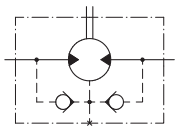
MOTEUR ""M+S HYDRAULIC" ARBRE CYLINDRIQUE Ø16 SANS BRIDE — MPM (MM)

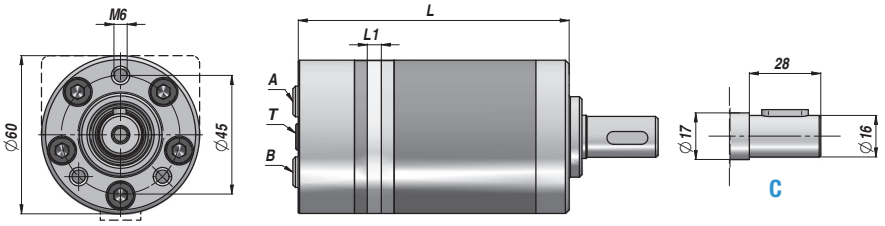
"M+S HYDRAULIC" MOTOR — PARALLEL SHAFT Ø16 — WITHOUT FLANGE

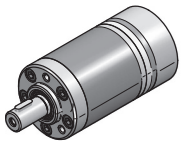


Standard: ALIMENTATIONS ARRIERES - *REAR PORTS*

CLAPET ANTI-RETOUR INTEGRE
BUILT-IN CHECK VALVES







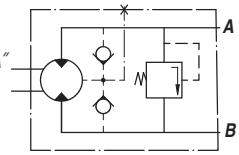
PREDISPOSITION POUR DRAINAGE
MACHINED FOR DRAIN CONNECTION

Code *Code*	Type *Type*	cm³/tr *cm³/rev*	n. Max tours/min *rpm*	M Max daNm	Q MAX l/min	P MAX bar Chute *Drop* Δp	P MAX bar *Entrée Inlet*	P MAX bar *Retour Return*	A - B	T	L	L1	kg
			TRAVAIL EN CONTINU - *CONTINUOUS WORK*										
MPM008NC16	MPM 8 C	8.2	1950	1.1	16	105.0	140	140 *	3/8"	1/8"	104.0	3.5	1,90
MPM012NC16	MPM 12 C	12.9	1550	1.6	20	105.0	140	140 *			106.0	5.5	2,00
MPM020NC16	MPM 20 C	20.0	1000	2.5	20	105.0	140	140 *			109.0	8.5	2,10
MPM032NC16	MPM 32 C	31.8	630	4.0	20	105.0	140	140 *			114.0	13.5	2,20
MPM040NC16	MPM 40 C	40.0	500	4.1	20	82.5	140	140 *			117.5	17.0	2,30
MPM050NC16	MPM 50 C	50.0	400	4.5	20	70.0	140	140 *			121.5	21.0	2,50

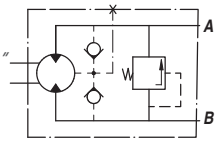
* = AVEC DRAINAGE - *WITH DRAIN*

OPTION

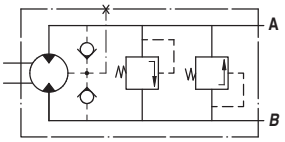
MPM-P.../ R
LP SUR LA LIGNE "A"
RELIEF VALVE ON LINE "A"



MPM-P.../ L
LP SUR LA LIGNE "B"
RELIEF VALVE ON LINE "B"

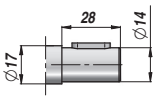


MPM-D...
LP SUR LES LIGNES "A/B"
RELIEF VALVE ON LINES "A/B"

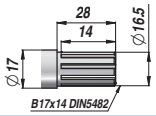


OPTION

CK

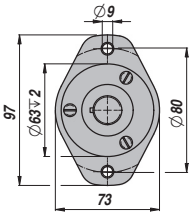


SH

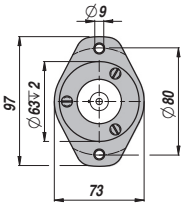


OPTION

F: (Oval Mount)



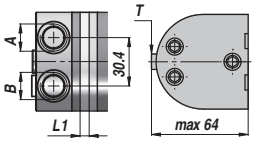
FLANGE KIT
Code: MF48443014



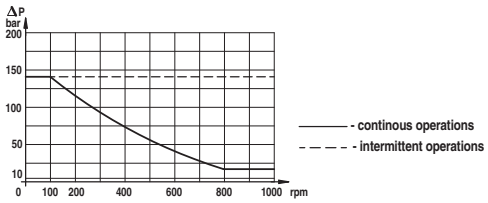
AVEC N.3 VIS M6x14"
WITH No.3 SCREWS M6x14

OPTION

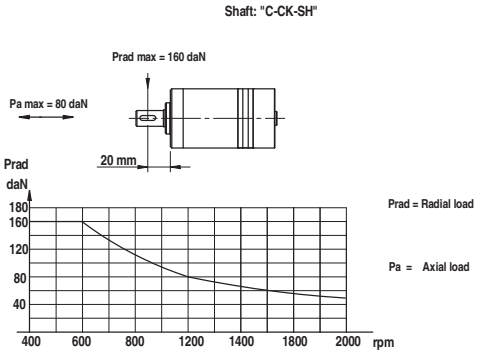
S: ALIMENTATIONS LATERALES
SIDE PORTS



PRESSION MAXI EN RETOUR SANS DRAINAGE
MAX. RETURN PRESSURE WITHOUT DRAIN



CHARGES ADMISSIBLES SUR L'ARBRE
PERMISSIBLE SHAFT LOADS



La société peut apporter toute modification au produit sans avis préalable.
The company reserves the right to modify the product at any time without prior notice.

HYDRAULIC MOTORS MM

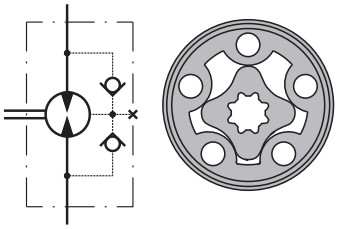


CONTENTS

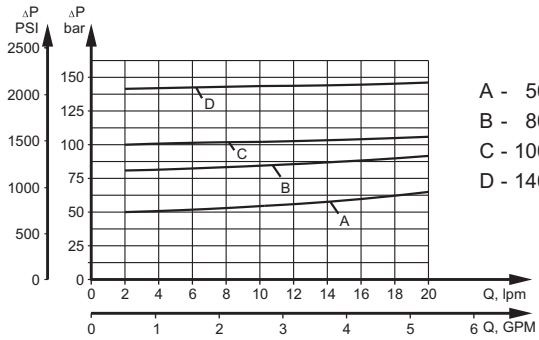
Specification data 5
Function diagrams ..... 6÷8
Dimensions and mounting ... 9÷10
Shaft extensions 11
Permissible shaft loads 11
Order code 12

APPLICATION

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



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

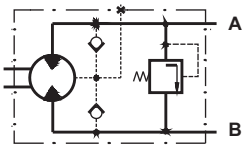


A - 50 bar [725 PS]l
B - 80 bar [1160 PSI]
C - 100 bar [1450 PSI]
D - 140 bar [2030 PSI]

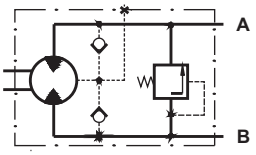
OPTIONS

» 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

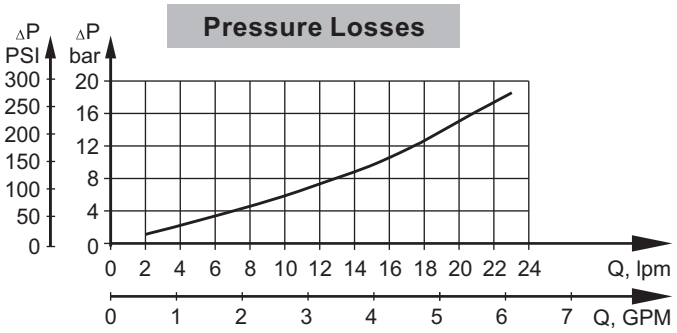
MMP Series with Integrated Internal Crossover Relief Valve
A⟶B, Δp=100 or 50 bar [1450 or 725 PSI]



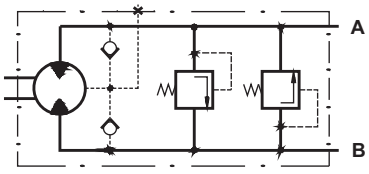
MMP Series with Integrated Internal Crossover Relief Valve
B⟶A, Δp=100 or 50 bar [1450 or 725 PSI]



Pressure Losses



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



GENERAL

Max. Displacement, cm³/rev [in³/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, mm²/s [SUS]	20÷75 [98÷347]
Filtration	ISO code 20/16 (Min. recommended fluid filtration of 25 microns)

MM MOTORS

SPECIFICATION DATA

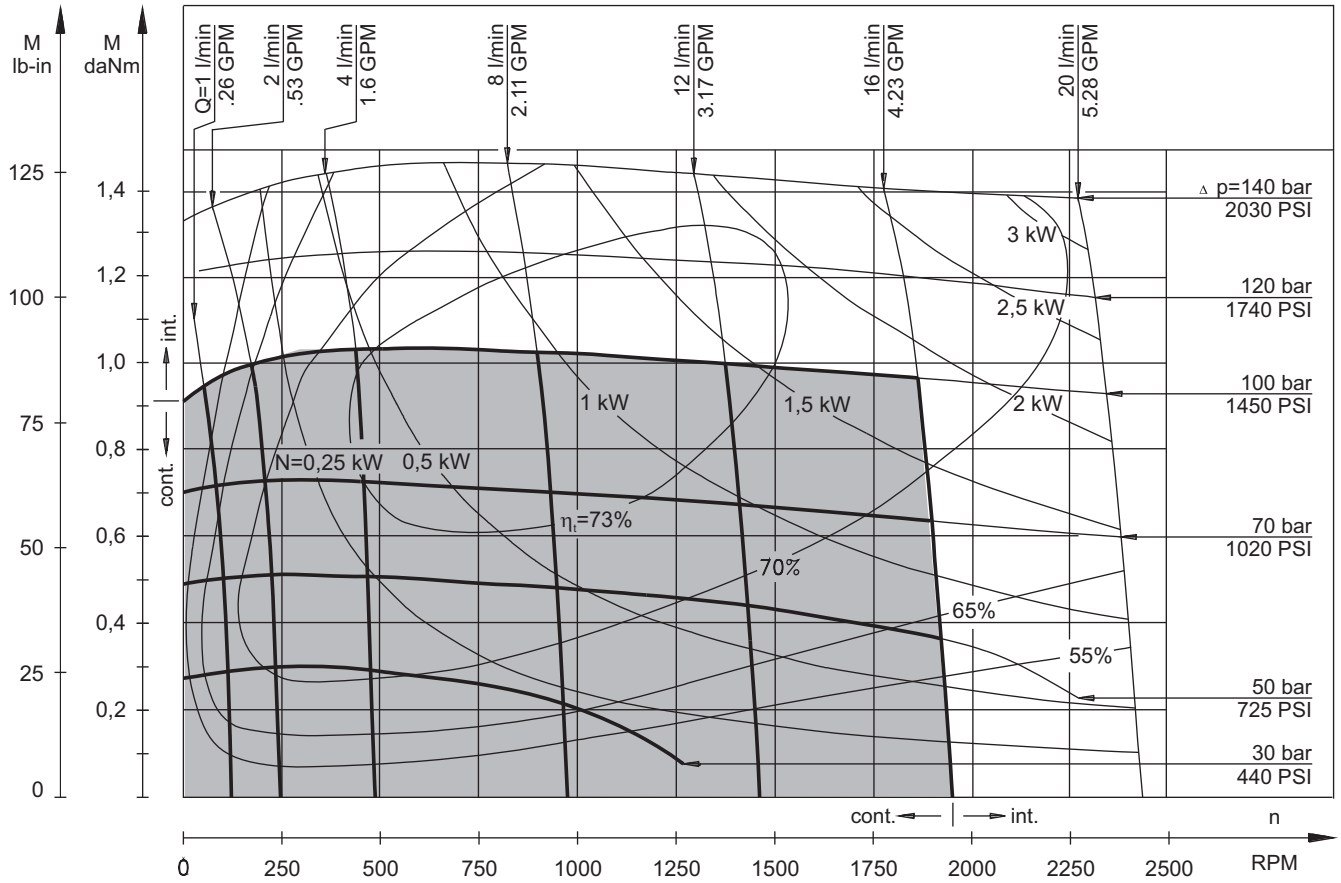
Type		MM 8	MM 12.5	MM 20	MM 32	MM 40	MM 50
Displacement, cm^3/rev [in^3/rev]		8,2 [.50]	12,5 [.77]	19,9 [1.22]	31,6 [1.93]	39,8 [2.43]	50 [3.08]
Max. Speed,	Cont.	1950	1550	1000	630	500	400
[RPM]	Int.*	2450	1940	1250	800	630	500
Max. Torque	Cont.	1,1 [95]	1,6 [140]	2,5 [220]	4,0 [350]	4,5 [400]	4,6 [410]
daNm [lb-in]	Int.*	1,5 [135]	2,3 [200]	3,5 [310]	5,7 [500]	7,0 [620]	8,8 [780]
	Peak**	2,1 [187]	3,3 [293]	5,1 [453]	6,4 [568]	8,2 [725]	10,0 [885]
Max. Output	Cont.	1,8 [2.4]	2,4 [3.2]	2,4 [3.2]	2,4 [3.2]	2,2 [3.0]	1,8 [2.4]
kW [HP]	Int.*	2,6 [3.5]	3,2 [4.3]	3,2 [4.3]	3,2 [4.3]	3,2 [4.3]	3,2 [4.3]
Max. Pressure Drop	Cont.	100 [1450]	100 [1450]	100 [1450]	100 [1450]	90 [1310]	70 [1020]
bar [PSI]	Int.*	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]
	Peak**	200 [2900]	200 [2900]	200 [2900]	160 [2320]	160 [2320]	160 [2320]
Max. Oil Flow	Cont.	16 [4.2]	20 [5.3]	20 [5.3]	20 [5.3]	20 [5.3]	20 [5.3]
lpm [GPM]	Int.*	20 [5.3]	25 [6.6]	25 [6.6]	25 [6.6]	25 [6.6]	25 [6.6]
Max. Inlet Pressure	Cont.	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]
bar [PSI]	Int.*	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]
	Peak**	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]
Max. Return Pressure	Cont. 0-100 RPM	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]
without Drain Line or	Cont. 100-400 RPM	105 [1500]	105 [1500]	105 [1500]	105 [1500]	105 [1500]	105 [1500]
Max. Pressure	Cont. 400-800 RPM	50 [725]	50 [725]	50 [725]	50 [725]	50 [725]	50 [725]
in Drain Line,	Cont. >800 RPM	20 [290]	20 [290]	20 [290]	-	-	-
bar [PSI]	Int.* 0-max. RPM	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]
Max. Return Pressure	Cont.	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]
with Drain Line	Int.*	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]
bar [PSI]	Peak**	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]
Max. Starting Pressure with Unloaded Shaft, bar [PSI]		4 [60]	4 [60]	4 [60]	4 [60]	4 [60]	4 [60]
Min. Starting Torque	At max. press. drop Cont.	0,7 [60]	1,2 [105]	2,1 [185]	3,4 [300]	3,8 [335]	4,1 [365]
daNm [lb-in]	At max. press. drop Int.*	1,0 [90]	1,7 [150]	2,9 [255]	4,8 [425]	6,2 [550]	7,9 [700]
Min. Speed*, [RPM]**		50	40	30	30	25	20
Weight, kg [lb]	MM	1,9 [4.2]	2,0 [4.41]	2,1 [4.63]	2,2 [4.85]	2,3 [5.07]	2,5 [5.51]
For "F" flange:	MMF(S)	2,0 [4.41]	2,1 [4.63]	2,2 [4.85]	2,3 [5.07]	2,4 [5.29]	2,6 [5.73]
+ 0,200 [.441]	MMP	2,2 [4.85]	2,3 [5.07]	2,4 [5.29]	2,5 [5.51]	2,6 [5.73]	2,8 [6.17]
	MMD	2,6 [5.73]	2,7 [5.95]	2,8 [6.17]	2,9 [6.39]	3,0 [6.61]	3,2 [7.05]

* 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.

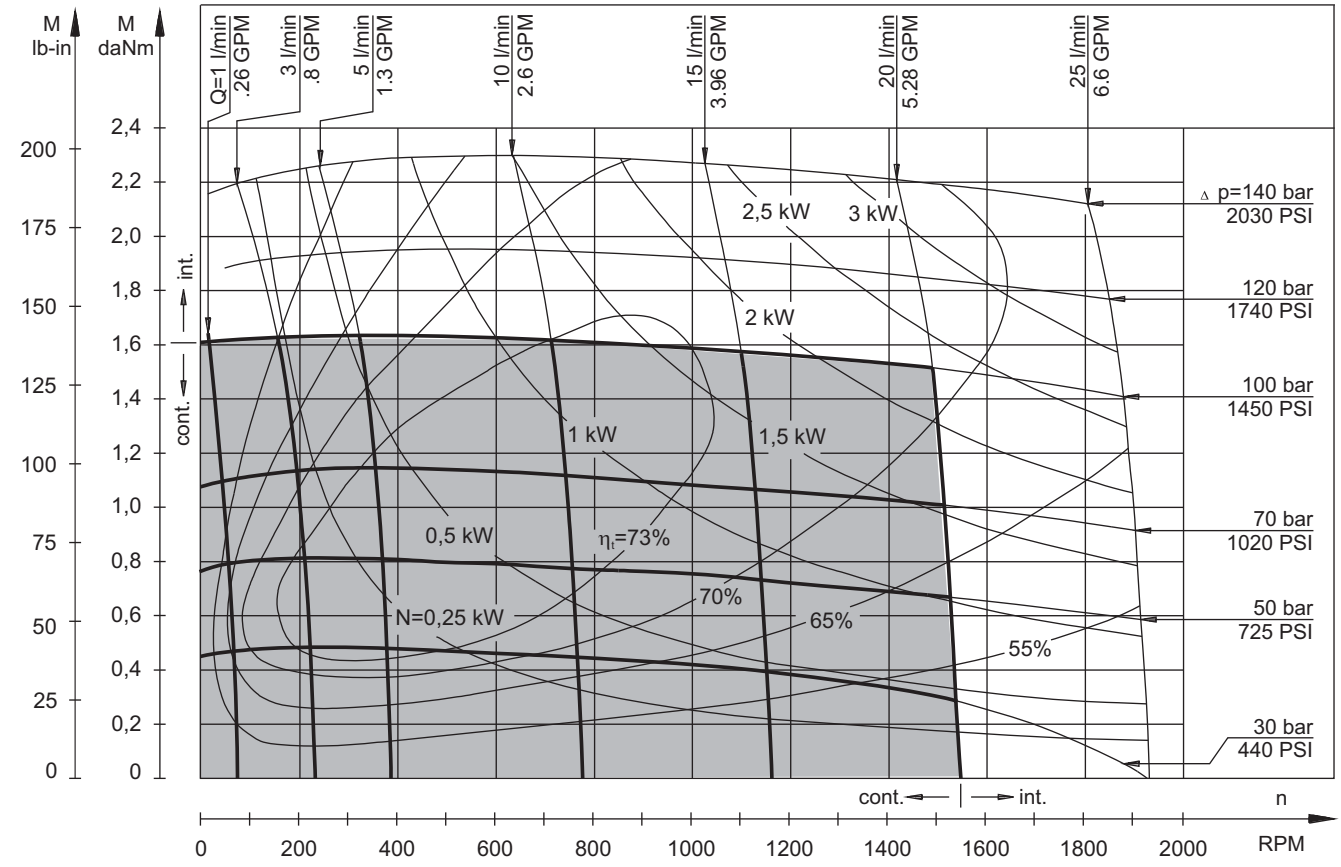
1. Intermittent speed and intermittent pressure must not occur simultaneously.
2. Recommended filtration is per ISO cleanliness code 20/16. A nominal filtration of 25 micron or better.
3. Recommend using a premium quality, anti-wear type mineral based hydraulic oil HLP(DIN51524) or HM (ISO 6743/4). If using synthetic fluids consult the factory for alternative seal materials.
4. Recommended minimum oil viscosity 13 mm^2/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

MM 8



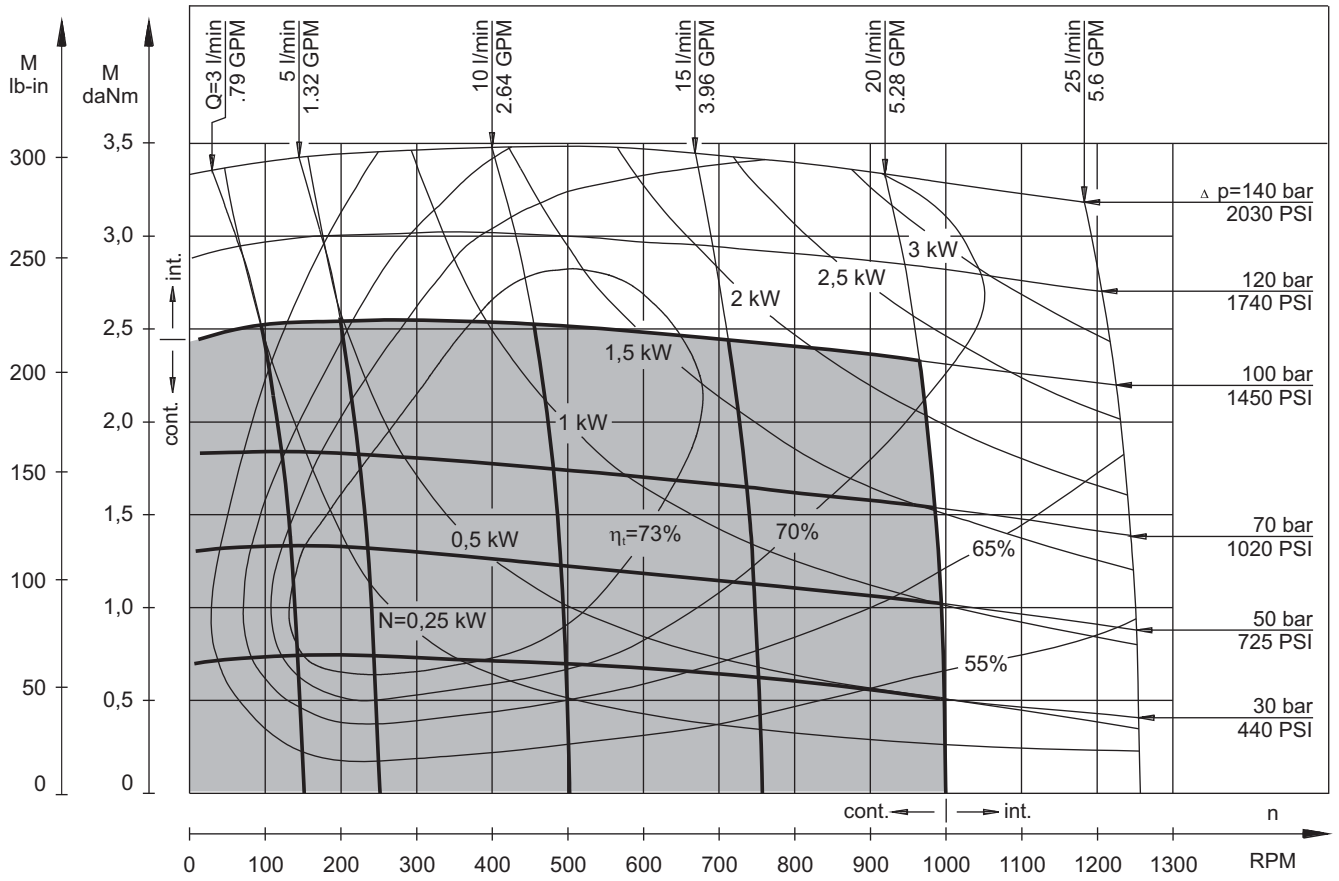
MM 12,5



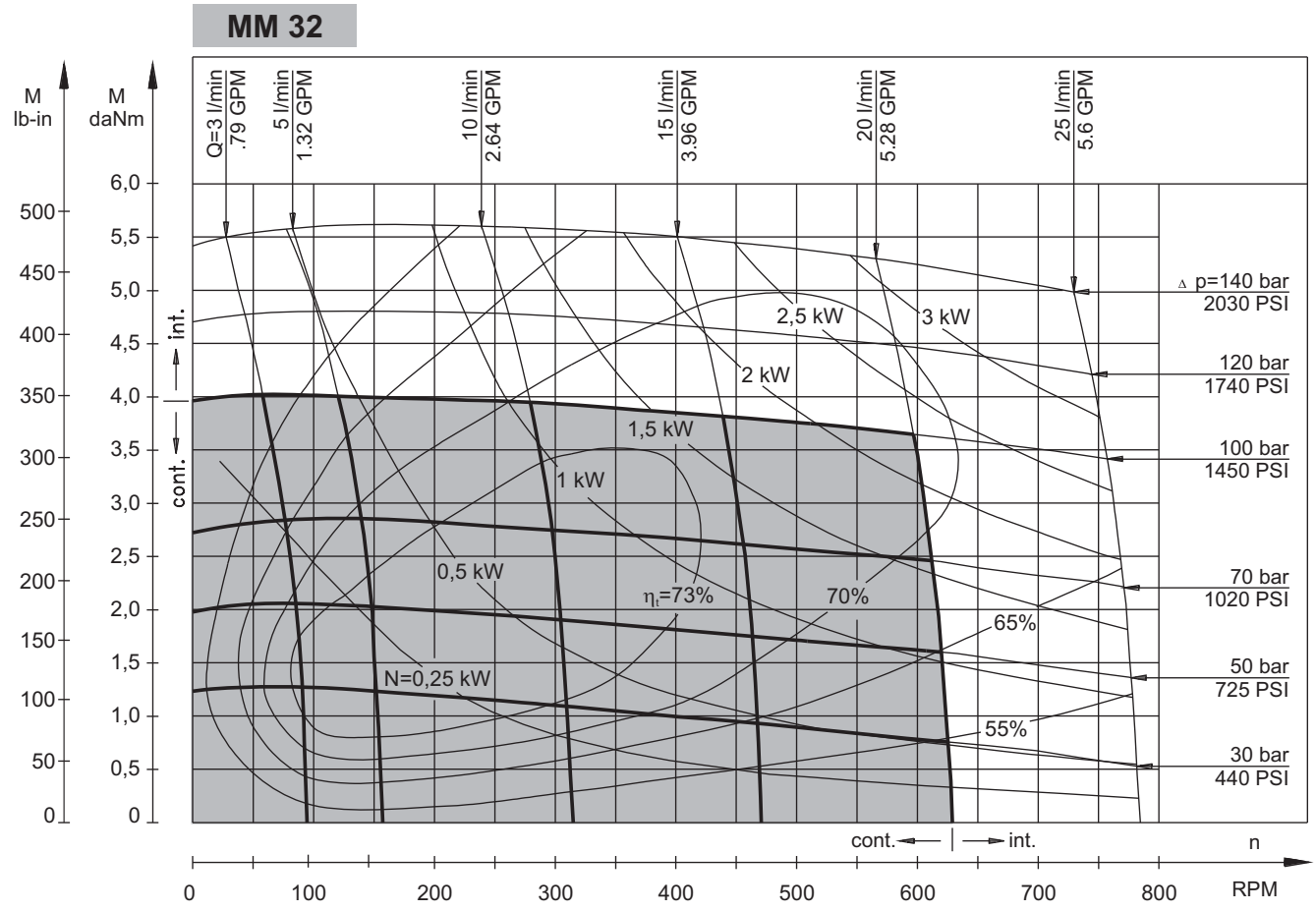
The function diagrams data is for average performance of randomly selected motors at back pressure 5÷10 bar [72.5÷145 PSI] and oil with viscosity of 32 mm²/s [150 SUS] at 50°C [122°F].

FUNCTION DIAGRAMS

MM 20



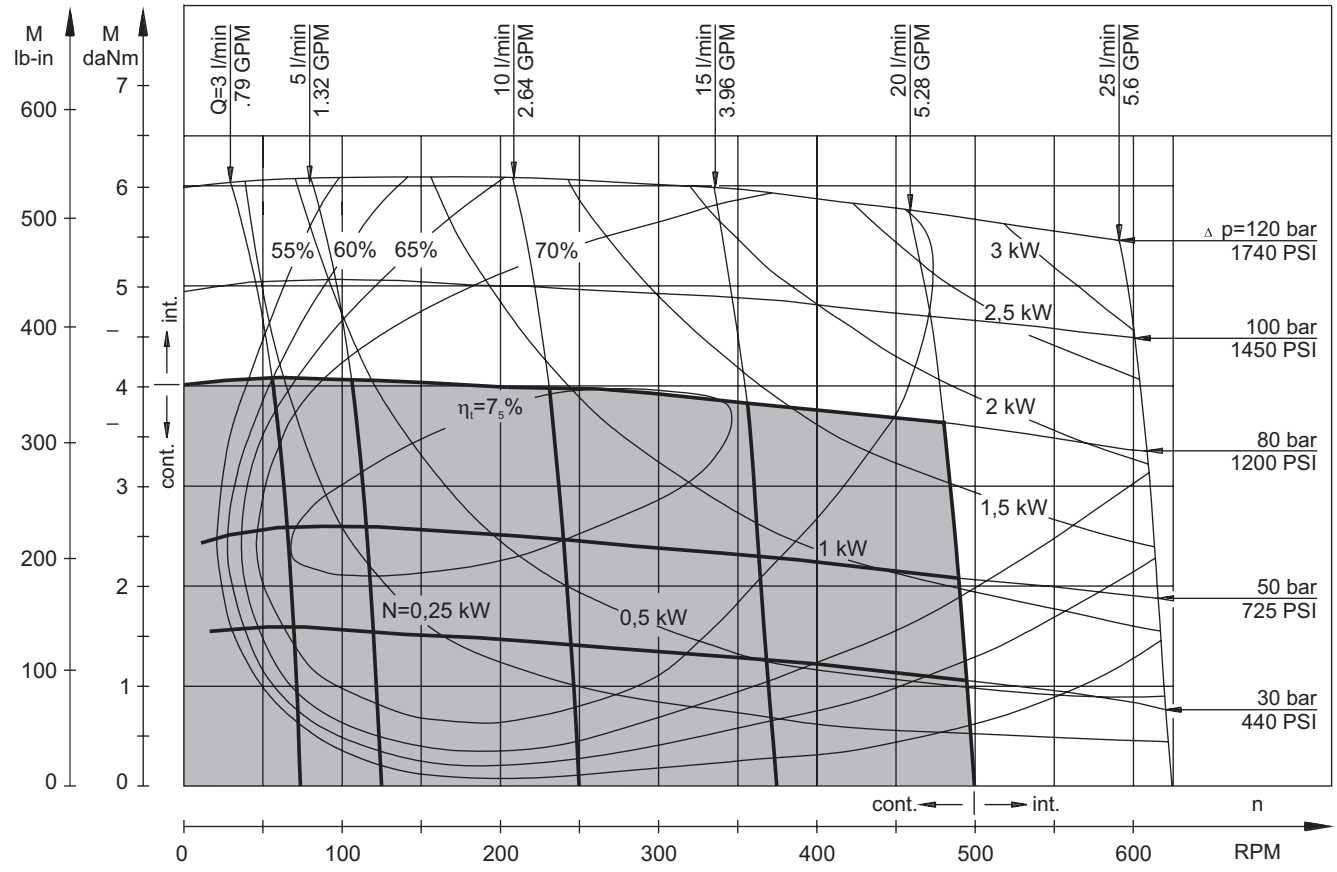
MM 32



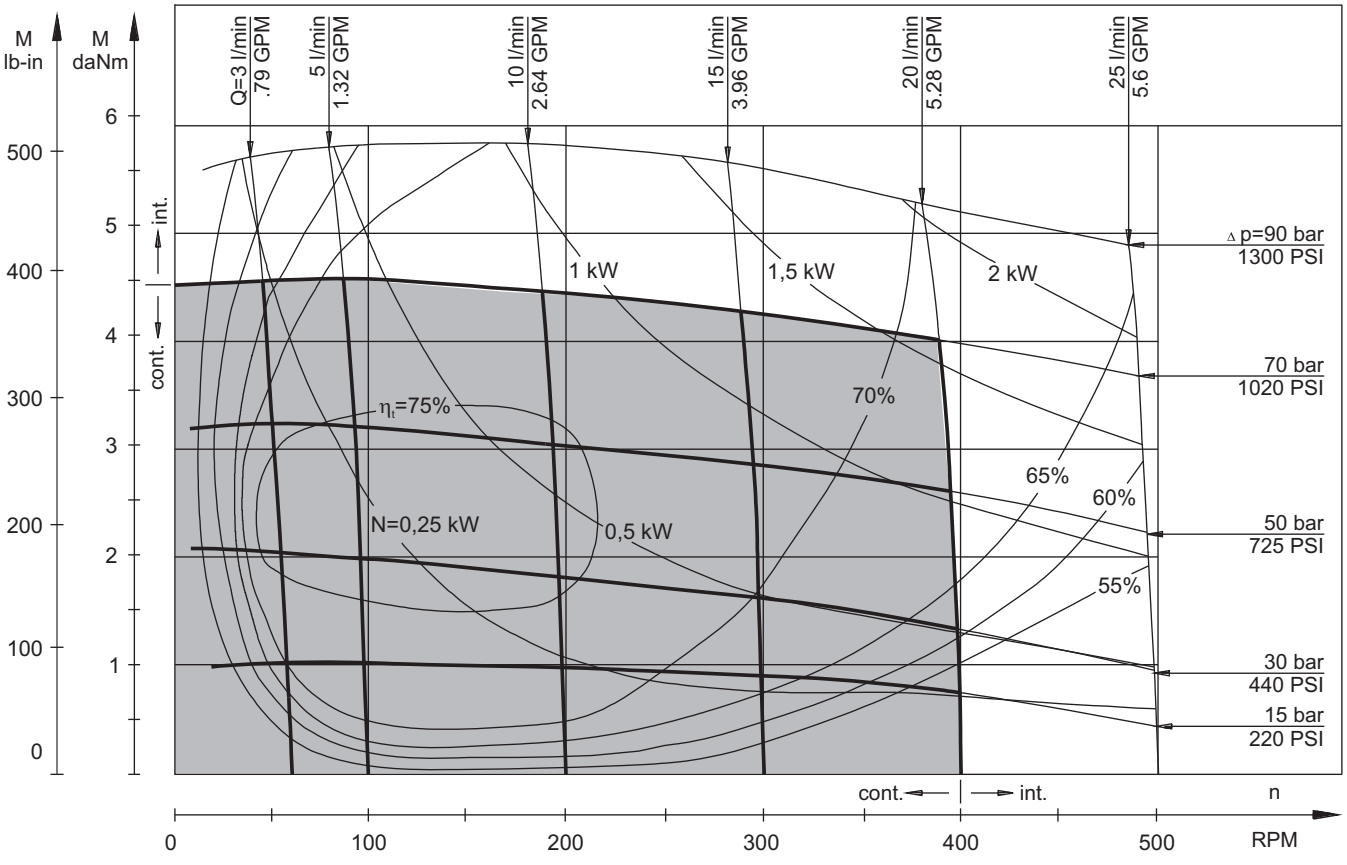
The function diagrams data is for average performance of randomly selected motors at back pressure 5÷10 bar [72.5÷145 PSI] and oil with viscosity of 32 mm²/s [150 SUS] at 50°C [122°F].

FUNCTION DIAGRAMS

MM 40



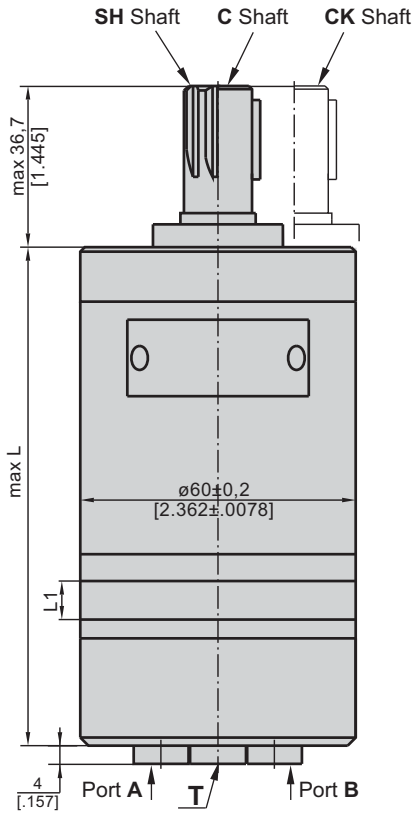
MM 50



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].

DIMENSIONS AND MOUNTING DATA
MM, MMS, MMP, MMD

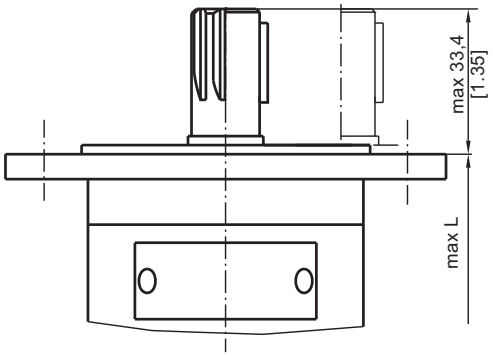
Three Bolts Mount



Shaft Dim. See Page 11

Flange Dim. See Page 10

F Oval Mount (2 Holes)



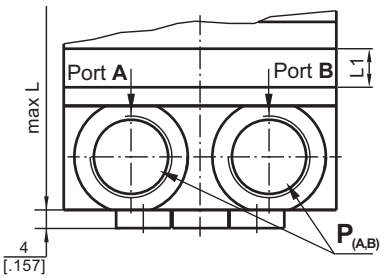
Rear Ports

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

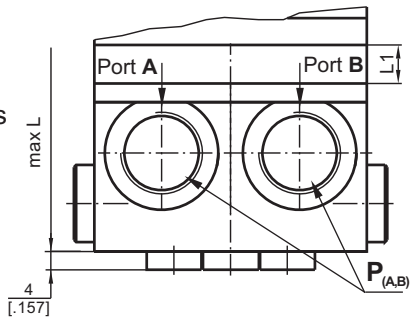
Reverse Rotation
Viewed from Shaft End
Port **A** Pressurized - **CCW**
Port **B** Pressurized - **CW**

Port Dim. See Page 10

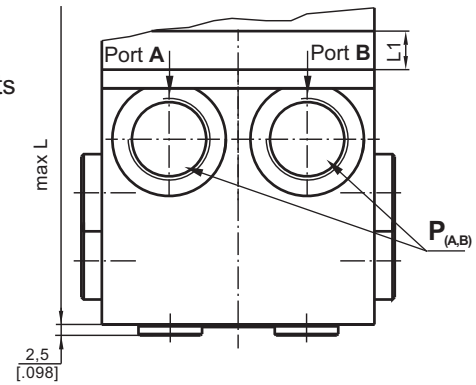
S Side Ports



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]

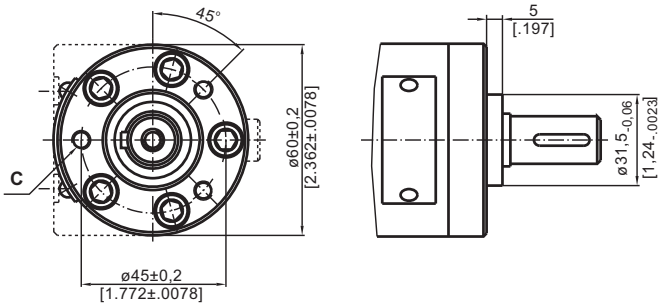
Type	L,mm [in.]	Type	L,mm [in.]	L_1,mm [in.]
MMP 8	115 [4.528]	MMD 8	134 [5.276]	3,5 [.138]
MMP 12,5	117 [4.606]	MMD 12,5	136 [5.354]	5,5 [.217]
MMP 20	120 [4.724]	MMD 20	139 [5.472]	8,5 [.335]
MMP 32	125 [4.921]	MMD 32	144 [5.669]	13,5 [.531]
MMP 40	128,5 [5.039]	MMD 40	147,5 [5.807]	17 [.669]
MMP 50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

For “F” Flange +3,5 mm

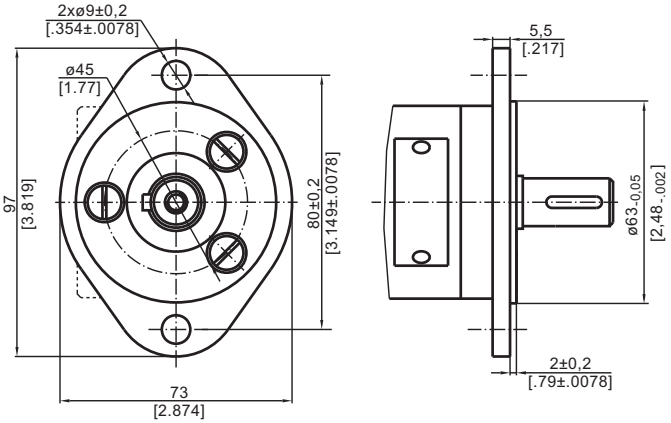
mm [in]

MOUNTING

Three Bolts Mount

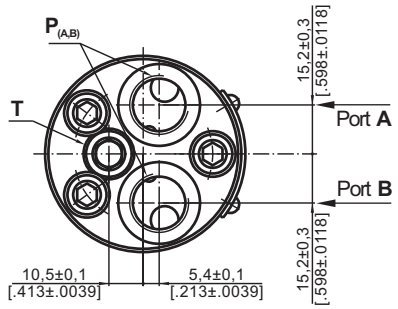


F Oval Mount (2 Holes)

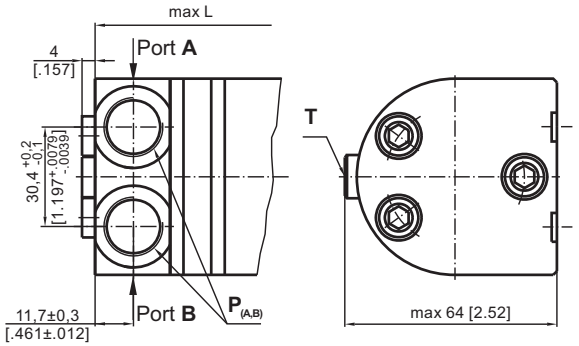


PORTS

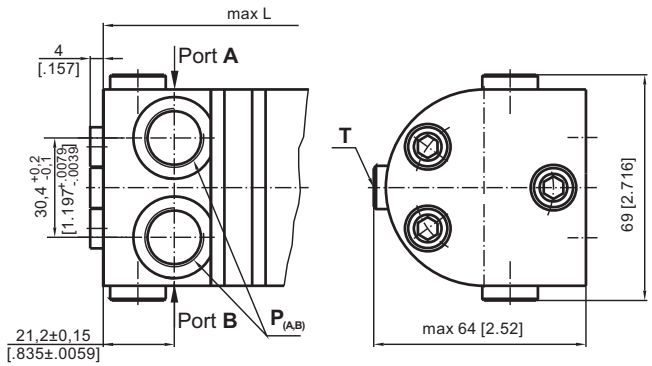
Rear Ports



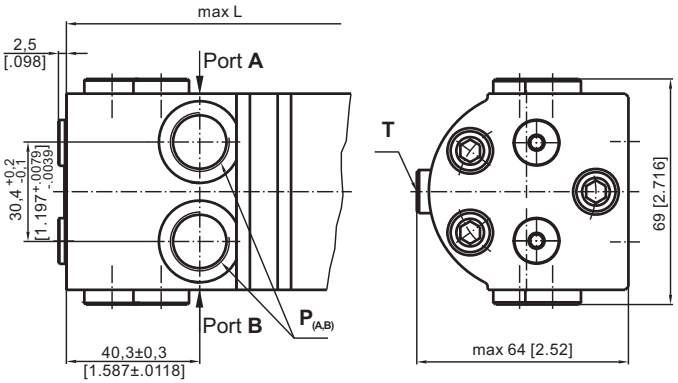
S Side Ports



P Side Ports with Single Crossover Relief Valve



D Side Ports with Dual Crossover Relief Valve



mm [in]

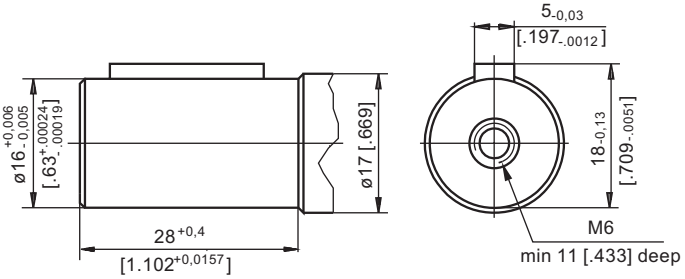
Standard Rotation
Viewed from Shaft End
Port **A** Pressurized - **CW**
Port **B** Pressurized - **CCW**

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

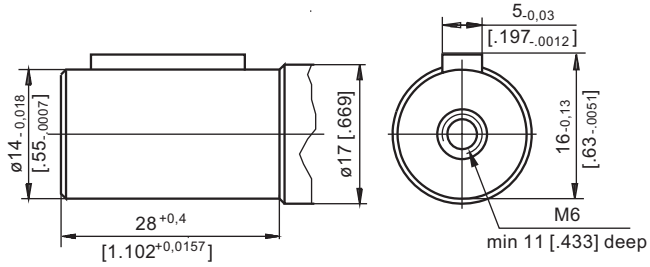
C : 3xM6 - 12 mm [.47 in] depth
P$_{(A,B)}$: 2xG3/8 or 2xM18x1,5 - 12 mm [.47 in] depth
T : G1/8 or M10x1 - 10 mm [.39 in] depth

SHAFT EXTENSIONS

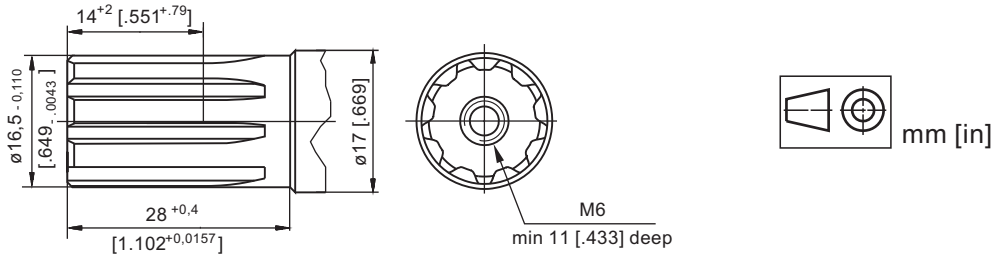
C - ø16 straight, Parallel key 5x5x16 DIN 6885
Max. Torque 3,9 daNm [345 lb-in]



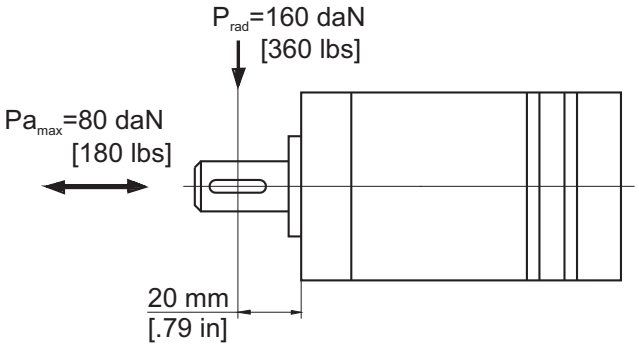
CK - ø14 straight, Parallel key 5x5x16 DIN 6885
Max. Torque 3 daNm [265 lb-in]



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



PERMISSIBLE SHAFT LOAD



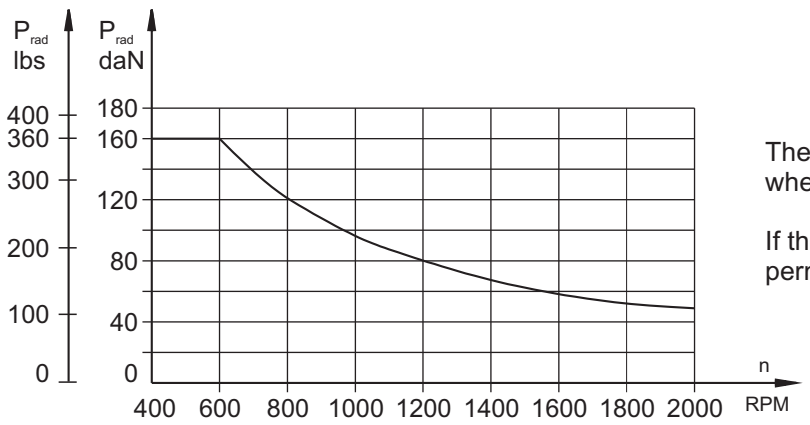
The permissible radial shaft load [Prad] is calculated from the distance [L] between the point of load application and the mounting surface:

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

[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.