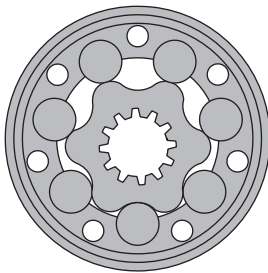


Quality assured company - ISO 9001 certified



Product Tech News

Hydraulic orbital motors with new displacement MR36



APPLICATION

- » Conveyors
- » Feeding mechanism of robots and manipulators
- » Metal working machines
- » Textile machines
- » Agricultural machines
- » Food industries
- » Grass cutting machinery etc.

OPTIONS

- » Model - Spool valve, roll-gerotor
- » Flange mount
- » Shafts - straight, splined and tapered
- » Metric and BSPP ports
- » Speed sensing
- » Other special features

SPECIFICATION DATA

Type	MR 36
Displacement, cm ³ /rev [in ³ /rev]	36 [2.2]
Max. Speed, [RPM]	Cont. 972
	Int.* 1110
Max. Torque daNm [lb-in]	Cont. 6,5 [575]
	Int.* 7,9 [700]
Max. Output kW [HP]	Cont. 8 [10.7]
	Int.* 9 [12]
Max. Pressure Drop bar [PSI]	Cont. 140 [2030]
	Int.* 175 [2540]
Max. Oil Flow lpm [GPM]	Cont. 35 [9.3]
	Int.* 40 [10.5]
Max. Inlet Pressure bar [PSI]	Cont. 175 [2540]
	Int.* 200 [2900]
Max. Starting Pressure with Unloaded Shaft, bar [PSI]	12 [175]

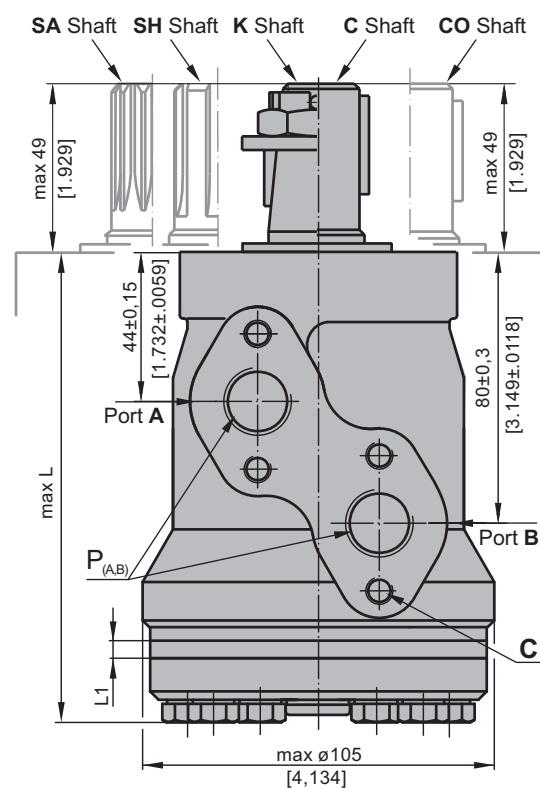
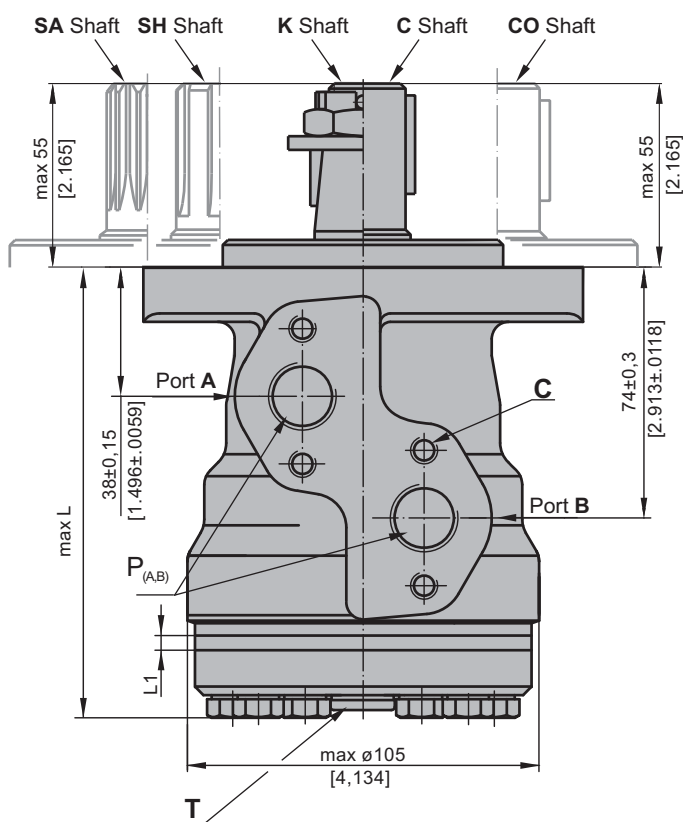
* Intermittent operation: the permissible values may occur for max. 10% of every minute.

1. Intermittent speed and intermittent pressure must not occur simultaneously.
2. Recommended filtration is per ISO cleanliness code 20/16. A nominal filtration of 25 micron or better.
3. Recommend using a premium quality, anti-wear type mineral based hydraulic oil HLP (DIN51524) or HM (ISO 6743/4).
If using synthetic fluids consult the factory for alternative seal materials.
4. Recommended minimum oil viscosity 13 mm²/s [70 SUS] at 50°C [122°F].
5. Recommended maximum system operating temperature is 82°C [180°F].
6. To assure optimum motor life fill with fluid prior to loading and run at moderate load and speed for 10-15 minutes.

DIMENSIONS AND MOUNTING DATA

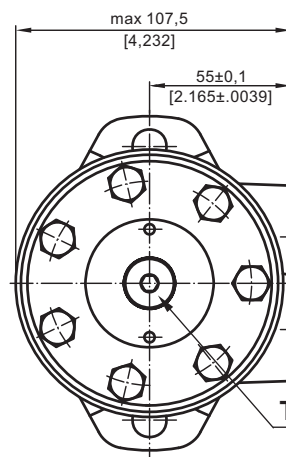
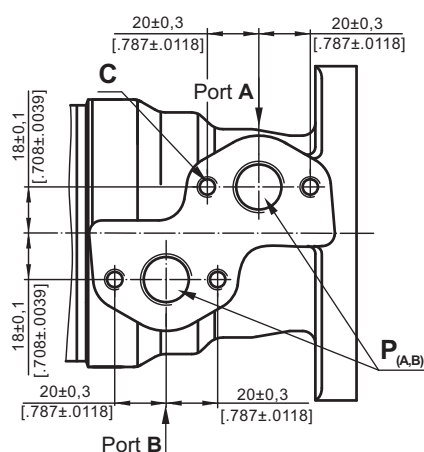
MR36

MRQ36



PORTS

Side Ports



- C** : 4xM8 - 13 mm [.51 in] depth
- P_(A,B)** : 2xG1/2 or 2xM22x1,5 - 15 mm [.59 in] depth
- T** : G1/4 or M14x1,5 - 12 mm [.47 in] depth (plugged)



Type	L, mm [in]	Type	L, mm [in]	L ₁ , mm [in]
MR(F) 36	136,0 [5.35]	MRQ 36	142,0 [5.59]	6,3 [.25]

Standard Rotation

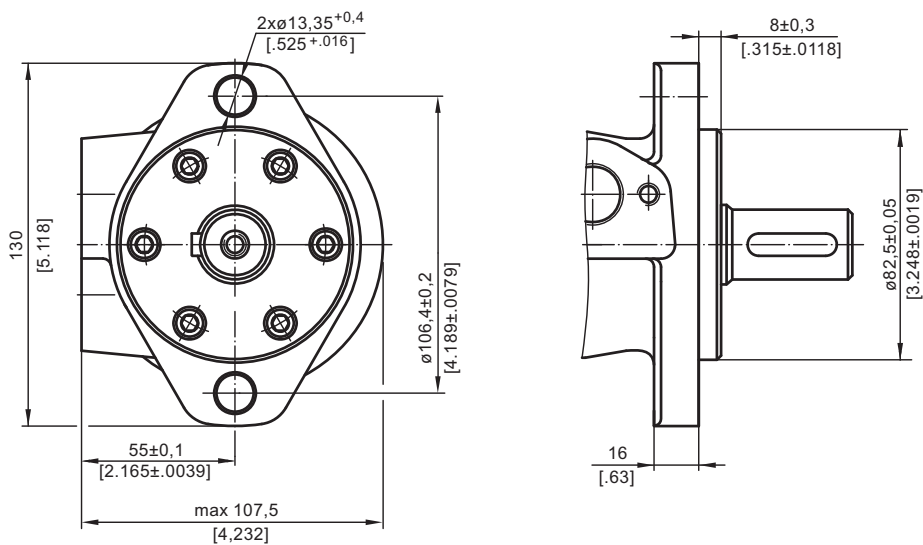
Viewed from Shaft End
 Port A Pressurized - CW
 Port B Pressurized - CCW

Reverse Rotation

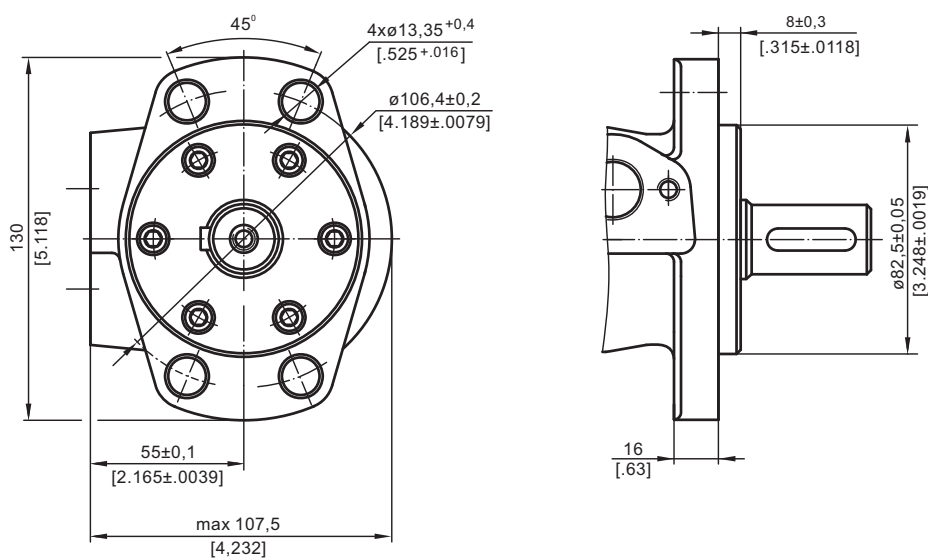
Viewed from Shaft End
 Port A Pressurized - CCW
 Port B Pressurized - CW

MOUNTING

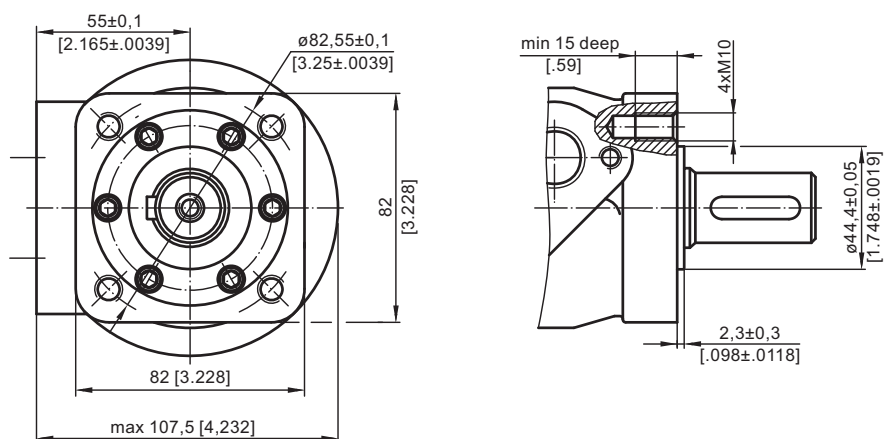
Oval Mount (2 Holes)



F - Oval Mount (4 Holes)

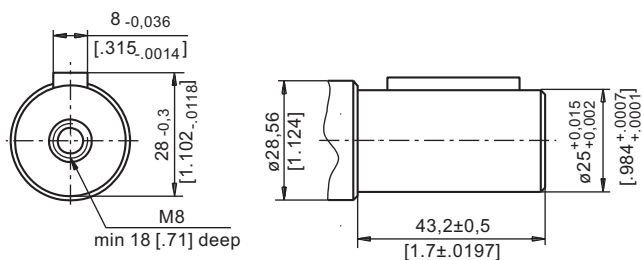


Q - Square Mount (4 Bolts)

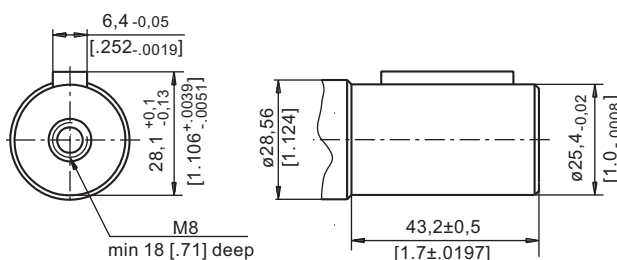


SHAFT EXTENSIONS

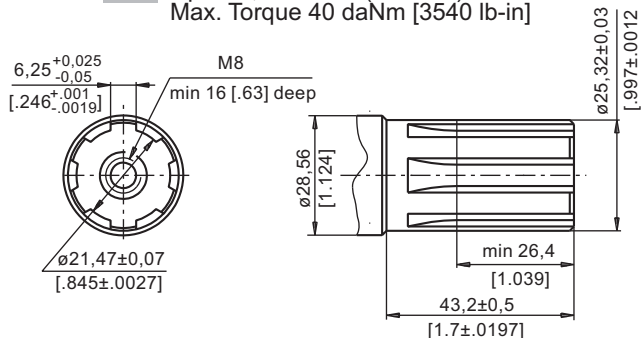
C - $\varnothing 25$ straight, Parallel key A8x7x32 DIN 6885
Max. Torque 34 daNm [3010 lb-in]



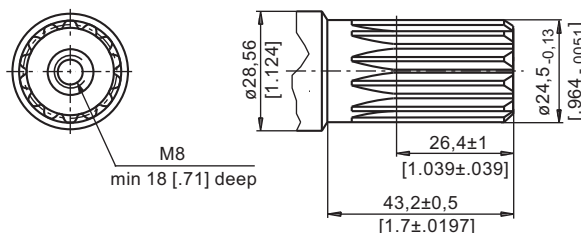
CO - $\varnothing 1"$ straight, Parallel key $\frac{1}{4}" \times \frac{1}{4}" \times \frac{1}{4}"$ BS46
Max. Torque 34 daNm [3010 lb-in]



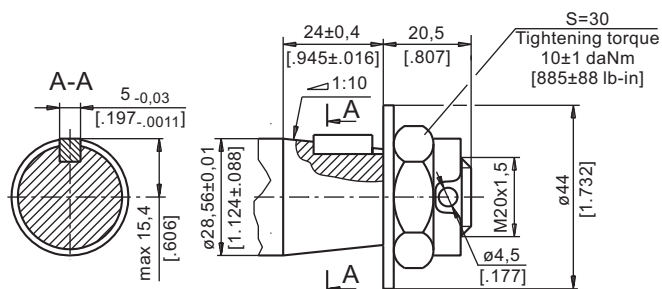
SH - splined, BS 2059 (SAE 6B)
Max. Torque 40 daNm [3540 lb-in]



SA - splined, B25x22h9 DIN 5482
Max. Torque 40 daNm [3540 lb-in]



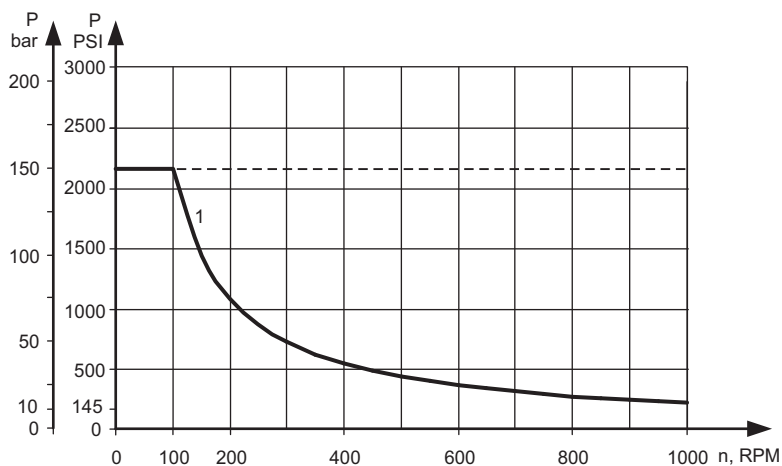
K - tapered 1:10, Parallel key B5x5x14 DIN 6885
Max. Torque 40 daNm [3540 lb-in]



MAX. PERMISSIBLE SHAFT SEAL PRESSURE

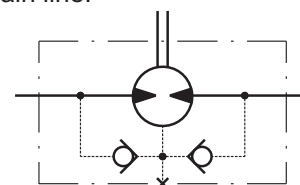
1: Drawing for Standard Shaft Seal "D"

- - continuous operations
- - - - - intermittent operations



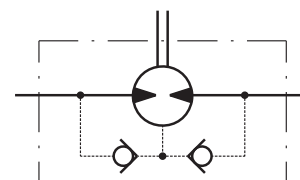
MR36... motors with standard shaft seal and with drain connection:

The shaft seal pressure equals the pressure in the drain line.

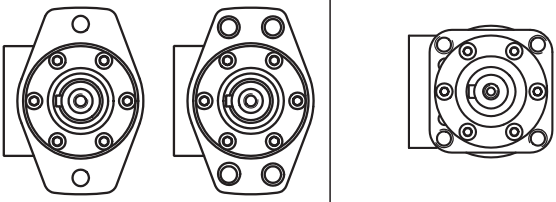


MR36...1 motors with standard shaft seal and without drain connection:

The shaft seal pressure never exceeds the pressure in the return line.



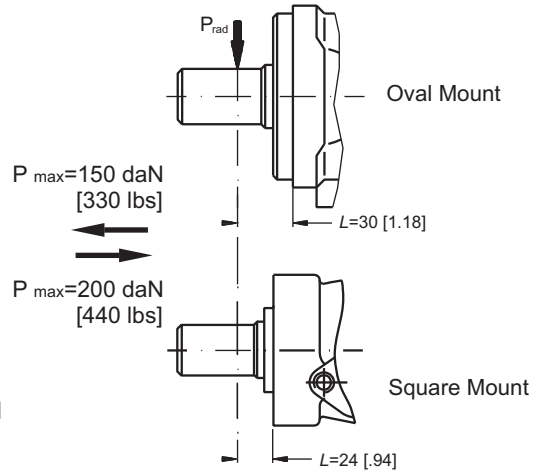
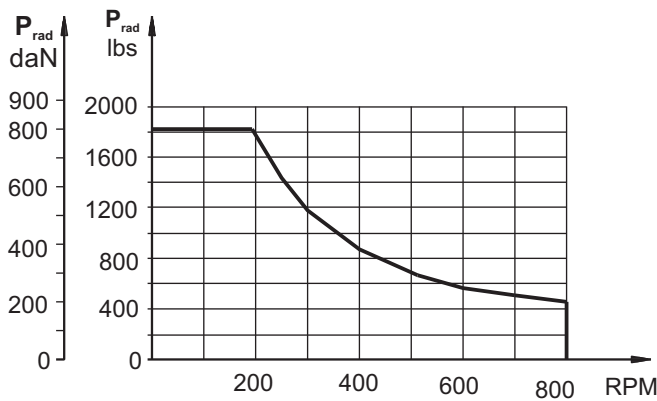
PERMISSIBLE SHAFT LOADS

Mounting Flange	
Shaft Version	cylindrical - C, CO tapered - K, splined - SH
Radial Shaft Load P_{rad}, in mm	$\frac{800}{n} \times \frac{25000}{95+L}, \text{ daN}^*$ $\frac{800}{n} \times \frac{25000}{101+L}, \text{ daN}^*$
Radial Shaft Load P_{rad}, in inch	$\frac{800}{\text{RPM}} \times \frac{2215}{3.74+L}, \text{ lbs}^*$ $\frac{800}{\text{RPM}} \times \frac{2215}{3.98+L}, \text{ lbs}^*$

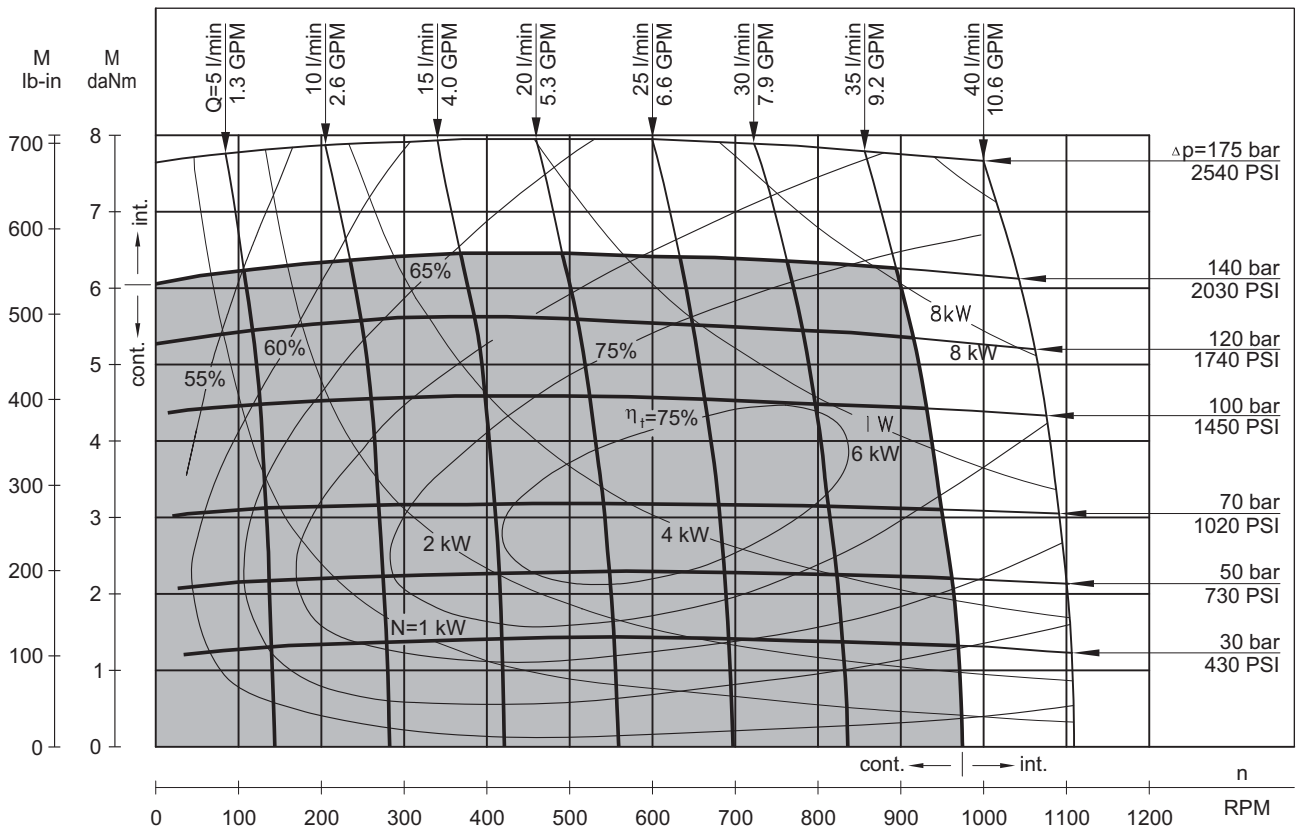
The permissible radial shaft load **P_{rad}** depends on the speed **n**, RPM, distance **L** from the point of load to the mounting flange and shaft version.

* $n \leq 200$ RPM; max Prad=800 daN [1800 lbs]
 $n \geq 200$ RPM; $L < 55$ mm [2.2 in]

Radial Shaft Load P_{rad} for C, CO Shaft Extensions by L=30 mm [1.18 in] (24 mm [.94 in])



FUNCTION DIAGRAM



ORDER CODE

	1	2	3	4	5	6	7	8	9
M R									

Pos.1 - Mounting Flange

omit - Oval mount, two holes

F - Oval mount, four holes**Q** - Square mount, four bolts**Pos.2 - Displacement code****36** - 36 cm³/rev [2.2 in³/rev]**Pos.3 - Shaft Extensions*****C** - ø25 straight, Parallel key A8x7x32 DIN6885**CO** - ø1" straight, Parallel key ¼"x¼"x1¼" BS46**SH** - ø25,32 splined BS 2059 (SAE 6B)**K** - ø28,56 tapered 1:10, Parallel key B5x5x14 DIN6885**SA** - ø24,5 splined B 25x22 DIN 5482**Pos.4 - Shaft Seal Version****D** - Standard shaft seal**Pos. 5 - Drain Port**

omit - with drain port

1 - without drain port**Pos. 6 - Ports**

omit - BSPP (ISO 228)

M - Metric (ISO 262)**Pos. 7 - Rotation**

omit - Standard Rotation

R - Reverse Rotation**Pos. 8 - Option (Paint)****

omit - no Paint

P - Painted**PC** - Corrosion Protected Paint**PS** - Special Paint*****PCS** - Special Paint*****Pos. 9 - Design Series**

omit - Factory specified

Notes:

* The permissible output torque for shafts must not be exceeded!

** Colour at customer's request.

*** Non painted feeding surfaces, colour at customer's request.

The hydraulic motors are mangano-phosphatized as standard.