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BMR Series Geroler Gear Type – Hydraulic Orbital Motors – Axil Distribution Motors – 2 Hole

Flange 2 = Ø13.5 Rhomb-flange, pilot Ø82.5x8 – Shaft A = Ø25 Cylindrical Shaft, parallel key 8x7x32

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 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 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.

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Performance Data

BMR 36 [36cm³/rev.]

Pressure (MPa)

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

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

BMR 80 [81.5cm³/rev.]

Pressure (MPa)

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

Torque (N•m) 135
Speed (rpm) **830**

BMR 100 [102cm³/rev.]

Pressure (MPa)

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

cont.
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Performance Data

BMR 125 [127.2cm³/rev.]

Pressure (MPa)

Flow (L/min)	5	7	9	10	12	14	16	17.5	20
5	76	110	145	167	189				
	36	**31**	**25**	**19**	**13**				
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**

Max.cont. Max.int.

BMR 160 [157.2cm³/rev.]

Pressure (MPa)

Flow (L/min)	5	7	9	10	12	14	16	17.5	20
5	104	146	190	210	245				
	26	**23**	**20**	**16**	**10**				
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**

Max.cont. Max.int.

BMR 200 [194.5cm³/rev.]

Pressure (MPa)

Flow (L/min)	5	7	9	10	12	14	16	17.5	20
5	132	181	238	262	310				
	24	**22**	**18**	**13**	**10**				
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**

Max.cont. Max.int.

BMR 250 [253.5cm³/rev.]

Pressure (MPa)

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

Max.cont. Max.int.

Torque (N•m) 256
Speed (rpm) **287**

cont.
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Performance Data

BMR 315 [317.5cm³/rev.]

Pressure (MPa)

Flow (L/min)	5	7	9	10	12	14 (Max.cont.)	16	17.5 (Max.int.)
5	215 **13**	302 **11**						
10	218 **28**	305 **27**	383 **25**	422 **24**	488 **21**	551 **18**	622 **13**	
20	215 **60**	303 **59**	380 **57**	418 **55**	485 **52**	549 **49**	620 **45**	660 **42**
30	204 **91**	296 **89**	375 **86**	413 **84**	480 **81**	542 **78**	613 **72**	654 **67**
40	196 **122**	287 **120**	368 **117**	410 **112**	477 **106**	539 **100**	609 **94**	650 **85**
50	176 **154**	270 **151**	356 **147**	393 **140**	461 **131**	526 **120**	597 **109**	645 **100**
60 (Max.cont.)	162 **185**	246 **182**	339 **177**	374 **172**	446 **163**	511 **152**	586 **140**	628 **134**
70	143 **217**	235 **213**	324 **208**	358 **201**	430 **190**	493 **178**	562 **166**	614 **158**
75 (Max.int.)	125 **232**	212 **228**	303 **222**	339 **216**	417 **208**	481 **200**	543 **183**	582 **171**

Torque (N•m) 481
Speed (rpm) **200**

BMR 375 [381.4cm³/rev.]

Pressure (MPa)

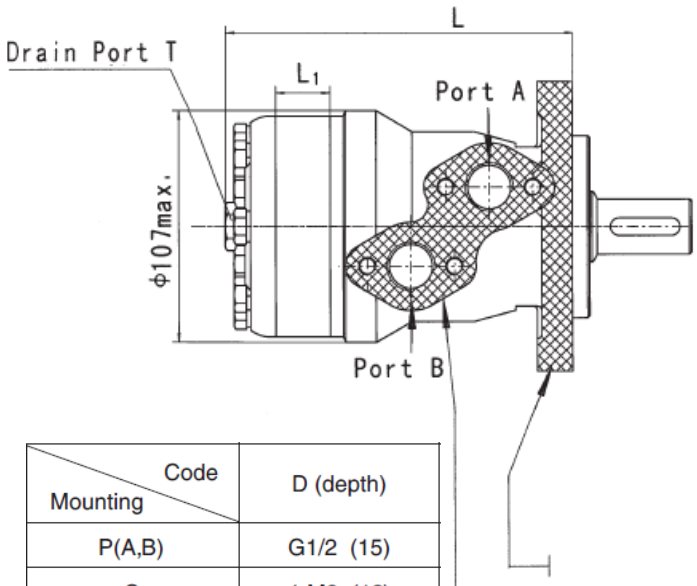
Flow (L/min)	3	4.5	5.5	6.5	8	10 (Max.cont.)	12.5	14 (Max.int.)
5	153 **12**	232 **10**						
10	157 **24**	236 **23**	284 **22**	337 **21**	406 **19**	497 **17**	612 **15**	668 **12**
20	150 **49**	232 **48**	280 **47**	332 **46**	401 **44**	490 **41**	606 **38**	660 **32**
30	142 **76**	215 **75**	274 **74**	327 **73**	398 **71**	483 **67**	603 **63**	652 **50**
40	126 **103**	212 **101**	268 **99**	320 **97**	393 **95**	477 **92**	593 **88**	635 **70**
50	105 **128**	187 **126**	242 **124**	302 **121**	376 **118**	455 **115**	583 **111**	608 **96**
60 (Max.cont.)	90 **154**	167 **152**	229 **150**	281 **148**	362 **145**	444 **138**	566 **130**	600 **121**
70	90 **180**	149 **179**	200 **178**	258 **176**	341 **173**	425 **168**	546 **160**	580 **148**
75 (Max.int.)	56 **195**	125 **194**	182 **193**	241 **191**	320 **189**	408 **185**	524 **178**	565 **170**

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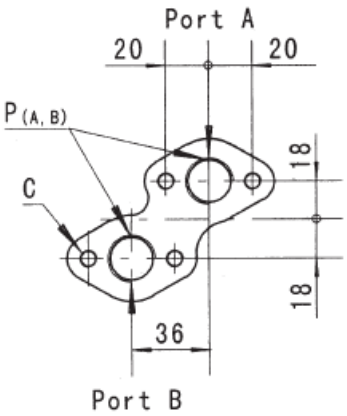
BMR DIMENSIONS AND MOUNTING DATA



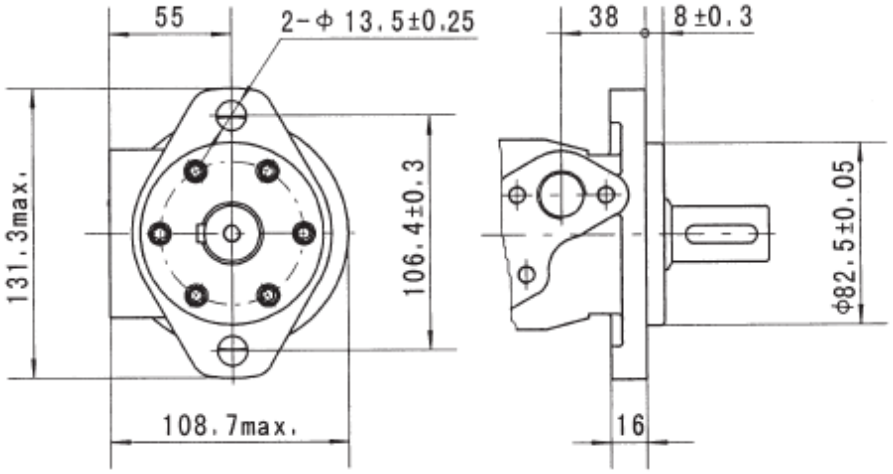
Model	L	L1
BMR36	137	7
BMR50	140	10
BMR80	146	16
BMR100	150	20
BMR125	155	25
BMR160	161.5	30.5
BMR200	170	38.1
BMR250	180	50
BMR315	192	62
BMR375	204	74

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

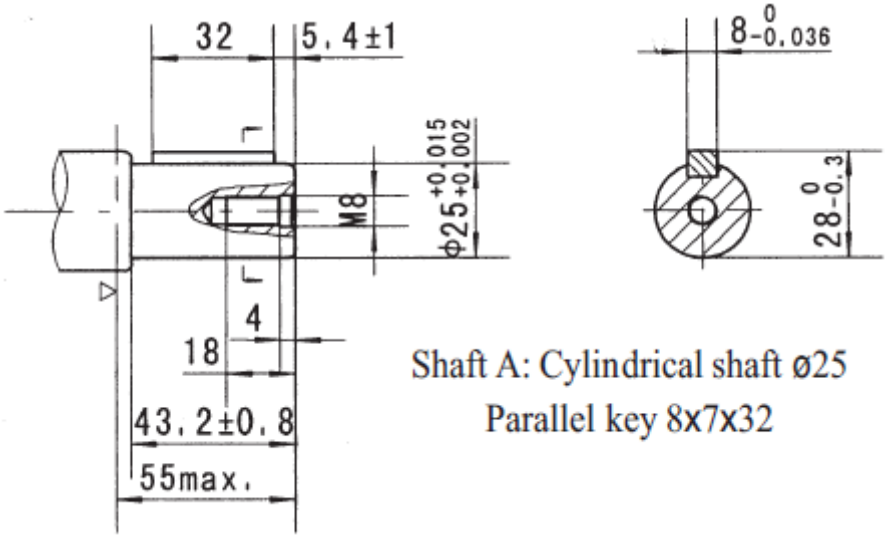
PORT



Flange 2

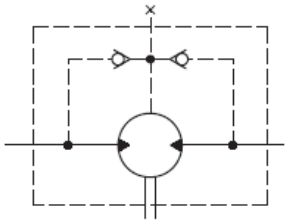


BMR SHAFT EXTENSIONS DIMENSIONS DATA



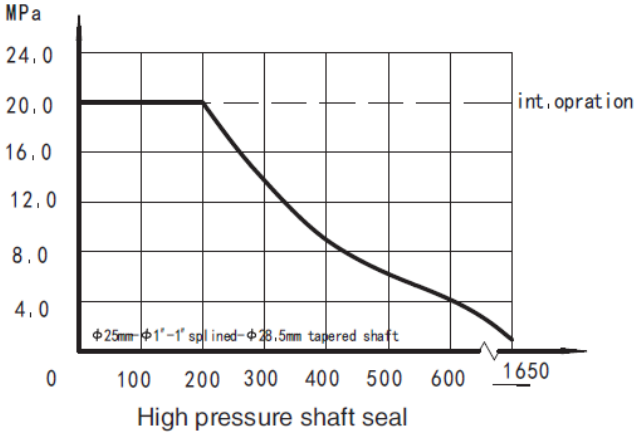
Shaft A: Cylindrical shaft ø25
Parallel key 8x7x32

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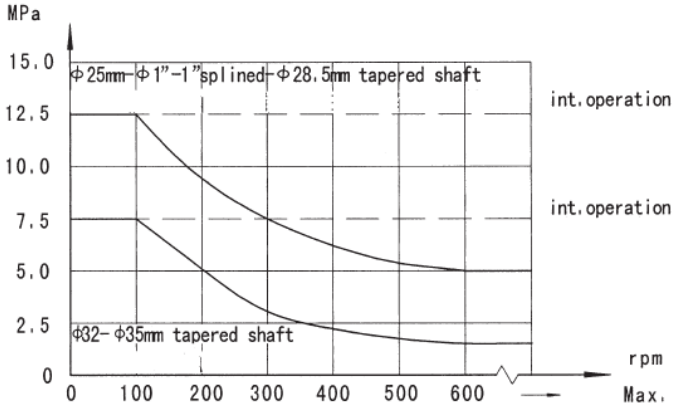


BMR、BMRS Series Hydraulic Motor

Permissible shaft seal pressure



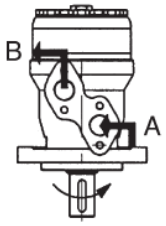
High pressure shaft seal



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.

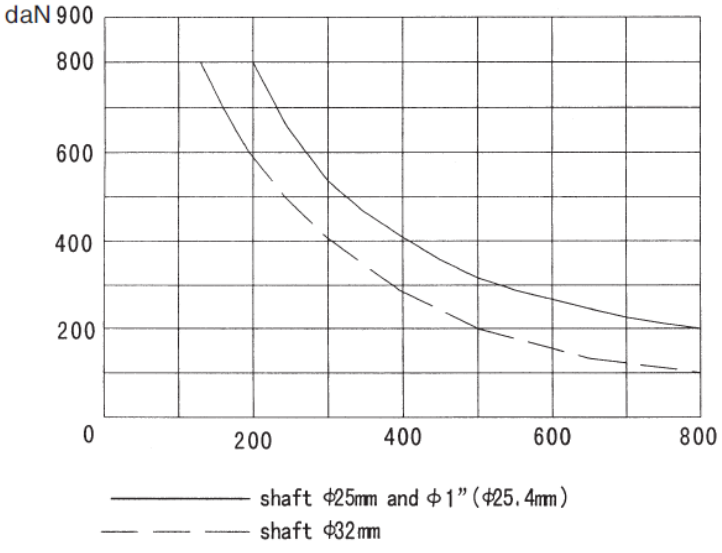
Direction of shaft ration : Standard

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

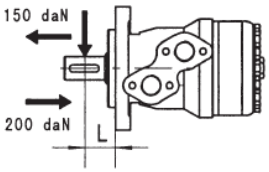


BMR

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



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



F_r =Radial Force (daN)
L =Distance (mm)
n =Speed (rpm)
Rhomb-flange L=30mm
Square-flange L=24mm

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 (mm2/s)	Oil flow in the drain line (L/min.)
10	20	2.5
	35	1.8
14	20	3.5
	35	2.8