

Hydraulic motors

Langsamlaufende Hydraulikmotoren

Serie MH

SPECIFICATION DATA

Type	MH 200	MH 250	MH 315	MH 400	MH 500
Displacement, cm³/rev [in³/rev]	201,3 [12.3]	252 [15.4]	314,9 [16.4]	396,8 [24.2]	502,4 [30.7]
Max. Speed, [RPM]	Cont.	370	295	235	185
	Int.*	445	350	285	225
Max. Torque daNm [in-lb]	Cont.	51 [4510]	61 [5398]	74 [6548]	84 [7434]
	Int.*	58 [5130]	70 [6195]	82 [7257]	98 [8673]
	Peak**	64 [5064]	79 [6992]	98 [8673]	109 [9647]
Max. Output kW [HP]	Cont.	16 [21]	16 [21]	14 [18.7]	12,5 [16.7]
	Int.*	18,5 [24.8]	18,5 [24.8]	15,5 [20.7]	15 [20.1]
Max. Pressure Drop bar [PSI]	Cont.	175 [2540]	175 [2540]	175 [2540]	155 [2240]
	Int.*	200 [2900]	200 [2900]	200 [2900]	190 [2750]
	Peak**	225 [3260]	225 [3260]	225 [3260]	210 [3045]
Max. Oil Flow lpm [GPM]	Cont.	75 [20]	75 [20]	75 [20]	75 [20]
	Int.*	90 [24]	90 [24]	90 [24]	90 [24]
Max. Inlet Pressure bar [PSI]	Cont.	200 [2900]	200 [2900]	200 [2900]	200 [2900]
	Int.*	225 [3260]	225 [3260]	225 [3260]	225 [3260]
	Peak**	250 [3626]	250 [3626]	250 [3626]	250 [3626]
Max. Starting Pressure with Unloaded Shaft, bar [PSI]	5 [72]	5 [72]	5 [72]	5 [72]	5 [72]
Min. Starting Torque, daNm [in-lb]	At max.press.dropCont	39 [3450]	52 [4600]	66 [5840]	72 [6370]
	At max.press.drop Int.*	45 [3980]	59 [5221]	73 [6460]	88 [7788]
Min. Speed***, [RPM]	10	10	8	5	5
Weight, kg [lb]	10,5 [23.2]	11 [24.3]	11,5 [25.4]	12,3 [27.1]	13 [28.7]

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

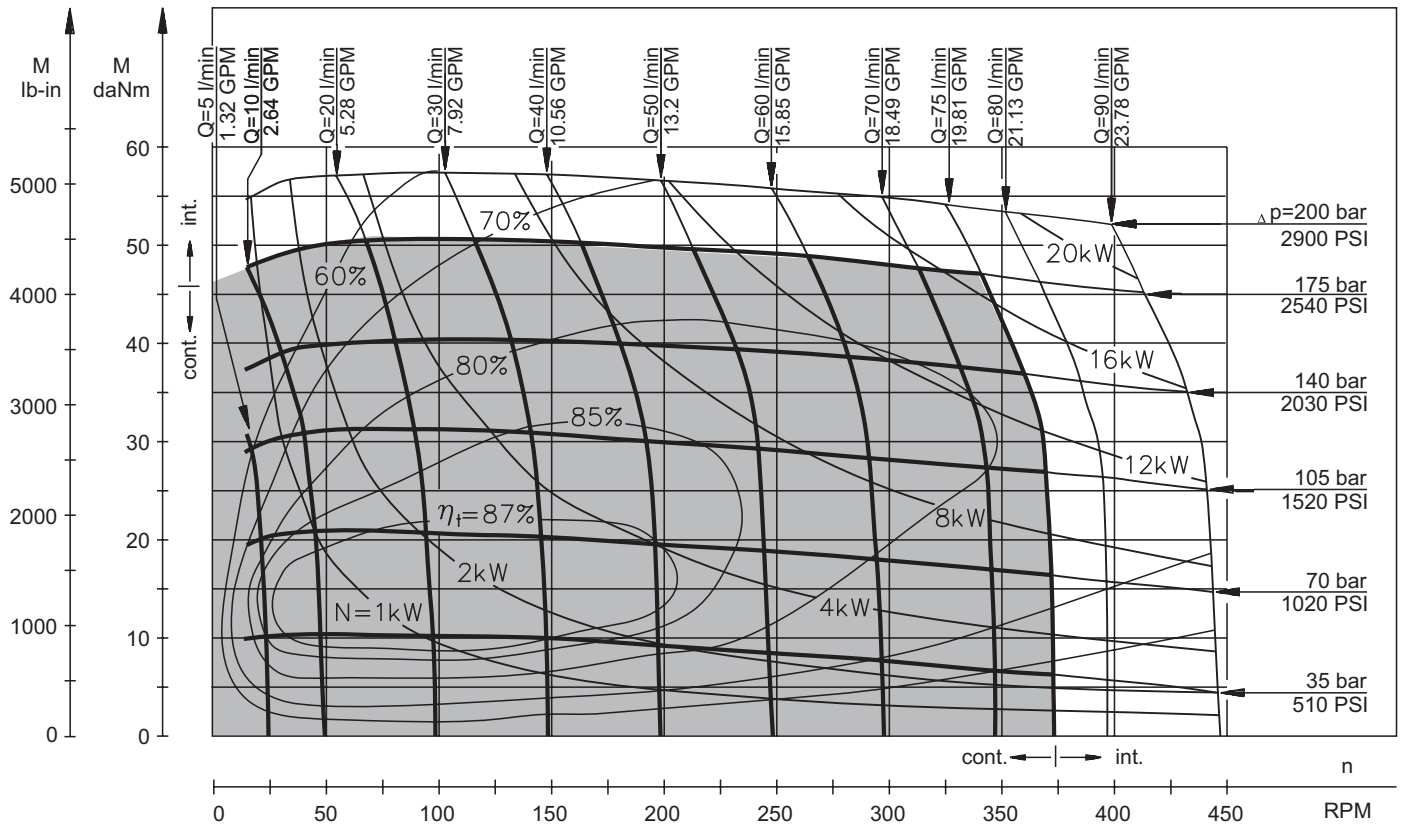
** Peak load: the permissible values may occur for max. 1% of every minute.

*** For speeds lower than given, consult factory or your regional manager.

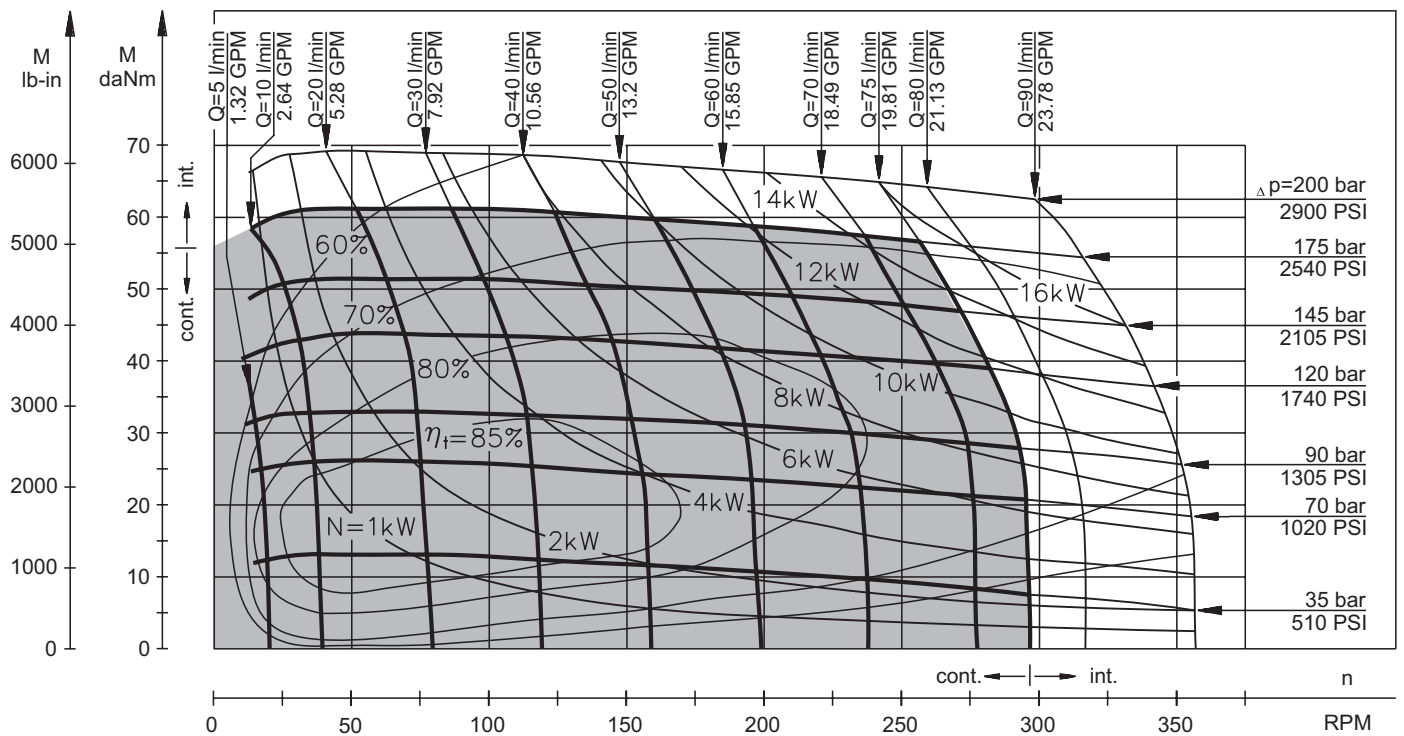
1. Intermittent speed and intermittent pressure must not occur simultaneously.
2. Recommended filtration is per ISO cleanliness code 20/16. A nominal filtration of 25 micron or better.
3. Recommend using a premium quality, anti-wear type mineral based hydraulic oil HLP(DIN51524) or HM (ISO 6743/4).
If 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.

FUNCTION DIAGRAMS

MH 200



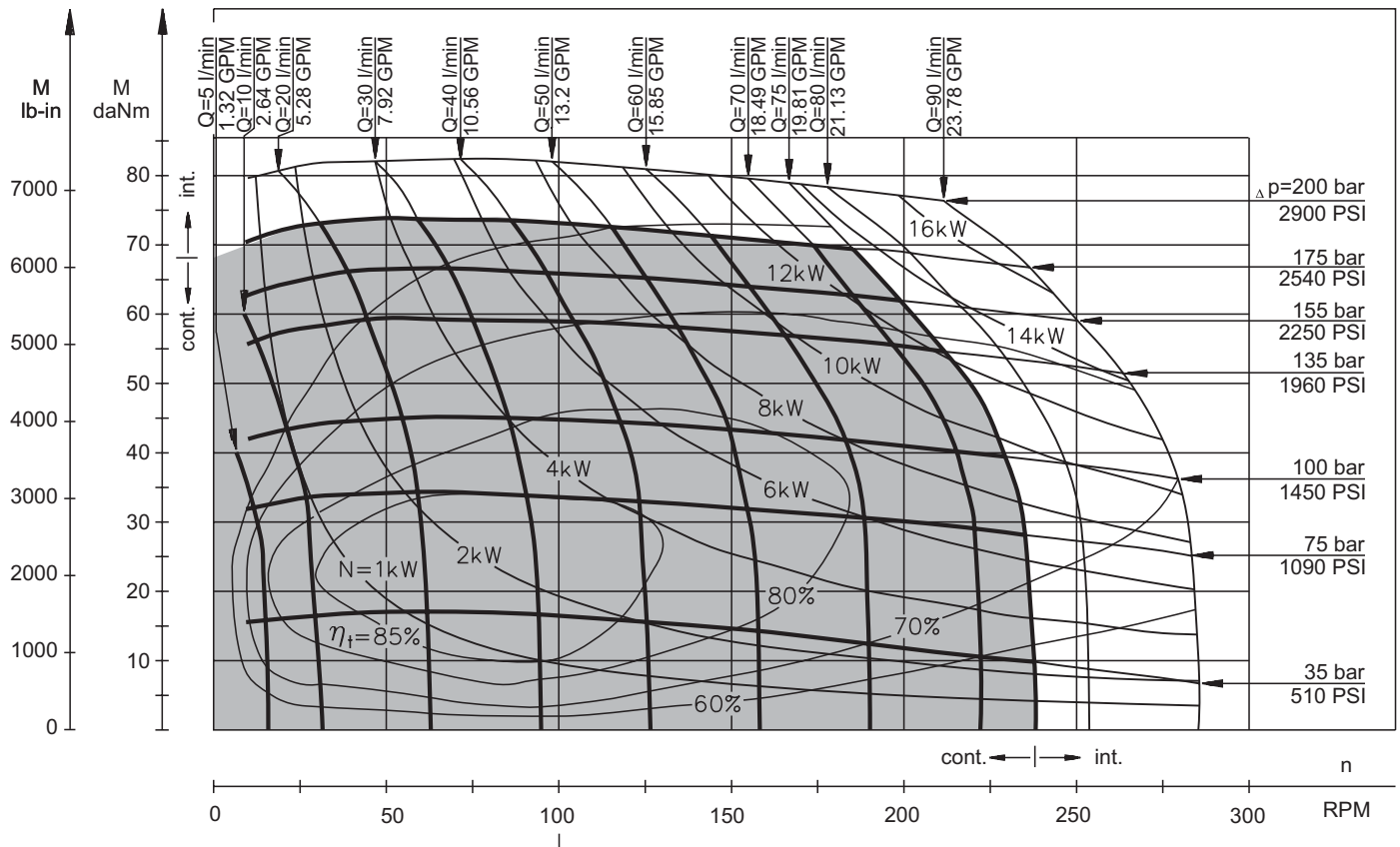
MH 250



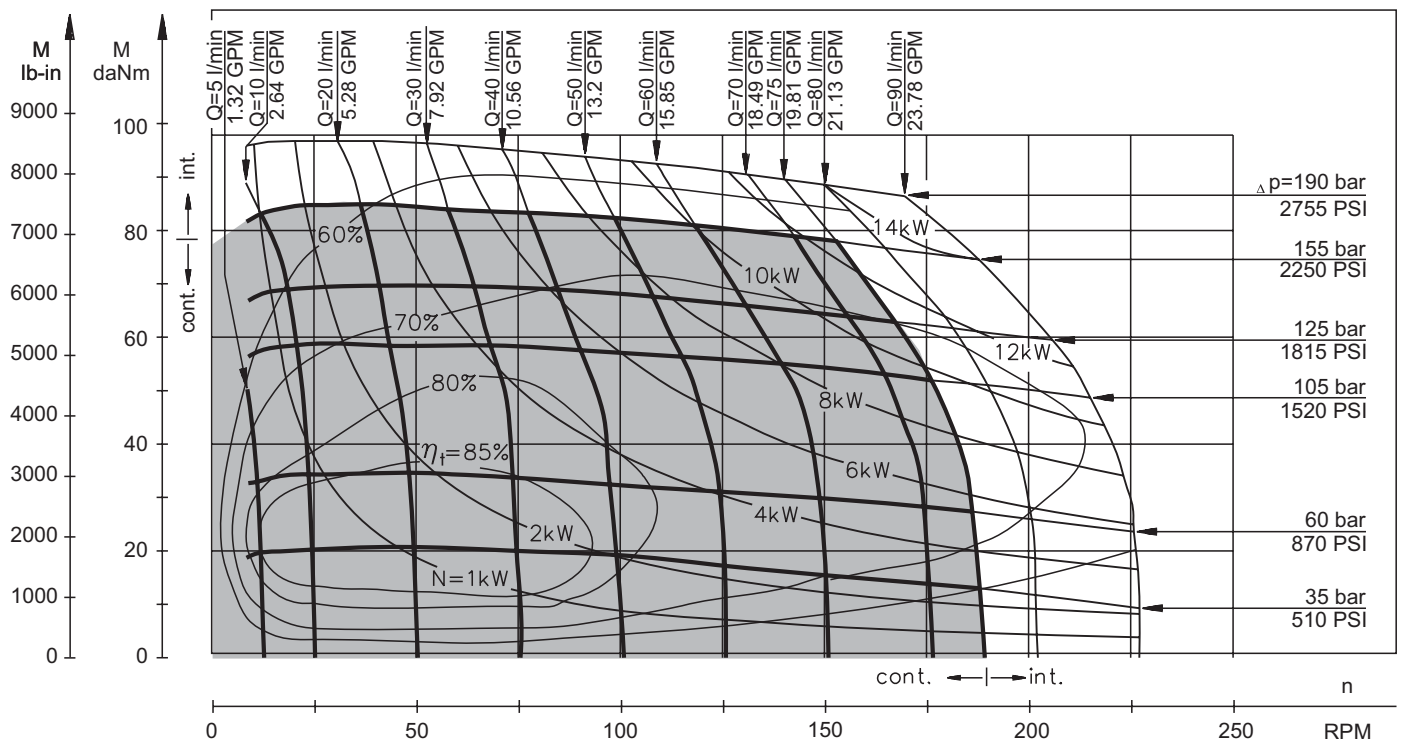
The function diagrams data is for average performance of randomly selected motors at back pressure 5÷10 bar [72.5÷145 PSI] and oil with viscosity of 32 mm²/s [150 SUS] at 50°C [122°F].

FUNCTION DIAGRAMS

MH 315



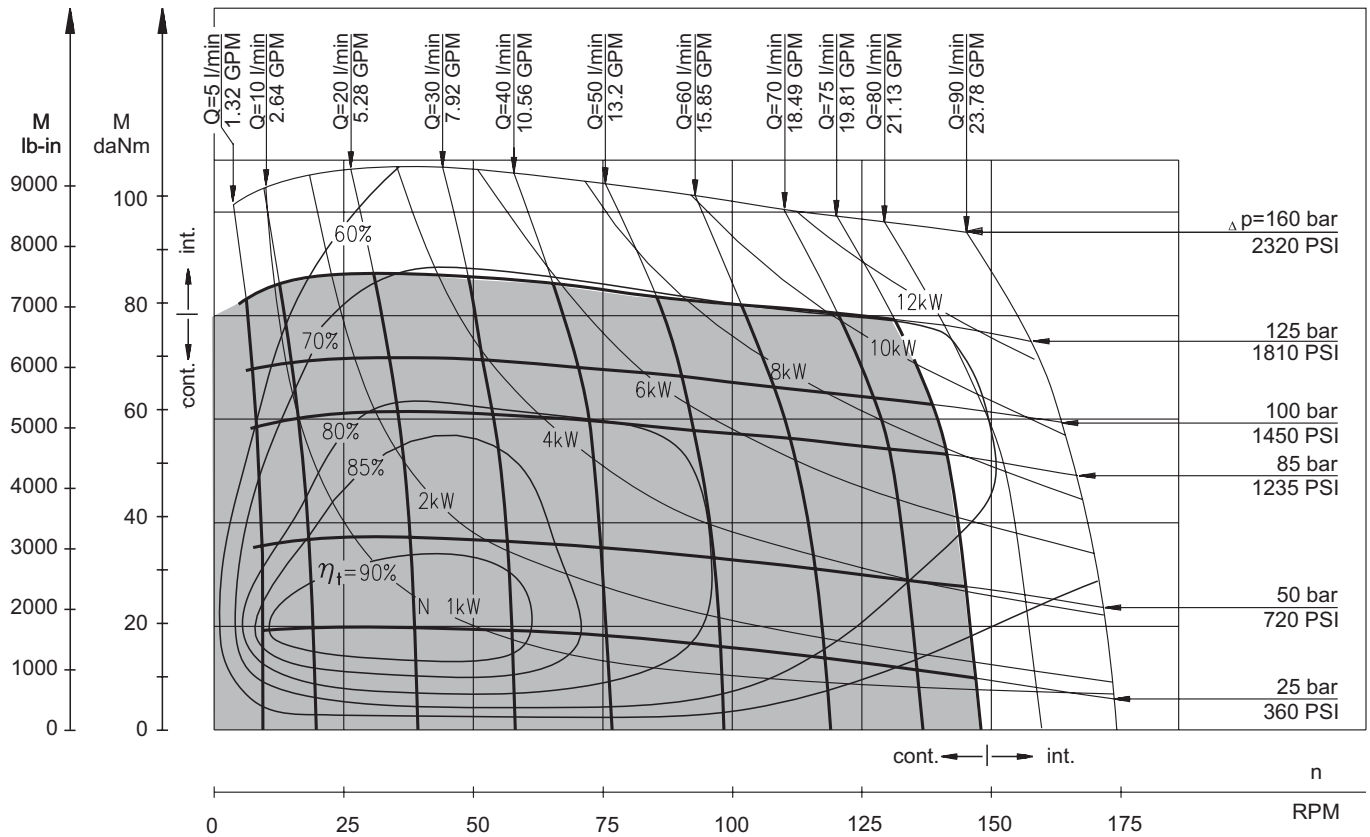
MH 400



The function diagrams data is for average performance of randomly selected motors at back pressure 5÷10 bar [72.5÷145 PSI] and oil with viscosity of 32 mm²/s [150 SUS] at 50°C [122°F].

FUNCTION DIAGRAMS

MH 500



The function diagrams data is for average performance of randomly selected motors at back pressure 5÷10 bar [72.5÷145 PSI] and oil with viscosity of 32 mm²/s [150 SUS] at 50°C [122°F].

PERMISSIBLE SHAFT LOADS FOR MH MOTORS

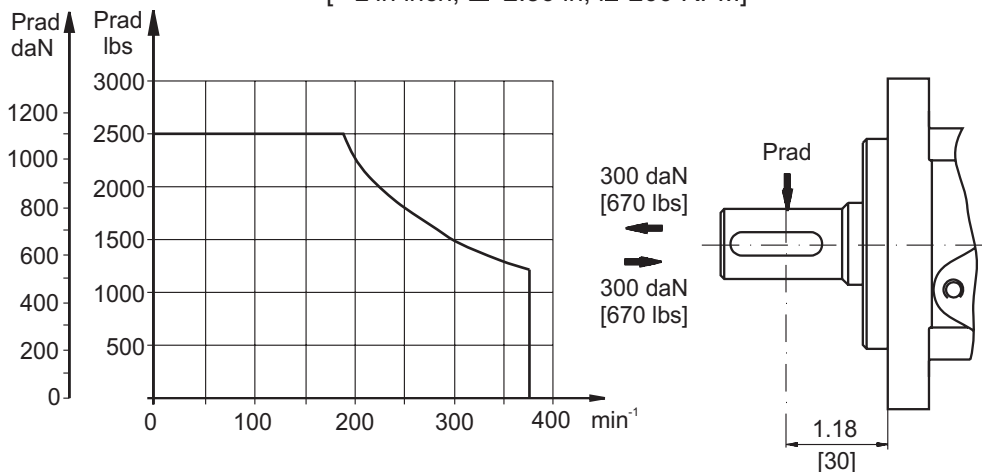
The permissible radial shaft load P_{rad} depends on the speed (RPM) and distance (L) from the point of load to the mounting flange.

$$Radial\ Shaft\ Load\ P_{rad} = \frac{1100}{n} \times \frac{25000}{103,5+L}, daN^*$$

[*L in mm; L ≤ 60 mm; n ≥ 200 RPM]

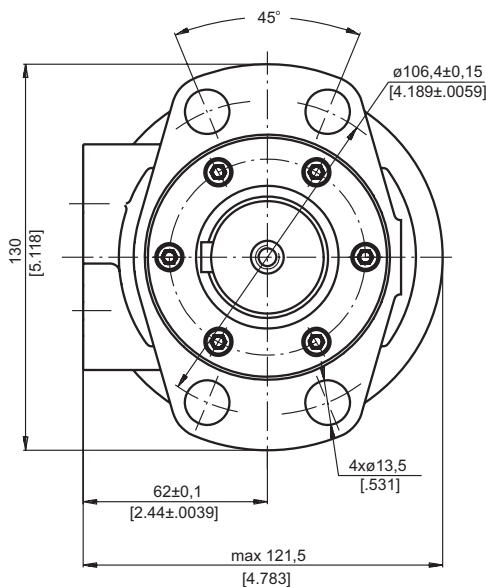
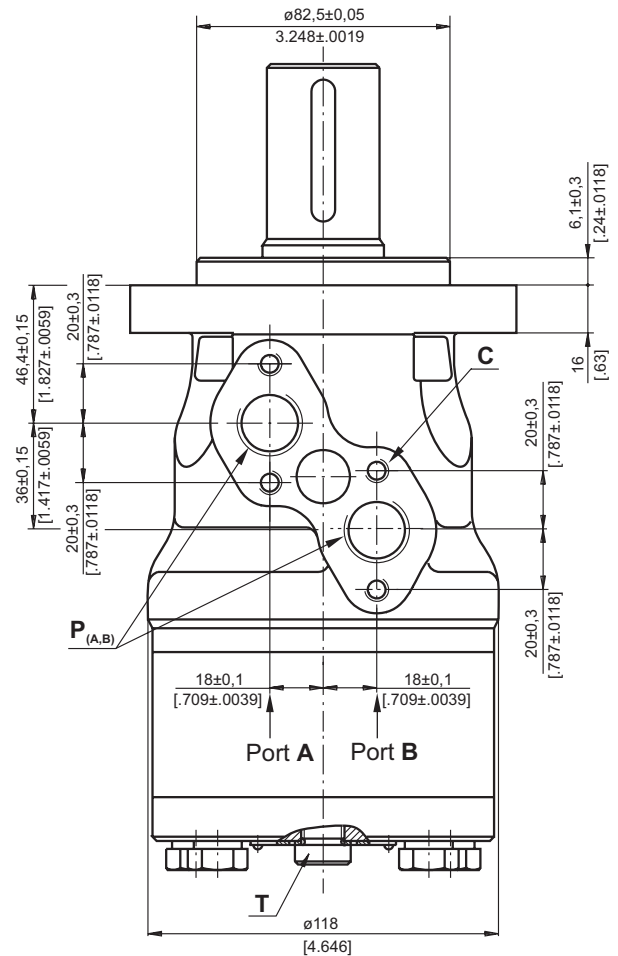
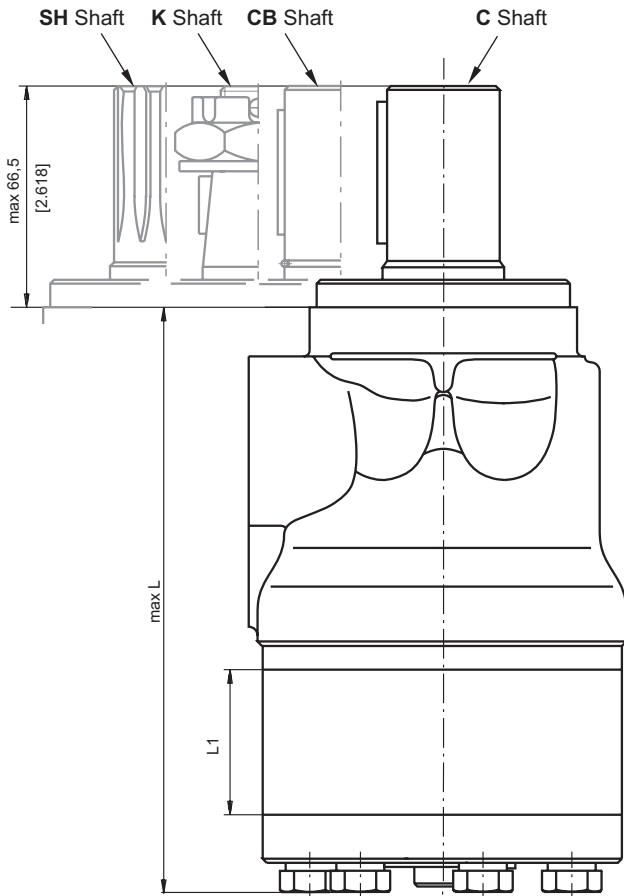
$$Radial\ Shaft\ Load\ P_{rad} = \frac{1100}{RPM} \times \frac{2215}{4.075+L}, lbs^{**}$$

[**L in inch; L ≤ 2.36 in; n ≥ 200 RPM]



DIMENSIONS AND MOUNTING DATA

Magneto Maunt (4 holes)



Type	L, mm [in.]	L ₁ , mm [in.]
MH 200	169 [6.65]	27,8 [1.09]
MH 250	176 [6.93]	34,8 [1.37]
MH 315	184 [7.24]	43,5 [1.71]
MH 400	196 [7.72]	54,8 [2.16]
MH 500	211 [8.31]	69,4 [2.73]

- 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)

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

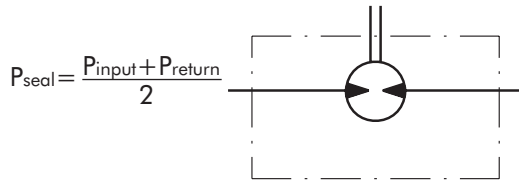
Reverse Rotation
 Viewed from Shaft End
 Port A Pressurized - CCW
 Port B Pressurized - CW



MAX. PERMISSIBLE SHAFT SEAL PRESSURE FOR MH MOTORS

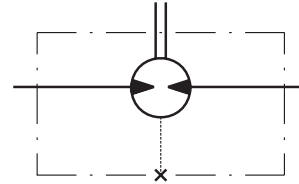
MH...U1 motors with high pressure seal and without drain connection:

The shaft seal pressure equals the average of input pressure and return pressure.



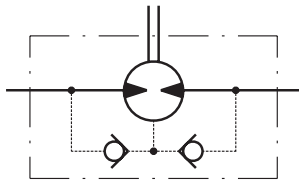
MH...U motors with high pressure seal and drain connection:

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



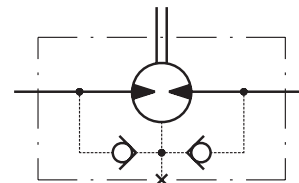
MH...1 motors with standard shaft seal and without drain connection:

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

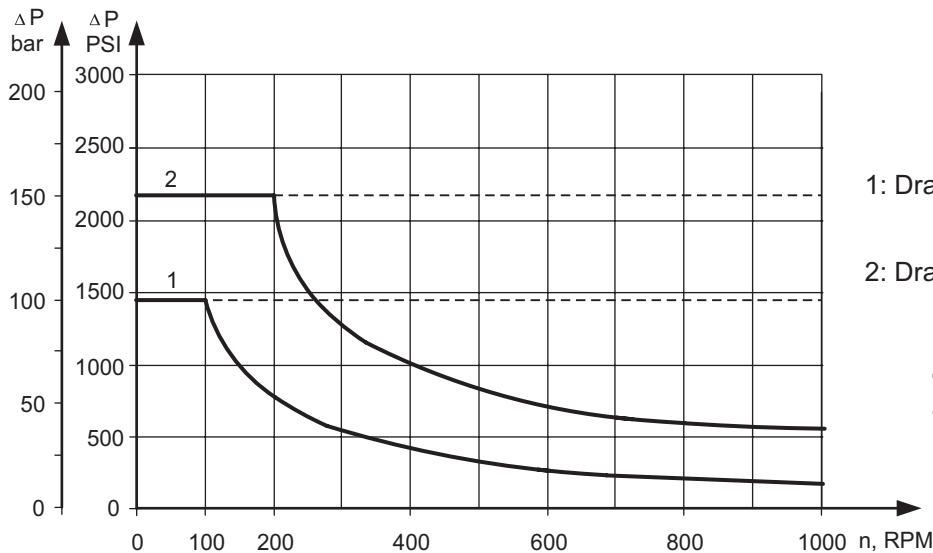


MH... motors with standard shaft seal and with drain connection:

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



Max. return pressure without drain line or max. pressure in the drain line



1: Drawing for Standard Shaft Seal

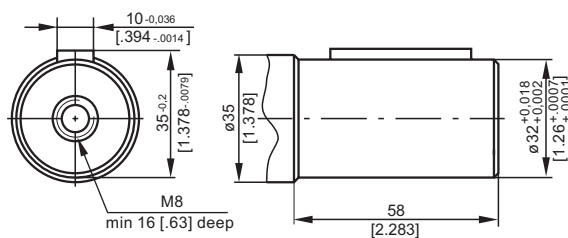
2: Drawing for High Pressure Seal ("U" Seal)

— - continuous operations

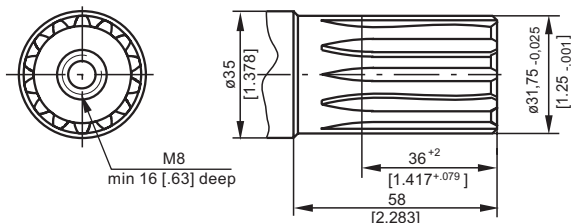
- - - - intermittent operations

SHAFT EXTENSIONS

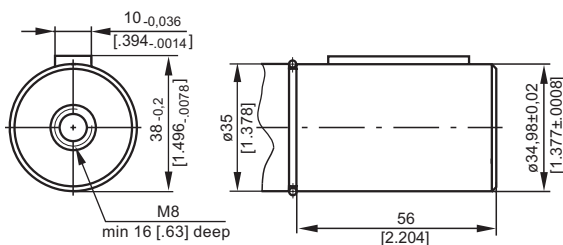
C - $\varnothing 32$ straight, Parallel key A10x8x45 DIN 6885
Max. Torque 77 daNm [6815 lb-in]



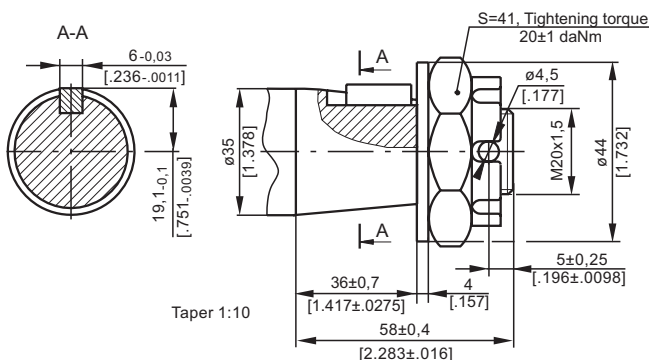
SH - $\varnothing 1\frac{1}{4}$ " splined 14T, DP 12/24 ANSI B92.1-1976
Max. Torque 95 daNm [8400 lb-in]



CB - $\varnothing 35$ straight, Parallel key A10x8x45 DIN 6885
Max. Torque 95 daNm [8400 lb-in]



K - tapered 1:10, Parallel key B6x6x20 DIN 6885
Max. Torque 95 daNm [8400 lb-in]



ORDER CODE



	1	2	3	4	5	6	7
MH							

Pos. 1 - Displacement code

200	- 201,3 cm ³ /rev [12.3 in ³ /rev]
250	- 252,0 cm ³ /rev [15.4 in ³ /rev]
315	- 314,9 cm ³ /rev [16.4 in ³ /rev]
400	- 396,8 cm ³ /rev [24.2 in ³ /rev]
500	- 502,4 cm ³ /rev [30.7 in ³ /rev]

Pos. 2 - Shaft Extensions *

C	- $\varnothing 32$ straight, Parallel key A10x8x45 DIN 6885
SH	- $\varnothing 1\frac{1}{4}$ " splined 14T ANSI B92.1-1970
CB**	- $\varnothing 35$ straight, Parallel key A10x8x45 DIN 6885
K	- $\varnothing 35$ tapered 1:10, Parallel key B6x6x20 DIN 6885

Pos. 3 - Shaft Seal Version

omit	- Standard shaft seal
U	- High pressure shaft seal (without check valves)

Pos. 4 - Drain Port

omit	- with drain port
1	- without drain port

Pos. 5 - Ports

omit	- BSPP (ISO 228)
M	- Metric (ISO 262)

Pos. 6 - Special Features (see page 98)

Pos. 7 - Design Series

omit	- Factory specified
------	---------------------

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

** The following combination is not allowed: "CB" shaft with U shaft seal.

The hydraulic motors are mangano-phosphatized as standard.