

Additional Data/Spec Sheet

BMR Series Geroler Gear Type – Hydraulic Orbital Motors – Axil Distribution Motors – 4 Hole Square

Flange H5 = 4-M10 Square-flange, pilot Ø44.4x2.8 – Shaft C = Ø25.4 Cylindrical Shaft, parallel key 6.35x6.35x31.75

BMR SERIES HYDRAULIC MOTOR

BMR 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 Geroler 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 in 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

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

Type		BMR BMRS 36	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 ³ /rev.)		36	51.7	81.5	102	127.2	157.2	194.5	253.3	317.5	381.4
Max. speed (rpm)	cont.	1085	960	750	600	475	378	310	240	190	155
	int.	1220	1150	940	750	600	475	385	300	240	190
Max. torque (N·m)	cont.	72	100	195	240	300	360	360	390	390	365
	int.	83	126	220	280	340	430	440	490	535	495
	peak	105	165	270	320	370	460	560	640	650	680
Max. output (kW)	cont.	8.5	9.5	12.5	13.0	12.5	12.5	10.0	7.0	6.0	5.0
	int.	9.8	11.2	15.0	15.0	14.5	14.0	13.0	9.5	9.0	8.0
Max. pressure drop (MPa)	cont.	14.0	14	17.5	17.5	17.5	16.5	13	11	9	7
	int.	16.5	17.5	20	20	20	20	17.5	15	13	10
	peak	22.5	22.5	22.5	22.5	22.5	22.5	22.5	20	17.5	15
Max. flow (L/min)	cont.	40	50	60	60	60	60	60	60	60	60
	int.	45	60	75	75	75	75	75	75	75	75
Weight (kg)		6.5	6.7	6.9	7	7.3	7.6	8.0	8.5	9.0	9.5

* 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

BMR 36 [36cm³/rev.]

Pressure (MPa)

Max.cont. Max.int.

	2	3	5	7	9	10	12.5	14.0	16.5
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Flow (L/min)	Pressure (MPa)								
	2	3	5	7	9	10	12.5	14.0	16.5
4	10	16	25	37	46	50			
8	105	100	92	80	71	58			
15	9	15	25	37	47	50	63	71	83
20	208	200	188	175	158	149	134	120	108
30	8	14	23	36	45	51	64	72	82
40	403	392	380	365	348	326	318	302	274
Max.cont.	6	13	22	35	44	50	64	72	82
Max.int.	540	531	518	500	483	462	450	435	412
	6	12	21	32	42	47	63	70	80
	810	798	780	763	742	722	705	694	668
	5	11	19	30	41	45	61	68	79
	1092	1080	1069	1056	1042	1028	1011	984	957
	4	10	17	29	40	44	59	66	77
	1230	1215	1194	1170	1150	1128	1100	1070	1020

BMR 50 [51.7cm³/rev.]

Pressure (MPa)

Max.cont. Max.int.

	5	7	9	10	12	14	16	17.5
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Flow (L/min)	Pressure (MPa)							
	5	7	9	10	12	14	16	17.5
5	35	45	61	67	77	88		
10	93	84	76	73	69	46		
15	36	46	62	69	80	95	108	120
20	186	178	166	162	153	136	118	97
30	35	49	63	73	88	100	109	123
40	283	277	269	261	250	230	211	185
Max.cont.	34.5	47	61	69	83	96	109	126
Max.int.	377	375	365	361	346	330	302	270
	33	44	60	67	80	95	108	126
	576	569	561	554	542	531	500	465
	30	41	58	66	79	92	106	122
	760	758	753	750	738	724	700	670
	29.5	40	57	65	78	90	105	121
	856	853	849	845	835	815	796	770
	26	37	53	60	73	85	99	114
	950	940	925	906	880	852	832	801
	20	33	48	56	69	81	95	109
	1138	1124	1100	1075	1056	1028	1006	970

BMR 80 [81.5cm³/rev.]

Pressure (MPa)

Max.cont. Max.int.

	5	7	9	10	12	14	16	17.5	20
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Flow (L/min)	Pressure (MPa)								
	5	7	9	10	12	14	16	17.5	20
5	50	64	88	108	133				
10	59	56	50	44	38				
20	54	77	99	108	129	150	173		
30	118	113	106	97	86	79	56		
40	57	78.0	102	111	134	155	177	196	225
50	238	234	227	216	203	190	178	154	135
Max.cont.	54	75	100	108	131	152	176	195	223
Max.int.	360	352	340	332	316	302	290	274	250
	48	73	96	105	127	148	172	190	220
	480	470	458	445	430	418	403	388	359
	42	70	93	102	124	147	170	188	218
	604	595	582	570	556	540	521	504	487
	37	66	89	98	121	144	166	184	213
	726	715	704	692	678	663	647	622	594
	32	60	83	95	116	140	160	177	208
	845	834	820	802	789	767	754	730	705
	21	50	78	90	111	135	154	171	200
	910	895	881	867	852	830	806	787	756

BMR 100 [102cm³/rev.]

Pressure (MPa)

Max.cont. Max.int.

	5	7	9	10	12	14	16	17.5	20
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Flow (L/min)	Pressure (MPa)								
	5	7	9	10	12	14	16	17.5	20
5	66	92	120	135	156				
10	45	42	38	34	27				
20	68	96	125	138	159	188	212		
30	93	90	86	81	74	57	42		
40	65	94.0	123	137	155	186	210	238	274
50	189	185	180	173	165	158	150	139	118
Max.cont.	63	92	120	133	153	185	209	235	270
Max.int.	286	281	275	266	257	246	237	225	207
	57	88	117	130	152	185	208	233	267
	385	378	365	355	345	332	320	314	297
	48	79	110	123	150	183	204	228	260
	482	477	470	460	448	435	420	405	389
	38	70	105	120	144	178	200	220	252
	580	572	560	548	535	523	510	500	478
	32	65	100	118	141	176	197	215	246
	678	670	660	648	638	626	615	606	580
	23	59	93	111	136	170	192	210	240
	728	720	710	695	681	667	650	634	618

Torque (N•m) 135
Speed (rpm) 830

□ cont.
■ int.

Performance Data

BMR 125 [127.2cm³/rev.]

Pressure (MPa)

	5	7	9	10	12	14	16	17.5	20
							Max.cont.		Max.int.

Flow (L/min)	Pressure (MPa)									
	5	7	9	10	12	14	16	17.5	20	
5	76	110	145	167	189					
10	84	118	155	176	202	228	253			
	73	70	60	48	36	25	19			
20	82	117	153	174	200	230	259	294	332	
	153	151	148	144	138	128	117	104	73	
30	79	116	151	171	198	228	257	292	329	
	231	228	224	218	210	201	183	168	137	
40	72	114	148	168	196	226	256	290	327	
	309	307	303	298	292	280	270	252	218	
50	62	105	143	165	195	223	254	287	323	
	389	386	382	378	370	360	344	328	292	
Max.cont. 60	52	98	136	160	191	220	250	282	319	
	467	463	459	456	448	427	410	399	352	
70	41	90	130	156	187	215	242	278	313	
	545	542	538	534	529	520	508	486	430	
Max.int. 75	32	79	126	148	180	208	234	262	300	
	586	583	578	570	560	546	532	520	480	

BMR 160 [157.2cm³/rev.]

Pressure (MPa)

	5	7	9	10	12	14	16	17.5	20
							Max.cont.		Max.int.

Flow (L/min)	Pressure (MPa)									
	5	7	9	10	12	14	16	17.5	20	
5	104	146	190	210	245					
10	107	150	195	216	250	290	335			
	59	56	50	45	37	30	22			
20	102	151	198	220	257	298	342	370	420	
	121	118	115	113	108	102	97	90	78	
30	97	146	190	217	256	295	340	368	416	
	184	178	173	170	164	155	143	128	103	
40	89	140	185	210	252	290	335	363	412	
	246	241	235	228	220	210	194	177	150	
50	72	128	179	202	244	284	327	358	409	
	310	307	300	295	287	278	262	247	210	
Max.cont. 60	60	116	170	198	240	279	321	352	400	
	374	367	359	354	346	338	323	306	265	
70	49	107	164	193	233	271	309	344	390	
	437	430	421	415	403	393	381	365	318	
Max.int. 75	36	98	152	185	226	265	300	334	379	
	472	463	450	441	431	420	405	389	365	

BMR 200 [194.5cm³/rev.]

Pressure (MPa)

	5	7	9	10	12	14	16	17.5	20
							Max.cont.		Max.int.

Flow (L/min)	Pressure (MPa)									
	5	7	9	10	12	14	16	17.5	20	
5	132	181	238	262	310					
10	135	186	240	264	315	356	403			
	49	47	45	43	38	33	24			
20	131	183	238	260	314	358	404	438	498	
	99	97	94	92	88	83	74	64	56	
30	126	178	233	254	311	355	402	431	486	
	149	147	144	141	135	126	113	105	91	
40	112	169	228	250	307	352	400	426	477	
	200	197	194	191	185	174	160	151	127	
50	95	156	221	246	300	350	398	421	470	
	252	249	246	243	238	228	212	194	161	
Max.cont. 60	78	145	213	238	289	342	386	412	459	
	304	301	298	294	286	276	262	243	218	
70	67	135	206	228	277	336	375	408	453	
	355	353	349	340	329	316	300	288	257	
Max.int. 75	58	125	197	220	270	321	360	398	442	
	382	379	373	362	350	337	322	312	278	

BMR 250 [253.5cm³/rev.]

Pressure (MPa)

	5	7	9	10	12	14	16	17.5	20
							Max.cont.		Max.int.

Flow (L/min)	Pressure (MPa)									
	5	7	9	10	12	14	16	17.5	20	
5	175	243	304	342	407					
10	17	16	14	12	10					
	178	246	310	344	409	465	525			
20	37	35	31	28	23	18	11			
	175	244	308	340	408	463	520	558	636	
30	75	73	72	70	66	58	53	50	42	
	162	235	304	332	400	455	516	550	621	
40	114	111	108	106	100	92	83	77	65	
	143	223	300	329	396	447	512	546	617	
50	154	152	150	147	143	132	120	110	90	
	124	208	289	323	384	440	503	535	600	
Max.cont. 60	193	190	187	174	168	160	149	140	116	
	103	192	280	314	371	426	489	514	578	
70	233	230	227	224	218	205	190	181	155	
	88	178	264	301	356	418	479	498	560	
Max.int. 75	273	270	267	263	252	242	226	209	173	
	62	165	256	288	347	412	474	486	542	
	294	291	287	283	274	263	249	236	211	

□ cont.
 ■ int.

Torque (N•m) 256
 Speed (rpm) 287

Performance Data

BMR 315 [317.5cm³/rev.]

Pressure (MPa)

	5	7	9	10	12	14	16	17.5
						Max.cont.		Max.int.

Flow (L/min)	5		10		20		30		40		50		60		70		75	
	Max.cont.	Max.int.	Max.cont.	Max.int.	Max.cont.	Max.int.	Max.cont.	Max.int.	Max.cont.	Max.int.	Max.cont.	Max.int.	Max.cont.	Max.int.	Max.cont.	Max.int.	Max.cont.	Max.int.
5	215	302																
10	218	305	383	422	488	551	622											
20	215	303	380	418	485	549	620	660										
30	204	296	375	413	480	542	613	654										
40	196	287	368	410	477	539	609	650										
50	176	270	356	393	461	526	597	645										
60	162	246	339	374	446	511	586	628										
70	143	235	324	358	430	493	562	614										
75	125	212	303	339	417	481	543	582										

BMR 375 [381.4cm³/rev.]

Pressure (MPa)

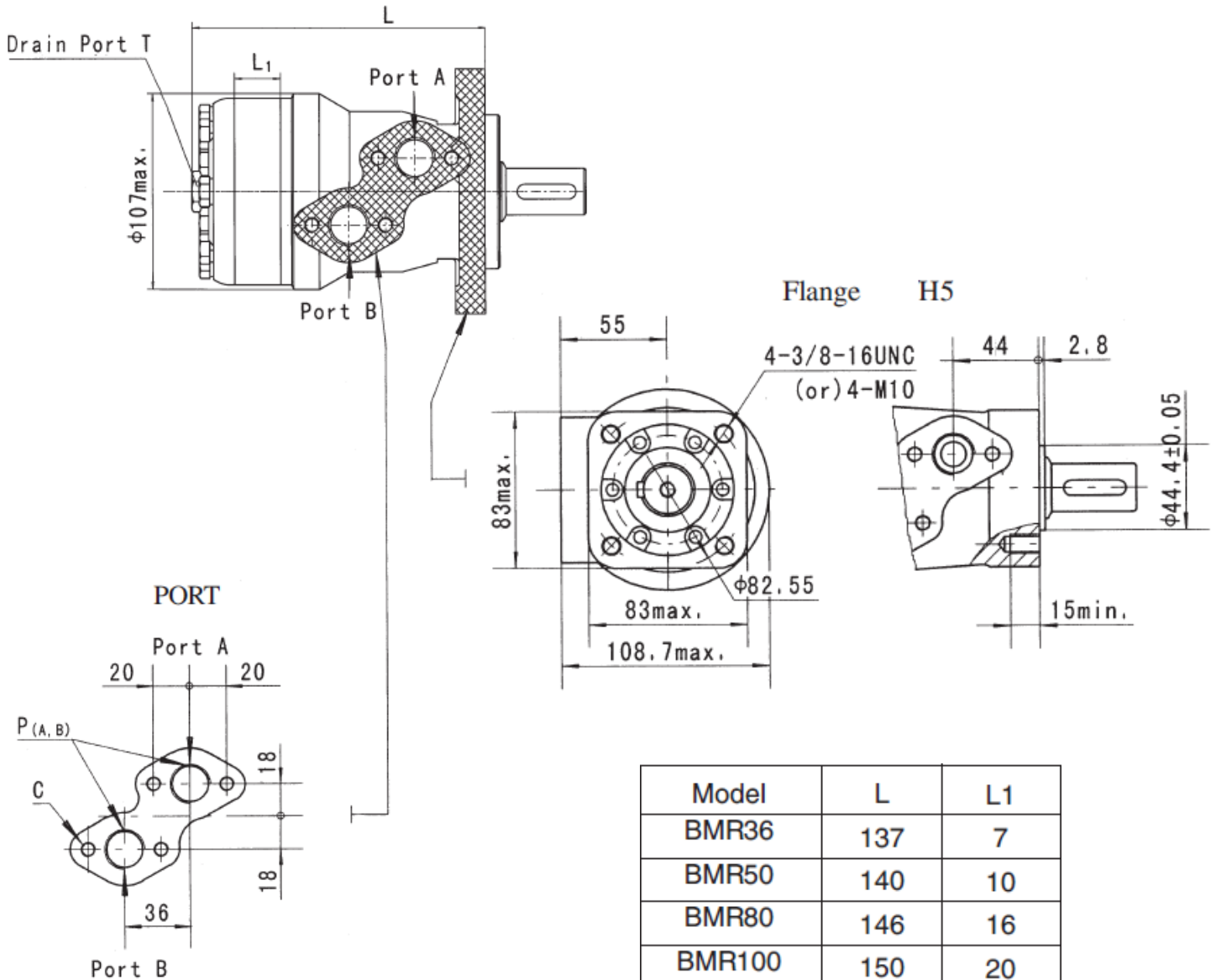
	3	4.5	5.5	6.5	8	10	12.5	14
						Max.cont.		Max.int.

Flow (L/min)	5		10		20		30		40		50		60		70		75	
	Max.cont.	Max.int.	Max.cont.	Max.int.	Max.cont.	Max.int.	Max.cont.	Max.int.	Max.cont.	Max.int.	Max.cont.	Max.int.	Max.cont.	Max.int.	Max.cont.	Max.int.	Max.cont.	Max.int.
5	153	232																
10	157	236	284	337	406	497	612	668										
20	150	232	280	332	401	490	606	660										
30	142	215	274	327	398	483	603	652										
40	126	212	268	320	393	477	593	635										
50	105	187	242	302	376	455	583	608										
60	90	167	229	281	362	444	566	600										
70	90	149	200	258	341	425	546	580										
75	56	125	182	241	320	408	524	565										

Torque (N•m) 481
Speed (rpm) 200

□ cont.
■ int.

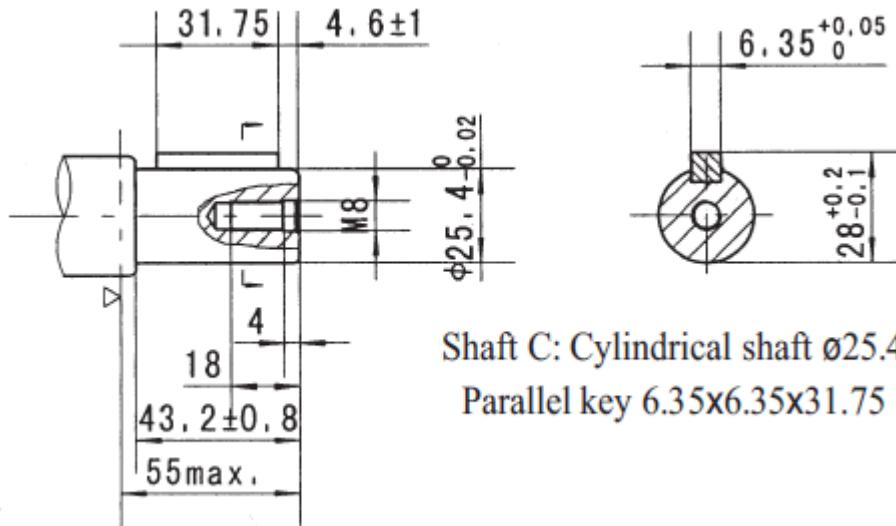
BMR DIMENSIONS AND MOUNTING DATA



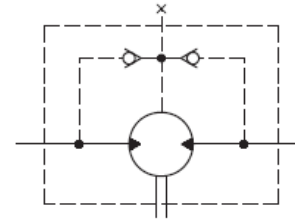
Model	L	L1
BMR36	137	7
BMR50	140	10
BMR80	146	16
BMR100	150	20
BMR125	155	25
BMR160	161.5	30.5
BMR200	170	38.1
BMR250	180	50
BMR315	192	62
BMR375	204	74

Code	D (depth)
P(A,B)	G1/2 (15)
C	4-M8 (13)
T	G1/4 (12)

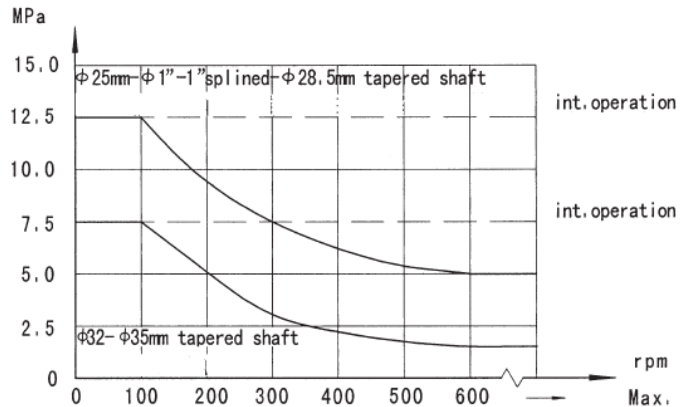
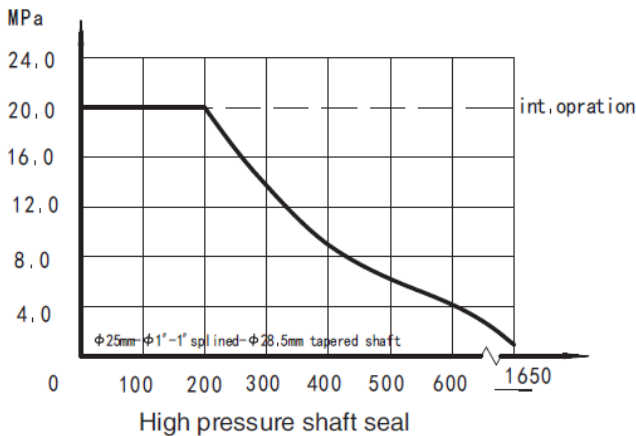
BMR SHAFT EXTENSIONS DIMENSIONS DATA



BMR, BMRS Series Hydraulic Motor



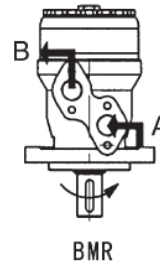
Permissible shaft seal pressure



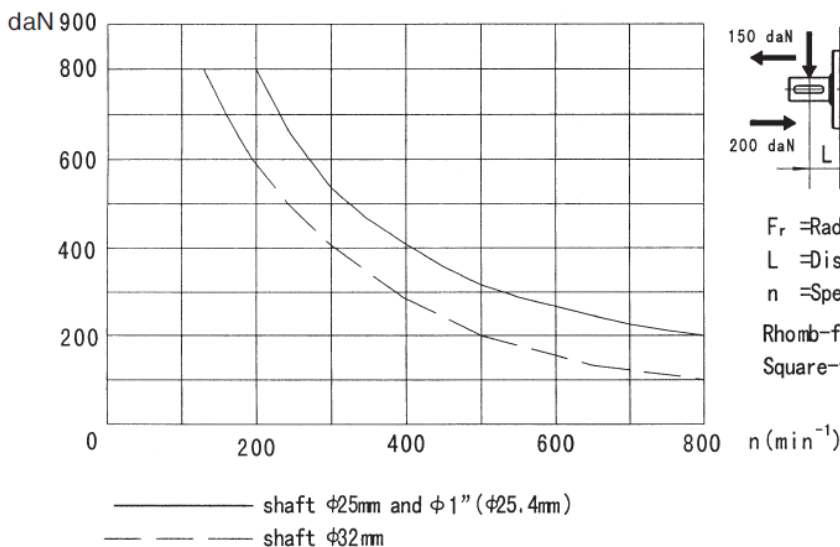
In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

Direction of shaft rotation : Standard

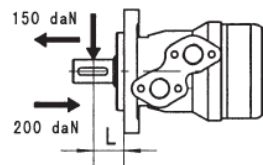
When facing shaft end of motor, shaft to rotate:
 Clockwise when port "A" is pressurized.
 Counter-clockwise port "B" is pressurized.



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



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



F_r = Radial Force (daN)
 L = Distance (mm)
 n = Speed (rpm)
 Rhomb-flange $L=30\text{mm}$
 Square-flange $L=24\text{mm}$

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