

## BMP-BMR-BMH



### Usage Guide

In order to make the motors working in optimal situation, we recommend the following:

1. Oil temperature :normal 20°C~60°C upper limit 90°C (no more than one hour).
2. Filtering and oil cleanliness :a return filter should be installed in the system with a fineness in the range of 10~30µm and a piece of magnet should be installed at the bottom of the tank to prevent grits into the system. The max solid contamination grade of the oil is no more than 19/16.
3. Viscosity: 42~74 mm<sup>2</sup>/s at 40°C of oil temperature ,according to the condition to choose an applicable hydraulic oil.
4. The motors can be operated in parallel or series. When the pressure of the back exceeds 2Mpa,it is necessary to install an external drain line to the tank.
5. For BMP and BMR series motors,the type of output shaft may be chosen in demand.
  - 5.1. The output shaft permits a radial force with the radial bearing.
  - 5.2. The output shaft doesn' t permit the radial force without the radial bearing.When the radial force acts on the shaft,the force must be discharged.
6. The optimal operation situation should be at the 1/3~2/3 of the rated operation situation.
7. In order to obtain a longer life of operating motor should operate motors at first for one hour under 30% of rated pressure. In any case, be sure to fill up with hydraulic oil inside motor before increasing load.

### Specification Data of Hydraulic Motor

distribution type	model	displacement (cm <sup>3</sup> /rev.)	Max. operating pressure (MPa)	speed range (rpm)	Max. output power (kw)
axial distribution	BMP	50~400	16.5	30~879	10
	BMR	50~375	20	30~970	15
	BMH	200~500	20	30~430	17

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## BMR Series Hydraulic Motor

BMR series motor adapt the advanced Gerolor gear set design with shaft distribution flow, which can automatically compensate in operating with high pressure, provide reliable and smooth operation, high efficiency and long life.

Characteristic features:

- \*Advanced manufacturing devices for the Gerolor gear set, which use low pressure of start-up, provide smooth, reliable operation and high efficiency.
- \*Shaft seal can bear high pressure of back and the motor can be used in parallel or series.
- \*Special design in the driver-linker and prolong operating life
- \*Special design for distribution system can meet the requirement of low noise of unit
- \*Compact volume and easy installation

### Main Specification

Type		BMR BMRS 50	BMR BMRS 80	BMR BMRS 100	BMR BMRS 125	BMR BMRS 160	BMR BMRS 200	BMR BMRS 250	BMR BMRS 315	BMR BMRS 375
Geometric displacement (cm <sup>3</sup> /rev.)		51.3	80.6	100.8	124.9	157.2	199.2	252	314.5	370
Max. speed (rpm)	rated	755	750	600	475	375	300	240	190	160
	cont.	970	940	750	600	470	375	300	240	200
Max. torque (N*m)	rated	100	160	200	250	320	330	352	360	420
	cont.	100	190	240	292	363	358	352	360	420
	int.	126	220	280	340	430	448	470	470	548
Max. output (kW)	rated	7.7	12.3	12.3	12.0	12.3	10	9	7	6.5
	cont.	7.7	15	15	14	14	11	9	7	8.6
	int.	9.7	17	17	16	16	14	12	9	12
Max. pressure drop (MPa)	rated	14	14	14	14	14	12	11	8.5	8.5
	cont.	14	17.5	17.5	17.5	16.5	13	11	8.5	8.5
	int.	17.5	20	20	20	20	17.5	14	11.5	11.5
Max. flow (L/min)	cont.	40	60	60	60	60	60	60	60	60
	int.	50	75	75	75	75	75	75	75	75
Weight (kg)		6.7	6.9	6.9	7.2	7.5	8.0	8.5	9	9.3

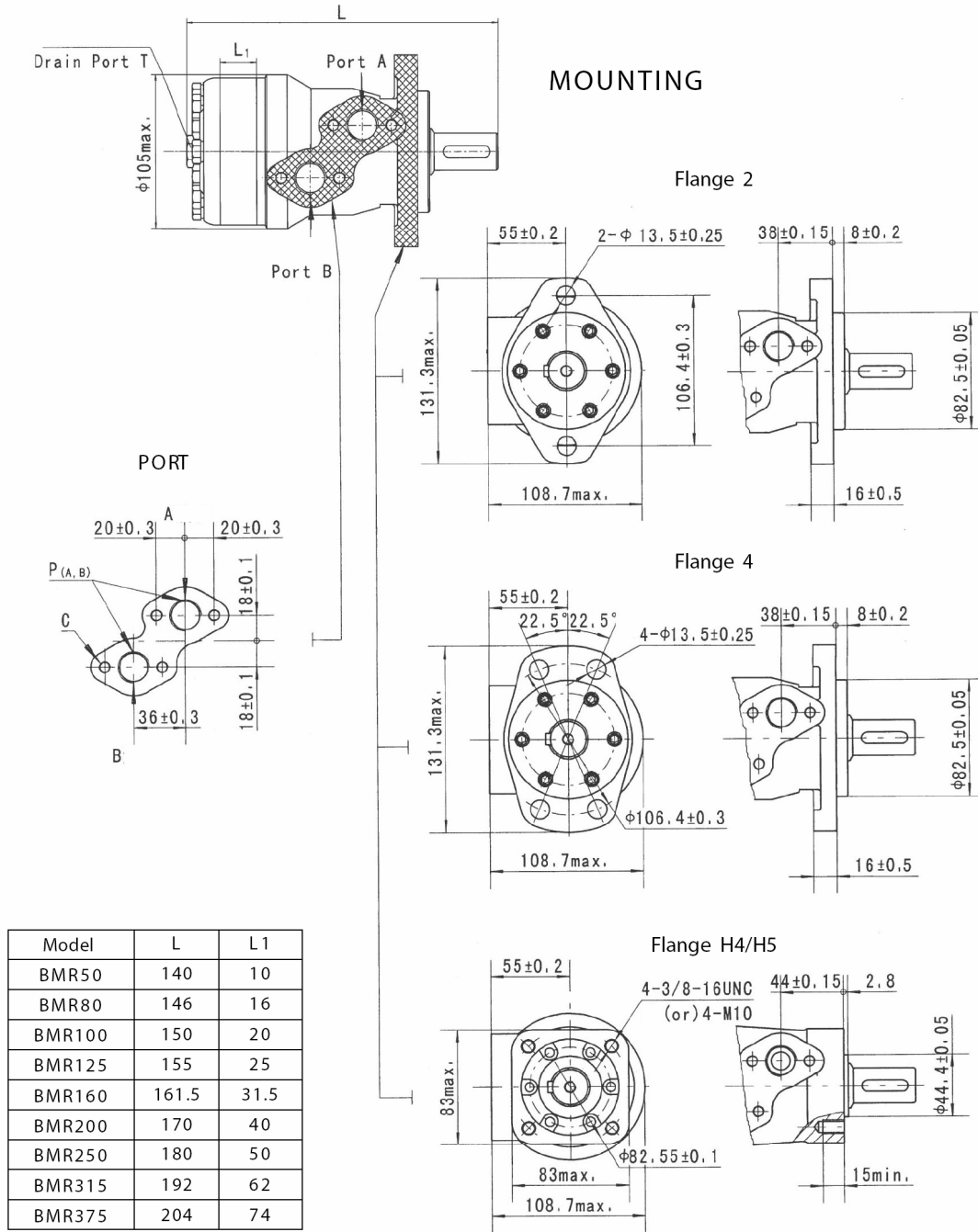
- \* Rated speed and rated torque:output value of speed and torque under rated flow and rated pressure.
- \* Continuous pressure:Max. value of operating motor continuously.
- \* Intermittent pressure:Max. value of operating motor in 6 seconds per minute.
- \* Peak pressure:Max. value of operating motor in 0.6 second per minute.

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## BMR DIMENSIONS AND MOUNTING DATA



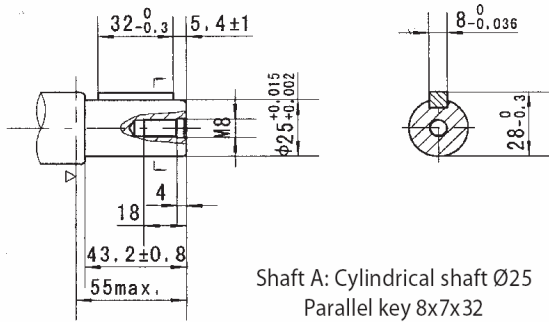
Model	L	L1
BMR50	140	10
BMR80	146	16
BMR100	150	20
BMR125	155	25
BMR160	161.5	31.5
BMR200	170	40
BMR250	180	50
BMR315	192	62
BMR375	204	74

Code	D (depth)	M (depth)	S (depth)	P (depth)	R (depth)
P(A,B)	G1/2 (15)	M22 x 1.5 (15)	7/8-14 O-ring (17)	1/2-14NPTF (15)	PT(RC)1/2 (15)
C	4-M8 (13)	4-M8 (13)	4-5/16-18UNC(13)	4-5/16-18UNC(13)	4-M8 (13)
T	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF (12)	7/16-20UNF (12)	PT(RC)1/4 (9.7)

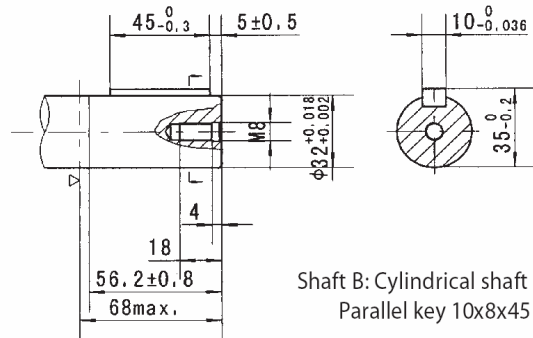
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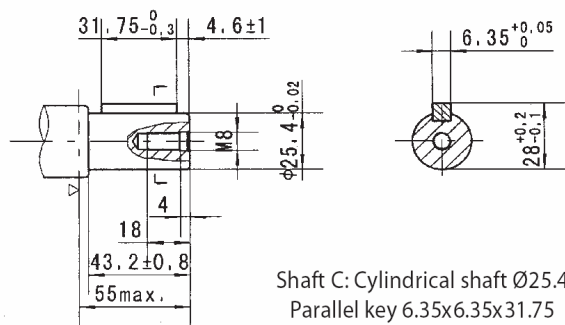
## SHAFT EXTENSIONS FOR BMR MOTORS



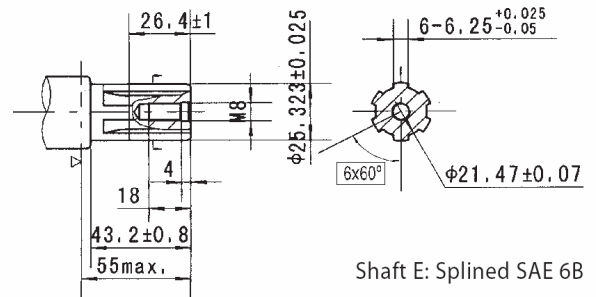
Shaft A: Cylindrical shaft Ø25  
Parallel key 8x7x32



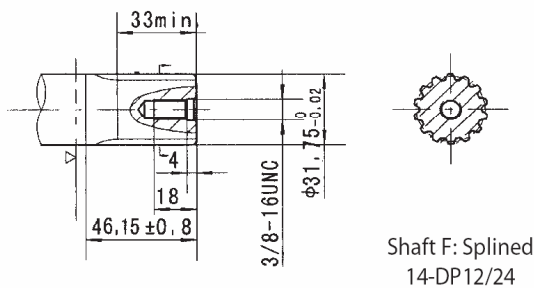
Shaft B: Cylindrical shaft Ø32  
Parallel key 10x8x45



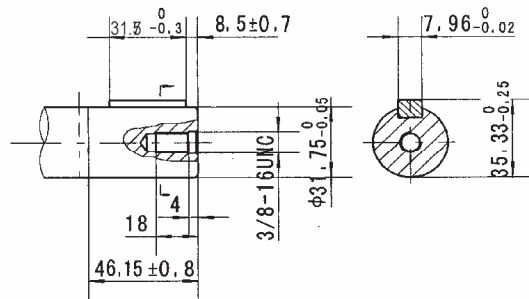
Shaft C: Cylindrical shaft Ø25.4  
Parallel key 6.35x6.35x31.75



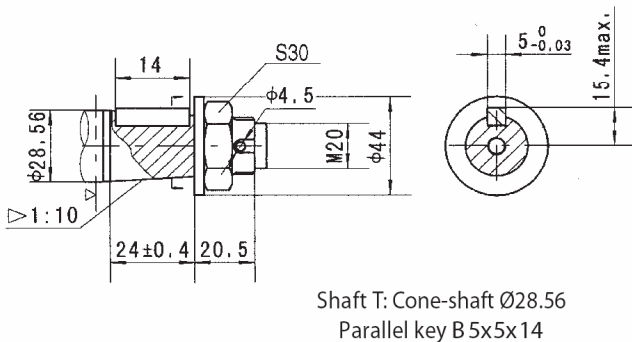
Shaft E: Splined SAE 6B



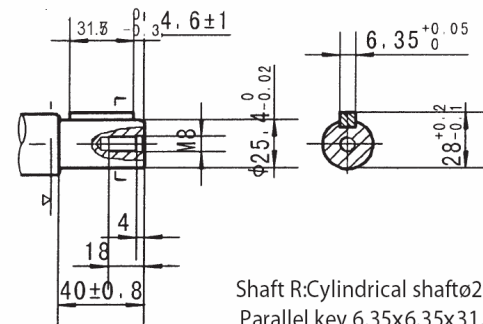
Shaft F: Splined  
14-DP12/24



Shaft G: Cylindrical shaft Ø31.75  
Parallel key 7.96x7.96x31.75



Shaft T: Cone-shaft Ø28.56  
Parallel key B 5x5x14



Shaft R: Cylindrical shaft Ø25.4  
Parallel key 6.35x6.35x31.75

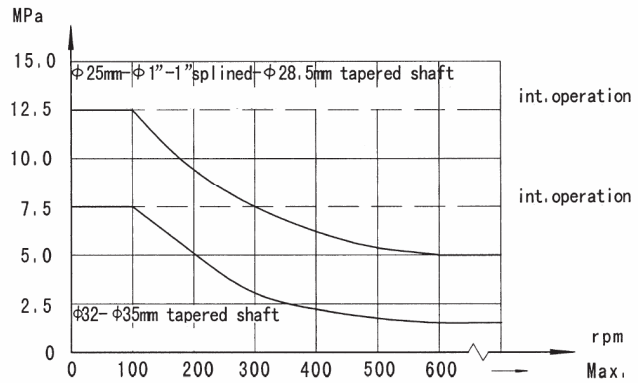
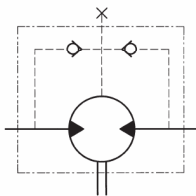
Tightening torque: 100 ± 10Nm

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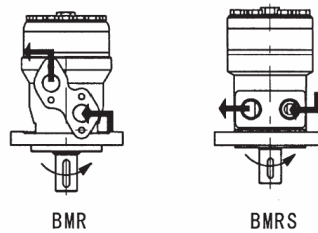
## BMR, BMRS Series Hydraulic Motor

### Permissible shaft seal pressure

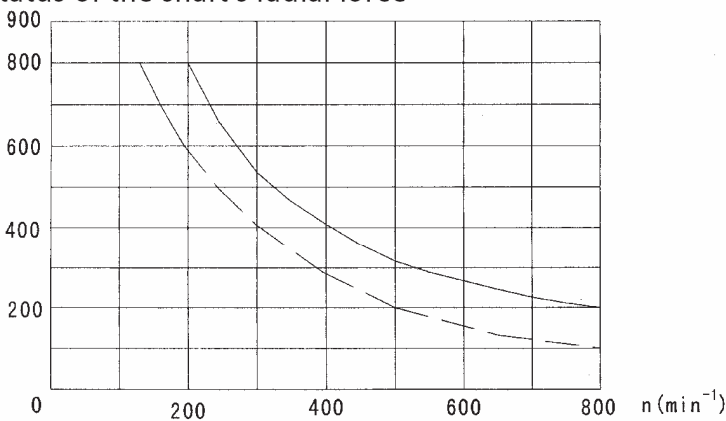


In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

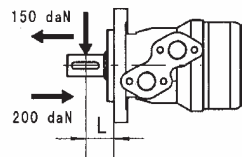
### Direction of shaft rotation



### Status of the shaft's radial force



$$F_r = \frac{800 \cdot 25000}{n \cdot 95+1} \text{ daN}$$



$F_r$  =Radial Force (daN)  
 $L$  =Distance (mm)  
 $n$  =Speed (rpm)

Rhomb-flange  $L=30\text{mm}$   
Square-flange  $L=24\text{mm}$

— shaft ϕ25mm and ϕ1" (ϕ25.4mm)  
- - - shaft ϕ32mm

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Order Information

1  2  3  4  5  6  7  8

BMR

Pos.1	2	3	4	5	6	7	8		
Code	Disp.	Flange	Output Shaft	Port and Drain Port	Rotation Direction	Paint	Unusually Function		
S	50 80 100 125 160 200 250 315 375	2-Ø13.5Rhomb-flange, pilot Ø82.5 × 8 4-Ø13.5Rhomb-flange, pilot Ø82.5 × 8 H4 4-3/8-16 Square-flange, pilot Ø44.4 × 2.8 H5 4-M10 Square-flange, pilot Ø44.4 × 2.8	A Shaft Ø25, parallel Key 8 × 7 × 32 B Shaft Ø32, parallel Key 10 × 8 × 45 C Shaft Ø25.4, parallel Key 6.35 × 6.35 × 31.75 E Shaft Ø25.4, splined Key SAE 6B R Short shaft Ø25.4, parallel key 6.35 × 6.35 × 31.75 F Shaft Ø31.75, splined Key 14-DP12/24 G Shaft Ø31.75, parallel Key 7.96 × 7.96 × 31.75 T Cone-Shaft Ø28.56, parallel Key B5 × 5 × 14	D G1/2 Manifold Mount 4-M8, G1/4 M M22 × 1.5 Manifold Mount 4-M8, M14 × 1.5 S 7/8-14 O-ring manifold 4-5/16-18UNC, 7/16-20UNF P 1/2-14 NPTF Manifold 4-5/16-18UNC, 7/16-20UNF R PT(RC)1/2 Manifold 4-M8, PT(Rc)1/4	None Standard	00	No paint	None	
			K Shaft Ø25.4, Woodruff Key Ø25.4 × 6.35 S Sub-shaft Ø25.4, splined Key SAE 6B A Shaft Ø25, parallel Key 8 × 7 × 32 R Shaft Ø25.4, parallel Key 6.35 × 6.35 × 31.75 H Sub-shaft Ø25.4, Pin hole Ø10.3 HI Shaft Ø25.4, pin hole Ø8 D Shaft Ø22.22, parallel key 6.35 × 6.35 × 25.4 I Shaft Ø22.22, splined key 13-DP16/32 T2 Cone shaft Ø25.4, woodruff key Ø25.4 × 6.35 P Shaft Ø25, parallel Key 8 × 7 × 28 J Shaft Ø25, parallel Key 7 × 7 × 32	G G1/2, G1/4 S 7/8-14 O-ring 7/16-20UNF (G1/4) P 1/2-14 NPTF, 7/16-20UNF (G1/4) T 3/4-16 O-ring, 7/16-20unf R PT(Rc)1/2 PT(Rc)1/4 B4 Ø10 O-ring manifold 4x5/16-18 7/16-20UNF(G1/4) B5 Ø10 O-ring manifold 4xM8 7/16-20UNF(G1/4) M1 M18 × 1.5, M10 × 1 M2 M20 × 1.5, M10 × 1 M3 M22 × 1.5, M10 × 1	R Opposite	B S	Blue Black Silver gray	N AX 0	Big radial force Big axial force No case drain

Note: When the table is used, please fill the code of left rows in dash area and give us, which the code information is consists of construction, displacement, mounting flange, output shaft and ports. If the specification is not in the table or you have specific requirements, please contact us.

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