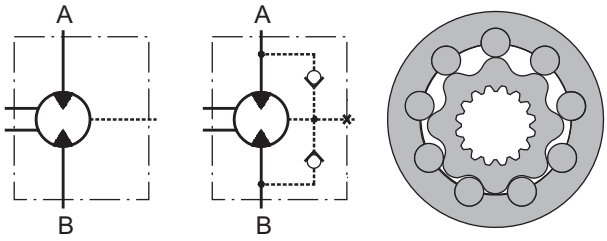
HYDRAULIC MOTORS MVM

APPLICATION

» Conveyors
» Metal working machines
» Agricultural machines
» Road building machines
» Mining machinery
» Food industries
» Special vehicles
» Plastic and rubber machinery etc.



CONTENTS

OPTIONS

» Model - Disc valve, roll-gerotor
» Flange with wheel mount
» Short motor
» Side ports
» Shafts - straight, splined and tapered
» BSPP ports;
» Other special features.

EXCELLENCE

» High torque and pressure drop
» High inlet pressure
» High starting torque
» Improved efficiency at high pressure drop
» Smooth operation at low speed
» High radial and axial bearing capacity

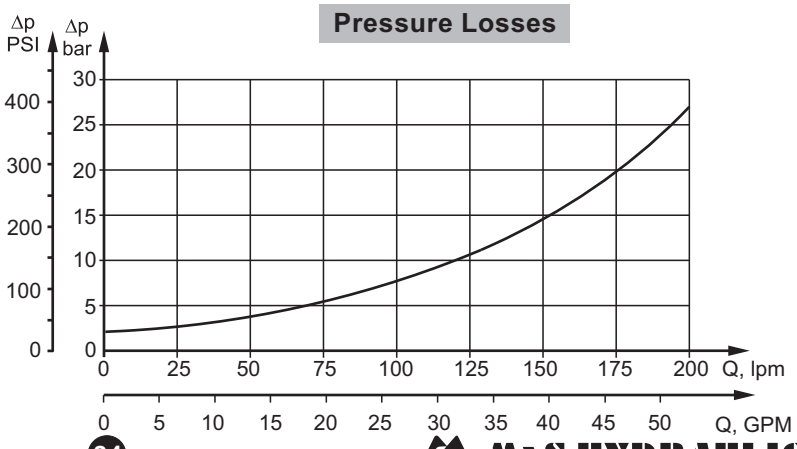
GENERAL

Max. Displacement, in^3/rev [cm^3/rev]	48.91 [801,8]
Max. Speed, [RPM]	763
Max. Torque, lb-in [daNm]	cont.: 22920 [259] int.: 30090 [340]
Max. Output, HP [kW]	150 [112]
Max. Pressure Drop, PSI [bar]	cont.: 3630 [250] int.: 5080 [350]
Max. Oil Flow, GPM [lpm]	63.4 [240]
Min. Speed, [RPM]	5
Permissible Shaft Loads, lbs [daN]	Pa=3370 [1500]
Pressure fluid	Mineral based- HLP(DIN 51524) or HM(ISO 6743/4)
Temperature range, ^oF [^oC]	-40÷284 [-40÷140]
Optimal Viscosity range, SUS [mm^2/s]	98÷347 [20÷75]
Filtration	ISO code 20/16 (Min. recommended fluid filtration of 25 microns)

Oil flow in drain line

Pressure drop PSI [bar]	Viscosity SUS [mm^2/s]	Oil flow in drain line GPM [lpm]
2030 [140]	98 [20]	.793 [3]
	164 [35]	.528 [2]
3045 [210]	98 [20]	.1.585 [6]
	164 [35]	1.057 [4]

Pressure Losses



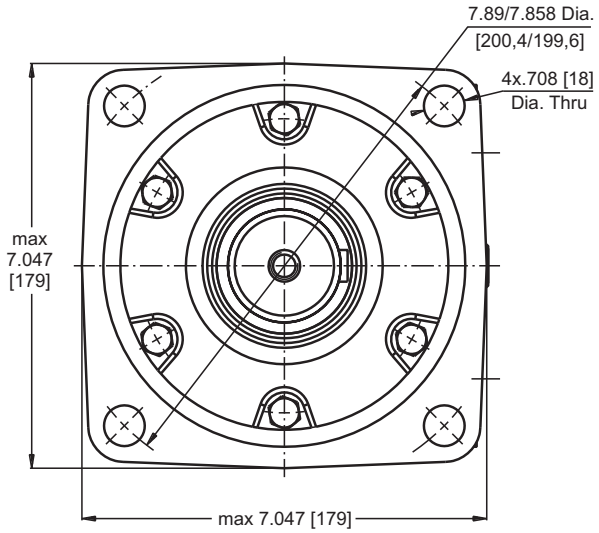
SPECIFICATION DATA

Type		MVM 315	MVM 400	MVM 500	MVM 630	MVM 800
Displacement, in³/rev [cm³/rev]		19.18 [314,5]	24.5 [400,9]	30.5 [499,6]	38.38 [629,1]	48.91 [801,8]
Max. Speed, [RPM]	cont.	636	500	400	315	250
	Int.*	763	600	480	380	300
Max. Torque lb-in [daNm]	cont.	10180 [115]	12745 [144]	15930 [180]	20090 [227]	22920 [259]
	Int.*	14160 [160]	17700 [200]	23010 [260]	27440 [310]	30090 [340]
	peak**	15930 [180]	20355 [230]	25315 [286]	31860 [360]	35580 [402]
Max. Output HP [kW]	cont.	90 [67]	90 [67]	90 [67]	90 [67]	90 [67]
	int.*	150 [112]	150 [112]	150 [112]	150 [112]	150 [112]
Max. Pressure Drop PSI [bar]	cont.	3630 [250]	3630 [250]	3630 [250]	3630 [250]	3263 [225]
	Int.*	5080 [350]	5080 [350]	5080 [350]	5080 [350]	4350 [300]
	peak**	5800 [400]	5800 [400]	5800 [400]	5800 [400]	5080 [350]
Max. Oil Flow GPM [lpm]	cont.	52.8 [200]	52.8 [200]	52.8 [200]	52.8 [200]	52.8 [200]
	Int.*	63.4 [240]	63.4 [240]	63.4 [240]	63.4 [240]	63.4 [240]
Max. Inlet Pressure PSI [bar]	cont.	3915 [270]	3915 [270]	3915 [270]	3915 [270]	3915 [270]
	Int.*	5365 [370]	5365 [370]	5365 [370]	5365 [370]	5365 [370]
	peak**	6090 [420]	6090 [420]	6090 [420]	6090 [420]	6090 [420]
Max. Return Pressure with Drain Line PSI [bar]	cont.	2030 [140]	2030 [140]	2030 [140]	2030 [140]	2030 [140]
	Int.*	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2540 [175]
	peak**	3045 [210]	3045 [210]	3045 [210]	3045 [210]	3045 [210]
Max. Starting Pressure with Unloaded Shaft, PSI [bar]		70 [5]	70 [5]	70 [5]	70 [5]	70 [5]
Min. Starting Torque lb-in [daNm]		8140 [92]	10180 [115]	12745 [144]	15930 [180]	18145 [205]
Min. Speed***, [RPM]		10	6	8	6	5
Weight, lb [kg]		91 [41,3]	93 [42,1]	95 [43]	98 [44,5]	101.4 [46]

* 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 drop 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 70 SUS [13 mm²/s] at 122ºF [50ºC].
5. Recommended maximum system operating temperature is 180ºF [82ºC].
6. To assure optimum motor life fill with fluid prior to loading and run at moderate load and speed for 10-15 minutes.

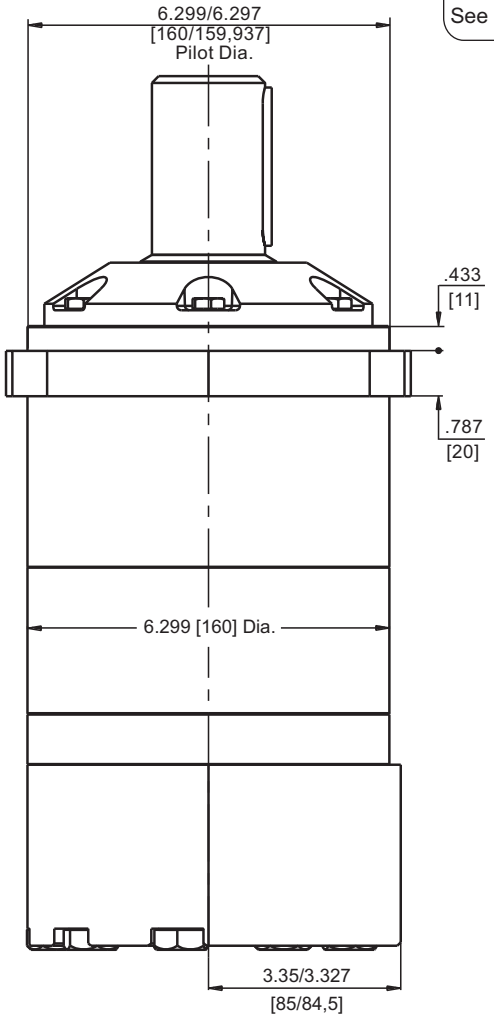
DIMENSIONS AND MOUNTING DATA

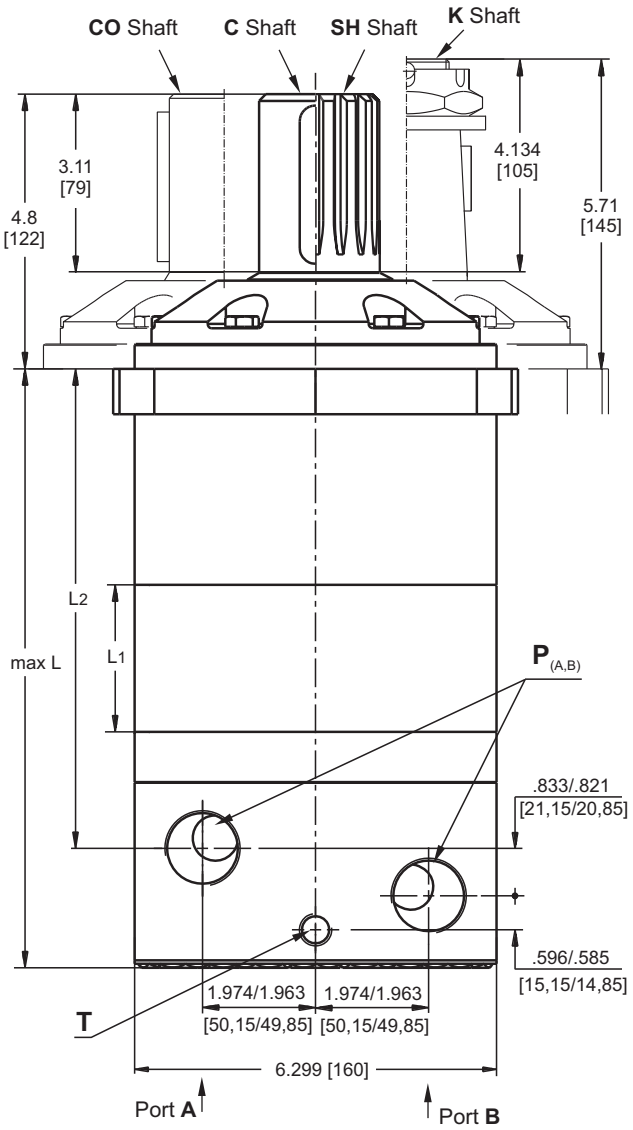


	Versions	
	2	4
P(A,B)	2xG1	2x1 5/16-12UN
T	G1/4	9/16-18UNF

Type	L, in [mm]	L2, in [mm]	L1, in [mm]
MVM 315	8.92 [226,5]	6.79 [172,5]	1.00 [25,5]
MVM 400	9.19 [233,5]	7.07 [179,5]	1.28 [32,5]
MVM 500	9.51 [241,5]	7.38 [187,5]	1.59 [40,5]
MVM 630	9.92 [252,0]	7.79 [198,0]	2.01 [51,0]
MVM 800	10.47 [266,0]	8.35 [212,0]	2.56 [65,0]

Shaft Dim.
See Page 37





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

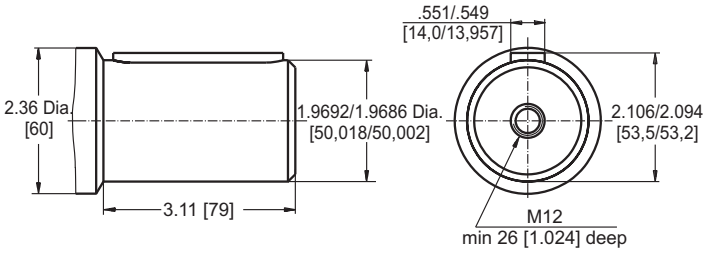
Reverse Rotation
Viewed from Shaft End
Port **A** Pressurized - **CCW**
Port **B** Pressurized - **CW**

Warning: Drain line should always be used.

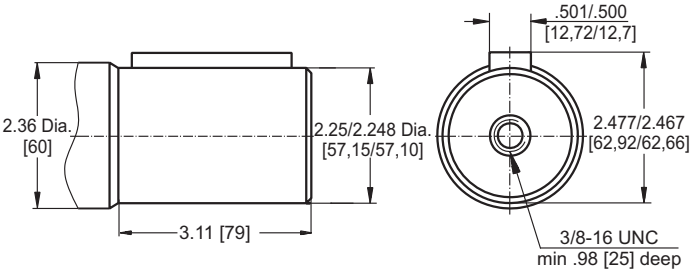
in [mm]

SHAFT EXTENSIONS

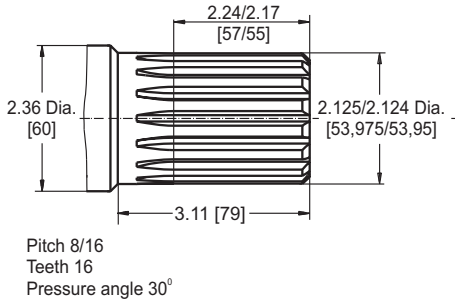
C - ø50 straight, Parallel key A14x9x70 DIN 6885

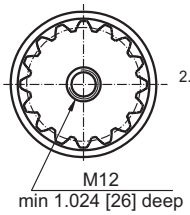


CO - ø2¼"[57,15] straight,Parallel key ½ "x½"x 2¼" BS46

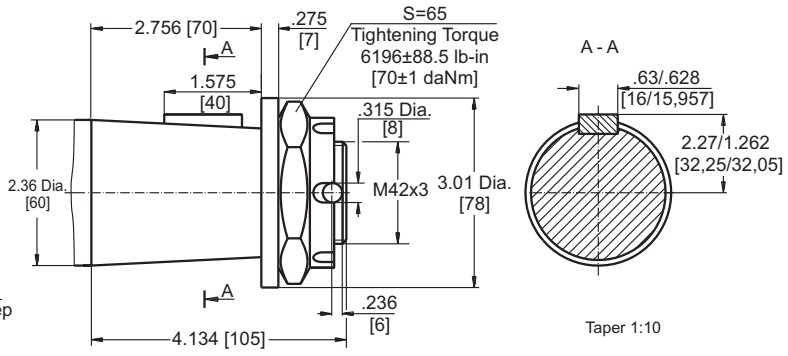


SH - ø2 ⅛"splined, 16 DP 8/16 ANS B92.1-1976





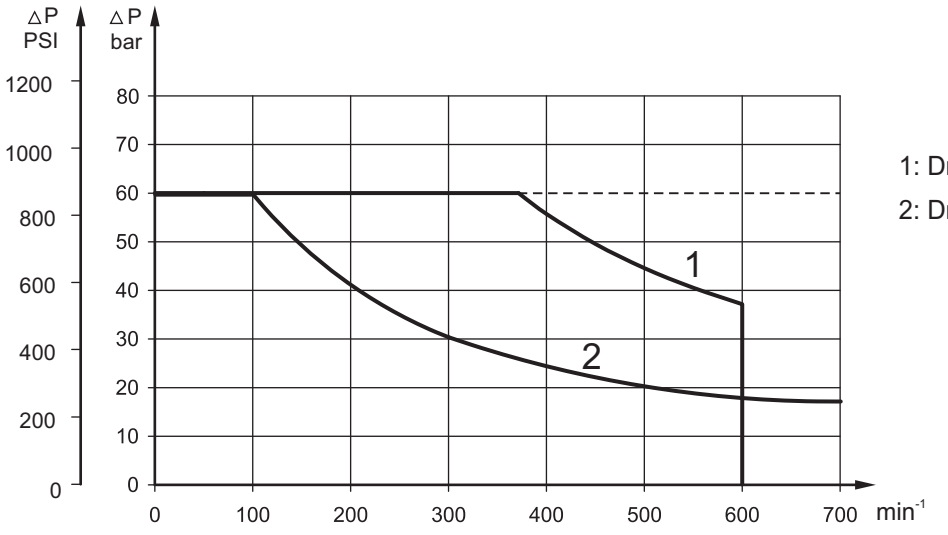
K - tapered 1:10, Parallel key B16x10x32 DIN 6885



in [mm]

MAX. PERMISSIBLE SHAFT SEAL PRESSURE

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



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

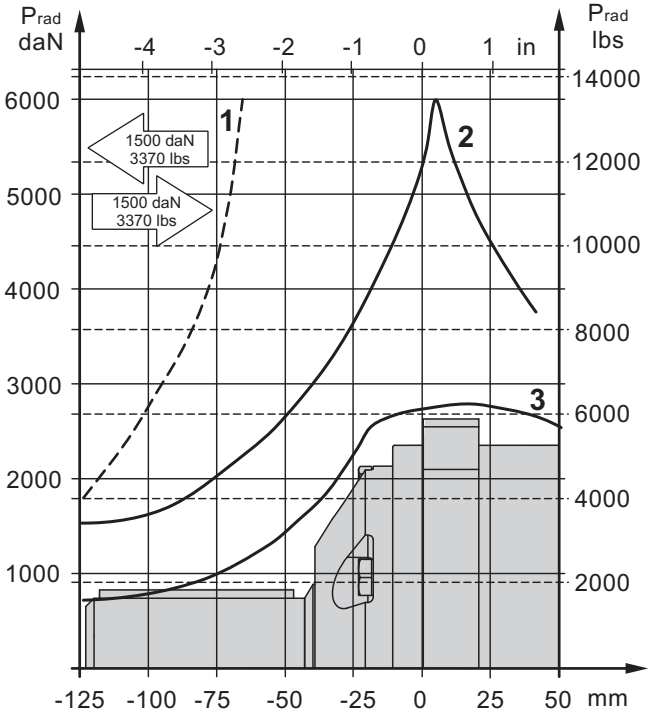
2: Drawing for Standard Shaft Seal

——— - continuous operations

- - - - - - intermittent operations

PERMISSIBLE SHAFT LOADS

The output shaft runs in tapered bearings that permit high axial and radial forces. Curve "**1**" shows max. radial shaft load. Any shaft load exceeding the values shown by the curve will seriously reduce motor life. The two other curves apply to a B10 bearing life of 3000 hours at 200 RPM.



2 - P_a=0 lbs [0 daN]
3 - P_a=3370 lbs [1500 daN]

ORDER CODE

	1	2	3	4	5	6	7
M V M						**HD**	

Pos.1 - Displacement code

315	- 19.18 in³/rev [314,5 cm³/rev]
400	- 24.45 in³/rev [400,9 cm³/rev]
500	- 30.48 in³/rev [499,6 cm³/rev]
630	- 38.38 in³/rev [629,1 cm³/rev]
800	- 48.91 in³/rev [801,8 cm³/rev]

Pos.2 - Shaft Extensions*

C	- ø50 straight, Parallel key A14x9x70 DIN6885
CO	- ø2 1/4" straight, Parallel key 1/2"x1/2"x2 1/4" BS 46
SH	- ø2 1/8" splined, ANSI B92.1-1976
K	- ø60 tapered 1:10, Parallel key B16x10x32 DIN6885

Pos.3 - Ports

2	- side ports, 2xG1, G1/4, BSP thread, ISO 228
4	- side ports, 2x1 5/16-12 UN, O-ring, 9/16-18 UNF

Pos.4 - Check Valves

omit	- without check valves
1	- with check valves

Pos.5 - Shaft Seal Version (see page 37)

omit	- Low pressure shaft seal
U	- High pressure shaft seal

Pos.6 - Special Features

HD	- Reinforced motor **HD****

For Other **Special Features** see page 48

Pos.7 - Design Series

omit - Factory specified

NOTES:
* The permissible output torque for shafts must not be exceeded!
** Drain line should always be used.

The hydraulic motors are mangano-phosphatized as standard.