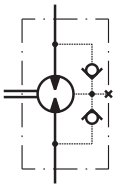
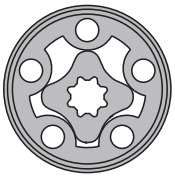
HYDRAULIC MOTORS MM

CONTENTS

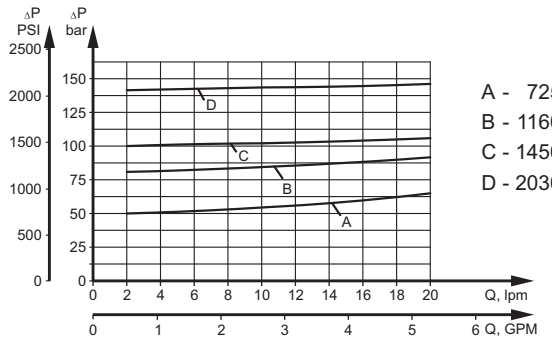




APPLICATION

» Conveyors
» Textile machines
» Mining machinery
» Machine tools
» Ventilators
» Construction plant equipment and access platforms etc.

Pressure Settings at Flow
Q=2 lpm [.53 GPM], 32 mm²/s [150 SUS], 50°C [122°F]

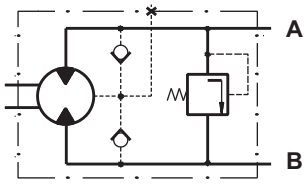


A - 725 PSI [50 bar]
B - 1160 PSI [80 bar]
C - 1450 PSI [100 bar]
D - 2030 PSI [140 bar]

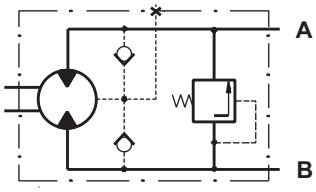
OPTIONS

» Model - Spool valve, gerotor
» With or without flange
» Side and rear ports
» Series with pressure valve(s)
» Shafts - straight and splined
» Metric and BSPP ports
» Speed sensoring;
» Other special features

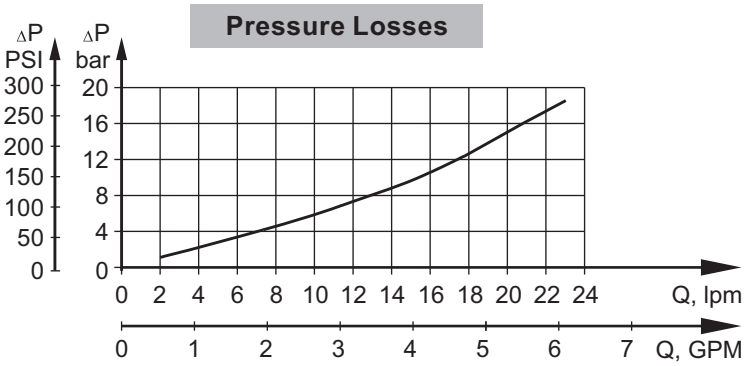
MMP Series with Integrated Internal Crossover Relief Valve
A→B,Δp=100 or 50 bar [1450 or 725 PSI]



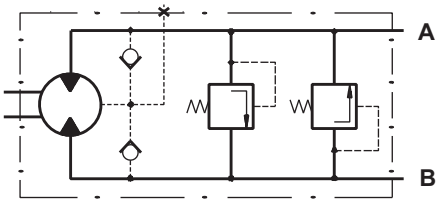
MMP Series with Integrated Internal Crossover Relief Valve
B→A,Δp=100 or 50 bar [1450 or 725 PSI]



Pressure Losses



MMD Series with Integrated Internal Crossover Relief Valves
A←→B,Δp=100 or 50 bar [1450 or 725 PSI]



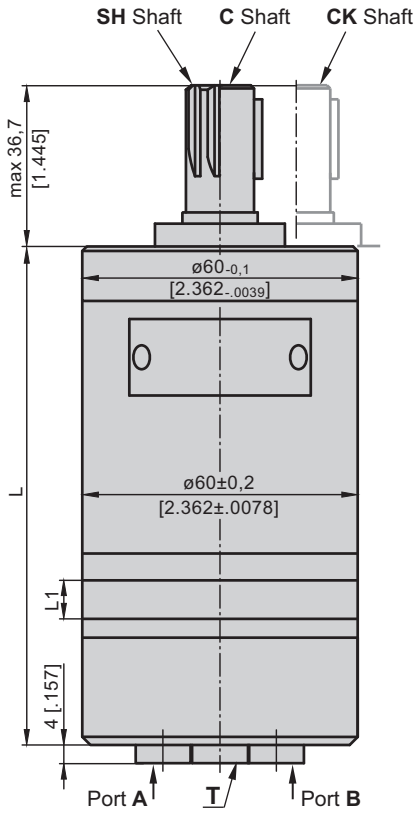
GENERAL

Max. Displacement,	cm^3/rev [in^3/rev]	50 [3.05]
Max. Speed,	[RPM]	2440
Max. Torque,	daNm [lb-in]	cont.: 4,5 [398] int.: 5,8 [513]
Max. Output,	kW [HP]	3,2 [4.3]
Max. Pressure Drop,	bar [PSI]	cont.: 105 [1500] int.: 140 [2030]
Max. Oil Flow,	lpm [GPM]	25 [6.6]
Min. Speed,	[RPM]	20
Pressure fluid		Mineral based- HLP(DIN 51524) or HM(ISO 6743/4)
Temperature range,	°C [°F]	-40÷140 [-40÷284]
Optimal Viscosity range,	mm^2/s [SUS]	20÷75 [98÷347]
Filtration		ISO code: 18/16/13 According to ISO 4406-1999

M+S HYDRAULIC

DIMENSIONS AND MOUNTING DATA
MM, MMS, MMP, MMD

Three Bolts Mount



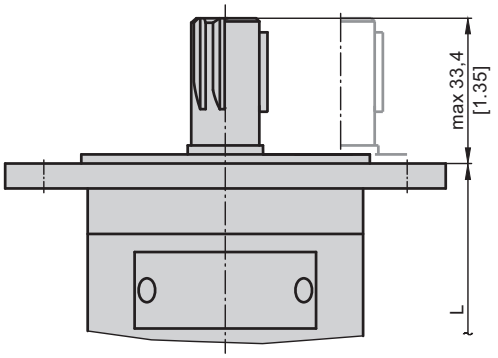
Shaft Dim.
See Page 11

Flange Dim.
See Page 10

Port Dim.
See Page 10

Rear Ports

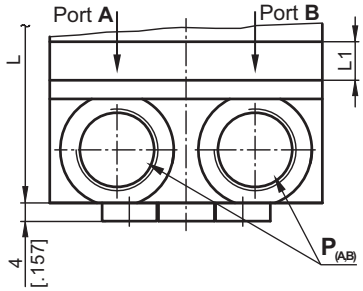
F Oval Mount (2 Holes)



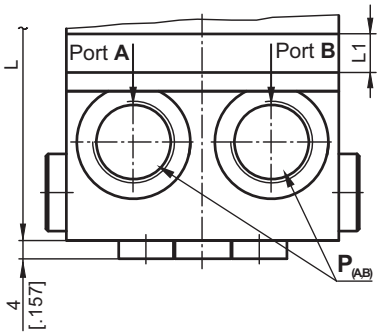
Standard Rotation
Viewed from Shaft End
Port **A** Pressurized - **CW**
Port **B** Pressurized - **CCW**

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

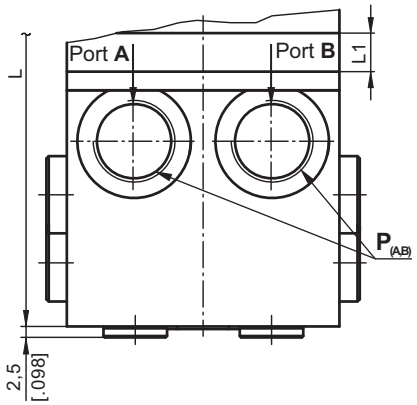
S Side Ports



P Side Ports



D Side Ports



P$_{(A,B)}$: 2xG3/8 or 2xM18x1,5 - 12 mm [.47 in] depth
T : G1/8 or M10x1 - 10 mm [.39 in] depth

Type	L, mm [in]	Type	L, mm [in]	L_1, mm [in]
MM 8	104 [4.094]	MMS 8	105 [4.134]	3,5 [.138]
MM 12,5	106 [4.173]	MMS 12,5	107 [4.213]	5,5 [.217]
MM 20	109 [4.291]	MMS 20	110 [4.331]	8,5 [.335]
MM 32	114 [4.488]	MMS 32	115 [4.528]	13,5 [.531]
MM 40	117,5 [4.626]	MMS 40	118,5 [4.665]	17 [.669]
MM 50	121,5 [4.783]	MMS 50	122,5 [4.823]	21 [.827]

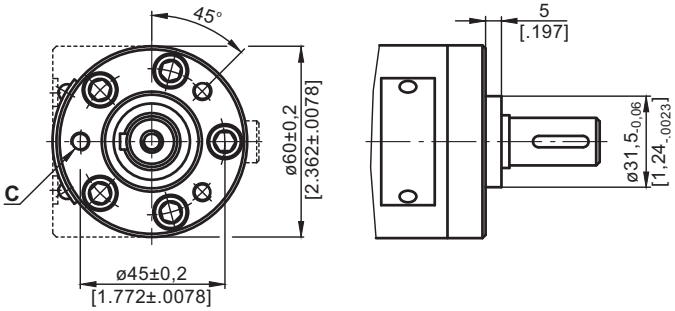
Type	L, mm [in]	Type	L, mm [in]	L_1, mm [in]
MMP 8	115 [4.528]	MMD 8	134 [5.276]	3,5 [.138]
MMP 12,5	117 [4.606]	MMD 12,5	136 [5.354]	5,5 [.217]
MMP 20	120 [4.724]	MMD 20	139 [5.472]	8,5 [.335]
MMP 32	125 [4.921]	MMD 32	144 [5.669]	13,5 [.531]
MMP 40	128,5 [5.039]	MMD 40	147,5 [5.807]	17 [.669]
MMP 50	132,5 [5.217]	MMD 50	151,5 [5.965]	21 [.827]

For “F” Flange +3,5 mm

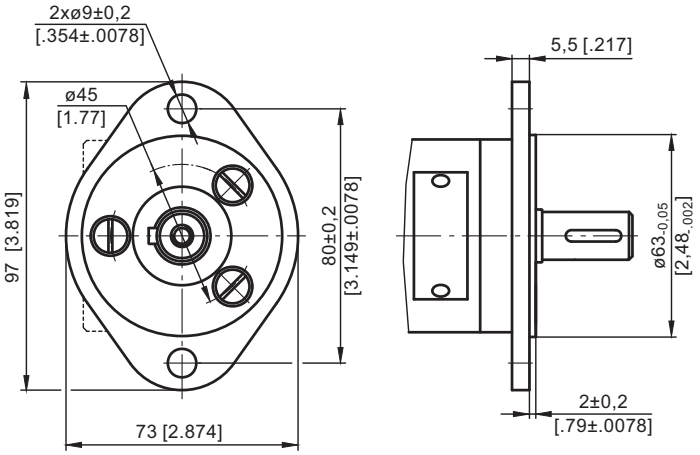
mm [in]

MOUNTING

Three Bolts Mount

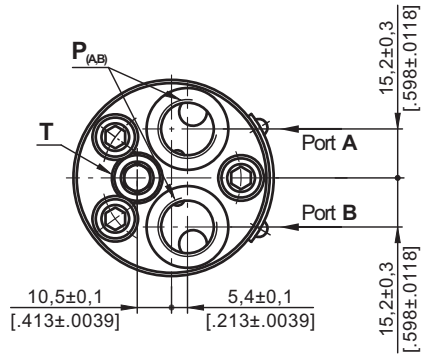


F Oval Mount (2 Holes)

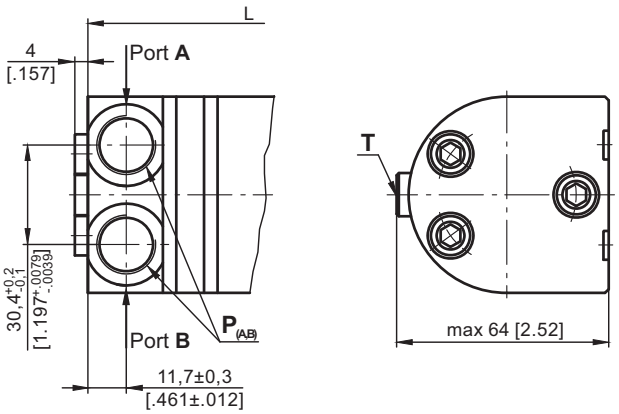


PORTS

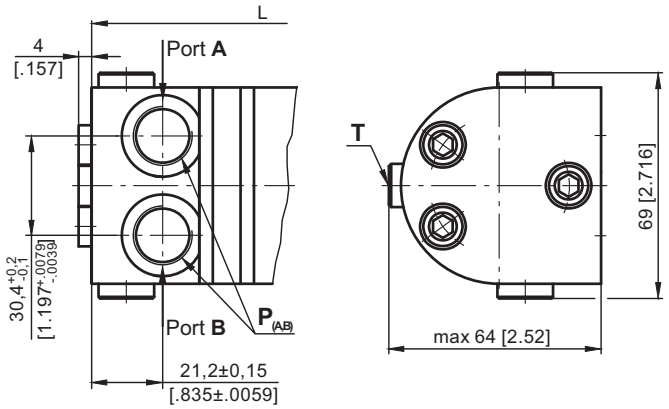
Rear Ports



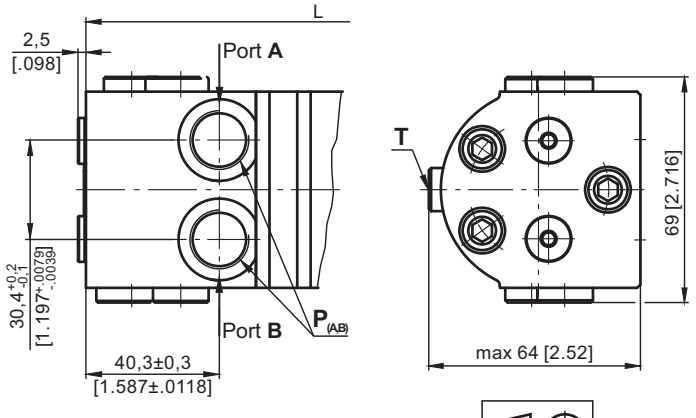
S Side Ports



P Side Ports with Single Crossover Relief Valve



D Side Ports with Dual Crossover Relief Valve



mm [in]

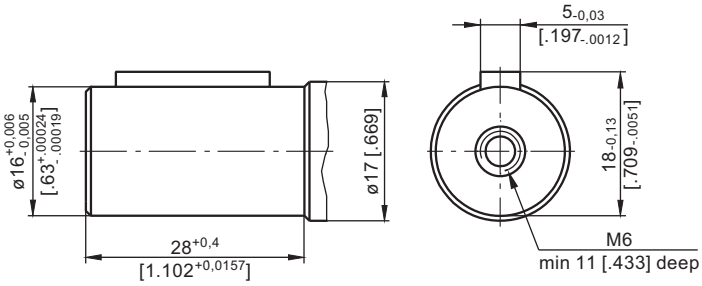
Standard Rotation
Viewed from Shaft End
Port **A** Pressurized - **CW**
Port **B** Pressurized - **CCW**

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

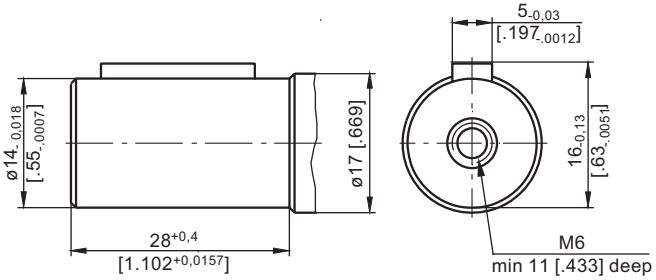
C : 3xM6 - 12 mm [.47 in] depth
P(A,B) : 2xG3/8 or 2xM18x1,5 - 12 mm [.47 in] depth
T : G1/8 or M10x1 - 10 mm [.39 in] depth

SHAFT EXTENSIONS

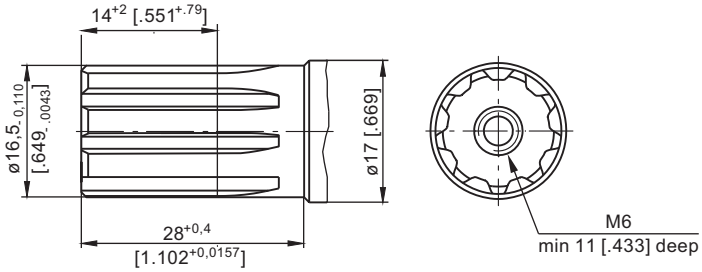
C - ø16 straight, Parallel key 5x5x16 DIN 6885
Max. Torque 3,9 daNm [345 lb-in]



CK - ø14 straight, Parallel key 5x5x16 DIN 6885
Max. Torque 3 daNm [265 lb-in]

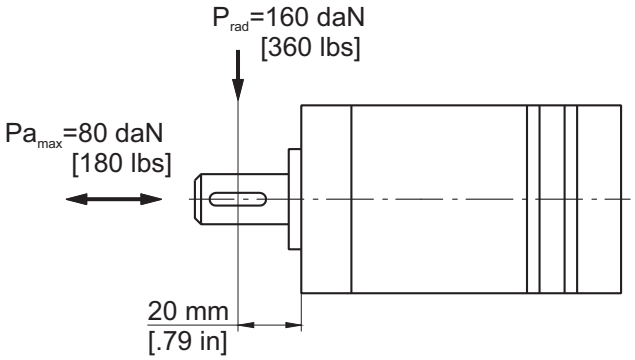


SH - ø16,5 Splined, B17x14 DIN 5482
Max. Torque 4,4 daNm [390 lb-in]



mm [in]

PERMISSIBLE SHAFT LOAD



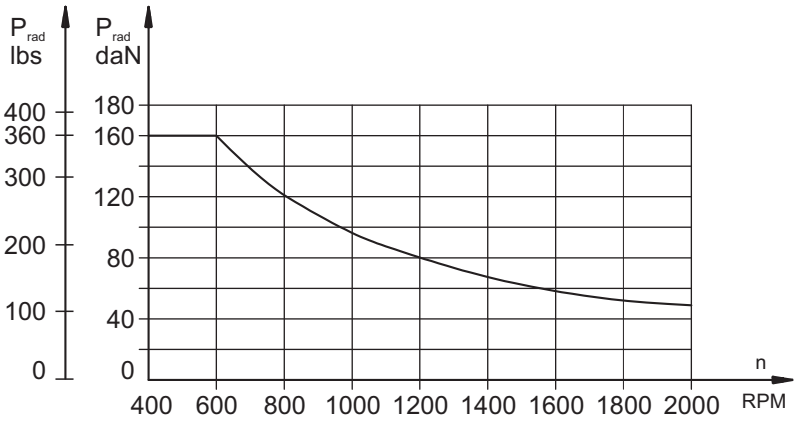
The permissible radial shaft load [Prad] is calculated from the distance [L] between the point of load application and the mounting surface:

$$\mathbf{P_{rad}} = \frac{600}{n} X \frac{13040}{61{,}5+L}\ , [daN]$$

[L in mm; L≤ 80 mm]

$$\mathbf{P_{rad}} = \frac{600}{n} X \frac{1155}{2.42 + L}\ , [lbs]$$

[L in inch; L≤ 3.15 in]



The drawing shows the permissible radial load when L=20 mm [.79 in].

If the calculated shaft load exceeds the permissible, a flexible coupling must be used.

ORDER CODE

	1	2	3	4	5	6	7	8	9	10
M M										

Pos.1 - Adjustment Option

omit - without valve

P - Side ports with single crossover relief valve

D - Side ports with dual crossover relief valve

Pos.2 - Mounting Flange

omit - Three bolts mount valve

F - Oval mount, two holes

Pos.3 - Port type (not valid for **P** and **D** version)

omit - Rear ports

S - Side ports

Pos.4 - Displacement code

8 - 8,2 cm^3/rev [.5 in^3/rev]

12.5 - 12,9 cm^3/rev [.79 in^3/rev]

20 - 20,0 cm^3/rev [1.22 in^3/rev]

32 - 31,8 cm^3/rev [1.93 in^3/rev]

40 - 40,0 cm^3/rev [2.44 in^3/rev]

50 - 50,0 cm^3/rev [3.05 in^3/rev]

Pos. 5 - Shaft Extensions*

C - ø16 straight, Parallel key A5x5x16 DIN6885

VC - ø16 straight, Parallel key A5x5x16 DIN6885 with corrosion resistant bushing

CK - ø14 straight, Parallel key 5x5x16 DIN6885

SH - ø16,5 splined, B17x14 DIN 5482

Pos. 6 - Ports

omit - BSPP (ISO 228)

M - Metric (ISO 262)

Pos. 7 - Line to control** (see page 4)

/L - B→A (left running)

/R - A→B (right running)

Pos. 8 - Valve Rated Pressure***

/50 - Δp= 50 bar [725 PSI]

/80 - Δp= 80 bar [1160 PSI]

/100 - Δp=100 bar [1450 PSI]

/140 - Δp=140 bar [2030 PSI]

Pos. 9 - Special Features (see page 120)

Pos.10 - Design Series

omit - Factory specified

NOTES: * The permissible output torque for shafts must not be exceeded!
** For **P** option useful only.
*** For **P** and **D** option useful only.

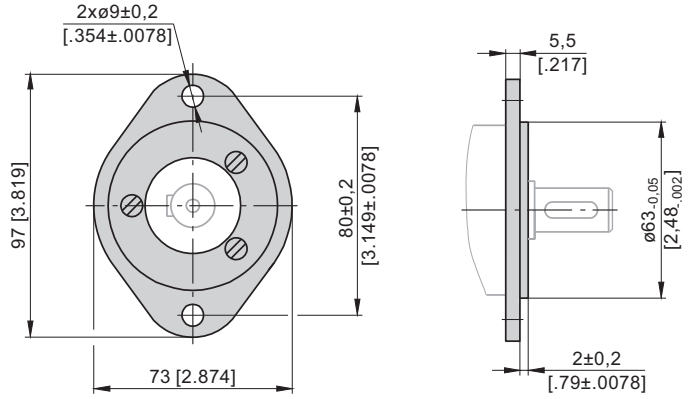
⚠ **MMP** and **MMD** are available with new crossover relief valves with improved characteristics. The valves are set in a wide pressure range: from 50 bar [725 PSI] to 140 bar [2030 PSI]. For more information about MMP and MMD please contact with "M+S Hydraulic".

The Valve pressure setting must be at flow rate of 2 lpm [.53 GPM].

The hydraulic motors are mangano - phosphatized as standard.

F - FLANGE (2 Holes)

Order No for Flange:48443 014 00



F Flange is mounted to the motor with 3 screws - M6x14. Tightening Torque: 5-6 Nm [44-53 lb-in].