

Additional Data/Spec Sheet

BMP Series Gerotor Gear Type – Hydraulic Orbital Motors – Axil Distribution Motors

## BMP SERIES HYDRAULIC MOTOR

BMP series motor are small volume, economical type, which is designed with shaft distribution flow, which adapt the Gerotor gear set design and provide compact volume, high power and low weight.

### Characteristic features:

- \* Advanced manufacturing devices for the Gerotor gear set, which provide small volume, high efficiency and long life.
- \* Shaft seal can bear high pressure of motor of which can be used in parallel or in series.
- \* Advanced construction design, high power and low weight.

### Main Specification

Technical data for BMP with 25 and 1 in and 1 in splined and 28.56 tapered shaft

Type		BMP BMPH BMPW 36	BMP BMPH BMPW 50	BMP BMPH BMPW 80	BMP BMPH BMPW 100	BMP BMPH BMPW 125	BMP BMPH BMPW 160	BMP BMPH BMPW 200	BMP BMPH BMPW 250	BMP BMPH BMPW 315	BMP BMPH BMPW 400	BMP BMPH BMPW 500
	Geometric displacement (cm <sup>3</sup> /rev.)		36	51.7	77.7	96.2	120.2	157.2	194.5	240.3	314.5	389.5
Max. speed (rpm)	cont.	1500	1150	770	615	490	383	310	250	192	155	120
	int.	1650	1450	960	770	615	475	385	310	240	190	150
Max. torque (N•m)	cont.	55	100	146	182	236	302	360	380	375	360	385
	int.	76	128	186	227	290	370	440	460	555	525	560
	peak	96	148	218	264	360	434	540	550	650	680	680
Max. output (kW)	cont.	8.0	10.0	10.0	11.0	10.0	10.0	10.0	8.5	7.0	6.0	5.0
	int.	11.5	12.0	12.0	13.0	12.0	12.0	12.0	10.5	8.5	7.0	6.0
Max. pressure drop (MPa)	cont.	12.5	14	14	14	14	14	14	11	9	7	6
	int.	16.5	17.5	17.5	17.5	17.5	17.5	17.5	14	14	10.5	9
	peak	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	18	16	14
Max. flow (L/min)	cont.	55	60	60	60	60	60	60	60	60	60	60
	int.	60	75	75	75	75	75	75	75	75	75	75
Weight (kg)		5.6	5.6	5.7	5.9	6.0	6.2	6.4	6.7	6.9	7.4	8

- \* 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.

## Performance Data

BMP 50 [51.7cm<sup>3</sup>/rev.]

Pressure (MPa)

	3	6	8	10	12.5	14	16	17.5
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Flow (L/min)	Max.cont.								Max.int.	
	3	6	8	10	12.5	14	16	17.5		
8	20	41	56	69	89	95				
15	19	40	56	71	91	100	112	120		
20	18	39	55	71	92	101	117	128		
30	17	38	55	71	91	98	116	124		
35	17	38	54	69	89	98	117	124		
45	14	36	53	67	88	98	114	123		
55	12	33	50	65	85	96	111	121		
Max.cont. 60	10	32	47	64	83	94	108	119		
Max.int. 75	6	25	42	56	76	87	101	112		

BMP 80 [77.7cm<sup>3</sup>/rev.]

Pressure (MPa)

	3	6	8	10	12.5	14	16	17.5
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Flow (L/min)	Max.cont.								Max.int.	
	3	6	8	10	12.5	14	16	17.5		
8	32	62	85	104	129	144				
15	32	63	84	107	126	144	165			
20	31	63	84	107	132	146	168	185		
30	31	62	83	106	131	146	168	186		
35	30	59	81	102	130	144	167	185		
45	25	58	79	100	126	142	165	182		
55	23	57	78	97	124	140	161	179		
Max.cont. 60	20	53	75	94	120	137	160	177		
Max.int. 75	14	44	67	87	112	151	169	169		

Torque (N•m) 87  
Speed (rpm) 920

BMP 160 [157.2cm<sup>3</sup>/rev.]

Pressure (MPa)

	3	6	8	10	12.5	14	16	17.5
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Flow (L/min)	Max.cont.								Max.int.	
	3	6	8	10	12.5	14	16	17.5		
8	62	120	170	212	263	290				
15	60	122	172	215	264	294	340			
20	57	120	170	214	262	290	340	371		
30	53	115	164	206	259	288	335	368		
35	49	110	160	202	255	284	328	362		
45	44	102	154	196	248	278	321	358		
55	40	99	148	191	243	272	316	351		
Max.cont. 60	33	94	144	188	236	267	308	345		
Max.int. 75	19	80	124	170	216	252	296	325		

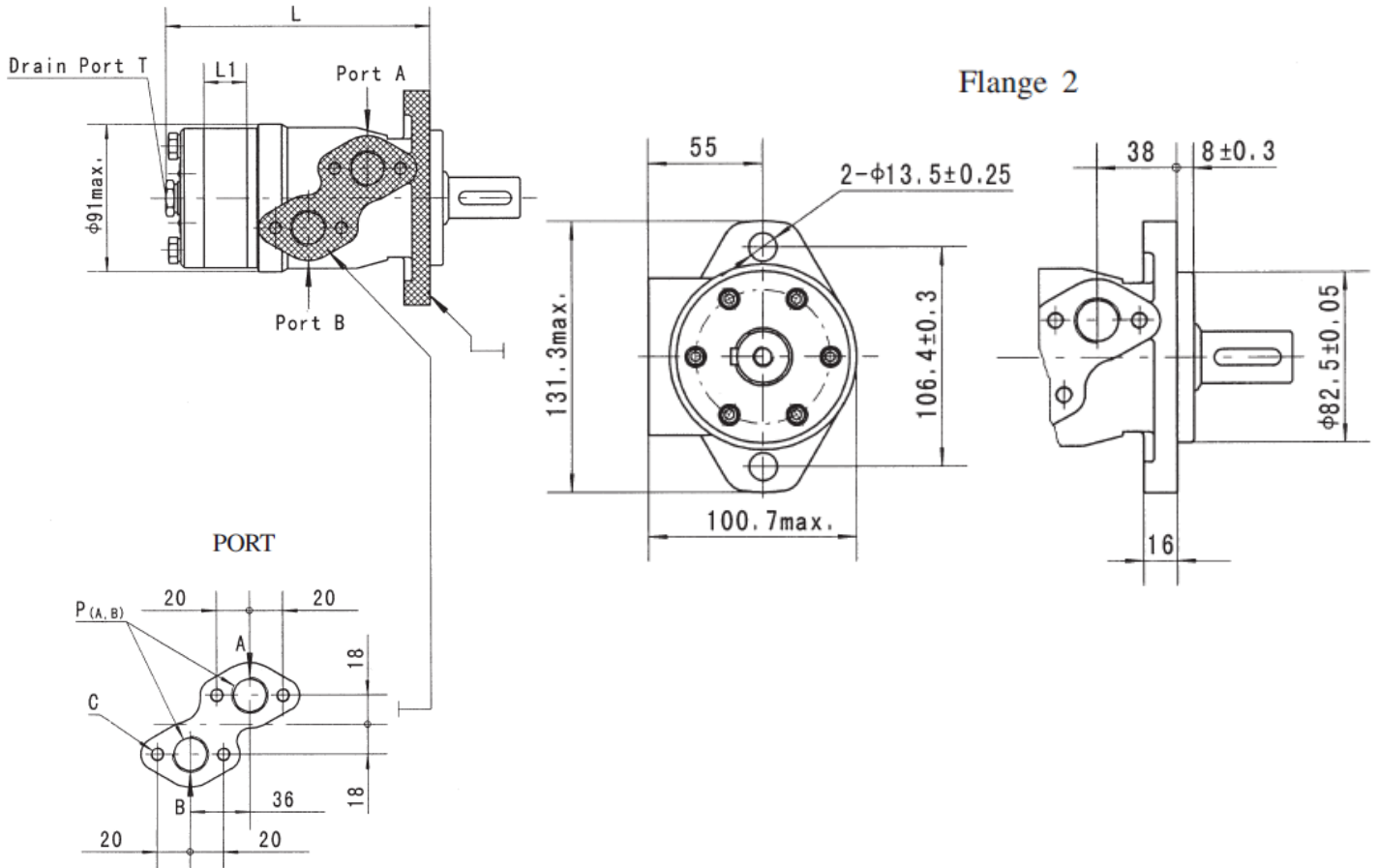
BMP 315 [314.5cm<sup>3</sup>/rev.]

Pressure (MPa)

	3	5	7	9	10	12.5	14
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Flow (L/min)	Max.cont.							Max.int.	
	3	5	7	9	10	12.5	14		
8	123	215	292	368	405				
15	118	211	287	367	404	495	568		
20	110	205	278	360	395	494	566		
30	101	196	271	349	388	490	565		
35	96	188	264	341	382	478	557		
45	89	180	254	337	372	468	553		
55	76	166	239	325	362	457	548		
Max.cont. 60	65	154	227	308	348	443	529		
Max.int. 75	40	120	201	279	323	418	497		

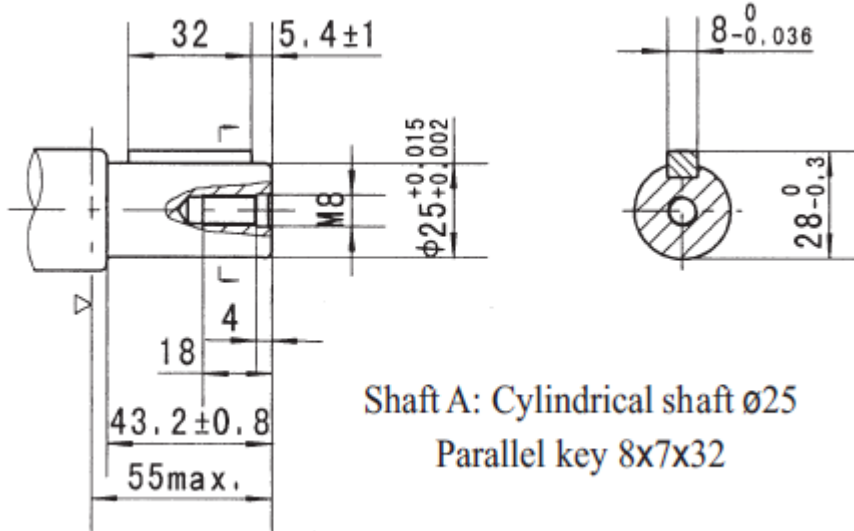
### BMP DIMENSIONS AND MOUNTING DATA



Model	L	L1
BMP36	137	7
BMP50	137	7
BMP80	140.5	10.5
BMP100	143	13
BMP125	146	16
BMP160	151	21
BMP200	157	26
BMP250	162	32
BMP315	172	42
BMP400	182	52
BMP500	195	65

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)

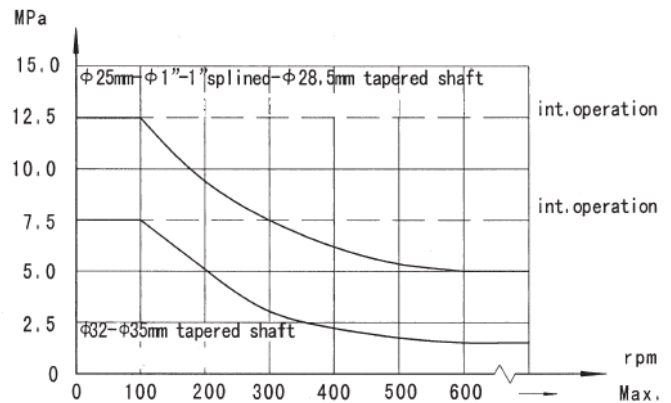
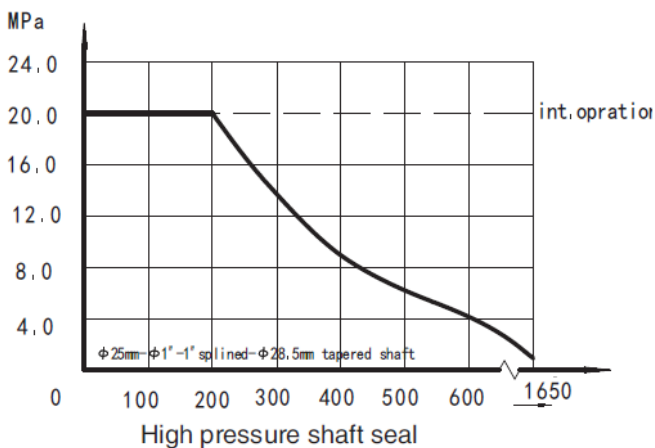
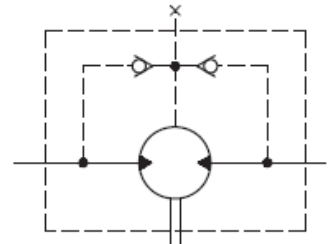
BMP SHAFT EXTENSIONS DIMENSIONS DATA



Shaft A: Cylindrical shaft  $\phi 25$   
Parallel key 8x7x32

BMP, BMPH Series Hydraulic Motor

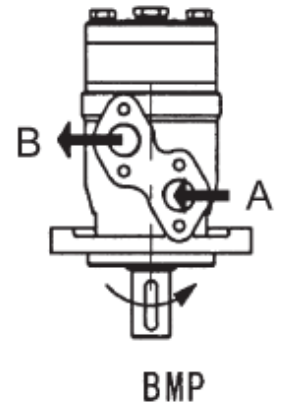
Permissible shaft seal pressure



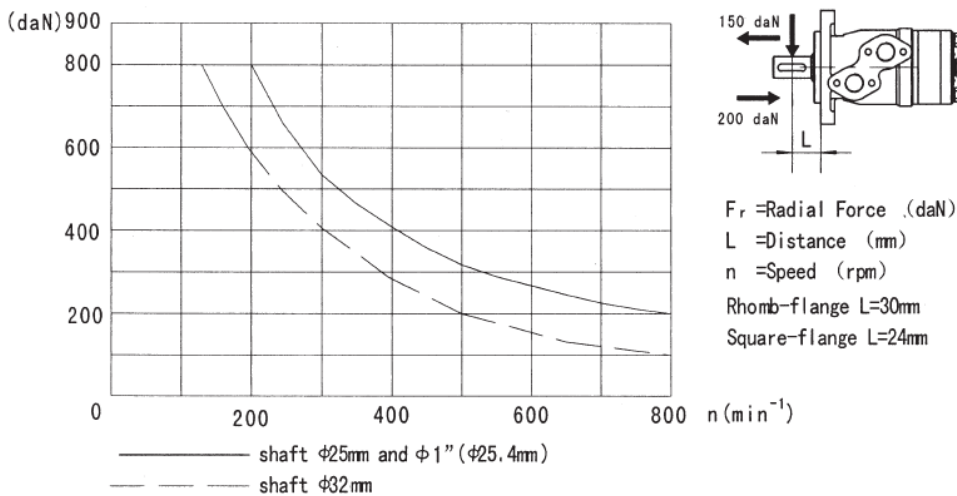
In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

## Direction of shaft rotation: Standard

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



## Status of the shaft's radial force (Standard motor with journal bearing)



## Oil flow in drain line

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

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