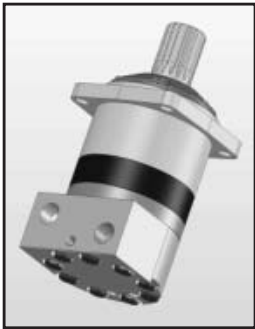
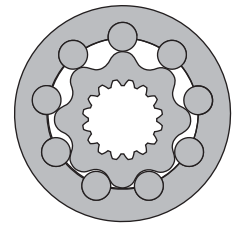
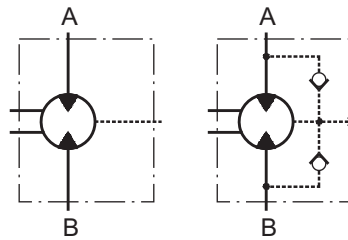


# HYDRAULIC MOTORS MVM



## APPLICATION

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



## CONTENTS

Specification data .....	35
Dimensions and mounting .....	36
Shaft extensions .....	36
Permissible shaft Seal Pressure ....	37
Permissible shaft loads .....	38
Order code .....	38

## 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

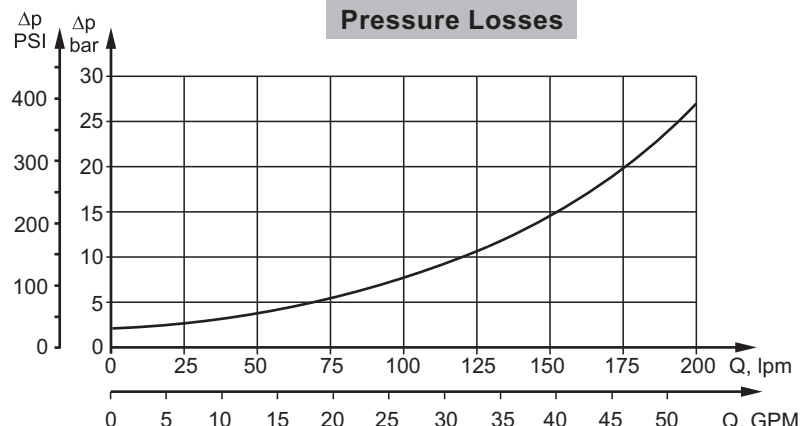
## GENERAL

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

### Oil flow in drain line

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

### Pressure Losses



## SPECIFICATION DATA

Type	MVM 315	MVM 400	MVM 500	MVM 630	MVM 800	
<b>Displacement, cm<sup>3</sup>/rev [in<sup>3</sup>/rev]</b>	314,5 [19.19]	400,9 [24.5]	499,6 [30.5]	629,1 [38.38]	801,8 [48.91]	
<b>Max. Speed, [RPM]</b>	cont.	636	500	400	315	250
	Int.*	763	600	480	380	300
<b>Max. Torque daNm [lb-in]</b>	cont.	115 [10180]	144 [12745]	180 [15930]	227 [20090]	259 [22920]
	Int.*	160 [14160]	200 [17700]	260 [23010]	310 [27440]	340 [30090]
	peak**	180 [15930]	230 [20355]	286 [25315]	360 [31860]	402 [35580]
<b>Max. Output kW [HP]</b>	cont.	67 [90]	67 [90]	67 [90]	67 [90]	67 [90]
	int.*	112 [150]	112 [150]	112 [150]	112 [150]	112 [150]
<b>Max. Pressure Drop bar [PSI]</b>	cont.	250 [3630]	250 [3630]	250 [3630]	250 [3630]	225 [3263]
	Int.*	350 [5080]	350 [5080]	350 [5080]	350 [5080]	300 [4350]
	peak**	400 [5800]	400 [5800]	400 [5800]	400 [5800]	350 [5080]
<b>Max. Oil Flow lpm [GPM]</b>	cont.	200 [52.8]	200 [52.8]	200 [52.8]	200 [52.8]	200 [52.8]
	Int.*	240 [63.4]	240 [63.4]	240 [63.4]	240 [63.4]	240 [63.4]
<b>Max. Inlet Pressure bar [PSI]</b>	cont.	270 [3915]	270 [3915]	270 [3915]	270 [3915]	270 [3915]
	Int.*	370 [5365]	370 [5365]	370 [5365]	370 [5365]	370 [5365]
	peak**	420 [6090]	420 [6090]	420 [6090]	420 [6090]	420 [6090]
<b>Max. Return Pressure with Drain Line bar [PSI]</b>	cont.	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]
	Int.*	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]
	peak**	210 [3045]	210 [3045]	210 [3045]	210 [3045]	210 [3045]
<b>Max. Starting Pressure with Unloaded Shaft, bar [PSI]</b>	5 [70]	5 [70]	5 [70]	5 [70]	5 [70]	
<b>Min. Starting Torque daNm [lb-in]</b>	92 [8140]	115 [10180]	144 [12745]	180 [15930]	205 [18145]	
<b>Min. Speed***, [RPM]</b>	10	6	8	6	5	
<b>Weight, kg [lb]</b>	41,3 [91]	42,1 [93]	43 [95]	44,5 [98]	46 [101.4]	

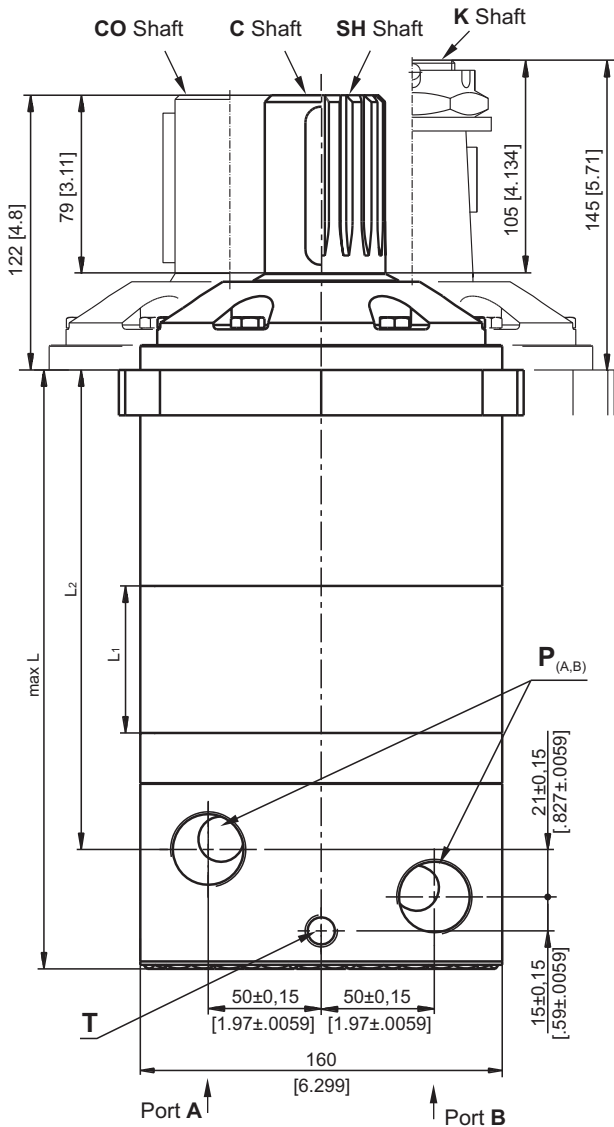
\* Intermittent operation: the permissible values may occur for max. 10% of every minute.

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

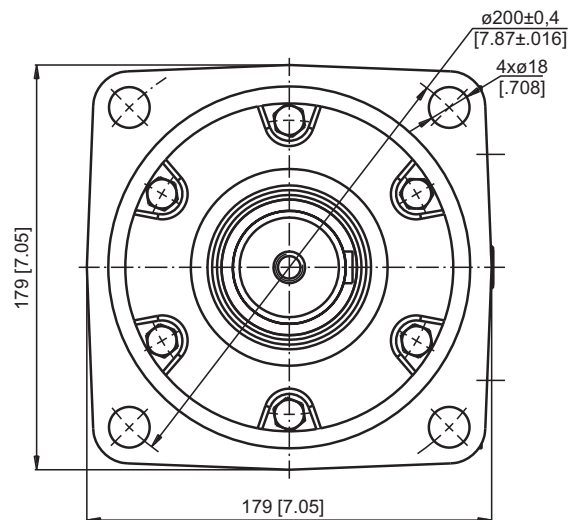
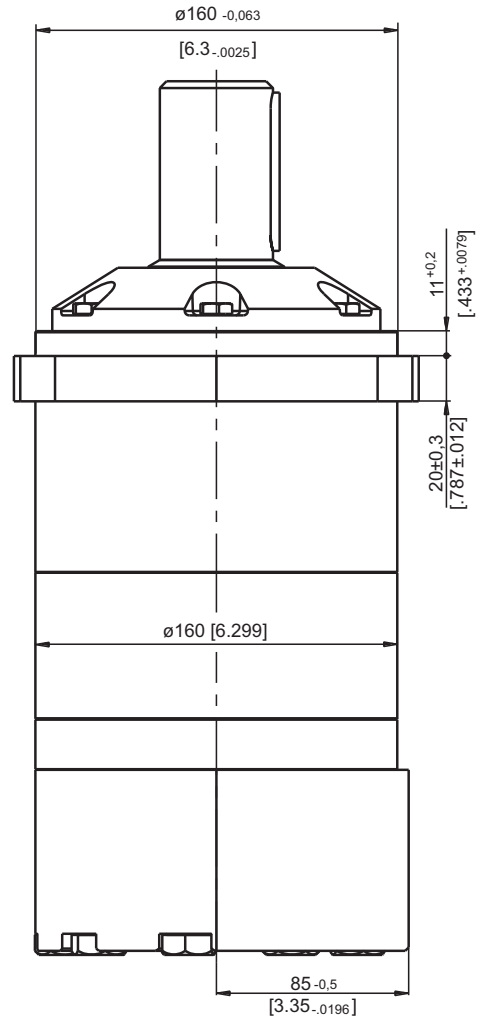
\*\*\* For speeds lower than given, consult factory or your regional manager.

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 mm<sup>2</sup>/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**



Shaft Dim.  
See Page 37



	Versions	
	2	4
<b>P</b> (A,B)	2xG1	2x1 <sup>5</sup> / <sub>16</sub> -12UN
<b>T</b>	G <sup>1</sup> / <sub>4</sub>	9 <sup>16</sup> -18UNF

**Warning:** Drain line should always be used.

Type	L, mm [in]	L <sub>2</sub> , mm [in]	L <sub>1</sub> , mm [in]
MVM 315	226,5 [8.92]	172,5 [6.79]	25,5 [1.00]
MVM 400	233,5 [9.19]	179,5 [7.07]	32,5 [1.28]
MVM 500	241,5 [9.51]	187,5 [7.38]	40,5 [1.59]
MVM 630	252 [9.92]	198 [7.79]	51 [2.01]
MVM 800	266 [10.47]	212 [8.35]	65 [2.56]

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

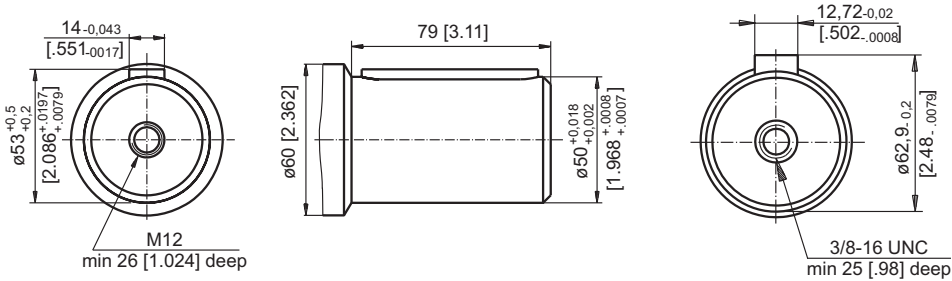
**Reverse Rotation**  
Viewed from Shaft End  
Port A Pressurized - CCW  
Port B Pressurized - CW



**SHAFT EXTENSIONS**

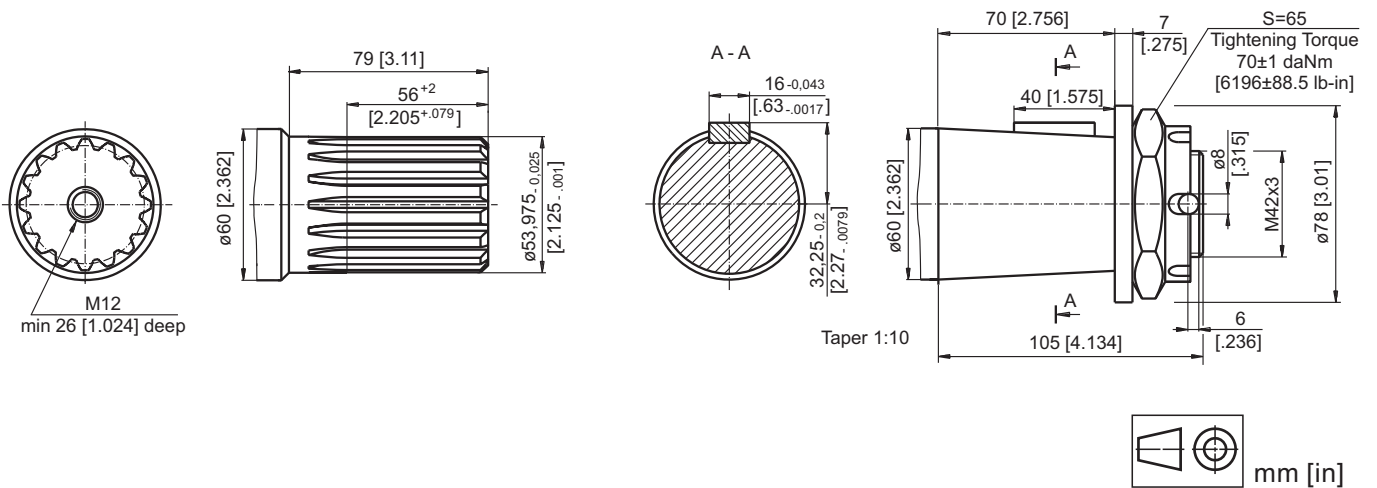
**C** -  $\varnothing 50$  straight, Parallel key A14x9x70 DIN 6885

**CO** -  $\varnothing 2\frac{1}{4}$ " [57,15] straight, Parallel key  $\frac{1}{2}$ " x  $\frac{1}{2}$ " x  $2\frac{1}{4}$ " BS46



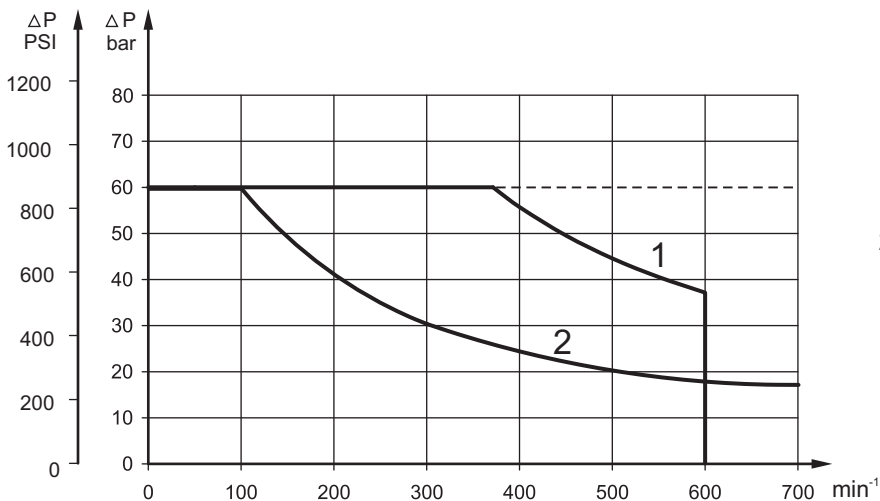
**SH** -  $\varnothing 2\frac{1}{8}$ " splined, 16 DP 8/16 ANS B92.1-1976

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



**MAX. PERMISSIBLE SHAFT SEAL PRESSURE**

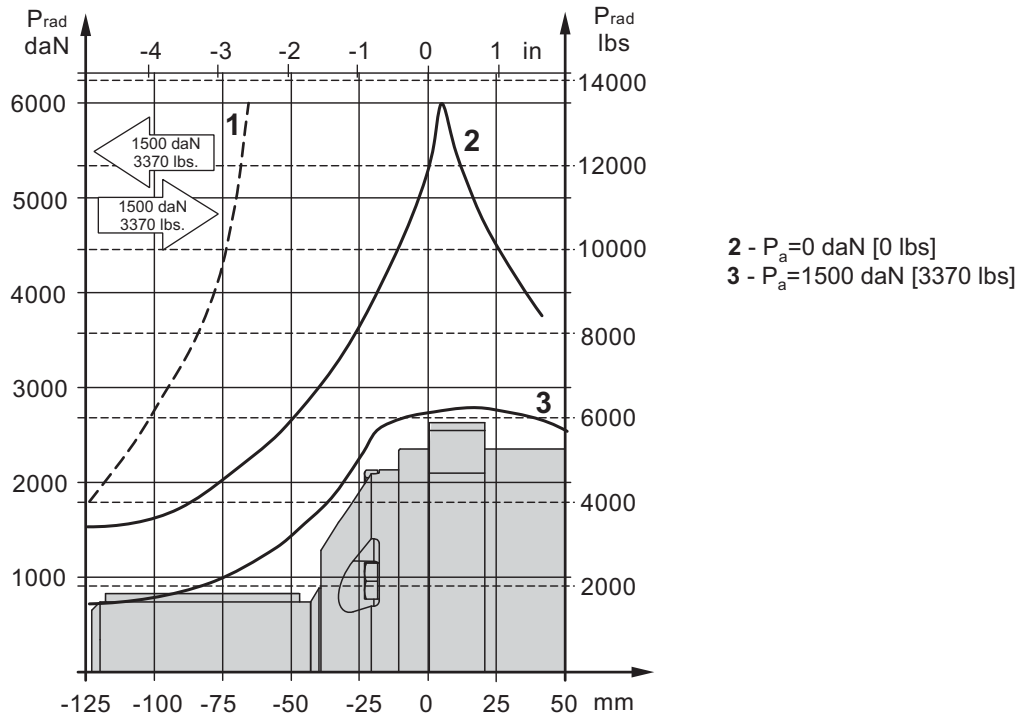
**Max. return pressure without drain line or  
max. pressure in the drain line**



- 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.



### ORDER CODE

	1	2	3	4	5	6	7
<b>M V M</b>						<b>HD</b>	

- Pos.1 - Displacement code**
- 315** - 314,5 cm<sup>3</sup>/rev [19.8 in<sup>3</sup>/rev]
  - 400** - 400,9 cm<sup>3</sup>/rev [24.45 in<sup>3</sup>/rev]
  - 500** - 499,6 cm<sup>3</sup>/rev [30.48 in<sup>3</sup>/rev]
  - 630** - 629,1 cm<sup>3</sup>/rev [38.38 in<sup>3</sup>/rev]
  - 800** - 801,8 cm<sup>3</sup>/rev [48.91 in<sup>3</sup>/rev]
- Pos.2 - Shaft Extensions\***
- C** -  $\varnothing 50$  straight, Parallel key A14x9x70 DIN6885
  - CO** -  $\varnothing 2\frac{1}{4}$ " straight, Parallel key  $\frac{1}{2}$ "x $\frac{1}{2}$ "x $2\frac{1}{4}$ " BS 46
  - SH** -  $\varnothing 2\frac{1}{8}$ " splined, ANSI B92.1-1976
  - K** -  $\varnothing 60$  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 (see page 48)**
- 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.