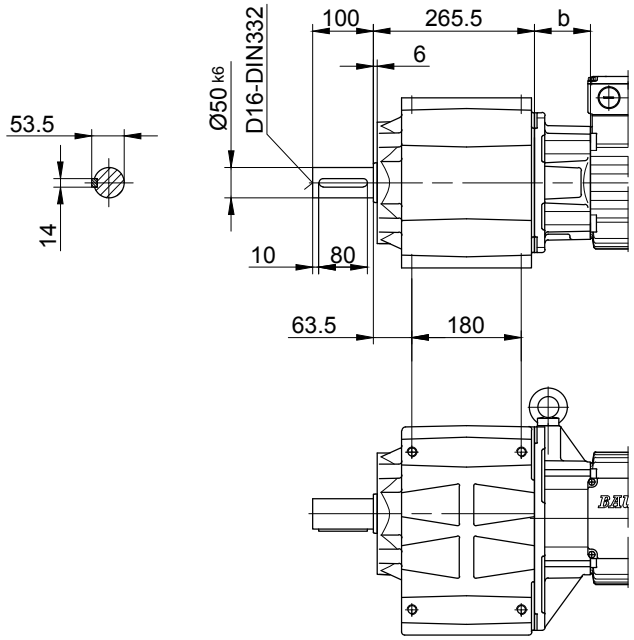
Code -71/

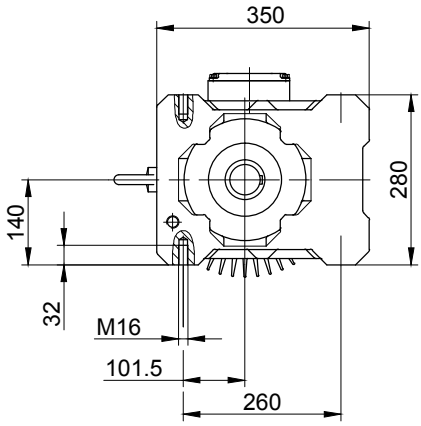




Foot with tapped holes left and right

Code -61LR/



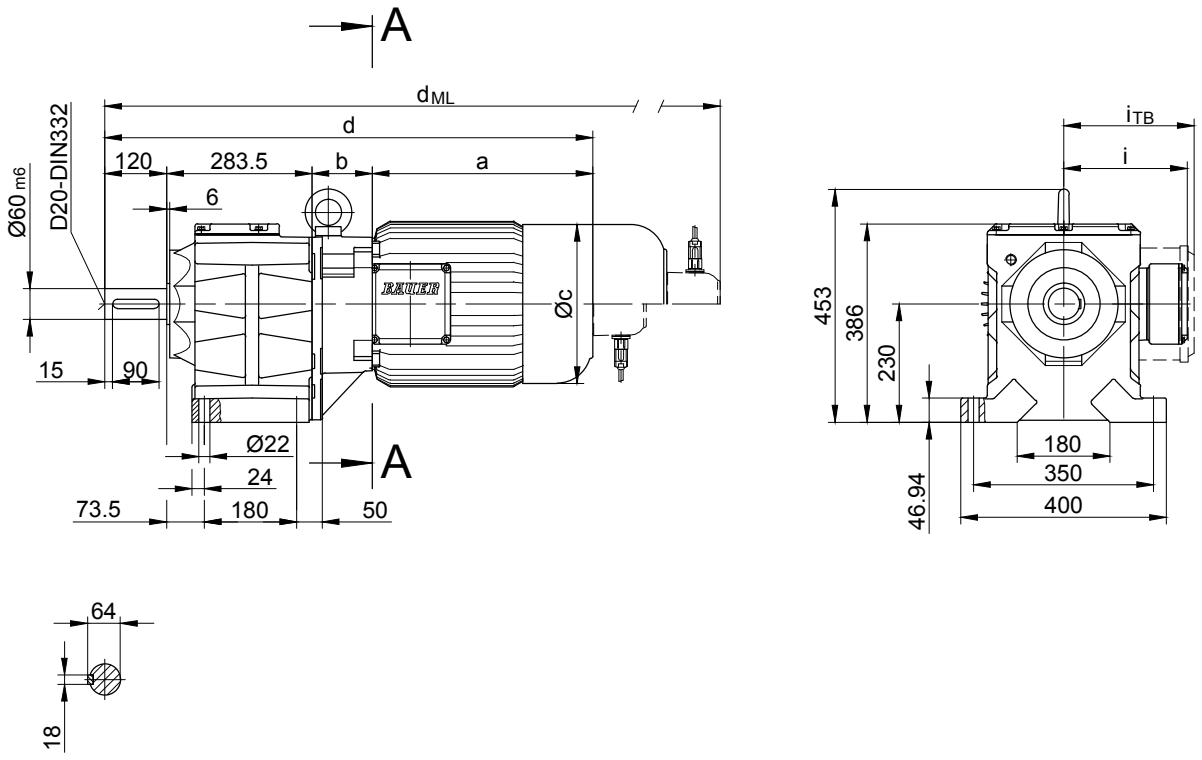


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG70 - BG70Z

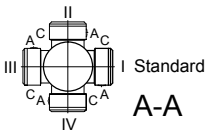
Foot mounting with clearance holes

Code -11/



Flange dimensions

BG70(Z)	k	l	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	350	300	250_{h6}	20	17.5	314	5	120	d+30.5	d_{ML}+30.5
small -27/	300	265	230_{j6}	20	13.5	322	4	112	d+30.5	d_{ML}+30.5



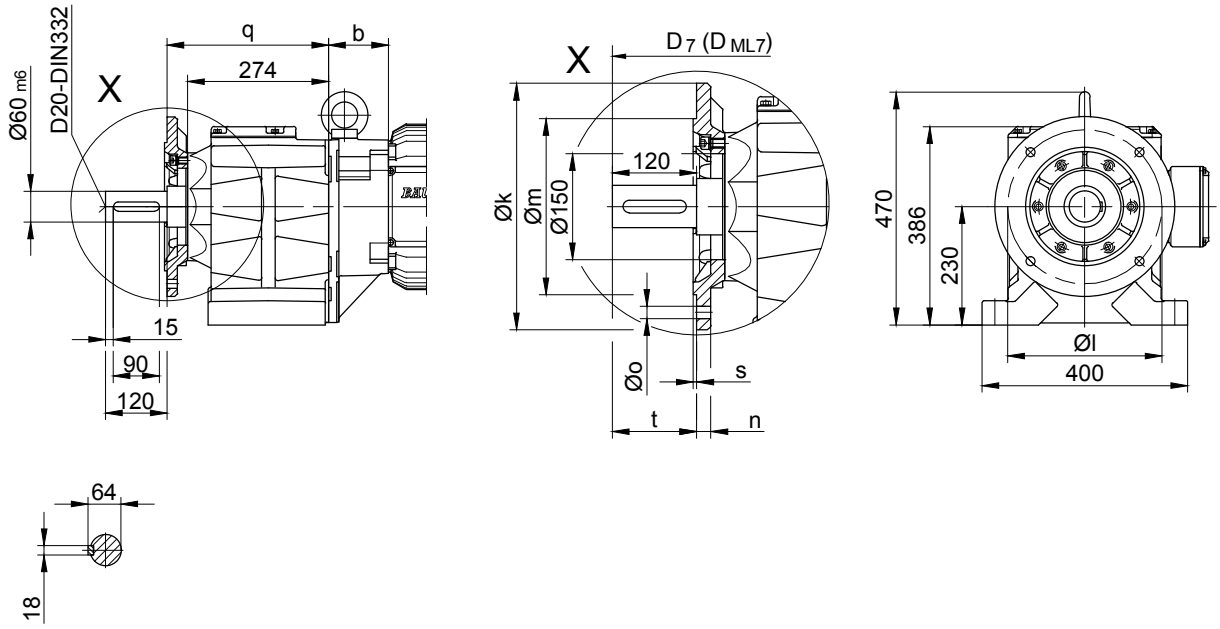
Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	ES../ZS..	G	ES../ZS..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG70Z-../S..08..	200	202	156	805.5	115	136.5	871.5	912.5	979	-
BG70-../S..09..	251	83.5	181	738	124	158	831	845	935.5	-
BG70Z-../S..09..	251	216.5	181	871	124	158	964	978	1068.5	-
BG70-../S..11..	319	90	228	812.5	181	181	910.5	919.5	1015	-
BG70Z-../S..11..	319	223	228	945.5	181	181	1043.5	1052.5	1148	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG70 - BG70Z

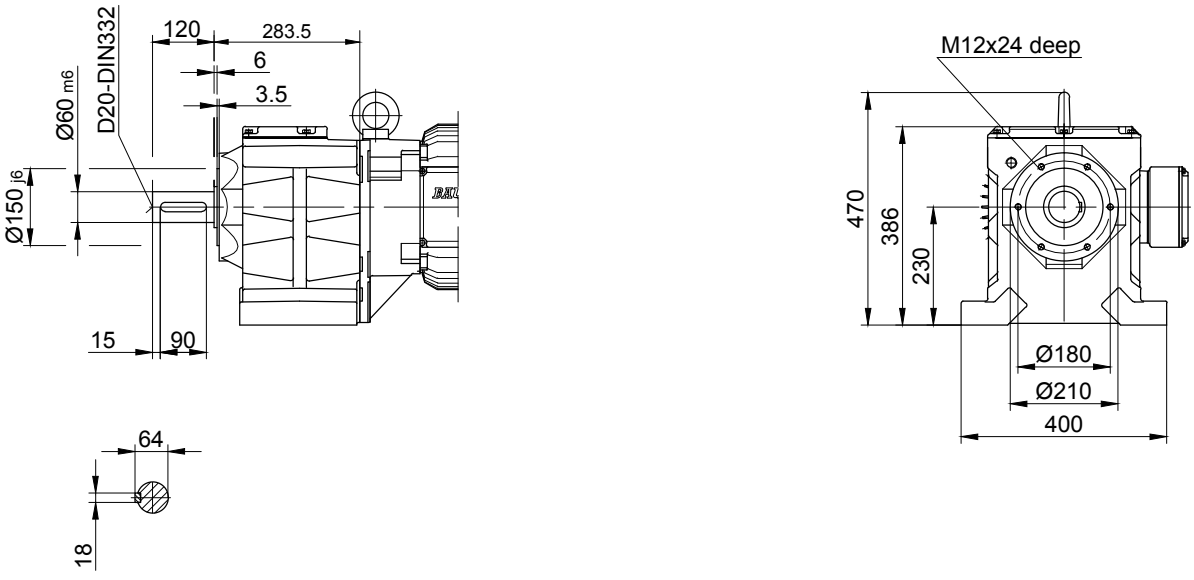
Flange with clearance holes

Code -37/
(Code -27/)



Flange with tapped holes

Code -71/

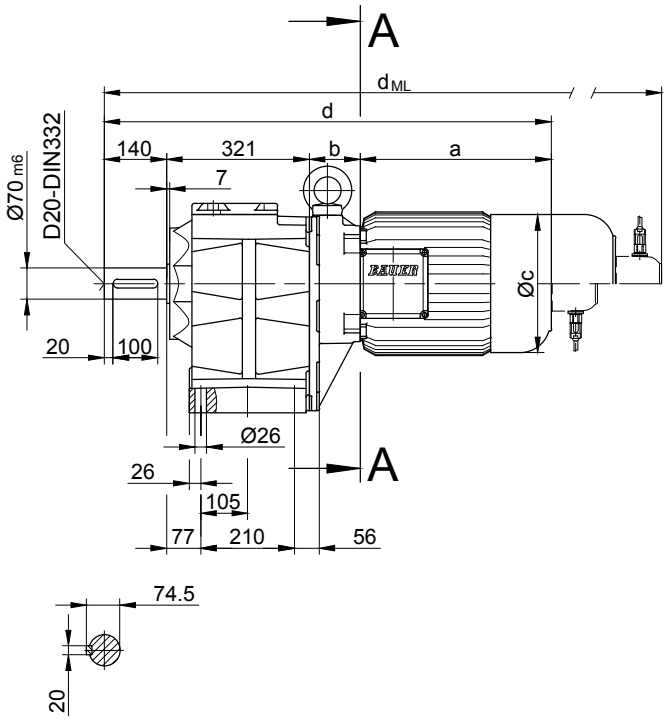


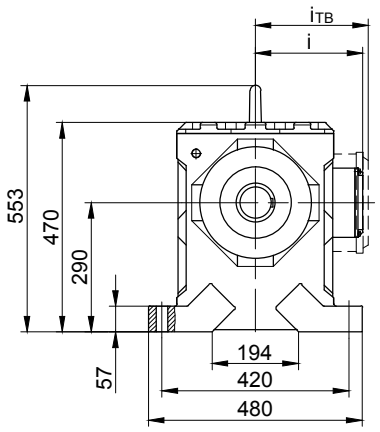
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

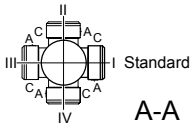
BG80 - BG80Z

Foot mounting with clearance holes

Code -11/







A-A

Flange dimensions

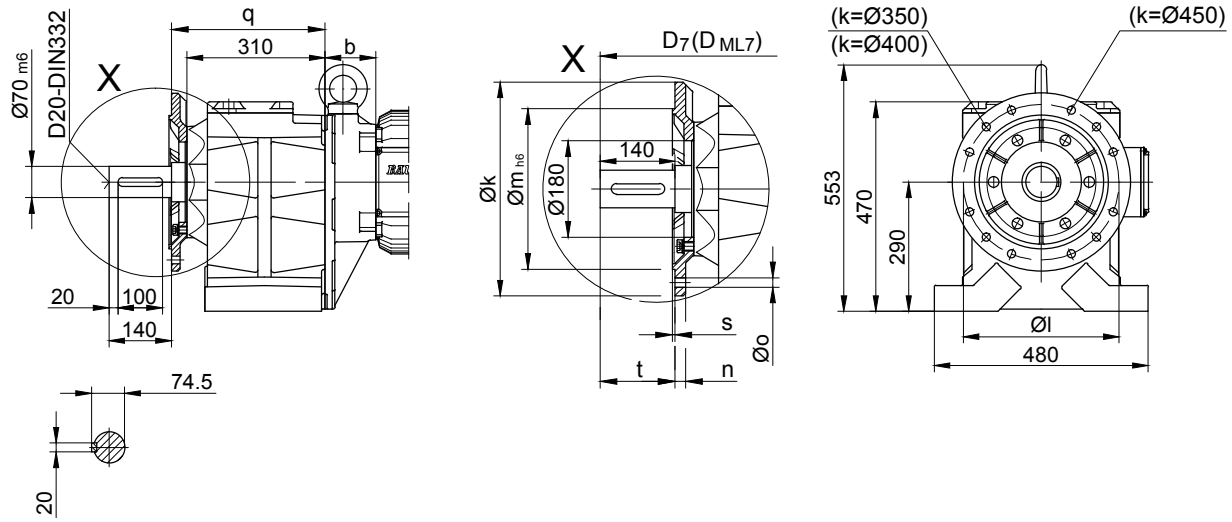
BG80(Z)	k	l	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	400	350	300	20	4 x 17.5	345	5	140	d+24	d_{ML}+24
small -27/	350	300	250	20	4 x 17.5	345	5	140	d+24	d_{ML}+24
big -47/	450	400	350	22	8 x 17.5	355	5	130	d+24	d_{ML}+24

Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	ES../ZS..	G	ES../ZS..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG80Z-../S..09..	251	252.5	181	964.5	124	158	1057.5	1071.5	1162	-
BG80-../S..11..	319	87	228	867	181	181	965	974	1069.5	-
BG80Z-../S11..	319	259	228	1039	181	181	1137	1146	1241.5	-

BG80 - BG80Z

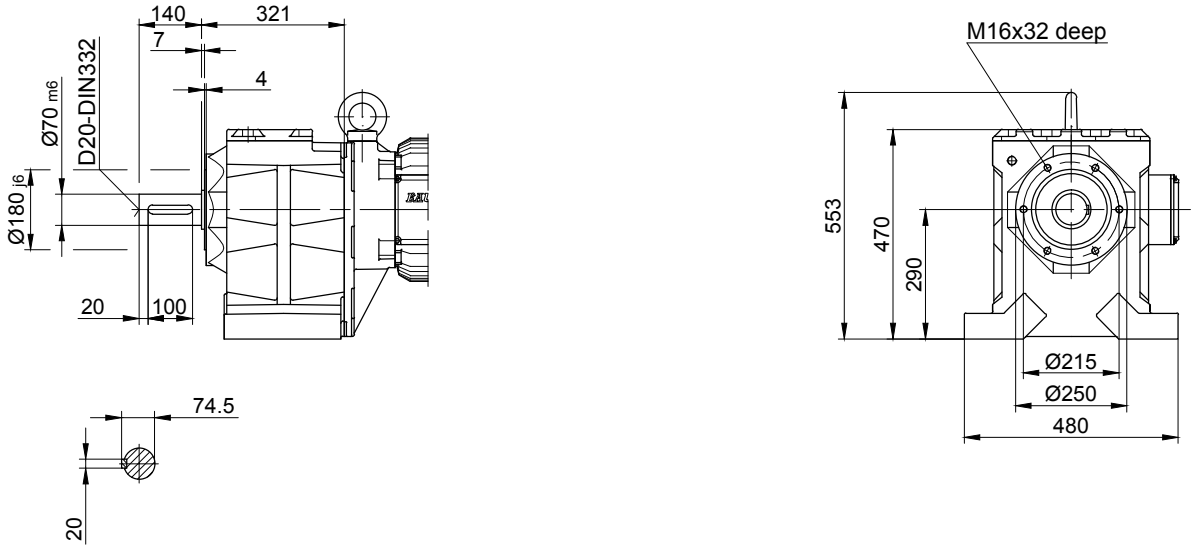
Flange with clearance holes

Code -37/
(Code -27/)
(Code -47/)



Flange with tapped holes

Code -71/

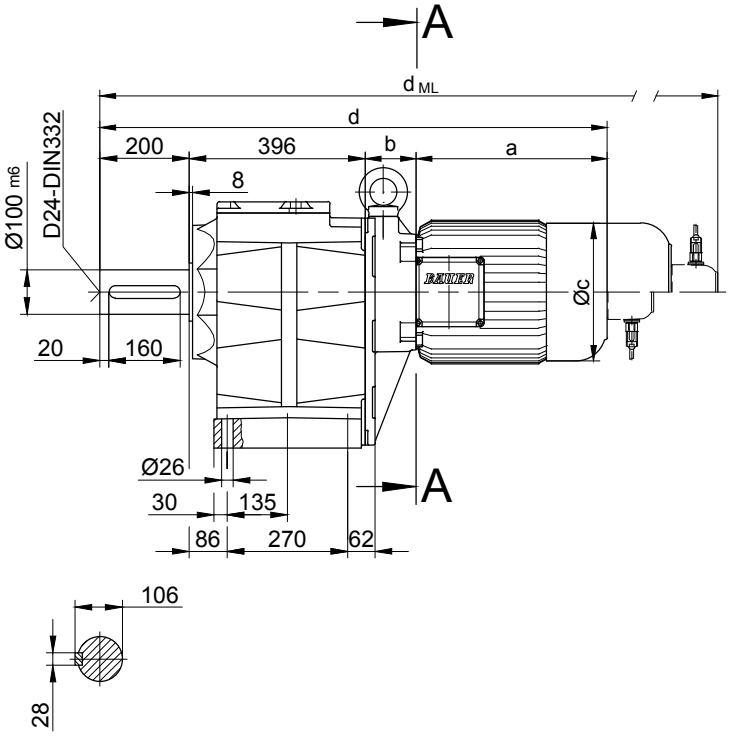


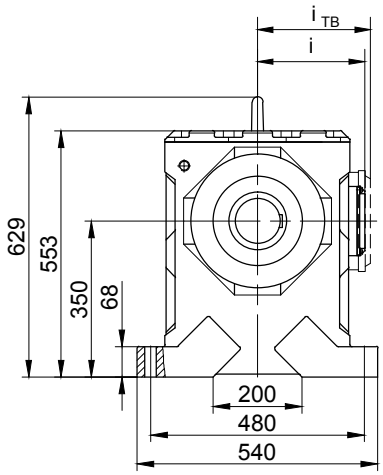
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

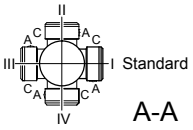
BG90 - BG90Z

Foot mounting with clearance holes

Code -11/







A-A

Flange dimensions

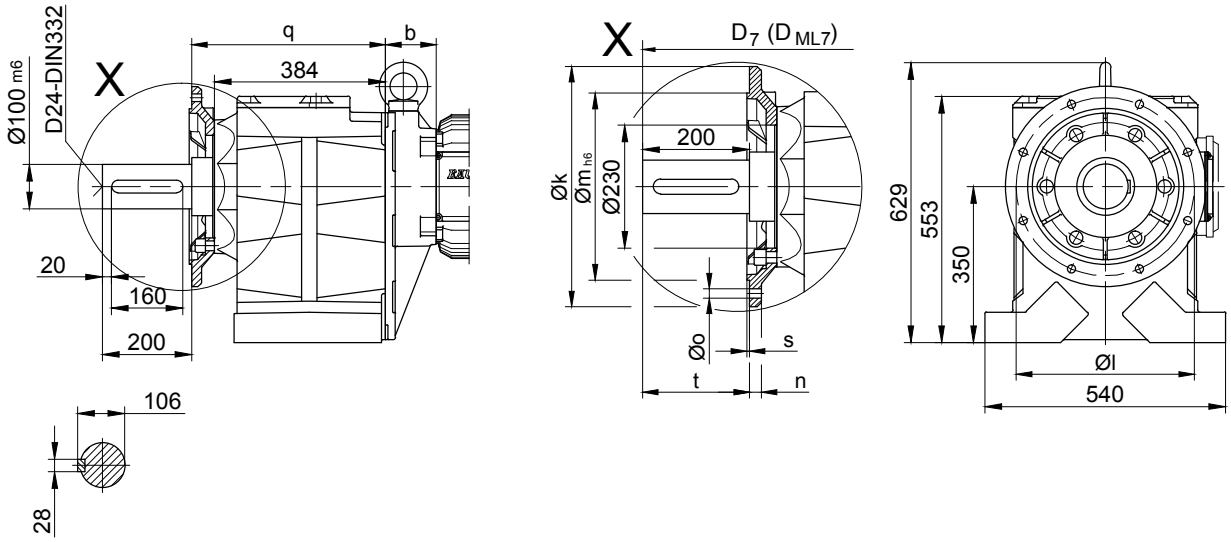
BG90(Z)	k	l	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	450	400	350	22	17.5	439	5	200	d+43	d_{ML}+43
big -47/	550	500	450	22	17.5	444	5	195	d+43	d_{ML}+43

Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	ES../ZS..	G	ES../ZS..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG90Z-../S..09..	251	267	181	1114	124	158	1207	1221	1311	-
BG90Z-../S..11..	319	273.5	228	1188.5	181	181	1286.5	1295.5	1388.5	-

BG90 - BG90Z

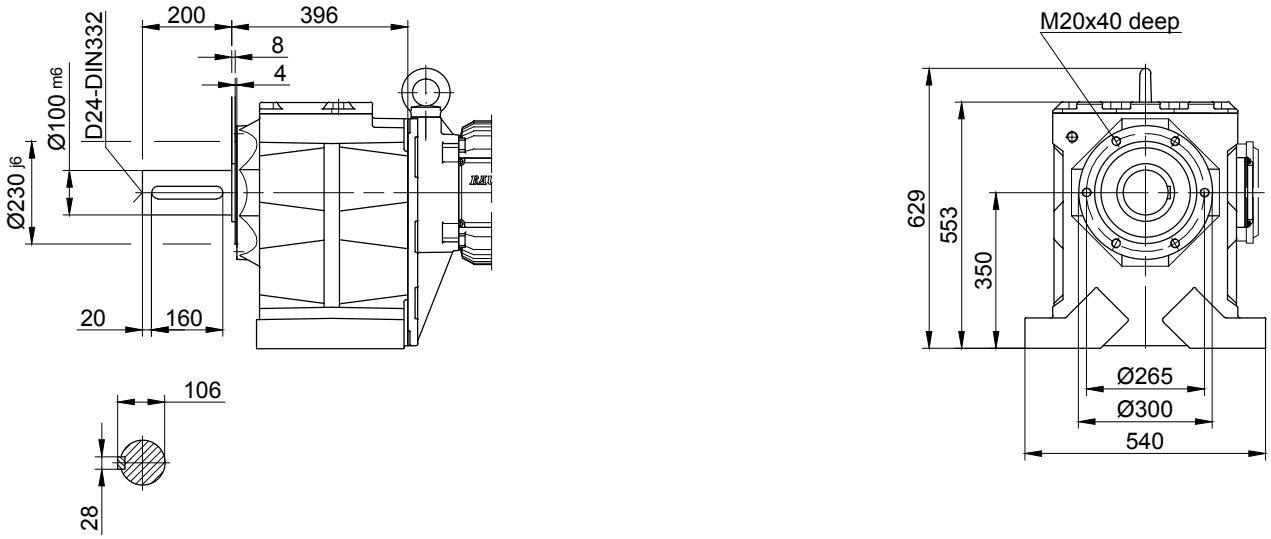
Flange with clearance holes

Code -37/
(Code -47/)



Flange with tapped holes

Code -71/

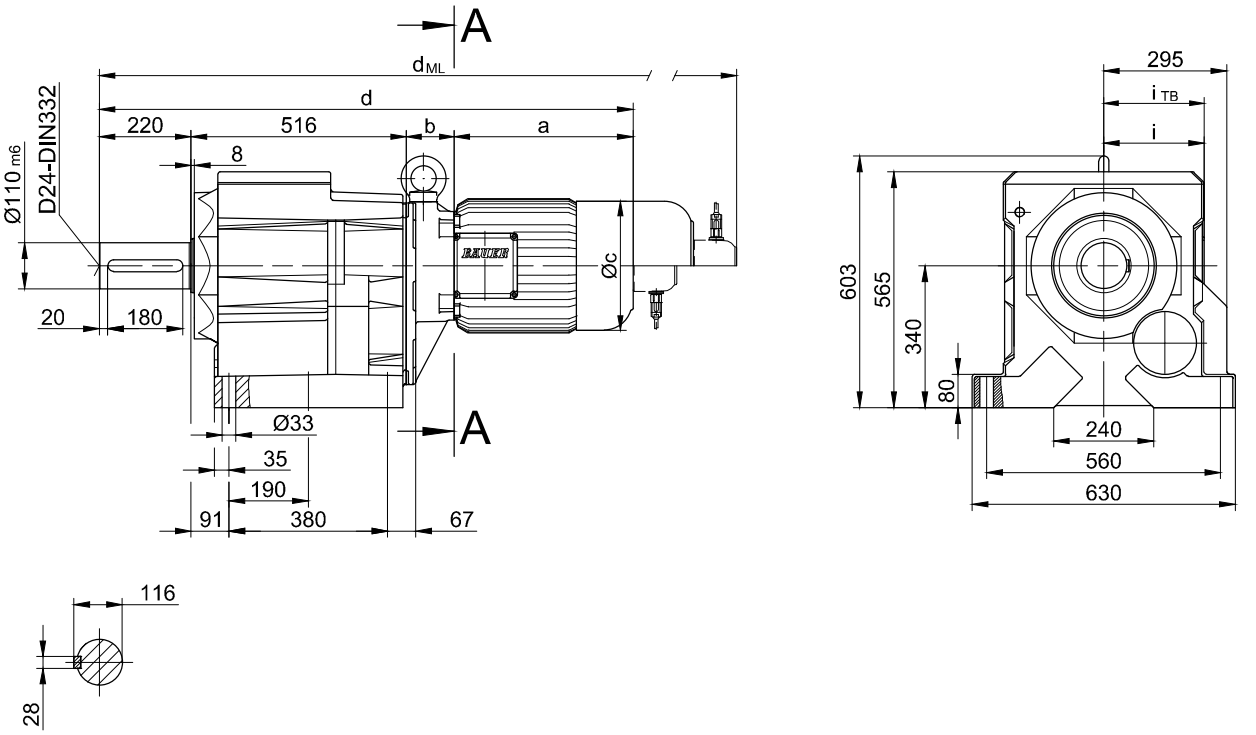


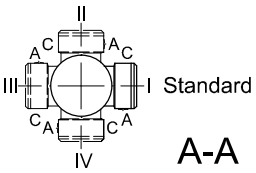
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG100 - BG100Z

Foot mounting with clearance holes

Code -11/





Flange dimensions

BG100(Z)	k	l	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	550	500	450	22	17.5	558	5	220	d+42	d_{ML}+42
big -47/	660	600	550	25	22	552	6	226	d+42	d_{ML}+42

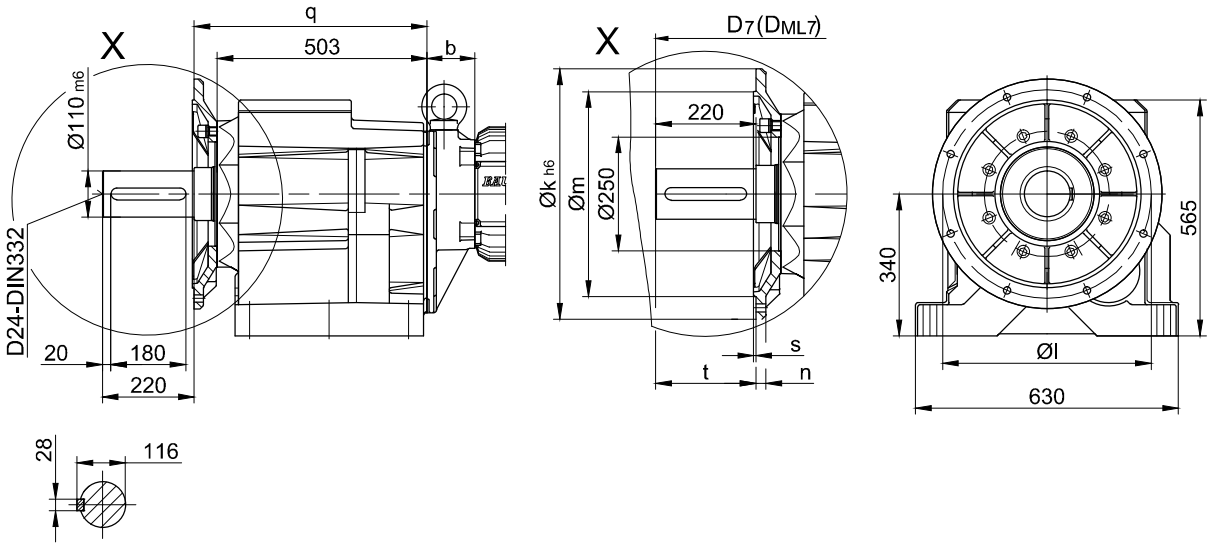
Type	a	b	c	d	i	i_{TB}	Design with motor extensions			
							ES../ZS..	G	ES../ZS..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG100Z-../S..09..	251	252.5	181	1239.5	124	158	1332.5	1346.5	1437	-
BG100-../S..11..	319	87	228	1142	181	181	1240	1249	1344.5	-
BG100Z-../S..11..	319	259	228	1314	181	181	1412	1421	1516.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG100 - BG100Z

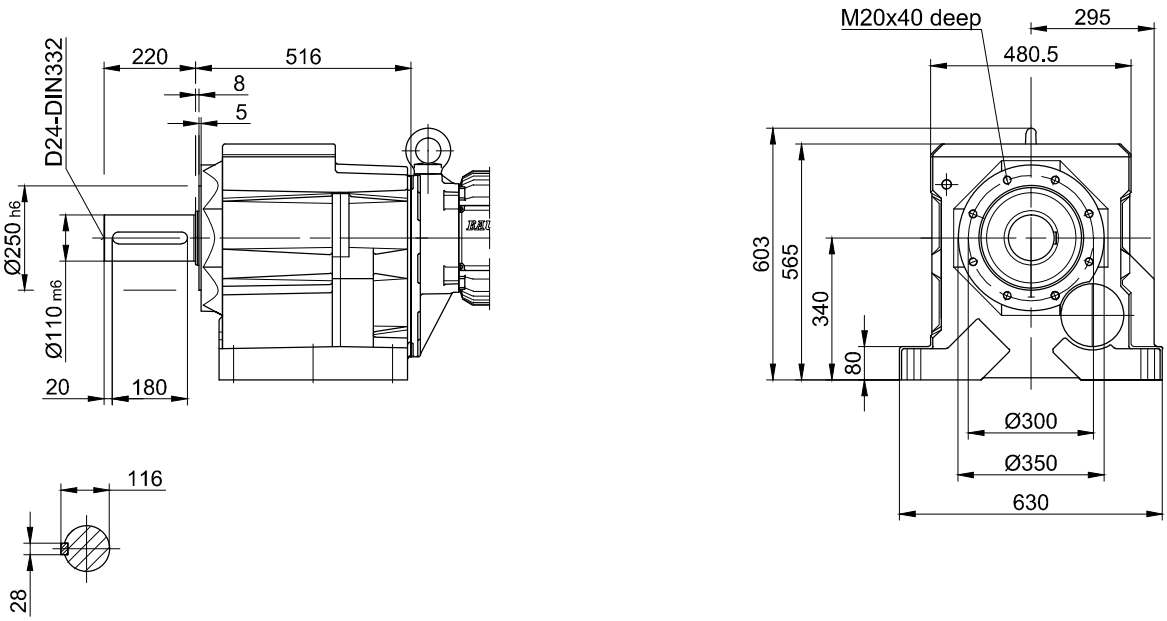
Flange with clearance holes

Code -37/
(Code -47/)



Flange with tapped holes

Code 71/

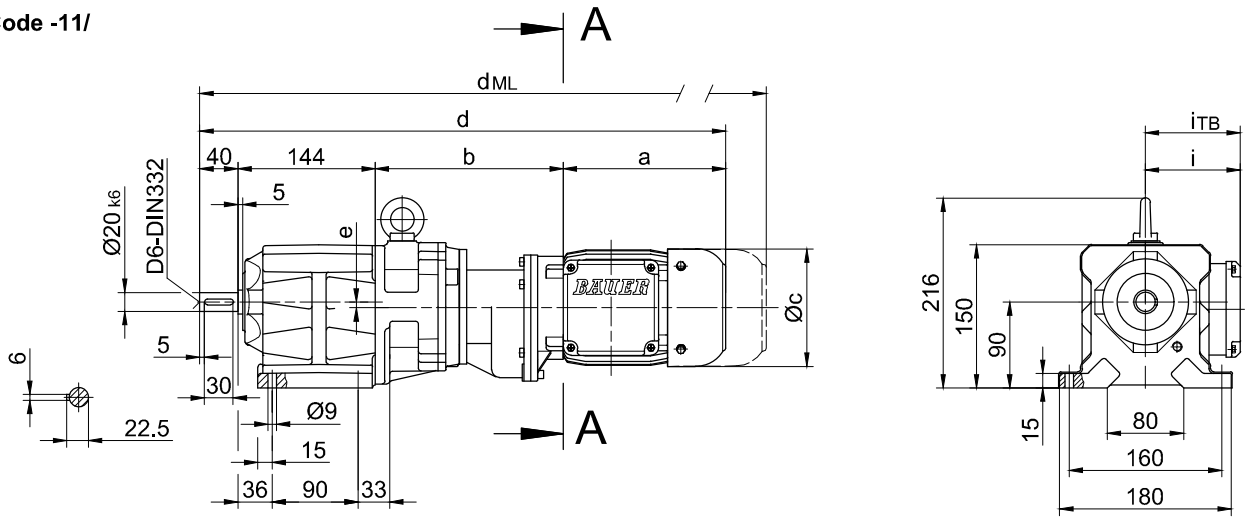


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG10G06

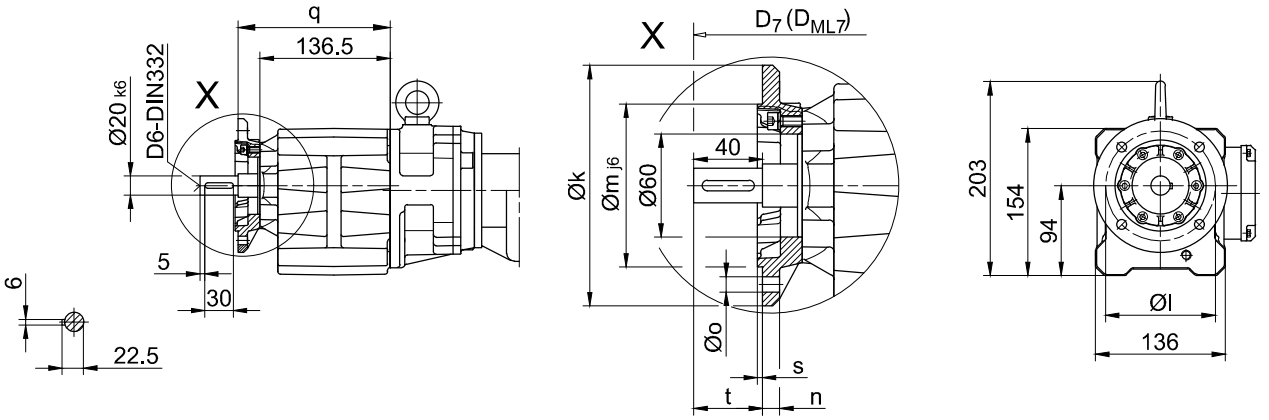
Foot mounting with clearance holes

Code -11/



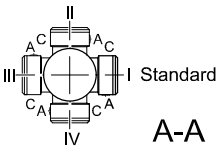
Flange with clearance holes

Code -37/
(Code -27/)



Flange dimensions

BG10G..	k	l	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	140	115	95	10	9	159.5	3	40	d+15.5	d_{ML}+15.5
small -27/	120	100	80	8	6.6	154.5	3	45	d+15.5	d_{ML}+15.5



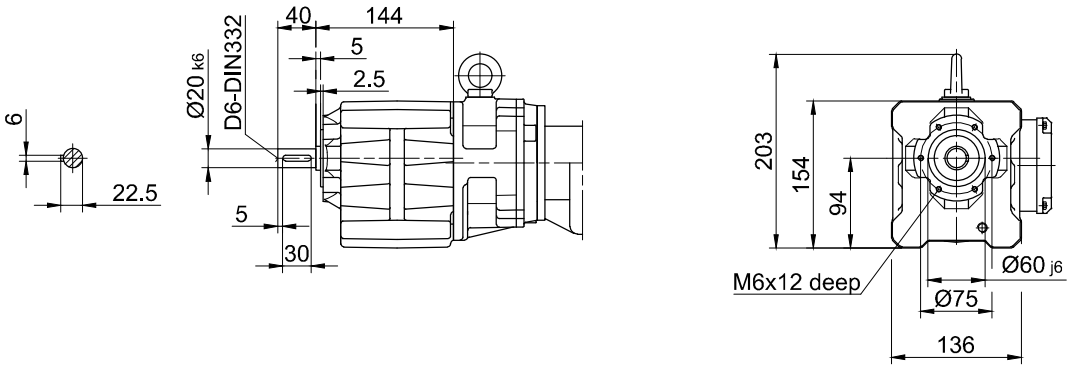
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG10G06-../S..08..	200	241	156	625	6	115	136.5	691	732	798.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG10G06

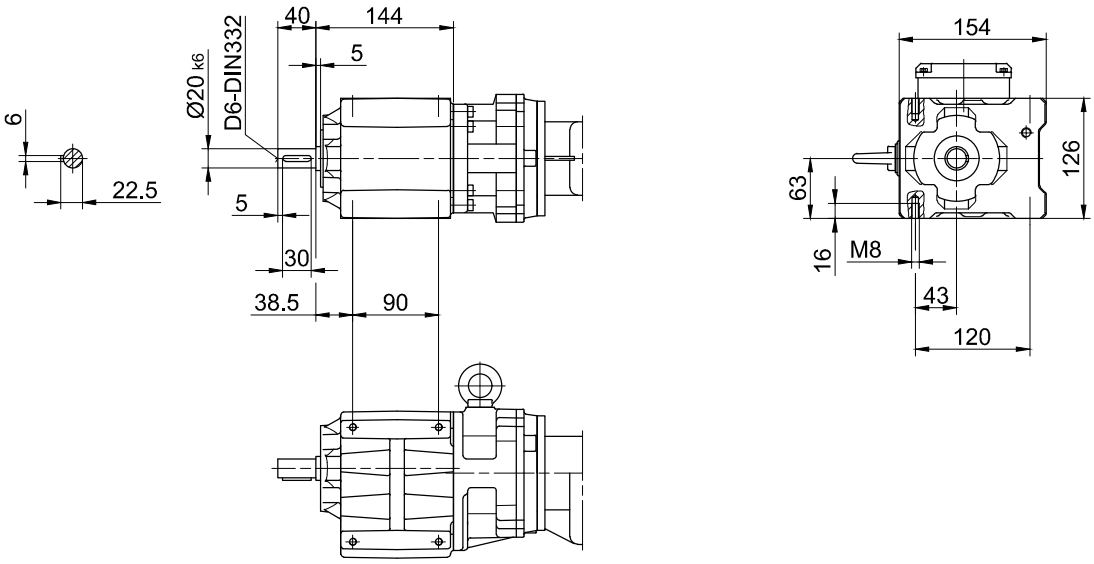
Flange with tapped holes

Code -71/



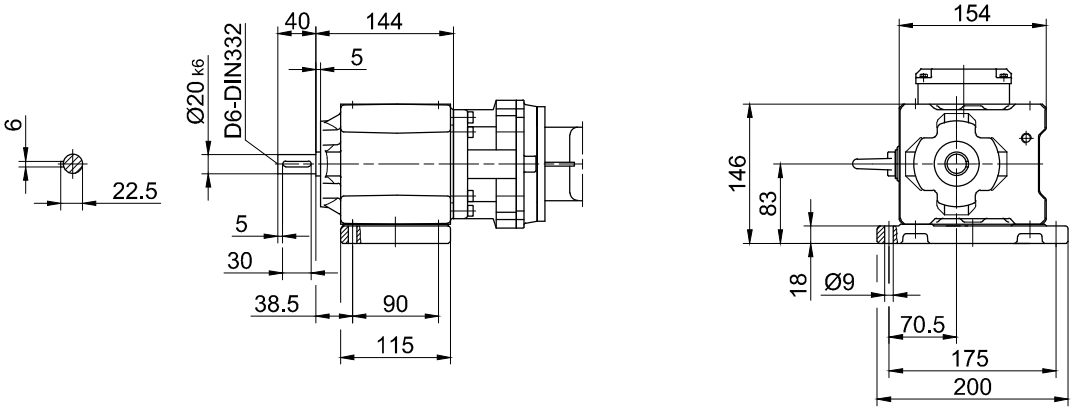
Foot with tapped holes left and right

Code -61LR/



Foot plate left

Code -91L/

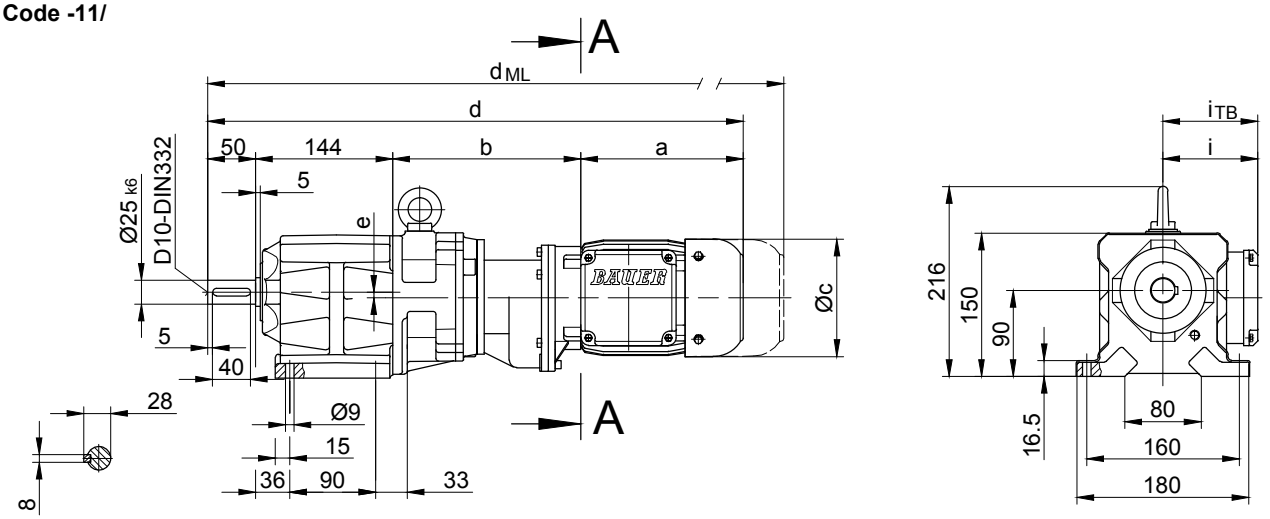


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG10XG06

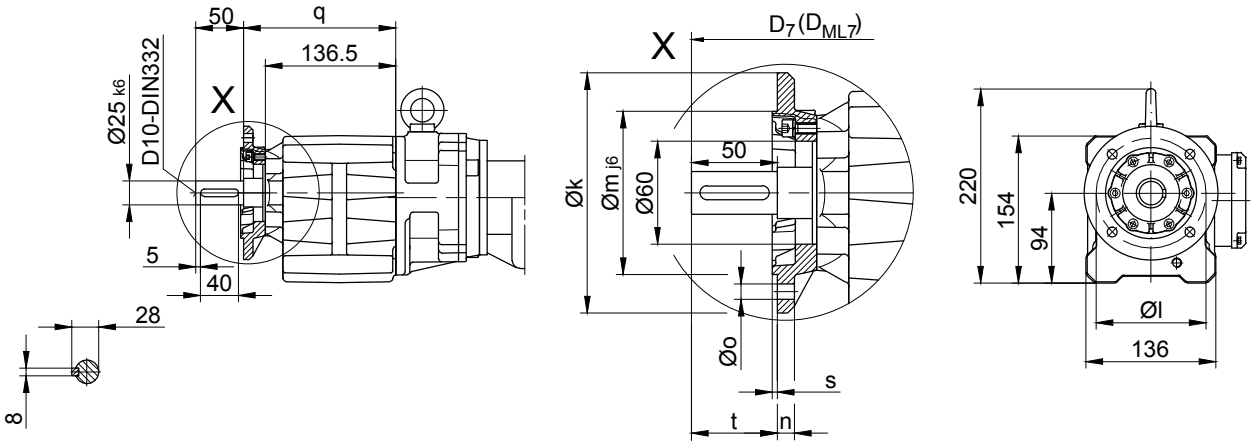
Foot mounting with clearance holes

Code -11/



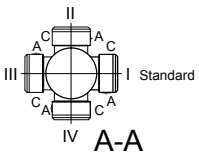
Flange with clearance holes

Code -37/
(Code -27/)



Flange dimensions

BG10XG..	k	l	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	140	115	95	10	9	159.5	3	50	d+15.5	d_{ML}+15.5
small -27/	120	100	80	8	6.6	154.5	3	55	d+15.5	d_{ML}+15.5



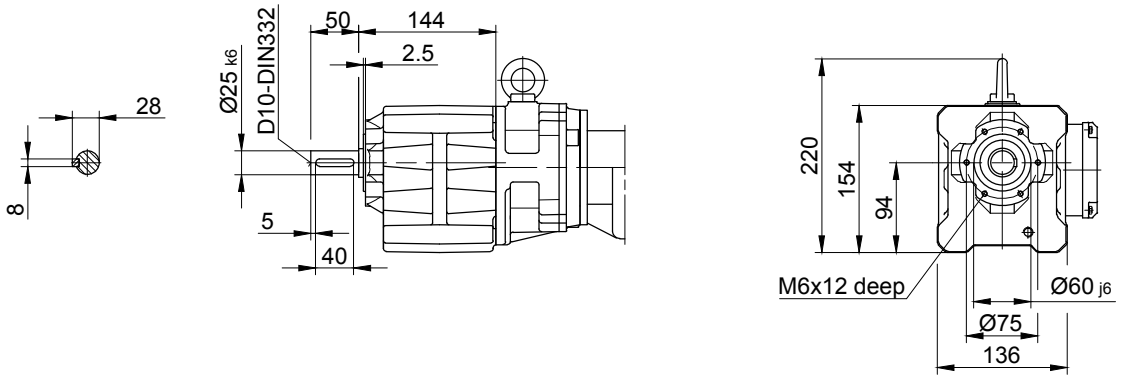
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG10XG06-../S..08..	200	241	156	635	6	115	136.5	701	742	808.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG10XG06

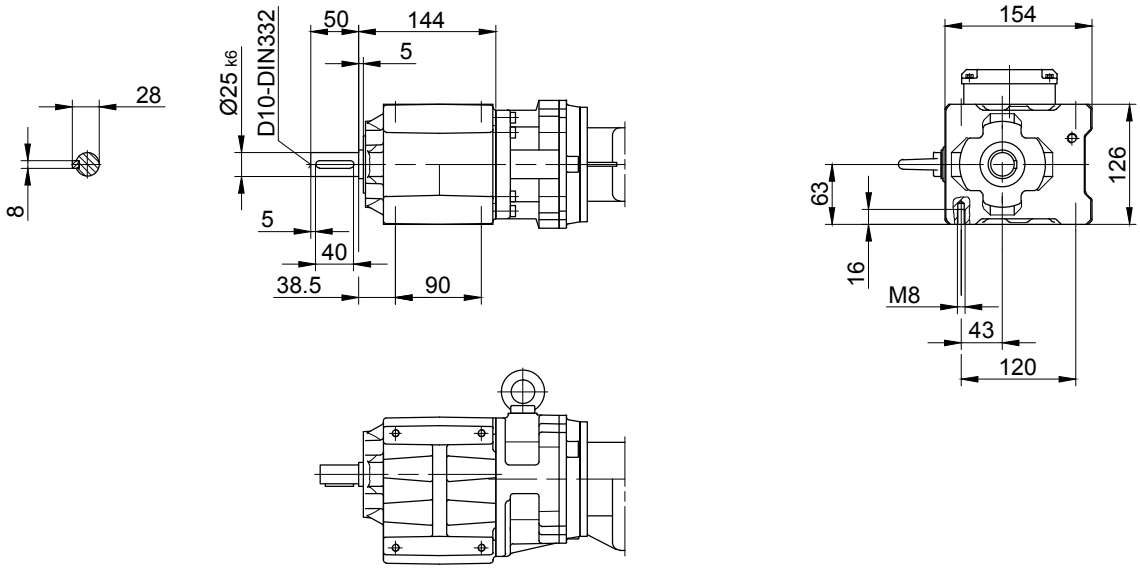
Flange with tapped holes

Code -71/



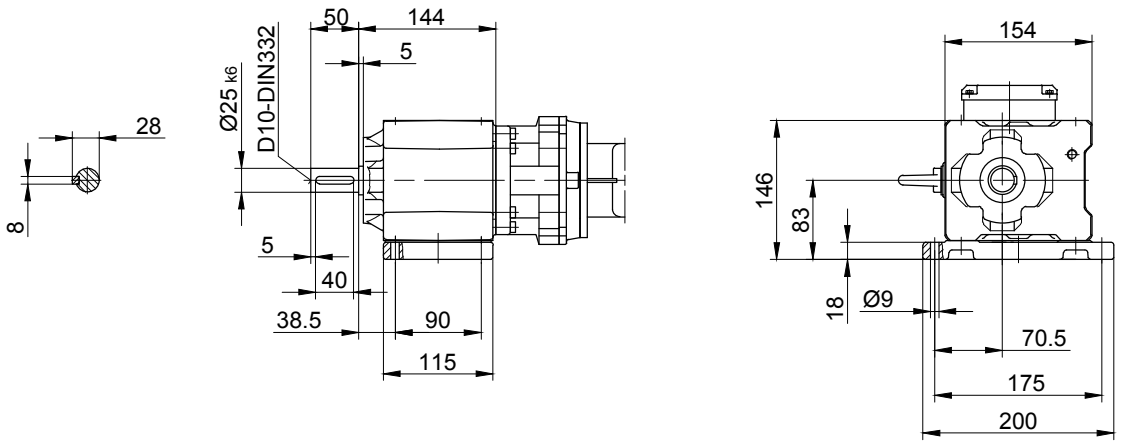
Foot with tapped holes left and right

Code -61LR/



Foot plate left

Code -91L/

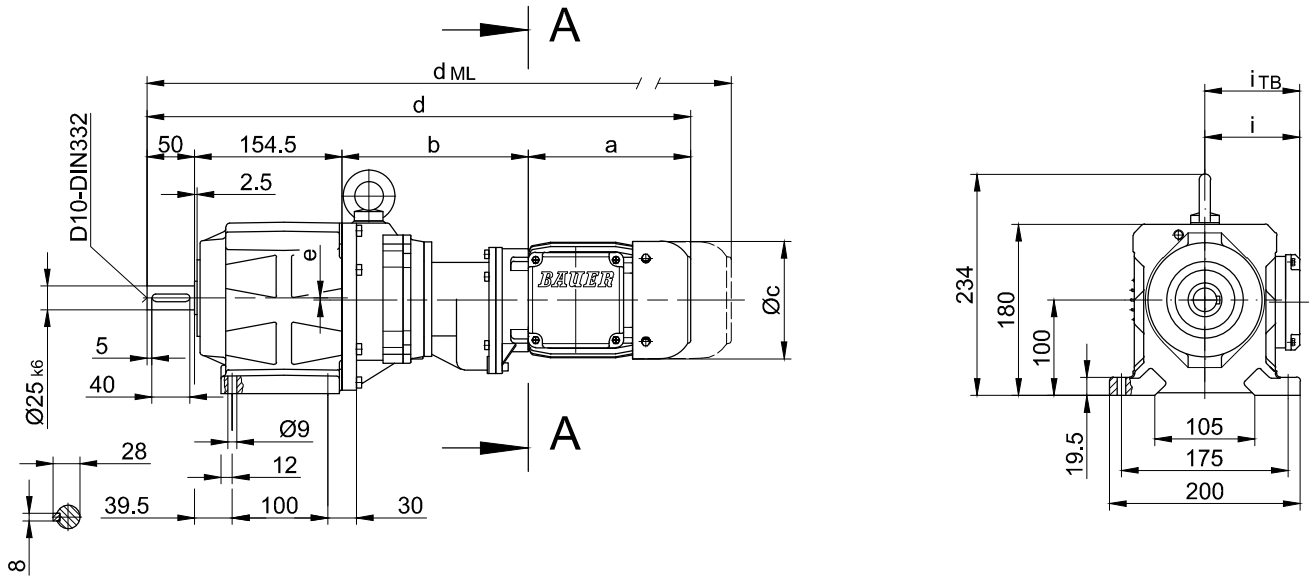


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG20G06

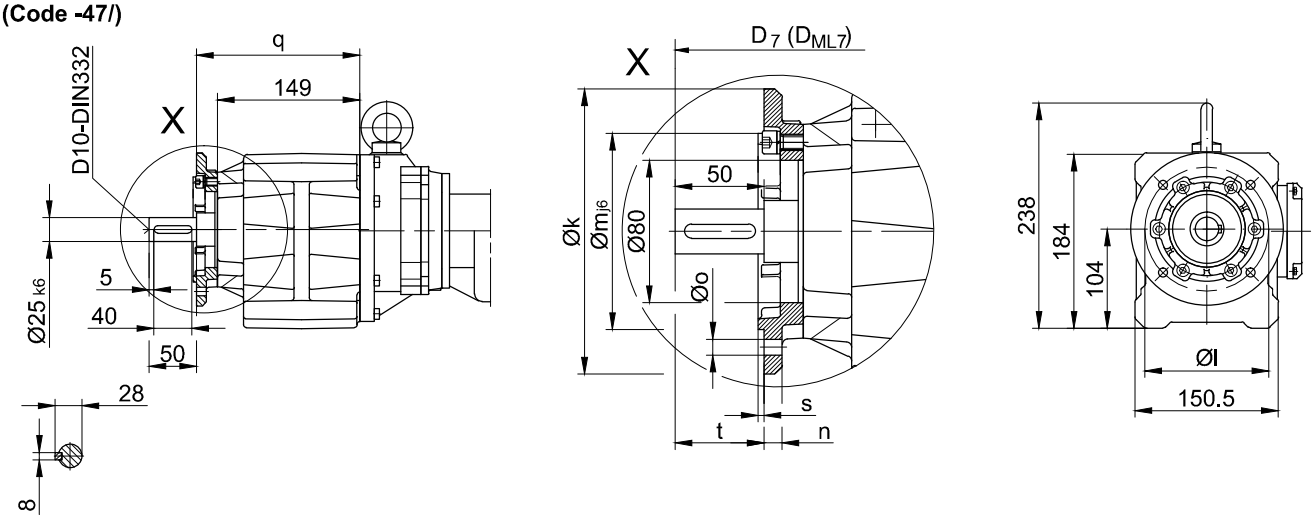
Foot mounting with clearance holes

Code -11/



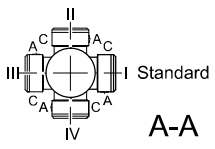
Flange with clearance holes

Code -37/
(Code -47/)



Flange dimensions

BG20G..	k	l	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	160	130	110	10	9	171	3.5	50	d+16.5	d_{ML}+16.5
big -47/	200	165	130	12	11	178	3.5	43	d+16.5	d_{ML}+16.5



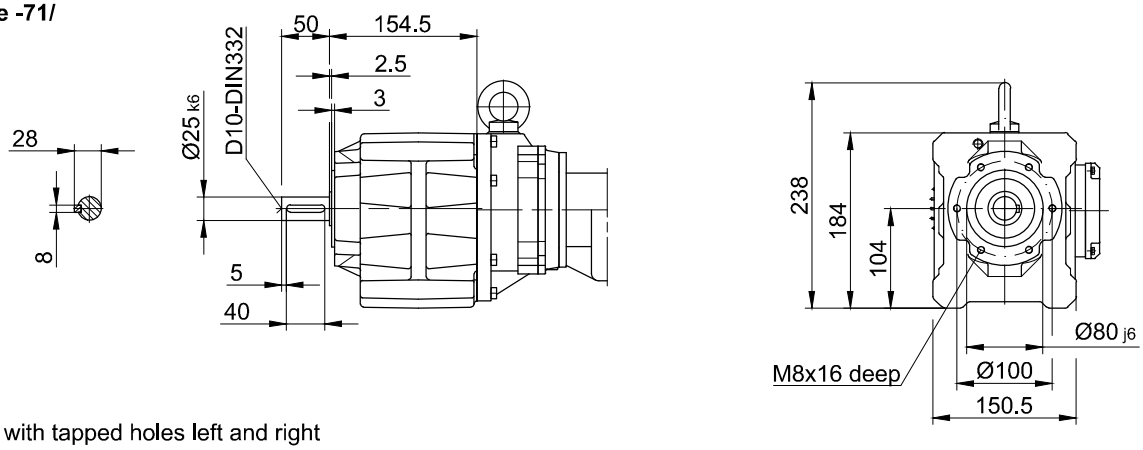
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG20G06-../S..08..	200	239	156	643.5	2	115	136.5	709.5	750.5	817	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG20G06

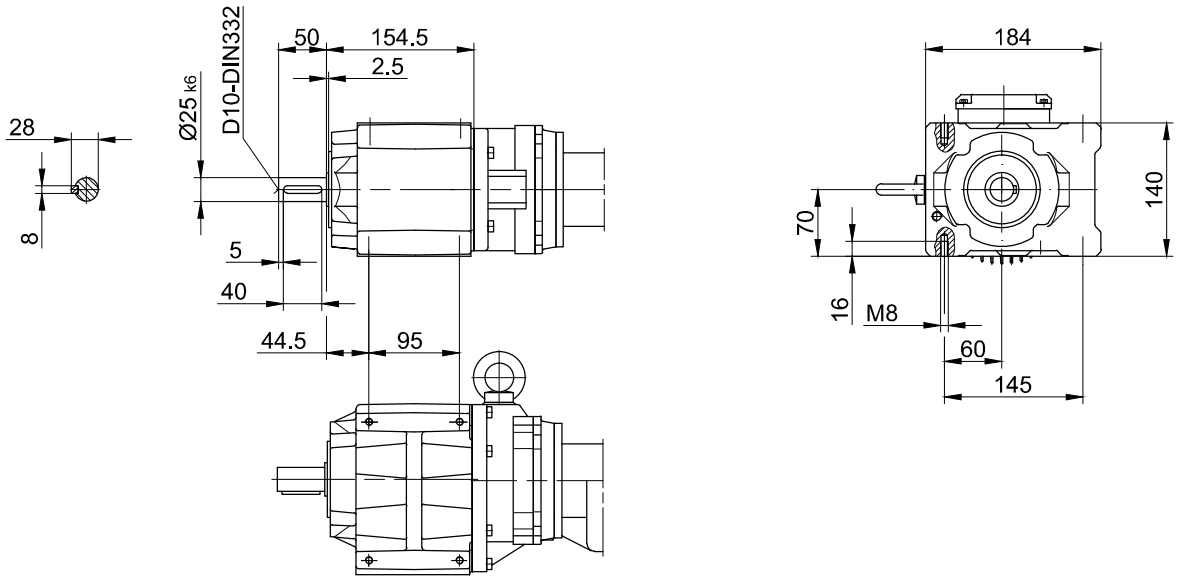
Fange with tapped holes

Code -71/



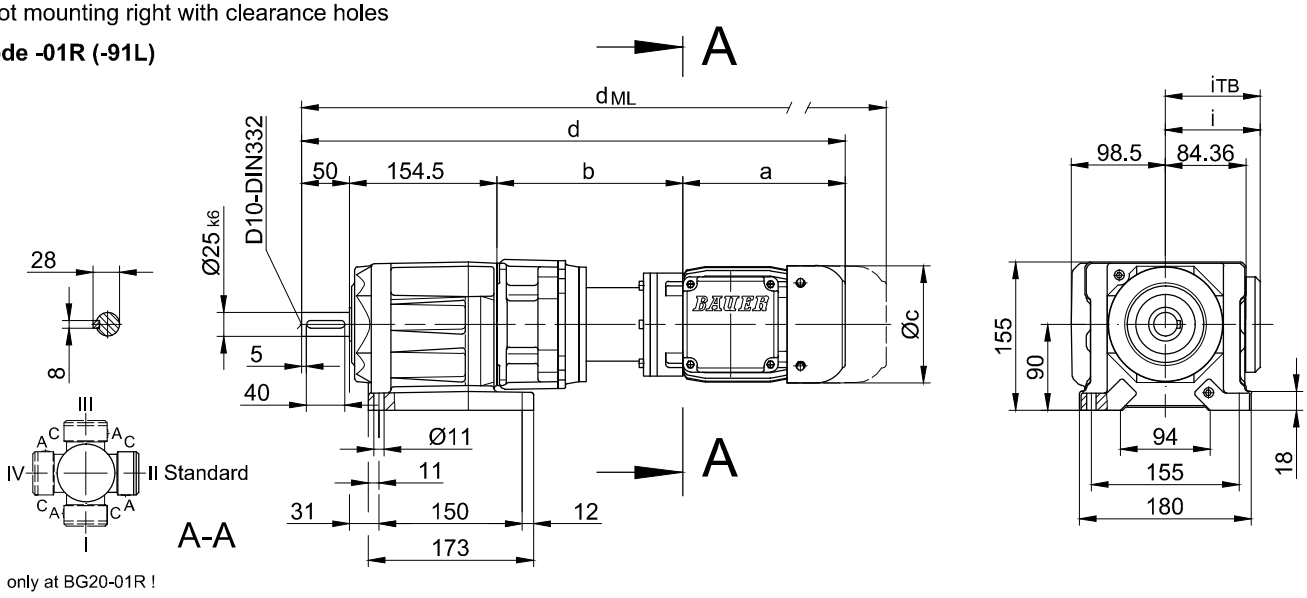
Foot with tapped holes left and right

Code -61LR/



Foot mounting right with clearance holes

Code -01R (-91L)



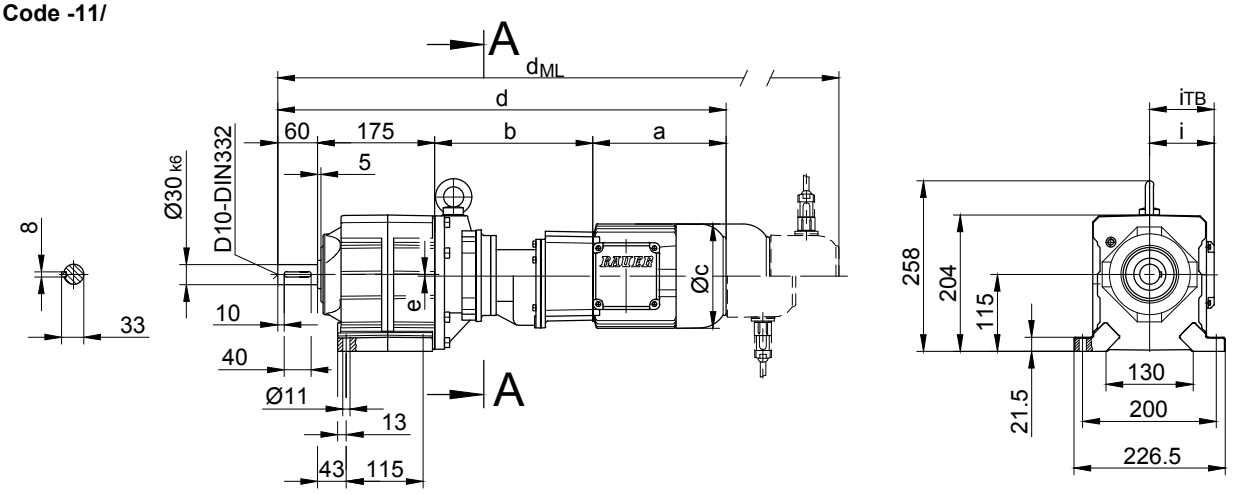
only at BG20-01R !

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG30G06

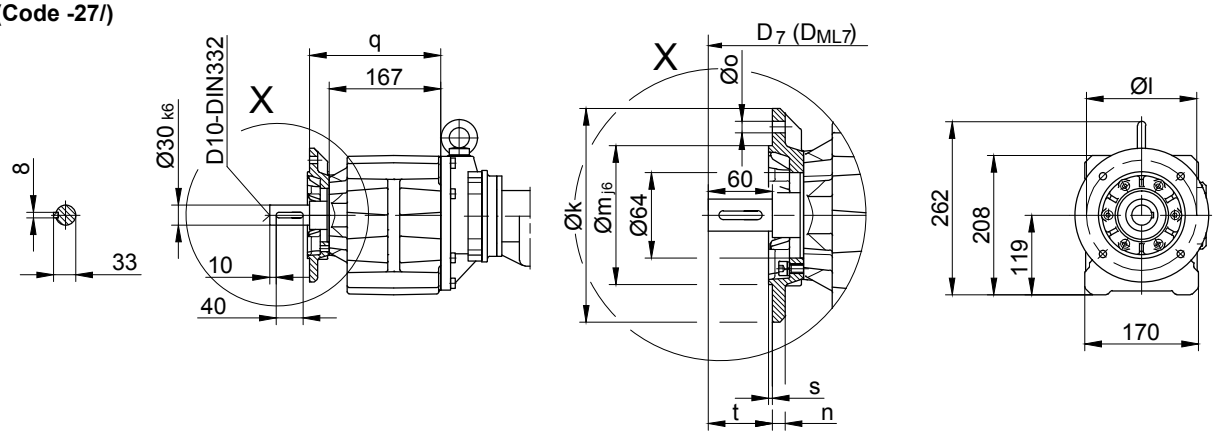
Foot mounting with clearance holes

Code -11/



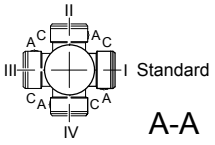
Flange with clearance holes

Code -37/
(Code -27/)



Flange dimensions

BG30G..	k	l	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	200	165	130	12	11	196	3.5	60	d+21	d_{ML}+21
small -27/	160	130	110	10	9	189	3.5	67	d+21	d_{ML}+21



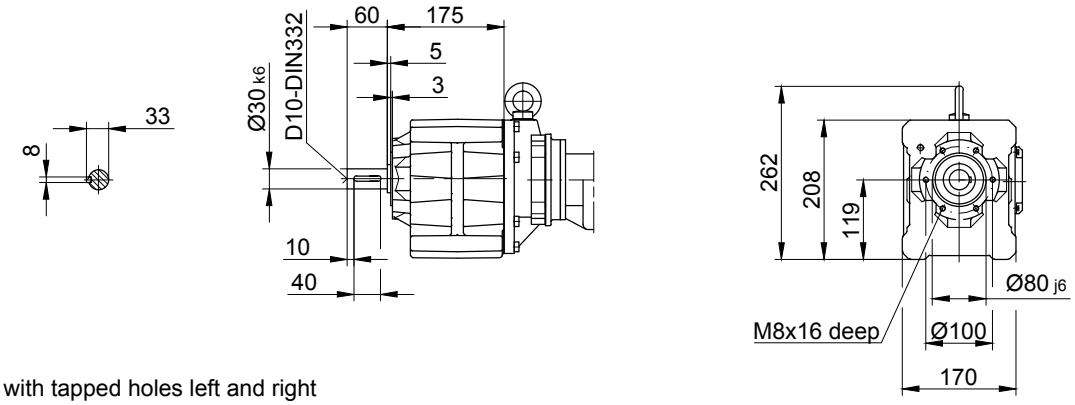
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG30G06-../S..08..	200	237	156	672	3	115	136.5	738	779	845.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG30G06

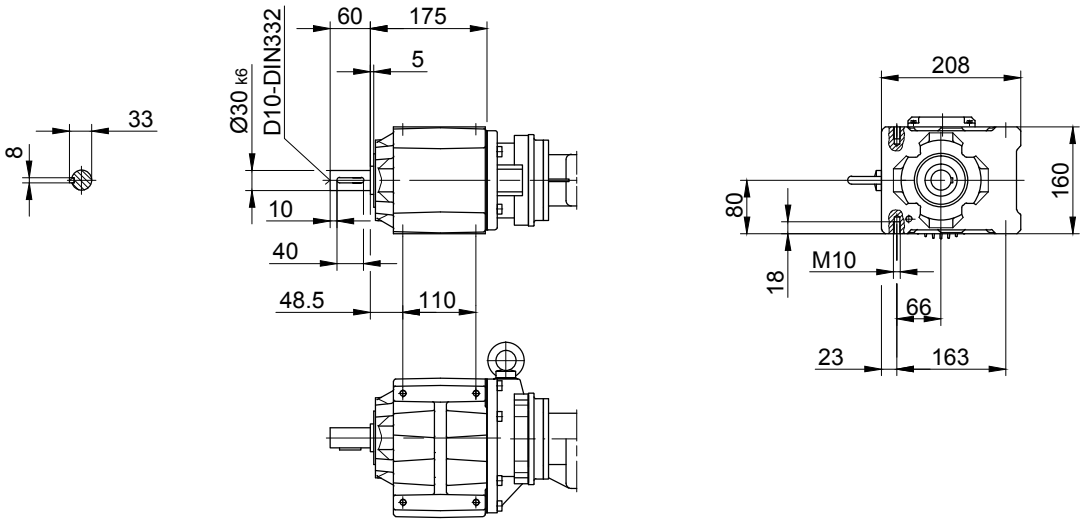
Flange with tapped holes

Code -71/



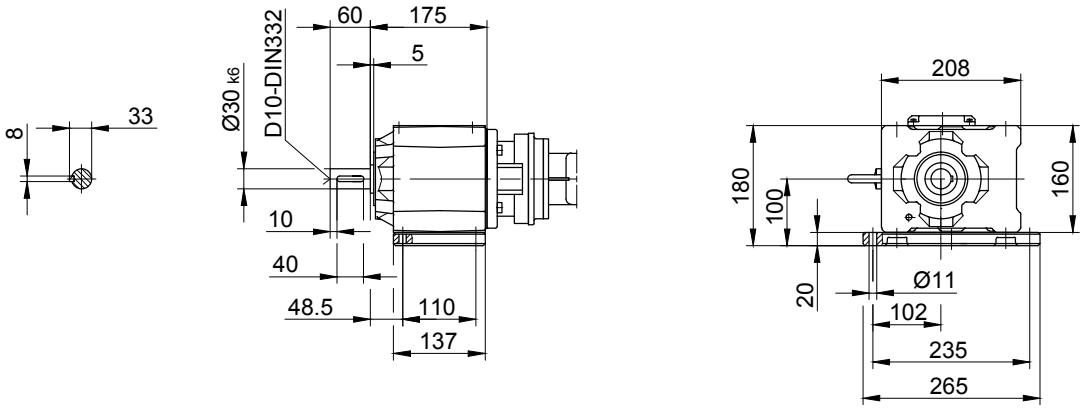
Foot with tapped holes left and right

Code -61LR/



Foot plate left

Code -91L/

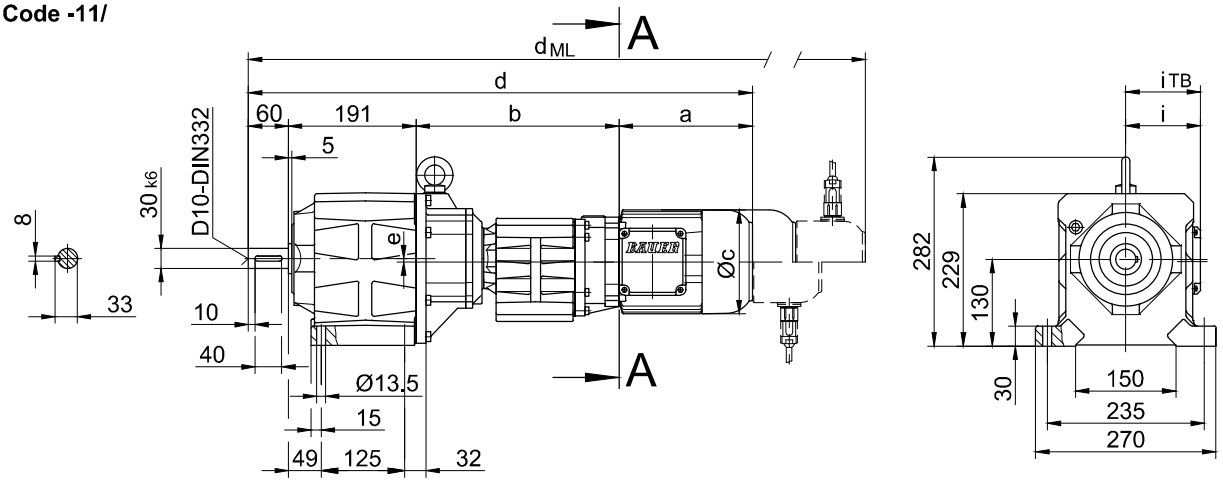


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG40G10

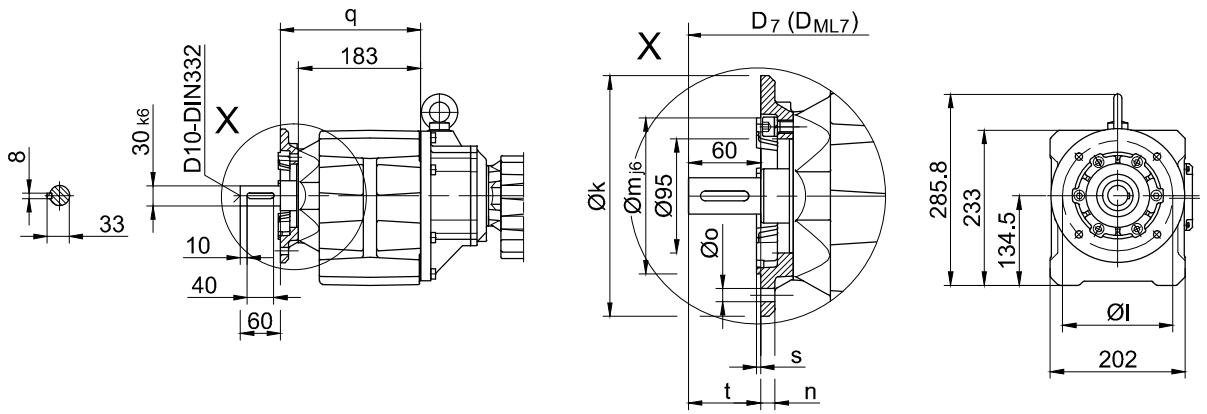
Foot mounting with clearance holes

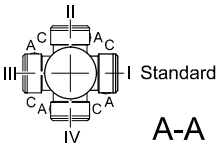
Code -11/



Flange with clearance holes

Code -37/
(Code -47/)





Flange dimensions

BG40G..	k	l	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	200	165	130	12	11	210	3.5	60	d+19	d_{ML}+19
big -47/	250	215	180	16	13.5	219	4	51	d+19	d_{ML}+19

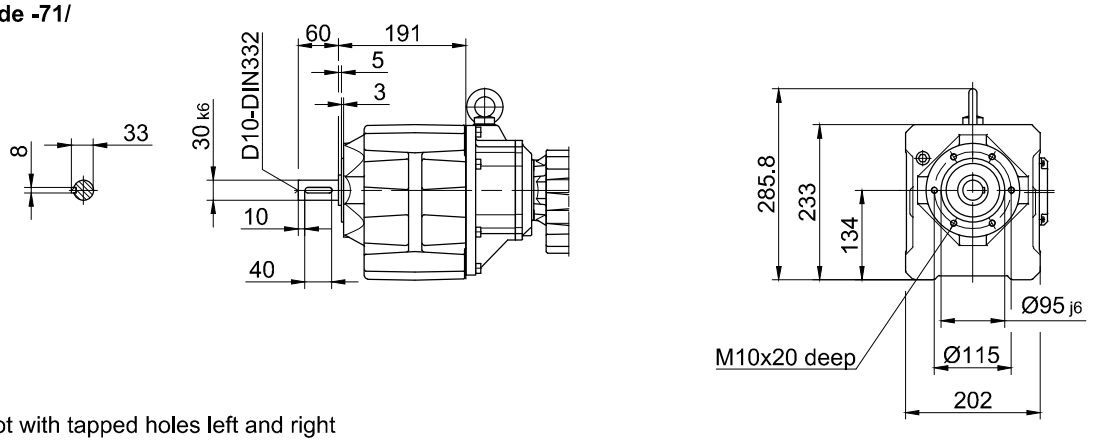
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG40G10-../S..08..	200	304	156	755	5	115	136.5	821	862	928.5	-
BG40G10-../S..09..	251	318.5	181	820.5	5	124	158	913.5	927.5	1018	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG40G10

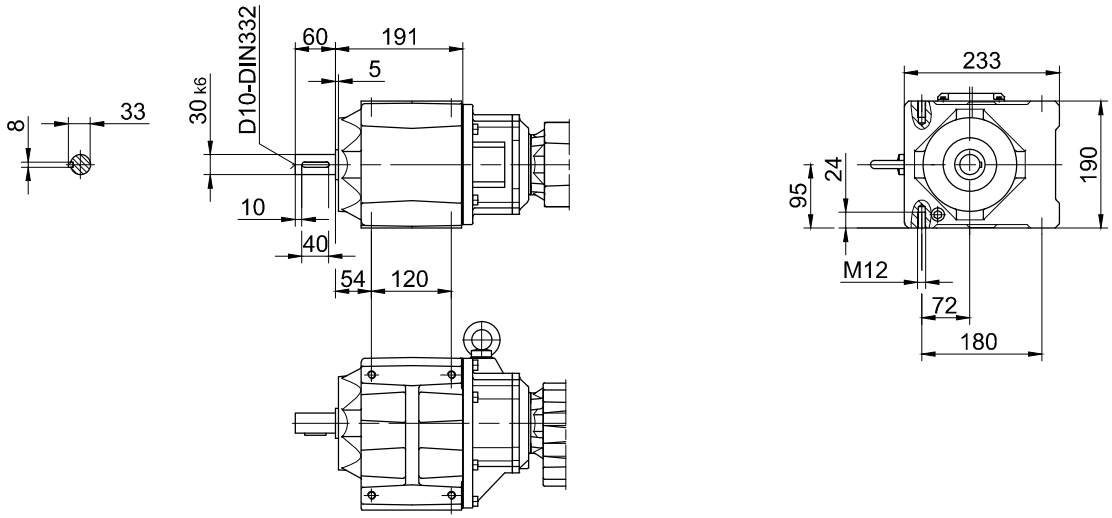
Flange with tapped holes

Code -71/



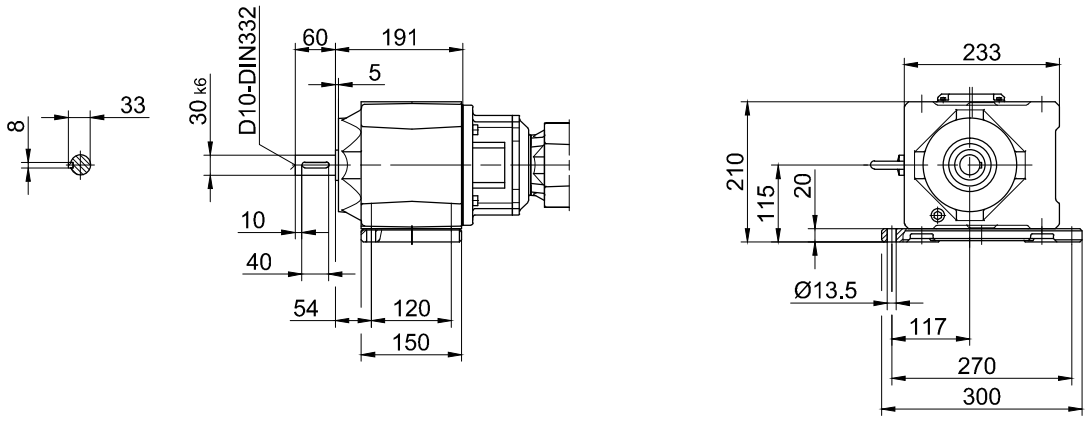
Foot with tapped holes left and right

Code -61LR/



Foot plate left

Code -91L/

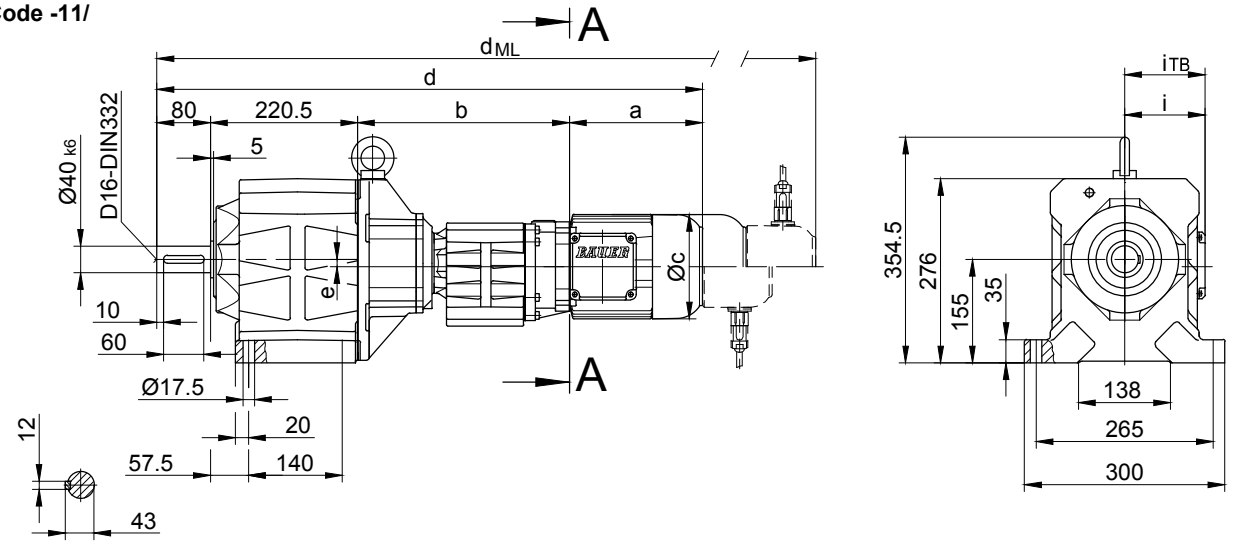


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG50G10

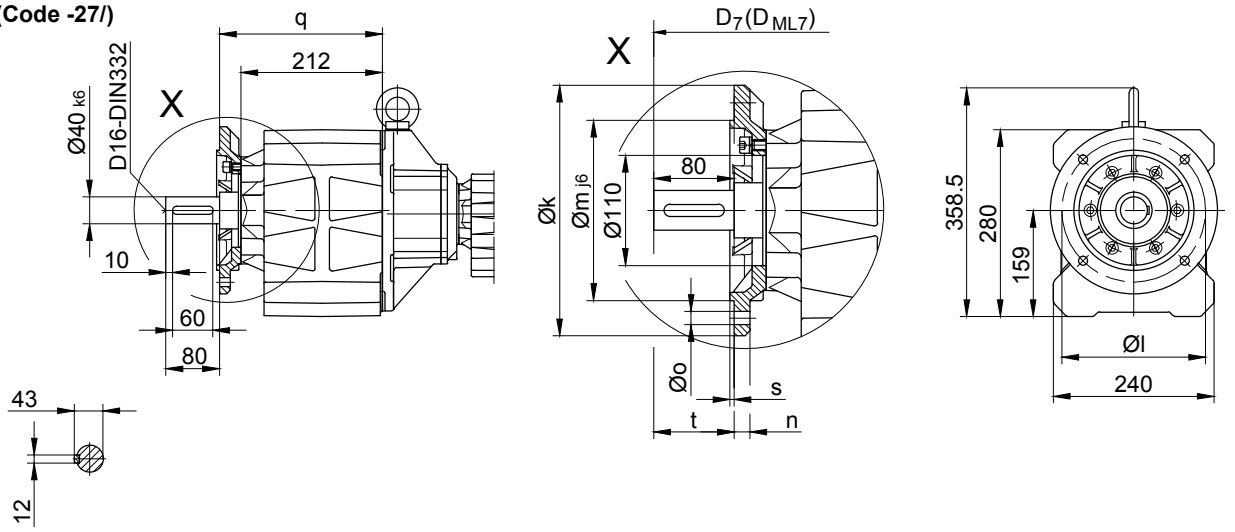
Foot mounting with clearance holes

Code -11/



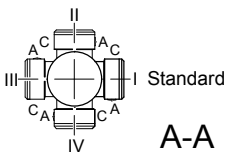
Flange with clearance holes

Code -37/
(Code -27/)



Flange dimensions

BG50G..	k	l	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	250	215	180	16	13.5	244	4	80	d+23.5	d_{ML}+23.5
small -27/	200	165	130	12	11	241	3.5	83	d+23.5	d_{ML}+23.5



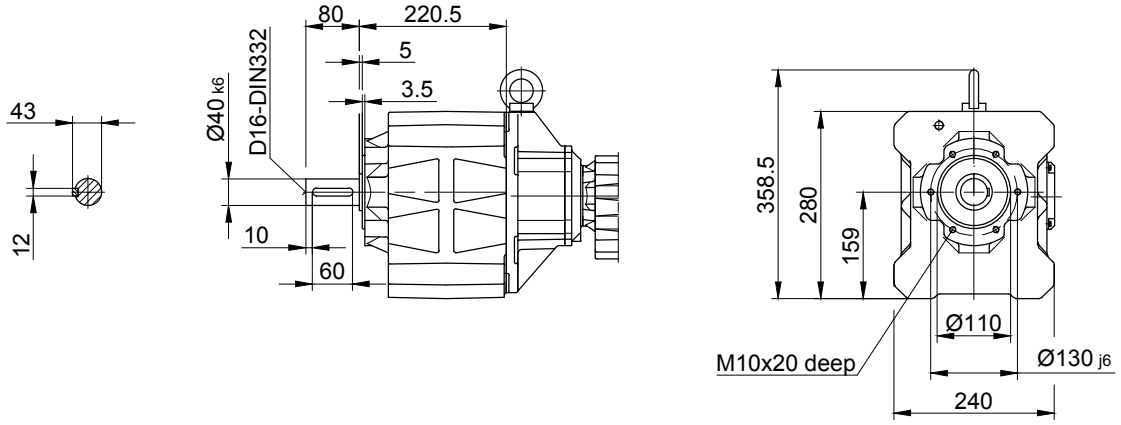
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG50G10-../S..08..	200	317	156	817.5	11	115	136.5	883.5	924.5	991	-
BG50G10-../S..09..	251	331.5	181	883	11	124	158	976	990	1080.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG50G10

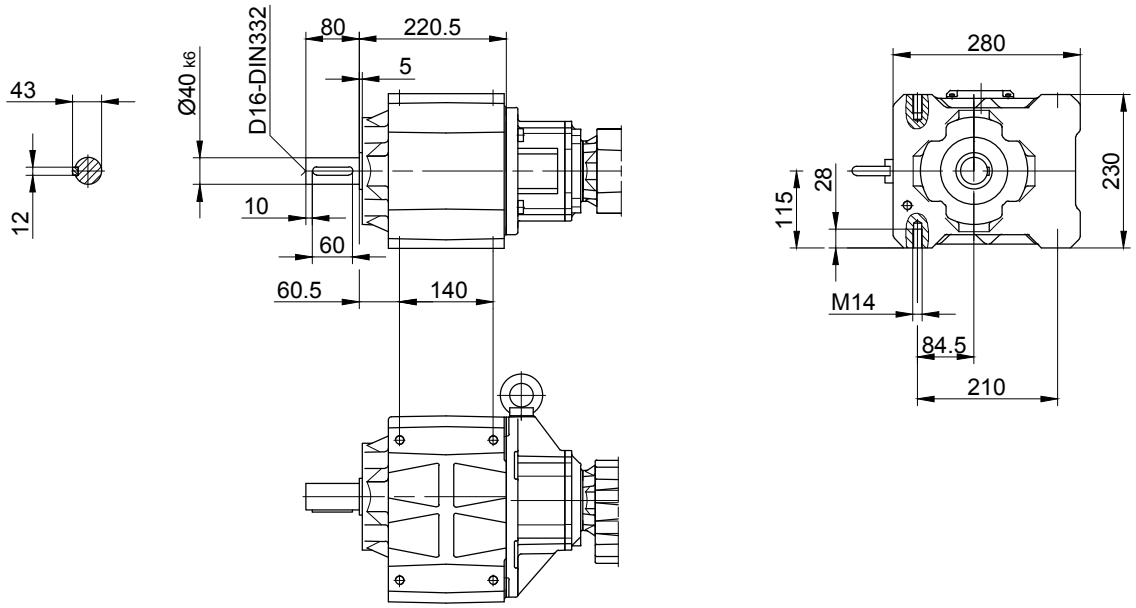
Flange with tapped holes

Code -71/



Foot with tapped holes left and right

Code -61LR/

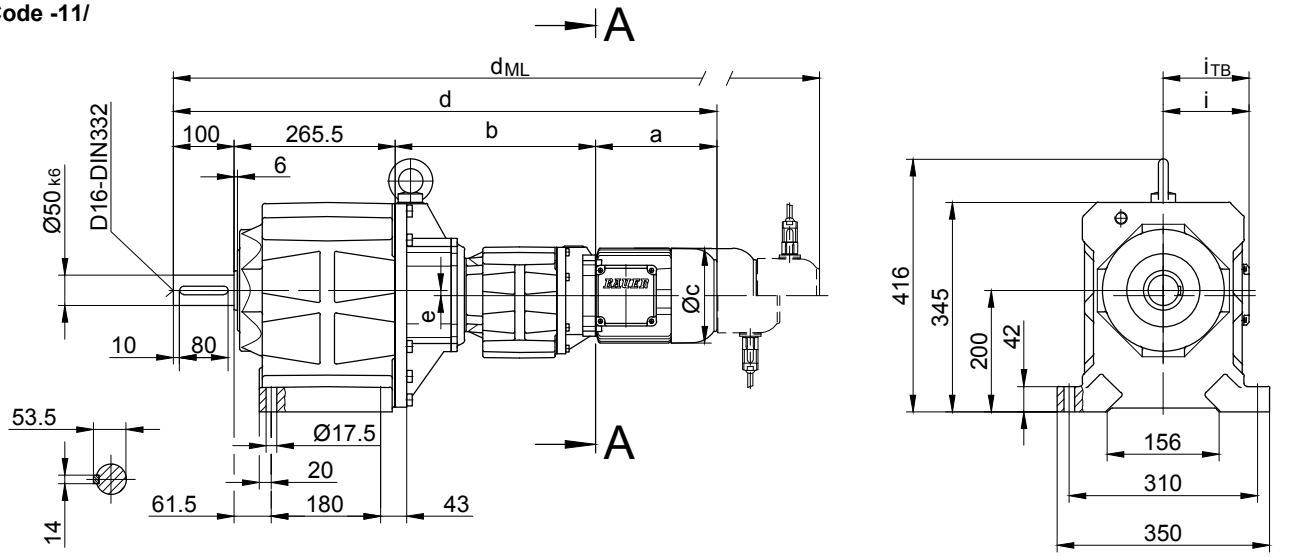


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG60G20

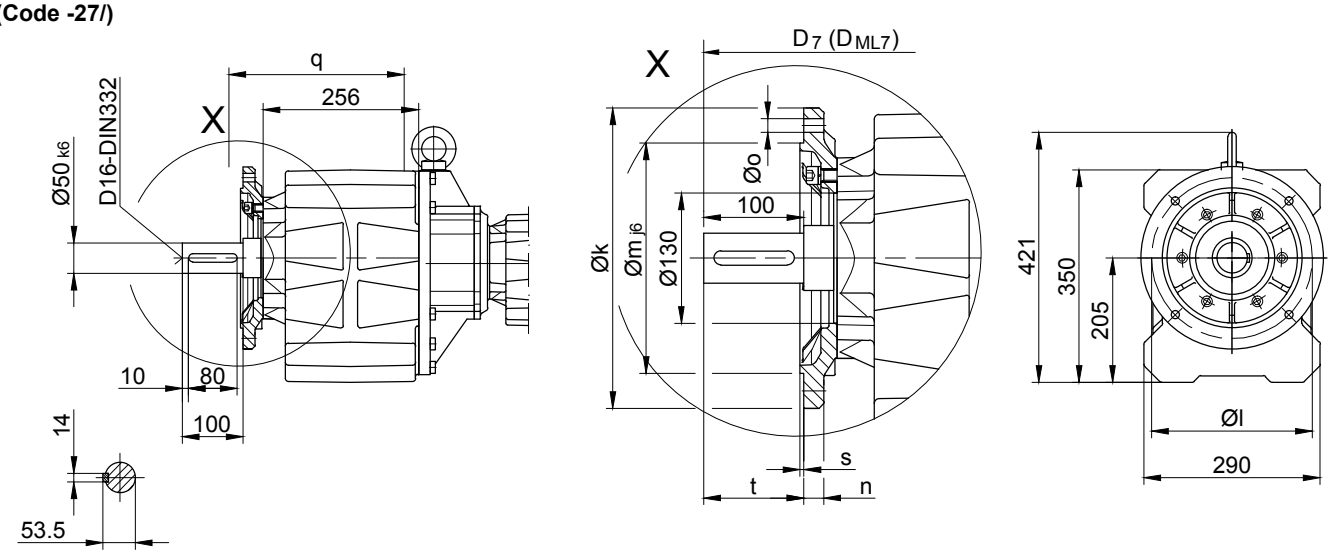
Foot mounting with clearance holes

Code -11/



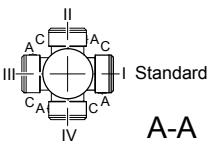
Flange with clearance holes

Code -37/
(Code -27/)



Flange dimensions

BG60G..	k	l	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	300	265	230	20	13.5	289	4	100	d+23.5	d_{ML}+23.5
small -27/	250	215	180	16	13.5	286	4	103	d+23.5	d_{ML}+23.5



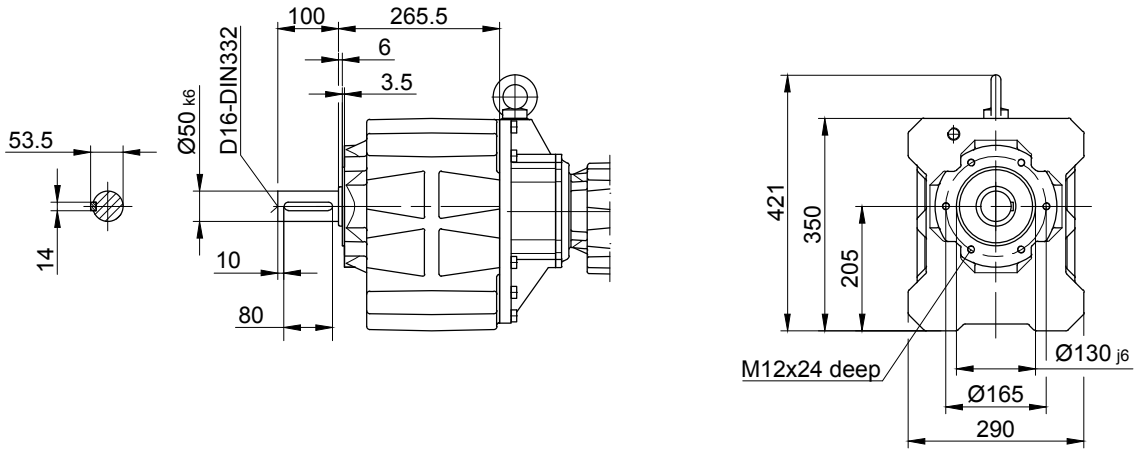
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG60G20-../S..08..	200	330	156	895.5	8.5	115	136.5	961.5	1002.5	1069	-
BG60G20-../S..09..	251	344.5	181	961	8.5	124	158	1054	1068	1158.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG60G20

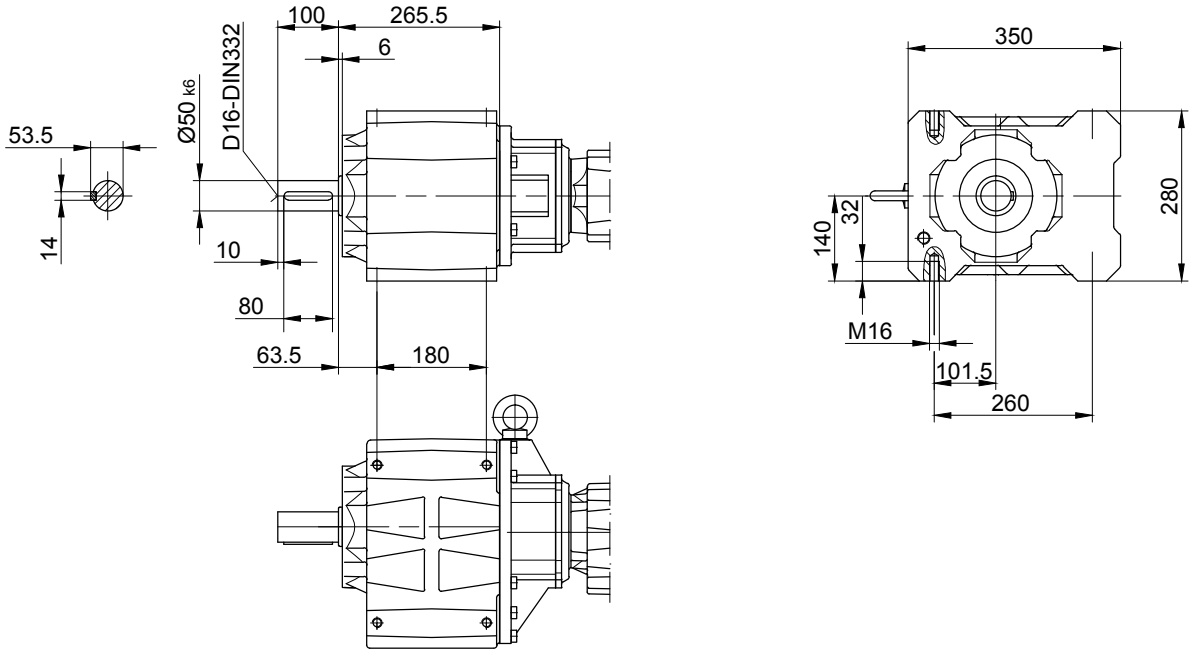
Flange with tapped holes

Code -71/



Foot with tapped holes left and right

Code -61LR/

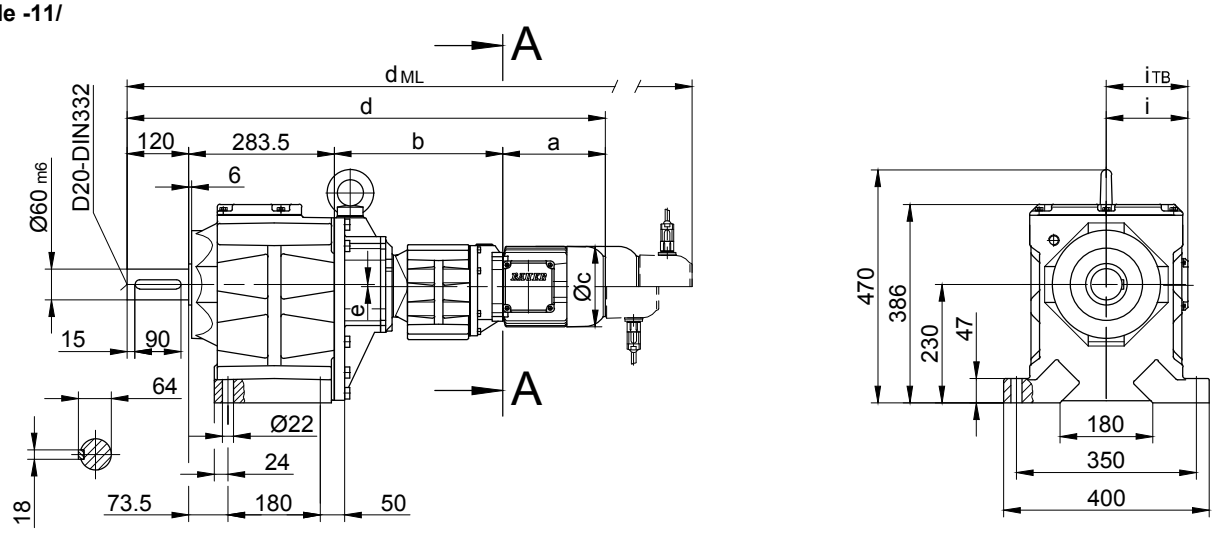


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG70G20

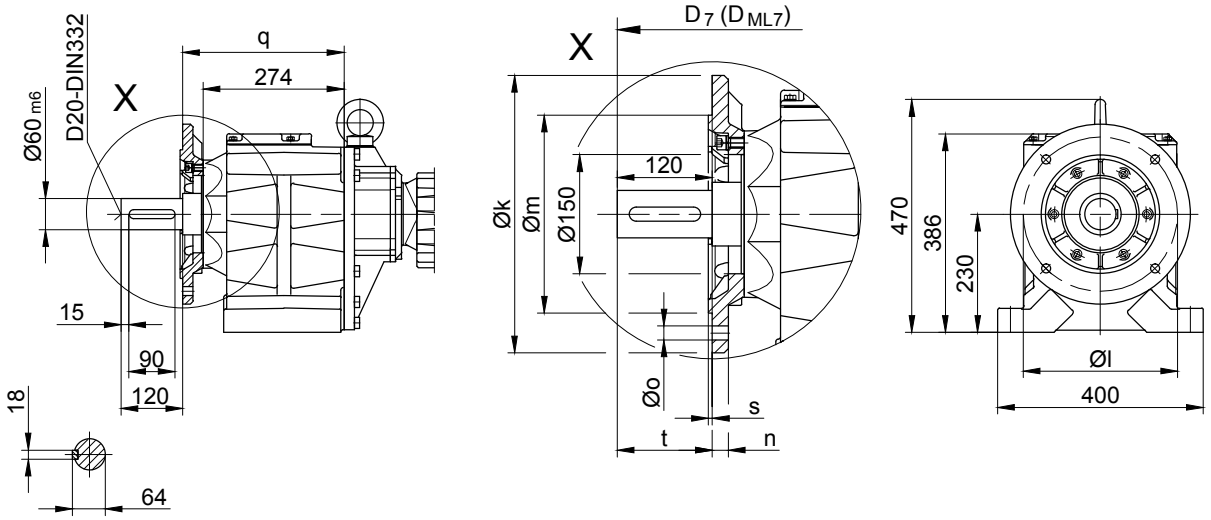
Foot mounting with clearance holes

Code -11/

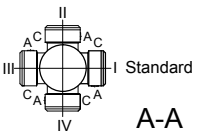


Flange with clearance holes

Code -37/
(Code -27/)



Flange dimensions



BG70G..	k	l	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	350	300	250_{h6}	20	17.5	314	5	120	d+30.5	d_{ML}+30.5
small -27/	300	265	230_{j6}	20	13.5	322	4	112	d+30.5	d_{ML}+30.5

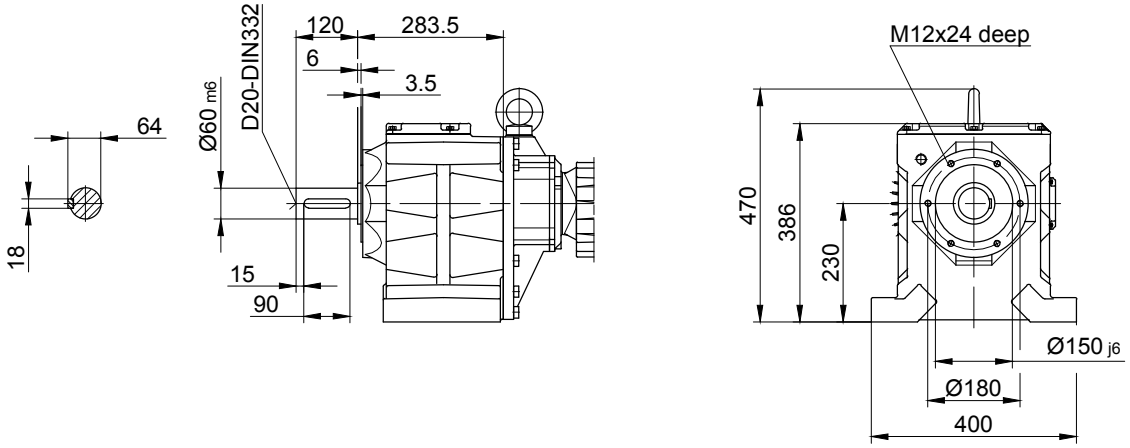
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG70G20-../S..08..	200	328	156	931.5	1	115	136.5	997.5	1038.5	1105	-
BG70G20-../S..09..	251	342.5	181	997	1	124	158	1090	1104	1194.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG70G20

Flange with tapped holes

Code -71/

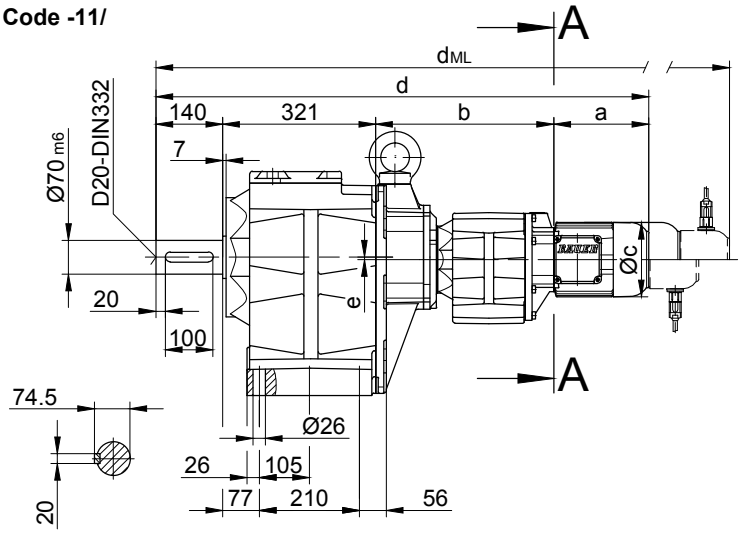


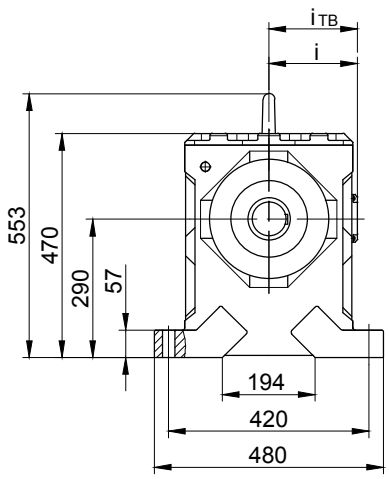
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG80G40

Foot mounting with clearance holes

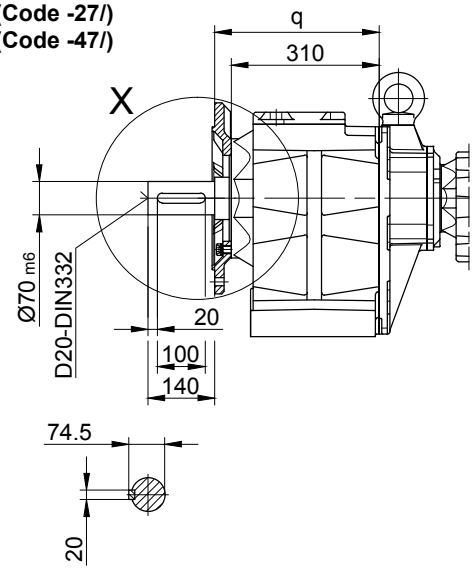
Code -11/

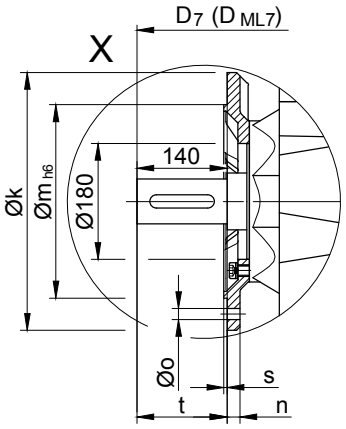


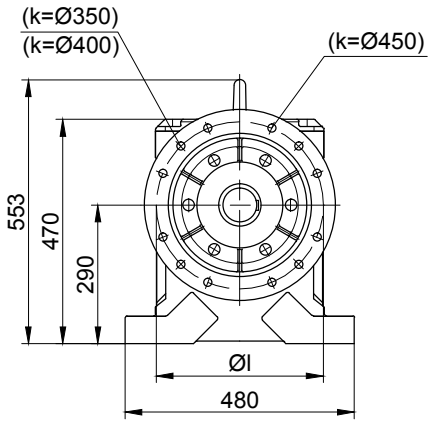


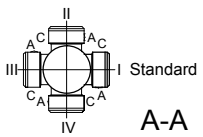
Flange with clearance holes

Code -37/
(Code -27/)
(Code -47/)









Flange dimensions

BG80G..	k	l	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	400	350	300	20	4 x Ø17.5	345	5	140	d+24	d_{ML}+24
small -27/	350	300	250	20	4 x Ø17.5	345	5	140	d+24	d_{ML}+24
big -47/	450	400	350	22	8 x Ø17.5	355	5	130	d+24	d_{ML}+24

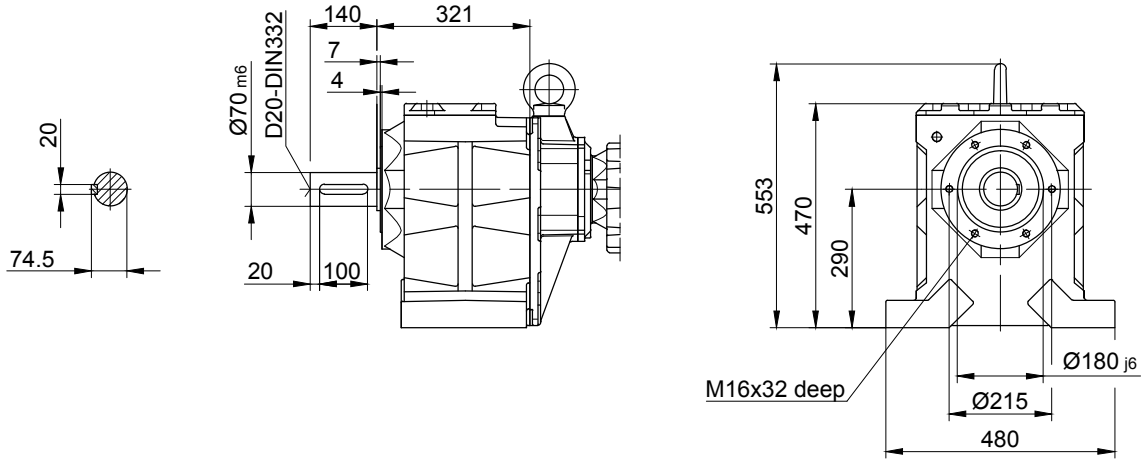
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	ES..	G	ES../ZS..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG80G40-../S..08..	200	373	156	1034	-	115	136.5	1100	1141	1207.5	-
BG80G40-../S..09..	251	387.5	181	1099.5	-	124	158	1192.5	1206.5	1297	-
BG80G40-../S..11..	319	394	228	1174	-	181	181	1272	1281	1376.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG80G40

Flange with tapped holes

Code -71/

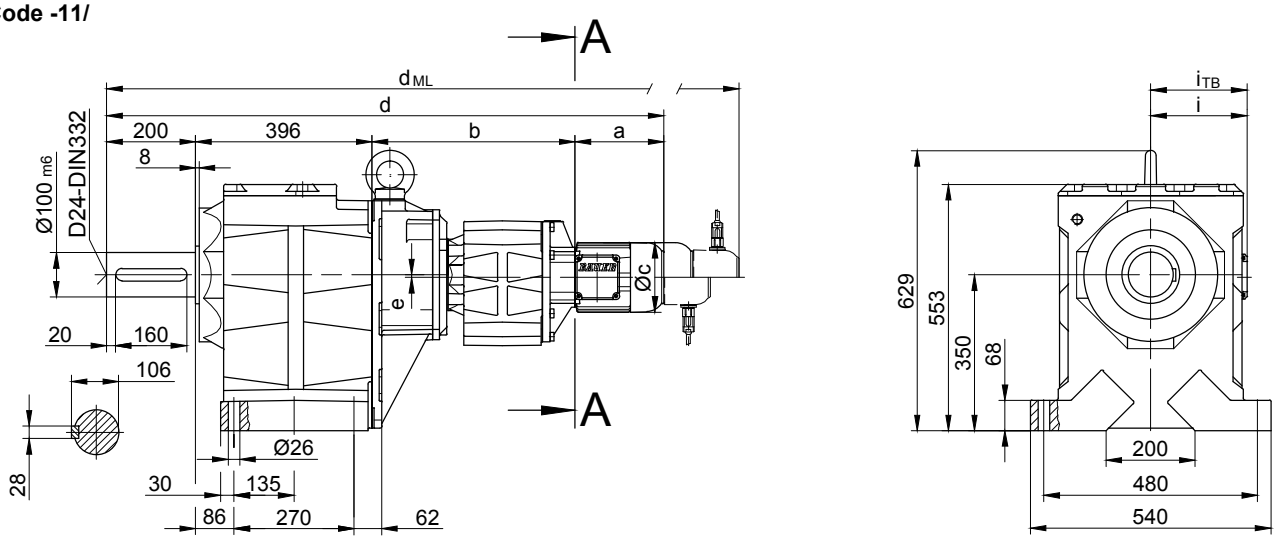


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG90G50

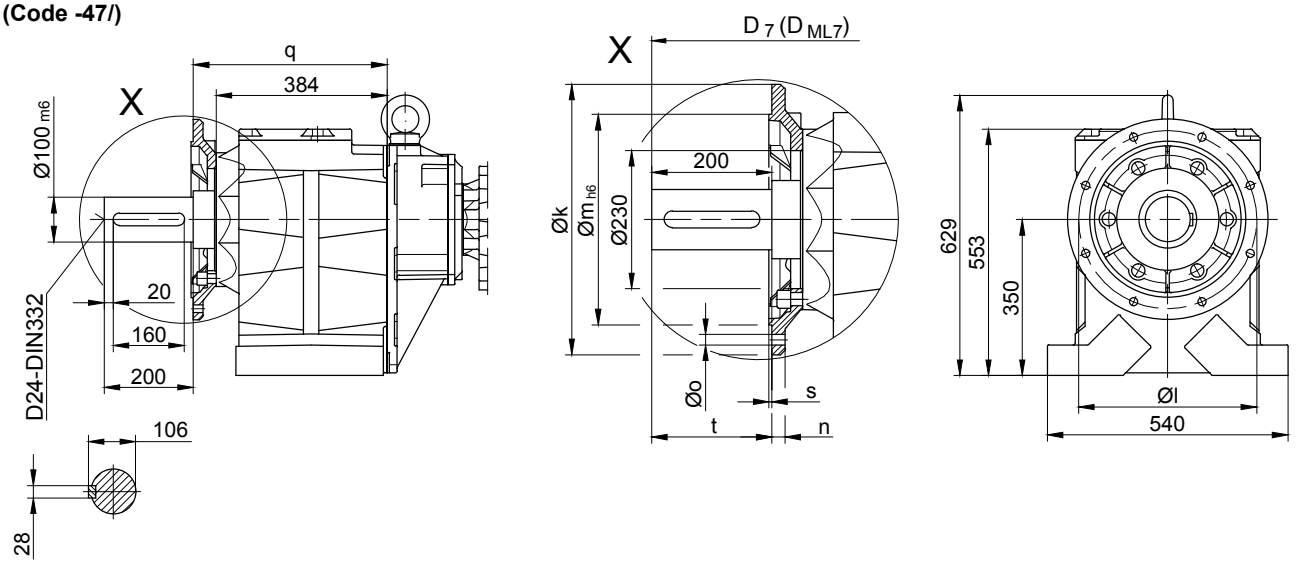
Foot mounting with clearance holes

Code -11/



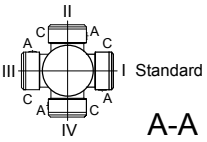
Flange with clearance holes

Code -37/
(Code -47/)



Flange dimensions

BG90G...	k	l	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	450	400	350	22	17.5	439	5	200	d+43	d_{ML}+43
big -47/	550	500	450	22	17.5	444	5	195	d+43	d_{ML}+43

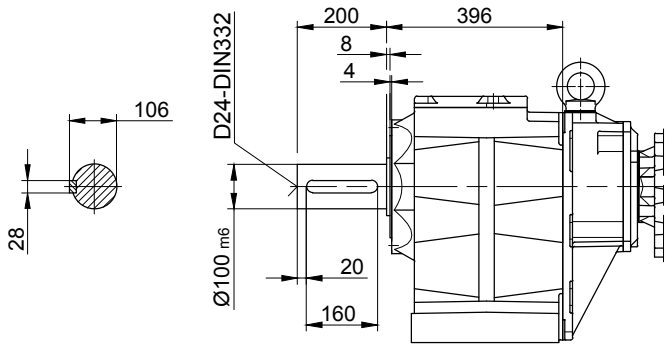


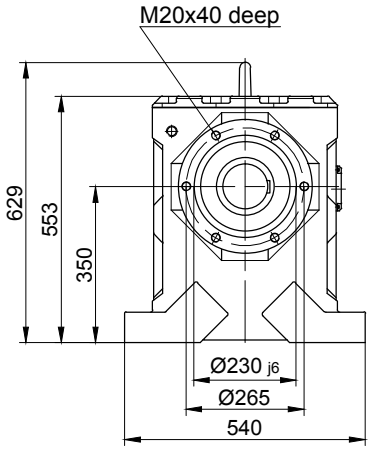
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	ES../ZS..	G	ES../ZS..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG90G50-../S..08..	200	456	156	1252	6	115	136.5	1318	1359	1425.5	-
BG90G50-../S..09..	251	470.5	181	1317.5	6	124	158	1410.5	1424.5	1514	-
BG90G50-../S..11..	319	477	228	1392	6	181	181	1490	1499	1594.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG90G50

Flange with tapped holes
Code -71/



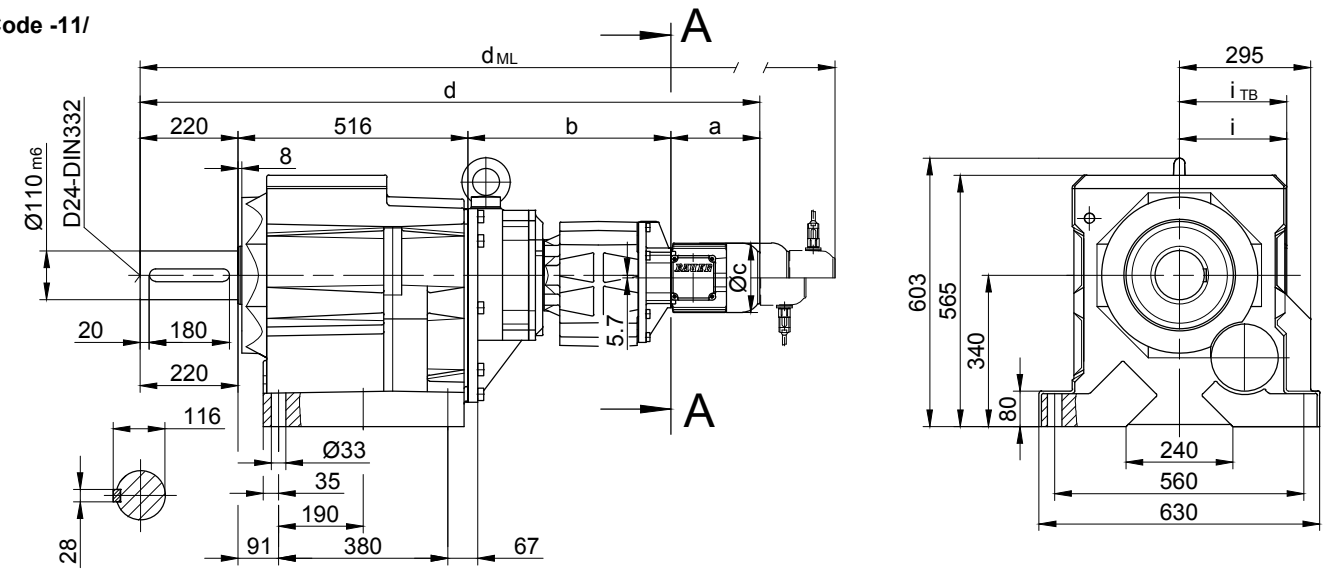


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG100G50

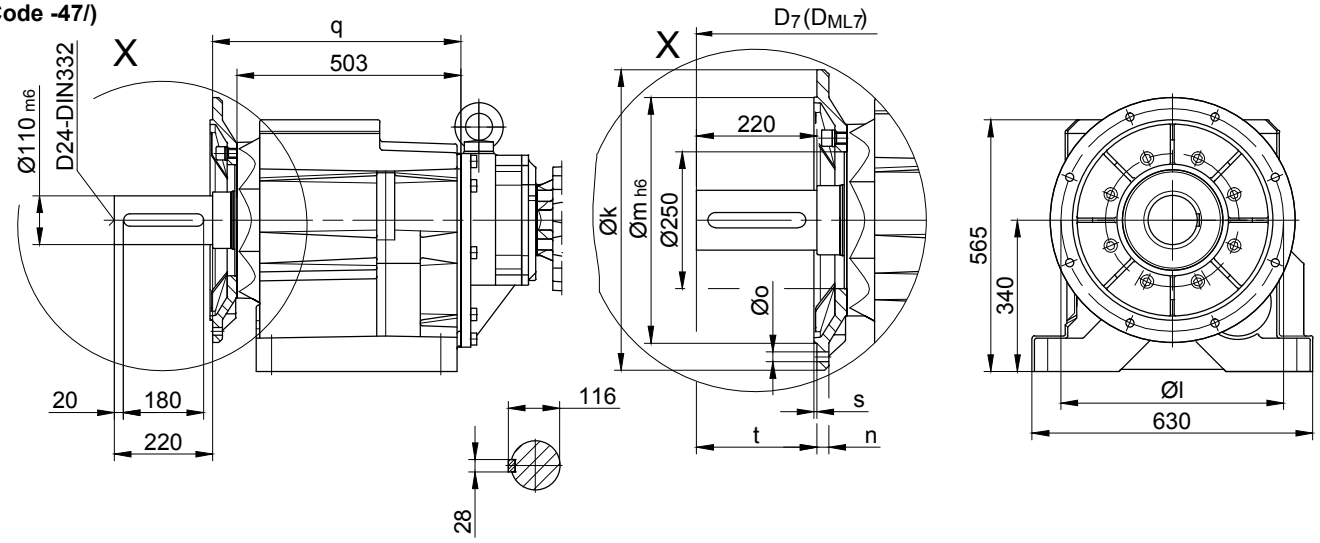
Foot mounting with clearance holes

Code -11/



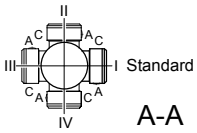
Flange with clearance holes

Code -37/
(Code -47/)



Flange dimensions

BG100G...	k	l	m	n	o	q	s	t	D_7	D_{ML7}
Standard -37/	550	500	450	22	17.5	558	5	220	d+42	d_{ML}+42
big -47/	660	600	550	25	22	552	6	226	d+42	d_{ML}+42



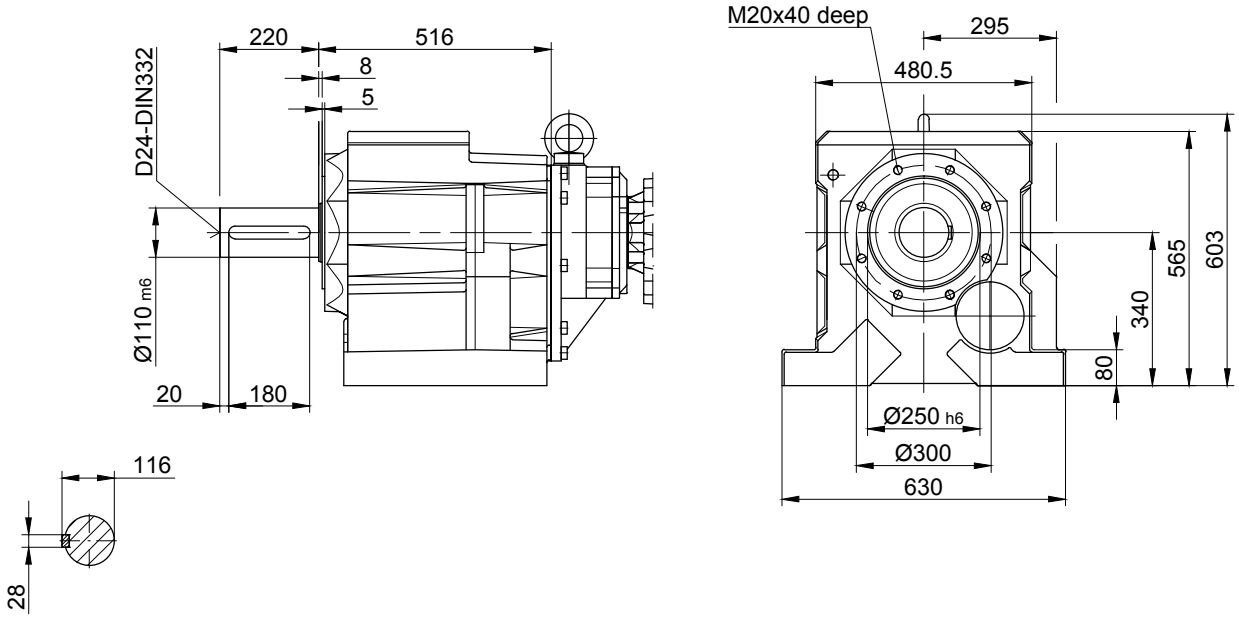
Type	a	b	c	d	i	i_{TB}	Design with motor extensions			
							ES../ZS..	G	ES../ZS..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BG100G50-../S..08..	200	456	156	1392	115	136.5	1458	1499	1565.5	-
BG100G50-../S..09..	251	470.5	181	1457.5	124	158	1550.5	1564.5	1655	-
BG100G50-../S..11..	319	477	228	1532	181	181	1630	1639	1734.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BG100G50

Flange with tapped holes

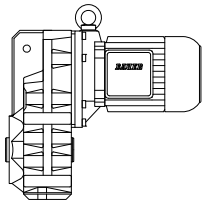
Code 71/



www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

11



Page

Dimensional drawings shaft-mounted-geared motors 217-268
- **Standard**
- **Tandem Gearbox**

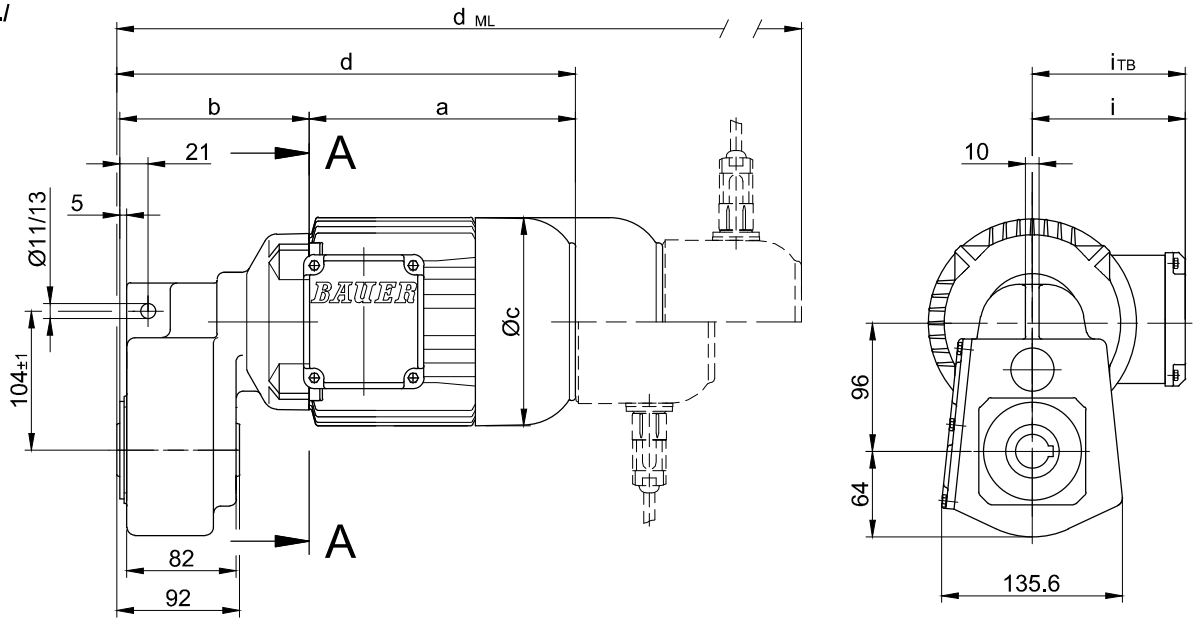
Additional Dimension Sheet

- Splined shaft acc. DIN 5480
- Shrink disc (SSV)
- Shrink disc connection with cover (SSV)
- Hole pattern side (H)
- Rubber buffer for torque restraint
- Assembly tools for hollow shaft
- Assembly tools for splined shaft
- Shaft cap (VK)
- Shaft cover (VD)

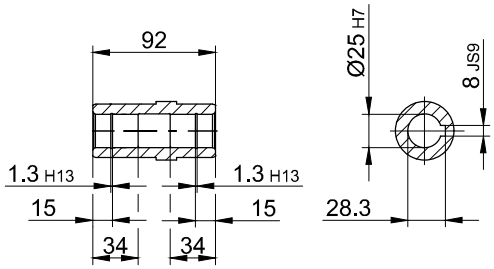
BF06

With torque arm

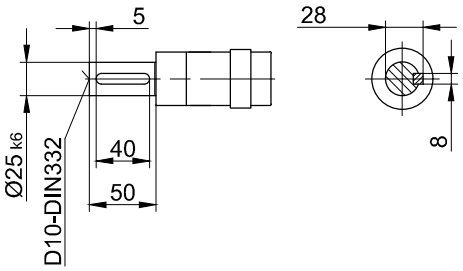
Code -0./

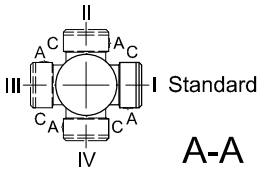


Code -.4/



Code -.1/





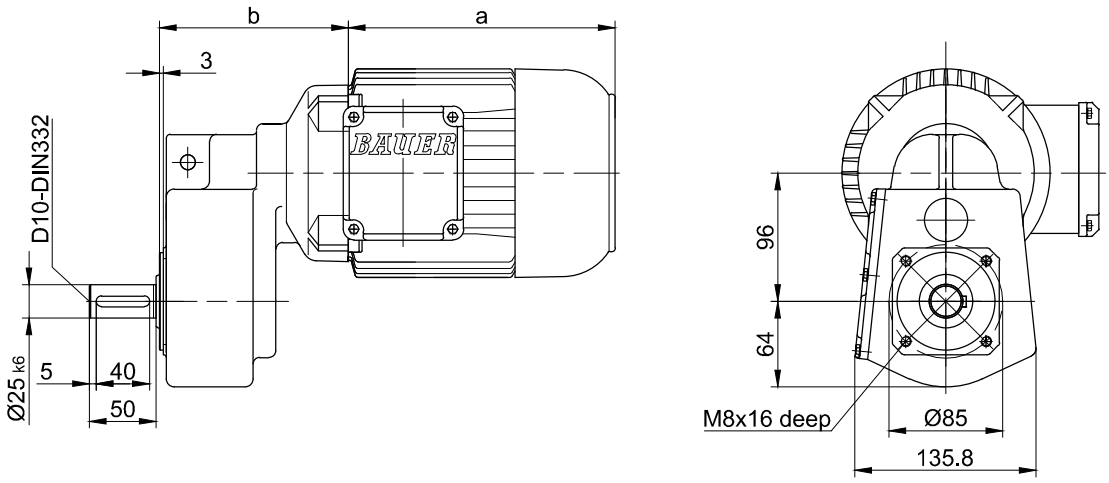
Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	E../ES..	G	E../ES..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BF06-../S08..	200	141	156	343.5	115	149.5	409.5	450.5	517	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF06

Flange with tapped holes

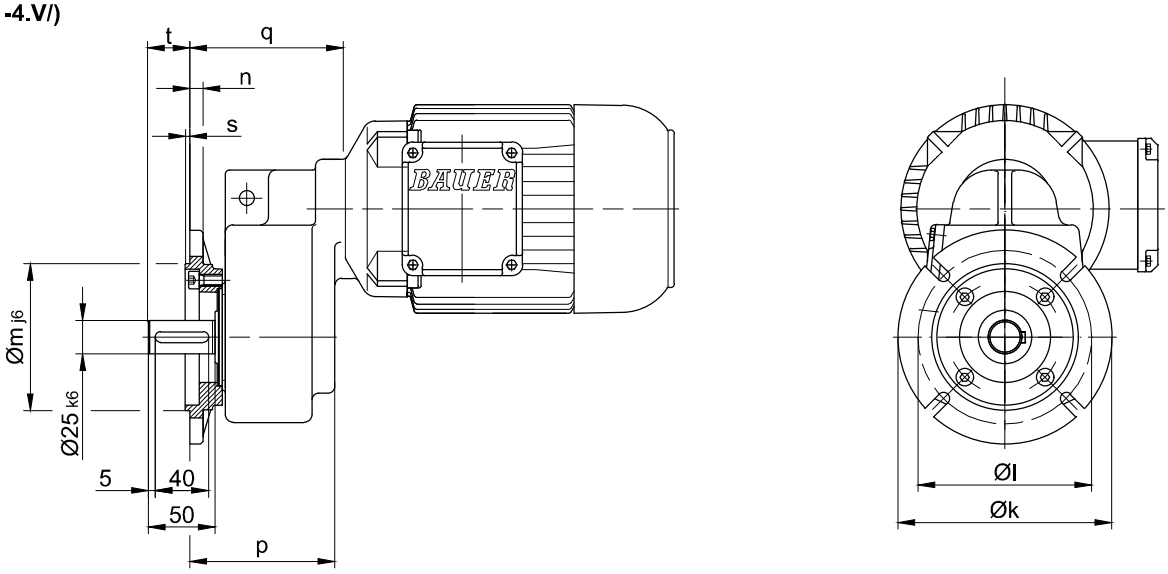
Code -7./



Flange with clearance holes

Code -3.V/

(Code -4.V/)



Flange dimensions

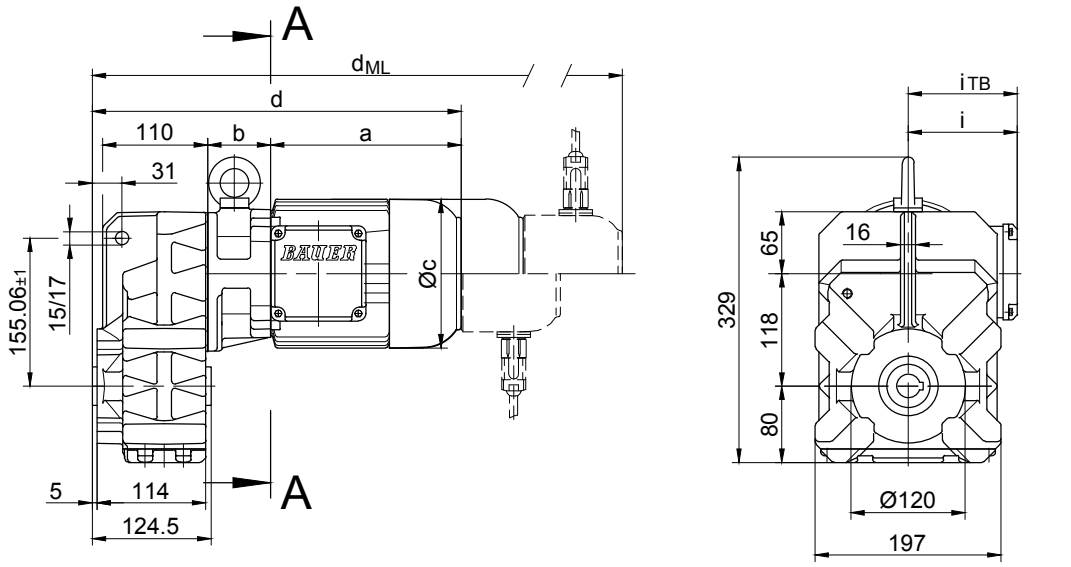
BF06	k	l	m	n	o	p	q	s	t
Standard -3./	140	115	95	10	9	108.5	163	3	31.5
big -4./	160	130	110	10	9	108.5	163	3.5	31.5

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

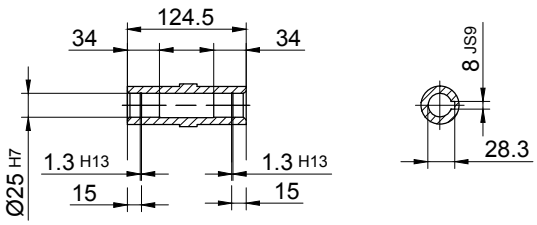
BF10 - BF10Z

With torque arm

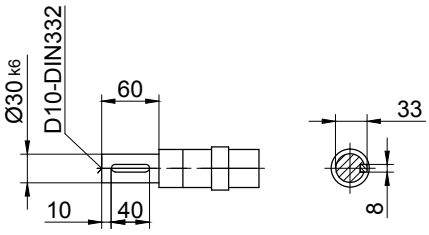
Code -0./



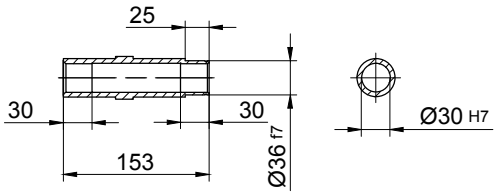
Code -.4/

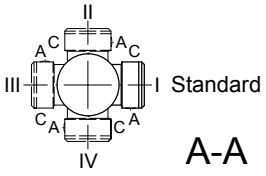


Code -.1/



Code -.5/





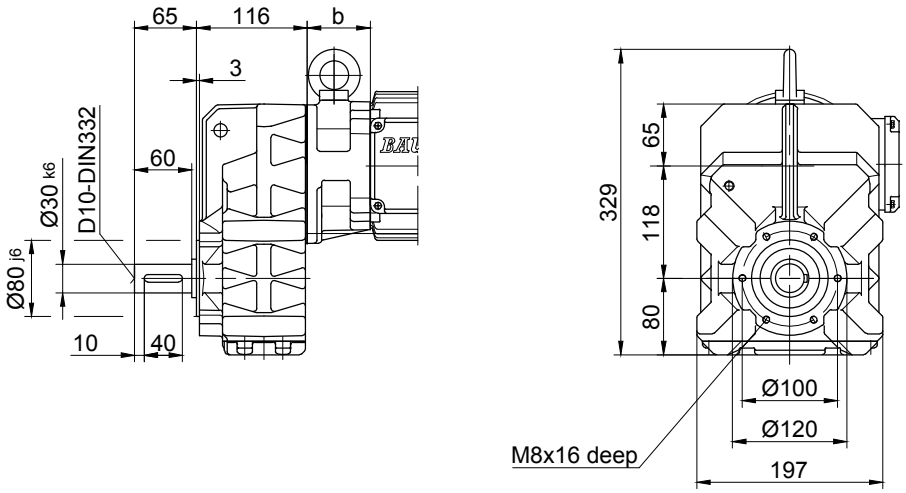
Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	E../ES..	G	E../ES..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BF10-../S..08..	200	66	156	387	115	136.5	453	494	560.5	-
BF10Z-../S..08..	200	132	156	453	115	136.5	519	560	526.5	-
BF10-../S..09..	251	80.5	181	452.5	124	158	454.5	559.5	650	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF10 - BF10Z

Flange with tapped holes

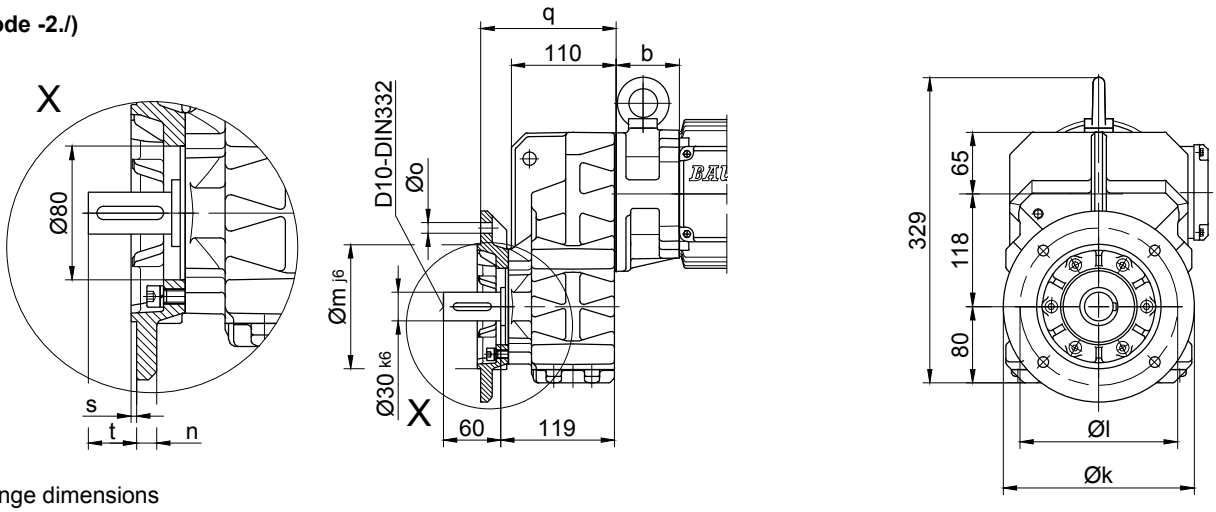
Code -7./



Flange with clearance holes

Code -3./

(Code -2./)

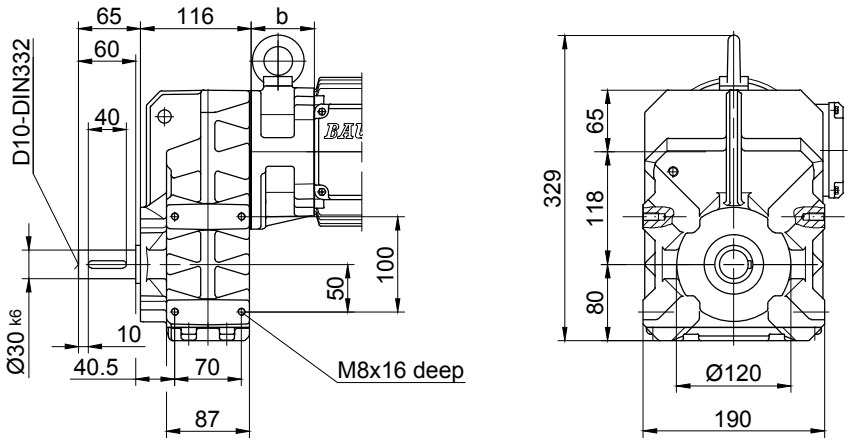


Flange dimensions

BF10(Z)	k	l	m	n	o	q	s	t
Standard -3./	200	165	130	12	11	142	3.5	39
small -2./	160	130	110	10	9	135	3.5	46

Foot with tapped holes left and right

Code -6.LR/

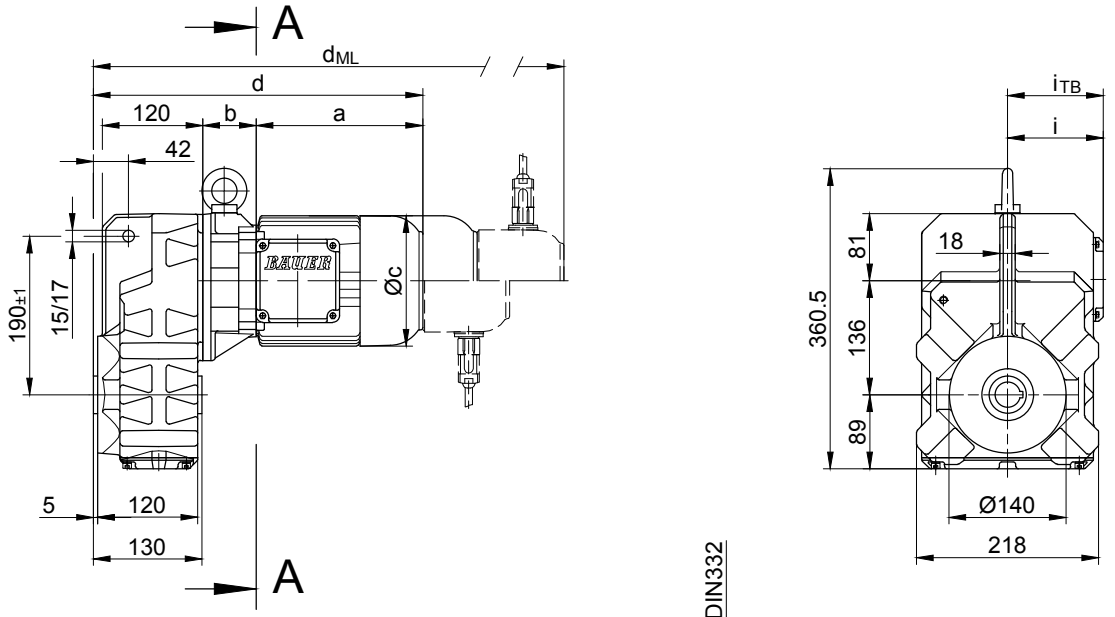


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

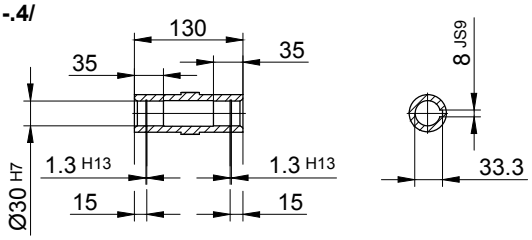
BF20 - BF20Z

With torque arm

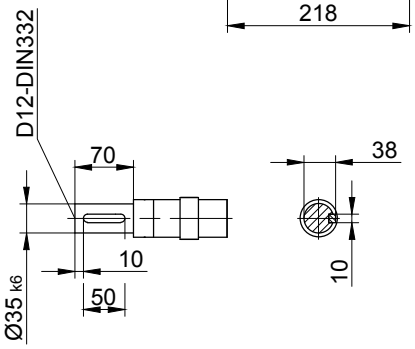
Code -0./



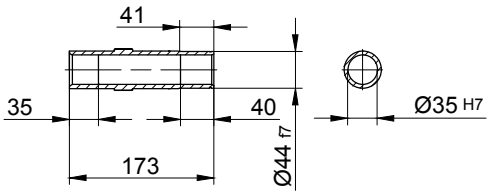
Code -.4/

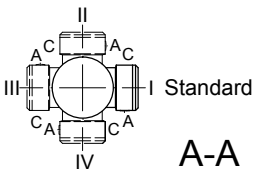


Code -.1/



Code -.5/





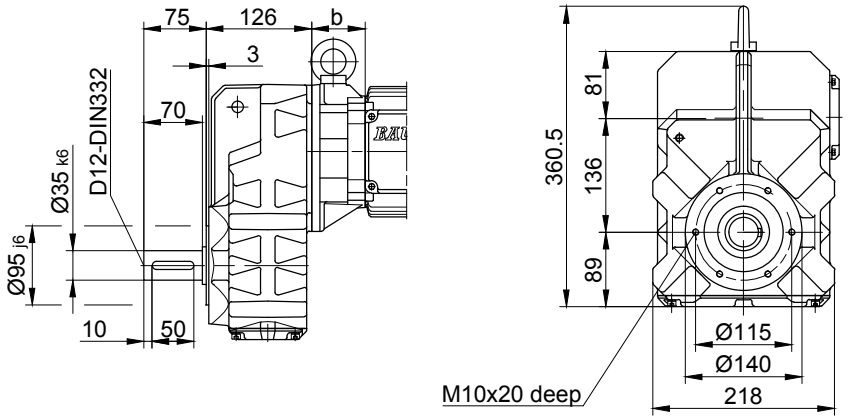
Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	E../ES..	G	E../ES..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BF20-../S..08..	200	64	156	395	115	136.5	461	502	568.5	-
BF20Z-../S..08..	200	146	156	477	115	136.5	543	584	650.5	-
BF20-../S..09..	251	78.5	181	460.5	124	158	553.5	567.5	658	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF20 - BF20Z

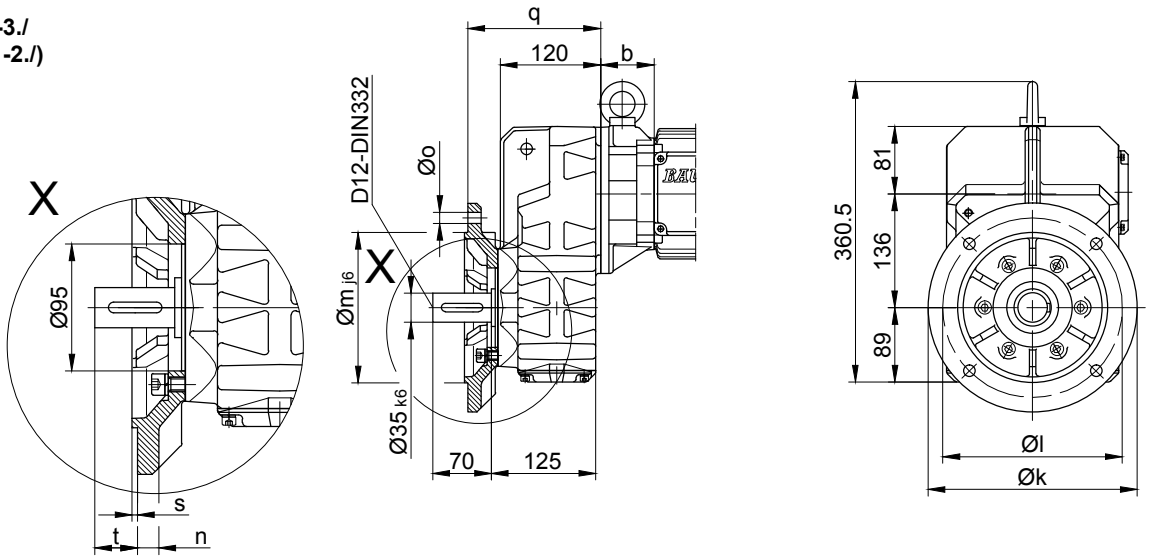
Flange with tapped holes

Code -7./



Flange with clearance holes

Code -3./
(Code -2./)

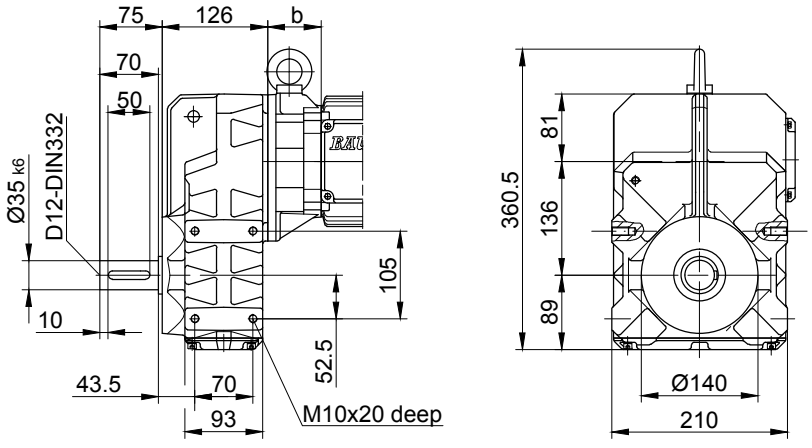


Flange dimensions

BF20(Z)	k	l	m	n	o	q	s	t
Standard -3./	250	215	180	16	13.5	159	4	42
small -2./	200	165	130	12	11	150	3.5	51

Foot with tapped holes left and right

Code -6.LR/

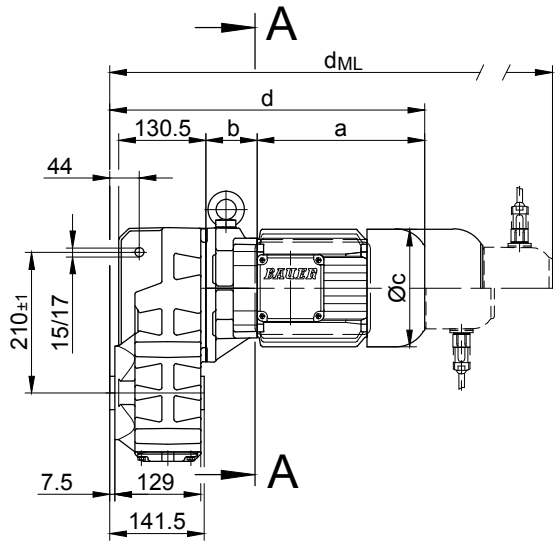


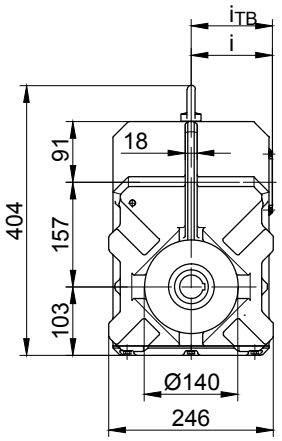
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF30 - BF30Z

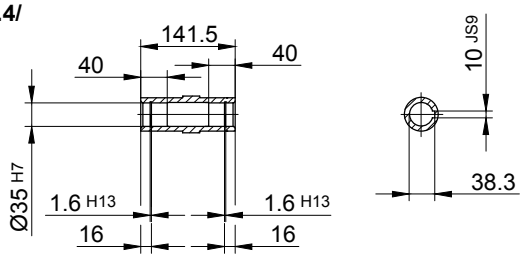
With torque arm

Code -0./

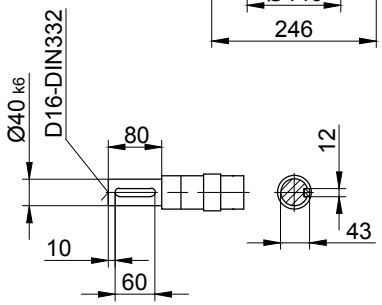




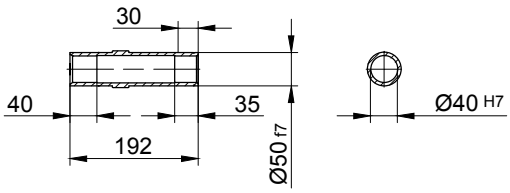
Code -.4/

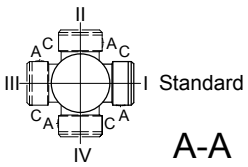


Code -.1/



Code -.5/





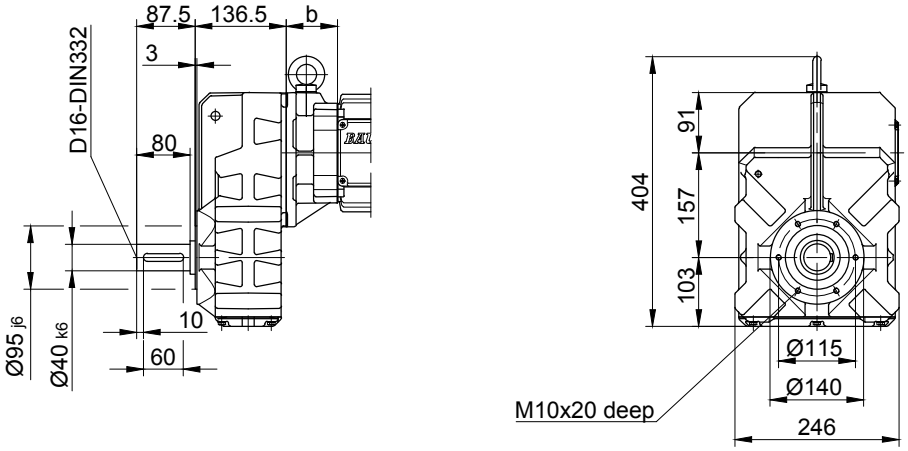
Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	E../ES..	G	E../ES..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BF30-../S..08..	200	62	156	406	115	136.5	472	513	579.5	-
BF30Z-../S..08..	200	137.5	156	481.5	115	136.5	547.5	588.5	655	-
BF30-../S..09..	251	76.5	181	471.5	124	158	564.5	578.5	669	-
BF30Z-../S..09..	251	152	181	547	124	158	640	654	744.5	-
BF30-../S..11..	319	83	228	546	181	181	644	653	748.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF30 - BF30Z

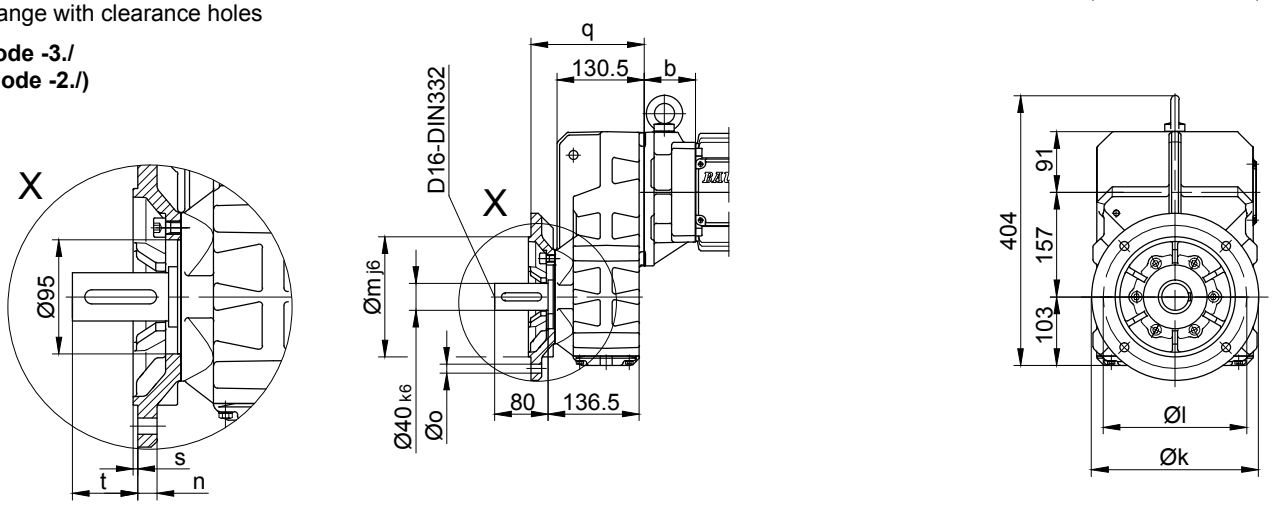
Flange with tapped holes

Code -7./



Flange with clearance holes

Code -3./
(Code -2./)

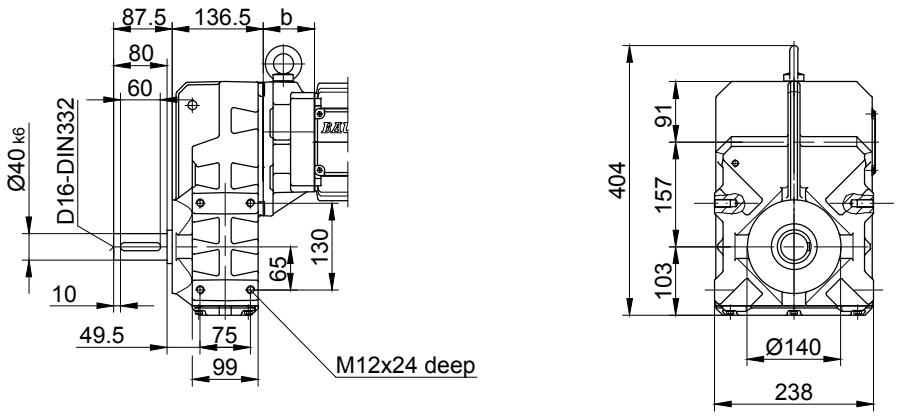


Flange dimensions

BF30(Z)	k	l	m	n	o	q	s	t
Standard -3./	250	215	180	16	13.5	169.5	4	54.5
small -2./	200	165	130	12	11	160.5	3.5	63.5

Foot with tapped holes left and right

Code -6.LR/

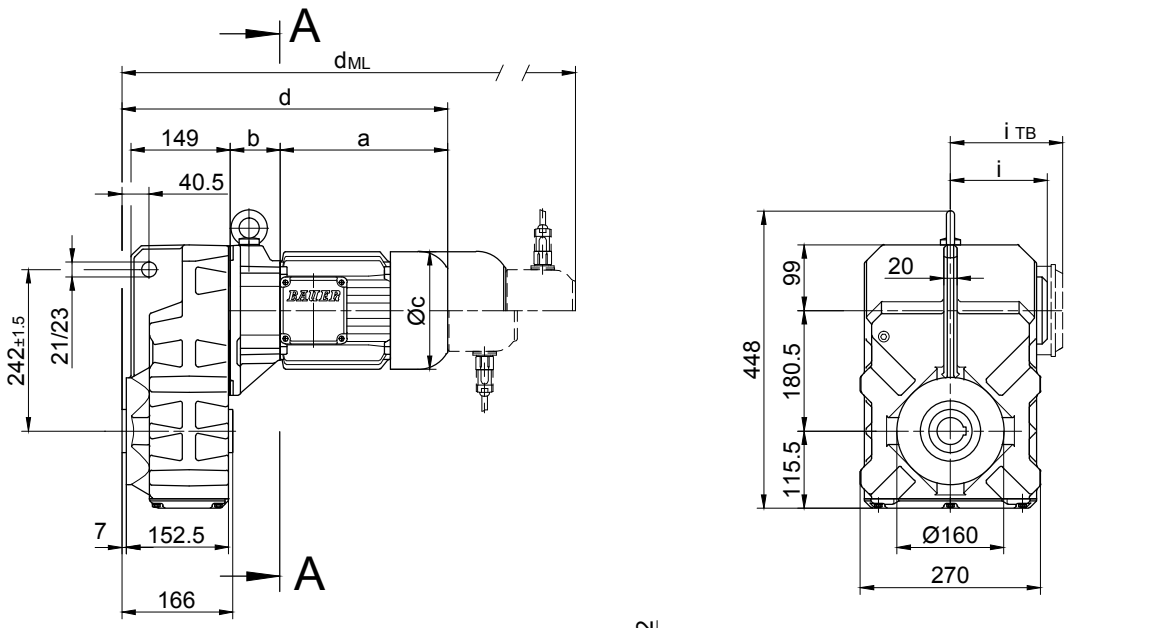


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

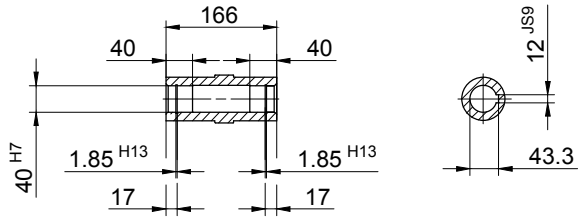
BF40 - BF40Z

With torque arm

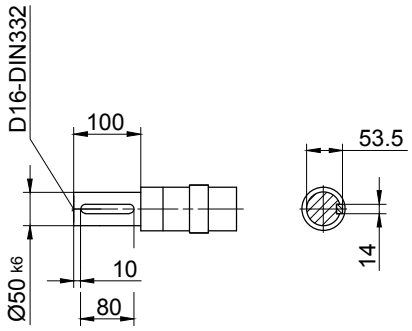
Code -0./



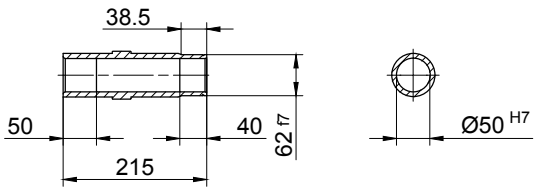
Code -.4/

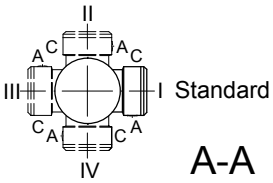


Code -.1/



Code -.5/





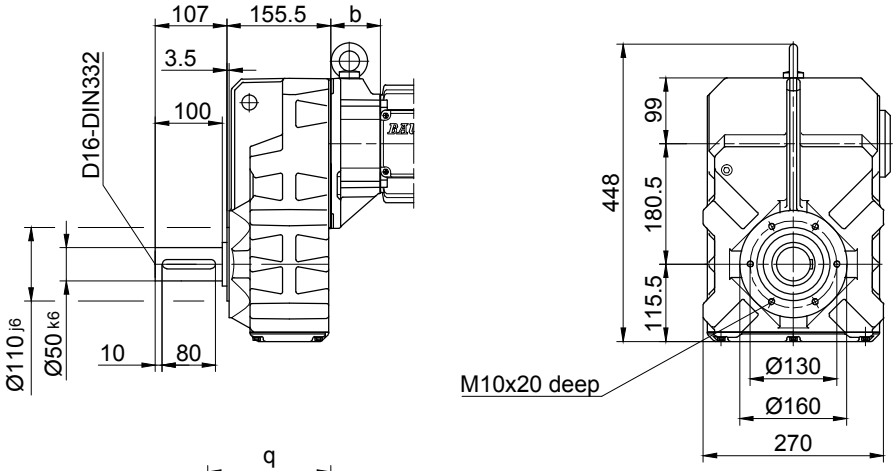
Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	E../ES..	G	E../ES..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BF40-../S..08..	200	60	156	422.5	115	136.5	488.5	529.5	596	-
BF40Z-../S..08..	200	142.5	156	505	115	136.5	571	612	678.5	-
BF40-../S..09..	251	74.5	181	488	124	158	581	595	685.5	-
BF40Z-../S..09..	251	157	181	570.5	124	158	663.5	677.5	768	-
BF40-../S..11..	319	81	228	562.5	181	181	660.5	669.5	765	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF40 - BF40Z

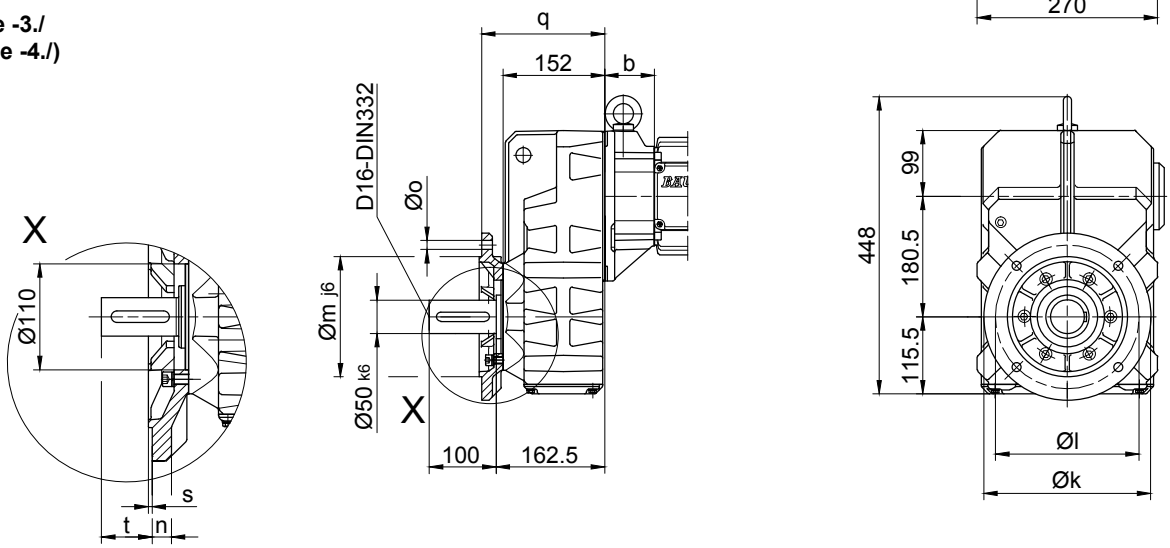
Flange with tapped holes

Code -7./



Flange with clearance holes

Code -3./
(Code -4./)

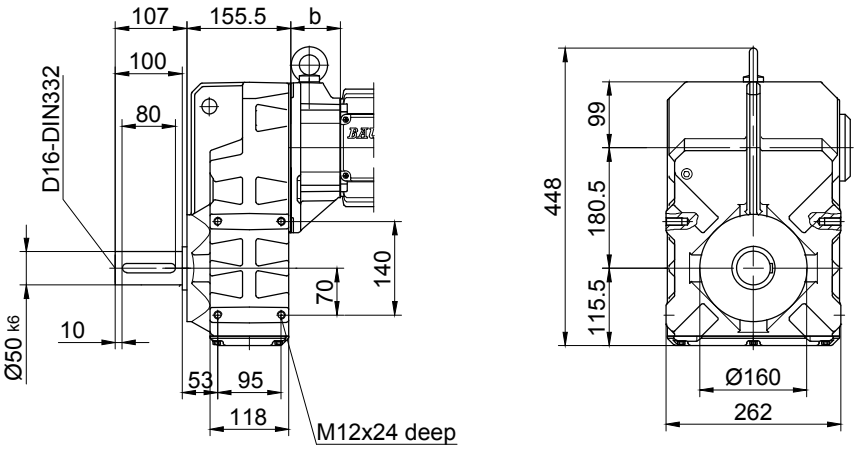


Flange dimensions

BF40(Z)	k	l	m	n	o	q	s	t
Standard -3./	250	215	180	16	13.5	184	4	78.5
big -4./	300	265	230	20	13.5	190	4	72.5

Foot with tapped holes left and right

Code -6.LR/

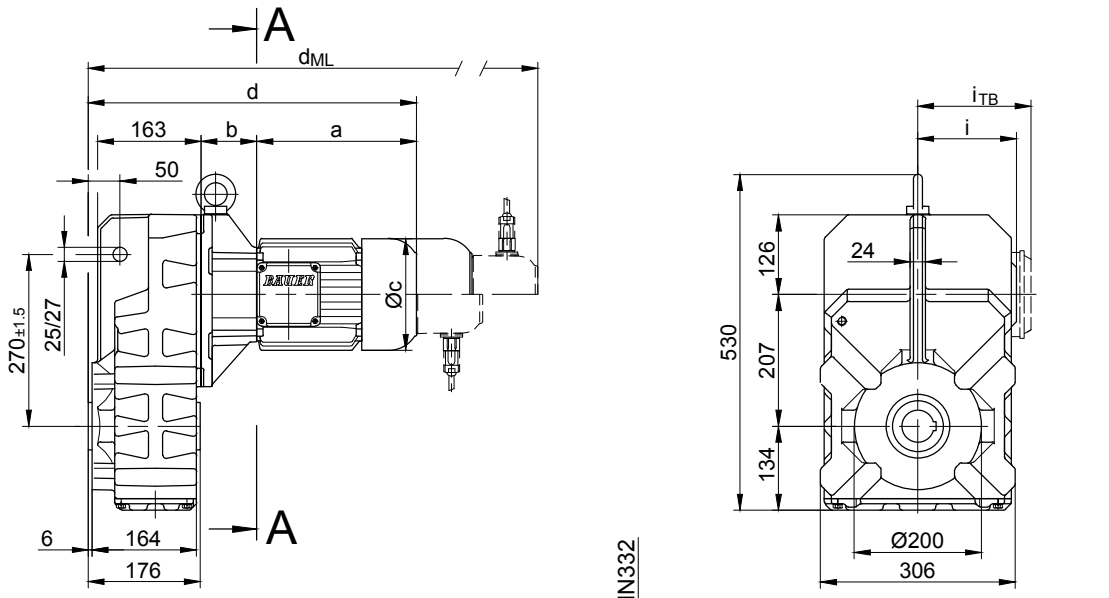


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

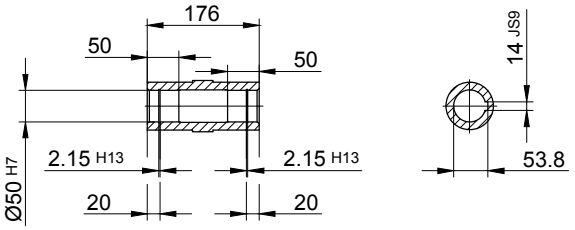
BF50 - BF50Z

With torque arm

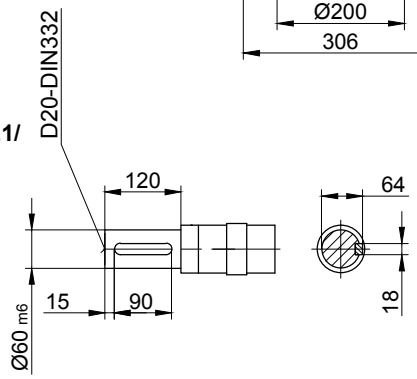
Code -0./



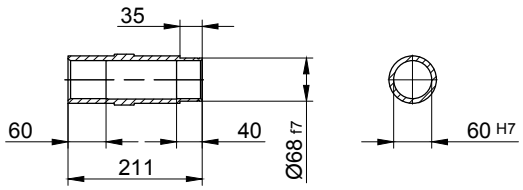
Code -.4/

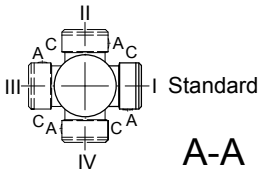


Code -.1/



Code -.5/





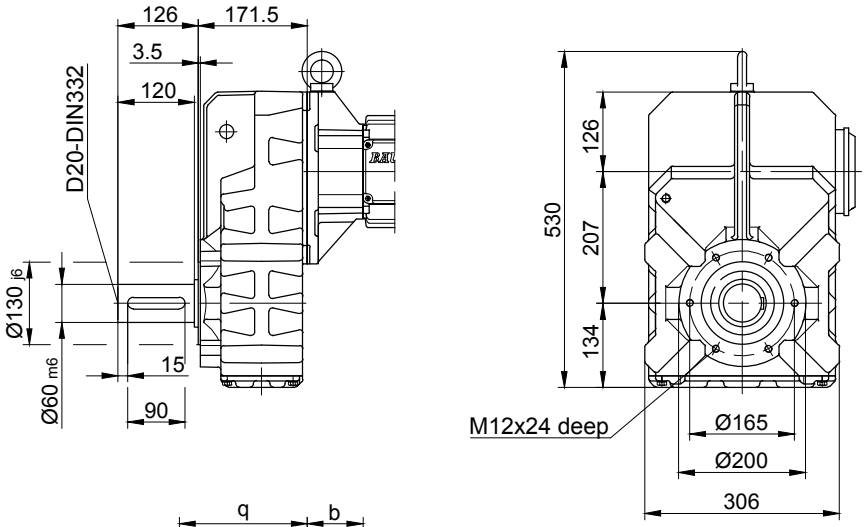
Type	a	b	c	d	i	i_{TB}	Design with motor extensions			
							E../ES../ZS	G	E../ES../ZS-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BF50-../S..08..	200	73	156	450.5	115	136.5	516.5	557.5	624	-
BF50Z-../S..08..	200	159	156	536.5	115	136.5	602.5	643.5	710	-
BF50-../S..09..	251	87.5	181	516	124	158	609	623	713.5	-
BF50Z-../S..09..	251	173.5	181	602	124	158	695	709	799.5	-
BF50-../S..11..	319	94	228	590.5	181	181	688.5	697.5	793	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF50 - BF50Z

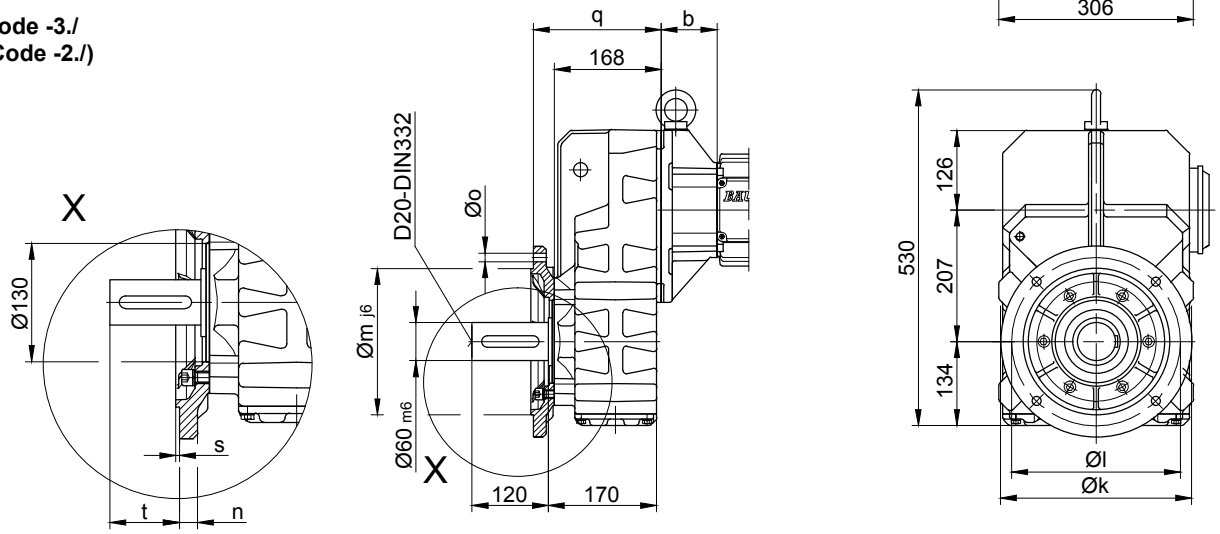
Flange with tapped holes

Code -7./



Flange with clearance holes

Code -3./
(Code -2./)

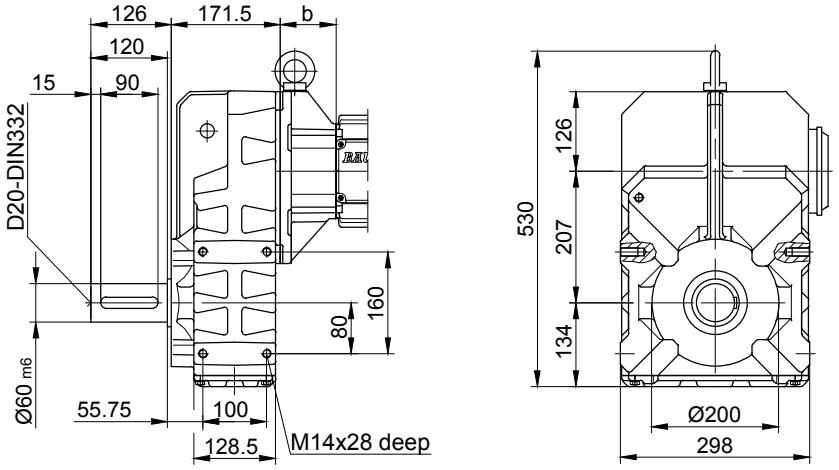


Flange dimensions

BF50(Z)	k	l	m	n	o	q	s	t
Standard -3./	300	265	230	20	13.5	201	4	96.5
small -2./	250	215	180	16	13.5	198	4	99.5

Foot with tapped holes left and right

Code -6.LR/

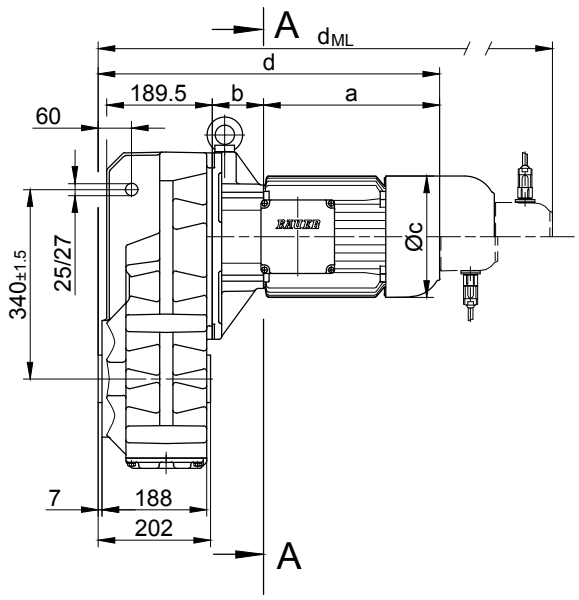


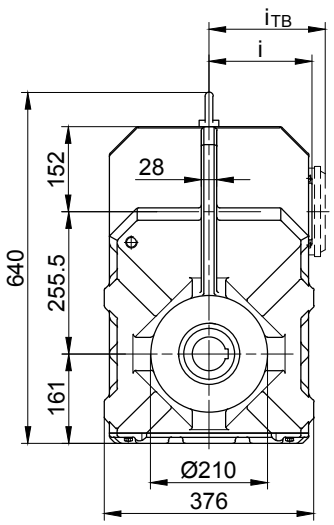
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF60 - BF60Z

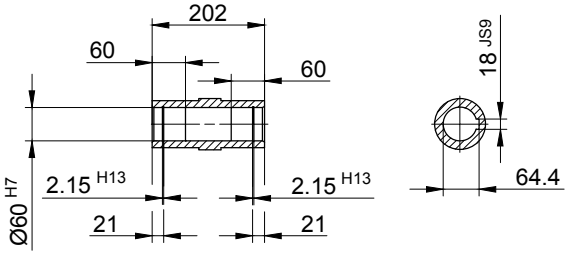
With torque arm

Code -0./

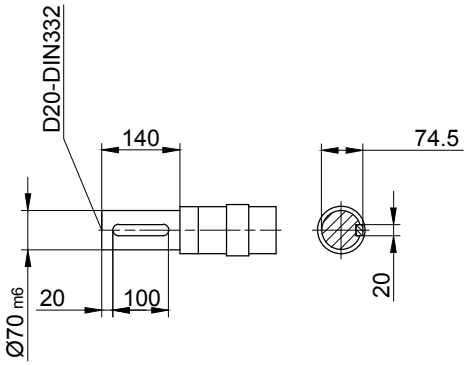




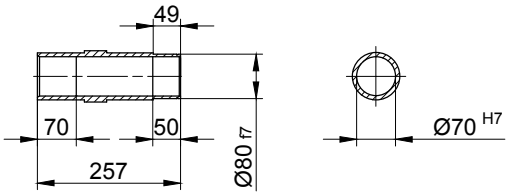
Code -.4/

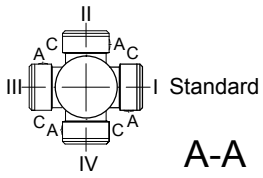


Code -.1/



Code -.5/





A-A

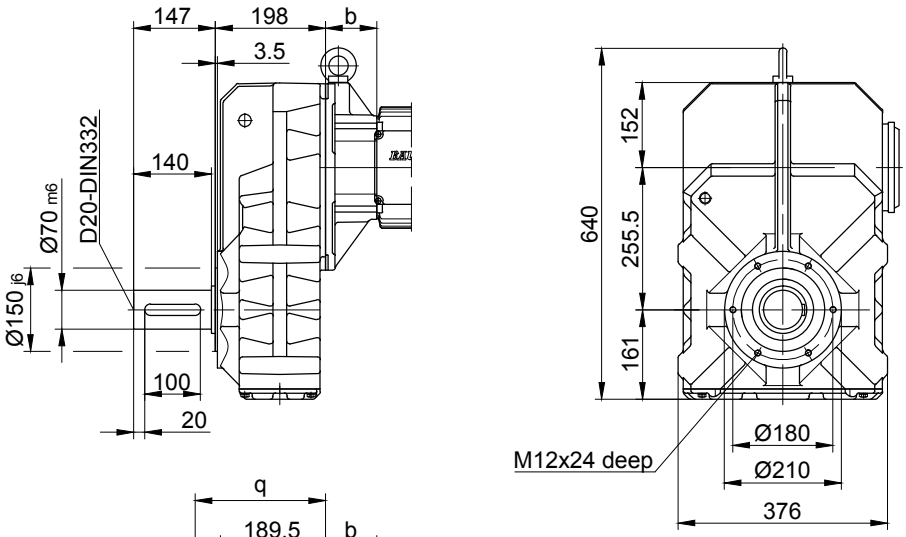
Type	a	b	c	d	i	i_{TB}	Design with motor extensions			
							ES../ZS..	G	ES../ZS..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BF60Z-../S..08..	200	181	156	586	115	136.5	652	693	759.5	-
BF60-../S..09..	251	85.5	181	541.5	124	158	634.5	648.5	739	-
BF60Z-../S..09..	251	195.5	181	651.5	124	158	744.5	758.5	849	-
BF60-../S..11..	319	92	228	616	181	181	714	723	818.5	-
BF60Z-../S..11..	319	202	228	726	181	181	824	833	928.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF60 - BF60Z

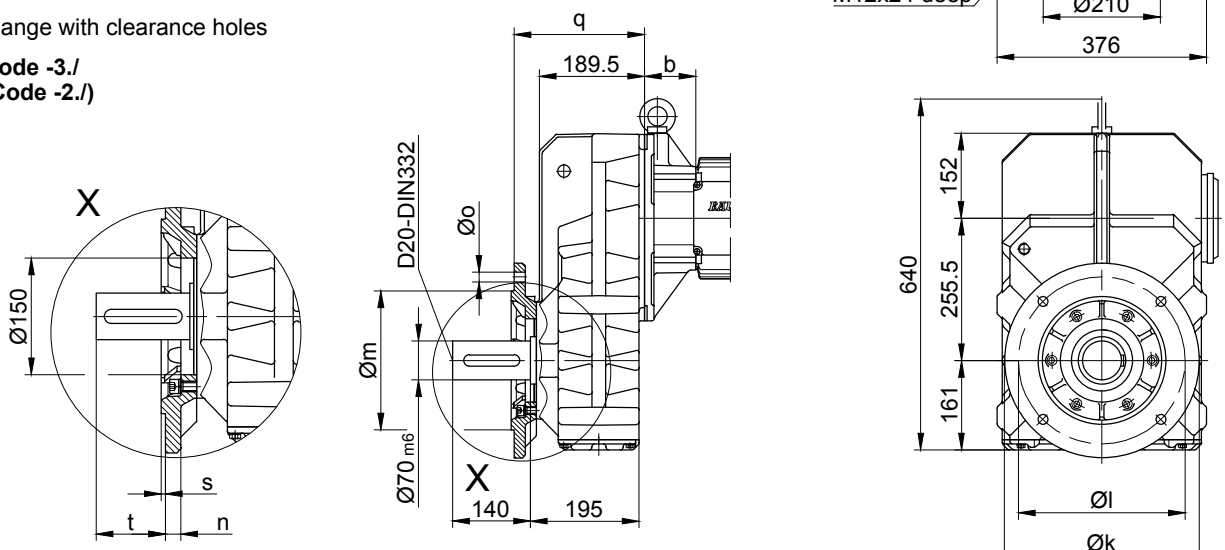
Flange with tapped holes

Code -7./



Flange with clearance holes

Code -3./
(Code -2./)

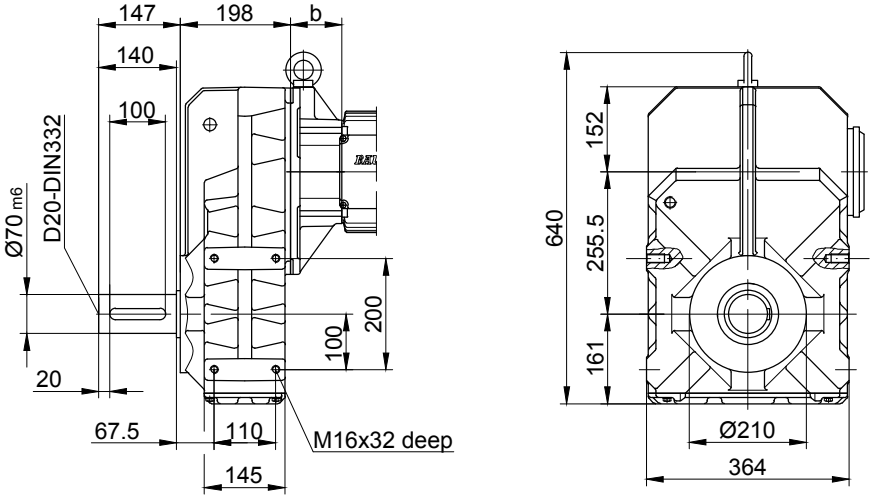


Flange dimensions

BF60(Z)	k	l	m	n	o	q	s	t
Standard -3./	350	300	250_{h6}	20	17.5	234.5	5	110.5
small -2./	300	265	230_{j6}	20	13.5	242.5	4	102.5

Foot with tapped holes left and right

Code -6.LR/

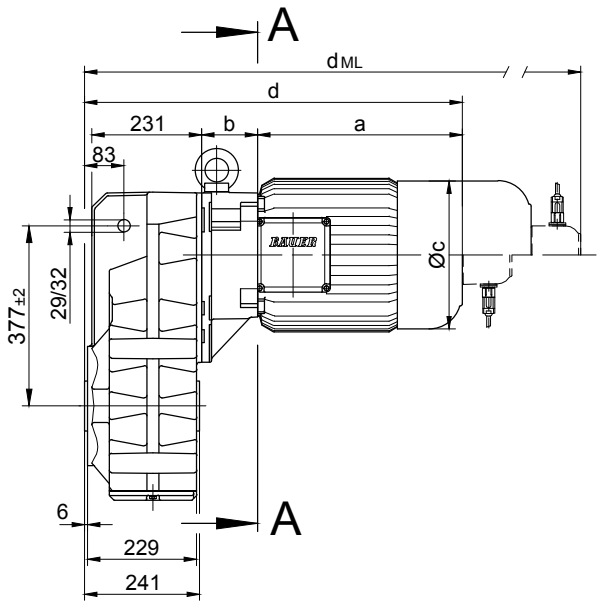


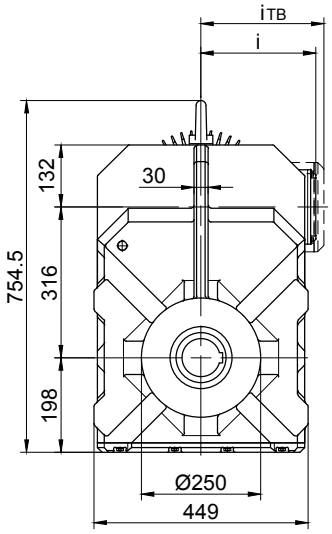
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF70 - BF70Z

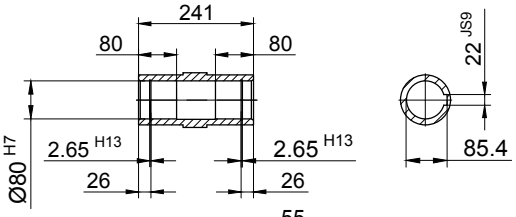
With torque arm

Code -0./

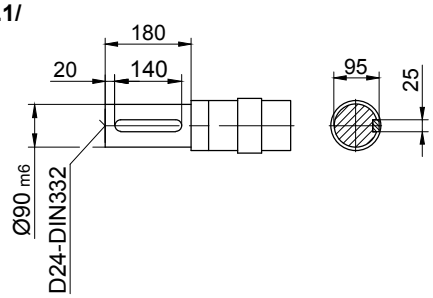




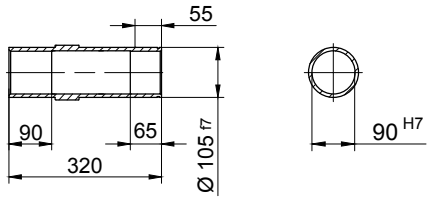
Code -.4/



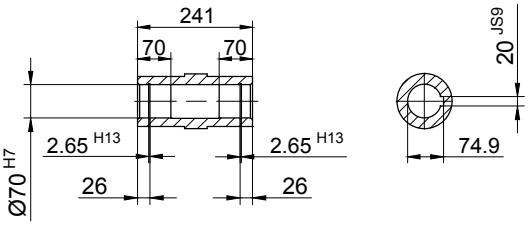
Code -.1/

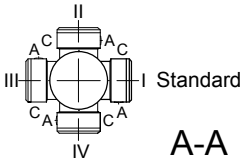


Code -.5/



Code -.4/K70





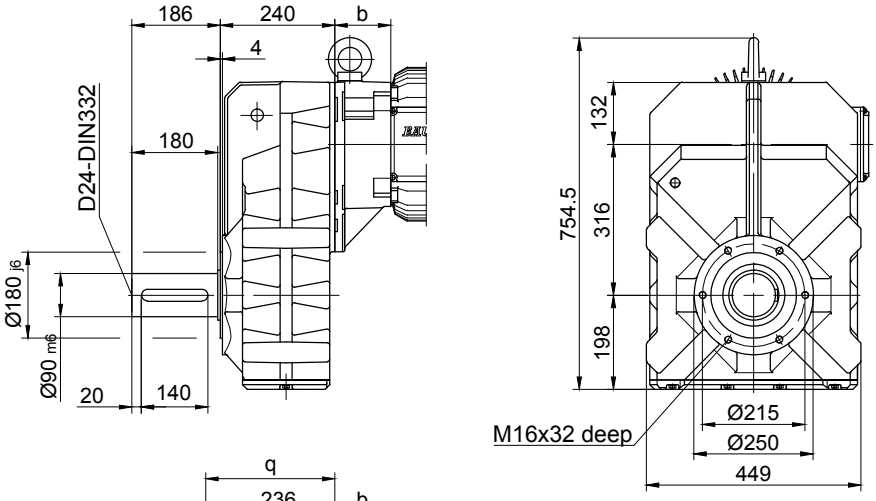
Type	a	b	c	d	i	i_{TB}	Design with motor extensions			
							ES../ZS..	G	ES../ZS..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BF70Z-../S..08..	200	202	156	648	115	136.5	714	755	821.5	-
BF70-../S..09..	251	83.5	181	580.5	124	158	673.5	687.5	778	-
BF70Z-../S..09..	251	216.5	181	713.5	124	158	806.5	820.5	911	-
BF70-../S..11..	319	90	228	655	181	181	753	762	857.5	-
BF70Z-../S..11..	319	223	228	788	181	181	886	895	990.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF70 - BF70Z

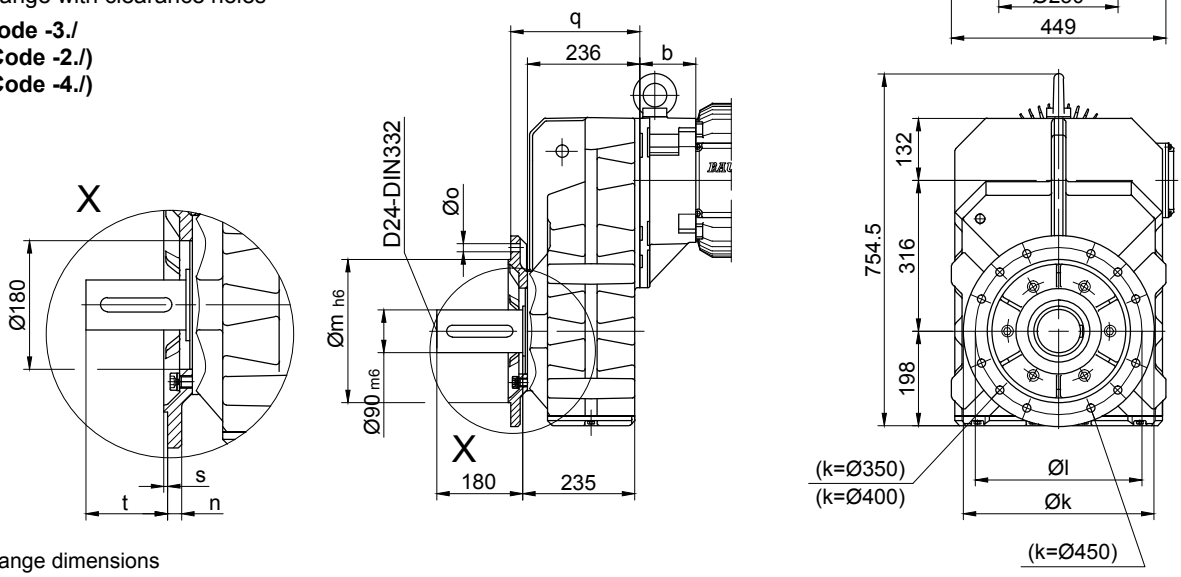
Flange with tapped holes

Code -7./



Flange with clearance holes

Code -3./
(Code -2./)
(Code -4./)

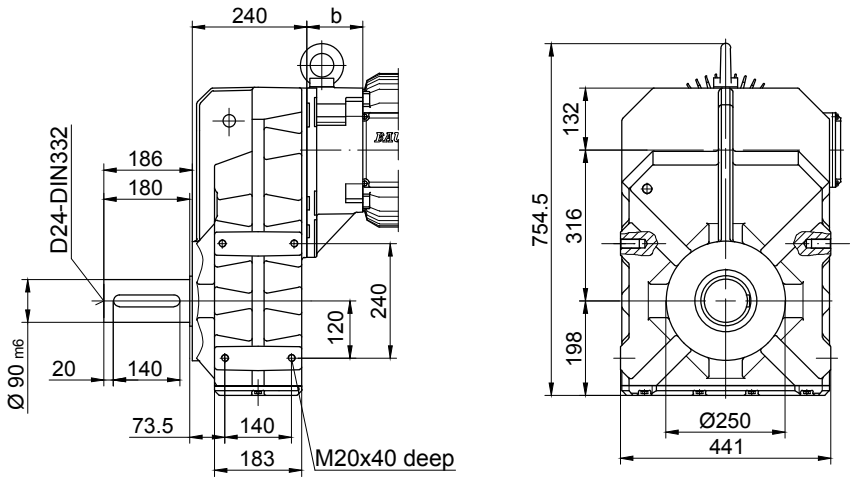


Flange dimensions

BF70(Z)	k	l	m	n	o	q	s	t
Standard -3./	400	350	300	20	4xØ17.5	271	5	155
small -2./	350	300	250	20	4xØ17.5	271	5	155
big -4./	450	400	350	22	8xØ17.5	281	5	145

Foot with tapped holes left and right

Code -6.LR/

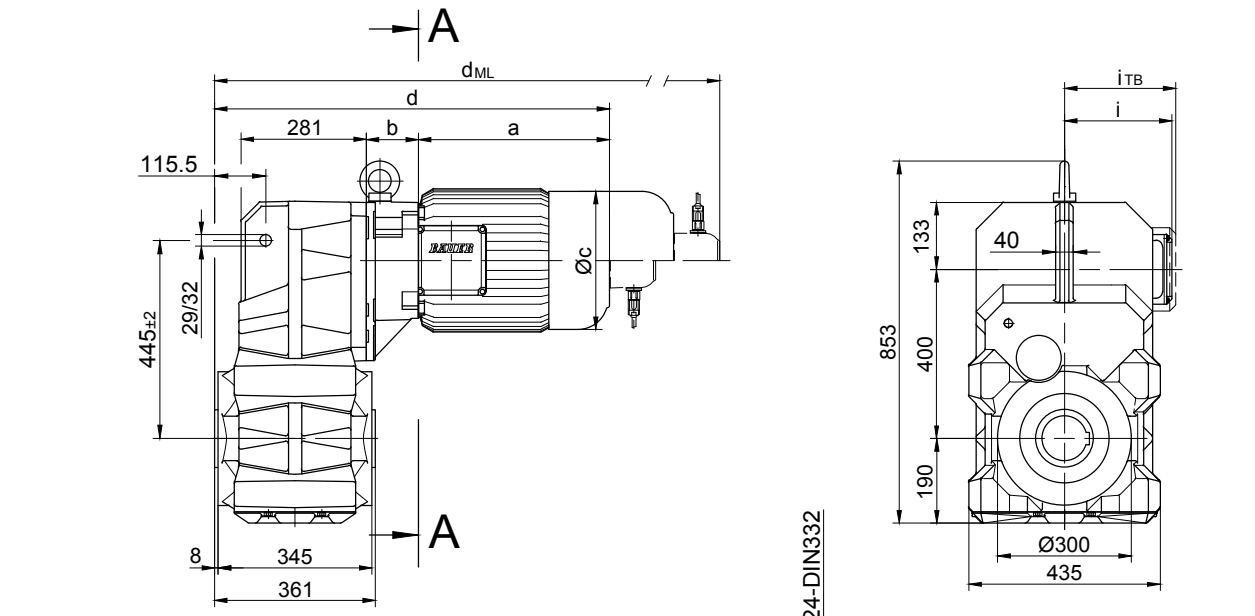


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

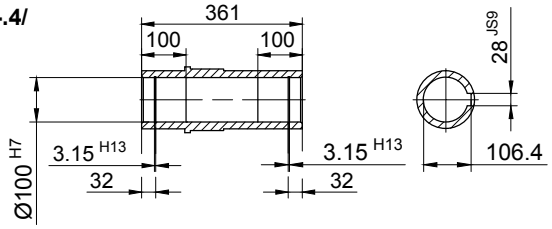
BF80 - BF80Z

With torque arm

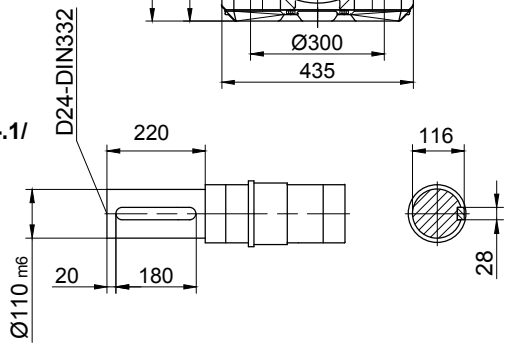
Code -0./



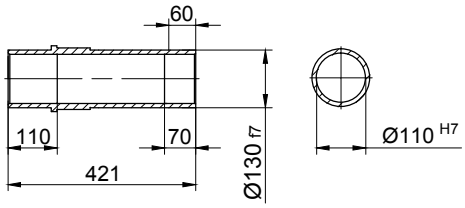
Code -.4/

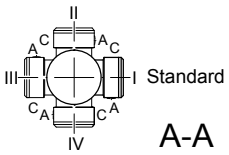


Code -.1/



Code -.5/





A-A

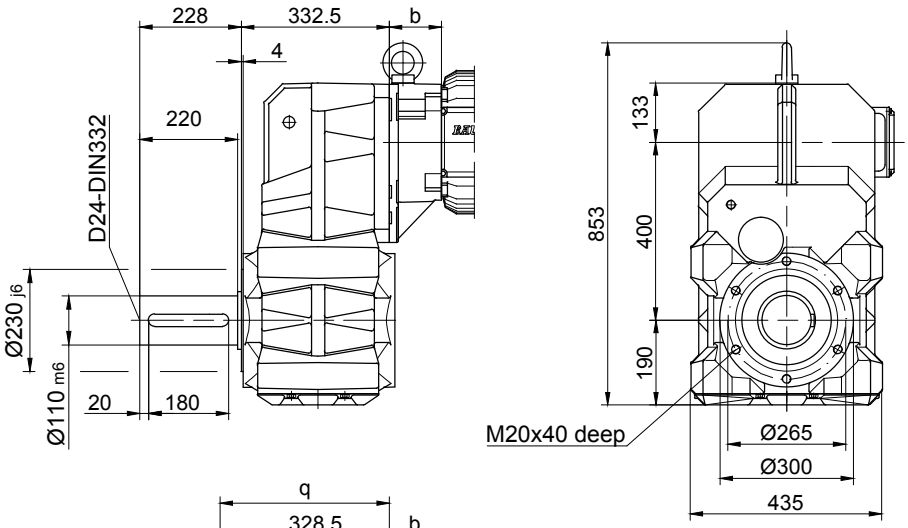
Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	ES../ZS..	G	ES../ZS..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BF80Z-../S..08..	200	202	156	742.5	115	136.5	808.5	849.5	916	-
BF80-../S..09..	251	83.5	181	675	124	158	768	782	872.5	-
BF80Z-../S..09..	251	216.5	181	808	124	158	901	915	1005.5	-
BF80-../S..11..	319	90	228	749.5	181	181	847.5	856.5	952	-
BF80Z-../S..11..	319	223	228	882.5	181	181	980.5	989.5	1085	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF80 - BF80Z

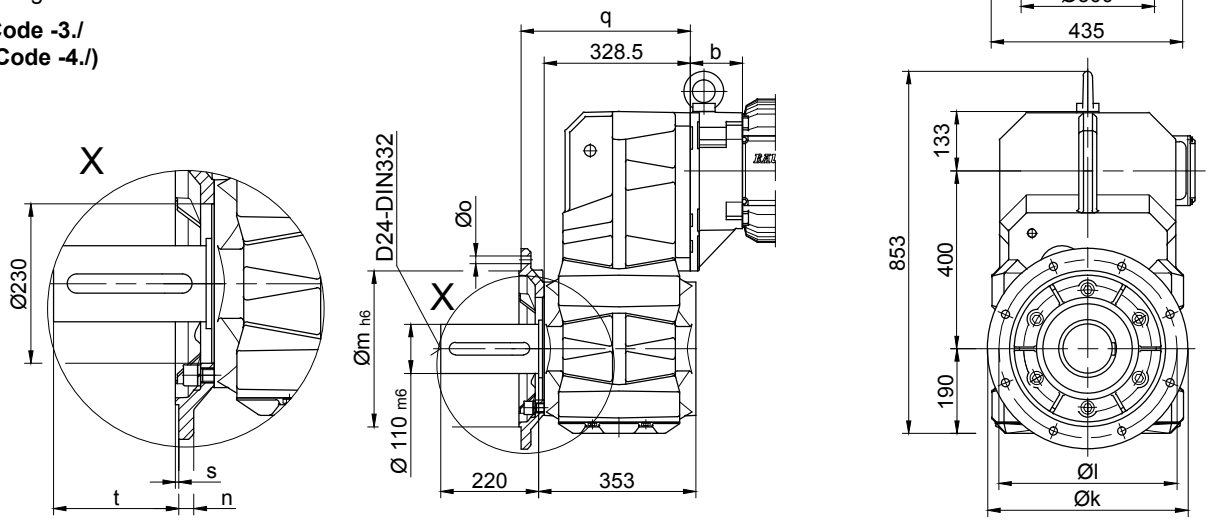
Flange with tapped holes

Code -7./



Flange with clearance holes

Code -3./
(Code -4./)

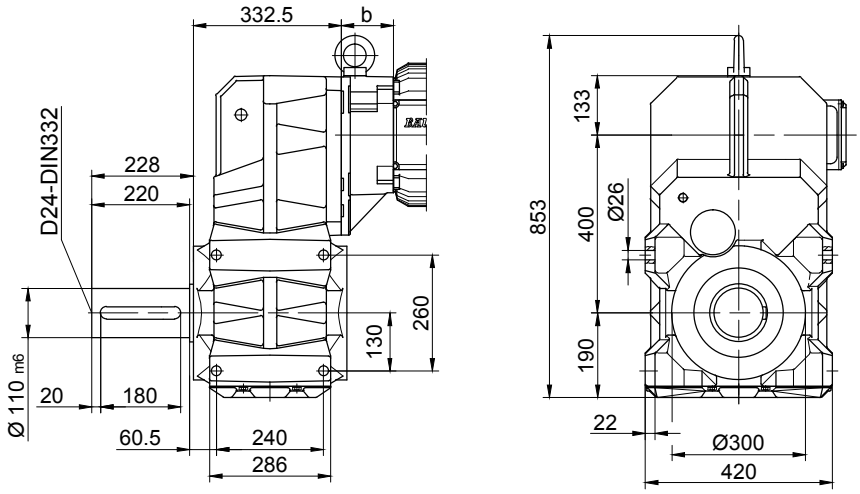


Flange dimensions

BF80(Z)	k	l	m	n	o	q	s	t
Standard -3./	450	400	350	22	17.5	383.5	5	177
big -4./	550	500	450	22	17.5	388.5	5	172

Foot with clearance holes left and right

Code -1.LR/

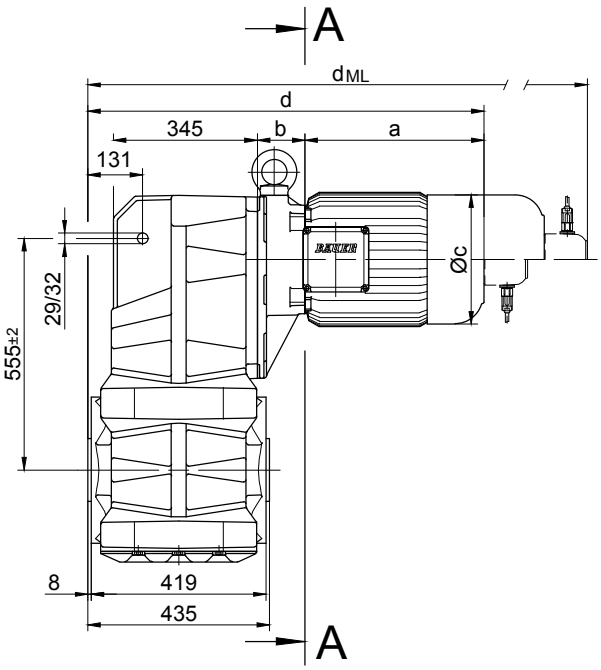


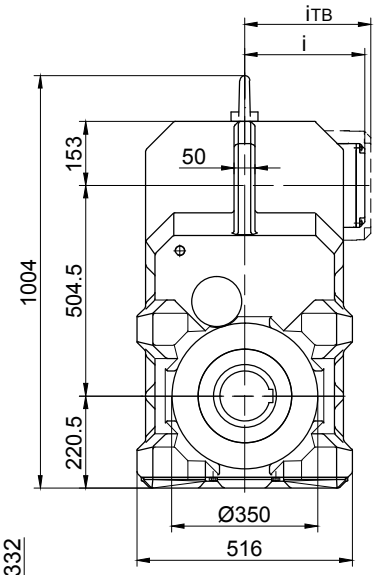
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF90 - BF90Z

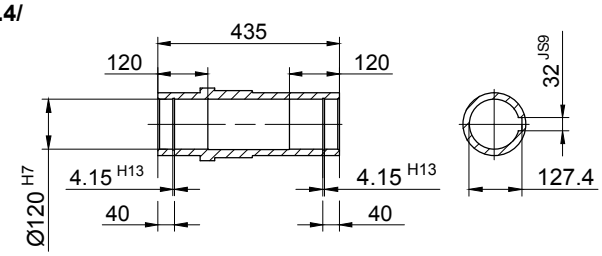
With torque arm

Code -0./

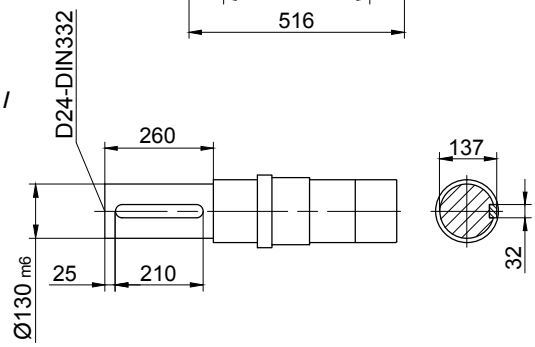




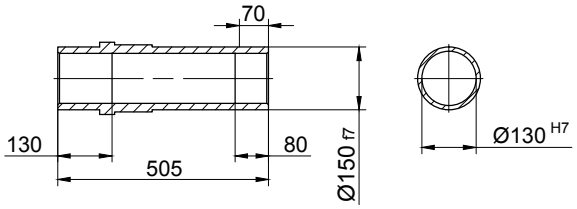
Code -.4/

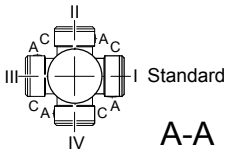


Code -.1/



Code -.5/





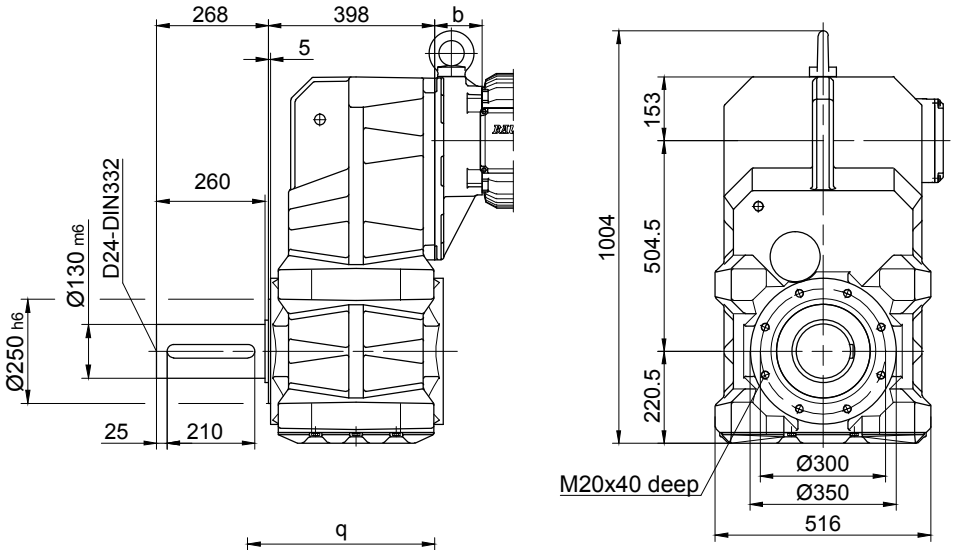
Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	ES../ZS..	G	ES../ZS..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BF90Z-../S..09..	251	252.5	181	909.5	124	158	1002.5	1016.5	1107	-
BF90-../S..11..	319	87	228	812	181	181	910	919	1014.5	-
BF90Z-../S..11..	319	259	228	984	181	181	1082	1091	1186.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF90 - BF90Z

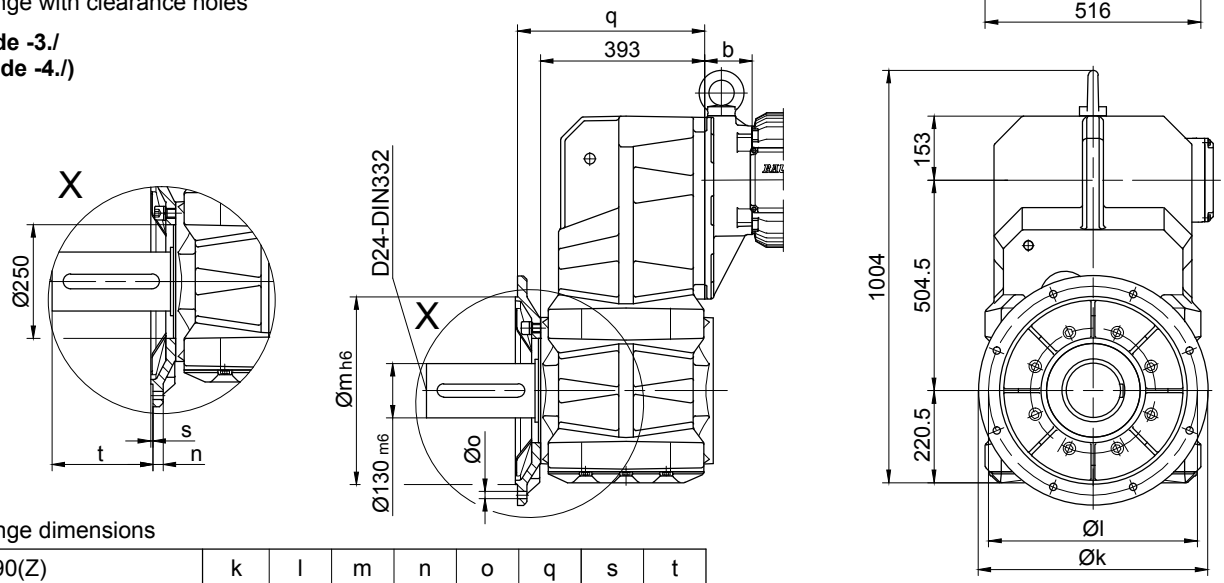
Flange with tapped holes

Code -7./



Flange with clearance holes

Code -3./
(Code -4./)

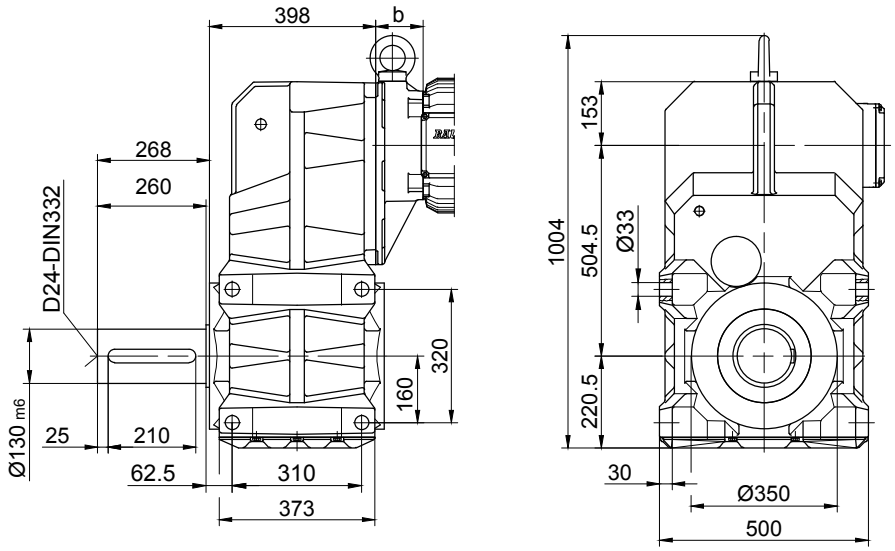


Flange dimensions

BF90(Z)	k	l	m	n	o	q	s	t
Standard -3./	550	500	450	22	17.5	448	5	218
big -4./	660	600	550	25	22	442	6	224

Foot with clearance holes left and right

Code -1.LR/

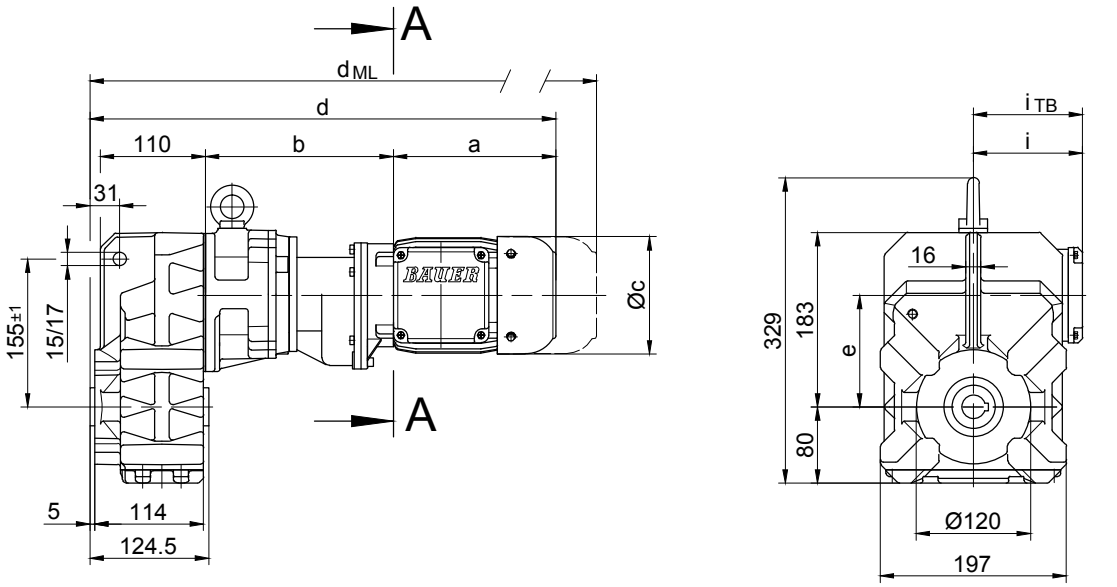


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

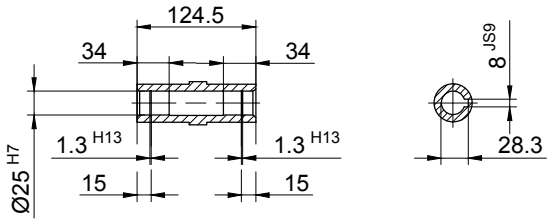
BF10G06

With torque arm

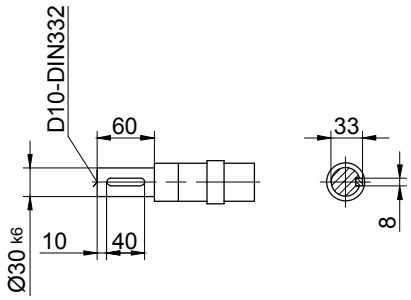
Code -0./



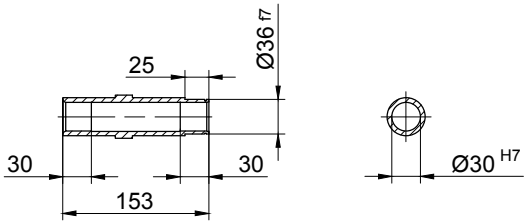
Code -.4/

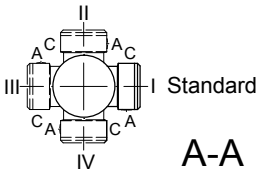


Code -.1/



Code -.5/





A-A

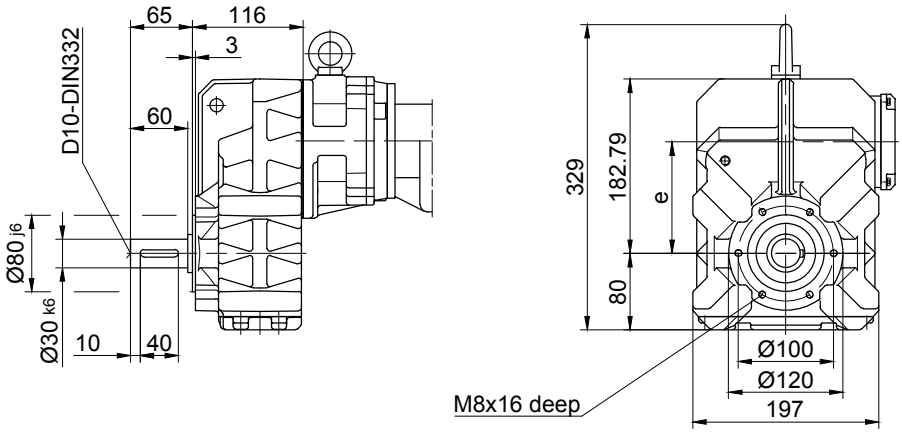
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BF10G06-../S..08..	200	241	156	562	117	115	136.5	628	669	735.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF10G06

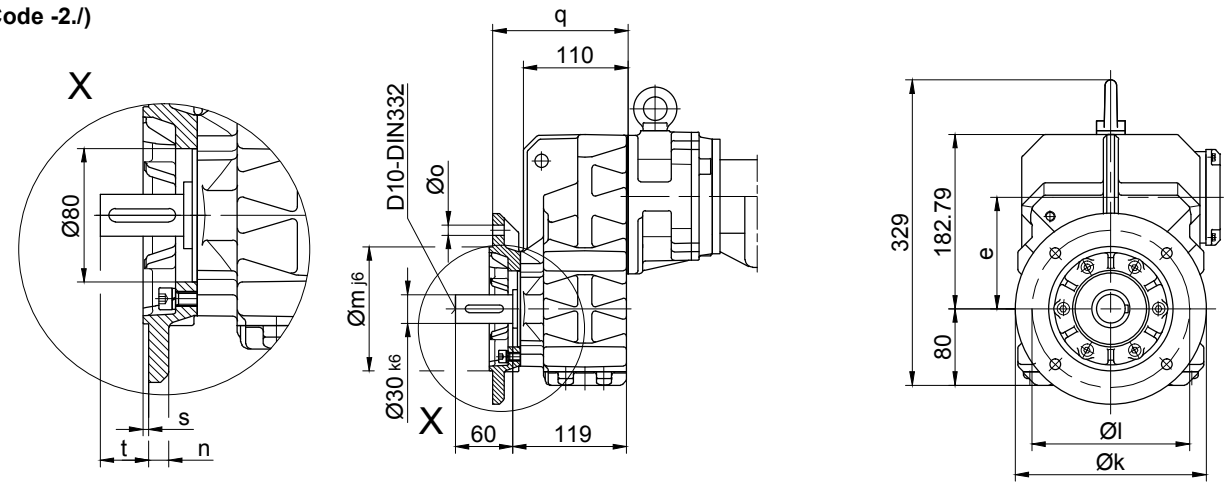
Flange with tapped holes

Code -7./



Flange with clearance holes

Code -3./
(Code -2./)

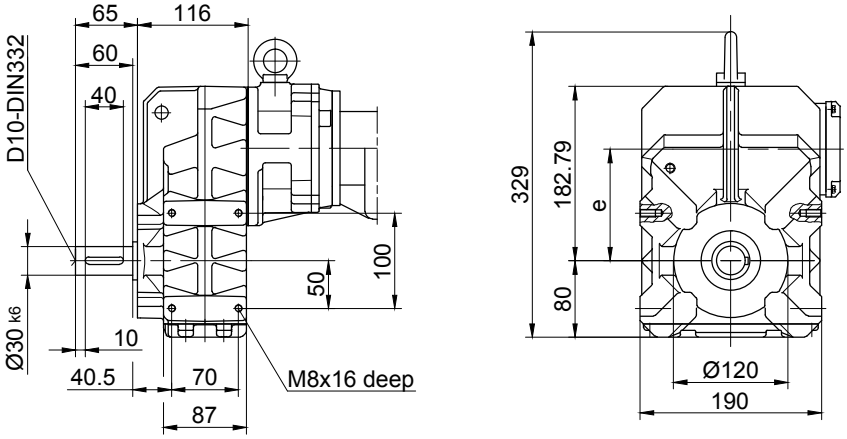


Flange dimensions

BF10G..	k	l	m	n	o	q	s	t
Standard -3./	200	165	130	12	11	142	3.5	39
small -2./	160	130	110	10	9	135	3.5	46

Foot with tapped holes left and right

Code -6.LR/

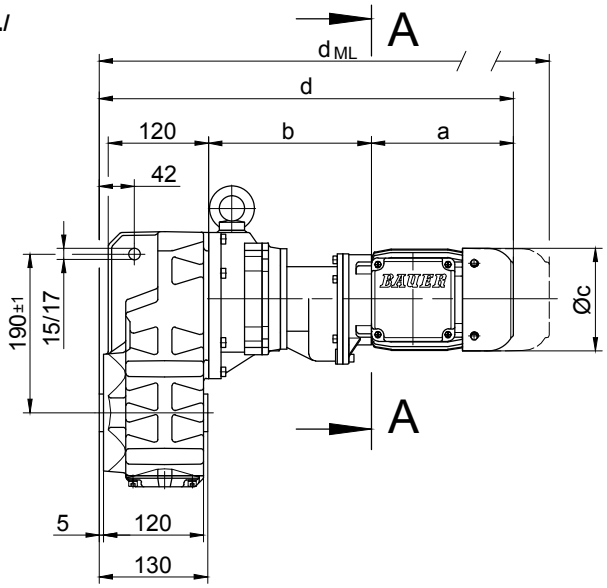


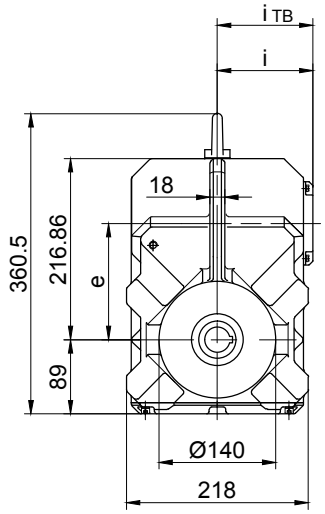
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF20G06

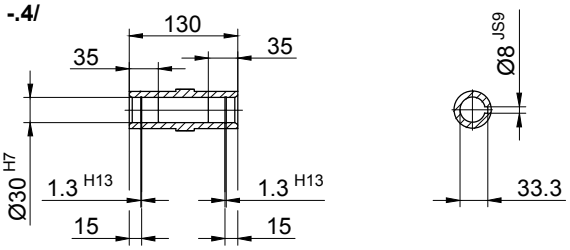
With torque arm

Code -0./

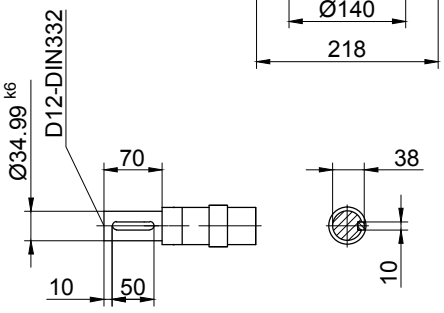




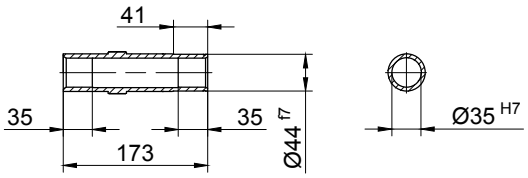
Code -.4/

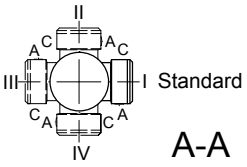


Code -.1/



Code -.5/





A-A

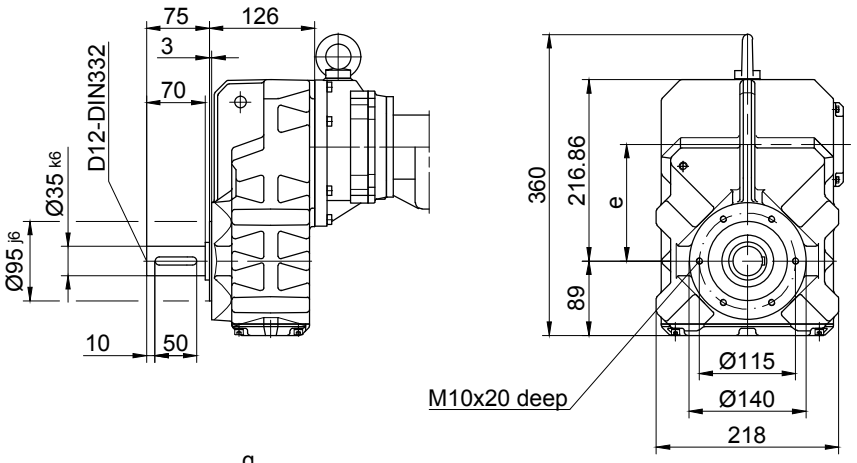
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BF20G06-../S..08..	200	239	156	570	135	115	136.5	636	677	743.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF20G06

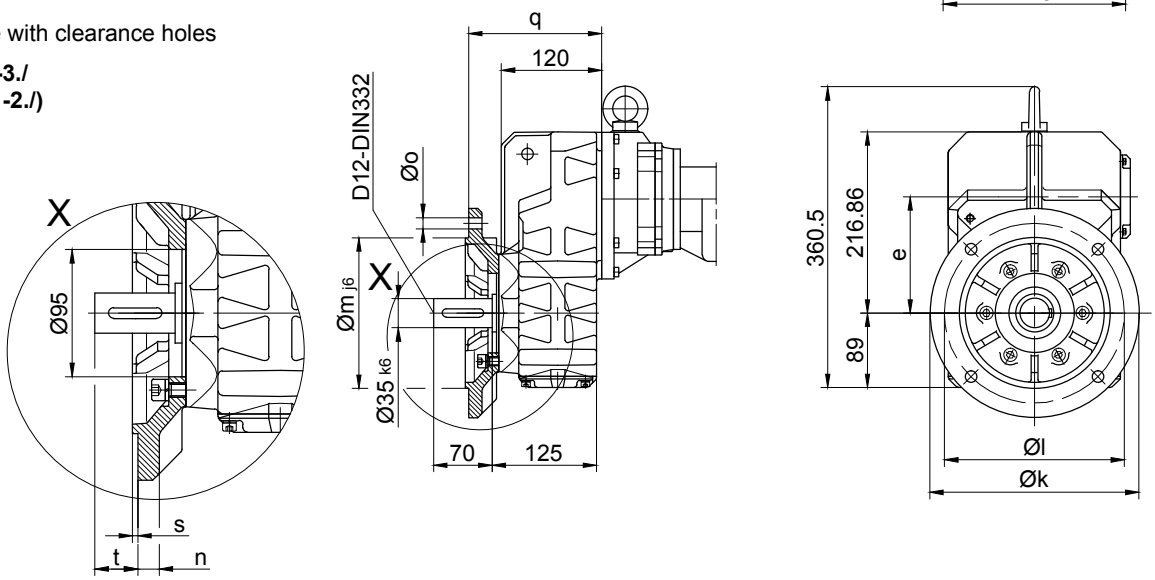
Flange with tapped holes

Code -7./



Flange with clearance holes

Code -3./
(Code -2./)

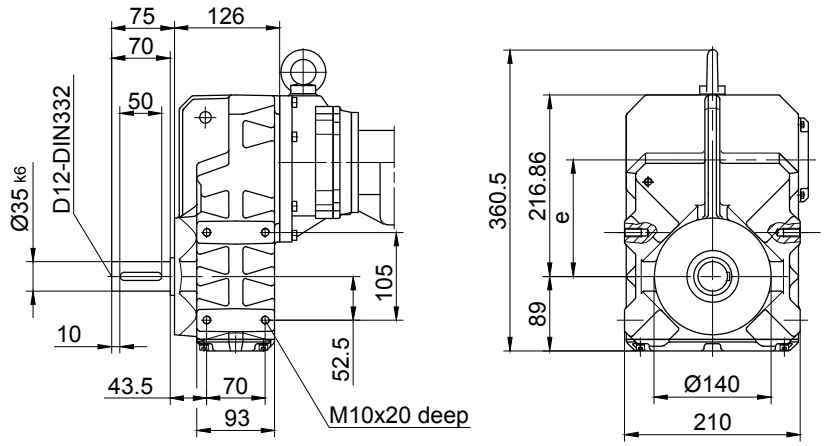


Flange dimensions

BF20G..	k	l	m	n	o	q	s	t
Standard -3./	250	215	180	16	13.5	159	4	42
small -2./	200	165	130	12	11	150	3.5	51

Foot with tapped holes left and right

Code -6.LR/

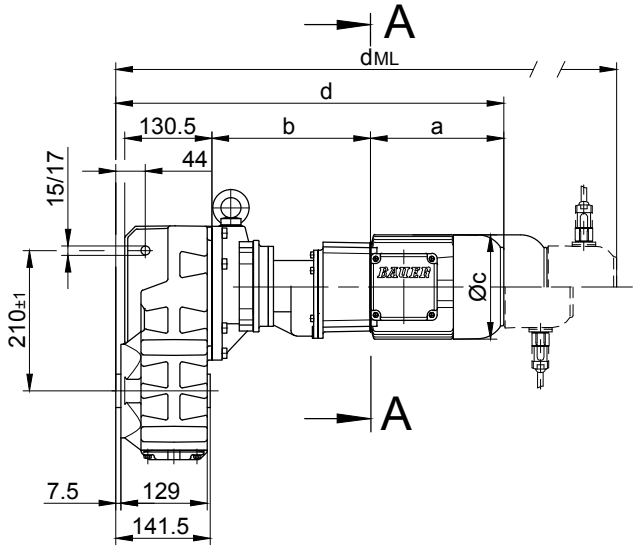


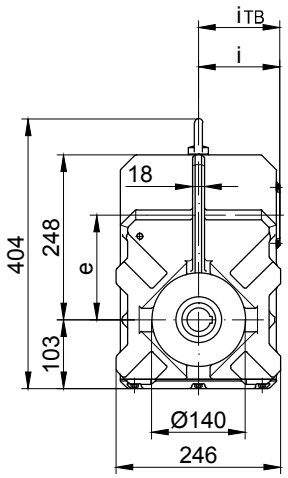
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF30G06

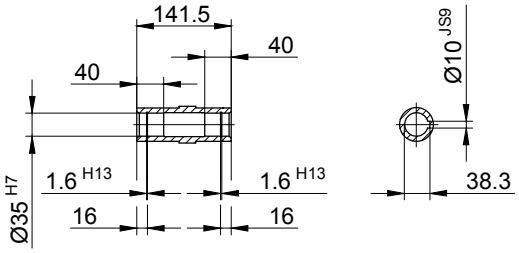
With torque arm

Code -0./

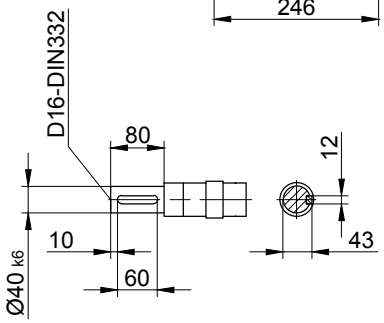




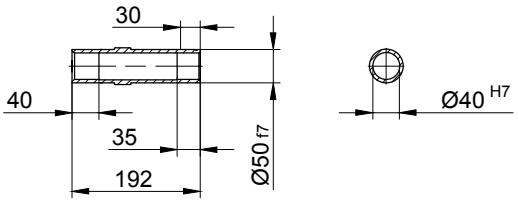
Code -.4/

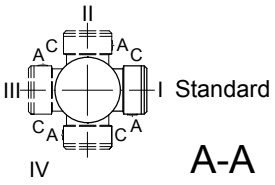


Code -.1/



Code -.5/





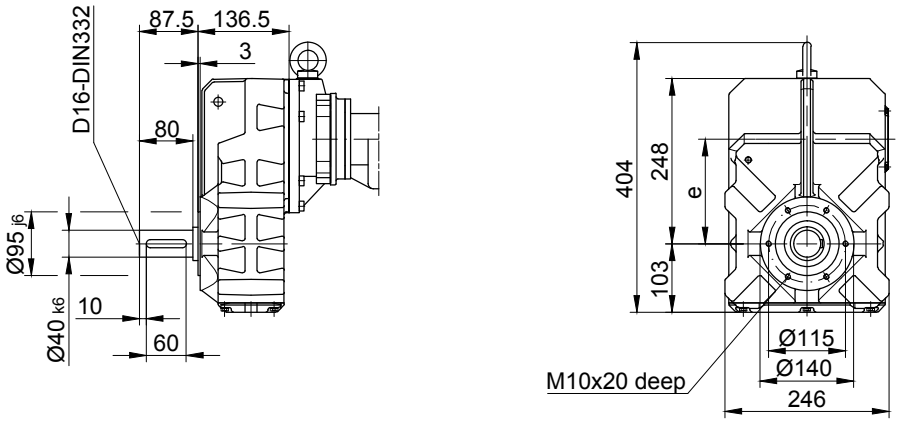
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BF30G06-../S..08..	200	237	156	581	156	115	136.5	647	688	754.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF30G06

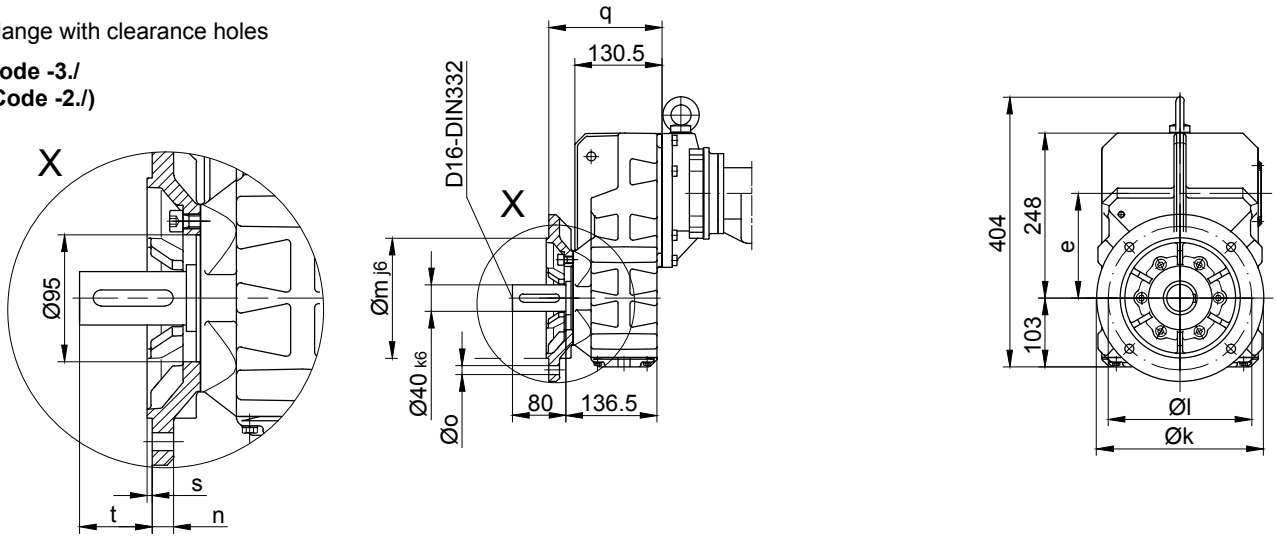
Flange with tapped holes

Code -7./



Flange with clearance holes

Code -3./
(Code -2./)

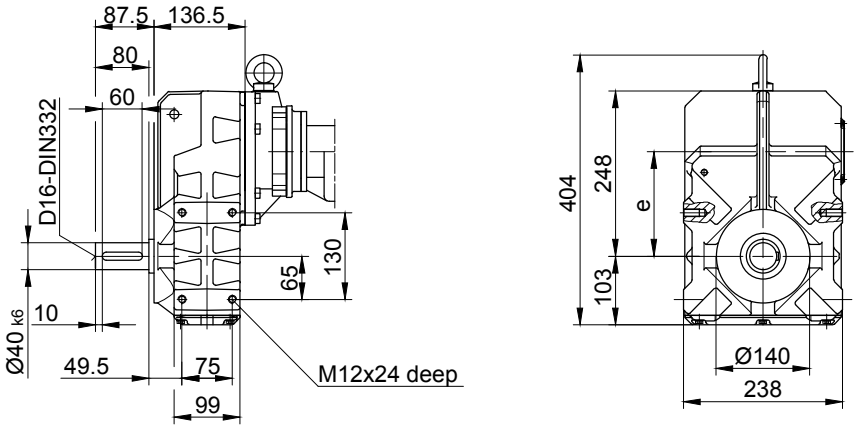


Flange dimensions

BF30G..	k	l	m	n	o	q	s	t
Standard -3./	250	215	180	16	13.5	169.5	4	54.5
small -2./	200	165	130	12	11	160.5	3.5	63.5

Foot with tapped holes left and right

Code -6.LR/

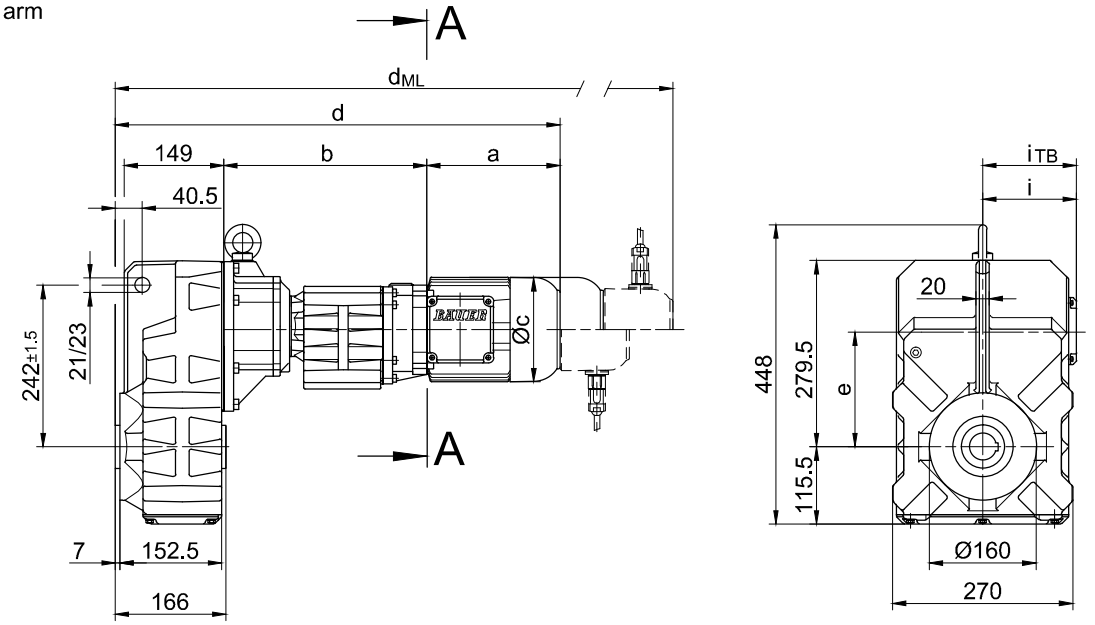


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

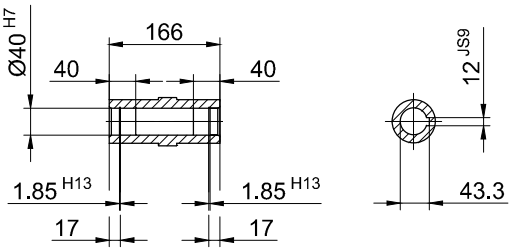
BF40G10

With torque arm

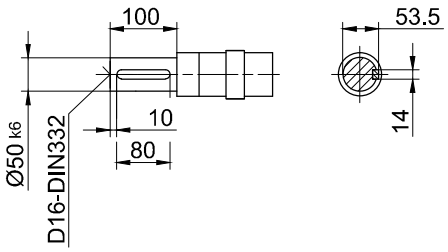
Code -0./



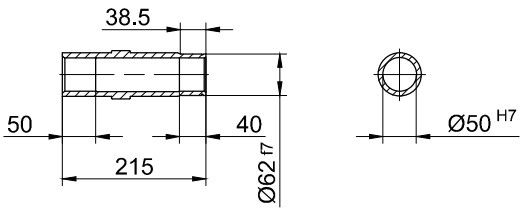
Code -.4/

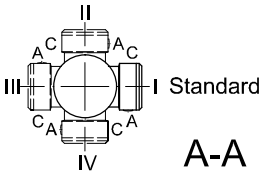


Code -.1/



Code -.5/





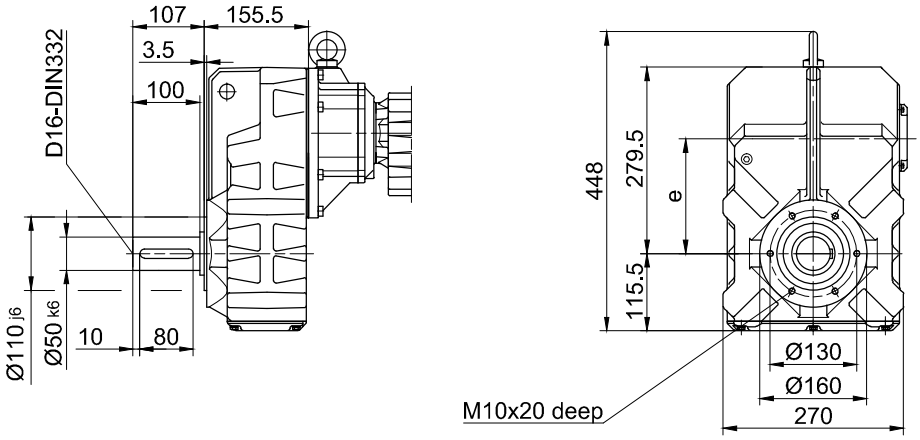
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BF40G10-../S..08..	200	304	156	666.5	176	115	136.5	732.5	773.5	840	-
BF40G10-../S..09..	251	318.5	181	732	176	124	158	825	839	929.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF40G10

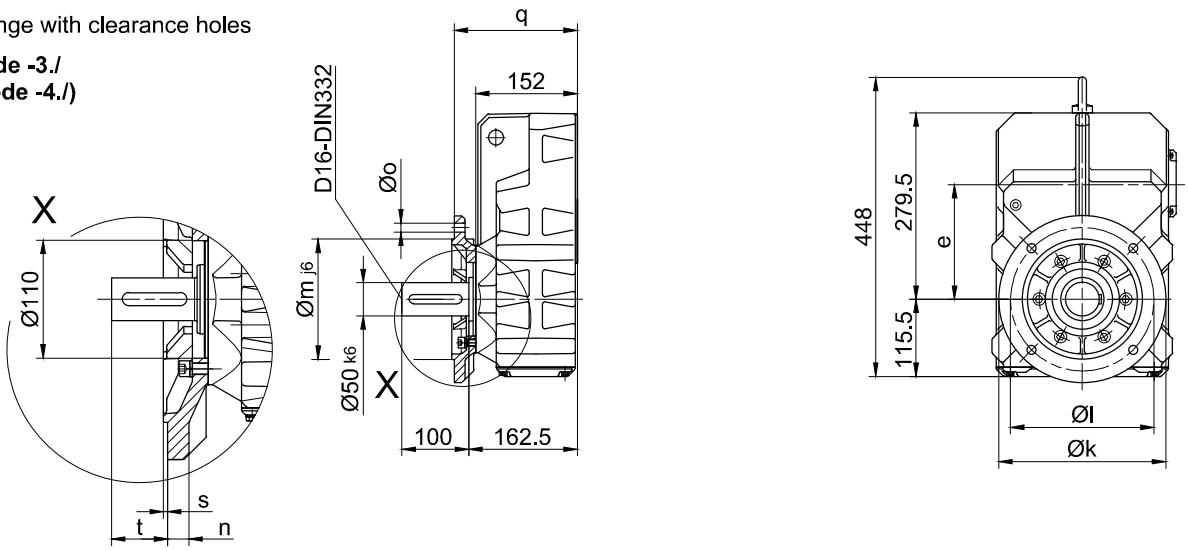
Flange with tapped holes

Code -7./



Flange with clearance holes

Code -3./
(Code -4./)

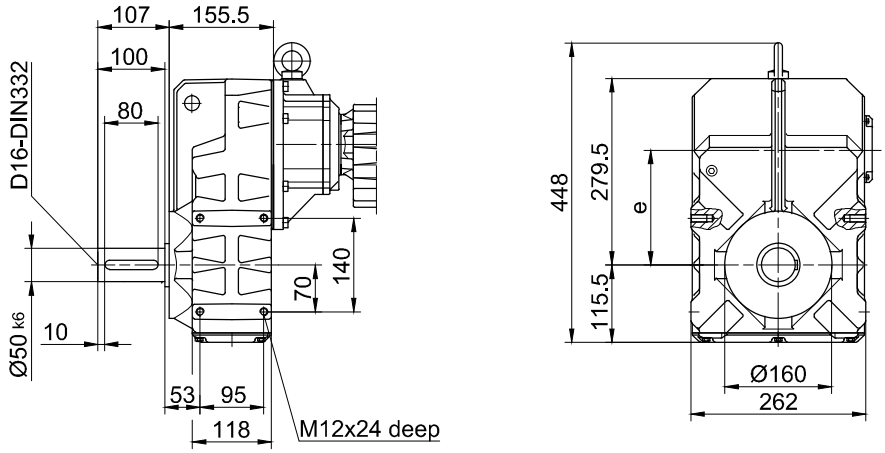


Flange dimensions

BF40G..	k	l	m	n	o	q	s	t
Standard -3./	250	215	180	16	13.5	184	4	78.5
big- 4./	300	265	230	20	13.5	190	4	72.5

Foot with tapped holes left and right

Code -6.LR/

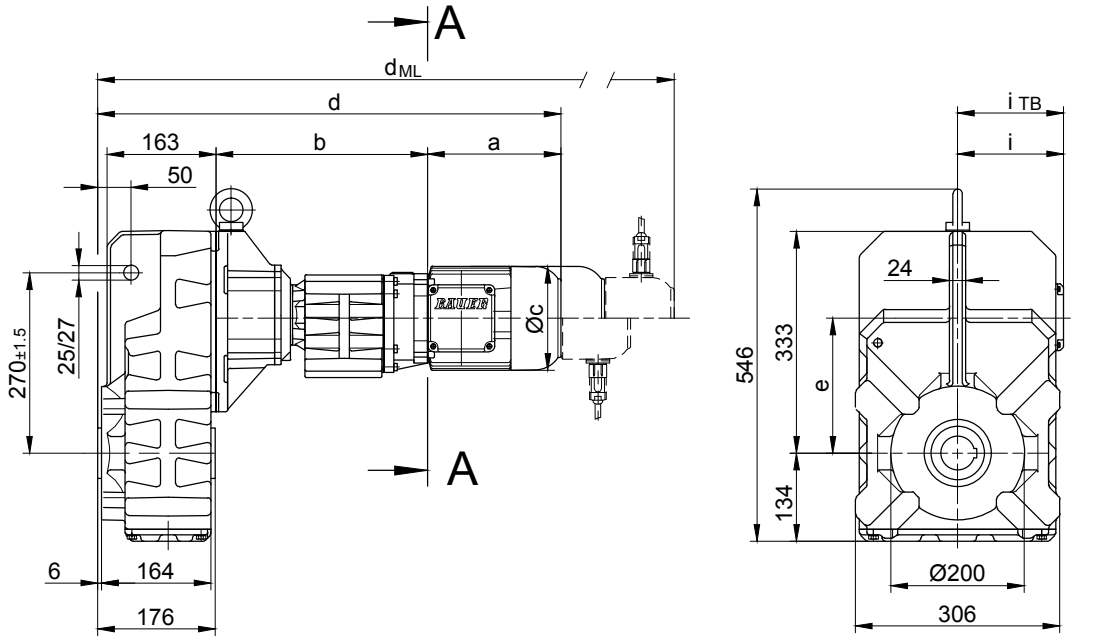


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

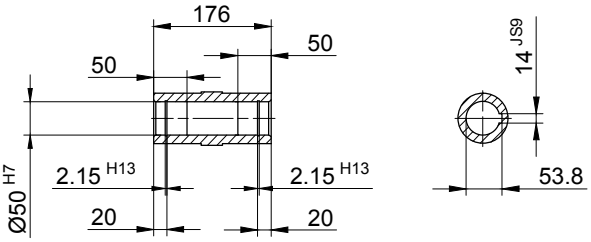
BF50G10

With torque arm

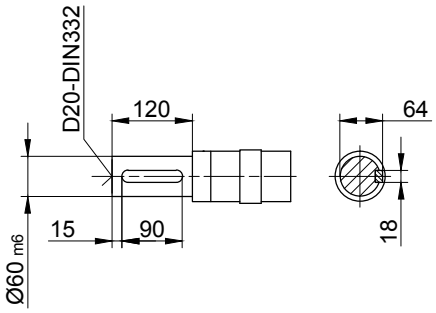
Code -0./



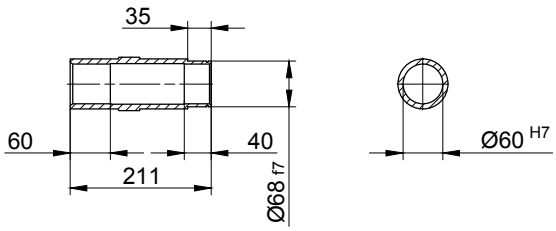
Code -.4/

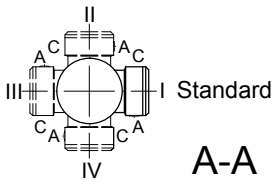


Code -.1/



Code -.5/





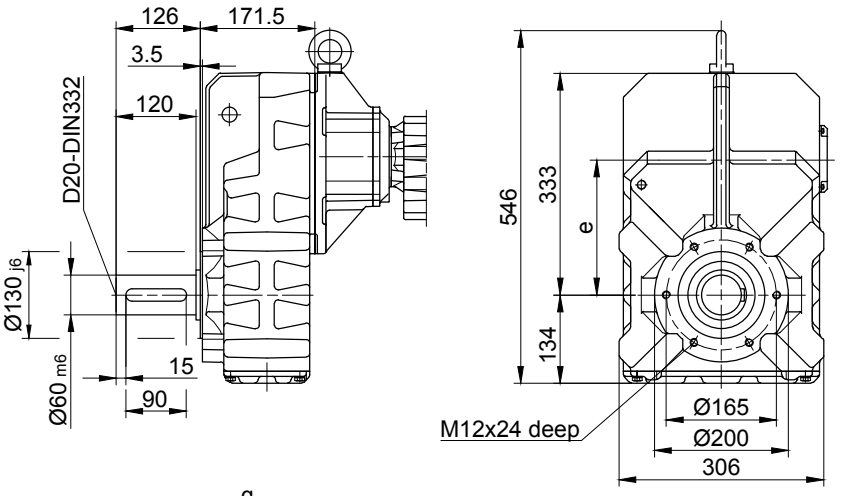
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BF50G10-../S..08..	200	317	156	694.5	202	115	136.5	760.5	801.5	868	-
BF50G10-../S..09..	251	331.5	181	760	202	124	158	853	867	957.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF50G10

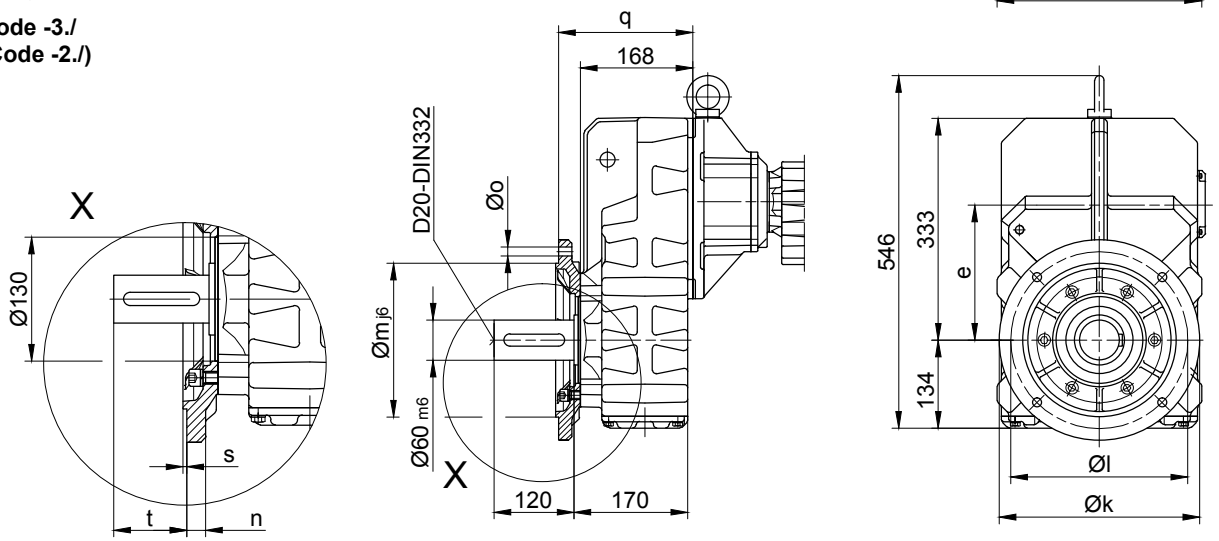
Flange with tapped holes

Code -7./



Flange with clearance holes

Code -3./
(Code -2./)

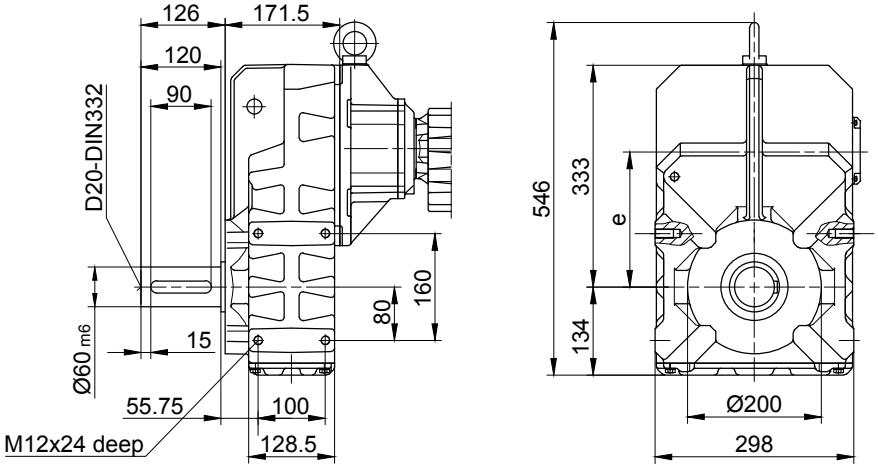


Flange dimensions

BF50G..	k	l	m	n	o	q	s	t
Standard -3./	300	265	230	20	13.5	201	4	96.5
small -2./	250	215	180	16	13.5	198	4	99.5

Foot with tapped holes left and right

Code -6.LR/

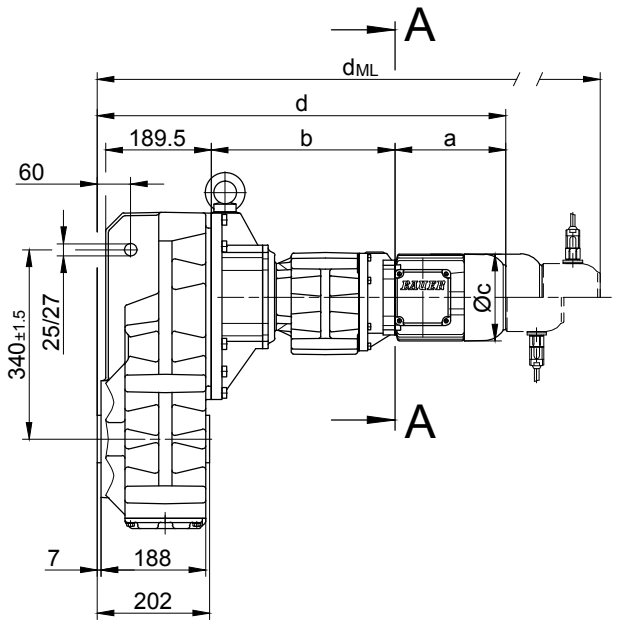


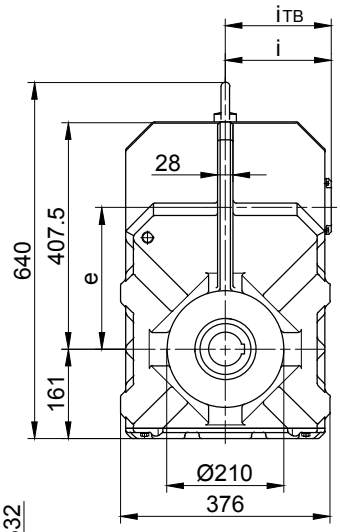
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF60G20

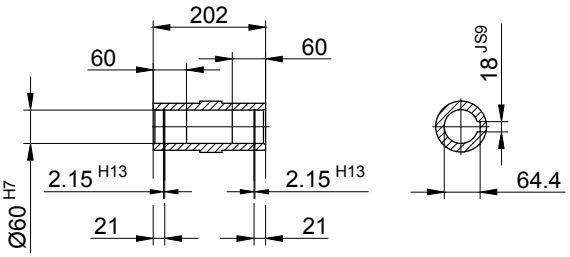
With torque arm

Code -0./

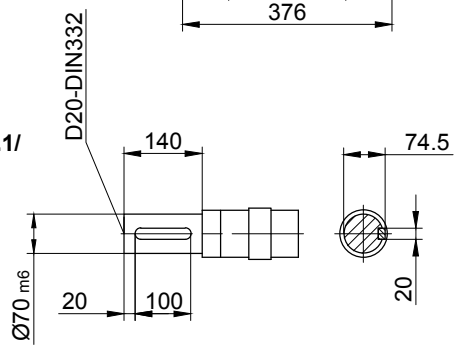




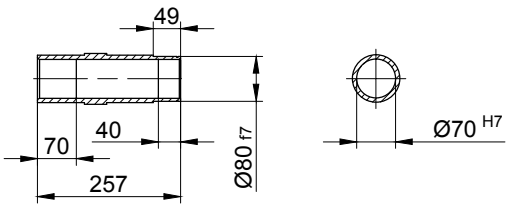
Code -.4/

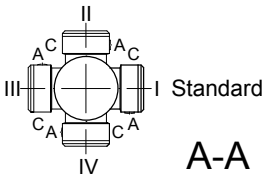


Code -.1/



Code -.5/





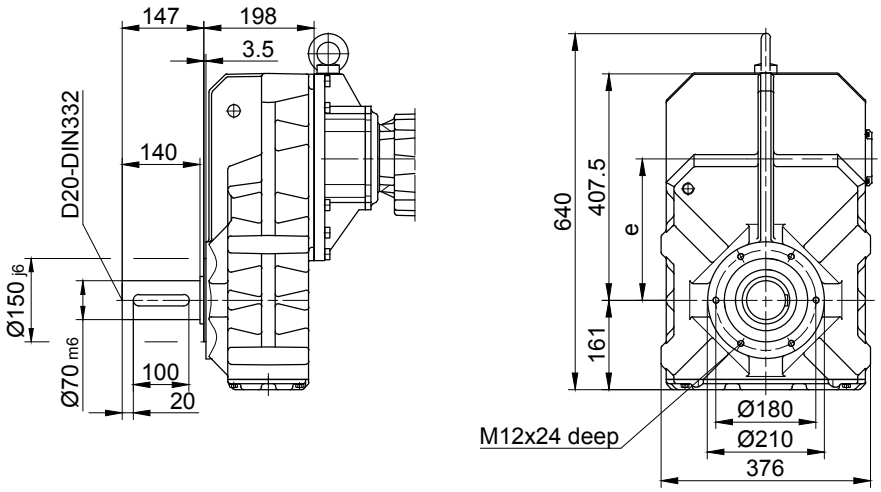
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BF60G20-../S..08..	200	330	156	735	254	115	136.5	801	842	908.5	-
BF60G20-../S..09..	251	344.5	181	800	254	124	158	893.5	907.5	998	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF60G20

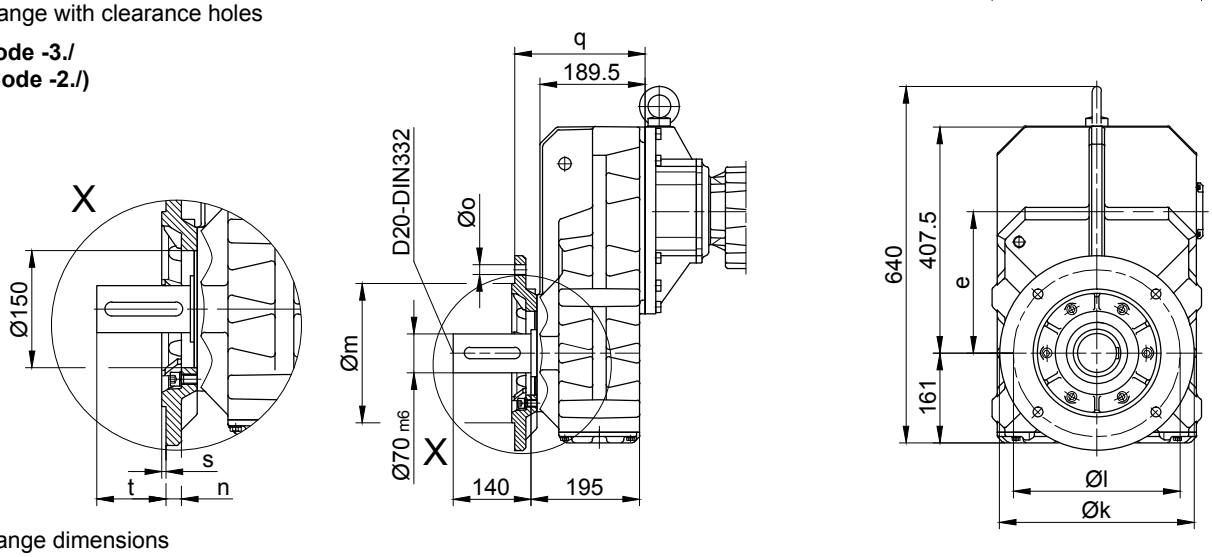
Flange with tapped holes

Code -7./



Flange with clearance holes

Code -3./
(Code -2./)

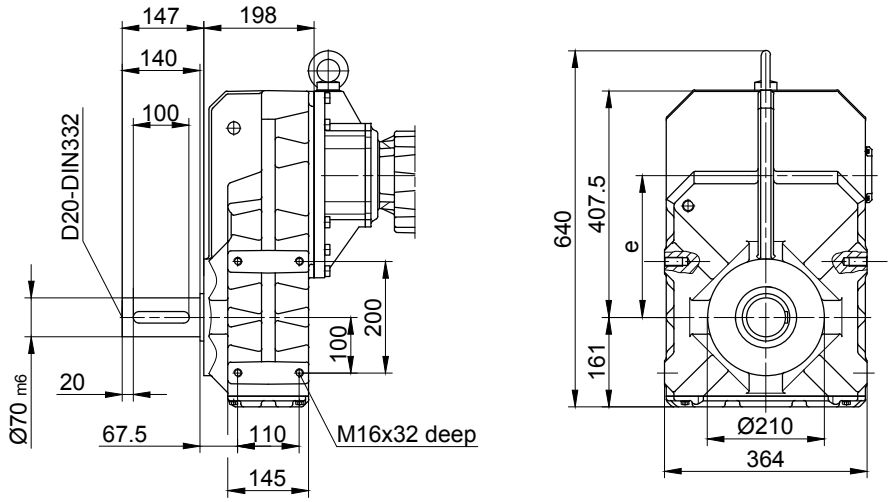


Flange dimensions

BF60G..	k	l	m	n	o	q	s	t
Standard -3./	350	300	250 h6	20	17.5	234.5	5	110.5
small -2./	300	265	230 j6	20	13.5	242.5	4	102.5

Foot with tapped holes left and right

Code -6.LR/

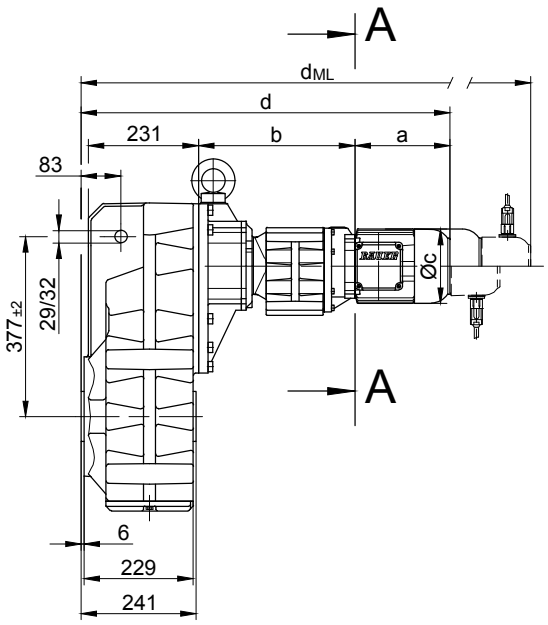


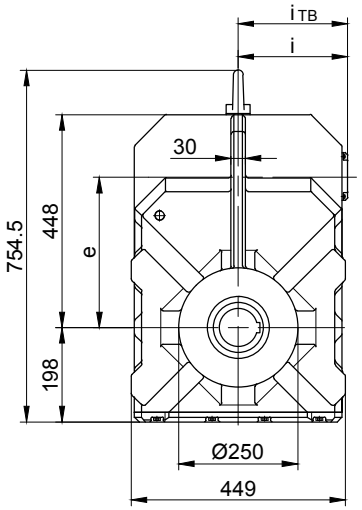
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF70G20

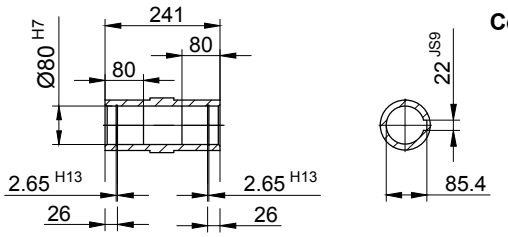
With torque arm

Code -0./

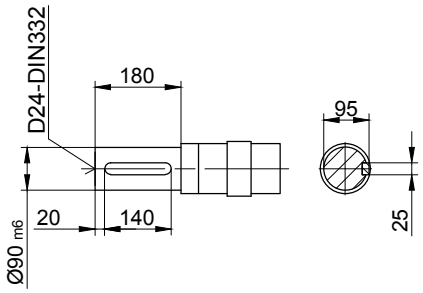




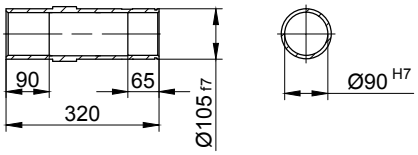
Code -.4/



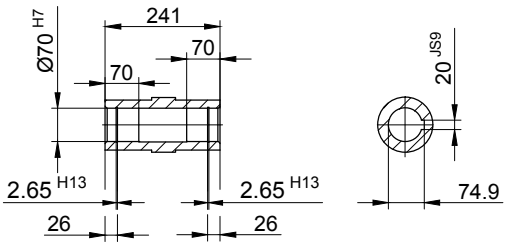
Code -.1/

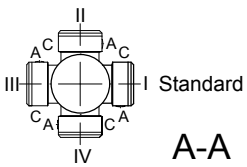


Code -.5/



Code -.4/K70





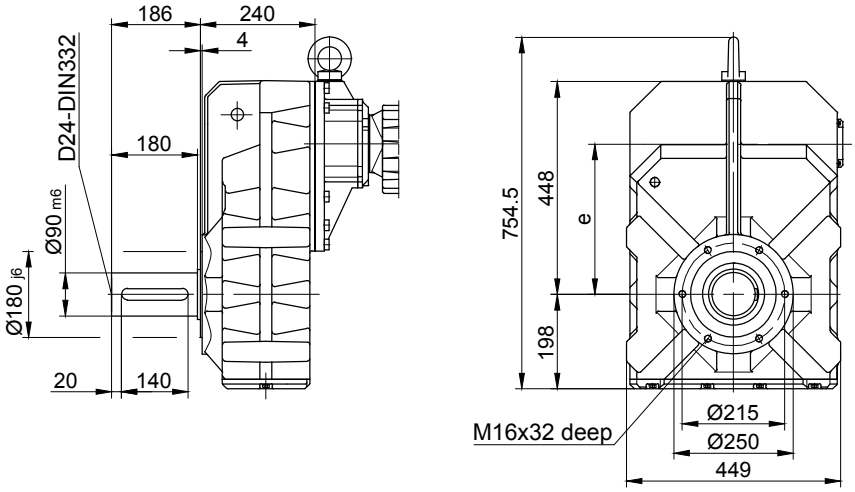
Type	a	b	c	d	e	i	i_{TB}	Design with motor extensions			
								E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BF70G20-../S..08..	200	328	156	774	315	115	136.5	840	881	947.5	-
BF70G20-../S..09..	251	342.5	181	839.5	315	124	158	932.5	946.5	1037	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF70G20

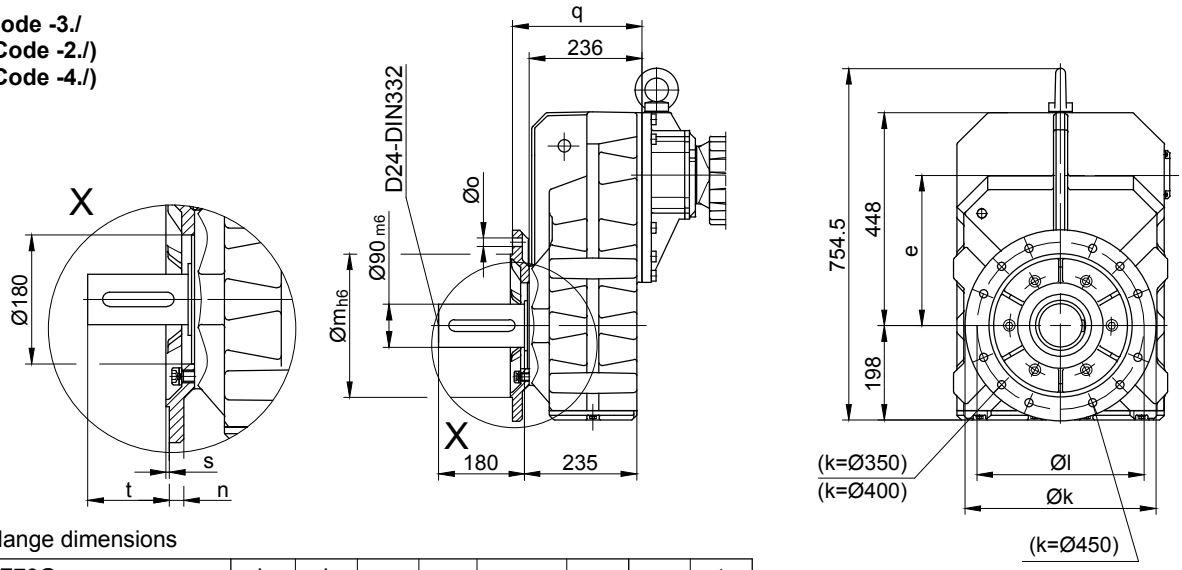
Flange with tapped holes

Code -7./



Flange with clearance holes

Code -3./
(Code -2./)
(Code -4./)

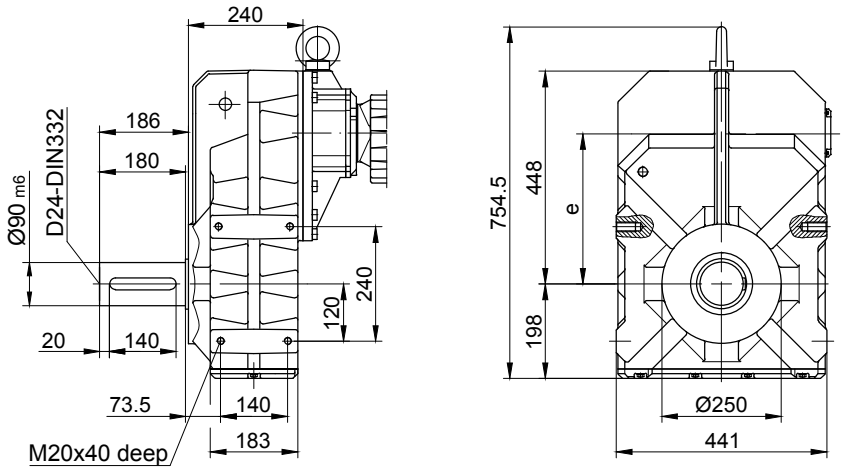


Flange dimensions

BF70G..	k	l	m	n	o	q	s	t
Standard -3./	400	350	300	20	4x17.5	271	5	155
small -2./	350	300	250	20	4x17.5	271	5	155
big -4./	450	400	350	22	8x17.5	281	5	145

Foot with tapped holes left and right

Code -6.LR/

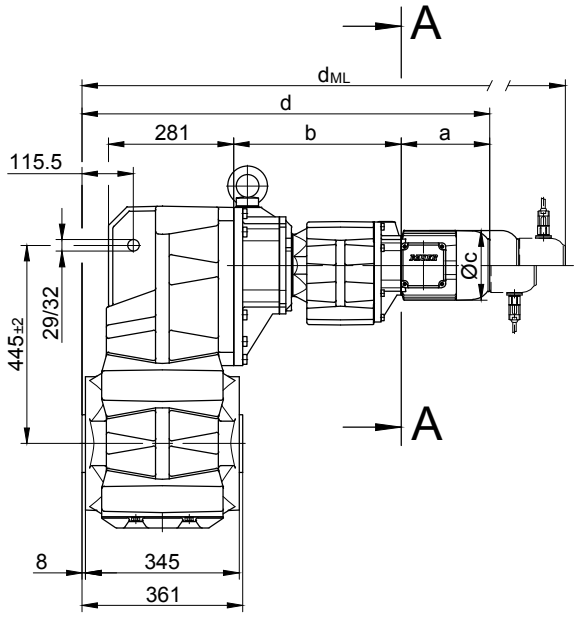


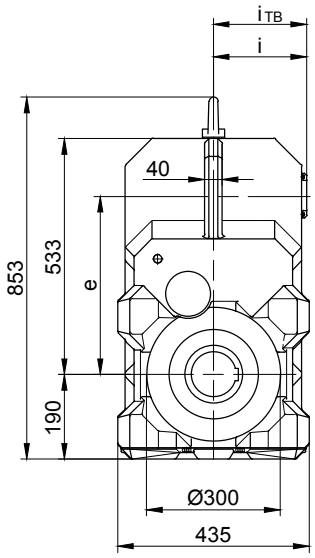
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF80G40

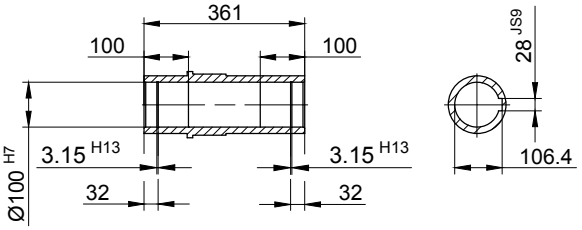
With torque arm

Code -0./

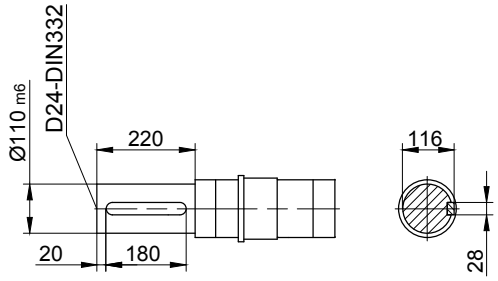




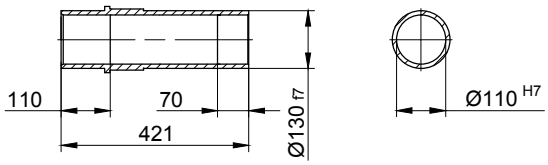
Code -.4/

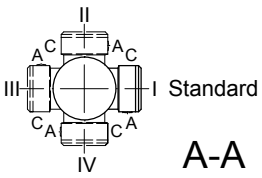


Code -.1/



Code -.5/





A-A

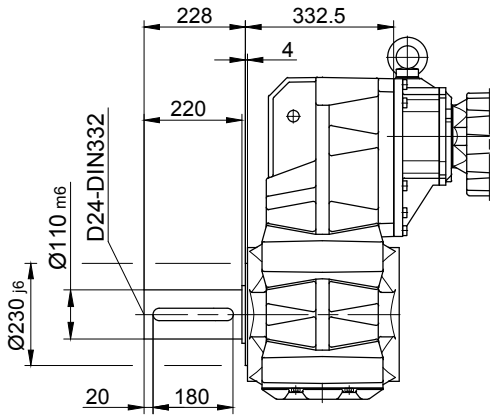
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	ES..	G	ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BF80G40-../S..08..	200	376	156	916.5	400	115	136.5	982.5	1023.5	1090	-
BF80G40-../S..09..	251	390.5	181	982	400	124	158	1075	1089	1179.5	-
BF80G40-../S..11..	319	397	228	1056.5	400	181	181	1154.5	1163.5	12.59	-

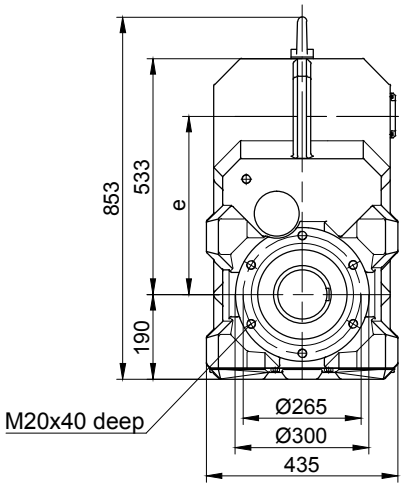
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF80G40

Flange with tapped holes

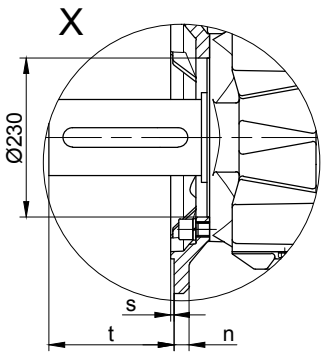
Code -7./

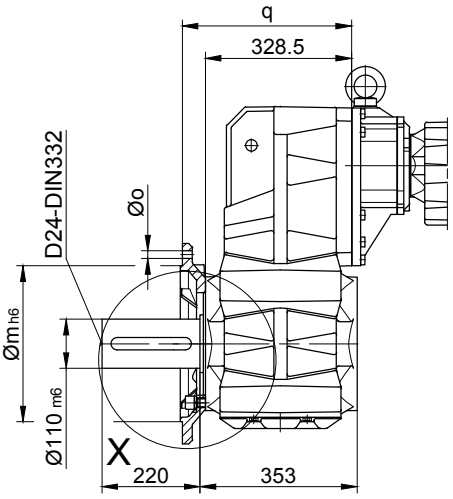


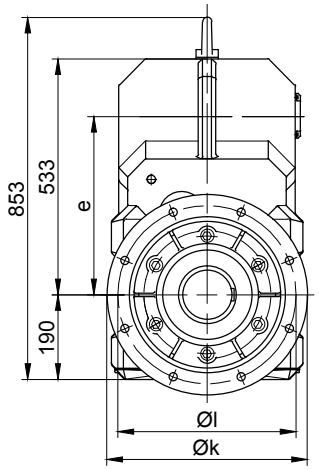


Flange with clearance holes

Code -3./
(Code -4./)





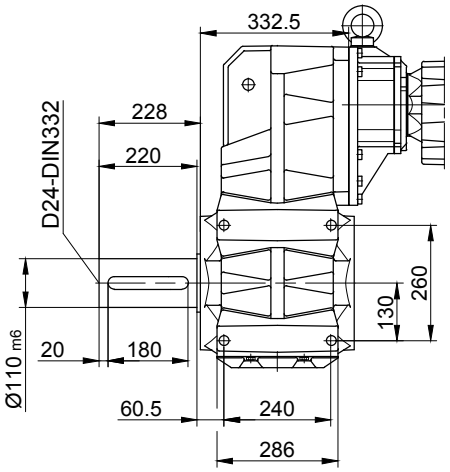


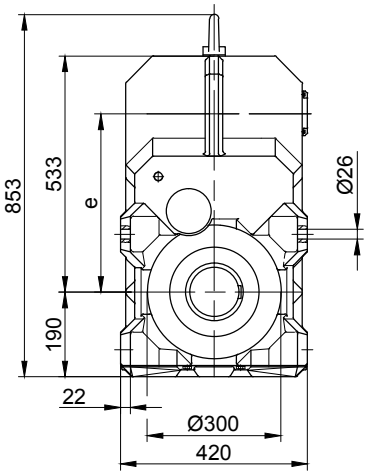
Flange dimensions

BF80G..	k	l	m	n	o	q	s	t
Standard -3./	450	400	350	22	17.5	383.5	5	177
big -4./	550	500	450	22	17.5	388.5	5	172

Foot with clearance holes left and right

Code -1.LR/



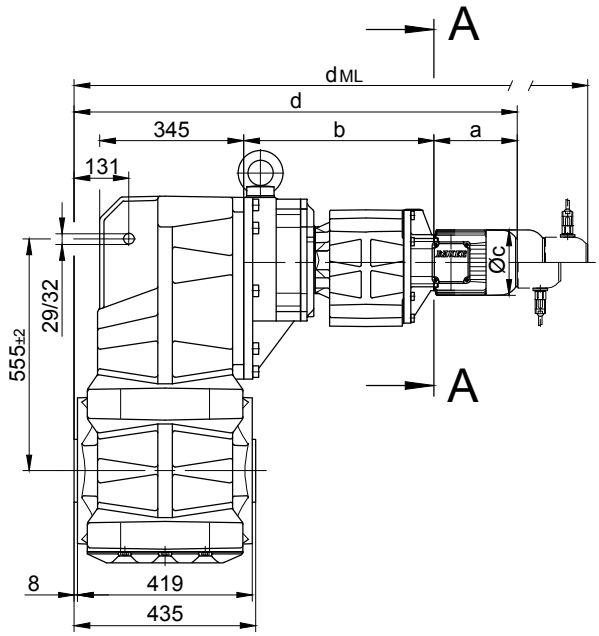


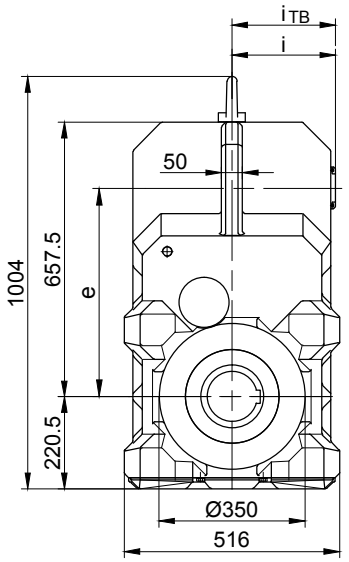
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF90G50

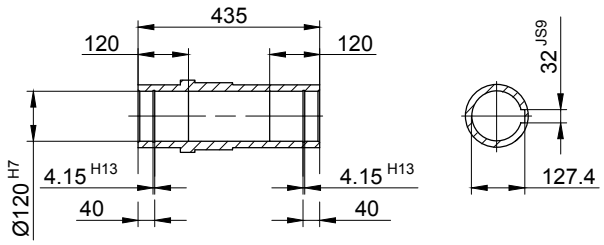
With torque arm

Code -0./

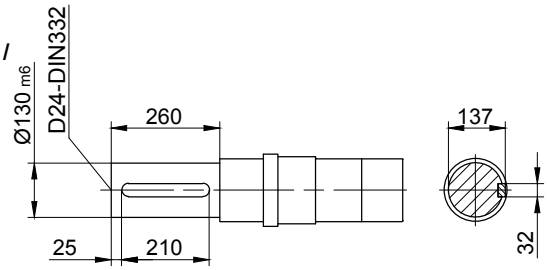




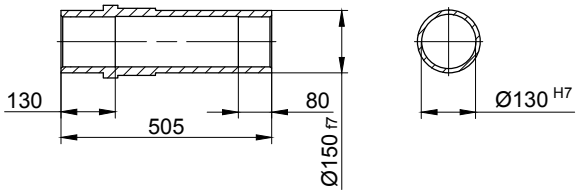
Code -.4/

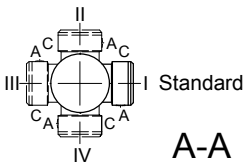


Code -.1/



Code -.5/





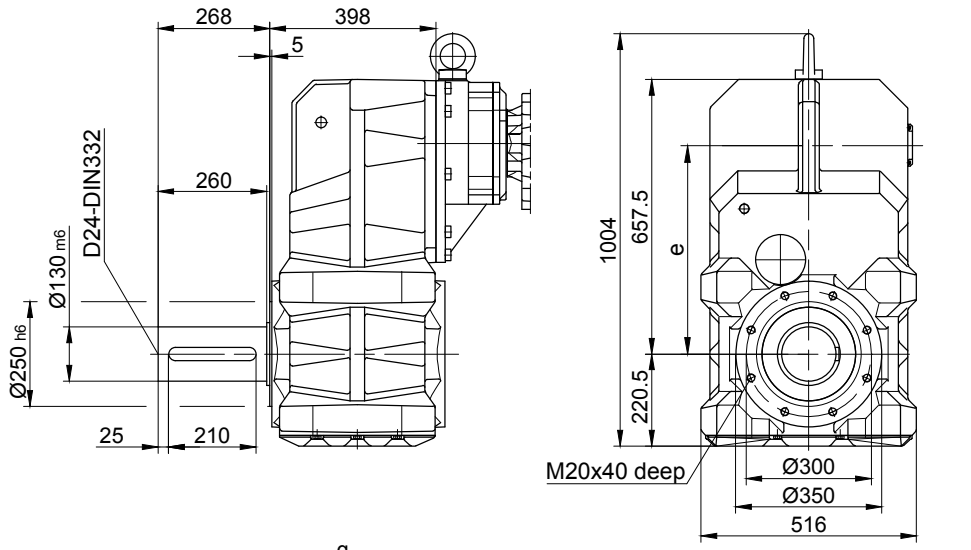
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	ES../ZS..	G	ES../ZS..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BF90G50-../S..08..	200	456	156	1062	503	115	136.5	1128	1169	1235.5	-
BF90G50-../S..09..	251	470.5	181	1127.5	499	124	158	1220.5	1234.5	1325	-
BF90G50-../S..11..	319	477	228	1202	499	181	181	1300	1309	1404.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BF90G50

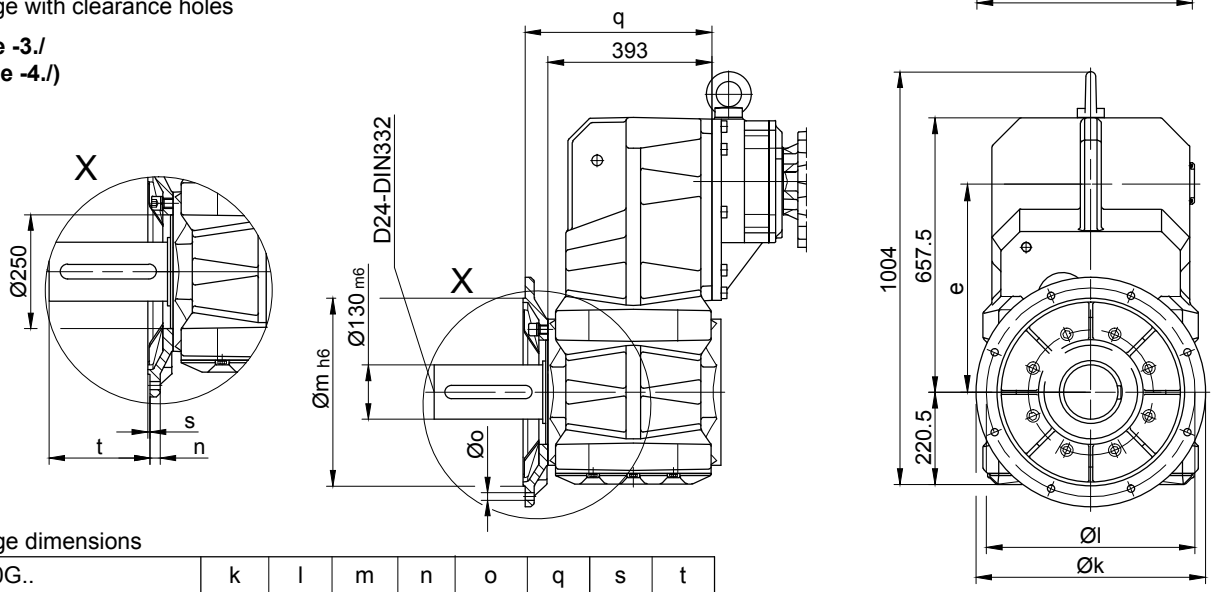
Flange with tapped holes

Code -7./



Flange with clearance holes

Code -3./
(Code -4./)

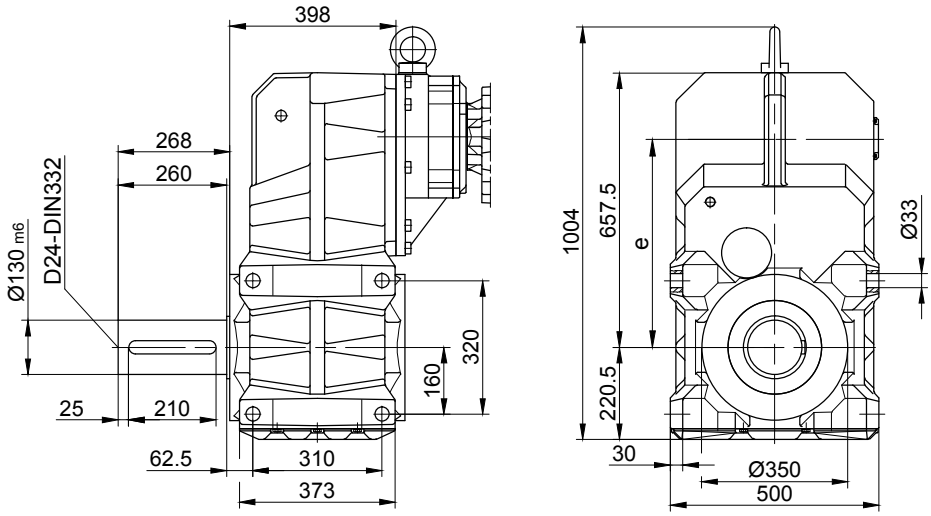


Flange dimensions

BF90G..	k	l	m	n	o	q	s	t
Standard -3./	550	500	450	22	17.5	448	5	218
big -4./	660	600	550	25	22	442	6	224

Foot with clearance holes left and right

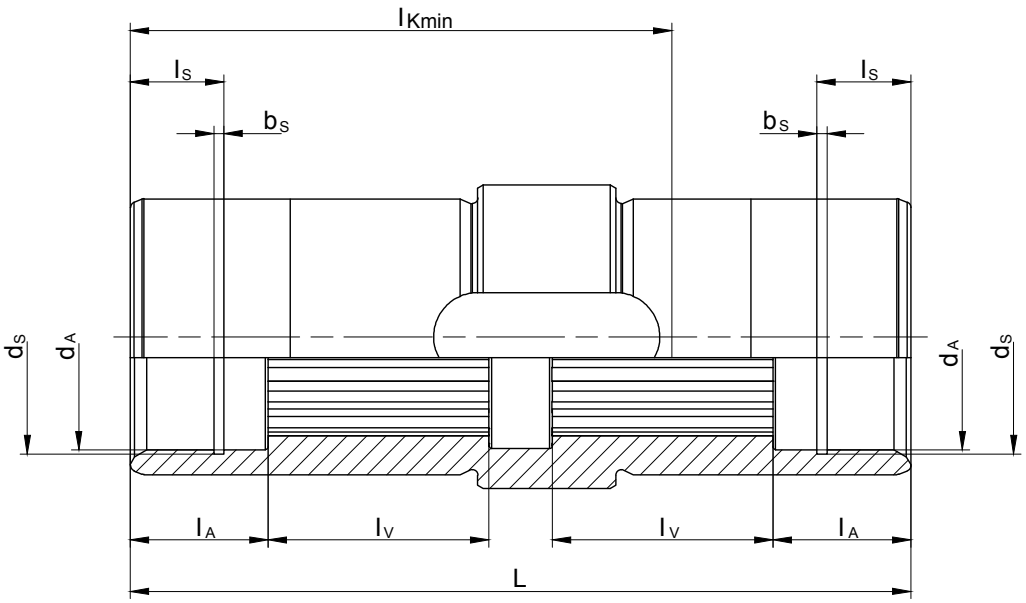
Code -1.LR/



www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

Splined shaft BF

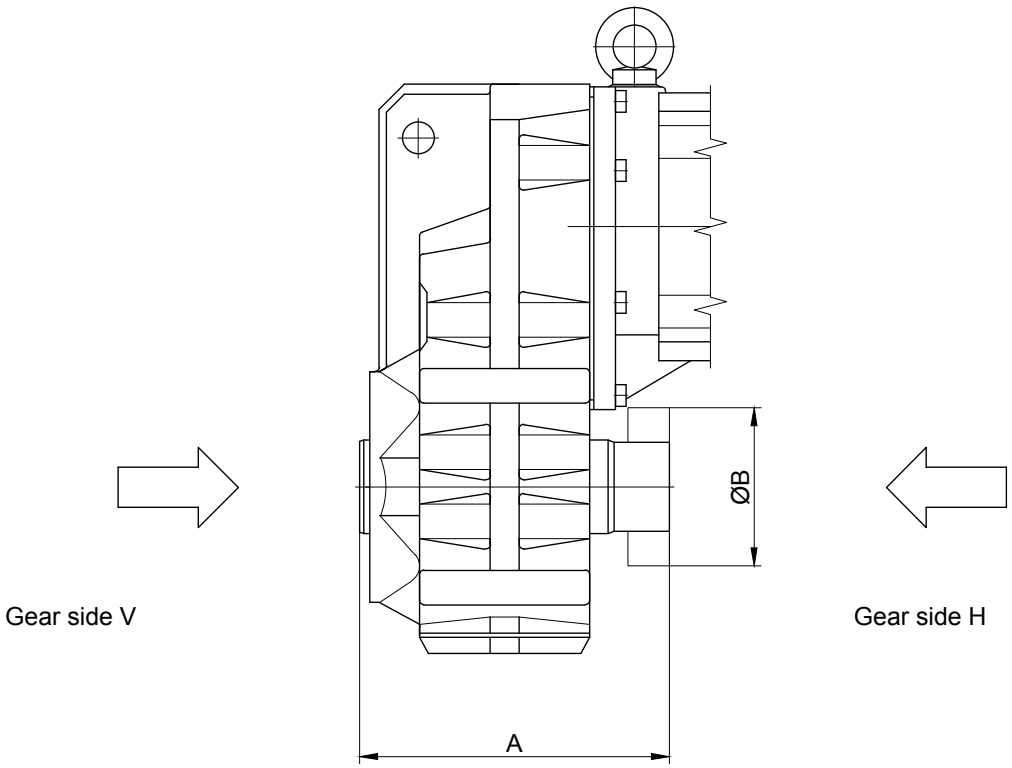


Type	Spline acc. DIN 5480	d_A (mm)	l_A (mm)	l_V (mm)	l_{Kmin} (mm)	L (mm)	d_S (mm)	l_S (mm)	b_S (mm)
BF06	N25x1.25x18x9H	30^{G7}	22	20	68	92	31.4^{H12}	15	1.3^{H13}
BF10	N30x1.25x22x9H	30.5^{G7}	22	33.5	87	124.5	31.4^{H12}	15	1.3^{H13}
BF20	N35x2x16x9H	36^{G7}	22	35	92	130	37^{H12}	9.5	1.6^{H13}
BF30	N40x2x18x9H	41^{G7}	25	40	103	141.5	42.5^{H12}	15	1.85^{H13}
BF40	N50x2x24x9H	51^{G7}	25	48	120	166	53^{H12}	9.5	2.15^{H13}
BF50	N60x2x28x9H	61^{G7}	25	55	123	176	63^{H12}	17	2.15^{H13}
BF60	N70x2x34x9H	72^{G7}	25	70	147	202	75^{H12}	17	2.65^{H13}
BF70	N85x3x27x9H	86^{G7}	26	85	185	241	88.5^{H12}	17	3.15^{H13}
BF80	N110x3x35x9H	112^{G7}	50	90	292	361	116^{H12}	30	4.15^{H13}
BF90	N130x5x24x9H	131.5^{G7}	60	110	365	435	134^{H12}	30	4.15^{H13}

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Shrink disc coupling (SSV)

(Code BF10-.5/...)
(Code BF10Z-.5/...)

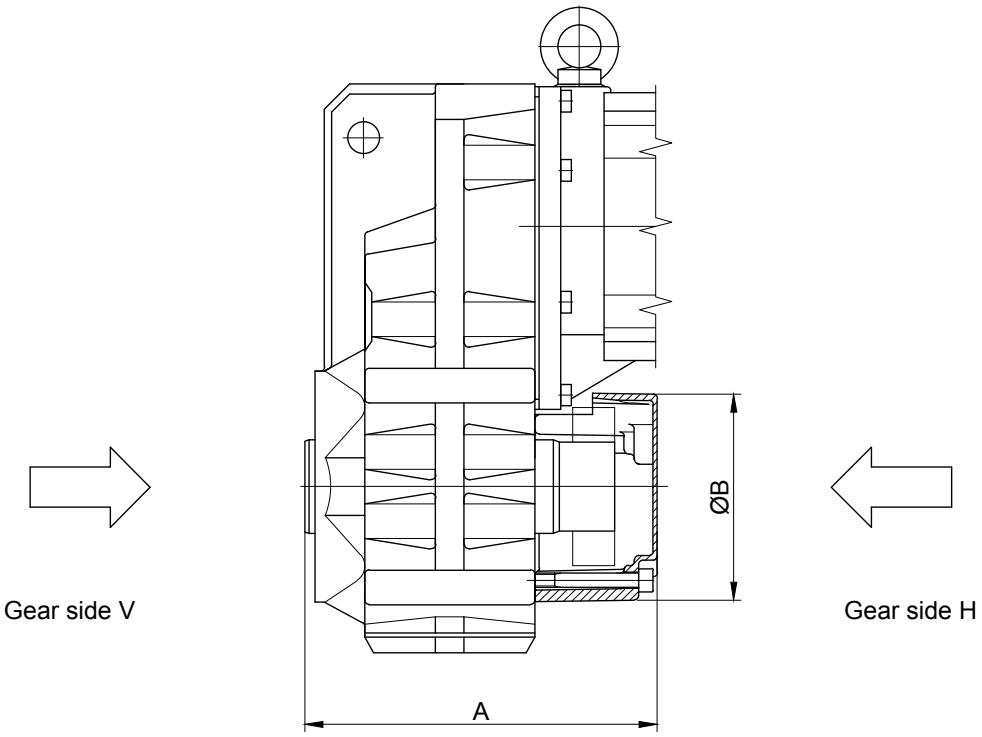


Type	SSV Ringfeder	SSV STÜWE	A	B
BF10	RfN 4161 036x072	HSD 36-22x36	153	72
BF20	RfN 4161 044x080	HSD 44-22x44	173	80
BF30	RfN 4161 050x090	HSD 50-22x50	192	90
BF40	RfN 4161 062x110	HSD 62-22x62	215	110
BF50	RfN 4161 068x115	HSD 68-22x68	211	115
BF60	RfN 4161 080x141	HSD 80-22x80	257	140
BF70	RfN 4161 105x185	HSD 110-22x105	320	185
BF80	RfN 4161 130x215	HSD 125-22x130	421	215
BF90	RfN 4161 150x263	HSD 155-22x150	505	263

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Shrink disc coupling with (SSV) cover

(Code BF10-.5A/...)
(Code BF10Z-.5A/...)



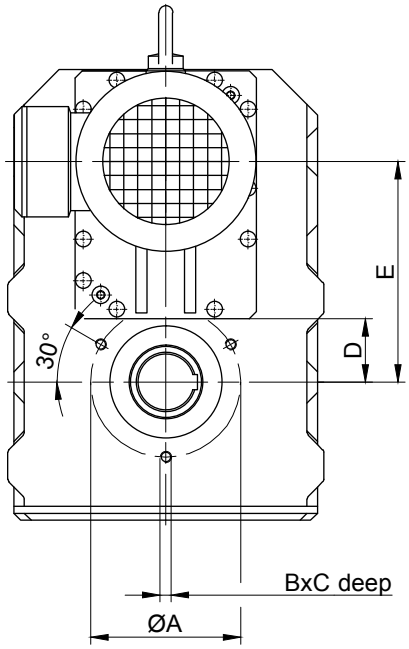
Type	SSV Ringfeder	SSV STÜWE	A	B
BF10	RfN 4161 036x072	HSD 36-22x36	174	120
BF20	RfN 4161 044x080	HSD 44-22x44	211	140
BF30	RfN 4161 050x090	HSD 50-22x50	223	140
BF40	RfN 4161 062x110	HSD 62-22x62	245	160
BF50	RfN 4161 068x115	HSD 68-22x68	227	200
BF60	RfN 4161 080x141	HSD 80-22x80	290	210
BF70	RfN 4161 105x185	HSD 110-22x105	359	250
BF80	RfN 4161 130x215	HSD 125-22x130	463	300
BF90	RfN 4161 150x263	HSD 155-22x150	557	350

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

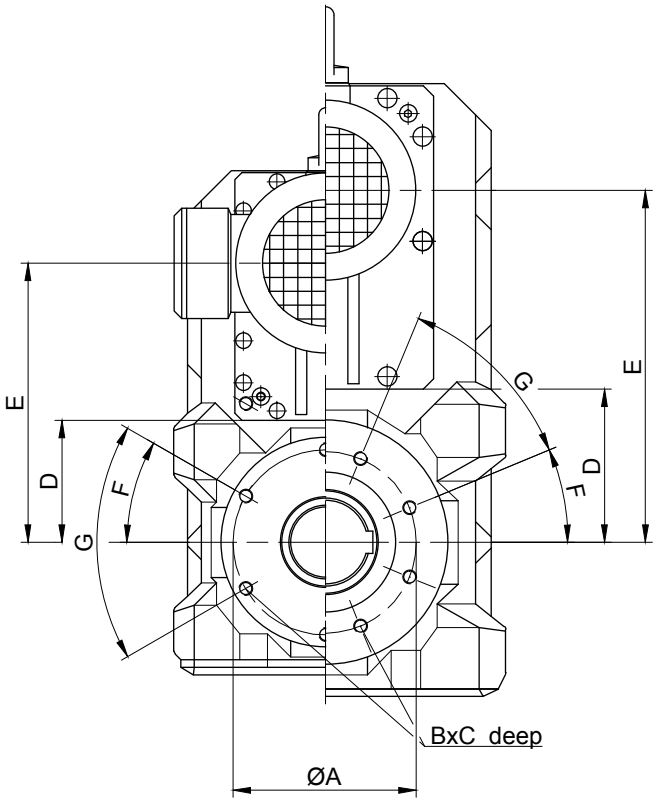
Screw Holes Side (H)

→ Shaft Cover

BF10 to BF70



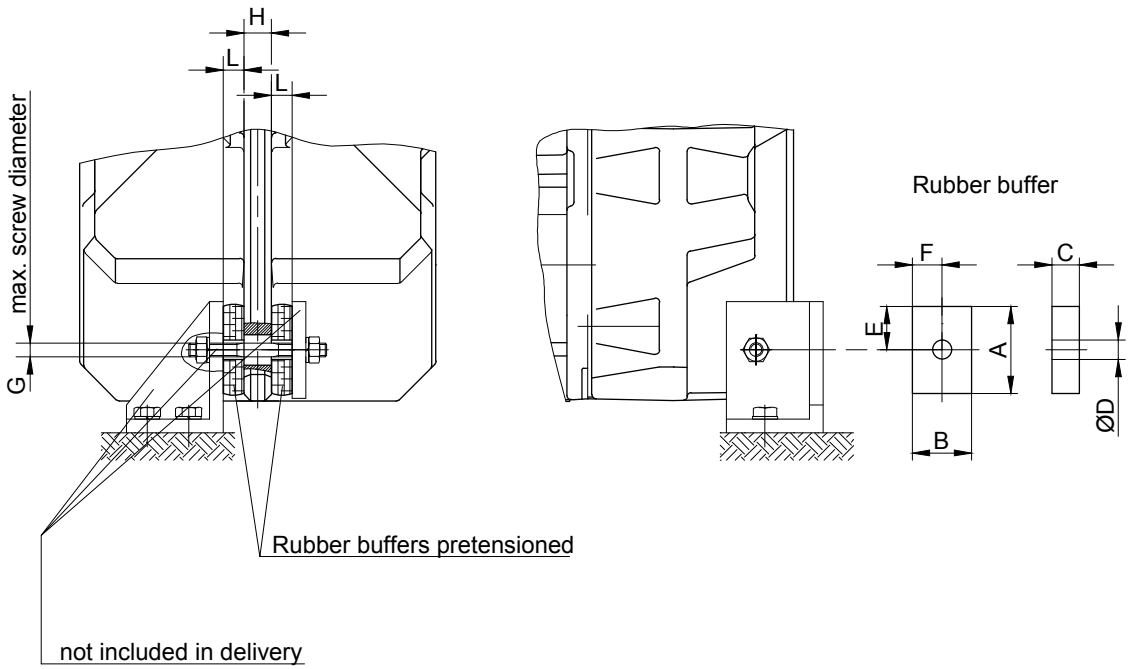
BF80 BF90



Gear	Dimensions (mm)						
	A	B	C	D	E	F	G
BF10	100	M8	16	35	118	-	-
BF20	115	M10	20	39	136	-	-
BF30	115	M10	20	44	157	-	-
BF40	130	M10	20	52	180.5	-	-
BF50	165	M12	24	60	207	-	-
BF60	180	M12	24	69	255.5	-	-
BF70	215	M16	32	89	316	-	-
BF80	265	M20	40	173	400	30°	6x60°
BF90	300	M20	40	219	504.5	22.5°	8x45°

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Rubber buffer for torque restraint



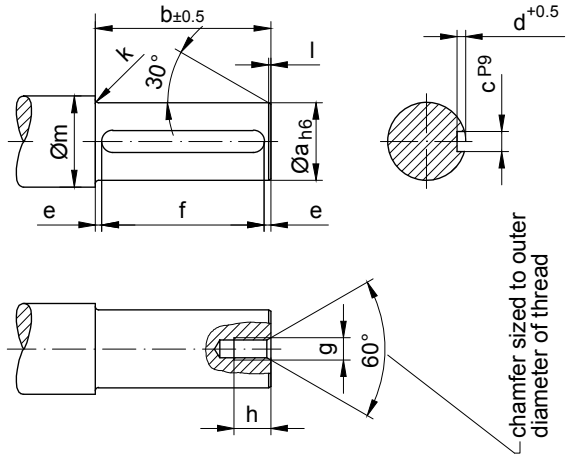
Material: Natural rubber
Hardness 50 ±5 Shore A

Dimensions of the transverse hole:
see dimensioned sketch of the respective shaft mounted gearbox

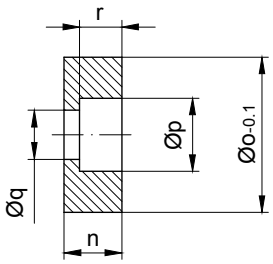
Gear	Pos.	Dimensions (mm)								
		A	B	C	D	E	F	G	H	L
BF06	Pos.0	30	30	12	12	15	15	M10	10	10
BF10	Pos.1	48	32	15	14	24	16	M10	16	13.5
BF20	Pos.1	48	32	15	14	24	16	M10	18	13
BF30	Pos.2	63	43	20	14	31.5	21.5	M10	18	17
BF40	Pos.2	63	43	20	14	31.5	21.5	M10	20	16.5
BF50	Pos.3	88	60	25	22	44	30	M18	24	21.5
BF60	Pos.3	88	60	25	22	44	30	M18	28	21
BF70	Pos.4	123	88	30	26	61.5	44	M20	30	25.5
BF80	Pos.5	133	103	35	26	66.5	51.5	M20	40	30
BF90	Pos.5	133	103	35	26	66.5	51.5	M20	50	29.5

Assembly tools for hollow shaft and keyway

Pos.1 Shaft

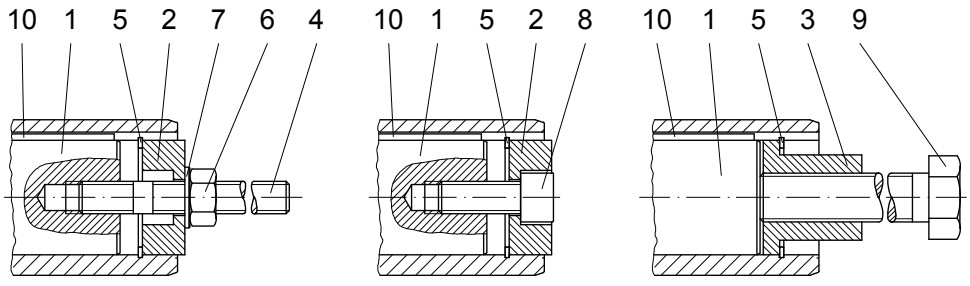


✳Pos.2 Disc



x, edges cut
Material:
C45 DIN 17200

Type	Dimensions (mm)															
	Pos.1 Shaft											Pos.2 Disc				
	a	b	c	d	e	f	g	h	k	l	m	n	o	p	q	r
BF06	25	70	8	4	3.5	$63^{+0.5}$	M8	18	2	1.5	33	13.5	24.8	15	9	8.5
BF10	25	102	8	4	6	$90^{+0.5}$	M8	18	2.5	1.5	33	13.5	24.8	15	9	8.5
BF20	30	108	8	4	9	$90^{+0.5}$	M10	20	3	1.5	38	15	29.8	18	11	10
BF30	35	118	10	5	9	$100^{+0.5}$	M10	20	3	1.5	43	16	34.8	18	11	10
BF40	40	141	12	5	8	$125^{+0.5}$	M12	22	3	2	48	18	39.8	20	13.5	12
BF50	50	148	14	5.5	11.5	$125^{+0.5}$	M16	30	3.5	2	58	21	49.8	26	17.5	15
BF60	60	173	18	7	6.5	$160^{+0.5}$	M20	38	3.5	2	68	24	59.8	33	22	18
BF70	80	205	22	9	12.5	$180^{+0.5}$	M20	38	4	2	90	27	79.8	33	22	20
BF70-K70	70	205	20	7.5	12.5	$180^{+0.5}$	M20	38	4	2	90	27	69.8	33	22	20
BF80	100	317	28	10	18.5	$280^{+0.5}$	M24	45	4	3	110	32	99.8	40	26	25
BF90	120	383	32	11	11.5	$360^{+0.5}$	M24	45	4.5	3	130	35	119.8	40	26	28



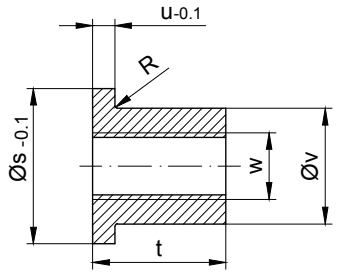
Installation Holding Dismantlement

The parts shown are neccessary for assembly. ONLY ✳specified parts are enclosed in the assembly kit.
Suitable measures are to be used to secure Bolt Pos.9 against loosening.

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

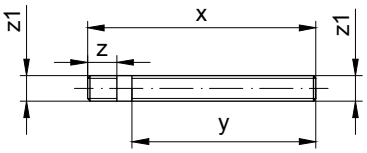
Assembly tools for hollow shaft and keyway

Pos.3 Sleeve



$\sqrt{^{x}}$, edges cut
Material: C45 DIN 17200

Pos.4 Stud Bolt



Material: Steel, tensile strength
≥ 1000N/mm²
threads rolled

Type	Dimensions (mm)										✳Retainer ring DIN 472	Hexagon nut DIN 934-8	Disc DIN 125-St	✳Filister head screw DIN 912-8.8	Starting torque (Nm)	Hexagon bolt DIN EN 24017-8.8	Key DIN 6885 Width x Height x Length
	Pos.3 Sleeve						Pos.4 Stud Bolt										
	s	t	u	v	w	R	x	y	z	z1	Pos.5	Pos.6	Pos.7	Pos.8		Pos.9	Pos.10
BF06	24.8	24	5	15.4	M12	0.8	160	130	20	M8	25x1.2	M8	8.4	M8x30	5	M12x110	A 8x7x63
BF10	24.8	24	5	15.4	M12	0.8	160	130	20	M8	25x1.2	M8	8.4	M8x30		M12x140	A 8x7x90
BF20	29.8	28	5	19.8	M14	0.8	170	135	23	M10	30x1.2	M10	10.5	M10x30	8	M14x150	A 8x7x90
BF30	34.8	28	5	23	M14	-	180	145	23	M10	35x1.5	M10	10.5	M10x35		M14x160	A 10x8x100
BF40	39.8	40	6	27.7	M20	0.8	210	170	28	M12	40x1.75	M12	13	M12x35	16	M20x200	A 12x8x125
BF50	49.8	48	6	36	M24	-	230	175	37	M16	50x2.0	M16	17	M16x40	30	M24x210	A 14x9x125
BF60	59.8	60	6	44	M30	-	270	205	45	M20	60x2.0	M20	21	M20x50	42	M30x250	A 18x11x160
BF70	79.8	60	8	55	M30	-	310	240	45	M20	80x2.5	M20	21	M20x50		M30x280	A 22x14x180
BF70-K70	69.8	60	8	53	M30	-	310	240	45	M20	70x2.5	M20	21	M20x50		M30x280	A 20x12x180
BF80	99.8	72	10	75	M36	-	440	360	55	M24	100x3.0	M24	25	M24x60	100	M36x410	A 28x16x280
BF90	119.8	72	10	80	M36	-	510	430	55	M24	120x4.0	M24	25	M24x60		M36x480	A 32x18x360

The parts shown are neccessary for assembly. ONLY ✳specified parts are enclosed in the assembly kit.
Suitable measures are to be used to secure Bolt Pos.9 against loosening.

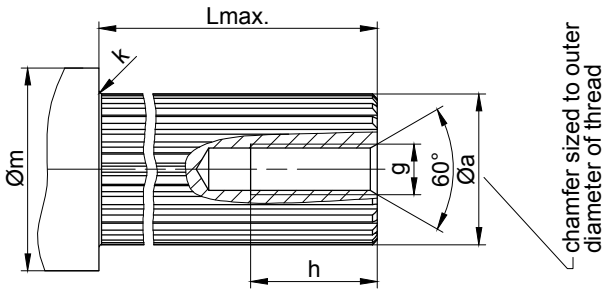
Optional:

Type	Ø s	Order Text
BF06	25	Id.Nr.4103921 Assembly tool "holding"
BF10	25	Id.Nr.4103921 Assembly tool "holding"
BF20	30	Id.Nr.4103939 Assembly tool "holding"
BF30	35	Id.Nr.4103947 Assembly tool "holding"
BF40	40	Id.Nr.4103955 Assembly tool "holding"
BF50	50	Id.Nr.4103963 Assembly tool "holding"
BF60	60	Id.Nr.4103971 Assembly tool "holding"
BF70	80	Id.Nr.4103980 Assembly tool "holding"
BF70-K70	70	Id.Nr.4104765 Assembly tool "holding"
BF80	100	Id.Nr.4103998 Assembly tool "holding"
BF90	120	Id.Nr.4104005 Assembly tool "holding"

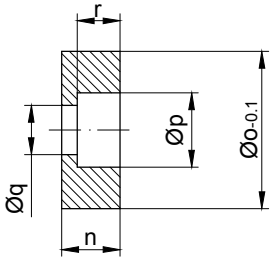
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Assembly tools for shaft mounted gears with splined shaft

Pos.1 Shaft

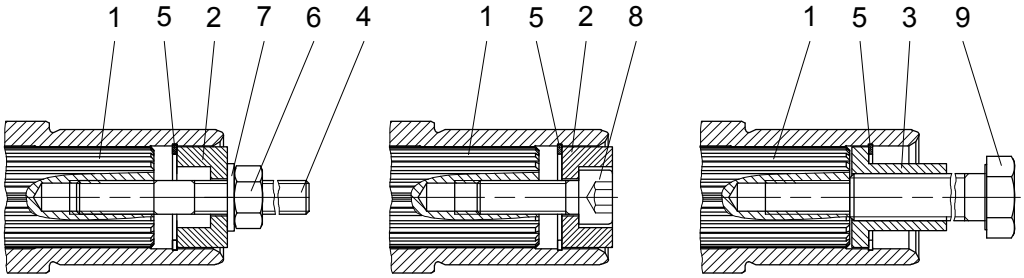


✳Pos.2 Disc



x, edges cut
Material:
C45 DIN 17200

Type	Dimensions (mm)										
	Pos.1 Shaft						Pos.2 Disc				
	a	g	h	k	Lmax.	m	n	o	p	q	r
BF06	DIN 5480-W25x1.25x18x8f	M8	20	2	70	37	13	29.9	15	9	8
BF10	DIN 5480-W30x1.25x22x8f	M10	25	2.5	100	38	15	30.4	18	11	10
BF20	DIN 5480-W35x2x16x8f	M10	25	3	110	43	14	35.9	18	11	10
BF30	DIN 5480-W40x2x18x8f	M12	30	3	117	48	18	40.9	20	13.5	12
BF40	DIN 5480-W50x2x24x8f	M16	35	3	145	60	17.5	50.9	26	17.5	12.5
BF50	DIN 5480-W60x2x28x8f	M20	40	3.5	150	69	24	60.9	33	22	18
BF60	DIN 5480-W70x2x34x8f	M20	40	3.5	175	80	24	71.9	33	22	18
BF70	DIN 5480-W85x3x27x8f	M20	40	4	215	96	22	85.9	33	22	16
BF80	DIN 5480-W110x3x35x8f	M24	50	4	315	122	32	111.9	40	26	25
BF90	DIN 5480-W130x5x24x8f	M24	50	4.5	390	141	25	131.4	40	26	18



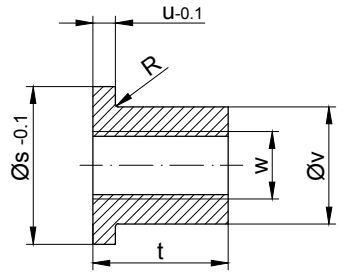
Installation Holding Dismantlement

The parts shown are neccessary for assembly. ONLY ✳specified parts are enclosed in the assembly kit.
Suitable measures are to be used to secure Bolt Pos.9 against loosening.

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

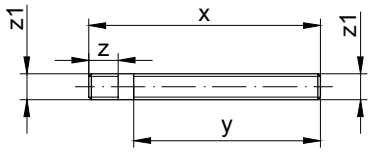
Assembly tools for shaft mounted gears with splined shaft

Pos.3 Sleeve



$\sqrt{}^{x}$, edges cut
Material:
C45 DIN 17200

Pos.4 Stud Bolt



Material: Steel, tensile strength
≥ 1000N/mm²
threads rolled

Type	Dimensions (mm)										✳Retainer ring DIN 472	Hexagon nut DIN 934-8	Disc DIN 125-St	✳Filister head screw DIN 7984-8.8	Starting torque (Nm)	Hexagon bolt DIN EN 24017-8.8
	Pos.3 Sleeve						Pos.4 Stud Bolt									
	s	t	u	v	w	R	x	y	z	z1	Pos.5	Pos.6	Pos.7	Pos.8		Pos.9
BF06	29.9	24	5	15.4	M12	0.8	160	130	20	M8	25x1.2	M8	8.4	M8x30	5	M12x110
BF10	30.4	28	5	19.8	M14	-	170	135	23	M10	30x1.2	M10	10.5	M10x30	8	M14x150
BF20	35.9	28	5	23	M14	-	180	145	23	M10	35x1.5	M10	10.5	M10x35		M14x160
BF30	40.9	40	6	27.7	M20	-	210	170	28	M12	40x1.75	M12	13	M12x35	16	M20x200
BF40	50.9	48	6	36	M24	0.8	230	175	37	M16	50x2.0	M16	17	M16x40	30	M24x210
BF50	60.9	60	6	44	M30	-	270	205	45	M20	60x2.0	M20	21	M20x50	42	M30x250
BF60	71.9	60	6	53	M30	0.8	310	240	45	M20	70x2.5	M20	21	M20x50		M30x280
BF70	85.9	60	8	65	M30	0.8	310	240	45	M20	85x3	M20	21	M20x50		M30x280
BF80	111.9	72	10	85	M36	0.8	440	360	55	M24	112x4	M24	25	M24x60	100	M36x410
BF90	131.4	72	10	95	M36	0.8	510	430	55	M24	130x4	M24	25	M24x60		M36x480

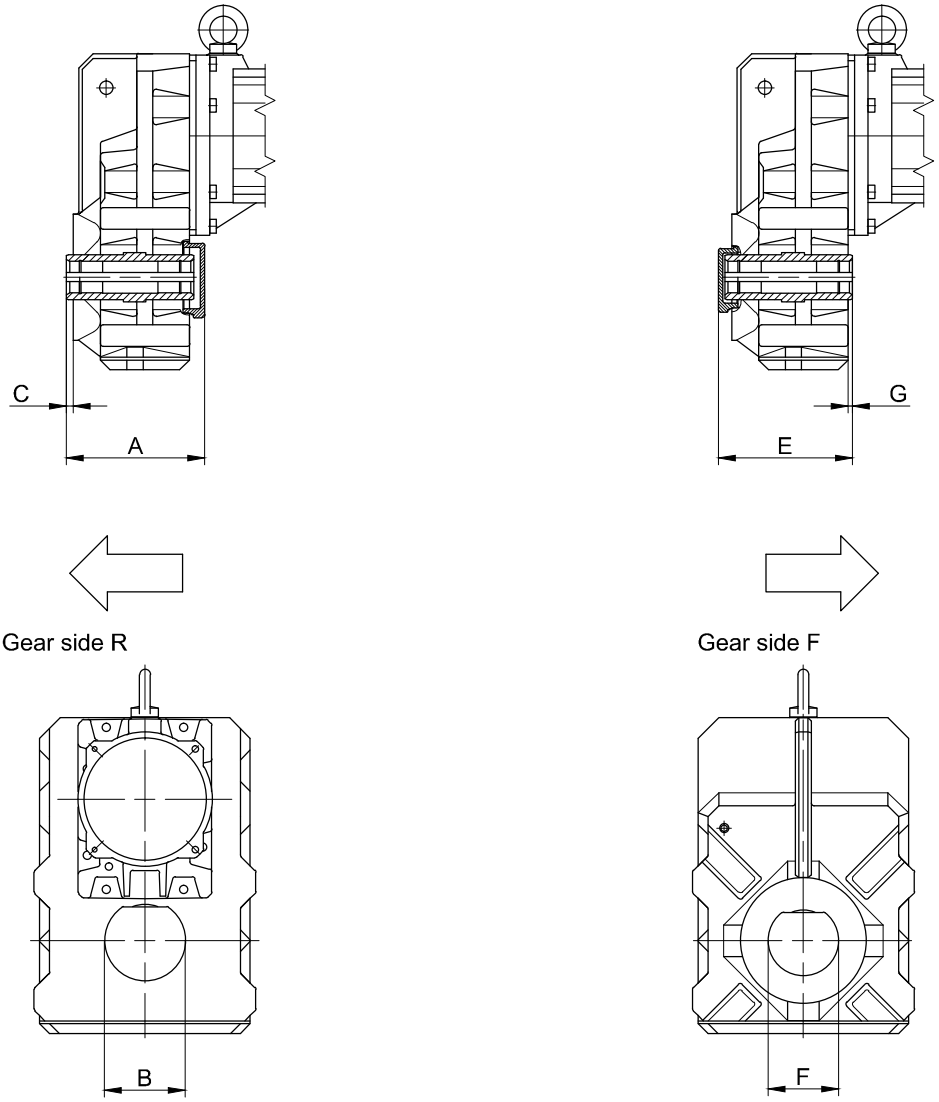
The parts shown are neccessary for assembly. ONLY ✳specified parts are enclosed in the assembly kit.
Suitable measures are to be used to secure Bolt Pos.9 against loosening.

Optional:

Type	Ø s	Order Text
BF06	30	Id.Nr.4105125 Assembly tool "holding"
BF10	30.5	Id.Nr.4105133 Assembly tool "holding"
BF20	36	Id.Nr.4105141 Assembly tool "holding"
BF30	41	Id.Nr.4105150 Assembly tool "holding"
BF40	51	Id.Nr.4105168 Assembly tool "holding"
BF50	61	Id.Nr.4105176 Assembly tool "holding"
BF60	72	Id.Nr.4105184 Assembly tool "holding"
BF70	86	Id.Nr.4105192 Assembly tool "holding"
BF80	112	Id.Nr.4105206 Assembly tool "holding"
BF90	131.5	Id.Nr.4105214 Assembly tool "holding"

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Shaft Cap (VK)

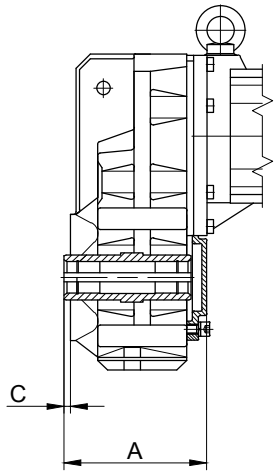


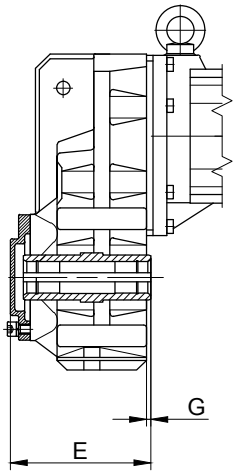
Sealing cap REAR			
Type	A	B	C
BF10	134	78	5
BF20	142	85	5
BF30	153.5	90	7.5
BF40	179.5	110	7
BF50	192	125	6
BF60	222	140	7
BF70	258	170	6

Sealing cap FRONT			
Type	E	F	G
BF30	149	78	7.5
BF50	189.5	110	6
BF70	262	130	6

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

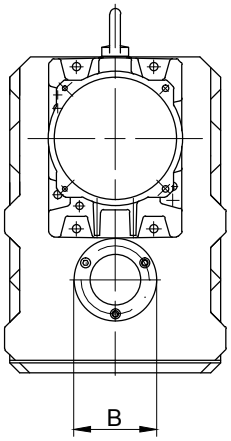
Shaft Cover (VD)

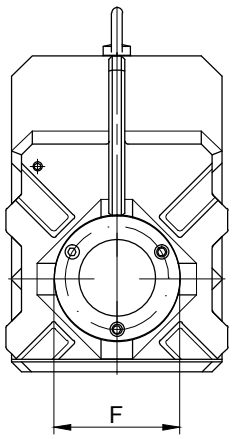




Gear side REAR (H)

Gear side FRONT (V)





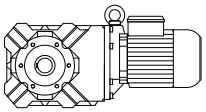
Sealing cover REAR			
Type	A	B	C
BF80	376	300	8
BF90	442	350	8

Sealing cover FRONT			
Type	E	F	G
BF10	135.5	120	5
BF20	144	139.5	5
BF30	153	139.5	7.5
BF40	179.5	160	7
BF50	191.5	199	6
BF60	221.5	210	7
BF70	258	250	6
BF80	376	300	8
BF90	442	350	8

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

12



Page

Dimensional drawings bevel-geared motors 269-322
- **Standard**
- **Tandem Gearbox**

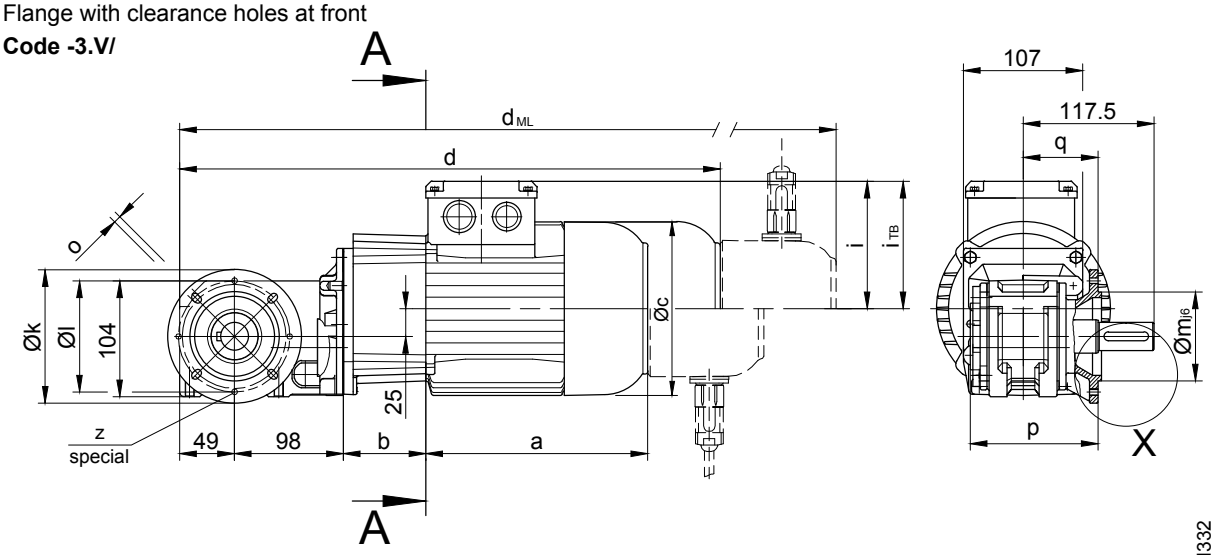
Additional Dimension Sheet

- Splined shaft acc. DIN 5480
- Additional dimension sheet
- Shrink disc connection with cover (SSV)
- Rubber buffer for torque restraint
- Posittion of the torque arm
- Foot with tapped bores
- Foot plate with through holes
- Assembly tools for hollow shaft
- Assembly tools for splined shaft
- Shaft cap (VK)
- Shaft cover (VD)

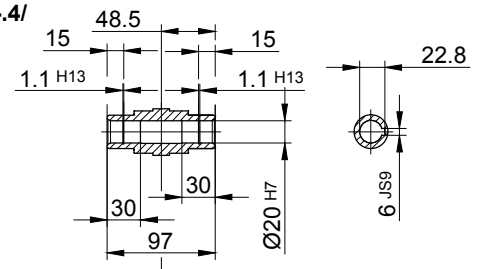
BK06

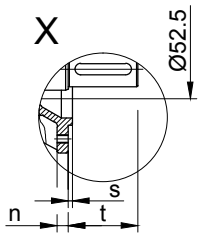
Flange with clearance holes at front

Code -3.V/

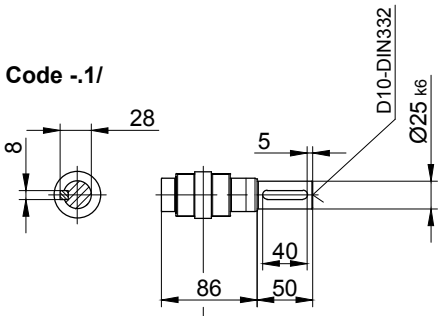


Code -.4/

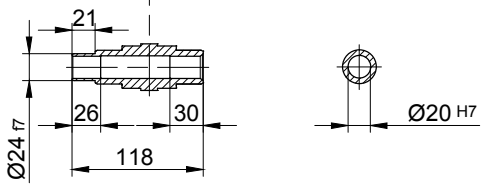




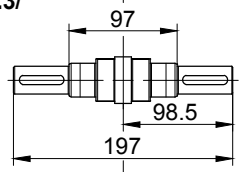
Code -.1/



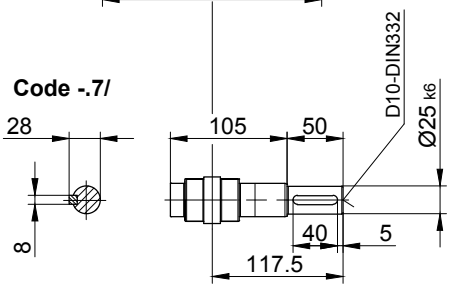
Code -.5/



Code -.3/



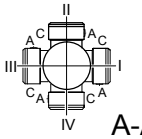
Code -.7/



Flange dimensions

BK06	k	l	m	n	o	p	q	s	t	z
standard -37V/	120	100	80	8	6.6	115	67.5	3	50	-
special -37V	120	100	80	8	6.6	115	67.5	3	50	4xM6

Standard



A-A

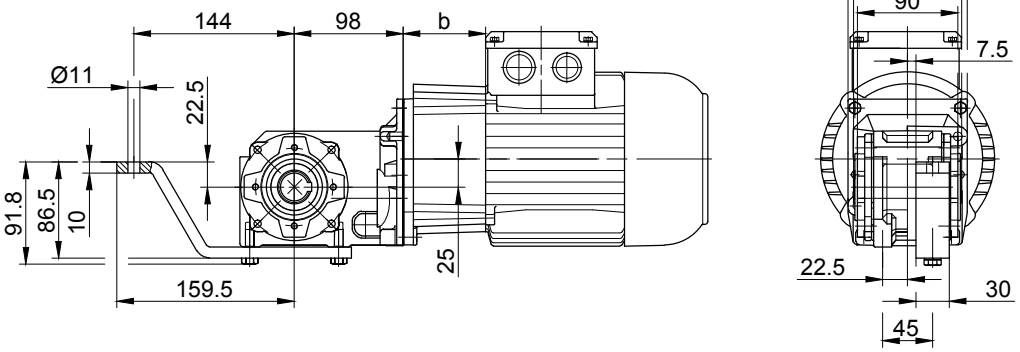
Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	E../ES..	G	E../ES..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BK06-../S..08..	200	74	156	421	115	136.5	487	528	594.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK06

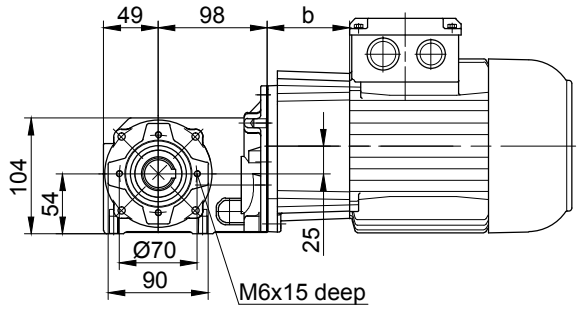
Torque arm at front

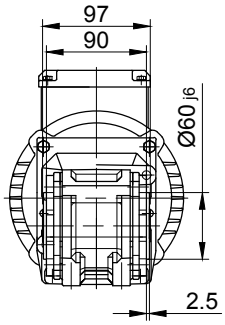
Code -5.V/



Flange with tapped holes at front

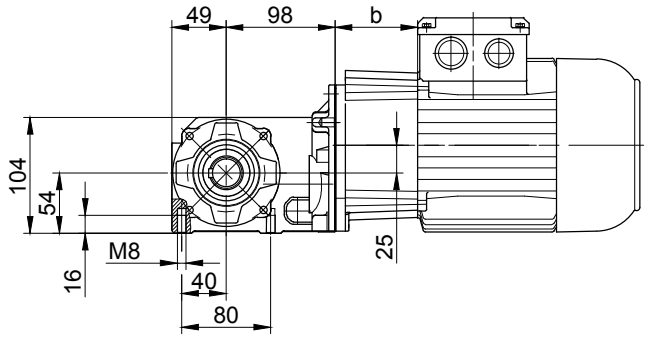
Code -7.V/

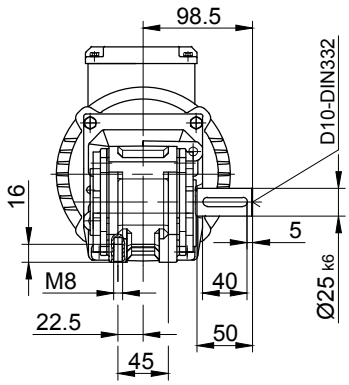




Foot with tapped holes at bottom

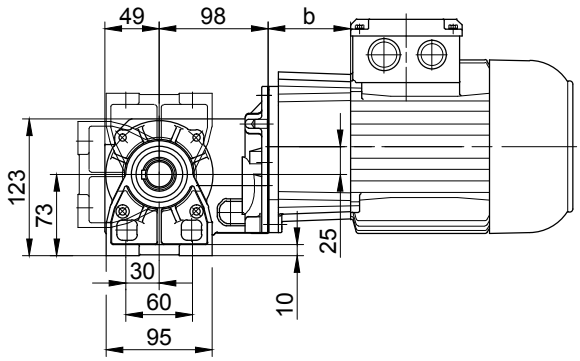
Code -6.U/

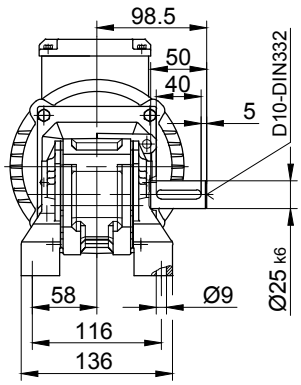




Foot with clearance holes at bottom

Code -1.U/



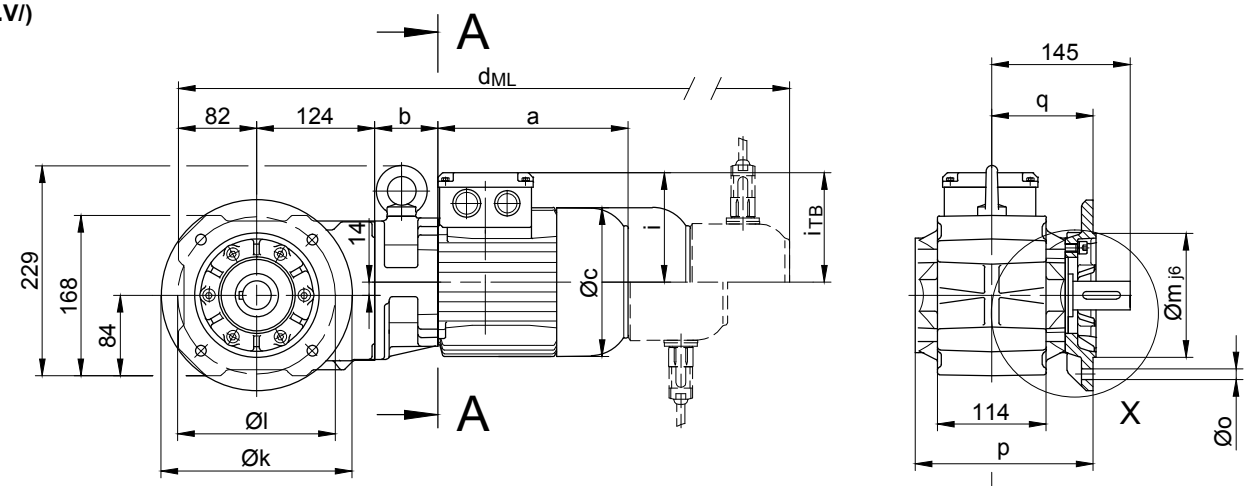


12

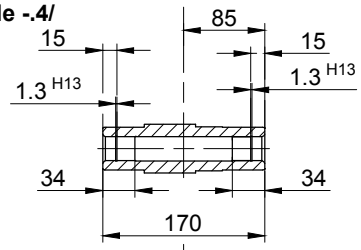
BK10 - BK10Z

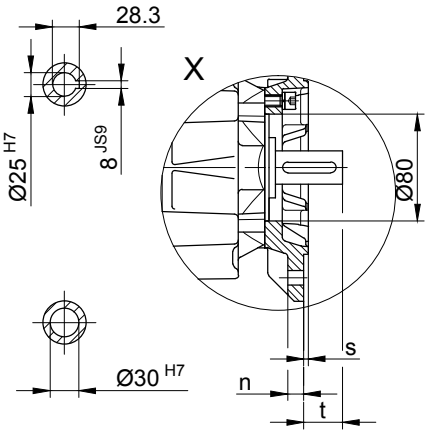
Flange with clearance holes at front

Code -3.V/
(Code -2.V/)

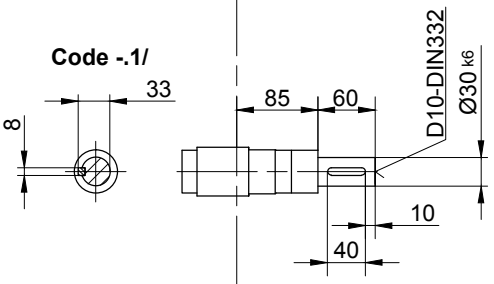


Code -.4/

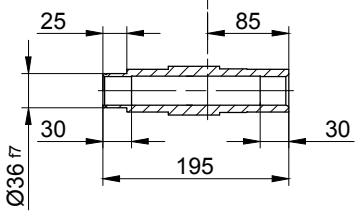




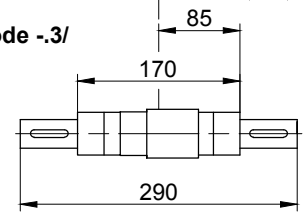
Code -.1/



Code -.5/

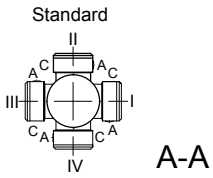


Code -.3/



Flange dimensions

BK10(Z)	k	l	m	n	o	p	q	s	t
Standard -3.V/	200	165	130	12	11	186.5	106	3.5	39
small -2.V/	160	130	110	10	9	179.5	99	3.5	46



A-A

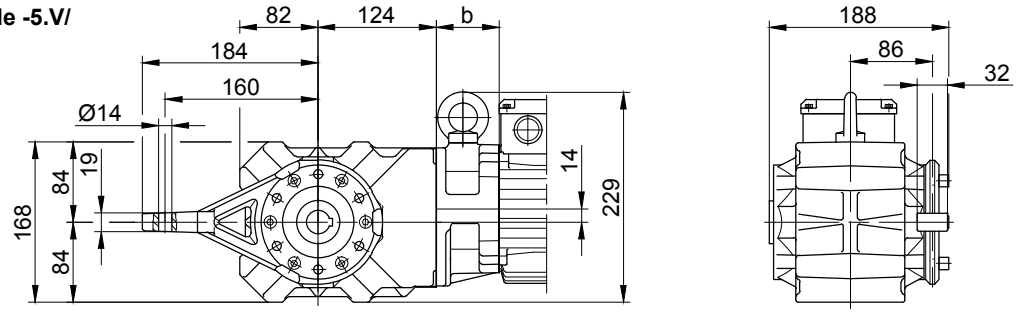
Type	a	b	c	d	i	i_{TB}	Design with motor extensions			
							E../ES..	G	E../ES..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BK10-../S..08..	200	66	156	472	115	136.5	538	579	645.5	-
BK10Z-../S..08..	200	132	156	538	115	136.5	604	645	711.5	-
BK10-../S..09..	251	80.5	181	537.5	124	158	630.5	644.5	735	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK10 - BK10Z

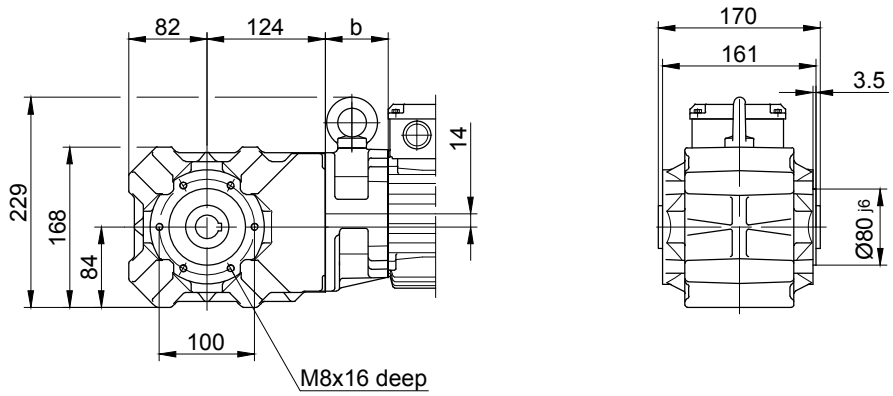
Torque arm at front

Code -5.V/



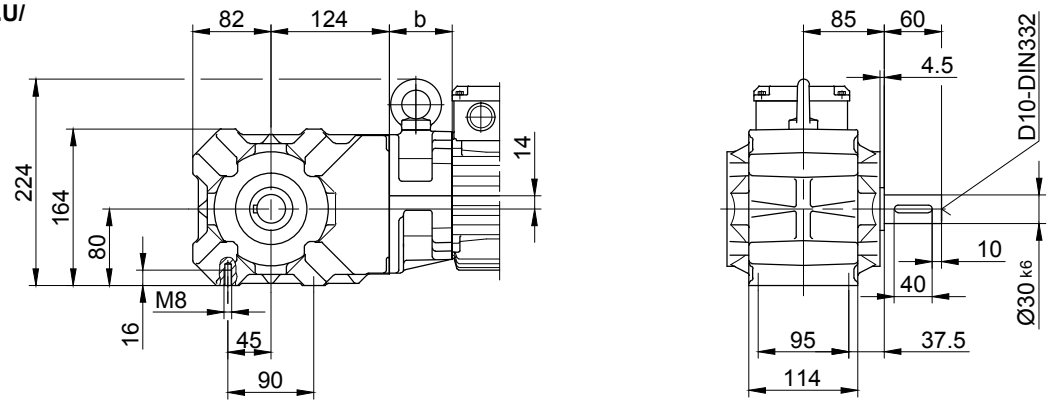
Flange with tapped holes at front

Code -7.V/



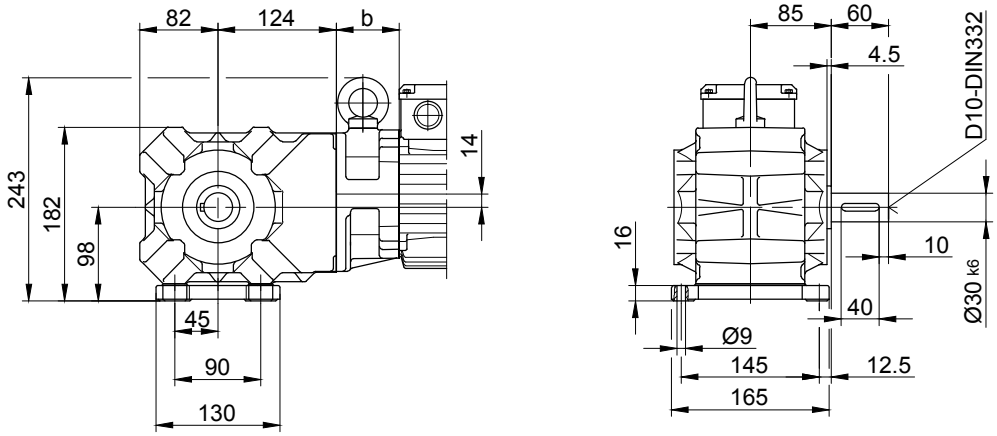
Foot with tapped holes at bottom

Code -6.U/



Foot with clearance holes at bottom

Code -1.U/

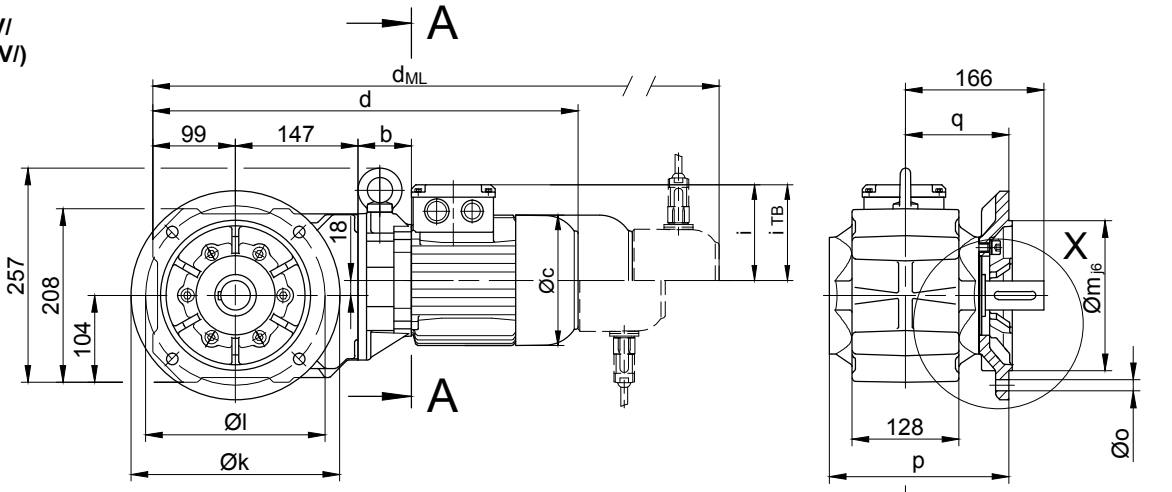


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

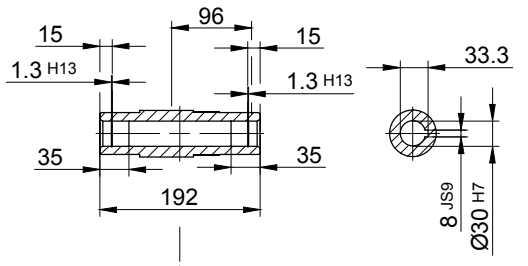
BK20 - BK20Z

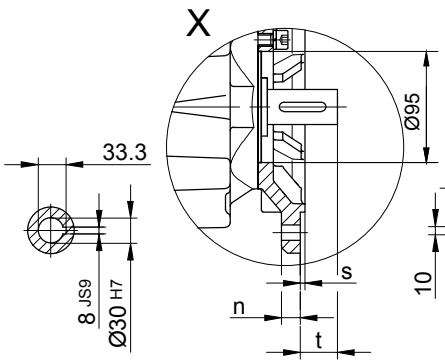
Flange with clearance holes at front

Code -3.V/
(Code -2.V/)

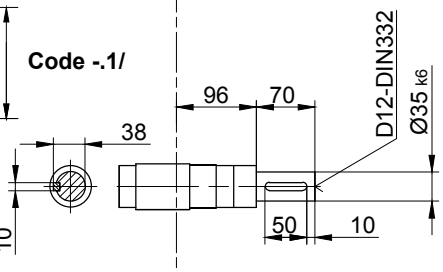


Code -.4/

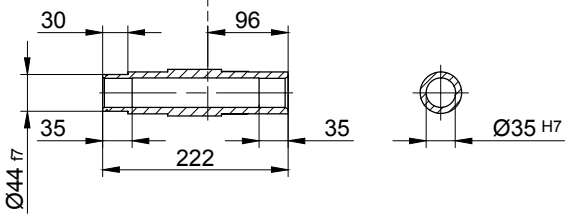




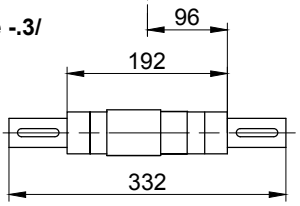
Code -.1/



Code -.5/

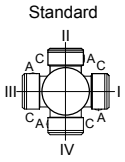


Code -.3/



Flange dimensions

BK20(Z)	k	l	m	n	o	p	q	s	t
Standard -3.V/	250	215	180	16	13.5	215.5	124	4	42
small -2.V/	200	165	130	12	11	206.5	115	3.5	51



A-A

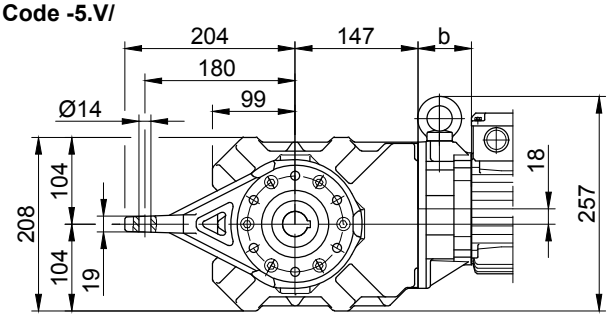
Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	ES../ZS..	G	E../ES..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BK20-../S..08..	200	64	156	510	115	136.5	576	617	683.5	-
BK20Z-../S..08..	200	146	156	592	115	136.5	658	699	765.5	-
BK20-../S..09..	251	78.5	181	575.5	124	158	668.5	682.5	773	-

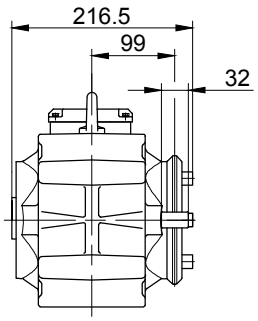
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK20 - BK20Z

Torque arm at front

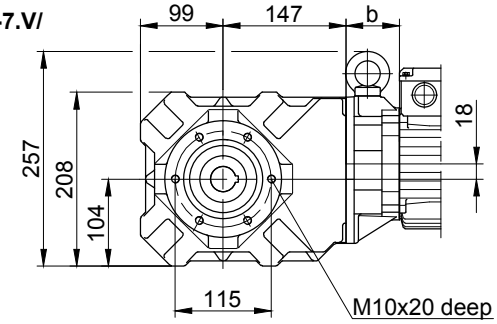
Code -5.V/

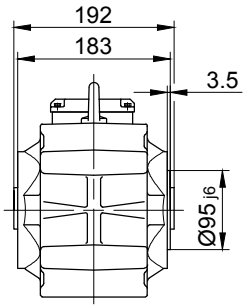




Flange with tapped holes at front

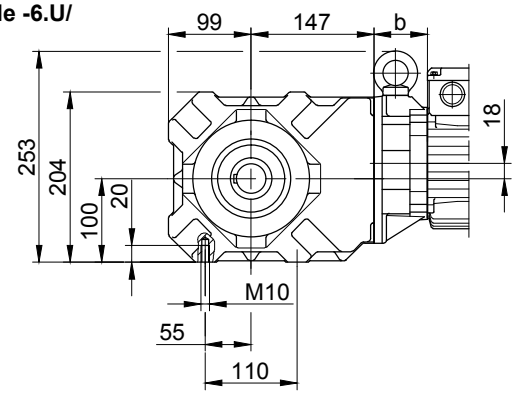
Code -7.V/

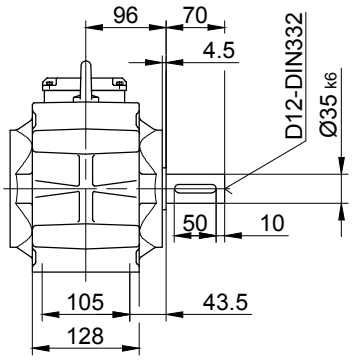




Foot with tapped holes at bottom

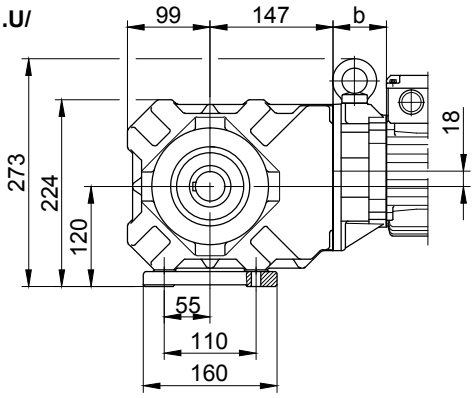
Code -6.U/

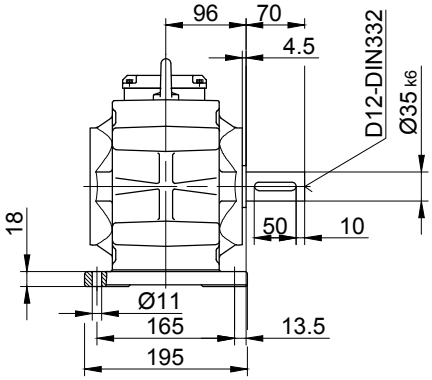




Foot with clearance holes at bottom

Code -1.U/



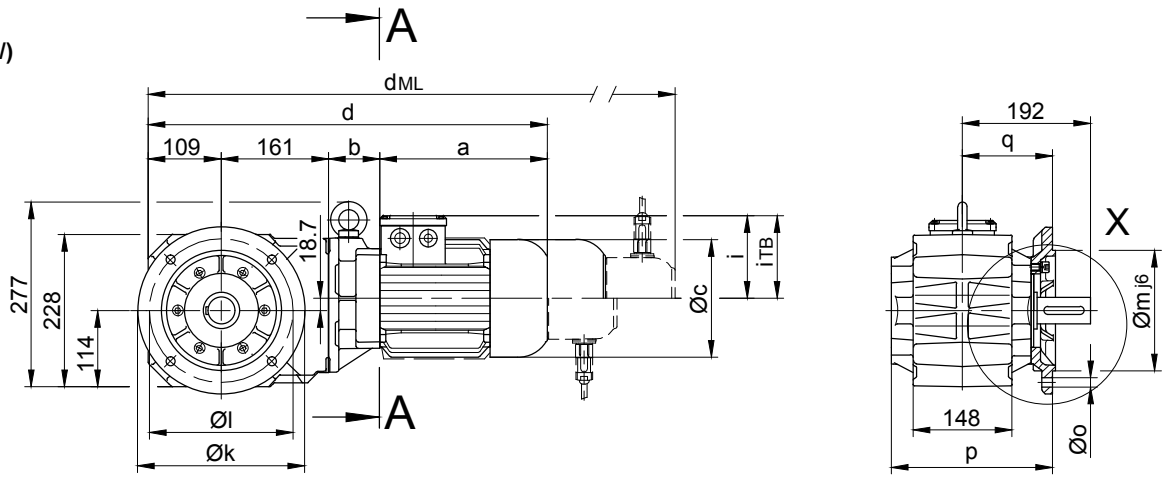


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

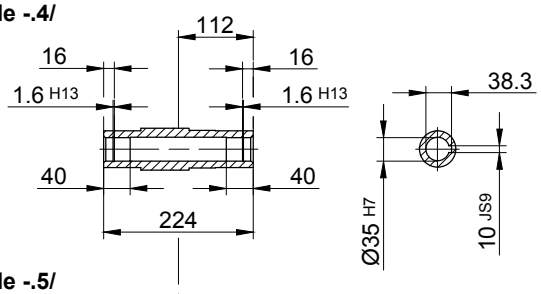
BK30 - BK30Z

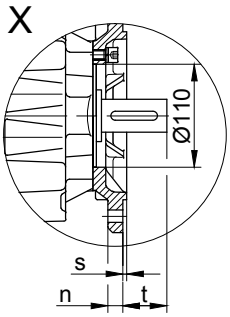
Flange with clearance holes at front

Code -3.V/
(Code -2.V/)

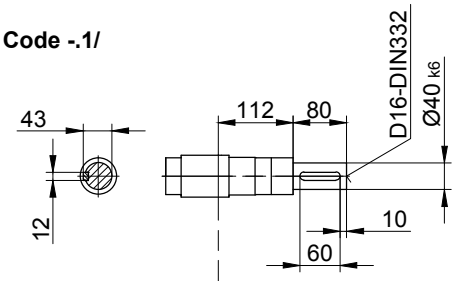


Code -.4/

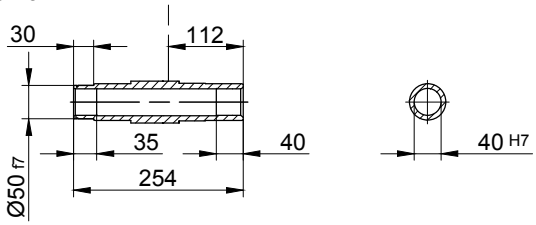




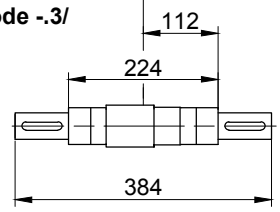
Code -.1/



Code -.5/

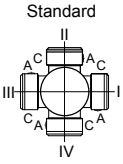


Code -.3/



Flange dimensions

BK30(Z)	k	l	m	n	o	p	q	s	t
Standard -3.V/	250	215	180	16	13.5	242	135	4	57
small-2.V/	200	165	130	12	11	239	132	3.5	60



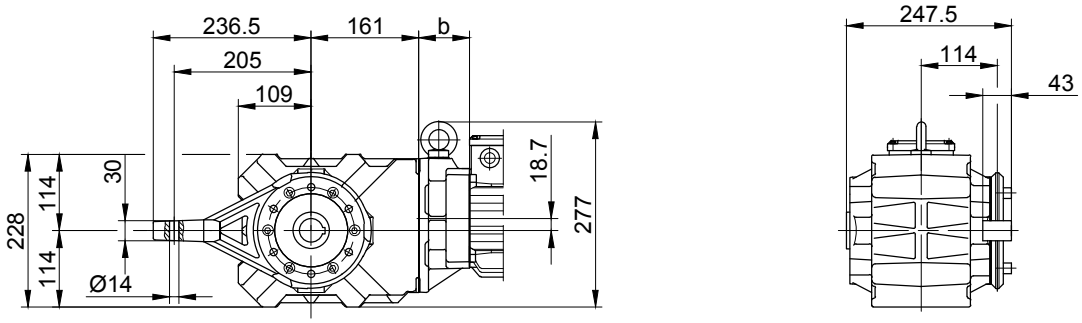
Type	a	b	c	d	i	i_{TB}	Design with motor extensions			
							E../ES..	G	E../ES..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BK30-../S..08..	200	62	156	532	115	136.5	598	639	705.5	-
BK30Z-../S..08..	200	137.5	156	607.5	115	136.5	673.5	714.5	781	-
BK30-../S..09..	251	76.5	181	597.5	124	158	690.5	704.5	795	-
BK30Z-../S..09..	251	152	181	673	124	158	766	780	870.5	-
BK30-../S..11..	319	83	228	672	181	181	770	779	874.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK30 - BK30Z

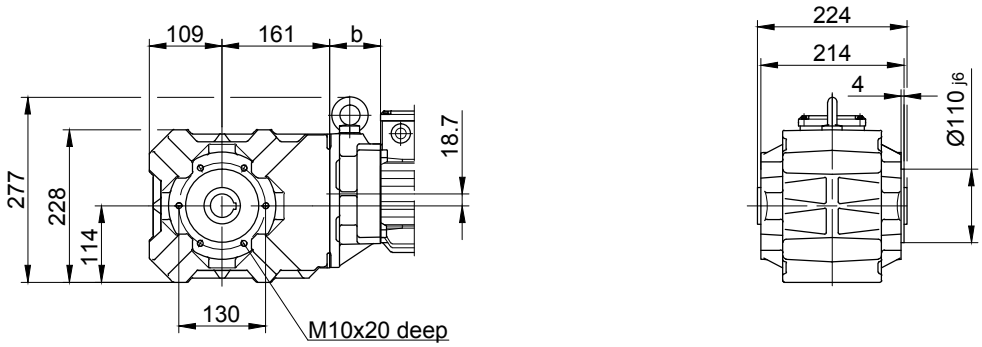
Torque arm at front

Code -5.V/



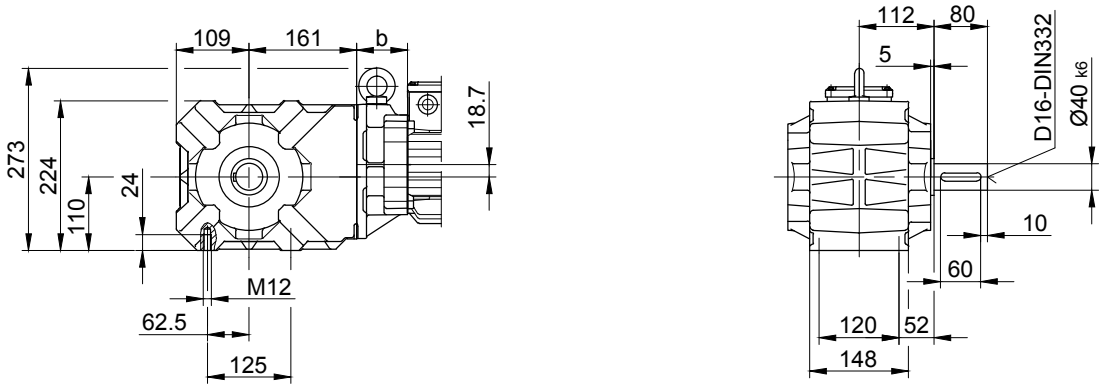
Flange with tapped holes at front

Code -7.V/



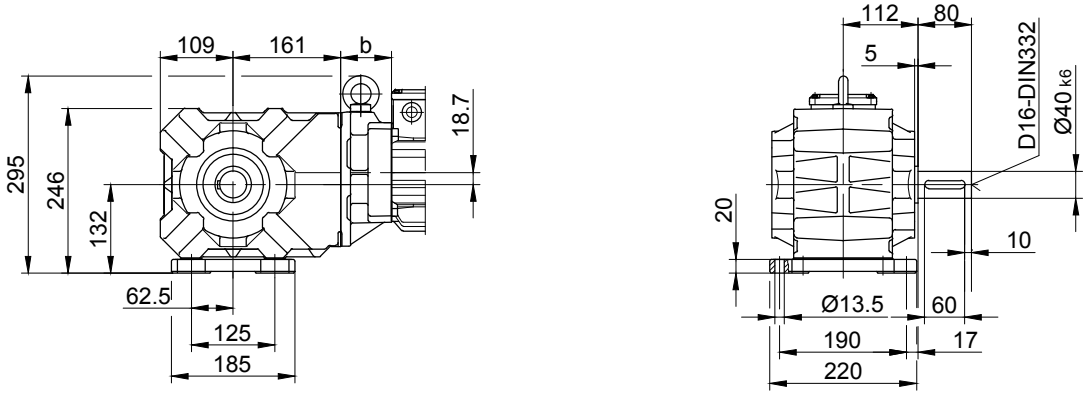
Foot with tapped holes at bottom

Code -6.U/



Foot with clearance holes at bottom

Code -1.U/

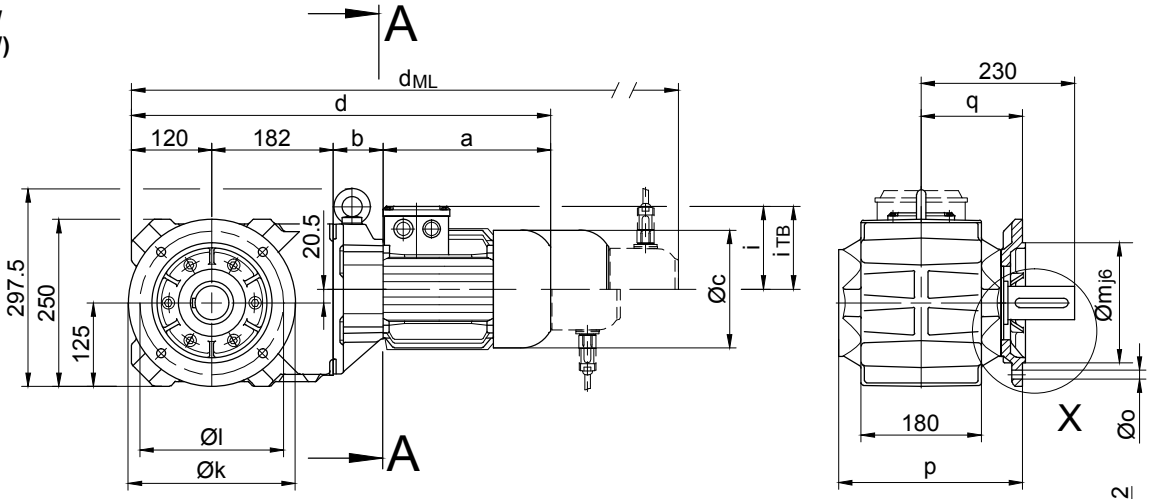


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

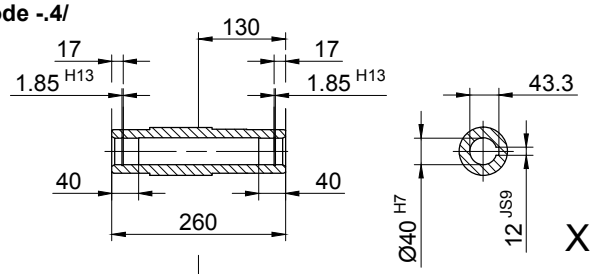
BK40 - BK40Z

Flange with clearance holes at front

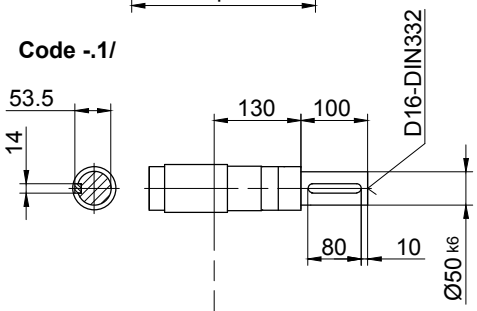
Code -3.V/
(Code 4.V/)



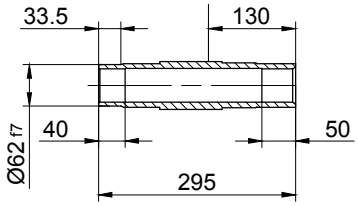
Code -.4/

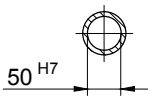


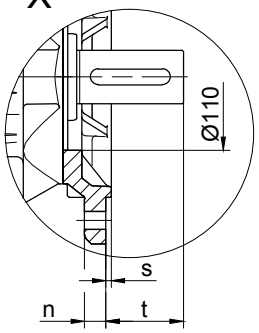
Code -.1/



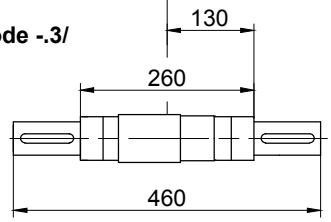
Code -.5/



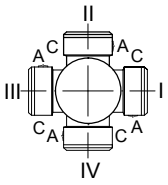




Code -.3/



Standard



A-A

Flange dimensions

BK40(Z)	k	l	m	n	o	p	q	s	t
Standard -.3V/	250	215	180	16	13.5	276	152	4	78
big -.4V/	300	265	230	20	13.5	282	158	4	72

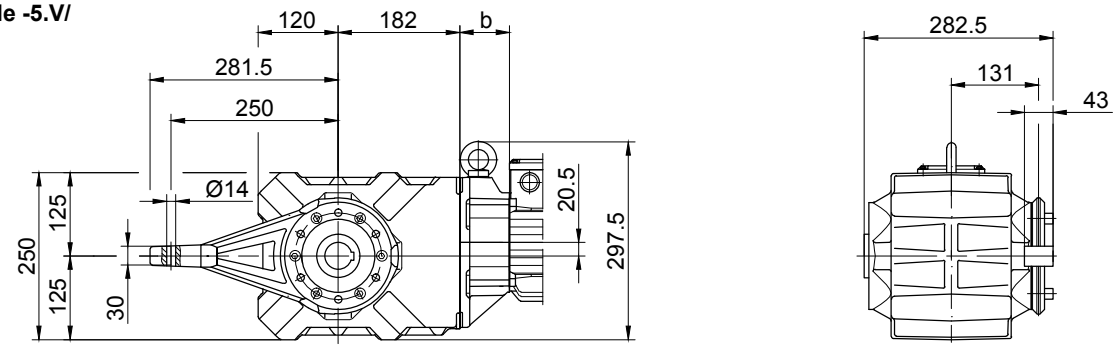
Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	E../ES..	G	E../ES..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BK40-../S..08..	200	60	156	562	115	136.5	628	669	735.5	-
BK40Z-../S..08..	200	142.5	156	644.5	115	136.5	710.5	751.5	818	-
BK40-../S..09..	251	74.5	181	627.5	124	158	720.5	734.5	825	-
BK40Z-../S..09..	251	157	181	710	124	158	803	817	907.5	-
BK40-../S..11..	319	81	228	702	181	181	800	809	904.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK40 - BK40Z

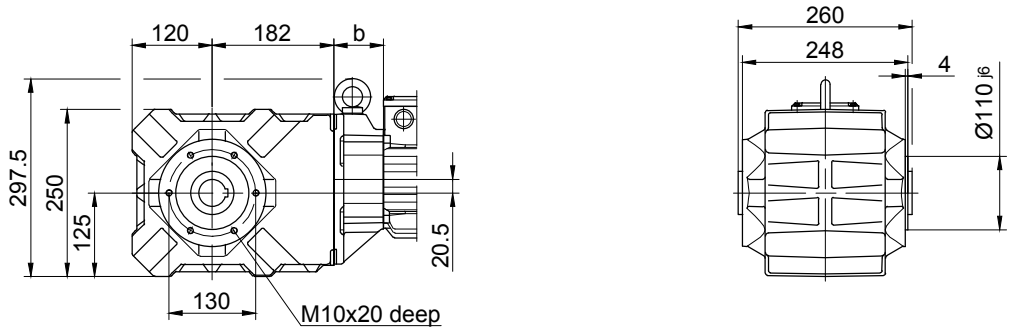
Torque arm at front

Code -5.V/



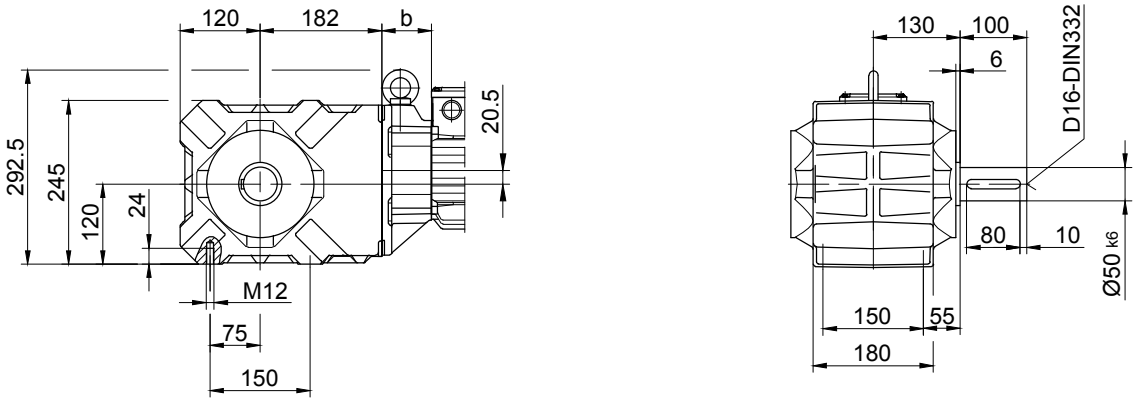
Flange with tapped holes at front

Code -7.V/



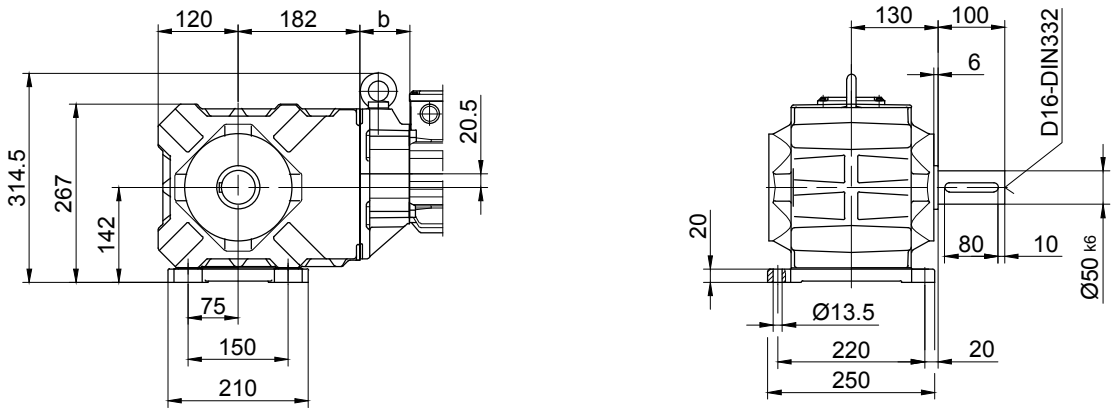
Foot with tapped holes at bottom

Code -6.U/



Foot with clearance holes at bottom

Code -1.U/

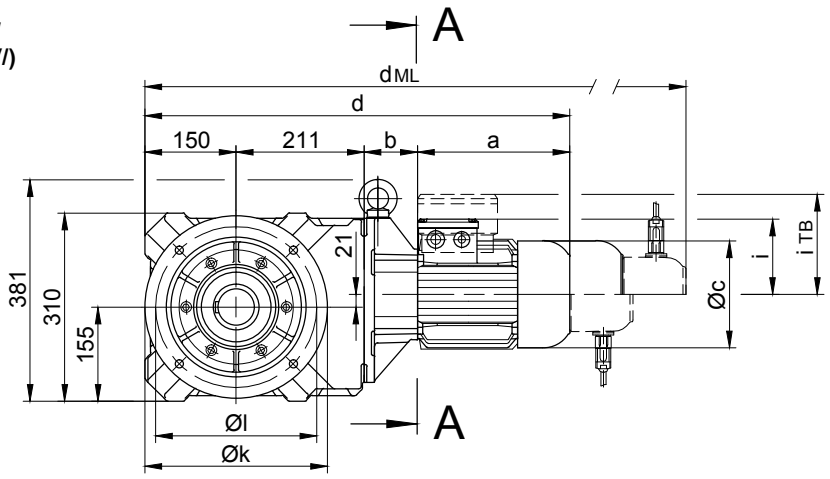


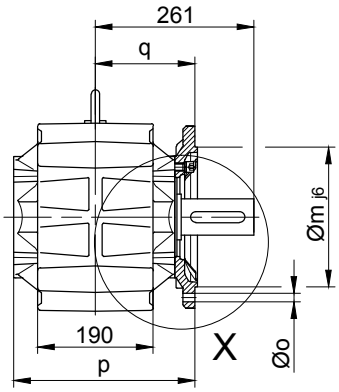
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK50 - BK50Z

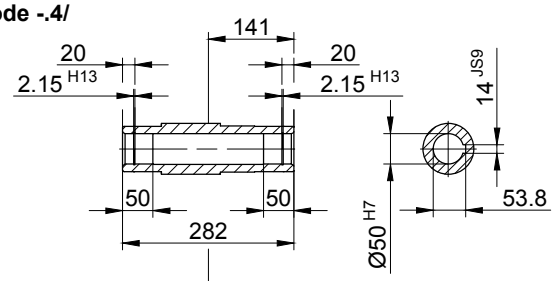
Flange with clearance holes at front

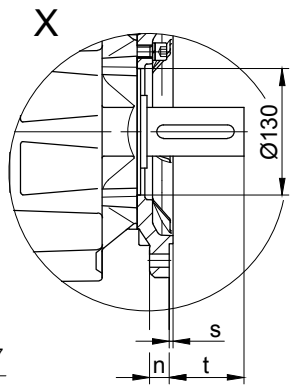
Code -3.V/
(Code -2.V/)



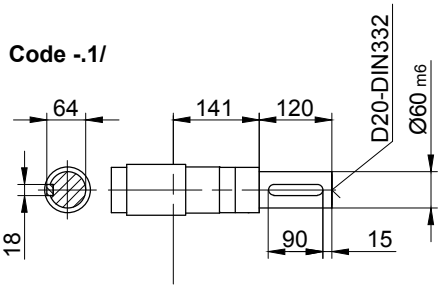


Code -.4/

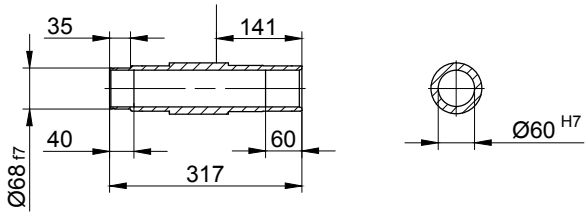




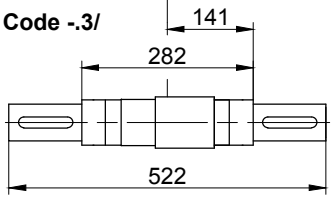
Code -.1/



Code -.5/

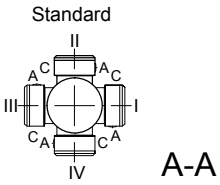


Code -.3/



Flange dimensions

BK50(Z)	k	l	m	n	o	p	q	s	t
Standard -3.V/	300	265	230	20	13.5	298.5	164	4	97
small -2.V/	250	215	180	16	13.5	296	161	4	100



A-A

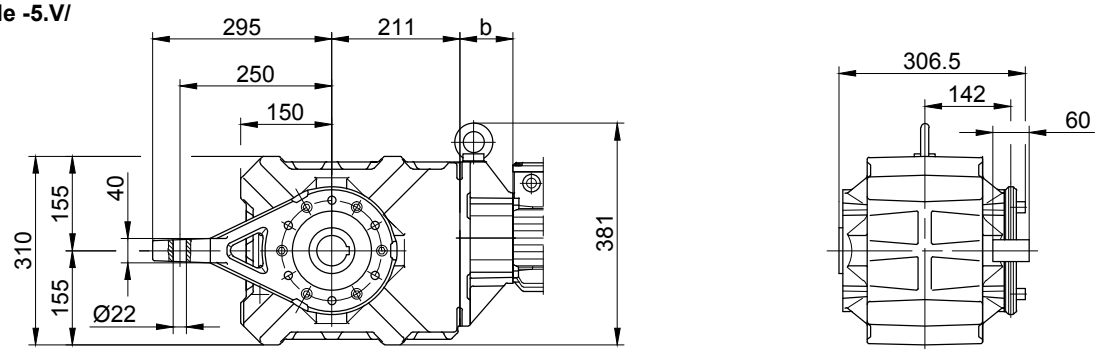
Type	a	b	c	d	i	i_{TB}	Design with motor extensions			
							E..ES../ZS..	G	E..ES../ZS..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BK50-../S..08..	200	73	156	634	115	136.5	700	741	807.5	-
BK50Z-../S..08..	200	159	156	720	115	136.5	786	827	893.5	-
BK50-../S..09..	251	87.5	181	699.5	124	158	792.5	806.5	897	-
BK50Z-../S..09..	251	173.5	181	785.5	124	158	878.5	892.5	983	-
BK50-../S..11..	319	94	228	774	181	181	872	881	976.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK50 - BK50Z

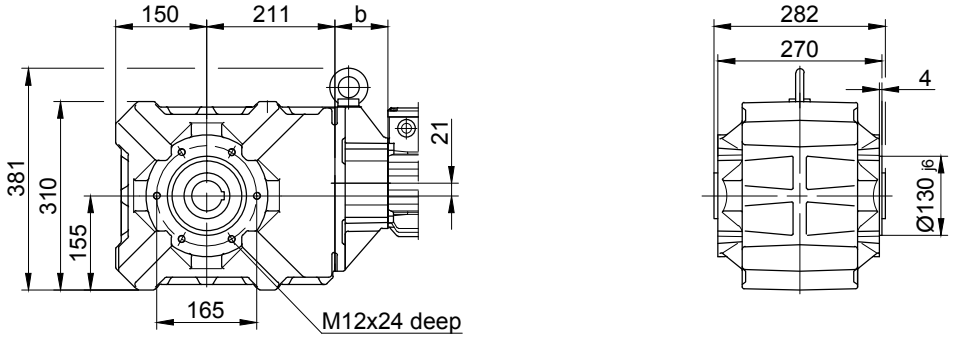
Torque arm at front

Code -5.V/



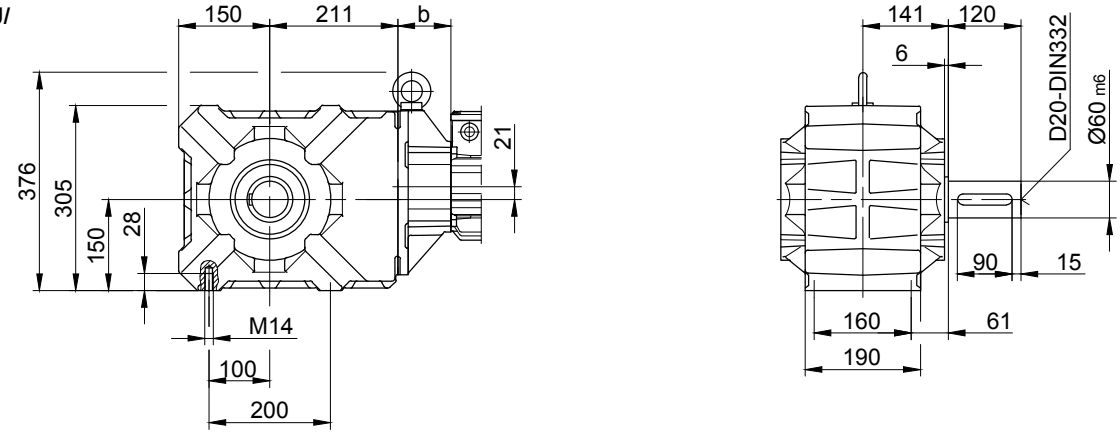
Flange with tapped holes at front

Code -7.V/



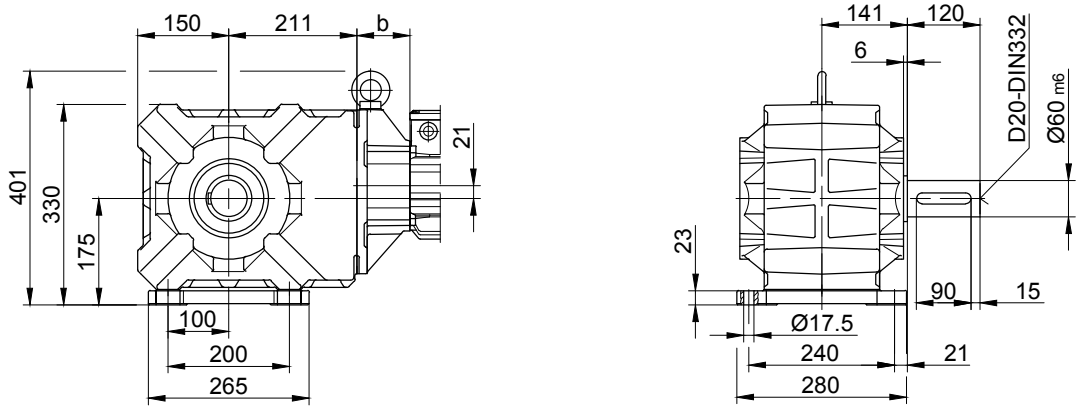
Foot with tapped holes at bottom

Code -6.U/



Foot with clearance holes at bottom

Code -1.U/

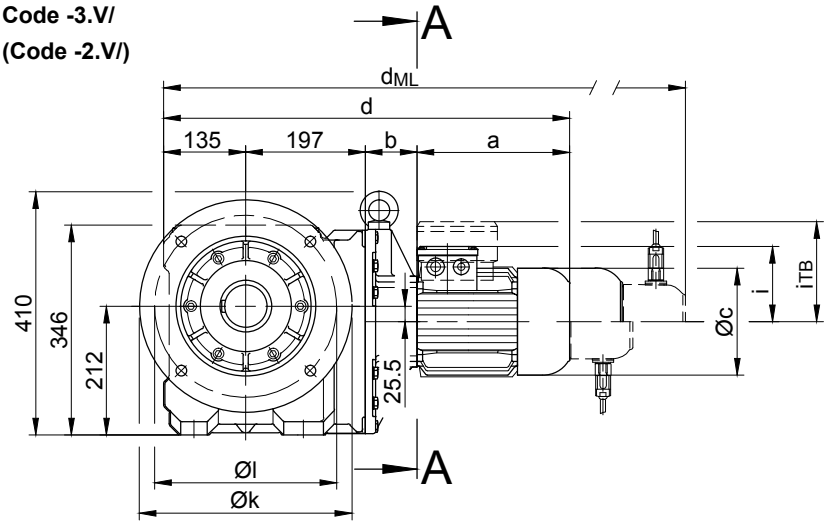


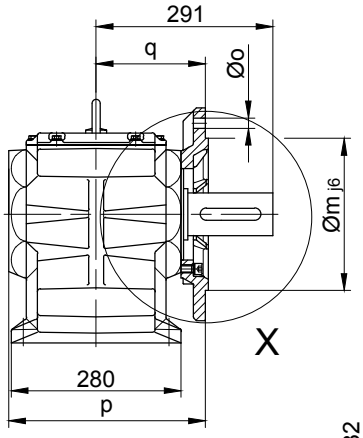
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK60 - BK60Z

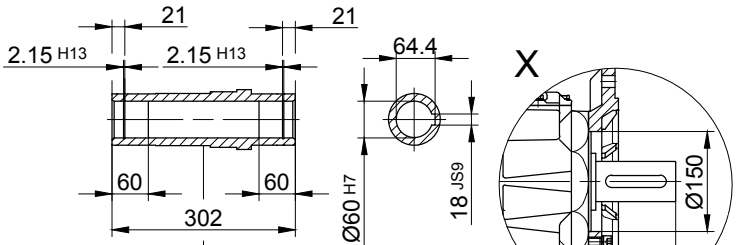
Flange with clearance holes at front

Code -3.V/
(Code -2.V/)

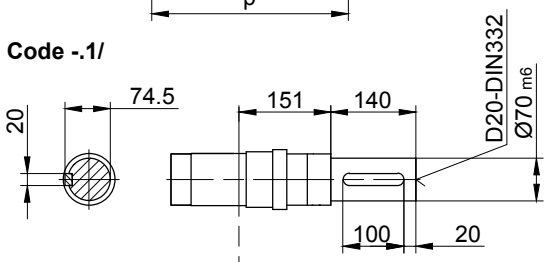




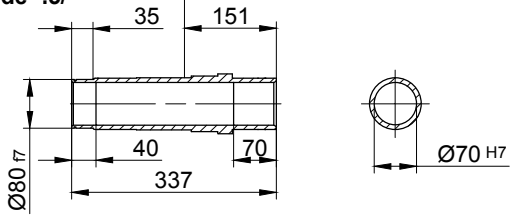
Code -.4/



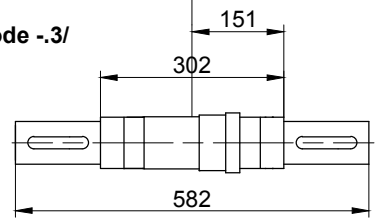
Code -.1/



Code -.5/



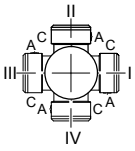
Code -.3/



Flange dimensions

BK60(Z)	k	l	m	n	o	p	q	s	t
Standard -3.V/	350	300	250 h6	20	17.5	324	180	5	111
small -2.V/	300	265	230 j6	20	13.5	332	188	4	103

Standard



A-A

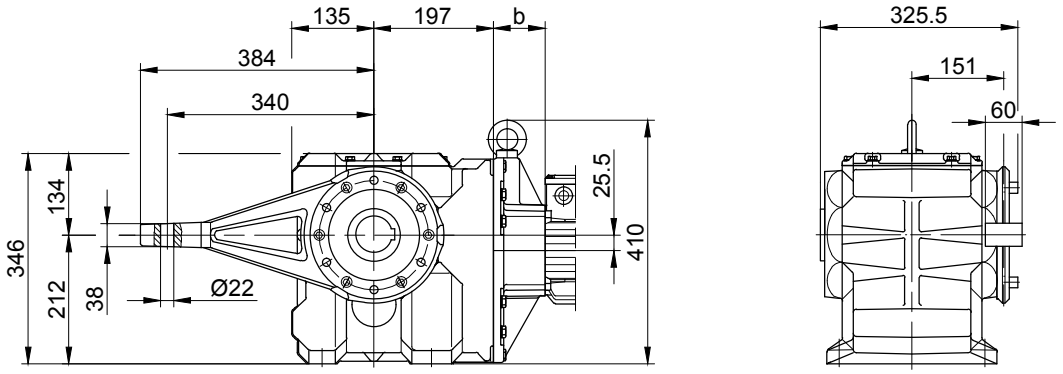
Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	ES../ZS..	G	ES../ZS..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BK60Z-../S..08..	200	181	156	713	115	136.5	779	820	886.5	-
BK60-../S..09..	251	85.5	181	668.5	124	158	761.5	775.5	866	-
BK60Z-../S..09..	251	195.5	181	778.5	124	158	871.5	885.5	976	-
BK60-../S..11..	319	92	228	743	181	181	841	850	945.5	-
BK60Z-../S..11..	319	202	228	853	181	181	951	960	1055.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK60 - BK60Z

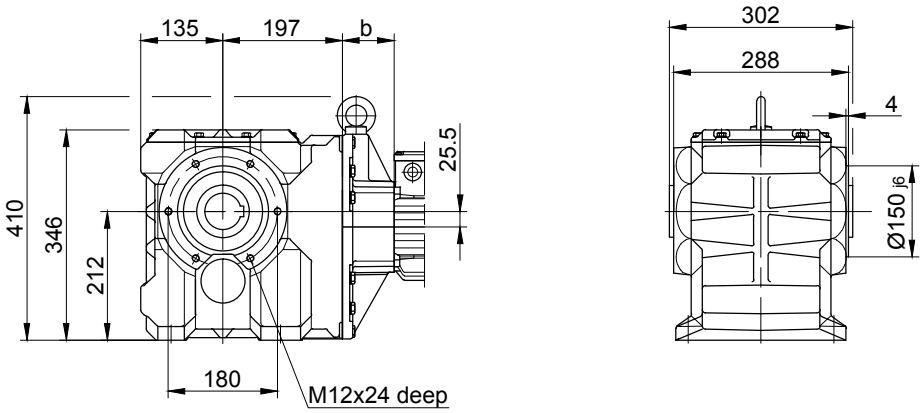
Torque arm at front

Code -5.V/



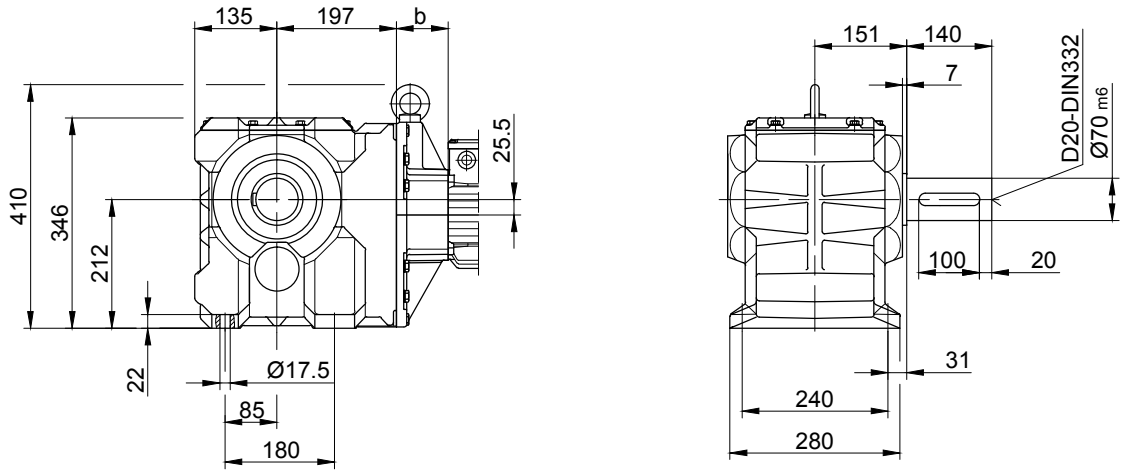
Flange with tapped holes at front

Code -7.V/



Foot with clearance holes at bottom

Code -1.U/

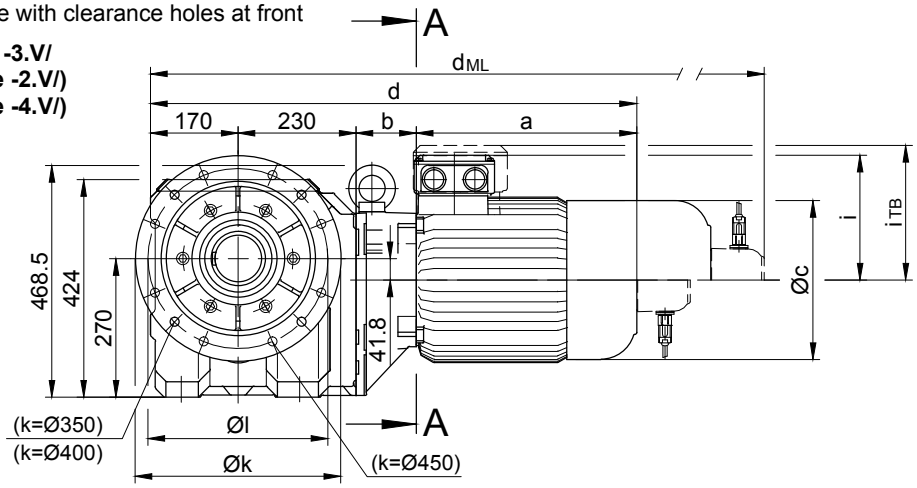


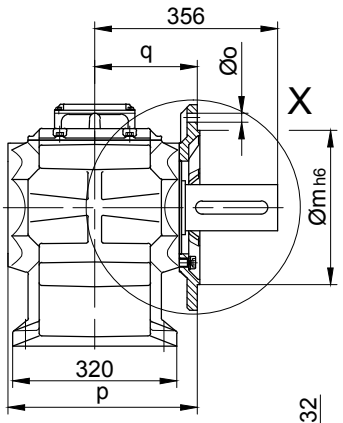
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK70 - BK70Z

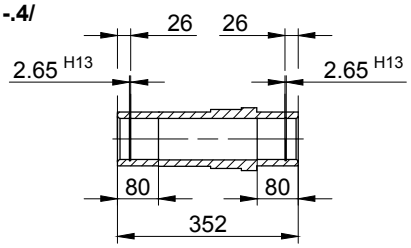
Flange with clearance holes at front

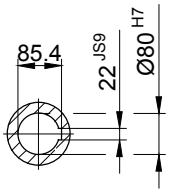
Code -3.V/
(Code -2.V/)
(Code -4.V/)



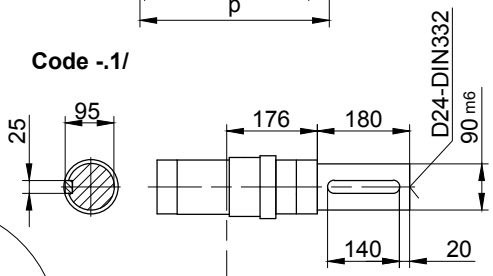


Code -.4/

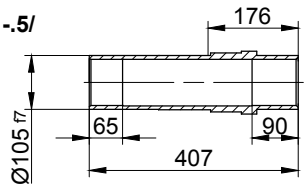


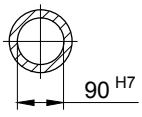


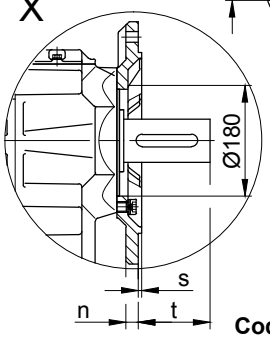
Code -.1/



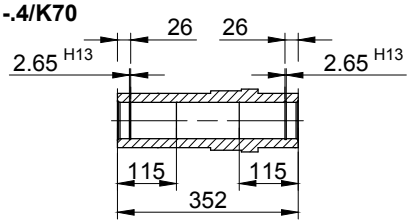
Code -.5/

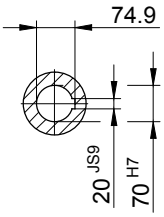




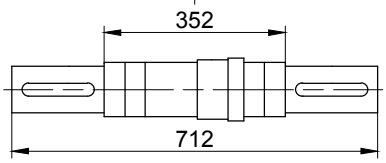


Code -.4/K70



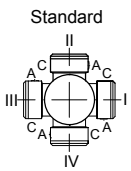


Code -.3/



Flange dimensions

BK70(Z)	k	l	m	n	o	p	q	s	t
Standard -3.V/	400	350	300	20	4 x Ø17.5	369	200	5	156
small -2.V/	350	300	250	20	4 x Ø17.5	369	200	5	156
big -4.V/	450	400	350	22	8 x Ø17.5	379	210	5	146



A-A

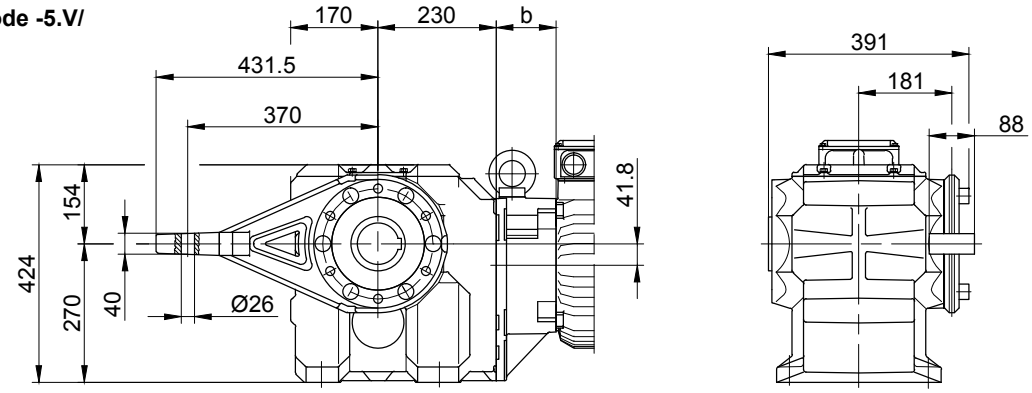
Type	a	b	c	d	i	i_{TB}	Design with motor extensions			
							ES../ZS..	G	ES../ZS..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BK70Z-../S..08..	200	202	156	802	115	136.5	868	909	975.5	-
BK70-../S..09..	251	83.5	181	734.5	124	158	827.5	841.5	932	-
BK70Z-../S..09..	251	216.5	181	867.5	124	158	960.5	974.5	1065	-
BK70-../S..11..	319	90	228	809	181	181	907	916	1011.5	-
BK70Z-../S..11..	319	223	228	942	181	181	1040	1049	1144.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK70 - BK70Z

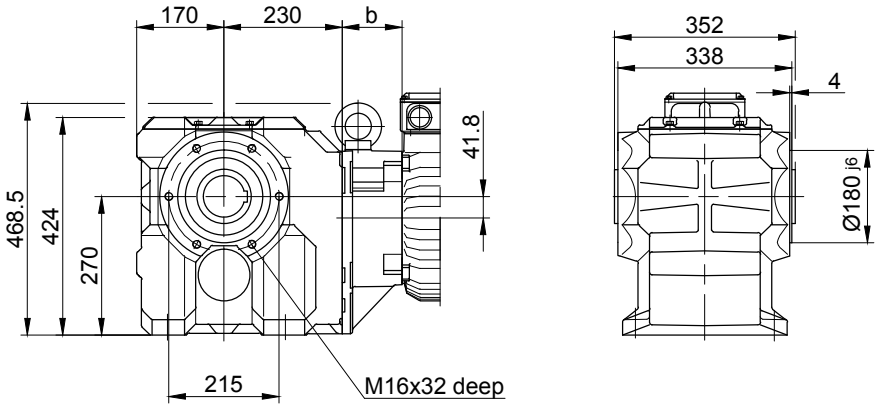
Torque arm at front

Code -5.V/



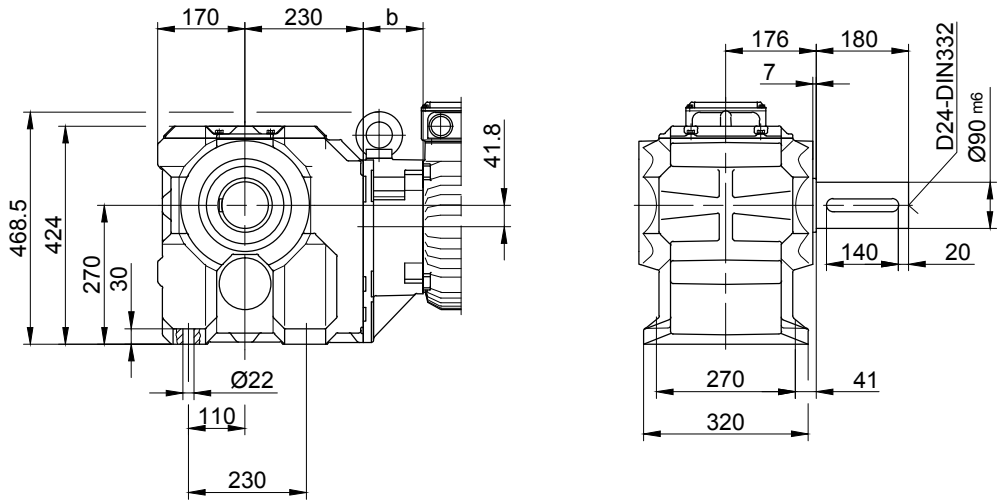
Flange with tapped holes at front

Code -7.V/



Foot with clearance holes at bottom

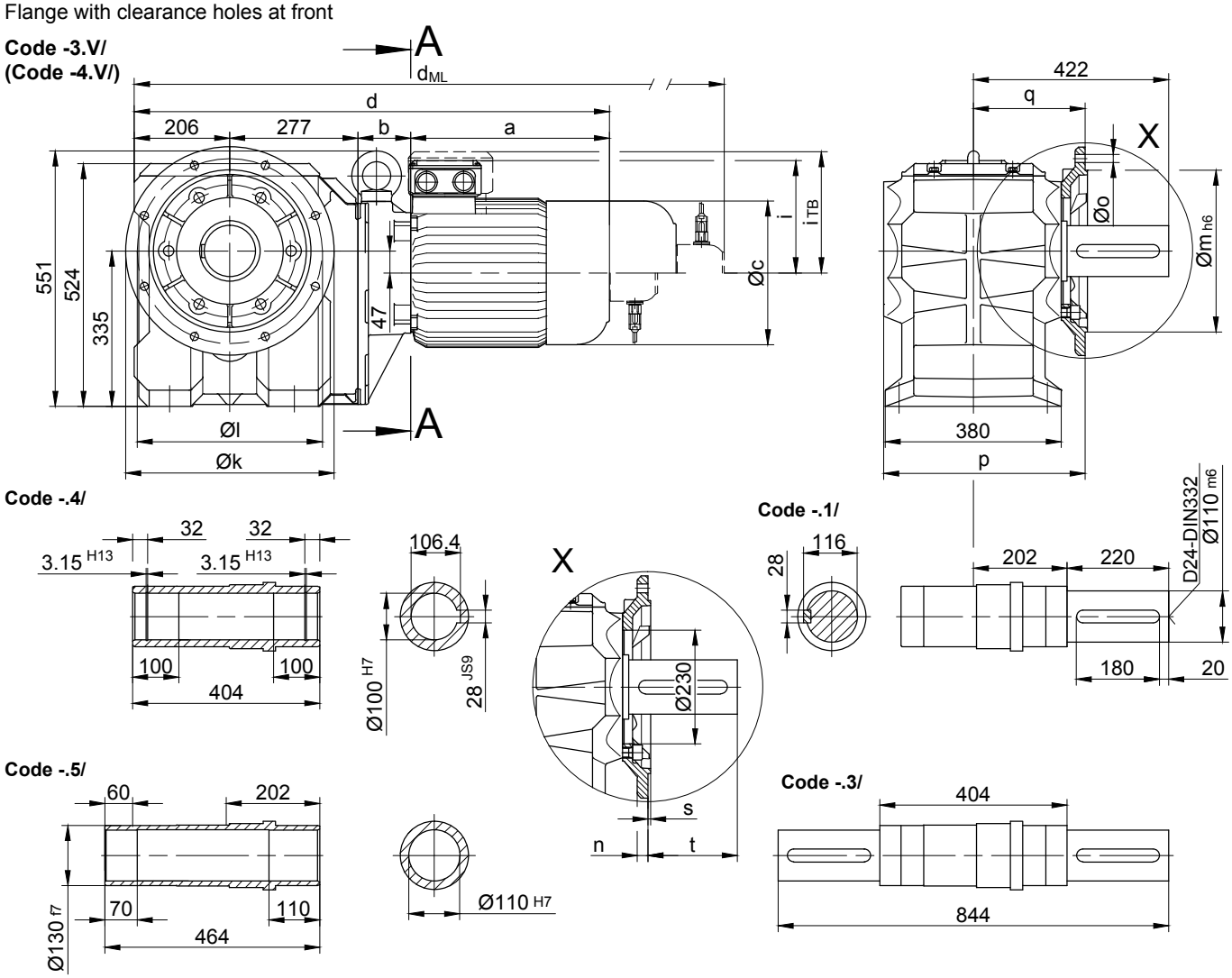
Code -1.U/



www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

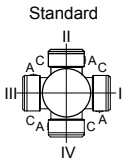
BK80 - BK80Z

Flange with clearance holes at front



Flange dimensions

BK80(Z)	k	l	m	n	o	p	q	s	t
standard -3.V/	450	400	350	22	17.5	439	245	5	177
big -4.V/	550	500	450	22	17.5	444	250	5	172



A-A

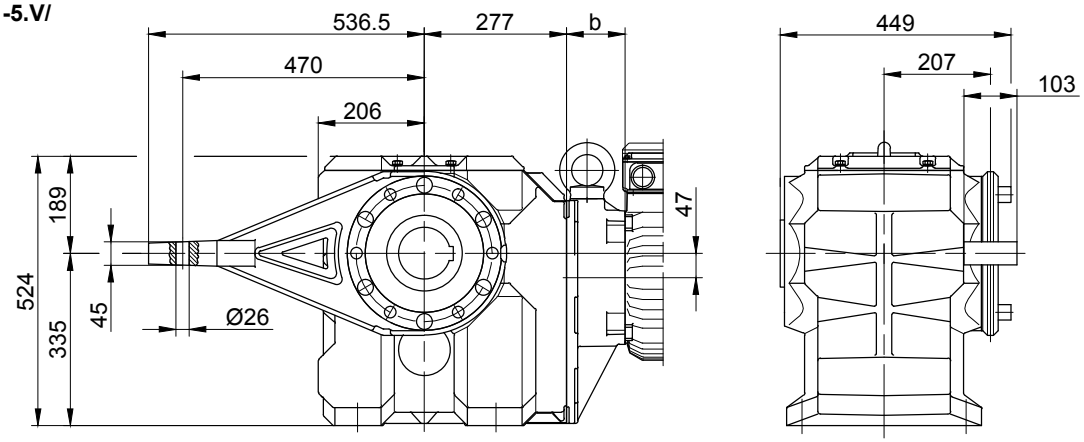
Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	ES../ZS..	G	ES../ZS..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BK80Z-../S..09..	251	252.5	181	986.5	124	158	1079.5	1093.5	1184	-
BK80-../S..11..	319	87	228	889	181	182	987	996	1091.5	-
BK80Z-../S..11..	319	259	228	1061	181	182	1159	1168	1263.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK80 - BK80Z

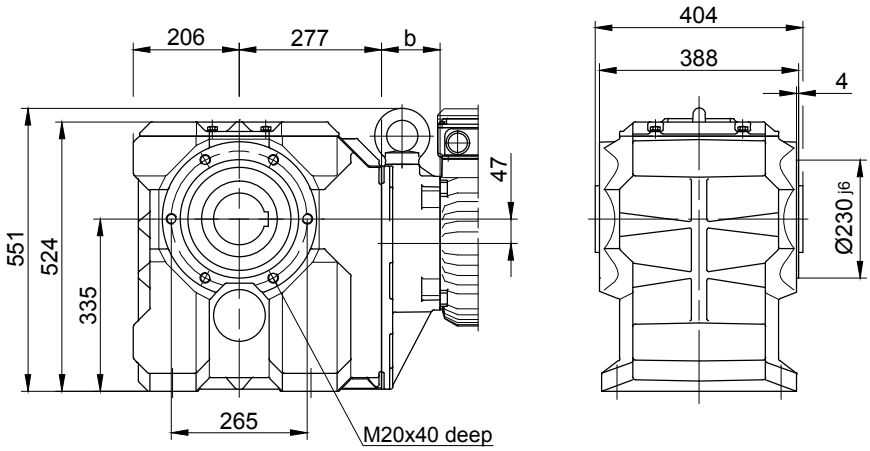
Torque arm at front

Code -5.V/



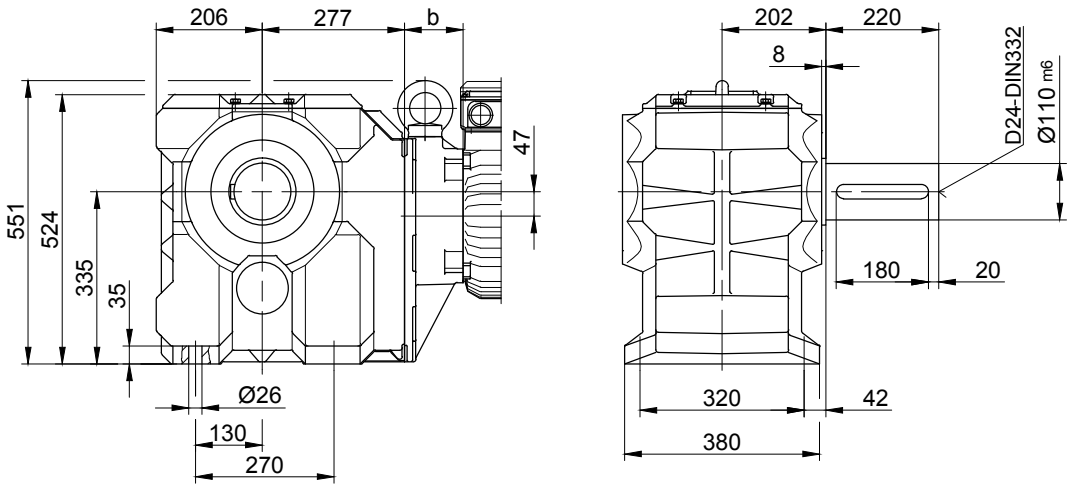
Flange with tapped holes at front

Code -7.V/



Foot with clearance holes at bottom

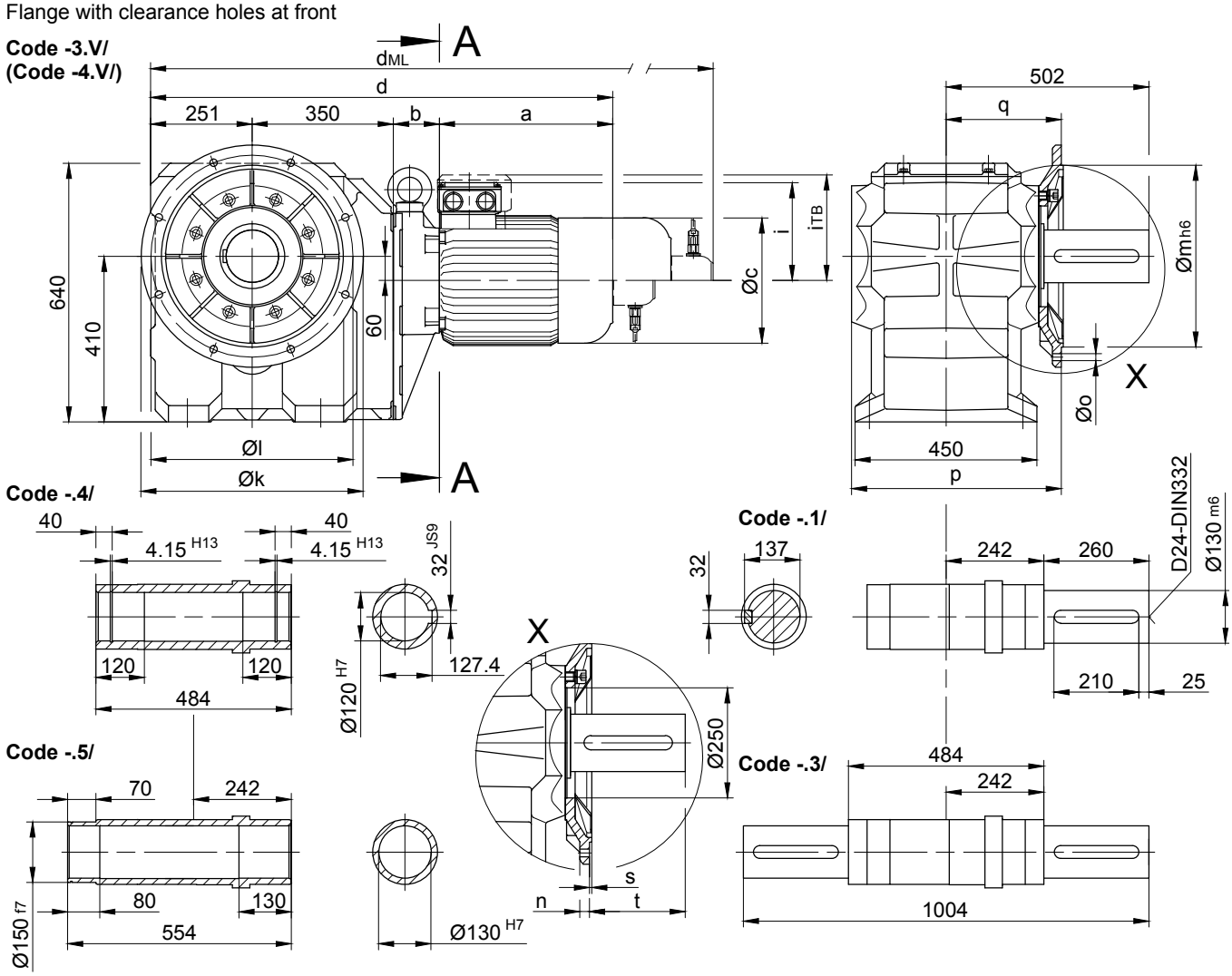
Code -1.U/



www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

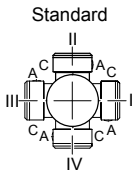
BK90 - BK90Z

Flange with clearance holes at front



Flange dimensions

BK90(Z)	k	l	m	n	o	p	q	s	t
Standard -3.V/	550	500	450	22	17.5	519	285	5	217
big -4.V/	660	600	550	25	22	513	279	6	223



A-A

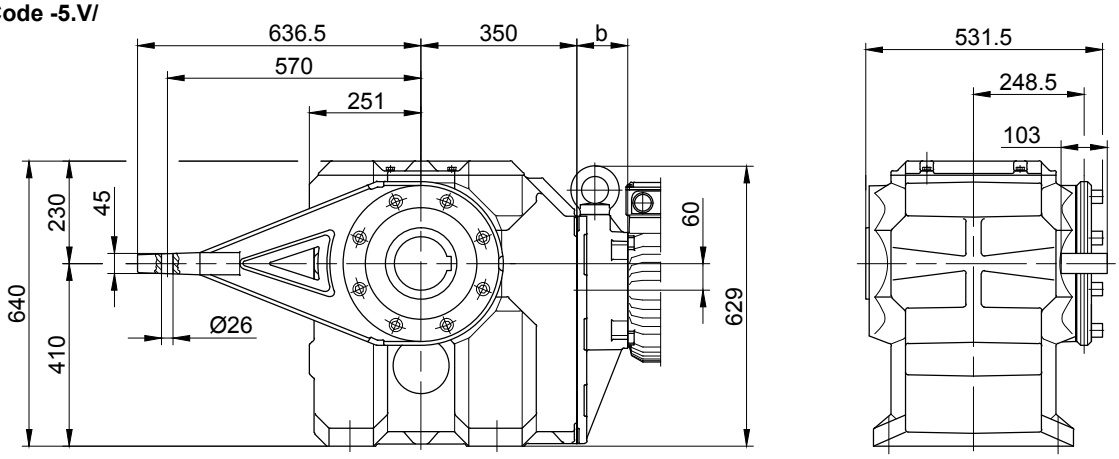
Type	a	b	c	d	i	Design with motor extensions				
						iTB	ES.../ZS..	G	ES.../ZS..-G	RR/RL
							dML	dML	dML	dML
BK90Z-../S..09..	251	267	181	1119	124	158	1212	1226	1316.5	-
BK90Z-../S..11..	319	273.5	228	1193.5	181	181	1291.5	1300.5	1396	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK90 - BK90Z

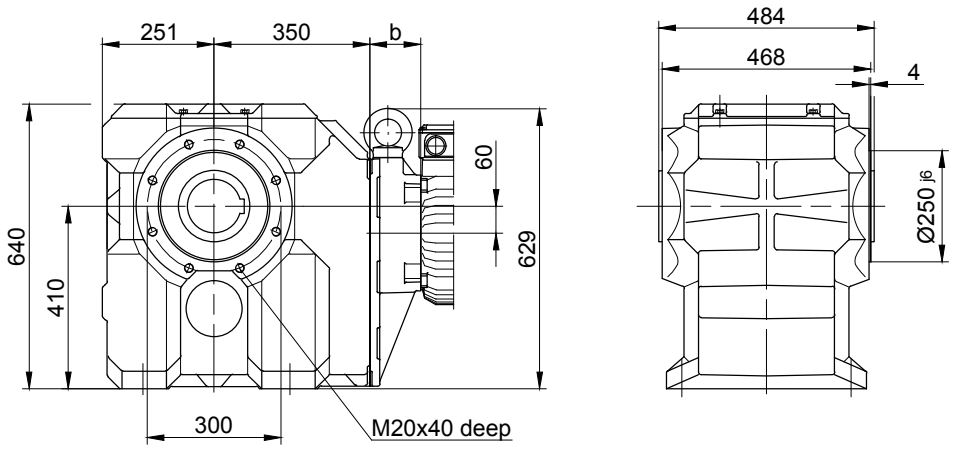
Torque arm at front

Code -5.V/



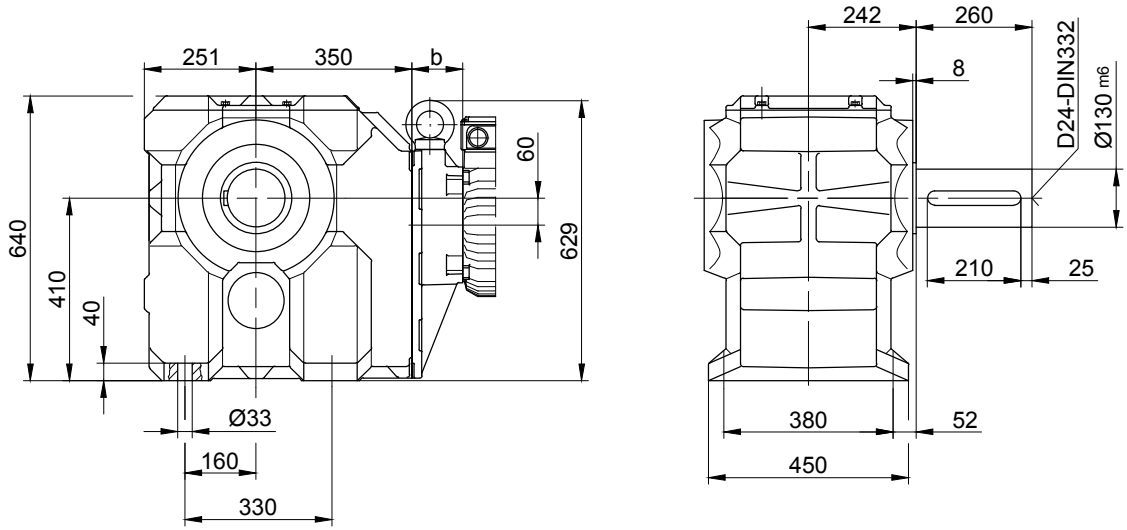
Flange with tapped holes at front

Code -7.V/



Foot with clearance holes at bottom

Code -1.U/

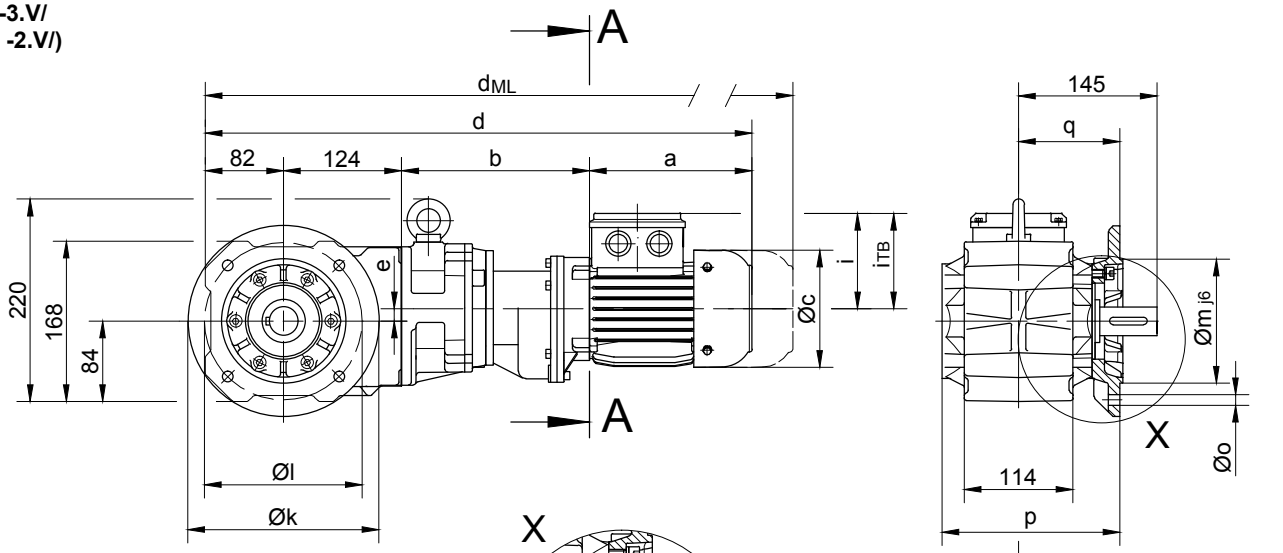


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

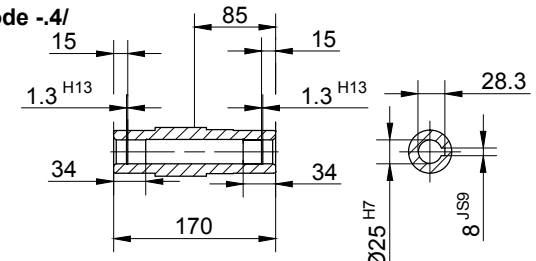
BK10G06

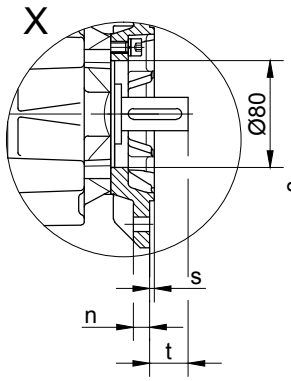
Flange with clearance holes at front

Code -3.V/
(Code -2.V/)

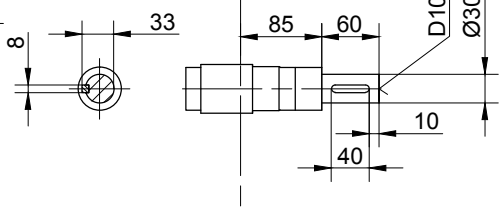


Code -.4/

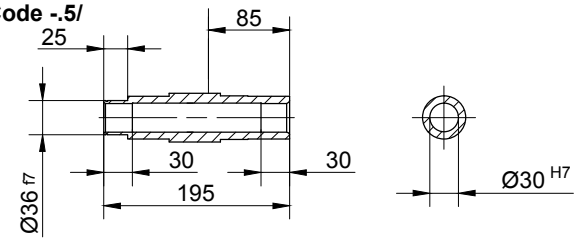




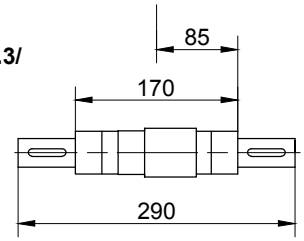
Code -.1/



Code -.5/

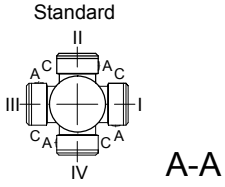


Code -.3/



Flange dimensions

BK10G..	k	l	m	n	o	p	q	s	t
Standard -3.V/	200	165	130	12	11	186.5	106	3.5	39
small -2.V/	160	130	110	10	9	179.5	99	3.5	46



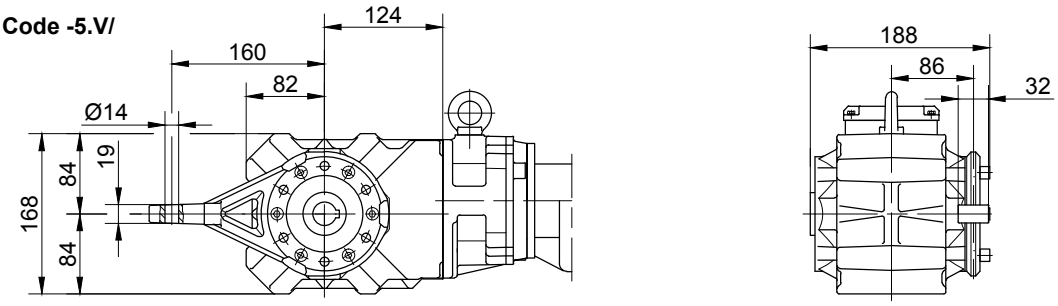
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BK10G06-../S..08..	200	241	156	647	13	115	136.5	713	754	820.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK10G06

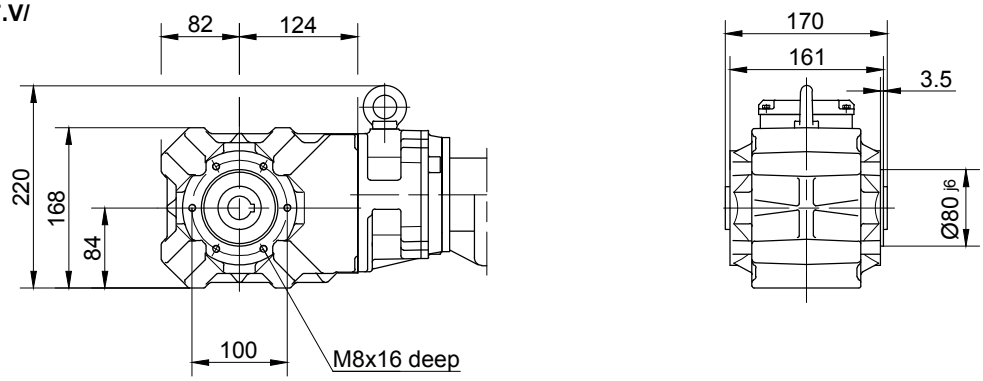
Torque arm at front

Code -5.V/



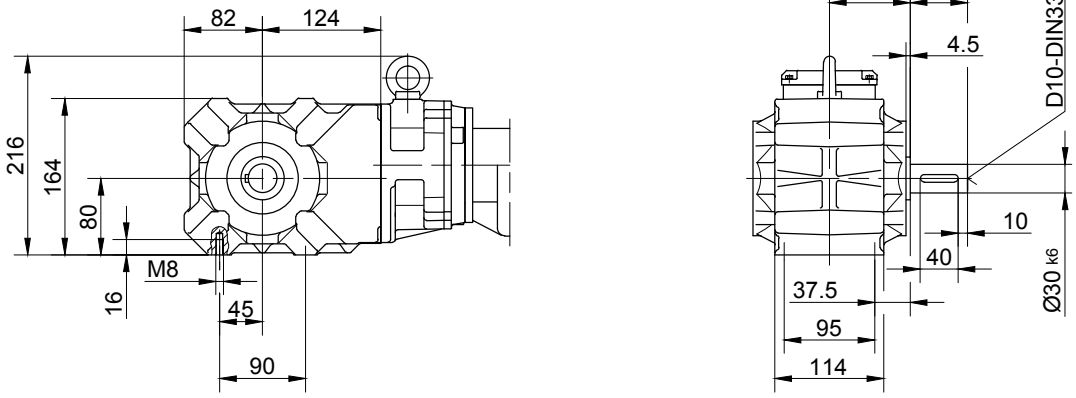
Flange with tapped holes at front

Code -7.V/



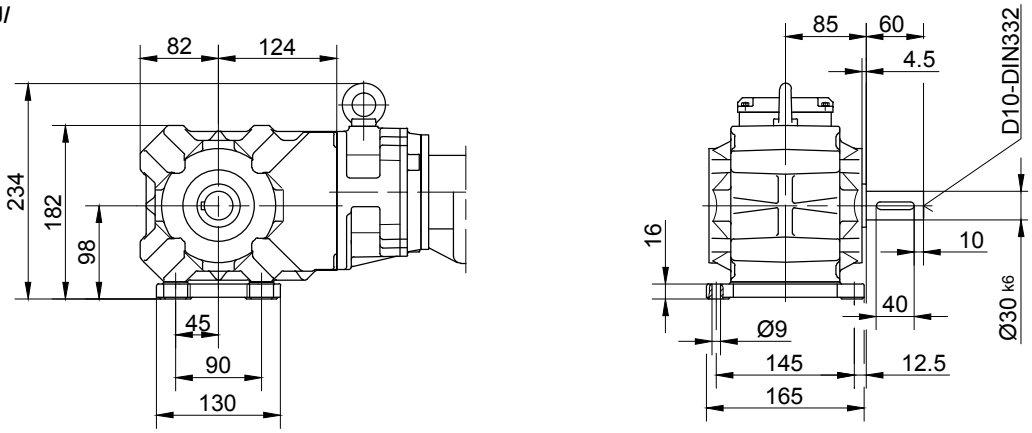
Foot with tapped holes at bottom

Code -6.U/



Foot with clearance holes at bottom

Code -1.U/

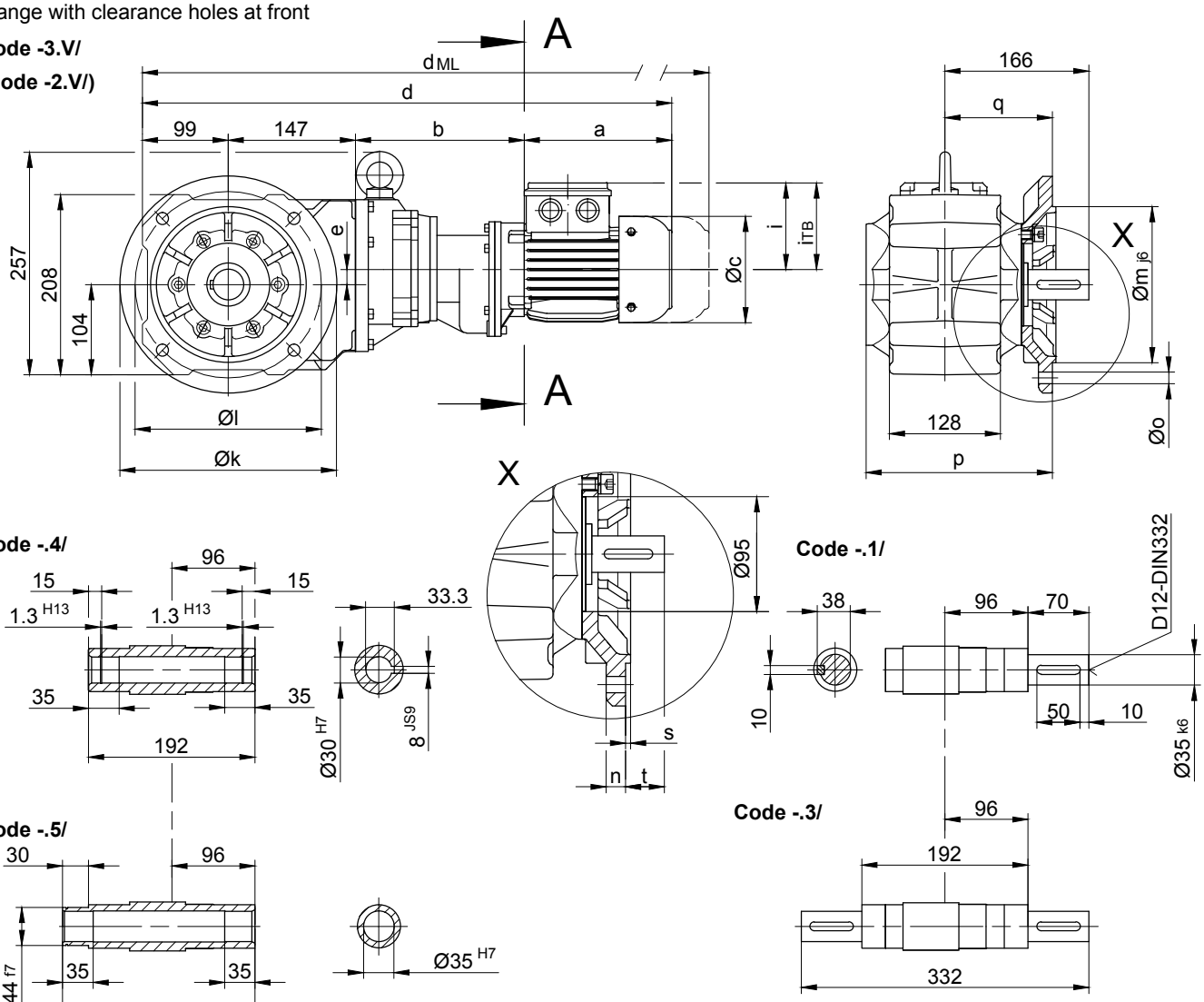


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK20G06

Flange with clearance holes at front

Code -3.V/
(Code -2.V/)



Code -.4/

Code -.1/

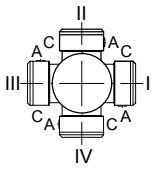
Code -.5/

Code -.3/

Flange dimensions

BK20G..	k	l	m	n	o	p	q	s	t
Standard -3.V/	250	215	180	16	13.5	215.5	124	4	42
small -2.V/	200	165	130	12	11	206.5	115	3.5	51

Standard



A-A

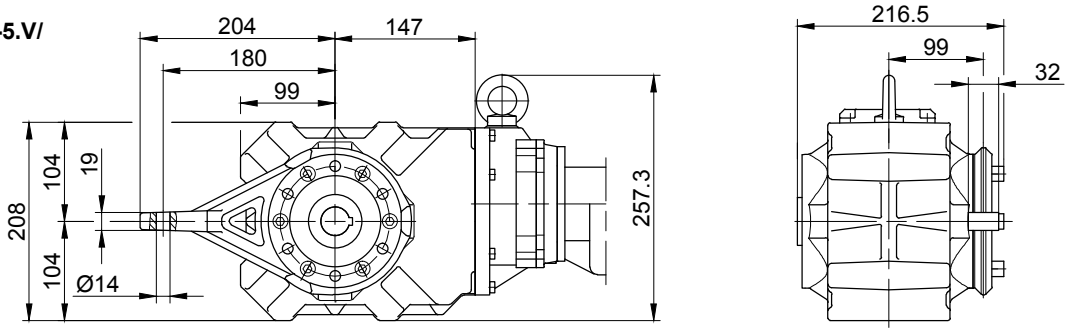
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BK20G06-../S..08..	200	239	156	685	17	115	136.5	751	792	858.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK20G06

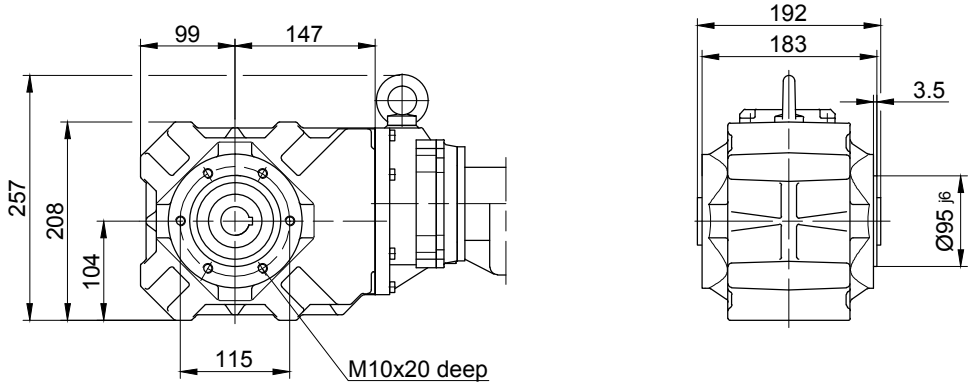
Torque arm at front

Code -5.V/



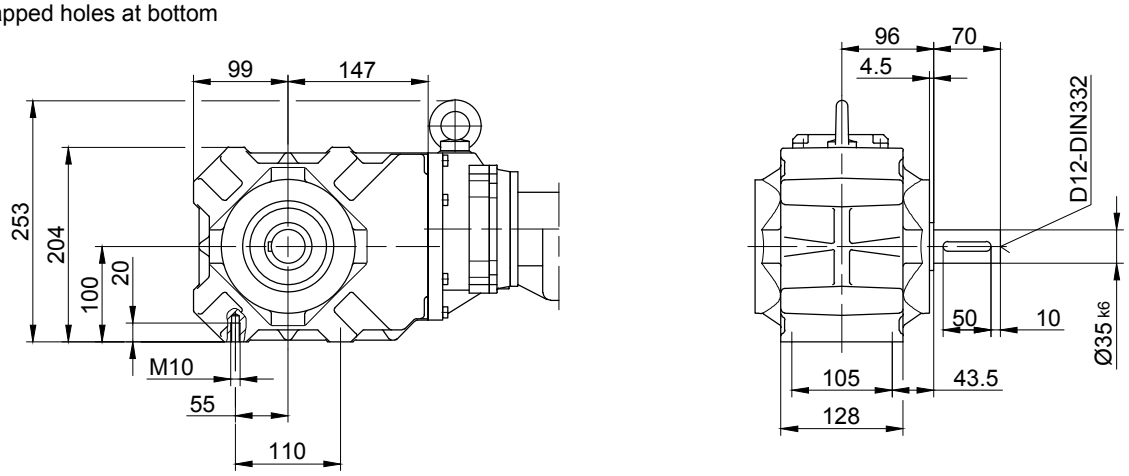
Flange with tapped holes at front

Code -7.V/



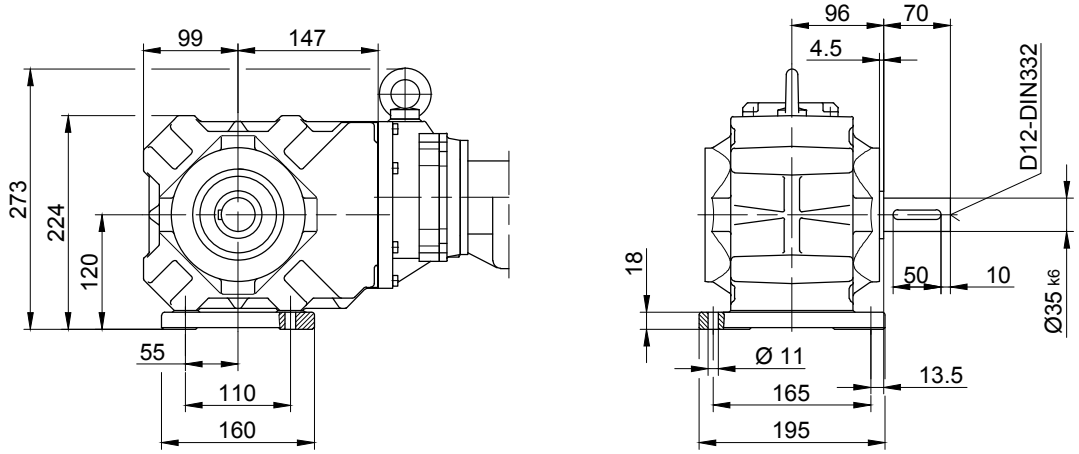
Foot with tapped holes at bottom

Code -6.U/



Foot with clearance holes at bottom

Code -1.U/

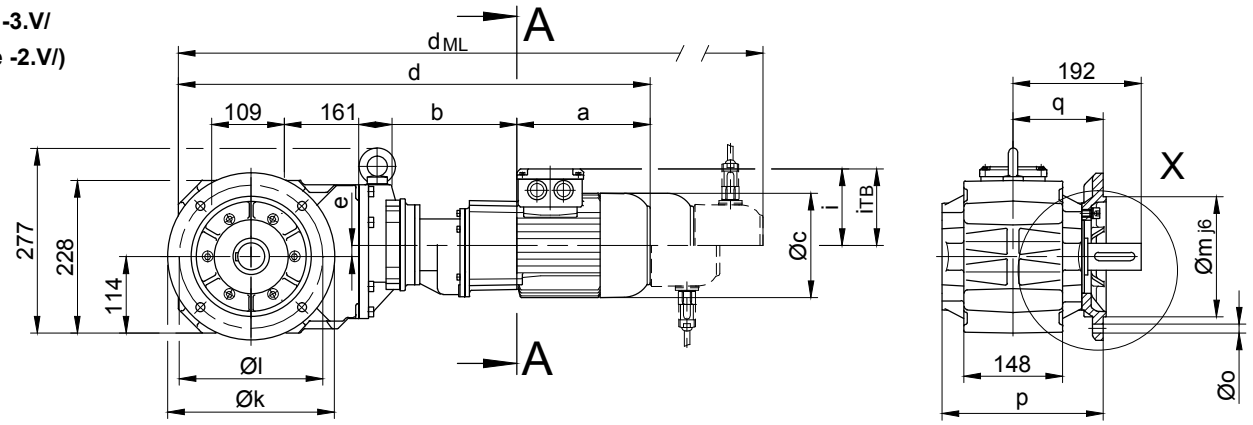


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

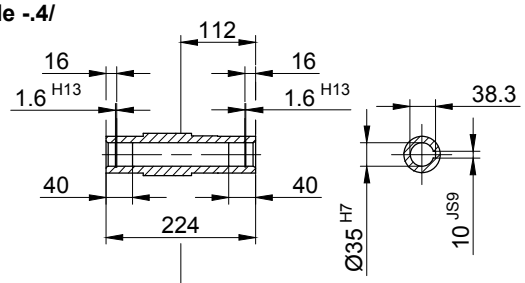
BK30G06

Flange with clearance holes at front

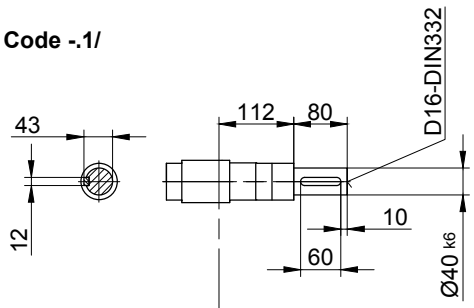
Code -3.V/
(Code -2.V/)



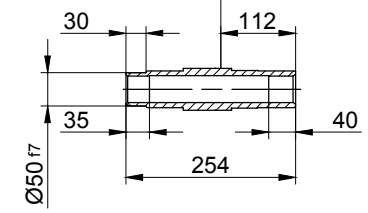
Code -.4/

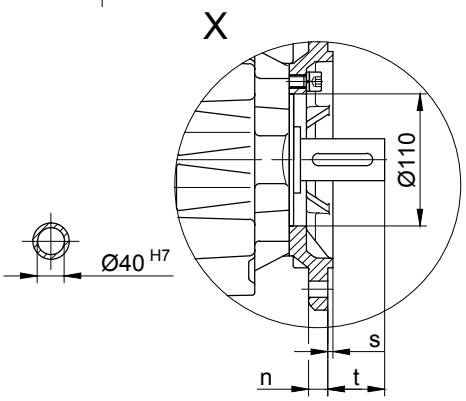


Code -.1/

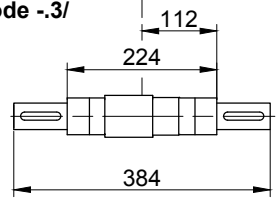


Code -.5/

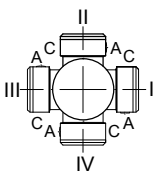




Code -.3/



Standard



A-A

Flange dimensions

BK30G..	k	l	m	n	o	p	q	s	t
Standard -3.V/	250	215	180	16	13.5	242	135	4	57
small -2.V/	200	165	130	12	11	239	132	3.5	60

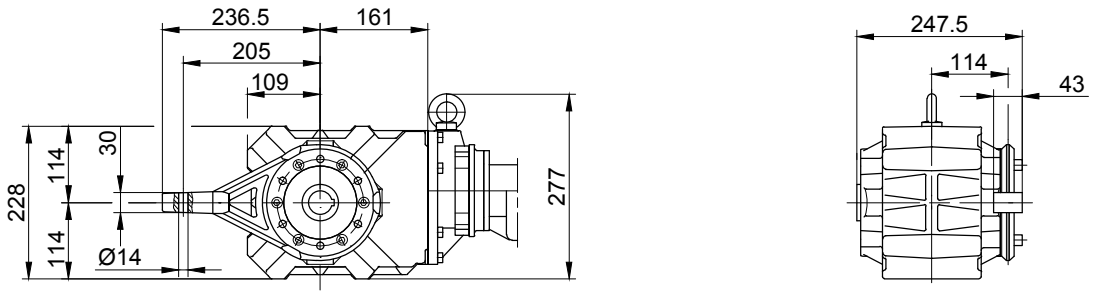
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BK30G06-../S..08..	200	237	156	707	17	115	136.5	773	814	880.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK30G06

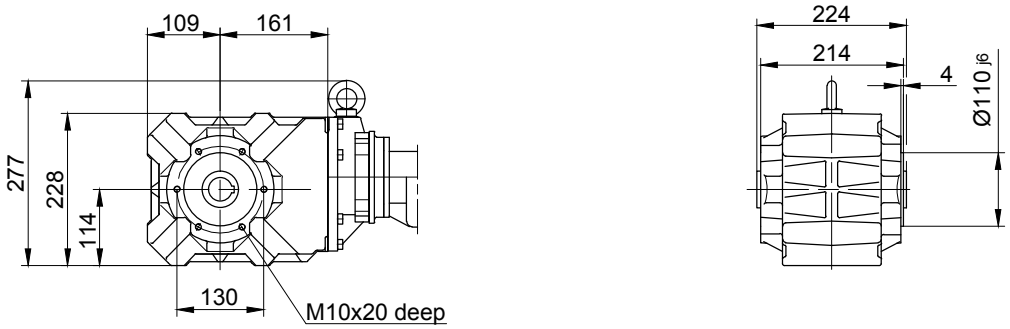
Torque arm at front

Code -5.V/



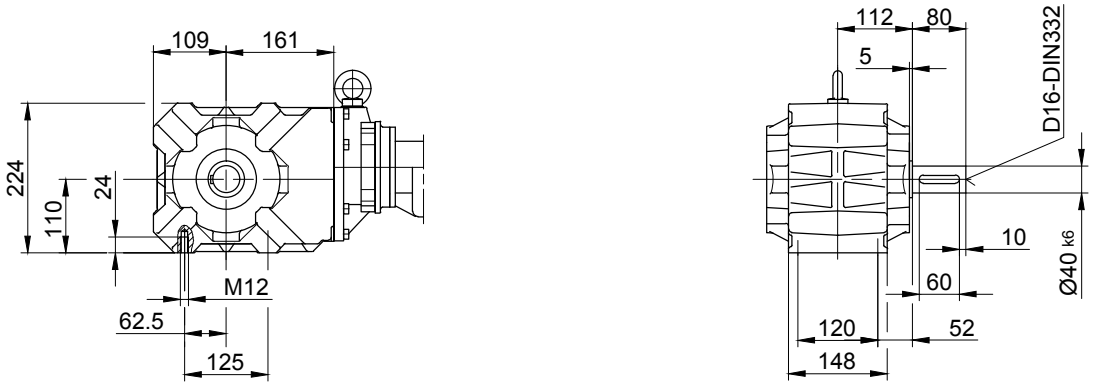
Flange with tapped holes at front

Code -7.V/



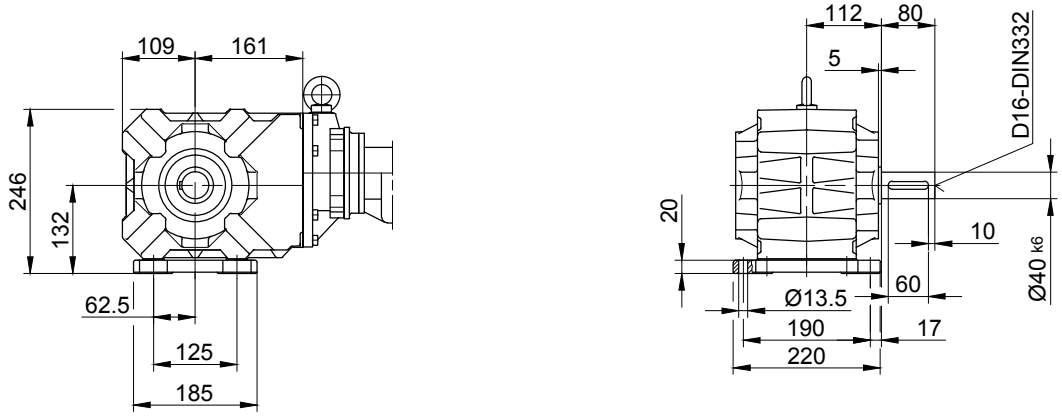
Foot with tapped holes at bottom

Code -6.U/



Foot with clearance holes at bottom

Code -1.U/

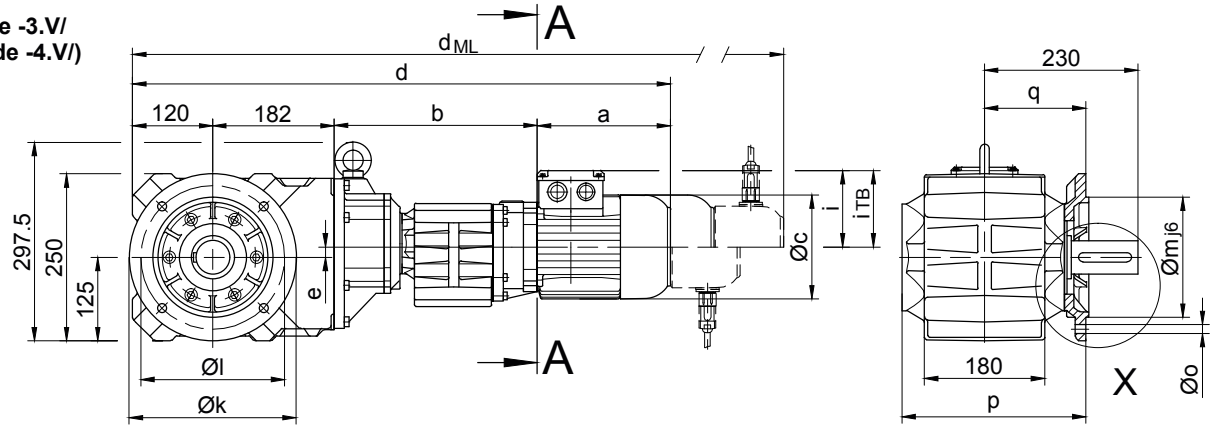


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

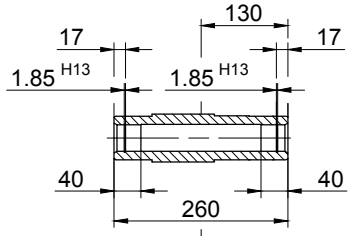
BK40G10

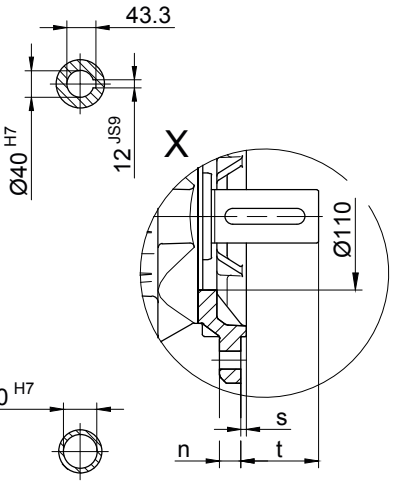
Flange with clearance holes at front

Code -3.V/
(Code -4.V/)

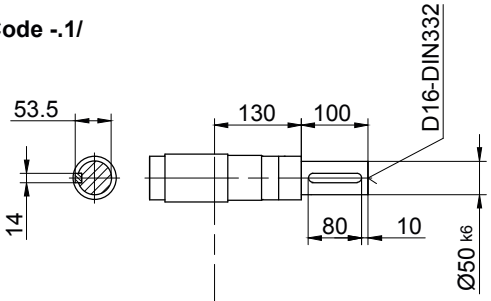


Code -.4/

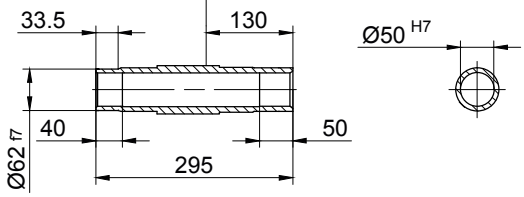




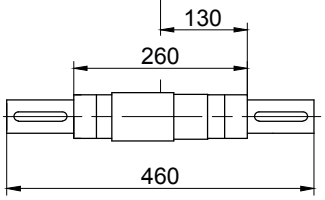
Code -.1/



Code -.5/

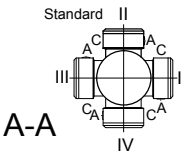


Code -.3/



Flange dimensions

BK40G..	k	l	m	n	o	p	q	s	t
Standard -3.V/	250	215	180	16	13.5	276	152	4	78
big -4.V/	300	265	230	20	13.5	282	158	4	72



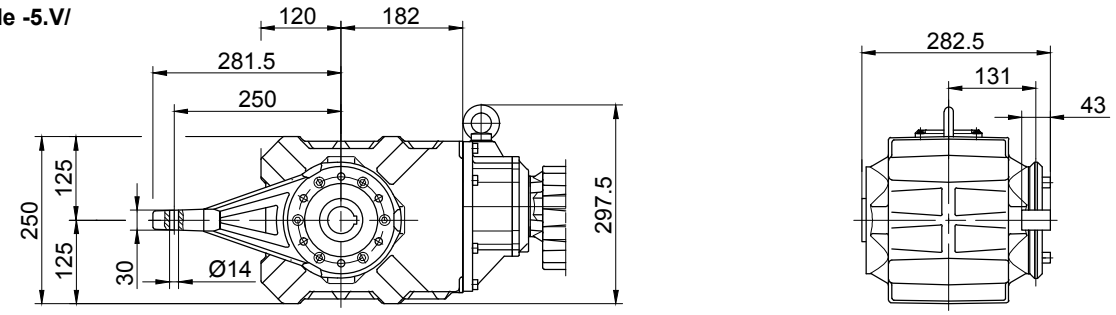
Type	a	b	c	d	e	i	i_{TB}	Design with motor extensions			
								E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BK40G10-../S..08..	200	304	156	806	15.5	115	136.5	872	913	979.5	-
BK40G10-../S..09..	251	318.5	181	871.5	15.5	124	158	964.5	978.5	1069	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK40G10

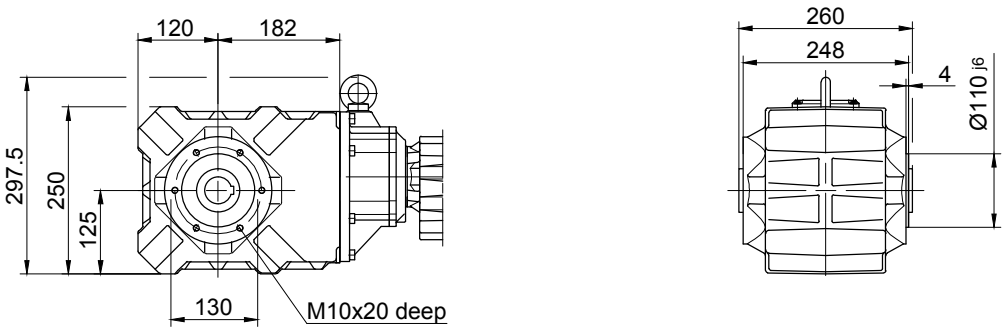
Torque arm at front

Code -5.V/



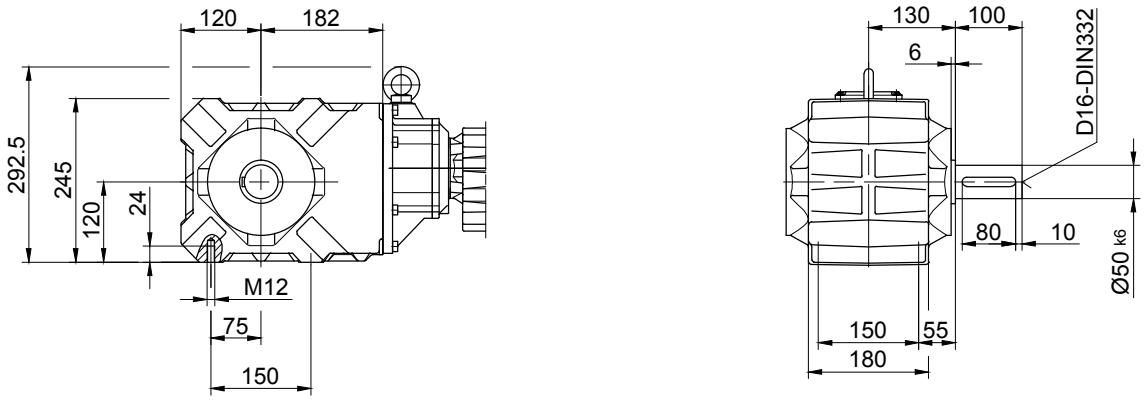
Flange with tapped holes at front

Code -7.V/



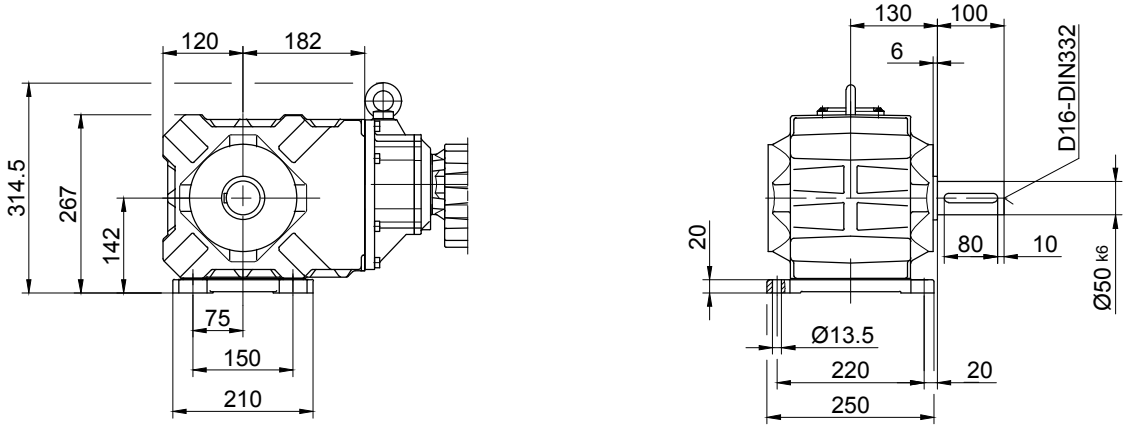
Foot with tapped holes at bottom

Code -6.U/



Foot with clearance holes at bottom

Code -1.U/

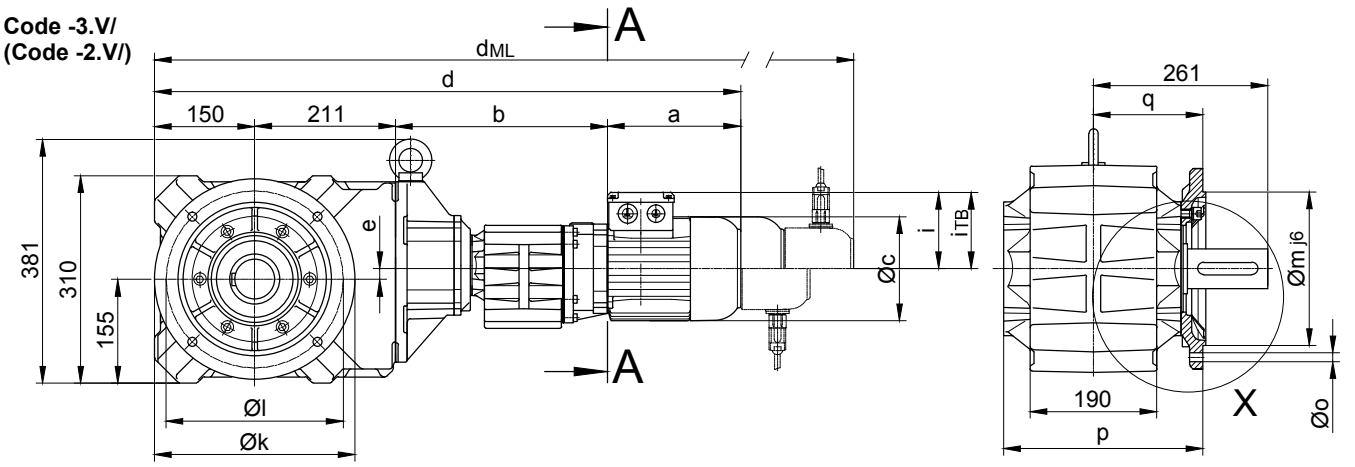


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

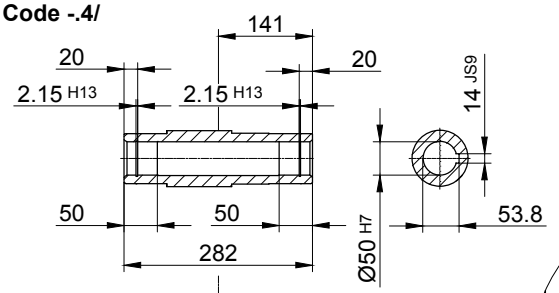
BK50G10

Flange with clearance holes at front

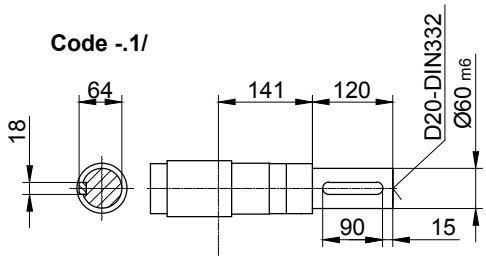
Code -3.V/
(Code -2.V/)



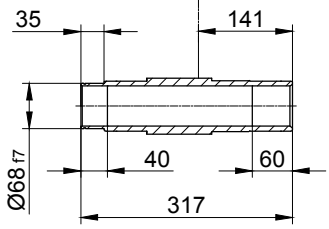
Code -.4/

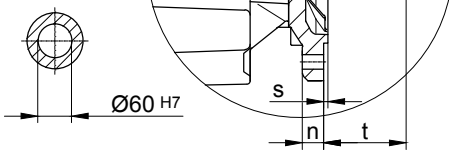


Code -.1/

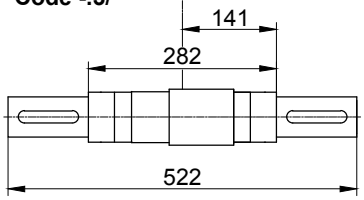


Code -.5/





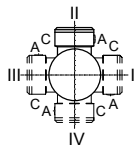
Code -.3/



Flange dimensions

BK50G..	k	l	m	n	o	p	q	s	t
Standard -3.V/	300	265	230	20	13.5	298.5	164	4	97
small-2.V/	250	215	180	16	13.5	296	161	4	100

Standard



A-A

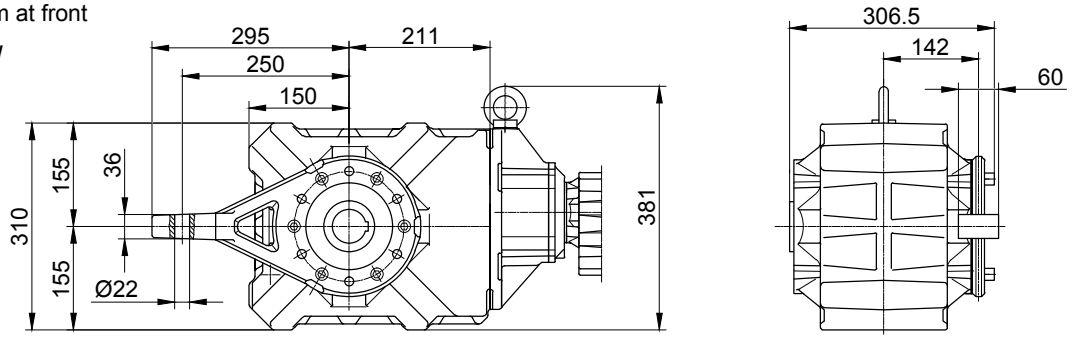
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RL/RR
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BK50G10-../S..08..	200	317	156	878	16	115	136.5	944	985	1051.5	-
BK50G10-../S..09..	251	331.5	181	943.5	16	124	158	1036.5	1050.5	1141	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK50G10

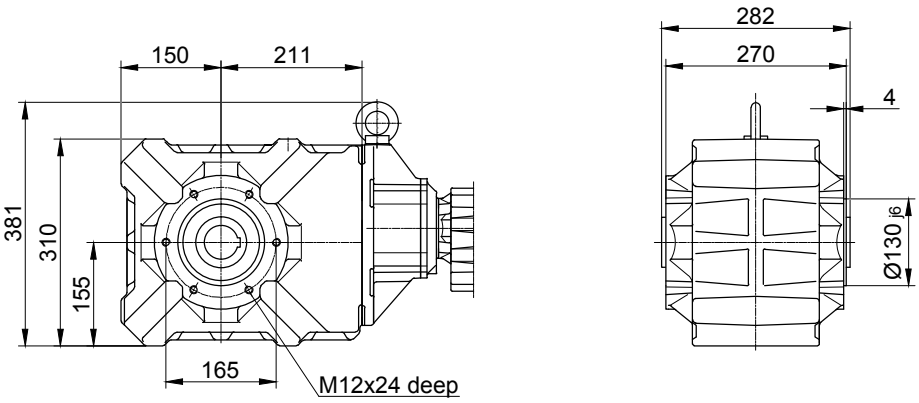
Torque arm at front

Code -5.V/



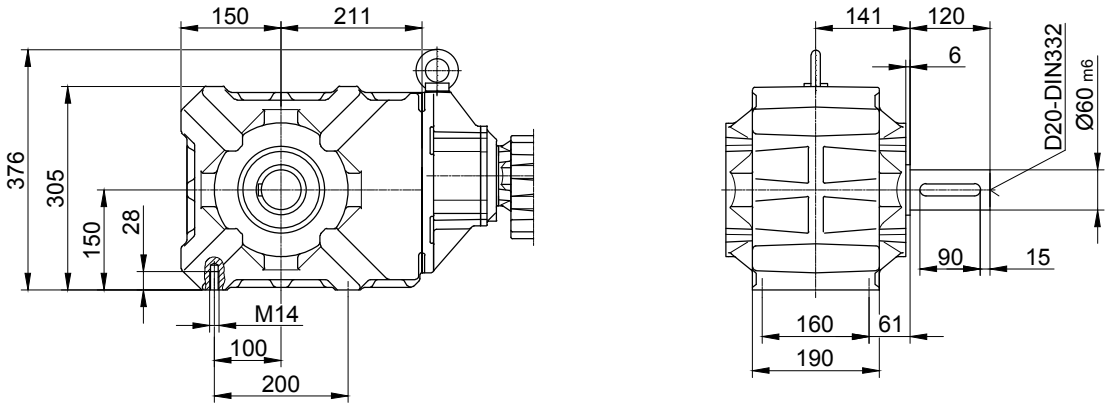
Flange with tapped holes at front

Code -7.V/



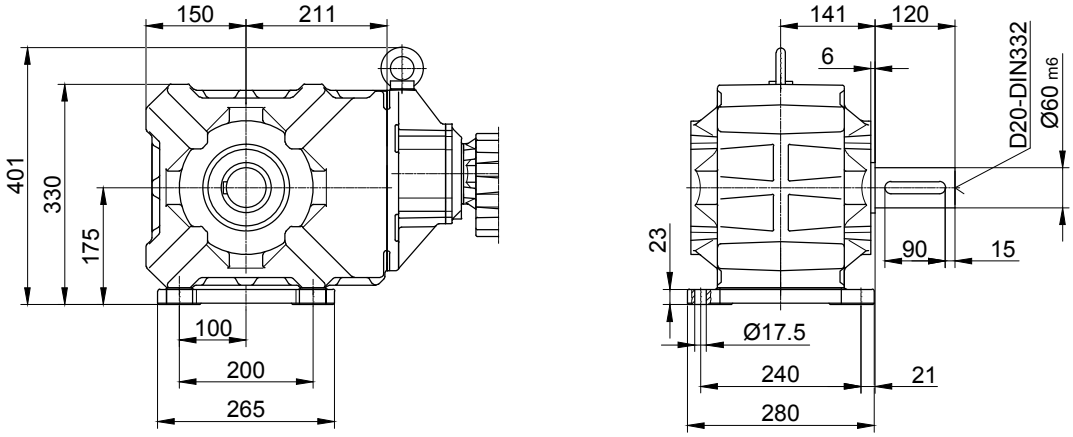
Foot with tapped holes at bottom

Code -6.U/



Foot with clearance holes at bottom

Code -1.U/

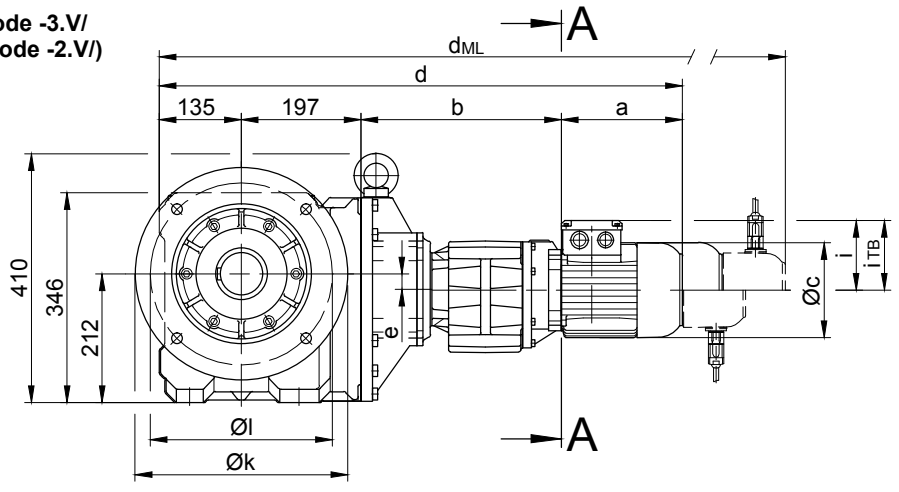


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

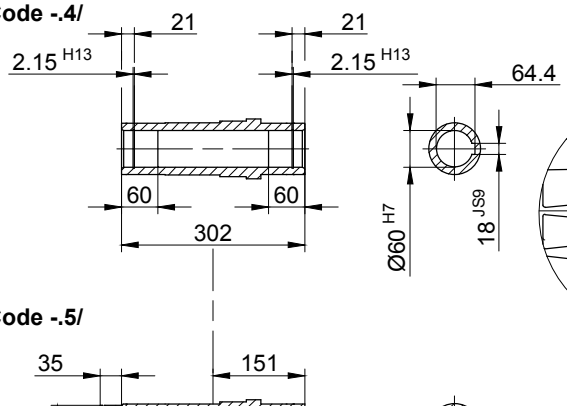
BK60G20

Flange with clearance holes at front

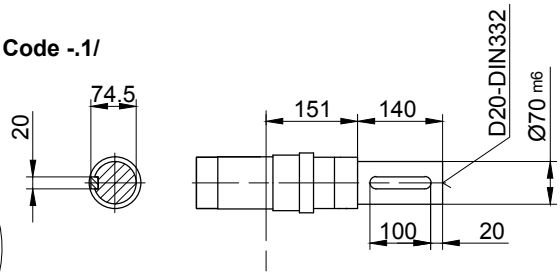
Code -3.V/
(Code -2.V/)



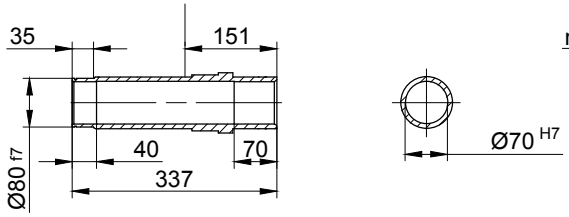
Code -.4/



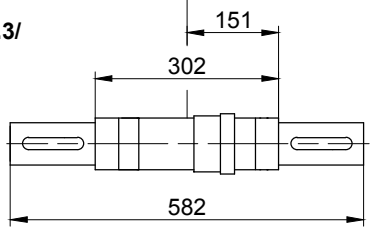
Code -.1/



Code -.5/

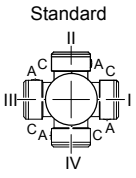


Code -.3/



Flange dimensions

BK60G..	k	l	m	n	o	p	q	s	t
Standard -3.V/	350	300	250 h6	20	17.5	324	180	5	111
small -2.V/	300	265	230 j6	20	13.5	332	188	4	103



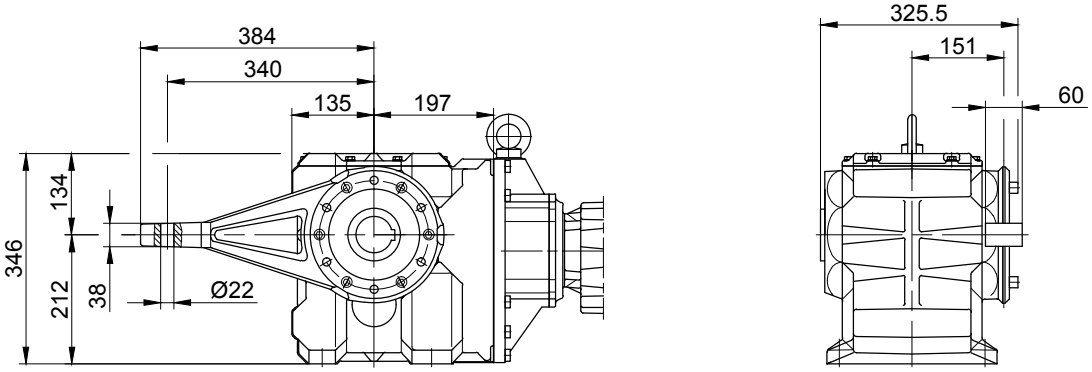
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BK60G20-../S..08..	200	330	156	862	27	115	136.5	928	969	1035.5	-
BK60G20-../S..09..	251	344.5	181	927.5	27	124	158	1020.5	1034.5	1125	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK60G20

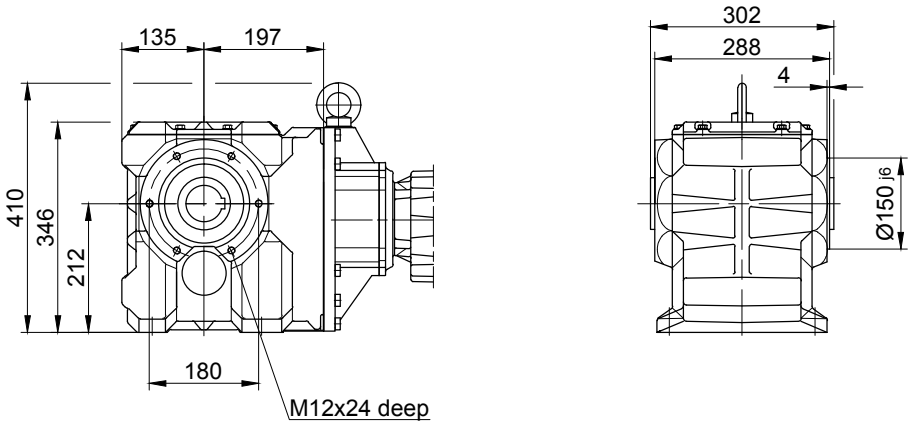
Torque arm at front

Code -5.V/



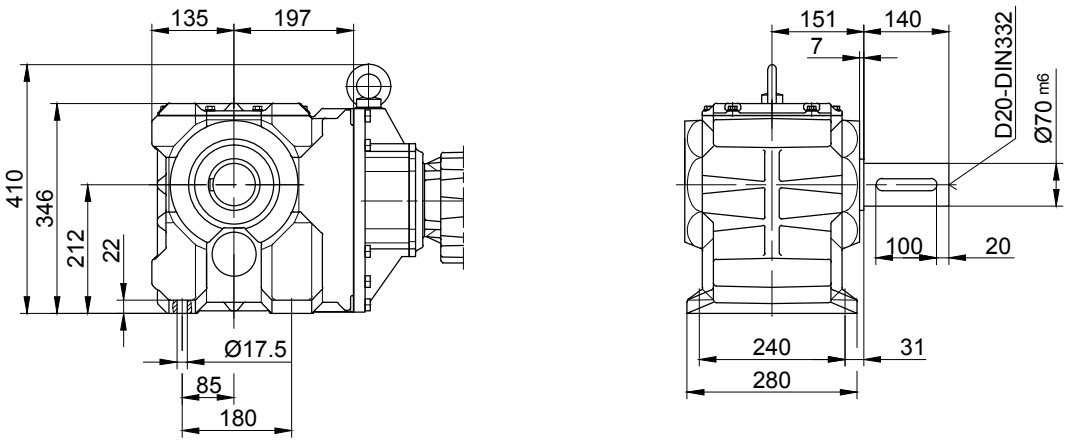
Flange with tapped holes at front

Code -7.V/



Foot with clearance holes at bottom

Code -1.U/

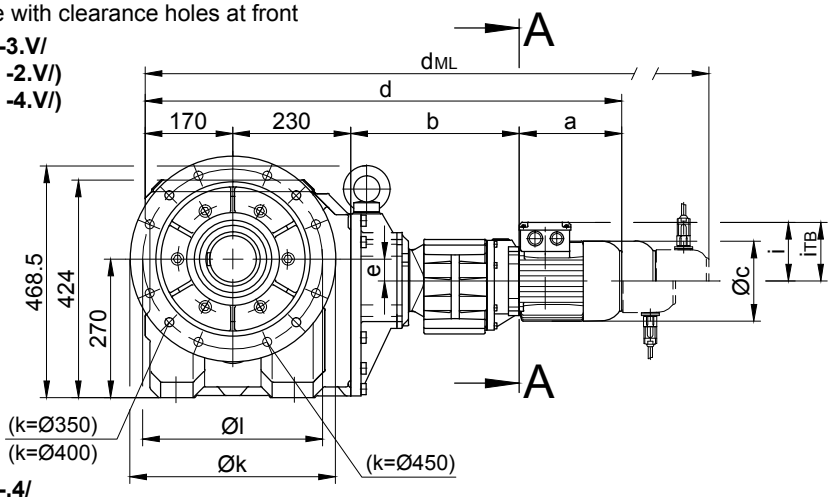


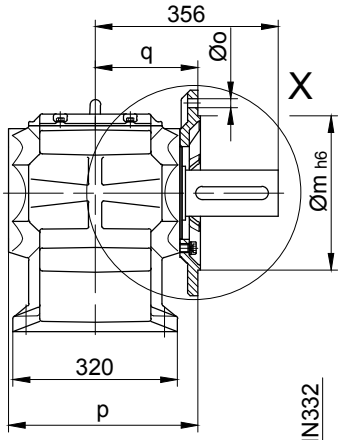
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK70G20

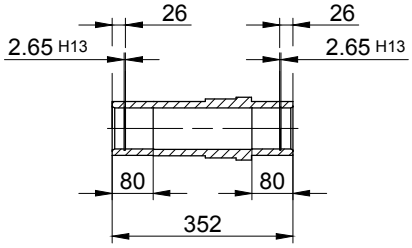
Flange with clearance holes at front

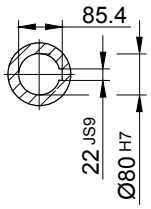
Code -3.V/
(Code -2.V/)
(Code -4.V/)



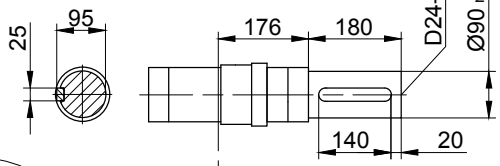


Code -.4/

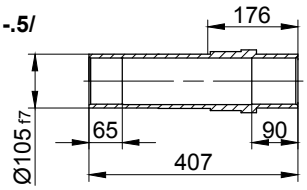


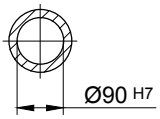


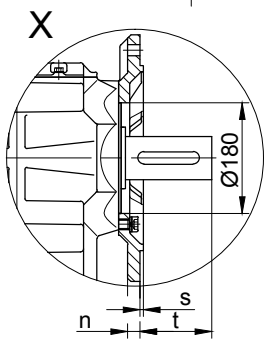
Code -.1/



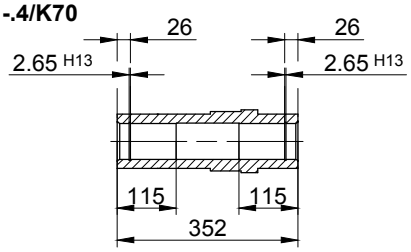
Code -.5/

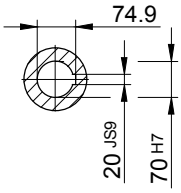




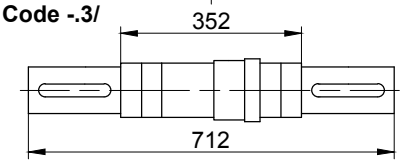


Code -.4/K70



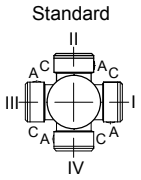


Code -.3/



Flange dimensions

BK70G..	k	l	m	n	o	p	q	s	t
Standard -3.V/	400	350	300	20	4 x 17.5	369	200	5	156
small -2.V/	350	300	250	20	4 x 17.5	369	200	5	156
big -4.V/	450	400	350	22	8 x 17.5	379	210	5	146



A-A

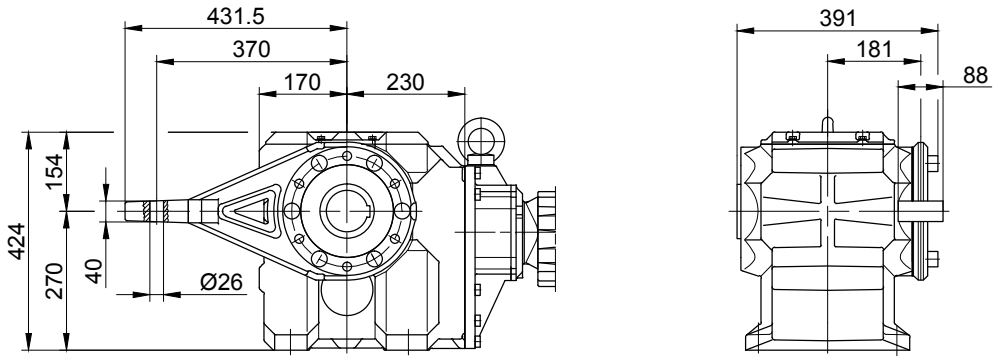
Type	a	b	c	d	e	i	i_{TB}	Design with motor extensions			
								E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BK70G20-../S..08..	200	328	156	928	43	115	136.5	994	1035	1101.5	-
BK70G20-../S..09..	251	342.5	181	993.5	43	124	158	1086.5	1100.5	1191	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK70G20

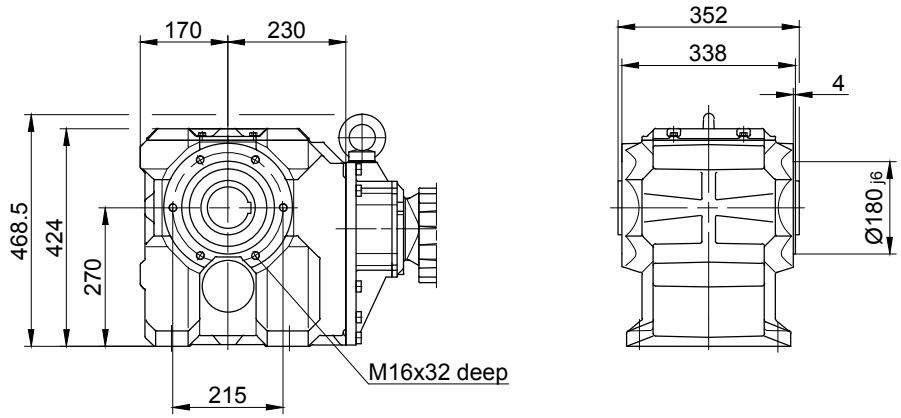
Torque arm at front

Code -5.V/



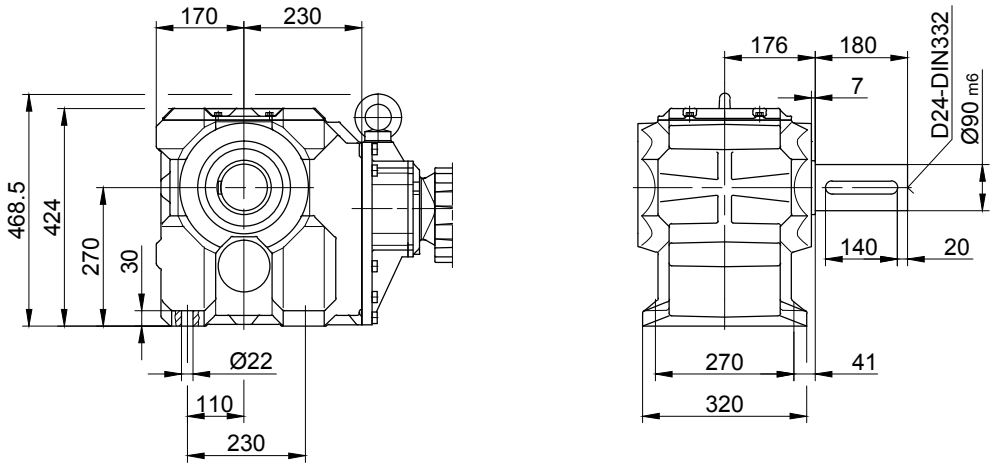
Flange with tapped holes at front

Code -7.V/



Foot with clearance holes at bottom

Code -1.U/

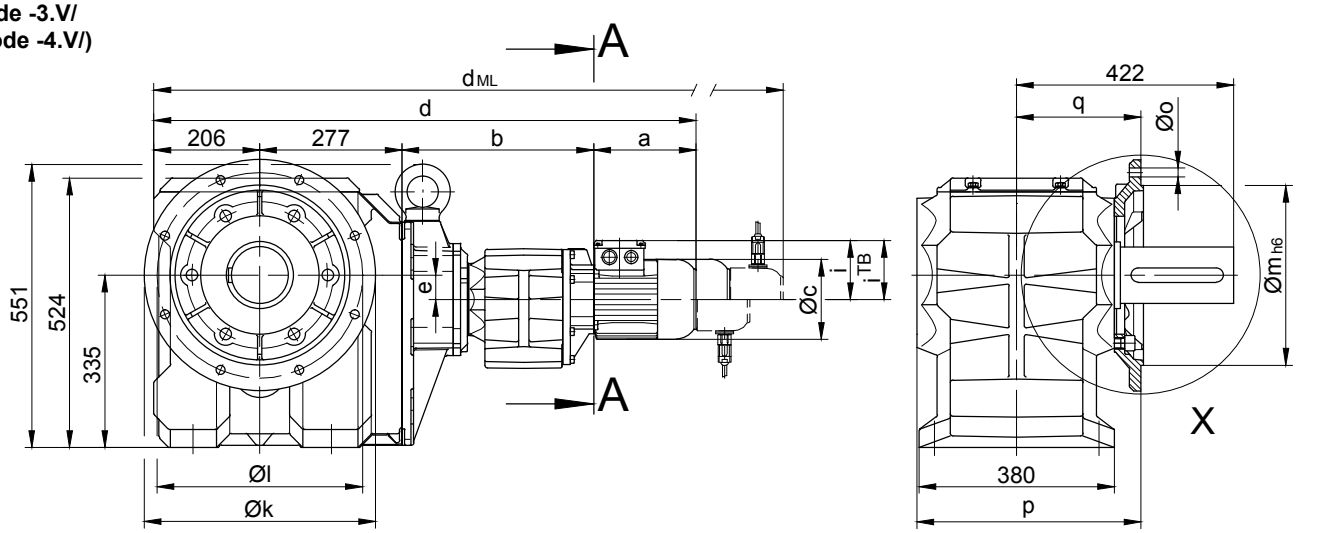


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

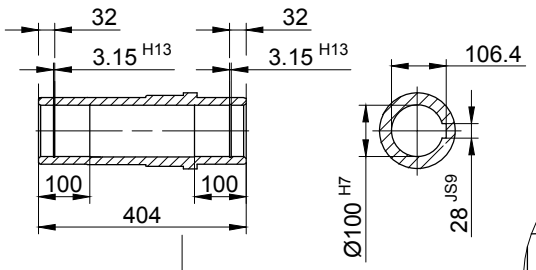
BK80G40

Flange with clearance holes at front

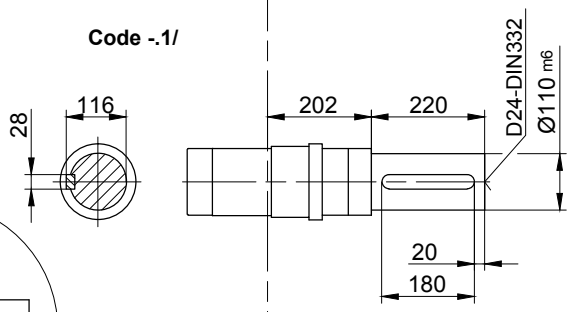
Code -3.V/
(Code -4.V/)

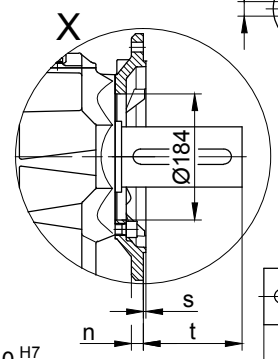


Code -.4/

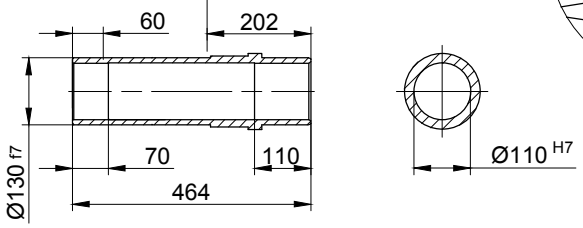


Code -.1/

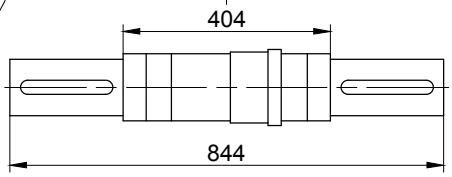




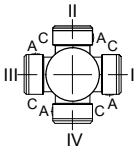
Code -.5/



Code -.3/



Standard



A-A

Flange dimensions

BK80G..	k	l	m	n	o	p	q	s	t
Standard -3.V/	450	400	350	22	17.5	439	245	5	177
big -4.V/	550	500	450	22	17.5	444	250	5	172

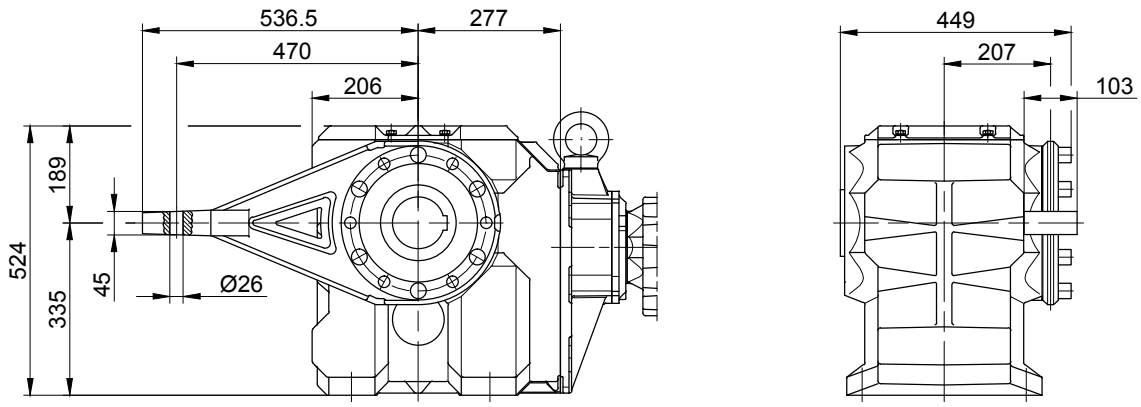
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	ES..	G	ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BK80G40-../S..08..	200	373	156	1056	47	115	136.5	1122	1163	1229.5	-
BK80G40-../S..09..	251	387.5	181	1121.5	47	124	158	1214.5	1228.5	1319	-
BK80G40-../S..11..	319	394	228	1196	47	181	181	1294	1303	1398.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK80G40

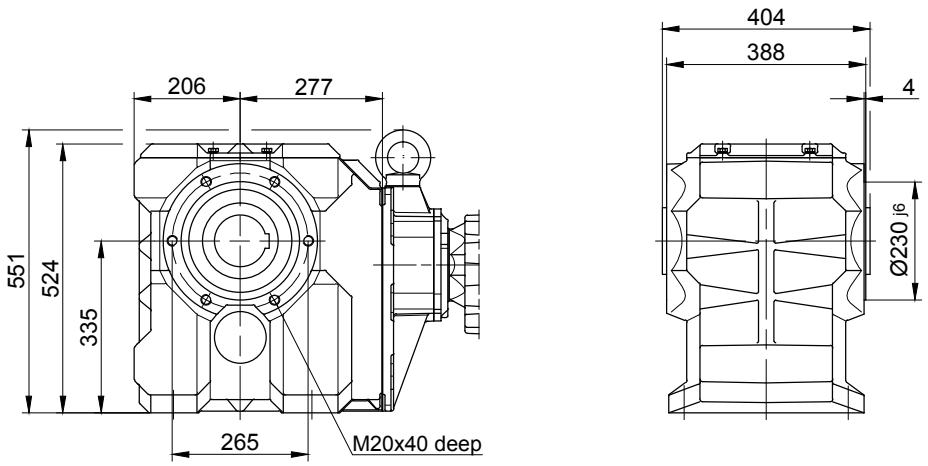
Torque arm at front

Code -5.V/



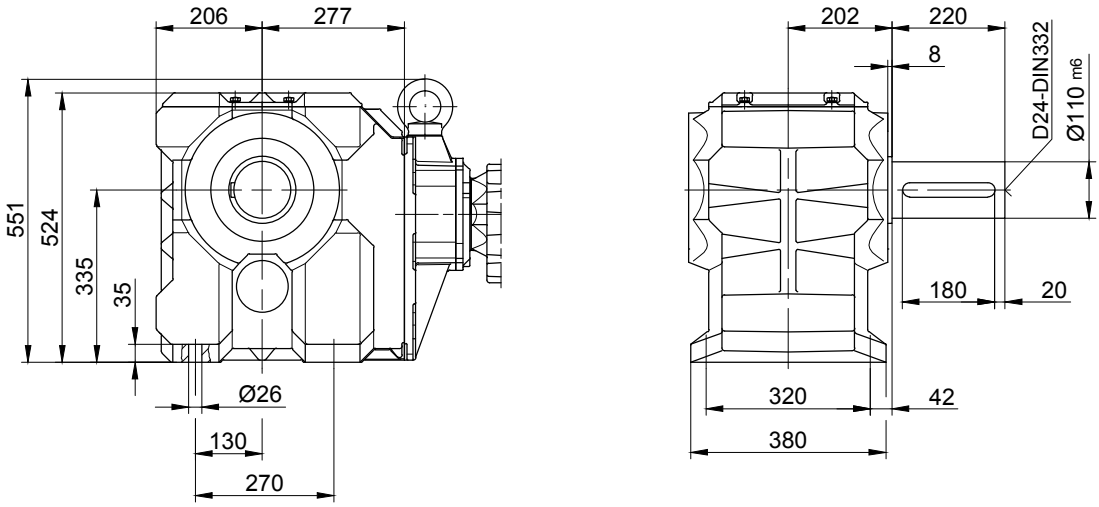
Flange with tapped holes at front

Code -7.V/



Foot with clearance holes at bottom

Code -1.U/

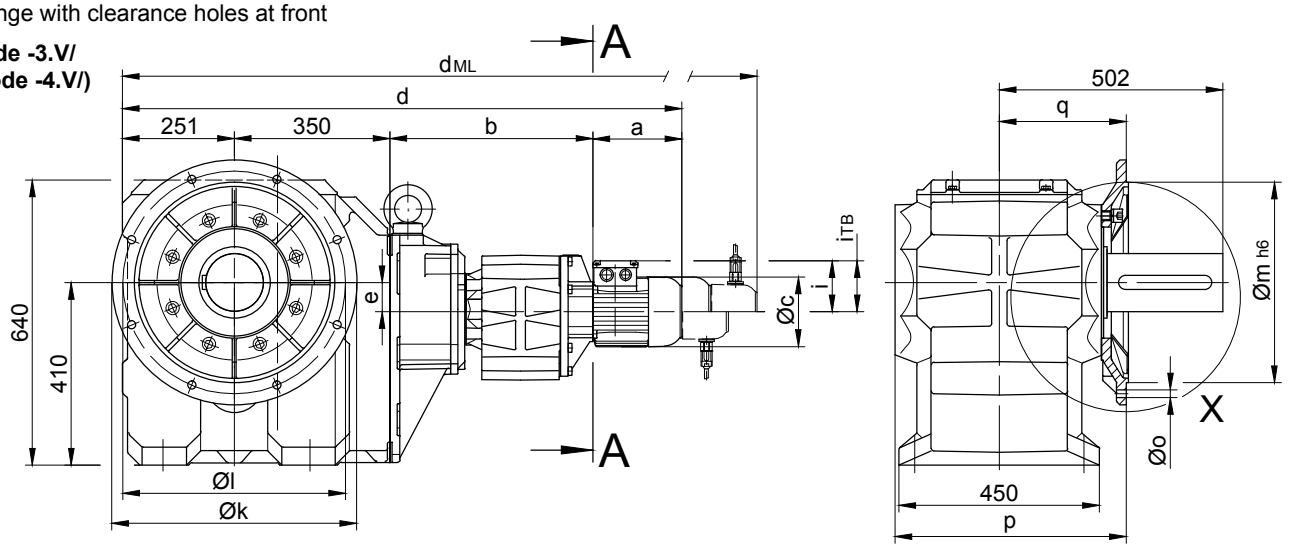


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

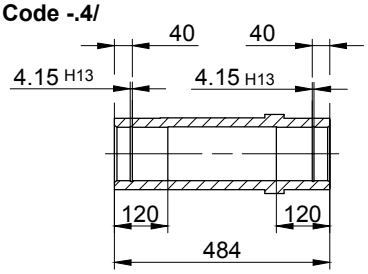
BK90G50

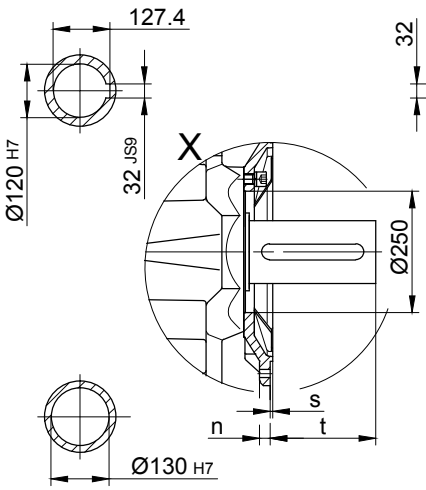
Flange with clearance holes at front

Code -3.V/
(Code -4.V/)

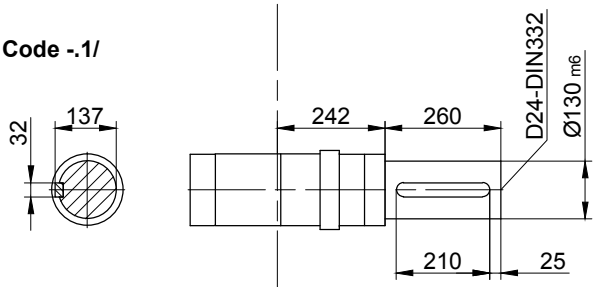


Code -.4/

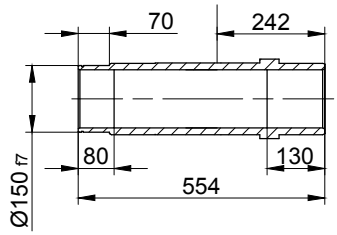




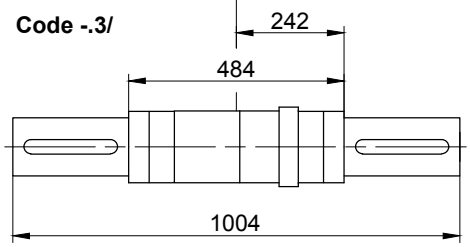
Code -.1/

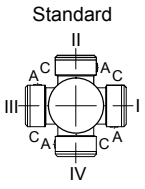


Code -.5/



Code -.3/





A-A

Flange dimensions

BK90G..	k	l	m	n	o	p	q	s	t
Standard -3.V/	550	500	450	22	17.5	519	285	5	217
big -4.V/	660	600	550	25	22	513	279	6	223

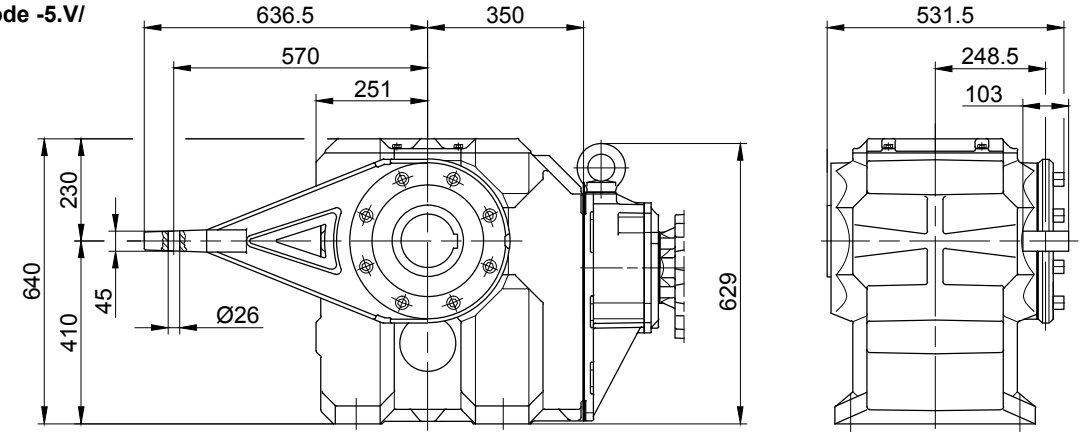
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	ES../ZS..	G	ES../ZS..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BK90G50-../S..08..	200	456	156	1257	66	115	136.5	1323	1364	1430.5	-
BK90G50-../S..09..	251	470.5	181	1322.5	66	124	158	1415.5	1429.5	1520	-
BK90G50-../S..11..	319	477	228	1397	66	181	181	1495	1504	1599.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BK90G50

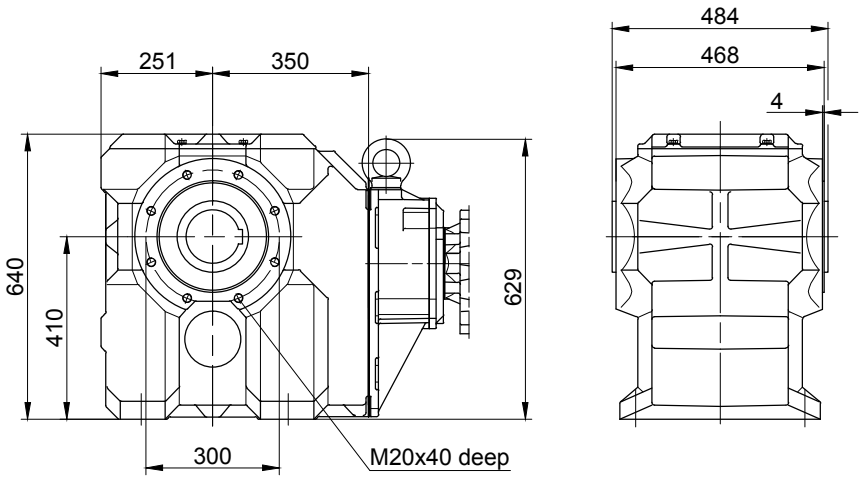
Torque arm at front

Code -5.V/



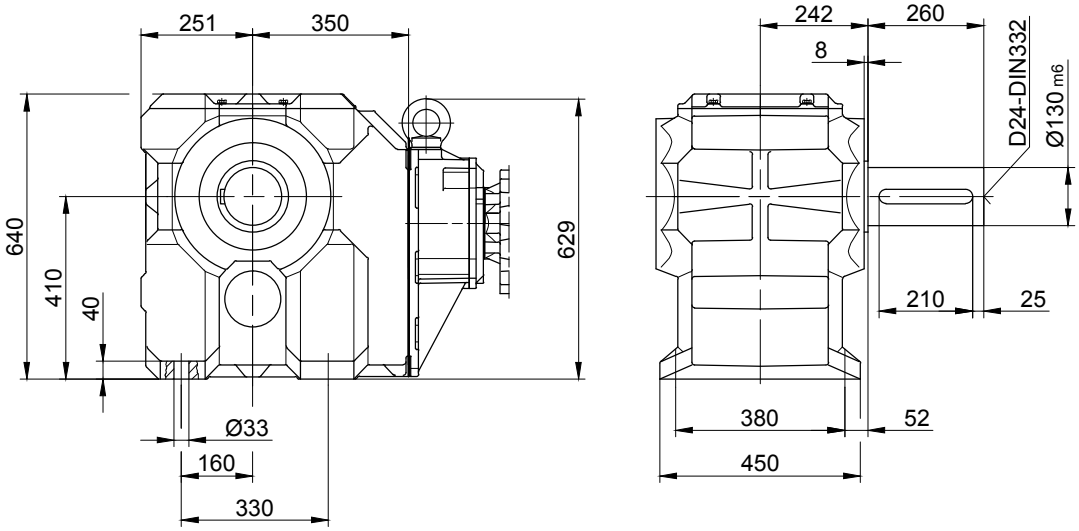
Flange with tapped holes at front

Code -7.V/



Foot with clearance holes at bottom

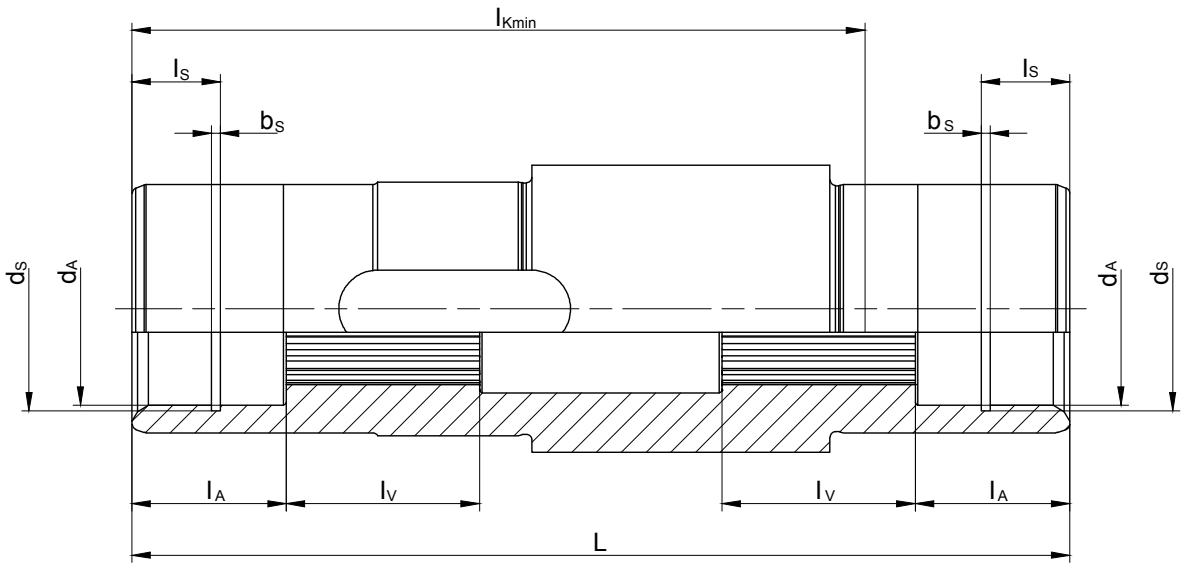
Code -1.U/



www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

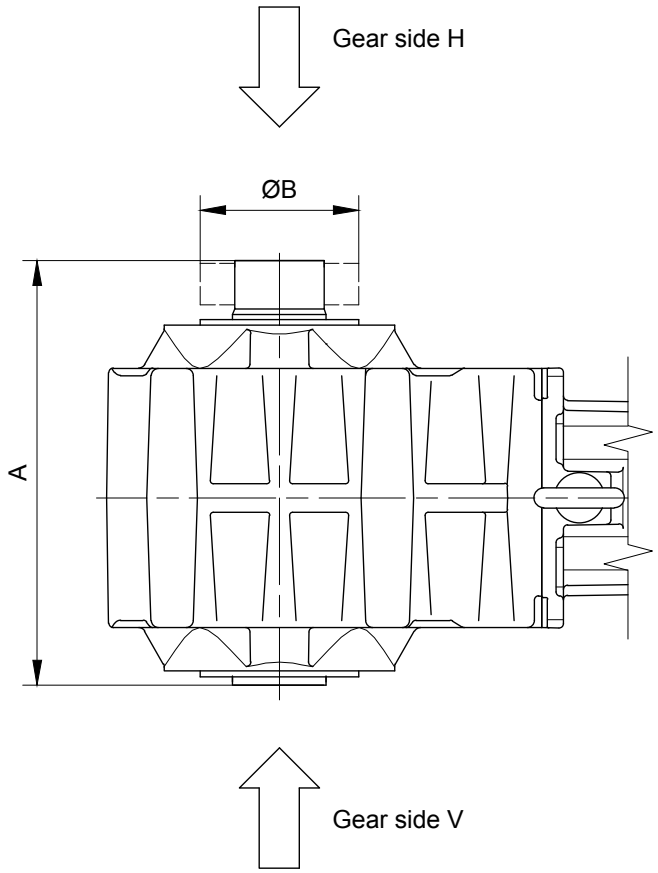
Splined shaft BK



Type	Spline acc. DIN 5480	d_A (mm)	l_A (mm)	l_V (mm)	l_{Kmin} (mm)	L (mm)	d_S (mm)	l_S (mm)	b_S (mm)
BK10	N30x1.25x22x9H	35^{G7}	28	35	132	170	37^{H12}	16	1.6^{H13}
BK20	N35x2x16x9H	36^{G7}	28	35	154	192	37^{H12}	16	1.6^{H13}
BK30	N40x2x18x9H	41^{G7}	25	42	179	224	42.5^{H12}	17	1.85^{H13}
BK40	N50x2x24x9H	51^{G7}	25	49	214	260	53^{H12}	17	2.15^{H13}
BK50	N60x2x28x9H	61^{G7}	25	58	229	282	63^{H12}	17	2.15^{H13}
BK60	N70x2x34x9H	72^{G7}	25	72	248	302	75^{H12}	17	2.65^{H13}
BK70	N85x3x27x9H	86^{G7}	26	100	295	352	88.5^{H12}	17	3.15^{H13}
BK80	N110x3x35x9H	112^{G7}	60	90	335	404	116^{H12}	30	4.15^{H13}
BK90	N130x5x24x9H	131.5^{G7}	60	110	410	484	134^{H12}	30	4.15^{H13}

Shrink disc couplings (SSV)

(Code BK10-.5/...)
(Code BK10Z-.5/...)

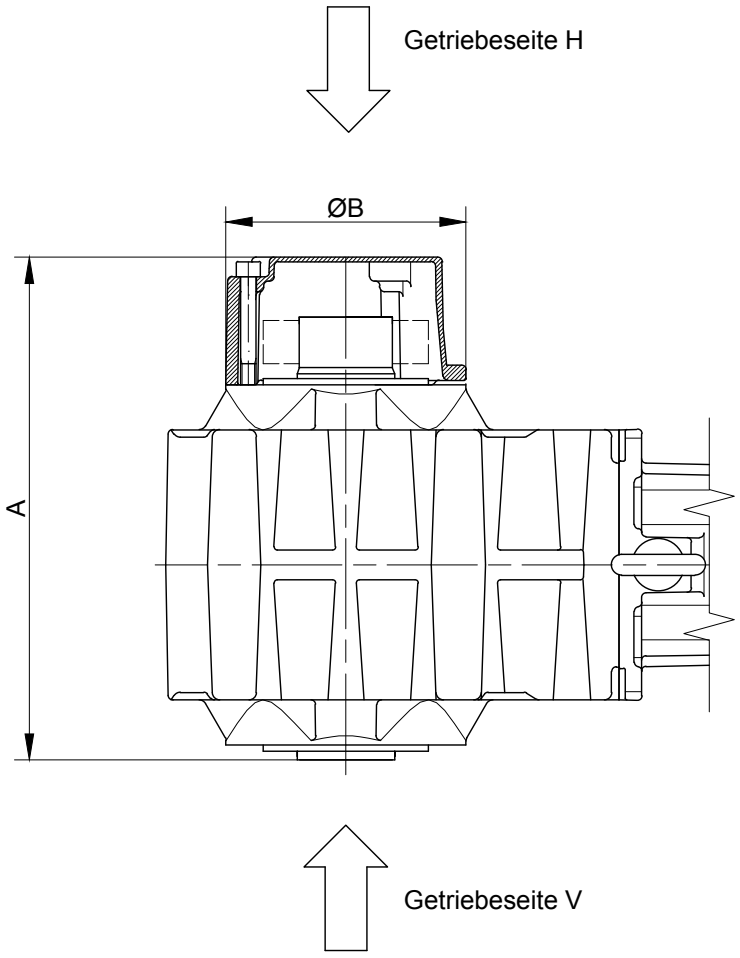


Type	SSV Ringfeder	SSV STÜWE	A	B
BK06	RfN 4161 024x050	HSD 24-22x24	118	50
BK10	RfN 4161 036x072	HSD 36-22x36	195	72
BK20	RfN 4161 044x080	HSD 44-22x44	222	80
BK30	RfN 4161 050x090	HSD 50-22x50	254	90
BK40	RfN 4161 062x110	HSD 62-22x62	295	110
BK50	RfN 4161 068x115	HSD 68-22x68	317	115
BK60	RfN 4161 080x141	HSD 80-22x80	337	140
BK70	RfN 4161 105x185	HSD 110-22x105	407	185
BK80	RfN 4161 130x215	HSD 125-22x130	464	215
BK90	RfN 4161 150x263	HSD 155-22x150	554	263

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Shrink disc connection with cover (SSV)

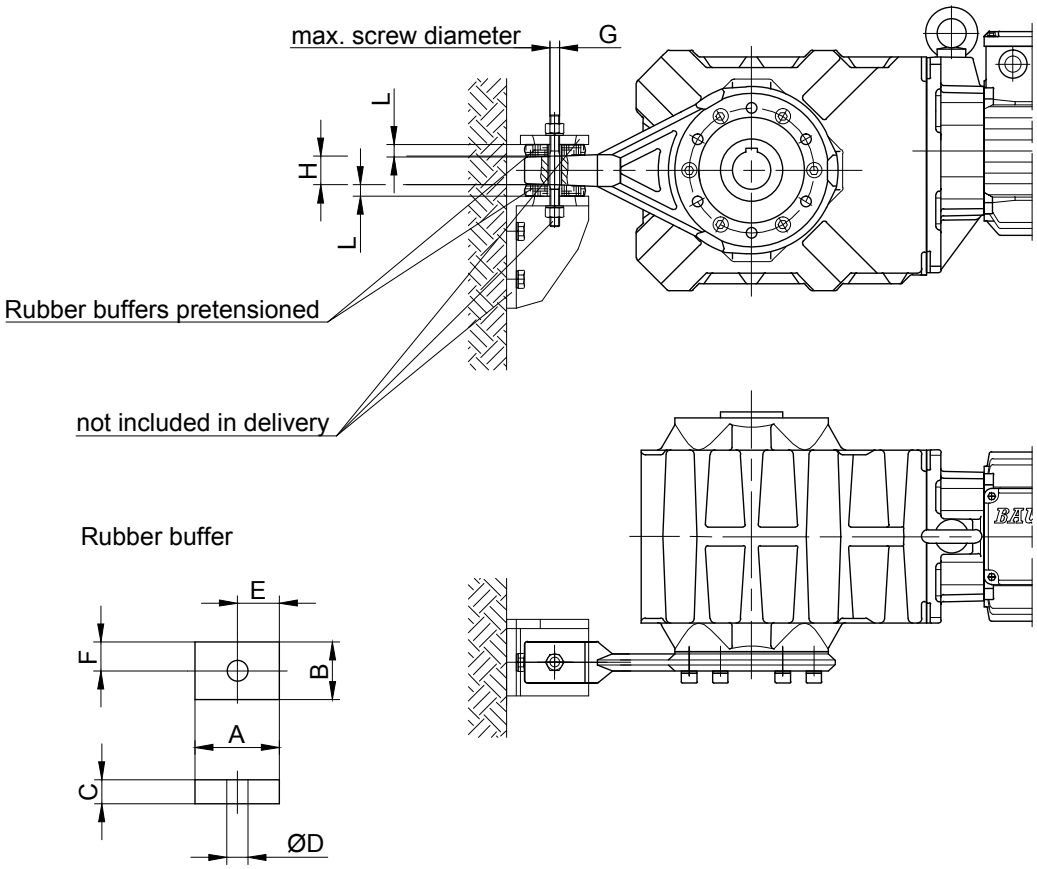
(Code BK10-.5A/...)
(Code BK10Z-.5A/...)



Typ	SSV Ringfeder	SSV STÜWE	A	B
BK10	RfN 4161 036x072	HSD 36-22x36	217	120
BK20	RfN 4161 044x080	HSD 44-22x44	270	140
BK30	RfN 4161 050x090	HSD 50-22x50	300	160
BK40	RfN 4161 062x110	HSD 62-22x62	335	160
BK50	RfN 4161 068x115	HSD 68-22x68	329	200
BK60	RfN 4161 080x141	HSD 80-22x80	386	210
BK70	RfN 4161 105x185	HSD 110-22x105	465	250
BK80	RfN 4161 130x215	HSD 125-22x130	502	300
BK90	RfN 4161 150x263	HSD 155-22x150	602	350

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Rubber buffer for torque arm

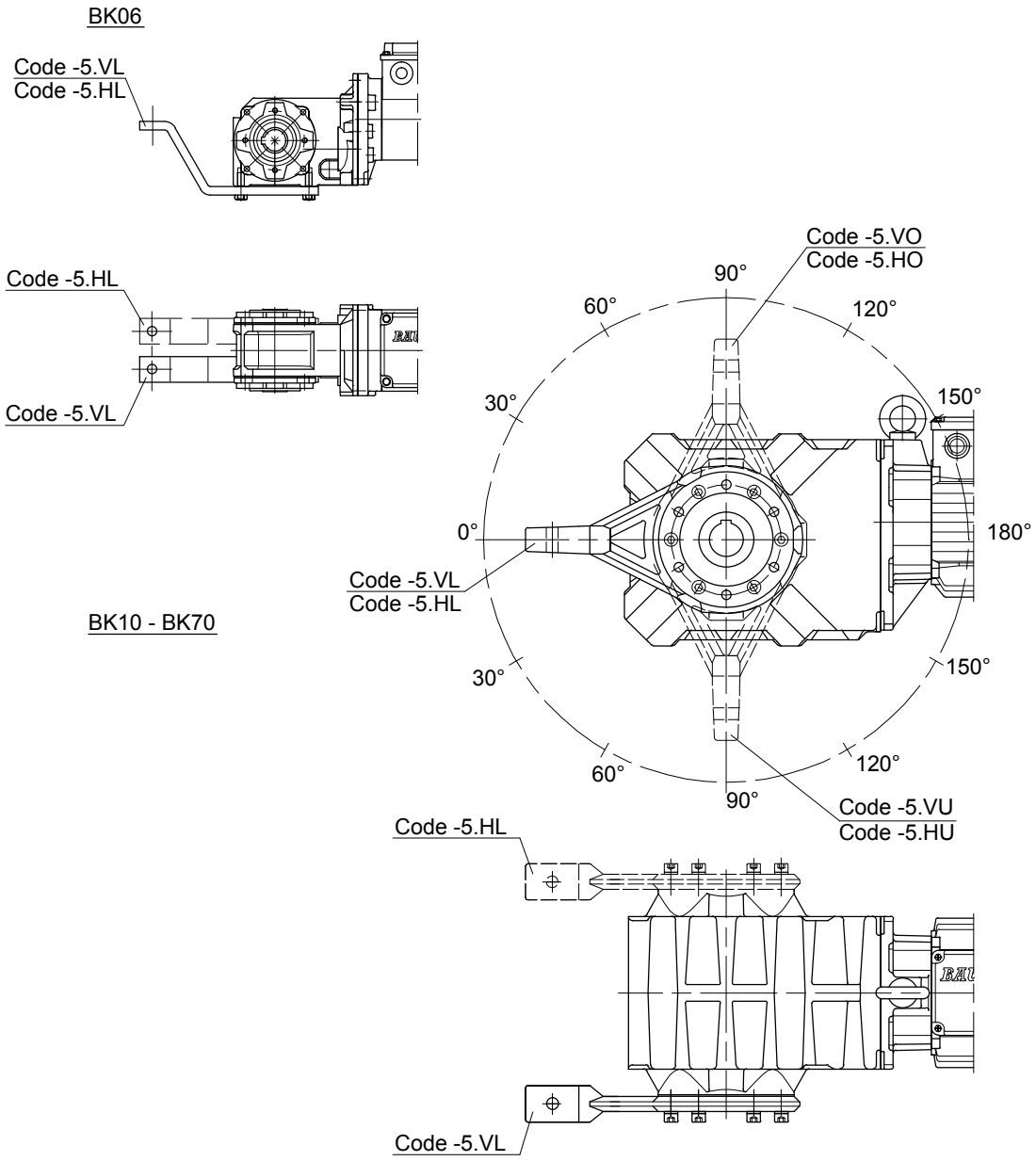


Material: Natural rubber
Hardness 50±5 Shore A

Dimensions of the transverse hole:
see dimensioned sketch of the respective shaft mounted gearbox

Gear	Pos.	Dimensions (mm)								
		A	B	C	D	E	F	G	H	L
BK06	Pos.0	30	30	12	12	15	15	M10	10	10
BK10	Pos.1	48	32	15	14	24	16	M10	19	13.5
BK20	Pos.1	48	32	15	14	24	16	M10	19	13
BK30	Pos.2	63	43	20	14	31.5	21.5	M10	30	17
BK40	Pos.2	63	43	20	14	31.5	21.5	M10	30	17
BK50	Pos.3	88	60	25	22	44	30	M18	36	21.5
BK60	Pos.3	88	60	25	22	44	30	M18	38	21
BK70	Pos.4	123	88	30	26	61.5	44	M20	40	25.5
BK80	Pos.5	133	103	35	26	66.5	51.5	M20	45	30
BK90	Pos.5	133	103	35	26	66.5	51.5	M20	45	29.5

Position of the torque arm

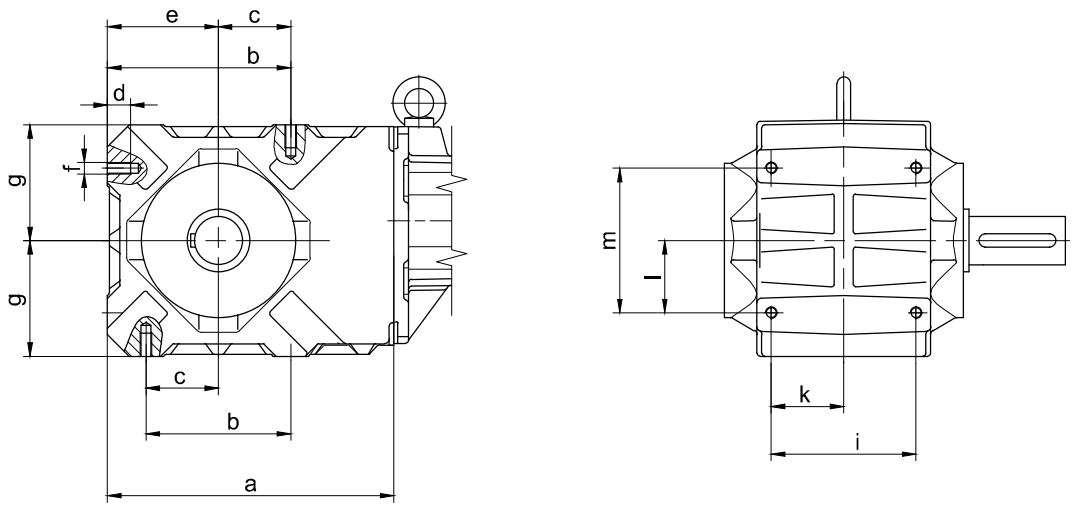


Possible locations.

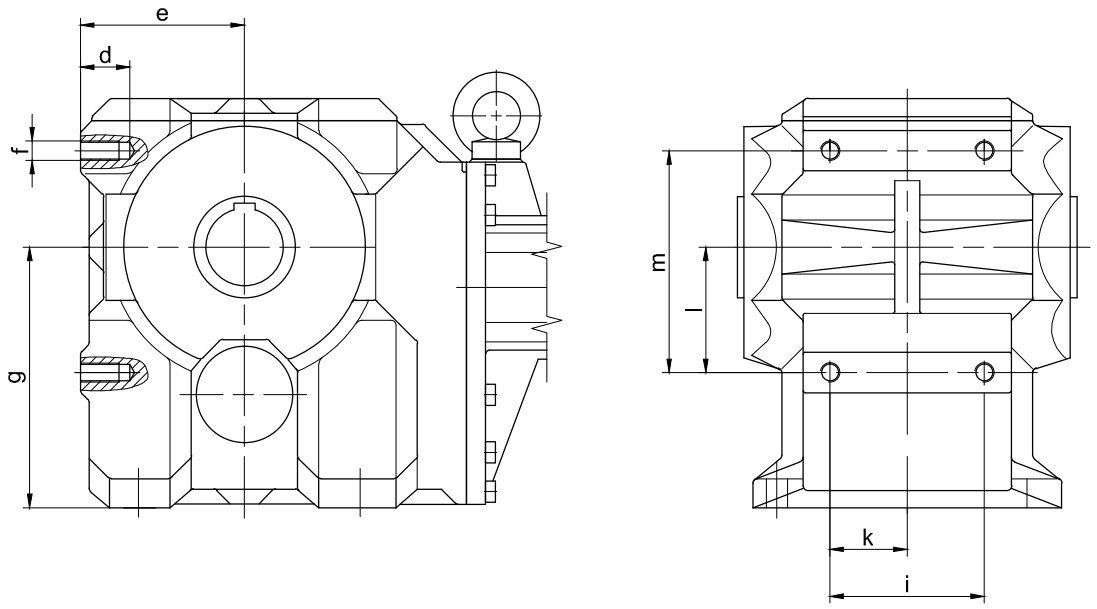
Position	VL / HL	VO / HO VU / HU					VR / HR
BK06	0°	-	-	-	-	-	-
BK10	0°	30°	60°	90°	120°	150°	-
BK20	0°	30°	60°	90°	120°	150°	-
BK30	0°	30°	60°	90°	120°	150°	-
BK40	0°	30°	60°	90°	120°	150°	-
BK50	0°	30°	60°	90°	120°	150°	-
BK60	0°	30°	60°	90°	120°	150°	-
BK70	0°	30°	60°	90°	120°	150°	-
BK80	0°	30°	60°	90°	120°	150°	-
BK90	0°	45°		90°	135°		-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Foot with tapped bores



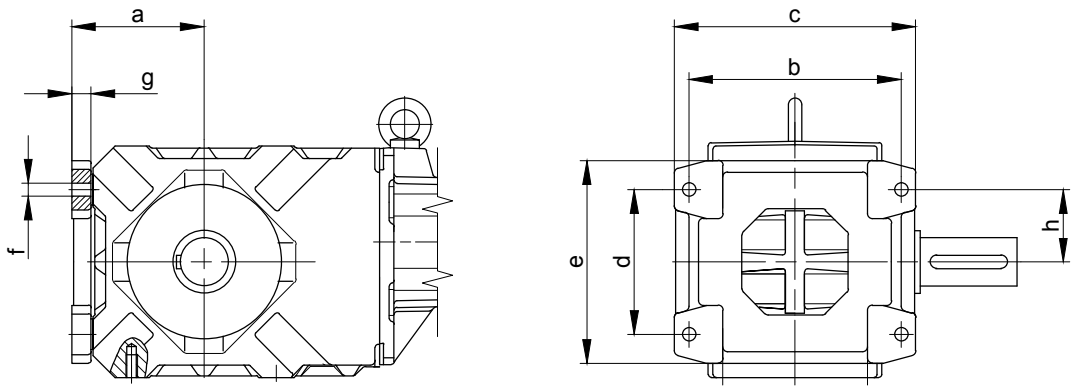
Type	a	b	c	d	e	f	g	i	k	l	m
BK10-BK10Z	202	90	45	16	78	M8	80	95	47.5	45	90
BK20-BK20Z	242	110	55	20	95	M10	100	105	52.5	55	110
BK30-BK30Z	266	125	62.5	24	105	M12	110	120	60	62.5	125
BK40-BK40Z	297	150	75	24	115	M12	120	150	75	75	150
BK50-BK50Z	356	200	100	28	145	M14	150	160	80	100	200



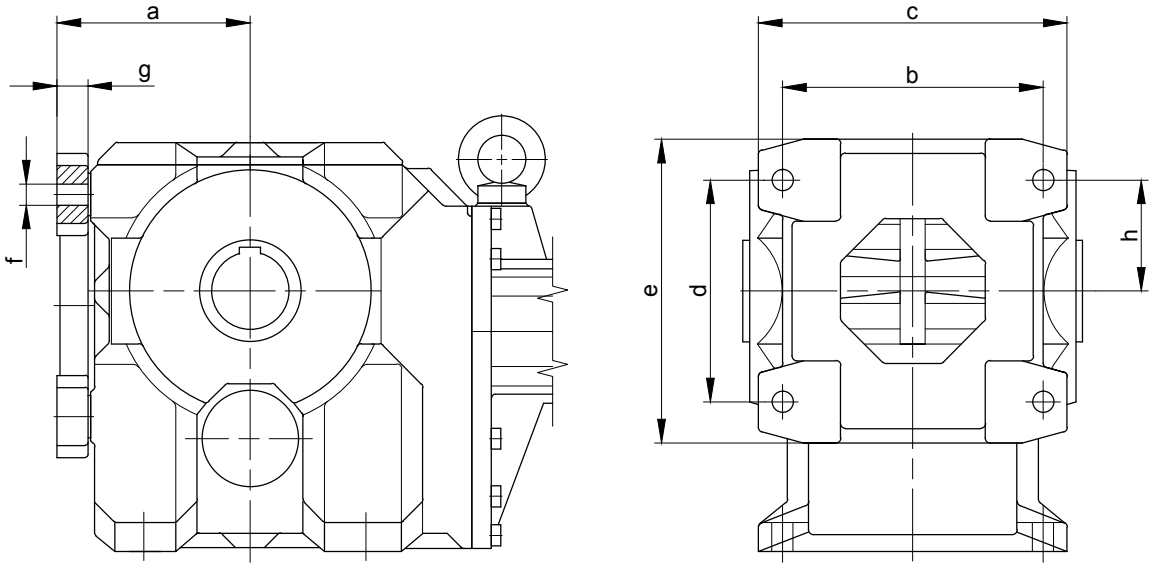
Type	a	b	c	d	e	f	g	i	k	l	m
BK60-BK60Z	-	-	-	40	130	M20	212	160	80	145	230
BK70-BK70Z	-	-	-	40	165	M20	270	160	80	130	230
BK80-BK80Z	-	-	-	60	200	M30	335	210	105	240	360
BK90-BK90Z	-	-	-	60	245	M30	410	210	105	215	360

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Foot plate with through holes



Type	a	b	c	d	e	f	g	h
BK10-BK10Z	96	145	165	90	130	Ø9	16	45
BK20-BK20Z	115	165	195	110	160	Ø11	18	55
BK30-BK30Z	127	190	220	125	185	Ø13.5	20	62.5
BK40-BK40Z	137	220	250	150	210	Ø13.5	20	75
BK50-BK50Z	170	240	280	200	265	Ø17.5	23	100

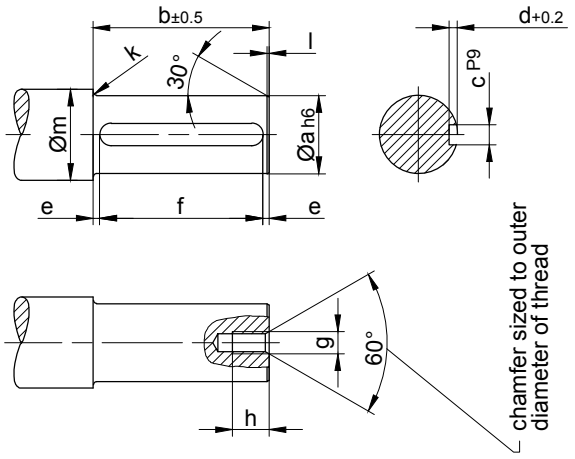


Type	a	b	c	d	e	f	g	h
BK60-BK60Z	165	270	320	230	315	Ø22	32	85
BK70-BK70Z	200	270	320	230	315	Ø22	32	100
BK80-BK80Z	250	400	480	360	480	Ø33	47	120
BK90-BK90Z	295	400	480	360	480	Ø33	47	145

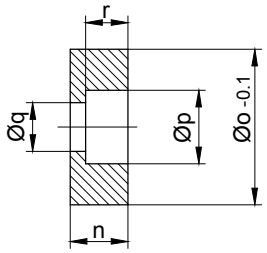
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Assembly tools for shaft mounted gears with splined shaft

Pos.1 Shaft

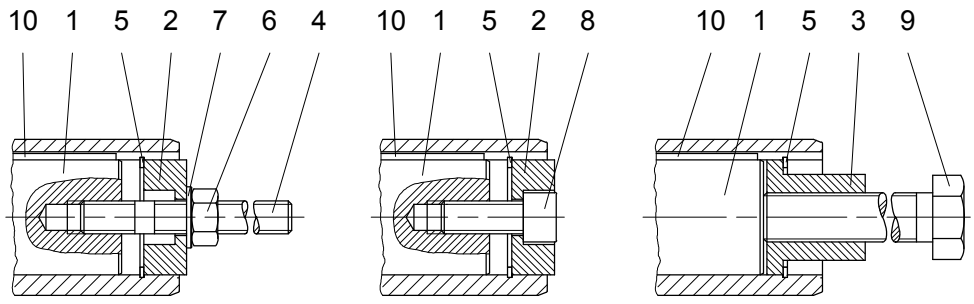


✱Pos.2 Disc



x, edges cut
Material:
C45 DIN 17200

Type	Dimensions (mm)															
	Pos.1 Shaft											Pos.2 Disc				
	a	b	c	d	e	f	g	h	k	l	m	n	o	p	q	r
BK06	20	75	6	3.5	6	$63^{+0.3}$	M6	16	2	1	28	13.5	19.8	11	6.6	6.5
BK10	25	148	8	4	11.5	$125^{+0.5}$	M8	18	2.5	1.5	33	13.5	24.8	15	9	8.5
BK20	30	170	8	4	15	$140^{+0.5}$	M10	20	3	1.5	38	15	29.8	18	11	10
BK30	35	201	10	5	10.5	$180^{+0.5}$	M10	20	3	1.5	43	16	34.8	18	11	10
BK40	40	235	12	5	17.5	$200^{+0.5}$	M12	22	3	2	48	18	39.8	20	13.5	12
BK50	50	254	14	5.5	17	$220^{+0.5}$	M16	30	3.5	2	58	21	49.8	26	17.5	15
BK60	60	273	18	7	11.5	$250^{+0.5}$	M20	38	3.5	2	68	24	59.8	33	22	18
BK70	80	316	22	9	18	$280^{+0.5}$	M20	38	4	2	90	27	79.8	33	22	20
BK70-K70	70	316	20	7.5	18	$280^{+0.5}$	M20	38	4	2	90	27	69.8	33	22	20
BK80	100	360	28	10	20	$320^{+0.5}$	M24	45	4	3	110	32	99.8	40	26	25
BK90	120	432	32	11	16	$400^{+0.5}$	M24	45	4.5	3	130	35	119.8	40	26	28



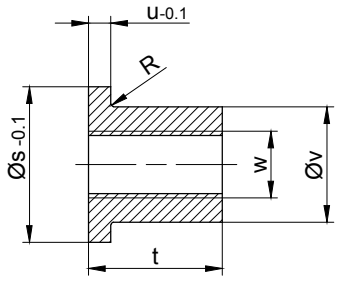
Installation Holding Dismantlement

The parts shown are neccessary fpr assembly. ONLY ✱specified parts are enclosed in the assembly kit.
Suitable measures are to be used to secure Bolt Pos.9 against loosening.

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

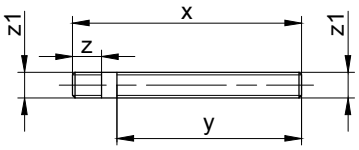
Assembly tools for shaft mounted gears with splined shaft

Pos.3 Sleeve



$\sqrt{^{x}}$, edges cut
Material: C45 DIN 17200

Pos.4 Stud Bolt



Material: Steel, tensile strength
≥ 1000N/mm²
threads rolled

Type	Dimensions (mm)										✳Retainer ring DIN 472	Hexagon nut DIN 934-8	Disc DIN 125-St	✳Filister head screw DIN 912-8.8	Starting torque (Nm)	Hexagon bolt DIN EN 24017-8.8	Key DIN 6885 Width x Height x Length
	Pos.3 Sleeve						Pos.4 Stud Bolt										
	s	t	u	v	w	R	x	y	z	z1	Pos.5	Pos.6	Pos.7	Pos.8		Pos.9	Pos.10
BK06	19.8	20	5	11.1	M8	0.8	130	100	20	M6	20x1	M6	6.4	M6x30	5	M6x120	A 6x6x63
BK10	24.8	24	5	15.4	M12	0.8	200	170	20	M8	25x1.2	M8	8.4	M8x30		M12x190	A 8x7x125
BK20	29.8	28	5	19.8	M14	0.8	230	195	23	M10	30x1.2	M10	10.5	M10x30	8	M14x210	A 8x7x140
BK30	34.8	28	5	23	M14	-	260	220	23	M10	35x1.5	M10	10.5	M10x35		M14x240	A 10x8x180
BK40	39.8	40	6	27.7	M20	0.8	300	260	28	M12	40x1.75	M12	13	M12x35	16	M20x290	A 12x8x200
BK50	49.8	48	6	36	M24	-	340	290	37	M16	50x2.0	M16	17	M16x40	30	M24x320	A 14x9x220
BK60	59.8	60	6	44	M30	-	370	310	45	M20	60x2.0	M20	21	M20x50	42	M30x350	A 18x11x250
BK70	79.8	60	8	55	M30	-	420	360	45	M20	80x2.5	M20	21	M20x50		M30x400	A 22x14x280
BK70-K70	69.8	60	8	53	M30	-	420	360	45	M20	70x2.5	M20	21	M20x50		M30x400	A 20x12x280
BK80	99.8	72	10	75	M36	-	480	410	55	M24	100x3.0	M24	25	M24x60	100	M36x450	A 28x16x320
BK90	119.8	72	10	80	M36	-	560	480	55	M24	120x4.0	M24	25	M24x60		M36x520	A 32x18x400

The parts shown are neccessary for assembly. ONLY ✳specified parts are enclosed in the assembly kit.
Suitable measures are to be used to secure Bolt Pos.9 against loosening.

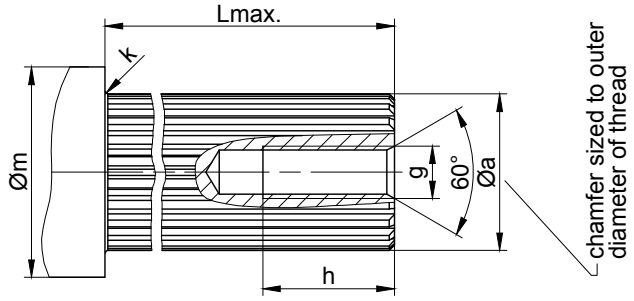
Optional:

Type	Ø s	Order Text
BK06	20	Id.Nr.4104013 Assembly tool "holding"
BK10	25	Id.Nr.4103921 Assembly tool "holding"
BK20	30	Id.Nr.4103939 Assembly tool "holding"
BK30	35	Id.Nr.4103947 Assembly tool "holding"
BK40	40	Id.Nr.4103955 Assembly tool "holding"
BK50	50	Id.Nr.4103963 Assembly tool "holding"
BK60	60	Id.Nr.4103971 Assembly tool "holding"
BK70	80	Id.Nr.4103980 Assembly tool "holding"
BK70-K70	70	Id.Nr.4104765 Assembly tool "holding"
BK80	100	Id.Nr.4103998 Assembly tool "holding"
BK90	120	Id.Nr.4104005 Assembly tool "holding"

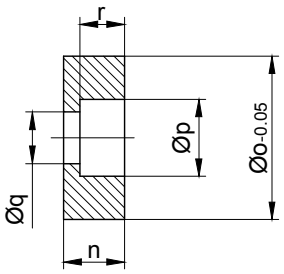
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Assembly tools for shaft mounted gears with splined shaft

Pos.1 Shaft

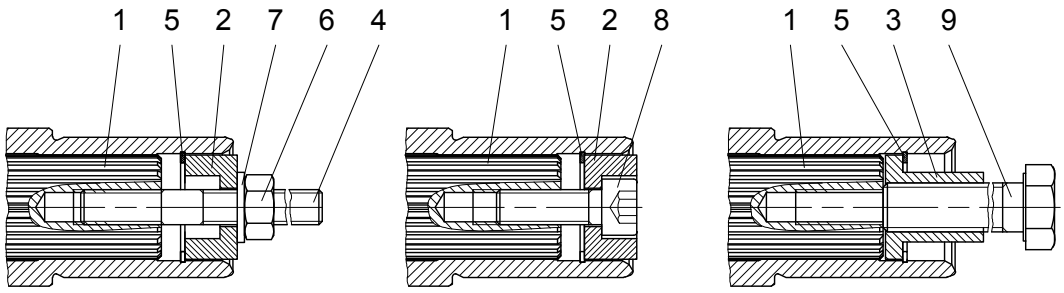


✳Pos.2 Disc



$\sqrt{^{x}}$, edges cut
Material:
C45 DIN 17200

Type	Dimensions (mm)										
	Pos.1 Shaft						Pos.2 Disc				
	a	g	h	k	Lmax.	m	n	o	p	q	r
BK10	DIN 5480-W30x1.25x22	M10	25	2.5	145	42	15	34.9	18	11	10
BK20	DIN 5480-W35x2x16	M10	25	3	167	44	14	35.9	18	11	10
BK30	DIN 5480-W40x2x18	M12	30	3	200	49	18	40.9	20	13.5	12
BK40	DIN 5480-W50x2x24	M16	35	3	235	59	17.5	50.9	26	17.5	12.5
BK50	DIN 5480-W60x2x28	M20	40	3.5	255	69	24	60.9	33	22	18
BK60	DIN 5480-W70x2x34	M20	40	3.5	275	80	24	71.9	33	22	18
BK70	DIN 5480-W85x3x27	M20	40	4	323	96	22	85.9	33	22	16
BK80	DIN 5480-W110x3x35	M24	50	4	360	122	32	111.9	40	26	25
BK90	DIN 5480-W130x5x24	M24	50	4.5	440	143	25	131.4	40	26	18



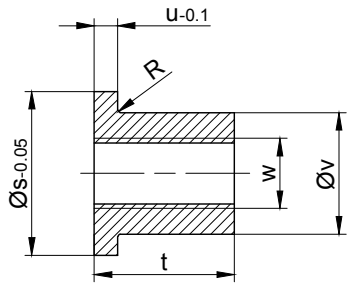
Installation Holding Dismantlement

The parts shown are neccessary for assembly. ONLY ✳specified parts are enclosed in the assembly kit.
Suitable measures are to be used to secure Bolt Pos.9 against loosening.

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

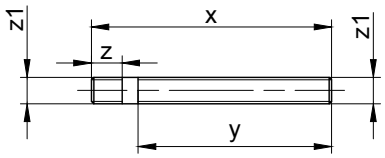
Assembly tools for shaft mounted gears with splined shaft

Pos.3 Sleeve



x, edges cut
Material:
C45 DIN 17200

Pos.4 Stud Bolt



Material: Steel, tensile strength
≥ 1000N/mm²
threads rolled

Type	Dimensions (mm)										✳Retainer ring DIN 472	Hexagon nut DIN 934-8	Disc DIN 125-St	✳Filister head screw DIN 7984-8.8	Starting torque (Nm)	Hexagon bolt DIN EN 24017-8.8
	Pos.3 Sleeve						Pos.4 Stud Bolt									
	s	t	u	v	w	R	x	y	z	z1	Pos.5	Pos.6	Pos.7	Pos.8		Pos.9
BK10	30.4	28	5	19.8	M14	-	200	170	23	M10	35x1.5	M10	10.5	M10x30	8	M14x190
BK20	35.9	28	5	23	M14	-	230	195	23	M10	35x1.5	M10	10.5	M10x35		M14x210
BK30	40.9	40	6	27.7	M20	-	260	220	28	M12	40x1.75	M12	13	M12x35	16	M20x240
BK40	50.9	48	6	36	M24	0.8	300	260	37	M16	50x2.0	M16	17	M16x40	30	M24x290
BK50	60.9	60	6	44	M30	-	340	290	45	M20	60x2.0	M20	21	M20x50	42	M30x320
BK60	71.9	60	6	53	M30	0.8	370	310	45	M20	70x2.5	M20	21	M20x50		M30x350
BK70	85.9	60	8	65	M30	0.8	420	360	45	M20	85x3	M20	21	M20x50		M30x400
BK80	111.9	72	10	85	M36	0.8	480	410	55	M24	112x4	M24	25	M24x60	100	M36x450
BK90	131.4	72	10	95	M36	0.8	560	480	55	M24	130x4	M24	25	M24x60		M36x520

The parts shown are neccessary for assembly. ONLY ✳specified parts are enclosed in the assembly kit.
Suitable measures are to be used to secure Bolt Pos.9 against loosening.

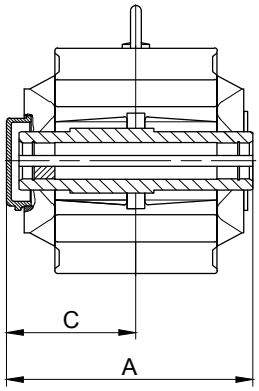
Optional:

Type	Ø s	Order Text
BK10	30.5	Id.Nr.4105133 Assembly tool "holding"
BK20	36	Id.Nr.4105141 Assembly tool "holding"
BK30	41	Id.Nr.4105150 Assembly tool "holding"
BK40	51	Id.Nr.4105168 Assembly tool "holding"
BK50	61	Id.Nr.4105176 Assembly tool "holding"
BK60	72	Id.Nr.4105184 Assembly tool "holding"
BK70	86	Id.Nr.4105192 Assembly tool "holding"
BK80	112	Id.Nr.4105206 Assembly tool "holding"
BK90	131.5	Id.Nr.4105214 Assembly tool "holding"

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

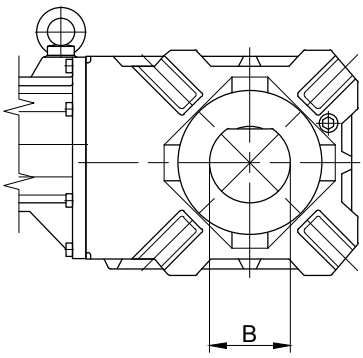
Shaft Cap (VK)

Gear side REAR (H)



Gear side FRONT (V)

Gear side REAR (H)

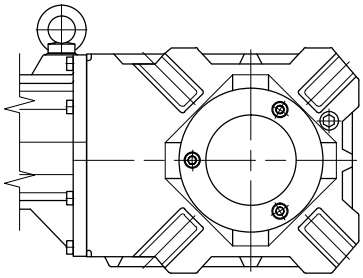


Type	A	B	C
BK10	182.5	85	97.5
BK20	204.5	90	108.5
BK40	273.5	100	143.5
BK50	298	115	157
BK60	322	130	171
BK70	370	160	194

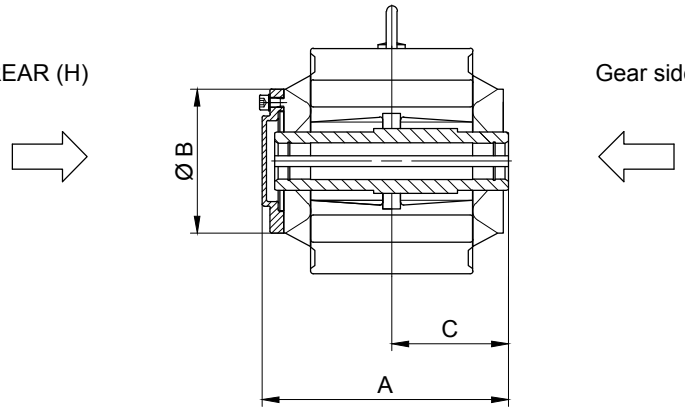
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Shaft Cover (VD)

Gear side REAR (H)



Gear side REAR (H)



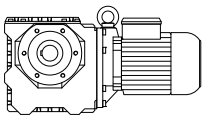
Gear side FRONT (V)

Type	A	B	C
BK10	181	120	85
BK20	206	139.5	96
BK30	239	160	112
BK40	274	160	130
BK50	297	199	141
BK60	321	210	151
BK70	368	250	176
BK80	419	300	202
BK90	492	351	242

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

13



Page

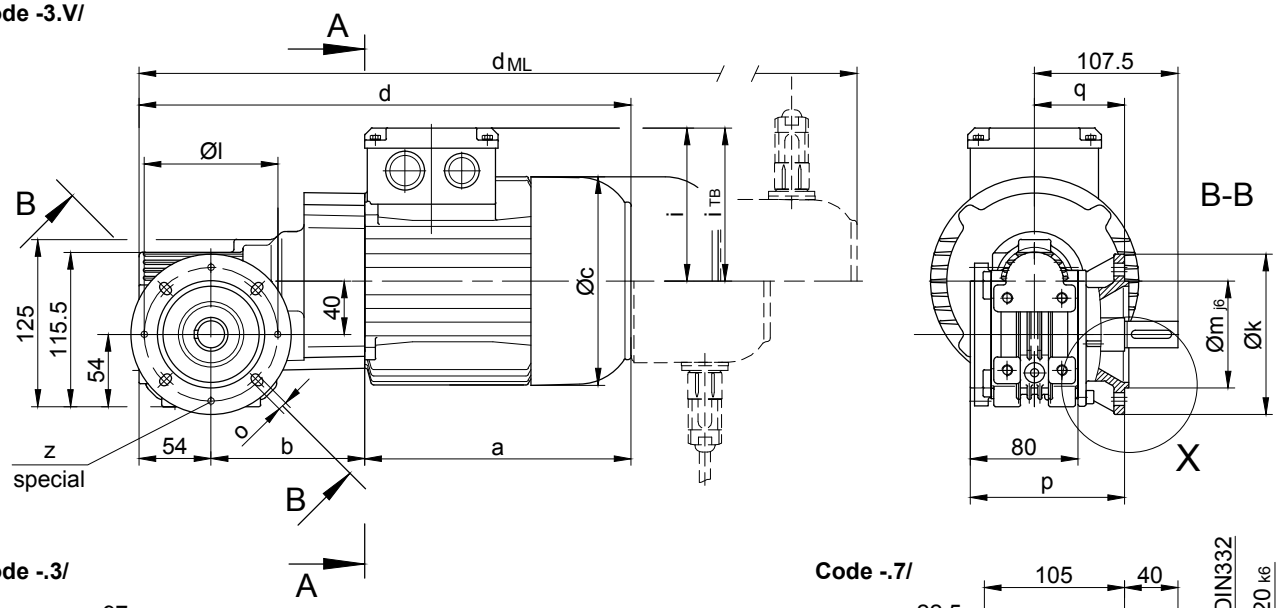
Dimensional drawings worm-geared motors 323-354
- Standard
- Tandem Gearbox

Additional Dimension Sheet
- Shrink disc couplings (SSV)
- Shrink disc couplings with (SSV) cover
- Rubber buffer for torque restraint
- Position of the torque arm
- Threaded foot, left
- Foot plate, left
- Assembly tools for hollow shaft
- Shaft cap (VK)
- Shaft cover (VD)

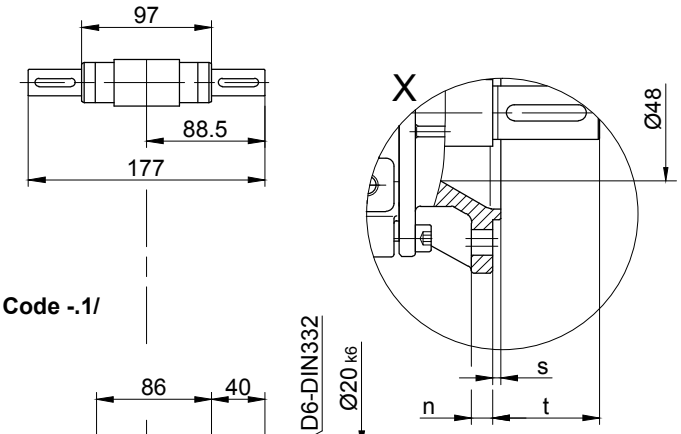
BS03

Flange with clearance holes at front

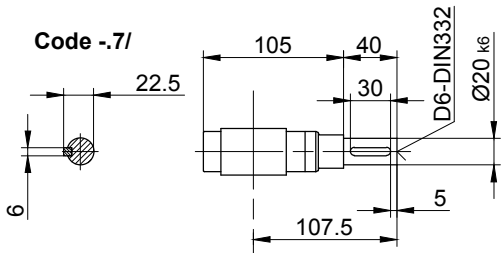
Code -3.V/



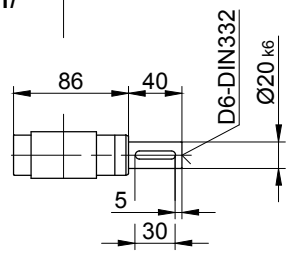
Code -.3/



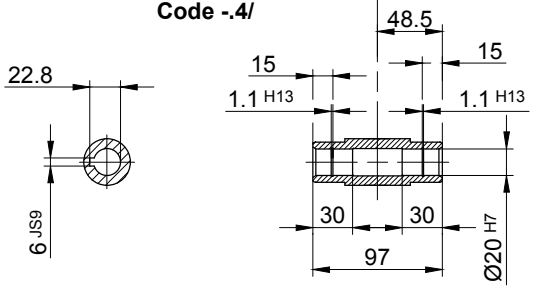
Code -.7/



Code -.1/

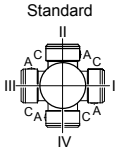


Code -.4/



Flange dimensions

BS03	k	l	m	n	o	p	q	s	t	z
standard -37V/	120	100	80	8	6.6	115	67.5	3	40	-
spezial -37V/	120	100	80	8	6.6	115	67.5	3	40	4xM6



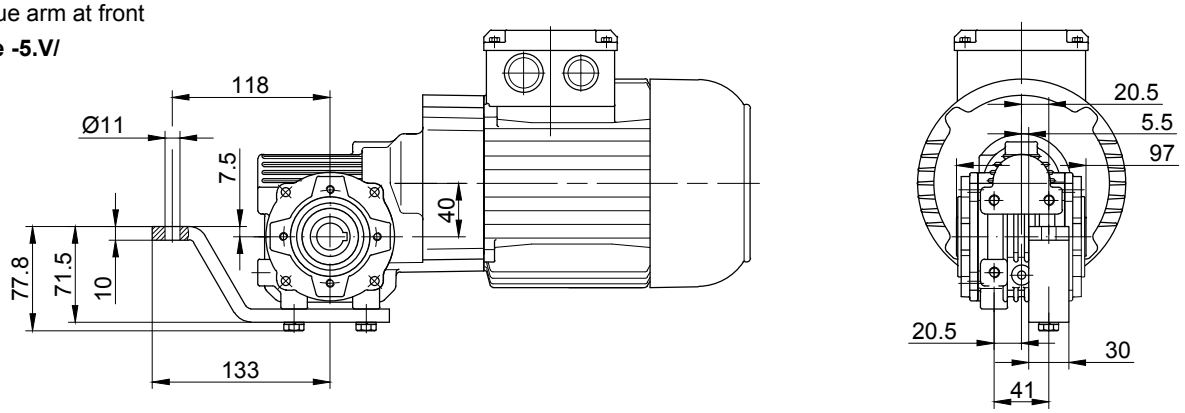
Type	a	b	c	d	u	v	i	Design with motor extensions				
								i_{TB}	E../ES..	G	E../ES..-G	RR/RL
									d_{ML}	d_{ML}	d_{ML}	d_{ML}
BS03-../S..08..	200	115	156	425	228	-	115	136.5	491	532	598.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BS03

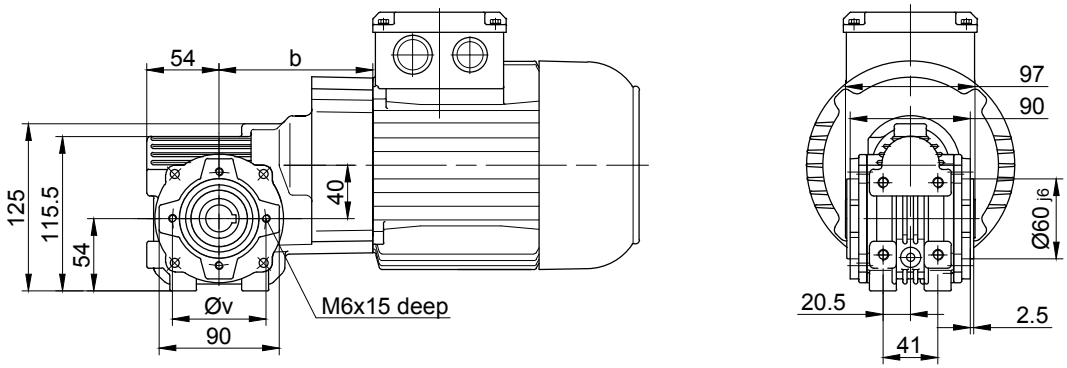
Torque arm at front

Code -5.V/



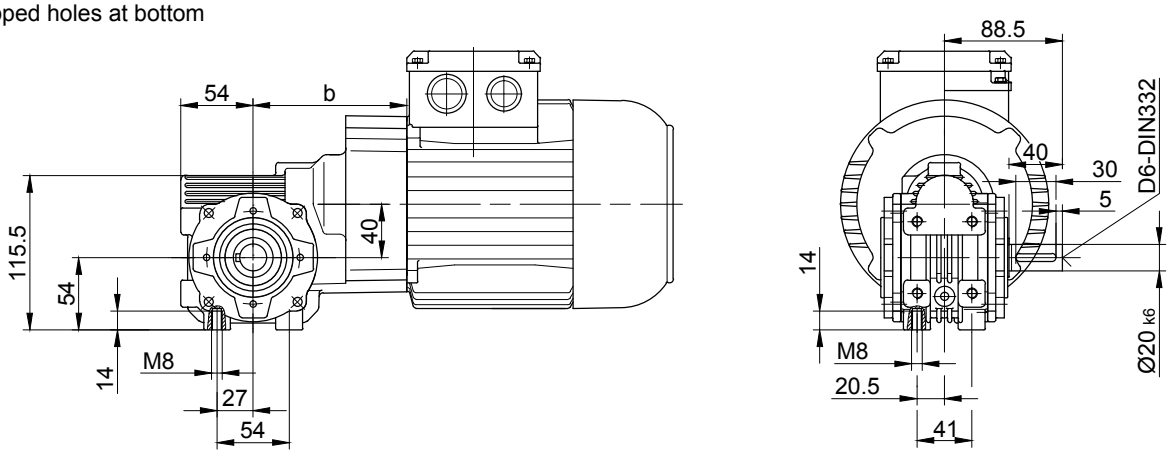
Flange with tapped holes at front

Code -7.V/



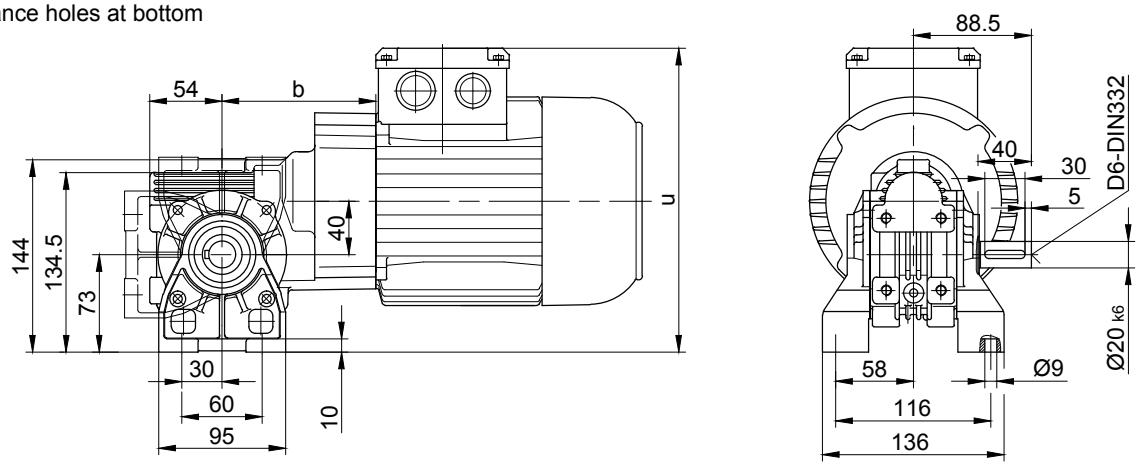
Foot with tapped holes at bottom

Code -6.U/



Foot with clearance holes at bottom

Code -1.U/

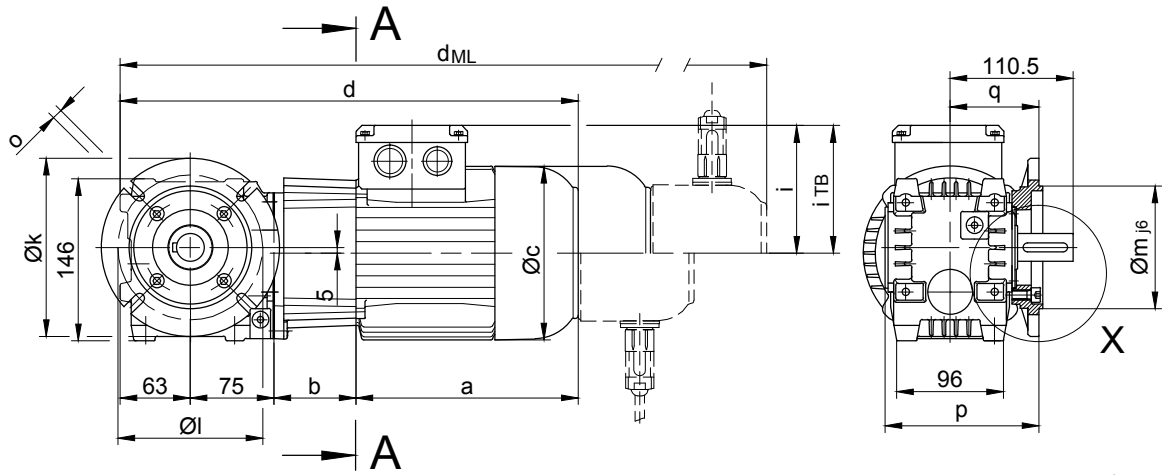


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

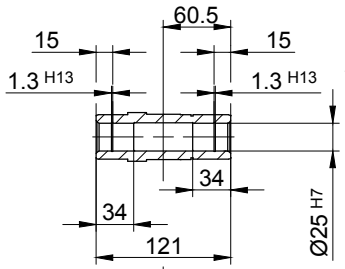
BS06

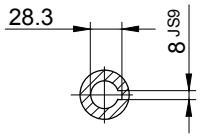
Flange with clearance holes at front

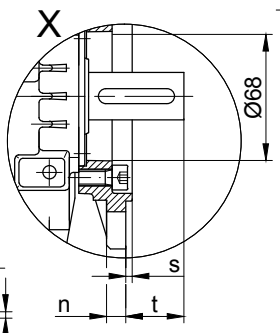
(Code -4.V/)



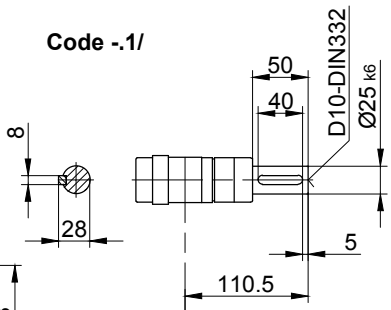
Code -.4/
Standard



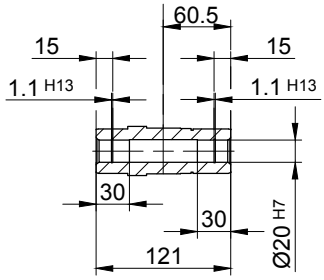


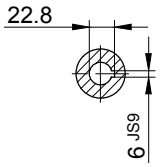


Code -.1/

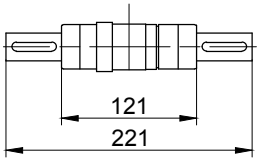


Code -.4/K20



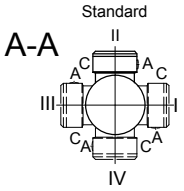


Code -.3/



Flange dimensions

BS06	k	l	m	n	o	p	q	s	t
Standard -3.V/	140	115	95	10	9	138.5	80	3	30.5
big -4.V/	160	130	110	10	9	138.5	80	3.5	30.5



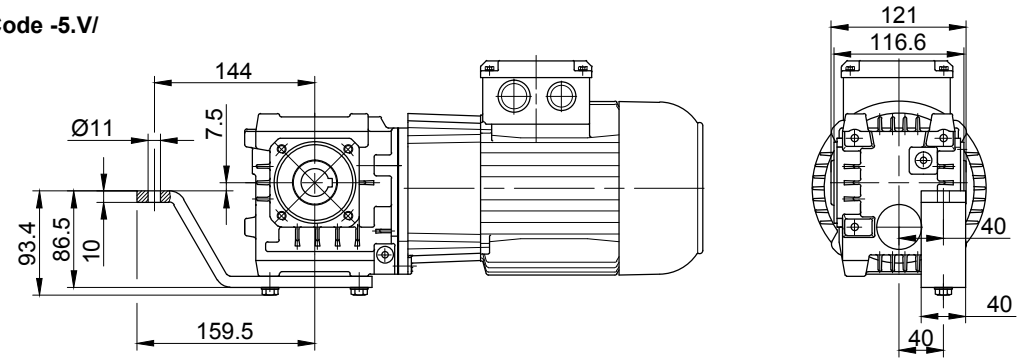
Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	E../ES..	G	E../ES..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BS06-../S..08..	200	74	156	412	115	136.5	478	519	585.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BS06

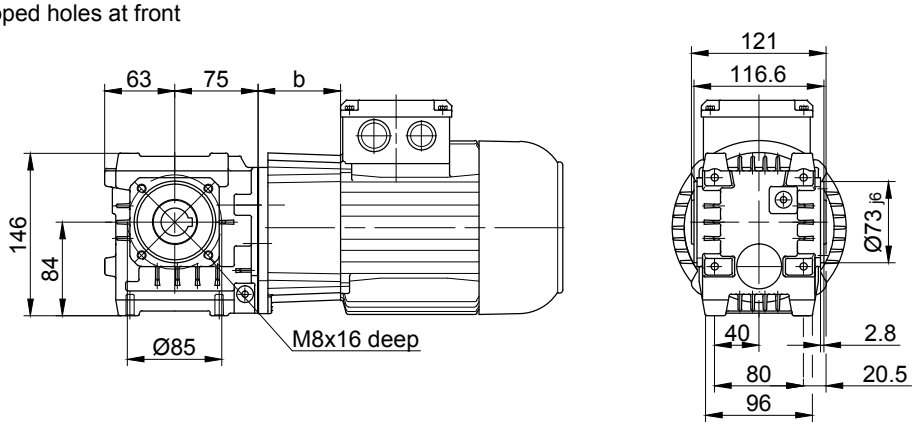
Torque arm at front

Code -5.V/



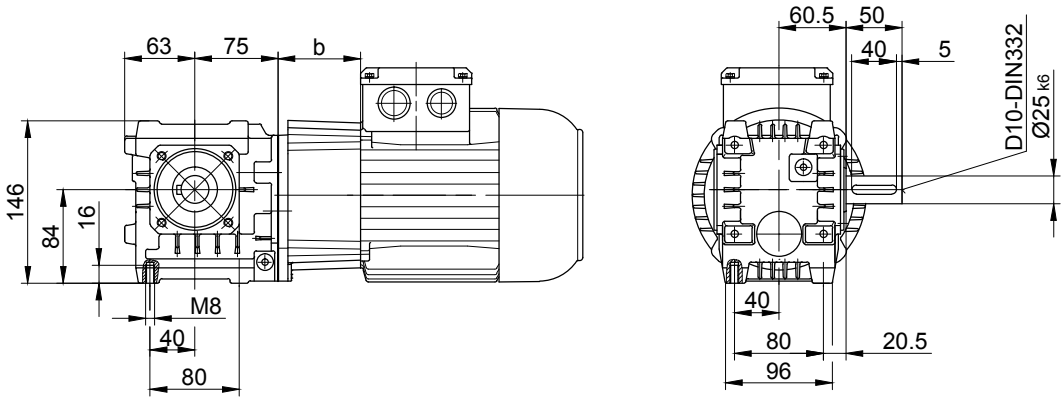
Flange with tapped holes at front

Code -7.V/



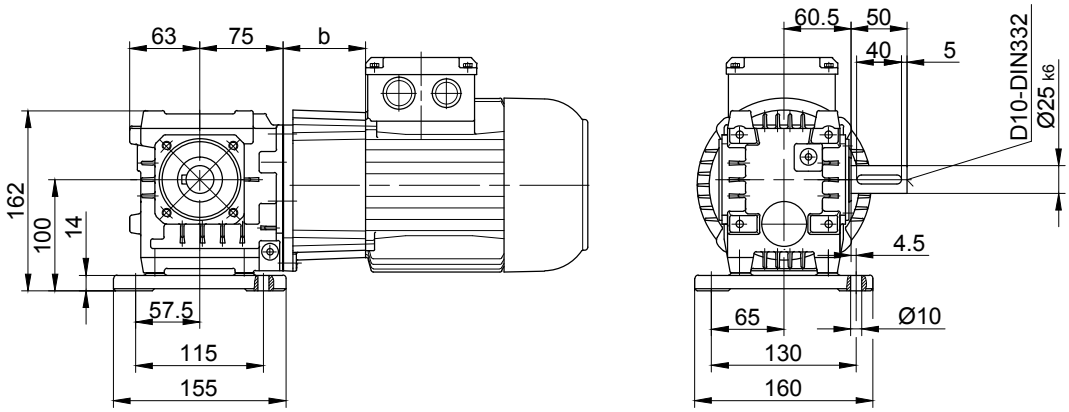
Foot with tapped holes at bottom

Code -6.U/



Foot with clearance holes at bottom

Code -1.U/



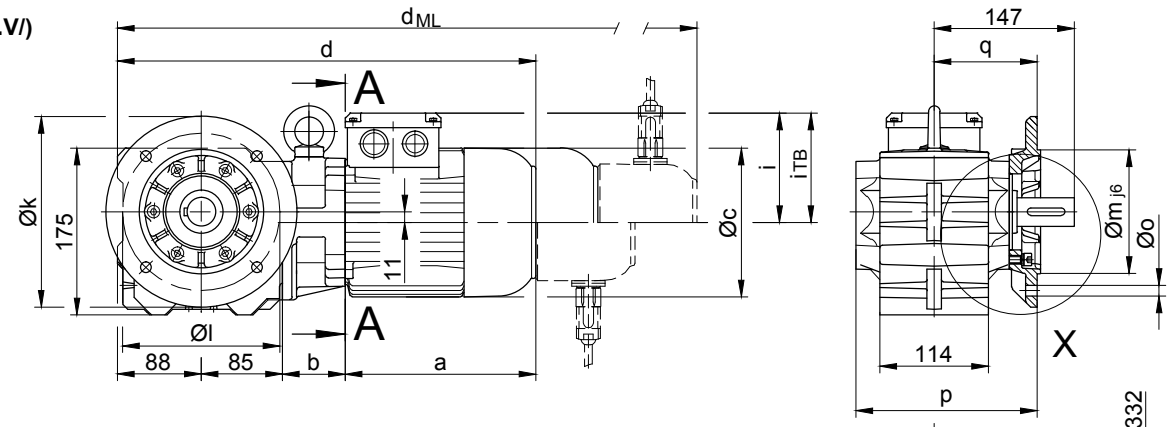
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BS10 - BS10Z

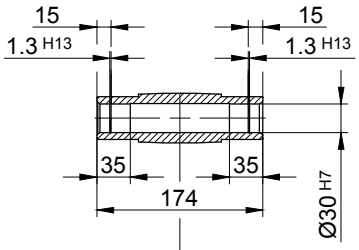
Flange with clearance holes at front

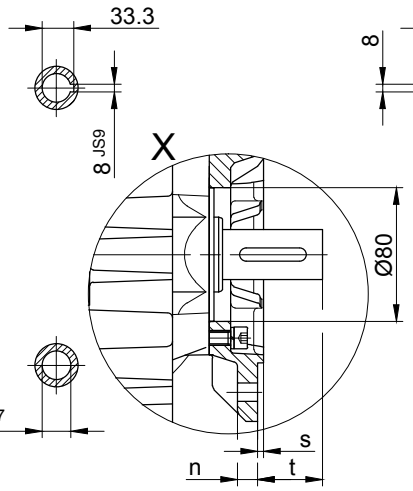
Code -3.V/

(Code -2.V/)

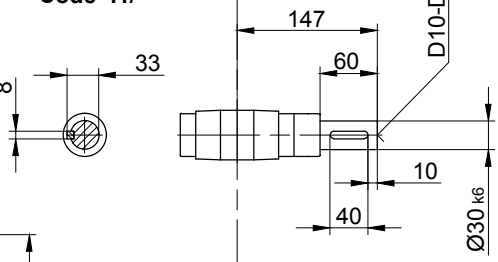


Code -.4/

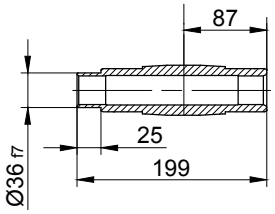




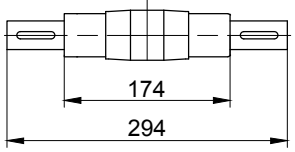
Code -.1/



Code -.5/

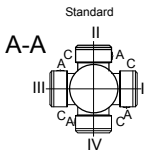


Code -.3/



Flange dimensions

BS10(Z)	k	l	m	n	o	p	q	s	t
Standard -3.V/	200	165	130	12	11	190	108	3.5	39
small -2.V/	160	130	110	10	9	183	101	3.5	46

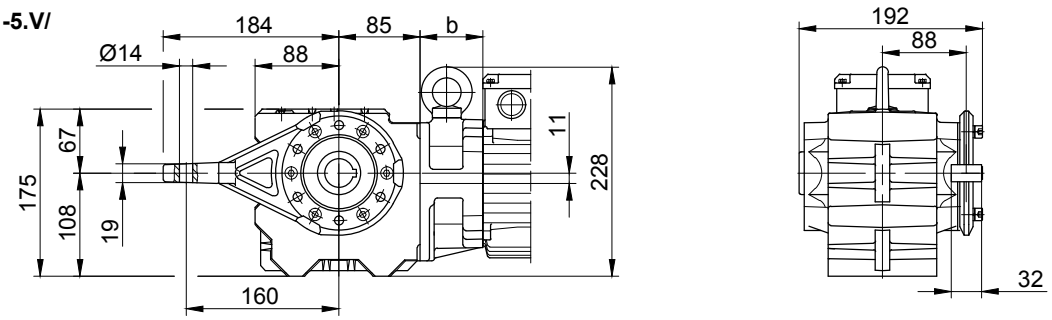


Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	E../ES..	G	E../ES..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BS10-../S..08..	200	66	156	439	115	136.5	505	546	612.5	-
BS10Z-../S..08..	200	132	156	505	115	136.5	571	612	678.5	-
BS10-../S..09..	251	80.5	181	504.5	124	158	597.5	611.5	702	-

BS10 - BS10Z

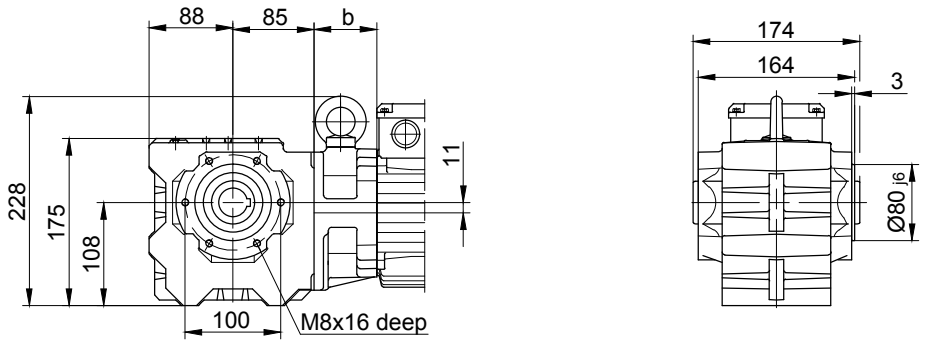
Torque arm at front

Code -5.V/



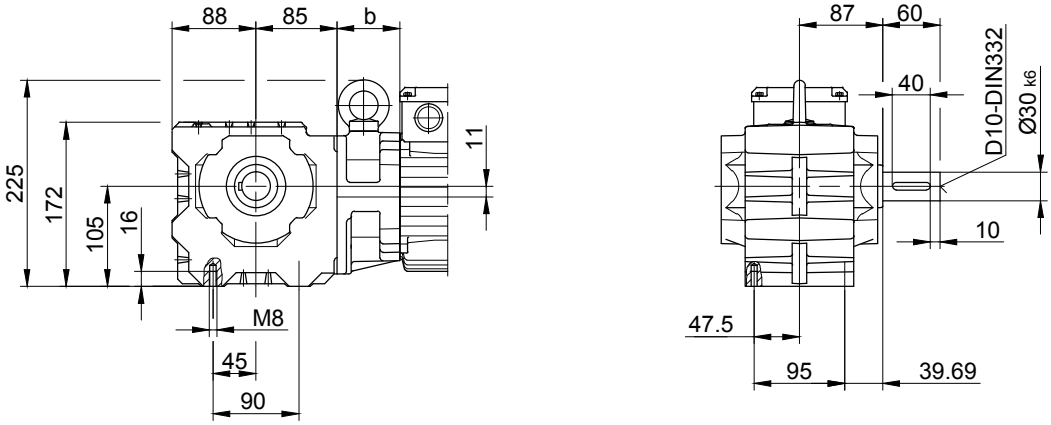
Flange with tapped holes at front

Code -7.V/



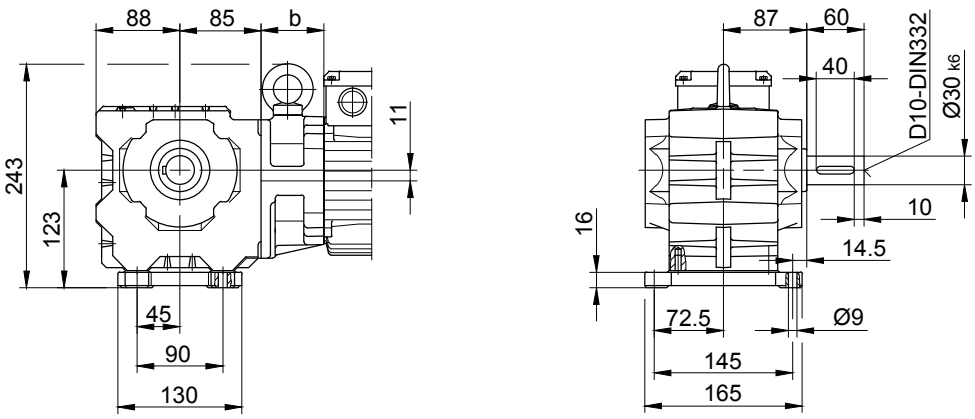
Foot with tapped holes at bottom

Code -6.U/



Foot with clearance holes at bottom

Code -1.U/

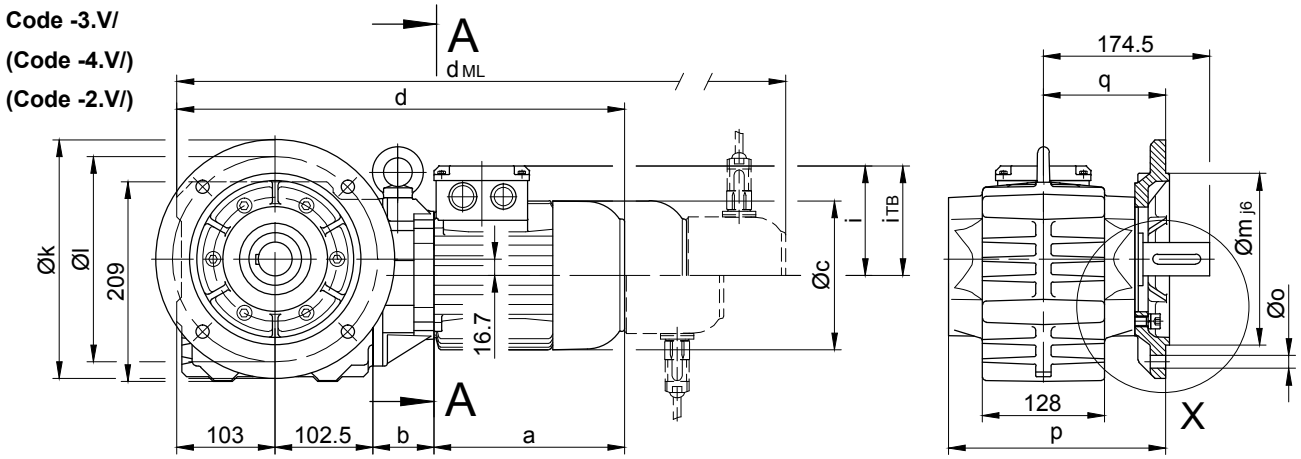


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

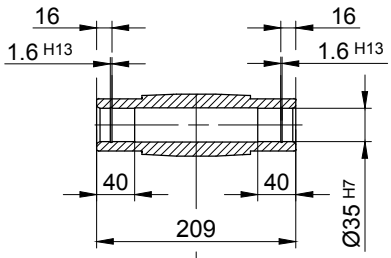
BS20 - BS20Z

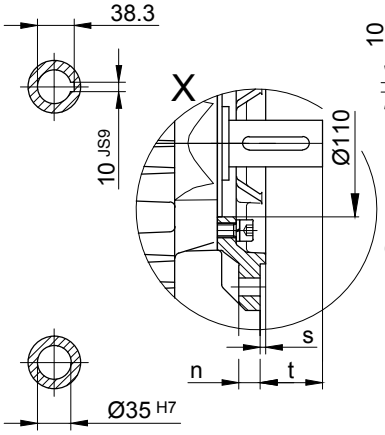
Flange with clearance holes at front

Code -3.V/
(Code -4.V/)
(Code -2.V/)

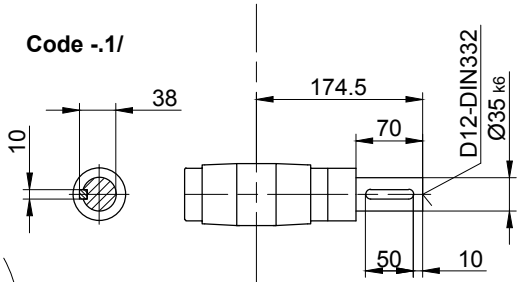


Code -.4/

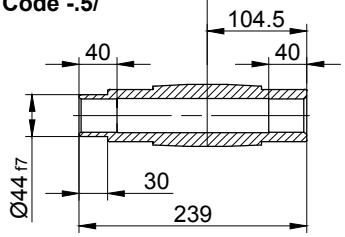




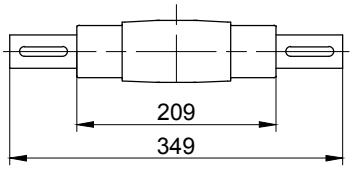
Code -.1/



Code -.5/



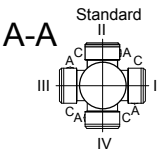
Code -.3/



Flange dimensions

BS20(Z)	k	l	m	n	o	p	q	s	t
Standard -3.V/	250	215	180	16	13.5	227.5	128	4	46.5
small -2.V/	200	165	130	12	11	224.5	125	3.5	49.5
big -4.V/	300	265	230	20	13.5	233.5	134	4	40.5

A-A



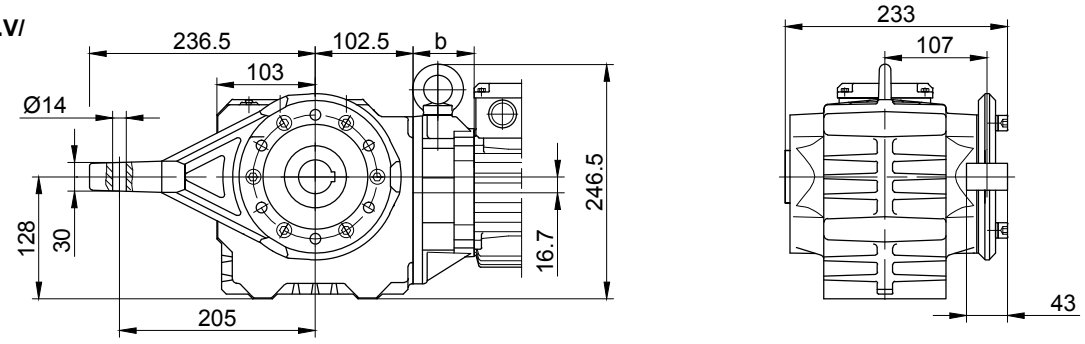
Type	a	b	c	d	i	i_{TB}	Design with motor extensions			
							E../ES..	G	E../ES..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BS20-../S..08..	200	64	156	469.5	115	136.5	535.5	576.5	643	-
BS20Z-../S..08..	200	146	156	551.5	115	136.5	617.5	658.5	725	-
BS20-../S..09..	251	78.5	181	535	124	158	628	642	732.5	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BS20 - BS20Z

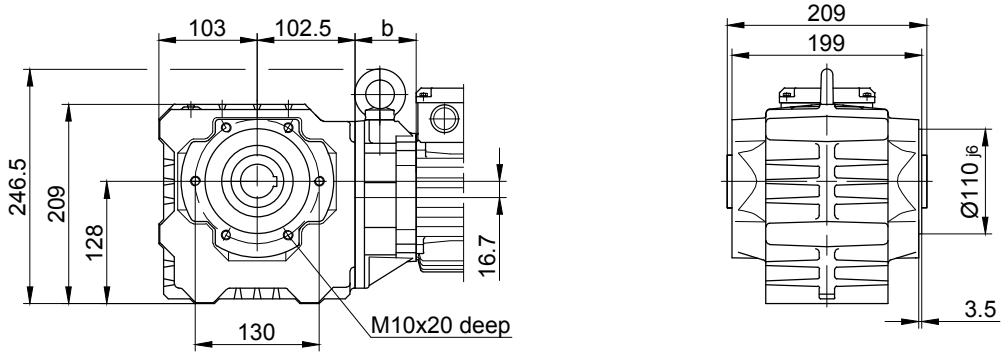
Torque arm at front

Code -5.V/



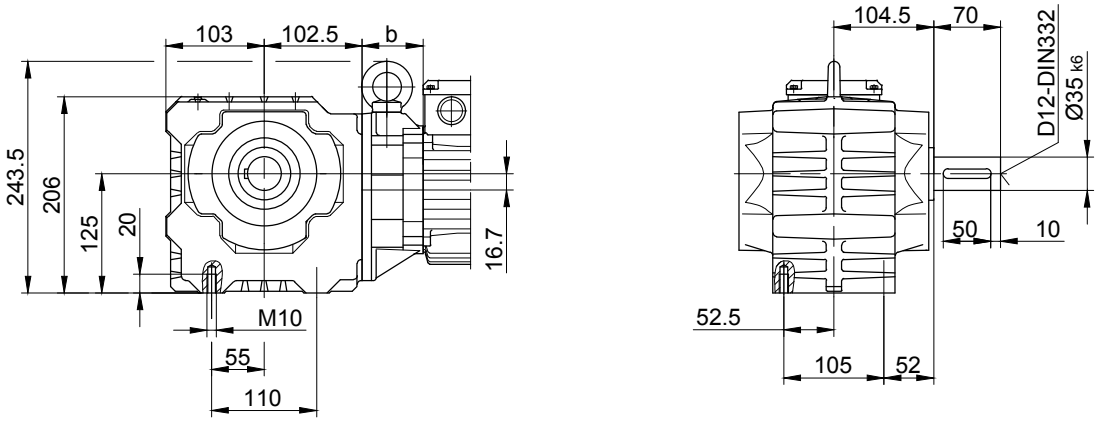
Flange with tapped holes at front

Code -7.V/



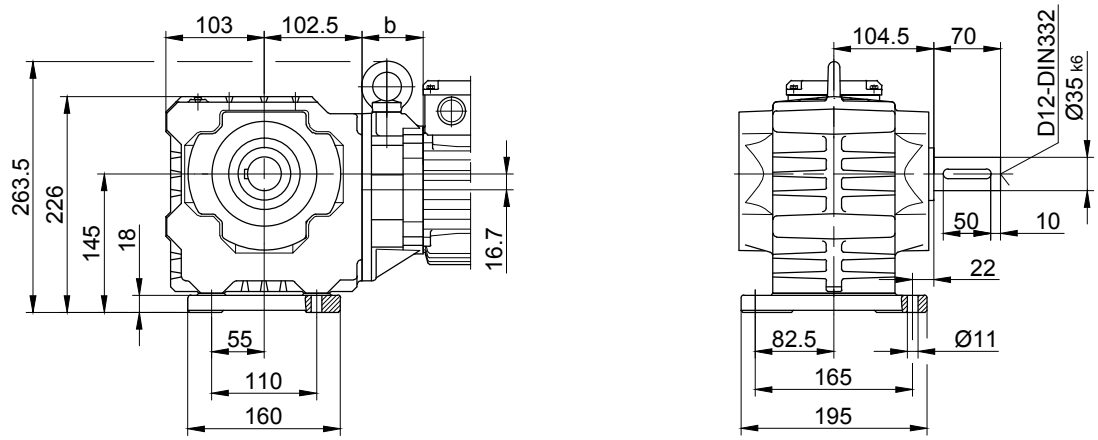
Foot with tapped holes at bottom

Code -6.U/



Foot with clearance holes at bottom

Code -1.U/



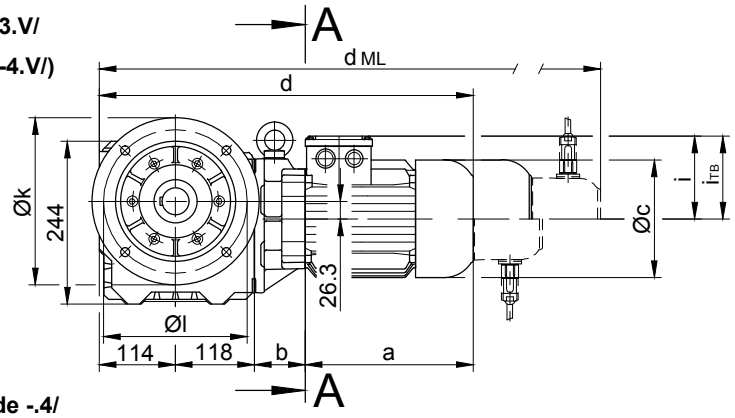
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

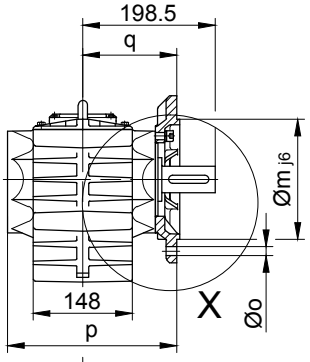
BS30 - BS30Z

Flange with clearance holes at front

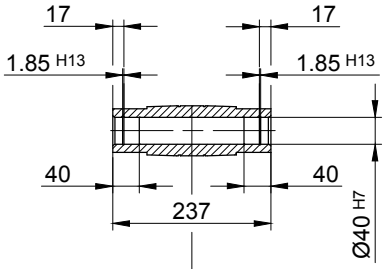
Code -3.V/

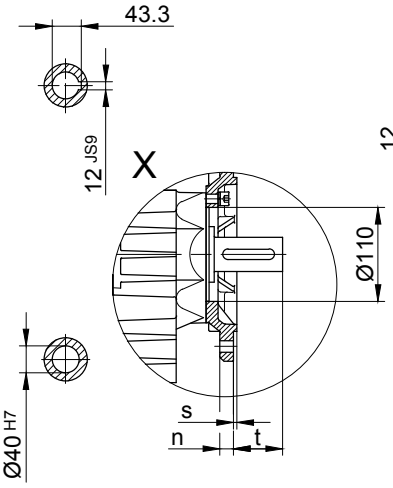
(Code -4.V/)



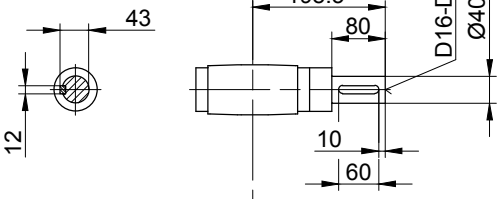


Code -.4/

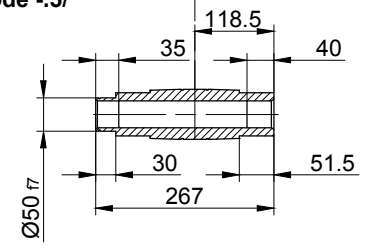




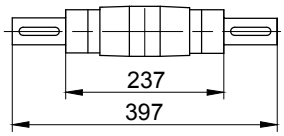
Code -.1/



Code -.5/



Code -.3/

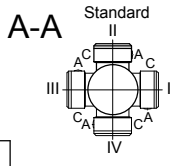


13

Flange dimensions

BS30(Z)	k	l	m	n	o	p	q	s	t
Standard -3.V/	250	215	180	16	13.5	253.5	141	4	57.5
big -4.V/	300	265	230	20	13.5	259.5	147	4	51.5

A-A

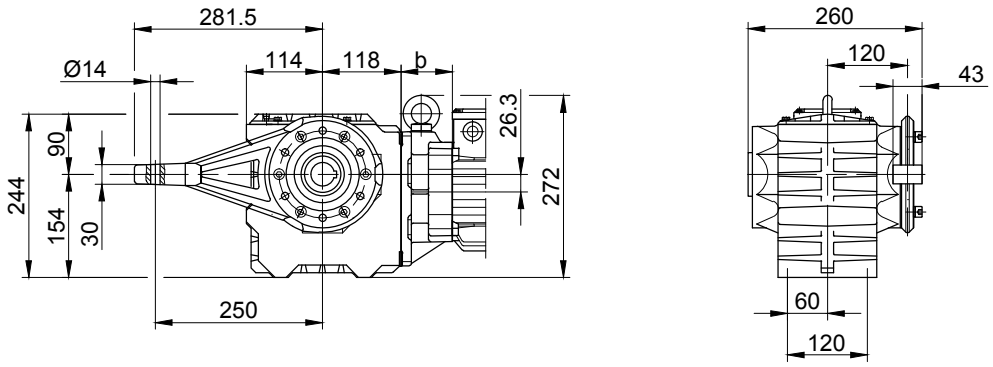


Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	E../ES..	G	E../ES..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BS30-../S..08..	200	62	156	494	115	136.5	560	601	667.5	-
BS30Z-../S..08..	200	137.5	156	569.5	115	136.5	635.5	676.5	743	-
BS30-../S..09..	251	76.5	181	559.5	124	158	652.5	666.5	757	-
BS30Z-../S..09..	251	152	181	635	124	158	728	742	832.5	-
BS30-../S..11..	319	83	228	634	181	181	732	741	836.5	-

BS30 - BS30Z

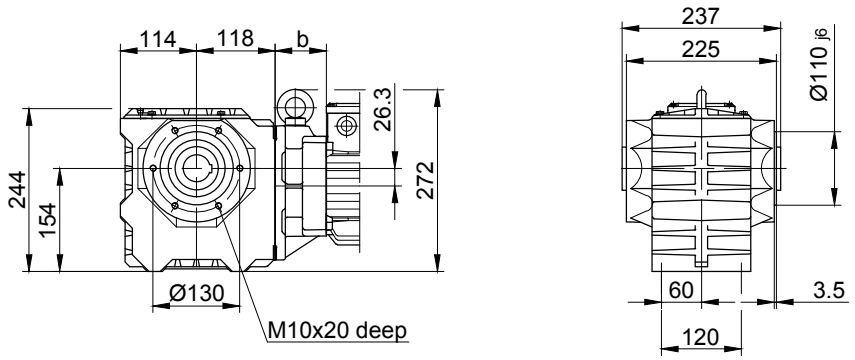
Torque arm at front

Code -5.V/



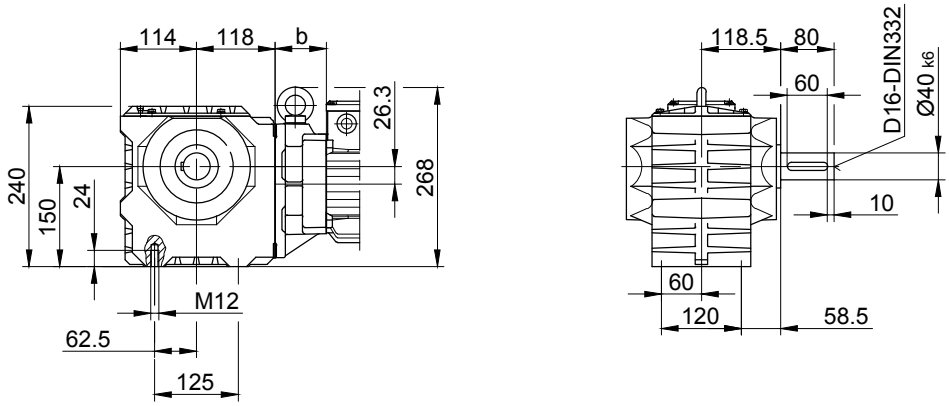
Flange with tapped holes at front

Code -7.V/



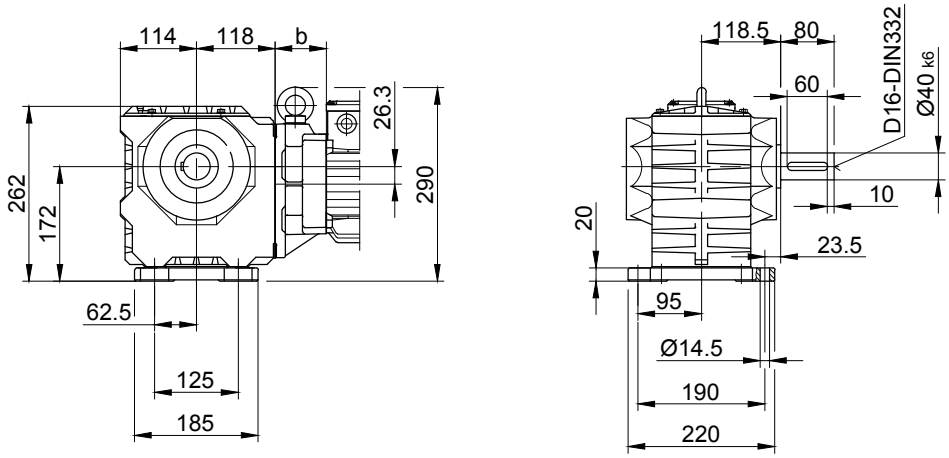
Foot with tapped holes at bottom

Code -6.U/



Foot with clearance holes at bottom

Code -1.U/

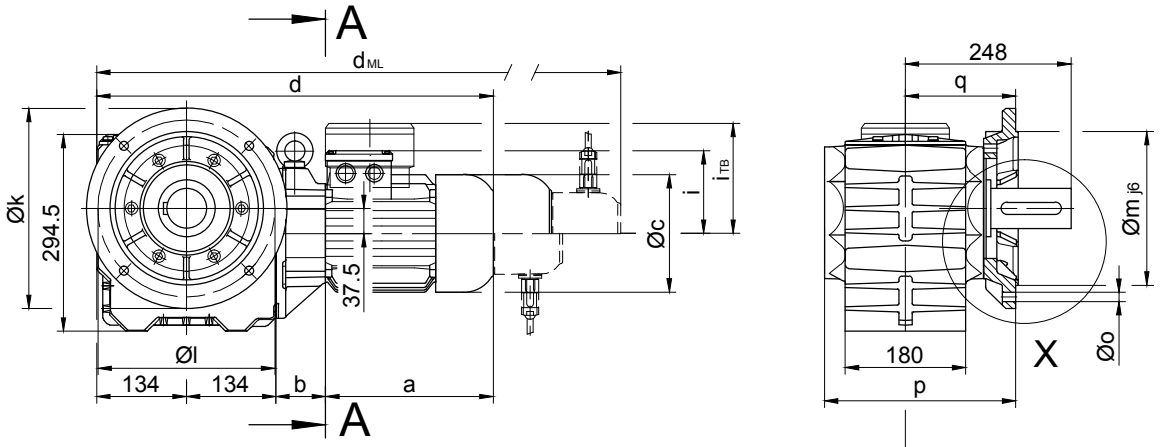


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

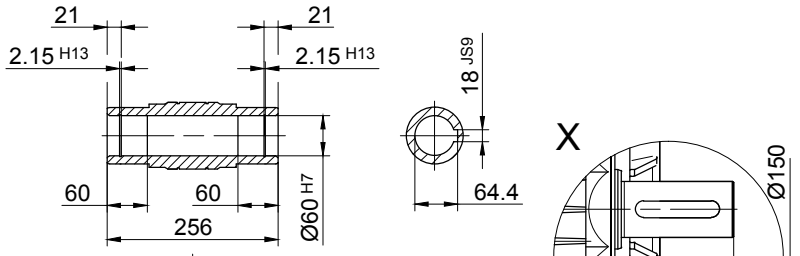
BS40 - BS40Z

Flange with clearance holes at front

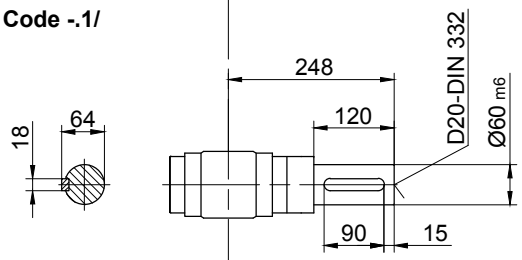
Code -3.V/

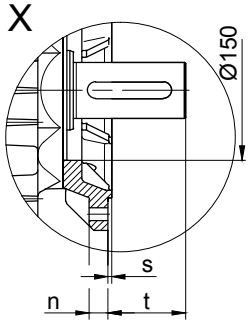


Code -.4/

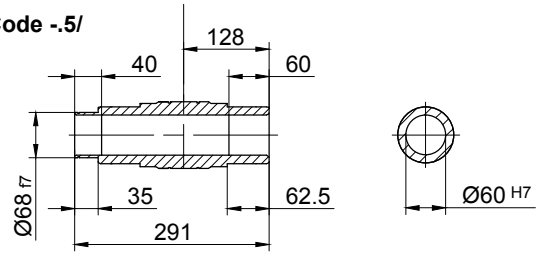


Code -.1/

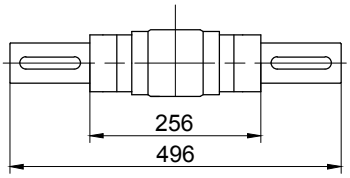




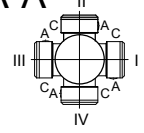
Code -.5/



Code -.3/



A-A Standard



Flange dimensions

BS40(Z)	k	l	m	n	o	p	q	s	t
Standard -3.V/	300	265	230	20	13.5	286	165	4	83

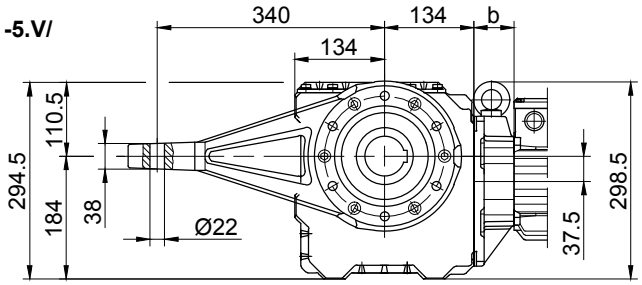
Type	a	b	c	d	i	Design with motor extensions				
						i_{TB}	E../ES..	G	E../ES..-G	RR/RL
							d_{ML}	d_{ML}	d_{ML}	d_{ML}
BS40-../S..08..	200	60	156	528	115	136.5	594	635	701.5	-
BS40Z-../S..08..	200	142.5	156	610.5	115	136.5	676.5	717.5	784	-
BS40-../S..09..	251	74.5	181	593.5	124	158	686.5	700.5	791	-
BS40Z-../S..09..	251	157	181	676	124	158	769	783	873.5	-
BS40-../S..11..	319	81	228	668	181	181	766	775	870.5	-

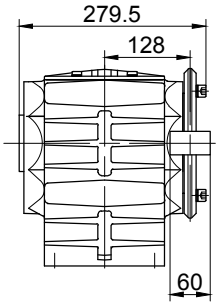
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BS40 - BS40Z

Torque arm at front

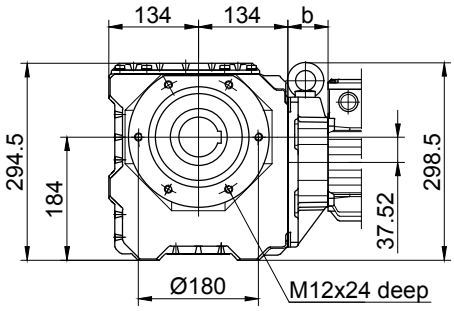
Code -5.V/

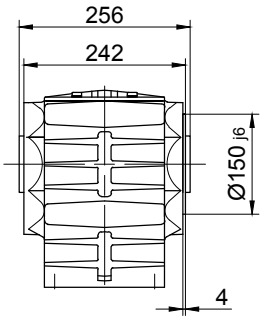




Flange with tapped holes at front

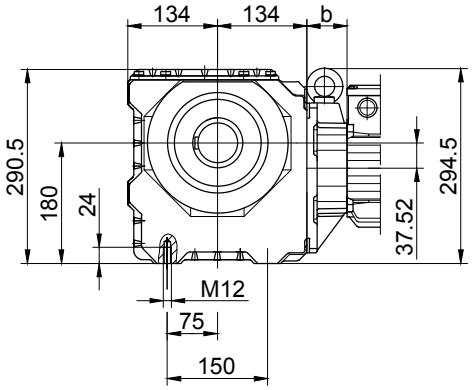
Code -7.V/

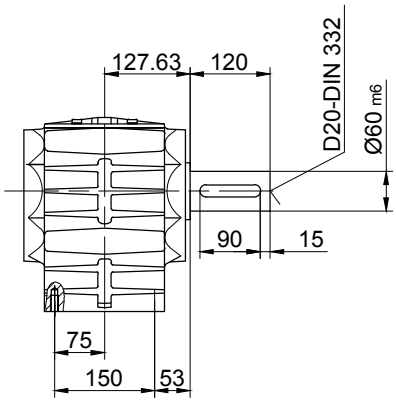




Foot with tapped holes at bottom

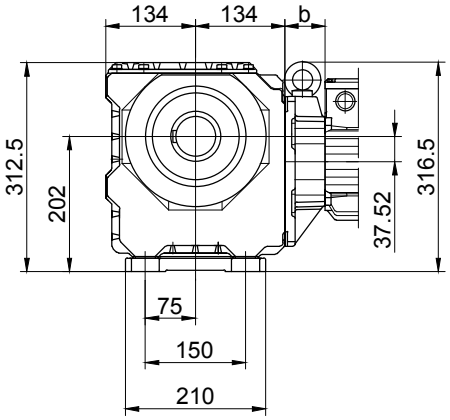
Code -6.U/

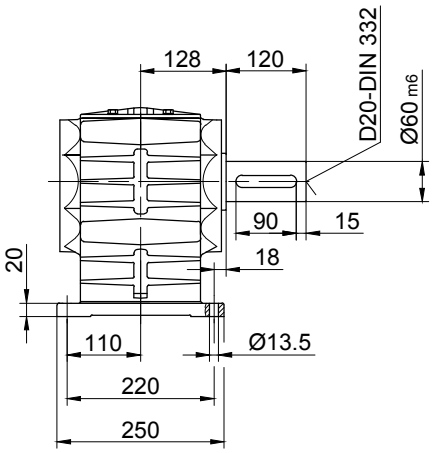




Foot with clearance holes at bottom

Code -1.U/



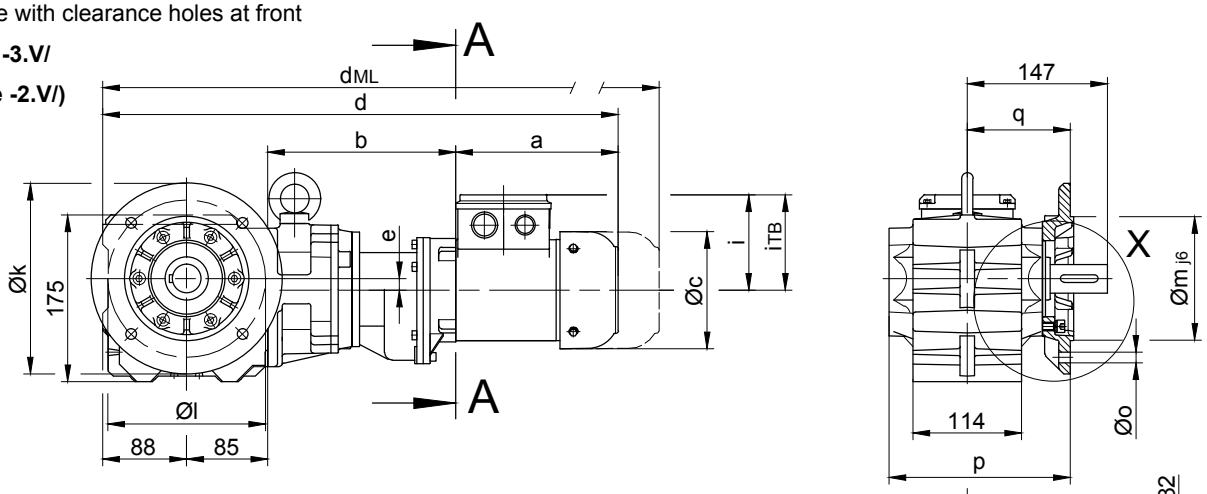


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

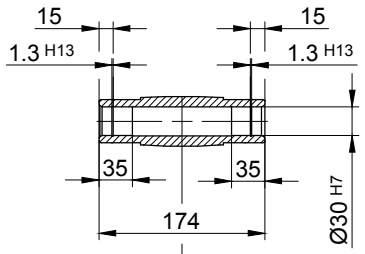
BS10G06

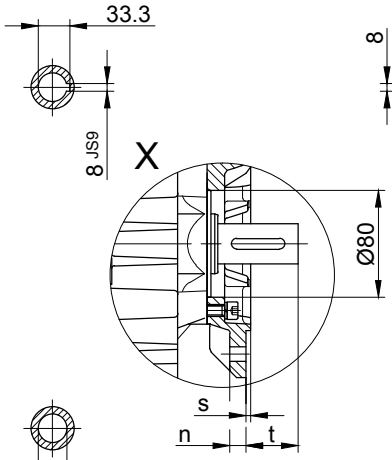
Flange with clearance holes at front

Code -3.V/
(Code -2.V/)

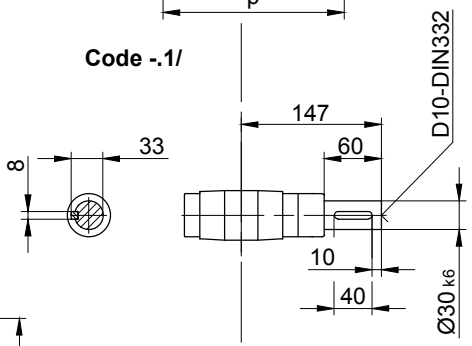


Code -.4/

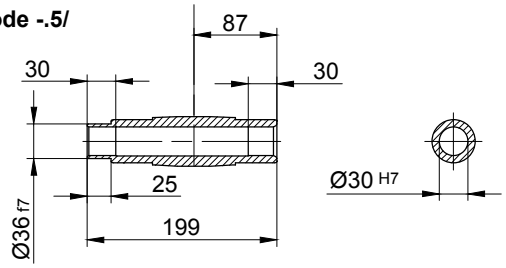




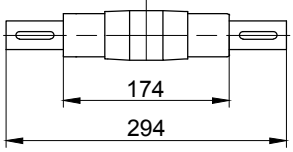
Code -.1/

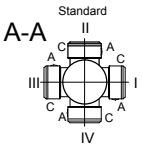


Code -.5/



Code -.3/





Flange dimensions

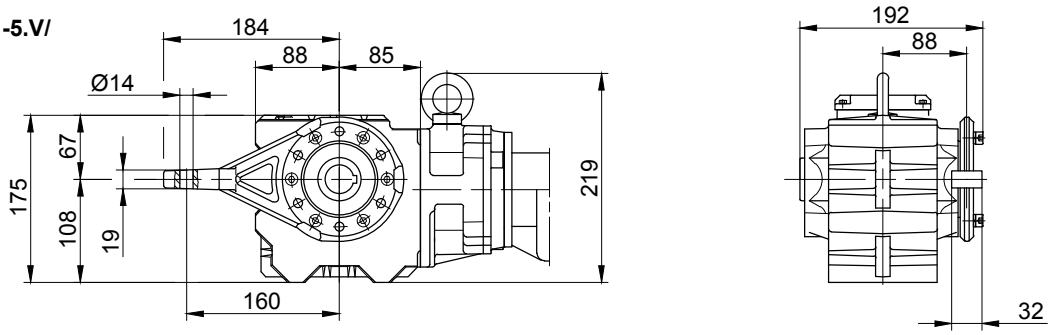
BS10G..	k	l	m	n	o	p	q	s	t
Standard -3.V/	200	165	130	12	11	190	108	3.5	39
small -2.V/	160	130	110	10	9	183	101	3.5	46

Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BS10G06-../S..08..	200	241	156	614	12	115	136.5	680	721	787.5	-

BS10G06

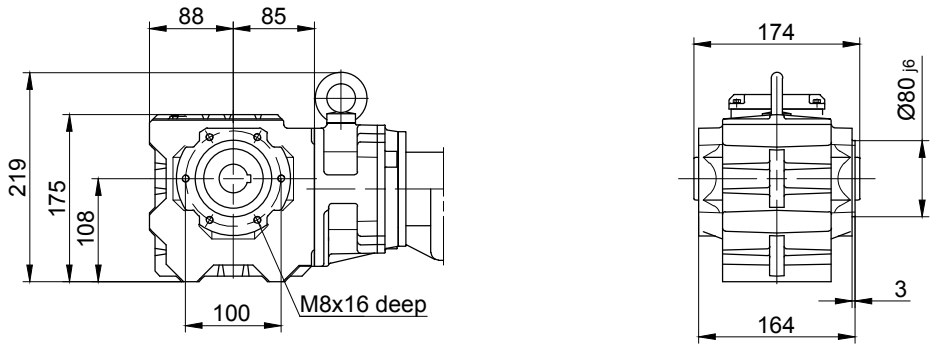
Torque arm at front

Code -5.V/



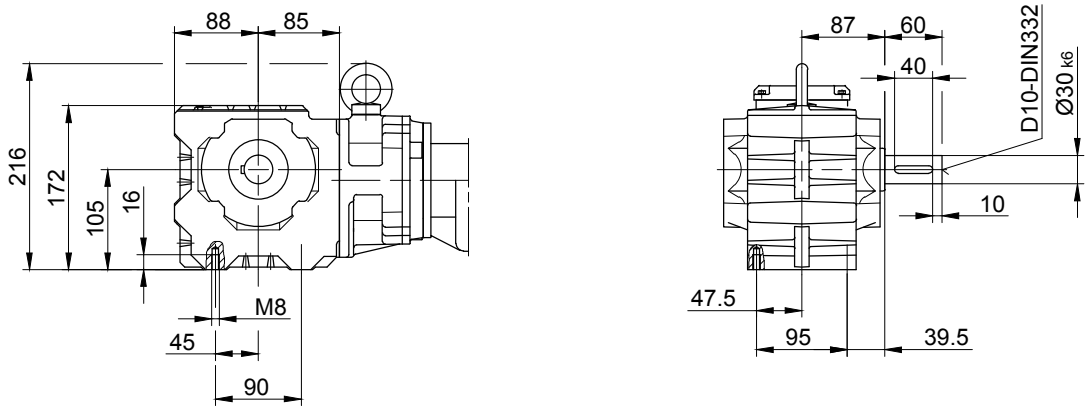
Flange with tapped holes at front

Code -7.V/



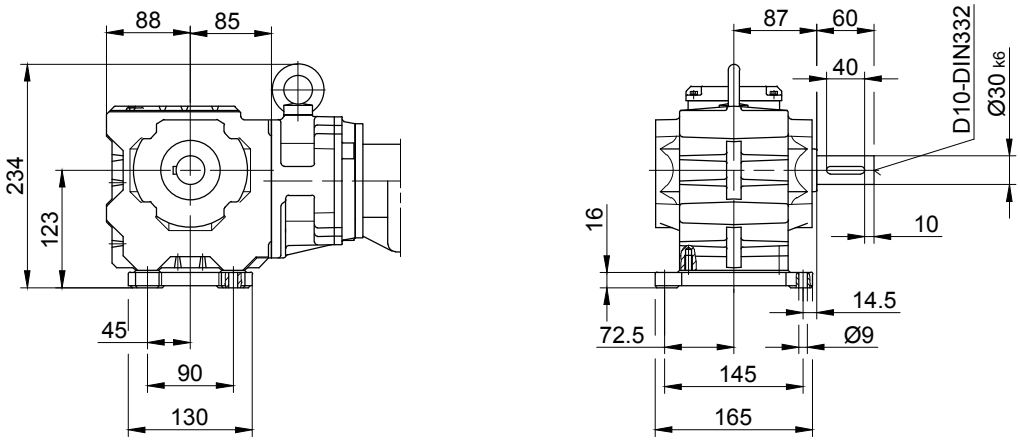
Foot with tapped holes at bottom

Code -6.U/



Foot with clearance holes at bottom

Code -1.U/

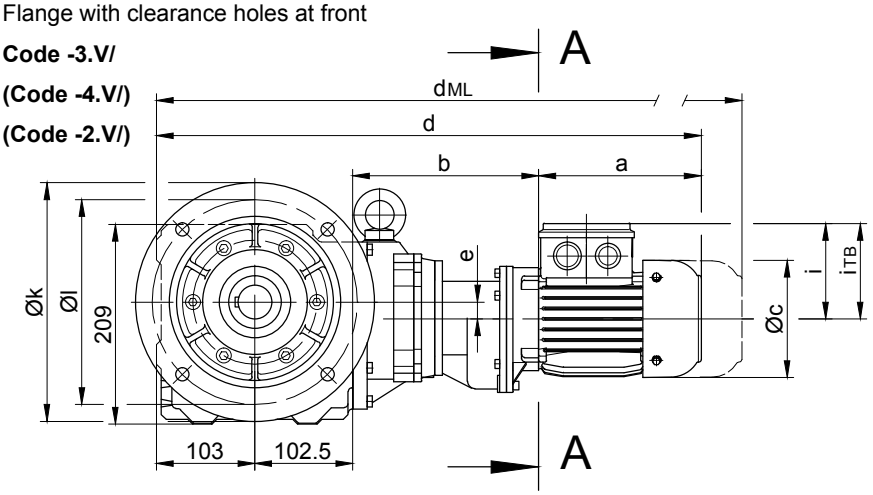


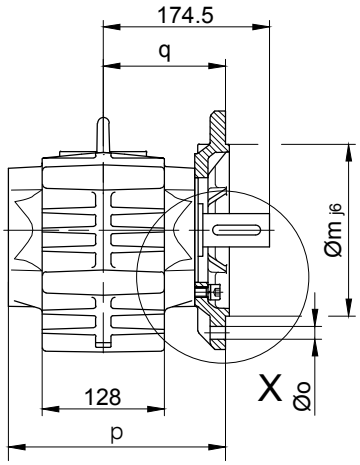
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BS20G06

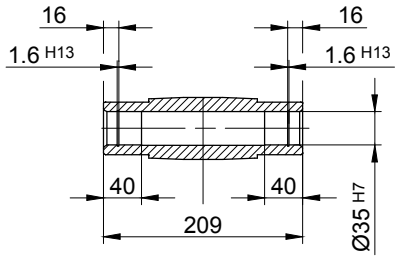
Flange with clearance holes at front

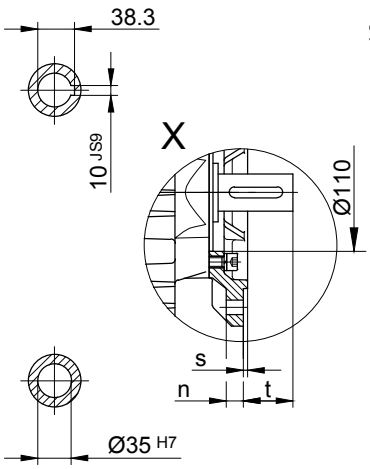
Code -3.V/
(Code -4.V/)
(Code -2.V/)



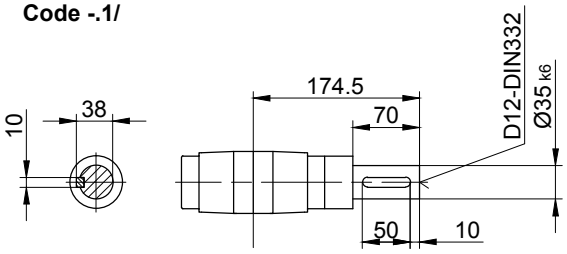


Code -.4/

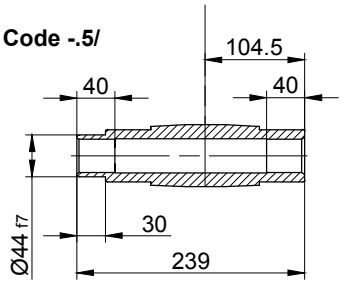




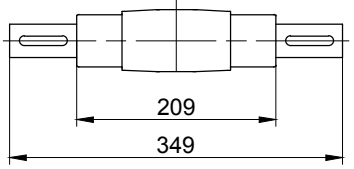
Code -.1/



Code -.5/

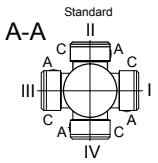


Code -.3/



Flange dimensions

BS20G..	k	l	m	n	o	p	q	s	t
Standard -3.V/	250	215	180	16	13.5	227.5	128	4	46.5
small -2.V/	200	165	130	12	11	224.5	125	3.5	49.5
big -4.V/	300	265	230	20	13.5	233.5	134	4	40.5



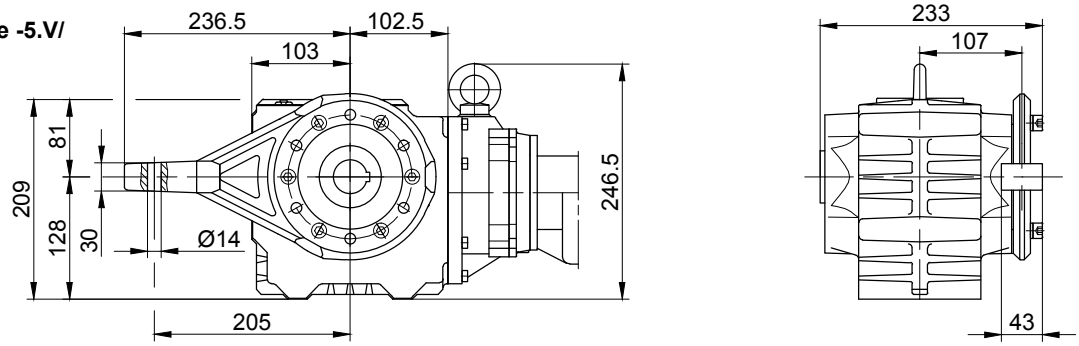
Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	ES../ZS..	G	ES../ZS..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BS20G06-../S..08..	200	239	156	644.5	18	115	136.5	710.5	751.5	818	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BS20G06

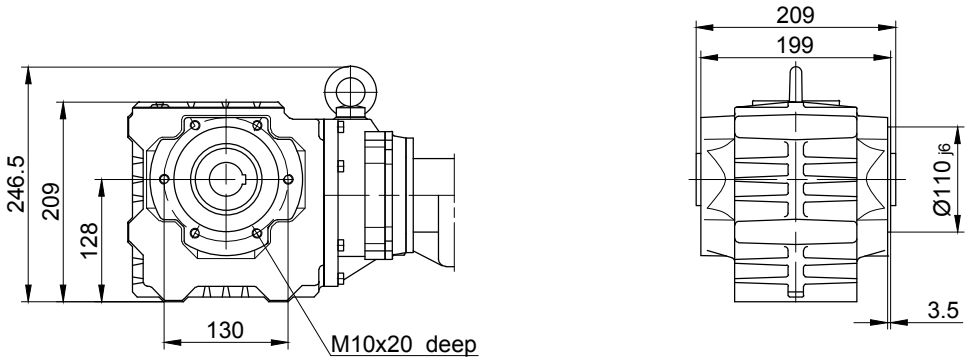
Torque arm at front

Code -5.V/



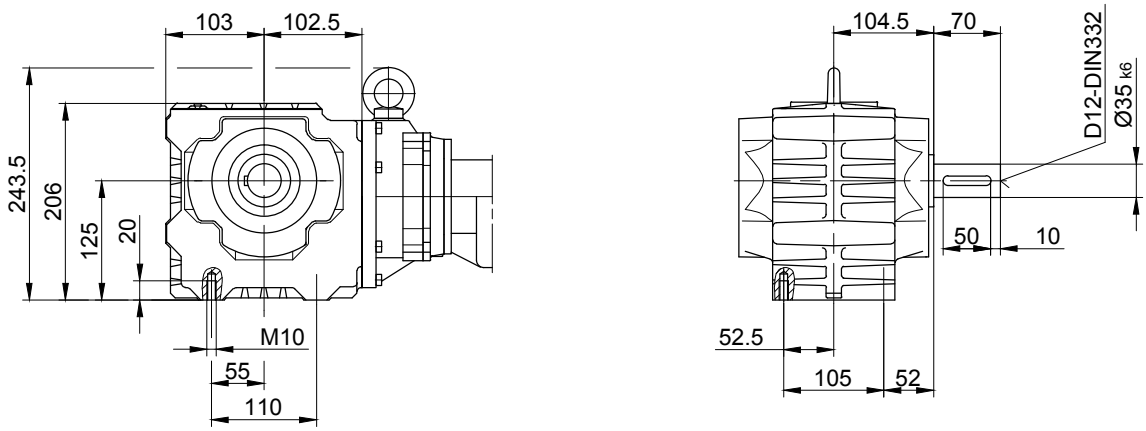
Flange with tapped holes at front

Code -7.V/



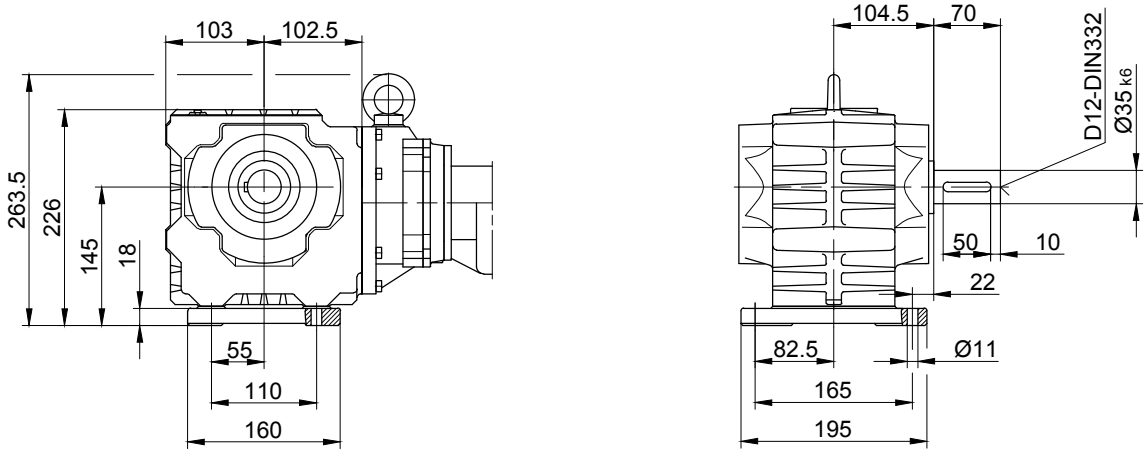
Foot with tapped holes at bottom

Code -6.U/



Foot with clearance holes at bottom

Code -1.U/



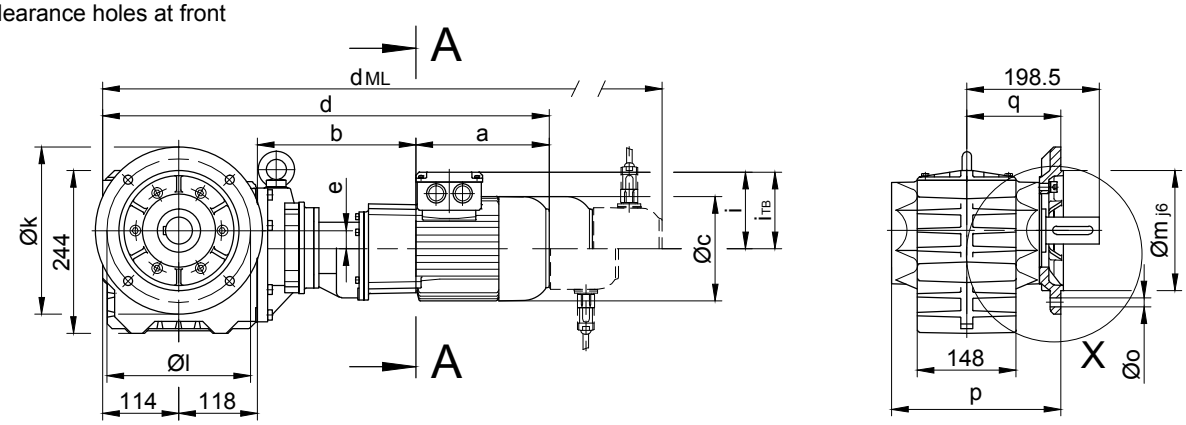
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BS30G06

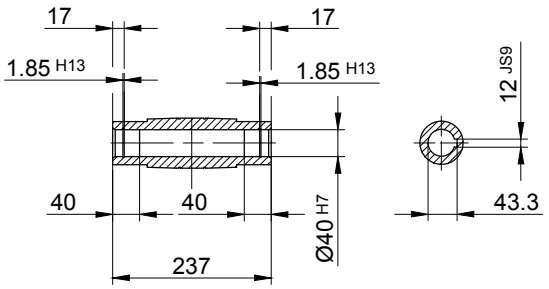
Flange with clearance holes at front

Code -3.V/

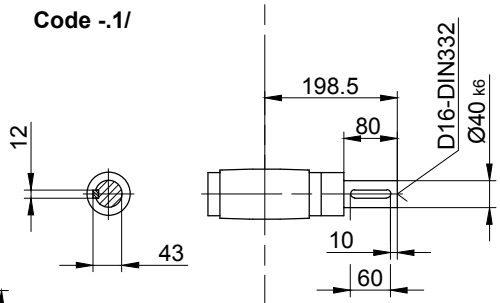
(Code -4.V/)

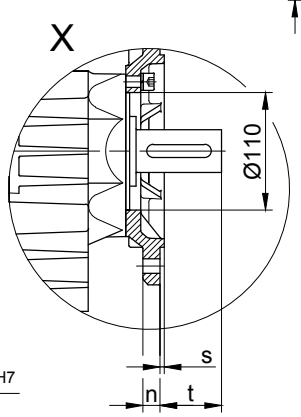


Code -.4/

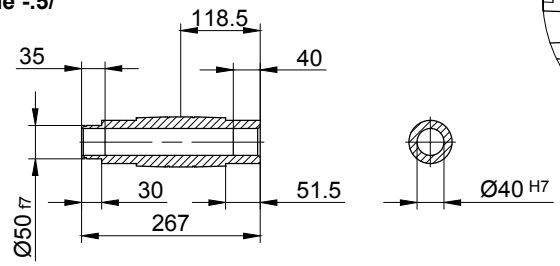


Code -.1/

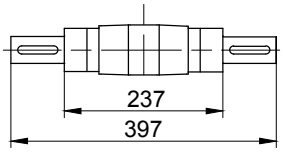




Code -.5/

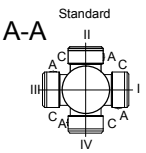


Code -.3/



Flange dimensions

BS30G..	k	l	m	n	o	p	q	s	t
Standard -3.V/	250	215	180	16	13.5	253.5	141	4	57.5
big -4.V/	300	265	230	20	13.5	259.5	147	4	51.5

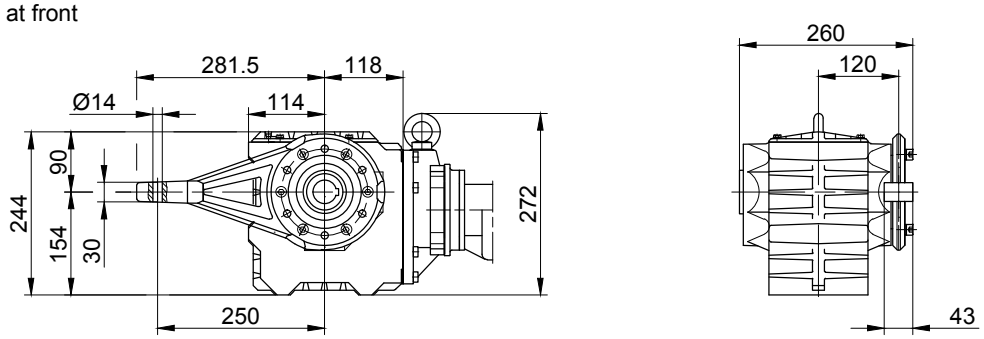


Type	a	b	c	d	e	i	Design with motor extensions				
							i_{TB}	E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BS30G06-../S..08..	200	237	156	669	27	115	136.5	735	776	842.5	-

BS30G06

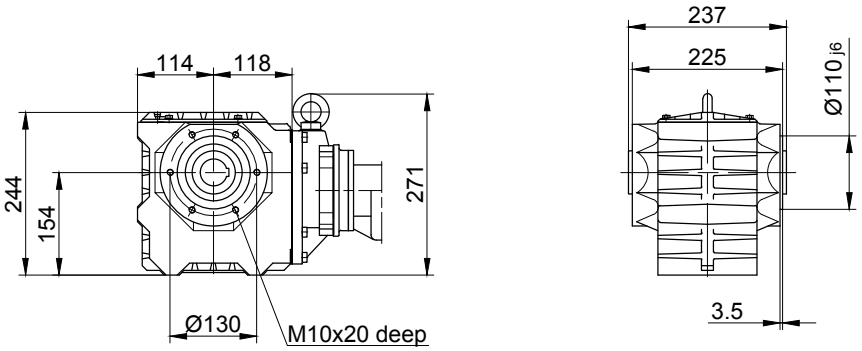
Torque arm at front

Code -5.V/



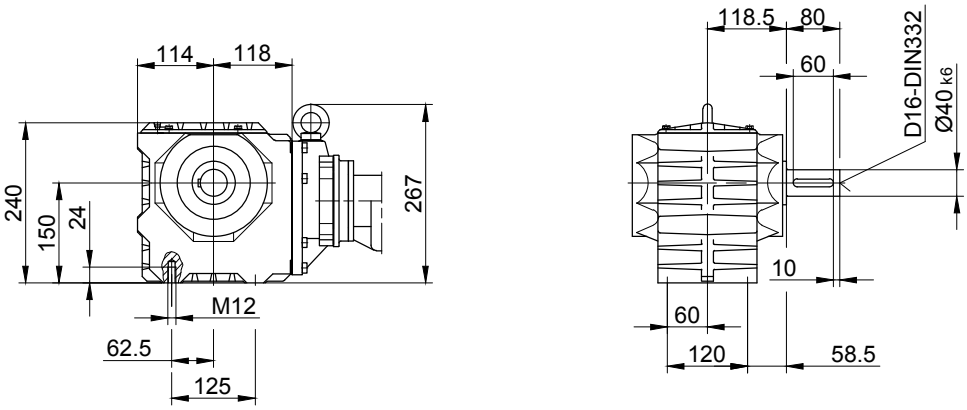
Flange with tapped holes at front

Code -7.V/



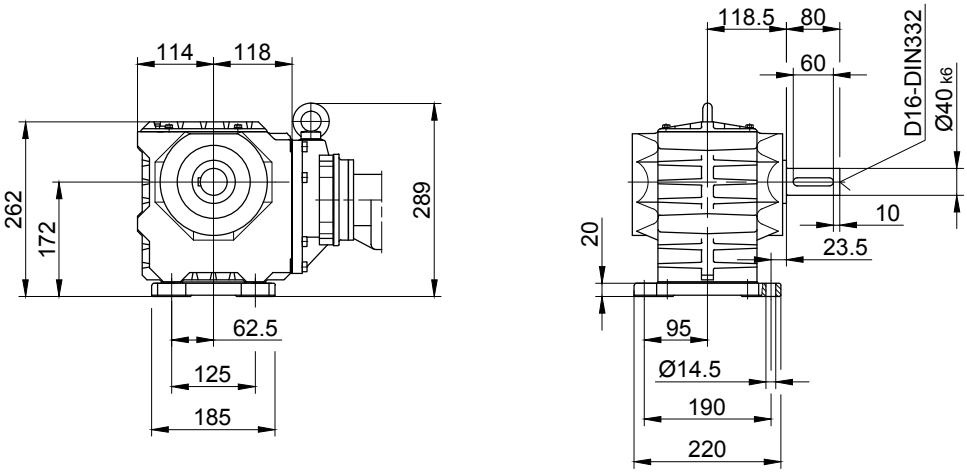
Foot with tapped holes at bottom

Code -6.U/



Foot with clearance holes at bottom

Code -1.U/

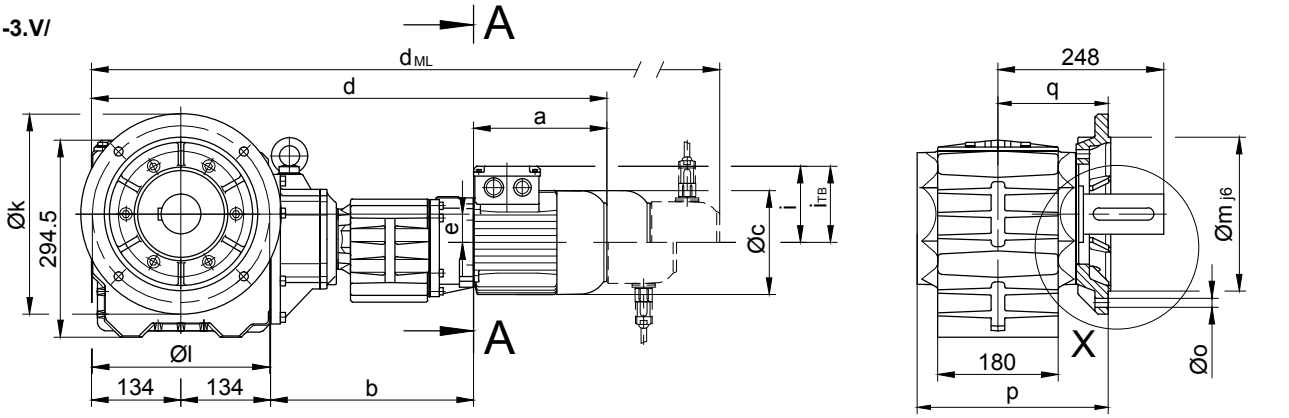


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

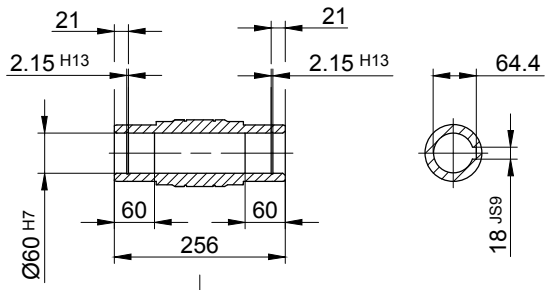
BS40G10

Flange with clearance holes at front

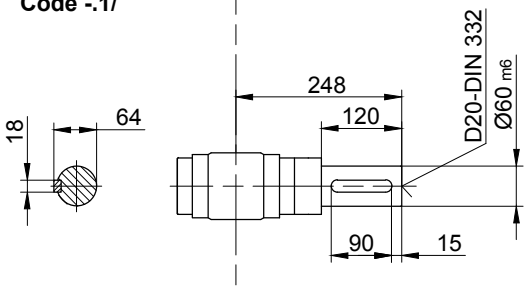
Code -3.V/

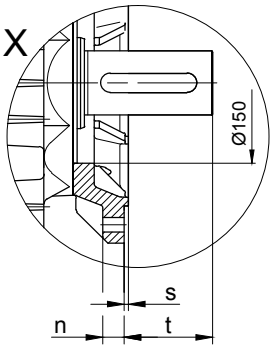


Code -.4/

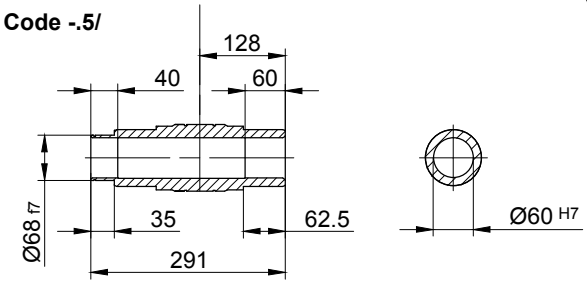


Code -.1/

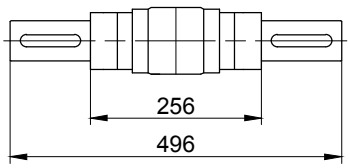


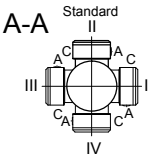


Code -.5/



Code -.3/





Flange dimensions

BS40G..	k	l	m	n	o	p	q	s	t
Standard -3.V/	300	265	230	20	13.5	286	165	4	83

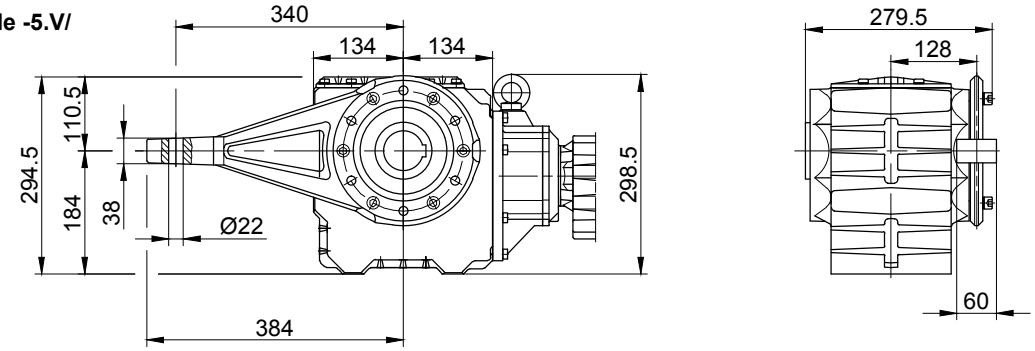
Type	a	b	c	d	e	i	i_{TB}	Design with motor extensions			
								E../ES..	G	E../ES..-G	RR/RL
								d_{ML}	d_{ML}	d_{ML}	d_{ML}
BS40G10-../S..08..	200	304	156	772	43	115	136.5	838	879	945.5	-
BS40G10-../S..09..	251	318.5	181	837.5	43	124	158	930.5	944.5	1035	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

BS40G10

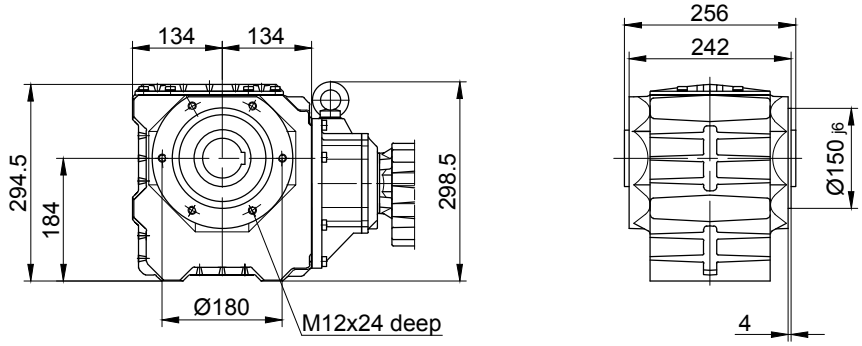
Torque arm at front

Code -5.V/



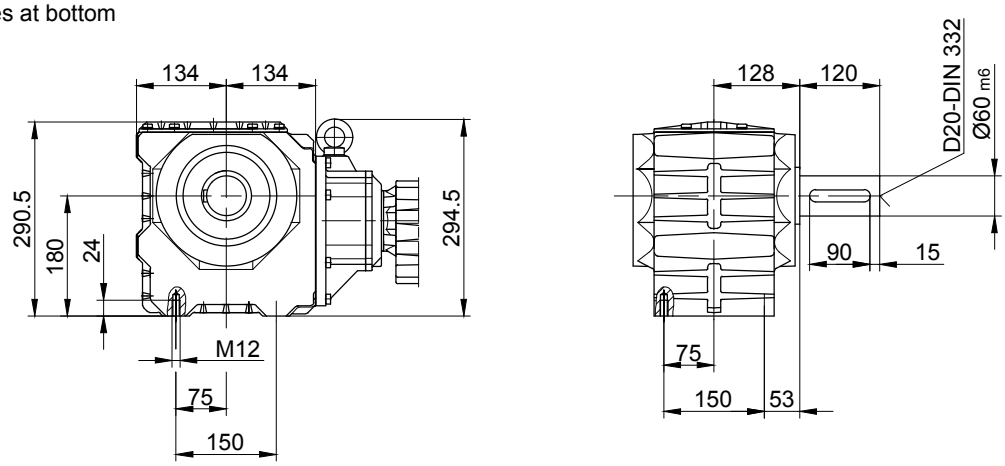
Flange with tapped holes at front

Code -7.V/



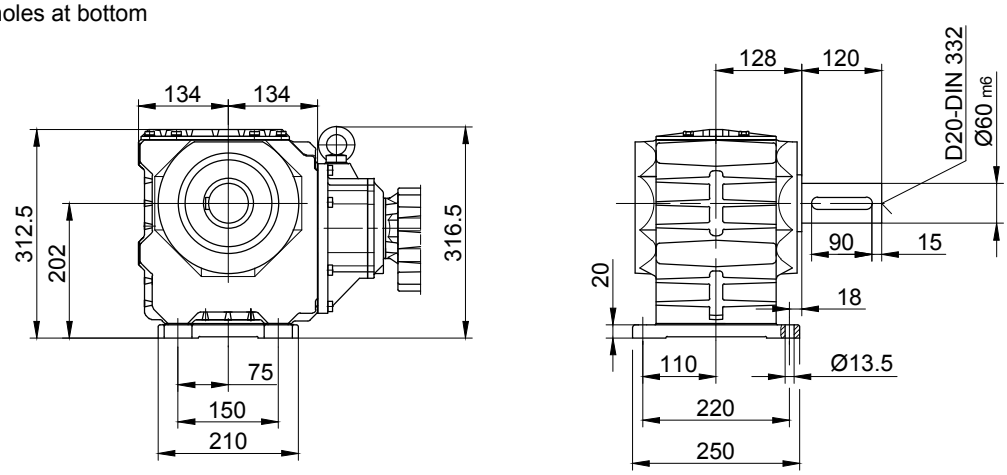
Foot with tapped holes at bottom

Code -6.U/



Foot with clearance holes at bottom

Code -1.U/

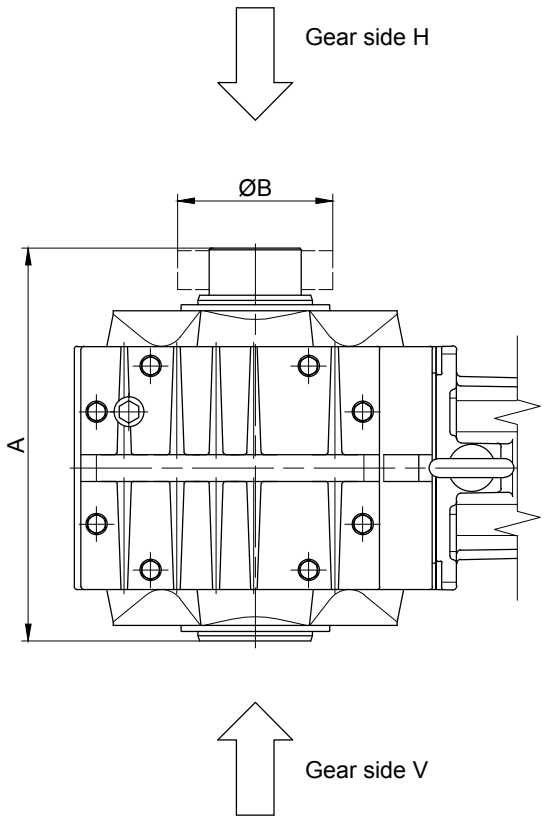


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Shrink disc couplings (SSV)

(Code BS10Z-.5/...)

(Code BS10Z-.5A/...)



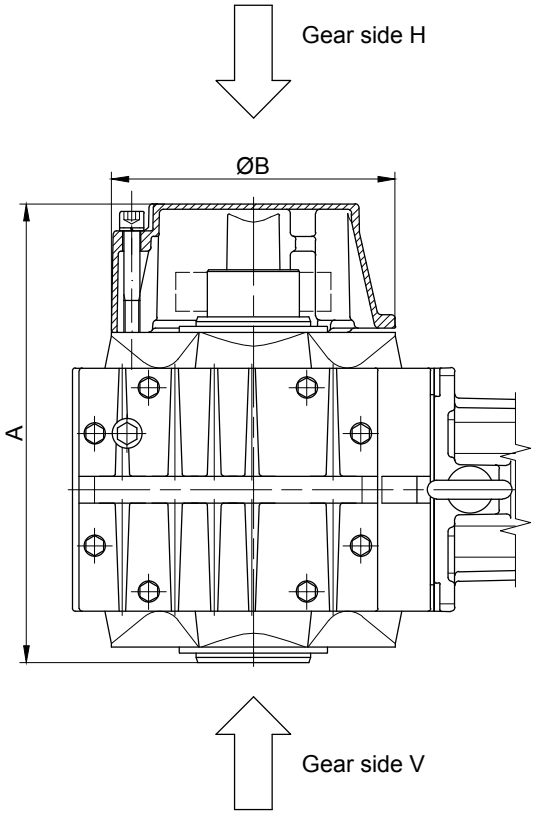
Type	SSV Ringfeder	SSV STÜWE	A	B
BS10	RfN 4161 036x072	HSD 36-22x36	199	72
BS20	RfN 4161 044x080	HSD 44-22x44	239	80
BS30	RfN 4161 050x090	HSD 50-22x50	267	90
BS40	RfN 4161 062x110	HSD 68-22x68	291	115

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Shrink disc couplings with (SSV) cover

(Code BS10Z-.5A/...)

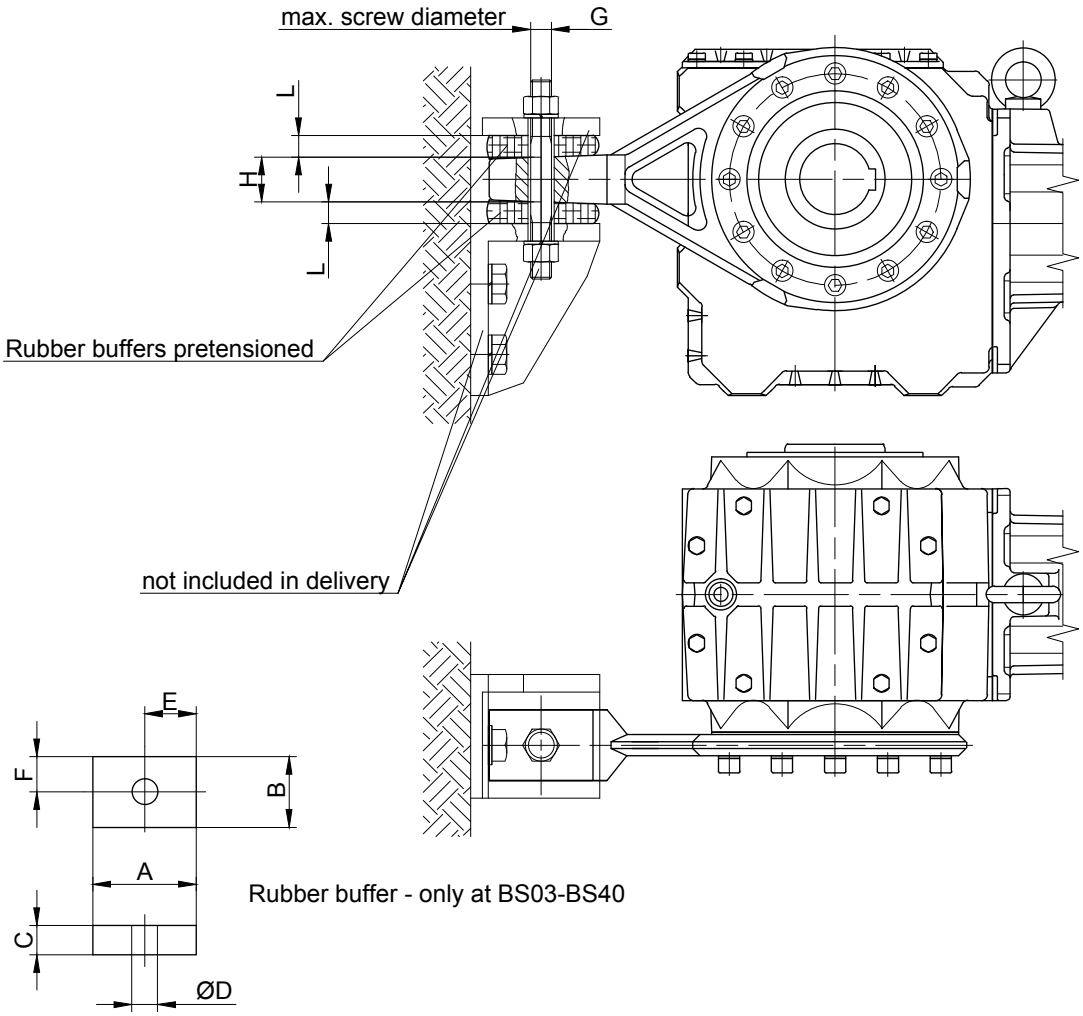
(Code BS10Z-.5A/...)



Type	SSV Ringfeder	SSV STÜWE	A	B
BS10	RfN 4161 036x072	HSD 36-22x36	221	120
BS20	RfN 4161 044x080	HSD 44-22x44	286	160
BS30	RfN 4161 050x090	HSD 50-22x50	313	160
BS40	RfN 4161 062x110	HSD 68-22x68	340	210

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Rubber buffer for torque arm



Rubber buffer - only at BS03-BS40

Material: Natural rubber
Hardness 50±5 Shore A

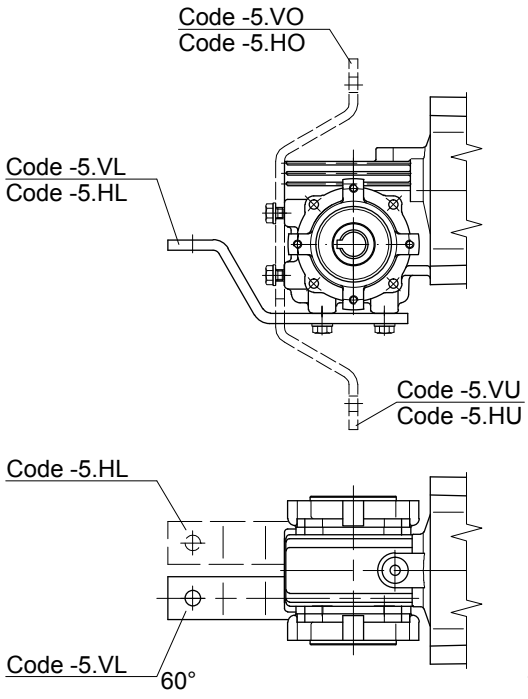
Dimensions of the transverse hole:
see dimensioned sketch of the respective shaft mounted gearbox

Gear	Pos.	Dimensions (mm)								
		A	B	C	D	E	F	G	H	L
BS03	Pos.0	30	30	12	12	15	15	M8	10	10.5
BS06	Pos.0	30	30	12	12	15	15	M10	10	10
BS10	Pos.1	48	32	15	14	24	16	M10	19	13
BS20	Pos.2	63	43	20	14	31.5	21.5	M10	30	17.5
BS30	Pos.2	63	43	20	14	31.5	21.5	M10	30	17
BS40	Pos.3	88	60	25	22	44	30	M18	38	22

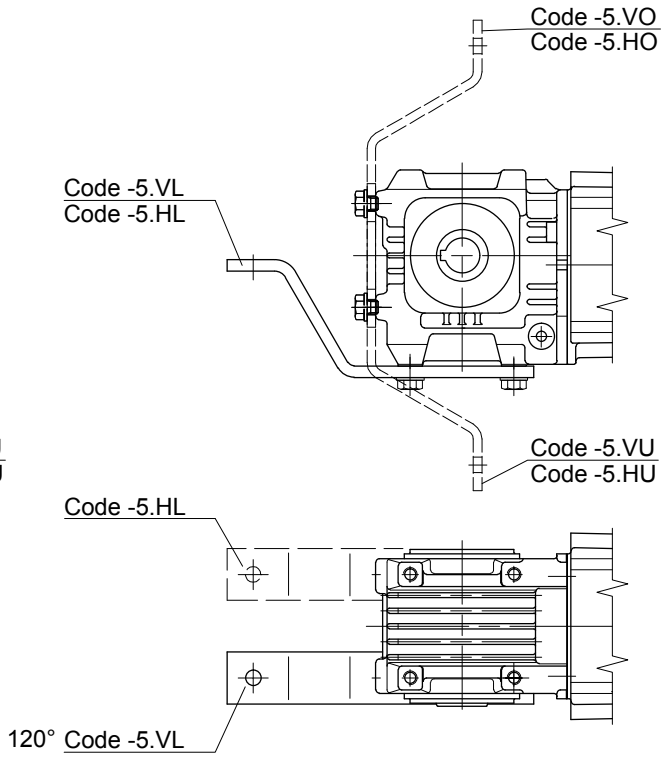
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Position of the torque arm

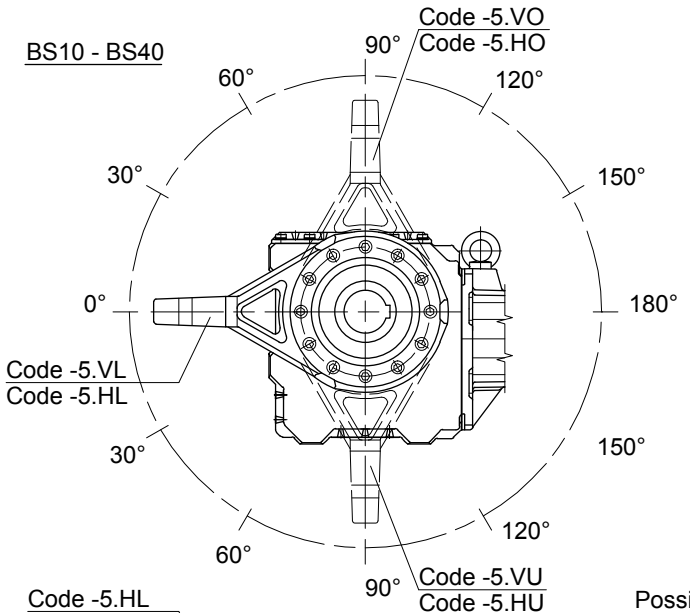
BS03

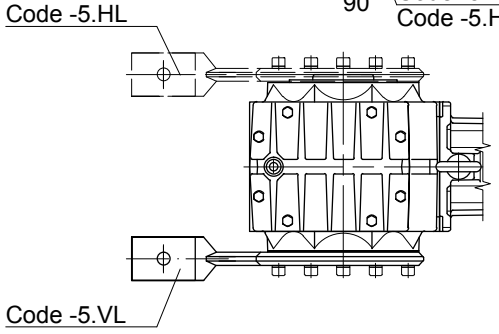


BS06



BS10 - BS40



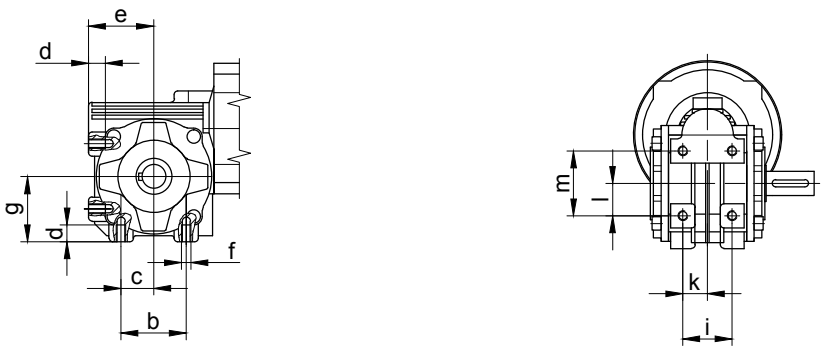


Possible locations.

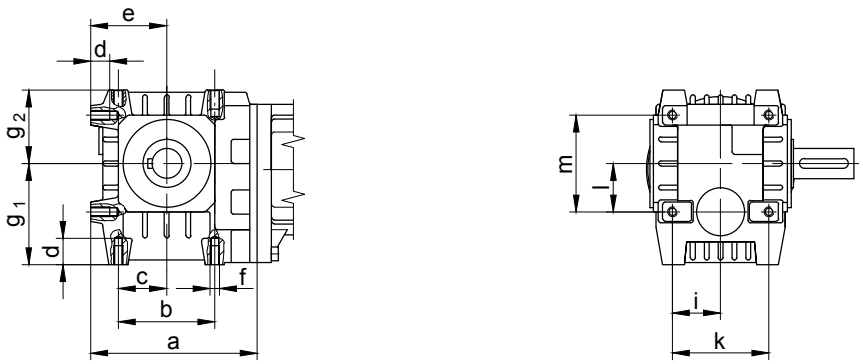
Position	VL/HL	VO / HO VU / HU					VR/HR
BS10	0°	30°	60°	90°	120°	150°	-
BS20	0°	30°	60°	90°	120°	150°	-
BS30	0°	30°	60°	90°	120°	150°	-
BS40	0°	30°	60°	90°	120°	150°	-

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

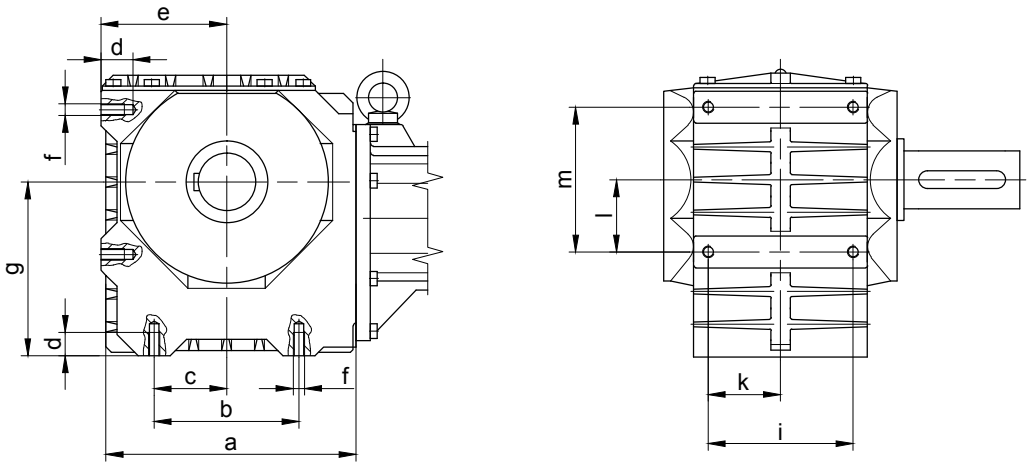
Threaded foot, left



Type	a	b	c	d	e	f	g	-	i	k	l	m
BS03	-	54	27	14	54	M8	54	-	41	20.5	27	54



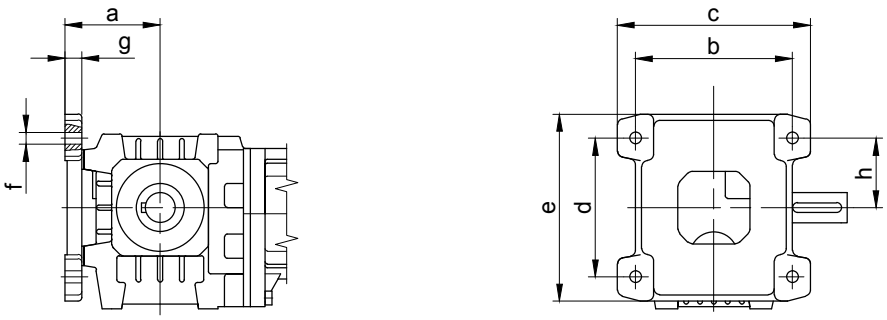
Type	a	b	c	d	e	f	g_1	g_2	i	k	l	m
BS06	138	80	40	16	63	M8	84	61	40	80	40	80



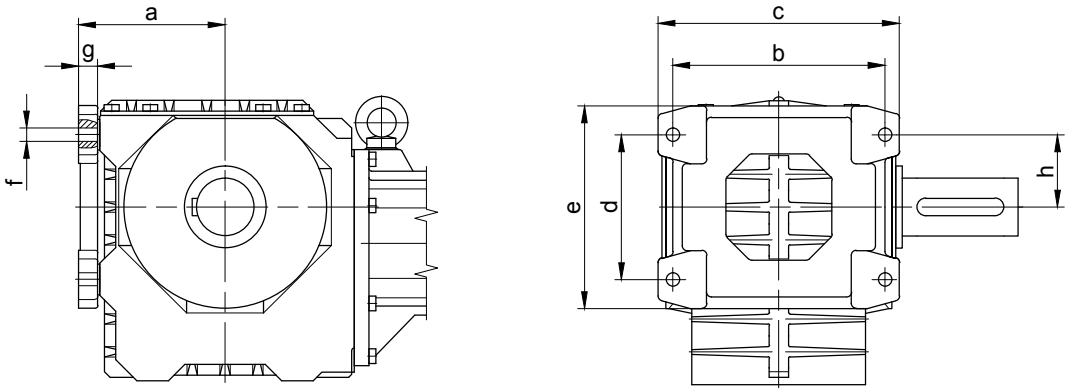
Type	a	b	c	d	e	f	g	-	i	k	l	m
BS10-BS10Z	170	90	45	16	85	M8	105	-	95	47.5	45	90
BS20-BS20Z	202.5	110	55	20	100	M10	125	-	105	52.5	55	110
BS30-BS30Z	228	125	62.5	24	110	M12	150	-	120	60	62.5	125
BS40-BS40Z	264	150	75	24	130	M12	180	-	150	75	75	150

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Foot plate, left



Type	a	b	c	d	e	f	g	h
BS06	79	130	160	115	155	10	14	57.5

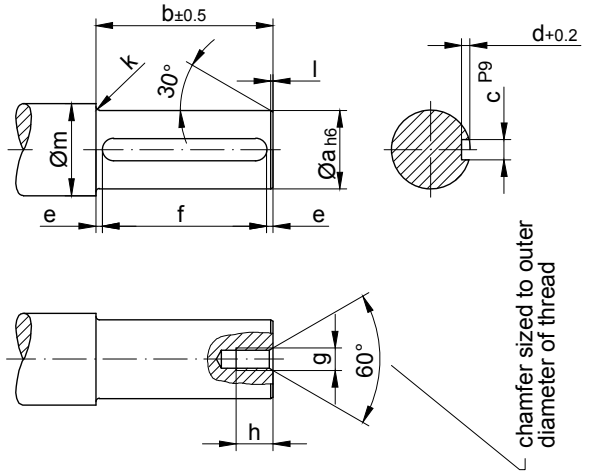


Type	a	b	c	d	e	f	g	h
BS10-BS10Z	103	145	165	90	130	Ø9	16	72.5
BS20-BS20Z	120	165	195	110	160	Ø11	18	55
BS30-BS30Z	132	190	220	125	185	Ø13.5	20	62.5
BS40-BS40Z	152	220	250	150	210	Ø13.5	20	75

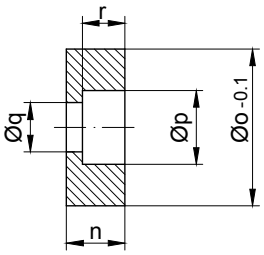
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Assembly tools for hollow shaft and keyway

Pos.1 Shaft

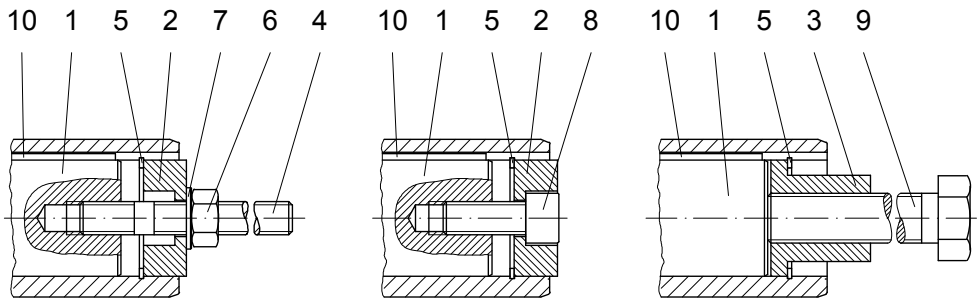


✳Pos.2 Disc



x, edges cut
Material:
C45 DIN 17200

Type	Dimensions (mm)															
	Pos.1 Shaft											Pos.2 Disc				
	a	b	c	d	e	f	g	h	k	l	m	n	o	p	q	r
BS03	20	75	6	3.5	6	$63^{+0.3}$	M6	16	2	1.5	28	13.5	19.8	11	6.6	6.5
BS04	20	71	6	3.5	7.5	$56^{+0.3}$	M6	16	2	1.5	28	13.5	19.8	11	6.6	6.5
BS06	25	99	8	4	9.5	$80^{+0.3}$	M8	18	2.5	1.5	33	13.5	24.8	15	9	8.5
BS10	30	152	8	4	6	$140^{+0.5}$	M10	20	3	1.5	38	15	29.8	18	11	10
BS20	35	186	10	5	13	$160^{+0.5}$	M10	20	3	1.5	43	16	34.8	18	11	10
BS30	40	212	12	5	6	$200^{+0.5}$	M12	22	3	2	48	18	39.8	20	13.5	12
BS40	60	227	18	7	13.5	$200^{+0.5}$	M20	38	3.5	2	68	24	59.8	33	22	18



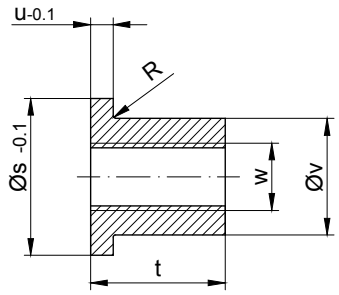
Installation Holding Dismantlement

The parts shown are neccessary for assembly. ONLY ✳specified parts are enclosed in the assembly kit.
Suitable measures are to be used to secure Bolt Pos.9 against loosening.

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

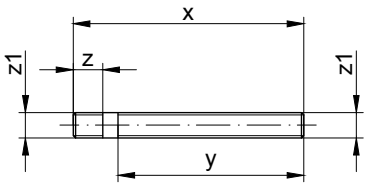
Assembly tools for hollow shaft and keyway

Pos.3 Sleeve



$\sqrt{^{x}}$, edges cut
Material: C45 DIN 17200

Pos.4 Stud bolt



Material: Steel, tensile strength
≥ 1000N/mm²
threads rolled

Type	Dimensions (mm)										✳Retainer ring DIN 472	Hexagon nut DIN 934-8	Disc DIN 125-St	✳Fillister head screw DIN 912-8.8	Starting torque (Nm)	Hexagon bolt DIN EN 24017-8.8	Key DIN 6885 Width x Height x Length
	Pos.3 Sleeve						Pos.4 Stud bolt										
	s	t	u	v	w	R	x	y	z	z1	Pos.5	Pos.6	Pos.7	Pos.8		Pos.9	Pos.10
BS03	19.8	24	5	11	M8	-	120	90	18	M6	20x1.0	M6	6.4	M6x25	5	M8x110	A 8x7x63
BS04	19.8	24	5	11	M8	-	120	90	18	M6	20x1.0	M6	6.4	M6x25		M8x110	A 8x7x56
BS06	19.8	24	5	15.4	M12	0.8	150	120	20	M8	25x1.2	M8	8.4	M8x30		M12x140	A 8x7x80
BS10	29.8	28	5	19.8	M14	0.8	210	175	23	M10	30x1.2	M10	10.5	M10x30	8	M14x190	A 8x7x140
BS20	34.9	28	5	23	M14	-	250	215	23	M10	35x1.5	M10	10.5	M10x35		M14x230	A10x8x160
BS30	39.9	40	6	27.7	M20	0.8	280	240	28	M12	40x1.75	M12	13	M12x35	16	M20x270	A 12x8x200
BS40	59.8	60	6	44	M30	-	320	260	45	M20	60x2.0	M20	21	M20x50	42	M30x310	A 18x11x200

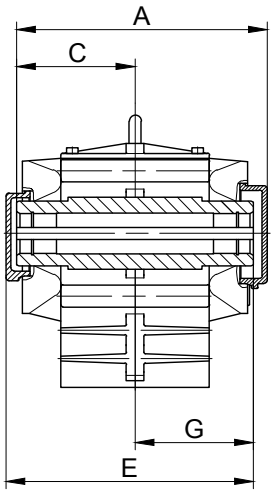
The parts shown are neccessary for assembly. ONLY ✳specified parts are enclosed in the assembly kit.
Suitable measures are to be used to secure Bolt Pos.9 against loosening.

Optional:

Type	Order Text
BS03	Id.Nr.4104013 Assembly tool "holding"
BS04	Id.Nr.4104013 Assembly tool "holding"
BS06	Id.Nr.4103921 Assembly tool "holding"
BS10	Id.Nr.4103939 Assembly tool "holding"
BS20	Id.Nr.4103947 Assembly tool "holding"
BS30	Id.Nr.4103955 Assembly tool "holding"
BS40	Id.Nr.4103971 Assembly tool "holding"

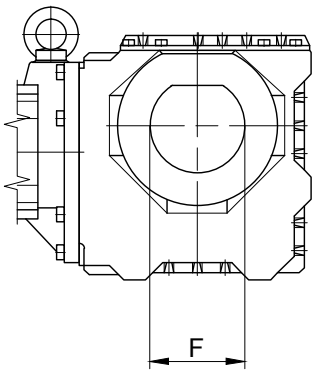
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

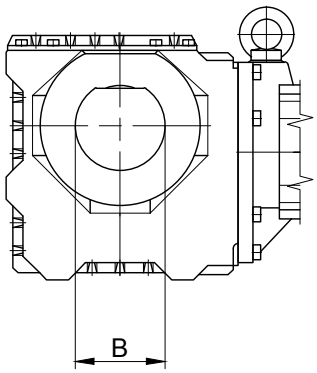
Shaft Cap (VK)



Gear side REAR (H)

Gear side FRONT (V)





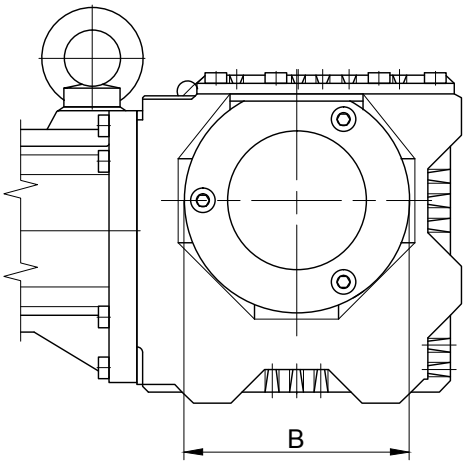
Sealing cap REAR			
Type	E	F	G
BS10	186	68	87
BS30	250.5	100	132
BS40	276	130	128

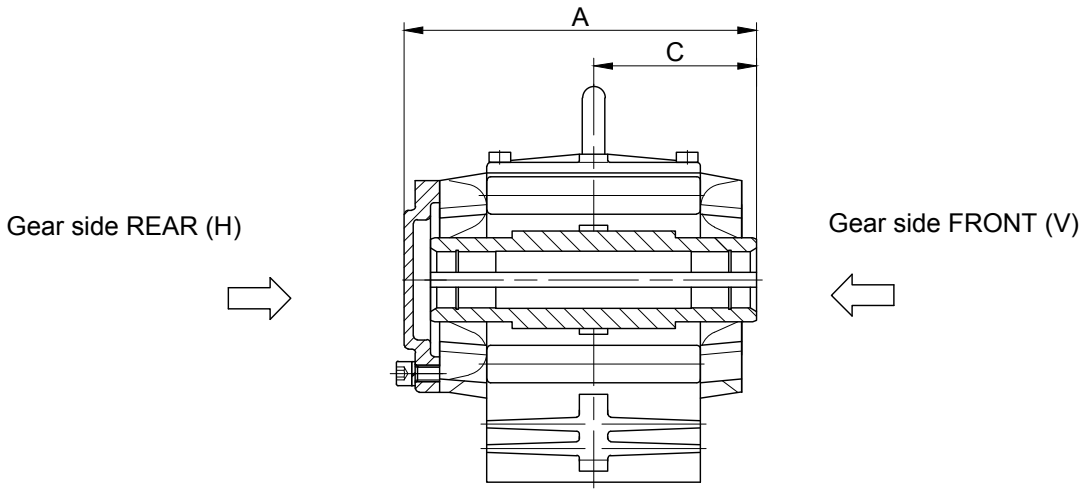
Sealing cap FRONT			
Type	A	B	C
BS20	221	78	104.5

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Shaft Cover (VD)

Gear side REAR (H)



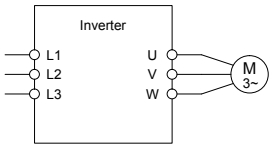


Type	A	B	C
BS06	128.5	81	60.5
BS10	185	Ø120	87
BS20	224.5	Ø160	104.5
BS30	251.5	Ø160	118.5
BS40	275	Ø210	128

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

14





Page

Motors

355-410

General
Duty Cycles acc. to DIN EN 60034
Technical data of the motors with rated speed 1500 1/min
Technical data of the motors with rated speed 2250 1/min
Technical data of the motors with rated speed 3000 1/min
Operation with frequency converter
Explosion protection

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

ErP Directive 2009/125/EC

Directive 2009/125/EC of the European Parliament and the Council, issued in 2009, specifies requirements for the environmentally responsible design of energy-related products (ErPs). In November 2009 it superseded Directive 2005/32/EC, which formed the framework for requirements for the environmentally responsible design of energy-using products (EuPs). This change has no effect on already proclaimed implementation measures.
From 16 June 2011 onward, new motors or geared motors marketed in the EU must comply with the requirements of **energy efficiency class IE2**. **From 1 January 2015 onward, motors with rated outputs from 7.5 to 375 kW** destined for the European market must comply with **energy efficiency class IE3**, and **from 1 January 2017 onward this requirement also applies to smaller motors rated at 0.75 kW or more.**

Objectives
The ErP Directive has several objectives:

1. **Mitigating the environmental impact of energy-using products**
   This objective is intended to be achieved by the documentation and labelling of products, by regulations for inspection, and by the formulation of individual requirements in implementation measures. As the entire product life cycle is taken into consideration, action must be taken as early as the design phase.

2. **Climate protection**
   Achievement of the EU climate protection objectives is to be supported. This can be implemented by reducing energy consumption and the emission of global warming gasses in the production, operation and disposal of energy-using products.

3. **Harmonised legislation**
   The directive creates a framework for the European regulation of environmental design requirements. This avoids trade impediments resulting from differences in national regulations. This can be achieved by means of the proclamation of legally binding implementation measures for the entire Community and protection of free trade in goods against further-reaching regulations of the Member States.

IEC 60034-30-1

Rotating electrical machines. Efficiency classes of line operated AC motors (IE-code)

This new edition of IEC 60034-30-1 specifies efficiency classes for single-speed electric motors that are rated according to IEC 60034-1 or IEC 60079-0, are rated for operation on a sinusoidal voltage supply IEC 60034-30-1 widens the product range with no distinction between motor technologies, supply voltage and frequency. All technical constructions of electric motors are covered as long as they are rated for on-line operation including Line-Start-Permanent-Magnet-Motors.

This IEC standard provides for the global harmonization of energy-efficiency classes IE1, IE2, IE3 and IE4 of electric motors.

Efficiency class designation		**Comparison with CEMEP classification**	
Efficiency	**Code**	**Efficiency**	**Logo**
Super Premium	**IE4**	**-**	**-**
Premium	**IE3**	**-**	**-**
High	**IE2**	**High**	EFF 1
Standard	**IE1**	**Improved**	EFF 2
Lower than Standard	**No designation**	**Standard**	EFF 3

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Motors subject to the ErP Directive as specified by the Electric Motors Regulation 640/2009/EC

The new Electric Motors Regulation has a broader scope than the standard previously used in Europe.

- → Single-speed, three-phase, 50 Hz and 50/60 Hz
- → 2-, 4- or 6-pole motors
- → Rated output from 0.75 to 375 kW
- → Rated voltage up to 1000 V
- → Duty type S1 (continuous running)
- → For operation directly from the mains (50 Hz or 60 Hz)
- → For Design N motors complying with IEC 60034-12
- → Motors with two switchable rated voltages, under the condition that the magnetic flux is the same with both voltages
- → Geared motors

Motors excluded from regulation

- → Motors exclusively manufactured for converter operation in accordance with IEC 60034-25
- → Pole-changing motors
- → Motors fully integrated into a machine (such as pumps, fans and compressors) that cannot be tested separately from the machine
- → At altitudes exceeding 4000 meters above sea-level
- → Where ambient air temperarures exceed 60° C
- → Where ambient air temperarures are less than -30° C
- → From 16 June 2011 onward: IE1 motors for none S1 duty destined for the European market
- → Explosion-proof motors (explosion protection has higher priority)
- → Brake motors
- → as from 2015/2017, IE2-Motors for use with variable speed drives (Additional name plate)

Example :



Method for determining motor efficiency according to IEC 60034-2-1

Individual loss method
Additional losses using the residual loss method
Low measurement uncertainty

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Bauer geared motors for connection to three-phase supply are supplied with specially designed induction motors. This design ensures maximum operating safety with high breakaway torque and minimum starting current.

The torque/speed characteristic is largely free of torque dips. Torque is optimised to suit requirements and application parameters. See "www.bauergears.com" for more information.

Torques

The torques as stated in the selection tables are fully available at the output shaft. These figures apply for continuous operation (S1-100 %) at a maximum ambient temperature of 40° C and at site elevations up to 1000 m above sea level. Drives for higher ambient temperatures and site elevations are available on request. Gear efficiencies, which are lower than the usual values for spur gears, are taken into account in the torques listed in the selection tables.

Anschluss-Voltages Umrichter

The PM synchronous motors are certified for voltages from 380 V to 500 V on the converter.

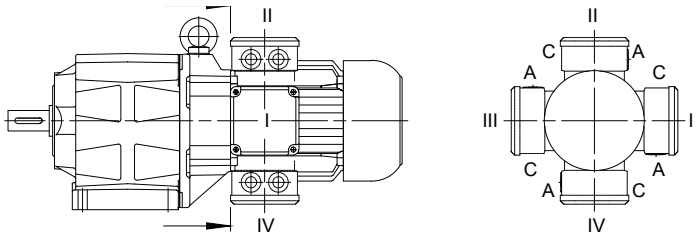
Rating plate

Bauer geared motors are supplied with a corrosion-proof rating plate as standard. The standard rating plate is made of special plastic tried and tested in many years of practical use and approved for hazardous areas by the Physikalisch-Technische-Bundesanstalt (PTB).



Terminal box

The cables of motors with and without brakes can be introduced into the motor terminal box from side A or side C.



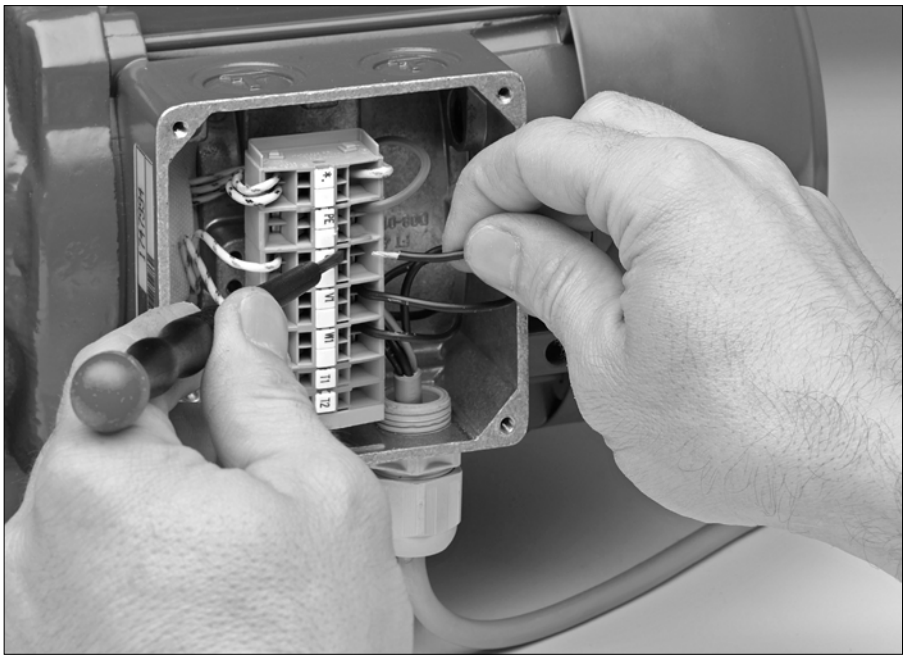
The standard position for the motor terminal box is shown in the dimensional drawings for the geared motors (see chapter 10, 11, 12 and 13). The terminal box can be installed at any of 3 other positions on request, if on-site space is restricted. The 4 possible positions are 90° offsets around the axis of the motor (dimensional drawing and designation for standard terminal box, see chapter 17 "Dimensional drawing standard terminal box").

Cast-on terminal boxes (KAG) are supplied with knock out entries with metric nut for cable gland. Screw- on terminal boxes (TBI...4 are supplied with a metric screw thread as standard.

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Motor connections

The electrical connection of gear motors is time consuming and creates costs, which cannot be neglected both during initial installation and in service cases. These costs are reduced considerably by the use of BAUER Gear Motors, have CAGE CLAMP® connection technology instead of the conventional terminal block – and that without extra charge.



What are the advantages for you ?

Cost reduction during connection
Public timing test have confirmed, that the electrical connection of a cable by means of CAGE CLAMP® technology saves up to 75 % working time compared with the classic screw connection.

Simple Handling
Cable connection from the top, very easily accessible: The CAGE CLAMP® spring is pressed, and the cable inserted from the front, i.e. in the field of vision of the installation engineer.

Which cable core diameters ?
Suitable for all copper wires from 0,5 mm^2 to 25 mm^2.

Cost saving in material and tooling
- multicore cable ends, cable eyes or cable ring eyes are no longer needed
- Tools such as crimping pliers are no longer needed
- Inadvertently over tightening or breaking of the terminal bolts and the procurement of a new terminal block belong in the past.
- Searching and procurement of nuts and washers for the terminal blocks, which have fallen down, also belongs in the past.

Vibration and shock resistant
Vibration and shock result neither in conductor damage nor in a measurable contact interruption. The connection is service free.

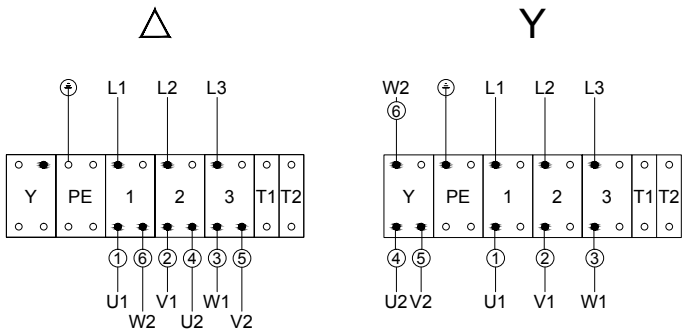
Type of conductors
The CAGE CLAMP®-connector can clamp fine stranded, stranded and solid cores wires.

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Terminal connections with motor protection

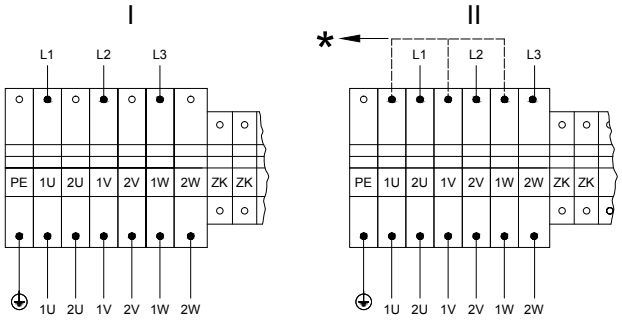
Standard connection of three phase motors with motor protection via CAGE CLAMP®.

S08 ... S09



	IEC / EN 60034-8	NEMA MG 1	Colour
Supply lines	L1 L2 L3	L1 L2 L3	
Motor winding	U1 V1 W1 U2 V2 W2	T1 T2 T3 T4 T5 T6	black blue brown yellow red violet
△	Connections for the low rated voltage (e.g.: 230 V)		
Y	Connections for the high rated voltage (e.g.: 400 V)		
T1 T2	Thermal motor protection		

S..11



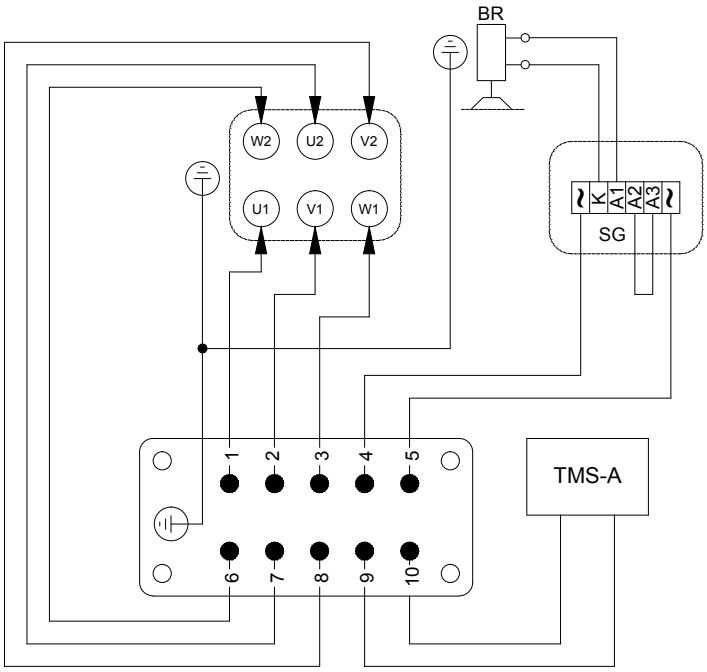
	IEC / EN 60034-8	NEMA MG 1	Colour
Supply lines	L1 L2 L3	L1 L2 L3	
Motor winding	1U 1V 1W 2U 2V 2W	T1 T2 T3 T4 T5 T6	black blue brown yellow red violet
I	Low speed		
II	High speed		
ZK	Optional additional connection		
*	Star point over Dahlander Relay		

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

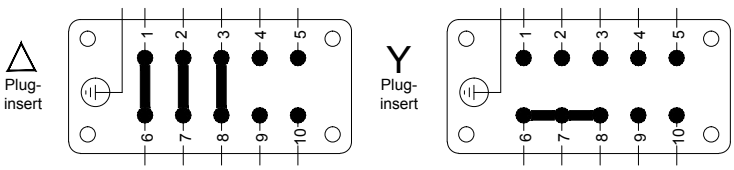
Plug-and-socket connection

S..08 to S..11Bauer motors are available with plug-in motor connection. The socket housing is mounted on the fan-cowl side of the terminal box as standard. This layout minimises the protrusion caused by the plug.
The standard plug-and-socket type connection incorporates the attachment housing, pin insert and cover. Grommet-type housings and jack inserts are available on request at extra cost. Pin assignments on request (dimensional drawing, see chapter 17 "Dimensional drawing, plug-connector terminal box").

A design with single clamp lever according to the DESINA regulation of the „Verbandes Deutscher Werkzeugmaschinenhersteller" (VDW) is also available.



△- or Y-Connection in the plughousing or installation cabinet is performed by the machine manufacturer.



Han 10ESS

Caution !

Motor shaft rotates clockwise for this connection (A-side).
The rotation of the gear shaft is depent on the gear design.

The motors are also available with a low-cost round plug connector as an alternative. This is fitted at the factory in the standard terminal box and is also suitable for brake connection, thermistors and thermostats. Additional information on request.

Bauer motors from S..08 with motor-mounted brake are also available with plug-in brake connection. This means that if it requires attention, the brake can be replaced on site with no loss of time

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

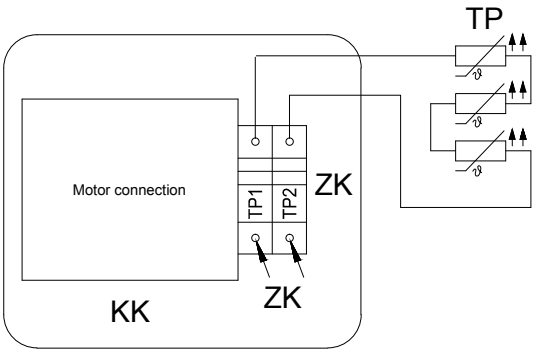
Motor protection

Each geared motor requires a current-dependent motor protection switch or an overcurrent relay with thermal delay in the switchgear to protect the motor windings. The rated motor currents required for settings are stated in the order acknowledgment. Thermal protection for the winding is recommended as an additional safety measure for special operating conditions (short-time or intermittent periodic duty, high switching frequency, severe voltage fluctuations or restricted cooling) and for operation in conjunction with a frequency converter.

Thermistors (PTC)

Thermistors are temperature-dependent resistors which are fitted in each phase winding. In conjunction with a motor protection switch, they ensure optimum protection for the winding in the event of rapid temperature rise. Characteristic to DIN 44081 and "Mark A" to IEC 34-11-2. Thermistors are available for all motors at extra cost. The requisite monitoring device is not included in the scope of supply.

Thermal motor protection with PTC-thermistors



KK	Terminal box
ZK	Additional terminals
TP	PTC-thermistors DIN 44081/IEC 34-11-2 Mark A
TCU	Connection of thermistor control unit EN 60947 Max. permissible testing voltage 2,5 VDC / thermistor in case of Ex with auth. certificate: PTB

The location of the additional terminals in the drawing is not necessarily identical with the actual arrangement.

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

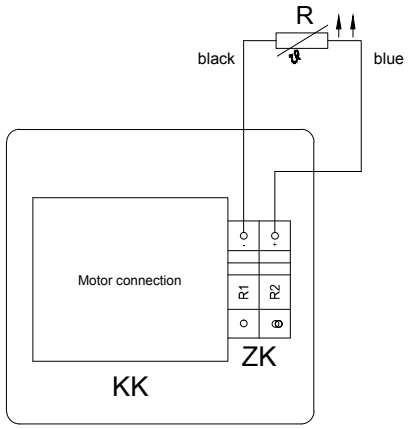
KTY sensors

KTY sensors with heat-shrink insulation can be used to measure and monitor critical surface temperatures and internal temperatures of motors and machines. These sensors are suitable for use in harsh industrial environments in all places where accurate measurements with a single sensor are required. KTY sensors are available for all types of motors at additional cost.

Type 84-130SH: primarily installed in motors that are operated with Siemens frequency converters.

Working principle: KTY sensors are temperature-dependent components. The resistance of the KTY sensor increases when its temperature rises. The characteristic curve is nearly linear in the sensor's measuring range; the reference resistance (at 100 °C) is 970 to 1030 ohms.

Resistance temperature sensor KTY84-130SH



KK	Terminal box
ZK	Additional terminals
R	Resistance temperature sensor

The location of the additional terminals in the drawing is not necessarily identical with the actual arrangement.

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

PT100 sensors

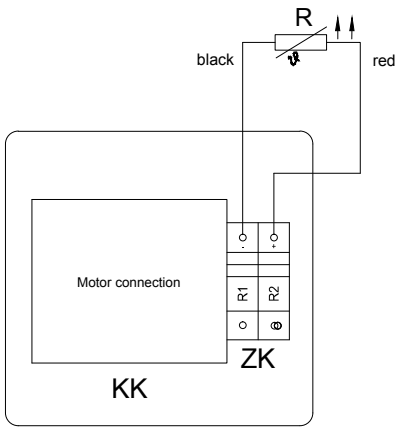
Precise monitoring of motor temperatures is necessary in many fields of industry. Pt100 sensors feature high accuracy, short response time and long-term stability, and they are suitable for use over a wide range of temperatures. Pt100 sensors are available for all motor types at additional cost.

Specifications

Nominal resistance: 100 Ω at 0° C

The resistance characteristics are specified in EN 60751.

Resistance temperature sensor PT 100



KK	Terminal box
ZK	Additional terminals
R	Resistance temperature sensor

The location of the additional terminals in the drawing is not necessarily identical with the actual arrangement.

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Insulation

The motors are manufactured as thermal class F as standard.
Insulation in accordance with thermal class F gives the winding increased protection against high humidity, acid fumes and difficult tropical influences, and also makes them more vibration-proof and heat-resistant. Additional charge for insulating material class F. See price list. Protection against insect damage (termites) is guaranteed with the complete enclosures (protection class IP65), as long as the power lines have a metallic coating.

Insulation Class F bestows the winding a multiple protection against high humidity, acidic gases and heavy tropical influences while making the same shock resistant and more resistant to heat. Protection against insects (termites) is guaranteed through the complete enclosure (IP65) as long as the mains cables are encased in metal.

Degree of protection

Bauer geared motors are designed with IP65 protection rating as standard.

Special corrosion protection

If high requirements for corrosion resistance are required, the geared motors are available with three levels of enhanced corrosion protection:

CORO1: Finished with two-component paint to protect against chemically aggressive gases and vapours.

CORO2: External paint as CORO1. In addition, sheet steel fan cowl with coating. The screws for the terminal-box cover are non-rusting steel.

CORO3 with IP 66: Available from motor size D06. Corrosion protection as CORO2. All motors manufactured within Temperature Class F. Terminal box compartment separated from motor interior by cast resin. Threaded cable entries and mating faces have special seals. See Bauer special imprint SD1 for more information.

Speed of output shaft

The rated speeds in the selection tables are guidelines for load at rated power. Speed can vary depending on degree of load and temperature (particularly in the case of relatively small motors). Combination gear units for lower speeds are available on request.

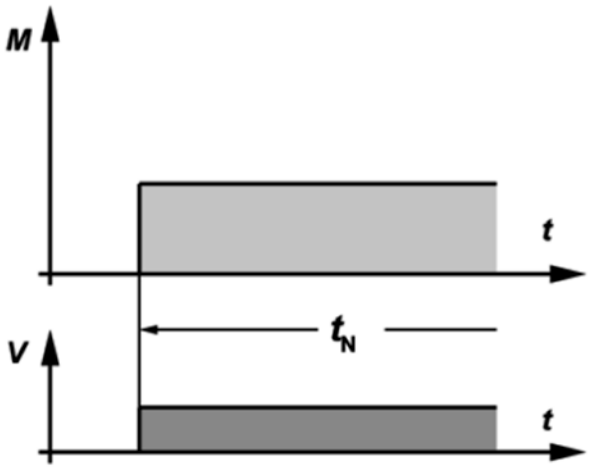
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Duty types as defined by EN 60034

General

Aside from special drives (such as lifting equipment), standard motors are always designed for continuous running duty. If the drive is operated with frequent on/off cycles, it may be necessary to select a larger motor with a special design. On the other hand, with pronounced short-time duty it is often possible to select a smaller model. **For this reason, it is technically necessary or economically advantageous to inform the motor manufacturer of any duty type that differs from continuous running.**

Continuous running duty (S1)



Operation under rated load for sufficient time to allow temperature equilibrium to be attained, such that the temperature does not increase any more with continued operation. The equipment can operate continuously under the rated load without exceeding the allowable temperature.

Short-time duty (S2)



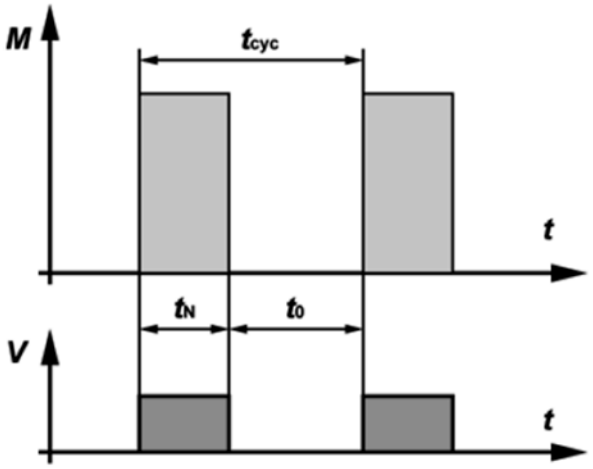
The operating time under rated load is short compared with the subsequent rest period. The standard operating times are 10, 30, 60 and 90 minutes. The equipment can operate for this period under the rated load without exceeding the allowable temperature.

Example: S2 – 60 min

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱- ۴ ۸ ۰ ۰ ۰ ۰ ۴ ۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

es as defined by EN 60034

Intermittent periodic duty (S3)



S3 duty consists of a sequence of identical cycles, each composed of an operating time with constant load and a rest time with the windings de-energised. The cycle is such that the starting current does not significantly affect the temperature rise. The operating time under rated load and the subsequent pause are both short. The equipment can operate under load only during the period indicated by the duty cycle as a percentage of the total cycle time (cycle duration).
The standardised duty cycles are 15, 25, 40 and 60 %. The cycle duration is 10 minutes unless otherwise specified.

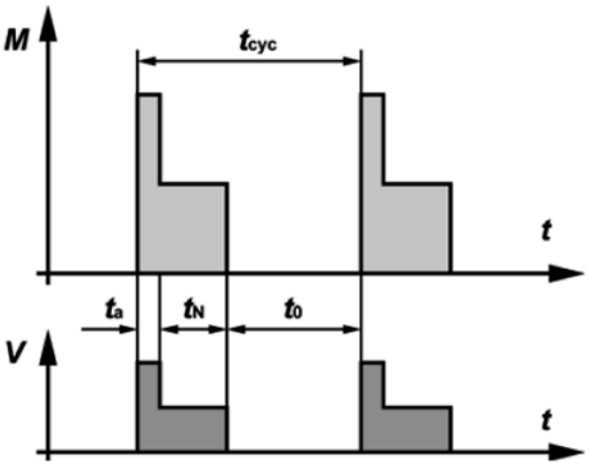
Intermittent periodic duty means that a state of thermal equilibrium is not reached during the load interval.

The duty cycle can be determined as follows:

$$ED = \frac{t_N}{t_{cyc}} \times 100\% = \frac{t_N}{t_N + t_0} \times 100\%$$

Example: S3 – 25 %

Intermittent periodic duty with starting (S4)



www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

S4 duty consists of a sequence of identical cycles, each of which is composed of a distinct starting time, a time of operation under constant load, and a rest period with the windings de-energised.

The operating time under rated load and the subsequent pause are both short. The equipment can operate under load only during the period indicated by the duty cycle as a percentage of the total cycle time (cycle duration).

The standardised duty cycles are 15, 20, 40 and 60 %. The cycle duration is 10 minutes unless otherwise specified.

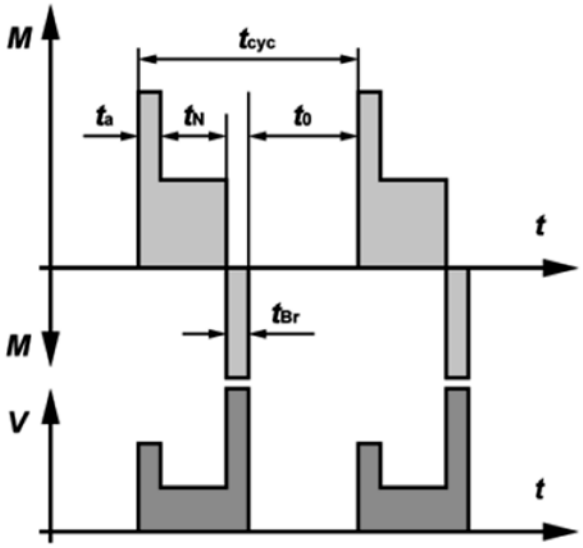
The load cycle corresponds to mode S3, but with additional heating during the starting time that must be taken into account.

The duty cycle can be determined as follows:

$$ED = \frac{(t_a + t_N)}{t_{cyc}} \times 100\% = \frac{t_a + t_N}{t_a + t_N + t_0} \times 100\%$$

Example: S4 – 25 %, $J_M = 0.15$ kgm^2

Intermittent periodic duty with electric braking (S5)



S5 duty consists of a sequence of identical cycles, each of which is composed of a starting time, a time of operation under constant load, a time of fast electric braking, and a rest period with the windings de-energised.
The operating time under rated load and the subsequent pause are both short. The equipment can operate under load only during the period indicated by the duty cycle as a percentage of the total cycle time (cycle duration).
The standardised duty cycles are 15, 20, 40 and 60 %. The cycle duration is 10 minutes unless otherwise specified.

The load cycle corresponds to S3 duty, but with additional warming during the starting time t_a and the braking time t_{Br} taken into account.

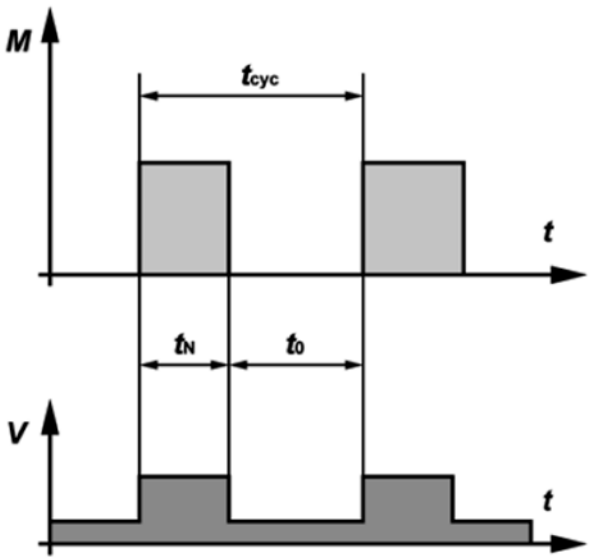
The duty cycle can be determined as follows:

$$ED = \frac{(t_a + t_N + t_{Br})}{t_{cyc}} \times 100\% = \frac{t_a + t_N + t_{Br}}{t_a + t_N + t_{Br} + t_0} \times 100\%$$

Example: S5 – 25 %; $J_M = 0.15$ kgm^2, $J_{ext} = 0.7$ kgm^2

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Continuous-operation periodic duty (S6)



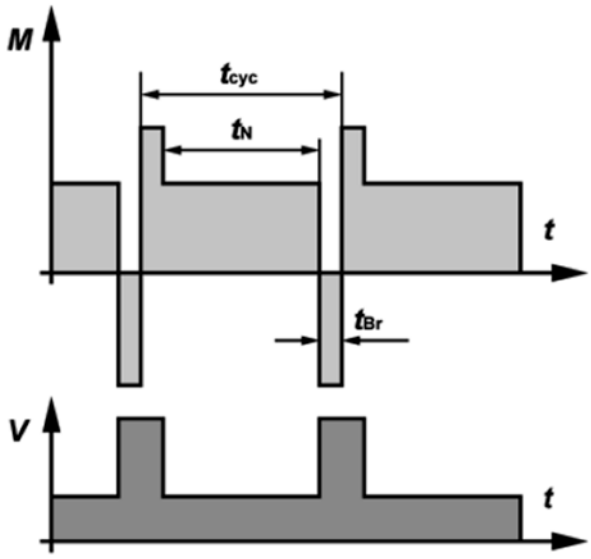
This type of duty corresponds to S3, with the exception that the equipment remains energised during the rest periods. In other words, it operates with no load during these periods. The duty cycle and cycle duration are specified the same way as for S3 duty.

The duty cycle can be determined as follows:

$$ED = \frac{t_N}{t_{cyc}} \times 100\% = \frac{t_N}{t_N + t_0} \times 100\%$$

Example: S6 – 40%

Continuous-operation periodic duty with electric braking (S7)

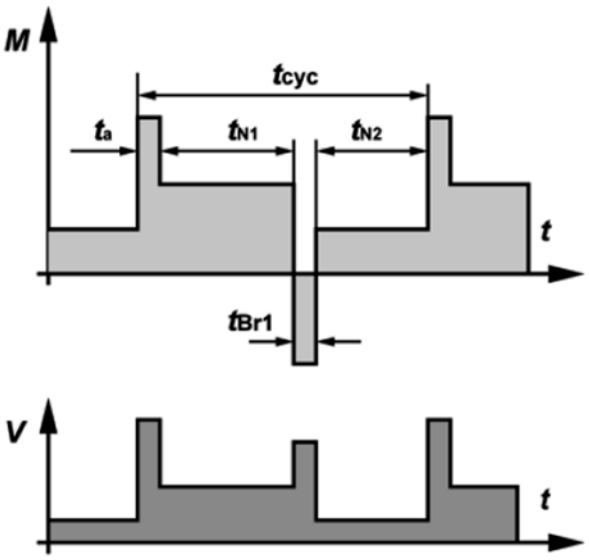


The machine starts up, operates under load, and then is braked electrically, for example by feeding it from a DC power source. Following this, it starts up again immediately. The machine can operate continuously in this manner if the specified moments of inertia of the motor J_M and of the load J_{Ext} as well as the specified duty cycle are not exceeded. If the cycle duration is not specified, it is assumed to be 10 minutes.

The duty cycle can be determined as follows: DC = 1
Example: S7 – $J_M = 0.4\ kgm^2$, $J_{ext} = 7.5\ kgm^2$

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Continuous-operation periodic duty with relative load/speed changes (S8)



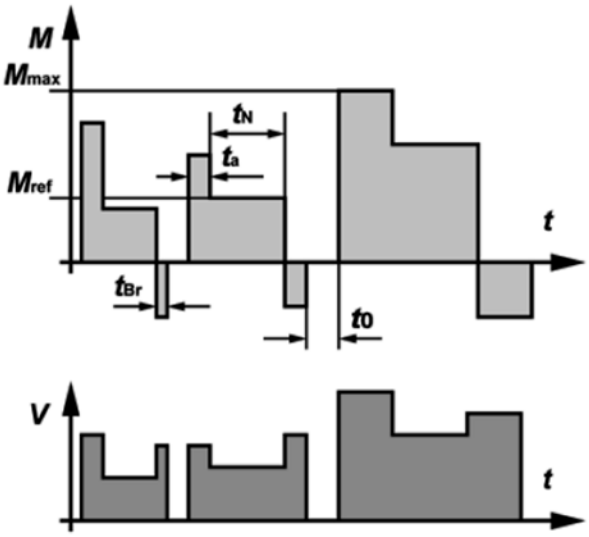
The machine runs continuously under variable load with frequent speed variations. The machine can operate continuously in this manner if at each speed the specified values are not exceeded (moments of inertia J_M and J_{Ext} cycle duration (if other than 10 minutes), rated output and duty cycle. With a moment of inertia of 1 kg m^2, the acceleration characteristics are the same as with a mass of 1 kg at a distance of 1 m from the axis of rotation).

The duty cycle can be determined as follows:

$$ED = \frac{t_a + t_{N1}}{t_{cyc}} \times 100\% = \frac{t_{Br} + t_{N2}}{t_{cyc}} \times 100\%$$

Example: S8 – $J_M = 0.5\ kgm^2$, $J_{ext} = 6\ kgm^2$

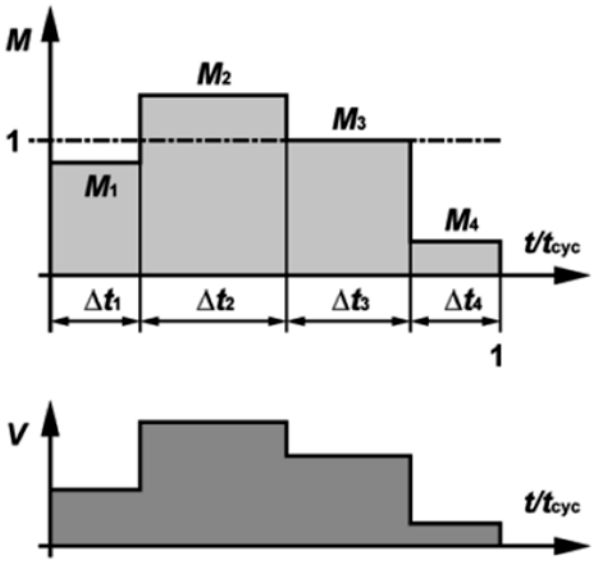
Duty with non-periodic load and speed variations (S9)



In S9 duty the load and the speed vary non-periodically within the permissible operating range. This includes frequently applied overloads, which must never exceed the reference load.
For this duty type, a constant load appropriately selected and based on duty type S1 shall be taken as the reference value M_{ref} for the overload.

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱- ۴ ۸ ۰ ۰ ۰ ۰ ۴ ۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Duty with discreet constant loads and speeds (S10)



S10 duty comprises operation with at most four different load levels, each of which is maintained long enough to allow the machine to reach thermal equilibrium.
The minimum load within a duty cycle may have a value of zero (no-load operation or at rest with the windings de-energised).
The appropriate abbreviation is S10 followed by the per unit quantities $p/\Delta t$ for the respective load and its duration and the per unit quantity *TL* for the relative thermal life expectancy of the insulation system. The reference value for the thermal life expectancy is the thermal life expectancy at rating for continuous running duty and permissible limits of temperature rise based on duty type S1. For a time de-energized and at rest, the load shall be indicated by the letter *r*.

Example: S10 $p/\Delta t$ = 1.1/0.4, 1/0.3, 0.9/0.2, *r*/0.1; *TL* = 0.6

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Technical data of the motors with Rated speed 1500 $^{1}/_{min}$

Rated speed 1500 $^{1}/_{min}$

Motor	P_n	M_n	I_n	2p	n_n	f	η	Circuit	R_{20}	R_{s20}	L_d	L_q	ke	kt	$M_{max\ (60s)}$	$I_{max\ (60s)}$	J
	kW	Nm	A		1/min	Hz	%		Ω	Ω	mH	mH	V/1000 1/min	Nm/A	Nm	A	kgm^2
SU08MA4	0,55	3,5	1,28	4	1500	50	IE4-87,7	Y	18,8	9,4	114	136	177	2,72	10	3,7	0,00115
SU08MA4	0,75	4,75	1,75	4	1500	50	IE3 – 85,6	Y	18,8	9,4	114	136	177	2,72	10	3,7	0,00115
S08MA4	0,75	4,75	1,7	4	1500	50	IE4-87,4	Y	18,8	9,4	114	136	177	2,8	12	4,5	0,00115
SU08LA4	0,75	4,75	1,75	4	1500	50	IE4-89,9	Y	11,34	5,67	80	118	174	2,73	12	4,3	0,00115
S08LA4	1,1	7	2,5	4	1500	50	IE4 - 88,0	Y	11,34	5,64	80	118	174	2,8	16	5,9	0,00115
SU09SA4	1,1	7	2,2	4	1500	50	IE4 - 88,5	Y	9,9	4,95	79	113	200	3,2	20	6,5	0,00245
S08LA4	1,5	9,55	3,4	4	1500	50	IE3-85,3	Y	11,34	5,67	80	118	174	2,8	16	5,9	0,00115
S09SA4	1,5	10	3,1	4	1500	50	IE4 - 89,2	Y	9,9	4,95	79	113	200	3,2	25	8	0,00245
SU09XA4	1,5	10	3,1	4	1500	50	IE4 - 90,0	Y	5,3	2,65	50,8	71,3	204	3,2	25	8	0,0038
S09SA4	2,2	14	4,3	4	1500	50	IE3 - 86,7	Y	9,9	4,95	79	113	200	3,2	25	8	0,00245
S09XA4	2,2	14	4,35	4	1500	50	IE4 - 89,8	Y	5,3	2,65	50,8	71,3	204	3,2	35	11	0,0038
SU11SA6	2,2	14	4,5	6	1500	75	IE4 – 91,2	Y	3,4	1,7	20,5	29	207	3,15	30	9,5	0,012
S09XA4	3	19	5,9	4	1500	50	IE3 - 87,7	Y	5,3	2,65	50,8	71,3	204	3,2	35	11	0,0038
S11SA6	3	19,1	6	6	1500	75	IE4 - 90,6	Y	3,4	1,7	20,5	29	207	3,15	50	17,5	0,012
SU11MA6	3	19,1	6,2	6	1500	75	IE4 – 92,5	Y	1,78	0,89	12,5	18,3	201	3,1	50	17	0,0175
S11SA6	4	25,5	8	6	1500	75	IE3-88,6	Y	3,4	1,7	20,5	29	207	3,15	50	17,5	0,012
S11MA6	4	25,5	8,15	6	1500	75	IE4-92,5	Y	1,78	0,89	12,5	18,3	201	3,1	70	23	0,0175
SU11LA6	4	25,5	8,2	6	1500	75	IE4 – 91,9	Y	1,23	0,615	9,5	13,8	206	3,1	60	20	0,0215
S11MA6	5,5	35	11,2	6	1500	75	IE3-90,8	Y	1,78	0,89	12,5	18,3	201	3,1	70	23	0,0175
S11LA6	5,5	35	10,8	6	1500	75	IE4-92,4	Y	1,23	0,615	9,5	13,8	206	3,2	90	30	0,0215
S11LA6	7,5	48	14,9	6	1500	75	IE3 – 91,4	Y	1,23	0,615	9,5	13,8	206	3,2	90	30	0,0215

P_n	Rated output
M_n	Rated torque:
I_n	Rated current
2p	No. of Motor Poles
n_n	Rated speed
f	Nominal Frequency
η	Motor efficiency
Circuit	Motorcircuit
R_{20}	Phase Resistance U-V
R_{s20}	Winding Resistance
L_d	Inductance D-Axis
L_q	Inductance Q-Axis
ke	Voltage constant
kt	Torque constant
$M_{max\ (60s)}$	Peak Torque
$I_{max\ (60s)}$	Peak Current
J	Moment of inertia

All motors: converter supply voltage 380 to 500 V

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

l data of the motors with Rated speed 2250 $^{1}/_{min}$

Rated speed 2250 $^{1}/_{min}$

Motor	P_n	M_n	I_n	2p	n_n	f	η	Circuit	R_{20}	R_{s20}	L_d	L_q	ke	kt	$M_{max\ (60s)}$	$I_{max\ (60s)}$	J
	kW	Nm	A		1/min	Hz	%		Ω	Ω	mH	mH	V/1000 1/min	Nm/A	Nm	A	kgm^2
SU08MA4	0,85	3,5	2,2	4	2250	75	IE4-90,0	D	6,27	9,4	38	45	102	1,6	10	6,5	0,00115
S08MA4	1,1	4,75	2,9	4	2250	75	IE4-89,0	D	6,27	9,4	38	45	102	1,6	12	7,5	0,00115
SU08LA4	1,1	4,75	2,95	4	2250	75	IE4-91,5	D	3,74	5,67	26,7	39,3	100	1,6	12	7,5	0,00115
S08MA4	1,65	7	4,3	4	2250	75	IE3-84,7	D	6,27	9,4	38	45	102	1,6	12	7,5	0,00115
S08LA4	1,65	7	4,4	4	2250	75	IE4-89,3	D	3,74	5,67	26,7	39,3	100	1,6	16	10,5	0,00115
SU09SA4	1,65	7	3,9	4	2250	75	IE4 - 90,3	D	3,3	4,95	26,3	37,5	115	1,8	20	11	0,00245
S08LA4	2,2	9,55	6	4	2250	75	IE3-86,7	D	3,74	5,67	26,7	39,3	100	1,6	16	10,5	0,00115
S09SA4	2,2	10	5,5	4	2250	75	IE4 - 91,1	D	3,3	4,95	26,3	37,5	115	1,8	25	14	0,00245
SU09XA4	2,2	10	5,7	4	2250	75	IE4 - 91,2	D	1,76	2,65	16,9	23,8	118	1,8	25	14	0,0038
S09SA4	3	12,75	6,8	4	2250	75	IE3 - 89,2	D	3,3	4,95	26,3	37,5	115	1,8	25	14	0,00245
S09XA4	4	17,5	9,2	4	2250	75	IE4 - 90,8	D	1,76	2,65	16,9	23,8	118	1,8	35	19	0,0038

P_n	Rated output
M_n	Rated torque:
I_n	Rated current
2p	No. of Motor Poles
n_n	Rated speed
f	Nominal Frequency
η	Motor efficiency
Circuit	Motorcircuit
R_{20}	Phase Resistance U-V
R_{s20}	Winding Resistance
L_d	Inductance D-Axis
L_q	Inductance Q-Axis
ke	Voltage constant
kt	Torque constant
$M_{max\ (60s)}$	Peak Torque
$I_{max\ (60s)}$	Peak Current
J	Moment of inertia

All motors: converter supply voltage 380 to 500 V

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Technical data of the motors with Rated speed 3000 $^{1}/_{min}$

Rated speed 3000 $^{1}/_{min}$

Motor	P_n	M_n	I_n	2p	n_n	f	η	Circuit	R_{20}	R_{s20}	L_d	L_q	ke	kt	$M_{max\ (60s)}$	$I_{max\ (60s)}$	J
	kW	Nm	A		1/min	Hz	%		Ω	Ω	mH	mH	V/1000 1/min	Nm/A	Nm	A	kgm^2
SU08MA4	1,1	3,5	2,4	4	3000	100	IE4-91,3	Y	4,8	2,4	29,3	34,2	89	1,45	10	7,0	0,00115
S08MA4	1,5	4,75	3,4	4	3000	100	IE4-90,1	Y	4,8	2,4	29,3	34,2	89	1,4	12	8,9	0,00115
SU08LA4	1,5	4,75	3,5	4	3000	100	IE4-92,2	Y	2,86	1,43	20,2	29,7	84	1,4	12	8,7	0,00115
S08MA4	2,2	7	5	4	3000	100	IE3-87,8	Y	4,8	2,4	29,3	34,2	89	1,4	12	8,9	0,00115
S08LA4	2,2	7	5,1	4	3000	100	IE4-91,0	Y	2,86	1,43	20,2	29,4	84	1,4	16	12	0,00115
SU09SA4	2,2	7	4,6	4	3000	100	IE4 - 91,0	Y	2,46	1,23	19,3	27,4	100	1,6	20	13	0,00245
S08LA4	3	9,55	6,9	4	3000	100	IE4-89,8	Y	2,86	1,43	20,2	29,4	84	1,4	16	12	0,00115
SU09XA4	3	10	6,5	4	3000	100	IE4 - 92,7	Y	1,31	0,655	12,7	17,9	102	1,6	25	15	0,0038
S09SA4	4	12,75	7,9	4	3000	100	IE4 - 91,5	Y	2,46	1,23	19,3	27,4	100	1,6	25	17	0,00245
SU11SA6	4	12,75	8,3	6	3000	150	IE4 – 93,0	Y	0,867	0,434	5,2	7,6	103	1,54	30	19,5	0,012
S09XA4	5,5	17,5	10,7	4	3000	100	IE4 – 93,0	Y	1,31	0,655	12,7	17,9	102	1,6	40	27	0,0038
S11SA6	5,5	17,5	11	6	3000	150	IE4-91,4	Y	0,867	0,434	5,2	7,6	103	1,59	50	34	0,012
SU11MA6	5,5	17,5	11,7	6	3000	150	IE4 – 93,2	Y	0,454	0,681	3,4	4,7	102	1,5	45	30	0,0175
S11SA6	7,5	23,9	15,2	6	3000	150	IE3-90,7	Y	0,867	0,434	5,2	7,6	103	1,59	50	34	0,012
S11MA6	7,5	23,9	15,4	6	3000	150	IE4-92,1	Y	0,454	0,681	3,4	4,7	102	1,55	70	48	0,0175
SU11LA6	7,5	23,9	15,3	6	3000	150	IE4 – 93,7	Y	0,344	0,516	2,8	3,7	108	1,55	60	39	0,0215
S11MA6	9,5	30,2	19,3	6	3000	150	IE3-91,3	Y	0,454	0,681	3,4	4,7	102	1,55	70	48	0,0175
S11LA6	9,5	30,2	18,2	6	3000	150	IE4 – 92,7	Y	0,344	0,516	2,8	3,7	108	1,6	90	58	0,0215
S11MA6	11	35	22,5	6	3000	150	IE3-91,2	Y	0,454	0,681	3,4	4,7	102	1,55	70	48	0,0175
S11LA6	11	35	21,1	6	3000	150	IE4 – 92,9	Y	0,344	0,516	2,8	3,7	108	1,6	90	58	0,0215
S11LA6	15	48	29,6	6	3000	150	IE3 – 91,9	Y	0,344	0,516	2,8	3,7	108	1,6	90	58	0,0215

P_n	Rated output
M_n	Rated torque:
I_n	Rated current
2p	No. of Motor Poles
n_n	Rated speed
f	Nominal Frequency
η	Motor efficiency
Circuit	Motorcircuit
R_{20}	Phase Resistance U-V
R_{s20}	Winding Resistance
L_d	Inductance D-Axis
L_q	Inductance Q-Axis
ke	Voltage constant
kt	Torque constant
$M_{max\ (60s)}$	Peak Torque
$I_{max\ (60s)}$	Peak Current
J	Moment of inertia

All motors: converter supply voltage 380 to 500 V

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

The figures given in the table below are for Bauer motors operating in conjunction with the frequency inverter. The torques referred to in tables can be entered for the respective frequencies in continuous operation (S1 = duty factor 100 %).

Motor torques in the adjusting range 150 1/min - 1800 1/min, duty type S1

Type	Speed	Torque	Power	Voltages	Current	Frequency	Circuit
	1/min	Nm	kW	V	A	Hz	
S08MA4	150	5	0,08	66	1,9	5	Y
	500	5,6	0,29	138	2,1	16,7	Y
	1000	6,5	0,68	235	2,3	33,3	Y
	1500	6,5	1,0	340	2,3	50	Y
	1800	6,5	1,2	378	2,3	60	Y
S08LA4	150	6,5	0,10	55	2,5	5	Y
	500	8,0	0,42	125	3	16,7	Y
	1000	9,55	1,0	225	3,5	33,33	Y
	1500	9,55	1,5	315	3,5	50	Y
	1800	9,55	1,8	378	3,5	60	Y
S09SA4	150	8	0,13	56	2,5	5	Y
	500	10	0,53	140	3,2	16,7375	Y
	1000	13	1,36	258	4,0	33,33	Y
	1500	13	2	370	4,0	50	Y
	1800	11,5	2,2	375	4,0	60	Y
S09XA4	150	12,5	0,2	53	4	5	Y
	500	16	0,84	134	5	16,66	Y
	1000	20	2,1	253	6,3	33,33	Y
	1500	20	3,1	364	6,3	50	Y
	1800	19	3,6	380	6,3	60	Y
S11SA6	150	17,5	0,3	53	5,8	7,5	Y
	500	21,5	1,1	134	7,2	25	Y
	1000	25	2,6	253	8	50	Y
	1500	25	3,9	346	8	75	Y
	1800	25	4,7	380	8	90	Y
S11MA6	150	25	0,4	44	8,3	7,5	Y
	500	28	1,5	134	9	25	Y
	1000	35	3,7	253	11,2	50	Y
	1500	35	5,5	328	11,2	75	Y
	1800	35	6,6	380	11,2	90	Y
S11LA6	150	35	0,5	44	11,2	7,5	Y
	500	41	2,1	134	13,1	25	Y
	1000	50	5,2	253	15,5	50	Y
	1500	50	7,9	340	15,5	75	Y
	1800	50	9,4	380	15,5	90	Y

Converter Settings:

Minimum clock frequency: 3 kHz
Short-term current limit: 160 % * $I_{1500/min}$
Maximum overload time: 60 s
Minimum frequency: 5 Hz
Maximum frequency: 60 Hz
Permissible operating time below fmin: 60 s (in open loop mode)Alle übrigen All other settings must be selected according the requirements of the drive.
The maximum overload time and the permissible operating time below fmin are based on an interval of 10 minutes.
Non-standard operating conditions on request.

All motors: converter supply voltage 380 to 500 V

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Motor torques in the adjusting range 150 1/min - 3600 1/min, duty type S1

Type	Speed	Torque	Power	Voltages	Current	Frequency	Circuit
	1/min	Nm	kW	V	A	Hz	
S08MA4	150	5	0,08	34	3,7	5	Y
	500	5,6	0,29	68	4,1	16,7	Y
	1000	6,5	0,7	119	4,7	33,3	Y
	3000	6,5	2,0	308	4,7	100	Y
	3600	6,5	2,5	372	4,7	120	Y
S08LA4	150	6,5	0,10	23	5	5	Y
	500	8,0	0,42	63	5,9	16,7	Y
	1000	9,55	1,0	114	7,0	33,33	Y
	3000	9,55	3,0	296	7,0	100	Y
	3600	9,55	3,6	358	7,0	120	Y
S09SA4	150	8	0,13	28	5,2	5	Y
	500	10	0,53	70	6,4	16,7	Y
	1000	13	1,36	129	8,25	33,33	Y
	3000	13	4	342	8,25	100	Y
	3600	11	4,15	374	6,9	120	Y
S09XA4	150	12,5	0,196	26	8	5	Y
	500	16	0,84	66	9,9	16,7	Y
	1000	20	2,1	124	12,5	33,33	Y
	3000	20	6,3	334	12,5	100	Y
	3600	14,5	5,5	380	9,2	120	Y
S11SA6	150	17,5	0,3	27	12	7,5	Y
	500	21,5	1,1	68	14,5	25	Y
	1000	25	2,6	126	16	50	Y
	3000	25	7,9	340	16	150	Y
	3600	21	7,9	380	14	180	Y
S11MA6	150	25	0,4	26	16	7,5	Y
	500	28	1,5	68	18,5	25	Y
	1000	35	3,7	126	22,5	50	Y
	3000	35	11,0	325	22,5	150	Y
	3600	30	11,3	380	20	180	Y
S11LA6	150	35	0,5	26	23	7,5	Y
	500	41	2,1	68	26,5	25	Y
	1000	50	5,2	125	31	50	Y
	3000	50	15,7	345	31	150	Y
	3600	42	15,8	380	27	180	Y

Converter Settings:

Minimum clock frequency: 3 kHz
Short-term current limit: 160 % * $I_{3000/min}$
Maximum overload time: 60 s
Minimum frequency: 5 Hz
Maximum frequency: 120 Hz
Permissible operating time below fmin: 60 s (in open loop mode)
Alle übrigen All other settings must be selected according the requirements of the drive.
The maximum overload time and the permissible operating time below fmin are based on an interval of 10 minutes.
Non-standard operating conditions on request.

All motors: converter supply voltage 380 to 500 V

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Notes on design

Use the torque required at the lowest operating speed to select motors for applications which require constant torque over the entire speed range, as is the case, for example, with lifting gear and conveyors.

Use only the torque required at the highest operating speed to select motors for applications which require square-law torque over the speed range, as is the case, for example, with pumps and fans.

The power of the motor depends on the frequency. It can be determined approximately from the torque M in Nm, the nominal speed n and the frequency f in Hz...

P = M x n / 9550 x f/50
or
P = M x n / 9550 x f/60

If a frequency converter is used in combination with a pulser coil, the full rated torque can also be given as holding toque at rest (external fans required for extended rest periods). In many instances, however, a mechanical brake is necessary for holding a position exactly or for safety reasons.

The use of thermistors for the thermal protection of the motor winding for frequency inverter duty are strictly recommended.

Increased torque with reduced duty factor

A reduction in duty factor increases the torque available at the low end of the frequency range (up to the transition frequency for field weakening) in accordance with the factors in the table below:

Duty factor	Motor torque with reduced duty factor	Increase in current requiremen-tapproximate
100 %	-	-
60 %	1,15 x S1 torque	1,15 x S1 current
40 %	1,30 x S1 torque	1,30 x S1 current
25 %	1,45 x S1 torque	1,45 x S1 current
15 %	1,60 x S1 torque	1,60 x S1 current

Increased torque with external fan

This, in turn, means that short-term overload by a factor of 1.6 is permissible for starting from a low speed, for example.

If an external fan is used, the S1 torque does not have to be reduced in the lower speed range (below 1000 1/min), i.e. a motor cooled by an external fan can generate the rated torque across the entire speed range .

With the combination of external ventilation and a reduced duty cycle, 160 % of the rated torque is available with a high-quality frequency converter, from standstill to the limit speed. External ventilation is available for motor types S08 and larger (see chapter 16 “Motor-independent fan (FV)). In many instances, a more economical alternative is to select a larger motor without external ventilation.

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Regeneration

Regenerative torques (braking torques) are required for motors used in lifting gear, for example. In conjunction with high quality frequency inverters, the motor torques listed in the table can also be applied as regenerative torques. As with motor torque, an increase in regenerative torque with reduced duty factor is permissible.

The precondition is that the motor current generated by the frequency converter is largely free of harmonics. The harmonics generated in the motor by some old-style frequency inverters result in additional losses and cut available torque by some 10 % across the entire frequency range. There is also a risk of oscillation causing damage to the gear unit.

Notes on operation with other-make frequency inverters

At frequencies below approximately 5 Hz, operation without pulse generators is possible only using a frequency inverter with state-of- the-art control.

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

The gears described in this catalogue are suitable for use in explosion hazard areas

of zones 1, 2, 21 and 22. An **EC Declaration of Conformity** is available upon request; it is based on an „assessment of the explosion risk", which has been recorded with a notified body (PTB). The ignition protection type of the corresponding **motors** is determined by the zone in which they are to be used and by the duty type (e.g. operation on a converter). The motor parts are in some cases larger compared to the normal design shown in this catalogue, or in the case of pressurised enclosures, they are designed entirely differently. However, the modular system shown in section 3 allows, in the majority of cases, the retention of the gear size and the connection dimensions laid out in this catalogue.

ATEX

The term **ATEX** is derived from **At**mosphères **ex**plosibles. The designations **95** and **137** relate to the renumbering of the article of the first Treaty establishing the EU. **ATEX 95:** Directive 94/9/EC to approximate the laws of the Member States for devices and protection systems for intended use in potentially explosive atmospheres; mandatory for **bringing to market** since 1 July 2013 **ATEX 137:** Directive 1999/92/EC on minimum requirements for improving the safety and health protection of workers potentially at risk from explosive atmospheres; mandatory for the **operation** of new systems since 1 July 2003 and mandatory for the adaptation of the operating regulations of existing plants from 1 July 2006.
Safety guidelines for the operation of explosion-protected gear motors an be found in BA170...

Frequency converters

Frequency converters used must comply with the requirements set out in the EC Type Examination Certificate.
For the corresponding motor type, the EC Type Examination Certificate contains the maximum possible torques depending on the frequency, the corresponding rated current, converter settings and other requirements for the converter.
The pulse voltage at the motor terminals must be limited to a maximum permissible pulse voltage of 1,556 V (2 x √2 x 550 V) by selecting a suitable frequency converter and/or using filters.
The maximum permissible frequency converter input voltage is 500 V

Protective device

The motor is protected against unacceptable heating by the defined frequency converter setting, as well as by the integrated thermistor sensor in accordance with DIN 44081 / 44082 Response temperature **140° C**. Analysis of the built-in thermal winding protection must be done by using a trip unit with Ex-mark II (2) G or II (2) D that fulfils the requirements of Directive 94/9/EC.

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Voltages

The voltages at the motor terminals depend on the input voltage of the frequency converter, the voltage loss at the filter and in the motor supply cable, and may not fall below the rated value by more than 10 % according to IEC 60034 - 1 Range „B", even with minimum input voltage from the frequency converter. In the case of reduced voltages at the motor terminals, the permissible motor torque must be reduced proportionally to the change in voltage. This must be taken into account for the sizing of the motor, the parameterisation of the converter and for the minimum converter input voltage.
The maximum permissible frequency converter input voltage is 500 V +10 %, 50/60 Hz.
Changes to the rated values (torque, speed adjusting range) within the permissible operating range are permissible and are determined by the manufacturer. Permissible continuous current limit, torque and speed adjusting range are specified on the nameplate.
Max. permissible ambient temperature range -20° C to +50° C

Converter Settings:

Minimum clock frequency:	3 kHz
Short-term current limit:	160 % * In
Maximum overload time:	60 s
Minimum frequency:	5 Hz
Maximum frequency:	Up to 180 Hz, depending on motor design
Permissible operating time below fmin:	60 s

All other settings must be selected according the requirements of the drive.
The maximum overload time and the permissible operating time below fmin are based on an interval of 10 minutes

Gears with non-electrical explosion protection
As of 1 July 2003, only mechanical equipment („devices") which comply with the requirements of
ATEX 95 may be placed on the market. The ATEX and ExVO define the following: „Equipment includes machines, apparatus, fixed or mobile devices,
control components and instrumentation thereof and detection or prevention systems which, separately or jointly, are intended for the generation, transfer, storage, measurement, control and conversion of energy and/or the processing of material and which are capable of causing an explosion through their own potential sources of ignition." The definition therefore applies to the gear component of a gear motor; but also to the process machinery and equipment being driven, if these are installed in explosion hazard areas. An **„Assessment of the Ignition Hazard"** must be carried out and documented by the manufacturer for the **„Declaration of Conformity"** for the machine being driven; this task is simplified if a dedicated assessment is carried out for the „gear motor" components. The assessment can only be undertaken in accordance with the ATEX requirements; the „Presumption of Conformity" applies in favour of the product, however, if a standard or draft standard is taken as a basis.
When difficult conditions combine (e.g. ambient temperature > 40° C, speed > 1500 r/min, vertical arrangement of the motor component, temperature class T4), there may be restrictions on the selection of gears in the upper power range.
The following standards, among others, were observed for the assessment of the Bauer gears:
EN 1127 Explosion Protection; basic concepts and methodology
EN 13463 Non-electrical equipment for use in potentially explosive atmospheres
EN 13463-1 Basic method
EN 13463-5 Constructional safety
EN 13463-8 Liquid immersion

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Rated data of the motor

Type: **S.XE.08MA4-..** Ignition protection type: Increased Safety
S.XC.08MA4-.. Dust explosion protection – Zone 21

Labelling: **II 2 G Ex e IIC T1 - T3 Gb**

Labelling: **II 2 D Ex tb IIIC T120° C – T160° C Db IP6x**

Rated parameters and data of the motor

Rated output Pn	1,0	1,75	kW
Rated torque Mn	6,5	6,5	Nm
Rated current In	2,3	4,0	A
No. of Motor Poles 2p	4	4	
Rated speed n_n	1500	2600	1/min
Nominal Frequency	50	87	Hz
Motorcircuit	Wye circuit	Delta circuit	
Strang-Resistance Rs20	9,35*		Ohm
Strang-Inductance D-Axis Ld	97*		mH
Strang-Inductance Q-Axis Lq	170*		mH
Voltage constant ke	180	103	V / 1000 1/min
Torque constant kt	2,82	1,62	Nm / A
Peak Torque Mmax (60s)	10	10	Nm
Peak Current Imax (60s)	3,7	6,4	A
Converter supply voltage	380 - 500		V

Δ * Input value Danfoss Frequency converter FC302 => delta circuit 1/3 of the phase value

Data operation with frequency converter S1 operation, wye circuit

Torque	5,0	5,6	6,5	6,5	6,5	Nm
Power	0,08	0,29	0,68	1,0	1,2	kW
Voltage *	66	138	243	340	378	V
Current	1,9	2,1	2,3	2,3	2,3	A
Frequenz	5	16,66	33,33	50	60	Hz
Speed	150	500	1000	1500	1800	1/min
Duty type	S1					

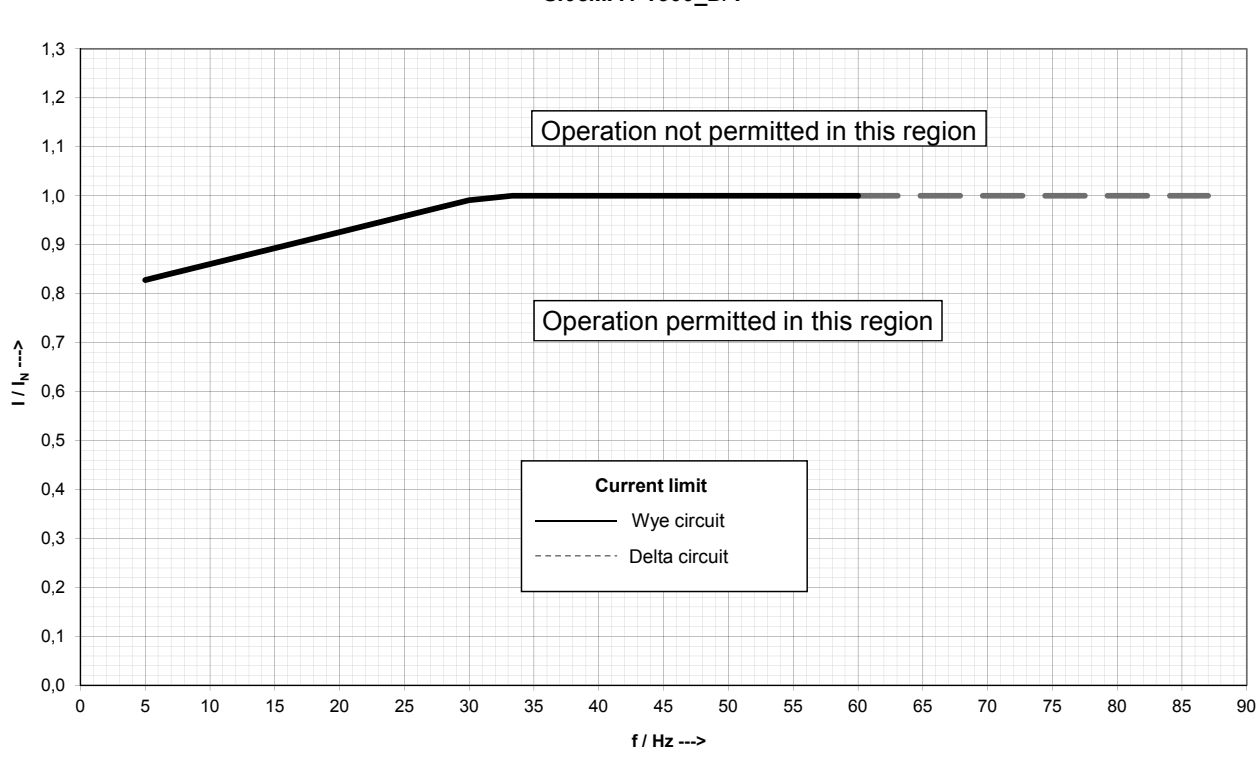
Data operation with frequency converter S1 operation, delta circuit

Torque	5,0	5,6	6,5	6,5	6,5	Nm
Power	0,08	0,29	0,68	1,0	1,75	kW
Voltage *	38	79	142	198	320	V
Current	3,3	3,6	4,0	4,0	4,0	A
Frequenz	5	16,66	33,33	50	87	Hz
Speed	150	500	1000	1500	2600	1/min
Duty type	S1					

* Basic oscillation at the motor terminals (output voltage of the frequency converter)

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Frequency converter continuous current limit configuration parameters



Frequency converter continuous current limit configuration parameters

The voltage at the motor terminals depends on the input voltage from the frequency converter, the loss of voltage at the filter and in the motor supply cable and may not fall below the rated value by more than 10 % according to IEC 60034 - 1 Range„B“, even with minimum input voltage from the frequency converter. In the event of reduced voltage at the motor terminals, the permissible motor torque must be reduced proportionally to the change in voltage. This must be taken into account when sizing the motor, and the parameterisation of the converter and for the converter minimum input voltage.
The maximum permissible frequency converter input voltage is 500 V +10 %, 50/60 Hz.
Changes to the rated values (torque, speed adjusting range) within the permissible operating range are permissible and are determined by the manufacturer. Permissible continuous current limit, torque and speed adjusting range are specified on the nameplate.

Max. permissible ambient temperature range -20° C to +50° C

Converter Settings:

Minimum clock frequency:	3 kHz
Short-term current limit:	160 % * In
Maximum overload time:	60 s
Minimum frequency:	5 Hz
Maximum frequency:	60 Hz
Permissible operating time below f_{min}:	60 s

All other settings must be selected according the requirements of the drive.

The maximum overload time and the permissible operating time below f_{min} are based on an interval of 10 minutes

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Rated data of the motor

Type: **S.XE.08LA4-..** Ignition protection type: Increased Safety
S.XC.08LA4-.. Dust explosion protection - Zone 21

Labelling: **II 2 G Ex e IIC T1 - T3**

Labelling: **II 2 D Ex tb IIIC T 120° C – T160° C Db IP6x**

Rated parameters and data of the motor

Rated output Pn	1,50	2,45	kW
Rated torque Mn	9,55	9,0	Nm
Rated current In	3,5	5,9	A
No. of Motor Poles 2p	4	4	
Rated speed n_n	1500	2600	1/min
Nominal Frequency	50	87	Hz
Motorcircuit	Wye circuit	Delta circuit	
Strang-Resistance Rs20	5,5 *		Ohm
Strang-Inductance D-Axis Ld	70 *		mH
Strang-Inductance Q-Axis Lq	117 *		mH
Voltage constant ke	171	99	V / 1000 1/min
Torque constant kt	2,73	1,52	Nm / A
Peak Torque Mmax (60s)	15	14	Nm
Peak Current Imax (60s)	5,6	9,5	A
Converter supply voltage	380 - 500		V

Δ * Input value Danfoss Frequency converter FC302 => delta circuit 1/3 of the phase value

Data operation with frequency converter S1 operation, wye circuit

Torque	6,5	8,0	9,55	9,55	9,55	Nm
Power	0,1	0,42	1,0	1,5	1,8	kW
Voltage *	55	125	225	315	378	V
Current	2,5	3,0	3,5	3,5	3,5	A
Frequenz	5	16,66	33,33	50	60	Hz
Speed	150	500	1000	1500	1800	1/min
Duty type	S1					

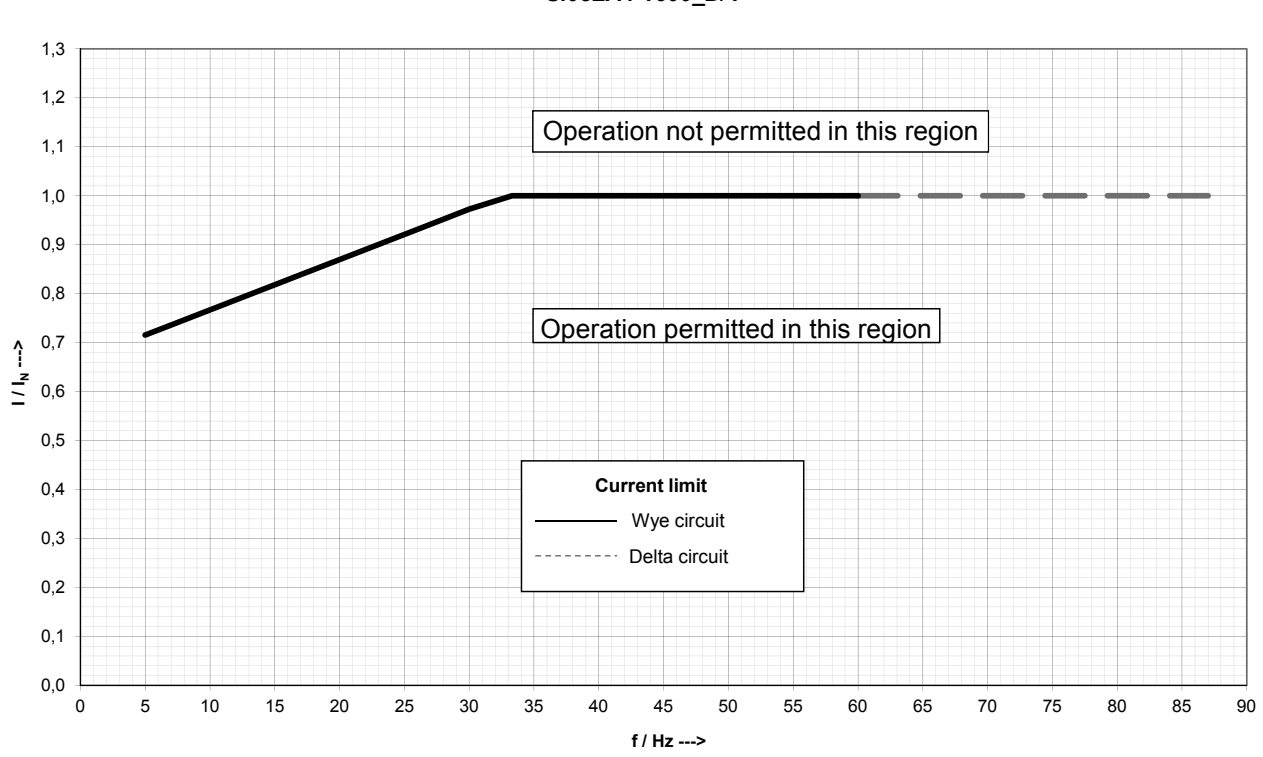
Data operation with frequency converter S1 operation, delta circuit

Torque	6,25	8,0	9,0	9,0	9,0	Nm
Power	0,10	0,39	0,94	1,4	2,45	kW
Voltage *	33	72	131	182	300	V
Current	4,3	5,0	5,9	5,9	5,9	A
Frequenz	5	16,66	33,33	50	87	Hz
Speed	150	500	1000	1500	2600	1/min
Duty type	S1					

* Basic oscillation at the motor terminals (output voltage of the frequency converter)

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Frequency converter continuous current limit configuration parameters



Frequency converter continuous current limit configuration parameters

The voltage at the motor terminals depends on the input voltage from the frequency converter, the loss of voltage at the filter and in the motor supply cable and may not fall below the rated value by more than 10 % according to IEC 60034 - 1 Range„B", even with minimum input voltage from the frequency converter. In the event of reduced voltage at the motor terminals, the permissible motor torque must be reduced proportionally to the change in voltage. This must be taken into account when sizing the motor, and the parameterisation of the converter and for the converter minimum input voltage.
The maximum permissible frequency converter input voltage is 500 V +10 %, 50/60 Hz.
Changes to the rated values (torque, speed adjusting range) within the permissible operating range are permissible and are determined by the manufacturer. Permissible continuous current limit, torque and speed adjusting range are specified on the nameplate.

Max. permissible ambient temperature range -20° C to +50° C

Converter Settings:

Minimum clock frequency:	3 kHz
Short-term current limit:	160 % * In
Maximum overload time:	60 s
Minimum frequency:	5 Hz
Maximum frequency:	60 Hz
Permissible operating time below f_{min}:	60 s

All other settings must be selected according the requirements of the drive.

The maximum overload time and the permissible operating time below f_{min} are based on an interval of 10 minutes

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Rated data of the motor

Type: **S.XE.09SA4-..** Ignition protection type: Increased Safety
S.XC.09SA4-.. Dust explosion protection - Zone 21

Labelling: **II 2 G Ex e IIC T1 - T3 Gb**

Labelling: **II 2 D Ex tb IIIC T120° C - T160° C Db IP6x**

Rated parameters and data of the motor

Rated output Pn	2,0	3,5	kW
Rated torque Mn	13	13	Nm
Rated current In	4,0	7,0	A
No. of Motor Poles 2p	4	4	
Rated speed n_n	1500	2600	1/min
Nominal Frequency	50	87	Hz
Motorcircuit	Wye circuit	Delta circuit	
Strang-Resistance Rs20	4,95*		Ohm
Strang-Inductance D-Axis Ld	64,1*		mH
Strang-Inductance Q-Axis Lq	109,8*		mH
Voltage constant ke	208	120	V / 1000 1/min
Torque constant kt	3,2	1,85	Nm / A
Peak Torque Mmax (60s)	20	20	Nm
Peak Current Imax (60s)	6,4	11,0	A
Converter supply voltage	380 - 500		V

Δ * Input value Danfoss Frequency converter FC302 => delta circuit 1/3 of the phase value

Data operation with frequency converter S1 operation, wye circuit

Torque	8	10	13	13	11,5	Nm
Power	0,13	0,53	1,36	2	2,2	kW
Voltage *	56	140	258	370	375	V
Current	2,5	3,2	4,0	4,0	4,0	A
Frequenz	5	16,66	33,33	50	60	Hz
Speed	150	500	1000	1500	1800	1/min
Duty type	S1					

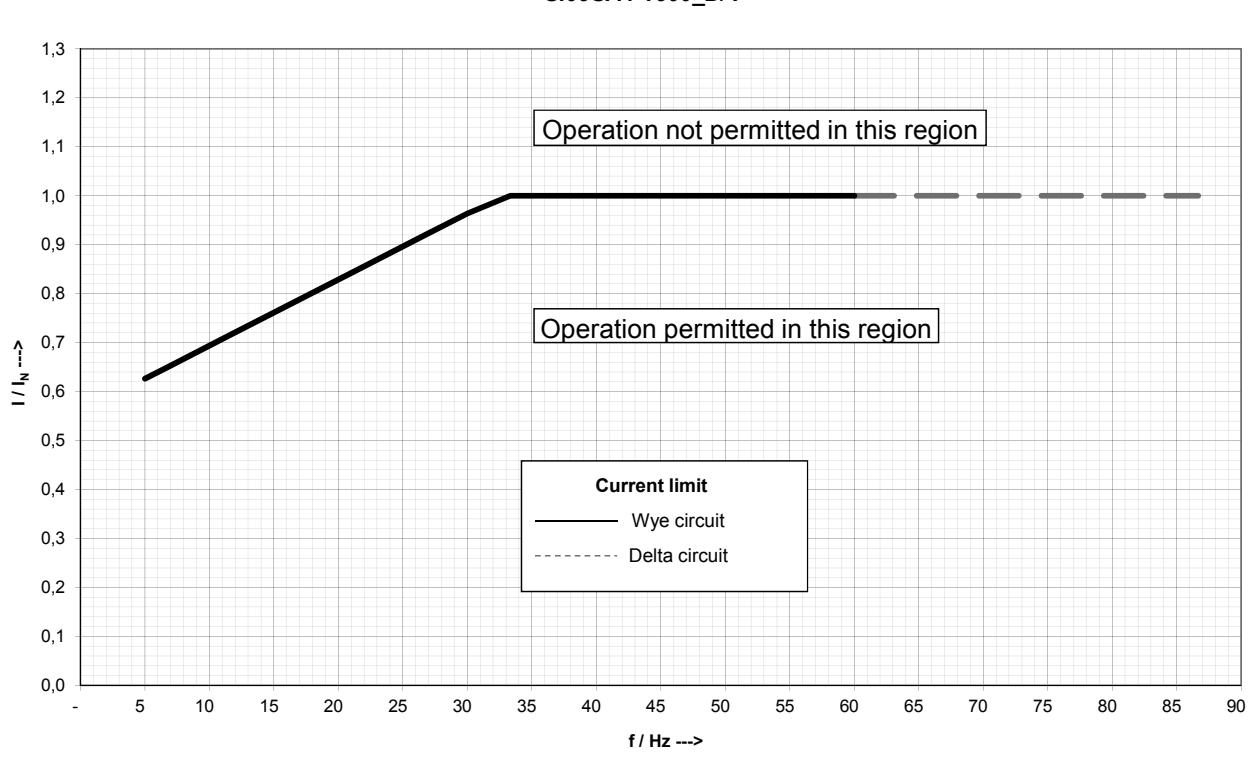
Data operation with frequency converter S1 operation, delta circuit

Torque	8	10	13	13	13	Nm
Power	0,13	0,53	1,36	2	3,5	kW
Voltage *	33	81	149	214	370	V
Current	4,3	5,5	7,0	7,0	7,0	A
Frequenz	5	16,66	33,33	50	87	Hz
Speed	150	500	1000	1500	2600	1/min
Duty type	S1					

* Basic oscillation at the motor terminals (output voltage of the frequency converter)

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Frequency converter continuous current limit configuration parameters



Frequency converter continuous current limit configuration parameters

The voltage at the motor terminals depends on the input voltage from the frequency converter, the loss of voltage at the filter and in the motor supply cable and may not fall below the rated value by more than 10 % according to IEC 60034 - 1 Range„B", even with minimum input voltage from the frequency converter. In the event of reduced voltage at the motor terminals, the permissible motor torque must be reduced proportionally to the change in voltage. This must be taken into account when sizing the motor, and the parameterisation of the converter and for the converter minimum input voltage.
The maximum permissible frequency converter input voltage is 500 V +10 %, 50/60 Hz.
Changes to the rated values (torque, speed adjusting range) within the permissible operating range are permissible and are determined by the manufacturer. Permissible continuous current limit, torque and speed adjusting range are specified on the nameplate.

Max. permissible ambient temperature range -20° C to +50° C

Converter Settings:

Minimum clock frequency:	3 kHz
Short-term current limit:	160 % * In
Maximum overload time:	60 s
Minimum frequency:	5 Hz
Maximum frequency:	60 Hz
Permissible operating time below f_{min}:	60 s

All other settings must be selected according the requirements of the drive.

The maximum overload time and the permissible operating time below f_{min} are based on an interval of 10 minutes

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Rated data of the motor

Type: **S.XE.09XA4-..** Ignition protection type: Increased Safety
S.XC.09XA4-.. Dust explosion protection - Zone 21

Labelling: **II 2 G Ex e IIC T1 - T3 Gb**

Labelling: **II 2 D Ex tb IIIC T120° C – T160° C Db IP6x**

Rated parameters and data of the motor

Rated output Pn	3,1	5,5	kW
Rated torque Mn	20	20	Nm
Rated current In	6,3	10,9	A
No. of Motor Poles 2p	4	4	
Rated speed n_n	1500	2600	1/min
Nominal Frequency	50	87	Hz
Motorcircuit	Wye circuit	Delta circuit	
Strang-Resistance Rs20	2,625*		Ohm
Strang-Inductance D-Axis Ld	41,2*		mH
Strang-Inductance Q-Axis Lq	70,1*		mH
Voltage constant ke	209	120	V / 1000 1/min
Torque constant kt	3,2	1,85	Nm / A
Peak Torque Mmax (60s)	31	29	Nm
Peak Current Imax (60s)	10	16	A
Converter supply voltage	380 - 500		V

Δ * Input value Danfoss Frequency converter FC302 => delta circuit 1/3 of the phase value

Data operation with frequency converter S1 operation, wye circuit

Torque	13	16	20	20	19	Nm
Power	0,20	0,84	2,1	3,1	3,6	kW
Voltage *	53	134	253	364	380	V
Current	4,0	5,0	6,3	6,3	6,3	A
Frequenz	5	16,66	33,33	50	60	Hz
Speed	150	500	1000	1500	1800	1/min
Duty type	S1					

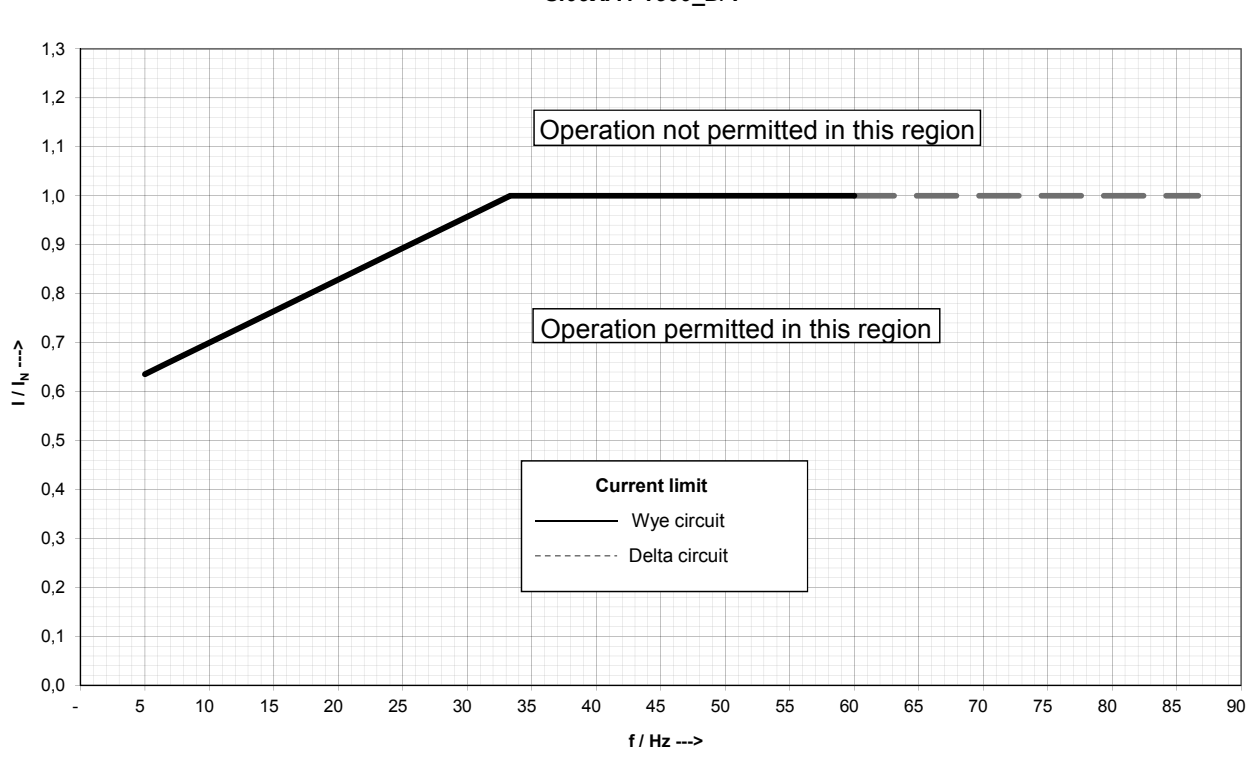
Data operation with frequency converter S1 operation, delta circuit

Torque	13	16	20	20	20	Nm
Power	0,2	0,84	2,1	3,1	5,5	kW
Voltage *	31	78	146	210	348	V
Current	7,0	8,7	10,9	10,9	10,9	A
Frequenz	5	16,66	33,33	50	87	Hz
Speed	150	500	1000	1500	2600	1/min
Duty type	S1					

* Basic oscillation at the motor terminals (output voltage of the frequency converter)

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Frequency converter continuous current limit configuration parameters



Frequency converter continuous current limit configuration parameters

The voltage at the motor terminals depends on the input voltage from the frequency converter, the loss of voltage at the filter and in the motor supply cable and may not fall below the rated value by more than 10 % according to IEC 60034 - 1 Range„B", even with minimum input voltage from the frequency converter. In the event of reduced voltage at the motor terminals, the permissible motor torque must be reduced proportionally to the change in voltage. This must be taken into account when sizing the motor, and the parameterisation of the converter and for the converter minimum input voltage.
The maximum permissible frequency converter input voltage is 500 V +10 %, 50/60 Hz.
Changes to the rated values (torque, speed adjusting range) within the permissible operating range are permissible and are determined by the manufacturer. Permissible continuous current limit, torque and speed adjusting range are specified on the nameplate.

Max. permissible ambient temperature range -20° C to +50° C

Converter Settings:

Minimum clock frequency:	3 kHz
Short-term current limit:	160 % * In
Maximum overload time:	60 s
Minimum frequency:	5 Hz
Maximum frequency:	60 Hz
Permissible operating time below f_{min}:	60 s

All other settings must be selected according the requirements of the drive.

The maximum overload time and the permissible operating time below f_{min} are based on an interval of 10 minutes

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Rated data of the motor

Type: **S.XE.11SA6-..** Ignition protection type: Increased Safety
S.XC.11SA6-.. Dust explosion protection - Zone 21

Labelling: **II 2 G Ex e IIC T1 - T3 Gb**

Labelling: **III 2 D Ex tb IIIC T120° C – T160° C Db IP6x**

Rated parameters and data of the motor

Rated output Pn	3,5	6,1	kW
Rated torque Mn	22,5	22,5	Nm
Rated current In	7,0	12,5	A
No. of Motor Poles 2p	6	6	
Rated speed n_n	1500	2600	1/min
Nominal Frequency	75	130	Hz
Motorcircuit	Wye circuit	Delta circuit	
Strang-Resistance Rs20	1,76*		Ohm
Strang-Inductance D-Axis Ld	20*		mH
Strang-Inductance Q-Axis Lq	30*		mH
Voltage constant ke	210	121	V / 1000 1/min
Torque constant kt	3,20	1,80	Nm / A
Peak Torque Mmax (60s)	35	35	Nm
Peak Current Imax (60s)	11	19	A
Converter supply voltage	380 - 500		V

Δ * Input value Danfoss Frequency converter FC302 => delta circuit 1/3 of the phase value

Data operation with frequency converter S1 operation, wye circuit

Torque	18	20	22,5	22,5	22,5	Nm
Power	0,28	1,0	2,4	3,5	6,1	kW
Voltage *	54	132	245	351	381	V
Current	5,6	6,2	7,0	7,0	7,0	A
Frequenz	7,5	25	50	75	90	Hz
Speed	150	500	1000	1500	1800	1/min
Duty type	S1					

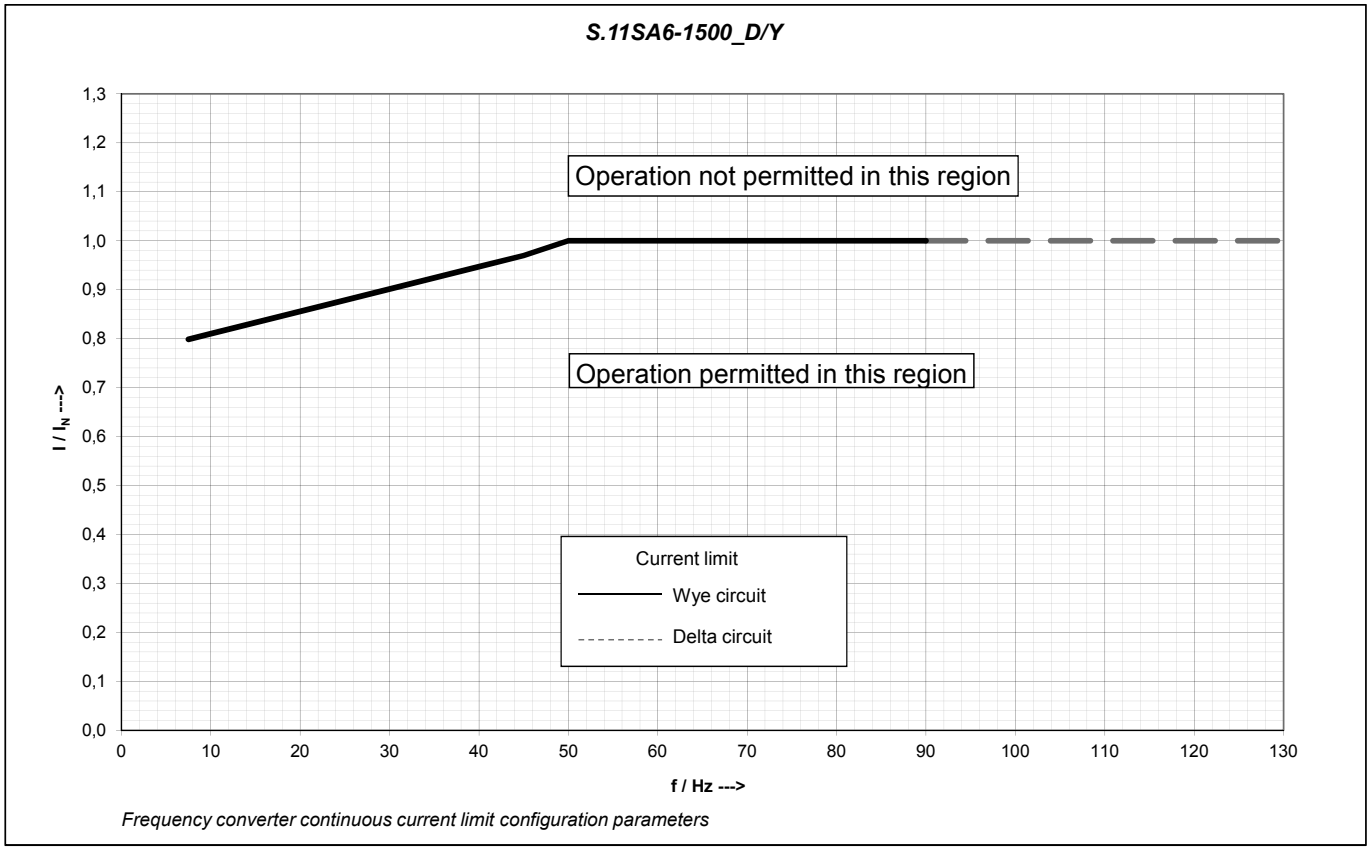
Data operation with frequency converter S1 operation, delta circuit

Torque	18	20	22,5	22,5	22,5	Nm
Power	0,28	1,0	2,4	3,5	6,1	kW
Voltage *	31	76	142	203	341	V
Current	10	11	12,5	12,5	12,5	A
Frequenz	7,5	25	50	75	130	Hz
Speed	150	500	1000	1500	2600	1/min
Duty type	S1					

* Basic oscillation at the motor terminals (output voltage of the frequency converter)

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Frequency converter continuous current limit configuration parameters



Frequency converter continuous current limit configuration parameters

The voltage at the motor terminals depends on the input voltage from the frequency converter, the loss of voltage at the filter and in the motor supply cable and may not fall below the rated value by more than 10 % according to IEC 60034 - 1 Range„B", even with minimum input voltage from the frequency converter. In the event of reduced voltage at the motor terminals, the permissible motor torque must be reduced proportionally to the change in voltage. This must be taken into account when sizing the motor, and the parameterisation of the converter and for the converter minimum input voltage.
The maximum permissible frequency converter input voltage is 500 V +10 %, 50/60 Hz.
Changes to the rated values (torque, speed adjusting range) within the permissible operating range are permissible and are determined by the manufacturer. Permissible continuous current limit, torque and speed adjusting range are specified on the nameplate.

Max. permissible ambient temperature range -20° C to +50° C

Converter Settings:

Minimum clock frequency:	3 kHz
Short-term current limit:	160 % * In
Maximum overload time:	60 s
Minimum frequency:	5 Hz
Maximum frequency:	60 Hz
Permissible operating time below f_{min}:	60 s

All other settings must be selected according the requirements of the drive.

The maximum overload time and the permissible operating time below f_{min} are based on an interval of 10 minutes

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Rated data of the motor

Type: **S.XE.11MA6-..** Ignition protection type: Increased Safety
S.XC.11MA6-.. Dust explosion protection - Zone 21

Labelling: **II 2 G Ex e IIC T1 - T3 Gb**

Labelling: **II 2 D Ex tb IIIC T120° C – T160° C Db IP6x**

Rated parameters and data of the motor

Rated output Pn	5,50	9,50	kW
Rated torque Mn	35	35	Nm
Rated current In	11,0	19,1	A
No. of Motor Poles 2p	6	6	
Rated speed n_n	1500	3600	1/min
Nominal Frequency	75	130	Hz
Motorcircuit	Wye circuit	Delta circuit	
Strang-Resistance Rs20	0,892*		Ohm
Strang-Inductance D-Axis Ld	12*		mH
Strang-Inductance Q-Axis Lq	18,4*		mH
Voltage constant ke	206	117	V / 1000 1/min
Torque constant kt	3,15	1,79	Nm / A
Peak Torque Mmax (60s)	55	55	Nm
Peak Current Imax (60s)	17	30	A
Converter supply voltage	380 - 500		V

Δ * Input value Danfoss Frequency converter FC302 => delta circuit 1/3 of the phase value

Data operation with frequency converter S1 operation, wye circuit

Torque	26,5	30	35	35	35	Nm
Power	0,42	1,6	3,7	5,5	6,5	kW
Voltage *	46	121	229	331	377	V
Current	8,5	9,5	11,0	11,0	11,0	A
Frequenz	7,5	25	50	75	90	Hz
Speed	150	500	1000	1500	1800	1/min
Duty type	S1					

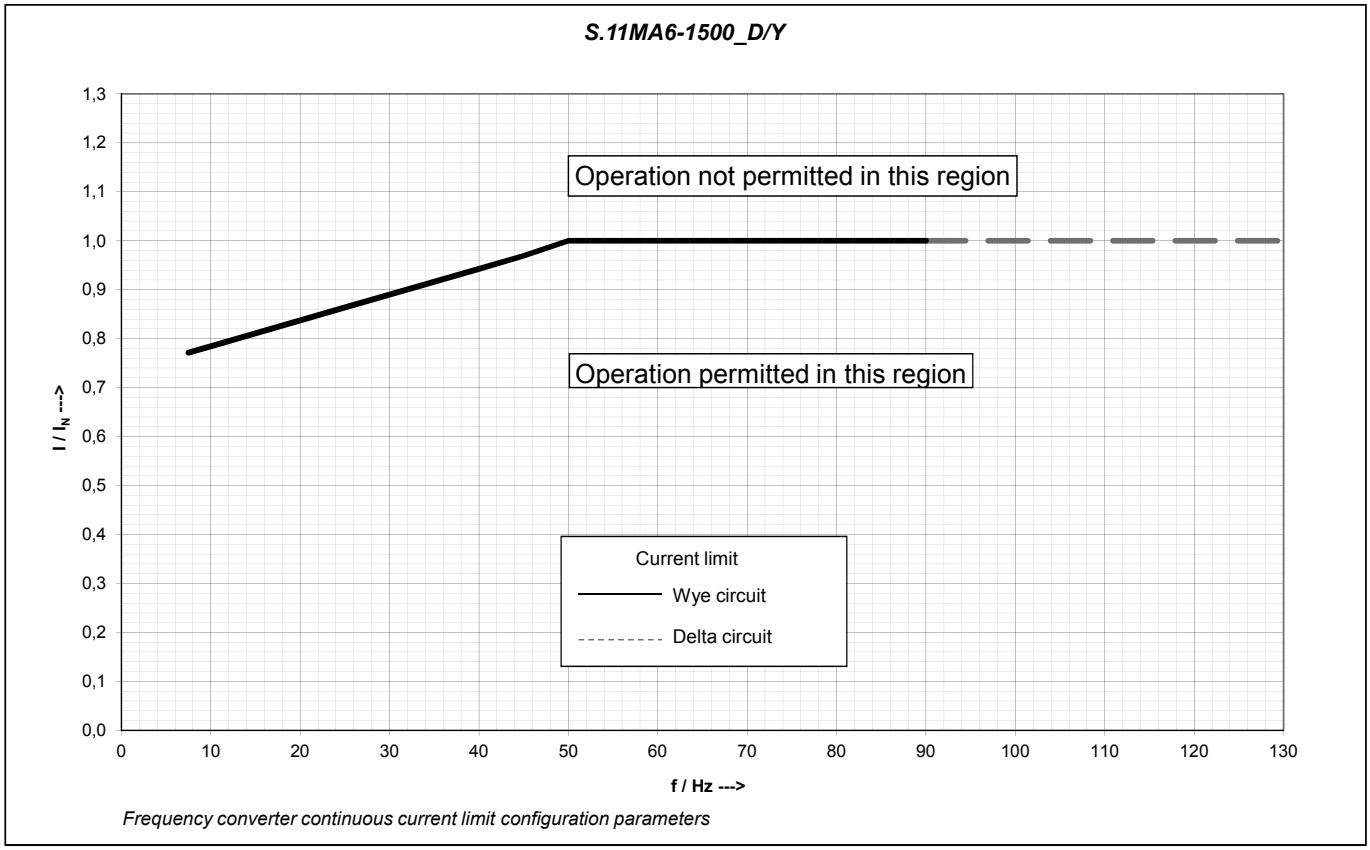
Data operation with frequency converter S1 operation, delta circuit

Torque	26,2	30	35	35	35	Nm
Power	0,41	1,6	3,7	5,5	9,5	kW
Voltage *	27	70	132	190	321	V
Current	14,7	16,7	19,1	19,1	19,1	A
Frequenz	7,5	25	50	75	130	Hz
Speed	150	500	1000	1500	2600	1/min
Duty type	S1					

* Basic oscillation at the motor terminals (output voltage of the frequency converter)

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Frequency converter continuous current limit configuration parameters



Frequency converter continuous current limit configuration parameters

The voltage at the motor terminals depends on the input voltage from the frequency converter, the loss of voltage at the filter and in the motor supply cable and may not fall below the rated value by more than 10 % according to IEC 60034 - 1 Range„B", even with minimum input voltage from the frequency converter. In the event of reduced voltage at the motor terminals, the permissible motor torque must be reduced proportionally to the change in voltage. This must be taken into account when sizing the motor, and the parameterisation of the converter and for the converter minimum input voltage.
The maximum permissible frequency converter input voltage is 500 V +10 %, 50/60 Hz.
Changes to the rated values (torque, speed adjusting range) within the permissible operating range are permissible and are determined by the manufacturer. Permissible continuous current limit, torque and speed adjusting range are specified on the nameplate.

Max. permissible ambient temperature range -20° C to +50° C

Converter Settings:

Minimum clock frequency:	3 kHz
Short-term current limit:	160 % * In
Maximum overload time:	60 s
Minimum frequency:	5 Hz
Maximum frequency:	60 Hz
Permissible operating time below f_{min}:	60 s

All other settings must be selected according the requirements of the drive.

The maximum overload time and the permissible operating time below f_{min} are based on an interval of 10 minutes

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Rated data of the motor

Type: **S.XE.11LA6-..** Ignition protection type: Increased Safety
S.XC.11LA6-.. Dust explosion protection - Zone 21

Labelling: **II 2 G Ex e IIC T1 - T3 Gb**

Labelling: **II 2 D Ex tb IIIC T120° C - T160° C Db IP6x**

Rated parameters and data of the motor

Rated output Pn	7,50	13	kW
Rated torque Mn	48	48	Nm
Bemessungsstrom In	14,7	26	A
No. of Motor Poles 2p	6	6	
Rated speed n_n	1500	2600	1/min
Nominal Frequency	75	130	Hz
Motorcircuit	Wye circuit	Delta circuit	
Strang-Resistance Rs20	0,605*		Ohm
Strang-Inductance D-Axis Ld	9,3*		mH
Strang-Inductance Q-Axis Lq	13,9*		mH
Voltage constant ke	210	121	V / 1000 1/min
Torque constant kt	3,25	1,84	Nm / A
Peak Torque Mmax (60s)	75	75	Nm
Peak Current Imax (60s)	23	40	A
Converter supply voltage	380 - 500		V

Δ * Input value Danfoss Frequency converter FC302 => delta circuit 1/3 of the phase value

Data operation with frequency converter S1 operation, wye circuit

Torque	32,5	39,4	48	48	47,5	Nm
Power	0,51	2,0	5,0	7,5	9,0	kW
Voltage *	44	121	231	338	375	V
Current	9,8	12,0	14,7	14,7	14,7	A
Frequenz	7,5	25	50	75	90	Hz
Speed	150	500	1000	1500	1800	1/min
Duty type	S1					

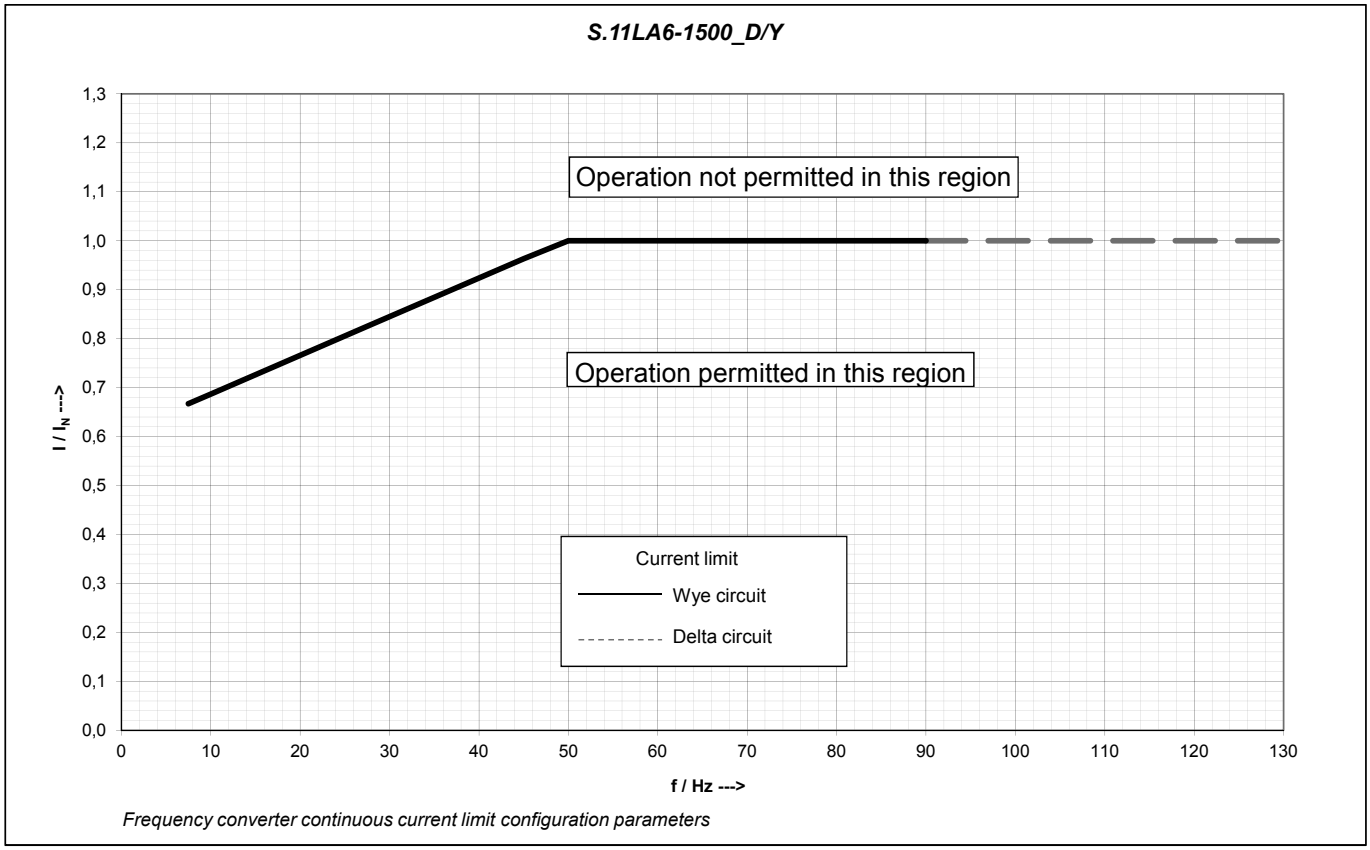
Data operation with frequency converter S1 operation, delta circuit

Torque	32,5	39,5	48	48	48	Nm
Power	0,51	2,0	5,0	7,5	13	kW
Voltage *	26	71	134	197	328	V
Current	17,6	21,1	26	26	26	A
Frequenz	7,5	25	50	75	130	Hz
Speed	150	500	1000	1500	2600	1/min
Duty type	S1					

* Basic oscillation at the motor terminals (output voltage of the frequency converter)

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Frequency converter continuous current limit configuration parameters



Frequency converter continuous current limit configuration parameters

The voltage at the motor terminals depends on the input voltage from the frequency converter, the loss of voltage at the filter and in the motor supply cable and may not fall below the rated value by more than 10 % according to IEC 60034 - 1 Range„B", even with minimum input voltage from the frequency converter. In the event of reduced voltage at the motor terminals, the permissible motor torque must be reduced proportionally to the change in voltage. This must be taken into account when sizing the motor, and the parameterisation of the converter and for the converter minimum input voltage.
The maximum permissible frequency converter input voltage is 500 V +10 %, 50/60 Hz.
Changes to the rated values (torque, speed adjusting range) within the permissible operating range are permissible and are determined by the manufacturer. Permissible continuous current limit, torque and speed adjusting range are specified on the nameplate.

Max. permissible ambient temperature range -20° C to +50° C

Converter Settings:

Minimum clock frequency:	3 kHz
Short-term current limit:	160 % * In
Maximum overload time:	60 s
Minimum frequency:	5 Hz
Maximum frequency:	60 Hz
Permissible operating time below f_{min}:	60 s

All other settings must be selected according the requirements of the drive.

The maximum overload time and the permissible operating time below f_{min} are based on an interval of 10 minutes

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱- ۴ ۸ ۰ ۰ ۰ ۰ ۴ ۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Rated data of the motor

Type: **S.XE.08MA4-..** Ignition protection type: Increased Safety
S.XC.08MA4-.. Dust explosion protection - Zone 21

Labelling: **II 2 G Ex e IIC T1 - T3 Gb**

Labelling: **II 2 D Ex tb IIIC T120° C – T160° C Db IP6x**

Rated parameters and data of the motor:

Rated output Pn	2,0	kW
Rated torque Mn	6,50	Nm
Rated current In	4,7	A
No. of Motor Poles 2p	4	
Rated speed n_n	3000	1/min
Nominal Frequency	100	Hz
Motorcircuit	Wye circuit	
Strang-Resistance Rs20	2,36	Ohm
Strang-Inductance D-Axis Ld	24,7	mH
Strang-Inductance Q-Axis Lq	43,5	mH
Voltage constant ke	90	V / 1000 1/min
Torque constant kt	1,28	Nm / A
Peak Torque Mmax (60s)	10	Nm
Peak Current Imax (60s)	7,5	A
Converter supply voltage	380 - 500	V

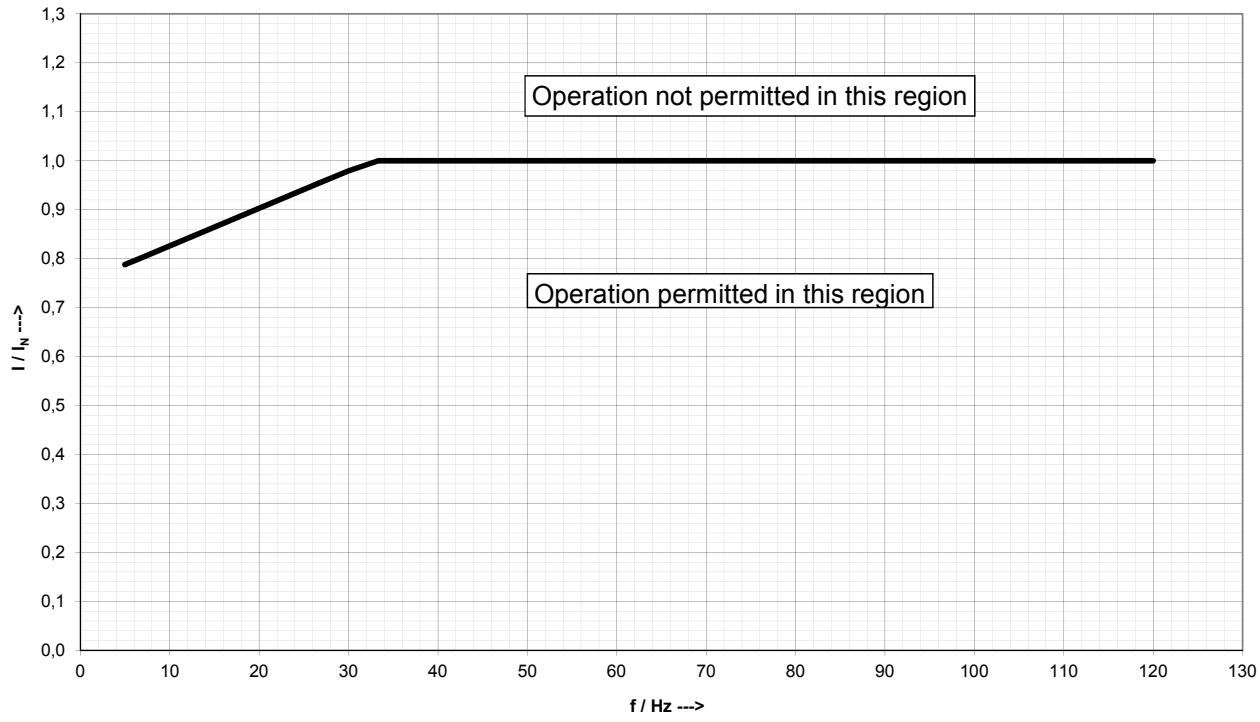
Data operation with frequency converter

Torque	5,0	5,6	6,5	6,5	6,5	Nm
Power	0,08	0,29	0,68	2,0	2,5	kW
Voltage *	34	68	119	308	372	V
Current	3,7	4,1	4,7	4,7	4,7	A
Frequenz	5	16,66	33,33	100	120	Hz
Speed	150	500	1000	3000	3600	1/min
Duty type	S1					

* Basic oscillation at the motor terminals (output voltage of the frequency converter)

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Frequency converter continuous current limit configuration parameters



Frequency converter continuous current limit configuration parameters

The voltage at the motor terminals depends on the input voltage from the frequency converter, the loss of voltage at the filter and in the motor supply cable and may not fall below the rated value by more than 10 % according to IEC 60034 - 1 Range„B", even with minimum input voltage from the frequency converter. In the event of reduced voltage at the motor terminals, the permissible motor torque must be reduced proportionally to the change in voltage. This must be taken into account when sizing the motor, and the parameterisation of the converter and for the converter minimum input voltage.
The maximum permissible frequency converter input voltage is 500 V +10 %, 50/60 Hz.
Changes to the rated values (torque, speed adjusting range) within the permissible operating range are permissible and are determined by the manufacturer. Permissible continuous current limit, torque and speed adjusting range are specified on the nameplate.

Max. permissible ambient temperature range -20° C to +50° C

Converter Settings:

Minimum clock frequency:	3 kHz
Short-term current limit:	160 % * In
Maximum overload time:	60 s
Minimum frequency:	5 Hz
Maximum frequency:	60 Hz
Permissible operating time below f_{min}:	60 s

All other settings must be selected according the requirements of the drive.

The maximum overload time and the permissible operating time below f_{min} are based on an interval of 10 minutes

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Rated data of the motor

Type: **S.XE.08LA4-..** Ignition protection type: Increased Safety
S.XC.08LA4-.. Dust explosion protection - Zone 21

Labelling: **II 2 G Ex e IIC T1 - T3 Gb**

Labelling: **II 2 D Ex tb IIIC T120° C - T160° C Db IP6x**

Rated parameters and data of the motor:

Rated output Pn	3,0	kW
Rated torque Mn	9,55	Nm
Rated current In	7,0	A
No. of Motor Poles 2p	4	
Rated speed n_n	3000	1/min
Nominal Frequency	100	Hz
Motorcircuit	Wye circuit	
Strang-Resistance Rs20	1,41	Ohm
Strang-Inductance D-Axis Ld	16,8	mH
Strang-Inductance Q-Axis Lq	29,6	mH
Voltage constant ke	87	V / 1000 1/min
Torque constant kt	1,36	Nm / A
Peak Torque Mmax (60s)	15	Nm
Peak Current Imax (60s)	11,2	A
Converter supply voltage	380 - 500	V

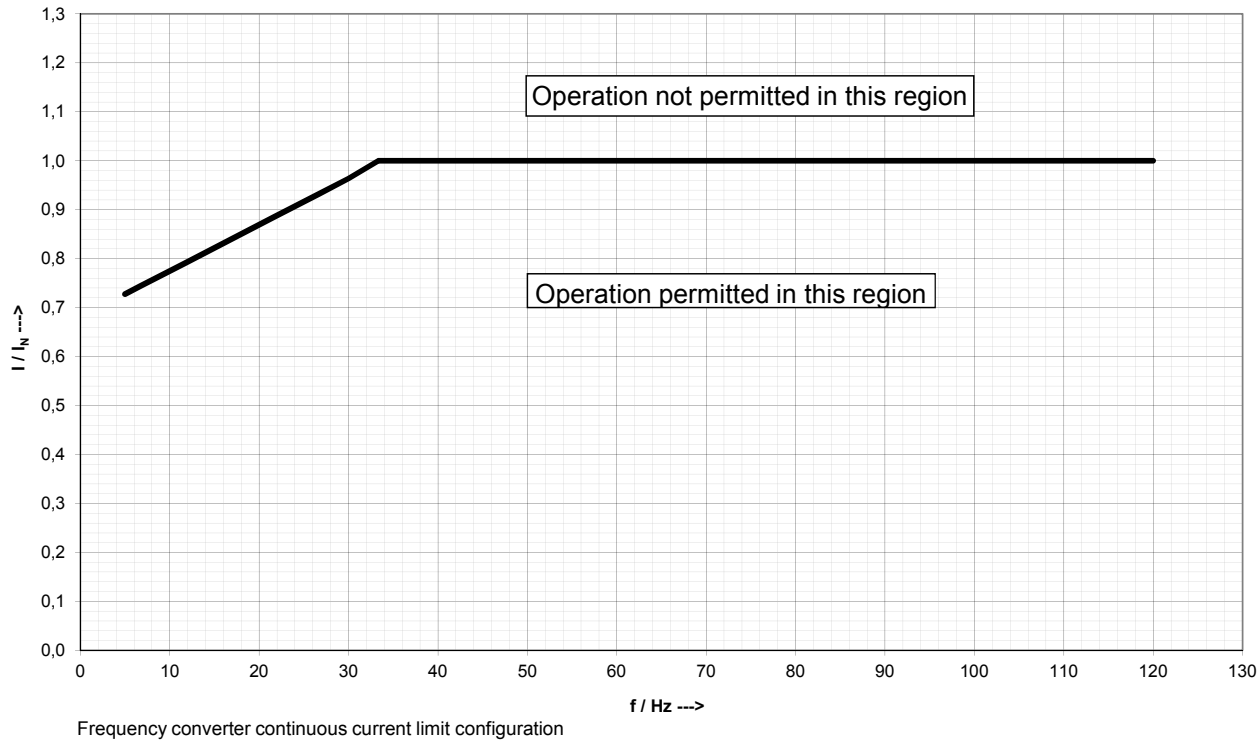
Data operation with frequency converter

Torque	6,5	8,0	9,55	9,55	9,55	Nm
Power	0,1	0,42	1,0	3,0	3,6	kW
Voltage *	28	63	114	296	358	V
Current	5,2	5,9	7,0	7,0	7,0	A
Frequenz	5	16,66	33,33	100	120	Hz
Speed	150	500	1000	3000	3600	1/min
Duty type	S1					

* Basic oscillation at the motor terminals (output voltage of the frequency converter)

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Frequency converter continuous current limit configuration parameters



Frequency converter continuous current limit configuration

The voltage at the motor terminals depends on the input voltage from the frequency converter, the loss of voltage at the filter and in the motor supply cable and may not fall below the rated value by more than 10 % according to IEC 60034 - 1 Range„B", even with minimum input voltage from the frequency converter. In the event of reduced voltage at the motor terminals, the permissible motor torque must be reduced proportionally to the change in voltage. This must be taken into account when sizing the motor, and the parameterisation of the converter and for the converter minimum input voltage.
The maximum permissible frequency converter input voltage is 500 V +10 %, 50/60 Hz.
Changes to the rated values (torque, speed adjusting range) within the permissible operating range are permissible and are determined by the manufacturer. Permissible continuous current limit, torque and speed adjusting range are specified on the nameplate.

Max. permissible ambient temperature range -20° C to +50° C

Converter Settings:

Minimum clock frequency:	3 kHz
Short-term current limit:	160 % * In
Maximum overload time:	60 s
Minimum frequency:	5 Hz
Maximum frequency:	60 Hz
Permissible operating time below f_{min}:	60 s

All other settings must be selected according the requirements of the drive.

The maximum overload time and the permissible operating time below f_{min} are based on an interval of 10 minutes

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Rated data of the motor

Type: **S.XE.09SA4-..** Ignition protection type: Increased Safety
S.XC.09SA4-.. Dust explosion protection - Zone 21

Labelling: **II 2 G Ex e IIC T1 - T3 Gb**

Labelling: **II 2 D Ex tb IIIC T120° C - T160° C Db IP6x**

Rated parameters and data of the motor:

Rated output Pn	6,3	kW
Rated torque Mn	20	Nm
Rated current In	12,5	A
No. of Motor Poles 2p	4	
Rated speed n_n	3000	1/min
Nominal Frequency	100	Hz
Motorcircuit	Wye circuit	
Phase Resistance U-V R20	1,305	Ohm
Strang-Resistance Rs20	0,653	Ohm
Strang-Inductance D-Axis Ld	12,7	mH
Strang-Inductance Q-Axis Lq	17,9	mH
Voltage constant ke	102	V / 1000 1/min
Torque constant kt	1,60	Nm / A
Peak Torque Mmax (60s)	30	Nm
Peak Current Imax (60s)	20	A
Converter supply voltage	380 - 500	V

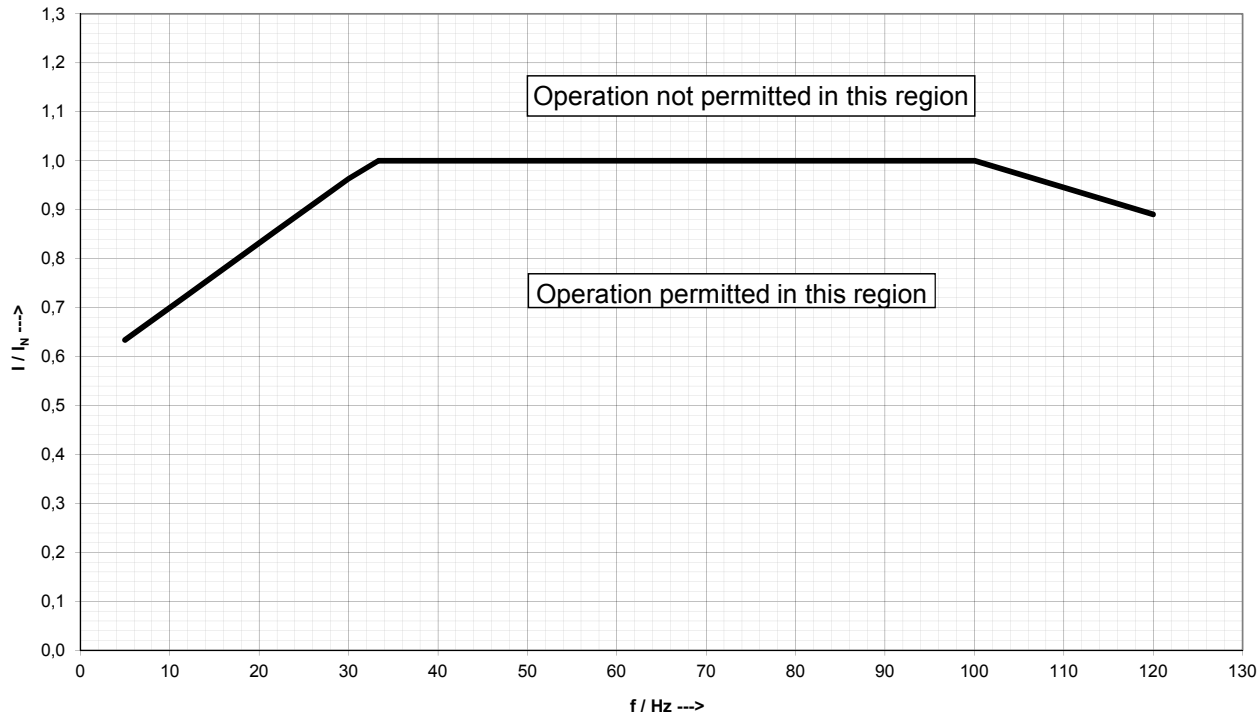
Data operation with frequency converter

Torque	12,5	15,7	20	20	14,5	Nm
Power	0,196	0,84	2,1	6,3	5,5	kW
Voltage *	26	66	124	334	380	V
Current	8	9,9	12,5	12,5	9,2	A
Frequenz	5	16,66	33,33	100	120	Hz
Speed	150	500	1000	3000	3600	1/min
Duty type	S1					

* Basic oscillation at the motor terminals (output voltage of the frequency converter)

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Frequency converter continuous current limit configuration parameters



Frequency converter continuous current limit configuration parameters

The voltage at the motor terminals depends on the input voltage from the frequency converter, the loss of voltage at the filter and in the motor supply cable and may not fall below the rated value by more than 10 % according to IEC 60034 - 1 Range„B", even with minimum input voltage from the frequency converter. In the event of reduced voltage at the motor terminals, the permissible motor torque must be reduced proportionally to the change in voltage. This must be taken into account when sizing the motor, and the parameterisation of the converter and for the converter minimum input voltage.
The maximum permissible frequency converter input voltage is 500 V +10 %, 50/60 Hz.
Changes to the rated values (torque, speed adjusting range) within the permissible operating range are permissible and are determined by the manufacturer. Permissible continuous current limit, torque and speed adjusting range are specified on the nameplate.

Max. permissible ambient temperature range -20° C to +50° C

Converter Settings:

Minimum clock frequency:	3 kHz
Short-term current limit:	160 % * In
Maximum overload time:	60 s
Minimum frequency:	5 Hz
Maximum frequency:	60 Hz
Permissible operating time below f_{min}:	60 s

All other settings must be selected according the requirements of the drive.

The maximum overload time and the permissible operating time below f_{min} are based on an interval of 10 minutes

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Rated data of the motor

Type: **S.XE.09XA4-..** Ignition protection type: Increased Safety
S.XC.09XA4-.. Dust explosion protection - Zone 21

Labelling: **II 2 G Ex e IIC T1 - T3 Gb**

Labelling: **II 2 D Ex tb IIIC T120° C - T160° C Db IP6x**

Rated parameters and data of the motor:

Rated output Pn	6,3	kW
Rated torque Mn	20	Nm
Rated current In	12,5	A
No. of Motor Poles 2p	4	
Rated speed n_n	3000	1/min
Nominal Frequency	100	Hz
Motorcircuit	Wye circuit	
Phase Resistance U-V R20	1,305	Ohm
Strang-Resistance Rs20	0,653	Ohm
Strang-Inductance D-Axis Ld	12,7	mH
Strang-Inductance Q-Axis Lq	17,9	mH
Voltage constant ke	102	V / 1000 1/min
Torque constant kt	1,60	Nm / A
Peak Torque Mmax (60s)	30	Nm
Peak Current Imax (60s)	20	A
Converter supply voltage	380 - 500	V

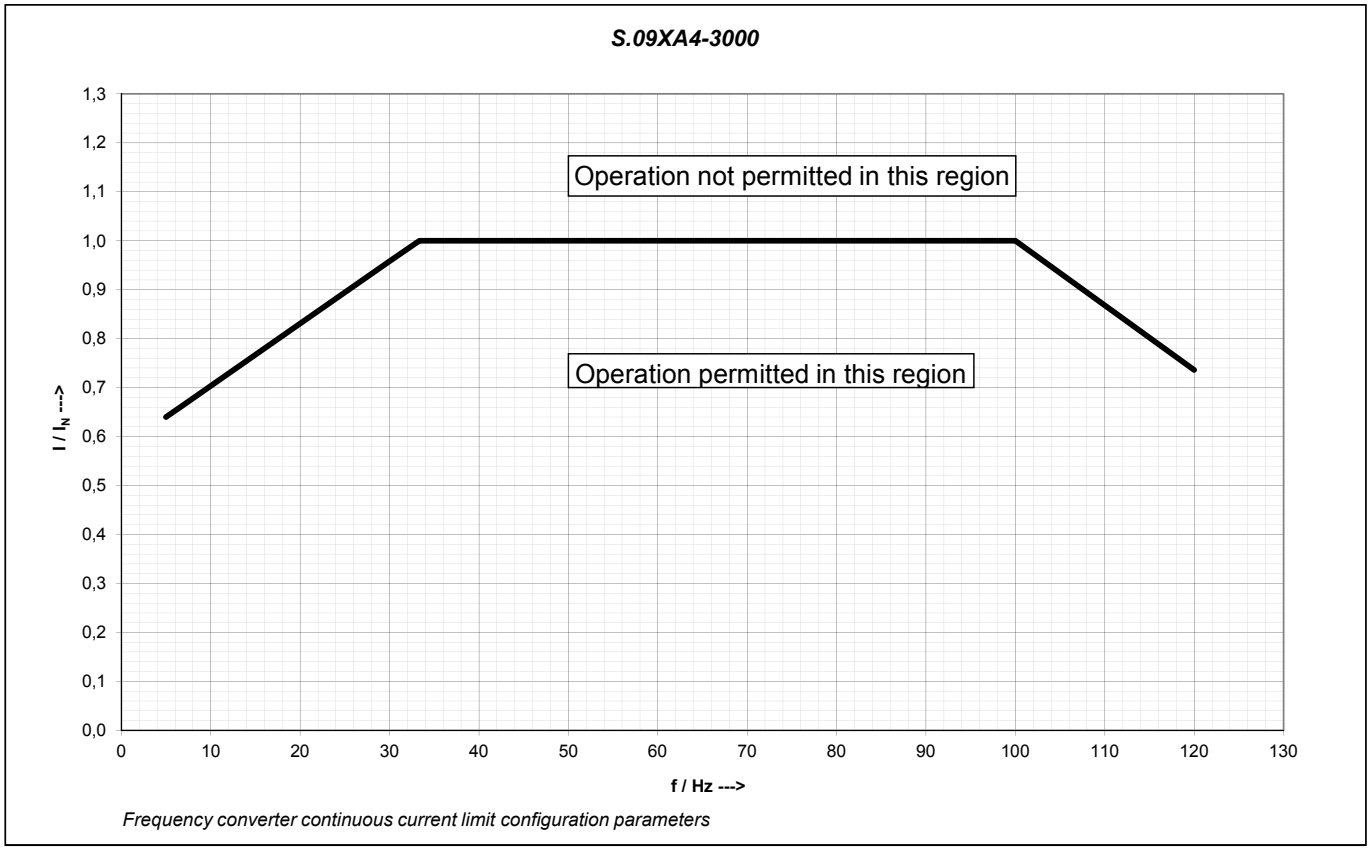
Data operation with frequency converter

Torque	12,5	15,7	20	20	14,5	Nm
Power	0,196	0,84	2,1	6,3	5,5	kW
Voltage *	26	66	124	334	380	V
Current	8	9,9	12,5	12,5	9,2	A
Frequenz	5	16,66	33,33	100	120	Hz
Speed	150	500	1000	3000	3600	1/min
Duty type	S1					

* Basic oscillation at the motor terminals (output voltage of the frequency converter)

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Frequency converter continuous current limit configuration parameters



Frequency converter continuous current limit configuration parameters

The voltage at the motor terminals depends on the input voltage from the frequency converter, the loss of voltage at the filter and in the motor supply cable and may not fall below the rated value by more than 10 % according to IEC 60034 - 1 Range„B", even with minimum input voltage from the frequency converter. In the event of reduced voltage at the motor terminals, the permissible motor torque must be reduced proportionally to the change in voltage. This must be taken into account when sizing the motor, and the parameterisation of the converter and for the converter minimum input voltage.
The maximum permissible frequency converter input voltage is 500 V +10 %, 50/60 Hz.
Changes to the rated values (torque, speed adjusting range) within the permissible operating range are permissible and are determined by the manufacturer. Permissible continuous current limit, torque and speed adjusting range are specified on the nameplate.

Max. permissible ambient temperature range -20° C to +50° C

Converter Settings:

Minimum clock frequency:	3 kHz
Short-term current limit:	160 % * In
Maximum overload time:	60 s
Minimum frequency:	5 Hz
Maximum frequency:	60 Hz
Permissible operating time below f_{min}:	60 s

All other settings must be selected according the requirements of the drive.

The maximum overload time and the permissible operating time below f_{min} are based on an interval of 10 minutes

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Rated data of the motor

Type: **S.XE.11SA6-..** Ignition protection type: Increased Safety
S.XC.11SA6-.. Staubexplosionsschutz - Zone 21

Labelling: **II 2 G Ex e IIC T1 - T3 Gb**

Labelling: II 2 D Ex tb IIIC T120° C – T160° C Db IP6x

Rated parameters and data of the motor:

Rated output Pn	7,1	kW
Rated torque Mn	22,5	Nm
Rated current In	15,0	A
No. of Motor Poles 2p	6	
Rated speed n_n	3000	1/min
Nominal Frequency	150	Hz
Motorcircuit	Wye circuit	
Strang-Resistance Rs20	0,447	Ohm
Strang-Inductance D-Axis Ld	5,0	mH
Strang-Inductance Q-Axis Lq	7,7	mH
Voltage constant ke	106	V / 1000 1/min
Torque constant kt	1,55	Nm / A
Peak Torque Mmax (60s)	35	Nm
Peak Current Imax (60s)	23	A
Converter supply voltage	380 - 500	V

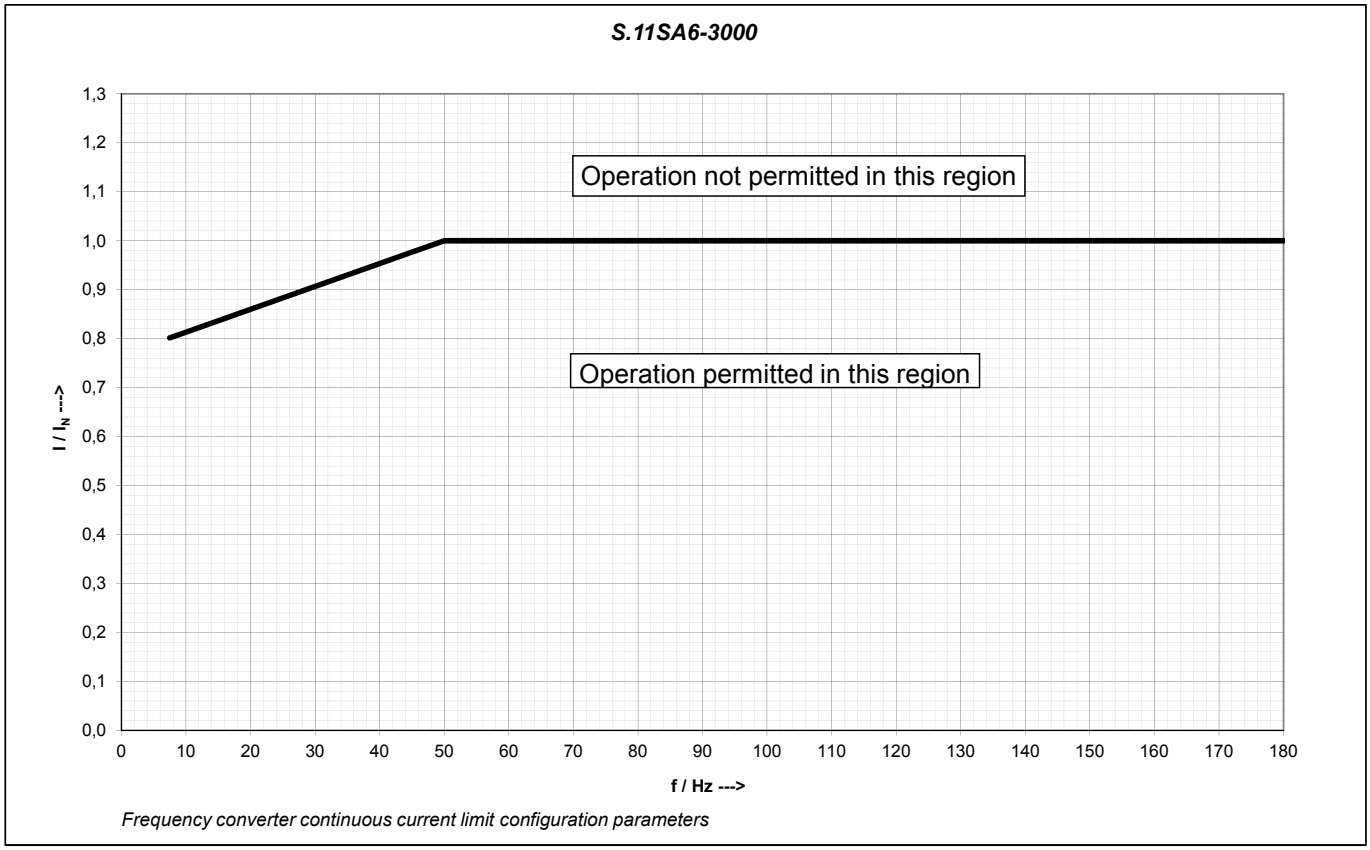
Data operation with frequency converter

Torque	18	20	22,5	22,5	22,5	Nm
Power	0,28	1,0	2,4	7,1	8,5	kW
Voltage *	28	66	122	333	368	V
Current	12	13,3	15	15	15	A
Frequenz	7,5	25	50	150	180	Hz
Speed	150	500	1000	3000	3600	1/min
Duty type	S1					

* Basic oscillation at the motor terminals (output voltage of the frequency converter)

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Frequency converter continuous current limit configuration parameters



Frequency converter continuous current limit configuration parameters

The voltage at the motor terminals depends on the input voltage from the frequency converter, the loss of voltage at the filter and in the motor supply cable and may not fall below the rated value by more than 10 % according to IEC 60034 - 1 Range„B", even with minimum input voltage from the frequency converter. In the event of reduced voltage at the motor terminals, the permissible motor torque must be reduced proportionally to the change in voltage. This must be taken into account when sizing the motor, and the parameterisation of the converter and for the converter minimum input voltage.
The maximum permissible frequency converter input voltage is 500 V +10 %, 50/60 Hz.
Changes to the rated values (torque, speed adjusting range) within the permissible operating range are permissible and are determined by the manufacturer. Permissible continuous current limit, torque and speed adjusting range are specified on the nameplate.

Max. permissible ambient temperature range -20° C to +50° C

Converter Settings:

Minimum clock frequency:	3 kHz
Short-term current limit:	160 % * In
Maximum overload time:	60 s
Minimum frequency:	5 Hz
Maximum frequency:	60 Hz
Permissible operating time below f_{min}:	60 s

All other settings must be selected according the requirements of the drive.

The maximum overload time and the permissible operating time below f_{min} are based on an interval of 10 minutes

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Rated data of the motor

Type: **S.XE.11MA6-..** Ignition protection type: Increased Safety
S.XC.1MA6-.. Dust explosion protection - Zone 21

Labelling: **II 2 G Ex e IIC T1 - T3 Gb**

Labelling: **II 2 D Ex tb IIIC T120° C – T160° C Db IP6x**

Rated parameters and data of the motor:

Rated output Pn	11,0	kW
Rated torque Mn	35	Nm
Rated current In	22,5	A
No. of Motor Poles 2p	6	
Rated speed n_n	3000	1/min
Nominal Frequency	150	Hz
Motorcircuit	Wye circuit	
Strang-Resistance Rs20	0,217	Ohm
Strang-Inductance D-Axis Ld	3,0	mH
Strang-Inductance Q-Axis Lq	4,6	mH
Voltage constant ke	104	V / 1000 1/min
Torque constant kt	1,55	Nm / A
Peak Torque Mmax (60s)	55	Nm
Peak Current Imax (60s)	35	A
Converter supply voltage	380 - 500	V

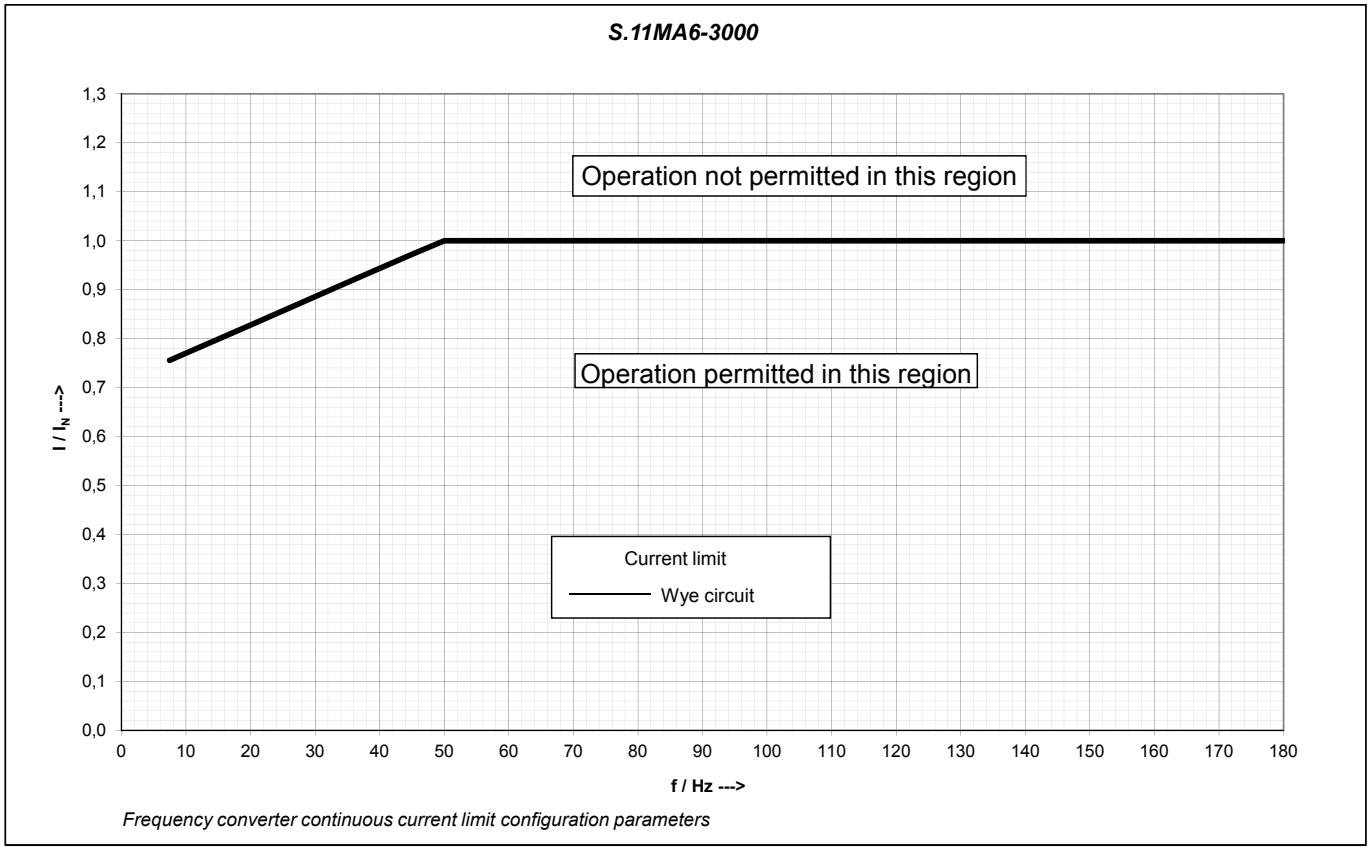
Data operation with frequency converter

Torque	26,5	30	35	35	34,3	Nm
Power	0,42	1,6	3,7	11	12,9	kW
Voltage *	23	61	115	320	368	V
Current	17	19,3	22,5	22,5	22,5	A
Frequenz	7,5	25	50	150	180	Hz
Speed	150	500	1000	3000	3600	1/min
Duty type	S1					

* Basic oscillation at the motor terminals (output voltage of the frequency converter)

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Frequency converter continuous current limit configuration parameters



Frequency converter continuous current limit configuration parameters

The voltage at the motor terminals depends on the input voltage from the frequency converter, the loss of voltage at the filter and in the motor supply cable and may not fall below the rated value by more than 10% according to IEC 60034 - 1 Range „B", even with minimum input voltage from the frequency converter. In the event of reduced voltage at the motor terminals, the permissible motor torque must be reduced proportionally to the change in voltage. This must be taken into account when sizing the motor, and the parameterisation of the converter and for the converter minimum input voltage.
The maximum permissible frequency converter input voltage is 500 V +10%, 50/60 Hz.
Changes to the rated values (torque, speed adjusting range) within the permissible operating range are permissible and are determined by the manufacturer. Permissible continuous current limit, torque and speed adjusting range are specified on the nameplate.

Max. permissible ambient temperature range -20 °C to +50 °C

Converter Settings:

Minimum clock frequency:	3 kHz
Short-term current limit:	160% * In
Maximum overload time:	60 s
Minimum frequency:	5 Hz
Maximum frequency:	60 Hz
Permissible operating time below f_{min}:	60 s

All other settings must be selected according the requirements of the drive.

The maximum overload time and the permissible operating time below f_{min} are based on an interval of 10 minutes

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Rated data of the motor

Type: **S.XE.11LA6-..** Ignition protection type: Increased Safety
S.XC.11LA6-.. Dust explosion protection - Zone 21

Labelling: **II 2 G Ex e IIC T1 - T3 Gb**

Labelling: **II 2 D Ex tb IIIC T120°C - T160°C Db IP6x**

Rated parameters and data of the motor:

Rated output Pn	15,0	kW
Rated torque Mn	48	Nm
Rated current In	30	A
No. of Motor Poles 2p	6	
Rated speed n_n	3000	1/min
Nominal Frequency	150	Hz
Motorcircuit	Sternschaltung	
Strang-Resistance Rs20	0,150	Ohm
Strang-Inductance D-Axis Ld	2,4	mH
Strang-Inductance Q-Axis Lq	3,5	mH
Voltage constant ke	105	V / 1000 1/min
Torque constant kt	1,59	Nm / A
Peak Torque Mmax (60s)	75	Nm
Peak Current Imax (60s)	48	A
Converter supply voltage	380 - 500	V

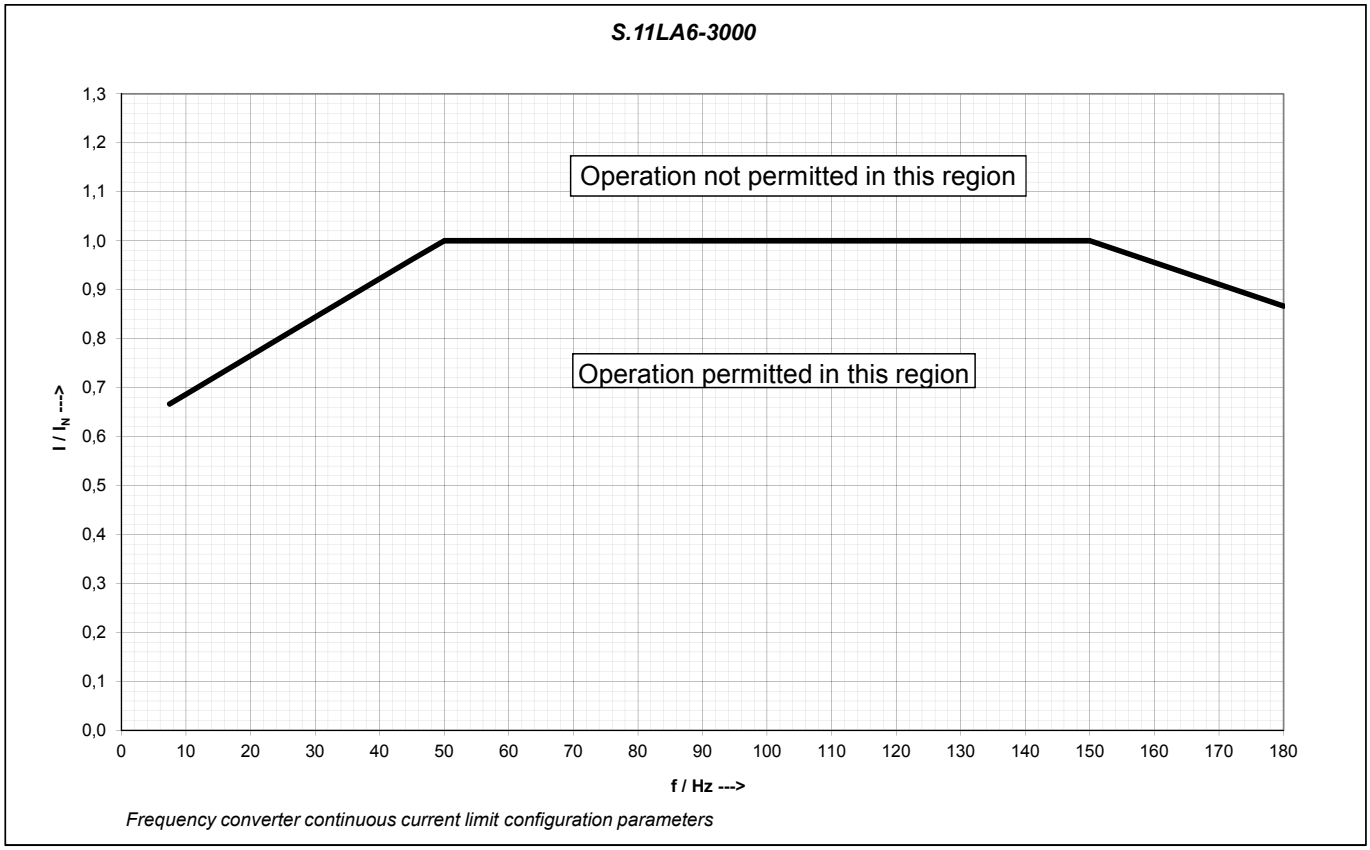
Data operation with frequency converter

Torque	32,5	39,4	48	48	40	Nm
Power	0,5	2,1	5,0	15,0	15,0	kW
Voltage *	22,6	61,4	116	327	368	V
Current	20	24	30	30	25,8	A
Frequenz	7,5	25	50	150	180	Hz
Speed	150	500	1000	3000	3600	1/min
Duty type	S1					

* Basic oscillation at the motor terminals (output voltage of the frequency converter)

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Frequency converter continuous current limit configuration parameters



Frequency converter continuous current limit configuration parameters

The voltage at the motor terminals depends on the input voltage from the frequency converter, the loss of voltage at the filter and in the motor supply cable and may not fall below the rated value by more than 10% according to IEC 60034 - 1 Range „B", even with minimum input voltage from the frequency converter. In the event of reduced voltage at the motor terminals, the permissible motor torque must be reduced proportionally to the change in voltage. This must be taken into account when sizing the motor, and the parameterisation of the converter and for the converter minimum input voltage.
The maximum permissible frequency converter input voltage is 500 V +10%, 50/60 Hz.
Changes to the rated values (torque, speed adjusting range) within the permissible operating range are permissible and are determined by the manufacturer. Permissible continuous current limit, torque and speed adjusting range are specified on the nameplate.

Max. permissible ambient temperature range -20 °C to +50 °C

Converter Settings:

Minimum clock frequency:	3 kHz
Short-term current limit:	160% * In
Maximum overload time:	60 s
Minimum frequency:	5 Hz
Maximum frequency:	60 Hz
Permissible operating time below f_{min}:	60 s

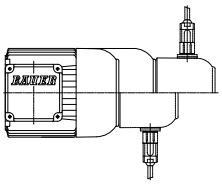
All other settings must be selected according the requirements of the drive.

The maximum overload time and the permissible operating time below f_{min} are based on an interval of 10 minutes

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

15



Page

Motor-mounted components 411-434

Brake
Encoder system
Incremental encoder
Absolute encoder
Modular motor system

Functional description

The compression springs act on the anchor disc, which is free to move in the axial direction and presses the brake disc, which is keyed to the rotor shaft, against the friction plate or the motor bearing plate. This produces the braking torque.

When a DC voltage is applied to the coil in the electromagnet housing, it generates a magnetic force that opposes the spring force and causes the anchor disc to be pulled toward the electromagnet enclosure. This releases the brake disc and disengages the brake.

Brakes are classified into two types according to how they are used: holding brakes and service brakes.

Holding brake ES.. / ZS..
brake that in normal operation does not convert kinetic energy into frictional energy but is only used to hold a mechanism in a particular position, but which can also be used for motion braking in an emergency.

Service brake ESX.. / ZSX..
A brake that converts kinetic energy into frictional energy in normal operation, which means that it brakes mechanical motion.
When a service brake is used as a holding brake, the braking torque tolerance of up to -30% (in new condition) must be taken into account.

Product description of type ES(X) spring-actuated brakes

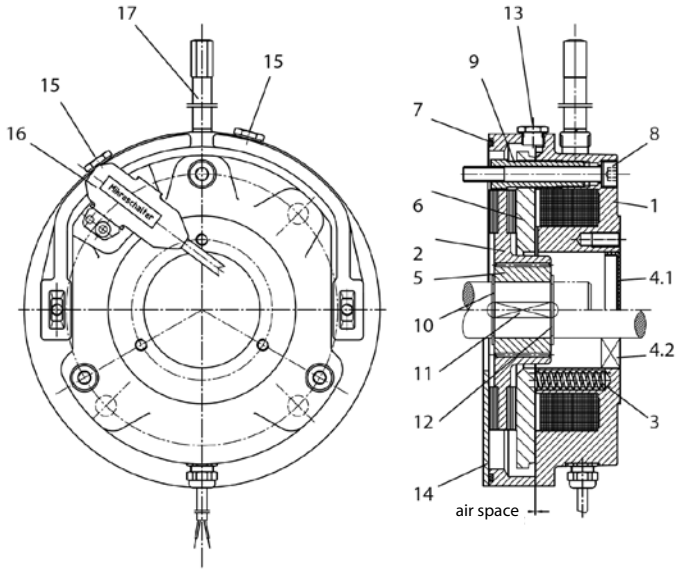


Figure 1: Construction of ES(X) brake

Brake mounting

ES and ESX: Brake mounting is under the fan cover
EH and EHX: Brake mounting is on the fan cover

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Options

- Manual release, non-locking or locking
- Microswitch for monitoring operation or wear

Construction

1	Electromagnet housing
2	Brake disc
3	Compression spring
4.1	Cover plate with closed brake
4.2	Shaft seal with through shaft
5	Drive bush
6	Anchor disc
7	O-ring
8	Fitting screw with copper washer
9	Hollow screw
10	Retaining ring
11	Key
12	Retaining ring
13	Screw plug for checking air gap
14	Friction plate (only with motor size Dxx08 or Dxx09)
15	Screw plug for checking microswitch setting
16	Microswitch (optional)
17	Manual release (optional)

Product description of type ZS(X) spring-actuated brakes

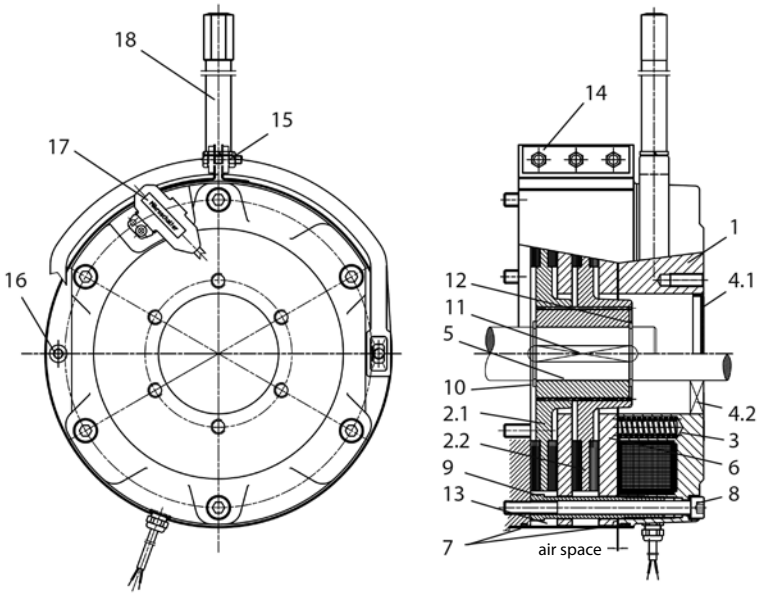


Figure 2: ZS(X) brake construction

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Options

- Manual release, non-locking or locking
- Microswitch for monitoring operation or wear

Construction

1	Electromagnet housing
2	Brake disc 2.1 and 2.2
3	Compression spring
4.1	Cover plate
4.2	Shaft seal with through shaft
5	Drive bush
6	Anchor disc
7	O-ring
8	Fitting screw with copper washer
9	Hollow screw
10	Retaining ring
11	Key
12	Retaining ring
13	Cover
14	Fitting screws
15	Bracket
16	Assembly screw/assembly aid
17	Microswitch (optional)
18	Manual release (optional)

Brake selection and sizing

If the service brake is undersized, it will have increased wear and a shorter lifetime. If it is oversized, the resulting mechanical forces may overload the drive.

If specific application data is not available, in the case of horizontally driven equipment we recommend selecting a braking torque with a safety factor (K) of 1 to 1.5 times the rated torque of the motor.
For braking to standstill, the selected braking torque should be at least 80% of the rated torque of the drive.

Rated torque:

$$M_{Berf} = \frac{P \times 9550}{n_2} \times K$$

M_{Berf}	Braking torque	[Nm]
P	Motor power	[kW]
n	Rated speed at rotor shaft [rpm]	

For lifting operation, a braking torque equal to twice the rated motor torque should always be chosen for safety reasons.

If the moment of inertia, speed and allowable deceleration time of the machine are known, the braking torque can be calculated as described below.

External moments of inertia

If the masses to be decelerated by the brake do not run at the same speed as the rotor shaft, the moment of inertia (J_{ext}) must be reduced to the value at the rotor shaft

$$J_{ext'} = \frac{J_{ext1} \times n_1^2 + J_{ext2} \times n_2^2 + \ldots + J_{extn} \times n_n^2}{i^2}$$

or the external moment of inertia reduced by the gear ratio of the gear unit to the value at the rotor shaft

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

$$J_{ext'} = \frac{J_{ext}}{i^2}$$

J_{ext}	Total external moment of inertia [kgm²]
$J_{ext'}$	Total external moment of inertia referenced to the rotor shaft [kgm²]
$J_{ext1,2,...}$	Individual external moments of inertia [kgm²]
i	Gear reduction ratio
n	Rotor shaft speed
$n_{1,2...}$	Speeds of the individual moments of inertia [rpm]

Load torque under static load

$$M_L = F \times r$$

M_L	Load torque [Nm]
F	Force [N]
r	radius [m]

Braking torque with dynamic load

A purely dynamic load is present when flywheels, rolls, etc. must be decelerated and the static load torque is negligible.

$$M_a = \frac{J_{ges} \times n_a}{9{,}55 \times (t_a - t_A)} = \frac{(J_{ext'} + J_{rot} + J_{Br}) \times n_a}{9{,}55 \times (t_a - t_A)}$$

J_{br}	Moment of inertia of the brake [kgm²]
J_{rot}	Moment of inertia of the rotor shaft and rotor [kgm²]
M_a	Deceleration torque [Nm]
n_a	Initial speed at start of deceleration [rpm]
t_a	Total deceleration time (from switch-off until drive is stationary) [s]
t_A	The response time of the brake for braking corresponds to t_{AC} or t_{DC} in the specification tables [s]

Dynamic and static loads

In most application situations, both static and dynamic loads are present.

$M_{Berf} = (M_a \pm M_L) \times K$ where $M_{Berf} \leq M_{Br}$ must hold true.

M_L	braking (positive) or driving (negative) load torque [Nm]

Heat generated by each brake cycle

Friction converts the kinetic energy of the moving masses into heat.
This amounts to

$$W = \frac{J_{ges} \times n^2}{182{,}5} = \frac{(J_{ext'} + J_{rot} + J_{Br}) \times n_a^2}{182{,}5}$$ where $W \leq W_{max}$ must hold true.

W	Braking energy for each brake cycle [J]
M_{max}	Maximum permissible frictional energy per brake cycle (see brake tables)

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Thermally allowable braking energy of service brakes

With a uniform sequence of brake cycles, which means a certain average number of brake cycles per hour, the temperature rises until an equilibrium between heat input and heat dissipation is reached. The temperature rise must be sized to avoid overheating the coil and the friction layer, taking the ambient temperature into account.

Braking to standstill:

$$W_Z = W \times Z \leq W_{th}$$

W_{th} Maximum allowable braking energy per hour
W_Z Braking energy with Z brake cycles
Z Number of brake cycles per hour

Lifting operation

In lowering operation, the drive motor acts as a generator and its braking effect results in a steady downward motion (constant speed). If we ignore transmission losses, under full load the drive must brake the load with the rated motor torque. If a mechanical brake with a braking torque equal to the braking torque of the motor is applied after the drive is switched off, the downward motion will continue at the same speed. This means that additional braking torque is necessary to stop the motion of the load. For example, if the brake is dimensioned for 200% braking torque, approximately 100% is used for "static" deceleration and the rest is used for "dynamic" deceleration.
If part of the braking torque is required for braking the load during lowering (downward motion), the brake engagement time is greater, and the thermal load is therefore greater.

In this case

$$W_H = \frac{M_{Br}}{M_{Br} - M_L} \times W_Z$$

W_H Friction energy per hour in lifting operation
M_{Br} Braking torque of the brake

Brake lifetime
The energy absorbed during braking causes the brake disc to wear, which increases the air gap. If the air gap increases beyond a certain maximum gap size, the magnetic field is so weak that the pulling force of the electromagnet is no longer sufficient to release the brake. A proper air gap must be restored by adjusting the air gap or by replacing the brake disc, depending on the type of brake construction.

The maximum number of brake cycles until service is necessary can be calculated as follows:

$$Z_L = \frac{W_L}{W}$$

Z_L Number of brake cycles until the air gap limit is reached
W_L Maximum allowable braking energy until maintenance; i.e. replacing the brake disc or adjusting the air gap. Adjustment of the air gap is possible only with type ZXSxx brakes.

Deceleration time
The pure braking time from the start of mechanical braking to standstill depends on the braking deceleration.
Especially with lifting operation, but also in other types of operation, it is necessary to check whether the load torque reinforces the braking effect or counters the braking effect.

The deceleration time is therefore calculated as follows:

$$t_a = \frac{J_{ges} \times n_a}{9{,}55 \times (M_{Br} \pm M_L)}$$

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Electrical connection

General

There are two basic options for providing the supply voltage for the DC electromagnet:
1. Externally from an existing DC control voltage mains or a rectifier in the cabinet.
2. From a rectifier built into the motor or brake terminal box. In this case, the rectifier can be powered either directly from the motor terminal board or from the mains.

Note that in the following cases the rectifier is not allowed to be connected to the terminal board of the motor:

- Pole-changing motors and motors with wide operating voltage range
- Operation from a frequency converter
- Other configurations in which the motor voltage is not constant, such as operation with soft-start devices, start-up transformers, etc.

Release

When the rated voltage is applied to the electromagnet coil, the current through the coils increases exponentially and with it the generated magnetic field. The current must rise to a certain value ($I_{release}$) before it overcomes the spring force and starts to release the brake.

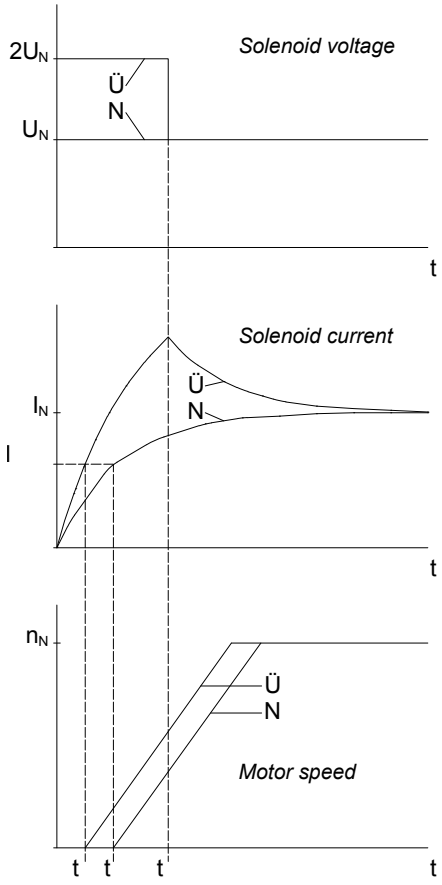


Figure 3: Idealised curves of coil voltage, coil current and motor speed with normal excitation (N) and overexcitation (Ü). $t_{Ü}$: overexcitation time; t_{AN}, $t_{AÜ}$: Response time with normal excitation and overexcitation.

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Two different situations can arise during the response time tA, assuming that the voltage is applied to the motor and the brake simultaneously:

- The motor is locked if $M_A < M_L + M_{Br}$
  The motor draws its locked-rotor current, which increases the thermal load on the motor.
  This situation is illustrated in Figure 3.
- The brake slips if $M_A > M_L + M_{Br}$
  In this case, the brake is also thermally stressed during start-up and wears faster.

M_A: locked rotor torque of the motor; M_L: load torque; M_{Br}: braking torque

As can be seen, there is an additional load on the motor and brake in both cases. The effect of the response time increases with increasing brake size. Consequently, it is advisable to reduce the response time, especially with medium-sized and large brakes and with a high cycle rate. This can be achieved relatively easily by means of electrical overexcitation. With this approach, the coil is briefly operated at twice its rated voltage after switch-on.

This causes the current to rise faster than with normal excitation, and it reduces the response time by approximately 50%. This overexcitation function is built into the type MSG special rectifier.

The release current increases with increasing air gap, and with it the response time. When the release current exceeds the rated coil current, the brake will not be released with normal excitation and the brake has reached its wear limit.

Braking
The brake does not start generating braking torque immediately after the coil voltage is switched off. First the magnetic energy must decline to the point that the spring force can overcome the magnetic force. This occurs at the holding current I_{hold}, which is lower than the release current.
The response time depends on how the voltage is switched off.

Switching off the AC supply voltage to a type SG standard rectifier

a) Rectifier powered from the motor terminal board (Figure 4, curve 1)
Response time t_{A1}: very long

Cause: Due to the residual magnetism of the motor, after the motor voltage is switched off a slowly decaying voltage is induced, and it continues to supply power to the rectifier and thereby to the brake. In addition, the magnetic energy of the brake coil is dissipated relatively slowly in the freewheel circuit of the rectifier.

b) Rectifier powered separately (Figure 4, curve 2)
Response time t_{A2}: long

Cause: After the rectifier voltage is switched off, the magnetic energy of the brake coil is dissipated relatively slowly in the freewheel circuit of the rectifier.

If the supply voltage is interrupted on the AC side, no significant switch-off voltage occurs on the electromagnet coil.

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Interrupting the DC circuit of the electromagnet coil (Figure 4, curve 3)

a) By a mechanical switch
- with separate power supply from a DC control voltage mains or
- at the DC switch contacts (A2 and A3) of the type SG standard rectifier
Response time t_{A3}: very short

Cause: The magnetic energy of the brake coil is dissipated very quickly by arcing across the switch contacts.

b) Electronic

Using a type ESG or MSG special rectifier
Response time t_{A3}: short

Cause: The magnetic energy of the brake coil is dissipated quickly by a varistor integrated in the rectifier.

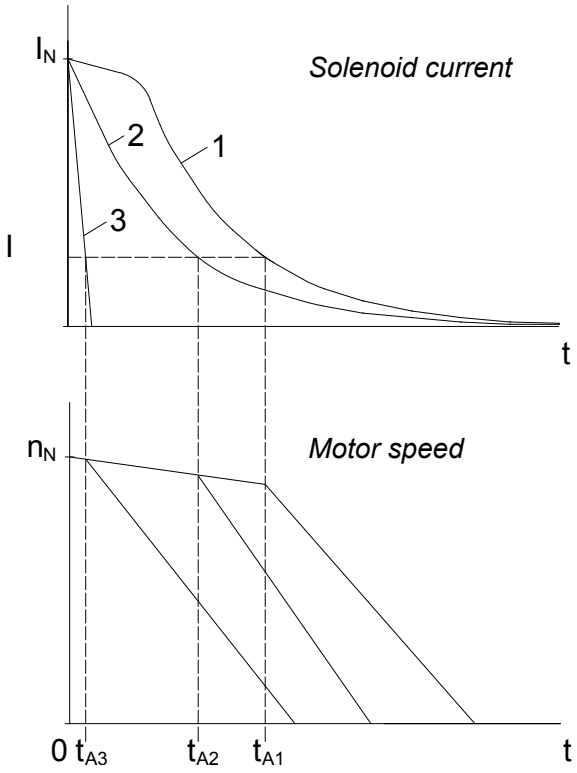


Figure 4: Idealised coil current and motor speed curves after switching off power on the AC side (1 and 2) or DC side (3)

If the circuit is interrupted on the DC side, a high voltage u_q is induce by the electromagnet coil. The magnitude of this voltage depends on the inductance L of the coil and the switch-off speed di/dt according to the formula

$$u_q = L \cdot \frac{di}{dt}$$

Due to the winding design, the inductance L increases with increasing rated coil voltage. Consequently, the voltage spikes induced at switch-off can reach hazardous levels with relatively high coil voltages. For this reason, a varistor is included in the circuit for all brakes with voltages greater than 24 V.
This varistor is solely intended to protect the electromagnet coil; it is not intended to protect adjacent electronic components or devices against electromagnetic interference. On request, brakes with rated voltages of 24 V or less can also be fitted with a varistor.
If the circuit is interrupted on the DC side by a mechanical switch, the resulting arcing over the switch contacts causes strong erosion of the contacts. For this reason, only special DC contactors or adapted AC contactors with contacts rated for use class AC3 as specified in EN 60947-4-1 may be used.

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Specifications of holding brakes with emergency stop capability

The maximum allowable friction energy values stated here do not apply to brake motors for use in areas with potentially explosive atmospheres.
Refer to separate data in appropriate documents for explosion-proof drives.

Type	M_{Br}	W_{max}	W_{th}	W_L	t_A	t_{AC}	t_{DC}	P_{el}	J
	[Nm]	[10^3 J]	[10^3 J]	[10^6 J]	[ms]	[ms]	[ms]	[W]	[10-3 kgm^2]
E003B9	3	1,5	-	-	35	150	15	20	0,01
E003B7	2,2	1,8	-	-	28	210	20		
E003B4	1,5	2,1	-	-	21	275	30		
E004B9	5	2,5	-	-	37	125	15	30	0,017
E004B8	4	3	-	-	30	160	18		
E004B6	2,8	3,6	-	-	23	230	26		
E004B4	2	4,1	-	-	18	290	37		
E004B2	1,4	4,8	-	-	15	340	47		
ES010AX	15▪	3	-	-	110	-	30	35	0,045
ES010A9	10	3	-	-	60	100	15		
ES010A8	8	3	-	-	55	150	20		
ES010A5	5	3	-	-	45	220	20		
ES010A4	4	3	-	-	30	250	20		
ES010A2	2,5	3	-	-	25	350	25		
ES027AX	32▪	2,5	-	-	80	-	30	50	0,172
ES/EH027A9	27	2,5	-	-	120	100	15		
ES/EH027A7	20	2,5	-	-	100	130	20		
ES/EH027A6	16	2,5	-	-	80	170	25		
ES/EH040A9	40	3,5	-	-	100	100	20	65	0,45
ES/EH040A8	34	3,5	-	-	80	200	25		
ES/EH040A7	27	3,5	-	-	70	250	30		
ES070AX	90▪	3,5	-	-	120	-	40	85	0,86
ES070A9	70	3,5	-	-	120	150	18		
ES070A8	63	3,5	-	-	120	200	20		
ES070A7	50	3,5	-	-	90	220	25		
ES/EH125A9▪	125	4,5	-	-	170	220	25	105	1,22
ES/EH125A8	105	4,5	-	-	150	320	28		
ES/EH125A7	85	4,5	-	-	135	350	30		
ES/EH125A6	70	4,5	-	-	120	440	35		
ES125A5	57	4,5	-	-	100	600	40		
ES125A3	42	4,5	-	-	90	700	45		
ES/EH200A9 *	200	8	-	-	400	150	22	105	2,85
ES/EH200A8 *	150	8	-	-	280	250	35		
ES/EH200A7 *	140	8	-	-	200	320	35		
ES250AX *	350▪	9	-	-	180	-	70	135	6,65
ES250A9 *	250	9	-	-	300	500	45		
ES250A8 *	200	9	-	-	200	960	60		
ES250A6 *	150	9	-	-	160	1100	60		
ES250A5 *	125	9	-	-	150	1500	90		
ES250A4 *	105	9	-	-	130	1800	110		
ZS300A9 *	300	8	-	-	280	220	35	75	5,7
ZS300A8 *	250	8	-	-	210	380	45		
EH400A9 *	400	10	-	-	300	600	60	180	19,5
EH400A7 *	300	10	-	-	200	850	75		
EH400A5 *	200	10	-	-	150	1400	85		
ZS500A9 *	500	9	-	-	320	320	50	100	13,3
ZS500A8 *	400	9	-	-	260	600	60		

* Requires overexcitation; permissible only with MSG rectifier
* cannot be combined with current motor sizes

Braking torque tolerance: -10 / +30%

W_{th} and WL are not specified because little or no braking energy is dissipated by holding brakes when they are used as intended.

For versions with braking torque marked with *, which may only be used with an MSG rectifier, the values of t_A and t_{DC} apply to operation with an MSG rectifier; i.e. t_A for overexcitation or t_{DC} for electronic circuit interruption on the DC side.

Due to the effects of operating temperature and manufacturing tolerances, actual response times may differ from the guideline values listed here.

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Specifications of service brakes

The maximum braking energy values stated here do not apply to brake motors for use in areas with potentially explosive atmospheres.
Refer to separate data in appropriate documents for explosion-proof drives.

Type	M_{Br} [Nm]	W_{max} [10^3 J]	W_{th} [10^3 J]	W_L [10^6 J]		t_A [ms]	t_{AC} [ms]	t_{DC} [ms]	P_{el} [W]	J [10^{-3} kgm^2]
				without HL	with HL					
E003B9	3	1,5	36	55	55	35	150	15	20	0,01
E003B7	2,2	1,8	36	90	90	28	210	20		
E003B4	1,5	2,1	36	140	140	21	275	30		
E004B9	5	2,5	60	50	50	37	125	15	30	0,017
E004B8	4	3	60	100	100	30	160	18		
E004B6	2,8	3,6	60	180	180	23	230	26		
E004B4	2	4,1	60	235	235	18	290	37		
E004B2	1,4	4,8	60	310	310	15	340	47		
ESX010AX	15▪	3	250	120	120	110	-	30	35	0,045
ESX010A9	10	3	250	120	120	60	100	15		
ESX010A8	8	3	250	150	150	55	150	20		
ESX010A5	5	3	250	240	240	45	220	20		
ESX010A4	4	3	250	300	240	30	250	20		
ESX010A2	2,5	3	250	390	240	25	350	25		
ESX027AX	27▪	10	350	150	150	80	-	30	50	0,172
ESX/EHX027A9	22	10	350	150	150	120	100	15		
ESX/EHX027A7	16	10	350	300	300	100	130	20		
ESX/EHX027A6	13	10	350	350	350	80	170	25		
ESX/EHX040A9	32	20	450	420	420	100	100	20	65	0,45
ESX/EHX040A8	27	20	450	560	490	80	200	25		
ESX/EHX040A7	22	20	450	700	490	70	250	30		
ESX070AX	72▪	28	550	700	700	120	-	40	85	0,86
ESX070A9	58	28	550	500	500	120	150	18		
ESX070A8	50	28	550	800	700	120	200	20		
ESX070A7	40	28	550	1200	700	90	220	25		
ESX/EHX125AX	100▪	40	700	1900	1900	100	-	70	105	1,22
ESX/EHX125A9	85	40	700	1700	1700	150	320	28		
ESX/EHX125A8	70	40	700	1900	1700	135	350	30		
ESX/EHX125A7	58	40	700	2700	1700	120	440	35		
ESX125A5	45	40	700	3300	1700	100	600	40		
ESX125A3	34	40	700	3300	1700	90	700	45		
ESX/EHX200AX *	160▪	60	850	2000	2000	105	-	70	105	2,85
ESX/EHX200A9 *	120	60	850	1700	1700	280	250	35		
ESX/EHX200A8 *	110	60	850	2600	2600	200	320	35		
ESX250AX *	280▪	84	1000	2300	2300	180	-	70	135	6,65
ESX250A9 *	200	84	1000	2800	2800	300	500	45		
ESX250A8 *	160	84	1000	6800	5700	200	960	60		
ESX250A6 *	120	84	1000	8500	5700	160	1100	60		
ESX250A5 *	100	84	1000	11000	5700	150	1500	90		
ESX250A4 *	85	84	1000	11000	5700	130	1800	110		
ZSX300A9 *	250	60	850	1300	1300	280	220	35	75	5,7
ZSX300A8 *	200	60	850	2000	2000	210	380	45		
EHX400A9 *	320	120	1100	3000	3000	300	600	60	180	19,5
EHX400A7 *	240	120	1100	4800	4800	200	850	75		
EHX400A5 *	160	120	1100	6000	4800	150	1400	85		
ZSX500A9 *	400	84	1000	2800	2800	320	320	50	100	13,3
ZSX500A8 *	320	84	1000	4000	4000	260	600	60		

* Requires overexcitation; permissible only with MSG rectifier
* cannot be combined with current motor sizes

Braking torque tolerance:
E003 / E004: -10 / +30%
ESXxx / ZSXxx: -20 / +30% after run-in; up to -30% in new condition.

For versions with braking torque marked with *, which may only be used with an MSG rectifier, the values of t_A and t_{DC} apply for operation with an MSG rectifier; i.e. t_A for overexcitation or t_{DC} for electronic circuit interruption on the DC side.

The values for W_L are guidelines; actual values may vary significantly depending on the application situation. Periodic inspection of the air gap or brake disc thickness is recommended.

Actual response times may differ from the times listed here due to the effects of operating

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Key to symbols

M_{Br}	Rated braking torque
W_{max}	Maximum allowable friction energy for an emergency stop with a holding brake
W_{max}	Maximum allowable friction energy for each brake cycle with service brakes
W_{th}	Maximum allowable braking energy per hour
W_L	Maximum allowable braking energy until maintenance; i.e. brake disc replacement or air gap adjustment. Air gap adjustment is possible only with type ZSXxx brakes.
H_L	Manual release
t_A	Response time for release with normal excitation. Overexcitation with a type MSG special rectifier reduces the response time by approximately 50%.
t_{AC}	Response time for brakes with AC-side switch-off, i.e. by switching off the supply voltage to a separately powered standard rectifier. If the supply voltage for the rectifier is taken from the motor terminals, considerably longer response times should be expected (depending on the motor size and winding design).
t_{DC}	Response time for braking with DC-side circuit interruption by a mechanical switch. In the case of electronic circuit interruption on the DC side by a type ESG or MSG special rectifier, the response times will be approximately two to three times as long.
P_{el}	Electromagnet coil power consumption at 20 °C. Depending on the rated voltage of the coil, the actual power may differ from the guideline value stated here.
J	Moment of inertia of the drive bush and brake disc(s)

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Connection

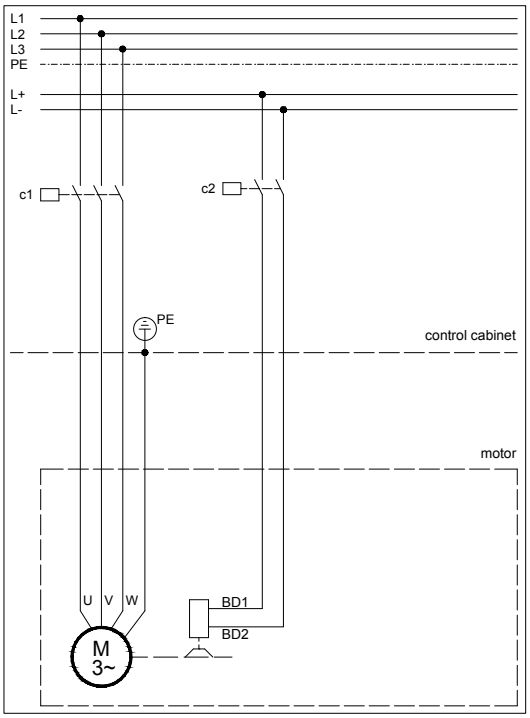
The electrical connections to the brake are made in the motor terminal box using terminals or the rectifier. Standard voltages:

380–420 V 50/60 Hz (brake coil voltage 180 V DC)
220–230 V 50/60 Hz (brake coil voltage 105 V DC)
24 V DC (brake coil voltage 24 V DC)

Other voltages are available at additional cost.

DC connection via terminals (K)

The brake must be connected via separate terminals in the motor or brake terminal box directly to the DC voltage. The standard voltages are 180 V DC, 105 V DC and 24 V DC. Brakes with other operating voltages are available at additional cost.

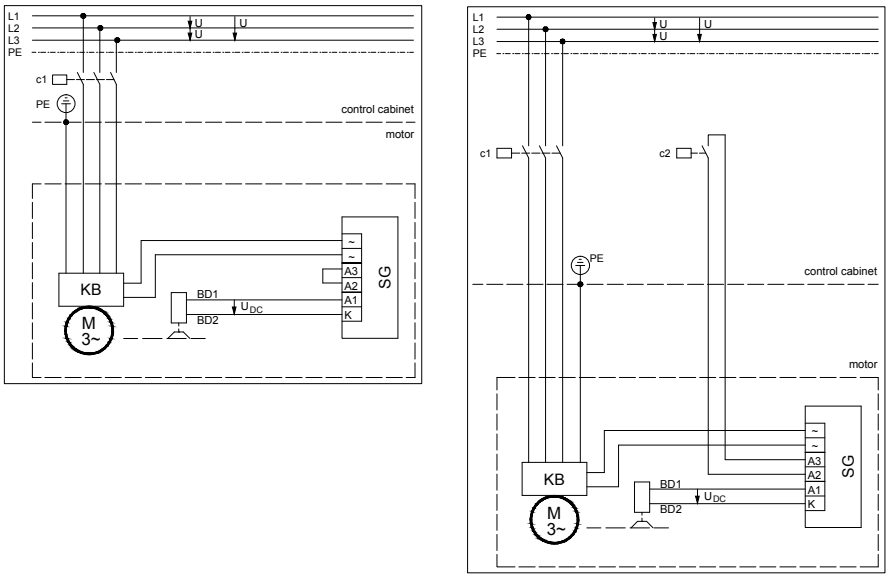


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Standard rectifier (S)

Working principle	Half-wave rectifier with switch contacts for DC-side circuit interruption
Input voltage U1	max. 575 VAC +5%
Output voltage	0.45 x U1 VDC
Max. output current	2.5 A DC
Ambient temperature	-40 to +40 °C
Connection	Caged Clamp terminals with clamp lever
Clampable conductor cross-section	max. 1.5 mm^2 without wire end sleeve max. 1.5 mm^2 with wire end sleeve
Approvals	c-CSA-us c-UL-us (only in combination with B2000 geared motors and brakes in the ES(X) or ZS(X) product series

The brake must be connected to the AC supply via the standard rectifier in the motor terminal box or brake terminal box. The standard voltages are 380 ... 420 V 50/60 Hz or 220 ... 230 V 50/60 Hz. Other voltages up to 575 V are available at extra cost. In a configuration with standard rectifier, the brake circuit can be interrupted by an extra contact on the d.c. side in order to reduce the response time. This significantly reduces the braking time and overtravel distance.



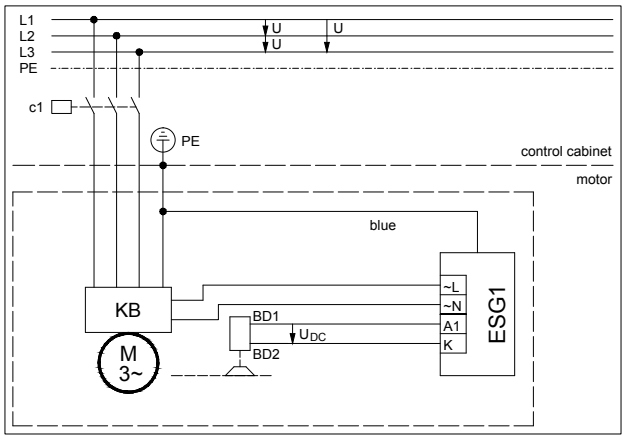
Voltage connection for the rectifier from the motor terminal block or cage clamp (see Rectifier Connection on Motor Terminal Block or Cage Clamp)

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Rectifier for electronic rapid shutdown (E)

Working principle	Half-wave rectifier with electronic DC-side circuit interruption
Input voltage U1	220–460 V AC ±5%, 50/60 Hz
Output voltage	0.45 x U1 V DC
Max. output current	1 A DC
Ambient temperature	-20 °C to +40 °C
Clampable conductor cross-section	max. 1.5 mm^2

This rectifier permits electronic DC-side interruption of the brake circuit. No additional cable to the rectifier is necessary. The rectifier is supplied complete with a protective resistor which prevents a mains short- circuit via the shutdown arc of the high-speed motor contactor. Brake response times are significantly shorter than those achievable by AC-side interruption of the brake circuit. They are, however, longer than those achievable with DC-side interruption by a mechanical switch. The brake must be connected to the alternating current via the rapid shutdown rectifier in the motor terminal box or the brake terminal box. The standard voltages are 380 ... 420 V 50/60 Hz or 220 ... 230 V 50/60 Hz. Other voltages up to 460 V are available at extra cost.



Voltage connection for the rectifier from the motor terminal block or cage clamp (see Rectifier Connection on Motor Terminal Block or Cage Clamp)

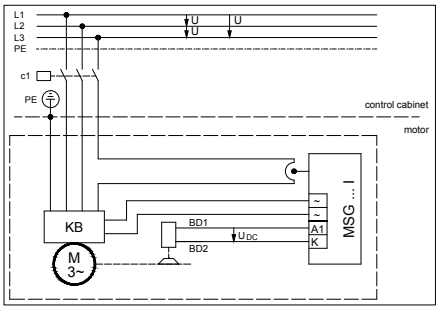
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

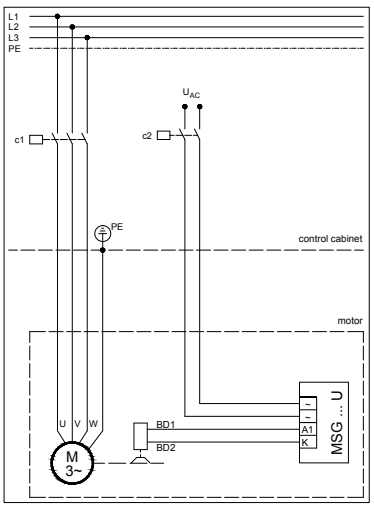
Standard rectifier (M)

Working principle	MSG 1.5.480I Half-wave rectifier with time-limited overexcitation and electronic DC-side circuit interruption Fast shutdown due to no motor current in one phase
Input voltage U1	220–480 V AC +6 / -10%, 50/60 Hz
Output voltage	0.9 x U1 V DC during overexcitation 0.45 x U1 V DC over overexcitation period
Overexcitation time	0.3 s
Max. output current	1.5 A DC
Ambient temperature	-20 °C to +40 °C
Clampable conductor cross-section	max. 1.5 mm²

Working principle	MSG 1.5.500U Half-wave rectifier with time-limed overexcitation and electronic DC-side circuit interruption Fast shutdown due to the absence of input voltage
Input voltage U1	220–500 V AC ±10%, 50/60 Hz
Output voltage	0.9 x U1 V DC during overexcitation 0.45 x U1 V DC over overexcitation period
Overexcitation time	0.3 s
Max. output current	1.5 A DC
Ambient temperature	-20 °C to +40 °C
Clampable conductor cross-section	max. 1.5 mm²

In cases where there are high motor switching frequencies, the brake can be de-energised more rapidly with this rectifier thereby significantly reducing the thermal stress on the motor. In addition, interrupting the brake's DC circuit by electronic means significantly reduces response times. Depending on the circumstances in which they are to be used, either the MSG 1.5.500 U (rapid shutdown brought about by removed supply voltage) or MSG 1.5.480 I (rapid shutdown brought about by removed motor current in a phase) is used. Power supply 220 to 480 V AC.





www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Brake connection, operation with frequency converter

The voltage present at the motor terminal block when operating with a frequency converter is frequency-dependent. Brakes require a constant voltage, so they need a seperate electrical connection. This is the reason why the brake is not connected to the motor terminals ex- works.

Manual release (HA, HN)

All brakes are available with mechanical manual release on request. Non-latching manual release is the standard version (HN). A latching manual release (HA) can be supplied if required for all brake sizes.

Degree of protection

All BAUER brakes comply with degree of protection IP 65.

Special corrosion protection

If high requirements for corrosion resistance apply, the brakes are available with two levels of enhanced corrosion protection:

CORO1 (C1): Finished with two-component paint to protect against chemically aggressive gases and vapours.

CORO2 (C2): Same finish as CORO1. The screws for the terminal-box cover are non- rusting steel. The mechanical internals of the brake are made of corrosion- proofed material.

CE mark

BAUER geared motors with externally mounted spring-loaded brakes bear the CE mark.

The brakes comply with:

- the **Machinery Directive (2006/42/EG)**
  Manufacturer's declaration available on request
- the **Low-Voltage Directive (2006/95/EG)**
  Documented by the CE mark
- the **EMC Directive (2004/108/EG)**
  Documented by the CE mark

See BAUER special print SD33.. for more information.

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Second motor shaft extension (ZW, ZV)

The motors are also available on request with a second motor shaft extension in design ZW (shaft with key) or ZV (shaft with square end).

Half the central motor's rated power is available at each of the two shafts. Permissible radial loads available on request. Guards are not included in the scope of supply (for dimensional drawing see chapter 17).

Motors with brakes are available on request with a second shaft stub extended through the brake.

Protective fan cowl (D)

A protective hood over the fan cowl is recommended for outdoor installations where the motor is pointing upward and subject to severe or prolonged exposure to water (dimensional drawing, see chapter 17).

A special fan cowl for the textiles industry is available on request at extra cost. This design prevents airborne fibres and fluff clogging the fan cowl.

Motor-independent fan (FV)

For special applications, standard motors and brake motors of size S08 and larger are available with externally mounted motor-independent fans. The standard line voltage of the motor-independent fan matches the voltage of the geared motor (dimensional drawing for motor-independent fan, see chapter 17).

Standard enclosure IP65.

Technical Data:
Multivolt Conception Running capacitor for single phase duty enclosed as standard.

Mode	Frame size	Blower diameter	Range of voltage		max. permissible current	max. power input
		(mm)	50 Hz	60 Hz	(A)	W
1 ~ ⊥ (Δ)	63	118	230-277	230-277	0,12	32
	71	132	230-277	230-277	0,12	33
	80	150	230-277	230-277	0,14	37
	90	169	230-277	230-277	0,29	65
	100	187	230-277	230-277	0,30	75
	112	210	230-277	230-277	0,37	94
	132	250	230-277	230-277	0,60	149
	160-200	300	230-277	---	0,96	236
3 ~ Y	63	118	380-500	380-575	0,06	28
	71	132	380-500	380-575	0,06	29
	80	156	380-500	380-575	0,06	34
	90	169	380-500	380-575	0,19	75
	100	187	380-500	380-575	0,17	94
	112	210	380-500	380-575	0,17	99
	132	250	380-500	380-575	0,25	148
	160-200	300	380-500	380-575	0,54	360
3 ~ Δ	63	118	220-290	220-332	0,10	28
	71	132	220-290	220-332	0,10	28
	80	156	220-290	220-332	0,10	34
	90	169	220-290	220-332	0,33	78
	100	187	220-290	220-332	0,31	87
	112	210	220-290	220-332	0,31	103
	132	250	220-290	220-332	0,45	146
	160-200	300	220-290	220-332	0,91	360

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Shaft encoder (G)

Bauer gear motors can be fitted with either an incremental encoder or an absolute encoder for special applications. Both the standard incremental encoder and the absolute encoder are optimised and suitable for use with all modern inverters.

Bauer standard encoders are protected against mechanical damage by means of a protective cover (Additional Dimension Sheet see chapter 17).

Special features: standard absolute encoder

- Enclosure: IP65
- Steps per revolution: 8192 (13 Bit)
- Number of turns: 4096 (12 Bit) shaft turns
- Execution of electronic: SSI (Synchronous-Serial Interface)
- Output code: Gray-Code
- Supply voltage: 11-27 VDC
- Loss efficiency (no load): ≤ 3 Watt
- Output driver: RS-422 (2-wire)

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Functional description



The SinCos feedback system is a combination of incremental sensor and absolute sensor. The absolute value is initially only defined when the device is switched on and transmitted to an external counter, which then continues counting incrementally from this absolute value with the analogue Sinus/Cosinus interface.

Hollow shaft	diameter 10.00 mm
Speed	Max. 6000 RPM
Enclosure rating	IP 65
Interface	Sinus
Connection type	Cable M23-socket
Resolution	max. 5000 Imp.
Temperature	-20...+80°C
Supply voltage 10...30 VDC	5 VDC

Shock resistance in accordance with EN 60068-2-27	1000 m/s2, 6 ms
Vibration resistance in accordance with EN 60068-2-6	100 m/s2, 10 ... 2000 Hz ^

Electrical specifications

Output circuit	SinCos, U=1 Vss	SinCos, U=1 Vss
Supply voltage	5 V (± 5 %)	10 ... 30 V DC
Current conversion with inversion (without load)	typ. 65 mA / max. 110 mA	typ. 65 mA / max. 110 mA
-3 dB frequency	≤ 180 kHz	≤ 180 kHz
Signal level channels A/B	1 Vss (±20%)	1 Vss (±20%)
Channel 0	0,1 ... 1,2 V	0,1 ... 1,2 V
Short-circuit proof outputs*	yes	yes
Reverse polarity protection of the supply voltage	no	yes
CE-compliant in accordance with EN 61000-6-1, EN 61000-6-4 and EN 61000-6-3		

* If supply voltage is correctly installed

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

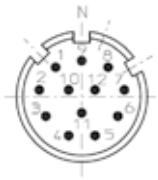
Terminal assignment

Signal	0 V	0 V Sensor**	+UB	+UB Sensor**	A	Ā	B	B	0	0	Signal
	A	Ā	B	B	0	0					
M23-socket, Pin 12-pin	10	11	12	2	5	6					PH*
Core colour	WH 0,5 mm²	WH	BN 0,5 mm²	BN	GN	YE	GY	PK	BU	RD	

* PH = The shielding touches the plug housing.

** The sensor lines are connected with the power supply internally. Special power supply units correct for the loss of voltage on long lines.

Views of the socket face, male contact base



M23 socket, 12-pin

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Functional description

Absolute encoders detect both angular and rotational motions and convert them into electrical signals. In contrast to incremental encoders, with absolute encoders the current position is directly available. If an absolute encoder is moved mechanically while it is switched off, after the power is switched on again the current position can be read out immediately and directly. Absolute encoders are available in single-turn and multi-turn versions.

Profibus DP interface



Specifications

Supply voltage	11–27 VDC
No-load current consumption	< 350 mA
Total resolution [1]	≤ 33 bits
Number of steps per revolution, standard/extended [1]	≤ 8,192 / ≤ 32,768
Number of turns, standard/extended [1]	≤ 4,096 / ≤ 256,000
Profibus DP V0	IEC 61158, IEC 61784
PNO encoder profile	Class 1/Class 2
parameters [1]	Counting direction switchover, scaling function, etc.
Output code [1]	Binary, Gray, truncated Gray
Address	3–99, set using a rotary switch
Baud rate	9.6 kbit/s to 12 Mbit/s
TR-specific functions [1]	Gear and speed outputs
Data width on bus for actual position	≤ 25 bits
Permissible mechanical speed	≤ 12,000 rpm
Shaft load	Own mass
Bearing life	≥ 3.9 x 10^{10} revolutions at
- speed	≤ 6,000 rpm
- operating temperature	≤ 60 °C
Shaft diameter [mm]	10H7
Permissible angular acceleration	≤ 10^4 rad/s^2
Moment of inertia	2.5 x 10^{-6} kg m^2 (typical)
Start-up torque at 20 °C	2 Ncm (typical)
Weight	0.3–0.5 kg

1 Configurable parameter

Ambient conditions

Vibration (EN 60068-2-6:1996)	≤ 100 m/s^2, sinusoidal 50–2,000 Hz
Shock (EN 60068-2-27:1995)	≤ 1000 m/s^2, half-cycle sinusoidal 11 ms
EMC	
- Interference emission compliant with EN 61000-6-3:2007	
- Interference immunity compliant with EN 61000-6-2:2006	
Operating temperature	0 °C to +60 °C; optionally -20 °C to +70 °C
Storage temperature	-30 °C to +80 °C, dry
Relative humidity (EN 60068-3-4:2002)	98%, non condensing
Enclosure rating (EN 60529:1991)[2]	IP 65

2 With mating connector fitted and/or cable glands fitted and tightened

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

SSI interface



Specifications

Supply voltage	11–27 VDC
No-load current consumption	< 350 mA
Total resolution [1]	≤ 25 bits
Number of steps per revolution [1]	≤ 8,192
Number of rotations, standard [1]	≤ 4,096
Number of rotations, extended [1]	≤ 256,000
SSI	Synchronous Serial Interface
Clock input	Optocoupler
Data output	RS-422, 2-wire
Clock frequency	80 kHz – 1 MHz
Monostable time t_M	16 µs ≤ t_M ≤ 25 µs (20 µs typical)
Output code [1]	Binary, Gray, BCD
Output format [1]	Standard, Tannenbaum, SSI + CRC, 26-bit cycle, variable number of data bits
Negative values [1]	Sign and magnitude, twos complement
SSI or parallel special bits [1]	Limit switch, overspeed, direction indication, motion indication, error indication, parity
F/R [1]	Counting direction
Preset [1]	Electronic alignment
Logic levels	"0" < +2 VDC; "1" = supply voltage
Permissible mechanical speed	≤ 12,000 rpm
Shaft load	Own mass
Bearing life	≥ 3.9 x 10^{10} revolutions at
- speed	≤ 6,000 rpm
- operating temperature	≤ 60 °C
Shaft diameter [mm]	10H7
Permissible angular acceleration	≤ 10^4 rad/s^2
Moment of inertia	2.5 x 10^{-6} kg m^2 (typical)
Start-up torque at 20 °C	2 Ncm (typical)
Weight	0.3–0.5 kg
Optional	
- incremental signals, RS422 levels	K1+, K1-, K2+, K2- with 1024 or 2048 pulses

[1)] Configurable parameter

Ambient conditions

Vibration (EN 60068-2-6:1996)	≤ 100 m/s^2, sinusoidal 50–2,000 Hz
Shock (EN 60068-2-27:1995)	≤ 1000 m/s^2, half-cycle sinusoidal 11 ms
EMC	
- Interference emission compliant with EN 61000-6-3:2007	
- Interference immunity compliant with EN 61000-6-2:2006	
Operating temperature	0 °C to +60 °C; optionally -20 °C to +70 °C
Storage temperature	-30 °C to +80 °C, dry
Relative humidity (EN 60068-3-4:2002)	98%, non condensing
Enclosure rating (EN 60529:1991)[2]	IP 65

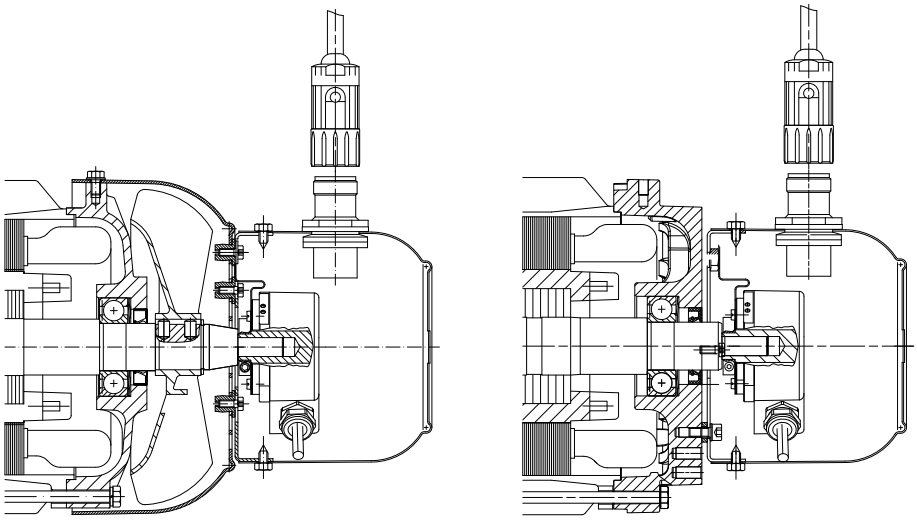
[2)] With mating connector fitted and/or cable glands fitted and tightened

In addition to the angular position within a rotation, multiturn encoders detect multiple rotations. An internal reduction gear mechanism connected to the motor shaft is used to detect the number of turns. Consequently, the value measured by a multiturn encoder consists of the current angular position and the number of turns. As with incremental encoders, the reading is calculated and output via various interface modules, depending on the interface.

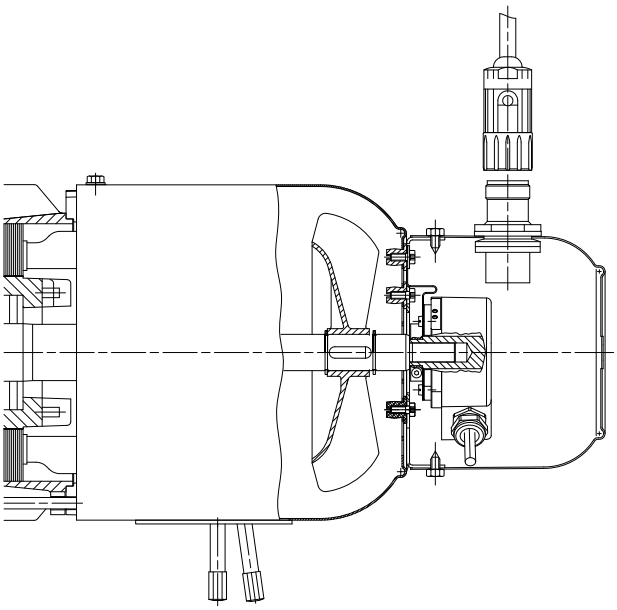
On request, a large range of motor frames can be fitted with sensor bearings. The output signal from the sensor allows the direction of rotation to be determined, among other

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

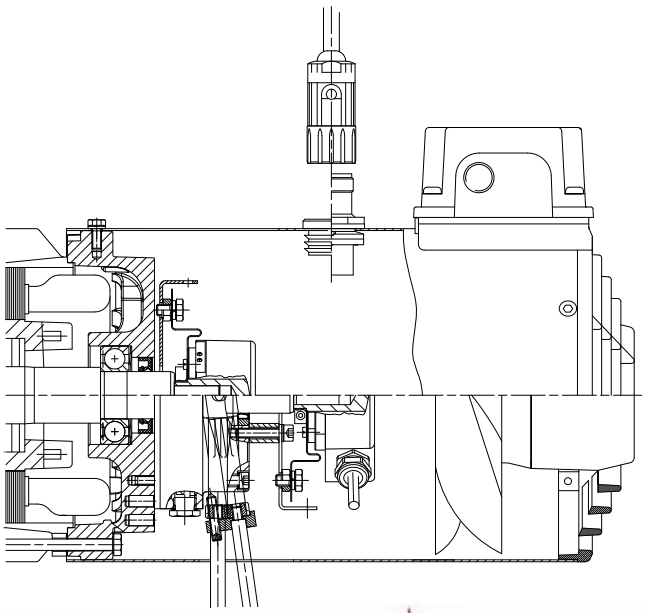
Motor and encoder



Motor, brake and encoder

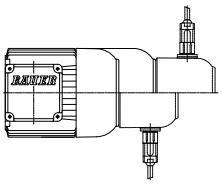


Motor and forced ventilation



www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

16

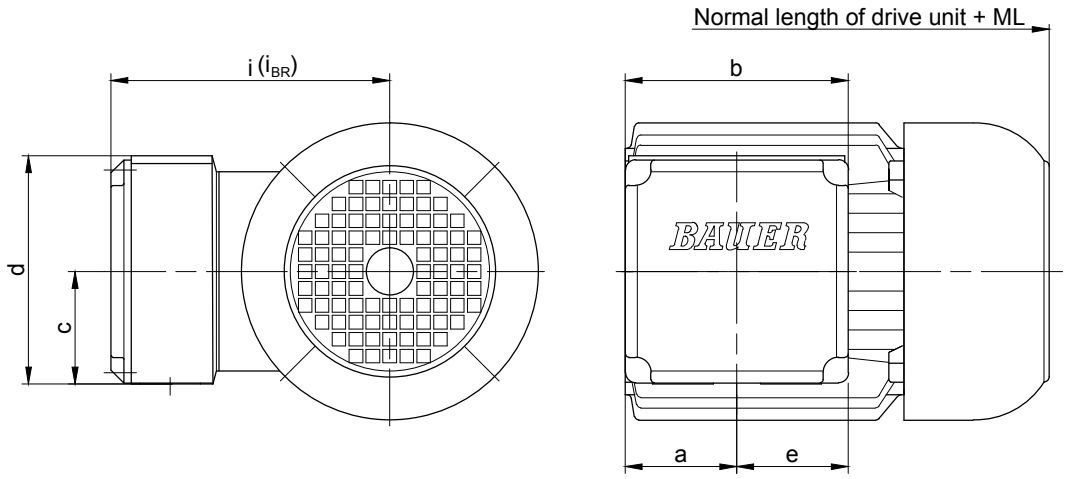


Page

Additional dimensional drawings for motor-mounted components 435-452

Dimensional drawing, standard terminal box
Dimensional drawing, plug-connector terminal box
Dimensional drawings, standard brakes without terminal box
Dimensional drawings, for brakes with terminal box
Dimensional drawing, motor with second shaft end
Dimensional drawing, motor with protective hood
Dimensional drawing, motor with independent fan
Dimensional drawing, motor with brake and independent fan
Dimensional drawing, motor with encoder
Dimensional drawing, motor with brake and encoder
Dimensional drawing, motor in IEC design

Standard terminal box

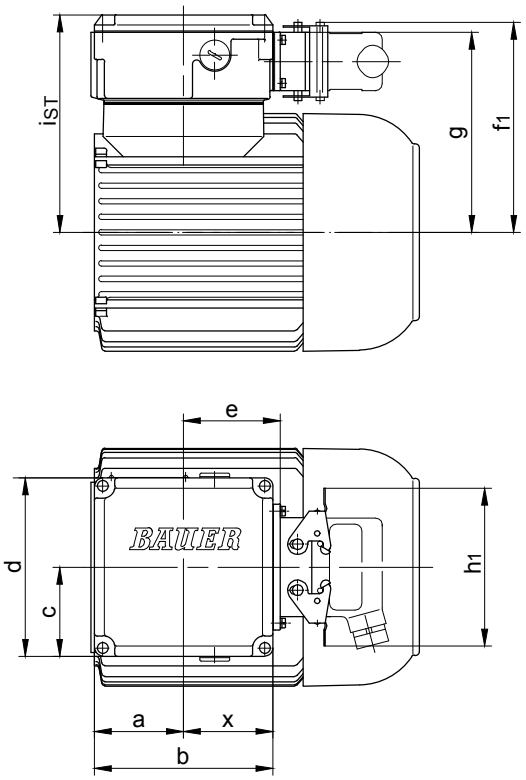


Motor/ Motor with Brake	Dimensions (mm)						Code	Cable entry Major (M) Minor (N)	max. wrench size for cable entry gland
	a	b	c	d	e	i / i$_{BR}$			
S..08..	50	100	50	100	50	115	KAG2	M=2xM25x1.5	29 mm
S..09..	50	100	50	100	50	124	KAG2	M=2xM25x1.5	29 mm
S..11..	62	132	66.5	135	66	181	TB222	M=2xM32x1.5; N=2xM25x1.5	-

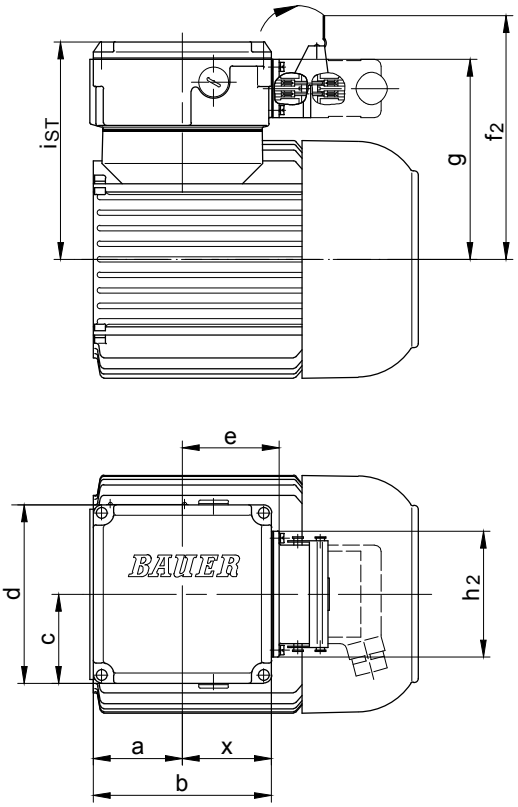
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Plug-connector terminal box

Standard design (two brackets)



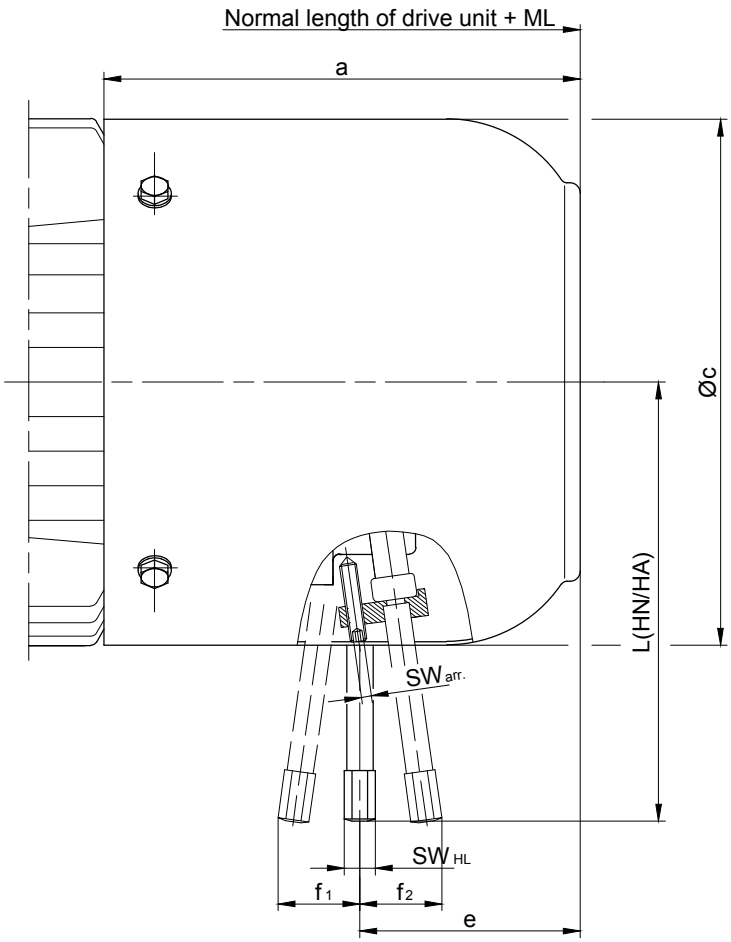
Optional for DESINA (one bracket)



Motor	Size of terminal box	a	b	c	d	e	f_1	f_2	g	h_1	h_2	i_{ST}	x
S..08	TBS1	45	90	52.5	106	49	143.5	172	136	117	93	149.5	46
S..09	TBS2	62	132	66	135	71.5	158.5	187	158	117	93	164	68.5
S..11	TBS2	62	132	66	135	71.5	175.5	191	166	117	93	181	68.5

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Standard brakes

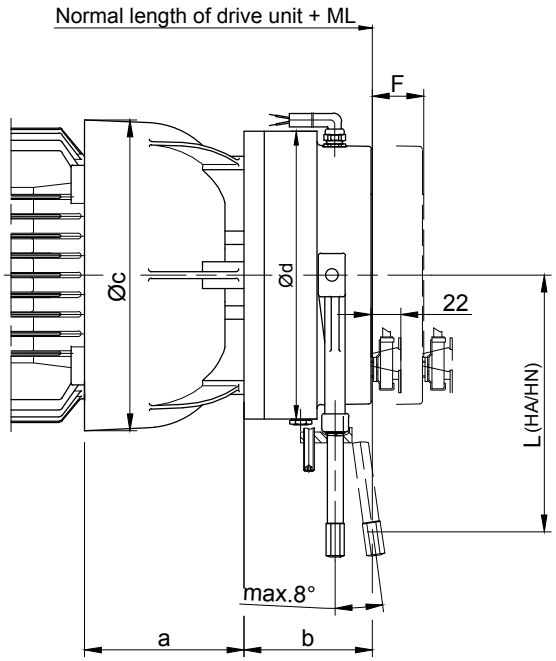


Motor Type	Brake Type	ML(mm) Additional length with brake	Dimensions (mm)								Add. weight
			a	Øc	e	f_1	f_2	L(HN/HA)	SW_{HL}	$SW_{arr.}$	kg
S..08	ES(X)010	66	141	156	68	-	29	132	8	2.5	2.6
S..09	ES(X)010	93	173	176	99	-	29	132	8	2.5	2.7
	ES(X)027				91	-	35.5	162			4.2
S..11	ES(X)027	98	195	218	103	-	35.5	162	8	2.5	4.5
	ES(X)040				100	-	37	172			6.3
	ES(X)070				96	-	34.5	190	12	4	8.5

HN = Manual release non-locking HA = Manual release locking

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

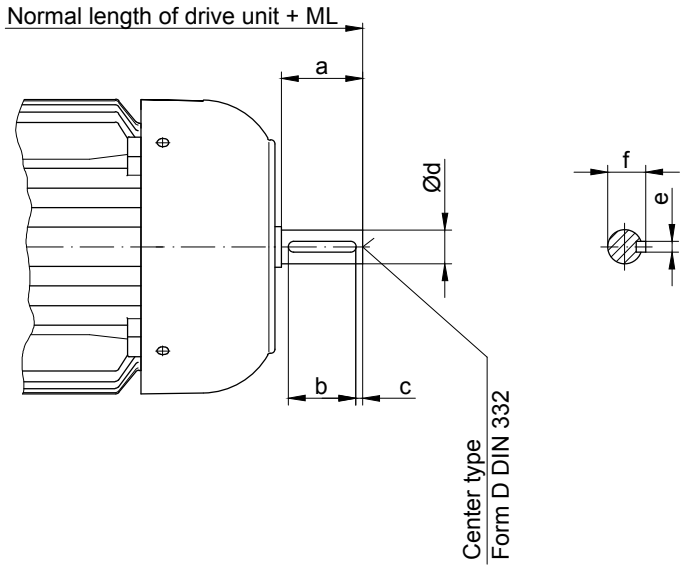
“Heavy-Duty“- brake



Motor	Brake	ML(mm) Additional length with brake		Dimensions (mm)					Add. weight
		Standard	Micro s.	a	b	c	Ød	L (HA/HN)	kg
S..08	EH(X)027	79	101	83.5	66.5	166	145	162	5.5
S..09	EH(X)040	90	112	102	73	191	168	172	8.3
S..11	EH(X)125	114	136	120	95	231	213	208.5	19.5

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

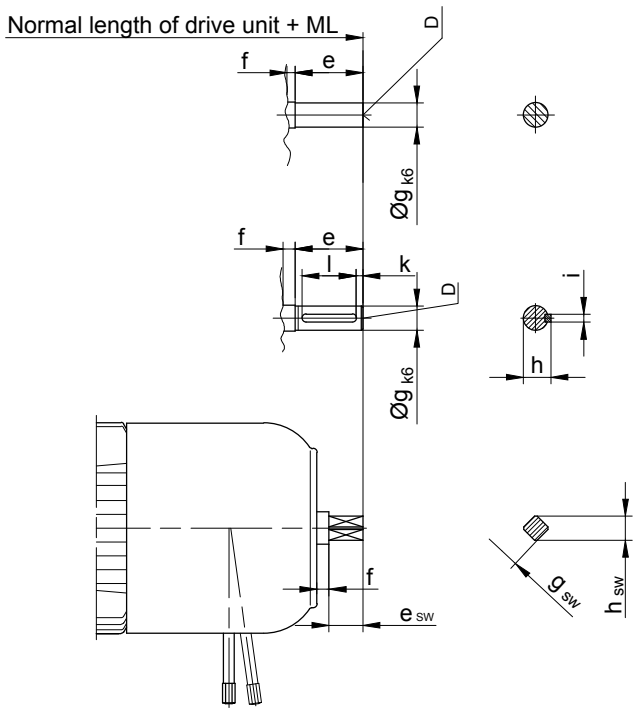
Motor with second shaft end



Motor	ML(mm) Add. length with second shaft extension	Dimensions (mm)						Center
		a	b	c	d	e	f	DIN 332
S..08	45	40	30	5	16 k6	5	18	D 5
S..09	55	50	40	5	20 k6	6	22.5	D 5
S..11	65	60	50	5	25 k6	8	28	D 8

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Motors with brake and second shaft end



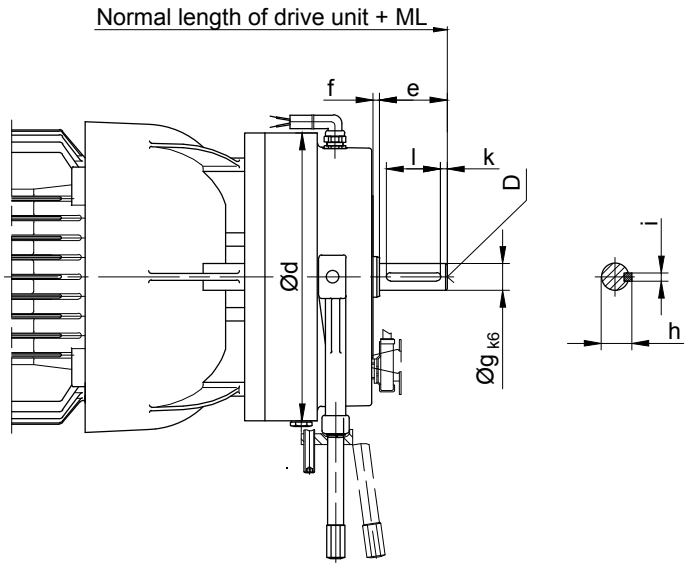
Motor	Brake	Additional length		Dimensions (mm)											Center D DIN332	
		ML	ML_{SW}	e	e_{SW}	f	g	g_{SW}	h	h_{SW}	i	k	l			SW
S..08	ES(X)..	121	96 *	50	25*	5	18	SW14*	20.5	18*	6	5	40		D6	D4*
S..09		98	123 *													
S..11		153.5*	128	50*	25		20*	SW14	22.5*	18	6 *		40*		D6*	D4

* Special design

** with manual release

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

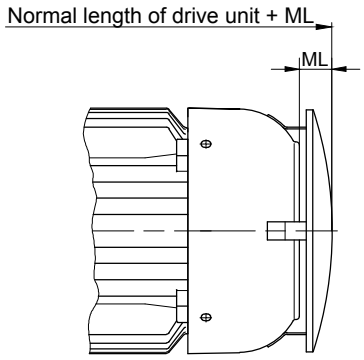
Motor with “heavy duty“ brake and second shaft end

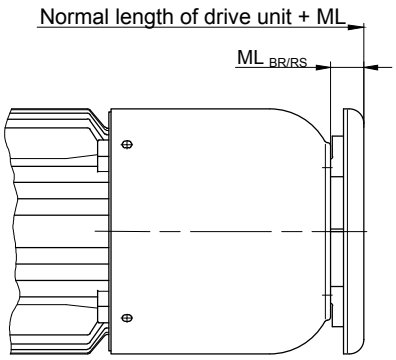


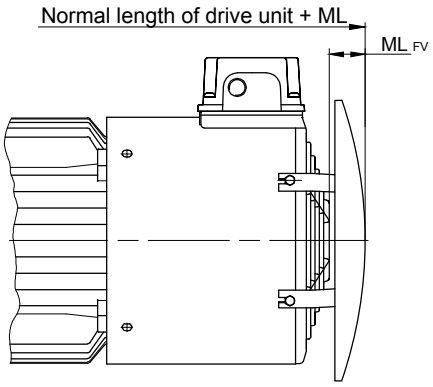
Motor	Brake	ML(mm) Additional length with brake and encoder	Dimensions (mm)								Centring D 332	Add. weight
			Ød	e	f	g	h	i	k	k		kg
S..08	EH(X)027	132	145	50	4	18	20.5	6	5	6	D06	6
S..09	EH(X)040	144	168		5							9
S..11	EH(X)125	169	213			20	22.5					20

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Motor with protective hood



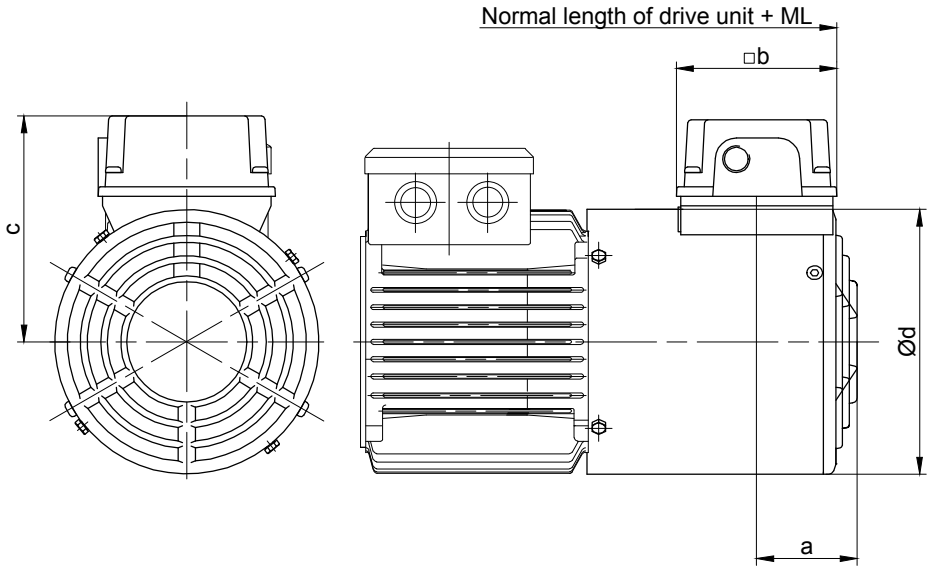




Motor	ML(mm) Add. length with attached protective cover			Add. weight
	ML	ML_{BR}	ML_{FV}	kg
S..08	14.5	24.5	40	0.20
S..09	22	24.5	30	0.30
S..11	29	29.5	33	0.40

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

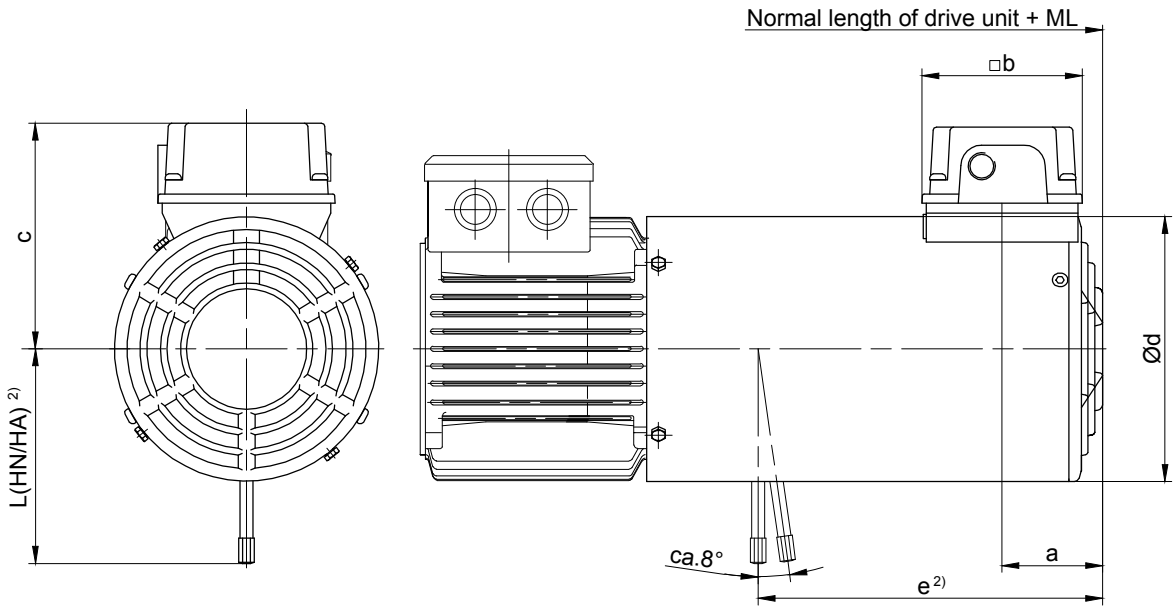
Motor with independent fan



Drive Motor	Fan Motor			400 V	ML (mm) Additional length forced vent.	Dimensions (mm)				Add. weight
Type	Type	kW	r/min	A		a	b	c	d	~ kg
S..08	FV D08	0.019	2670	0.029	92	69.5	95	131.5	157	2.2
S..09	FV D09	0.046	2820	0.106	97	69.5	95	141.5	176	2.7
S..11	FV D11	0.051	2660	0.110	97	79.5	95	162.5	219	3.2

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Motor with brake and independent fan



Motor	Brake	ML (mm) 1) Additional length with attached brake and forced ventilation	Dimensions (mm)						Add. weight
			a	b	c	Ød	e 2)	L(HN/HA) 2)	~kg
S..08	ES(X)010	202	59	95	131.5	157	204	132	5.0
S..09	ES(X)010	214	69.5	95	141.5	176	220	132	5.5
	ES(X)027						212	162	7.5
S..11✳	ES(X)027	221	69.5	95	162.5	219	226	162	8.0
	ES(X)040						223	172	10
	ES(X)070						218	184	12

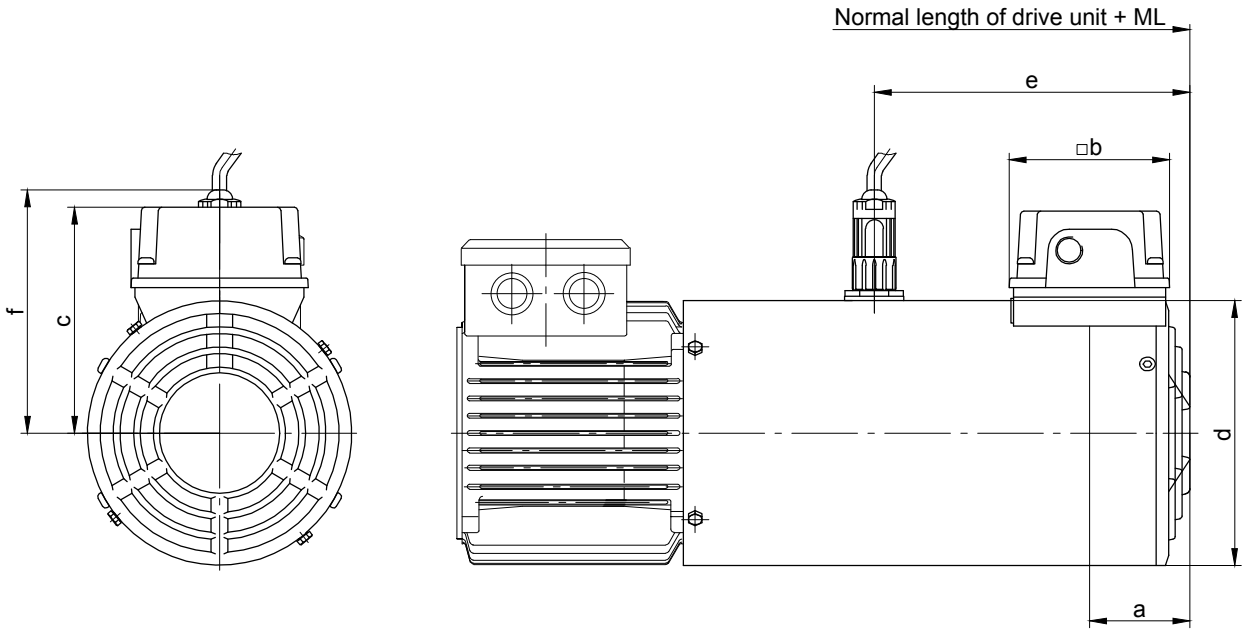
✳ bayonet joint

1) The additional length is for normal motor unit without brake.
Other dimensions see the appropriate normal dimensioned sketch

2) Brake release on request

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Motor with encoder with built-on independent fan



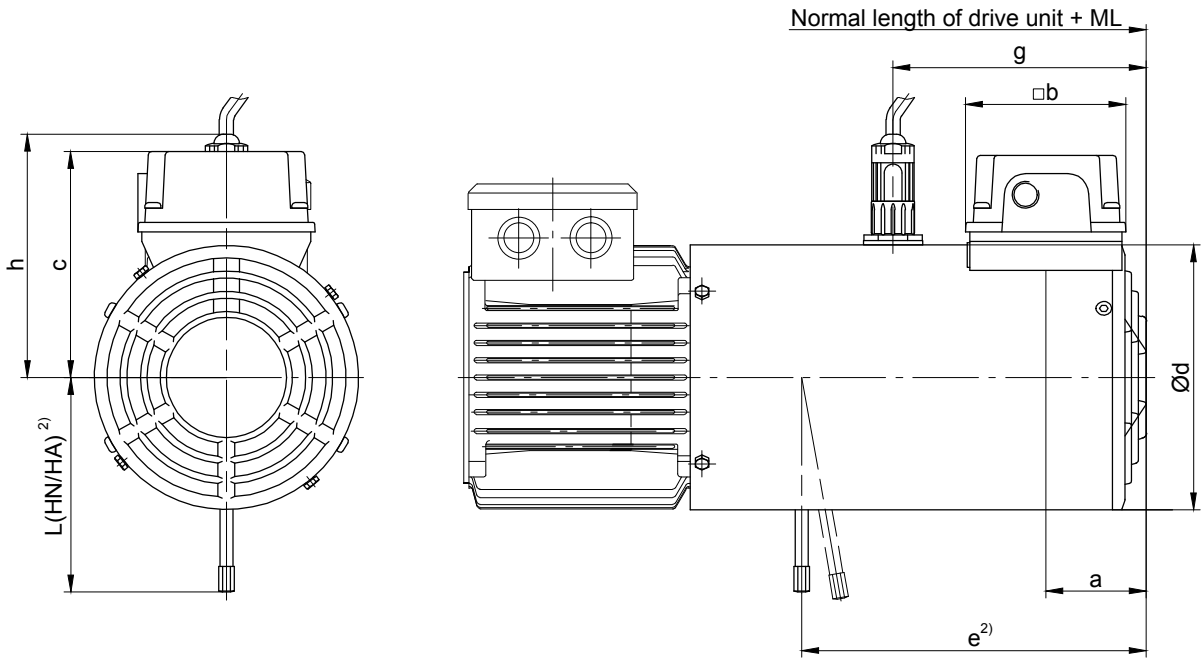
Motor	ML(mm)[1] Additional length with attached encoder and forced ventilation	Dimensions (mm)						Add. weight
		a	b	c	d	e	f	~ kg
S..08	202	59	95	131.5	157	187	144	2.6
S..09	214	69.5	95	141.5	176	192	153.5	3.3
S..11✳	221	69.5	95	162.5	218	192	-	4.0

✳ with bayonet joint

1) The additional length is for normal motor unit without brake.
Other dimensions see the appropriate normal dimensioned sketch

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Motor with brake and encoder with built-on independent fan



Motor	Brake	ML (mm)[1] Additional length with attached brake, encoder and forced ventilation	Dimensions (mm)								Add. weight
			a	b	c	Ød	e[2]	g	h	L(HN/HA)[2]	~ kg
S..08	ES(X)010	202	59	95	131.5	157	204	150	150	132	6.0
S..09	ES(X)010	214	69.5	95	141.5	176	220	160	160	132	6.5
	ES(X)027						212	160		162	8.5
S..11✳	ES(X)027	221	69.5	95	162.5	219	226	155	155	162	9.0
	ES(X)040						223	155		172	11.5
	ES(X)070						218	155		184	13.5

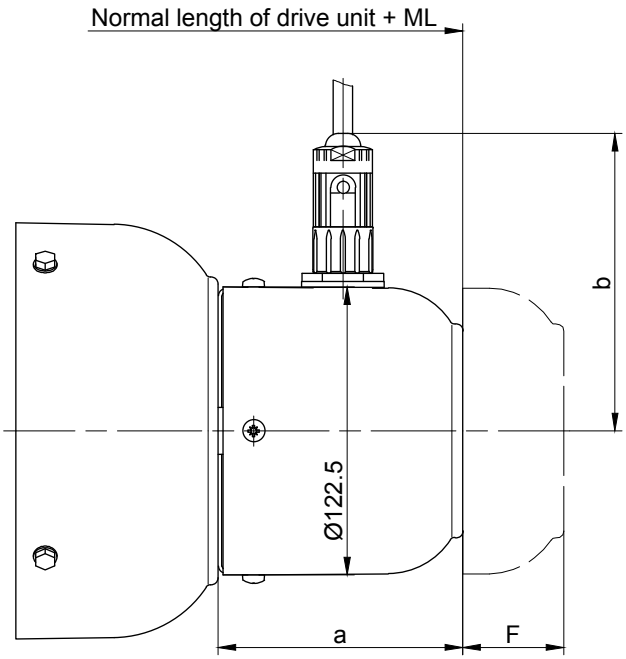
bayonet joint

1) The additional length is for normal motor unit without brake.
Other dimensions see the appropriate normal dimensioned sketch

2) Brake release on request

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Motor with encoder

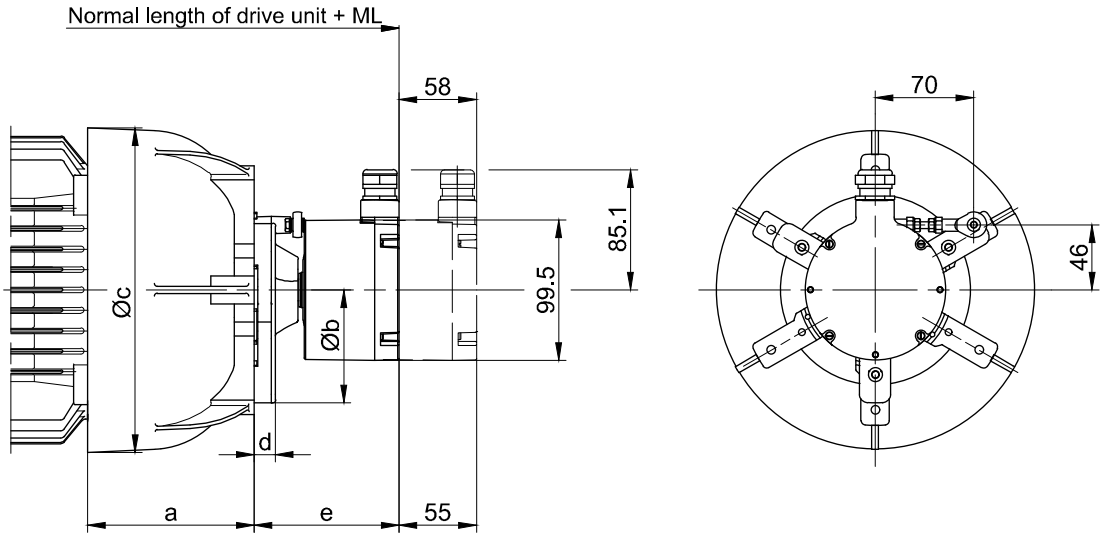


S..08-S..11

Motor	ML(mm) Additional length with encoder	Dimensions (mm)				Add. weight	Free space for removing encoder "F"	
		Fa. Kübler Typ 5820		Fa. TR Typ CS58-M			Fa. Kübler Typ 5820	Fa. TR Typ CS58-M
		a	b	a	b	kg		
S..08	107	107.5	127	107.5	127	0.9	41	66
S..09		104		104		0.8	43	68
S..11								

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

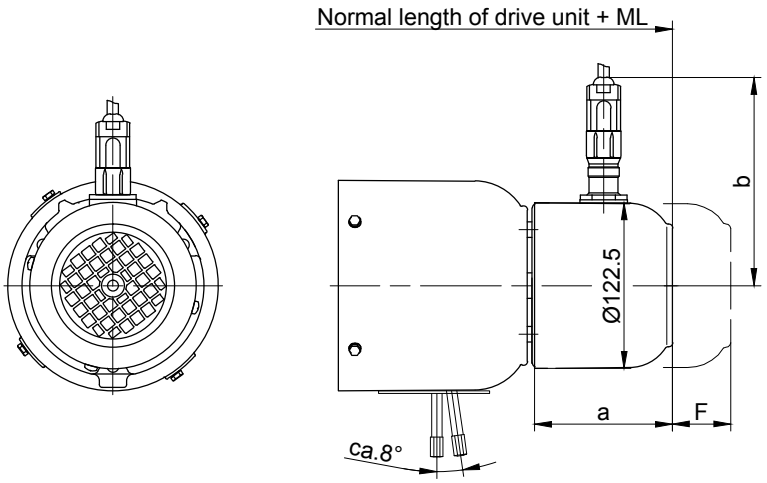
Motor with “heavy duty“ encoder



Motor	ML(mm) Additional length with encoder	Dimensions (mm)					Add. weight
		a	b	c	d	e	kg
S..08	114	83.5	160	166	15	102.5	2
S..09	118.5	102		191			
S..11	121.5	120		231			5.4

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Motor with brake and encoder

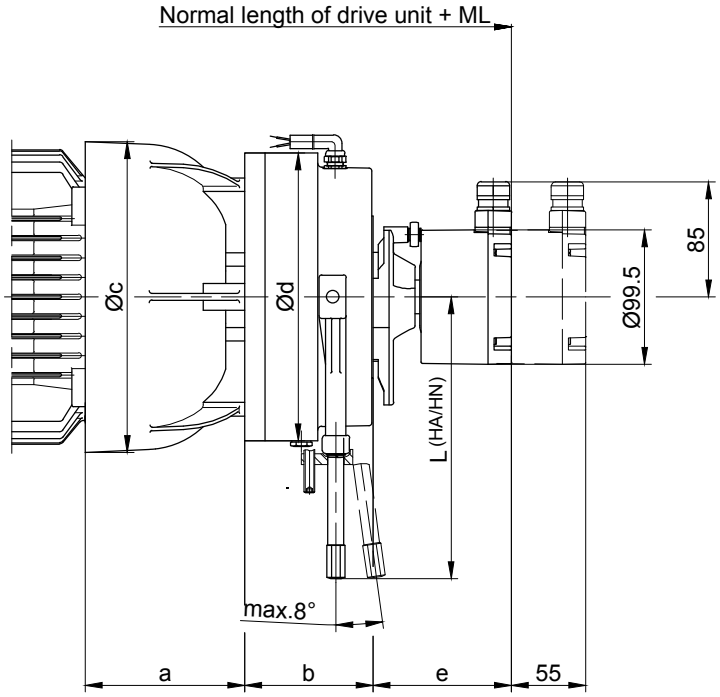


S..08-S..11

Motor	Brake	ML(mm) Additional length with brake and encoder	Dimensions (mm) incremental encoder Fa. Kübler Typ 5820 a	b	absolute encoder Fa. TR Typ CS58-M a	b	Add. weight kg	Free space for removing encoder "F" incremental encoder Fa. Kübler Typ 5820	absolute encoder Fa. TR Typ CS58-M
S..08	ES(X)..	173.5	102	127	102	127	0.8	49	74
S..09	ES(X)..	197							
S..11	ES(X)..	200							

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

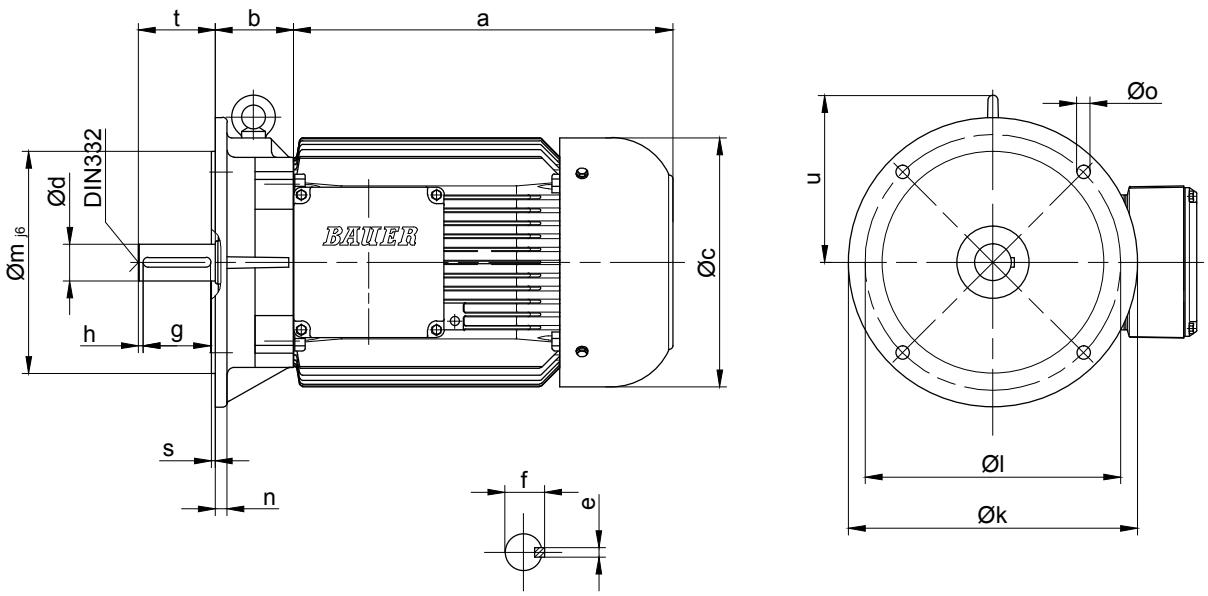
Motor with “heavy duty“ brake and encoder



Motor	Brake	ML(mm) Additional length with brake and encoder	Dimensions (mm)						Add. weight
			a	b	c	Ød	e	L (HA/HN)	kg
S..08	EH(X)027	180.5	83.5	66.5	166	145	102.5	162	7.1
S..09	EH(X)040	191.5	102	73	191	168		172	10
S..11	EH(X)125	216.5	120	95	231	213		208.5	21.4

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Motor in IEC design



Motor	Dimensions (mm)																Center
	a	b	c	d	e	f	g	h	k	l	m	n	o	s	t	u	DIN 332
S..08	200	49	156	19_{j6}	6	21.5	35	2.5	200	165	130	10	12	3.5	40	-	D4
S..09	251	66	176	24_{j6}	8	27	40	5	200	165	130	10	12	3.5	50	128.5	D6
S..11	319	75	218	28_{j6}	8	31	50	5	250	215	180	11	14.5	4	60	145.5	D8

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

17



Page

Address 453-468

International Organisation
Bauer Gear Centre Germany
Service Partner Companies Germany
Service Stations Germany

	Bauer Gear Motor GmbH	Eberhard-Bauer-Strasse 36-60 73734 Esslingen	Postfach 10 02 08 73726 Esslingen	Phone Fax	+711 3518 0 +711 3518 381	info@bauergears.com www.bauergears.com
Algeria	Bauer Gear Motor GmbH	7, Av. Roger Hennequin 78193 Trappes (France)	B.P. 58	Phone Fax	+33 (1) 30625000 +33 (1) 30625126	www.bauergears.com
Angola	Bauer a Division of Hudaco Trading (Pty) Ltd.	72 Acacia Road 1401 Primrose Johannesburg	P.O. Box 19007	Phone Fax	+27 (11) 8289715 +27 (11) 8224135	johnB@gbauer.co.za
Argentina	Equitecnica S.A.	Sanchez De Loria 1852/54 C 1241 ACI Buenos Aires		Phone Fax	+54 (11) 49124590 +54 (11) 49127028	drivers@equitecnica.com. arventas@equitecnica.com.ar www.equitecnica.com.ar
Armenia	CEFIP - Makina & Endüstriyel Ürünler San. ve Dis Tic. Ltd. Sti.	Perpa Ticaret Merkezi A Blok Kat: 2 No: 9-0033 34384 Okmeydani - Istanbul		Phone Fax	+90 (212) 2101890 +90 (212) 2101597	cefip@cefip.com.tr www.cefip.com.tr
Australia	Transmission Australia Pty Ltd	22 Corporate Ave VIC 3178 Rowville	P.O. Box 2334	Phone Fax	+61 (3) 97554444 +61 (3) 97554411	info@transaus.com.aubrendan. prestt@transaus.com.au www.transaus.com.au
Austria	BIS Chemserv GmbH	Haimingerst. 1 D-84489 Burghausen		Phone Fax	+49 (867) 7977507 +49 (867) 7977510	www.chemserv.at
Austria	BIS Chemserv GmbH	Bau 28 St. Peter-Str. 25 4021 Linz	Postfach 750	Phone Fax	+43 (732) 69172278 +43 (732) 69173322	service@chemserv.at www.chemserv.at
Austria	ESKO Elektro- maschinenbau GmbH	Ankerweg 8 8753 Fohnsdorf		Phone Fax	+43 (3573) 27570 +43 (3573) 27570-4	office@esko.at www.esko.at
Austria	Mangold Elektro- maschinen GmbH	Holzriedstr. 33 6960 Wolfurt		Phone Fax	+43 (5574) 64072-0 +43 (5574) 64072-9	info@mangoldgmbh.at www.mangoldgmbh.at
Belarus	Energopro	prospekt Nezavisimosti, 169 220114 Minsk		Phone Fax	+375 172181177	inverter@energopro.by
Belgium	Bauer Gear Motor Europe GmbH	p/a EEBIC bedrijvencentrum Joseph Wybranlaan 40 1070 Brussel (Anderlecht)		Phone Fax	+32 (2) 5295941 +32 (2) 5295944	Info.be@bauergears.com www.bauergears.com
Belgium	n.v. EMR s.a.	Voorhavenlaan 22b 9000 Gent		Phone Fax	+32 (9) 2515956 +32 (9) 2515891	emr@nvemr.be
Belize	Transmisiones LTDA. Cra. 69 B No. 21 A - 24	Parque Industrial Salitre 77158 Bogota Colombia		Phone Fax	+57 (1) 4126898 +57 (1) 2929737	carlospaz@transmisiones.de www.transmisiones.de
Bolivia	Transmisiones LTDA. Cra. 69 B No. 21 A - 24	Parque Industrial Salitre 77158 Bogota Colombia		Phone Fax	+57 (1) 4126898 +57 (1) 2929737	carlospaz@transmisiones.de www.transmisiones.de
Botswana	Bauer a Division of Hudaco Trading (Pty) Ltd.	72 Acacia Road 1401 Primrose Johannesburg	P.O. Box 19007	Phone Fax	+27 (11) 8289715 +27 (11) 8224135	johnB@gbauer.co.za
Brazil	MKN Acionamentos LTDA	Rua Marco Gagliano 264 Americanópolis 04412-120 São Paulo-SP		Phone Fax	+55 (11) 56215574 +55 (11) 56211406	mkn.aciona@terra.com.br mkn.aciona@uol.com.br
Bulgaria	NASA - D Ltd.	kv. Mladost IV bl.602, vh.1 (In front of Business Park Sofia) 1715 Sofia		Phone Fax	+359 (2) 9755065 +359 (2) 9755067	office@nasa-d.com www.nasa-d.com
Bulgaria	NASA - D Ltd.	12, Bitolya str. 9002 Varna		Phone Fax	+359 (52) 605995 +359 (52) 600498	varna@nasa-d.com www.nasa-d.com
Canada	Bauer MLD	4020B Sladeview Cres., Unit 5 Mississauga Ontario L5L 6B1		Phone Fax	+1 (905) 814 5152 +1 (905) 814 5153	bholland@bauermld.com www.bauermld.com
Chile	Jung y Cia LTDA	Huerfanos 757 Of 310 Casilla 14478 Santiago de Chile		Phone Fax	+5626383731	jung@jung.cl
China	Altra Industrial Motion (ShenZhen) Co., Ltd	Central International Trade Center, Suite No. 1802 Tower D, No. 6A Jianguomenwai Avenue, Chaoyang District 100022 Beijing		Phone Fax	+86 (10) 85679488 +86 (10) 85679058	yang.yang@bauergears.com.cn www.bauergears.com
China **Shanghai**	Altra Industial Motion (ShenZhen) Co., Ltd.	Suite 703, Universal Mansion 168 Yuyuan Road Shanghai, China - 200040		Phone Fax	+86 (21) 5169 9255 +86 (21) 6248 5387	yang.yang@bauergears.com.cn
China **Shanghai**	Shanghai Jinxin Inverter Company	No.248-5, Xinshi Road 200083 Shanghai		Phone Fax	+86 (21) 65618877 +86 (21) 65600454	www.sinodrive.com

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Colombia	Transmisiones LTDA.	Cra. 69 B No. 21 A-24 Parque Industrial 77158 Bogota		Phone Fax	+57 (1) 4126898 +57 (1) 2929737	aguerrero@transmisiones.de www.transmisiones.de
Congo	Bauer a Division of Hudaco Trading (Pty) Ltd.	72 Acacia Road 1401 Primrose Johannesburg	P.O. Box 19007	Phone Fax	+27 (11) 8289715 +27 (11) 8224135	johnB@gbauer.co.za
Costa Rica	Transmisiones LTDA	Cra. 69 B No. 21 A - 24 Parque Industrial Salitre 77158 Bogota (Colombia)		Phone Fax	+57 (1) 4126898 +57 (1) 2929737	carlospaz@transmisiones.de www.transmisiones.de
Croatia	Pogonska Tehnika d.o.o.	Horvatocac 94 1000 Zagreb		Phone Fax	+385 1 46 80 174 +385 1 46 80 271	pogonska.tehnika@zg.t-com.hr
Cuba	Transmisiones LTDA	Cra. 69 B No. 21 A - 24 Parque Industrial Salitre 77158 Bogota (Colombia)		Phone Fax	+57 (1) 4126898 +57 (1) 2929737	carlospaz@transmisiones.de www.transmisiones.de
Cyprus	Drivetech e.p.e.	Chrysostomou Smyrnis 124 18345 Moschato (Greece)		Phone Fax	+30 (210) 7233318 +30 (210) 7233357	info@drivetech.gr www.drivetech.gr
Czech Republic	Jan Komárek-HMF	Sturova 15 415 02 Teplice		Phone Fax	+420 (417) 564456 +420 (417) 565688	tomas.abraham@navijama-hmf.cz www.navijarna-hmf.cz
Czech Republic	IHR Technika s.r.o.	Boleslavská 902 29306 Kosmonosy		Phone Fax	+420 (326) 722716 +420 (326) 320119	Bauer@ihr-tech.cz www.ihr-tech.cz
Czech Republic	Huber CS s.r.o.	Cihlarska 19 602 00 Brno		Phone Fax	+420 541215635 +420 541216835	doskocil@hubercs.cz www.hubercs.cz
Denmark	Eegholm A/S	Grundtvigs allé 165-169 (Main office) Jyllandsgade 30, Hal 2 (Stock) 6400 Sönderborg		Phone Fax	+45 (73) 121212 +45 (73) 121213	eegholm@eegholm.dk www.eegholm.dk
Dominican Republic	Transmisiones LTDA.	Cra. 69 B No. 21 A - 24 Parque Industrial Salitre 77158 Bogota (Colombia)		Phone Fax	+57 (1) 4126898 +57 (1) 2929737	carlospaz@transmisiones.de www.transmisiones.de
Ecuador	Maquinarias Henriques	Via a Daule KM 6.5 Guayaquil		Phone Fax	+59 (34) 254300 +59 (34) 254939	controles@maquinarias-henriques.com www.maquinarias-henriques.com
Egypt	Universal Est.		P.O. 101-Zamalek Cairo (Egypt)	Phone Fax	+20 (2) 33813696 +20 (2) 33813699	m.zohni@uni-est.com
Estonia	LAAGRI- JA TIHENDIKESKUS OÜ	Laki 17 12915 Tallinn		Phone Fax	+372 653 01 65	laager@laager.ee
Finland	Bauer Gear Motor Finland Oy Ab	Äyritie 22 01510 Vantaa		Phone Fax	+358 (207)189700 +358 (207) 189701	info.fi@bauergears.com www.bauergears.com
Finland	Sähkö-Team Oy	Pulttitie 10 00880 Helsinki		Phone Fax	+358 (207) 862330 +358 (207) 862339	janne.karjalainen@bauergears.com korjaamo@sahko-team.fi www.sahko-team.fi
Finland	Tornion Sähköpojat Oy	Raidekatu 29 95420 Tornio		Phone Fax	+358 (400) 222401 +358 (16) 446853	janne.karjalainen@bauergears.com markku.rantapaa@sahkopojat.fi www.sahkopojat.fi
France	Bauer Gear Motor Europe GmbH	Succursale France Hall C 46, avenue des Frères Lumière 78190 Trappes		Phone Fax	+33 (1) 30137371 +33 (1) 30132088	info.fr@bauergears.com www.fr.bauergears.com
France	Petit	Zone industrielle de Bruèges Nord 310 Avenue Monge 30100 Ales (Sud-Est)		Phone Fax	+33 (466) 306822 +33 (466) 305985	oliver.lionel@etspetit.com www.moteur-pompe.com
France	Secco	161 Avenue Roger Salengro 69120 Vaulx en-Velin (Rhone-Alpes)		Phone Fax	+33 (47) 2375131 +33 (47) 8269904	secco@wanadoo.fr
France	Avenel	1, rue Lucien Fromage BP 1 76160 Darnetal (Nord- Quest/Normandie)		Phone Fax	+33 (23) 5085353 +33 (23) 5085608	info@avenel.fr www.avenel.fr
France	Diceep	17-19 Route National 54 280 Nancy-Laneuvelotte (Nord-Est)		Phone Fax	+33 (3) 83290343 +33 (3) 83214613	diceep@diceep.fr
French Guiana	Transmisiones LTDA.	Cra. 69 B No. 21 A - 24 Parque Industrial Salitre 77158 Bogota (Colombia)		Phone Fax	+57 (1) 4126898 +57 (1) 2929737	carlospaz@transmisiones.de www.transmisiones.de

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Georgia	CEFIP - Makina & Endüstriyel	Ürünler San. ve Dis Tic. Ltd. Sti. Perpa Ticaret Merkezi A Blok Kat: 2 No: 9-0033 34384 Okmeydani - Istanbul		Phone Fax	+90 (212) 2101890 +90 (212) 2101597	cefip@cefip.com.tr www.cefip.com.tr
Germany	Bauer Gear Motor GmbH	Eberhard-Bauer-Strasse 36-60 73734 Esslingen	Postfach 10 02 08 73726 Esslingen	Phone Fax	+49 (711) 35180 +49 (711) 3518381	info.de@bauergears.com www.bauergears.com
Greece	Drivetech e.p.e.	Chrysostomou Smyrnis 124 18345 Moschato		Phone Fax	+30 (210) 723 3318 +30 (210) 723 3357	info@drivetech.gr www.drivetech.gr
Guatemala	Juan Niemann & Cia. Ltda.	Apartado Postal 290 C/Mariscal Cruz, C.A. Guatemala Ciudad, C.A.		Phone Fax	+502 (331) 5454 +502 (334) 7453	jcniemann@jcniemann.com www.jcniemann.com/ motorreductores
Guyana	Transmisiones LTDA.	Cra. 69 B No. 21 A - 24 Parque Industrial Salitre 77158 Bogota (Colombia)		Phone Fax	+57 (1) 4126898 +57 (1) 2929737	carlospaz@transmisiones.de www.transmisiones.de
Haiti	Transmisiones LTDA.	Cra. 69 B No. 21 A - 24 Parque Industrial Salitre 77158 Bogota (Colombia)		Phone Fax	+57 (1) 4126898 +57 (1) 2929737	carlospaz@transmisiones.de www.transmisiones.de
Honduras	Transmisiones LTDA.	Cra. 69 B No. 21 A - 24 Parque Industrial Salitre 77158 Bogota (Colombia)		Phone Fax	+57 (1) 4126898 +57 (1) 2929737	carlospaz@transmisiones.de www.transmisiones.de
Hong Kong	A-CALL Company	Flat 8A, 8th Foor Wing Cheong Idustrial Building 109 How Ming Street		Phone Fax	+852 27 93 02 50 +852 27 93 06 20	kent@a-call.com.hk www.a-call.com.hk
Hungary	BC Ongroelektro. Kft.	Bolyai tér 1. 3702 Kazincgarcika (East Hungary)		Phone Fax	+36 (48) 511186 +36 (48) 712771	toth.tibor@borsodchem.hu
Hungary	Schoch Hungaria Ltd.	Industrial Site, Gyari Street 1 3580 Tiszaujvaros	P.O. box 85	Phone Fax	+36 (49) 440877 +36 (49) 440877	info@schochhungaria.hu www.schochhungaria.hu
India	International Combustion (India) Ltd.	Infinity Benchmark, 11th Floor, Plot-G1, Block - EP & GP, Salt Lake Electronics Complex, Kolkata - 700 091.		Phone Fax	+91 (33) 33153000 +91 (33) 23576653	info@internationalcombustion.in
Indonesia	PT. Cahaya Mekar Sejati	Jl. Agung Utara Raya Blok A36 D/ 46 Jakarta 14350		Phone Fax	+62 (21) 6401803 +62 (21) 64715082	cahkarti@cbn.net.id cahkarti@cbn.net.id www.bauergearmotor.com
Iran	Tak Yab Asia Inc.	No. 8, 16th St. Ghandi St. Teheran	P.O. 16765-3168	Phone Fax	+98 (21) 8798287 +98 (21) 8795544	info@takyab.de
Israel	I. Ettner - Representations Ltd.	17, Mazal Dli St. Hod Hasharon 45309 Tel-Aviv 69086		Phone Fax	+972 0 9 745 35 52 +972 0 9 745 25 54	israel@ettner.co.il
Italy	Bauer Gear Motor Europe GmbH	Via Kennedy 43 36040 Grisignano di Zocco (VI)		Phone Fax	+39 (0444) 41 43 92 +39 (0444) 41 43 84	bauer.it@bauergears.com www.bauergears.com
Italy	Bauer Gear Motor Europe GmbH	Via Fratelli Bandiera 48 20099 Sesto San Giovanni		Phone Fax	+39 (02) 24839719	bauer.it@bauergears.com www. it.bauergears.com
Italy	Ma.In s.n.c.	Via Pola, 8 10135 Torino		Phone Fax	+39 (011) 347 33 25 +39 (011) 391 33 56	dibello.e@ma-in.com www.ma-in.com
Italy	Elettromeccanica Volta Srl	Via Leucaspide, 10240 74010 Statte TA		Phone Fax	+39 099 474 02 64 +39 099 474 02 64	www.elettromeccanicavolta.it
Italy	Reima Sud	Via Naz. le delle Puglie Contrada Salice, 11 80021 Afragola (Napoli)		Phone Fax	+39 (081) 851 23 82 +39 (081) 851 00 66	giacomo.mennitto@reimasud.it
Japan	Leybold Co., Ltd.	5th Floor, Tokyo Tatemono Bldg. 1-9-9, Yaesu 1-Chome, Chuo-Ku 103-0028 Tokyo		Phone Fax	+81 (3) 32721861 +81 (3) 32814490	koki@leybold-kk.com
Jordan	Universal Est.		P.O. 101-Zamalek Cairo (Egypt)	Phone Fax	+20 (2) 33813696 +20 (2) 33813699	m.zohni@uni-est.com
Kazakhstan	Silumin-Vostok	Revolucionnaya st., 10 070010 Ust-Kamenogorsk		Phone Fax	+7 (7232) 558982 +7 (7232) 552058	info@silumin.kz
Kenya	Bauer a Division of Hudaco Trading (Pty) Ltd.	72 Acacia Road 1401 Primrose Johannesburg	P.O. Box 19007	Phone Fax	+27 (11) 8289715 +27 (11) 8224135	johnB@gbauer.co.za

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Korea	Chemiko Trading Co. Ltd.	Chung Rok Bldg, 43, Teheran-ro 38-gil, Gangnam-gu, Seoul		Phone Fax	+82 (2) 5675336 +82 (2) 5541284	chemiko@chol.com www.chemiko.net
Korea	Chemiko Trading Co. Ltd.	Rm 1612, Namwoon Officetel, 229-10, Mooguh-Dong Nam-Gu Ulsan		Phone Fax	+82 (52) 2772107 +82 (52) 2472195	chemiko@choillian.net www.chemiko.net
Latvia	SIA Generis	Skanstes 13 LV1013 Riga		Phone Fax	+371 67 80 50 76 +371 67 80 50 93	info@vlt.lvandris@generis.lv www.generis.lv
Lebanon	Universal Est.		P.O. 101-Zamalek Cairo (Egypt)	Phone Fax	+20 (2) 33813696 +20 (2) 33813699	m.zohni@uni-est.com
Lesotho	Bauer a Division of Hudaco Trading (Pty) Ltd.	72 Acacia Road 1401 Primrose Johannesburg	P.O. Box 19007	Phone Fax	+27 (11) 8289715 +27 (11) 8224135	johnB@gbauer.co.za
Libya	Universal Est.		P.O. 101-Zamalek Cairo (Egypt)	Phone Fax	+20 (2) 33813696 +20 (2) 33813699	m.zohni@uni-est.com
Lithuania	Dotronika UAB	Smolensko 6 03201 Vilnius		Phone Fax	+370 52 10 57 42 +370 52 05 19 67	dainius@dotronika.lt
Luxembourg	Bauer Gear Motor Europe GmbH Branch office Belgium	p/a EEBIC bedrijvencentrum Joseph Wybranlaan 40 1070 Brussel (Anderlecht)		Phone Fax	+32 (2) 5295942 +32 (2) 5295944	info.be@bauergears.com www. be.bauergears.com
Malawi	Bauer a Division of Hudaco Trading (Pty) Ltd.	72 Acacia Road 1401 Primrose Johannesburg	P.O. Box 19007	Phone Fax	+27 (11) 8289715 +27 (11) 8224135	johnB@gbauer.co.za
Malaysia	Greenvi Technologies (M) Sdn Bhd Industial Automation	No.64-02, Jalan Molek 2/2 Taman Molek 81100 Johor Bahru Johor		Phone Fax	+60 (7) 3543006 +60 (7) 3542006	bpchin@greenvitech.com www.greenvi-tech.com
Malaysia	AVM Diesel (F.E.) PTE Gear Centre Southeast	AVM Diesel (F.E.) PTE Ltd.Gear Centre Southeast Asia 638993 Singapore		Phone Fax	+65 68636933 +65 68636900	sales@avmdiesel.com www.avmdiesel.com
Mexico	OPEASA-ZUGASTEK	BLVD. HNOS. SERDAN # 45 PH COL. AMOR 72170 PUEBLA, PUE MEXICO		Phone Fax	+52 (222) 4036242	info@zugastek.com www.zugastek.com
Montenegro	Indas Industry Assistance d.o.o.	Heroja Pinkija 95 YU-21000 Novi Sad		Phone Fax	+381 21 480 48 00 +381 21 480 48 08	office@indas.rs
Morocco	Bauer Gear Motor GmbH	7, Av. Roger Hennequin 78193 Trappes (France)	B.P. 58	Phone Fax	+33 (1) 30625000 +33 (1) 30625126	www.bauergears.com
Mozambique	Bauer a Division of Hudaco Trading (Pty) Ltd.	72 Acacia Road 1401 Primrose Johannesburg	P.O. Box 19007	Phone Fax	+27 (11) 8289715 +27 (11) 8224135	johnB@gbauer.co.za
Namibia	Bauer a Division of Hudaco Trading (Pty) Ltd.	72 Acacia Road 1401 Primrose Johannesburg	P.O. Box 19007	Phone Fax	+27 (11) 8289715 +27 (11) 8224135	johnB@gbauer.co.za
Netherland	Bauer Gear Motor Europe GmbH	p/a EEBIC bedrijvencentrum Joseph Wybranlaan 40 1070 Brussel (Anderlecht)		Phone Fax	+32 (2) 5295942 +32 475322847	Info.be@bauergears.com www.bauergears.com
Netherland	De Bruyn B.V. Power Repairs	Van Konijnenburgweg 105 4612 PL Bergen op Zoom		Phone Fax	+31 (164) 234302 +31 (164) 255140	repair@de-bruyn.nl www.de-bruyn.nl
Netherland	Gekas & Boot Zaanstad b.v.	Grote Tocht 25 1507 CG Zaandam		Phone Fax	+31 (75) 6701901 +31 (75) 6165162	zaanstad@gekasenboot.nl www.gekasenboot.nl
Netherland	Gekas & Boot Noord b.v.	Holepolder 1 9902 SM Appingedam		Phone Fax	+31 (50) 3187374 +31 (50) 3187337	groningen@gekasenboot.nl www.gekasenboot.nl
Netherland	Gekas & Boot Zuid b.v.	Pannenweg 208 6031 RK Nederweert		Phone Fax	+31 (495) 634141 +31 (495) 632703	nederweert@gekasenboot.nl www.gekasenboot.nl
Netherland	Gekas & Boot Noord b.v.	Osnabrückstraat 22 7418 BN Deventer		Phone Fax	+31 (570) 608766 +31 (570) 620961	deventer@gekasenboot.nl www.gekasenboot.nl
Netherland	Gekas & Boot Noord b.v.	Nijverheidscentrum 36 2761 JP Zevenhuizen		Phone Fax	+31 (180) 633488 +31 (180) 633562	zevenhuizen@gekasenboot.nl www.gekasenboot.nl
Netherland	Cincotech B.V.	Weg en Bos 33b 2661 DL Bergschenkoek		Phone Fax	31 (10) 2262613 31 (10) 2262452	info@cincotech.nl www.cincotech.nl
Netherland	Cincotech B.V. Oost	Elfuursweg 3a 7213 EK Gorssel		Phone Fax	+31 (575) 471551 +31 (575) 471552	oost@cincotech.nl www.cincotech.nl
Norway	Bauer Gearmotorer AS	Vestvollveien 10 2019 Skedsmokorset	Postboks 221 2021 Skedsmokorset	Phone Fax	+47 (63) 875950	bauergear@bauergear.no www.bauergear.no

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Oman	Universal Est.		P.O. 101-Zamalek Cairo (Egypt)	Phone Fax	+20 (2) 33813696 +20 (2) 33813699	m.zohni@uni-est.com
Panama	Transmisiones LTDA.	Cra. 69 B No. 21 A - 24 Parque Industrial Salitre 77158 Bogota (Colombia)		Phone Fax	+57 (1) 4126898 +57 (1) 2929737	carlospaz@transmisiones.de www.transmisiones.de
Paraguay	Transmisiones LTDA.	Cra. 69 B No. 21 A - 24 Parque Industrial Salitre 77158 Bogota (Colombia)		Phone Fax	+57 (1) 4126898 +57 (1) 2929737	carlospaz@transmisiones.de www.transmisiones.de
Peru	Transmisiones & Servicios S.A.C.	Alcanfores 981. of 601. 18 Miraflores - Lima		Phone Fax	+51 (1) 242 0862 +51 (1) 242 086221	info@transmisiones.pe www.transmisiones.pe
Philippines	Optima Equipment Corporation	Unit 503 I-Care Building 167 Legazpi St. Corner Dela Rosa St. 1229 Legazpi Village, Makati City		Phone Fax	+63 (2) 5147971 +63 (2) 8936768	vandel@optima-equipment.com
Poland	Steinlen Polska Sp. z o.o.	ul. W. Grabskiego 4/8 63-500 Ostrzeszów		Phone Fax	+48 (62) 7322352 +48 (62) 7322351	biuro@steinlenpolska.pl www.steinlenpolska.pl
Portugal	TEM S.L. Bauer Gear Center for Spain and Portugal Transmisiones Electromecánicas, S.L.	Pol. Industrial Les Comes Calle Italia 11 Nave 9 08700 Igualada (Barcelona)		Phone Fax	+34 (93) 8056021 +34 (93) 8056022	info@tem-sl.com www.bauergears.com
Qatar	Transmisiones LTDA.	Cra. 69 B No. 21 A - 24 Parque Industrial Salitre 77158 Bogota (Colombia)		Phone Fax	+57 (1) 4126898 +57 (1) 2929737	carlospaz@transmisiones.de www.transmisiones.de
Russia	Altra Industrial Motion OOO	Leshkovo, 217 Pavlovskaya Sloboda Istra Area 143581 Moscow region		Phone Fax	+7 (495) 6420468 +7 (495) 6420469	info.ru@bauergears.com www.ru.bauergears.com
Russia	NPF Inger	423800 Naberezhnye Chelny, BSI		Phone Fax	+7 8552778300	info@inger.ru
Russia	SP Reduktor	Perovskoe st, 21 Moscow		Phone Fax	+7 (495) 2585460 +7 (495) 2585460	derevitskiy a@privod.ru
Russia	Uraltehmarket	Serafima Deryabninoy st., 24 20149 Ekaterinburg		Phone Fax	+7 (343) 3805141 +7 (343) 3805141	info@uraltm.ru www.uraltm.ru
Russia	Privod+	16th Parkovaya st, 30 105484 Moscow		Phone Fax	+7 495 9885773 +7 495 9885774	info@privodplus.ru www.privodplus.ru
Russia	Tet-RS	Borisa Bogatkova st., 63 630008 Novosibirsk		Phone Fax	+7 (383) 2135521 +7 (383) 2663326	koroleva@tet-rs.ru www.tet-rs.ru
Russia	Epos Plus	Turgenevskaya st., 72 344002 Rostov-na-Donu		Phone Fax	+7 (863) 2623570 +7 (863) 2623570	ermakova@epos-plus.ru www.epos-plus.ru
Russia	Privod Service	Nikitina st., 20 634062 Tomsk		Phone Fax	+7 (3822) 535347 +7 (3822) 535347	privodservice@bk.ru www.ps.tomsk.ru
Russia	S-Tek	Karl Marks st, 29a 443082 Samara		Phone Fax	+7 (846) 2790479 +7 (846) 2790479	s-tec@s-tec.ru www.s-tec.ru
Russia	Stek-Master	Kosmonavtov st. 39 B 420061 Kazan		Phone Fax	+7 (843) 2796468 +7 (843) 2796468	master@stekmaster.ru www.stekmaster.ru
Russia	Pribor-Service	Uchebnaya st, 90 644010 Omsk		Phone Fax	+7 (3812) 534598 +7 (3812) 534598	info@pribor-servis.ru www.pribor-servis.ru
Russia	Uralteplopribor	Elkina st., 14 455016 Magnitogorsk		Phone Fax	+7 (3519) 489633 +7 (3519) 489633	smv_utp@mail.ru
Saudi Arabia	Universal Est.		P.O. 101-Zamalek Cairo (Egypt)	Phone Fax	+20 (2) 33813696 +20 (2) 33813699	m.zohni@uni-est.com
Senegal	Bauer Gear Motor GmbH	7, Av. Roger Hennequin 78193 Trappes (France)	B.P. 58	Phone Fax	+33 (1) 30625000 +33 (1) 30625126	www.bauergears.com
Serbia & Montenegro	Indas Industry Assistance d.o.o.	Heroja Pinkija 95 YU-21000 Novi Sad		Phone Fax	+381 (21) 4804800 +381 (21) 4804808	office@indas.rs www.indas.rs
Singapore	AVM Diesel (F. E.) PTE	BLK 27 TUAS AVE 13 #01-23 Singapore 638993		Phone Fax	+65 68636933 +65 68636900	sales@avmdiesel.com www.avmdiesel.com
Slovakia	Bauer Gear Motor s.r.o	Tovarenská 49 953 36 Zlate Moravce		Phone Fax	+421 (37) 6926158 +421 (37) 6926181	bauer.sk@bauergears.com www.sk.bauergears.com
Slovakia	Transmisie Engineering a.s.	P. Mudrona 10 03601 Martin		Phone Fax	+421 (43) 4133157 +421 (43) 4223818	dps@transmisie.sk www.transmisie.sk
Slovenia	TALER ING d.o.o.	Jelovška cesta 43A 4264 Bohinjska Bistrica		Phone Fax	+386 (4) 5747128 +386 (4) 5747129	info@talering.si www.taler-ing.si

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Suriname	Transmisiones LTDA.	Cra. 69 B No. 21 A - 24 Parque Industrial Salitre 77158 Bogota Colombia		Phone Fax	+57 (1) 4126898 +57 (1) 2929737	carlospaz@transmisiones.de www.transmisiones.de
Swaziland	Bauer a Division of Hudaco Trading (Pty) Ltd.	72 Acacia Road 1401 Primrose Johannesburg	P.O. Box 19007	Phone Fax	+27 (11) 8289715 +27 (11) 8224135	johnB@gbauer.co.za
Sweden	Bauer Gearmotorer AB	Årjängsvägen 4 66693 Gustavsfors		Phone Fax	+46 (531) 20050 +46 (531) 20040	postmaster@bauergear.net
Sweden	AB Carl A. Nilssons Elektriska Reparationsverkstad	Industrigatan 60 25229 Helsingborg		Phone Fax	+46 (421) 80085 +46 (421) 36592	info@carlanilsson.se www.carlanilsson.se
Switzerland	Meier + Co AG Integrale Antriebstechnik	Oltnerstrasse 92 5013 Niedergösgen		Phone Fax	+41 (62) 8586700 +41 (62) 8586711	info@meico.ch www.meico.ch
Switzerland	Electro Müller AG	Bözingenstrasse 37 2500 Biel		Phone Fax	+41 (32) 3441010 +41 (32) 3441019	info@electromueller.ch www.electro-mueller.ch
Taiwan	Saturn Power Ltd.	9F, No. 69-5, Sec. 2 Chung Cheng E. Rd. Tanshui District 105 New Taipei City		Phone Fax	+886 (2) 28095890 +886 (2) 28096770	service@saturnpowerltd.com sales@saturnpowerltd.com www.saturnpowerltd.com
Tanzania	Bauer a Division of Hudaco Trading (Pty) Ltd.	72 Acacia Road 1401 Primrose Johannesburg	P.O. Box 19007	Phone Fax	+27 (11) 8289715 +27 (11) 8224135	johnB@gbauer.co.za
Thailand	Kasetphand Industry Co.,LTD	100 M. 3 SOI Suksawad 76 Suksawad rd. Bangjark, Phrapradaeng 10130 Samutprakarn		Phone Fax	+66 28 17 64 10 +66 28 17 64 37	sakchai_engineer@hotmail.com www.ksp.co.th
Tunisia	Bauer Gear Motor GmbH	7, Av. Roger Hennequin 78193 Trappes (France)	B.P. 58	Phone Fax	+33 (1) 30625000 +33 (1) 30625126	www.bauergears.com
Turkey	CEFIP - Makina & Endüstriyel	Ürünler San.ve Dis Tic. Ltd. Sti. Perpa Ticaret Merkezi A Blok Kat: 2 No: 9-0033 34384 Okmeydani - Istanbul		Phone Fax	+90 (212) 2101890 +90 (212) 2101597	cefip@cefip.com.tr www.cefip.com.tr
Turkey	Senka Enerji Sanayi ve Ticaret Ltd Sti	Kara Hasan Atli Is Merkezi Sok. No: 1203/11 Kat.: 4/419 Yenisehir / Izmir		Phone Fax	+90 (232) 4695555 +90 (232) 4334371	senka@senka.org
Ukraine	Altra Industrial Motion Ukraine TOV	8 Dubinina str., BC "Boston", office 11 49000 Dnipropetrovsk		Phone Fax	+38 (056) 3774084	Andriy.Balanyuk@bauergears.com www.bauergears.com
Ukraine	AIDAR	Ilicha avenue 46 83003 Donetsk		Phone Fax	+38 (062) 3455511 +38 (062) 3452606	sa@aidar.in.ua www.aidar.com.ua
Ukraine	Pryvid Plus LLC	Krasnopolskaya str. 9, of.434 49000 Dnepropetrovsk		Phone Fax	+38 (056) 7637701	ot@privod-plus.com.ua www.privod-plus.com.ua
Ukraine	CHP Rychko	Artelnaya str, 10 49081 Dnepropetrovsk		Phone Fax	+38 (067) 5654420	seg_64@ua.fm
Ukraine	Comfort Group	Bykova str., 16 50036 Krivoy Rog		Phone Fax	+38 (050) 3218998	dir@komfortgroup.com.ua www.comfortgroup.com.ua
Ukraine	Leko Trade	Akademicheskaya str, 6/1 83037 Donetsk		Phone Fax	+38 (062) 633905	leko_trade@bk.ru timoshenko@leko.dn.ua www.leko.dn.ua
Ukraine	Service - Avtomatika	Peremogi st, 56 04080 Kiev		Phone Fax	+38 (044) 3325423 +38 (044) 2230913	serv-avtomatika@ukr.net www.s-a.org.ua
Ukraine	ZEVS	Elektrikov str. 26 04040 Kiev		Phone Fax	+38 (044) 4980782	yarik100@gmail.com www.z-e-v-s.com.ua
Ukraine	Fedama	Dragomannova str., 48 79005 Lvov		Phone Fax	+38 (032) 2445560	fedama@lviv.farlep.net
Ukraine	Nadezhda	Lenina st, 47 61103 Kharkov		Phone Fax	+38 (057) 7177698	nadezhda@ilt.kharkov.ua
Ukraine	Comfort Company	N.Grinchenko str., 4 03038 Kyiv		Phone Fax	+38 (044) 3623676 +38 (044) 3623686	info@comfort-co.com www.comfort-co.com
United Arab Emirates	Dubai Drydocks Afloat Repair Division		P.O. BOX 8988 Dubai	Phone Fax	+97 143451353 +97 143450116	drydocks@drydocks.gov.ae www.drydocks.gov.ae
United Arab Emirates	Universal Est.		P.O. 101-Zamalek Cairo (Egypt)	Phone Fax	+20 (2) 33813696 +20 (2) 33813699	m.zohni@uni-est.com
United Kingdom	Bauer Gear Motor Limited	Unit 1 Nat Lane Business Park Winsford, Cheshire CW7 3BS		Phone Fax	+44 (1606) 868600 +44 (1606) 868603	info.uk@bauergears.com www.bauergears.com

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Uruguay	Tradinter S.R.L	Pereira de la luz 1327 11300 Montevideo		Phone Fax	+598 (2) 6221130 +598 (2) 6284691	
USA	Bauer Gear Motor LLC.	31, Schoolhouse Rd. Somerset, N.J. 08873-1212		Phone Fax	+1 (732) 4698770 +1 (732) 4698773	bauer.us@bauergears.com hotline.us@bauergears.com www.us.bauergears.com
USA	Gatterdam Electric	114 N. 30th Street KY 40212 Louisville		Phone Fax	+1 (502) 7763937 +1 (502) 7769929	info@gatterdam.com www.gatterdam.com
USA	Edwin L. Heim Company	1918 Greenwood Street 17104 Harrisburg		Phone Fax	+1 (717) 2338711 +1 (717) 2338840	heimservice@elheim.com www.elheim.com
Venezuela	EMOTEC S. A.,	Calle Johann Schafer, Edif.FHT, Piso 1, Oficina 1, Urb. Buena Vista, Caracas-Venezuela Urb. Sabana Grande Caracas		Phone Fax	+58 (212) 2715261 +58 (212) 2711838	ventas@emotecsa.com www.emotecsa.com
Vietnam	GNN CO., LTD	33 Hoa hong2, W.2 Phu Nhuan District		Phone Fax	+84 (8) 35174923 +84 (8) 35174924	 www.gnnvietnam.com
Zambia	Bauer a Division of Hudaco Trading (Pty) Ltd.	72 Acacia Road 1401 Primrose Johannesburg	P.O. Box 19007	Phone Fax	+27 (11) 8289715 +27 (11) 8224135	johnB@gbauer.co.za
Zimbabwe	Bauer a Division of Hudaco Trading (Pty) Ltd.	72 Acacia Road 1401 Primrose Johannesburg	P.O. Box 19007	Phone Fax	+27 (11) 8289715 +27 (11) 8224135	johnB@gbauer.co.za

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

30938	Burgwedel	Ehlbeek 21	**Steinlen Elektromaschinenbau GmbH**	Phone Fax	05139-8070-0 05139-8070-60	info@steinlen.de www.steinlen.de
40223	Düsseldorf	Martinstraße 38-42	**Scheib Elektrotechnik GmbH**	Phone Fax	0211-90148-10 0211-90148-11	info@scheib-gmbh.de www.scheib-gmbh.de
67065	Ludwigshafen	August-Heller-Straße 3	**Klebs + Hartmann GmbH & Co. KG**	Phone Fax	0621-57900-0 0621-57900-24	 www.klebs-hartmann.de
72631	Aichtal	Gutenbergstraße 5	**elektrotechnik + automation Ulrich Brodbeck GmbH**	Phone Fax	07127-9583-0 07127-9583-25	info@elektrotechnik-automation.de www.elektrotechnik-automation.de

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

08060	Zwickau	Herschelstraße 13	**Gützold Elektrotechnik GmbH**	Phone Fax	0375-20 40 55 0 0375-20 40 55 1	info@guetzold.com www.guetzold.com
48308	Senden/Westf.	Bahnhofstraße 81	**Th. Niehues GmbH**	Phone Fax	02536-990-01 02536-990-19	info@niehues.com www.niehues.com
49134	Wallenhorst	Otto-Lilienthal-Straße 1	**Elektro-Anlagen-Technik EAT GmbH**	Phone Fax	05407-81 68-0 05407-81 68-29	info@eatechnik.de www.eatechnik.de
49429	Visbek	Schneiderkruger Straße 12	**SCHULZ Systemtechnik GmbH**	Phone Fax	04445-897-0 04445-897-300	 www.schulz-systemtechnik.com
63069	Offenbach	Sprendlinger Landstraße 180	**Bühler & Sell Elektromotoren KG**	Phone Fax	069-42 30 76 069-42 30 78	 www.buehler-sell.de
76547	Sinzheim	Am Markbach 2	**Elektromaschinenbau Dipl.-Ing. Kögel & Ernst & Co. GmbH**	Phone Fax	07221-5095-0 07221-5095-27	info@koegel-ernst.de www.koegel-ernst.de
88046	Friedrichshafen	Lindauer Straße 116	**Mangold Elektromaschinen GmbH**	Phone Fax	07541-5006-0 07541-5006-30	info@mangold-fn.de www.mangold-fn.de
93354	Siegenburg	Gewerbegebiet Egelsee 15	**EMS-Elektromotoren GmbH**	Phone Fax	09444-976-0 09444-976-177	 www.ems-elektromotoren.de
94234	Viechtach	Prof. H.-Staudinger-Straße 4	**UAS Meßtechnik GmbH**	Phone Fax	09942-9486-0 09942-9486-10	info@uas.de www.uas.de
97076	Würzburg	Nürnberger Straße 109	**Beck Elektrotechnik GmbH**	Phone Fax	0931-2005-0 0931-2005-200	info@team-elektro-beck.de www.beck-elektrotechnik.de

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

01468	Moritzburg OT Boxdorf	Ringstraße 18	**Motoren Franke GmbH**	Phone Fax	0351-20768-0 0351-20768-29	www.motoren-franke.de
04249	Leipzig	Kunzestraße 20	**Polzin Elektromaschinenbau**	Phone Fax	0341-425 010 -7 0341-425 010 -8	www.polzin-elektromaschinenbau.de
08371	Glauchau	Auestraße 36	**Rülke GbR Jens & Uwe Rülke**	Phone Fax	03763-5089-0 03763-5632	www.ruelke-glauchau.de
22111	Hamburg	Am Schiffbeker Berg 18	**Steinlen Elektromaschinenbau GmbH**	Phone Fax	040-732-0307 040-732-2228	www.steinlen.de
24941	Flensburg	Graf Zeppelin Straße 5	**Wilhelm Kleeberg GmbH & Co.KG E-Motoren E-Werkzeuge**	Phone Fax	0461-93073 0461-95383	www.kleeberg-fl.de
26603	Aurich	Leerer Lanstraße 35-41	**Janssen Elektromaschinen GmbH**	Phone Fax	04941-174-257 04941-174-260	www.janssen-ema.de
27570	Bremerhaven	Mushardstraße 11	**Greif GmbH Elektrotechnik**	Phone Fax	0471-31997 0471-303694	www.greif-eletrotechnik.de
35463	Fernwald-Annerod	Industriestraße 5	**Elektro-Maschinen-Bau Bogner GmbH & Co. KG**	Phone Fax	0641-41023 0641-492840	www.elektromaschinenbau-bogner.de
39340	Haldensleben	Töberheide 10	**BÄR Elektromaschinen**	Phone Fax	03904- 6 56 69 03904-46 25 89	www.baer-ema.de
44147	Dortmund	Tankweg 27	**BOSS Elektromaschinen und Pumpentechnik GmbH**	Phone Fax	0231-98 20 22-0 0231-98 20 22-11	www.boss-elektromaschinen.de
49084	Osnabrück	Pferdestraße 24	**Sroczynski GmbH**	Phone Fax	0541-588-443 0541-588-609	www.sroczynski.de
53129	Bonn	Burbacher Straße 216	**Bauer Elektromotoren GmbH**	Phone Fax	0228-91785-0 0228-91785-16	info@bauerbonn.de www.bauerbonn.de
63071	Offenbach	Bieberer Straße 254	**Wilhelm Klörs Elektromaschinenbau KG**	Phone Fax	069-543369 069-543313	
64293	Darmstadt	Bunsenstraße 5-7	**Siebert Elektromaschinenbau GmbH**	Phone Fax	06151-824462 06151-895590	www.siebertgmbh.de
66133	Saarbrücken-Scheidt	Kaiserstraße 5	**Fuchs Elektromaschinenbau & Vertriebs GmbH**	Phone Fax	0681-814905 0681-813153	fuchsb@t-online.de
68642	Bürstadt	Lorscher Straße 10	**Brenner GmbH Elektrotechnik**	Phone Fax	06206-9806-0 06206-9806-16	info@brenner-gmbh.de www.brenner-gmbh.de
78532	Tuttlingen	Rudolf-Diesel-Straße 8/1	**Dent Elektromaschinen GmbH**	Phone Fax	07461-969 727-0 07461-969 727-19	www.dent-elektromaschinen.de
91207	Lauf a.d. Pegnitz	Simonshofer Straße 41	**Hans Mayer Elektrotechnik GmbH**	Phone Fax	09123-2041 09123-82661	info@hans-mayer-elektrotechnik.de www.hans-mayer-elektrotechnik.de
99734	Nordhausen	An der Helme 14	**Elektrowerk Nordhausen Dipl. Ing. Günter Francke - Elektromaschinenbau**	Phone Fax	03631-4795-0 03631-4795-20	info@elektrowerk-nordhausen.de www.elektrowerk-nordhausen.de

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

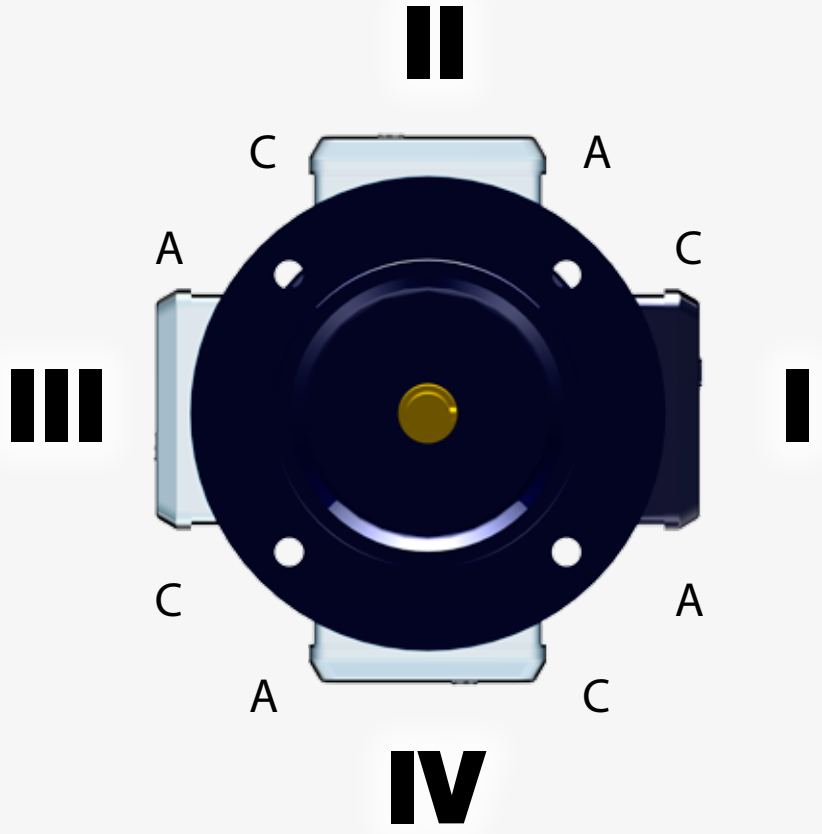
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

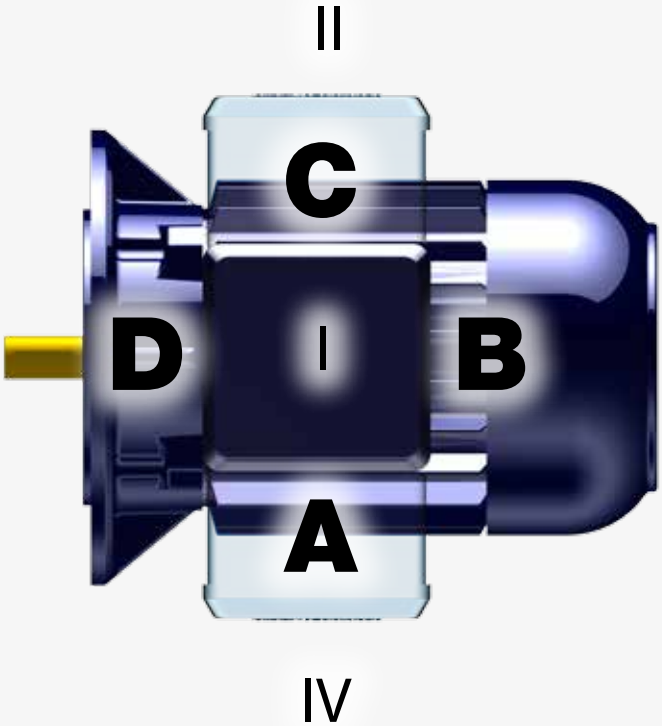
www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

Terminal Box Position



Cable entry Position

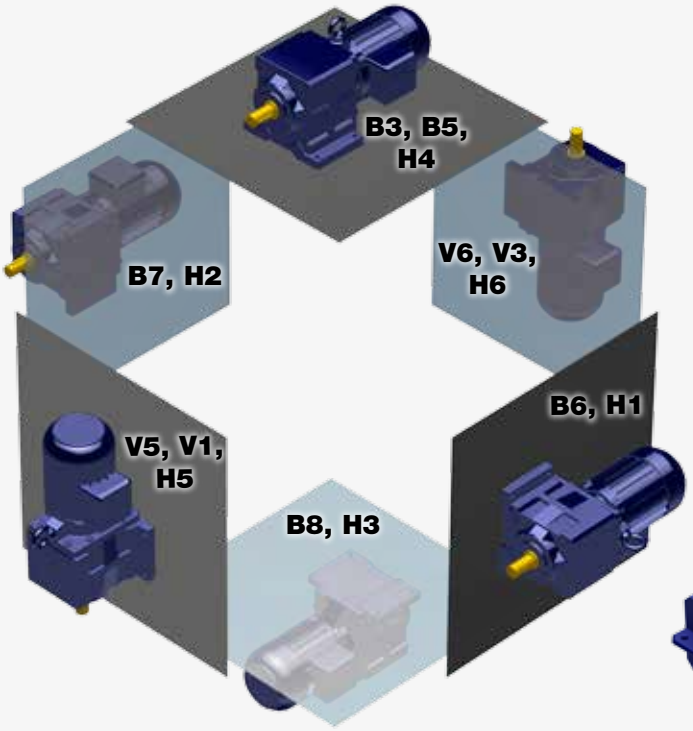


www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group

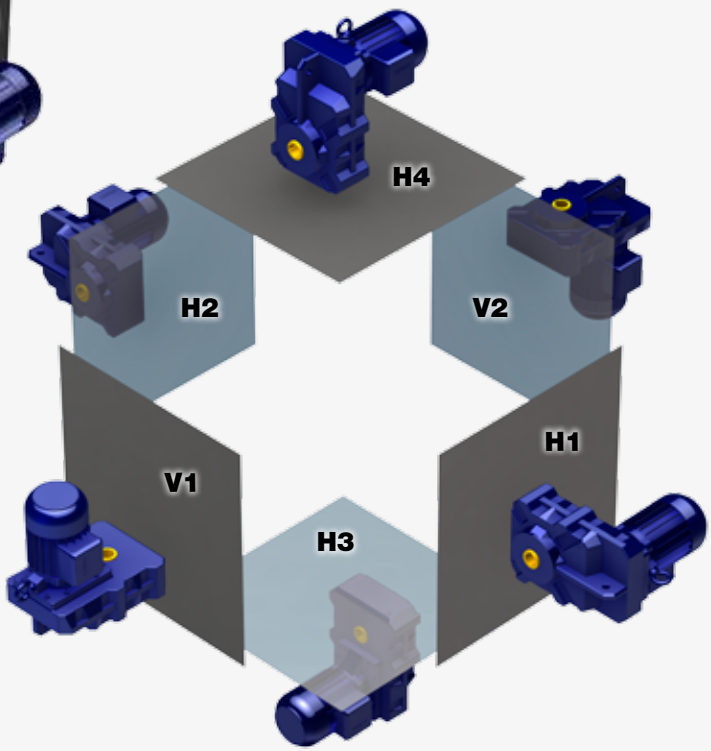
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱ - ۴۴۹۹۴۶۴۲

تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

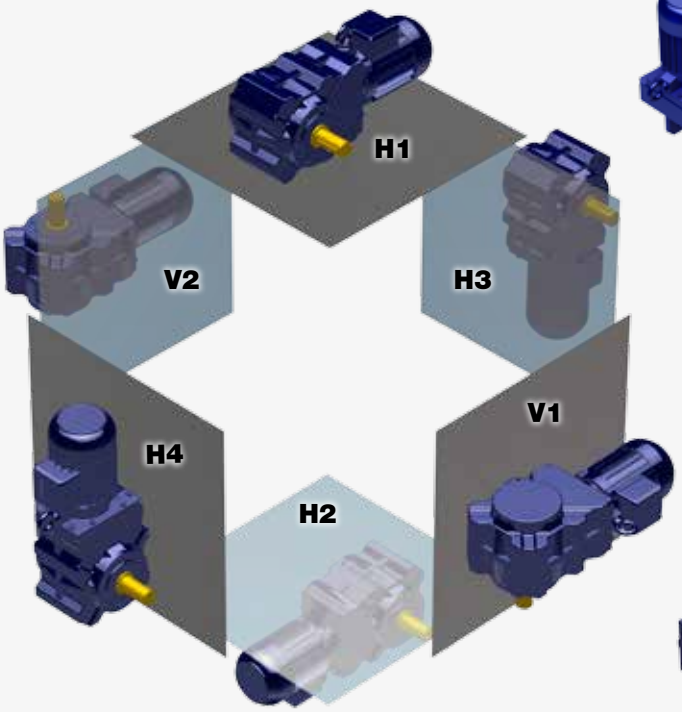
Mounting Positions



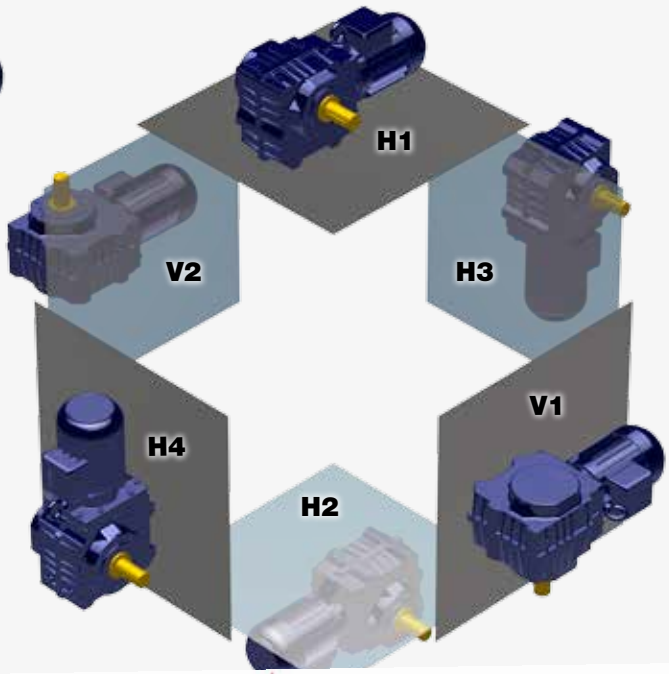
Helical Geared Motors



Parallel Shaft Geared Motors



Bevel Geared Motors



www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
۲۱ بزرگراه لشگری (جاده مخصوص کرج)
پشگاه نفت پارس، پلاک ۱۲

هایپرمکو

WORLD FIRST

Energy Efficient Drive Technology for Explosion Hazardous Areas

EU Regulation 640/2009/EC exempts motors for use in explosion hazardous areas from the minimum efficiency requirements for placing new products on the market, because explosion protection takes precedence over the energy savings that can be achieved with motors. This does not mean that there is no potential for energy savings with the electric motors used in the chemical industry.

This is why the VIK pamphlet „VIK Recommendation 1: Three-Phase Induction Motors – Technical Requirements“ recommends the use of efficiency class IE2 (High Efficiency) for motors with explosion protection types Ex d and Ex nA and efficiency class IE1 (Standard Efficiency) for motors with explosion protection type Ex e.

For many years, only encapsulated motors (type Ex d) could be used for variable speed operation in explosion hazardous areas. With the launch of motors with explosion protection type Ex e for use next to the inverter, customers now have a economical alternative to encapsulated motors when procuring motors for use in explosion hazardous areas.

Variable speed drives create opportunities for major energy savings. For applications in explosion hazardous areas as well as other areas, retrofitting frequency inverters in existing plants and achieving higher energy savings by using highly efficient motors are both attractive options.

Most currently available variable-speed three-phase induction motors with explosion protection type Ex e are only available in standard efficiency class IE1. This means that potential energy savings are only partially utilised.

For the **first time ever**, the S series of permanent magnet synchronous motors (PMSM) from **Bauer Gear Motor GmbH** offers variable-speed motors in **efficiency class IE4** for use in explosion hazardous areas. This is the highest energy efficiency that can be achieved with the current state of motor technology.

Bauer Gear Motor GmbH helps the chemical industry fully exploit potential energy savings with high efficiency IE4 motors, even at the highest level.

PMSM S-series in IE4 for explosion hazardous areas

Design torque M_N:

5 Nm – 48 Nm

Rated power P_N:

0,75 kW – 15 kW

Protection type: Increased Safety – Zone 1
II 2 G Ex e IIC T1 - T3 Gb

S.XE.08MA4
S.XE.08LA4
S.XE.09SA4
S.XE.09XA4
S.XE.11SA6
S.XE.11MA6
S.XE.11LA6

Dust explosion protection – Zone 21
II 2 D Ex tb IIIC T 160°C ... 120° Db

S.XC.08MA4
S.XC.08LA4
S.XC.09SA4
S.XC.09XA4
S.XC.11SA6
S.XC.11MA6
S.XC.11LA6

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
۲۱ بزرگراه لشگری (جاده مخصوص کرج)
پژوهشگاه نفت پارس، پلاک ۱۲

FAMCO
هایپرصنعت

Altra Industrial Motion

All Customer Service phone numbers shown in bold

Couplings

Ameridrives Couplings
Mill Spindles, Ameriflex,Ameridisc
Erie, PA - USA
1-814-480-5000

Gear Couplings
San Marcos, TX - USA
1-800-458-0887

Bibby Turboflex
Disc, Gear, Grid Couplings, Overload Clutches
Dewsbury, England
+44 (0) 1924 460801
Boksburg, South Africa
+27 11 918 4270

TB Wood's
Elastomeric Couplings
Chambersburg, PA - USA
1-888-829-6637– Press #5
For application assistance: 1-888-829-6637 – Press #7

General Purpose / Disc Couplings
San Marcos, TX - USA
1-888-449-9439

Ameridrives Power Transmission
Universal Joints, Drive Shafts, Mill Gear Couplings
Green Bay, WI - USA
1-920-593-2444

Huco Dynatork
Precision Couplings and Air Motors
Hertford, England
+44 (0) 1992 501900
Chambersburg, PA - USA
1-800-829-6637

Lamiflex Couplings
Flexible Couplings, Bearing Isolators, and Coupling Guards
São Paulo, SP - Brasil
(11) 5679-6533

Linear Products

Warner Linear
Linear Actuators
Belvidere, IL - USA
1-800-825-6544

For application assistance: 1-800-825-9050
St Barthelemy d'Anjou, France
+33 (0) 2 41 21 24 24

Electromagnetic Clutches and Brakes

Warner Electric
Electromagnetic Clutches and Brakes
New Hartford, CT - USA
1-800-825-6544

For application assistance: 1-800-825-9050
St Barthelemy d'Anjou, France
+33 (0) 2 41 21 24 24

Precision Electric Coils and Electromagnetic Clutches and Brakes
Columbia City, IN - USA
1-260-244-6183

Matrix International
Electromagnetic Clutches and Brakes, Pressure Operated Clutches and Brakes
Brechin, Scotland
+44 (0) 1356 602000
New Hartford, CT - USA
1-800-825-6544

Inertia Dynamics
Spring Set Brakes; Power On and Wrap Spring Clutch/Brakes
New Hartford, CT - USA
1-800-800-6445

Overrunning Clutches

Formsprag Clutch
Overrunning Clutches and Holdbacks
Warren, MI - USA
1-800-348-0881– Press #1
For application assistance: 1-800-348-0881 – Press #2

Marland Clutch
Roller Ramp and Sprag Type Overrunning Clutches and Backstops
South Beloit, IL - USA
1-800-216-3515

Stieber Clutch
Overrunning Clutches and Holdbacks
Heidelberg, Germany
+49 (0) 6221 30 47 0

Heavy Duty Clutches and Brakes

Wichita Clutch
Pneumatic Clutches and Brakes
Wichita Falls, TX - USA
1-800-964-3262
Bedford, England
+44 (0) 1234 350311

Twiflex Limited
Caliper Brakes and Thrusters
Twickenham, England
+44 (0) 20 8894 1161

Industrial Clutch
Pneumatic and Oil Immersed Clutches and Brakes
Waukesha, WI - USA
1-262-547-3357

Gearing

Boston Gear
Enclosed and Open Gearing, Electrical and Mechanical P.T. Components
Charlotte, NC - USA
1-800-825-6544

For application assistance: 1-800-816-5608

Bauer Gear Motor
Geared Motors
Esslingen, Germany
+49 (711) 3518-0

Nuttall Gear and Delroyd Worm Gear
Worm Gear and Helical Speed Reducers
Niagara Falls, NY - USA
1-716-298-4100

Belted Drives and Sheaves

TB Wood's
Belted Drives
Chambersburg, PA - USA
1-888-829-6637 – Press #5
For application assistance: 1-888-829-6637 – Press #7

Engineered Bearing Assemblies

Kilian Manufacturing
Engineered Bearing Assemblies
Syracuse, NY - USA
1-315-432-0700

Bauer Gear Motor

Bauer Gear Motor GmbH
Eberhard-Bauer-Strasse 36-60
73734 Esslingen - Germany
+49 711 3518 0
+49 711 3518 381 (Fax)

Bauer Gear Motor Slovakia s.r.o.
Tovarenská 49
953 01 Zlate Moravce - Slovakia
+421 37 6926100
+421 37 6926181 (Fax)

Bauer Gear Motor Limited
Nat Lane Business Park
Winsford, Cheshire
CW7 3BS - United Kingdom
+44 1606 868600
+44 1606 868603 (Fax)

Bauer Gear Motor LLC
31 Schoolhouse Rd.
Somerset NJ 08873-1212 - USA
+1 732 469 8770
+1 732 469 8773 (Fax)

Altra Industrial Motion (Shenzhen) Co., Ltd.
18 Huan Zhen Road Dabo
Industrial Zone - BoGoang Village
ShaJing Town - BaoAn District
Guangdong Province
518104 Shenzhen City - China
+86 755 27246308
+86 755 27246017 (Fax)

Altra Industrial Motion OOO
Volokolamskoye sh., 142, bldg 6
Business Center „Irbis"
125464 Moscow - Russia
+7 495 6420468
+7 495 6420469 (Fax)

Customer Centre Finland
01510 Vantaa
+358 207 189700

Customer Centre France-Benelux
Brussel (Anderlecht)
+32 2 5295941

Customer Centre Italy
Grisignano di Zocco (VI)
+39 0444 414392

Bauer assumes no liability or responsibility for misprints and errors in catalogues, brochures and other printed documentation. Bauer reserves the right to make changes to products without prior notice, including to products that have already been ordered, unless contractual technical specifications are affected by such changes.All trademarks in these publications are the sole and exclusive property of the relevant companies. Bauer and the Bauer logo are trademarks of Bauer Gear Motor GmbH. All rights reserved.

Bauer Gear Motor

www.bauergears.com

Eberhard Bauer Straße 36-60
73734 Esslingen - Germany
Tel: +49 711 3518-0
Fax: +49 711 3518-381

www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group
Tel:۰۲۱-۴۸۰۰۰۰۴۹
Fax:۰۲۱-۴۴۹۹۴۶۴۲
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲