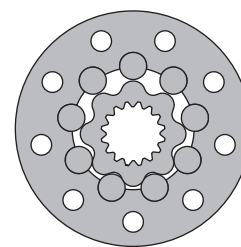


HYDRAULIC MOTORS TMF



APPLICATION

- » Marine equipment
- » Forestry equipment
- » Metal working machines
- » Agricultural machines
- » Road building machines
- » Mining machinery
- » Special vehicles etc.



CONTENTS

Specification data	30
Dimensions and mounting TMF.....	31
Dimensions and mounting TMFA	32
Permissible shaft loads	33
Order code	33

OPTIONS

- » Model - Disc valve, roll-gerotor
- » Wheel mounting flange
- » Side ports
- » Shaft - thread hole flange
- » SAE and BSPP ports
- » Other special features

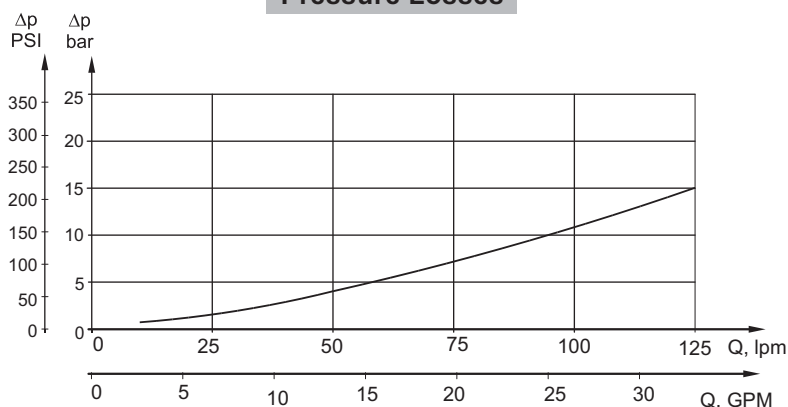
GENERAL

Max. Displacement, cm ³ /rev [in ³ /rev]	724,3 [44.2]
Max. Speed, [RPM]	750
Max. Torque, daNm [lb-in]	cont.: 175 [15490] int.: 215 [16030]
Max. Output, kW [HP]	70 [94]
Max. Pressure Drop, bar [PSI]	cont.: 250 [3600] int.: 350 [5080]
Max. Oil Flow, lpm [GPM]	150 [40]
Min. Speed, [RPM]	5
Permissible Shaft Loads daN [lbs]	P _a =1000 [2250]
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 20/16 (Min. recommended fluid filtration of 25 microns)

Oil flow in drain line

Pressure drop bar [PSI]	Viscosity mm ² /s [SUS]	Oil flow in drain line lpm [GPM]
140 [2030]	20 [98]	2,5 [.660]
	35 [164]	1,5 [.396]
210 [3045]	20 [98]	5 [1.321]
	35 [164]	3 [.793]

Pressure Losses



SPECIFICATION DATA

Type		TMF 200	TMF 250	TMF 315	TMF 400	TMF 470	TMF 500	TMF 630	TMF 725
Displacement, cm ³ /rev [in ³ /rev]		201,4 [12.29]	251,8 [15.36]	326,3 [19.9]	410,9 [25.06]	475 [28.97]	523,6 [31.95]	631,2 [38.52]	724 [44.2]
Max. Speed, [RPM]	Cont.	625	500	380	305	260	240	185	170
	Int.*	750	600	460	365	315	285	225	215
Max. Torque daNm [lb-in]	Cont.	72 [6375]	90[7965]	116[10265]	147[13010]	171[15135]	172[15225]	175[15490]	160[14160]
	Int.*	102 [9030]	128[11330]	163[14425]	206[18232]	215[16030]	215[19030]	215[19030]	192[17000]
	Peak**	115[10180]	144[12745]	186[16460]	235[20800]	240[21240]	240[21240]	250[21225]	240[21240]
Max. Output kW [HP]	Cont.	41 [55]	41 [55]	41 [55]	41 [55]	41 [55]	37,5 [50]	28 [37,5]	26 [35]
	Int.*	65 [87]	70 [94]	70 [94]	70 [94]	55 [74]	51 [68]	42 [56]	40 [54]
Max. Pressure Drop bar [PSI]	Cont.	250[3600]	250[3600]	250[3600]	250[3600]	250[3600]	230[3340]	185[2680]	160[2320]
	Int.*	350[5080]	350[5080]	350[5080]	350[5080]	350[5080]	280[4060]	225[3260]	210[3045]
	Peak**	400[5800]	400[5800]	400[5800]	400[5800]	400[5800]	320[4640]	270[3915]	260[3770]
Max. Oil Flow lpm [GPM]	Cont.	125[33]	125[33]	125[33]	125[33]	125[33]	125[33]	125[33]	125[33]
	Int.*	150[40]	150[40]	150[40]	150[40]	150[40]	150[40]	150[40]	150[40]
Max. Inlet Pressure bar [PSI]	Cont.	270[3920]	270[3920]	270[3920]	270[3920]	270[3920]	270[3920]	270[3920]	270[3920]
	Int.*	370[5370]	370[5370]	370[5370]	370[5370]	370[5370]	370[5370]	370[5370]	370[5370]
	Peak**	420[6100]	420[6100]	420[6100]	420[6100]	420[6100]	420[6100]	420[6100]	420[6100]
Max. Return Pressure without Drain Line or Max. Pressure in Drain Line, bar [PSI]	Cont. 0-100 RPM	75 [1100]	75 [1100]	75 [1100]	75 [1100]	75 [1100]	75 [1100]	75 [1100]	75 [1100]
	Cont. 100-300 RPM	40 [580]	40 [580]	40 [580]	40 [580]	40 [580]	40 [580]	40 [580]	40 [580]
	Cont. >300 RPM	20 [290]	20 [290]	20 [290]	20 [290]	20 [290]	-	-	-
	Int.* 0-max. RPM	75 [1100]	75 [1100]	75 [1100]	75 [1100]	75 [1100]	75 [1100]	75 [1100]	75 [1100]
Max. Return Pressure with Drain Line bar [PSI]	Cont.	140[2000]	140[2000]	140[2000]	140[2000]	140[2000]	140[2000]	140[2000]	140[2000]
	Int.*	175[2500]	175[2500]	175[2500]	175[2500]	175[2500]	175[2500]	175[2500]	175[2500]
	Peak**	210[3000]	210[3000]	210[3000]	210[3000]	210[3000]	210[3000]	210[3000]	210[3000]
Max. Starting Pressure with Unloaded Shaft, bar [PSI]		6 [90]	6 [90]	6 [90]	6 [90]	6 [90]	6 [90]	6 [90]	6 [90]
Min. Starting Torque daNm [lb-in]		60[5310]	75[6640]	97[8585]	122[10800]	142[12570]	143[12655]	145[12830]	148[13100]
Min. Speed***, [RPM]		5	5	5	5	5	5	5	5
Weight, kg [lb]		26,9[59.3]	27,3[60.2]	28,1[62]	29 [64]	29,7[65.5]	30,2[66.6]	29,7[65.5]	31[68.4]

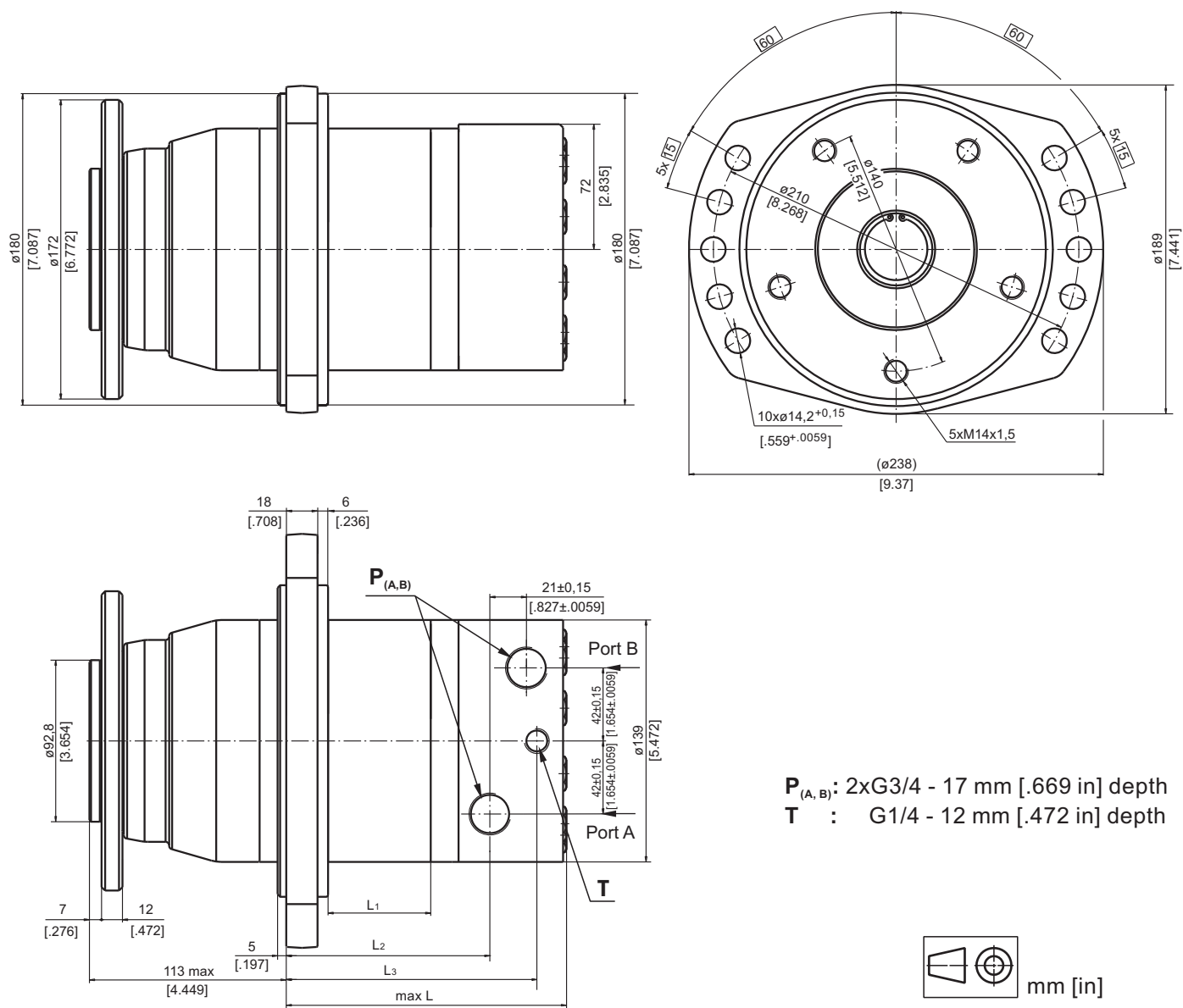
* Intermittent operation: the permissible values may occur for max. 10% of every minute.

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

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

- Intermittent speed and intermittent pressure must not occur simultaneously.
- Recommended filtration is per ISO cleanliness code 20/16. A nominal filtration of 25 micron or better.
- Recommend using a premium quality, anti-wear type mineral based hydraulic oil, HLP(DIN51524) or HM(ISO6743/4). If using synthetic fluids consult the factory for alternative seal materials.
- Recommended minimum oil viscosity 70 SUS [13 cm²/s] at 50°C [122°F].
- Recommended maximum system operating temperature is 82°C [180°F].
- 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 - TMF



$P_{(A,B)}$: 2xG3/4 - 17 mm [.669 in] depth
 T : G1/4 - 12 mm [.472 in] depth

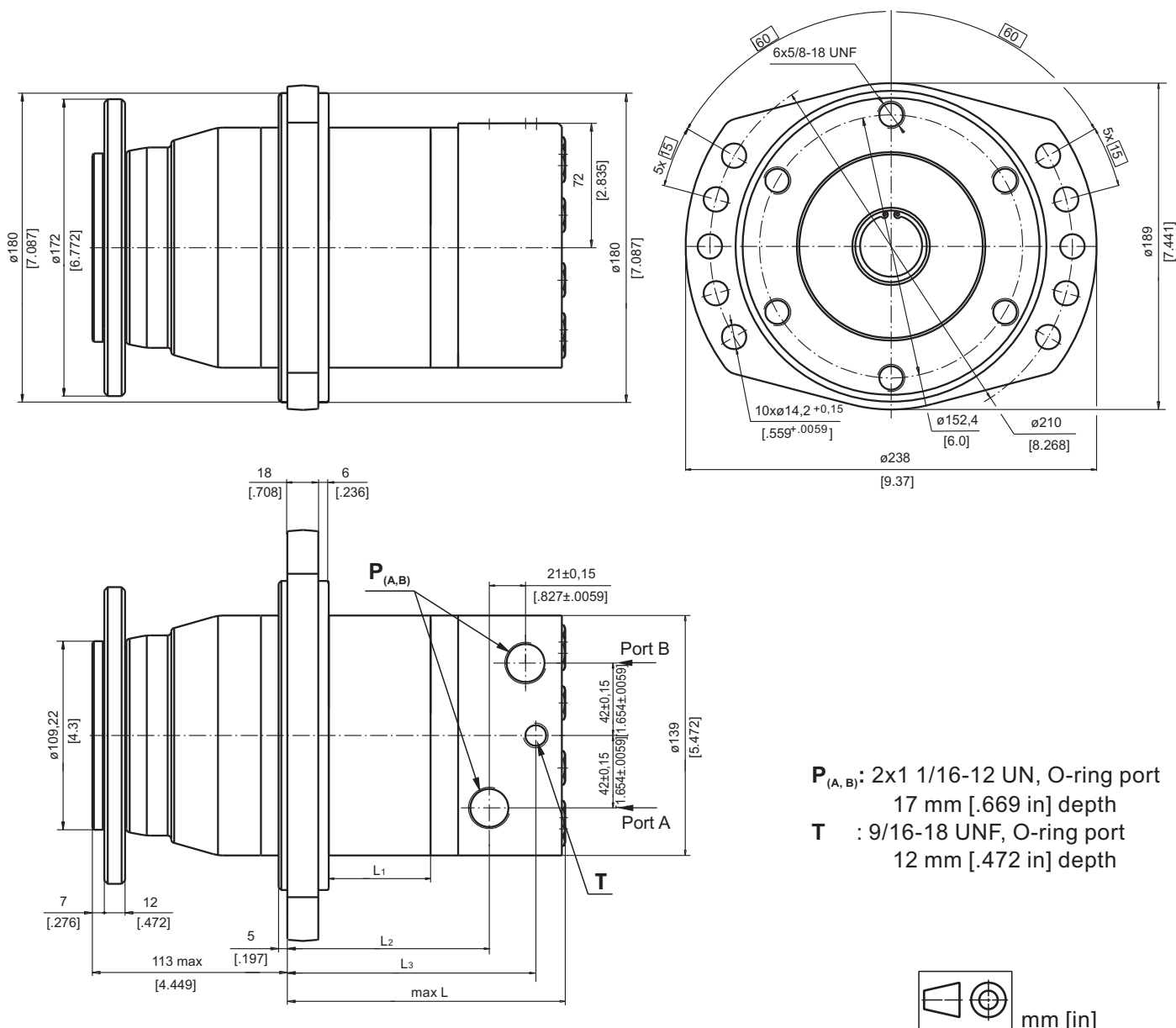
Warning: Drain line should always be used.

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**

Type	L, mm [in]	L ₁ , mm [in]	L ₂ , mm [in]	L ₃ , mm [in]
TMF 200	126 [4.96]	.98 [25]	83 [3.268]	110,3 [4.34]
TMF 250	132.3 [5.21]	31,3 [1.23]	89.3 [3.516]	116,6 [4.59]
TMF 315	141.5 [5.57]	40,5 [1.59]	98.5 [3.878]	125,8 [4.95]
TMF 400	152 [5.98]	51 [2.01]	109 [4.291]	136,3 [5.37]
TMF 470	160 [6.30]	59 [2.32]	117 [4.606]	144,3 [5.68]
TMF 500	166 [6.54]	65 [2.56]	123 [4.843]	150,3 [5.92]
TMF 630	162 [6.38]	61 [2.40]	119 [4.69]	146,3 [5.76]
TMF 725	171 [6.73]	70 [2.76]	128 [5.04]	155,3 [6.11]

DIMENSIONS AND MOUNTING DATA - TMFA



Warning: Drain line should always be used.

Standard Rotation

Viewed from Shaft End

Port **A** Pressurized - **CW**

Port **B** Pressurized - **CCW**

Reverse Rotation

Viewed from Shaft End

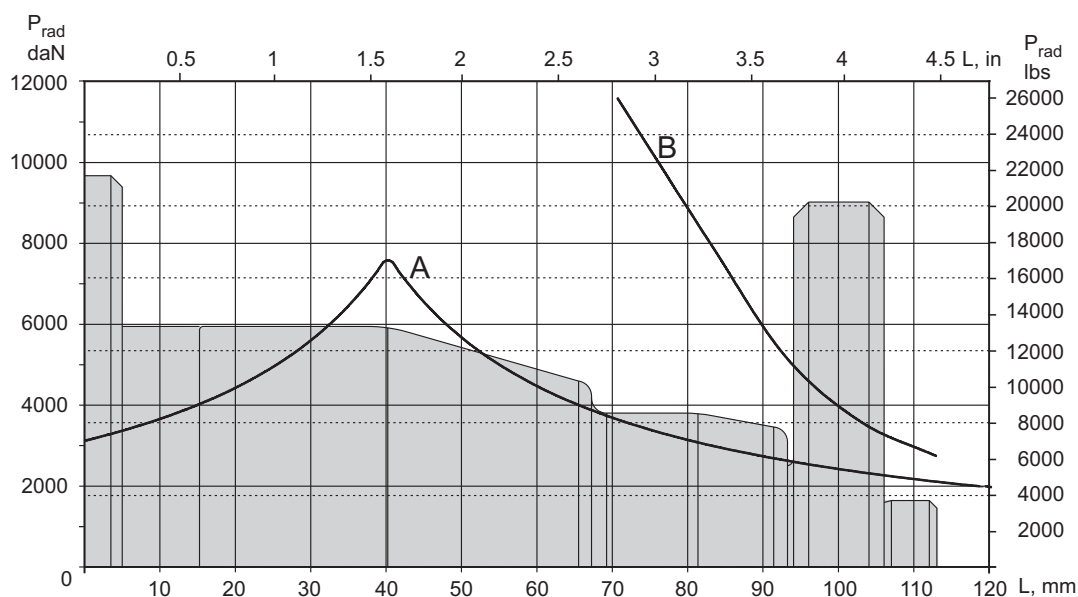
Port **A** Pressurized - **CCW**

Port **B** Pressurized - **CW**

Type	L, mm [in]	L1, mm [in]	L2, mm [in]	L3, mm [in]
TMFA 200	126 [4.96]	.98 [25]	83 [3.268]	110,3 [4.34]
TMFA 250	132,3 [5.21]	31,3 [1.23]	89,3 [3.516]	116,6 [4.59]
TMFA 315	141,5 [5.57]	40,5 [1.59]	98,5 [3.878]	125,8 [4.95]
TMFA 400	152 [5.98]	51 [2.01]	109 [4.291]	136,3 [5.37]
TMFA 470	160 [6.30]	59 [2.32]	117 [4.606]	144,3 [5.68]
TMFA 500	166 [6.54]	65 [2.56]	123 [4.843]	150,3 [5.92]
TMFA 630	162 [6.38]	61 [2.40]	119 [4.69]	146,3 [5.76]
TMFA 725	171 [6.73]	70 [2.76]	128 [5.04]	155,3 [6.11]

PERMISSIBLE SHAFT LOADS

The load diagram is valid for an average bearings life of 2000 hours at 100 RPM



A - Permissible radial shaft load.

B - Max. radial shaft load. Any shaft load exceeding the values shown by the curve will involve a risk of breakage

ORDER CODE

	1	2	3	4
TMF				

Pos.1 - Mounting Flange

omit - Thread hole flange, 5xM12x1,5 on $\varnothing 140$

A - Thread hole flange, 6x5/8-18 UNF on $\varnothing 152,4$

Pos.2 - Displacement code

200	- 201,4 cm ³ /rev [12.29 in ³ /rev]
250	- 251,8 cm ³ /rev [15.36 in ³ /rev]
315	- 326,3 cm ³ /rev [19.90 in ³ /rev]
400	- 410,9 cm ³ /rev [25.06 in ³ /rev]
470	- 475,0 cm ³ /rev [28.97 in ³ /rev]
500	- 523,6 cm ³ /rev [31.95 in ³ /rev]
630	- 631,2 cm ³ /rev [38.52 in ³ /rev]
725	- 724,3 cm ³ /rev [44.20 in ³ /rev]

Pos.3 - Special Features (see page 48)

Pos.4 - Design Series

omit - Factory specified

The hydraulic motors are mangano-phosphatized as standard.