

C9:

BMM, BMP, BMR, BMH, BMJ Series & Valves

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The manufacturer reserves the right to change the technical specifications without notice

USAGE GUIDE

For optimal working, we recommend the following:

- 1. Oil Temperature**
Normal: 20°C – 60°C
Maximum: 90°C (maximum one hour)
- 2. Filtering & Oil Cleanliness**
System Filtration: 10µm nominal.
A magnet should be installed in the filter or at the bottom of the tank to prevent ingress into the system.
- 3. Viscosity**
Based on external ambient temperature and type of application.
Recommended Oil Viscosity is 32 – 74mm²/s.
- 4.** The motors can be operated in Parallel or Series.
When the pressure of the case exceeds 20 Bar, it is recommended to install an external drain line to the tank.
- 5.** Various output shaft and flange options are available.
- 5.1** Various Manifold Mount Valving available.
- 6.** The optimal operation condition should be at the 1/3 – 2/3 of the rated operation.
- 7.** In order to obtain a longer life, operating motor should operate for first hour under 30% of rated pressure.
Motor must be filled with oil prior to being put under load.

SPECIFICATION DATA OF HYDRAULIC MOTOR

Distribution Type	Model	Displacement (cm ³ /rev.)	Max. Operating Pressure (Bar)	Speed Range (rpm)	Max. Output Power (kw)
Axial Distribution	BMP	36 - 500	225	30 – 1650	13
	BMR	36 – 375	200	30 – 1220	17
	BMH	200 - 500	225	30 - 430	18.5
	BMM	8 - 50	200	30 – 2450	3.2
	BMJ	65 - 375	200	30 – 842	17.9



BMM SERIES HYDRAULIC MOTOR

BMM Series compact design providing high torque capacity from a small package giving a high power to weight ratio.

Characteristic Features:

- Advanced manufacturing design of the Gerotor gear set, which provide hydraulic circuits, high efficiency and long life
- High pressure shaft seals allow for use in both Parallel & Series circuits
- Advanced design giving both high power and low weight

Main Specifications

Type		BMM					
		8	12	20	32	40	50
Geometric Displacement (cm ³ /rev.)		8.2	12.9	19.9	31.6	39.8	50.3
Max. Speed (rpm)	Rated.	1537	1256	814	513	452	358
	Cont.	1950	1550	1000	630	500	400
	Int.	2450	1940	1250	800	630	500
Max. Torque (Nm)	Rated.	8	13	19	31	37	33
	Cont.	11	16	25	40	45	46
	Int.	15	23	35	57	70	88
	Peak	21	33	51	64	82	100
Max. Output (kW)	Rated.	1.3	1.7	1.7	1.7	1.7	1.2
	Cont.	1.8	2.4	2.4	2.4	2.2	1.8
	Int.	2.6	3.2	3.2	3.2	3.2	3.2
Max. Pressure Drop (Bar)	Rated.	90	90	90	90	8.5	60
	Cont.	100	100	100	100	90	70
	Int.	140	140	140	140	140	140
	Peak	200	200	200	160	160	160
Max. Flow (L/min)	Rated.	14	18	18	18	20	20
	Cont.	16	20	20	20	20	20
	Int.	20	25	25	25	25	25
Weight (kg)		1.9	2	2.1	2.2	2.3	2.4

Type		Max. Inlet Pressure
BMM 8-50 (Bar)	Cont.	175
	Int.	225

- 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 seconds per minute



PERFORMANCE DATA

BMM8 [8.2cm³/rev.]

Pressure (Bar)	Max.Cont				Max.Int.	
	35	50	70	100	120	140

Flow (L/min)	2	3	5	8	10	12	14
		228	218	206	156	111	58
4	474	471	463	426	391	331	
	953	946	926	884	855	816	
8	1444	1426	1402	1360	1324	1288	
	1912	1900	1861	1833	1780		
15	2432	2395	2350	2328	2281		
		0	6	10	11	14	
20							

BMM12.5 [12.9cm³/rev.]

Pressure (Bar)	Max. Cont.				Max.Int.	
	35	50	70	100	120	140

Flow (L/min)	2	6	8	11	16	19	
		140	136	119	68	35	
4	296	289	274	229	200	145	
	605	596	583	543	514	469	
8	912	905	895	859	834	784	
	1152	1144	1136	1102	1078	1036	
15	1542	1532	1521	1500	1482	1437	
	1910	1891	1878	1848	1828	1788	
20							
25							

BMM20 [19.9cm³/rev.]

Pressure (Bar)	Max.Cont				Max.Int.		
	17	35	50	70	100	120	140

Flow (L/min)	2	3	9	14	19	26	30
		99	96	89	74	42	21
4	197	191	182	178	134	112	74
	398	395	391	377	340	319	288
8	596	594	588	579	545	523	493
	745	741	738	728	695	684	660
15	998	995	991	985	962	1916	1885
	1247	1245	1242	1189	1180	1176	
20							
25							

BMM32 [31.6cm³/rev.]

Pressure (Bar)	Max. Cont.				Max.Int.		
	17	35	50	70	100	120	140

Flow (L/min)	2	7	24	34	45	63	
		61	57	52	46	16	
4	125	240	227	211	162	133	97
	248	242	238	229	205	193	166
8	376	372	366	360	336	320	295
	472	469	465	459	438	426	403
15	629	626	623	615	597	582	563
	786	784	782	778	761	748	727
20							
25							

Cont
Int.



PERFORMANCE DATA

BMM40 [39.8cm³/rev.]

Pressure (Bar)	Max.Cont				Max.Int.	
	35	50	70	85	100	120

Flow (L/min)	2	16	27	36	44	51	
		45	40	34	28	17	
4	16	27	37	44	52	62	
	96	93	85	79	65	52	
8	15	26	36	44	52	63	
	197	195	182	176	166	154	
12	14	25	35	43	51	62	
	293	287	282	277	268	257	
15	13	24	34	42	50	62	
	371	365	360	355	347	338	
Max. Cont.	20	10	21	31	39	48	59
	497	492	487	480	472	1463	
Max. Int.	25	7	19	29	37	44	56
	622	617	612	607	600	591	

BMM50 [50.3cm³/rev.]

Pressure (Bar)	Max. Cont.			Max.Int.	
	15	30	50	70	100

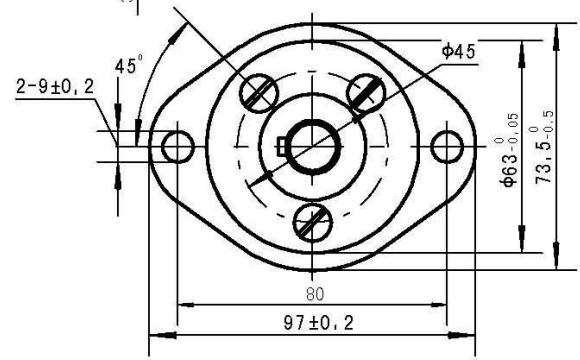
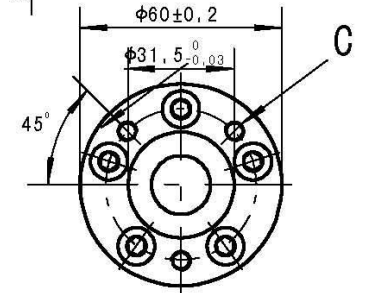
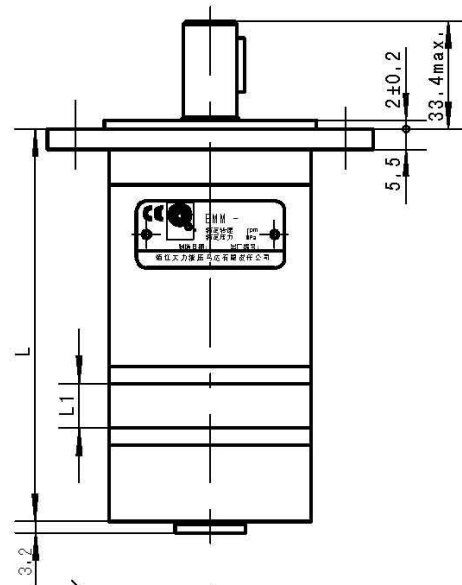
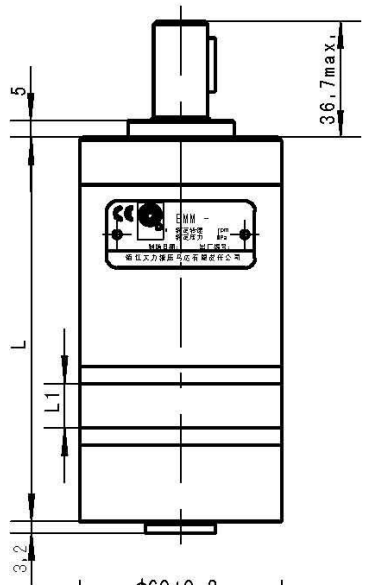
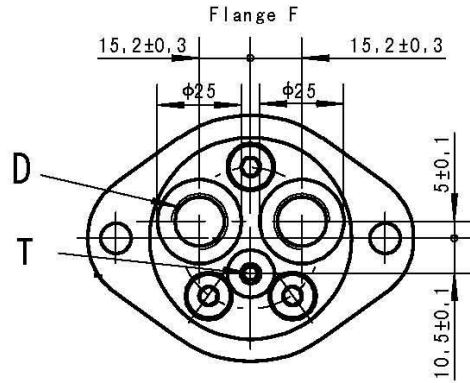
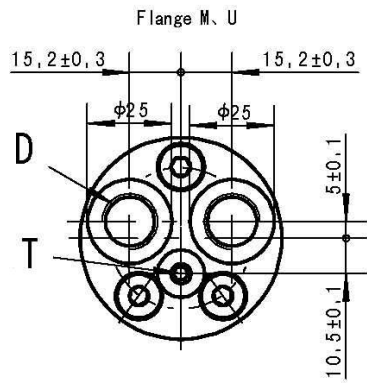
Flow (L/min)	2	11	23	36	50	
		37	33	27	22	
4	11	22	36	50	70	
	76	73	68	63	55	
8	11	21	35	50	71	
	157	154	149	145	137	
12	11	20	33	49	71	
	237	234	231	226	218	
15	10	18	32	47	69	
	296	295	294	288	282	
Max. Cont.	20	8	14	29	44	64
	395	395	393	390	381	
Max. Int.	25	4	10	25	40	59
	498	496	494	490	484	

Torque (Nm) 37
Speed (rpm) 607

Cont
Int.



BMM END PORT DIMENSIONS & MOUNTING DATA

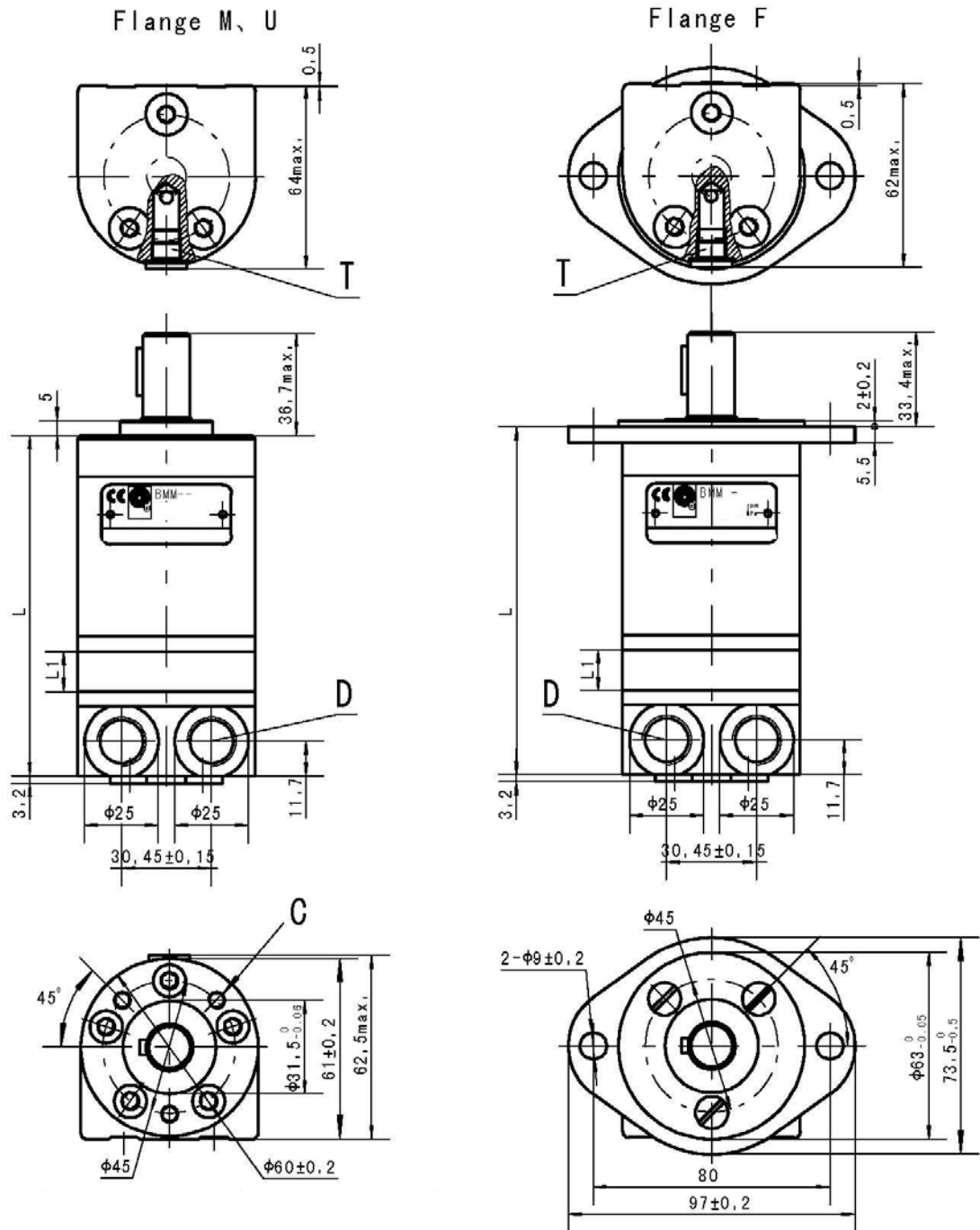


MODEL	M, U		F	
	L	L1	L	L1
BMM8	104	3.5	107	3.5
BMM12.5	106	5.5	109	5.5
BMM20	109	8.5	112	8.5
BMM32	114	13.5	117	13.5
BMM40	118	17	118	17
BMM50	122	21.5	125	21.5

Mounting Code	M, U				F			
	1E	(Depth)	1U	(Depth)	1E	(Depth)	1U	(Depth)
C	M6	(10)	¼-28UNF-2B	(10)	-	-	-	-
D	G3/8	(12)	9/16-18UNF	(12)	G3/8	(12)	9/16-18UNF	(12)
T	G1/8	(8)	3/8-24UNF	(8)	G1/8	(8)	3/8-24UNF	(8)



BMM SIDE PORT DIMENSIONS & MOUNTING DATA



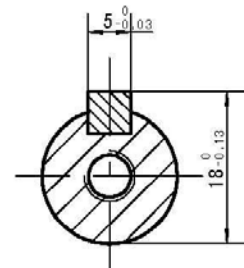
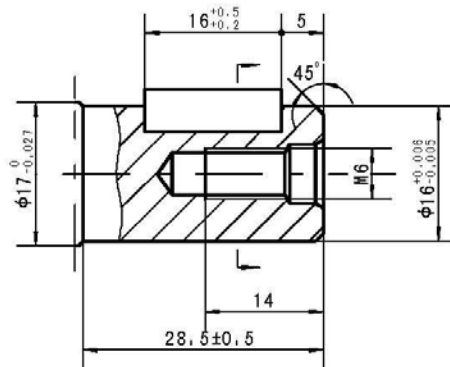
MODEL	M, U		F	
	L	L1	L	L1
BMM8	105	3.5	109	3.5
BMM12.5	107	5.5	111	5.5
BMM20	110	8.5	114	8.5
BMM32	115	13.5	119	13.5
BMM40	118	17	118	17
BMM50	123	21.5	127	21.5

Mounting Code	M, U				F			
	E	(Depth)	U	(Depth)	E	(Depth)	U	(Depth)
C	M6	(10)	¼-28UNF-2B	(10)	-	-	-	-
D	G3/8	(12)	9/16-18UNF	(12)	G3/8	(12)	9/16-18UNF	(12)
T	G1/8	(8)	3/8-24UNF	(8)	G1/8	(8)	3/8-24UNF	(8)

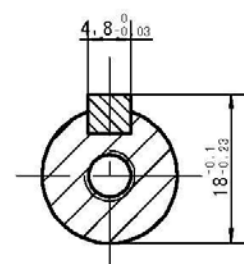
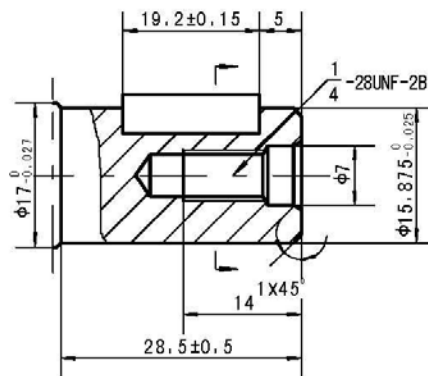


SHAFT EXTENSIONS FOR BMM MOTORS

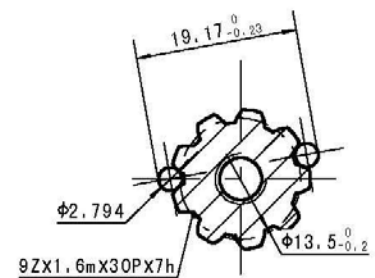
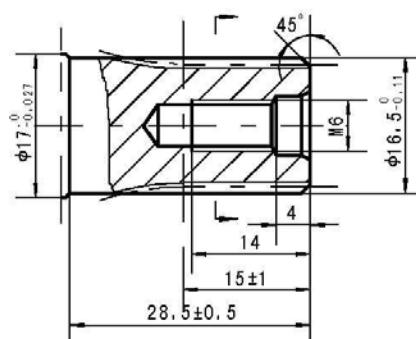
Shaft A: Cylindrical shaft $\phi 16$
Parallel key 5x5x16



Shaft B: Cylindrical shaft $\phi 15.875$
Parallel key 4,8x4,8x19,35



Shaft C: Involute splined shaft
B17x14



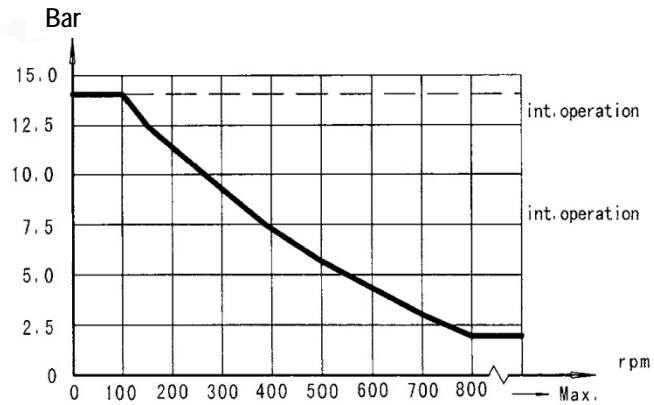
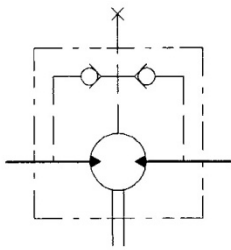
▷ Motor Mounting Surface



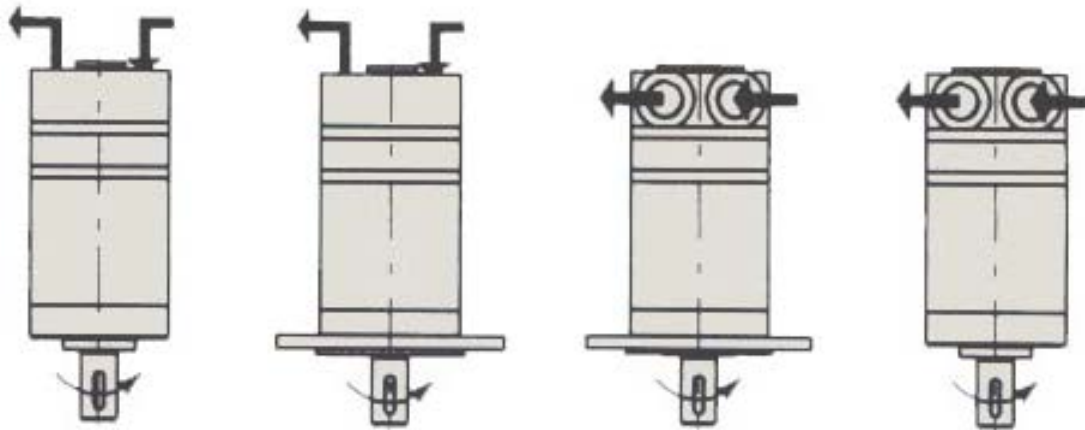
BMM SERIES HYDRAULIC MOTOR

PERMISSIBLE SHAFT SEAL PRESSURE

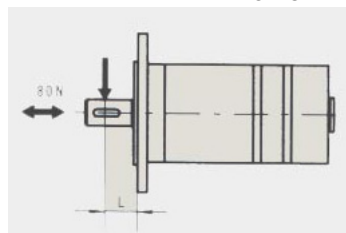
In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line.
 When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.



DIRECTION OF SHAFT ROTATION



STATUS OF THE SHAFT'S RADIAL FORCE $F_r = \frac{130400}{61.5+N}$ N



F_r = Radial Force (N)
 L = Distance (mm)
 N = Speed (rpm)
 Rhomb-Flange $L = 15\text{mm}$
 Square-Flange $L = 20\text{mm}$



BMM SERIES HYDRAULIC MOTOR – ORDER INFORMATION

1		2		3		4	
Code	Displacement	Code	Output Flange	Code	Shaft	Code	Port
8	8	M U F	3-M6 Circle-Flange, Pilot 31.5x5 3-1/4-28UNF Circle Flange, Pilot 31.5x5 2-9 Rhomb-Flange, Pilot 63x2	A	Shaft Ø16, Parallel Key 5x5x16	E	G 3/8, G 1/8
12.5	12.5			B	Shaft Ø15.875, Parallel Key 4.8x4.8x19.35 3/8"	U	9/16-18UNF, 3/8-24UNF
16	16			C	Shaft Ø16.5, Involute B17x14, DIN5482	1E	Rear Port G 3/8, G 1/8
20	20					1U	Rear Port 9/16-18UNF, 3/8-24UNF
32	32						
40	40						
50	50						



BMP SERIES HYDRAULIC MOTOR

BMP series motors are medium speed, high torque motors designed on an internal gear design consisting of a rotor and stator. These motors are suitable for long operating periods at moderate pressures.

Characteristic Features:

- Advanced manufacturing design for the Gerotor gear set, which provide high starting torque, high efficiency and long life
- Motors have high pressure shaft seals which can be used in Parallel or Series
- Smooth running over the entire speed range

Main Specifications

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

TYPE	BMP, BMPH & BMPW											
	36	50	80	100	125	160	200	250	315	400	500	
Geometric Displacement (cm ³ /rev.)	36	51.7	77.7	96.2	120.2	157.2	194.5	240.3	314.5	389.5	486.5	
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 (Nm)	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 (Bar)	Cont.	125	140	140	140	140	140	140	110	90	70	60
	Int.	165	175	175	175	175	175	175	140	140	105	90
	Peak	225	225	225	225	225	225	225	180	160	140	120
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

Technical data for BMP with 31.75 and 32 shaft

TYPE	BMP, BMPH & BMPW											
	36	50	80	100	125	160	200	250	315	400	500	
Geometric Displacement (cm ³ /rev.)	36	51.7	77.7	96.2	120.2	157.2	194.5	240.3	314.5	389.5	486.5	
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 (Nm)	Cont.	55	100	146	182	236	302	360	460	475	490	430
	Int.	76	128	186	227	290	370	440	570	555	580	560
	Peak	96	148	218	264	360	434	540	670	840	840	780
Max. Output (kW)	Cont.	8.0	10.0	10.0	11.0	10.0	10.0	10.0	8.5	7.0	6.0	6.0
	Int.	11.5	12.0	12.0	13.0	12.0	12.0	12.0	10.5	8.5	7.0	7.0
Max. Pressure Drop (Bar)	Cont.	125	140	140	140	140	140	140	140	120	95	70
	Int.	165	175	175	175	175	175	175	175	140	115	90
	Peak	225	225	225	225	225	225	225	225	225	180	130
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	8.0

- 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 seconds per minute



PERFORMANCE DATA

BMP36 [36cm³/rev.]

Pressure (Bar)

Max.Cont. Max.Int.

		30	60	70	80	100	110	125	165
Flow (L/Min)	8	13 214	25 205	29 200	34 194	43 187	48 179		
	15	13 406	25 398	29 391	34 383	43 374	48 366	56 353	75 324
	20	13 541	24 534	29 528	34 521	43 513	48 500	56 486	76 458
	30	12 814	24 804	29 792	34 778	43 763	48 749	56 726	76 701
	35	12 952	23 944	28 930	34 913	43 897	48 879	56 858	76 833
	40	12 1090	23 1078	28 1064	32 1048	41 1024	47 998	55 977	75 943
	45	11 1232	22 1218	26 1196	32 1175	41 1149	46 1118	54 1080	74 1044
Max Cont.	55	6 1505	15 1494	22 1480	28 1466	37 1438	44 1406	52 1367	71 1309
Max Int.	60	3 1650	11 1640	18 1626	20 1603	30 1571	38 1536	49 1502	67 1446

BMP50 [51.7cm³/rev.]

Pressure (Bar)

Max.Cont. Max.Int.

		30	60	80	100	125	140	160	175
Flow (L/Min)	8	20 151	41 134	56 115	69 90	89 56	95 42		
	15	19 286	40 274	56 261	71 243	91 204	100 182	112 139	120 102
	20	18 382	39 373	55 361	71 348	92 318	101 309	117 287	128 251
	30	17 573	38 568	55 558	71 535	91 503	98 488	116 462	124 440
	35	17 670	38 661	54 652	69 640	89 606	98 589	117 562	124 548
	45	14 863	36 858	53 849	67 837	88 807	98 788	114 764	123 746
	55	12 1055	33 1042	50 1028	65 1010	85 979	96 963	111 947	121 920
Max Cont.	60	10 1150	32 1143	47 1126	64 1111	83 1079	94 1065	108 1043	119 1015
Max Int.	75	6 1440	25 1430	42 1416	56 1395	76 1367	87 1351	101 1335	112 1312

BMP80 [77.7cm³/rev.]

Pressure (Bar)

Max.Cont. Max.Int.

		30	60	80	100	125	140	160	175
Flow (L/Min)	8	32 97	62 87	85 74	104 55	129 33	144 22		
	15	32 186	63 181	84 170	107 154	126 132	144 118	165 86	
	20	31 251	63 243	84 236	107 225	132 207	146 196	168 178	185 155
	30	31 381	62 379	83 368	106 355	131 332	146 316	168 285	186 263
	35	30 443	59 435	81 426	102 415	130 397	144 383	167 361	185 342
	45	25 570	58 564	79 554	100 543	126 526	142 509	165 483	182 458
	55	23 696	57 685	78 672	97 656	124 643	140 630	161 602	179 579
Max Cont.	60	20 761	53 753	75 744	94 736	120 720	137 706	160 681	177 660
Max Int.	75	14 948	44 940	67 931	87 920	112 906	151 890	169 871	169 854

BMP100 [96.2cm³/rev.]

Pressure (Bar)

Max.Cont. Max.Int.

		30	60	80	100	125	140	160	175
Flow (L/Min)	8	40 81	77 75	105 69	130 57	161 36	180 24		
	15	39 152	77 149	106 145	130 140	160 122	180 103	208 81	
	20	36 204	74 200	104 195	128 190	161 177	179 166	205 148	227 133
	30	33 308	72 304	103 298	125 290	160 280	177 268	203 255	225 231
	35	30 360	70 352	98 343	122 331	159 320	176 306	202 294	224 275
	45	29 462	67 458	95 451	118 443	155 433	174 419	200 402	220 383
	55	25 566	64 558	93 549	116 540	152 529	170 515	198 498	217 478
Max Cont.	60	22 618	60 611	91 601	114 589	149 580	167 570	194 558	213 540
Max Int.	75	15 771	54 763	83 755	106 744	141 735	160 724	186 708	205 693

BMP125 [120.2cm³/rev.]

Pressure (Bar)

Max.Cont. Max.Int.

		30	60	80	100	125	140	160	175
Flow (L/Min)	8	51 63	98 60	137 55	168 47	208 28	236 15		
	15	51 121	101 116	138 110	168 102	209 89	236 73	267 48	
	20	48 162	98 158	135 153	167 148	211 137	237 128	269 109	290 94
	30	46 243	96 239	132 234	164 227	209 216	232 202	264 189	287 176
	35	42 284	92 279	130 274	160 269	206 259	229 247	260 231	284 222
	45	37 370	89 362	125 355	157 348	201 340	224 327	261 310	281 296
	55	33 452	84 446	122 438	152 431	196 420	218 412	252 402	275 384
Max Cont.	60	29 490	78 482	117 475	146 468	191 459	215 448	248 439	272 427
Max Int.	75	18 615	66 606	107 598	133 586	179 575	202 563	236 549	260 528

BMP160 [157.2cm³/rev.]

Pressure (Bar)

Max.Cont. Max.Int.

		30	60	80	100	125	140	160	175
Flow (L/Min)	8	62 49	120 48	170 46	212 42	263 26	290 14		
	15	60 93	122 91	172 88	215 85	264 76	294 68	340 48	
	20	57 125	120 123	170 120	214 117	262 110	290 106	340 92	371 81
	30	53 187	115 184	164 181	206 178	259 175	288 168	335 155	368 139
	35	49 220	110 216	160 213	202 209	255 205	284 202	328 192	362 176
	45	44 283	102 280	154 276	196 272	248 267	278 260	321 250	358 238
	55	40 345	99 342	148 340	191 336	243 331	272 328	316 320	351 303
Max Cont.	60	33 377	94 374	144 371	188 367	236 363	267 359	308 353	345 342
Max Int.	75	19 473	80 469	124 465	170 459	216 453	252 447	296 440	325 424

Cont. Int.

Torque (Nm) 124 Speed (rpm) 465



PERFORMANCE DATA

BMP200 [194.5cm³/rev.]

		Max.Cont.							Max.Int.		
		30	60	80	100	125	140	160	175		
Flow (L/Min)	8	79 40	164 39	207 38	250 35	320 28	360 22				
	15	78 76	162 75	205 74	250 71	322 66	361 61	410 51			
	20	76 100	158 98	203 97	247 95	320 92	358 89	403 73	422 57		
	30	70 151	153 149	200 147	245 145	315 142	350 139	398 131	417 120		
	35	66 177	149 175	194 173	232 171	297 168	343 166	386 160	415 149		
Max Cont.	45	63 228	146 226	190 224	230 221	294 218	340 215	383 210	410 198		
	55	54 280	140 278	181 276	224 274	286 271	334 269	371 263	400 250		
	60	38 304	127 302	164 300	212 297	270 294	325 291	356 286	395 272		
	75	22 382	96 378	145 374	192 371	235 368	293 364	321 360	367 350		

BMP250 [240.3cm³/rev.]

		Max.Cont.							Max.Int.		
		30	60	80	100	125	140	160	175		
Flow (L/Min)	8	96 30	190 28	268 24	326 21	403 11					
	15	98 60	194 58	270 54	327 50	405 40	450 30	510 12			
	20	92 82	188 80	267 77	325 76	405 69	456 64	514 52	565 38		
	30	85 123	180 120	259 118	320 114	400 106	448 98	513 87	561 76		
	35	77 143	176 141	252 139	311 135	389 128	436 122	504 112	557 101		
Max Cont.	45	70 185	168 182	243 178	300 174	377 168	428 161	495 152	543 139		
	55	63 226	159 223	237 218	290 213	369 209	417 202	483 193	531 185		
	60	60 248	150 246	228 243	280 239	358 233	407 226	473 215	520 207		
	75	34 309	128 306	202 302	264 297	342 292	387 286	448 278	488 264		

BMP315 [314.5cm³/rev.]

		Max.Cont.						Max.Int.		
		30	50	70	90	100	125	140		
Flow (L/Min)	8	123 25	215 23	292 21	368 17	405 11				
	15	118 47	211 46	287 44	367 40	404 28	495 21	568 10		
	20	110 62	205 61	278 60	360 57	395 46	494 40	566 36		
	30	101 94	196 93	271 91	349 88	388 76	490 68	565 65		
	35	96 109	188 107	264 106	341 104	382 96	478 89	557 84		
Max Cont.	45	89 141	180 140	254 138	337 135	372 127	468 120	553 115		
	55	76 173	166 172	239 170	325 167	362 160	457 152	548 143		
	60	65 188	154 186	227 184	308 182	348 178	443 172	529 163		
	75	40 236	120 234	201 232	279 228	323 226	418 223	497 214		

BMP400 [389.5cm³/rev.]

		Max.Cont.						Max.Int.		
		30	45	55	65	80	100	125		
Flow (L/Min)	8	166 20	232 19	287 18	340 16	418 12				
	15	165 38	228 36	277 35	337 33	417 31	496 27	612 21		
	20	162 50	223 49	273 49	331 48	413 45	495 41	608 35		
	30	154 76	216 75	266 74	318 73	405 71	486 67	600 60		
	35	146 88	210 87	256 87	312 86	395 83	480 80	588 75		
Max Cont.	45	132 114	197 113	243 112	300 110	383 108	464 106	576 99		
	55	117 139	184 137	227 136	283 135	363 135	450 132	552 123		
	60	102 153	163 152	215 150	272 148	347 146	436 143	532 138		
	75	53 191	128 189	182 187	234 185	318 183	391 180	484 176		

Torque (Nm) 234 Speed (rpm) 185

BMP500 [486.5cm³/rev.]

		Max.Cont.							Max.Int.	
		15	30	45	60	70	80	90		
Flow (L/Min)	4	96 7	194 6	285 4						
	8	98 15	201 15	304 14	391 14	443 12	512 9	574 7		
	15	96 30	192 30	284 29	380 28	421 26	496 23	550 22		
	20	96 40	191 40	280 40	372 39	418 37	493 33	546 31		
	30	91 61	185 60	272 60	360 58	412 56	486 53	541 50		
	40	86 81	172 80	261 80	343 79	408 76	480 73	538 70		
Max Cont.	50	78 102	160 101	241 100	332 98	391 96	466 93	528 90		
	60	66 122	134 121	213 120	305 119	371 117	438 114	496 110		
	70	52 143	111 142	189 141	292 139	344 137	418 135	475 131		
Max Int.	75	35 153	83 152	154 151	241 150	312 149	389 147	447 144		

Cont.

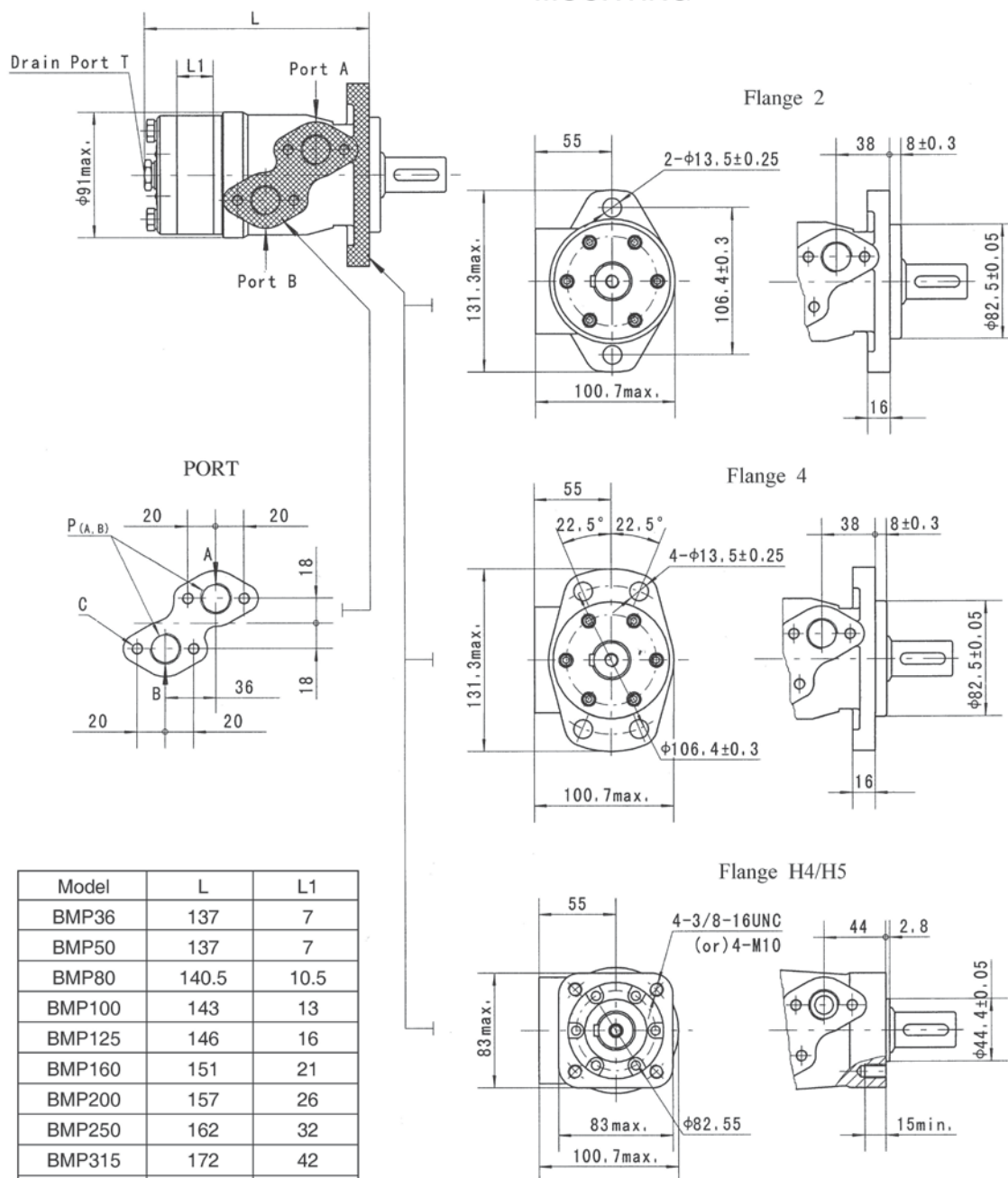
Int.

Torque (Nm) 312 Speed (rpm) 149



BMP DIMENSIONS AND MOUNTING DATA

MOUNTING



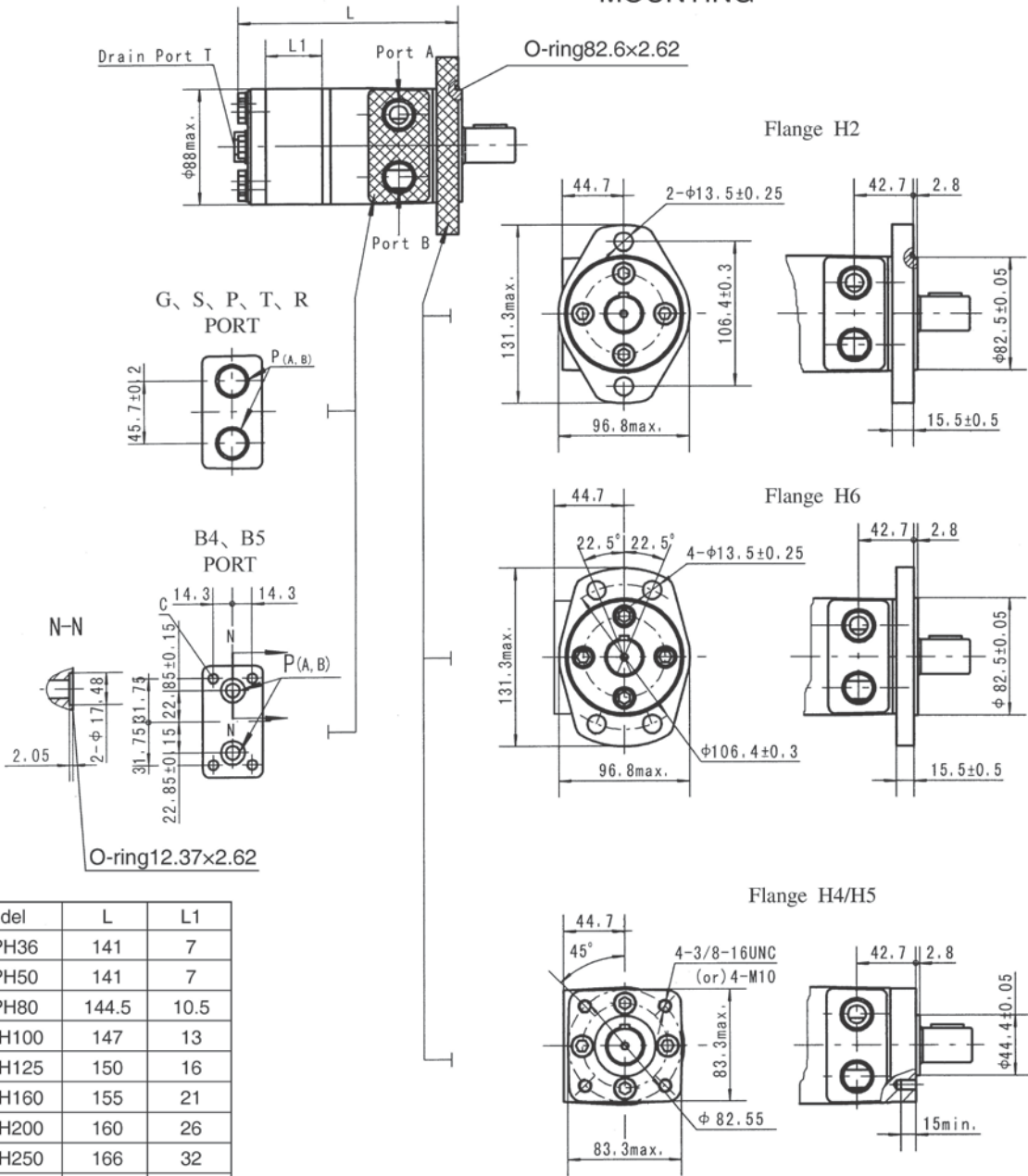
Model	L	L1
BMP36	137	7
BMP50	137	7
BMP80	140.5	10.5
BMP100	143	13
BMP125	146	16
BMP160	151	21
BMP200	157	26
BMP250	162	32
BMP315	172	42
BMP400	182	52
BMP500	195	65

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)



BMPH DIMENSIONS AND MOUNTING DATA

MOUNTING

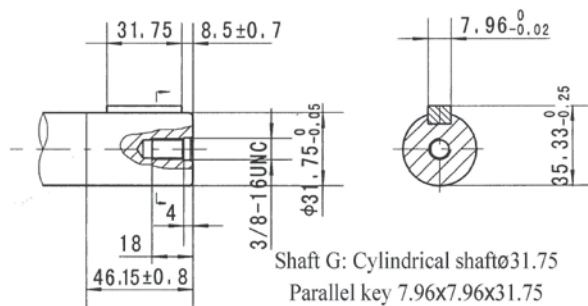
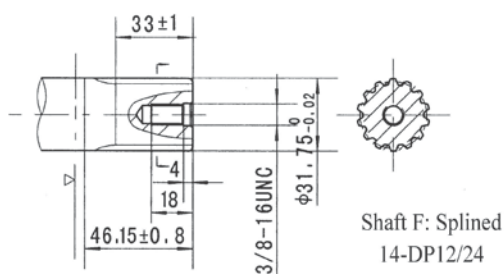
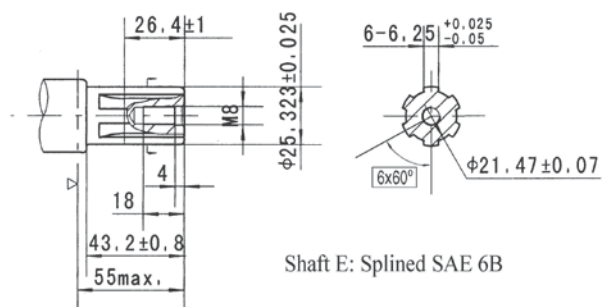
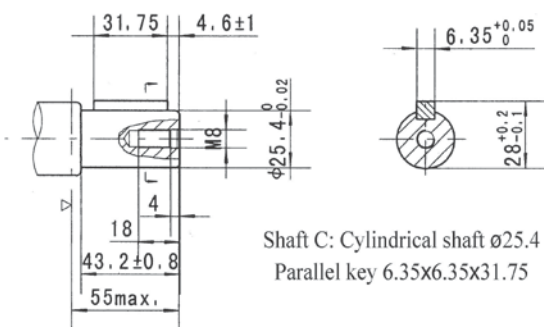
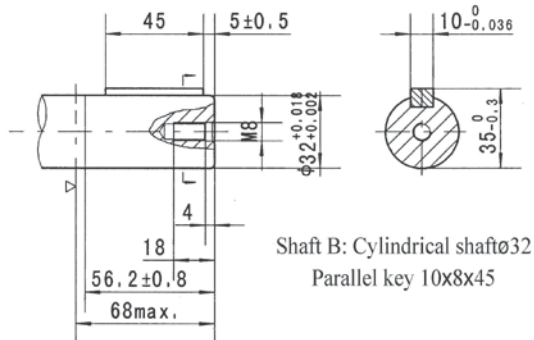
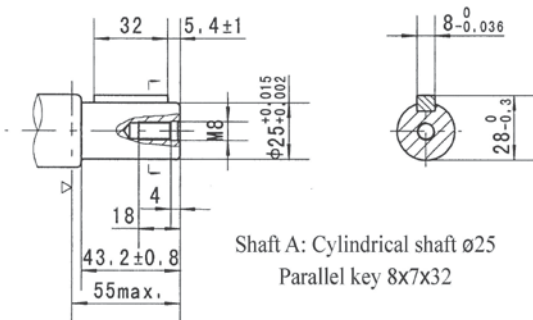


Model	L	L1
BMPH36	141	7
BMPH50	141	7
BMPH80	144.5	10.5
BMPH100	147	13
BMPH125	150	16
BMPH160	155	21
BMPH200	160	26
BMPH250	166	32
BMPH315	176	42
BMPH400	186	52
BMPH500	199	65

Mounting	Code						
	G (depth)	S (depth)	P (depth)	T (depth)	R (depth)	B4 (depth)	B5 (depth)
P(A,B)	G1/2 (15)	7/8-14 O-ring (17)	1/2-14NPTF (15)	3/4-16 O-ring (15)	PT(RC)1/2 (15)	ø10	ø10
T	G1/4 (12)	7/16-20UNF (12)	7/16-20UNF (12)	7/16-20UNF(12)	PT(RC)1/4 (9.7)	7/16-20UNF(12)	G1/4(12)
C	-	-	-	-	-	4-5/16-18UNC(13)	4-M8(13)



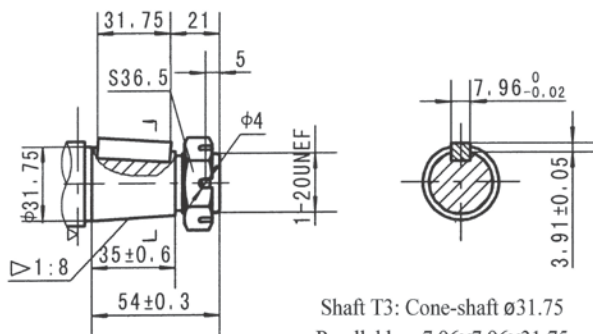
BMP SHAFT EXTENSIONS DIMENSIONS DATA



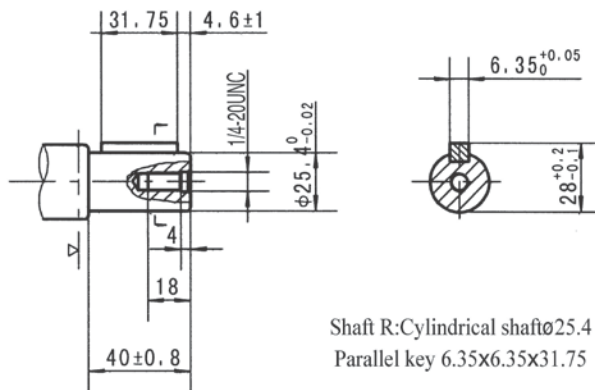
▷ Motor Mounting Surface



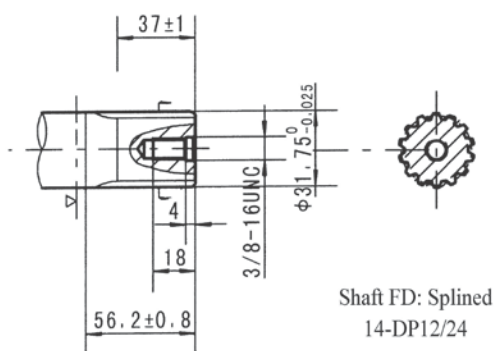
BMP SHAFT EXTENSIONS DIMENSIONS DATA



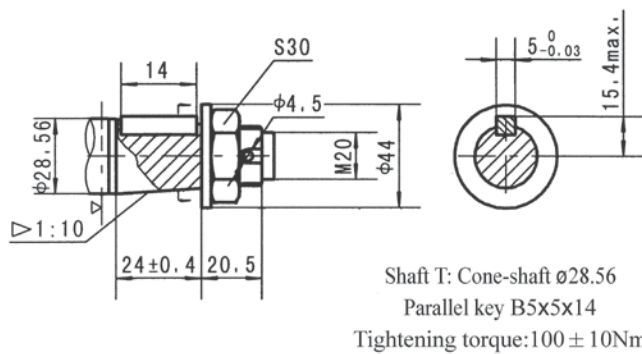
Shaft T3: Cone-shaft $\phi 31.75$
 Parallel key $7.96 \times 7.96 \times 31.75$
 Tightening torque: $200 \pm 10 \text{ Nm}$



Shaft R: Cylindrical shaft $\phi 25.4$
 Parallel key $6.35 \times 6.35 \times 31.75$



Shaft FD: Splined
 14-DP12/24

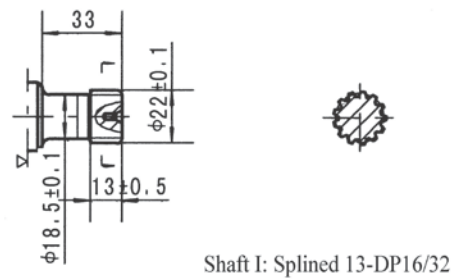
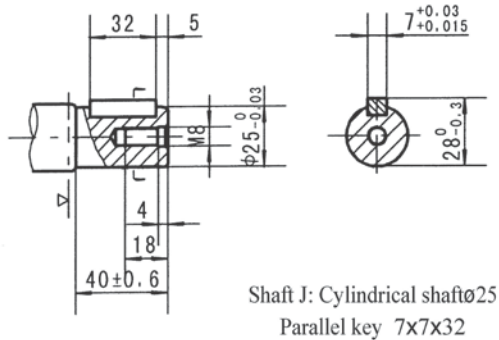
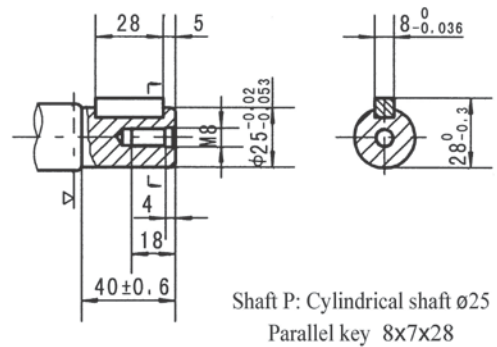
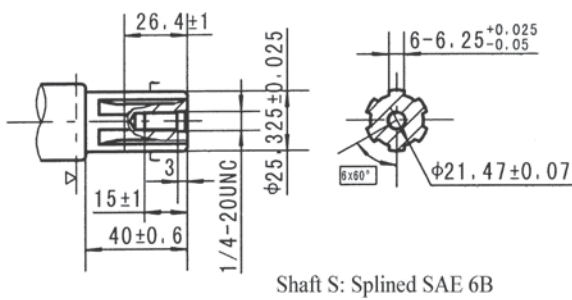
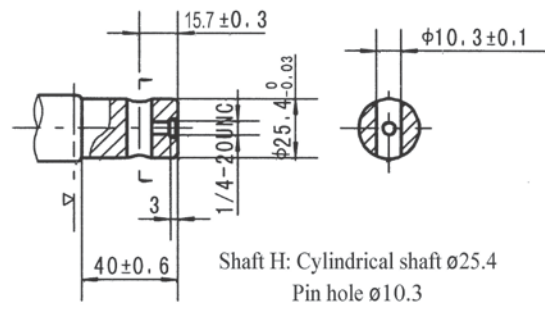
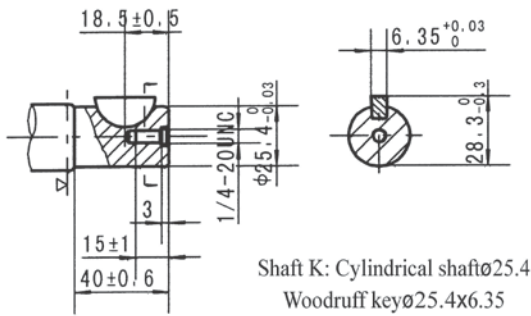


Shaft T: Cone-shaft $\phi 28.56$
 Parallel key $B5 \times 5 \times 14$
 Tightening torque: $100 \pm 10 \text{ Nm}$

▷ Motor Mounting Surface



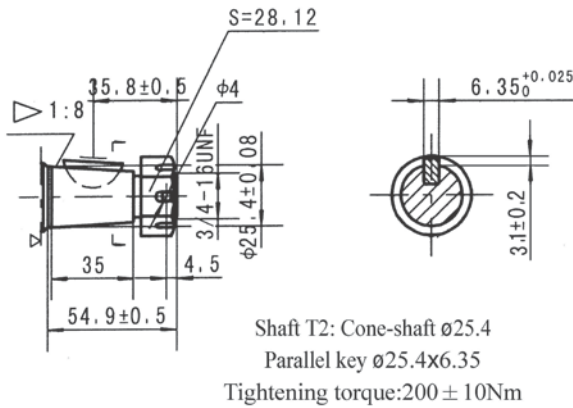
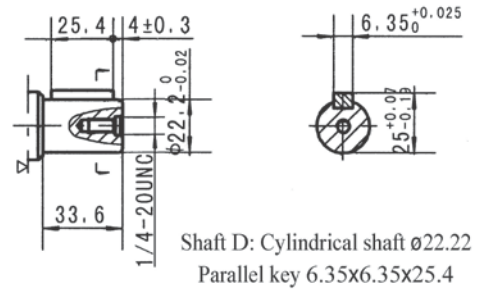
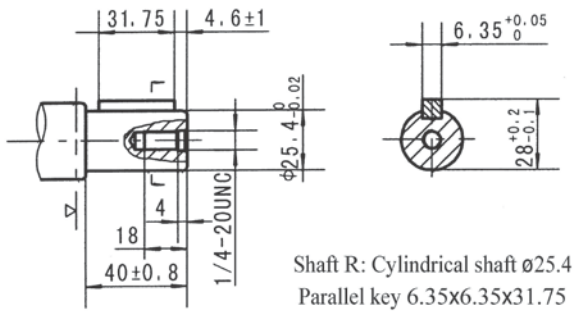
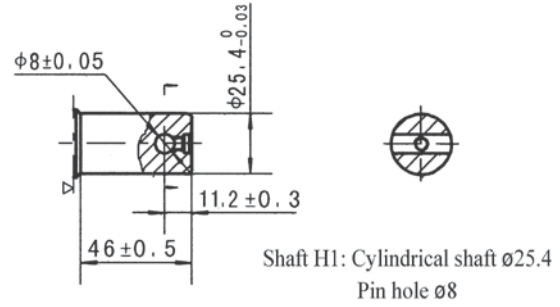
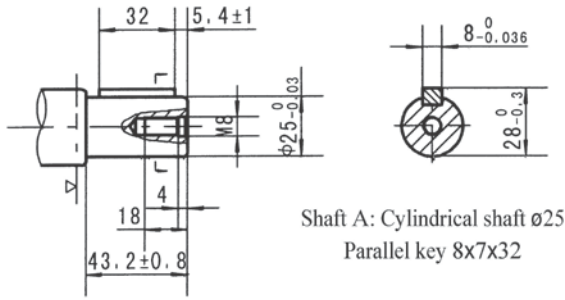
BMPH SHAFT EXTENSIONS DIMENSIONS DATA



▷ Motor Mounting Surface



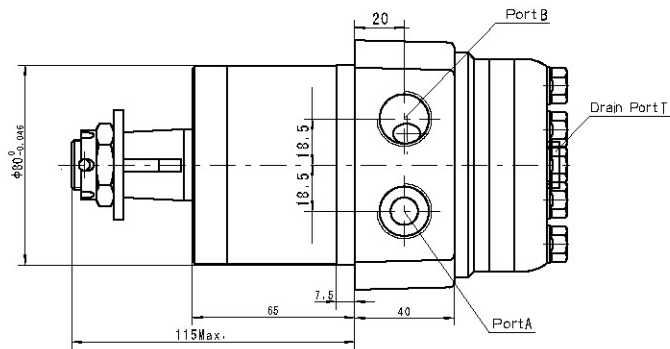
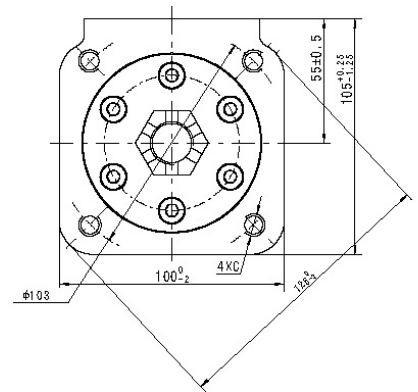
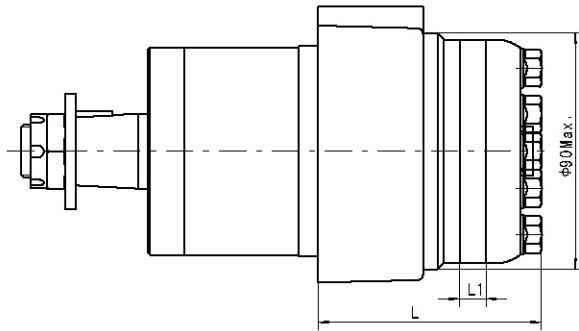
BMPH SHAFT EXTENSIONS DIMENSIONS DATA



▷ Motor Mounting Surface



BMPW DIMENSIONS & MOUNTING DATA



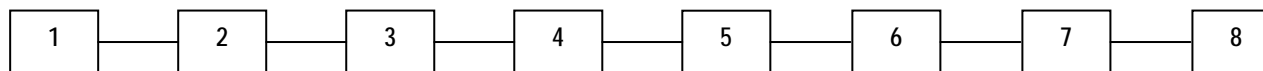
Model	L	L1
BMPW50	81	7
BMPW80	84.5	10.5
BMPW100	87	13
BMPW125	90	16
BMPW160	95	21
BMPW200	100	26
BMPW250	106	32
BMPW315	116	42
BMPW400	126	52
BMPW500	139	65

Code	G (depth)	S (depth)	M (depth)
P(A,B)	G1/2 (15)	7/8-14 O-ring (17)	M22x1.5 (15)
T	G1/4 (12)	7/16-20UNF (12)	M14x1.5 (12)
C	4xM10(20)	4x3/8-16UNC(20)	4xM10(20)



BMPW

ORDER INFORMATION

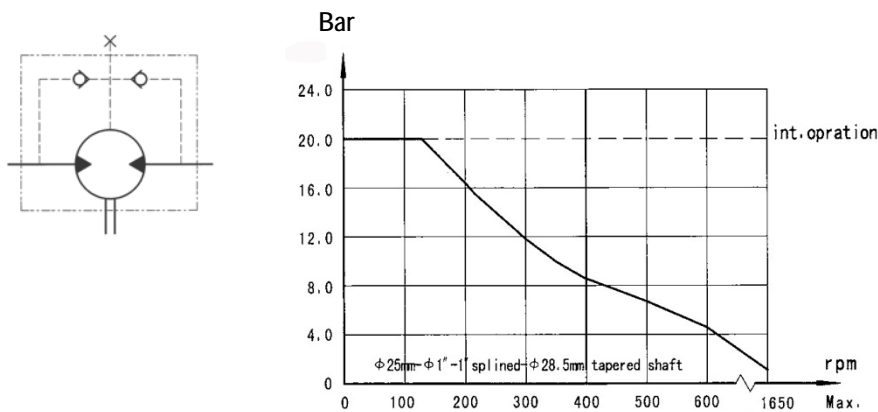


1	2	3		4		5		6		7		8	
Code	Disp	Flange		Output Shaft		Main Port & Drain Port		Rotation Direction		Paint		Special Function	
BMPW	50	Omit	Wheel-Flange Pilot Ø80x7.5	A	Shaft Ø25k6, Parallel Key 8x7x32	G	G1/2, G1/4	Omit R	Standard Opposite	00 Omit B S	No Paint Blue Black Silver Grey	Omit N O	Standard High radial force No case drain
	80			C	Shaft Ø25.4, Parallel Key 6.35x6.35x31.75	S	7/8-14 Oring, 7/16-20UNF						
	100			E	Shaft Ø25.4, Splined Key SAE 6B	M	M22x1.5, M14x1.5						
	125			T	Cone Shaft Ø28.56, Parallel Key B5x5x14								
	160												
200													
250													
315													
400													
500													



BMP, BMPH, BMPW SERIES HYDRAULIC MOTOR

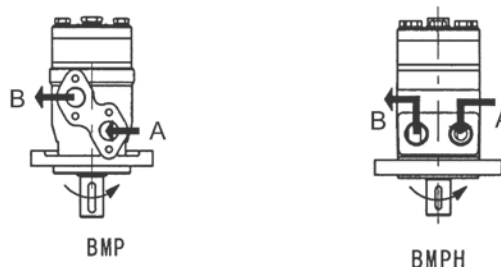
PERMISSIBLE SHAFT SEAL PRESSURE



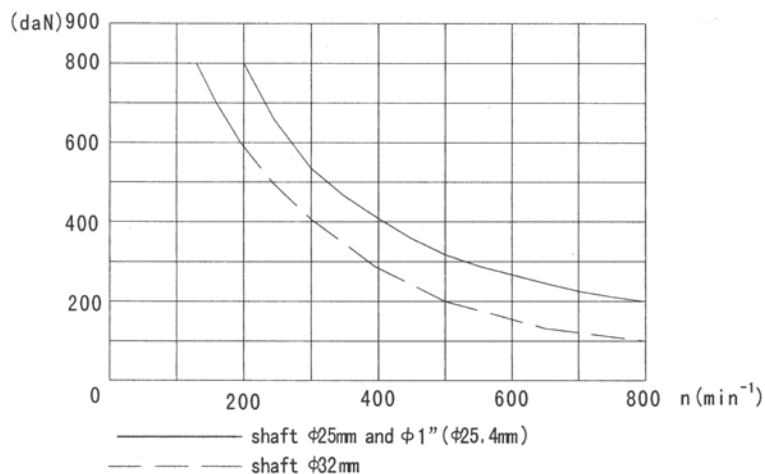
In applications without drain line, the shaft seal pressure is equal to the pressure in the return line.
When applications use the drain line, the pressure behind the output shaft seal equals the pressure in drain line.

DIRECTION OF SHAFT ROTATION

When facing shaft end of motor, shaft to rotate:
Clockwise when Port "A" is pressurised
Counter-clockwise Port "B" is pressurised



STATUS OF THE SHAFT'S RADIAL FORCE



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

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

REN-TEK

ORDER INFORMATION



1	2	3	4	5	6	7	8						
Code	Disp.	Flange	Output Shaft	Port & Drain Port	Rotation Direction	Paint	Unusual Function						
BMP	36	2 4 H4 H5	2-Ø13.5 Rhomb-Flange, Pilot Ø82.5x8 4-Ø13.5 Rhomb-Flange, Pilot Ø82.5x8 4-3/8-16 Square-Flange, Pilot Ø44.4x2.8 4-M10 Square-Flange, Pilot Ø44.4x2.8	A	Shaft Ø25, Parallel Key 8x7x32	D	G1/2 Manifold Mount 4xM8, G1/4	Omit R	Standard Opposite	00 Omit B S	No Paint Blue Black Silver Grey	Omit N AX O F LS	Standard Large Radial Force Large Axial Force No Case Drain Free Running Low Speed
	50			B	Shaft Ø32, Parallel Key 10x8x45	M	M22x1.5 Manifold Mount 4xM8, M14x1.5						
	80			C	Shaft Ø25.4, Parallel Key 6.35x6.35x31.75	E	Shaft Ø25, Splined Tooth SEA 6B						
	100			R	Short shaft Ø25.4, Parallel Key 6.35x6.35x31.75	S	7/8-14 O-Ring Manifold 4x5/16-18UNC, 7/16-20UNF						
	125			F	Shaft Ø31.75, Splined Tooth 14-DP12/24	P	1/2-14 NPFT Manifold 4x5/16-18UNC, 7/16-20UNF						
	160			FD	Long Shaft Ø31.75, Splined Tooth 14-DP12/24	R	PT(Rc)1/2 Manifold 4xM8,PT(Rc)1/4						
	200			G	Shaft Ø31.75, Parallel Key 7.96x7.96x31.75								
	250			T	Cone Shaft Ø28.56, Parallel Key B5x5x14								
	315			T3	Cone Shaft Ø31.75, Parallel Key 7.96x7.96x25.4								
	400												
	500												

1	2	3	4	5	6	7	8						
Code	Disp.	Flange	Output Shaft	Port & Drain Port	Rotation Direction	Paint	Unusual Function						
BMPH	36	H2 H4 H4 H5	2-Ø13.5 Rhomb-Flange, Pilot Ø82.5x2.8 4-Ø13.5 Rhomb-Flange, Pilot Ø82.5x2.8 4-3/8-16 Square-Flange, Pilot Ø44.4x2.8 4-M10 Square-Flange, Pilot Ø44.4x2.8	K	Shaft Ø25.4, Woodruff Key Ø25.4x6.35	G	G1/2 G1/4	Omit R	Standard Opposite	00 Omit B S	No Paint Blue Black Silver Grey	Omit N AX O F LS	Standard Large Radial Force Large Axial Force No Case Drain Free Running Low Speed
	50			S	Shaft Ø25.4, Splined Tooth SEA 6B	S	7/8-14 O-Ring 7/16-20UNF (G1/4)						
	80			A	Shaft Ø25, Parallel Key 8x7x32	P	1/2-14 NPTF, 7/16-20UNF (G1/4)						
	100			R	Shaft Ø25.4, Parallel Key 6.35x6.35x31.75	T	3/4-16 O-Ring, 7/16-20UNF						
	125			H	Shaft Ø25.4, Pin Hold Ø10.3	R	PT(Rc)1/2 PT(Rc)1/4						
	160			H1	Shaft Ø25.4, Pin Hole Ø8	B4	Ø10 O-Ring Manifold 4x5/16-18UNC, 7/16-20UNF(G1/4)						
	200			D	Shaft Ø22.22, Parallel Key 6.35x6.35x25.4	B5	Ø10 O-Ring Manifold 4xM8 7/16-20UNF(G1/4)						
	250			I	Shaft Ø22.22, Splined Tooth 13-DP16/32								
	315			T2	Cone Shaft Ø25.4, Woodruff Key Ø25.4x6.35								
	400			P	Shaft Ø25, Parallel Key 8x7x28								
	500			J	Shaft Ø25, Parallel Key 7x7x32								



BMR SERIES HYDRAULIC MOTOR

BMR Series motors are medium speed high torque motors designed on an internal gear design consisting of a rotor and stator. These motors are suitable for long operating periods at moderate pressures.

Characteristic Features:

- Advanced manufacturing design for the Geroler gear set, which provide high starting torque, high efficiency and long life
- Motors have high pressure shaft seals which can be used in Parallel or Series
- Smooth running over the entire speed range

Main Specifications

Type	BMR & BMRS										
	36	50	80	100	125	160	200	250	315	375	
Geometric Displacement (cm ³ /rev.)	36	51.3	80.6	100.8	124.9	157.2	199.2	252	314.5	370	
Max. Speed (rpm)	Cont.	1085	755	750	600	475	375	300	240	190	160
	Int.	1220	970	940	750	600	470	375	300	240	200
Max. Torque (Nm)	Rated	69	100	160	200	250	320	330	352	360	420
	Cont.	69	100	190	240	292	363	358	352	360	420
	Int.	88	126	220	280	340	430	448	470	470	548
Max. Output (kW)	Rated	7.5	7.7	12.3	12.3	12.0	12.3	10	9	7	6.5
	Cont.	7.5	7.7	15	15	14	14	11	9	7	8.6
	Int.	9.4	9.7	17	17	16	16	14	12	9	12
Max. Pressure Drop (Bar)	Rated	140	140	140	140	140	140	120	110	85	85
	Cont.	140	140	175	175	175	165	130	110	85	85
	Int.	175	175	200	200	200	200	175	140	115	115
Max. Flow (L/min)	Cont.	40	40	60	60	60	60	60	60	60	60
	Int.	50	50	75	75	75	75	75	75	75	75
Weight (kg)	6.7	6.7	6.9	6.9	7.2	7.5	8.0	8.5	9	9.3	

- Rated Speed & 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 seconds per minute

REN-TEK

PERFORMANCE DATA

BMR50 [51.3cm³/rev.]

		Pressure (Bar)							
		50	70	90	100	Max.Cont.		Max.Int.	
Flow (L/min)	5	35	45	61	67	77	88		
		95	84	76	73	69	46		
	10	36	46	62	69	80	95	108	120
		184	176	165	162	150	130	111	84
	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	308	276
	25	34	45	61	69	81	96	109	126
	476	468	460	453	438	423	395	361	
30	33	44	60	67	80	95	108	126	
	576	569	561	554	542	531	500	465	
35	31	42	59	66	80	93	107	124	
	669	665	657	654	638	623	598	561	
Max. Cont.	40	30	41	58	66	79	92	106	122
		760	758	753	750	738	724	700	670
Max. Int.	45	29.5	40	57	65	78	90	105	121
		856	856	850	845	835	815	799	780



BMR80 [80.6cm³/rev.]

		Pressure (Bar)							
		50	70	90	100	Max.Cont.		Max.Int.	
Flow (L/min)	10	55	77	98	107	130	149	170	180
		115	109	106	101	91	75	53	45
	20	50	81.6	105	118	132	160	178	189
		239	235	227	224	209	196	172	160
	30	48	74	97	114	131	150	179	190
		364	360	357	345	332	321	300	284
	40	45	71	95	105	128	149	177	188
		488	483	475	472	460	447	420	408
	50	42	70	90	98	125	147	171	187
	619	615	607	598	593	568	547	535	
60	38	63	85	95	118	142	169	185	
	740	725	721	715	707	688	667	657	
Max. Cont.	70	36	58	80	89	112	139	164	179
		860	853	839	837	823	811	790	776
Max. Int.	75	29	56	77	85	110	133	161	177
		925	915	910	899	888	871	853	837

BMR100 [100.8cm³/rev.]

		Pressure (Bar)							
		50	70	90	100	Max.Cont.		Max.Int.	
Flow (L/min)	10	70	100	122	138	159	182	210	222
		99	95	87	84	74	63	52	44
	20	68	95	123	143	165	200	221	238
		199	194	188	182	175	162	150	138
	30	62	94	121	140	164	194	220	240
		299	294	288	284	278	263	249	236
	40	59	88	119	134	161	192	218	238
		400	398	387	385	380	366	350	336
	50	55	83	117	125	157	185	217	235
	498	496	488	484	475	464	450	436	
60	48	79	110	119	152	180	214	233	
	599	595	587	585	579	569	552	538	
Max. Cont.	70	43	70	100	112	142	170	201	229
		699	693	687	683	679	668	648	636
Max. Int.	75	39	63	97	105	140	167	197	227
		748	741	737	735	720	713	697	686

BMR125 [124.9cm³/rev.]

		Pressure (Bar)							
		50	70	90	100	Max.Cont.		Max.Int.	
Flow (L/min)	10	90	122	160	173	205	237	258	270
		73	71	66	63	55	42	23	14
	20	85	118	159	172	208	250	278	292
		154	152	150	145	138	123	109	91
	30	82	107	158	164	206	241	277	291
		237	236	233	226	219	207	192	170
	40	79	105	150	161	204	238	275	289
		315	313	309	307	302	297	272	254
	50	75	96	145	160	198	236	262	282
	398	397	395	391	381	368	353	337	
60	62	95	139	158	183	222	254	279	
	475	473	471	470	463	450	427	416	
Max. Cont.	70	59	83	125	150	178	212	250	262
		554	553	551	550	546	538	514	500
Max. Int.	75	56	80	122	145	172	205	245	261
		598	597	593	590	586	577	551	537

Cont
Int.

Torque (Nm) 167
Speed (rpm) 713

PERFORMANCE



BMR160 [157.2cm³/rev.]

Pressure (Bar)

				Max.Cont.		Max.Int.	
50	70	90	100	120	140	160	175

Flow (L/min)	10	115 58	160 55	203 52	220 50	260 44	300 38	340 34	362 26
	20	114 119	160 115	205 111	230 108	265 103	320 95	355 84	380 76
30	105 184	158 181	202 177	221 172	261 165	305 153	344 134	378 130	
40	100 246	145 244	196 239	218 237	257 230	299 218	340 199	374 184	
50	90 307	140 305	190 302	209 300	250 292	295 280	336 262	366 244	
60	84 370	136 368	180 364	199 362	240 355	286 342	330 334	360 304	
Max. Cont.	70	65 435	120 434	164 430	180 427	223 416	280 405	320 335	350 366
Max. Int.	75	59 465	116 462	158 458	175 456	220 447	272 433	314 416	342 395

BMR200 [199.2cm³/rev.]

Pressure (Bar)

				Max.Cont.		Max.Int.	
50	70	90	105	120	140	175	

Flow (L/min)	10	148 49	205 47	255 45	290 43	327 40	370 30	442 24
	20	140 99	202 97	250 93	323 90	330 86	411 78	448 65
30	130 149	193 146	241 140	307 136	325 131	377 122	445 105	
40	125 200	186 197	232 192	305 188	313 181	390 170	436 149	
50	120 250	177 247	225 242	295 238	305 231	382 218	427 193	
60	110 300	166 298	221 291	285 287	292 282	372 268	419 236	
Max. Cont.	70	98 350	150 347	205 342	244 338	278 331	331 318	410 282
Max. Int.	75	85 375	141 372	199 366	235 362	268 357	323 343	400 310

BMR250 [252cm³/rev.]

Pressure (Bar)

				Max.Cont.		Max.Int.	
30	50	70	80	100	110	140	175

Flow (L/min)	10	115 40	180 38	251 37	295 35	350 32	380 30	470 22	535 16
	20	110 79	178 78	252 75	294 74	352 70	385 68	470 57	548 48
30	100 120	170 119	248 117	285 116	348 110	381 107	469 95	545 79	
40	91 158	159 157	232 156	268 154	332 151	366 148	460 130	530 110	
50	81 200	148 198	216 196	252 195	320 163	352 160	453 152	521 147	
60	75 241	132 240	201 239	235 237	305 232	340 228	433 210	505 180	
Max. Cont.	70	50 280	117 279	189 277	220 276	290 271	320 268	412 250	495 215
Max. Int.	75	42 300	105 299	180 298	211 297	281 295	310 289	405 272	486 239

BMR315 [314.5cm³/rev.]

Pressure (Bar)

				Max.Cont.		Max.Int.	
30	50	65	80	90	130	135	

Flow (L/min)	10	135 31	215 29	279 28	343 27	383 27	515 24	550 22
	20	133 62	216 61	289 60	349 58	380 57	508 52	552 50
30	125 95	205 92	275 91	341 90	375 88	494 81	543 79	
40	113 123	195 121	267 120	335 118	367 117	485 106	526 104	
50	92 155	170 154	253 152	321 149	352 147	474 137	511 133	
60	80 190	160 187	231 193	305 179	334 176	458 163	492 157	
Max. Cont.	70	57 222	136 220	215 217	285 212	320 208	444 192	480 185
Max. Int.	75	55 235	124 234	205 231	269 227	308 225	427 408	469 201

Torque (Nm) 205
Speed (rpm) 231

Cont
Int.

REN-TEK

PERFORMANCE



BMR375 [370cm³/rev.]

Pressure (Bar)

Max.Cont.

Max.Int.

30	50	65	80	90	130	135
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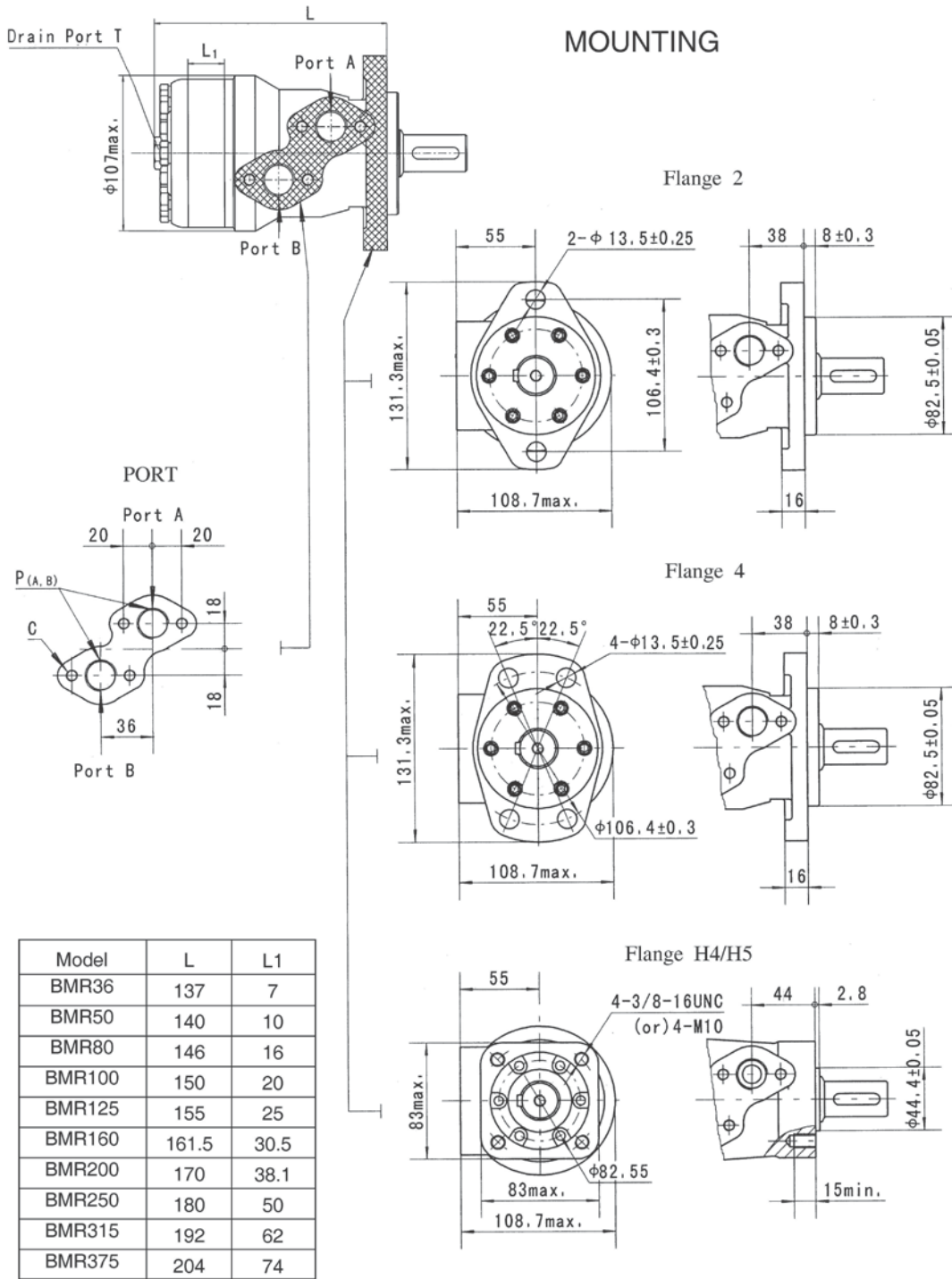
Flow (L/min)	10	160 26	270 25	340 24	420 22	470 21	550 19	610 17
	20	159 53	260 52	340 51	410 49	470 47	540 42	605 37
	30	150 79	255 78	330 77	400 75	450 73	530 67	600 60
	40	135 106	240 105	310 104	375 102	430 99	520 93	590 85
	50	120 134	230 132	295 131	360 129	420 126	505 120	570 110
	60	98 159	210 158	275 157	340 155	390 153	490 147	550 135
	Max. Cont.	75 187	175 186	250 185	320 183	370 180	465 175	530 160
	Max. Int.	75 200	160 199	230 198	310 195	360 192	450 187	515 178

Cont
Int.

Torque (Nm) 230
Speed (rpm) 198



BMR DIMENSIONS AND MOUNTING DATA

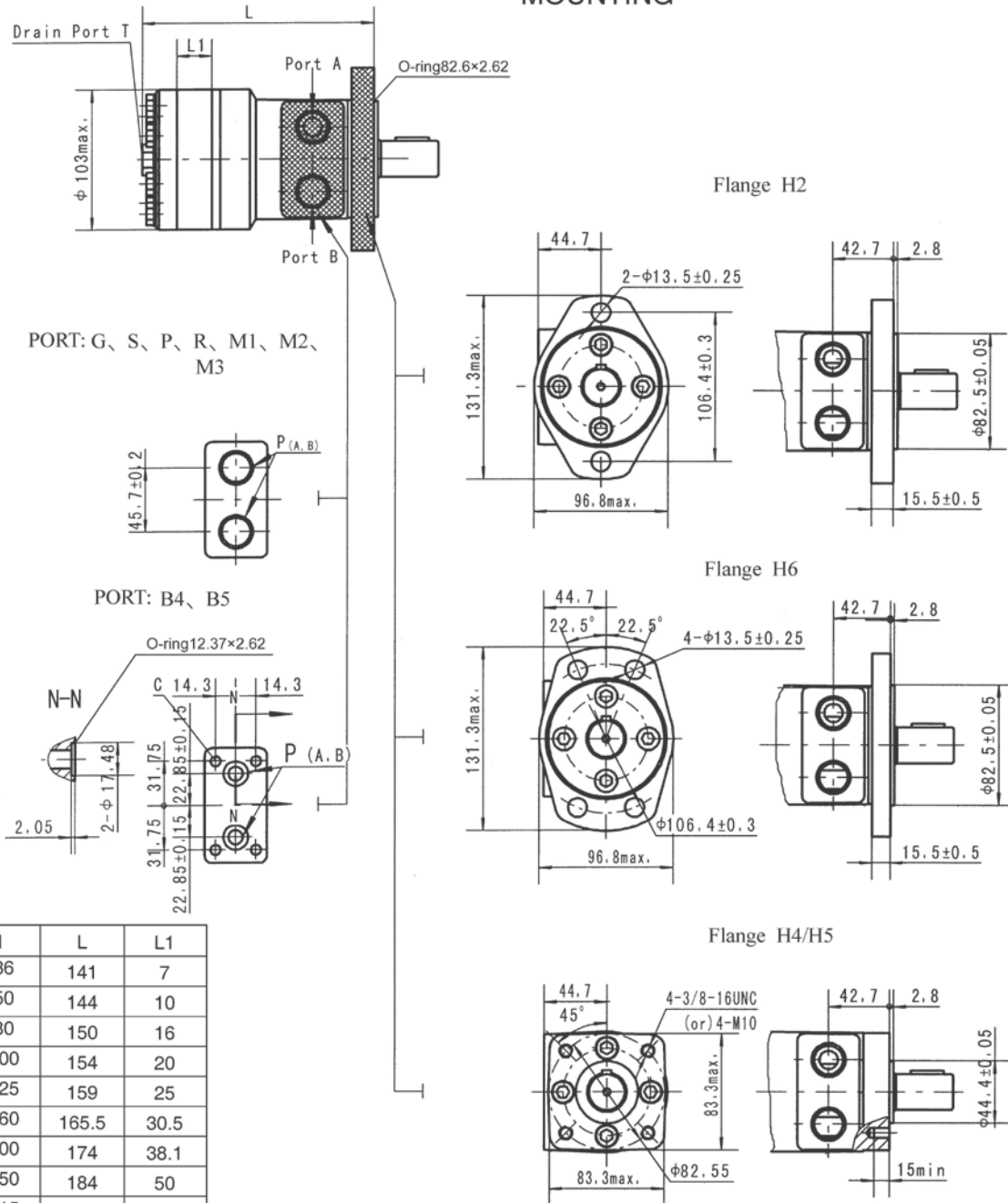


Code	D (depth)	M (depth)	S (depth)	P (depth)	R (depth)
P(A,B)	G1/2 (15)	M22 x 1.5 (15)	7/8-14 O-ring (17)	1/2-14NPTF (15)	PT(RC)1/2 (15)
C	4-M8 (13)	4-M8 (13)	4-5/16-18UNC(13)	4-5/16-18UNC(13)	4-M8 (13)
T	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF (12)	7/16-20UNF (12)	PT(RC)1/4 (9.7)



BMRS DIMENSIONS AND MOUNTING DATA

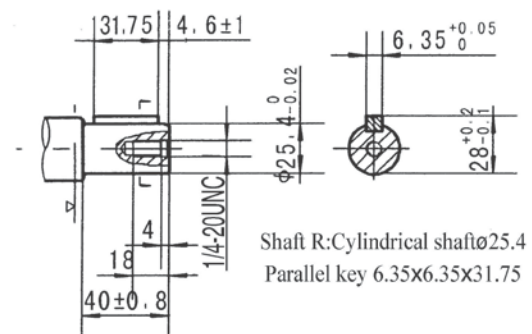
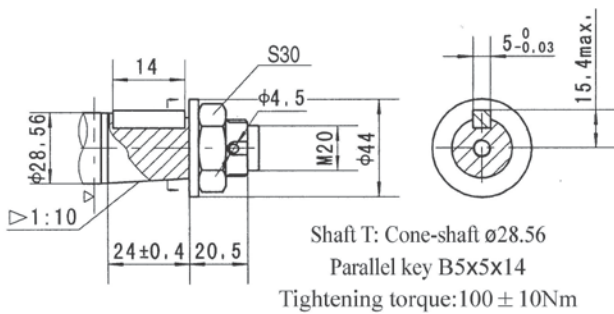
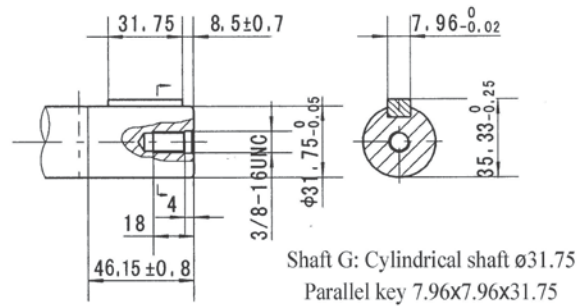
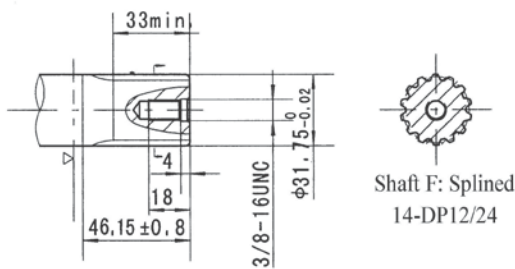
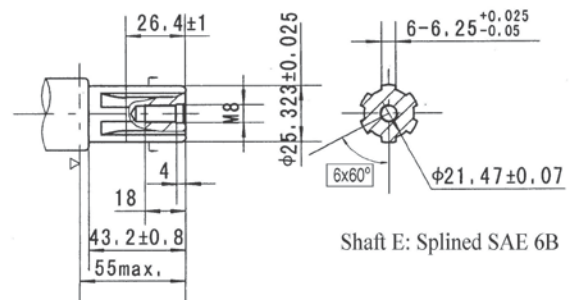
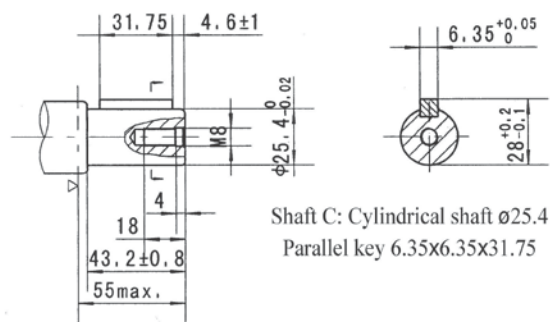
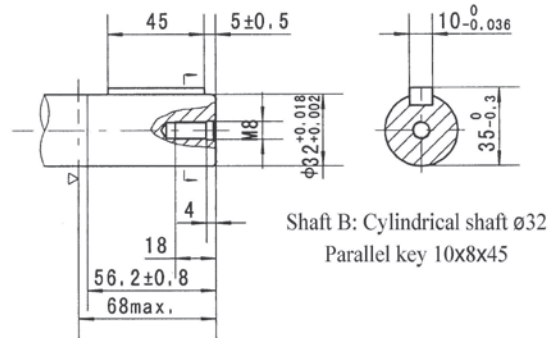
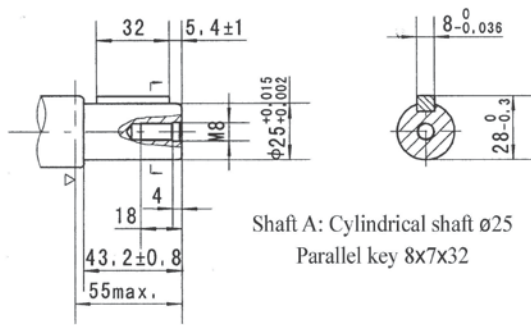
MOUNTING



Code	G (depth)	S (depth)	P (depth)	R (depth)	M1 (depth)	M2 (depth)	M3 (depth)	B4 (depth)	B5 (depth)
P(A,B)	G1/2 (15)	7/8-14 O-ring (17)	1/2-14NPTF (15)	PT(RC)1/2 (15)	M18 x 1.5 (15)	M20 x 1.5 (15)	M22 x 1.5 (15)	ø10	ø10
T	G1/4 (12)	7/16-20UNF (12)	7/16-20UNF (12)	PT(RC)1/4 (9.7)	M10 x 1 (12)	M10 x 1 (12)	M10 x 1 (12)	7/16-20UNF(12)	G1/4(12)
C	-	-	-	-	-	-	-	4-5/16-18UNC(13)	4-M8(13)



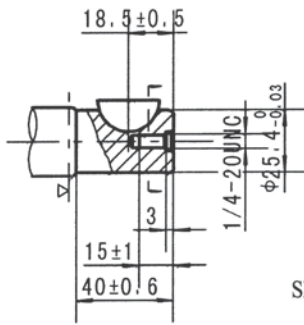
BMR SHAFT EXTENSIONS DIMENSIONS DATA



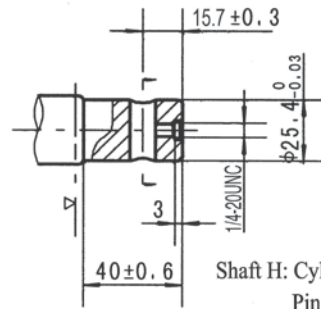
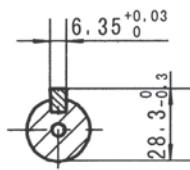
▷ Motor Mounting Surface



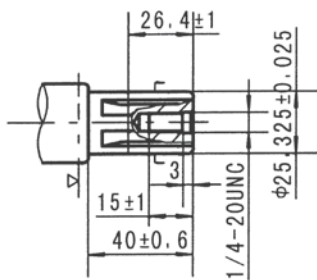
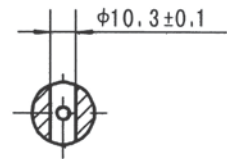
BMRS SHAFT EXTENSIONS DIMENSIONS DATA



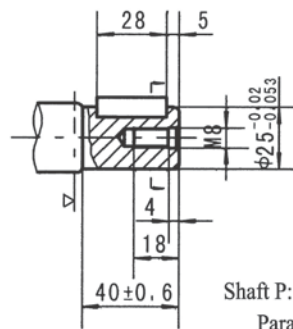
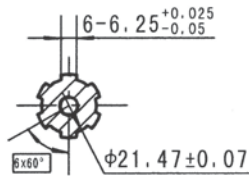
Shaft K: Cylindrical shaft $\phi 25.4$
Woodruff key $\phi 25.4 \times 6.35$



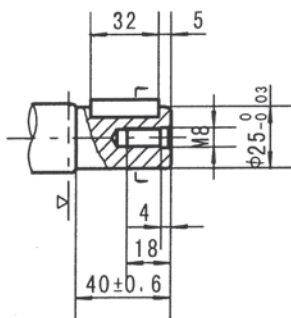
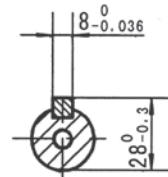
Shaft H: Cylindrical shaft $\phi 25.4$
Pin hole $\phi 10.3$



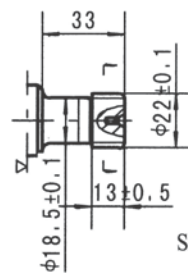
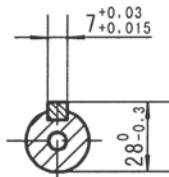
Shaft S: Splined SAE 6B



Shaft P: Cylindrical shaft $\phi 25$
Parallel key $8 \times 7 \times 28$



Shaft J: Cylindrical shaft $\phi 25$
Parallel key $7 \times 7 \times 32$



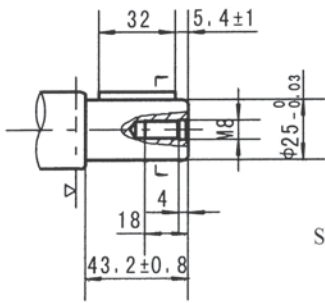
Shaft I: Splined 13-DP16/32



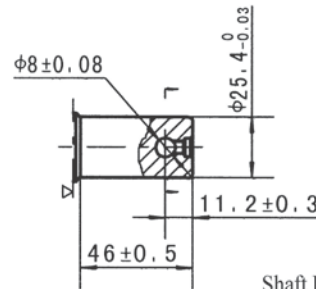
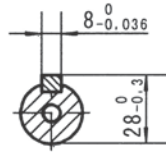
▷ Motor Mounting Surface



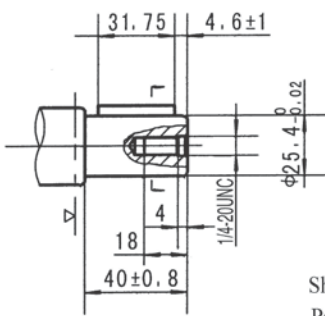
BMRS SHAFT EXTENSIONS DIMENSIONS DATA



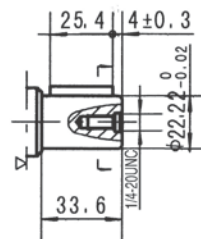
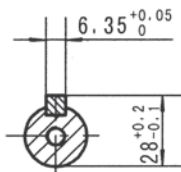
Shaft A: Cylindrical shaft Ø25
Parallel key 8x7x32



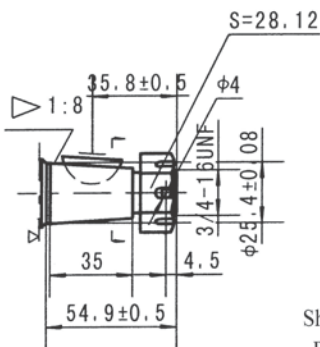
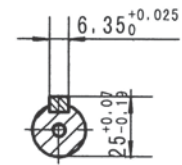
Shaft H1: Cylindrical shaft Ø25.4
Pin hole Ø8



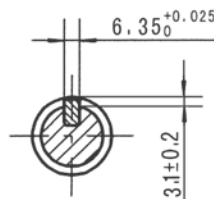
Shaft R: Cylindrical shaft Ø25.4
Parallel key 6.35x6.35x31.75



Shaft D: Cylindrical shaft Ø22.22
Parallel key 6.35x6.35x25.4



Shaft T2: Cone-shaft Ø25.4
Parallel key Ø25.4x6.35
Tightening torque: 200 ± 10Nm

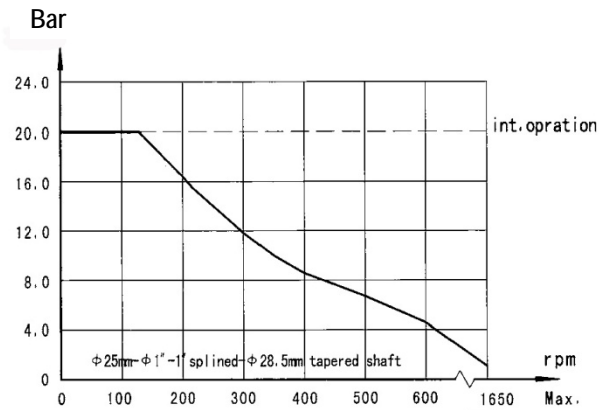
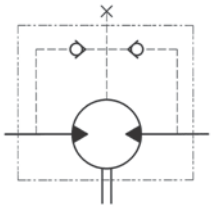


▷ Motor Mounting Surface



BMR, BMRS SERIES HYDRAULIC MOTOR

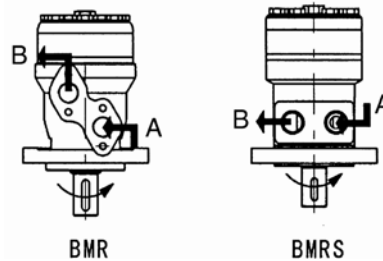
PERMISSIBLE SHAFT SEAL PRESSURE



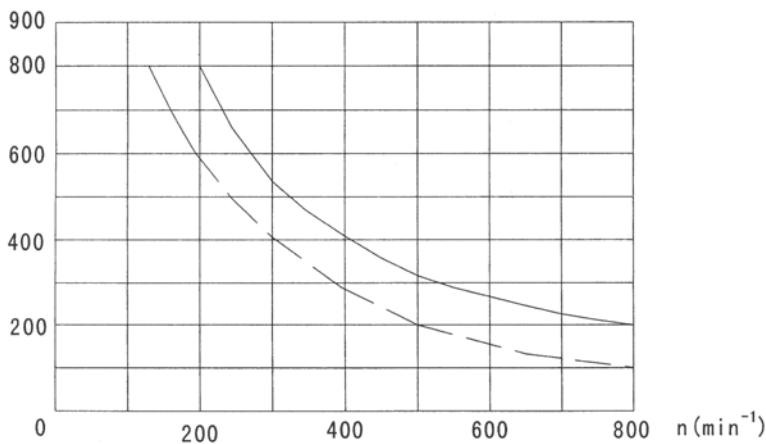
In applications without drain line, the shaft seal pressure is equal to the pressure in the return line.
When applications use the drain line, the pressure behind the output shaft seal equals the pressure in drain line.

DIRECTION OF SHAFT ROTATION

When facing shaft end of motor, shaft to rotate:
Clockwise when Port "A" is pressurised
Counter-clockwise Port "B" is pressurised



STATUS OF THE SHAFT'S RADIAL FORCE



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

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

— shaft ϕ25mm and ϕ1" (ϕ25.4mm)
- - - shaft ϕ32mm



ORDER INFORMATION

1	2	3	4	5	6	7	8				
Code	Disp.	Flange	Output Shaft	Port & Drain Port	Rotation Direction	Paint	Unusual Function				
BMR	36	2 4 H4 H5	2-Ø13.5 Rhomb-Flange, Pilot Ø82.5x8 4-Ø13.5 Rhomb-Flange, Pilot Ø82.5x8 4-3/8-16 Square-Flange, Pilot Ø44.4x2.8 4-M10 Square-Flange, Pilot Ø44.4x2.8	A Shaft Ø25, Parallel Key 8x7x32	D G1/2 Manifold Mount 4xM8, G1/4	Omit R	Standard Opposite	00 Omit B S	No Paint Blue Black Silver Grey	Omit N AX O F LS	Standard Large Radial Force Large Axial Force No Case Drain Free Running Low Speed
	50			B Shaft Ø32, Parallel Key 10x8x45	M M22x1.5 Manifold Mount 4xM8, M14x1.5						
	80			C Shaft Ø25.4, Parallel Key 6.35x6.35x31.75	S 7/8-14 O-Ring Manifold 4-5/16-18UNC, 7/16-20UNF						
	100			E Shaft Ø25, Splined Tooth SEA 6B	P 1/2-14 NPFT Manifold 4-5/16-18UNC, 7/16-20UNF						
	125			R Short shaft Ø25.4, Parallel Key 6.35x6.35x31.75	R PT(Rc)1/2 Manifold 4-M8,PT(Rc)1/4						
	160			F Shaft Ø31.75, Splined Tooth 14-DP12/24							
	200			FD Long Shaft Ø31.75, Splined Tooth 14-DP12/24							
	250			G Shaft Ø31.75, Parallel Key 7.96x7.96x31.75							
	315			T Cone Shaft Ø28.56, Parallel Key B5x5x14							
	400			T3 Cone Shaft Ø31.75, Parallel Key 7.96x7.96x25.4							

1	2	3	4	5	6	7	8				
Code	Disp.	Flange	Output Shaft	Port & Drain Port	Rotation Direction	Paint	Unusual Function				
BMRS	36	H2 H6 H4 H5	2-Ø13.5 Rhomb-Flange, Pilot Ø82.5x2.8 4-Ø13.5 Rhomb-Flange, Pilot Ø82.5x2.8 4-3/8-16 Square-Flange, Pilot Ø44.4x2.8 4-M10 Square-Flange, Pilot Ø44.4x2.8	K Shaft Ø25.4, Woodruff Key Ø25.4x6.35	D G1/2 Manifold Mount 4-M8, G1/4	Omit R	Standard Opposite	00 Omit B S	No Paint Blue Black Silver Grey	Omit N AX O F LS	Standard Large Radial Force Large Axial Force No Case Drain Free Running Low Speed
	50			S Sub-Shaft Ø25.4, Splined Tooth SAE 6B	M M22x1.5 Manifold Mount 4-M8,M14x1.5						
	80			A Shaft Ø25, Parallel Key 6.35x6.35x31.75	S 7/8-14 O-Ring Manifold 4-5/16-18UNC, 7/16-20UNF						
	100			R Shaft Ø25.4, Splined Tooth SAE 6B	P 1/2-14 NPTF Manifold 4-5/16-16-18UNC, 7/16-20UNF						
	125			H Short Shaft Ø25.4, Parallel Key 6.35x6.35x31.75	R PT(Rc)1/2 Manifold 4-M8, PT(Rc)1/4						
	160			H1 Shaft Ø31.75, Splined Tooth 14-DP12/24							
	200			D Long Shaft Ø31.75, Splined Tooth 14-DP12/24							
	250			I Shaft Ø31.75, Parallel Key 7.96x7.96x31.75							
	315			T2 Cone Shaft Ø28.56, Parallel Key B5x5x14							
	375			P							
				J							



BMH SERIES HYDRAULIC MOTOR

BMH Series motors are medium speed, high torque motors designed on an internal gear design consisting of a rotor and stator. These motors are suitable for long operating periods at moderate pressures.

Characteristic Features:

- Advanced manufacturing design of the Geroler gear set, which provide high starting torque, high efficiency and long life
- Motors have high pressure shaft seals which can be used in Parallel or Series
- Smooth running over the entire speed range

Main Specifications

Type		BMH				
		200	250	315	400	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	166
Max. Torque (Nm)	Cont.	510	621	740	850	830
	Int.	579	702	827	990	1040
	Peak	651	790	930	1092	1170
Max. Output (kW)	Cont.	16	16	14	12.5	11
	Int.	18.5	18.5	15.5	15	14
Max. Pressure Drop (Bar)	Cont.	175	175	175	155	125
	Int.	200	200	200	190	160
	Peak	225	225	225	210	180
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
BMH 200-500 (Bar)	Cont.	175	175
	Int.	200	200
	Peak	225	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 seconds per minute
- Technical data BMH with 35mm cylindrical, 1 ¼ in splined and 35mm tapered shaft

REN-TEK

PERFORMANCE DATA



BMH200 [203.2cm³/rev.]

Pressure (Bar)	Max.Cont					Max.Int.
	35	70	105	140	175	200

Flow (L/min)	Max.Cont						Max.Int.
	35	70	105	140	175	200	200
5	98 25	194 25	284 22				
10	101 43	204 41	301 36	391 29	482 14		
20	99 100	201 97	304 93	402 85	509 69	576 56	
30	97 145	197 143	300 139	402 130	510 114	579 101	
40	90 200	190 200	292 200	399 188	507 168	578 153	
50	82 248	183 246	284 244	392 235	500 213	571 199	
60	73 292	174 290	274 287	384 279	493 260	563 244	
70	63 352	163 350	264 349	374 338	481 318	554 301	
Max. Cont.	75	59 366	157 365	259 363	366 355	475 335	547 319
	80	53 381	150 381	253 380	358 371	466 352	538 338
Max. Int.	90	39 443	140 437	241 434	348 426	456 407	526 392

BMH250 [255.9cm³/rev.]

Pressure (Bar)	Max. Cont.					Max.Int.
	35	70	90	120	145	175

Flow (L/min)	Max. Cont.						Max.Int.	
	35	70	90	120	145	175	200	
5	121 19	246 19	318 18	398 14				
10	130 34	258 33	331 31	425 29	515 23	595 12		
20	130 78	258 77	332 76	432 73	520 65	621 53	702 42	
30	122 115	251 113	327 111	429 105	520 96	621 84	700 75	
40	115 157	240 157	323 156	422 150	513 139	616 127	698 114	
50	105 196	232 195	314 192	411 185	505 173	606 159	687 147	
60	94 232	220 230	302 226	401 218	496 206	596 192	676 180	
70	81.4 274	209 274	288 274	389 266	484 252	582 238	666 222	
Max. Cont.	75	72 290	203 289	280 287	381 279	475 266	574 251	659 236
	80	66 303	194 302	273 298	371 290	467 279	566 264	651 249
Max. Int.	90	49 348	178 347	256 345	355 337	453 325	552 309	634 292

REN-TEK

PERFORMANCE DATA



BMH315 [316.1cm³/rev.]

Pressure (Bar)					Max.Cont	Max.Int.	
	35	75	100	135	155	175	200

Flow (L/min)	5	155 16	325 13						
	10	163 27	342 24	454 18	556 14				
	20	169 63	349 61	469 55	582 48	664 40	733 32	809 19	
	30	165 93	344 89	470 82	580 77	669 67	740 59	824 46	
	40	154 126	337 126	465 119	577 111	663 99	737 88	827 73	
	50	141 159	325 155	455 148	568 139	656 126	728 115	824 98	
	60	121 187	312 186	440 179	555 169	643 154	715 143	812 124	
	70	103 222	298 222	425 215	541 205	631 187	703 176	800 157	
	Max. Cont.	75	94 236	287 233	417 224	529 215	623 196	696 184	792 166
	Max. Int.	80	82 246	277 244	406 236	518 228	611 210	688 197	784 174
	90	62 282	256 280	386 275	496 266	593 248	669 234	767 209	

BMH400 [406.4cm³/rev.]

Pressure (Bar)					Max. Cont.	Max.Int.	
	35	60	105	125	155	190	

Flow (L/min)	5	196 13	348 13	516 10					
	10	205 22	363 21	546 21	702 17	859 11			
	20	209 50	366 49	543 46	708 41	874 36	988 31		
	30	201 73	357 72	542 70	706 63	864 56	984 51		
	40	195 99	346 98	532 96	701 86	858 77	973 71		
	50	173 123	332 122	518 118	687 107	848 97	958 90		
	60	154 146	319 144	501 141	688 128	833 115	944 106		
	70	138 174	305 173	480 169	649 156	814 141	925 130		
	Max. Cont.	75	128 183	294 181	466 177	637 163	802 149	911 138	
	Max. Int.	80	113 192	277 191	451 188	621 174	786 158	899 144	
	90	90 220	256 220	433 215	595 202	767 183	881 165		

Torque (Nm) 593
Speed (rpm) 248

Cont
Int.



REN-TEK

PERFORMANCE DATA

BMH500 [500cm³/rev.]

Pressure (Bar) Max.Cont Max.Int.

25	50	85	100	125	160
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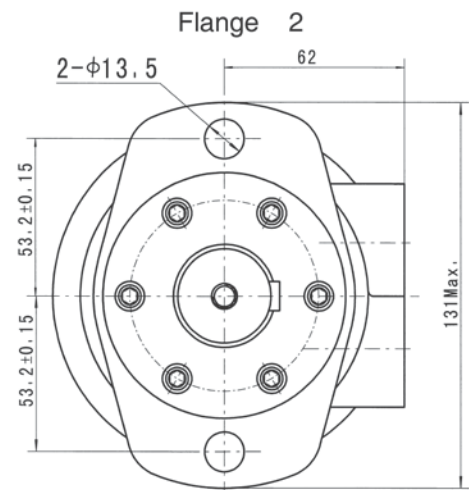
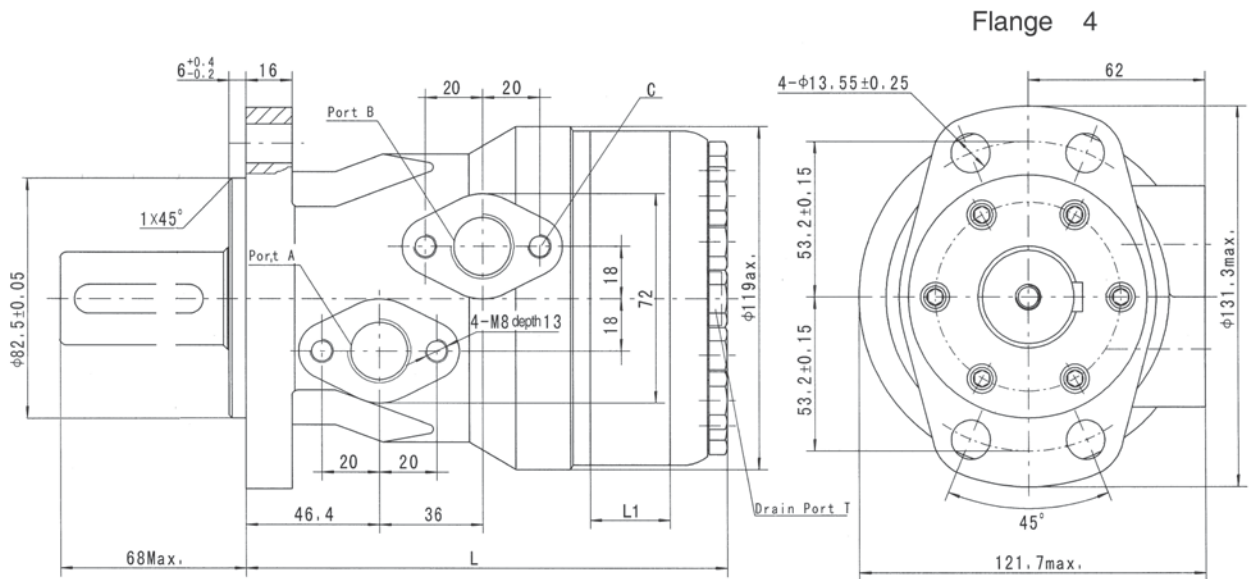
Flow (L/min)	5	165 11	317 11	516 8				
	10	178 20	335 19	555 17	669 15	791 13	969 9	
	20	177 42	331 42	559 41	673 38	799 36	988 29	
	30	172 64	320 63	553 61	663 57	792 53	983 47	
	40	163 85	309 85	541 83	654 79	783 75	971 67	
	50	146 103	296 103	523 103	635 97	768 93	954 85	
	60	121 124	275 124	502 123	614 117	747 113	934 103	
	70	97 148	256 148	482 148	597 140	729 134	917 122	
	Max. Cont.	75	79 155	240 155	469 155	582 152	714 144	902 130
		80	60 166	226 166	453 166	570 159	701 153	884 139
Max. Int.	90	34 166	201 165	421 164	550 157	673 156	869 155	

Torque (Nm) 673
Speed (rpm) 156

Cont
Int.



BMH DIMENSIONS AND MOUNTING DATA

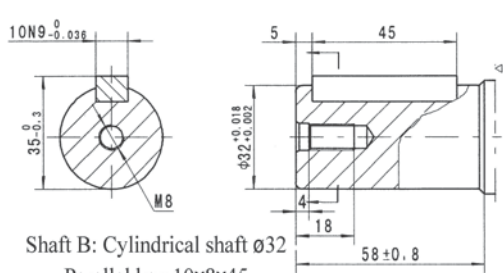


Model	L	L1
BMH-160	162	21
BMH-200	168	27
BMH-250	175	34
BMH-315	184	42
BMH-400	195	54
BMH-500	206	65

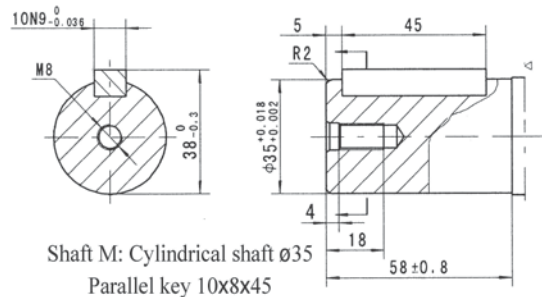
Code	D (depth)	M (depth)	S (depth)	P (depth)	R (depth)
P(A,B)	G1/2 (15)	M22 x 1.5 (15)	7/8-14 O-ring (15)	1/2-14NPTF (15)	PT(RC)1/2 (15)
C	4-M8 (13)	4-M8 (13)	4-M8 (13)	4-M8 (13)	4-M8 (13)
T	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF (12)	7/16-20UNF (12)	PT(RC)1/4 1/4



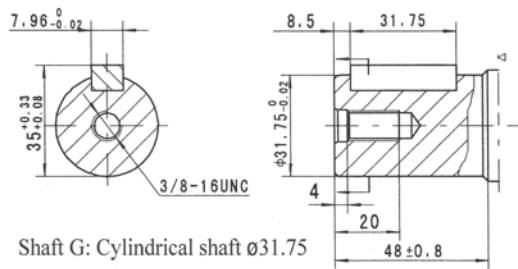
BMH SHAFT EXTENSIONS DIMENSIONS DATA



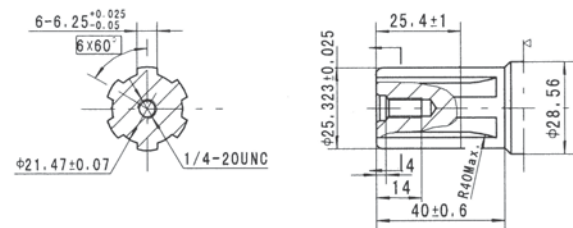
Shaft B: Cylindrical shaft $\phi 32$
Parallel key 10x8x45



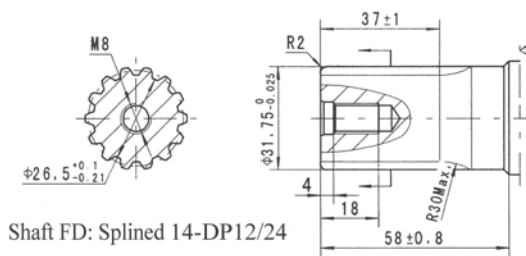
Shaft M: Cylindrical shaft $\phi 35$
Parallel key 10x8x45



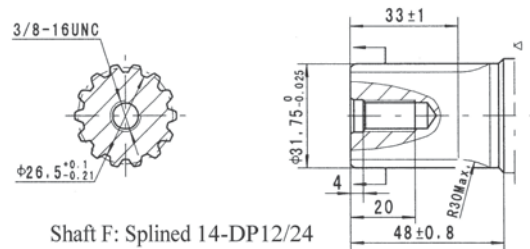
Shaft G: Cylindrical shaft $\phi 31.75$
Parallel key 7.96x7.96x31.75



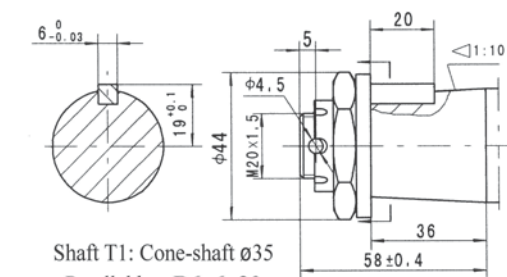
Shaft S: Splined SAE 6B



Shaft FD: Splined 14-DP12/24



Shaft F: Splined 14-DP12/24



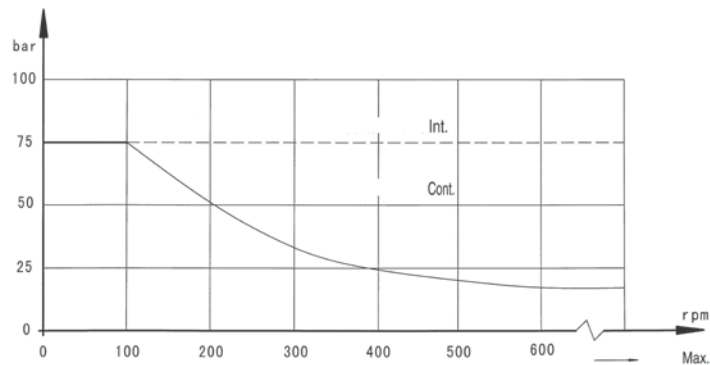
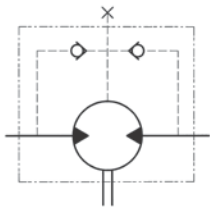
Shaft T1: Cone-shaft $\phi 35$
Parallel key B6x6x20
Tightening torque: 200 ± 10 Nxm



BMH SERIES HYDRAULIC MOTOR

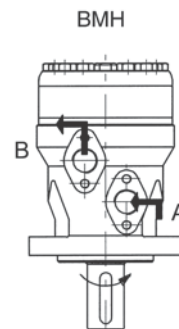
PERMISSIBLE SHAFT SEAL PRESSURE

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 pressurised
Counter-clockwise Port "B" is pressurised

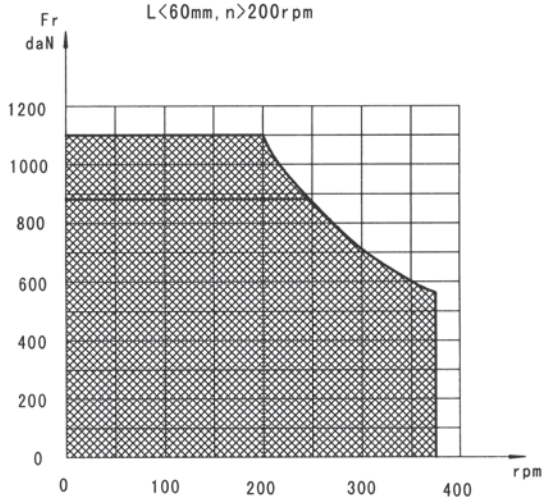


STATUS OF THE SHAFT'S RADIAL FORCE

Status of the shaft's radial force

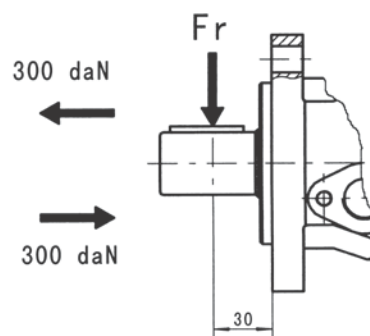
$$F_r = \frac{1100}{n} \times \frac{25000}{103.5+L} \text{ daN}$$

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



— 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)



ORDER INFORMATION

1	2	3	4	5	6	7	8						
Code	Disp.	Flange	Output Shaft	Port & Drain Port	Rotation Direction	Paint	Unusual Function						
BMH	160	2-Ø13.5 Rhomb-Flange, Pilot Ø82.5x8	B	Shaft Ø32, Parallel Key 10x8x45	D G1/2 Manifold Mount 4xM8, G1/4	Omit R	Standard Opposite	00 Omit B S	No Paint Blue Black Silver Grey	Omit O F LS	Standard No Drain Free Running Low Speed		
	200		M	Shaft Ø35, Parallel Key 10x8x45									
	250		F	Shaft Ø31.75, Splined Key 14-DP12/24									
	315		FD	Long Shaft Ø31.75, Splined Key 14-DP12/24									
	400		G	Shaft Ø32, Parallel Key 7.96x7.96x31.75									
	500		4	4-Ø13.5 Rhomb-Flange, Pilot Ø82.5x8								T1	Cone Shaft Ø35, Parallel Key B6x6x20
												S	Shaft Ø25.4, Parallel Key SAE 6B
												P	1/2-14 NPFT Manifold Mount 4xM8, 7/16-20UNF
												R	PT(Rc)1/2 Manifold Mount 4-M8,PT(Rc)1/4

BMJ SERIES HYDRAULIC MOTOR

BMJ series motors have an advanced Geroller gear set, designed to accommodate high speed flow and pressure. These units have good stability at low speed, keeping high volumetric efficiency.



Features

- Advanced design for the Geroller gear set, allowing low pressure start-up, provides smooth and reliable operation together with high efficiency
- Output shaft fitted with needle roller bearings permitting high axial and radial forces
- Advanced design in flow distribution automatically compensating resulting in high volume efficiency and long life, providing smooth and reliable operation
- Low leakage rate, accurate internal timing. Commutator rotates 6x faster than shaft output speed giving high precision and reduces life-cycle cost, maintaining high volume efficiencies and ability to run smoothly at low speed

Specification

Type		65	80	100	125	160	200	230	250	295	315	375
Geometric Displacement (cm ³ /rev)		66.8	81.3	101.6	127	157.2	193.6	226	257	287.8	314.5	370
Max Speed (rpm)	Cont	667	543	439	350	283	229	247	216	196	178	152
	Int	842	689	553	441	355	289	328	287	254	235	199
Max Torque (Nm)	Cont	126	157	191	245	307	382	378	381	393	448	439
	Int	176	215	268	335	422	520	528	543	547	587	613
Max Output (kW)	Cont	8.3	8.8	7.9	8.9	8.9	9	9.9	9.3	8.7	8	7.6
	Int	13.9	14.4	13.5	14.1	15.6	15.7	17.9	16.5	15.6	14.3	14
Max Pressure (Bar)	Cont	140	140	140	140	140	140	120	110	100	100	90
	Int	190	190	190	190	190	190	165	155	145	135	125
	Peak	200	200	200	200	200	200	180	180	170	160	160
Max Flow (L/min)	Cont	45	45	45	45	45	45	57	57	57	57	57
	int	57	57	57	57	57	57	75	75	75	75	75

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 seconds per minute

REN-TEK

BMJ SERIES HYDRAULIC MOTOR

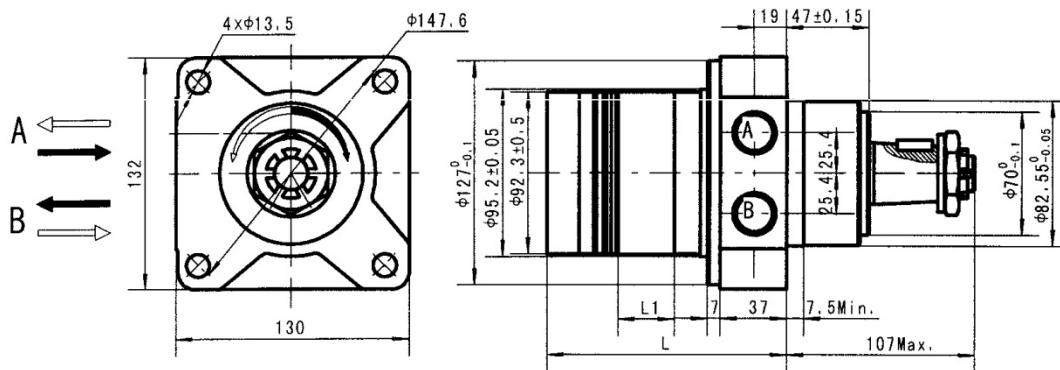
Dimensions Mounting Data

Wheel Mount

Code: WS Ports A, B, 7/8 – 14 O-Ring

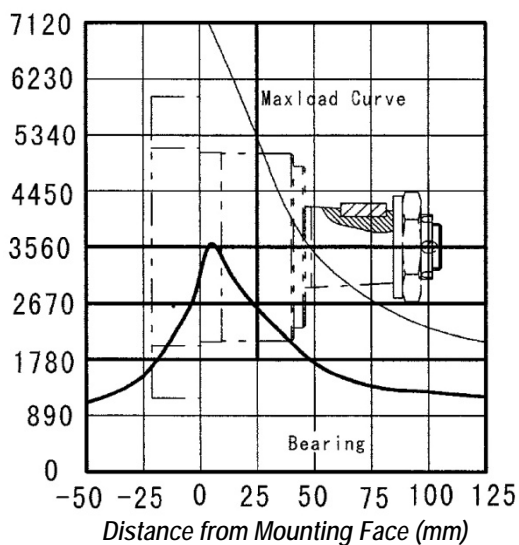
Code: WD Ports A, B, G1/2

Code: WM Ports A, B, M22x1.5



Displacement (cm ³ /rev)	65	80	100	125	160	200	230	250	295	315	375
L1 (mm)	13	16	20	25	30.5	38.1	44	50	56	62	74
L (mm)	115	118	122	127	132.5	140	146	152	158	164	176
Weight (kg)	9	9.1	10.4	10.6	10.9	11.3	11.8	12.2	12.6	12.9	13.4

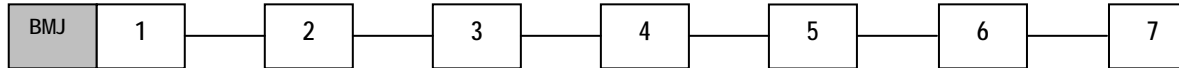
Side Load (daN)



The bearing curve represents allowable bearing loads for an L₁₀ bearing life at 3x10⁶ revolutions

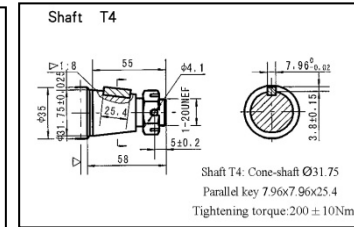
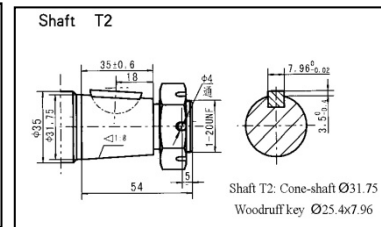
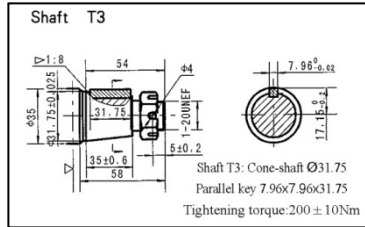
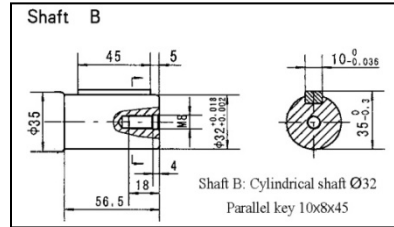
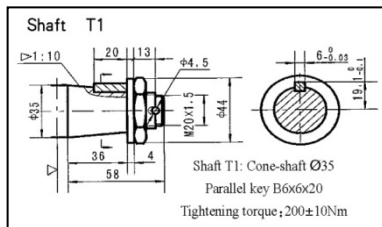
The maximum load curve is defined by bearing static load capacity. This curve should not be exceeded at any time including shock loads

ORDER INFORMATION



1	2	3		4		5		6		7		
Code	Disp	Flange, Pilot, Ports		Output Shaft		Rotation Direction		Paint		Unusually Function		
Omit	65	WS	4-Ø13.5 Wheel-Flange, Pilot Ø82.55x7, Port 7/8-14 O-Ring	T1	Cone-Shaft Ø35, Parallel Key B6x6x20	Omit R	Standard Opposite	00 Omit B S	No Paint Blue Black Silver Grey	Omit	Standard	
	80			T2	Cone-Shaft Ø31.75, Woodruff Key Ø25.4x7.96							
	100			T3	Cone-Shaft Ø31.75, Parallel Key 7.96x7.96x31.75							
	125			T4	Cone-Shaft Ø31.75, Parallel Key 7.96x7.96x25.4							
	160	WM	4-Ø13.5 Wheel-Flange, Pilot Ø82.55x7, Port G1/2	B	Cone-Shaft Ø31.75, Parallel Key 7.96x7.96x25.4							
200												
230												
250												
	295		4-Ø13.5 Wheel-Flange, Pilot Ø82.55x7, Port M22x1.5									
315												
375												
					Cylindrical Shaft Ø32, Parallel Key 10x8x45							

Shaft Extensions for Dimensions Data

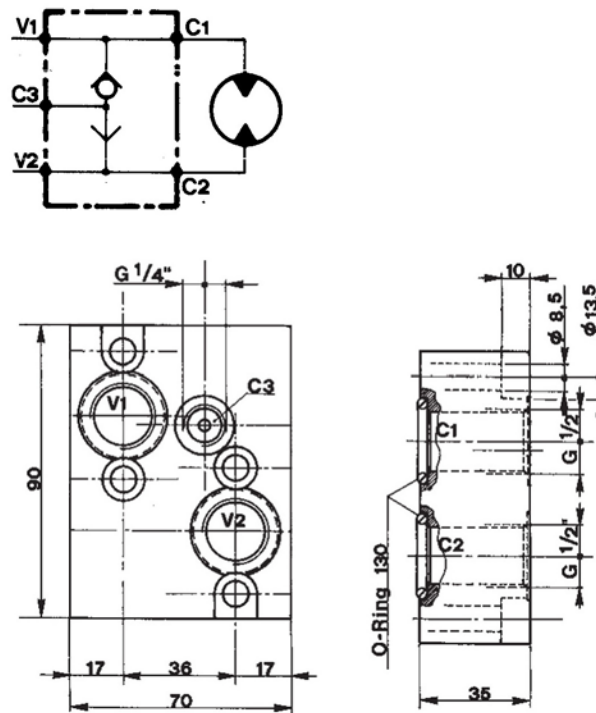


▷ Motor Mounting Surface

VALVES FOR HYDRAULIC MOTORS

SHUTTLE VALVE

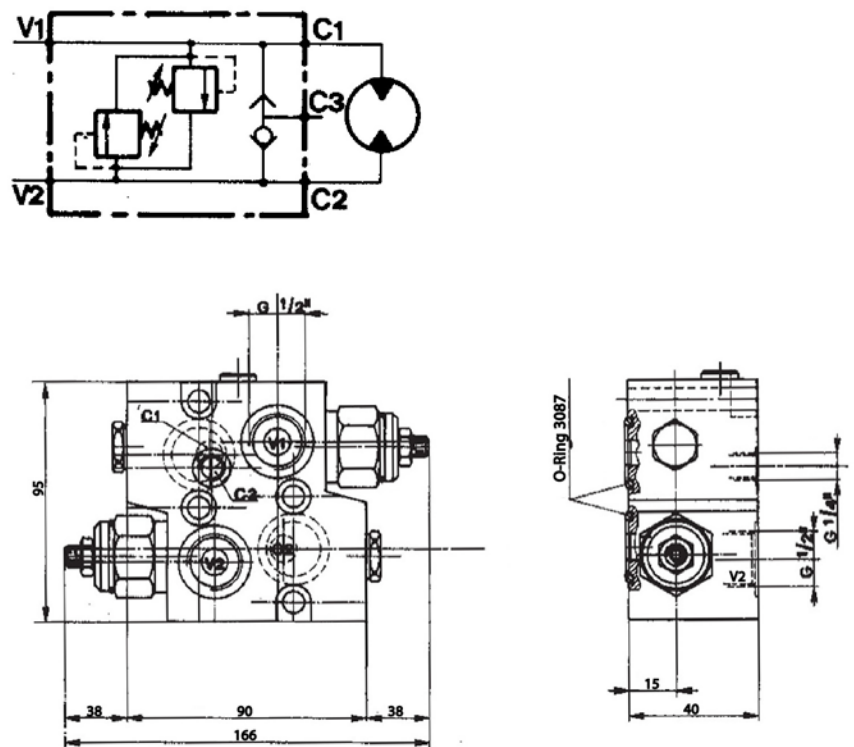
Code: VSEFMDSE
 Max Flow 50L/min
 Max Pressure 350 Bar
 V1 – V2 ½" BSPP
 C3 ¼" BSPP



CROSSLINE RELIEF WITH BRAKE RELEASE SHUTTLE VALVE

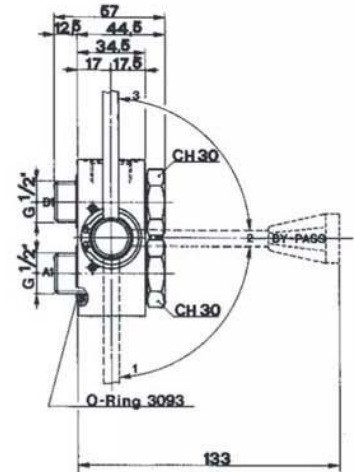
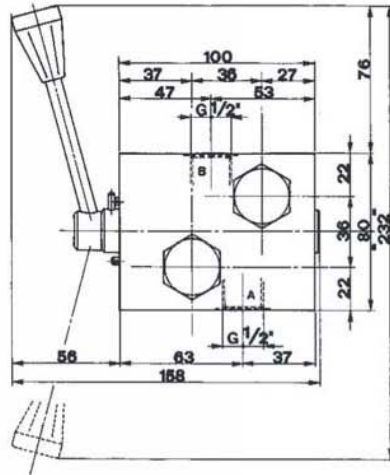
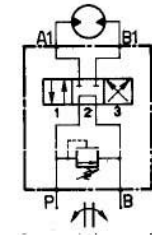
Code: VS50FMDISE / 1Y04B
 50-130 Bar Adjustment
 Code: VS50FMDISE / 1Z04B
 100-280 Bar Adjustment

Max Flow 50L/min
 Max Pressure 250 Bar
 V1 – V2 ½" BSPP
 C3 ¼" BSPP



ROTARY DIRECTIONAL VALVE WITH RELIEF

Code: VIB50FMDVS04B
 Max Flow 35L/min
 Max Pressure 50-130 Bar
 V1 - V2 1/2" BSPP



DUAL OVERCENTRE VALVE WITH BRAKE RELEASE SHUTTLE VALVE

Code: VB048FMDSECA12AX
 Pilot Ratio 7:1
 Adjustment 30-120 Bar
 Max Flow 50L/min
 V1 - V2 1/2" BSPP
 C3 1/4" BSPP

