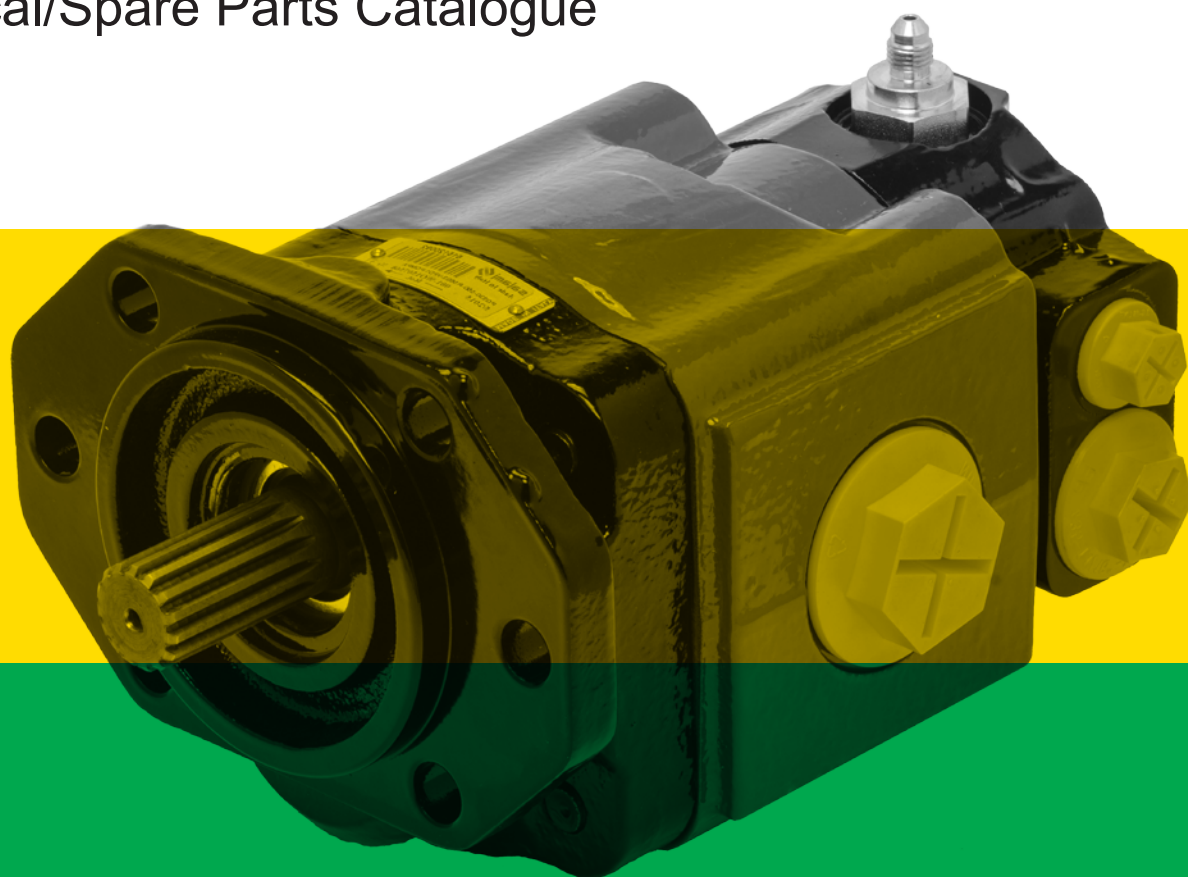


High Pressure Gear Pumps and Motors

Cast Iron Gear Housing

Technical/Spare Parts Catalogue

E0.100.0725.02.01IM03



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QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9001

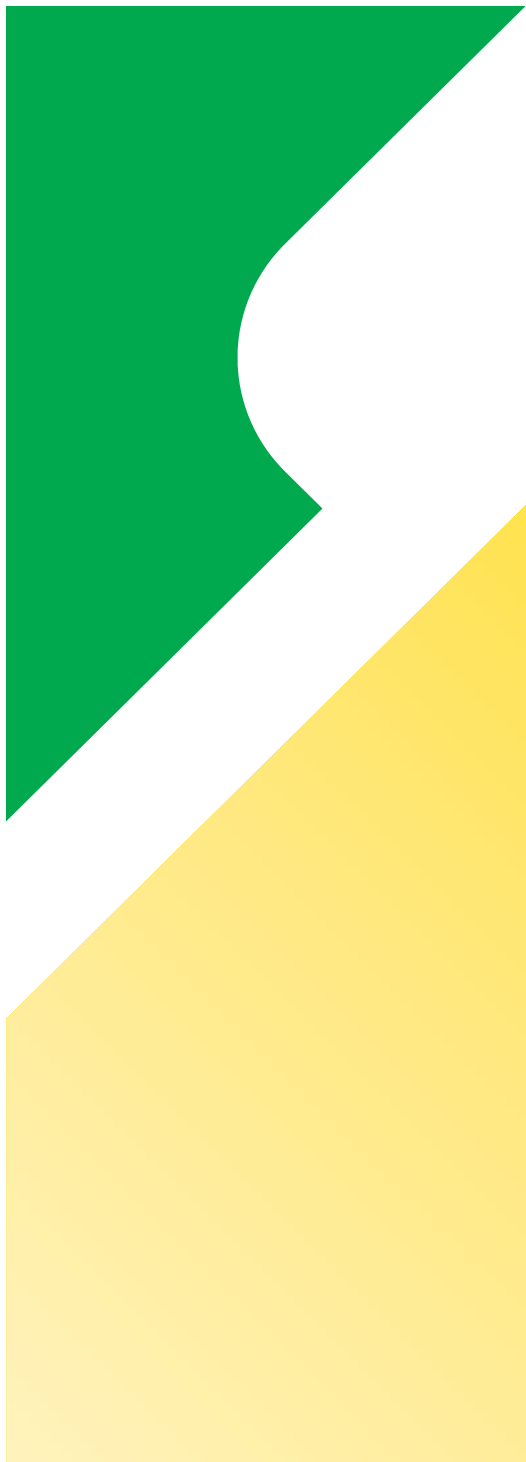


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FLUID POWER SYSTEMS

Final revised edition - July 2025

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Symbol Designation



INFORMATION:

Indicates reminders and communications to be taken into account for the correct configuration and mounting of the product.



CAUTION:

Indicates the recommendations and rules, to be observed before proceeding with the product's configuration.



REVIEW:

Indicates update or modify data.

High Pressure Gear Motors

Cast Iron body:
2MGE/MG330

Features

E0.100.0725.02.01IM03



2MGE and MG330 Features

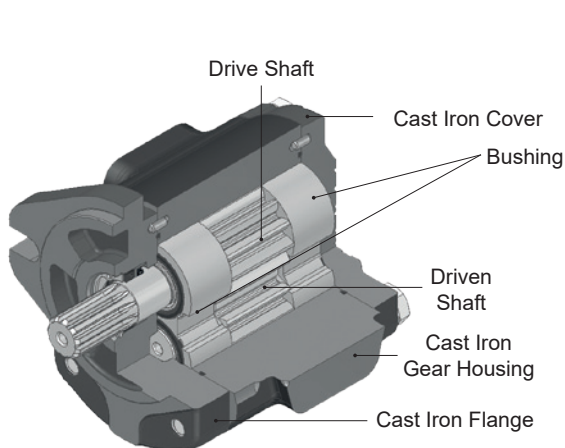
The MG330 and 2MGE Series Cast Iron Motors has been specifically designed for high flow applications, demanding peak performance and long life in extreme operating conditions. MG330 optimized for high volume and for OEM's customers. Displacements available:

2MGE: 6.5 cm³/rev to 26.7 cm³/rev (from 0.40 cu.in/rev to 1.63 cu.in/rev)

MG330: 23.4 cm³/rev to 73.4 cm³/rev (from 1.43 cu.in/rev to 4.48 cu.in/rev)

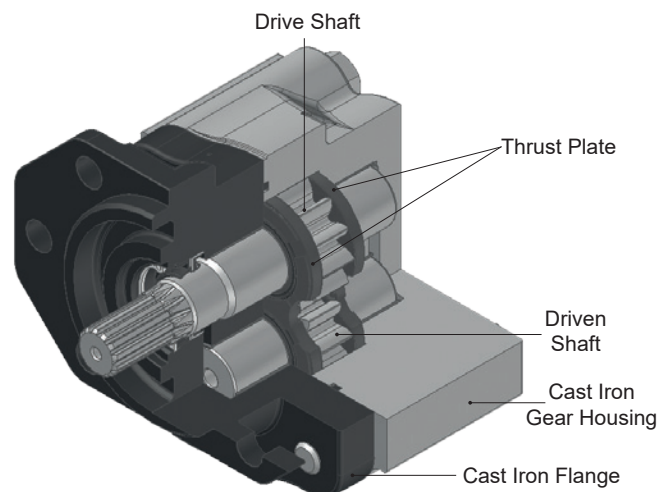
Several options of shafts, flanges and ports as for European, German and American standards are available for all the Motors.

- Rated pressure up to 250 bar (3625psi).
- Speed up to 4000 rpm.
- Available in uni and bi-directional version for all the frame sizes, displacements and configurations.
- High volumetric efficiency by innovative design and accurate control of machining tolerances.
- DU bearings to ensure high pressure capability.
- 12 teeth integral gear and shaft.
- Cast iron construction.
- Double shaft seals in all motor series, SBHP High Pressure Shaft Seals are employed in all the motors.
- Nitrile seals as standard and Viton seals in high temperature applications.
- Available with different valves and circuit configurations built-in rear cover.
- All Motors are hydraulically tested after assembly to ensure the highest standard performance.
- Typical applications: construction, agriculture, material handling, municipality vehicles, light duty equipment, aerial working platforms, hoists, fan drive.



2MGE

- Cast iron body, flange and cover.
- High resistance.
- Axial compensation achieved by the use of floating bushes that allow high volumetric efficiency throughout the working pressure range.
- Available with SAE 13T splined shaft that allow torque up to 200 Nm.
- Telltale leakage inspection hole on mounting flanges.

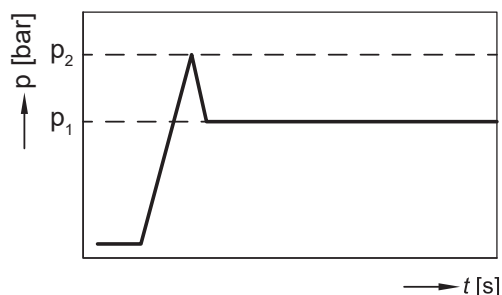


MG330

- Two pieces compact construction made with high strength cast iron. Cast iron offers thermal stability, contamination resistance and strength for consistent performance and durability in severe duty cycle applications.
- Advanced pressure-balanced thrust plates optimize volumetric efficiency across the range of operating speeds and pressures.
- Heavy duty low friction DU bushes provide long life in low viscosity and high pressure conditions.
- Compact design is ideal for fitting into narrow spaces.



Definition of Pressures



p_2 = starting pressure
(depending on the application, this must be taken into consideration when setting the pressure of the hydraulic system's pressure relief valve).

p_1 = max. continuous pressure

⚠ Radial And Axial Loads

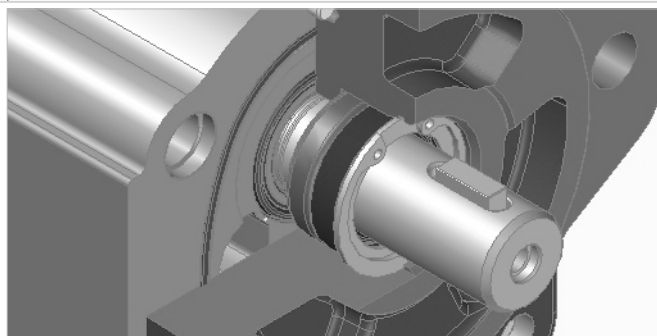
Radial and axial loads on the shafts must be avoided since they reduce the life of the unit. In order to avoid misalignment during the assembly with the primary engine, a connection with "Oldham" coupling (or coupling having convex toothed hub) is recommended.

⚠ Drain Line

Max pressure drain

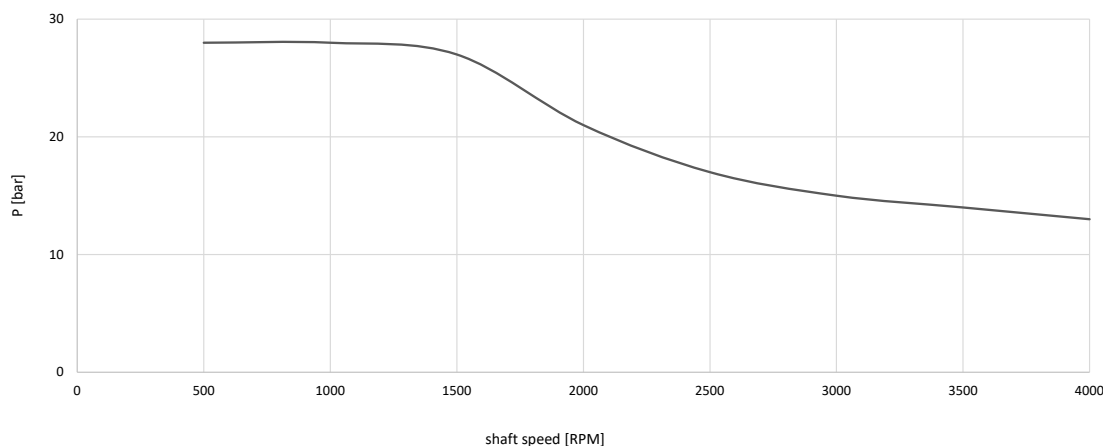
20 bar (290 psi)

The drain line from the motor must be directly connected to tank, in order to avoid pressure peaks that could damage the shaft seal. Avoid the use of long pipes, small diameter pipes, reducing fittings, tight bends.



Pressure/Shaft speed

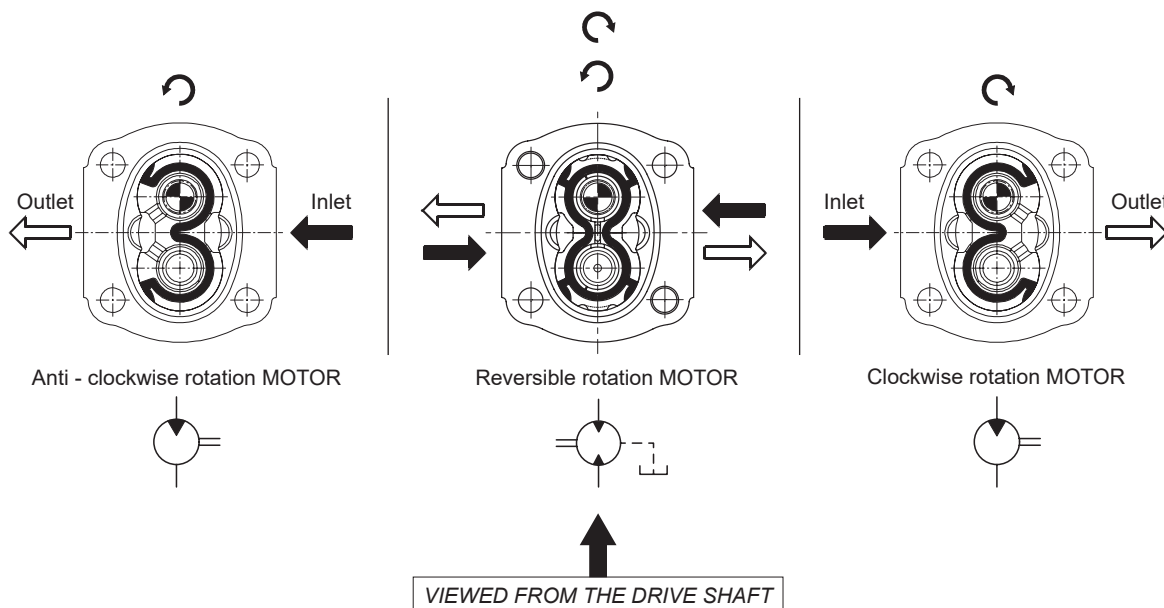
Maximum allowable pressure value on the drain line for the bi-directional motor (SBHP Shaft seal)
Maximum allowable pressure value in the tank port for unidirectional motor (SBHP Shaft seal)



EO.100.0725.02.01IM03



Motor Rotation



Working Conditions

HYDRAULIC FLUID

Mineral oil according to DIN 51524, other hydraulic fluids on request.

Viscosity	Minimum operating fluid viscosity	12 mm ² /sec
	Permitted viscosity range	12 - 800 mm ² /sec
	Max starting viscosity	2000 mm ² /sec
	Suggested fluid viscosity range	20 ÷ 80 mm ² /sec
Temperature	fluid operating temperature range	-25 ÷ 80 °C
	fluid operating temperature range with FPM seals (Viton)	-15 ÷ 110°C
	fluid operating temperature range with HNBR* seals	-30 ÷ 110°C

* Available on request

Hydraulic Pipe Line

To ensure favorable suction conditions it is important to keep pressure drop in suction pipe line to a minimum value (see Working Conditions). To calculate hydraulic pipe line size, the designer can use; as an approximate guide, the following fluid speed figures:

From 1 to 2 m/sec on suction pipe line
From 6 to 10 m/sec on pressure pipe line

From 3.28 to 6.36 ft/sec on suction pipe line
From 19.7 to 32.8 ft/sec on pressure pipe line

The lowest fluid speed values in pipe lines is recommended when the operating temperature range is high and/or for continuous duty. The highest value is recommended when the temperature difference is low and/or for intermittent duty.



Filtration Index Recommended

Working pressure	>200 bar/2900 psi	<200 bar/2900 psi
Contamination class NAS 1638	9	10
Contamination class ISO 4406	19/18/15	20/19/16
Achieved with filter $\beta_x=75$	15 μm	25 μm

Common Formulas

Based on SI units

Input flow: $Q = \frac{V \cdot n}{1000 \cdot \eta_v}$ l/min

Output torque: $M = \frac{V \cdot \Delta p \cdot \eta_m}{20 \cdot \pi}$ Nm

Output power: $P = \frac{M \cdot n}{9550} = \frac{Q \cdot \Delta p \cdot \eta_t}{600}$ kW

Variables: SI units [US units]

Based on US units

Input flow: $Q = \frac{V \cdot n}{231 \cdot \eta_v}$ [US gal/min]

Output torque: $M = \frac{V \cdot \Delta p \cdot \eta_m}{2 \cdot \pi}$ [lbf·in]

Output power: $P = \frac{M \cdot n}{63\,025} = \frac{Q \cdot \Delta p \cdot \eta_t}{1714}$ [hp]

LEGENDA

V= Displacement cm^3/rev [in^3/rev]

P_{out} = Outlet pressure bar [psi]

P_{in} = Inlet pressure bar [psi]

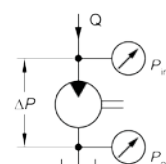
$\Delta p = P_{\text{out}} - P_{\text{in}}$ (system pressure) (rpm)

n= Speed min^{-1}

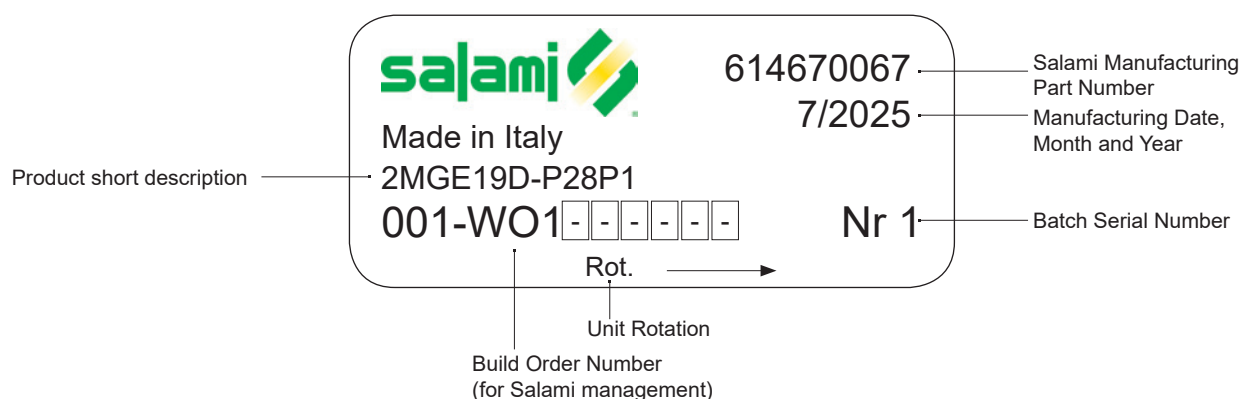
η_m = Mechanical efficiency

η_v = Volumetric efficiency

η_t = Overall efficiency ($\eta_v \cdot \eta_m$)



Identification Label



EO.100.0725.02.01IM03

2MGE

High Pressure Cast Iron Gear Motors

Technical/Spare Parts Catalogue

E0.146.0725.14.00IM03



COMPANY WITH
QUALITY SYSTEM
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ISO 9001

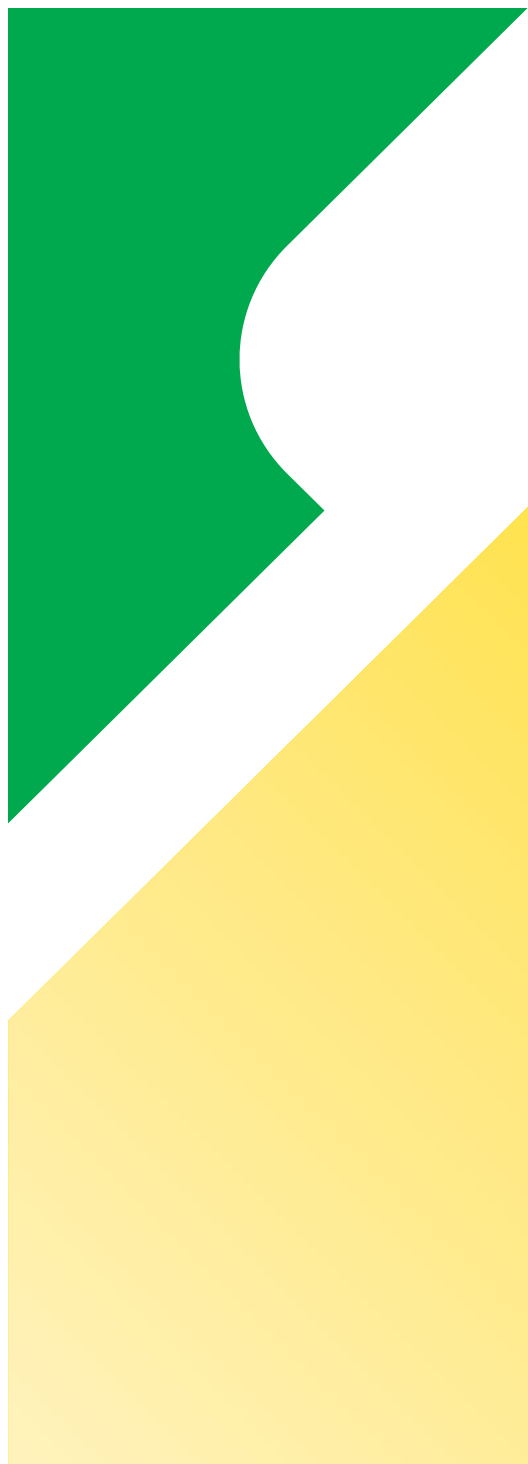


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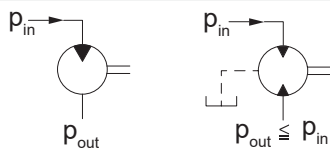
EO.146.0725.14.00IM03

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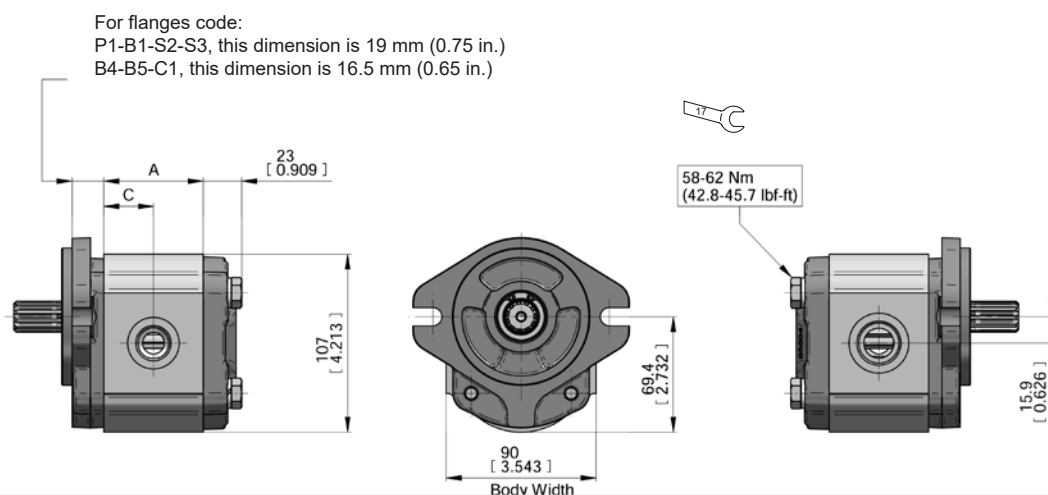
2MGE Motor - Dimensions and Technical Data



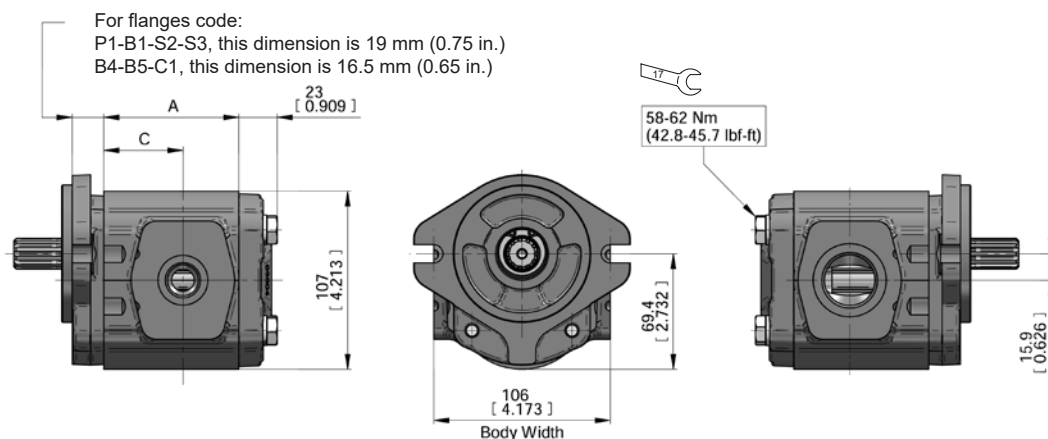
Displacements up to 26.7 cm³/rev - 1.63 cu.in./rev
Pressure up to 280 bar - 4060 psi

TYPE	Displacement		Dimension A		Dimension C		Max continuous pressure p ¹		Max starting pressure p ²		Min. speed	Max. speed	Weight	
	cm ³ /rev	cu.in./rev	mm	in	mm	in	bar	psi	bar	psi	min ⁻¹		kg	lbs
2MGE - 6.5	6.5	0.40	49.95	1.97	25	0.98	250	3625	280	4060	600	4000	4.8	10.6
2MGE - 8.3	8.3	0.51	52.8	2.07	26.4	1.04	250	3625	280	4060	600	3600	5.0	11.0
2MGE - 11.3	11.5	0.68	59.7	2.35	29.75	1.17	250	3625	280	4060	600	3500	5.2	11.5
2MGE - 13.8	14	0.85	63.5	2.50	31.75	1.25	250	3625	280	4060	600	3400	5.4	11.9
2MGE - 16	16.6	1.01	67.5	2.65	39.5	1.56	250	3625	280	4060	450	3200	6.6	14.5
2MGE - 19	19.4	1.18	75.6	2.97	39.5	1.56	220	3190	240	3480	450	3200	7.1	15.6
2MGE - 22.5	22.9	1.37	81	3.19	47.5	1.87	200	2900	220	3190	450	3000	7.5	16.5
2MGE - 26	26.7	1.63	86.8	3.42	47.5	1.87	180	2615	200	2900	450	2850	7.8	17.2

From Displacement
6.5 to 13.8



From Displacement
16 to 26

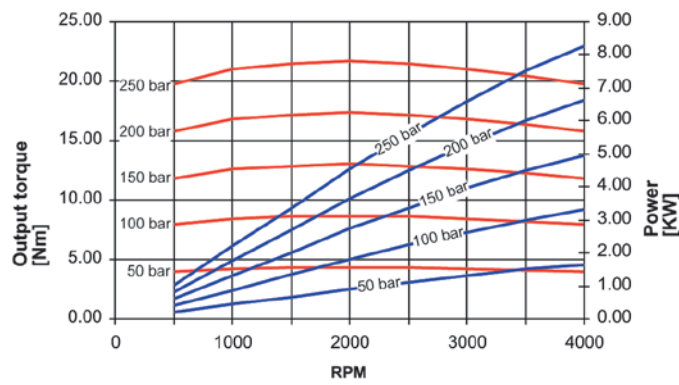
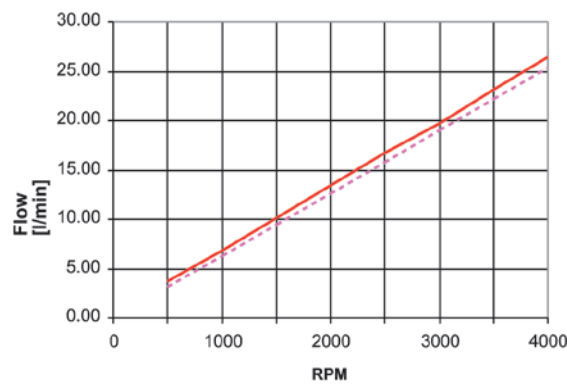


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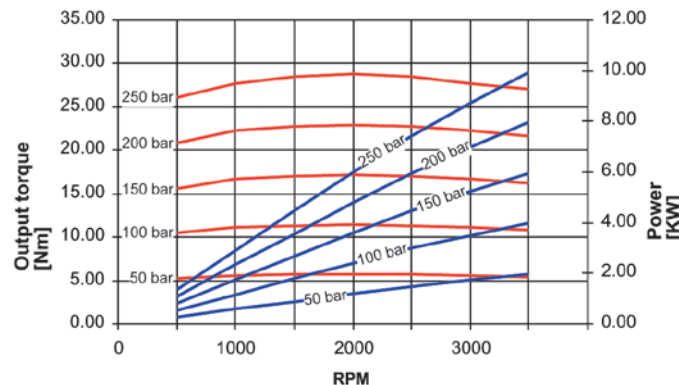
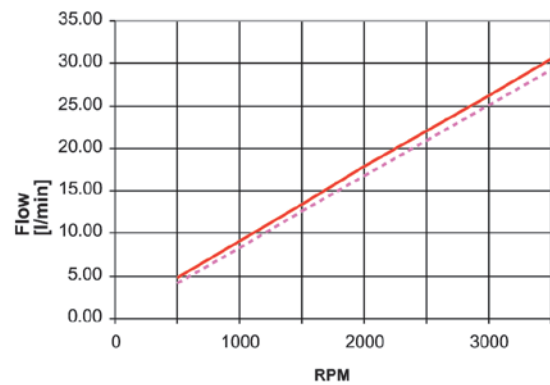


Motor Performance Charts

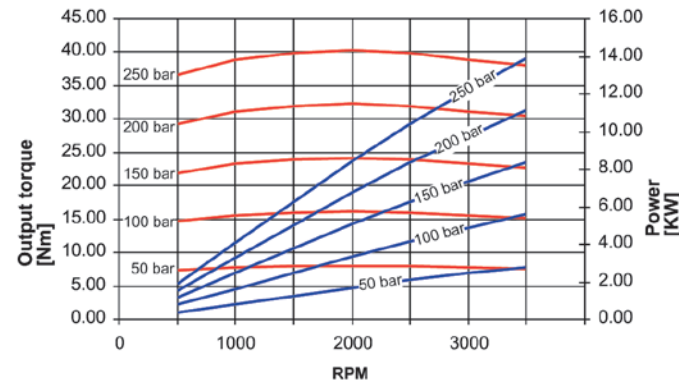
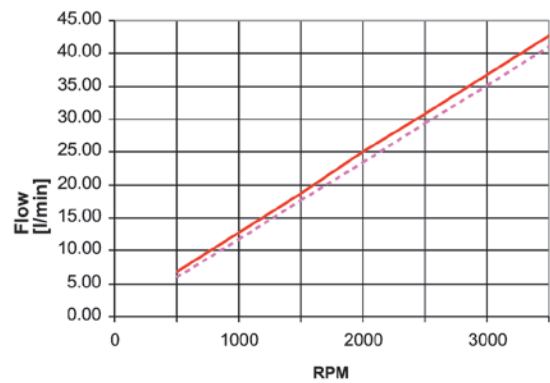
Performance curves carried out with oil viscosity at 21 cSt and oil temperature at 50°C



2MGE - 6.5



2MGE - 8.3



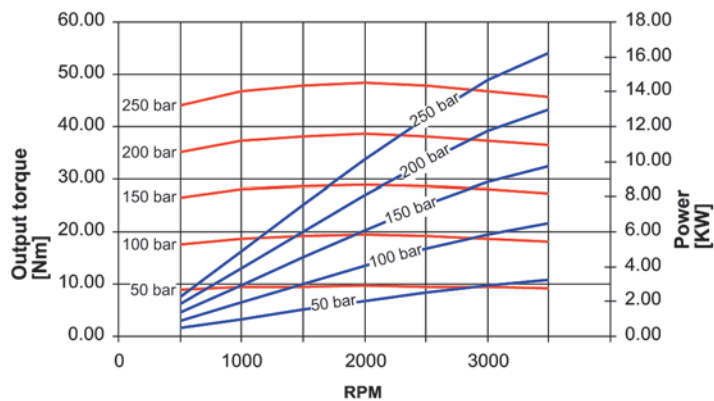
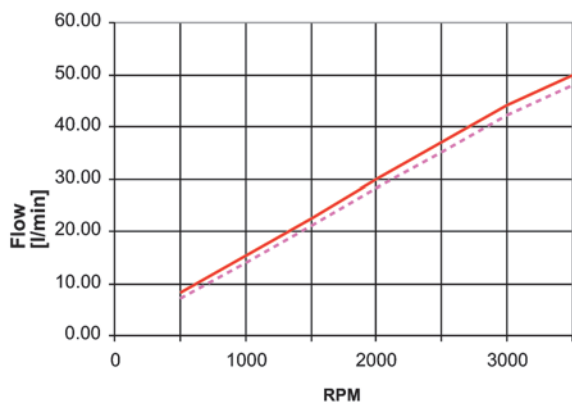
2MGE - 11.3

EO.146.0725.14.00IM03

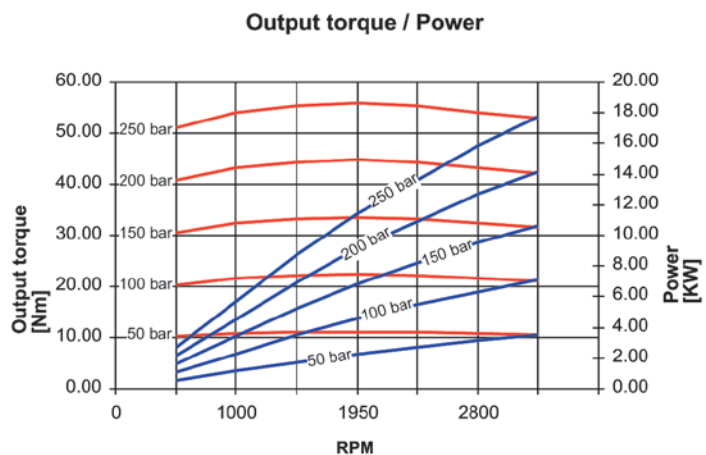
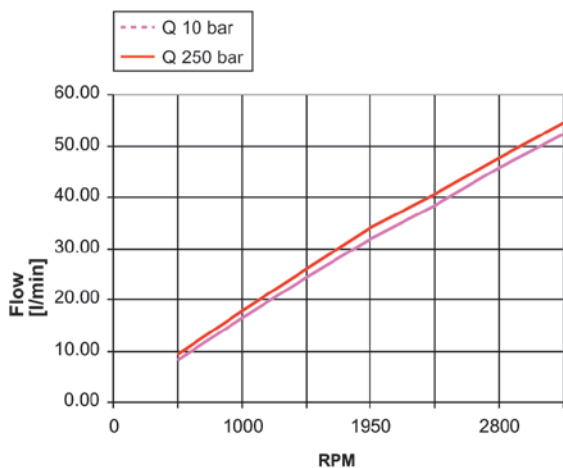


Motor Performance Charts

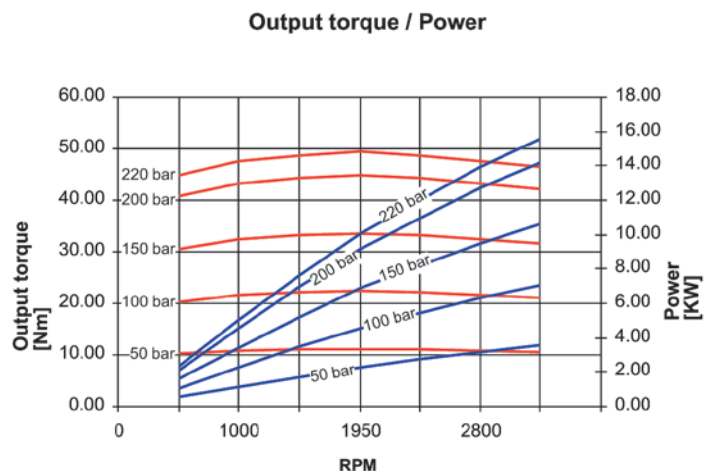
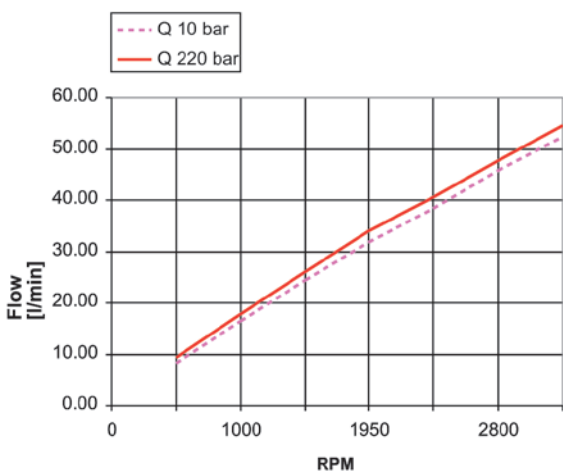
Performance curves carried out with oil viscosity at 21 cSt and oil temperature at 50°C



2MGE - 13.8



2MGE - 16



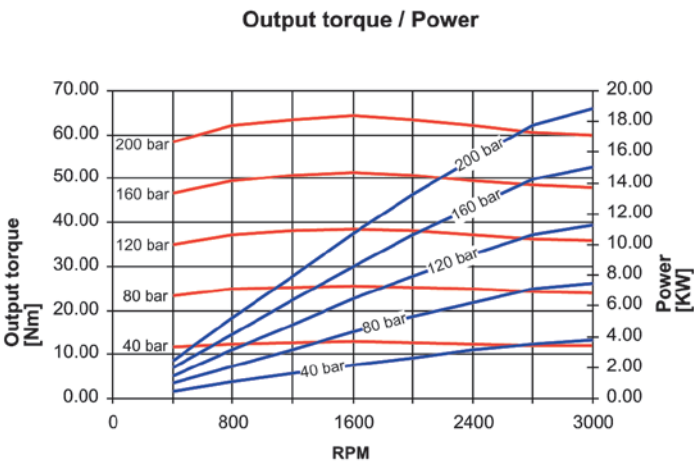
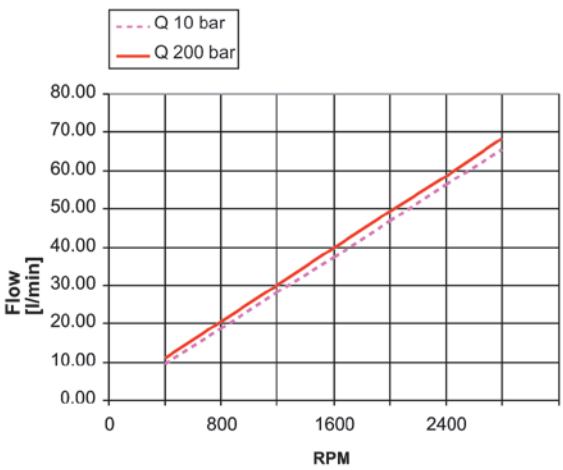
2MGE - 19

EO.146.0725.14.00IM03

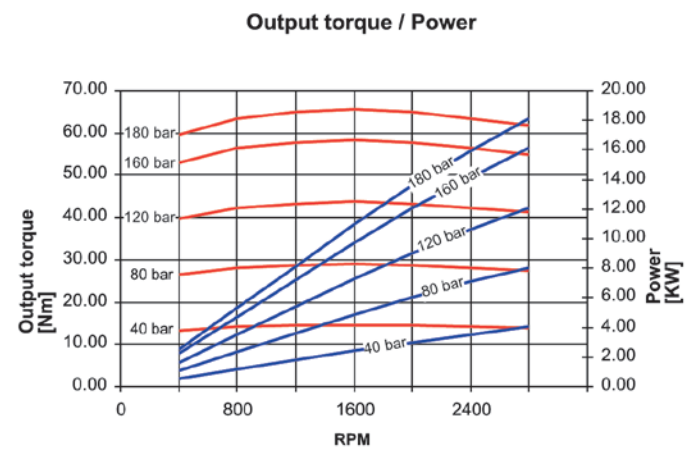
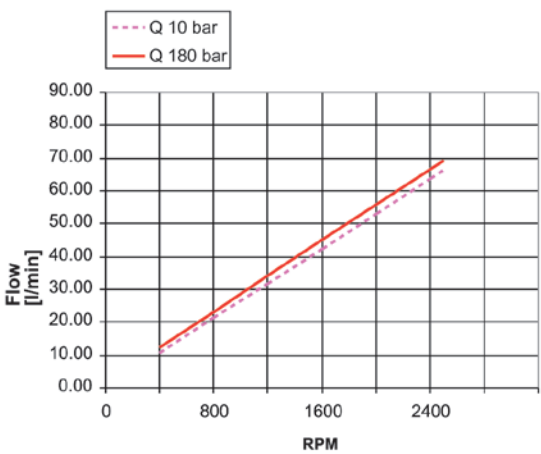


Motor Performance Charts

Performance curves carried out with oil viscosity at 21 cSt and oil temperature at 50°C



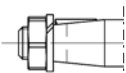
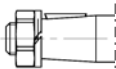
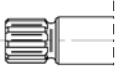
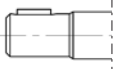
2MGE - 22.5



2MGE - 26

EO.146.0725.14.00IM03

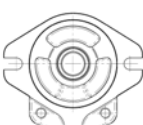
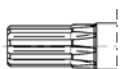
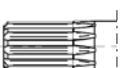


Shaft and Flange Combinations				
2MGE				
	CODE P1	CODE B1	CODE B2-B3	CODE B4-B5
	FLANGES			
SHAFT END	 CODE 03		03B2 03B3	
	 CODE 25	25B1		25B4 25B5
	 CODE 28	28P1		
	 CODE 62	62P1	62B1	62B4 62B5
	 CODE 82	82P1		

EO.146.0725.14.001M03



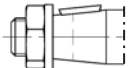
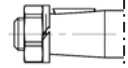
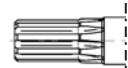
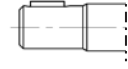
Shaft and Flange Combinations

Shaft and Flange Combinations					
2MGE					
		CODE S2	CODE S6	CODE T1	CODE Z2
		FLANGES		FLANGES WITH OUTRIGGER BEARING	
SHAFT END	 CODE 52	52S2	52S6		
	 CODE 54	54S2	54S6		
	 CODE 82	82S2	82S6		
	 CODE 85	85S2	85S6		
CONTINENTAL SHAFT END	 CODE 67				67Z2
	 CODE 73			73T1	

EO.146.0725.14.00IM03



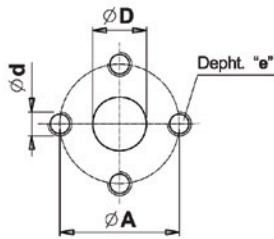
Continental Shaft and Flange With Outrigger Bearing Combinations

2MGE							
	CODE CL	CODE CF	CODE CS	CODE CB	CODE CP	CODE CSB	CODE Z1
	FLANGES WITH OUTRIGGER BEARING						
CONTINENTAL SHAFT END	 CODE 25	25CL	25CF		25CB		
	 CODE 26	26CL			26CB		
	 CODE 28				28CP		
	 CODE 52			52CS			
	 CODE 54			54CS			
	 CODE 82			82CS			
	 CODE 85			85CS			
	 CODE 87					87CSB	
	 CODE 66						66Z1

EO.146.0725.14.00IM03



Flanged Ports



code P

Flanged ports
european standard

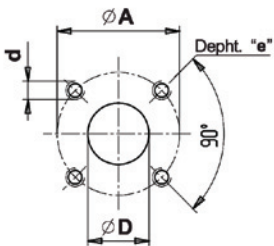
M6	8 Nm (5.9 lbf-ft)
M8	20 Nm (14.7 lbf-ft)



UNI-DIRECTIONAL								
MOTORS	OUTLET				INLET			
	Ø D	Ø A	d	e	Ø D	Ø A	d	e
From 6.5 to 8.3	13 (0.51")	30 (1.18")	M6	13 (0.51")	13 (0.51")	30 (1.18")	M6	13 (0.51")
From 11.3 to 22.5	20 (0.79")	40 (1.57")	M8	13 (0.51")	13 (0.51")	30 (1.18")	M6	13 (0.51")
26	22 (0.87")							



BI-DIRECTIONAL								
MOTORS	OUTLET				INLET			
	Ø D	Ø A	d	e	Ø D	Ø A	d	e
From 6.5 to 16	13 (0.51")	30 (1.18")	M6	13 (0.51")	13 (0.51")	30 (1.18")	M6	13 (0.51")
From 19 to 26	20 (0.79")	40 (1.57")	M8	13 (0.51")	20 (0.79")	40 (1.57")	M8	13 (0.51")



code B

Flanged ports
german standard

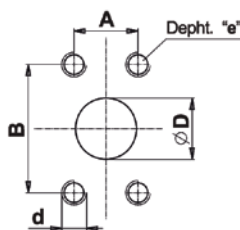
M6	8 Nm (5.9 lbf-ft)
----	-------------------



UNI-DIRECTIONAL								
MOTORS	OUTLET				INLET			
	Ø D	Ø A	d	e	Ø D	Ø A	d	e
From 6.5 to 22.5	20 (0.79")	40 (1.57")	M6	13 (0.51")	15 (0.59")	35 (1.38")	M6	13 (0.51")
26	22 (0.87")							



BI-DIRECTIONAL								
MOTORS	OUTLET				INLET			
	Ø D	Ø A	d	e	Ø D	Ø A	d	e
From 6.5 to 16	15 (0.59")	35 (1.38")	M6	13 (0.51")	15 (0.59")	35 (1.38")	M6	13 (0.51")
From 19 to 26	20 (0.79")	40 (1.57")	M6	13 (0.51")	20 (0.79")	40 (1.57")	M6	13 (0.51")



code W

Flanged ports
SAE J518
METRIC THREAD

M8	20 Nm (14.7 lbf-ft)
M10	35 Nm (25.8 lbf-ft)



UNI-DIRECTIONAL										
MOTORS	OUTLET					INLET				
	ØD	B	A	d	e	ØD	B	A	d	e
From 16 to 19	19 (0.75")	47.6 (1.87")	22.2 (0.87")	M10	15 (0.59")	12.7 (0.50")	38.1 (1.50")	17.5 (0.69")	M8	15 (0.59")
From 22.5 to 26	25.4 (1.00")	52.4 (2.06")	26.2 (1.03")	M10	15 (0.59")	19 (0.75")	47.6 (1.87")	22.2 (0.87")	M10	15 (0.59")

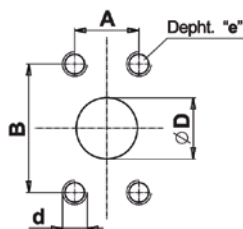


BI-DIRECTIONAL										
MOTORS	OUTLET					INLET				
	ØD	B	A	d	e	ØD	B	A	d	e
16	12.7 (0.50")	38.1 (1.50")	17.5 (0.69")	M8	15 (0.59")	12.7 (0.50")	38.1 (1.50")	17.5 (0.69")	M8	15 (0.59")
From 19 to 26	19 (0.75")	47.6 (1.87")	22.2 (0.87")	M10	15 (0.59")	19 (0.75")	47.6 (1.87")	22.2 (0.87")	M10	15 (0.59")

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Flanged Ports



code S

Flanged ports
SAE J518
AMERICAN STANDARD
THREAD

5/16-18 UNC	20 Nm (14.7 lbf-ft)
3/8-16 UNC	30 Nm (22.1 lbf-ft)

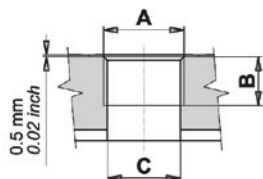


UNI-DIRECTIONAL										
MOTORS	OUTLET					INLET				
	ØD	B	A	d	e	ØD	B	A	d	e
From 16 to 19	19 (0.75")	47.6 (1.87")	22.2 (0.87")	3/8-16 UNC	15 (0.59")	12.7 (0.50")	38.1 (1.50")	17.5 (0.69")	5/16-18 UNC	15 (0.59")
From 22.5 to 26	25.4 (1.00")	52.4 (2.06")	26.2 (1.03")	3/8-16 UNC	15 (0.59")	19 (0.75")	47.6 (1.87")	22.2 (0.87")	3/8-16 UNC	15 (0.59")



BI-DIRECTIONAL										
MOTORS	OUTLET					INLET				
	ØD	B	A	d	e	ØD	B	A	d	e
16	12.7 (0.50")	38.1 (1.50")	17.5 (0.69")	5/16-18 UNC	15 (0.59")	12.7 (0.50")	38.1 (1.50")	17.5 (0.69")	5/16-18 UNC	15 (0.59")
From 19 to 26	19 (0.75")	47.6 (1.87")	22.2 (0.87")	3/8-16 UNC	15 (0.59")	19 (0.75")	47.6 (1.87")	22.2 (0.87")	3/8-16 UNC	15 (0.59")

Threaded Ports



code G

Threaded ports
GAS (BSPP)

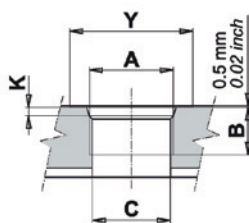
G1/2	60 Nm (44.3 lbf-ft)
G3/4	90 Nm (66.4 lbf-ft)
G1	130 Nm (95.8 lbf-ft)



UNI-DIRECTIONAL						
MOTORS	OUTLET			INLET		
	A	B	C	A	B	C
From 6.5 to 19	G 3/4	17 (0.67")	18 (0.71")	G 1/2	15 (0.59")	13 (0.79")
From 22.5 to 26	G1	20 (0.79")	25 (0.98")			



BI-DIRECTIONAL						
MOTORS	OUTLET			INLET		
	A	B	C	A	B	C
From 6.5 to 16	G 1/2	15 (0.59")	13 (0.79")	G 1/2	15 (0.59")	13 (0.79")
From 19 to 26	G 3/4	17 (0.67")	20 (0.79")	G 3/4	17 (0.67")	20 (0.79")



code R

Threaded ports
SAE (ODT)

SAE10	60 Nm (44.3 lbf-ft)
SAE12	90 Nm (66.4 lbf-ft)
SAE16	130 Nm (95.8 lbf-ft)



UNI-DIRECTIONAL										
MOTORS	OUTLET					INLET				
	A	B	C	Y	K	A	B	C	Y	K
From 6.5 to 19	1-1/16-12 UN (SAE 12)	19 (0.75")	18 (0.71")	41 (1.61")	3.3 (0.13")	7/8-14 UNF (SAE 10)	17 (0.67")	13 (0.79")	34 (1.32")	2.5 (0.10")
From 22.5 to 26	1-5/16-12 UN (SAE 16)	19 (0.75")	25 (0.98")	49 (1.93")	3.3 (0.13")					

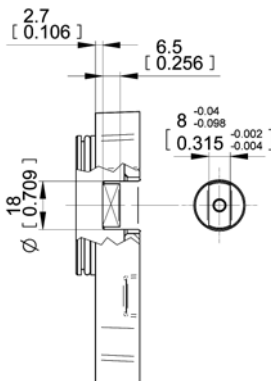
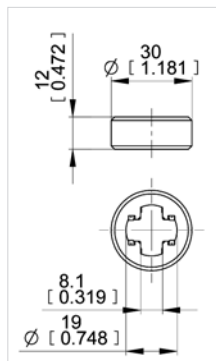


BI-DIRECTIONAL										
MOTORS	OUTLET					INLET				
	A	B	C	Y	K	A	B	C	Y	K
From 6.5 to 16	7/8-14 UNF (SAE 10)	17 (0.67")	13 (0.79")	34 (1.32")	2.5 (0.10")	7/8-14 UNF (SAE 10)	17 (0.67")	13 (0.79")	34 (1.32")	2.5 (0.10")
From 19 to 26	1-1/16 12 UN (SAE 12)	19 (0.75")	20 (0.79")	41 (1.61")	3.3 (0.13")	1-1/16 12 UN (SAE 12)	19 (0.75")	20 (0.79")	41 (1.61")	3.3 (0.13")

EO.146.0725.14.00IM03

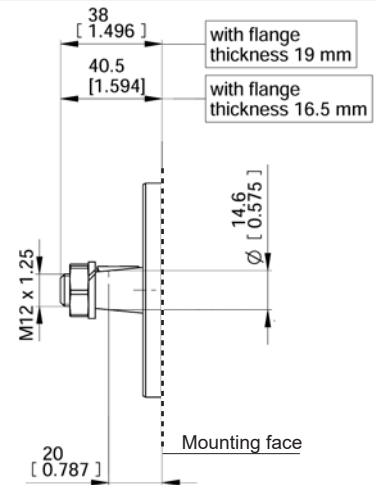


Drive Shaft



- Woodruff Key
3x6,5-UNI 6606
3x5 (for bearing version
CL-CF-CB)
- Washer
M12 TE-UNI 1751B
- Nut
M12x1,25-UNI 5589
40 Nm-29.7 lbf-ft

Part Number
Kit Woodruff Key+Nut+Washer
R12280180
R12283030 (i) (bearing version)



code 03

Max torque 70 Nm (620 lbf in)

code 25

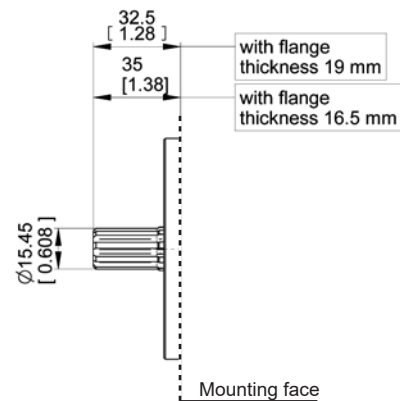
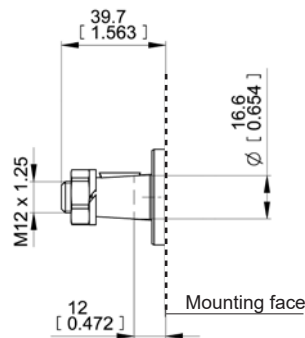
Max torque 130 Nm (1151 lbf in)

Tang drive for electric motors (without shaft seal)

Tapered 1:5

- Woodruff Key
3,165x6,2
- Washer
M12 TE-UNI 1751B
- Nut
M12x1,25-UNI 5589
40 Nm-29.7 lbf-ft

Part Number
Kit Woodruff Key+Nut+Washer
R12280170



code 28

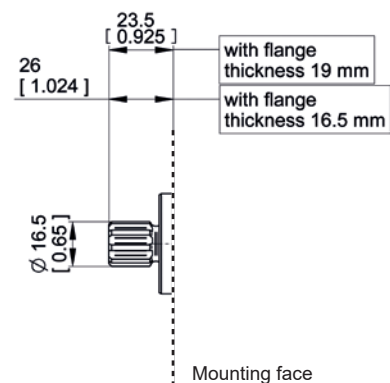
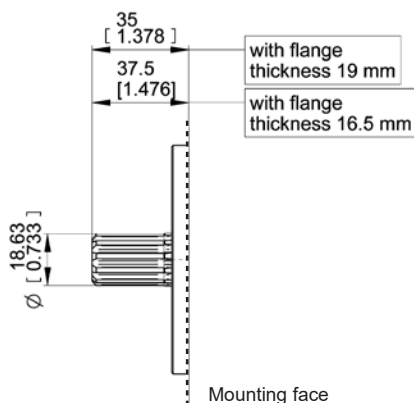
Max torque 130 Nm (1151 lbf in)

code 52

Max torque 110 Nm (974 lbf in)

Tapered 1:8

SAE A 9T-16/32DP SPLINED



code 54

Max torque 160 Nm (1416 lbf in)

code 62

Max torque 140 Nm (1239 lbf in)

SAE A 11T-16/32DP SPLINED

9 teeth DIN 5482 splined

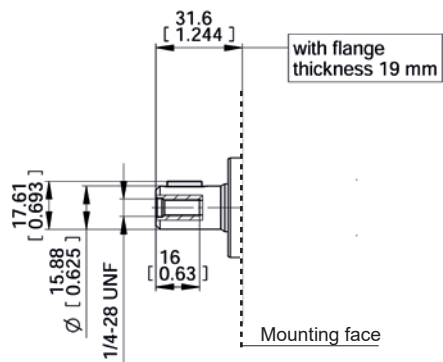
EO.146.0725.14.00IM03



Drive Shaft

Key
3,97x3.97x12,7

Part Number
Key
796620700



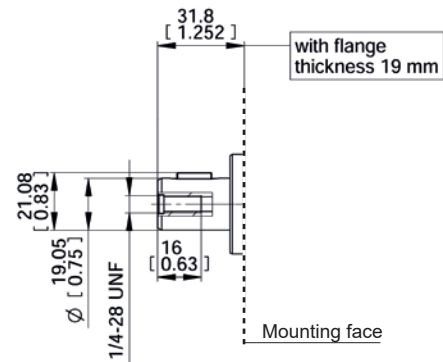
code 82

Max torque 75 Nm (664 lbt in)

5/8" SAE A parallel

Key
4,76x4.76x12,7

Part Number
Key
796621000



code 85

Max torque 110 Nm (974 lbt in)

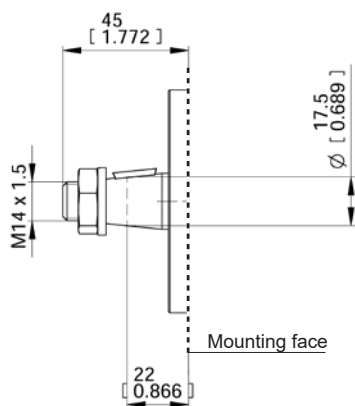
3/4" SAE A parallel



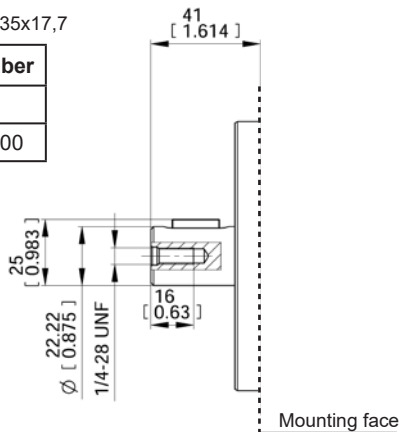
Continental Shaft

- Woodruff Key
4x6,5 UNI 6606
- Washer
M14 UNI 1751
- Nut
M14x1,5 ISO 8675
40 Nm-29.7 lbf-ft

Part Number
Kit Woodruff Key+Nut+Washer
R12240080



- Key
6,35x6,35x17,7
- | Part Number |
|-------------|
| Key |
| 796620800 |



code 26

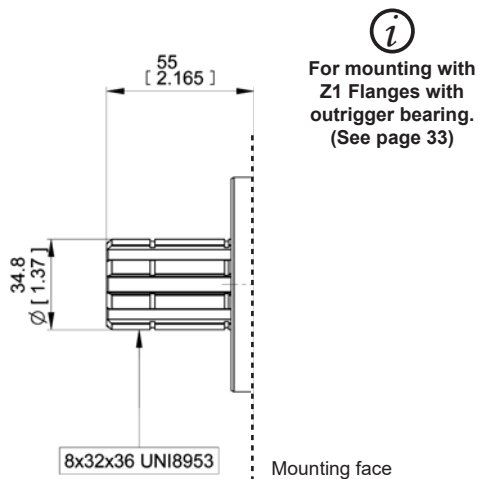
Max torque 100 Nm (885 lbt in)

code 87

Max torque 200 Nm (1770 lbt in)

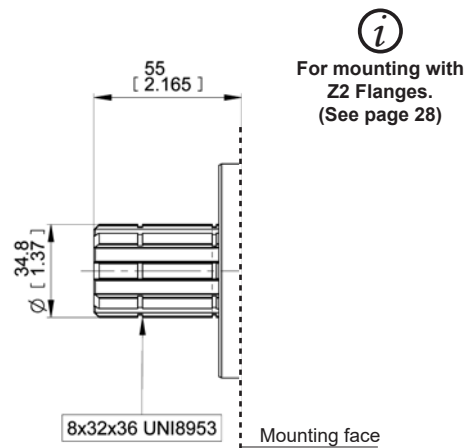
Tapered 1:5 (only for CB, CL)

7/8" SAE B parallel



code 66

Max torque 200 Nm (1770 lbt in)

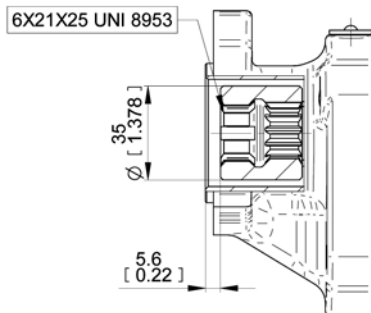


code 67

Max torque 200 Nm (1770 lbt in)

8x32x36 UNI 8953 SPLINED

8x32x36 UNI 8953 SPLINED



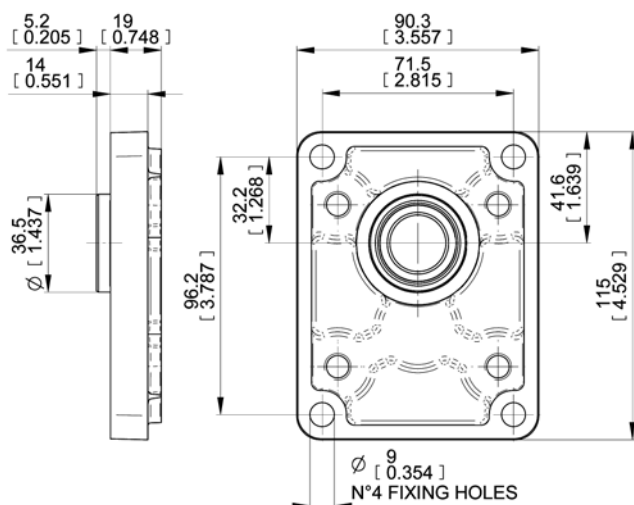
code 73

Max torque 200 Nm (1770 lbt in)

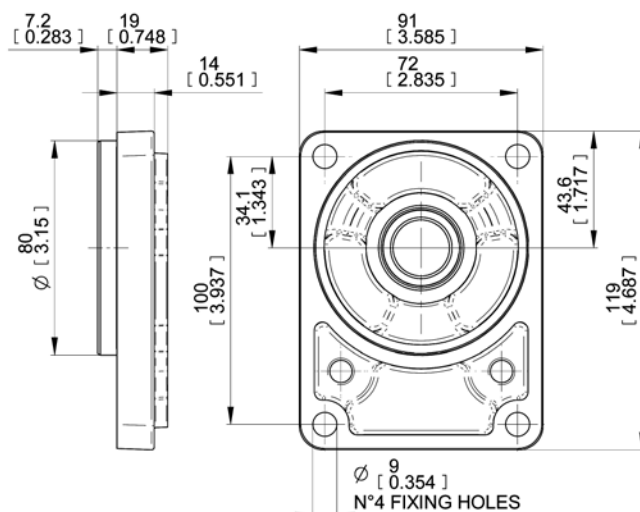
6x21x25 UNI 8953 INTERNAL SPLINED



Mounting Flanges



Code	Part Number	
	Flange+Shaft seal kit	Shaft seal kit (See page 173-174)
28P1		
62P1	R12040320 (NBR) R12040321 (FPM)	R12040122 (NBR) R12040123 (FPM)
82P1		



Code	Part Number	
	Flange+Shaft seal kit	Shaft seal kit (See page 173-174)
25B1	R12240131 (NBR)	R12040122 (NBR)
62B1	R12040330 (FPM)	R12040123 (FPM)

code P1

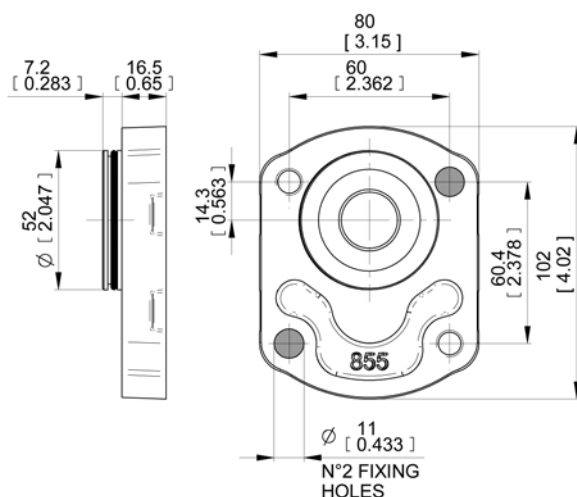
With shaft code 28-62-82

European standard

code B1

With shaft code 25-62

German standard

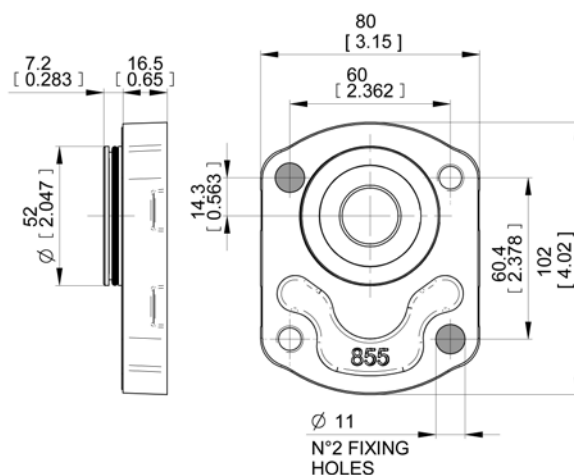


Code	Part Number	
	Flange+O-ring	O-ring (OR3187-AT 47,29x2,62-NBR)
03B2	R12240050	799113400

code B2

With shaft code 03

German standard



Code	Part Number	
	Flange+O-ring	O-ring (OR3187-AT 47,29x2,62-NBR)
03B3	R12240060	799113400

code B3

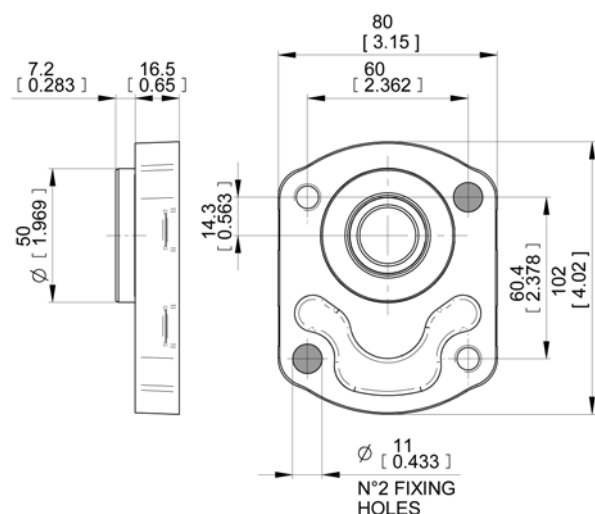
With shaft code 03

German standard

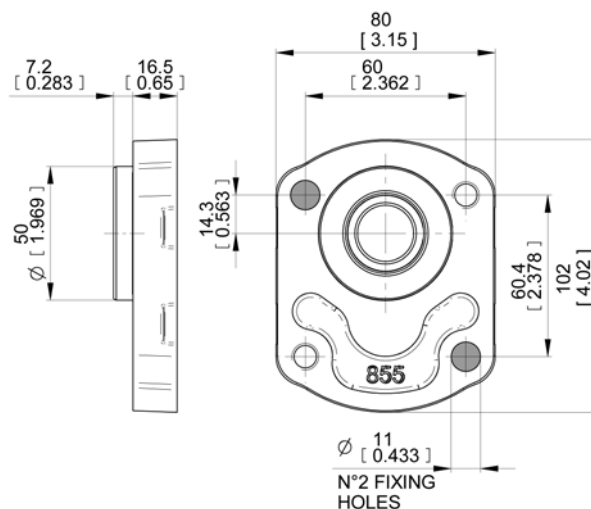
EO.146.0725.14.00IM03



Mounting Flanges



Code	Part Number	
	Flange+Shaft seal kit	Shaft seal kit (See page 173-174)
25B4	R12240101 (NBR)	R12040122 (NBR)
62B4	R12240103 (FPM)	R12040123 (FPM)



Code	Part Number	
	Flange+Shaft seal kit	Shaft seal kit (See page 173-174)
25B5	R12240139 (NBR)	R12040122 (NBR)
62B5	R12240135 (FPM)	R12040123 (FPM)

B4

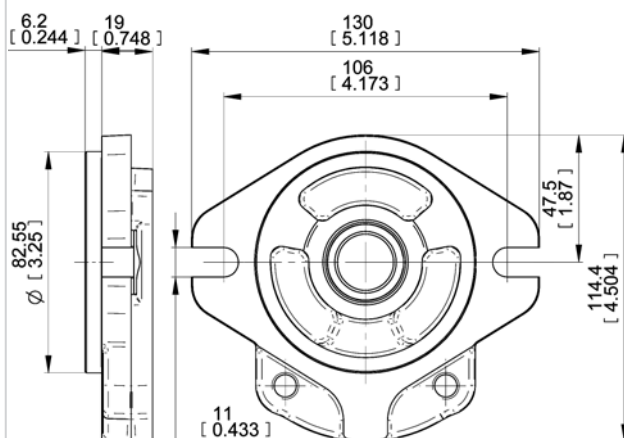
With shaft code 04-25-62

German standard

B5

With shaft code 04-25-62

German standard

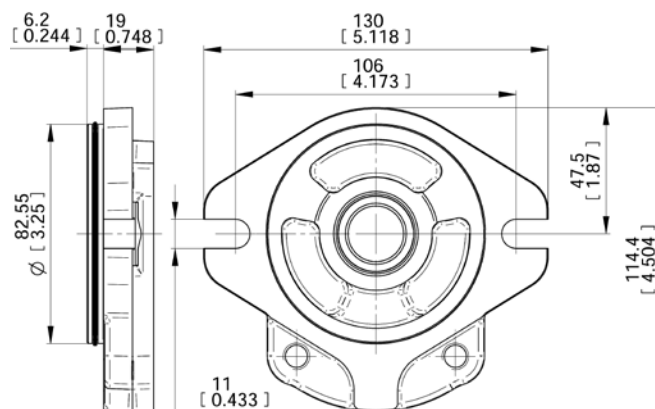


Code	Part Number	
	Flange+Shaft seal kit	Shaft seal kit (See page 173-174)
52S2	R14640030 (NBR)	R12040122 (NBR)
82S2	R14640031 (FPM)	R12040123 (FPM)
54S2	R14640040 (NBR)	R12240114 (NBR)
85S2	R14640041 (FPM)	R12240113 (FPM)

S2

With shaft code 52-54-82-85

SAE A 2 Bolts



Code	Part Number	
	Flange+Shaft seal kit	Shaft seal kit (See page 173-174)
52S6	R14640024 (NBR)	R12040122 (NBR)
82S6	R14640025 (FPM)	R12040123 (FPM)
54S6	R14640026 (NBR)	R12240114 (NBR)
85S6	R14640027 (FPM)	R12240113 (FPM)

S6

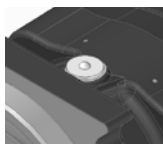
With shaft code 52-54-82-85

SAE A 2 BOLTS (with O-ring on the centering collar)

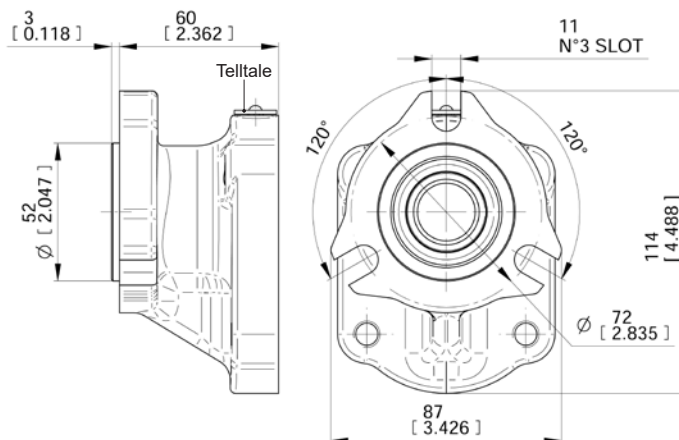
EO.146.0725.14.00IM03



Mounting Flanges



TellTale
drop in plug in case of failure,
outside leakage trough the
crossing hole is visible.



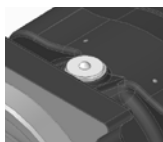
Continental shaft 73
included.

Code	Part Number	
	Flange+Shaft seal kit	Shaft seal kit (See page 173-174)
73T1	R14640080 (NBR) R14640081 (FPM)	R14640012 (NBR) R14640013 (FPM)

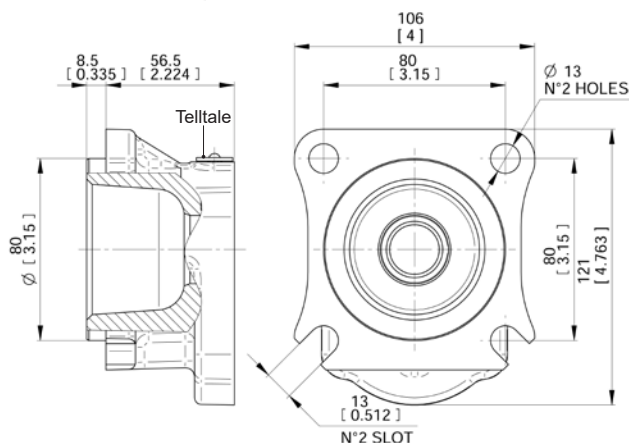
T1

With shaft code 73

3 Bolts UNI 8953 for gear box



TellTale
drop in plug in case of failure,
outside leakage trough the
crossing hole is visible.



Continental shaft 67
included.

Code	Part Number	
	Flange+Shaft seal kit	Shaft seal kit (See page 173-174)
67Z2	R14640090 (NBR) R14640091 (FPM)	R14640012 (NBR) R14640013 (FPM)

Z2

With shaft code 67

4 Bolts for zf gear box

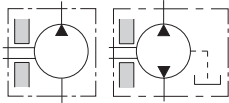
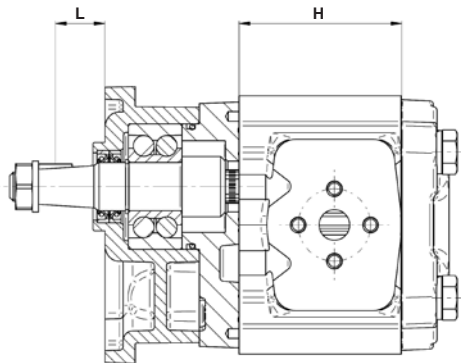
EO.146.0725.14.00IM03



Mounting Flanges with Outrigger Bearing

The following diagrams show radial load capability of the bearing.
Calculation according to ISO 281 at 10 cSt

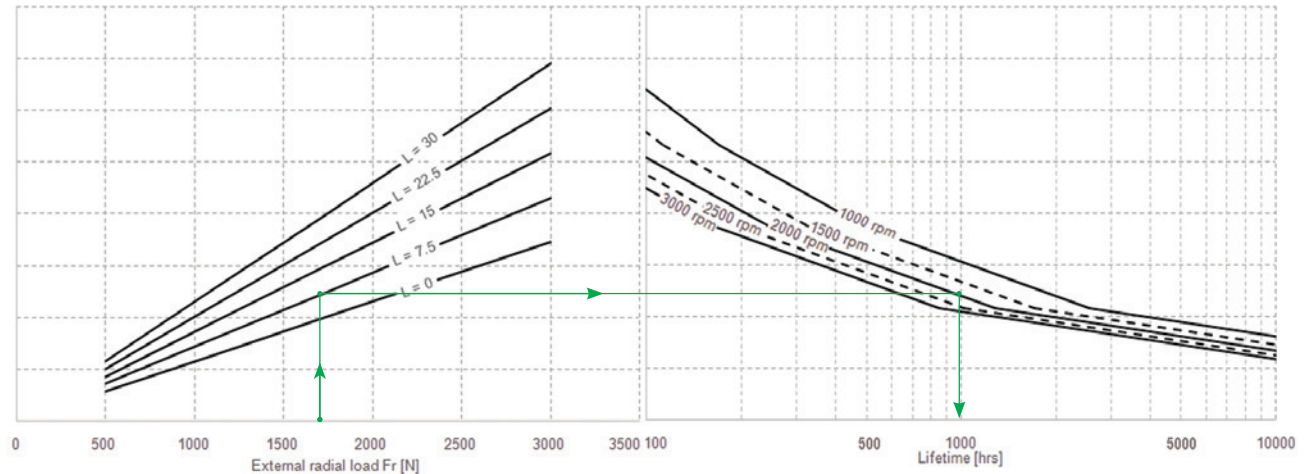
L=Distance between
mounting flange and radial
force point of application.



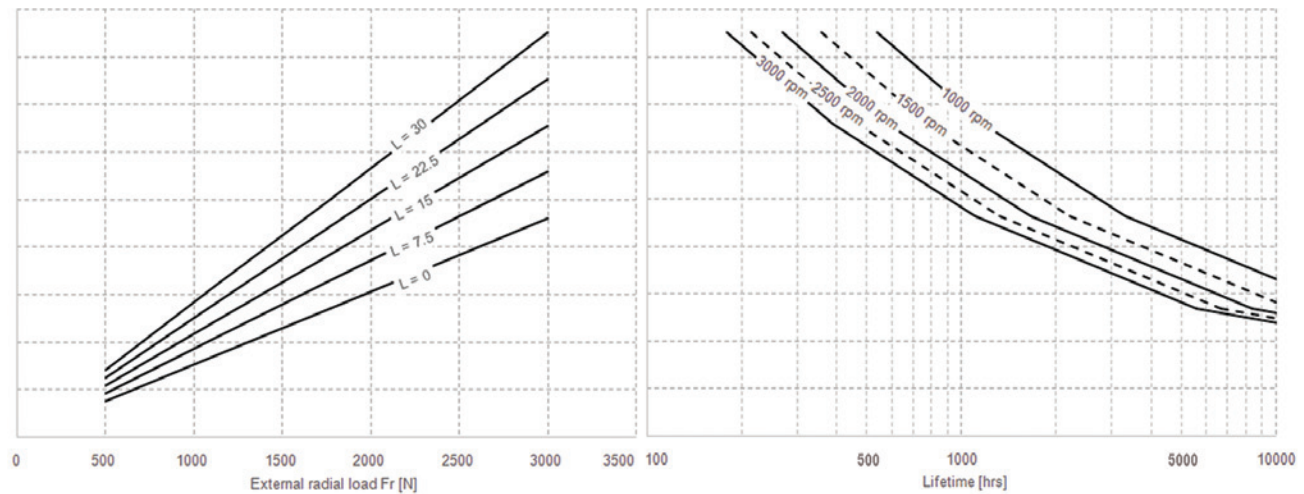
TYPE	H
6.5	49.95 (1.97")
8.3	52.8 (2.08")
11.3	59.7 (2.35")
13.8	63.5 (2.5")
16	67.5 (2.66")
19	75.6 (2.97")
22.5	81 (3.19")
26	86.6 (3.42")

Example:
Fr = 1700 N
L = 7.5
Speed = 2000 rpm
→ Expected life: 1000 hrs

For Code CP-CB-CL-CS



For Code CF

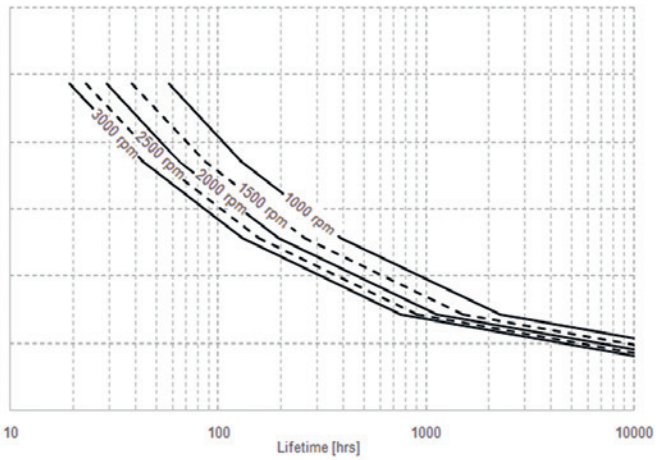
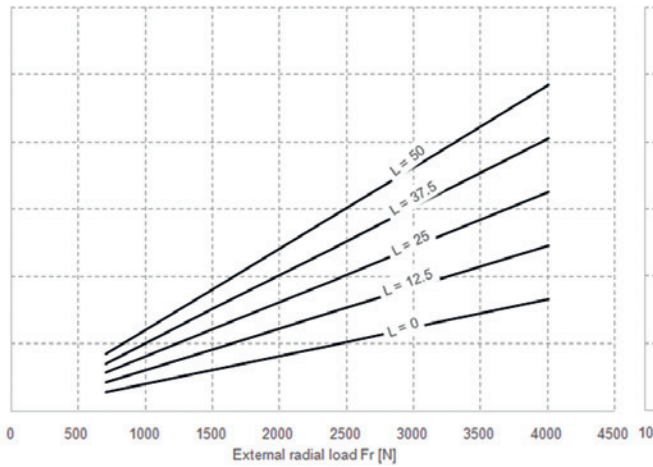


EO.146.0725.14.00IM03

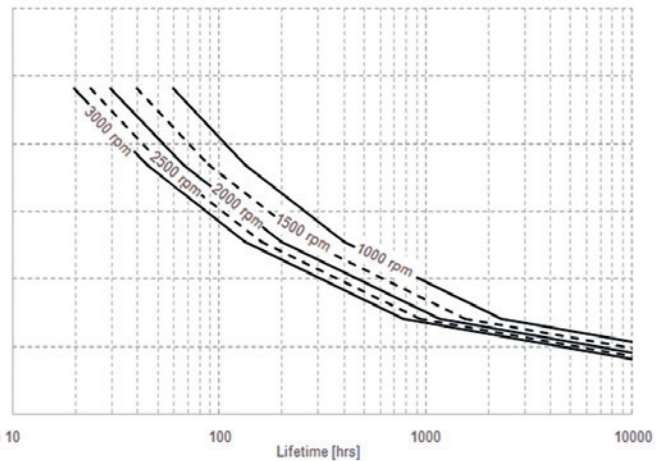
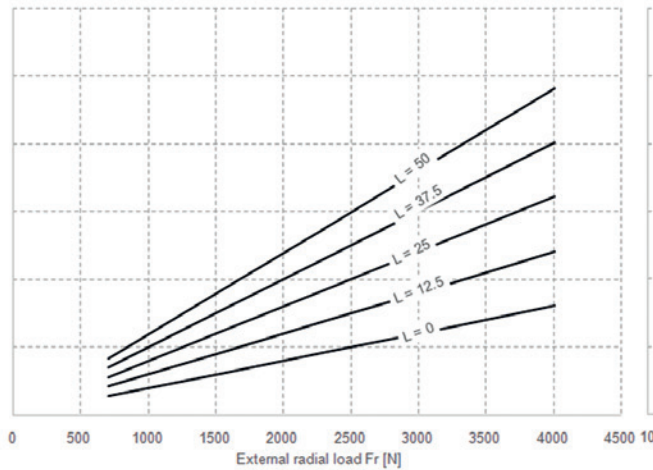


Mounting Flanges with Outrigger Bearing

For Code Z1

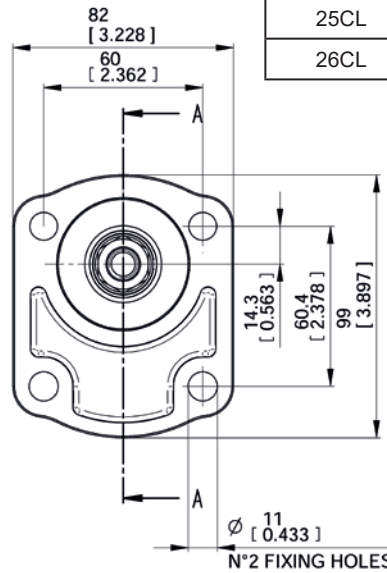
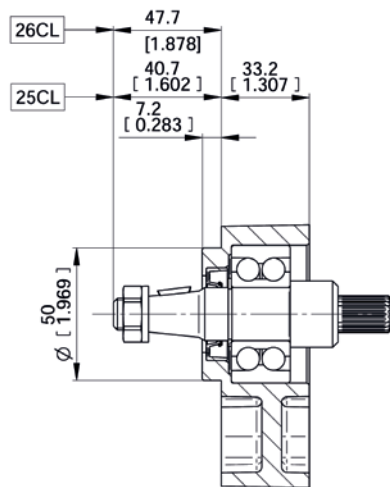


For Code CSB





Aluminium Mounting Flanges with Outrigger Bearing



Code	Part Number	
	Flange+Bearing support	Kit Woodruff Key+Nut+Washer
25CL	R12040091	R12283030
26CL	R12040061	R12240080

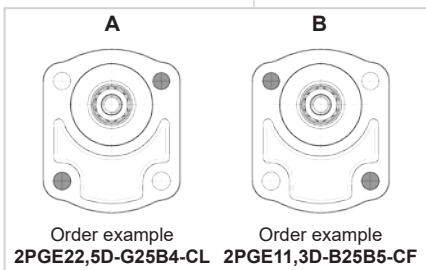
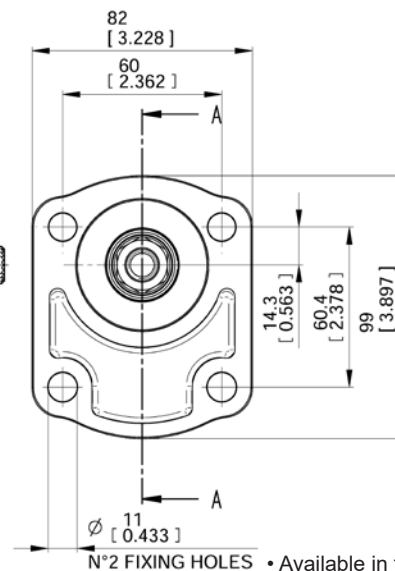
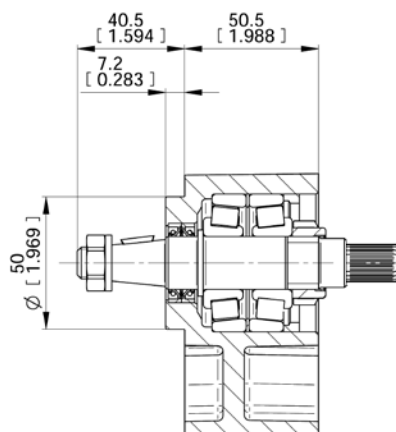
Coupling Sleeve
Splined W14x0.6x8f
DIN 5480

312002515

- Available in two positions: A - B

Mounting with shaft code 25

CL	With shaft code 25-26 - Max torque 100 Nm (885 lbt in)
For Internal combustion engines	



Order example
2PGE22,5D-G25B4

Order example
2PGE11,3D-B25B5-CF

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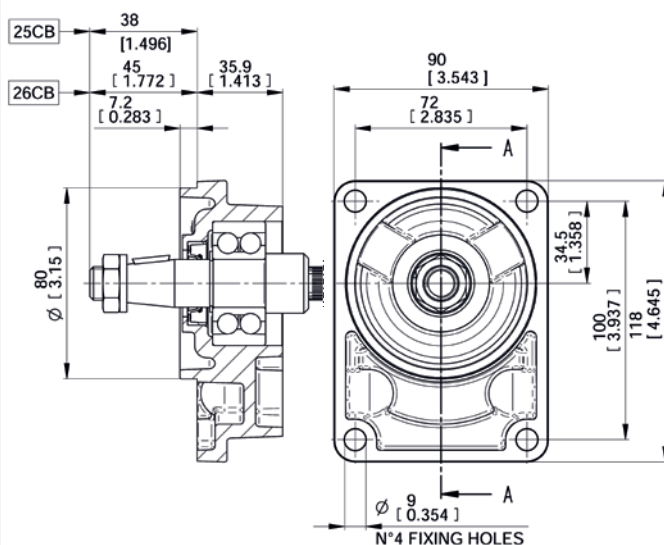
▲ **N°2 FIXING HOLES** • Available in two positions: A - B

Code	Part Number	
	Flange+Bearing support	Kit Woodruff Key+Nut+Washer
25CF	R12040103 	R12283030

CF	With shaft code 25-26 - Max torque 100 Nm (885 lbt in)
FOR INTERNAL COMBUSTION ENGINES WITH AXIAL AND RADIAL LOADS	

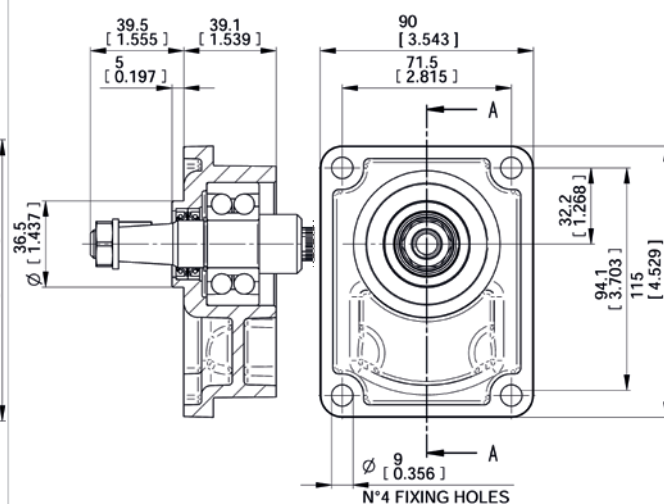


Aluminium Mounting Flanges with Outrigger Bearing



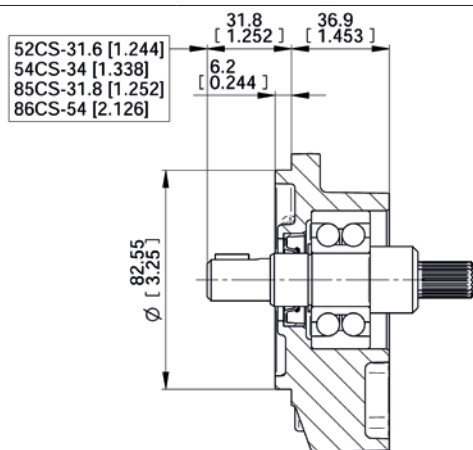
Mounting with shaft code 26

Code	Part Number	
	Flange+Bearing support	Kit Woodruff Key+Nut+Washer
25CB	R12040071	R12283030
26CB	R12040081	R12240080



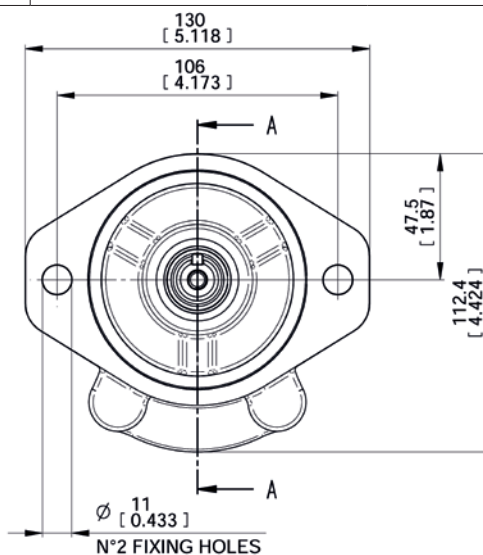
Code	Part Number	
	Flange+Bearing support	Kit Woodruff Key+Nut+Washer
28CP	R12040011	R12240070

CB	With shaft code 25-26 Max torque 100 Nm (885 lbt in)	CP	With shaft code 28 Max torque 100 Nm (885 lbt in)
	German standard		European standard



Example with shaft code 82

Code	Part Number	
	Flange+Bearing support	
52CS	R12040031	
54CS	R12040021	



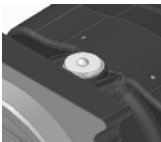
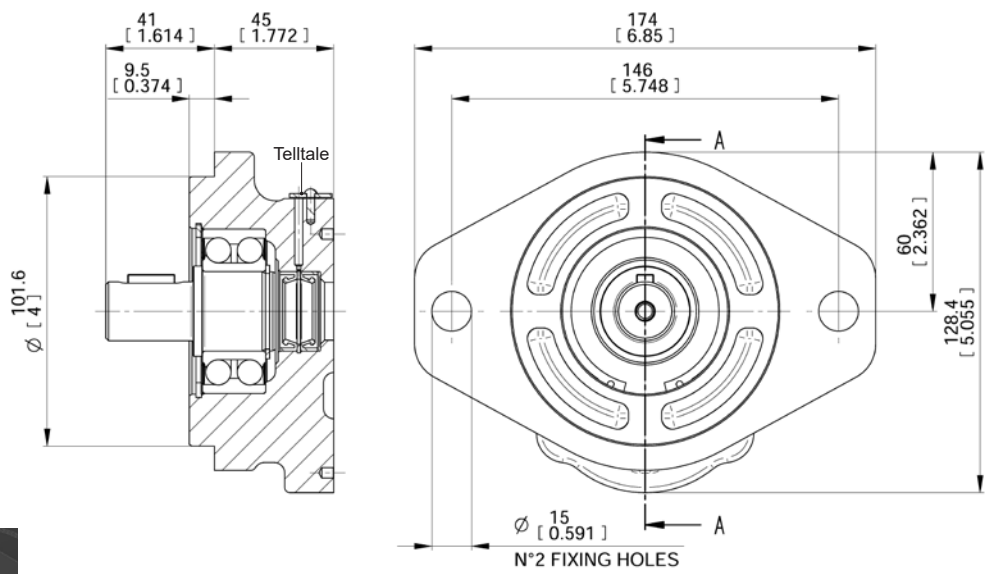
Code	Part Number	
	Flange+Bearing support	Key
82CS	R12040041	796620700
85CS	R12040051	796621000
86CS	R12040131	796622800

CS	With shaft code 52-54-82-85-86 - Max torque 100 Nm (885 lbt in)
	SAE A

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Cast Iron Mounting Flanges with Outrigger Bearing



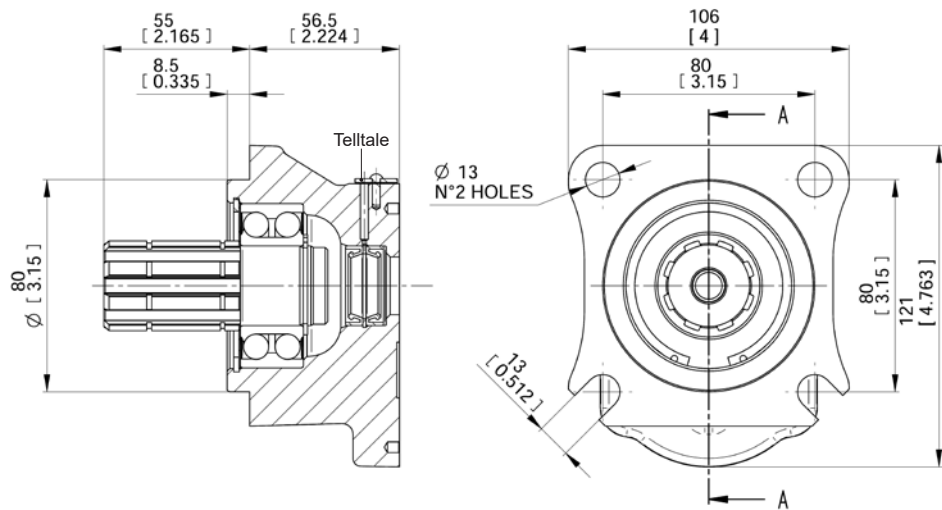
TellTale
drop in plug in case of failure,
outside leakage trough the
crossing hole is visible.

Code	Part Number	
	Flange+Bearing support	Key
87CSB	R14620020	796620800

CSB

With shaft code 87 - Max torque 200 Nm (1770 lbt in)

SAE B



Available only for
displacements
from 11.3 to 26

Code	Part Number	
	Flange+Bearing support	
66Z1	R14620010	

Z1

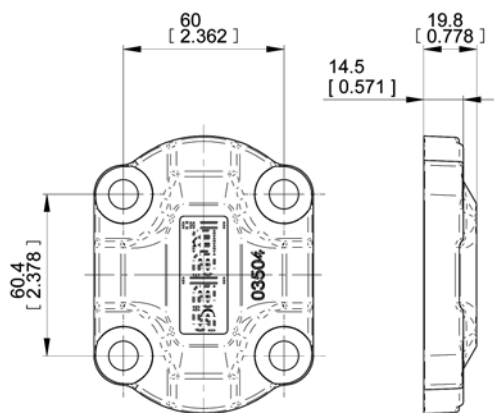
With shaft code 66 - Max torque 200 Nm (1770 lbt in)

4 Bolts for ZF gear box

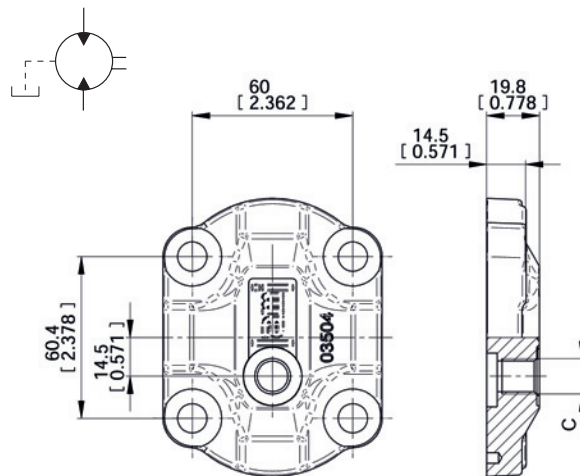
EO.146.0725.14.00IM03



Rear Covers



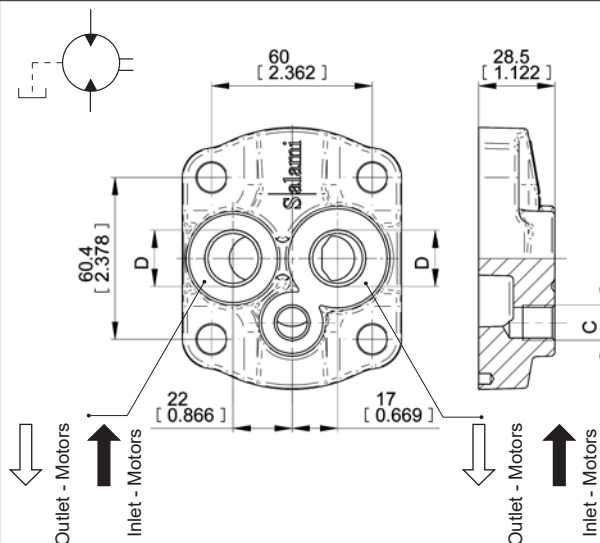
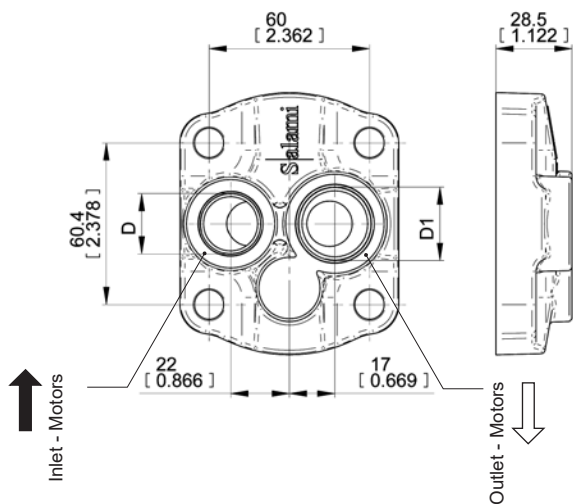
Code	Part Number
Standard Cover	312203529



Code	Part Number	Threaded Port
		C (Drain)
Cover with External Drain	312203552 (SAE)	7/16-20 UNF-2B SAE 4
	312203551 (GAS)	G 1/4

STANDARD REAR COVER
FOR UNIDIRECTIONAL MOTORS

STANDARD REAR COVER WITH EXTERNAL DRAIN PORT (C)
FOR BIDIRECTIONAL MOTORS



For motors with threaded rear ports until 22 l/min delivery.

Code	Part Number	Threaded Ports	
		D (Outlet)	D1 (Inlet)
1 Cover with rear ports	312203535	7/8-14 UNF-2B SAE 10	1-1/16-12 UN-2B SAE 12
	312203543	G 1/2	G 3/4

On request outlet port only.

Code	Part Number	Threaded Ports	
		D (Inlet/Outlet)	C (Drain)
1 Cover with rear ports with drain	312203526	M18x1,5	G1/4
	312203527	7/8-14 UNF-2B SAE 10	7/16-20 UNF-2B SAE 4
	312203528	G 1/2	G 1/4

For rear ports if requested please advise type using note.

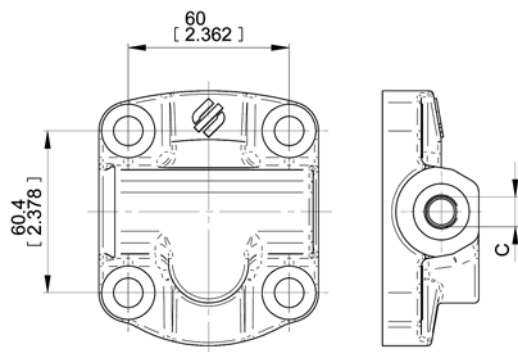
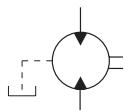
REAR COVER WITH PORTS
FOR UNIDIRECTIONAL MOTORS

REAR COVER WITH PORTS AND EXTERNAL DRAIN PORT (C)
FOR BIDIRECTIONAL MOTORS

EO.146.0725.14.00IM03



Rear Covers

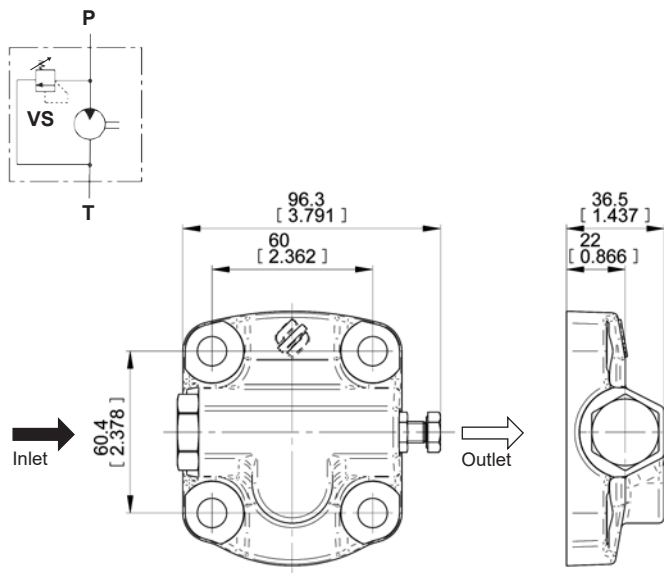


Code	Part Number	Threaded Port
		C (Drain)
LD Cover with External Drain	312203545	7/16-20 UNF-2B SAE 4
	312003509	G 1/4

LD

REAR COVER WITH SIDE DRAIN PORT (C) FOR BIDIRECTIONAL MOTORS

Rear Covers with Valves



Code	Part Number	Pressure relief valve setting range
VS Internal Discharge	R12275013	15-30 bar
	R12275020	30-60 bar
	R12275040	61-120 bar
	R12275050	121-170 bar
	R12275060	171-250 bar

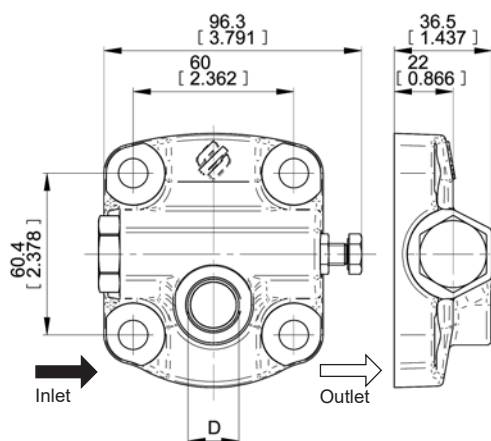
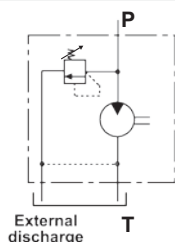
VS

INTERNAL DISCHARGE FOR UNIDIRECTIONAL MOTORS

EO.146.0725.14.00IM03



Rear Covers with Valves



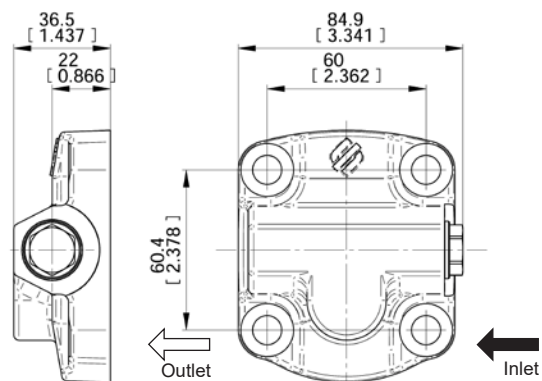
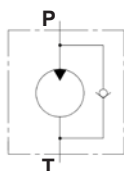
Code	Part Number	Pressure relief valve setting range	D (external discharge)
VSE External Discharge for Unidirectional Motors	R12275014	15-30 bar	SAE 8
	R12275021	30-60 bar	
	R12275041	61-120 bar	
	R12275051	121-170 bar	
	R12275061	171-250 bar	
	R12275015	15-30 bar	M18x1.5
	R12275022	30-60 bar	
	R12275042	61-120 bar	
	R12275052	121-170 bar	
	R12275062	171-250 bar	
	R12275016	15-30 bar	G 3/8
	R12275023	30-60 bar	
	R12275043	61-120 bar	
	R12275053	121-170 bar	
	R12275063	171-250 bar	



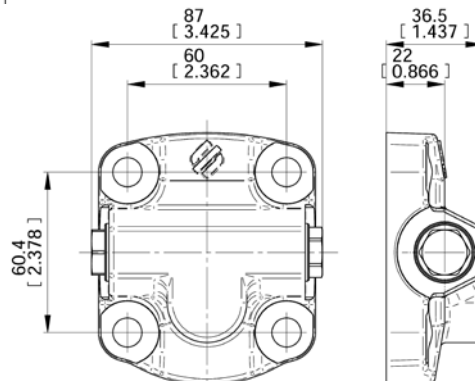
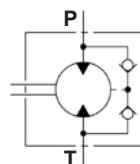
Available VSE version for Bidirectional Motors.
Please contact our sales department.

VSE

EXTERNAL DISCHARGE FOR UNIDIRECTIONAL MOTORS



Available VR version for Bidirectional Motors.
Please contact our sales department.



Code	Part Number
VR Anti-cavitation	R12203502

Code	Part Number
IDV Internal drain	R12203501

VR

ANTI-CAVITATION VALVE FOR UNIDIRECTIONAL MOTORS

IDV

INTERNAL DRAIN FOR BIDIRECTIONAL MOTORS

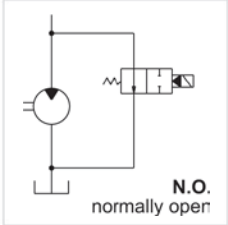
EO.146.0725.14.00IM03



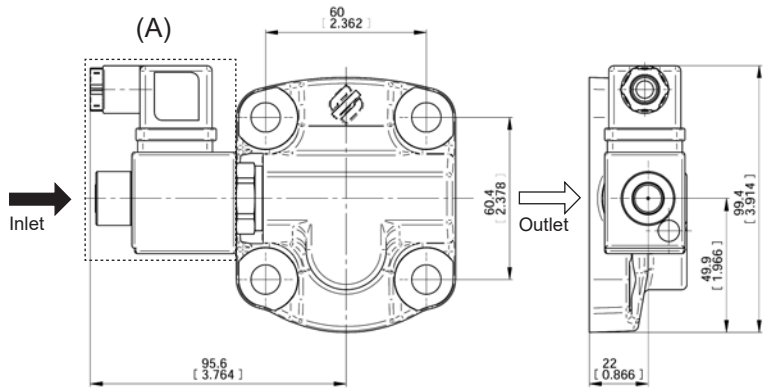
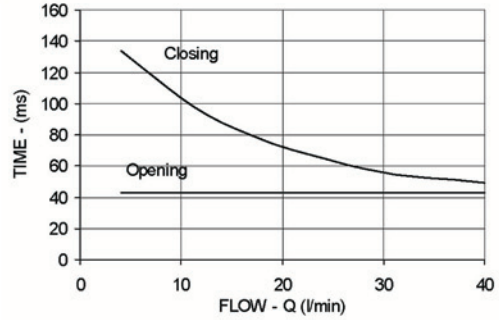
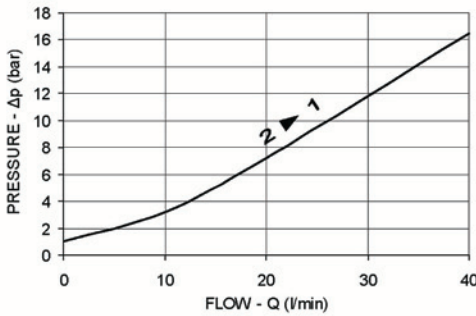
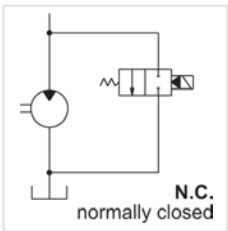
Rear Covers with Valves



EV1 - 12 Vcc
EV2 - 24 Vcc



EV3 - 12 Vcc
EV4 - 24 Vcc



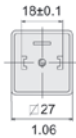
Code	Part Number
EV1	R12273273
EV2	R12273272
EV3	R12273275
EV4	R12273274

EV1-EV2-EV3-EV4

UNLOADING 2W-2P SOLENOID VALVE

Part Number			
(A) Coil+Mech.Part+Connector			
EV1/EVS1	EV2/EVS2	EV3/EVS3	EV4/EVS4
796332680	796332681	412271232	412271233

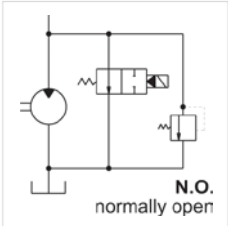
Part Number
Connector DIN 43650 A/ISO 4400
796361600



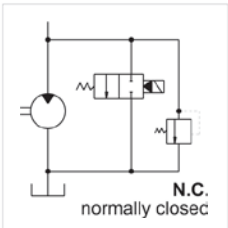
COIL SPECIFICATIONS - EV/EVS

- Coil resistance: 12 Vdc - 24 Vdc
- Coil power: 18W
- Connector: DIN 43650
- Protection index with connector: IP 65
- ED 100%

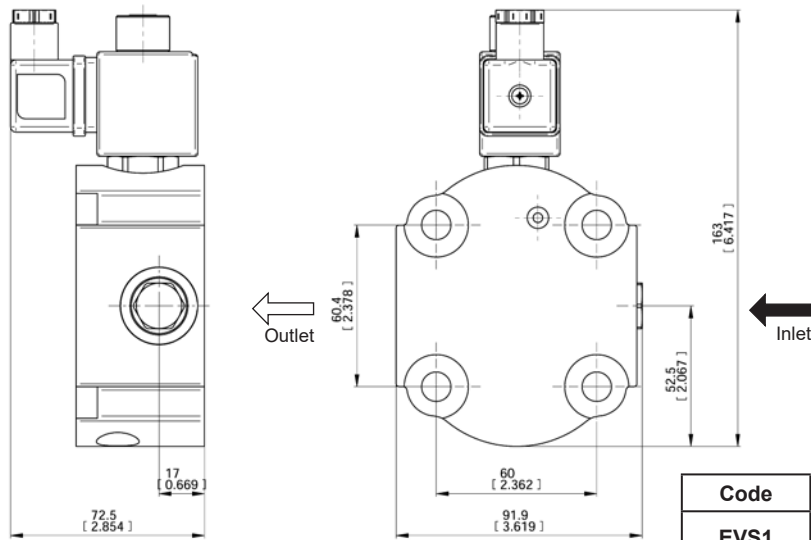
EVS1 - 12 Vcc
EVS2 - 24 Vcc



EVS3 - 12 Vcc
EVS4 - 24 Vcc



Pressure Relief Valve
setting range
25-210 bar

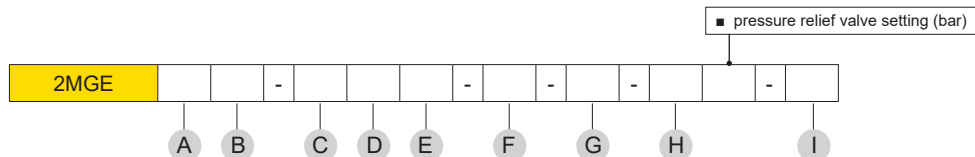


Code	Part Number
EVS1 EVS2 EVS3 EVS4	Please contact our sales department

EVS1-EVS2-EVS3-EVS4

UNLOADING 2W-2P SOLENOID VALVE AND RELIEF

EO.146.0725.14.00IM03



A	CODE	DISPLACEMENTS	
	6.5	6.5 cm ³ /rev.	0.40 cu.in/rev.
	8.3	8.3 cm ³ /rev.	0.51 cu.in/rev.
	11.3	11.5 cm ³ /rev.	0.68 cu.in/rev.
	13.8	14 cm ³ /rev.	0.85 cu.in/rev.
	16	16.6 cm ³ /rev.	1.01 cu.in/rev.
	19	19.4 cm ³ /rev.	1.18 cu.in/rev.
	22.5	22.9 cm ³ /rev.	1.37 cu.in/rev.
	26	26.7 cm ³ /rev.	1.63 cu.in/rev.

B	ROTATION	CODE
	Clockwise	D
	Anti-clockwise	S
	Reversible	R

C	PORTS	CODE
	Flanged ports european standard	P
	Flanged ports german standard	B
	Flanged ports SAE J518 Metric thread	W
	Flanged ports SAE J518 American standard thread	S
	Threaded ports GAS (BSPP)	G
	Threaded ports SAE (ODT)	R

D	DRIVE SHAFT	CODE
	Tang drive for electric motors	03
	Tapered 1:5	25
	Tapered 1:8	28
	SAE A splined 9T	52
	SAE A splined 11T	54
	9 teeth DIN 5482 splined	62
	5/8" SAE A parallel	82
	3/4" SAE A parallel	85
	Tapered 1:5 (only for CB-CL) Continental shaft	26
	SAE B Parallel Continental shaft	87
	8x32x36 UNI 8953 splined Continental shaft	66
	8x32x36 UNI 8953 splined Continental shaft	67
	6x21x25 UNI 8953 splined Continental shaft	73

E	MOUNTING FLANGES	CODE
	European standard	P1
	German standard Ø80	B1
	German standard Ø52	B2-B3
	German standard Ø50	B4-B5
	4 bolts for Iveco engines	C1
	SAE A 2 bolts	S2
	SAE A 2 Bolts (with o-ring on the centering collar)	S6
	3 BOLT UNI 8953 for gear box	T1
	4 Bolts for ZF gear box	Z2
	For Internal combustion engines with Outtrigger bearing	CL
	For Internal combustion engines with axial and radial loads - with Outtrigger bearing	CF
	SAE A with Outtrigger bearing	CS
	German standard with Outtrigger bearing	CB
	European standard with Outtrigger bearing	CP
	SAE B with Outtrigger bearing	CSB
	4 Bolts for ZF gear box with Outtrigger bearing	Z1

F	SEAL	CODE
	Buna standard (standard configuration)	-
	Viton	V

G	PORTS LAYOUT	CODE
	Side ports (standard configuration)	-
	Rear ports	1

H	REAR COVERS	CODE
	Lateral drain	LD
	Adjustable pressure relief valve-Internal discharge	■ VS
	Adjustable setting pressure relief valve-External discharge	■ VSE
	Internal drain valve	IDV
	Anti-cavitation valve	VR
	Electric unloading valve (12V)	EV1/EV3
	Electric unloading valve (24V)	EV2/EV4
	Pressure relief and electric unloading valves (12V)	EVS1/EVS3
	Pressure relief and electric unloading valves (24V)	EVS2/EVS4

I	PAINTING	CODE
	Not painted (standard configuration)	-
	Black painted RAL 9005	BP

How to order Motor

2MGE, displacement (19), clockwise rotation (D), ports SAE (R), drive shaft (54), mounting flange (S2)= **2MGE19D-R54S2**



Motor Changing Rotation Instructions

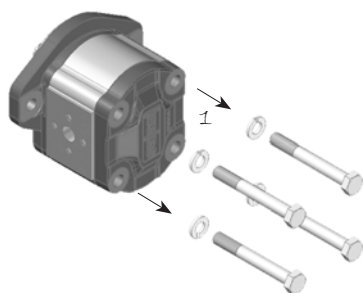
- !** Keep the working surface cleaned as well as the exterior of the pump before starting and avoid inner contamination of the pump. The motor shown below is a anti - clockwise rotating motor.
To achieve clockwise rotation, please read the following instructions carefully.

ANTI - CLOCKWISE ROTATION

Outlet



Inlet

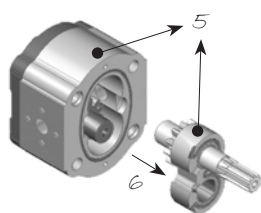
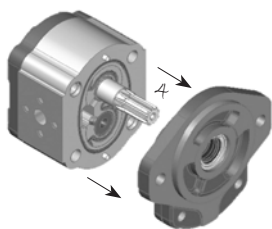


1 - Loosen and fully unscrew the screws.

2 - Lay the motor on the working area in order to have the mounting flange turned upside.

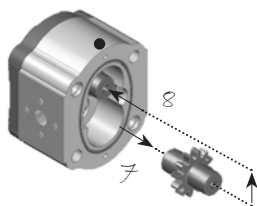
3 - Coat the shaft extension with grease to avoid damaging the shaft seal.

4 - Remove the flange and lay it on the working area; verify that the seal is correctly located in the body seat.



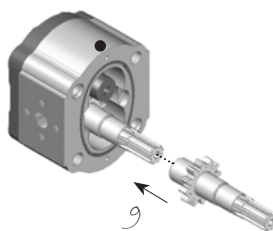
5 - Mark the position of the bushing and eventually the thrust plate, relative to the body.

6 - Remove the bushing, thrust plate and the driving gear taking care to avoid driven gear axial shifts.

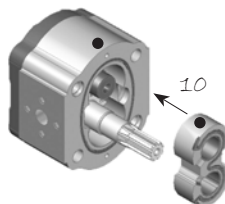


7 - Draw out the driven gear from its housing, taking care to avoid rear cover axial shifts.

8 - Re-locate the driven gear in the position previously occupied by the driving gear.



9 - Re-locate the driving gear in the position previously occupied by the driven gear.



10 - Replace the bushing and thrust plate taking care that:
- marks are located as on the picture
- surface containing the seal is visible
- seal and its protection are correctly located.

11 - Clean body and mounting flange refaced surfaces.

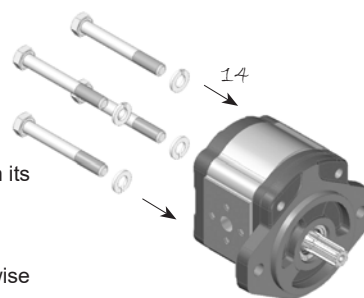
12 - Verify that the two plugs are located in the body.

13 - Refit the mounting flange, turned 180° from its original position.

14 - Replace the clamp bolts and tighten crosswise evenly to an appropriate torque.

15 - Check that the shaft rotates freely.

16 - Mark on the flange the new direction of rotation.



CLOCKWISE ROTATION

Inlet

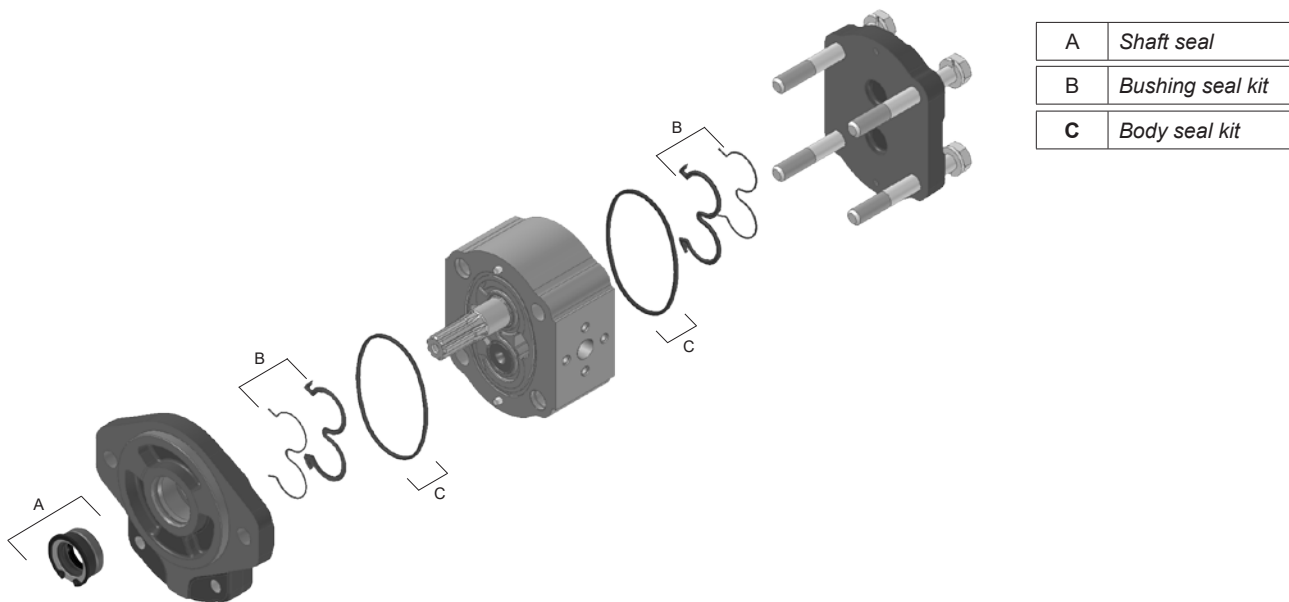


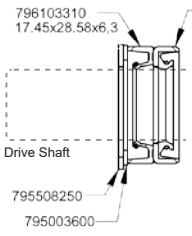
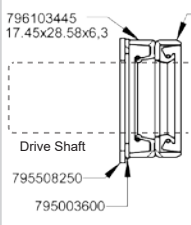
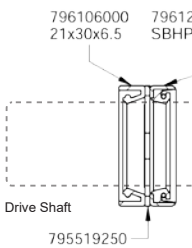
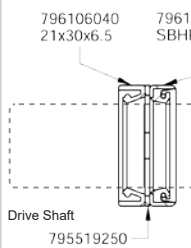
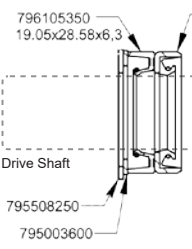
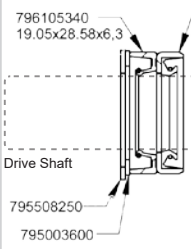
Outlet





Unidirectional Motor Seal Spare Parts Kit

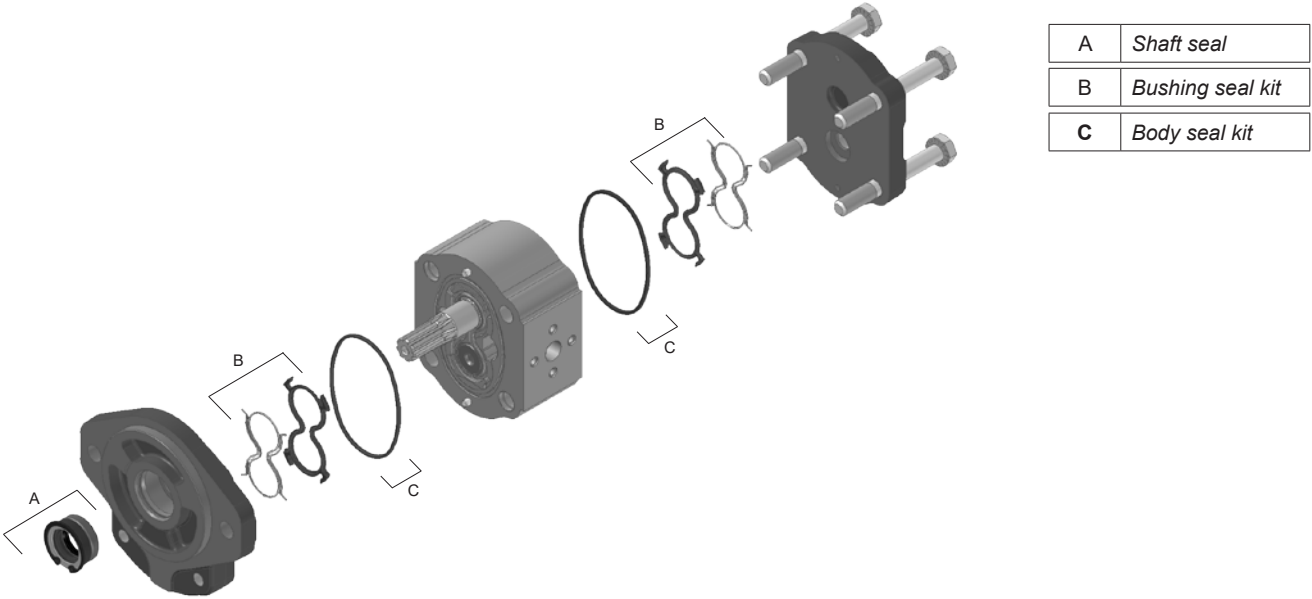


SHAFT & FLANGE TYPE	NBR COMPOUND		FPM COMPOUND	
	Complete seal kit (A+B+C)	Shaft seal kit (A)	Complete seal kit (A+B+C)	Shaft seal kit (A)
28P1 25B1/B4/B5 62P1/B1/B4/B5 82P1/S2/S6 52S2/S6	Part Number R12092850	 796103310 17.45x28.58x6,3 796126800 SBHP 17.45x28.58x6,3 20 bar 795508250 795003600 Part Number R12040122	Part Number R12092860	 796103445 17.45x28.58x6,3 796126840 SBHP 17.45x28.58x6,3 20 bar 795508250 795003600 Part Number R12040123
73T1 67Z2	Part Number R14690030	 796106000 21x30x6,5 796127000 SBHP 21x30x6,5 20 bar 795519250 Part Number R14640012	Part Number R14690040	 796106040 21x30x6,5 796127040 SBHP 21x30x6,5 20 bar 795519250 Part Number R14640013
54S2/S6 85S2/S6	Part Number R12092870	 796105350 19.05x28.58x6,3 796126900 SBHP 19.05x28.58x6,3 20 bar 795508250 795003600 Part Number R12240114	Part Number R12092880	 796105340 19.05x28.58x6,3 796126940 SBHP 19.05x28.58x6,3 20 bar 795508250 795003600 Part Number R12240113

EO.146.0725.14.00IM03



Bidirectional Motor Seal Spare Parts Kit



SHAFT & FLANGE TYPE	NBR COMPOUND		FPM COMPOUND	
	Complete seal kit (A+B+C)	Shaft seal kit (A)	Complete seal kit (A+B+C)	Shaft seal kit (A)
28P1 25B1/B4/B5 62P1/B1/B4/B5 82P1/S2/S6 52S2/S6	Part Number R12081820	796103310 17.45x28.58x6,3 796126800 SBHP 17.45x28.58x6,3 20 bar 795508250 795003600 Drive Shaft Part Number R12040122	Part Number R12081830	796103445 17.45x28.58x6,3 796126840 SBHP 17.45x28.58x6,3 20 bar 795508250 795003600 Drive Shaft Part Number R12040123
73T1 67Z2	Part Number R14690031	796106000 21x30x6,5 796127000 SBHP 21x30x6,5 20 bar 795519250 Drive Shaft Part Number R14640012	Part Number R14690041	796106040 21x30x6,5 796127040 SBHP 21x30x6,5 20 bar 795519250 Drive Shaft Part Number R14640013
54S2/S6 85S2/S6	Part Number R12092835	796105350 19.05x28.58x6,3 796126900 SBHP 19.05x28.58x6,3 20 bar 795508250 795003600 Drive Shaft Part Number R12240114	Part Number R12092836	796105340 19.05x28.58x6,3 796126940 SBHP 19.05x28.58x6,3 20 bar 795508250 795003600 Drive Shaft Part Number R12240113

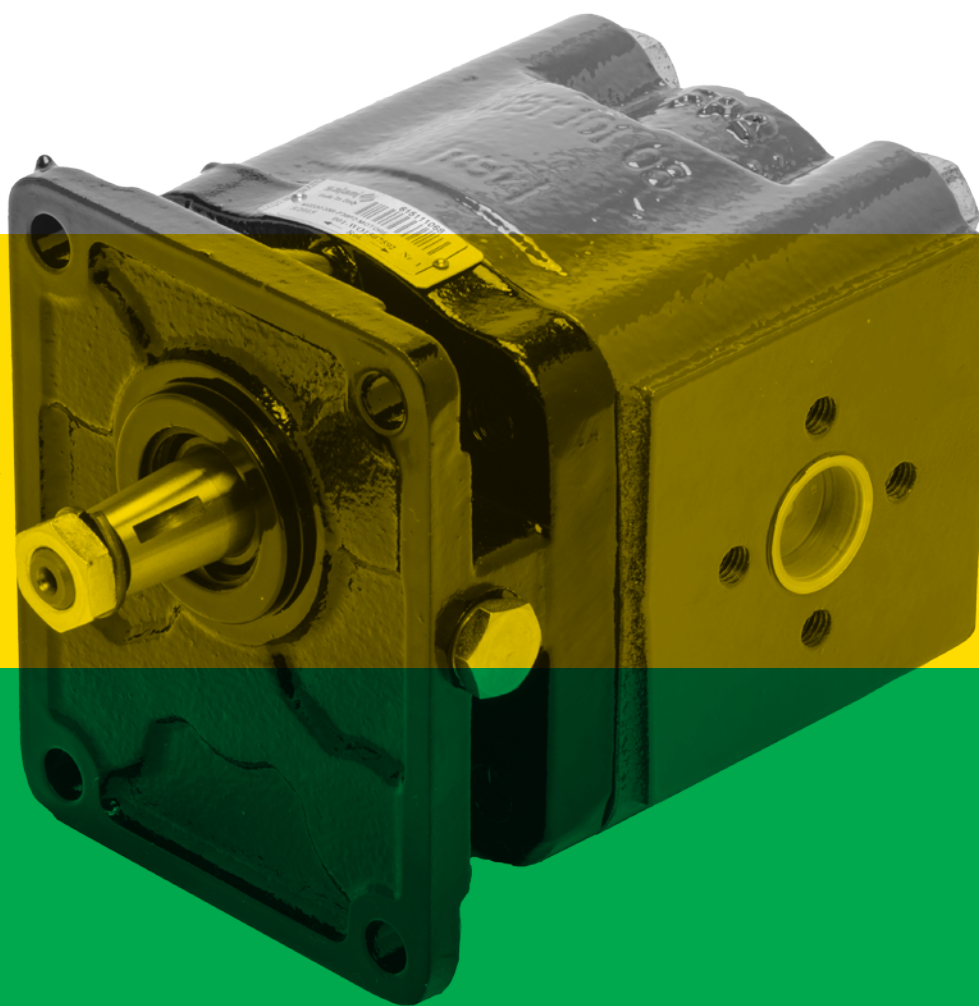
EO.146.0725.14.00IM03

MG330

High Pressure Cast Iron Gear Motors

Technical/Spare Parts Catalogue

E0.151.0725.14.00IM02



COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9001

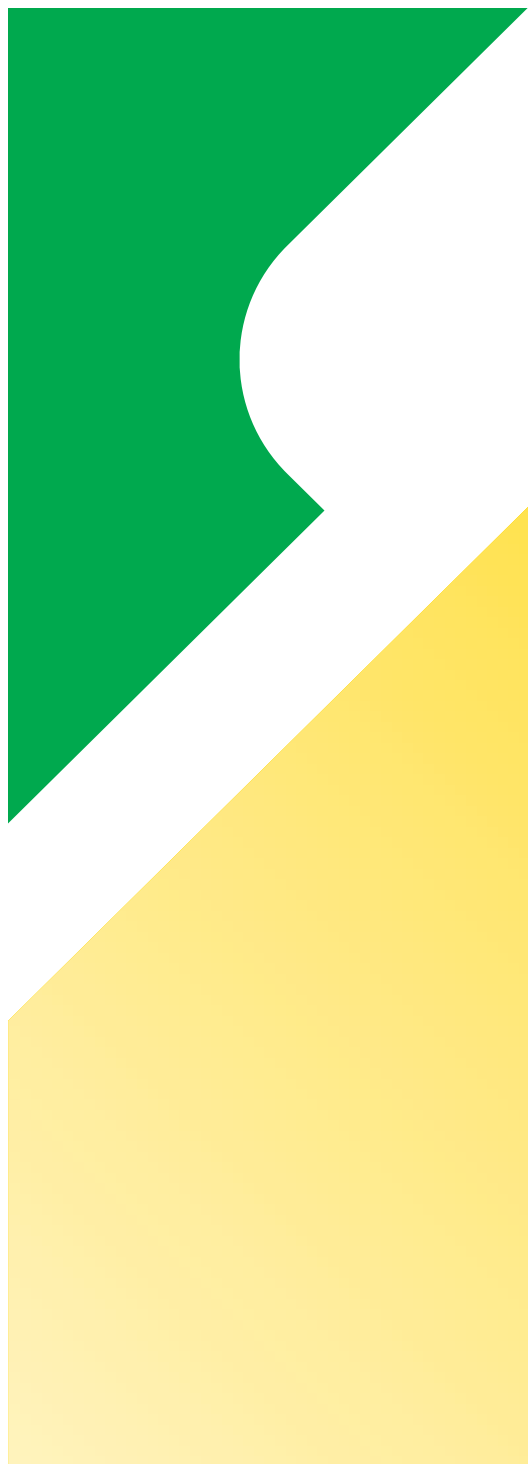


salami 
FLUID POWER SYSTEMS

Final revised edition - July 2025

The data in this catalogue refers to the standard product. The policy of Salami S.p.A. consists of a continuous improvement of its products. It reserves the right to change the specifications of the different products whenever necessary and without giving prior information.

If any doubts, please contact our sales department.



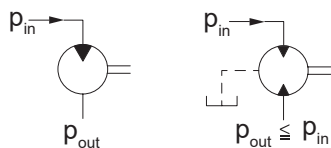
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MG330 Motor - Dimensions and Technical Data



Displacements up to 73.4 cm³/rev - 4.48 cu.in./rev
Pressure up to 300 bar - 4350 psi

TYPE	Displacement		Dimension A		Dimension C		Max. continuous pressure p ¹		Max. starting pressure p ²		Min. speed at p ²	Max. speed at p ^{1***}	Weight	
	cm ³ /rev	cu.in./rev	mm	in	mm	in	bar	psi	bar	psi	min ⁻¹		kg	lbs
MG330 - 23	23.4	1.43	77	3.03	35	1.38	240	3480	300	4350	600	3000	13.2	29.21
MG330 - 28	28.6	1.74	81	3.19	38	1.49	240	3480	300	4350	600	3000	13.7	30.20
MG330 - 34	34.4	2.10	85.5	3.36	42.5	1.67	240	3480	300	4350	600	3000	14.2	31.30
MG330 - 40	40.3	2.46	90	3.54	47	1.85	220	3190	280	4060	550	2700	14.7	32.41
MG330 - 47	47.4	2.89	101.5	3.40	50	1.97	240	3480	280	4060	550	2700	17.0	37.48
MG330 - 55	55.2	3.37	107.5	4.23	56	2.20	220	3190	280	4060	550	2700	17.7	39.02
MG330 - 64	64.3	3.92	114.5	4.51	58	2.28	200	2900	260	3750	500	2500	18.5	40.79
MG330 - 72	73.4	4.48	121.5	4.78	61	2.40	200	2900	260	3750	500	2500	19.4	42.77

**Permissible drain pressure decrease with encreasing speed

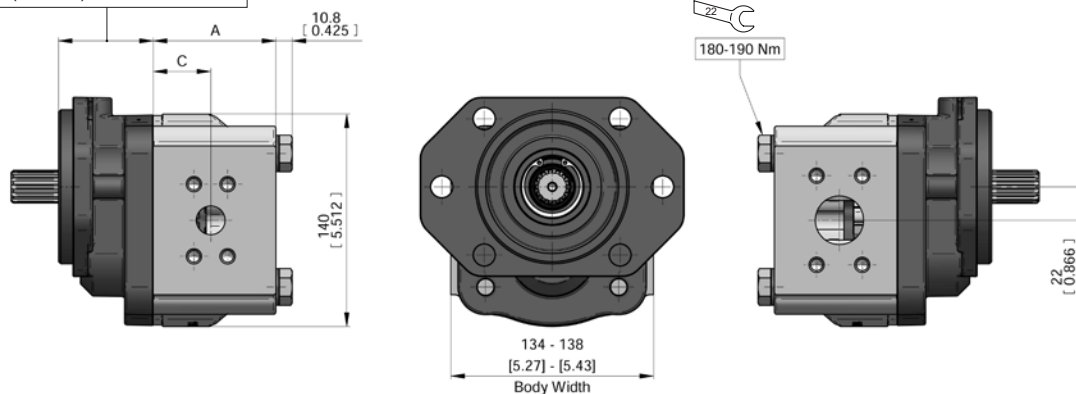
For flanges code:

S3 → 53 mm (2.09 in.) for displ. 23 to 40
64 mm (2.52 in.) for displ. 47 to 80

P2 → 54 mm (2.13 in.)

S4/R8/Z1/Z2 → 85 mm (3.35 in.)

R3 → 64 mm (2.52 in.)

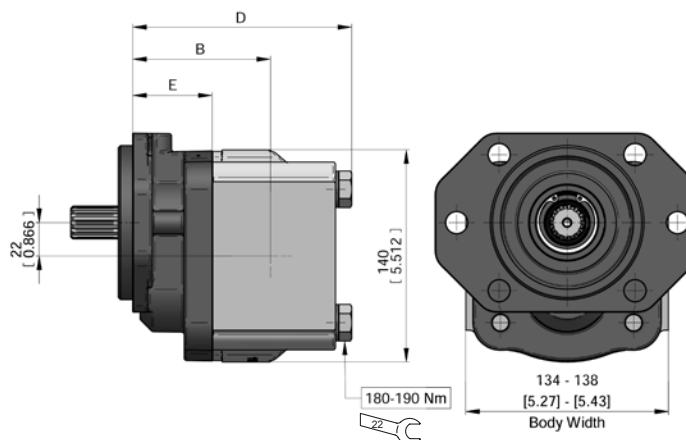


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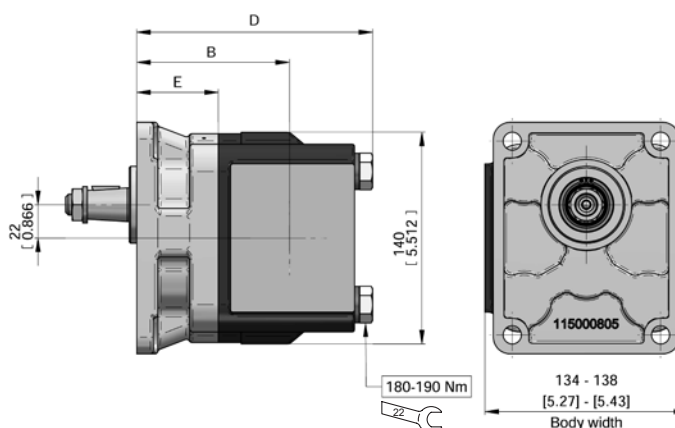
Dimensions - Shaft 55/Flange S3 (SAE B)

TYPE	Dimension D		Dimension B		Dimension E	
	mm	in	mm	in	mm	in
23	140.8	5.54	88	3.46	53	2.09
28	144.8	5.70	91	3.58		
34	149.3	5.88	95.5	3.76		
40	153.8	6.00	100	3.94		
47	176.3	6.94	114	4.49	64	2.52
55	182.3	7.18	120	4.72		
64	189.3	7.45	122	4.80		
72	196.3	7.73	125	4.92		



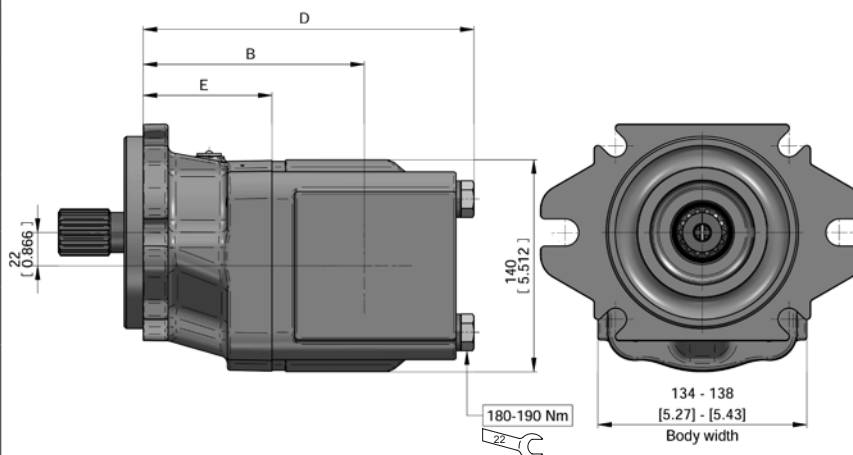
Dimensions - Shaft 38/Flange P2 (European)

TYPE	Dimension D		Dimension B		Dimension E	
	mm	in	mm	in	mm	in
23	141.8	5.58	89	3.50	54	2.13
28	145.8	5.74	92	3.62		
34	150.3	5.92	96.5	3.80		
40	154.3	6.10	101	3.98		
47	166.3	6.55	104	4.10		
55	172.3	6.78	110	4.33		
64	179.3	7.05	112	4.41		
72	186.3	7.33	115	4.53		



Dimensions - Shaft 58/Flange S4 (SAE C)

TYPE	Dimension D		Dimension B		Dimension E	
	mm	in	mm	in	mm	in
23	172.8	6.80	120	4.72	85	3.35
28	176.8	6.96	123	4.84		
34	181.3	7.14	127.5	5.02		
40	185.3	7.30	132	5.20		
47	197.3	7.77	135	5.31		
55	203.3	8.00	141	5.55		
64	210.3	8.28	143	5.63		
72	217.3	8.55	146	5.75		

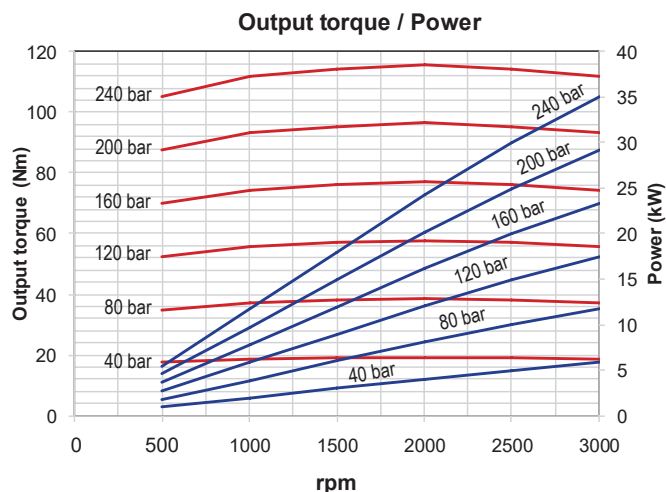
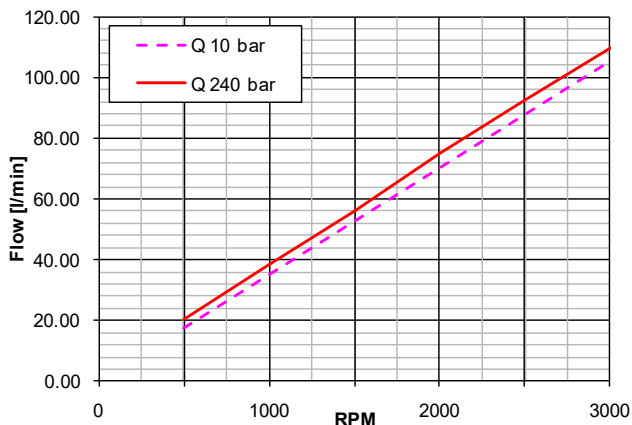


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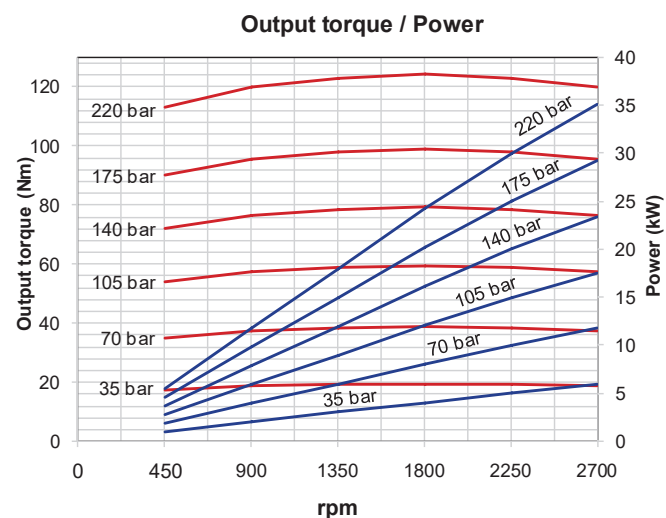
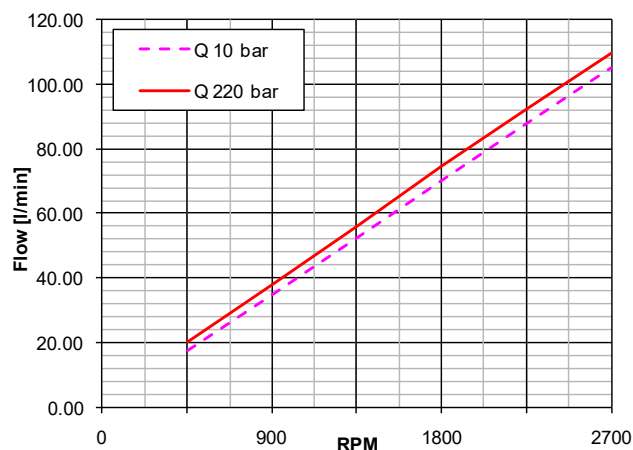


Motor Performance Curves

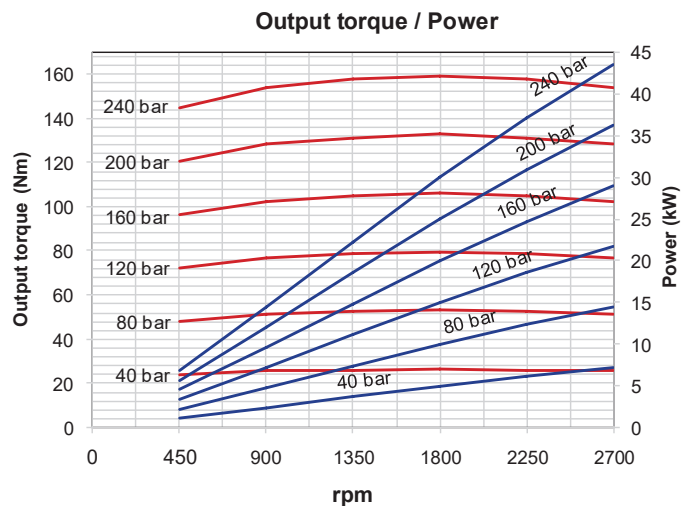
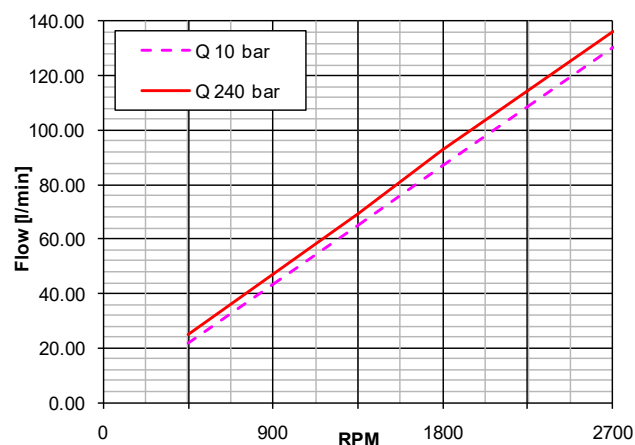
Performance curves carried out with oil viscosity at 21 cSt and oil temperature at 50°C



MG330 - 34



MG330 - 40



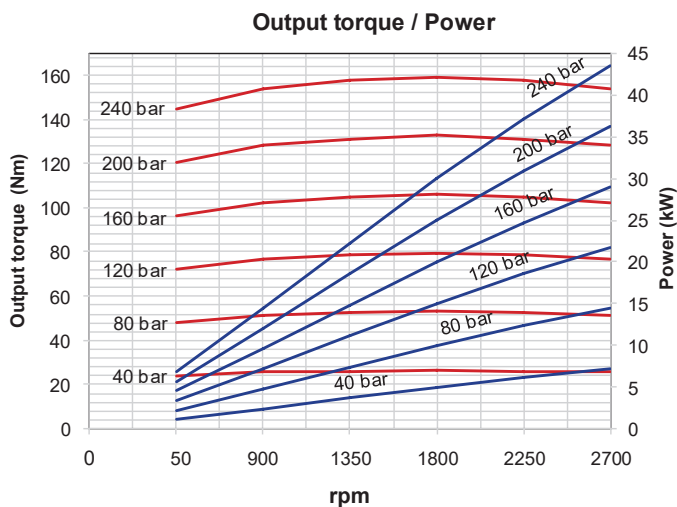
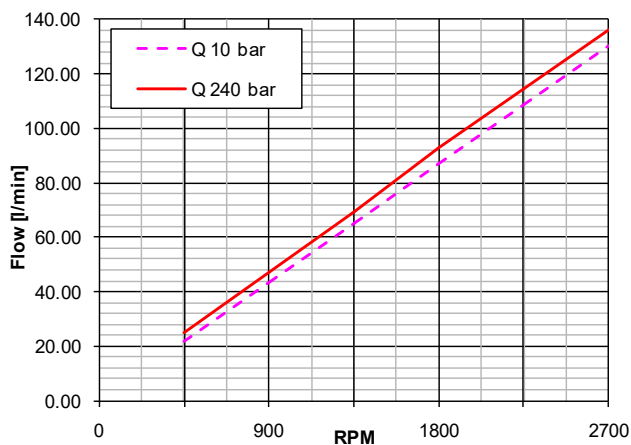
2MGE - 47

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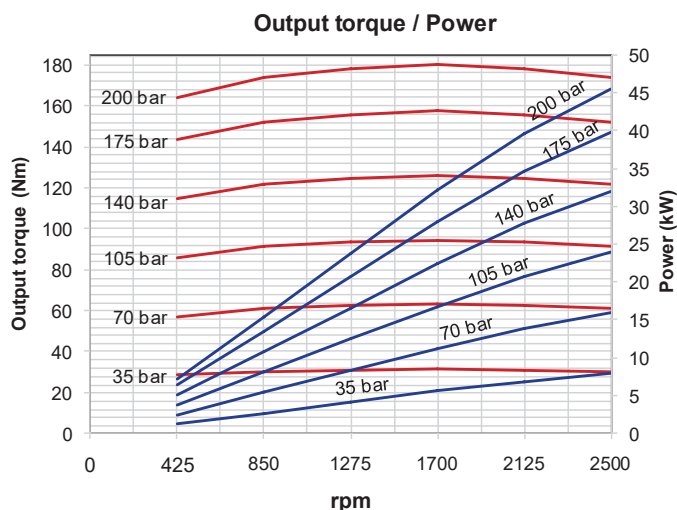
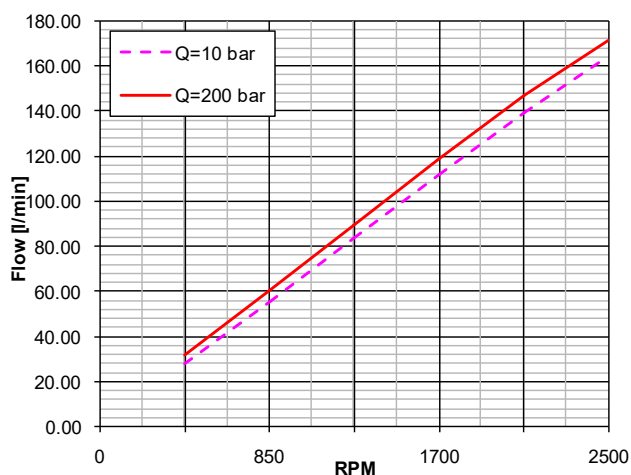


Motor Performance Curves

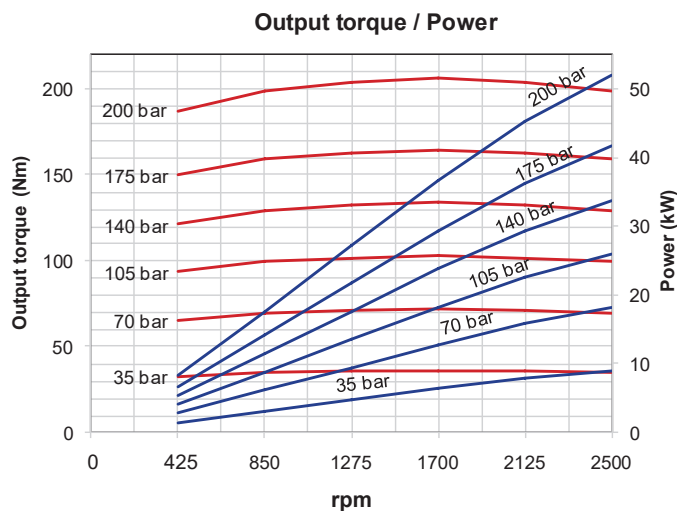
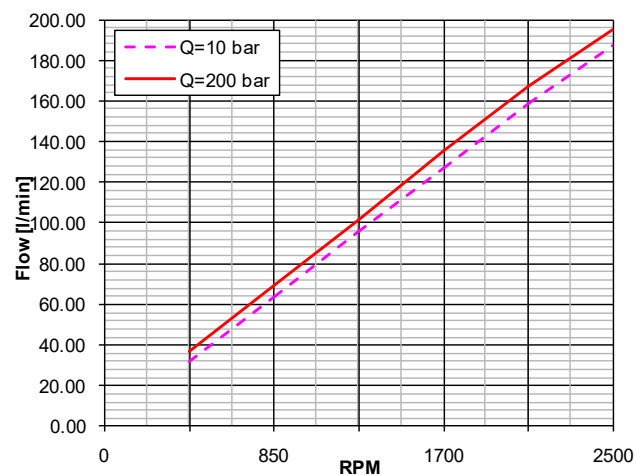
Performance curves carried out with oil viscosity at 21 cSt and oil temperature at 50°C



MG330 - 55



MG330 - 64

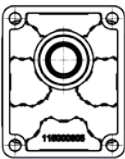
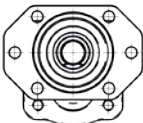
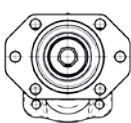
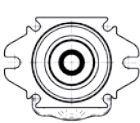
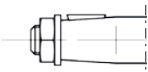
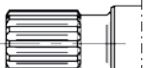
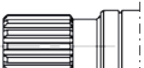


MG330 - 72

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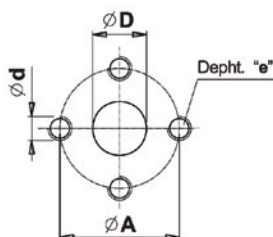
Shaft And Flange Combinations

MG330						
		CODE P2	CODE S3	CODE S4	CODE R3	CODE R8
		FLANGES			FLANGES WITH OUTRIGGER BEARING	
SHAFT END	 CODE 38	38P2				
	 CODE 55		55S3		55R3	
	 CODE 56		56S3		56R3	
	 CODE 87		87S3		87R3	
	 CODE 88		88S3		88R3	
CONTINENTAL SHAFTS	 CODE 58		58S3	58S4		
	 CODE 57					57R8
	 CODE 89					89R8

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Flanged Ports



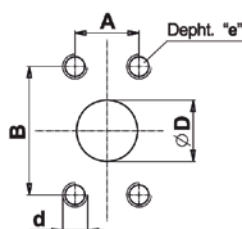
code P

Flanged ports
european standard

M8	20 Nm (14.7 lbf-ft)
M10	35 Nm (25.8 lbf-ft)
M12	65 Nm (47.9 lbf-ft)

MOTORS	UNI-DIRECTIONAL							
	OUTLET				INLET			
	Ø D	Ø A	d	e	Ø D	Ø A	d	e
From 23 to 47	27 (1.07")	51 (2.01")	M10	16 (0.63")	16 (0.63")	40 (1.57")	M8	16 (0.63")
From 55 to 72	33 (1.3")	62 (2.44")	M12	16 (0.63")	21 (0.83")	51 (2.01")	M10	16 (0.63")

MOTORS	BI-DIRECTIONAL							
	INLET				OUTLET			
	Ø D	Ø A	d	e	Ø D	Ø A	d	e
From 23 to 47	16 (0.63)	40 (1.57")	M8	16 (0.63")	16 (0.63)	40 (1.57")	M8	16 (0.63")
From 55 to 72	27 (1.07")	51 (2.01")	M10	16 (0.63")	27 (1.07")	51 (2.01")	M10	16 (0.63")

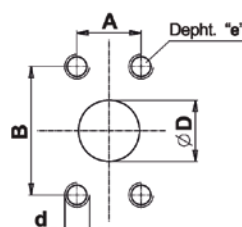


code W

Flanged ports
SAE J518
METRIC THREAD

M10	35 Nm (25.8 lbf-ft)
M12	65 Nm (47.9 lbf-ft)

MOTORS	UNI-DIRECTIONAL									
	OUTLET					INLET				
	ØD	B	A	d	e	ØD	B	A	d	e
From 23 to 47	32 (1.26")	58.72 (2.31")	38.18 (1.19")	M10	18 (0.71")	19 (0.75")	47.6 (1.87")	22.2 (0.87")	M10	18 (0.71")
From 55 to 72	39.3 (1.55")	69.8 (2.75")	35.7 (1.40")	M12	15 (0.59")	32 (1.26")	58.72 (2.31")	30.18 (1.19")	M10	18 (0.71")



code S

Flanged ports
SAE J518
AMERICAN STANDARD
THREAD

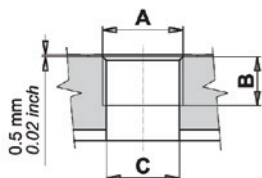
3/8-16 UNC	35 Nm (25.8 lbf-ft)
7/16-14 UNC	45 Nm (33.2 lbf-ft)
1/2-13 UNC	65 Nm (47.9 lbf-ft)

MOTORS	UNI-DIRECTIONAL									
	OUTLET					INLET				
	ØD	B	A	d	e	ØD	B	A	d	e
From 23 to 47	32 (1.26")	58.72 (2.31")	30.18 (1.19")	7/16-14 UNC	18 (0.71")	19 (0.75")	47.6 (1.87")	22.2 (0.87")	3/8-16 UNC	18 (0.71")
From 55 to 72	39.3 (1.55")	69.8 (2.75")	35.7 (1.40")	1/2-13 UNC	15 (0.59")	32 (1.26")	58.72 (2.31")	30.18 (1.19")	3/8-16 UNC	18 (0.71")

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Threaded Ports



code G

Threaded ports
GAS (BSPP)

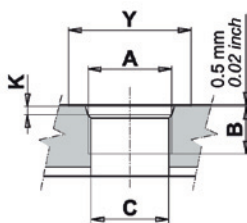
G 3/4	90 Nm (66.4 lbf-ft)
G 1	130 Nm (95.8 lbf-ft)
G 1 1/4	170 Nm (125.4 lbf-ft)



UNI-DIRECTIONAL						
MOTORS	OUTLET			INLET		
	A	B	C	A	B	C
From 23 to 40	G1	22 (0.87")	30.5 (1.2")	G3/4	16 (0.62")	24.4 (0.96")
From 47 to 72	G1 1/4	24 (0.94")	37 (1.46")	G1	22 (0.87")	30.5 (1.2")



BI-DIRECTIONAL/REAR PORTS (CODE 1)						
MOTORS	INLET			OUTLET		
	A	B	C	A	B	C
From 23 to 40	G3/4	16 (0.62")	24.4 (0.96")	G3/4	16 (0.62")	24.4 (0.96")
From 47 to 72	G1	22 (0.87")	30.5 (1.2")	G1	22 (0.87")	30.5 (1.2")



code R

Threaded ports
SAE (ODT)



SAE 12	90 Nm (66.4 lbf-ft)
SAE 16	130 Nm (95.8 lbf-ft)
SAE 20	170 Nm (125.4 lbf-ft)



UNI-DIRECTIONAL										
MOTORS	OUTLET					INLET				
	A	B	C	Y	K	A	B	C	Y	K
From 23 to 40	1-5/16-12 UN (SAE 16)	19 (0.75")	31 (1.22")	49 (1.93")	3.3 (0.13")	1-1/16-12 UN (SAE 12)	19 (0.75")	24.7 (0.97")	41 (1.16")	3.3 (0.13")
From 47 to 72	1-5/8-12 UN (SAE 20)	19 (0.75")	38.9 (1.53")	58 (2.28")	3.3 (0.13")	1-5/16-12 UN (SAE 16)	19 (0.75")	31 (1.22")	49 (1.93")	3.3 (0.13")



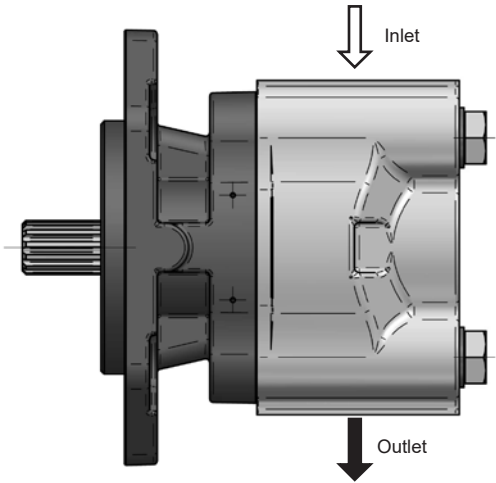
BI-DIRECTIONAL/REAR PORTS (CODE 1)										
MOTORS	INLET					OUTLET				
	A	B	C	Y	K	A	B	C	Y	K
From 23 to 40	1-1/16-12 UN (SAE 12)	19 (0.75")	24.7 (0.97")	41 (1.16")	3.3 (0.13")	1-1/16-12 UN (SAE 12)	19 (0.75")	24.7 (0.97")	41 (1.16")	3.3 (0.13")
From 47 to 72	1-5/16-12 UN (SAE 16)	19 (0.75")	31 (1.22")	49 (1.93")	3.3 (0.13")	1-5/16-12 UN (SAE 16)	19 (0.75")	31 (1.22")	49 (1.93")	3.3 (0.13")

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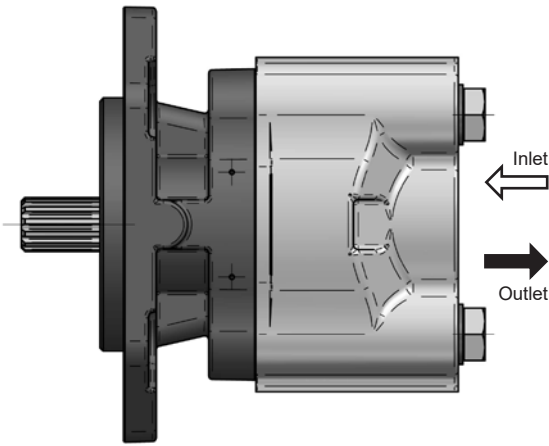


Ports layout

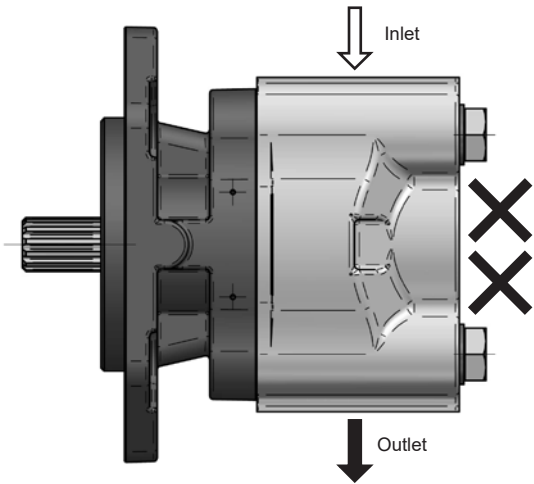
example with anti -clockwise rotation



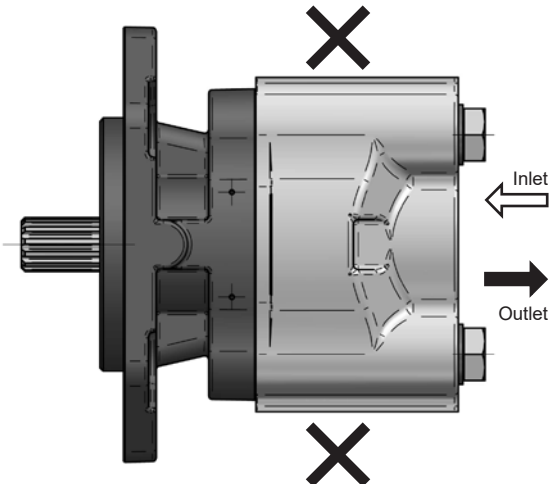
CODE 0



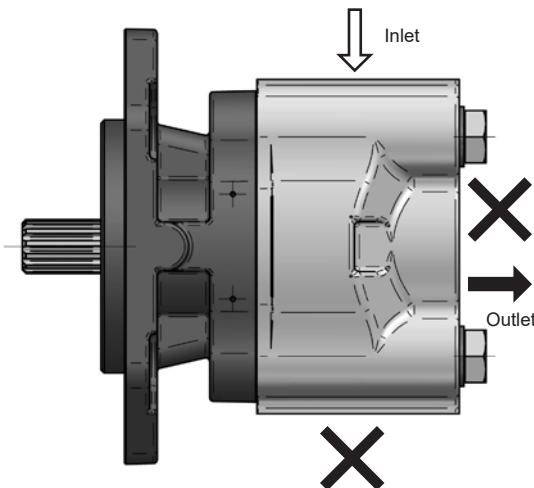
CODE 1



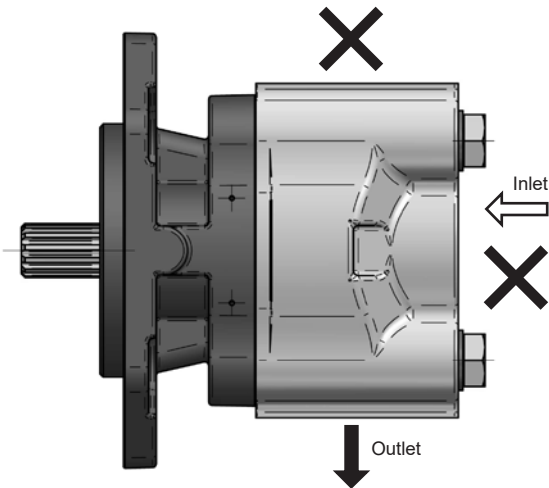
CODE 2



CODE 3



CODE 4

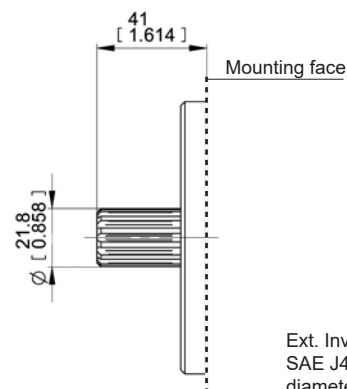
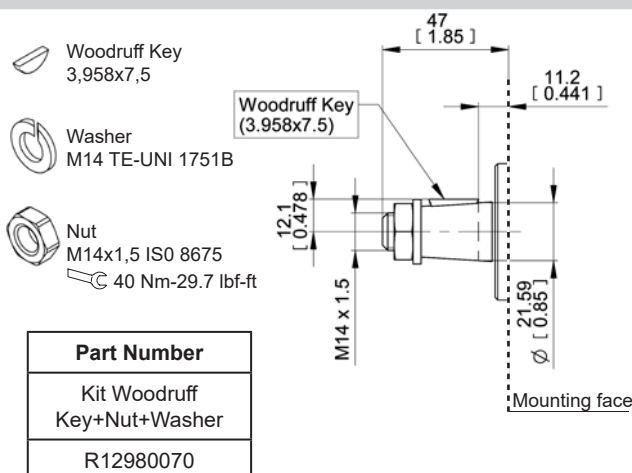


CODE 5

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Drive Shaft



Ext. Involute Spline
SAE J498B with outer
diameter modified 13
teeth - 16/32 Pitch
- 30 deg - Flat Root -
Side fit - Class 1

code 38

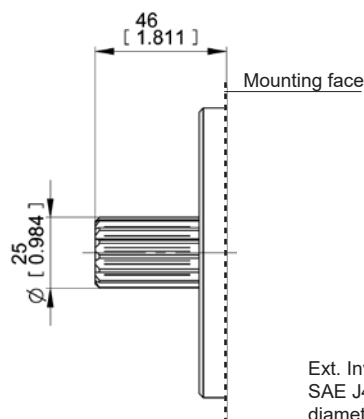
Max torque 250 Nm (2213 lbf in)

code 55

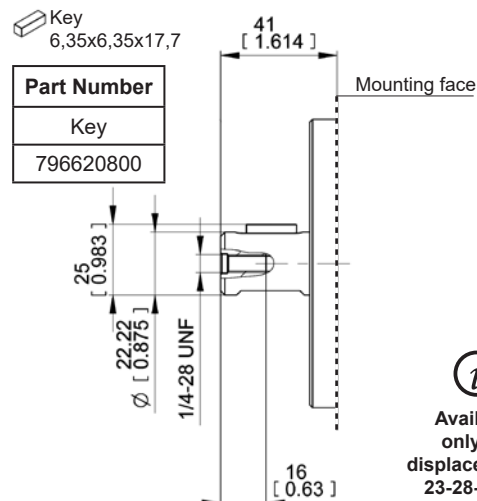
Max torque 330 Nm (2921 lbf in)

TAPERED 1:8

SAE B 13T-16/32DP SPLINED



Ext. Involute Spline
SAE J498B with outer
diameter modified 15
teeth - 16/32 Pitch
- 30 deg - Flat Root -
Side fit - Class 1



code 56

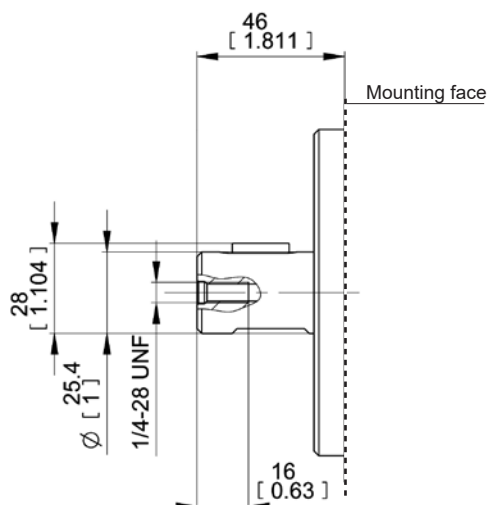
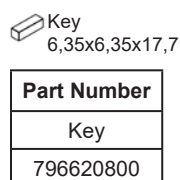
Max torque 480 Nm (4250 lbf in)

code 87

Max torque 220 Nm (1950 lbf in)

SAE BB 15T-16/32DP SPLINED

SAE B PARALLEL



code 88

Max torque 320 Nm (2830 lbf in)

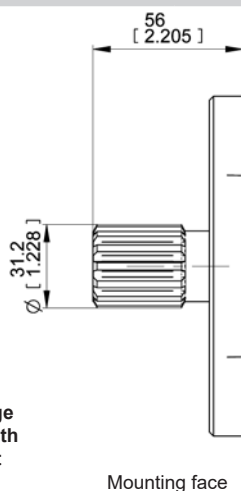
SAE BB PARALLEL



Continental Shaft



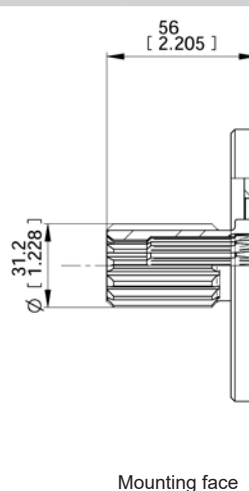
for S4
SAE C flange
Mounting with
solid shaft



Ext. Involute Spline SAE J498B with outer diameter modified 14 teeth - 12/24 Pitch - 30 deg - Flat Root - Side fit - Class 1



for S3
SAE B flange
Mounting with
coupling sleeve



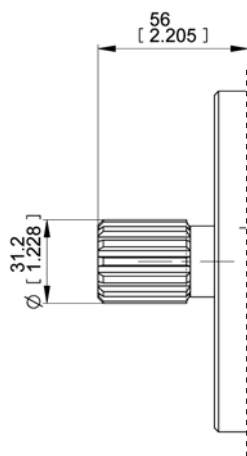
Ext. Involute Spline SAE J498B with outer diameter modified 14 teeth - 12/24 Pitch - 30 deg - Flat Root - Side fit - Class 1

code 58

Max torque 480 Nm (4250 lbt in)

Max torque 330 Nm (4250 lbt in)

SAE C 14T-12/24DP SPLINED



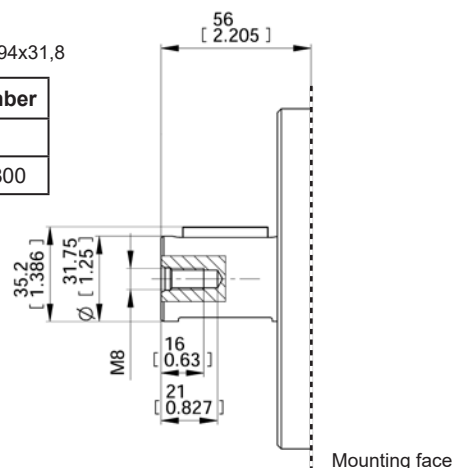
Ext. Involute Spline
SAE J498B with outer
diameter modified 14
teeth - 12/24 Pitch
- 30 deg - Flat Root -
Side fit - Class 1

Key
7,94x7,94x31,8

Part Number

Key

796620800



code 57

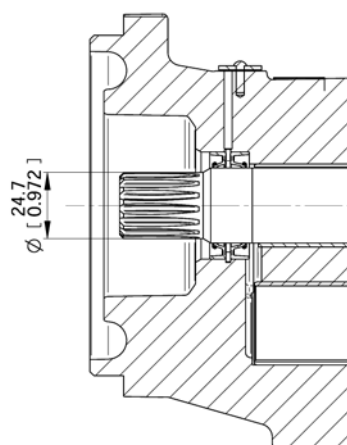
Max torque 480 Nm (4250 lbt in)

code 89

Max torque 480 Nm (4250 lbt in)

SAE C 14T-12/24DP SPLINED

SAE C PARALLEL



code 70

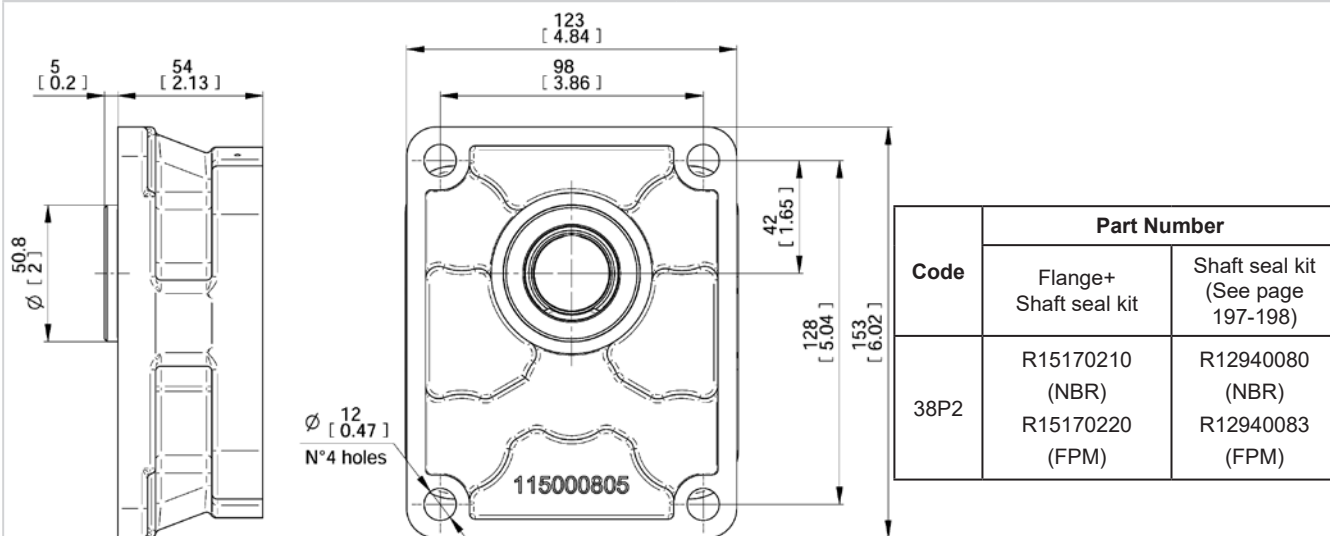
Max torque 480 Nm (4250 lbt in)

INTERNAL DRIVE SHAFT - W25X1.5X15X8F DIN 5480 SPLINED

EO.151.0725.14.00IM02



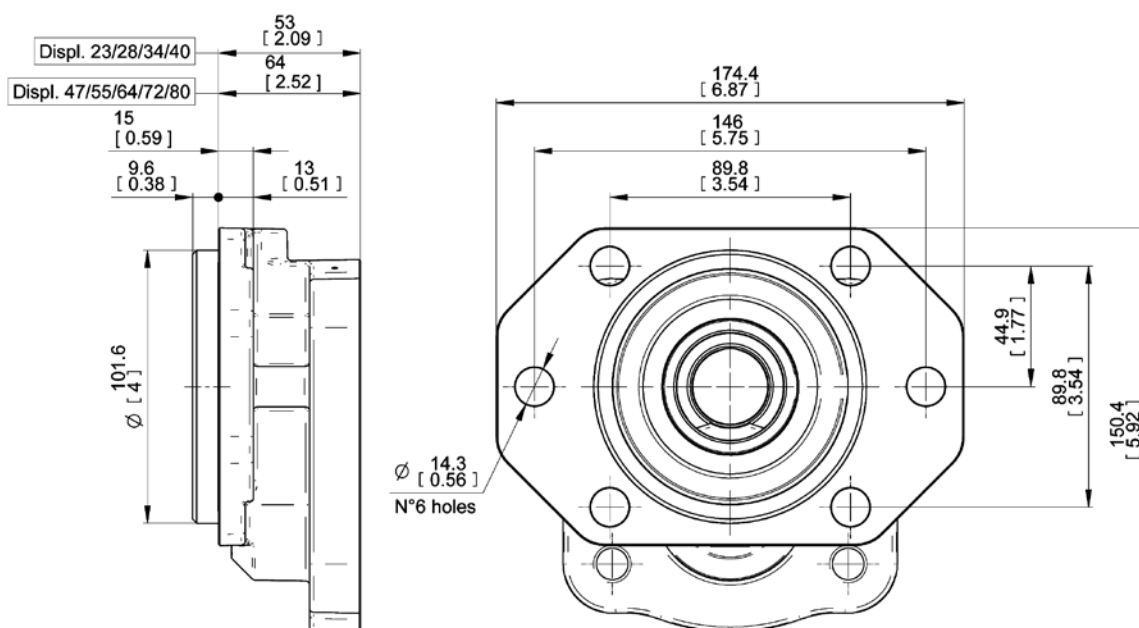
Mounting Flanges



P2

With shaft code 38

EUROPEAN STANDARD



Code	Part Number				
	Flange+Shaft seal kit				Shaft seal kit (See page 197-198)
55S3	Displ. from 23 to 40	R15170230 (NBR) R15170240 (FPM)	Displ. from 47 to 80	R15170250 (NBR) R15170260 (FPM)	R15170140 (NBR) R15170080 (FPM)
56S3					
87S3					
88S3		R15170270 (NBR) R15170280 (FPM)		R15170290 (NBR) R15170300 (FPM)	R15170130 (NBR) R15170131 (FPM)
58S3		R15170310 (NBR) R15170320 (FPM)		R15170330 (NBR) R15170340 (FPM)	R15020190 (NBR) R15020191 (FPM)

S3

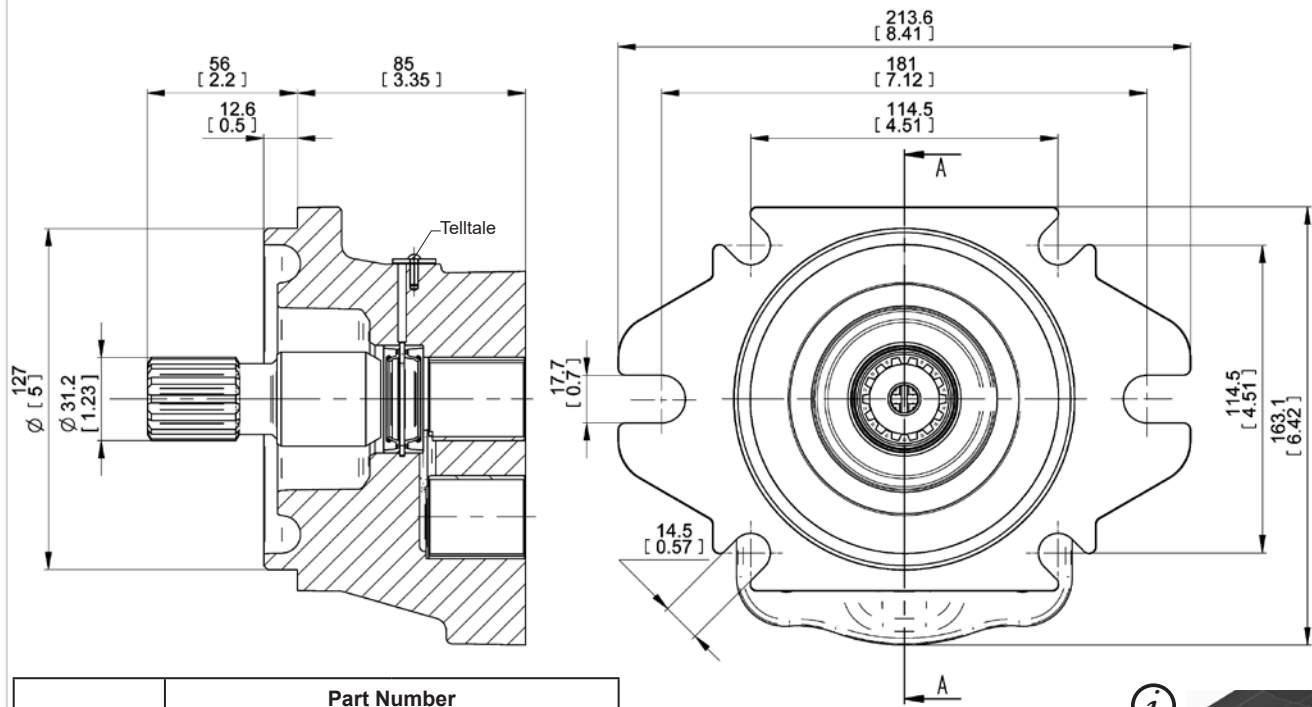
With shaft code 55-56-58-87-88

SAE B 2-4 BOLTS

EO.151.0725.14.001M02

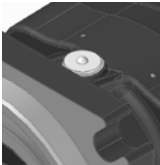


Mounting Flanges



Code	Part Number	
	Flange+Shaft seal kit	Shaft seal kit (See page 197-198)
58S4	R15020015 (NBR)	R15020190 (NBR)
	R15020017 (FPM)	R15020191 (FPM)

i
TellTale
drop in plug in case of failure,
outside leakage trough the
crossing hole is visible.

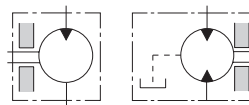


S4		With shaft code 58
SAE C 2-4 BOLTS		

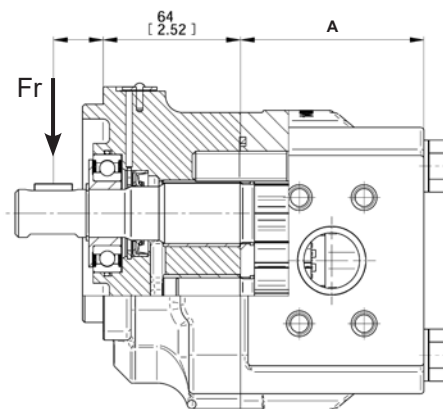
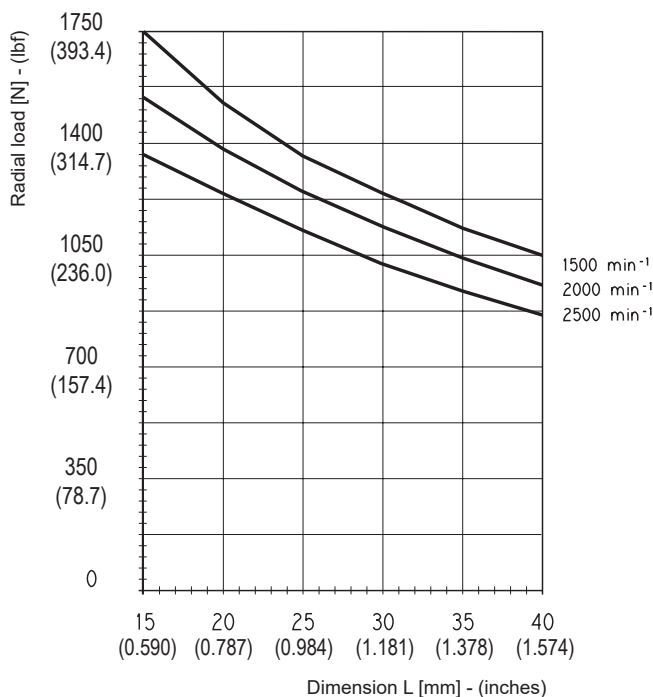


Mounting Flanges with Outrigger Bearing for Medium Loads (R3)

The following diagram shows radial load bearing capacity, in case of parallel axis drag.
The duty life of 3500 - 4000 hours is referred to a typical mobile application, when duty cycle is less than 100%.



L=Distance between mounting flange and radial force point of application [mm-inches]

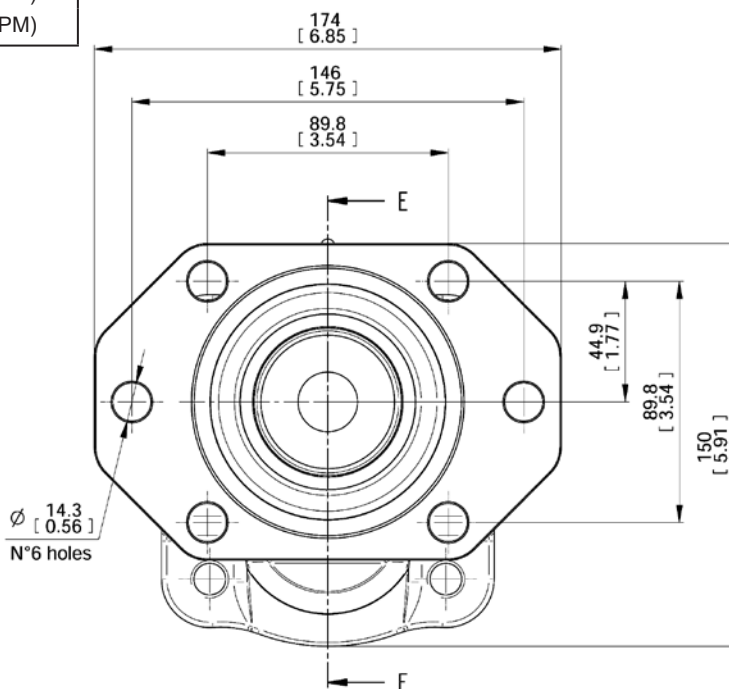
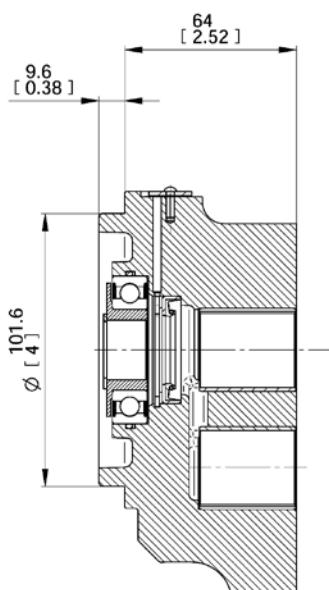


Type	A	
	mm	in
MG330 - 23	77	3.03
MG330 - 28	81	3.19
MG330 - 34	85.5	3.36
MG330 - 40	90	3.54
MG330 - 47	101.5	3.40
MG330 - 55	107.5	4.23
MG330 - 64	114.5	4.51
MG330 - 72	121.5	4.78
MG330 - 80	127.5	5.02

Code	Part Number
	Flange+Bearing support
55R3	R15020023 (NBR)
87R3	R15020090 (FPM)
56R3	R15020021 (NBR)
88R3	R15020080 (FPM)



Mounting with special shafts.
(Please contact our sales department).



R3



With shaft code 55-56-87-88

SAE B 2-4 BOLTS

EO.151.0725.14.001M02



Mounting Flanges with Outrigger Bearing for Heavy Loads (R8)

The following diagram shows radial load bearing capacity, in case of parallel axis drag. The duty life of 3500 - 4000 hours is referred to a typical mobile application, when duty cycle is less than 100%.



Example:

$F_r = 2500 \text{ N}$

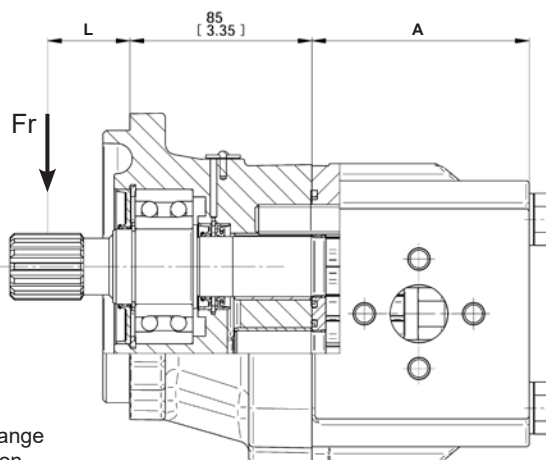
$L = 20$

Expected life: 2000 hrs

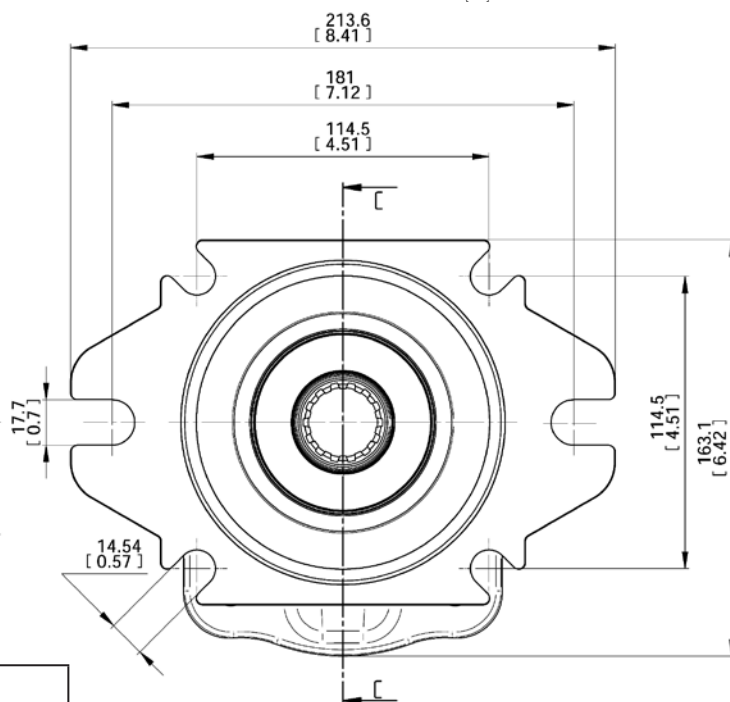
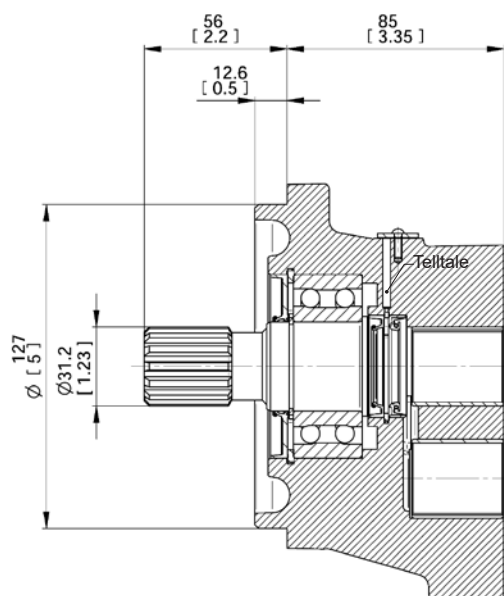
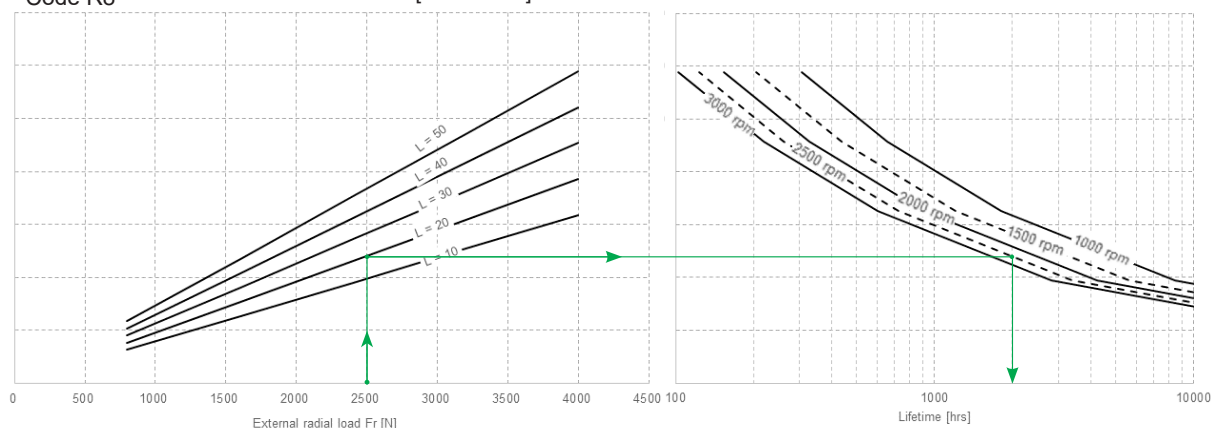
Speed = 2500 rpm

Type	A	
	mm	in
MG330 - 23	77	3.03
MG330 - 28	81	3.19
MG330 - 34	85.5	3.36
MG330 - 40	90	3.54
MG330 - 47	101.5	3.40
MG330 - 55	107.5	4.23
MG330 - 64	114.5	4.51
MG330 - 72	121.5	4.78
MG330 - 80	127.5	5.02

L=Distance between mounting flange and radial force point of application [mm-inches]



Code R8



Code	Part Number	
	Flange+Bearing support	
57R8	R15020060 (NBR)	R15020061 (NBR)
89R8	R15020070 (NBR)	R15020071 (NBR)

R8

With shaft code 57-89

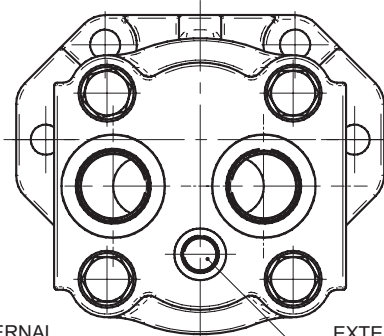
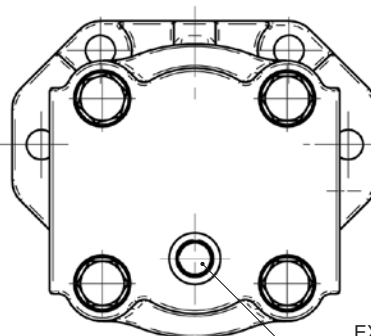
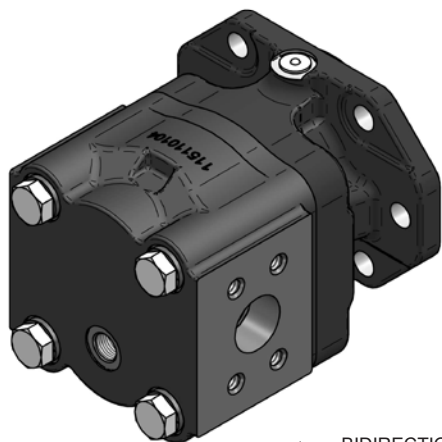
SAE C 2-4 BOLTS

TellTale
drop in plug in case of failure,
outside leakage trough the
crossing hole is visible.

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External Drain for Bidirectional Motor



EXTERNAL
DRAIN PORT
DIMENSION C

EXTERNAL
DRAIN PORT
DIMENSION C

Threaded Drain Port

C

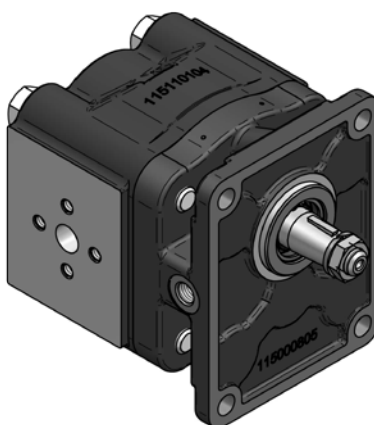
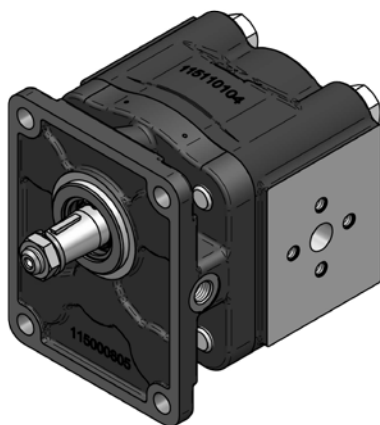
9/16-18 UNF-2B
SAE 6

G 3/8

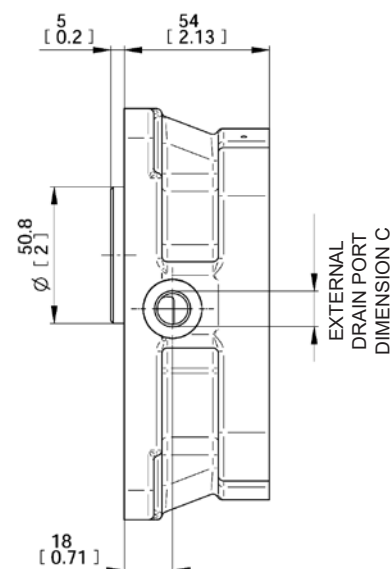


Available only threaded
ports see page 183

GEAR HOUSING TYPES



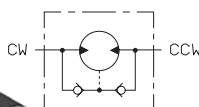
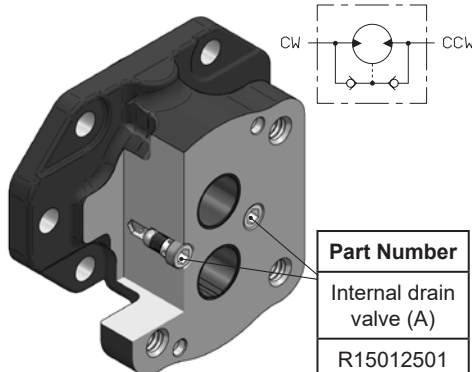
Code	Part Number	Threaded Drain Port
		C
P2 with lateral drain	R15000815	G 1/4



LD

P2 (EUROPEAN STANDARD) WITH LATERAL DRAIN

Internal Drain Valve for Bidirectional Motor



Part Number
Internal drain
valve (A)
R15012501

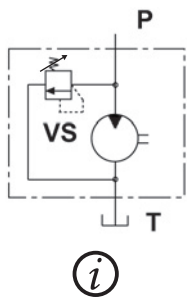
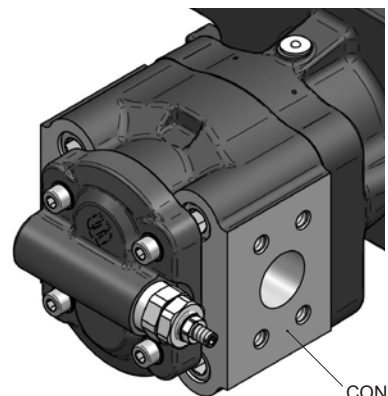
Code	Part Number			
	Flange+Shaft seal kit+Internal drain valve (A)			
P2-IDV	R15030020 (NBR)		R15030030 (FPM)	
S3-IDV	shafts 55-56-58-87	shaft 88	shafts 55-56-58-87	shaft 88
	R15012503 (NBR) (from 23cc to 40cc)	R15012511 (NBR) (from 23cc to 40cc)	R15012505 (FPM) (from 23cc to 40cc)	R15012512 (FPM) (from 23cc to 40cc)
	R15012502 (NBR) (from 47cc to 80cc)	R15012513 (NBR) (from 47cc to 80cc)	R15012506 (FPM) (from 47cc to 80cc)	R15012514 (FPM) (from 47cc to 80cc)
S4-IDV	R15012507 (NBR)		R15012508 (FPM)	
R8-IDV	R15012509 (NBR)		R15012510 (FPM)	

IDV

INTERNAL DRAIN FOR BI-DIRECTIONAL PUMP

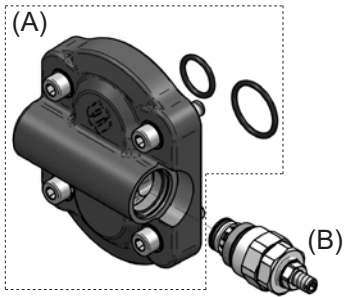
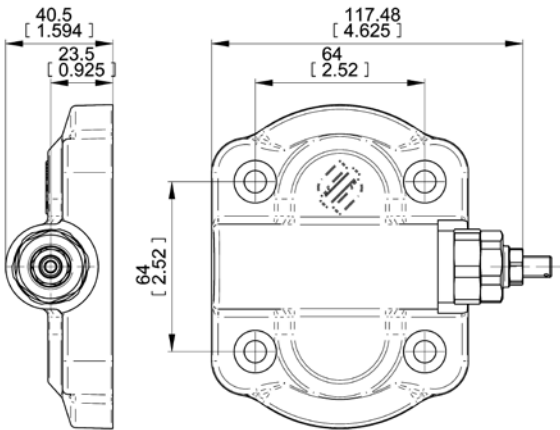


Rear Cover with Valves



Available up to 80 l/min

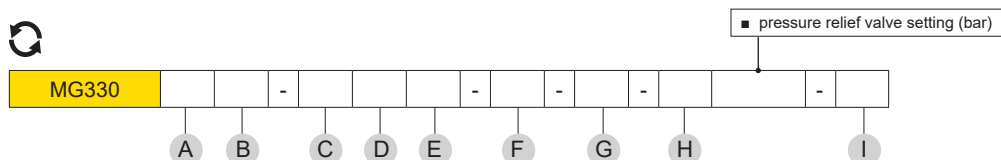
CONFIGURATION WITH SPECIAL
GEAR HOUSING



Code	Part Number	
	Cast iron Cover+O-ring (A)	Pressure relief valve (B) setting range
VS Internal Discharge	R15030010	796366200 20-70 bar
		796366300 71-150 bar
		796366400 151-215 bar
		796366500 216-265 bar

VS - MAIN RELIEF VALVE

EO.151.0725.14.00IM02



A	CODE	DISPLACEMENTS	
	23	23.4 cm ³ /rev.	1.43 cu.in/rev.
	28	28.6 cm ³ /rev.	1.74 cu.in/rev.
	34	34.4 cm ³ /rev.	2.1 cu.in/rev.
	40	40.3 cm ³ /rev.	2.46 cu.in/rev.
	47	47.5 cm ³ /rev.	2.89 cu.in/rev.
	55	55.2 cm ³ /rev.	3.37 cu.in/rev.
	64	64.3 cm ³ /rev.	3.92 cu.in/rev.
	72	73.4 cm ³ /rev.	4.48 cu.in/rev.

B	ROTATION	CODE
	Clockwise	D
	Anti-clockwise	S
	Reversible	R

C	PORTS	CODE
	Flanged ports European standard	P
	Flanged ports SAE J518 Metric thread	W
	Flanged ports SAE J518 American standard thread	S
	Threaded ports GAS (BSPP)	G
	Threaded ports SAE (ODT)	R

D	DRIVE SHAFT	CODE
	Tapered 1:8	38
	SAE B splined 13T	55
	SAE BB splined 15T	56
	SAE B PARALLEL	87
	SAE BB PARALLEL	88
	SAE C 14T-12/24DP Continental Shaft	58
	SAE C 14T-12/24DP Continental Shaft	57
	SAE C PARALLEL Continental Shaft	89

E	MOUNTING FLANGES	CODE
	European standard Ø50.8	P2
	SAE B 2-4 BOLTS	S3
	SAE C 2-4 BOLTS	S4
	SAE B 2-4 BOLTS (Medium Loads)	R3
	SAE C 2-4 BOLTS (Heavy Loads)	R8

F	SEAL	CODE
	Buna standard (standard configuration)	-
	Viton	V

G	PORTS LAYOUT	CODE
	Side ports (standard configuration)	-
	Rear ports	1
	Side ports - Rear ports plugged	2
	Rear ports - Side ports plugged	3
	Side Inlet port - Rear outlet port	4
	Rear Inlet port - Side outlet port	5

H	FLANGES AND REAR COVERS	CODE
	Adjustable main relief valve	■ VS
	Internal drain valve (Flange)	IDV
	Lateral drain on P2 (Flange European standard)	LD

I	PAINTING	CODE
	Not painted (standard configuration)	-
	Black painted RAL 9005	BP

How to order Motor

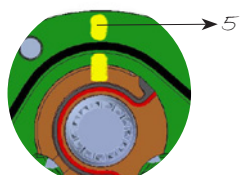
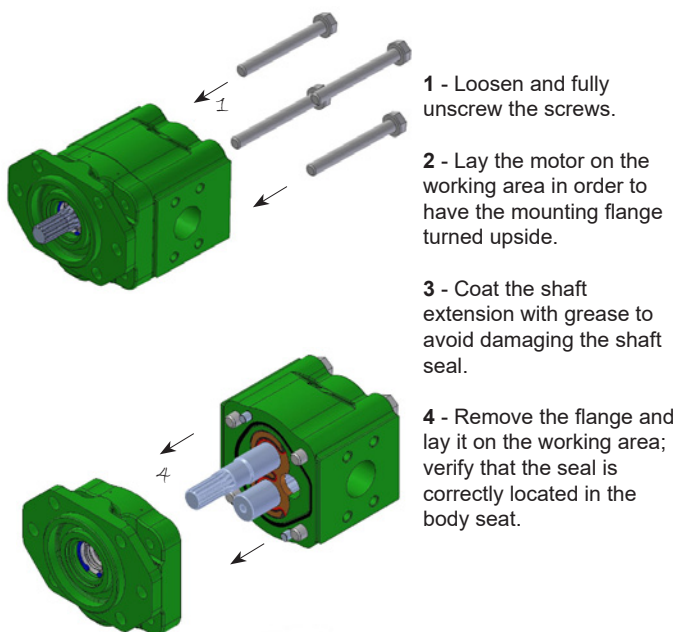
MG330, displacement (28), clockwise rotation (D), ports European (P), drive shaft (38), mounting flange (P2)= **MG330-28D-P38P2**



Motor Changing Rotation Instructions

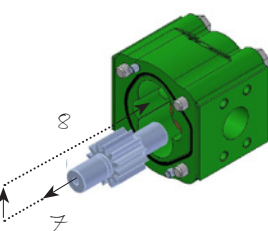
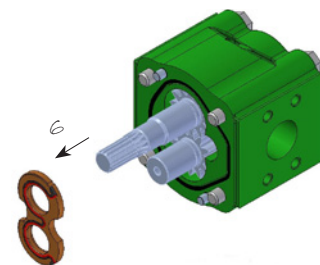
- !** Keep the working surface cleaned as well as the exterior of the motor before starting and avoid inner contamination of the motor. The motor shown below is a clockwise rotating motor.
To achieve clockwise rotation, please read the following instructions carefully.

CLOCKWISE ROTATION



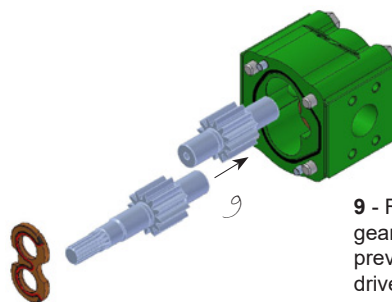
5 - Mark the position of the bushing and eventually the thrust plate, relative to the body.

6 - Remove the bushing, thrust plate and the driving gear taking care to avoid driven gear axial shifts.

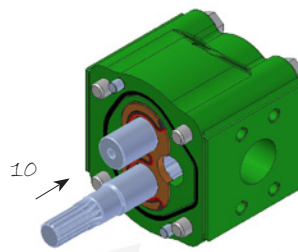


7 - Draw out the driven gear from its housing, taking care to avoid rear cover axial shifts.

8 - Re-locate the driven gear in the position previously occupied by the driving gear.



9 - Re-locate the driving gear in the position previously occupied by the driven gear.



10 - Replace the bushing and thrust plate taking care that:
- marks are located as on the picture
- surface containing the seal is visible
- seal and its protection are correctly located.

11 - Clean body and mounting flange refaced surfaces.

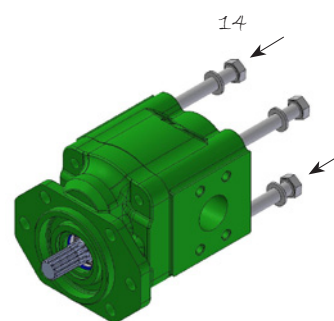
12 - Verify that the two plugs are located in the body.

13 - Refit the mounting flange, turned 180° from its original position.

14 - Replace the clamp bolts and tighten crosswise evenly to an appropriate torque.

15 - Check that the shaft rotates freely.

16 - Mark on the flange the new direction of rotation.



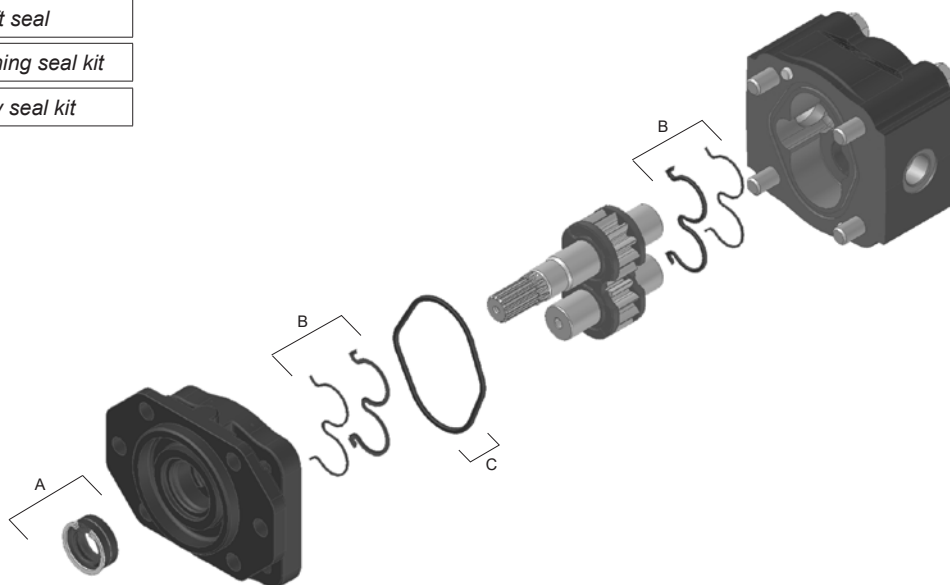
ANTI - CLOCKWISE ROTATION





Unidirectional Motor Seal Spare Parts Kit

A	Shaft seal
B	Bushing seal kit
C	Body seal kit



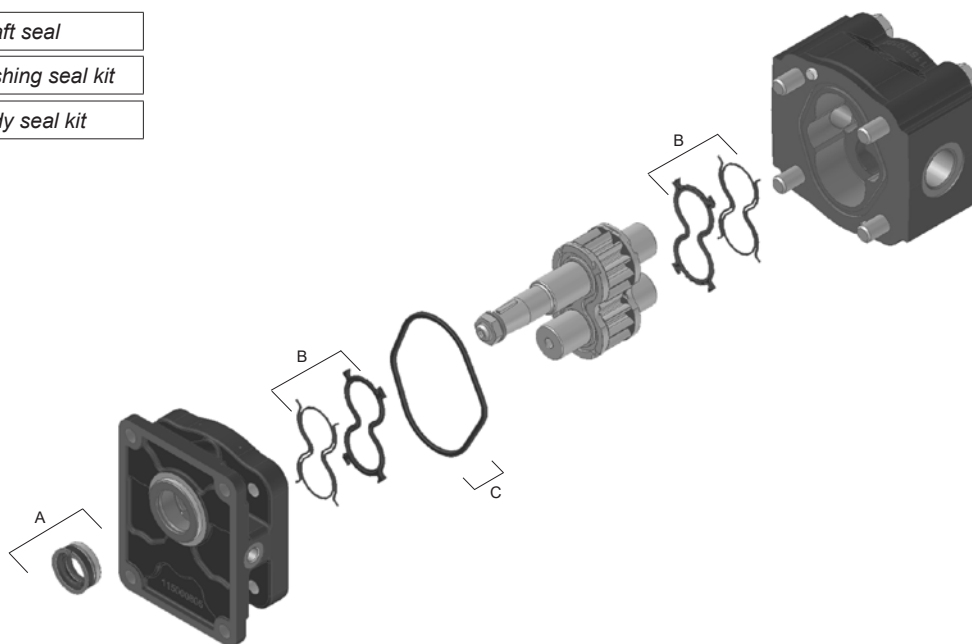
SHAFT & FLANGE TYPE	NBR COMPOUND		FPM COMPOUND	
	Complete seal kit (A+B+C)	Shaft seal kit (A)	Complete seal kit (A+B+C)	Shaft seal kit (A)
38P2	Part Number R15170351		Part Number R12940080	
	Part Number R15170361	Part Number R12940083	Part Number R15170361	Part Number R12940083
55S3 56S3 58S3 87S3	Part Number R15170371		Part Number R15170140	
	Part Number R15170381	Part Number R15170080	Part Number R15170381	Part Number R15170080
88S3	Part Number R15170391		Part Number R15170130	
	Part Number R15170401	Part Number R15170131	Part Number R15170401	Part Number R15170131
58S4	Part Number R15170030		Part Number R15020190	
	Part Number R15170421	Part Number R15020191	Part Number R15170421	Part Number R15020191

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Bidirectional Motor Seal Spare Parts Kit

A	Shaft seal
B	Bushing seal kit
C	Body seal kit



SHAFT & FLANGE TYPE	NBR COMPOUND		FPM COMPOUND	
	Complete seal kit (A+B+C)	Shaft seal kit (A)	Complete seal kit (A+B+C)	Shaft seal kit (A)
38P2	Part Number R15170350		Part Number R15170360	
	Part Number R12940083	Part Number R12940080	Part Number R12940083	Part Number R12940080
55S3 56S3 58S3 87S3	Part Number R15170370		Part Number R15170380	
	Part Number R15170140	Part Number R15170140	Part Number R15170080	Part Number R15170080
88S3	Part Number R15170160		Part Number R15170400	
	Part Number R15170130	Part Number R15170130	Part Number R15170131	Part Number R15170131
58S4	Part Number R15170410		Part Number R15170420	
	Part Number R15020190	Part Number R15020190	Part Number R15020191	Part Number R15020191

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