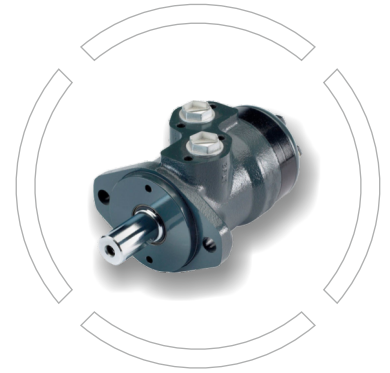


BMH

Orbital Hydraulic Motor
Sizes: 200 to 500cc/rev
Max. Pressure up 175Bar



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Introduction

- BMH series motor adapt the advanced Geroler 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		BMH 200	BMH 250	BMH 315	BMH 400	BMH 500
Geometric displacement (cm ³ /rev.)		203.2	255.9	316.1	406.4	489.2
Max. speed (rpm)	cont.	366	290	236	183	155
	int.	439	348	282	220	184
Max. torque (N•m)	cont.	510	621	740	850	830
	int.	579	702	827	990	1040
	peak	651	790	980	1092	1170
Max. output (kW)	cont.	16	16	14	12.5	11
	int.	18.5	18.5	15.5	15	14
Max. pressure drop (MPa)	cont.	17.5	17.5	17.5	15.5	12.5
	int.	20	20	20	19	16
	peak	22.5	22.5	22.5	21	18
Max. flow (L/min)	cont.	75	75	75	75	75
	int.	90	90	90	90	90
Weight (kg)		10.5	11	11.5	12.3	13

Type		Max.inlet pressure	Max.return pressure with drain line
BMH200-500 (MPa)	cont.	200	175
	int.	225	200
	peak	250	225

- 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.
- Technical data BMH with 35mm cylindrical, 1¼ in splined and 35mm tapered shaft.



Performance Data

BMH 200 [203.2cm³/rev.]

Pressure (MPa)

Max.cont. Max.int.

3.5	7	10.5	14	17.5	20
-----	---	------	----	------	----

5	98	194	284			
	25	25	22			
10	101	204	301	391	482	
	43	41	36	29	14	
20	99	201	304	402	509	576
	100	97	93	85	69	56
30	97	197	300	402	510	579
	145	143	139	130	114	101
40	90	190	292	399	507	578
	200	200	200	188	168	153
50	82	183	284	392	500	571
	248	246	244	235	213	199
60	73	174	274	384	493	563
	292	290	287	279	260	244
70	63	163	264	374	481	554
	352	350	349	338	318	301
Max.cont. 75	59	157	259	366	475	547
	366	365	363	355	335	319
80	53	150	253	358	466	538
	381	381	380	371	352	338
Max.int. 90	39	140	241	348	456	526
	439	437	434	426	407	392

BMH 250 [255.9cm³/rev.]

Pressure (MPa)

Max.cont. Max.int.

3.5	7	9	12	14.5	17.5	20
-----	---	---	----	------	------	----

5	121	246	318	398		
	19	19	18	14		
10	130	258	331	425	515	595
	34	33	31	29	23	12
20	130	258	332	432	520	621
	78	77	76	73	65	53
30	122	251	327	429	520	621
	115	113	111	105	96	84
40	115	240	323	422	513	616
	157	157	156	150	139	127
50	105	232	314	411	505	606
	196	195	192	185	173	159
60	94	220	302	401	496	596
	232	230	226	218	206	192
70	81.4	209	288	389	484	582
	274	274	274	266	252	238
Max.cont. 75	72	203	280	381	475	574
	290	289	287	279	266	251
80	66	194	273	371	467	566
	303	302	298	290	279	264
Max.int. 90	49	178	256	355	453	552
	348	347	345	337	325	309

BMH 315 [316.1cm³/rev.]

Pressure (MPa)

Max.cont. Max.int.

3.5	7.5	10	13.5	15.5	17.5	20
-----	-----	----	------	------	------	----

5	155	325				
	16	13				
10	163	342	454	556		
	27	24	18	14		
20	169	349	469	582	664	733
	63	61	55	48	40	32
30	165	344	470	580	669	740
	93	89	82	77	67	59
40	154	337	465	577	663	737
	126	126	119	111	99	88
50	141	325	455	568	656	728
	159	155	148	139	126	115
60	121	312	440	555	643	715
	187	186	179	169	154	143
70	103	298	425	541	631	703
	222	222	215	205	187	176
Max.cont. 75	94	287	417	529	623	696
	236	233	224	215	196	184
80	82	277	406	518	611	688
	246	244	236	228	210	197
Max.int. 90	62	256	386	496	593	669
	282	280	275	266	248	234

BMH 400 [406.4cm³/rev.]

Pressure (MPa)

Max.cont. Max.int.

3.5	6	10.5	12.5	15.5	19
-----	---	------	------	------	----

5	196	348	516		
	13	13	10		
10	205	363	546	702	859
	22	21	21	17	11
20	209	366	543	708	874
	50	49	46	41	36
30	201	357	542	706	864
	73	72	70	63	56
40	195	346	532	701	858
	99	98	96	86	77
50	173	332	518	687	848
	123	122	118	107	97
60	154	319	501	668	833
	146	144	141	128	115
70	138	305	480	649	814
	174	173	169	156	141
Max.cont. 75	128	294	466	637	802
	183	181	177	163	149
80	113	277	451	621	786
	192	191	188	174	158
Max.int. 90	90	256	433	595	767
	220	220	215	202	183

Torque (N•m) 593
Speed (rpm) **248**

cont.
int.



Performance Data

BMH 500 [489.2cm³/rev.]

Pressure (MPa)

Max.cont. Max.int.

2.5	5	8.5	10	12.5	16
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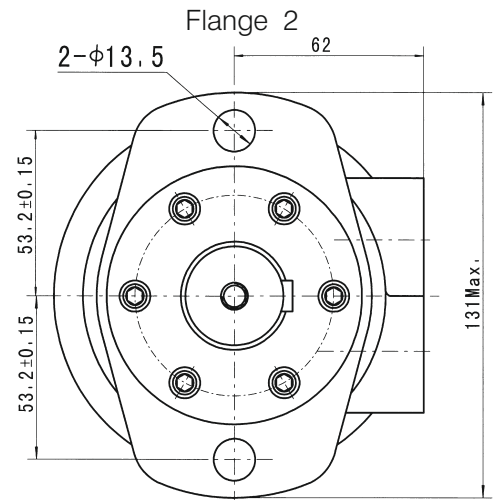
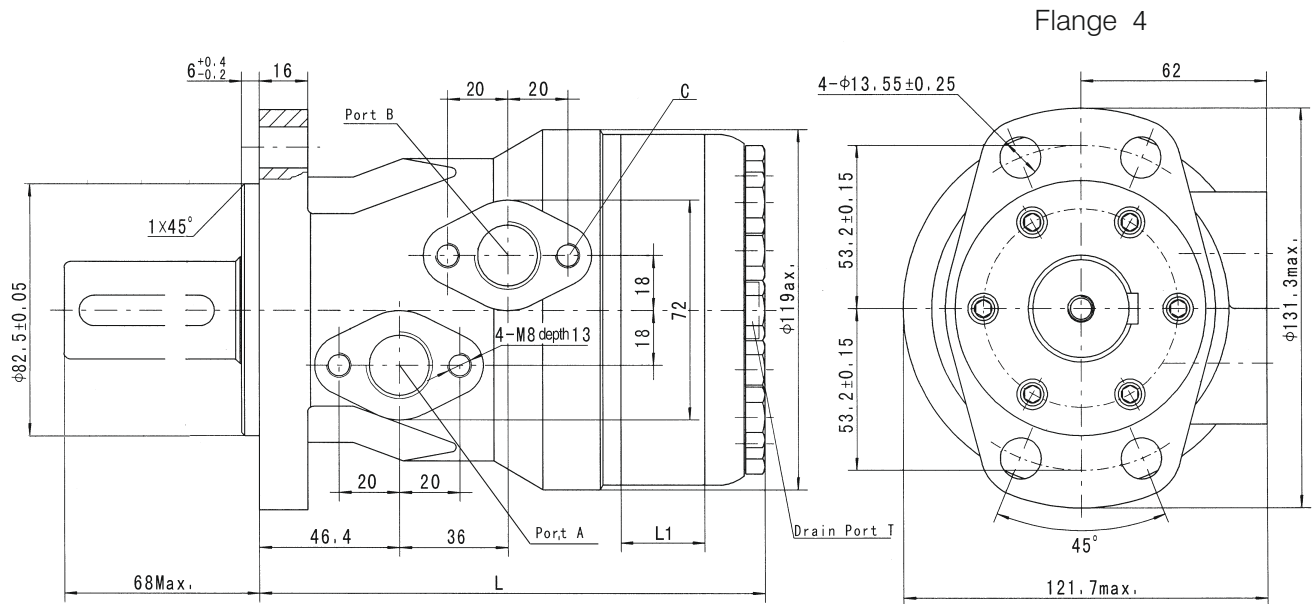
Flow (L/min)	5	165 11	317 11	516 8			
	10	178 20	335 19	555 17	669 15	791 13	969 9
	20	177 42	331 42	559 41	673 38	799 36	988 29
	30	172 64	320 63	553 61	663 57	792 53	983 47
	40	163 85	309 85	541 83	654 79	783 75	971 67
	50	146 103	296 103	523 103	635 97	768 93	954 85
	60	121 124	275 124	502 123	614 117	747 113	934 103
	70	97 148	256 148	482 148	597 140	729 134	917 122
	Max.cont.	79 155	240 155	469 155	582 152	714 144	902 130
	Max.int.	80	60 166	226 166	453 166	570 159	701 153
90		34 184	201 183	421 182	550 177	673 166	869 155

cont.
 int.

Torque (N•m) 673
 Speed (rpm) **166**



BMH Dimensions and Mounting Data

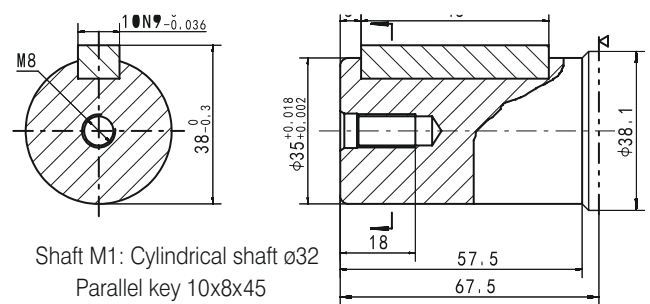
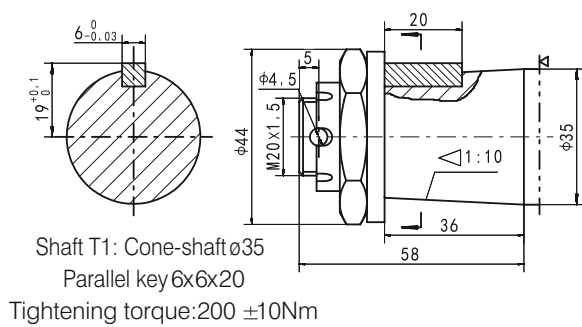
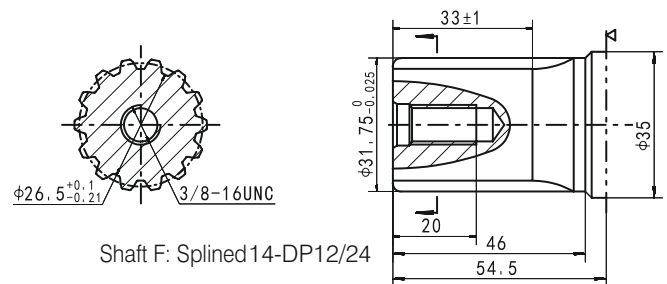
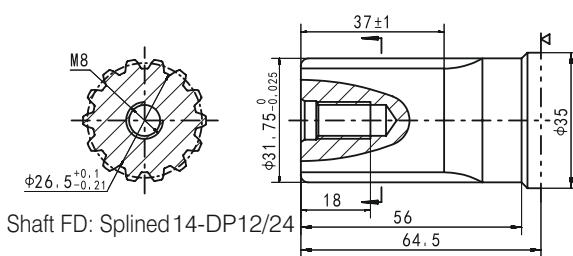
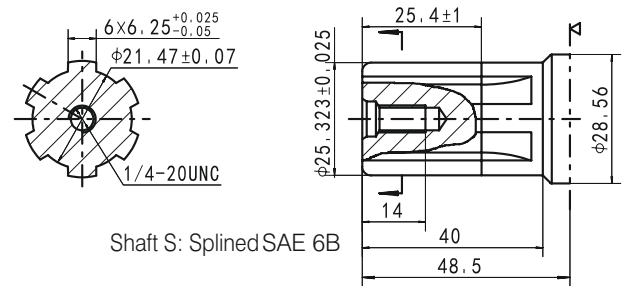
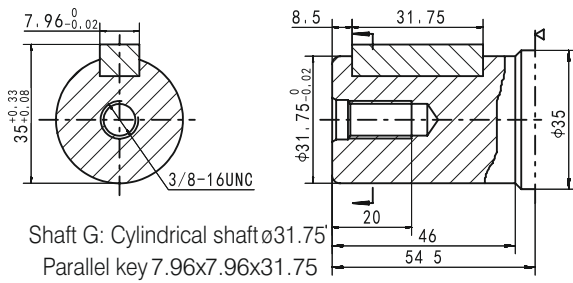
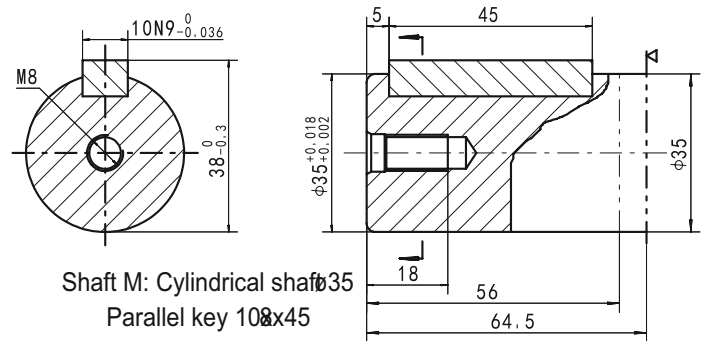
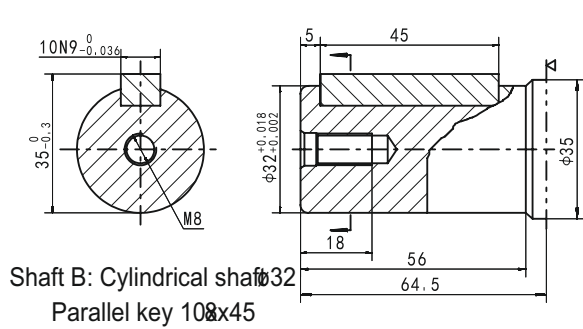


Model	L	L1
BMH-160	162	21
BMH-200	168	27
BMH-250	175	34
BMH-315	184	42
BMH-400	195	54
BMH-500	206	65

Mounting	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 (15)	1/2-14NPTF (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 1/4



BMH Shaft Extensions and Dimensions Data



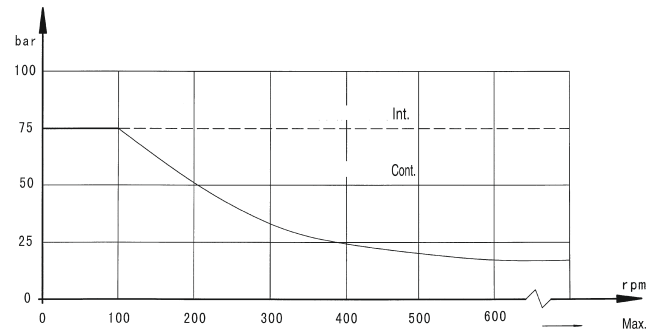
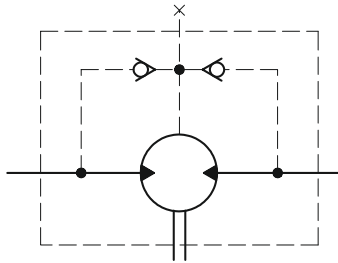
▷ Motor Mounting Surface



BMH Series Hydraulic Motor

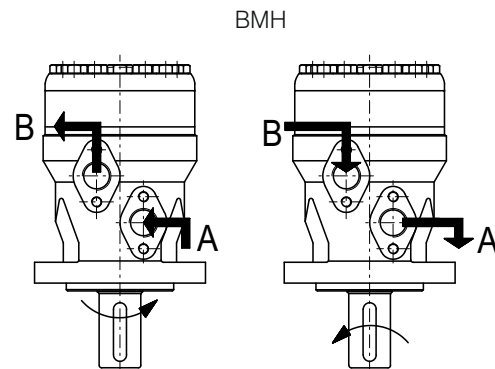
- Permissible shaft seal pressure

In applications without drain line, output shaft seal exceeds a bit of 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: Standard

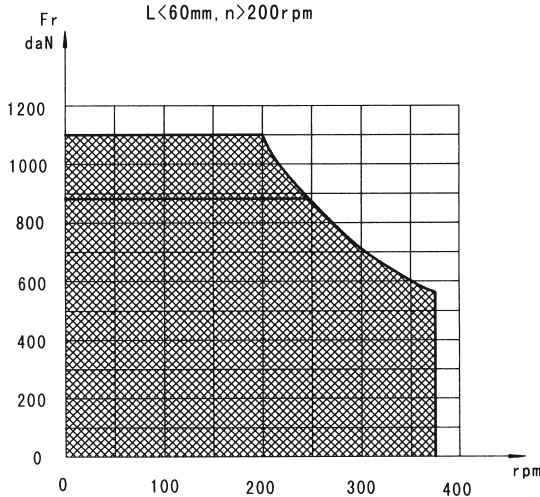
When facing shaft end of motor, shaft to rotate,
Clockwise when port "A" is pressurized.
Counter-clockwise port "B" is pressurized.



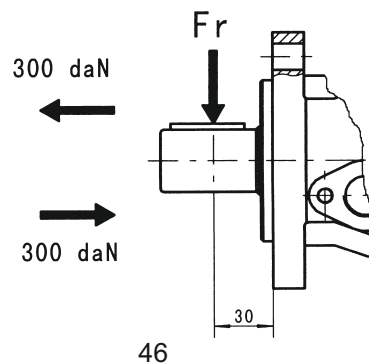
Status of the shaft's radial force

$$F_r = \frac{1100}{n} \times \frac{25000}{103.5+L} \text{ daN}$$

$L < 60\text{mm}, n > 200\text{rpm}$



— shaft $\phi 1"$ ($\phi 25.4\text{mm}$) and shaft SAE 6B
The drawing is the Possible load when $L=30\text{mm}$.



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

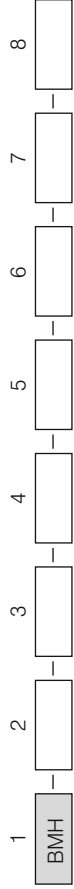
Oil flow in drain line

The table shows the Max. oil flow in the drain line at a return pressure less than 0.5-1 MPa.

Pressure drop (Mpa)	Viscosity (mm ² /s)	Oil flow in the drain line (L/min.)
10	20	2.5
	35	1.8
14	20	3.5
	35	2.8



Ordering Code



Pos.1	2	3	4	5	6	7	8
Code		Flange	Output shaft	Ports and drain port	Rotation direction	Paint	Unusually function
	160		B Shaft Ø32 , parallel key 10×8×45	D G1/2 Manifold mount 4 ×M8, G1/4			
	200		M1 Shaft Ø35, parallel key 10×8×45	M M22 × 1.5 Manifold mount 4×M8,			
	250	4 4×Ø13.5 Rhomb×flange Pilot Ø82.5 × 6	F Shaft Ø31.75, splined key 14-DP12/24	M14 × 1.5			
Omit	315	2 2×Ø13.5 Rhomb×flange Pilot Ø82.5 × 6	FD Long Shaft Ø31.75, splined key 14-DP12/24	S 7/8-14 O-ring Manifold mount	Omit Standard Omit	No paint	Standard
	400		G Shaft Ø32 , parallel key 7.96×7.96×31.75	P 4 × 5/16-18UNC;7/16-20UNF	R Opposite	Blue	No drain
	470		T1 Cone shaft Ø35, parallel key B6×6×20	4 × 5/16-18UNC;7/16-20UNF	B	Black	Free
	500		S Shaft Ø25.4 , parallel key SAE 6B	R PT(Rc) 1/2 Manifold mount	S	Silver grey	Running
			M Shaft Ø35, Parallel key 10×8×45	4 × M8, PT(Rc) 1/4			Low Speed
							Big radial force

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 specifications is not in the table or you have specific requirement, please contact us.

