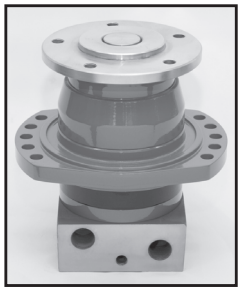
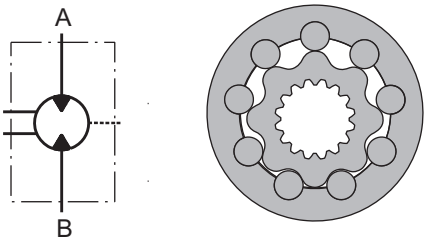
HYDRAULIC MOTORS VMF



APPLICATION

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



CONTENTS

Specification data 66
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Permissible shaft seal pressure 70
Order code 70

OPTIONS

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

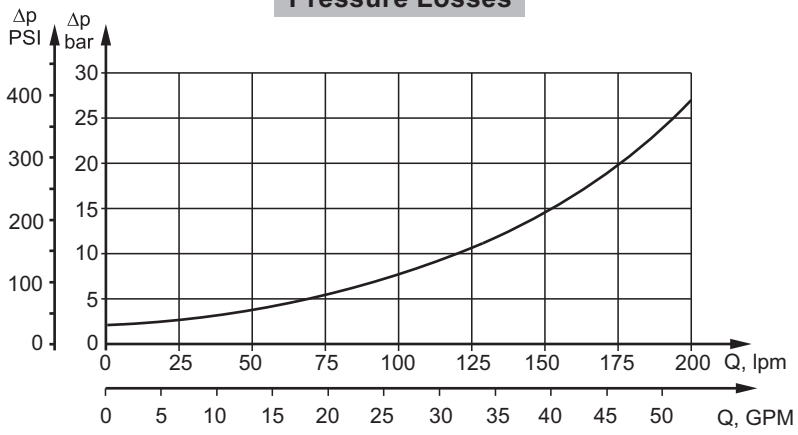
GENERAL

Max. Displacement, cm^3/rev [in^3/rev]	801,8 [48.91]
Max. Speed, [RPM]	736
Max. Torque, daNm [lb-in]	cont.: 259 [22920] int.: 340 [30090]
Max. Output, kW [HP]	112 [150]
Max. Pressure Drop, bar [PSI]	cont.: 250 [3630] int.: 350 [5080]
Max. Oil Flow, lpm [GPM]	240 [63.4]
Min. Speed, [RPM]	5
Permissible Shaft Loads, daN [lbs]	P_a=1500 [3370]
Pressure fluid	Mineral based- HLP(DIN 51524) or HM(ISO 6743/4)
Temperature range, ^{o}C [^{o}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

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]	3 [.793]
	35 [164]	2 [.528]
210 [3045]	20 [98]	6 [1.585]
	35 [164]	4 [1.057]

Pressure Losses



SPECIFICATION DATA

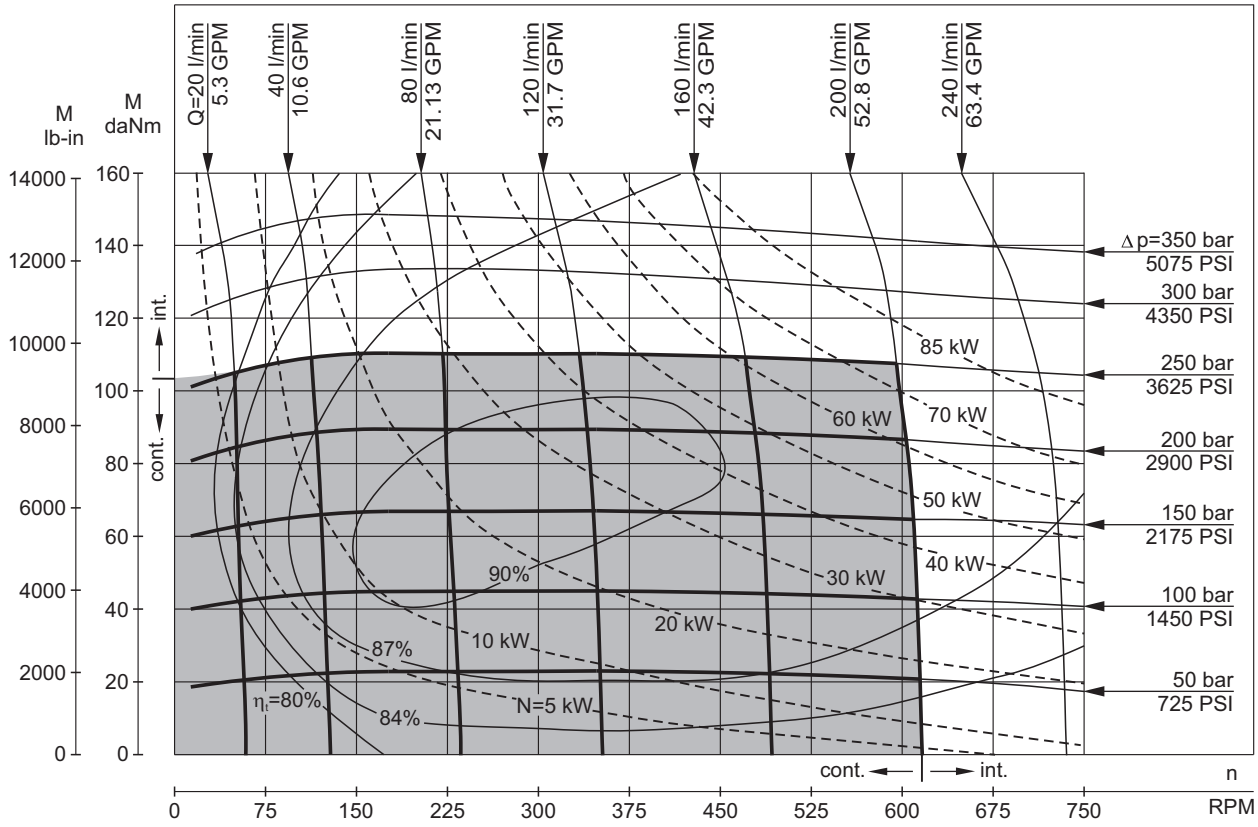
Type		VMF 315	VMF 400	VMF 500	VMF 630	VMF 800
Displacement, cm^3/rev [in^3/rev]		314,5 [19.18]	400,9 [24.5]	499,6 [30.5]	629,1 [38.38]	801,8 [48.91]
Max. Speed, [RPM]	Cont.	636	500	400	315	250
	Int.*	736	600	480	380	300
Max. Torque, daNm [lb-in]	Cont.	115 [10180]	144 [12745]	180 [15930]	227 [20090]	259 [22920]
	Int.*	160 [14160]	200 [17700]	260 [23010]	310 [27440]	340 [30090]
	Peak**	180 [15930]	230 [20355]	286 [25315]	360 [31860]	402 [35580]
Max. Output, kW [HP]	Cont.	67 [90]	67 [90]	67 [90]	67 [90]	67 [90]
	Int.*	112 [150]	112 [150]	112 [150]	112 [150]	112 [150]
Max. Pressure Drop, bar [PSI]	Cont.	250 [3630]	250 [3630]	250 [3630]	250 [3630]	225 [3260]
	Int.*	350 [5080]	350 [5080]	350 [5080]	350 [5080]	350 [5080]
	Peak**	400 [5800]	400 [5800]	400 [5800]	400 [5800]	400 [5800]
Max. Oil Flow, lpm [GPM]	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]
Max. Inlet Pressure, bar [PSI]	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]
Max. Return Pressure with Drain Line, bar [PSI]	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]
Max. Starting Pressure with Unloaded Shaft, bar [PSI]		5 [70]	5 [70]	5 [70]	5 [70]	5 [70]
Min. Starting Torque, daNm [lb-in]		92 [8140]	115 [10180]	144 [12745]	180 [15930]	205 [18145]
Min. Speed***, [RPM]		10	6	8	6	5
Weight, kg [lb]		46 [101.4]	47,2 [104,1]	48,5 [106.9]	50 [110.2]	51,5 [113.5]

* 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.

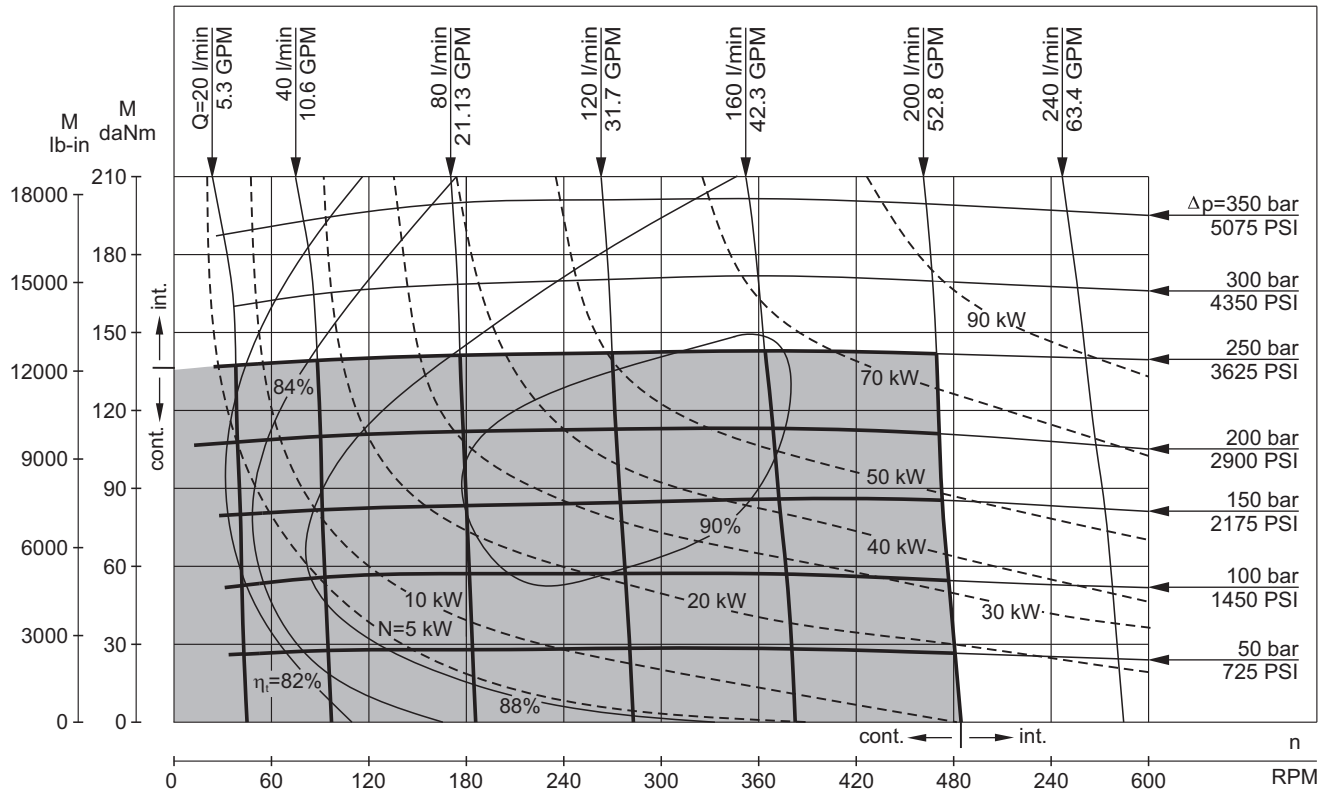
1. Intermittent speed and intermittent pressure must not occur simultaneously.
2. Recommended filtration is per ISO cleanliness code 20/16. A nominal filtration of 25 micron or better.
3. Recommend using a premium quality, anti-wear type mineral based hydraulic oil HLP(DIN51524) or HM (ISO 6743/4). If 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

VMF 315



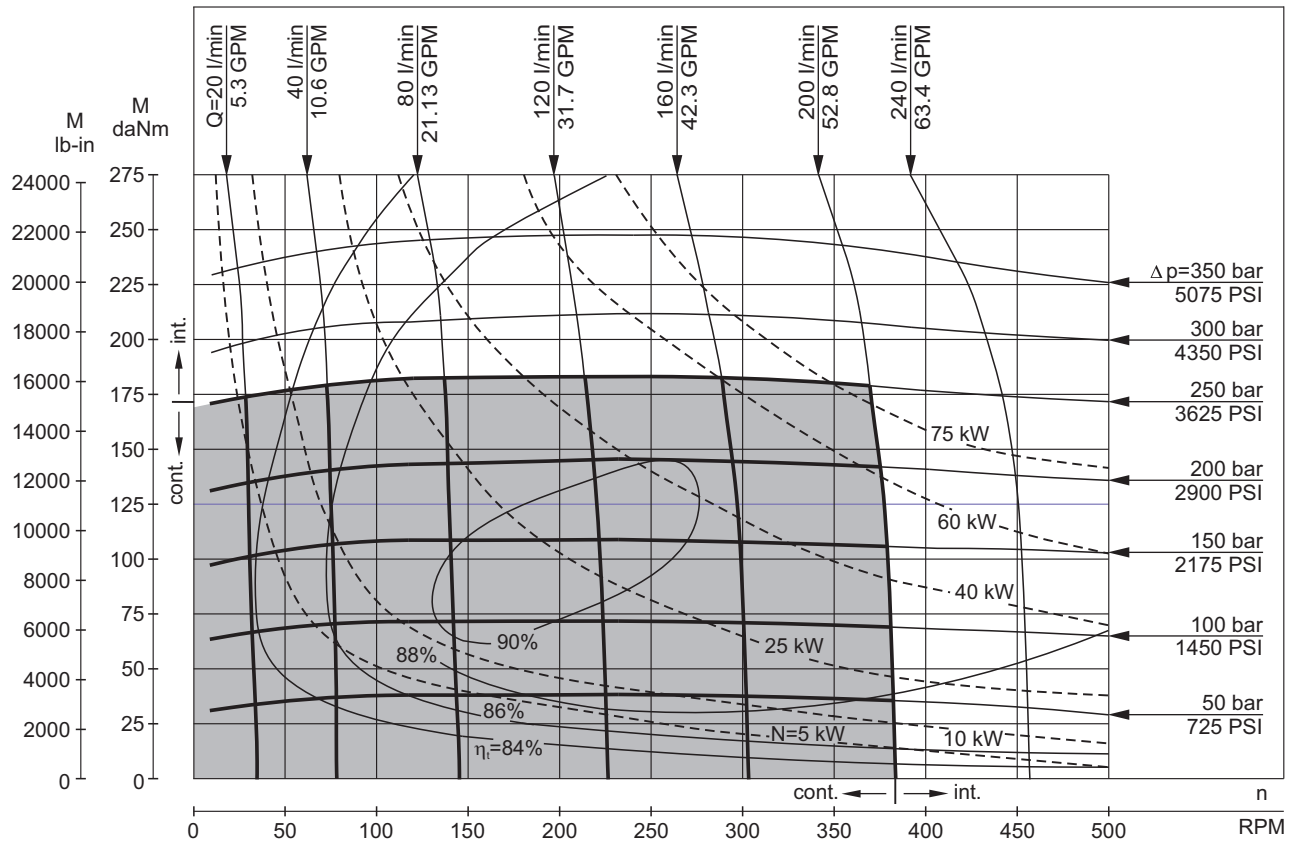
VMF 400



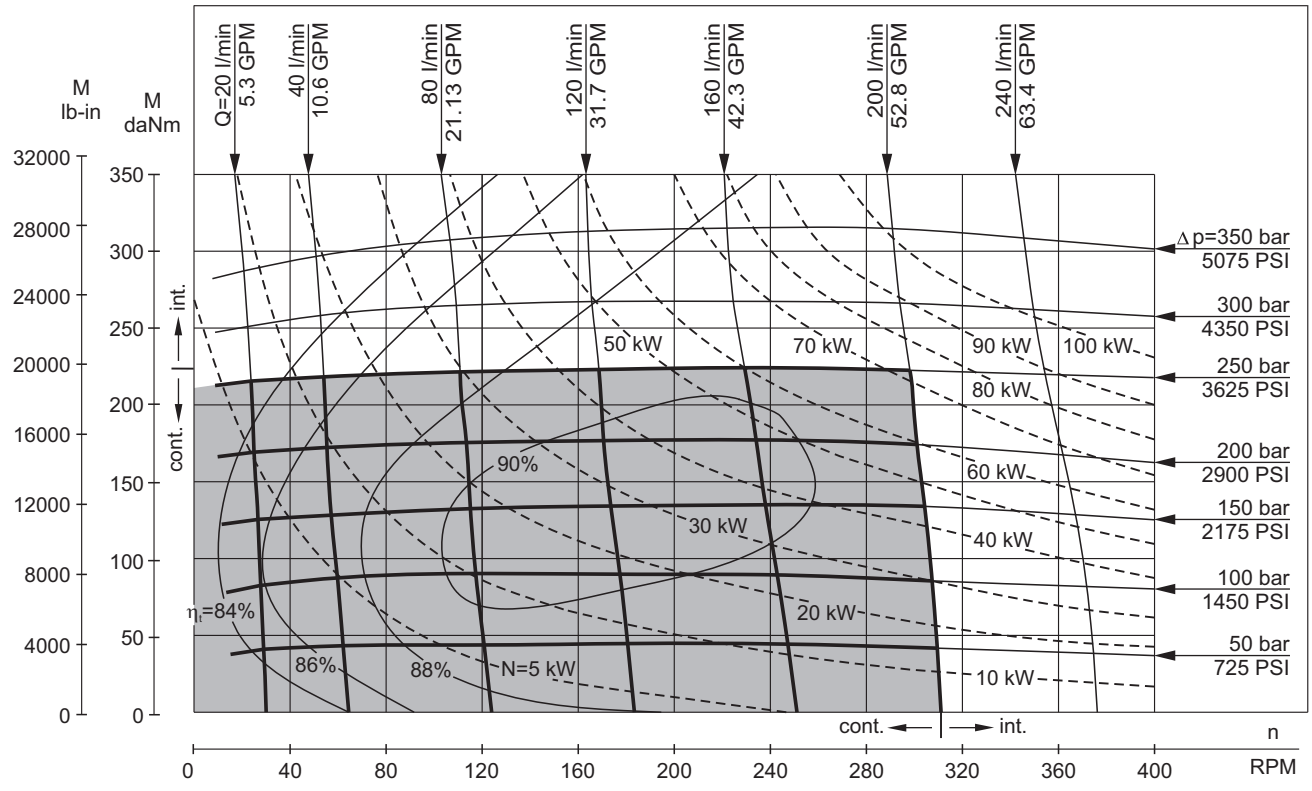
The function diagrams data was collected at back pressure 5÷10 bar (72.5PSI÷145PSI) and oil with viscosity of 32 mm²/s [150SUS] at 50° C [122°F].

FUNCTION DIAGRAMS

VMF 500



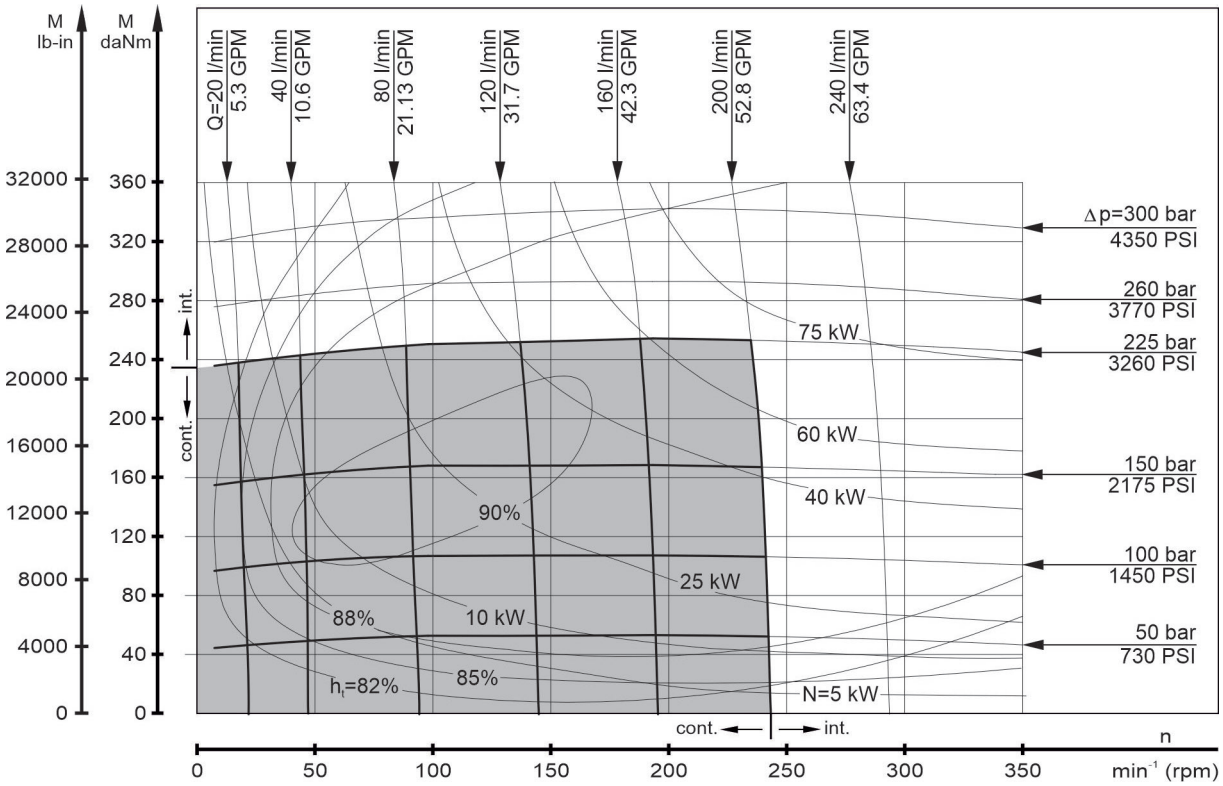
VMF 630



The function diagrams data was collected at back pressure 5÷10 bar (72.5 PSI÷145 PSI) and oil with viscosity of 32 mm²/s [150 SUS] at 50°C [122°F].

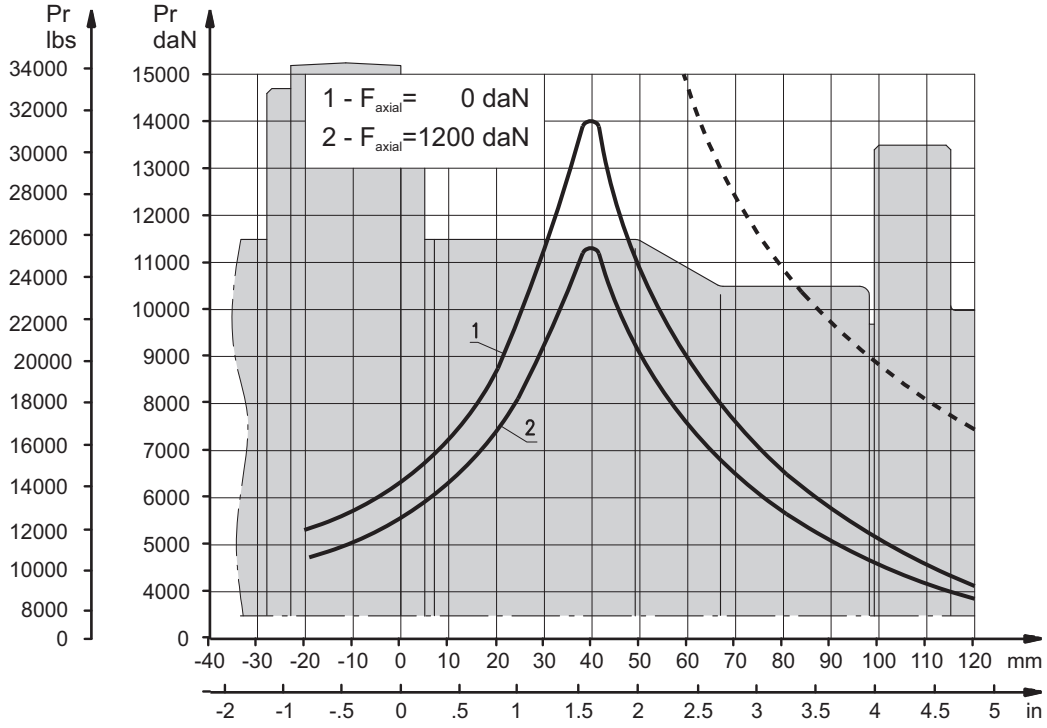
FUNCTION DIAGRAMS

VMF 800



The function diagrams data was collected at back pressure 5÷10 bar (72.5PSI÷145PSI) and oil with viscosity of 32 mm²/s [150SUS] at 50° C [122°F].

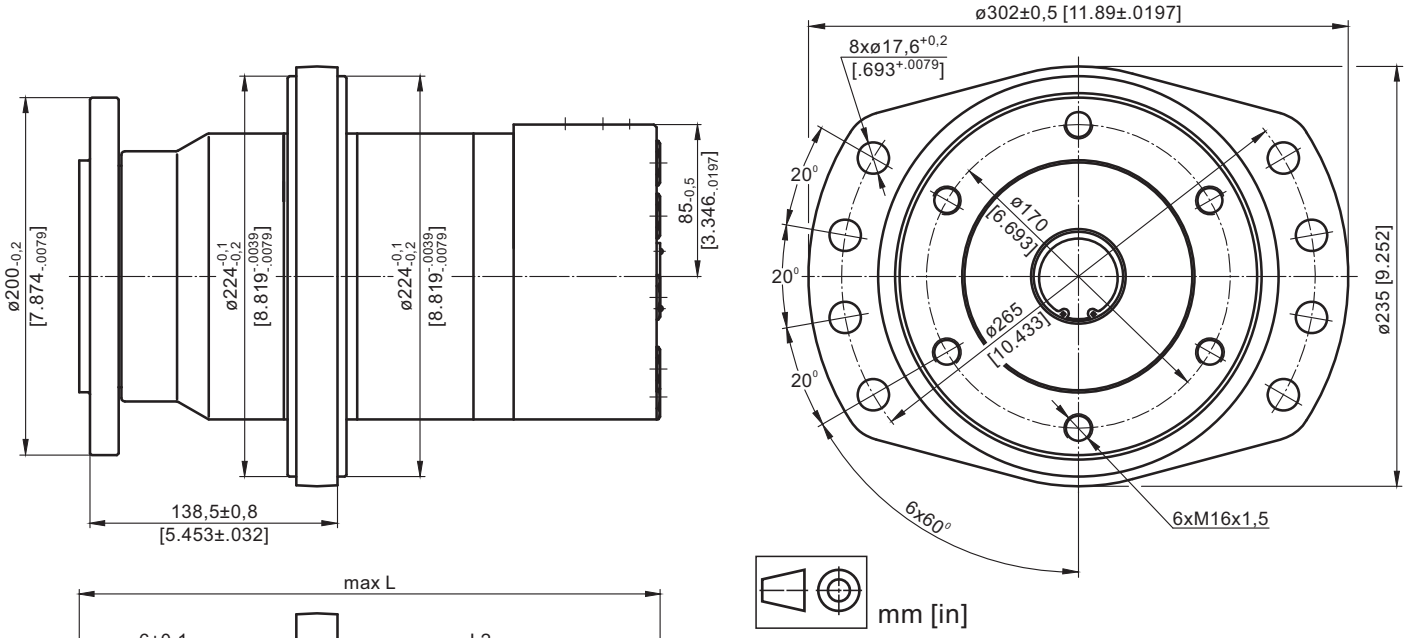
PERMISSIBLE SHAFT LOADS



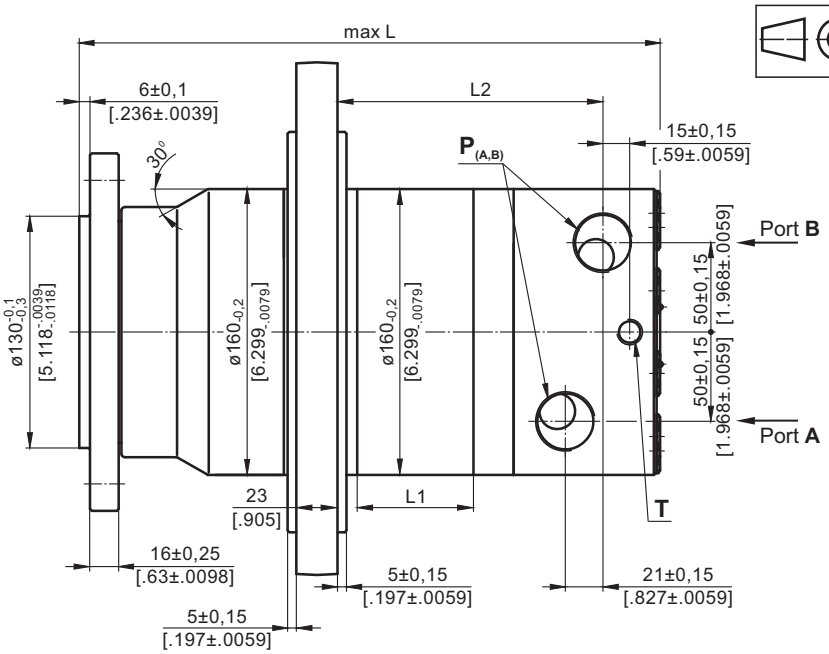
1 - Bearing curve: The curve applies to a B10 bearing life of 2000 hours at 100 RPM.

2 - Shaft curve: The curve represents Max. permissible radial shaft load with safety factor 2:1.

DIMENSIONS and MOUNTING DATA



mm [in]



	Versions	
	2	4
$P_{(A,B)}$	2xG1	2x1⅝-12UN
T	G¼	⅜-18UNF

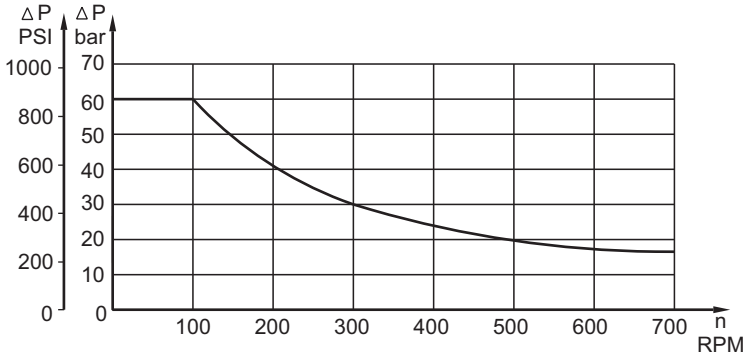
Type	L, mm [in]	L_1, mm [in]	L_2, mm [in]
VMF 315	286,5 [11.28]	25,5 [1.00]	109,5 [4.31]
VMF 400	293,5 [11.56]	32,5 [1.28]	116,5 [4.59]
VMF 500	301,5 [11.87]	40,5 [1.59]	124,5 [4.90]
VMF 630	312,0 [12.28]	51,0 [2.01]	135,0 [5.31]
VMF 800	326,0 [12.83]	65,0 [2.56]	149,0 [5.87]

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**

MAX. PERMISSIBLE SHAFT SEAL PRESSURE



ORDER CODE

1	2	3	4
VMF			HD	

Pos.1 - Displacement code

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

Pos.2 - Ports

2	- side ports, 2xG1, G¼, BSP thread, ISO 228
4	- side ports, 2x1⅝-12 UN, O-ring, ⅜-18 UNF

Pos.3 - Additional Options

HD	- Reinforced motor **HD***

For Other **Additional Options** see page 71

Pos.4 - Design Series

omit - Factory specified

* Drain line should always be used.

The hydraulic motors are mangano-phosphatized as standard.