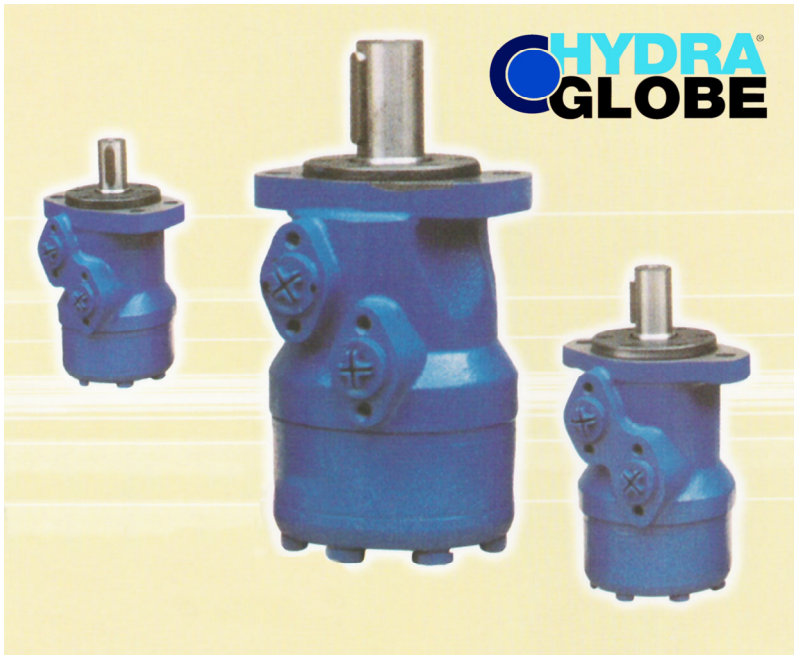
BMP-BMR-BMH



Usage Guide

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

1. Oil temperature :normal 20℃~60℃ upper limit 90℃(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^2/s at 40℃ 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^3/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

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

Type		BMP BMPH 50	BMP BMPH 80	BMP BMPH 100	BMP BMPH 125	BMP BMPH 160	BMP BMPH 200	BMP BMPH 250	BMP BMPH 315	BMP BMPH 400
Geometric displacement (cm^3/rev.)		51.7	77.7	96.2	117.9	155.5	189.9	231	311.7	386.2
Max. speed (rpm)	rated	850	650	520	390	310	260	200	156	130
	cont.	879	740	589	475	370	296	237	189	149
	int.	975	827	673	594	463	370	297	236	185
Max. torque (N*m)	rated	81	129	161	202	204	259	325	345	435
	cont.	81	129	161	202	245	286	360	406	435
	int.	108	171	213	268	342	390	456	505	533
Max. output (kW)	rated	7	8.6	8.6	8	6.5	6.9	6.6	5.5	5.8
	cont.	7	9.1	9	9.1	8.7	8.1	8.2	7.2	6.1
	int.	8.9	11.8	11.9	11.8	11.9	10.9	10.1	8.6	7.2
Max. pressure drop (MPa)	rated	12.5	12.5	12.5	12.5	10	10	10	8.5	8.5
	cont.	12.5	12.5	12.5	12.5	12.5	11	11	11	10
	int.	16.5	16.5	16.5	16.5	16.5	16.5	14	12.5	10.5
	peak	16.5	16.5	16.5	16.5	16.5	16.5	14	12.5	10.5
Max. flow (L/min)	rated	45	55	55	55	55	55	55	55	55
	cont.	45	60	60	60	60	60	60	60	60
	int.	50	75	75	75	75	75	75	75	75
Weight (kg)		5.6	5.7	5.9	6	6.2	6.4	6.6	6.9	7.4

* 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.

PERFORMANCE DATA

BMP50 [51.7cm³/rev.]

Pressure (MPa)

Flow (L/min)	3	6	7	8	10	11	12.5 (Max.cont.)	16.5 (Max.int.)
8	17	38	44	50	63	70	79	104
	154	149	144	141	135	129	123	92
15	19	38	44	50	64	71	80	105
	292	286	238	277	273	267	262	231
20	17	38	44	51	64	71	80	107
	390	385	328	376	374	367	360	332
30	16	37	44	50	64	71	81	108
	586	579	572	568	562	556	546	516
35	15	36	43	50	63	71	80	107
	683	675	670	663	656	647	641	614
45 (Max.cont.)	14	34	42	49	63	70	80	107
	879	868	862	855	849	840	833	799
50 (Max.int.)	13	33	41	48	62	68	79	
	975	962	955	949	943	937	927	

BMP80 [77.7cm³/rev.]

Pressure (MPa)

Flow (L/min)	3	6	7	8	10	11	12.5 (Max.cont.)	16.5 (Max.int.)
8	29	60	70	80	101	111	128	168
	97	94	91	88	84	79	74	50
15	29	61	71	81	101	114	129	170
	184	181	178	175	171	167	162	140
20	28	60	71	81	101	112	129	170
	247	243	241	238	235	231	225	205
30	25	58	69	79	100	111	128	171
	370	366	363	360	356	351	346	323
35	24	57	68	78	99	110	126	171
	432	427	424	421	416	412	407	387
45	22	54	66	77	97	109	124	169
	555	550	546	542	538	532	528	503
50	20	53	64	75	96	107	123	168
	616	609	606	603	599	594	588	561
60 (Max.cont.)	19	52	63	74	95	107	123	168
	740	732	727	723	718	713	707	675
75 (Max.int.)	16	47	59	72	91	105	121	
	827	820	817	813	808	804	796	

BMP100 [96.2cm³/rev.]

Pressure (MPa)

Flow (L/min)	3	6	7	8	10	11	12.5 (Max.cont.)	16.5 (Max.int.)
8	36	75	88	101	126	141	160	210
	78	75	73	70	63	67	56	34
15	35	75	89	101	128	141	160	213
	149	145	143	141	137	134	129	109
20	33	74	88	101	126	140	161	212
	199	196	195	191	189	185	179	161
30	31	72	85	98	123	137	157	213
	299	296	293	291	288	284	280	259
35	29	69	83	96	121	135	155	212
	349	345	344	341	337	335	330	310
45	28	66	81	94	119	133	153	208
	449	445	442	439	435	432	428	405
50	24	65	78	93	117	132	152	207
	498	493	491	490	486	481	477	457
60 (Max.cont.)	23	63	77	92	116	131	151	207
	598	593	589	587	583	578	573	549
75 (Max.int.)	20	57	74	88	113	129	150	
	673	667	664	661	657	654	648	

BMP125 [117.9cm³/rev.]

Pressure (MPa)

Flow (L/min)	3	6	7	8	10	11	12.5 (Max.cont.)	16.5 (Max.int.)
8	45	94	111	127	158	176	201	263
	62	60	59	56	54	50	46	26
15	44	94	111	127	160	177	202	267
	118	115	114	113	110	108	105	86
20	42	93	110	127	159	176	202	268
	158	156	155	152	150	148	144	129
30	40	91	108	124	156	174	198	268
	238	235	233	231	229	225	222	205
35	38	89	106	122	154	172	196	267
	227	274	273	272	268	266	263	247
45	37	85	103	120	151	170	194	263
	356	353	352	349	347	343	341	321
50	33	84	100	118	149	167	192	260
	396	392	390	390	387	383	380	363
60 (Max.cont.)	32	81	99	116	147	166	191	259
	475	471	469	467	465	461	457	436
75 (Max.int.)	26	75	93	110	142	159	185	
	594	588	587	581	576	584	579	

BMP160 [155.5cm³/rev.]

Pressure (MPa)

Flow (L/min)	3	6	7	8	10	11	14 (Max.cont.)	16.5 (Max.int.)
8	57	121	142	162	202	225	243	334
	48	47	46	44	42	40	39	24
15	56	121	142	162	204	227	245	341
	93	90	90	89	88	86	86	75
20	55	120	140	162	203	226	244	342
	123	122	121	119	117	116	116	104
30	54	117	139	160	201	224	242	340
	185	183	182	180	178	176	175	163
35	52	115	137	159	199	220	242	337
	215	213	213	211	210	208	207	196
45	50	112	134	156	196	220	238	335
	277	275	275	273	271	169	268	256
50	45	110	132	153	194	216	233	330
	308	307	305	303	302	299	299	287
60 (Max.cont.)	44	106	130	151	192	214	231	328
	370	368	365	364	362	360	359	347
75 (Max.int.)	32	96	119	142	182	205	222	
	463	458	457	456	453	451	451	

BMP200 [189.9cm³/rev.]

Pressure (MPa)

Flow (L/min)	3	6	7	8	10	11	15 (Max.cont./int.)
8	73	153	179	204	256	283	385
	39	37	36	35	32	28	12
15	73	152	180	205	259	266	390
	74	72	71	71	70	68	58
20	71	151	178	204	256	285	390
	99	98	97	95	94	91	81
30	68	149	175	202	254	283	388
	148	147	146	144	142	139	128
35	65	146	173	200	252	281	386
	173	172	171	169	168	165	155
45	63	142	170	196	247	277	382
	222	221	220	218	216	214	203
50	58	138	166	193	244	272	378
	247	245	244	244	242	239	229
60 (Max.cont.)	56	136	163	191	241	269	375
	296	294	293	292	290	287	277
75 (Max.int.)	42	121	150	177	226		
	370	367	367	365	364		

BMP250 [231cm³/rev.]

Pressure (MPa)

Flow (L/min)	3	6	7	8	10	11	14 (Max.cont./int.)
8	93	195	226	259	325	357	
	31	29	29	27	25	24	
15	92	192	226	260	325	360	456
	60	58	57	57	55	55	46
20	90	191	225	258	322	356	455
	79	78	77	76	75	75	65
30	86	188	221	255	319	354	452
	119	118	117	116	114	114	103
35	82	184	217	251	317	350	448
	138	138	137	135	133	133	124
45	79	179	214	246	312	345	442
	179	178	177	176	173	173	163
50	74	174	209	243	306	339	438
	198	197	197	195	194	193	185
60 (Max.cont.)	71	171	206	239	303	336	433
	237	236	236	234	232	232	224
75 (Max.int.)	53	153	189	221	280	312	
	297	295	295	293	292	291	

BMP315 [311.7cm³/rev.]

Pressure (MPa)

Flow (L/min)	3	6	7	8	10	12.5 (Max.cont./int.)
8	116	243	282	313	388	
	25	24	22	16	13	
15	115	243	284	324	406	503
	47	46	45	43	41	20
20	114	242	282	323	405	505
	63	62	61	58	56	44
30	109	237	277	319	401	501
	94	93	92	90	88	77
35	105	232	273	314	397	497
	110	109	108	106	103	93
45	99	226	268	309	391	491
	141	141	139	137	135	124
50	92	218	262	304	384	486
	157	157	155	154	151	141
60 (Max.cont.)	89	215	258	299	379	479
	189	188	187	185	182	171
75 (Max.int.)	69	194	237	278	355	
	236	235	234	232	229	

BMP400 [386.2cm³/rev.]

Pressure (MPa)

Flow (L/min)	3	6	7	8	8.5 (Max.cont./int.)	12.5
8	147	304	354			
	20	19	16			
15	147	308	359	408	435	532
	37	36	35	33	32	25
20	144	305	358	407	435	533
	50	49	47	45	43	38
30	139	301	352	402	430	530
	74	73	72	70	68	62
35	133	294	345	396	423	525
	86	86	85	82	80	75
45	125	287	339	389	416	517
	111	111	109	106	105	100
50	117	278	330	382	409	509
	124	124	122	120	119	113
60 (Max.cont.)	112	274	326	377	404	505
	149	149	147	145	144	137
75 (Max.int.)	88	246	298	351	376	
	185	185	185	182	181	

Torque (N•m) 351
Speed (rpm) **182**

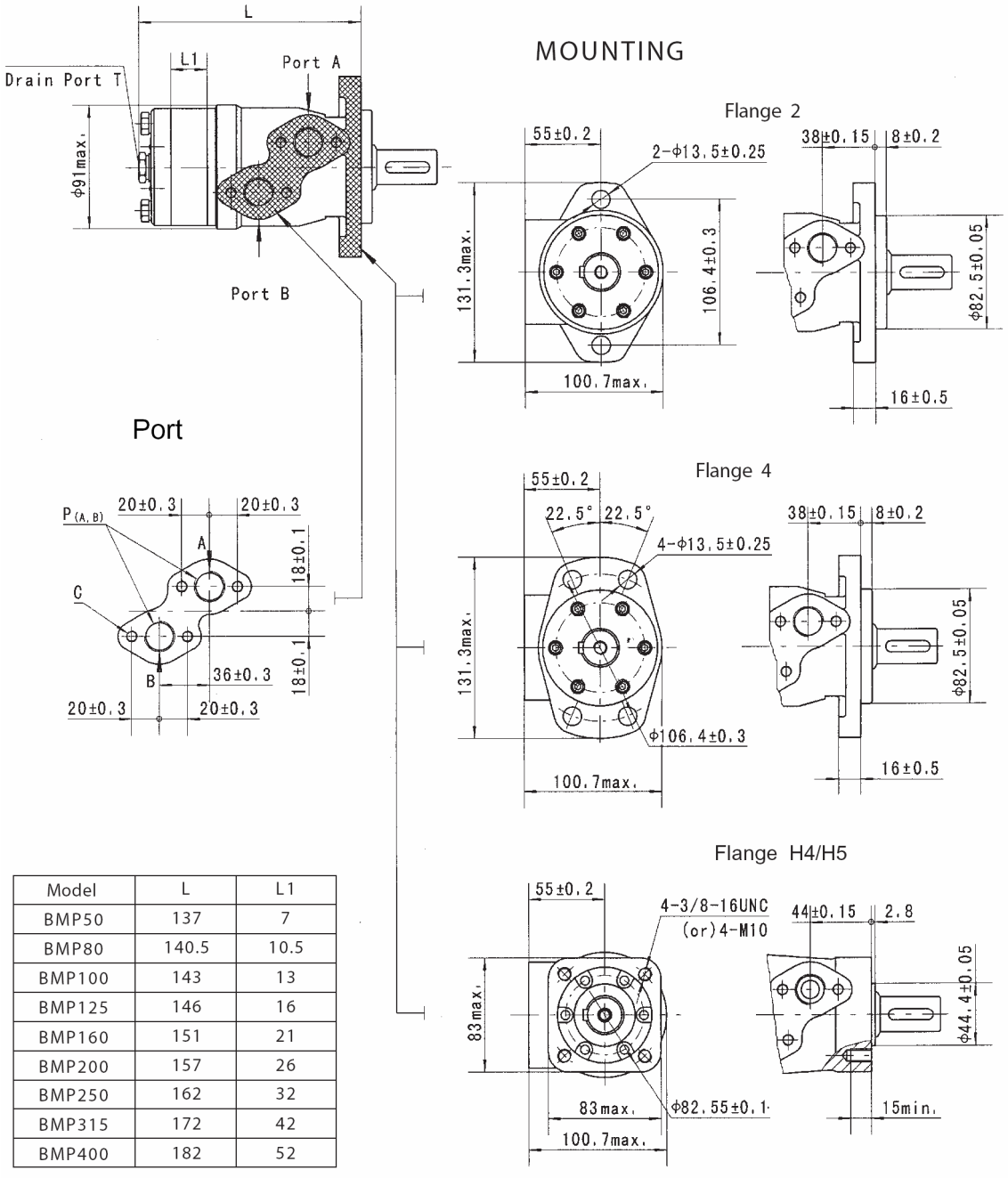
cont.

int.

- NOTICE -

Information may vary with application. All specifications listed are based on the latest product information available at the times of publication. The right is reserved to make changes at any time without notice.

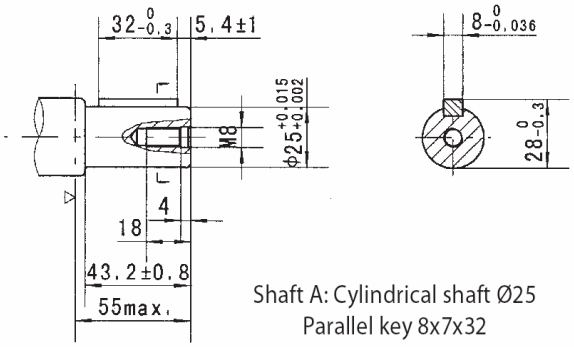
BMP DIMENSIONS AND MOUNTING DATA



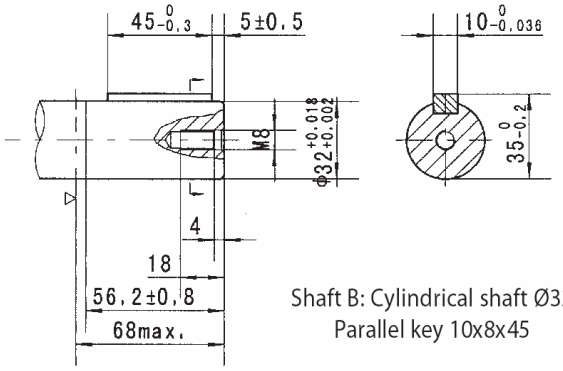
Model	L	L1
BMP50	137	7
BMP80	140.5	10.5
BMP100	143	13
BMP125	146	16
BMP160	151	21
BMP200	157	26
BMP250	162	32
BMP315	172	42
BMP400	182	52

Code / Mounting	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)

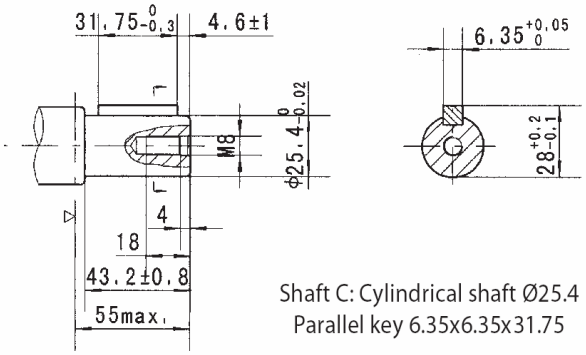
SHAFT EXTENSIONS FOR BMP MOTORS



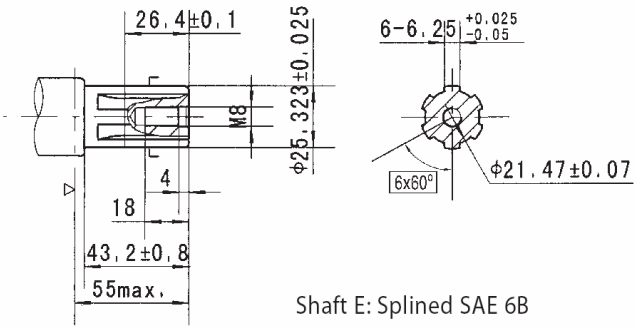
Shaft A: Cylindrical shaft Ø25
Parallel key 8x7x32



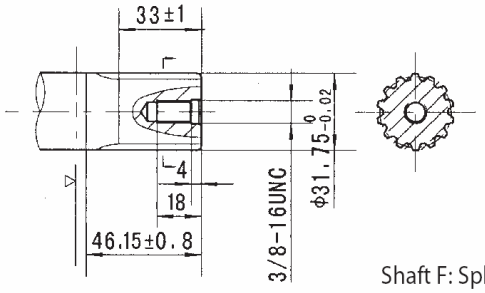
Shaft B: Cylindrical shaft Ø32
Parallel key 10x8x45



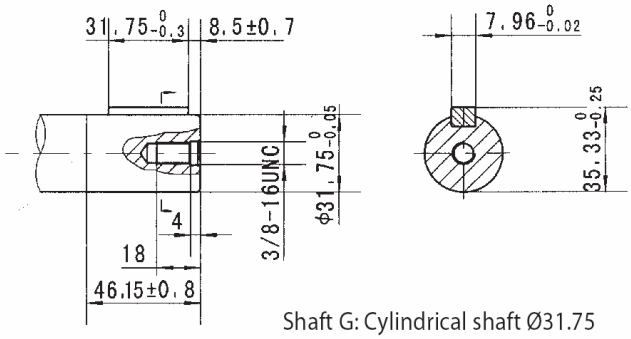
Shaft C: Cylindrical shaft Ø25.4
Parallel key 6.35x6.35x31.75



Shaft E: Splined SAE 6B



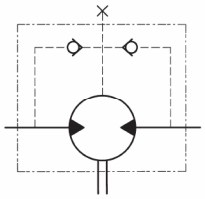
Shaft F: Splined
14-DP12/24

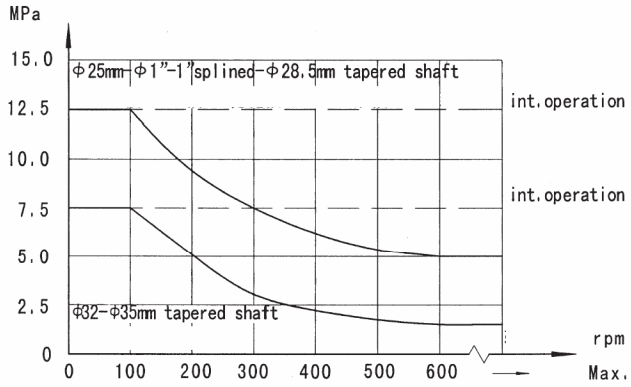


Shaft G: Cylindrical shaft Ø31.75
Parallel key 7.96x7.96x31.75

BMP、BMPH Series Hydraulic Motor

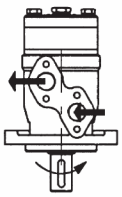
Permissible shaft seal pressure



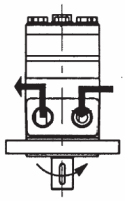


In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

Direction of shaft rotation

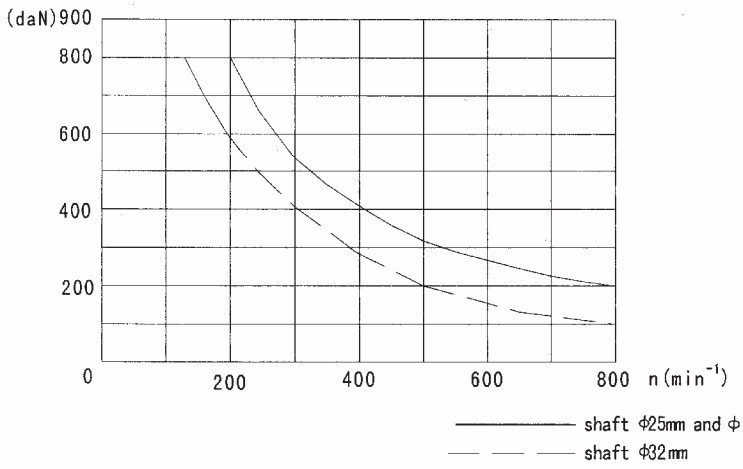


BMP

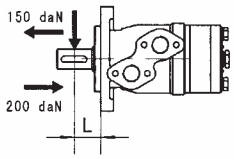


BMPH

Status of the shaft's radial force



$$F_r = \frac{800}{n} \cdot \frac{2600}{95+l} \text{ daN}$$



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

Rhomb-flange L=30mm
Square-flange L=24mm

Order Information

	1		2		3		4		5		6		7		8
BMP		–		–		–		–		–		–		–	

Pos.1	2	3		4		5		6		7		8	
Code	Disp.	Flange		Output Shaft		Port and Drain Port		Rotation Direction		Paint		Unusually Function	
None	50 80 100 125 160 200 250 315 400	2	2-Ø13.5 Rhomb-flange , pilot Ø82.5×8	A	Shaft Ø25, parllel key 8×7×32	D	G1/2 Manifold Mount 4×M8, G1/4	NOne	Standard	00	No paint	None	Standard
		4	4-Ø13.5 Rhomb-flange , pilot Ø82.5×8	B	Shaft Ø32, parllel key 10×8×45	M	M22×1.5 Manifold Mount 4×M8, M14×1.5			None	Blue	N	Big radial force
		H4	4-3/8-16 Square-flange , pilot Ø44.4×2.8	C	Shaft Ø25.4 , parllel key 6.35×6.35×31.75	S	7/8-14 O-ring manifold 4x5/16-18UNC, 7/16-20UNF	R	Opposite	B	Black	AX	Big axial force
		H5	4-M10 Square-flange , pilot Ø44.4×2.8	E	Shaft Ø25.4, splined key SEA 6B	P	1/2-14 NPTF Manifold 4x5/16-18UNC, 7/16-20UNF			S	Silver gray	0	No case drain
				R	Short shaft Ø25.4, parllel key6.35×6.35×31.75	R	PT(Rc)1/2 Manifold 4xM8, PT(Rc)1/4						
				F	Shaft Ø31.75, splined key 14-DP12/24								
				FD	Long shaft Ø31.75, splined key14-DP12/24								
				G	Shaft Ø31.75, parllel key 7.96×7.96×31.75								
				T	Cone shaft Ø28.56, parllel key B5×5×14								
				T3	Cone shaft Ø31.75, parllel key 7.96×7.96×25.4								
H		H2	2-Ø13.5 Rhomb-flange , pilot Ø82.5×2.8	K	Shaft Ø25.4, woodruff key Ø25.4×6.35	G	G1/2 G1/4						
		H6	4-Ø13.5 Rhomb-flange , pilot Ø82.5×2.8	S	Shaft Ø25.4 , splined key SEA 6B	GS	7/8-14 O-ring 7/16-20UNF (G1/4)						
		H4	4-3/8-16 Square-flange , pilot Ø44.4×2.8	A	Shaft Ø25 , parllel key 8×7×32	P	1/2-14 NPTF, 7/16-20UNF (G1/4)						
		H5	4-M10 Square-flange , pilot Ø44.4×2.8	R	Shaft Ø25.4, parllel key 6.35×6.35×31.75	T	3/4-16 O-ring, 7/16-20unf						
				H	Shaft Ø25.4 , pin hole Ø10.3	R	PT(Rc)1/2 PT(Rc)1/4						
				HI	Shaft Ø25.4 , pin hole Ø8	B4	Ø10 O-ring manifold 4x5/16-18UNC,7/16-20UNF(G1/4)						
				D	Shaft Ø22.22, parllel key 6.35×6.35×25.4	B5	Ø10 O-ring manifold 4xM8 7/16-20UNF(G1/4)						
				I	Shaft Ø22.22, splined key 13-DP16/32								
				T2	Cone shaft Ø25.4 , woodruff key Ø25.4×6.35								
				P	Shaft Ø25 , parllel key 8×7×28								
				J	Shaft Ø25 , parllel key 7×7×32								

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.