

Usage Guide:

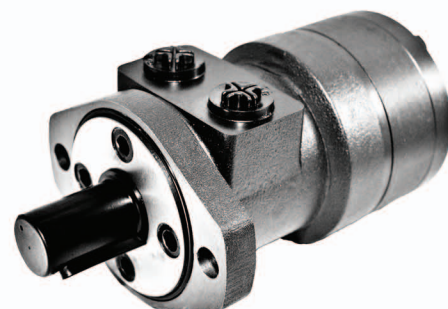
hydraulic motors

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

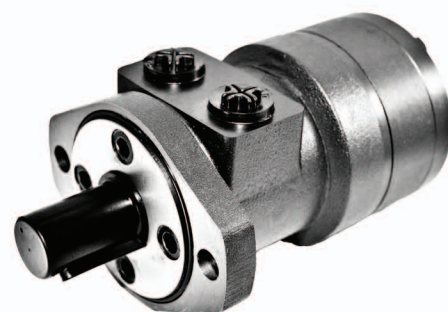
- Oil temperature: normal: 20 °c~60 °c upper limit 90 °c (no more than one hour).
- filtering and oil cleanliness: a return filter should be installed at the bottom of the tank to prevent grits in to the system. The max solid contamination grade of the oil in no more than 19/16.
- viscosity: 42~74 mm²/s at 40 °c of oil temperature according to the condition to choose an applicable hydraulic oil.
- The motors can be operated in parallel or series. When the pressure of the back exceeds 2Mpa, it is necessary to installed an external drain line to the tank.
- For BMP and BMR series motors, the type of out put shaft may be chosen in demand.
 - 5.1. the output shaft permits a radial force with the radial bearing.
 - 5.2. the output shaft doesn't permit the radial force without the radial bearing. When the radial force acts on the shaft, the force must be discharged.
- the optimal operation situation should be at the 1/3~2/3 of the rate operation situation.
- In order to obtain a longer life of the operating motor shoud operate motors at first for one hour under 30% of rated pressure. iln any case , be sure to fill up with hydraulic oil inside motor before increasing load.



EBMP Axial Distribution



EBMR Axial Distribution



EBMH Axial Distribution

MOTOR GUIDE

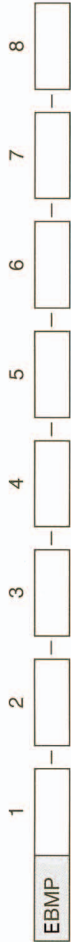
Specification Data of Hydraulic Motor:

distribution type	model	displacement (cm ³ /rev.)	Max. operating pressure (MPa)	speed range (rpm)	Max. output power (kw)
axial distribution	EBMP	50~400	16.5	30~879	10
	EBMR	50~375	20	30~970	15
	EBMH	200~500	20	30~430	17

Order Information:

EBMPH

EBMPH



Pos.1	2	3	4	5	6	7	8	
Code	Disp.	Flange	Output Shaft	Port and Drain Port	Rotation Direction	Paint	Unusually Function	
None	50 80 100 125 160	A	Shaft Ø25, parallel key 8×7×32	D	None	00	Standard	
		B	Shaft Ø32, parallel key 10×8×45	M				G1/2 Manifold Mount 4×M8, G1/4
		C	Shaft Ø25.4, parallel key 6.35×6.35×31.75	R				M22×1.5 Manifold Mount 4×M8, M14×1.5
		E	Shaft Ø25.4, splined key SEA 6B	S				7/8-14 O-ring manifold
		F	Short shaft Ø25.4, parallel key 6.35×6.35×31.75	P				4x5/16-18UNC, 7/16-20UNF 1/2-14 NPTF
		FD	Shaft Ø31.75, splined key 14-DP12/24	R				Manifold 4x5/16-18UNC, 7/16-20UNF
		G	Long shaft Ø31.75, splined key 14-DP12/24	T				PT(Rc)1/2 Manifold 4xM8, PT(Rc)1/4
		T	Shaft Ø31.75, parallel key 7.96×7.96×31.75	T3				
			Cone shaft Ø28.56, parallel key B5×5×14					
			Cone shaft Ø31.75, parallel key 7.96×7.96×25.4					
		H	200 250 315 400	K				Shaft Ø25.4, woodruff key Ø25.4×6.35
S	Shaft Ø25.4, splined key SEA 6B			S	G1/2 G1/4			
A	Shaft Ø25, parallel key 8×7×32			P	7/8-14 O-ring 7/16-20UNF (G1/4)			
R	Shaft Ø25.4, parallel key 6.35×6.35×31.75			T	1/2-14 NPTF, 7/16-20UNF (G1/4)			
H	Shaft Ø25.4, pin hole Ø10.3			R	3/4-16 O-ring, 7/16-20unf PT(Rc)1/2 PT(Rc)1/4			
HI	Shaft Ø25.4, pin hole Ø8			B4	Ø10 O-ring manifold			
H4	Shaft Ø22.22, parallel key 6.35×6.35×25.4			B5	4x5/16-18UNC, 7/16-20UNF(G1/4)			
D	Shaft Ø22.22, splined key 13-DP16/32				Ø10 O-ring manifold 4xM8 7/16-20UNF(G1/4)			
H5	Shaft Ø25, woodruff key Ø25.4×6.35			P				
	Shaft Ø25, parallel key 8×7×28			J				
	Shaft Ø25, parallel key 7×7×32							

Note: When the table is used, please fill the code of left rows in dash area and give us, which the code information is consists of construction, displacement, mounting flange, output shaft and ports. If the specification is not in the table or you have specific requirements, please contact us.

Characteristics:

BMS series motor adapt the advanced Geroler gear set design with shaft distribution flow, which can automatically compensate in operating with high pressure, provide reliable smooth operation, high efficiency and long life.

- 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 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.



Model: EBMR-160-H2-K-P

Specification:

Type		EBMR EBMRS 50	EBMR EBMRS 80	EBMR EBMRS 100	EBMR EBMRS 125	EBMR EBMRS 160	EBMR EBMRS 200	EBMR EBMRS 250	EBMR EBMRS 315	EBMR EBMRS 375
Geometric displacement (cm ³ /rev.)		51.3	80.6	100.8	124.9	157.2	199.2	252	314.5	370
Max. speed (rpm)	rated	755	750	600	475	375	300	240	190	160
	cont.	970	940	750	600	470	375	300	240	200
Max. torque (N·m)	rated	100	160	200	250	320	330	352	360	420
	cont.	100	190	240	292	363	358	352	360	420
	int.	126	220	280	340	430	448	470	470	548
Max. output (kW)	rated	7.7	12.3	12.3	12.0	12.3	10	9	7	6.5
	cont.	7.7	15	15	14	14	11	9	7	8.6
	int.	9.7	17	17	16	16	14	12	9	12
Max. pressure drop (MPa)	rated	14	14	14	14	14	12	11	8.5	8.5
	cont.	14	17.5	17.5	17.5	16.5	13	11	8.5	8.5
	int.	17.5	20	20	20	20	17.5	14	11.5	11.5
Max. flow (L/min)	cont.	40	60	60	60	60	60	60	60	60
	int.	50	75	75	75	75	75	75	75	75
Weight (kg)		6.7	6.9	6.9	7.2	7.5	8.0	8.5	9	9.3

- Rated speed and rated torque: output value of speed and torque under rated flow and rated pressure.
- Continuous pressure: Max. value of operating motor continuously.
- Intermittent pressure: Max. value of operating motor in 6 seconds per minute.
- Peak pressure: Max. value of operating motor in 0.6 second per minute.

Performance Data:

EBMR

EBMR

EBMR 50 [51.3cm³/rev.]

		Pressure (MPa)							
		Max.cont.				Max.int.			
		5	7	9	10	12	14	16	17.5
Flow (L/min)	5	35	45	61	67	77	88		
		95	84	76	73	69	46		
Flow (L/min)	10	36	46	62	69	80	95	108	120
		184	176	165	162	150	130	111	84
Flow (L/min)	15	35	49	63	73	88	100	109	123
		283	277	269	261	250	230	211	185
Flow (L/min)	20	34.5	47	61	69	83	96	109	126
		377	375	365	361	346	330	308	276
Flow (L/min)	25	34	45	61	69	81	96	109	126
		476	468	460	453	438	423	395	361
Flow (L/min)	30	33	44	60	67	80	95	108	126
		576	569	561	554	542	531	500	465
Flow (L/min)	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

EBMR 80 [80.6cm³/rev.]

		Pressure 压力 (MPa)							
		Max.cont.				Max.int.			
		5	7	9	10	12	14	16	17.5
Flow (L/min)	10	55	77	98	107	130	149	170	180
		115	109	106	101	91	75	53	45
Flow (L/min)	20	50	81.6	105	118	132	160	178	189
		239	235	227	224	209	196	172	160
Flow (L/min)	30	48	74	97	114	131	150	179	190
		364	360	357	345	332	321	300	284
Flow (L/min)	40	45	71	95	105	128	149	177	188
		488	483	475	472	460	447	420	408
Flow (L/min)	50	42	70	90	98	125	147	171	187
		619	615	607	598	593	568	547	535
Flow (L/min)	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

EBMR 100 [100.8cm³/rev.]

		Pressure (MPa)							
		Max.cont.				Max.int.			
		5	7	9	10	12	14	16	17.5
Flow (L/min)	10	70	100	122	138	159	182	210	222
		99	95	87	84	74	63	52	44
Flow (L/min)	20	68	95	123	143	165	200	221	238
		199	194	188	182	175	162	150	138
Flow (L/min)	30	62	94	121	140	164	194	220	240
		299	294	288	284	278	263	249	236
Flow (L/min)	40	59	88	119	134	161	192	218	238
		400	398	387	385	380	366	350	336
Flow (L/min)	50	55	83	117	125	157	185	217	235
		498	496	488	484	475	464	450	436
Flow (L/min)	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

EBMR 125 [124.9cm³/rev.]

		Pressure (Mpa)							
		Max.cont.				Max.int.			
		5	7	9	10	12	14	16	17.5
Flow (L/min)	10	90	122	160	173	205	237	258	270
		73	71	66	63	55	42	23	14
Flow (L/min)	20	85	118	159	172	208	250	278	292
		154	152	150	145	138	123	109	91
Flow (L/min)	30	82	107	158	164	206	241	277	291
		237	236	233	226	219	207	192	170
Flow (L/min)	40	79	105	150	161	204	238	275	289
		315	313	309	307	302	297	272	254
Flow (L/min)	50	75	96	145	160	198	236	262	282
		398	397	395	391	381	368	353	337
Flow (L/min)	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

Torque (N·m) 167
Speed (rpm) 713

□ cont.
■ int.

Performance Data:

EBMR

EBMR 160 [157.2cm³/rev.]

		Pressure (MPa)								
		5	7	9	10	12	14	16	17.5	
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

EBMR 200 [199.2cm³/rev.]

		Pressure (MPa)							
		5	7	9	10.5	12	14	17.5	
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

EBMR 250 [252cm³/rev.]

		Pressure (MPa)								
		3	5	7	8	10	11	14	17.5	
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

EBMR 315 [314.5cm³/rev.]

		Pressure (MPa)							
		3	5	6.5	8	9	13	13.5	
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

cont.
 int.

Torque (N·m) **205**
 Speed (rpm) **231**

Performance Data:

EBMR

EBMR

EBMR 375 [370cm³/rev.]

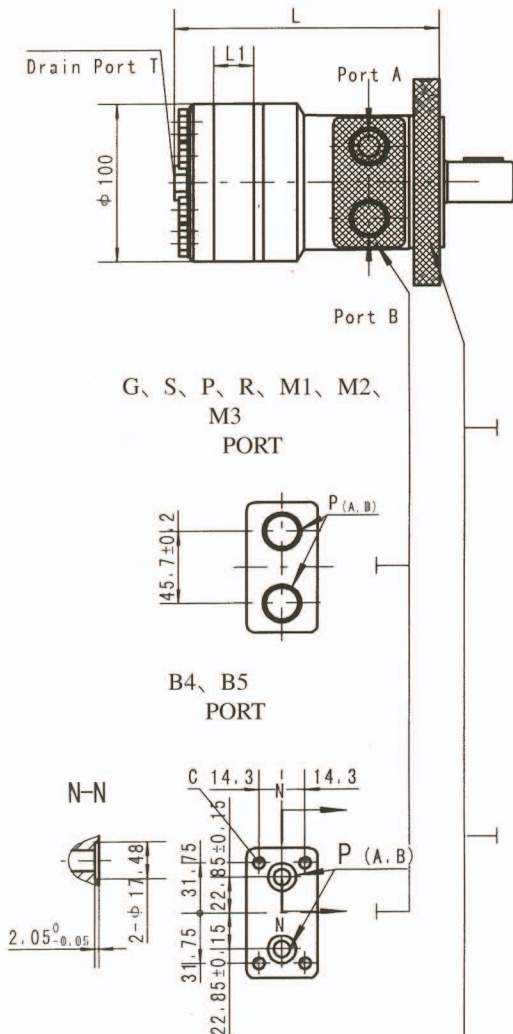
		Pressure (MPa)						
		3	5	6.5	8	9	13	13.5
Flow (L/min)	10	160 26	270 25	340 24	420 22	470 21	550 19	610 17
	20	159 53	260 52	340 51	410 49	470 47	540 42	605 37
	30	150 79	255 78	330 77	400 75	450 73	530 67	600 60
	40	135 106	240 105	310 104	375 102	430 99	520 93	590 85
	50	120 134	230 132	295 131	360 129	420 126	505 120	570 110
	60	98 159	210 158	275 157	340 155	390 153	490 147	550 135
	70	75 187	175 186	250 185	320 183	370 180	465 175	530 160
	Max.cont.	65	160	230	310	360	450	515
	Max.int.	75	200	199	198	195	192	187

Torque (N•m) 230
Speed (rpm) 198

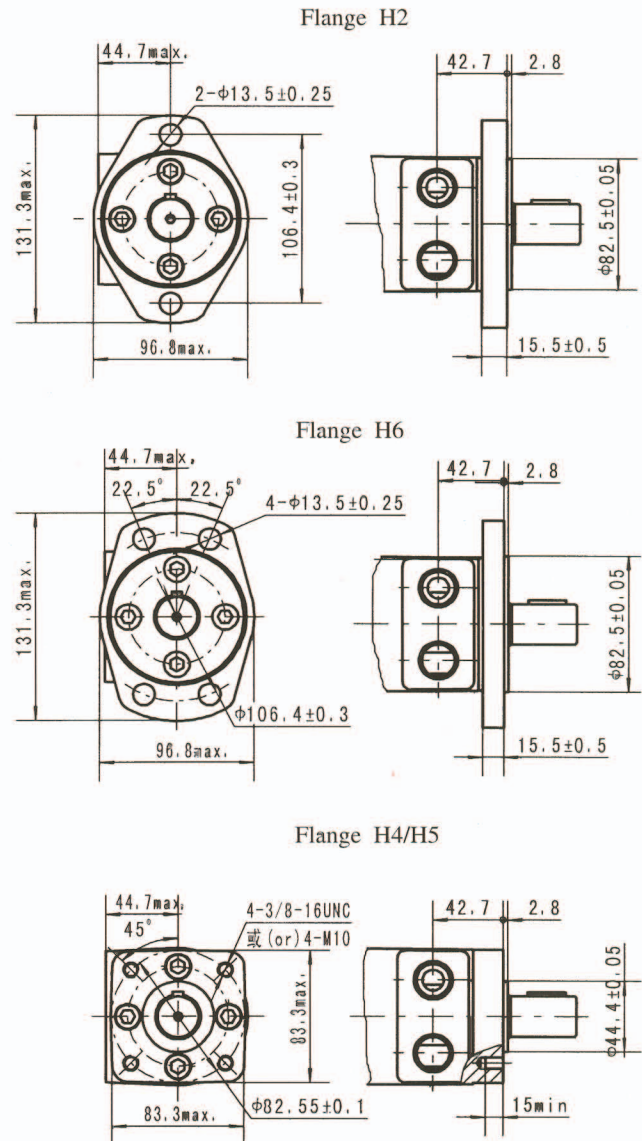
□ cont.
■ int.

Dimensions and Mounting Data:

EBMRS



MOUNTING

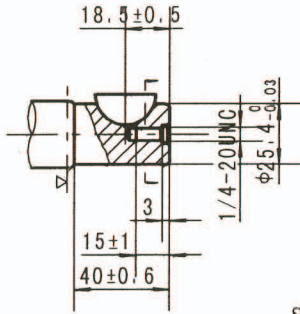


Model	L	L1
BMRS50	144	10
BMRS80	150	16
BMRS100	154	20
BMRS125	159	25
BMRS160	155.5	31.5
BMRS200	174	40
BMRS250	184	50
BMRS315	196	62
BMRS375	208	74

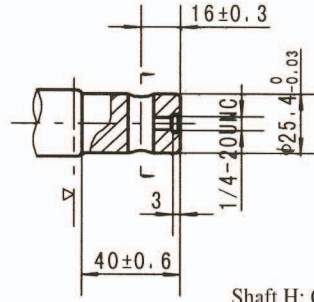
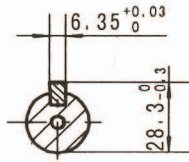
Code	Mounting								
	G (depth)	S (depth)	P (depth)	R (depth)	M1 (depth)	M2 (depth)	M3 (depth)	B4 (depth)	B5 (depth)
P(A,B)	G1/2 (15)	7/8-14 O-ring (17)	1/2-14NPTF (15)	PT(RC)1/2 (15)	M18 x 1.5 (15)	M20 x 1.5 (15)	M22 x 1.5 (15)	φ10	φ10
T	G1/4 (12)	7/16-20UNF (12)	7/16-20UNF (12)	PT(RC)1/4 (9.7)	M10 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)

Shaft Extensions:

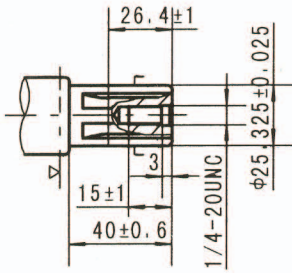
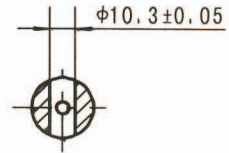
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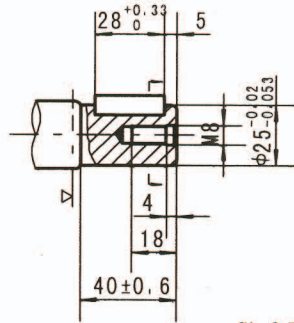
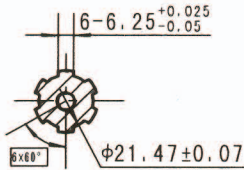
Shaft K: Cylindrical shaft Ø25.4
Woodruff key Ø25.4x6.35



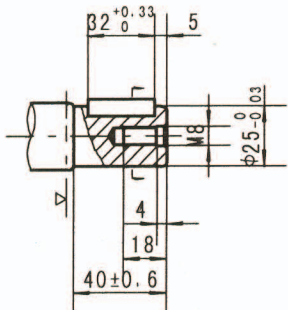
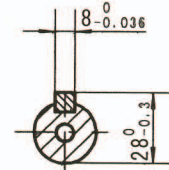
Shaft H: Cylindrical shaft Ø25.4
Pin hole Ø10.3



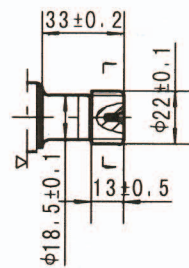
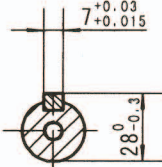
Shaft S: Splined SAE 6B



Shaft P: Cylindrical shaft Ø25
Parallel key 8x7x28



Shaft J: Cylindrical shaft Ø25
Parallel key 7x7x32



Shaft I: Splined 13-DP12/24

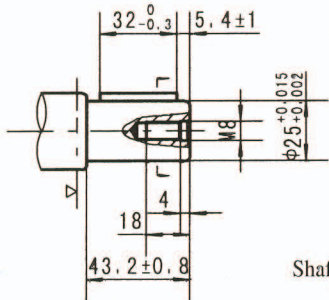


Motor Mounting Surface

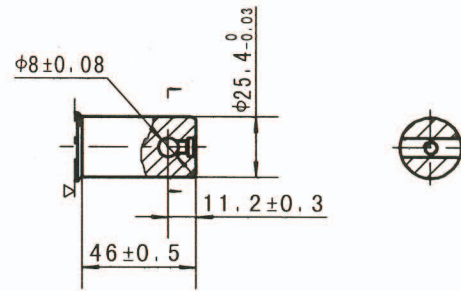
Shaft Extensions:

EBMRS

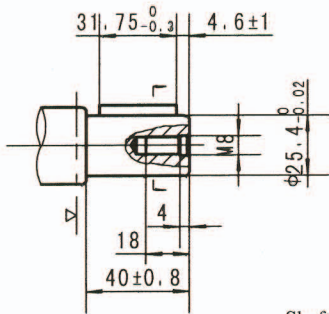
EBMRS



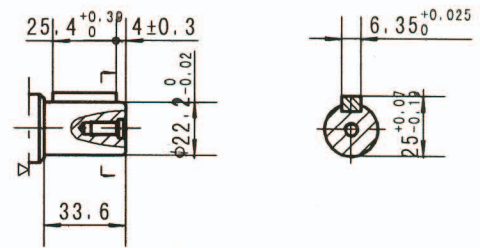
Shaft A: Cylindrical shaft $\phi 25$
Parallel key 8x8x30



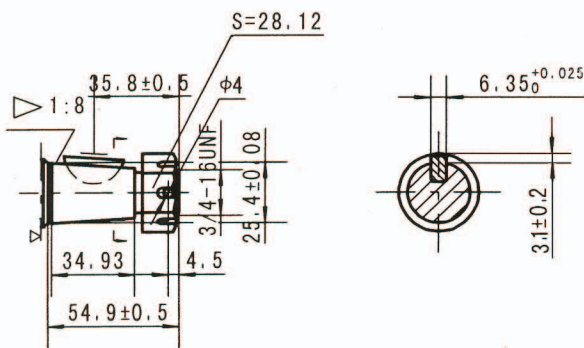
Shaft H1: Cylindrical shaft $\phi 25.4$
Pin hole $\phi 8$



Shaft R: Cylindrical shaft $\phi 25.4$
Parallel key 6.35x6.35x31.75



Shaft D: Cylindrical shaft $\phi 22.22$
Parallel key 6.35x6.35x25.4



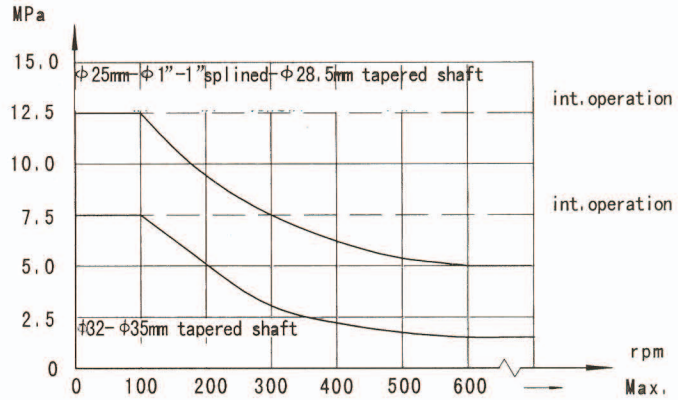
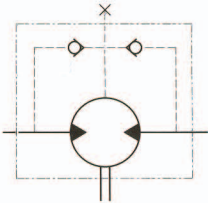
Shaft T2: Cone-shaft $\phi 25.4$
Parallel key $\phi 25.4 \times 6.35$

Tightening torque: $200 \pm 10 \text{ Nm}$

Motor Mounting Surface

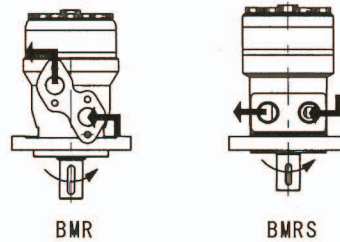
Permissible Shaft Seal Pressure:

EBMRS

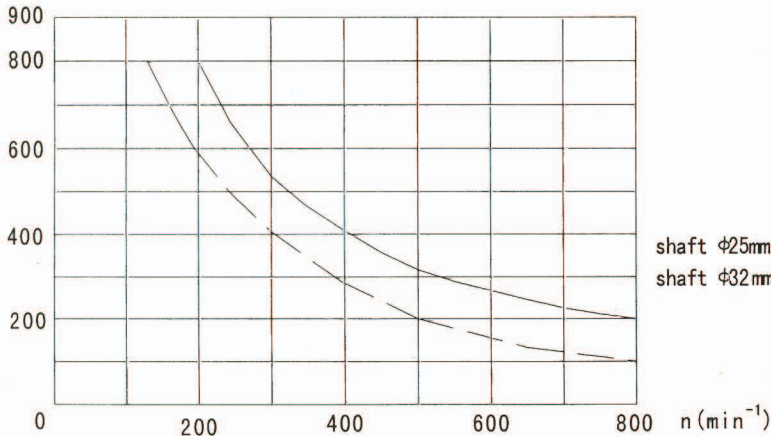


In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

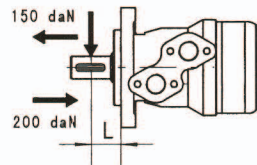
Direction of Shaft Rotation



Status of the shaft's radial force



$$F_r = \frac{800 \cdot 2500}{n \cdot 95 + 1} \text{ daN}$$



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

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

Rhomb-flange $L=30\text{mm}$
Square-flange $L=24\text{mm}$

HIGH TORQUE LOW SPEED MOTOR EBMRS SERIES



Order Information:

EBMRS



Pos.1	2	3	4	5	6	7	8
Code	Disp.	Flange	Output Shaft	Port and Drain Port	Rotation Direction	Paint	Unusually Function
None	2	2-Ø13.5Rhomb-flange, pilot Ø82.5 x 8	A Shaft Ø25,parallel Key 8 x 7 x 32	D G1/2 Manifold Mount 4-M8, G1/4	None Standard	No paint	None
	4	4-Ø13.5Rhomb-flange, pilot Ø82.5 x 8	B Shaft Ø32,parallel Key 10 x 8 x 45	M M22 x 1.5 Manifold Mount 4-M8, M14 x 1.5			
	H4	4-3/8-16 Square-flange, pilot Ø44.4 x 2.8	C Shaft Ø25.4,parallel Key 6.35 x 6.35 x 31.75	S 7/8-14 O-ring manifold 4-5/16-18UNC, 7/16-20UNF			
	H5	4-M10 Square-flange, pilot Ø44.4 x 2.8	E Shaft Ø25.4,splined Key SAE 6B Short shaft Ø25.4, parillel key 6.35 x 6.35 x 31.75	P 1/2-14 NPTF Manifold 4-5/16-18UNC, 7/16-20UNF			
			F Shaft Ø31.75,splined Key 14-DP12/24	R PT(Rc)1/2 Manifold 4-M8, PT(Rc)1/4			
			FD Long shaft Ø31.75, splined key14-DP12/24				
	50		G Shaft Ø31.75,parallel Key 7.96 x 7.96 x 31.75				
	80		T Cone-Shaft Ø28.56, parallel Key B5 x 5 x 14				
	100						
	125						
S	160		K Shaft Ø25.4, Woodruff Key Ø25.4 x 6.35	G G1/2, G1/4	R Opposite	Black	Big axial force
	200		S Sub-shaft Ø25.4, splined Key SAE 6B	S 7/8-14 O-ring 7/16-20UNF (G1/4)			
	250		A Shaft Ø25, parallel key 8 x 7 x 32	P 1/2-14 NPTF, 7/16-20UNF (G1/4)			
	315	H2 2-Ø13.5Rhomb-flange, pilot Ø82.5 x 2.8	H Sub-shaft Ø25.4, Pin hole Ø10.3	T 3/4-16 O-ring, 7/16-20unf PT(Rc)1/2 PT(Rc)1/4			
	375	H6 4-Ø13.5Rhomb-flange, pilot Ø82.5 x 2.8	HI Shaft Ø25.4, pin hole Ø8	R Ø10 O-ring manifold 4x5/16-18 7/16-20UNF(G1/4)			
		H4 4-3/8-16 Square-flange, pilot Ø44.4 x 2.8	D Shaft Ø22.22, parallel key 6.35 x 6.35 x 25.4	B5 Ø10 O-ring manifold 4xM8 7/16-20UNF(G1/4)			
		H5 4-M10 Square-flange, pilot Ø44.4 x 2.8	I Shaft Ø22.22, splined key 13-DP16/32	M1 7/16-20UNF(G1/4)			
	Z3 4-Ø11Rectangle-flange, pilot Ø80 x 5		T2 Cone shaft Ø25.4, woodruff key Ø25.4 x 6.35	M2 M18 x 1.5, M10 x 1			
	Z5 4-Ø11Rectangle-flange, pilot Ø85 x 5		P Shaft Ø25,parallel Key 8 x 7 x 28	M3 M20 x 1.5, M10 x 1			
			J Shaft Ø25,parallel Key 7 x 7 x 32				
		L Shaft Ø25,splined Key 6-25x21x5					
		M Shaft Ø25,splined Key 6-25x21x6					

Note:When the table is used, please fill the code of left rows in dash area and give us, which the code information is consists of construction, displacement, mounting flange, output shaft and ports. If the specification is not in the table or you have specific requirements, please contact us.

Characteristics:

EBMP

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

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



Model: EBMPH-200-H2-K-P

Specification:

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

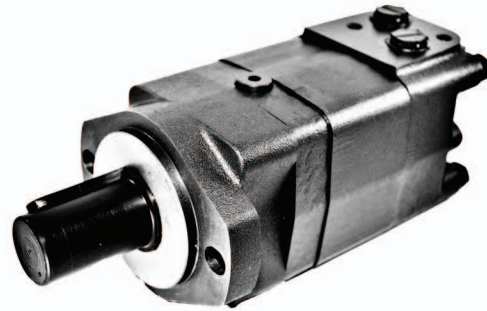
- Rated speed and rated torque: output value of speed and torque under rated flow and rated pressure.
- Continuous pressure: Max. value of operating motor continuously.
- Intermittent pressure: Max. value of operating motor in 6 seconds per minute.
- Peak pressure: Max. value of operating motor in 0.6 second per minute.

Usage Guide:

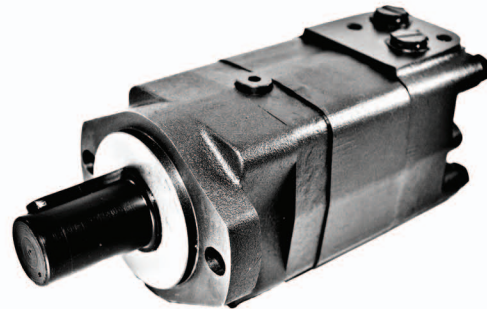
hydraulic motors

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

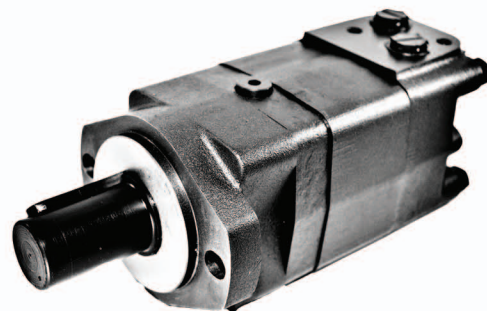
- Oil temperature: normal: 20 °c~60 °c upper limit 90 °c (no more than one hour).
- filtering and oil cleanliness: a return filter should be installed at the bottom of the tank to prevent grits in to the system. The max solid contamination grade of the oil in no more than 19/16.
- viscosity: 42~74 mm²/s at 40 °c of oil temperature according to the condition to choose an applicable hydraulic oil.
- The motors can be operated in parallel or series. When the pressure of the back exceeds 2Mpa, it is necessary to installed an external drain line to the tank.
- For BMP and BMR series motors, the type of out put shaft may be chosen in demand.
 - 5.1. the output shaft permits a radial force with the radial bearing.
 - 5.2. the output shaft doesn't permit the radial force without the radial bearing. When the radial force acts on the shaft, the force must be discharged.
- the optimal operation situation should be at the 1/3~2/3 of the rate operation situation.
- In order to obtain a longer life of the operating motor should operate motors at first for one hour under 30% of rated pressure. in any case , be sure to fill up with hydraulic oil inside motor before increasing load.



EBMS Disc Distribution



EBMT Disc Distribution



EBMV Disc Distribution

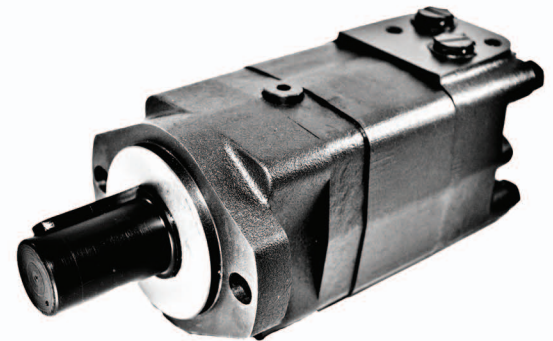
Specification Data of Hydraulic Motor:

distribution type	model	displacement (cm ³ /rev.)	Max. operating pressure (MPa)	speed range (rpm)	Max. output power (kW)
disc distribution	EBMS	80~375	22.5	30~800	20
	EBMT	160~800	24	30~705	35
	EBMV	315~800	28	10~446	43

Characteristics:

BMS series motor adapt the advanced Geroler gear set design with disc distribution flow and high pressure. The unit can be supplied with individual variants in operating multifunction in accordance with requirement of applications.

- Advanced manufacturing devices for the Geroler gear set which use low pressure of start-up, provide smooth reliable operation and high efficiency.
- The output shaft adapts in tapered roller bearings that permit high axial and radial forces. The case can offer capacities of high pressure and torque in the wide of applications.
- Advanced design in disc distribution flow, which can automatically compensate in operating with high volume efficiency and long life, provide smooth and reliable operation.



Model: EBMS-160-H2-K-P

Specification:

Type		EBMS 80	EBMS 100	EBMS 125	EBMS 160	EBMS 200	EBMS 250	EBMS 315	EBMS 375
Geometric displacement (cm ³ /rev.)		80.6	100.8	125	157.2	200	252	314.5	370
Max. speed (rpm)	rated	675	540	432	337	270	216	171	145
	cont.	800	748	600	470	375	300	240	200
	int.	988	900	720	560	450	360	280	240
Max. torque (N·m)	rated	175	220	273	316	340	450	560	576
	cont.	190	240	310	316	400	450	560	576
	int.	240	300	370	430	466	540	658	700
	peak	260	320	400	472	650	690	840	740
Max. output (kW)	rated	12.4	12.4	12.4	11.2	9.6	10.2	10	8.6
	cont.	15.9	18.8	19.5	15.6	15.7	14.1	14.1	11.8
	int.	20.1	23.5	23.2	21.2	18.3	17.0	18.9	17
Max. pressure drop (MPa)	rated	16	16	16	15	12.5	12.5	12	10
	cont.	17.5	17.5	17.5	15	14	12.5	12	10
	int.	21	21	21	21	16	16	14	12
	peak	22.5	22.5	22.5	22.5	22.5	20	18.5	14
Max. flow (L/min)	cont.	65	75	75	75	75	75	75	75
	int.	80	90	90	90	90	90	90	90
Max. inlet pressure (MPa)	rated	21	21	21	21	21	21	21	21
	cont.	25	25	25	25	25	25	25	25
	int.	30	30	30	30	30	30	30	30
Weight (kg)		9.8	10	10.3	10.7	11.1	11.6	12.3	12.6

- Rated speed and rated torque: output value of speed and torque under rated flow and rated pressure.
- Continuous pressure: Max. value of operating motor continuously.
- Intermittent pressure: Max. value of operating motor in 6 seconds per minute.
- Peak pressure: Max. value of operating motor in 0.6 second per minute.

Performance Data:

EBMS

EBMS

EBMS 80 [80.6cm³/rev.]

		Pressure (MPa)						
		3.5	7	10.5	14	17.5	21	22.5
Flow (L/min)	15	35	80	120	158	195	235	249
		180	174	168	164	158	151	143
Flow (L/min)	30	35	80	120	158	195	240	260
		362	352	346	338	330	322	310
Flow (L/min)	40	35	79	119	155	193	234	250
		482	473	464	453	444	434	415
Flow (L/min)	50	30	77	117	153	192	232	248
		602	594	587	569	560	551	522
Max.cont.	60	28	77	117	153	192	232	247
		724	713	707	683	673	664	629
Max.cont.	75	25	75	114	152	190	230	245
		840	832	817	796	786	777	737
Max.int.	90	24	73	110	150	185	225	240
		900	893	872	853	843	834	792

EBMS 100 [100.8cm³/rev.]

		Pressure (MPa)						
		3.5	7	10.5	14	17.5	21	22.5
Flow (L/min)	15	48	95	150	200	250	289	310
		146	144	139	135	130	120	105
Flow (L/min)	30	45	94	146	198	250	295	317
		291	289	278	274	269	258	242
Flow (L/min)	40	43	89	142	196	248	293	316
		387	384	374	359	350	335	320
Flow (L/min)	50	40	88	135	194	247	292	315
		486	483	473	462	450	430	420
Max.cont.	60	37	88	132	185	244	289	312
		588	584	574	562	550	538	520
Max.cont.	75	35	80	130	180	240	286	310
		740	735	720	705	696	676	653
Max.int.	90	30	75	124	170	236	277	303
		850	840	810	787	770	750	747

EBMS 125 [125cm³/rev.]

		Pressure (MPa)						
		3.5	7	10.5	14	17.5	21	22.5
Flow (L/min)	15	55	120	176	245	309	349	375
		112	110	103	96	93	90	84
Flow (L/min)	30	55	120	175	250	324	375	408
		222	220	217	208	200	199	190
Flow (L/min)	40	55	120	175	250	324	370	408
		302	298	292	284	276	268	260
Flow (L/min)	50	50	115	176	248	320	370	406
		379	373	368	363	350	339	328
Flow (L/min)	60	45	113	171	245	324	368	406
		456	448	443	439	425	406	393
Max.cont.	75	45	110	167	240	314	370	401
		570	563	555	546	533	515	503
Max.int.	90	40	105	162	237	309	365	398
		685	676	670	659	644	625	610

EBMS 160 [157.2cm³/rev.]

		Pressure (MPa)						
		3.5	7	10.5	14	17.5	21	22.5
Flow (L/min)	15	70	140	205	305	371	430	473
		91	88	84	78	76	74	58
Flow (L/min)	30	75	150	214	321	380	427	490
		185	182	176	168	164	162	152
Flow (L/min)	40	70	150	215	320	378	425	488
		248	244	239	229	224	217	204
Flow (L/min)	50	65	145	215	316	378	425	482
		312	308	304	294	288	280	270
Flow (L/min)	60	65	145	214	315	375	424	482
		375	371	365	357	346	336	323
Max.cont.	75	60	138	208	311	375	420	
		470	465	458	447	436	426	
Max.int.	90	56	130	200	308	370	414	
		564	559	551	541	526	517	

Torque (N•m) 309
Speed (rpm) 644

□ cont.
■ int.

Performance Data:

EBMS

EBMS

EBMS 200 [200cm³/rev.]

		Pressure (MPa)					
		Max.cont.			Max.int.		
		3.5	7	10.5	14	17.5	22.5
Flow (L/min)	15	89 73	190 71	295 68	400 64	484 60	608 52
	30	87 148	190 146	294 143	399 140	485 135	600 127
	40	86 193	188 191	292 189	397 186	483 181	594 172
	50	80 247	184 245	290 243	395 240	480 235	590 226
	60	74 298	178 295	286 293	390 290	475 284	582 273
	Max.cont.	75	58 372	160 369	275 365	375 362	460 358
Max.int.	90	49 440	148 435	260 430	355 422	445 411	555 401

EBMS 250 [252cm³/rev.]

		Pressure (MPa)					
		Max.cont.			Max.int.		
		3.5	7	10.5	14	17.5	22.5
Flow (L/min)	15	117 58	230 55	355 52	450 51	554 47	652 46
	30	117 118	225 117	350 112	446 109	560 107	657 106
	40	115 160	225 156	348 152	442 150	552 146	650 142
	50	110 202	220 200	345 198	438 196	546 195	645 192
	60	105 242	220 239	340 237	435 234	542 231	642 229
	Max.cont.	75	95 300	215 296	338 393	430 286	537 282
Max.int.	90	90 360	205 354	337 348	420 340	530 332	632 326

EBMS 315 [314.5cm³/rev.]

		Pressure (MPa)					
		Max.cont.			Max.int.		
		3.5	7	10.5	12	14	18.5
Flow (L/min)	15	160 48	320 47	465 45	555 43	650 40	748 38
	30	165 94	322 92	468 90	560 89	658 86	752 85
	40	160 125	310 123	457 120	546 118	642 116	741 115
	50	155 158	305 156	450 153	538 150	637 147	736 145
	60	152 175	302 174	442 170	532 164	632 162	732 159
	Max.cont.	75	145 236	295 234	436 230	525 227	628 225
Max.int.	90	132 285	280 282	430 280	520 276	622 273	723 270

EBMS 375 [370cm³/rev.]

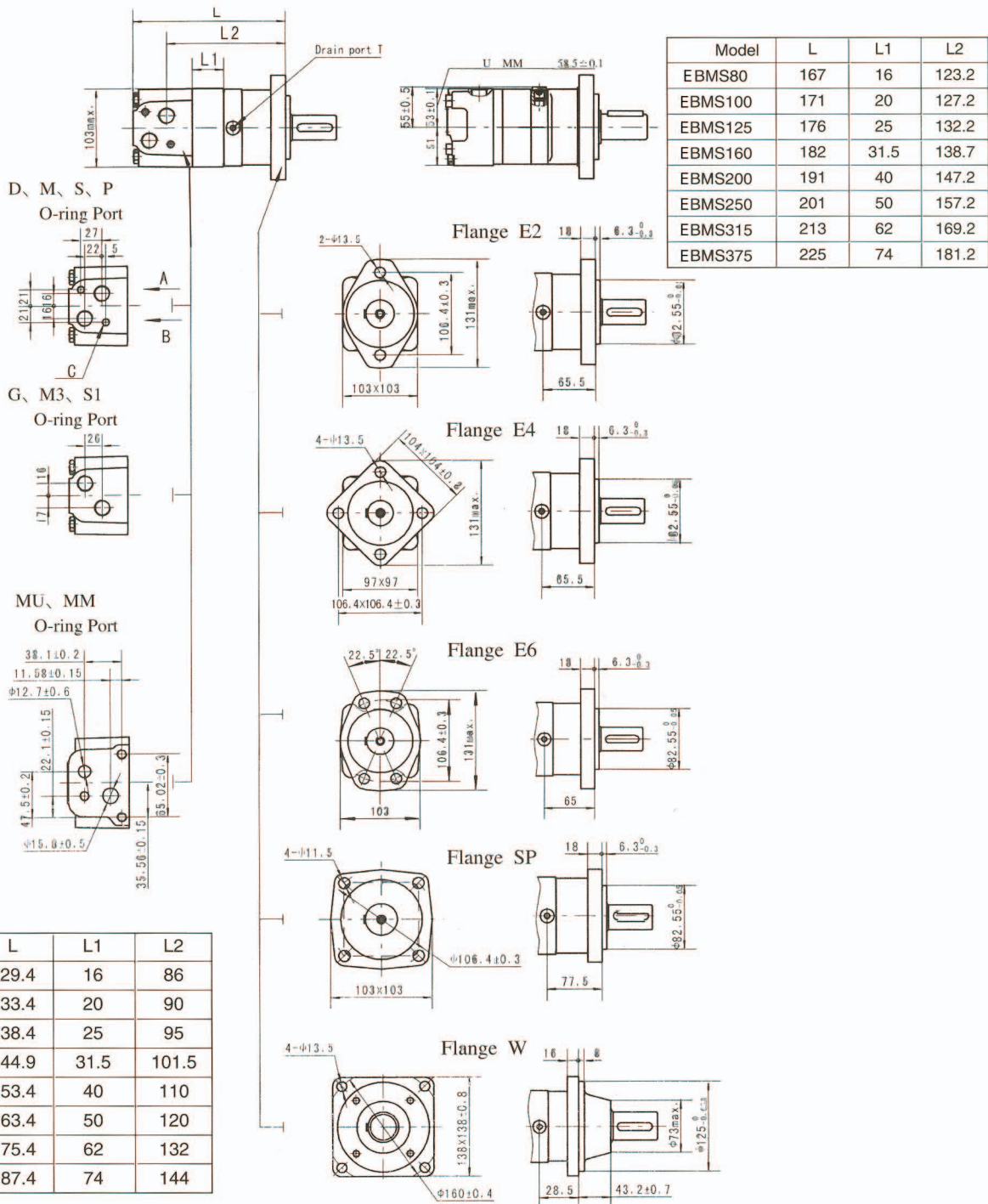
		Pressure (MPa)					
		Max.cont.			Max.int.		
		3.5	7	9	10	12	14
Flow (L/min)	15	185 40	362 39	474 38	512 37	588 35	660 33
	30	184 80	364 78	475 77	514 76	590 74	661 72
	40	180 106	362 104	473 103	513 102	588 100	659 97
	50	160 133	360 131	472 130	511 129	586 128	658 125
	60	150 157	359 156	471 155	510 154	585 152	657 150
	Max.cont.	75	130 200	353 198	465 196	504 195	580 225
Max.int.	90	105 238	350 235	462 234	500 232	584 230	647 227

Torque (N•m) 520
Speed (rpm) 276

□ cont.
■ int.

Mounting Data:

EBMS

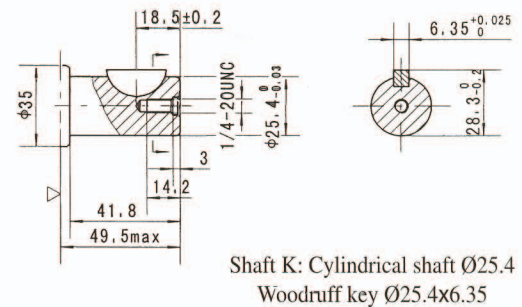
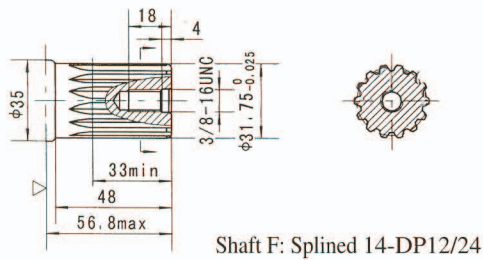
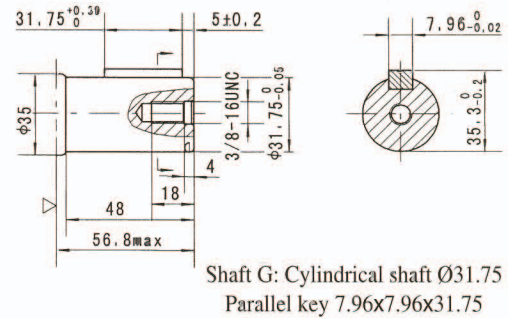
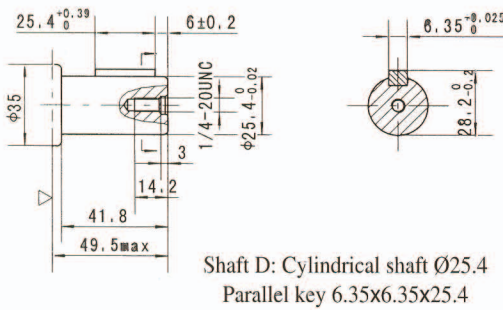
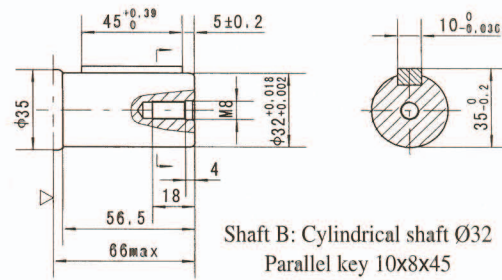
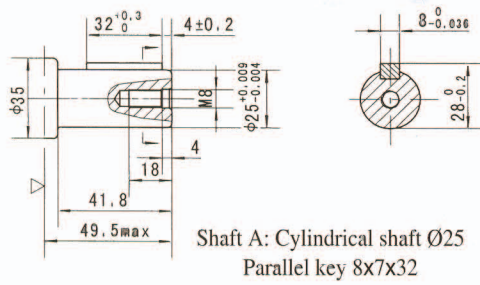


Code	D (depth)	M (depth)	S (depth)	P (depth)	G (depth)	M3 (depth)	S1 (depth)
P(A,B)	G1/2 (18)	M22 x 1.5 (18)	7/8-14 O-ring (18)	1/2-14NPTF (15)	G1/2(18)	M22x1.5(18)	7/8-14 O-ring
T	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF(12)	7/16-20UNF(12)	G1/4(12)	M14x1.5(12)	7/16-20UNF
C	2-M10 (13)	2-M10 (13)	2-3/8-16UNC (13)	2-3/8-16UNC (13)	-	-	-

Shaft Extensions:

EBMS

EBMS

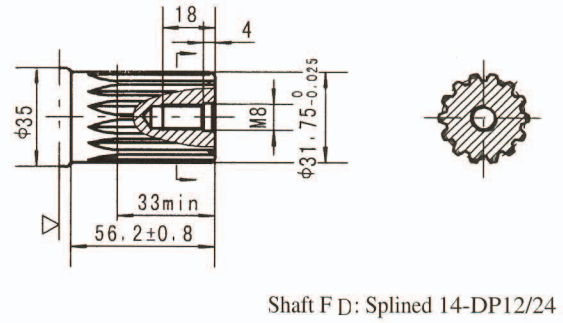
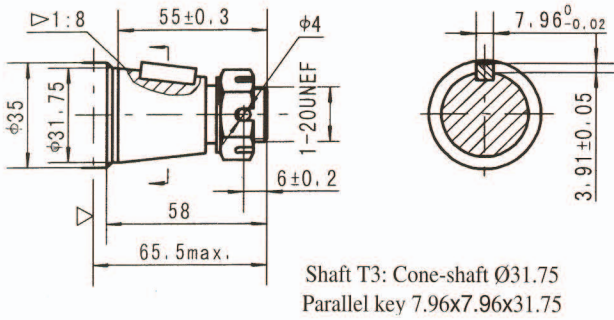
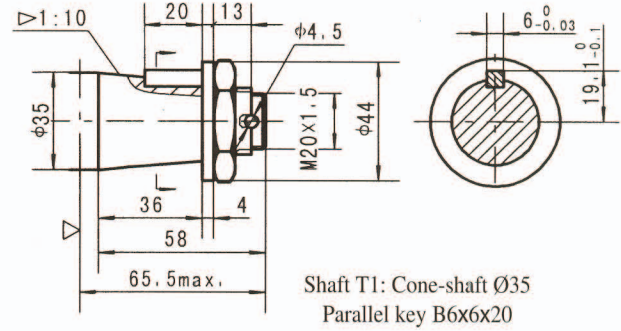
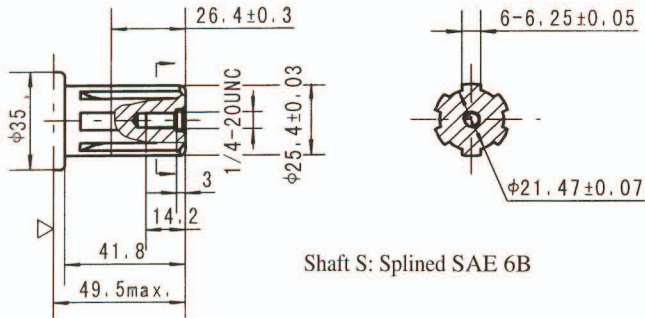


Motor Mounting Surface

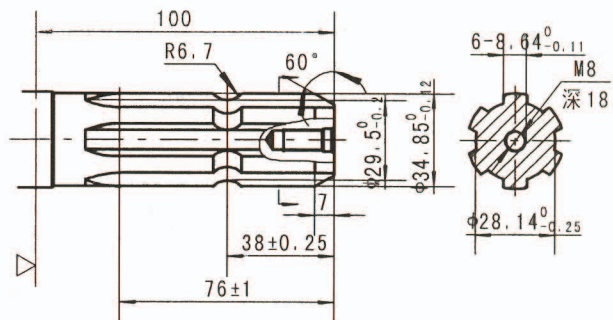
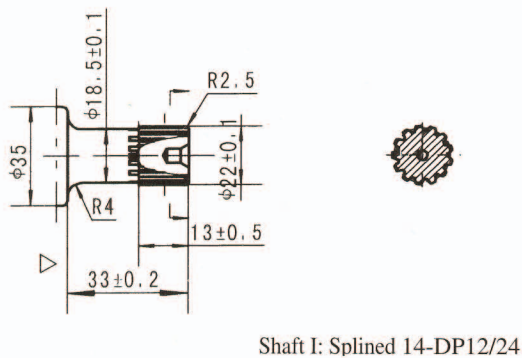
Shaft Extensions

EBMS

EBMS



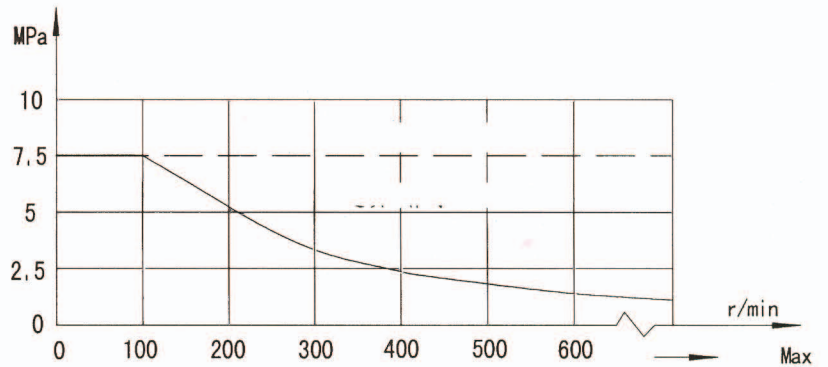
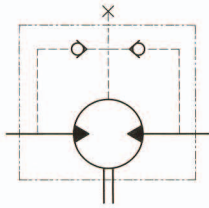
Tightening torque: 200 ± 10Nm



Motor Mounting Surface

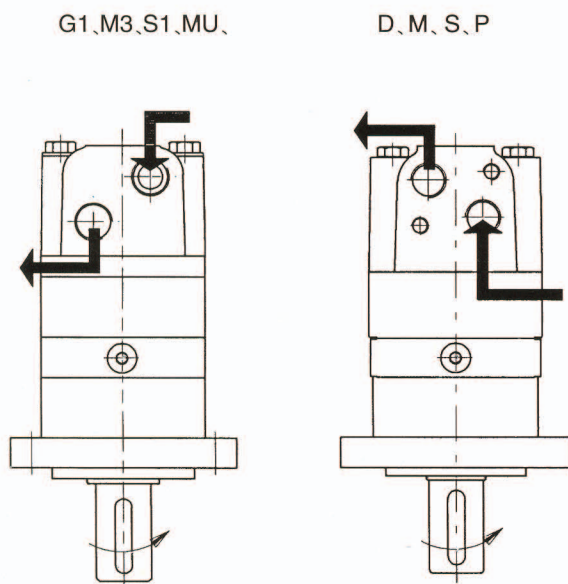
Permissible Shaft Seal Pressure:

EBMS

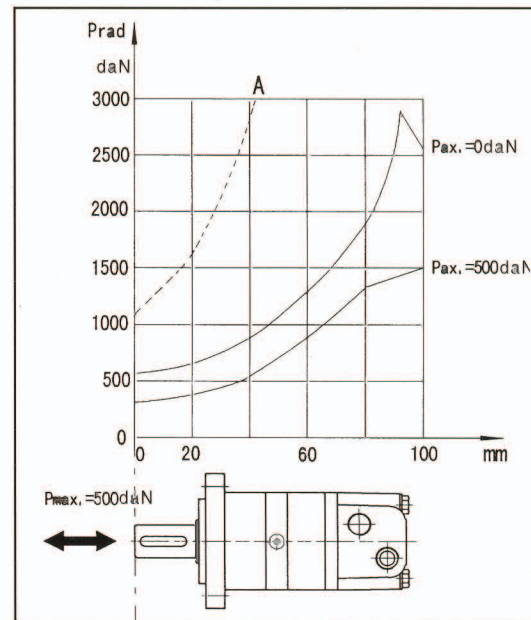


In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

Direction of Shaft Rotation



Axial and Radial forces



The output shaft runs in tapered bearings that permit high axial and radial forces, Curve "A" shows max radial shaft load, Any shaft loads exceeding the values quoted in the curve will involve a risk of breakage, The two other curves apply to a B10 bearing life of 3000 hours at 200 RPM.

Performance Data:

EBMP

EBMP

EBMP160 [155.5cm³/rev.]

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

EBMP200 [189.9cm³/rev.]

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

cont.
 int.

EBMP250 [231cm³/rev.]

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

Torque (N·m) 153
 Speed (rpm) 295

Performance Data:

EBMP

EBMP

EBMP315 [311.7cm³/rev.]

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

cont.
 int.

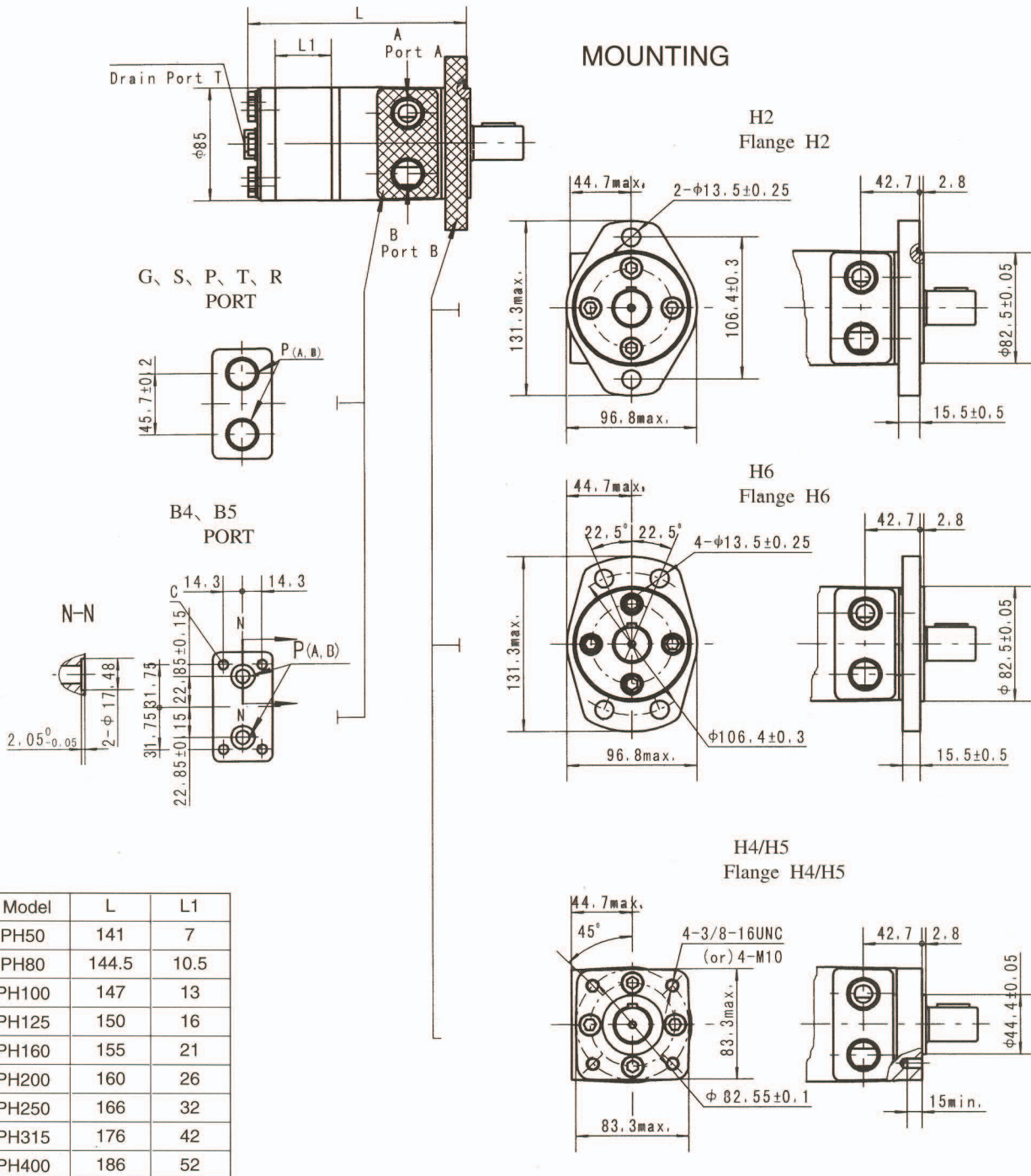
EBMP400 [386.2cm³/rev.]

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

Torque (N•m) **351**
 Speed (rpm) **182**

Dimension and Mounting Data:

EBMPH



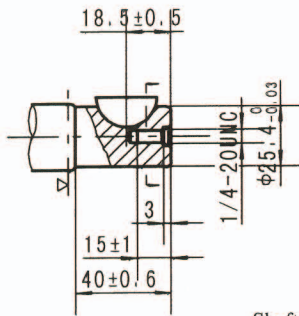
Model	L	L1
EBMPH50	141	7
EBMPH80	144.5	10.5
EBMPH100	147	13
EBMPH125	150	16
EBMPH160	155	21
EBMPH200	160	26
EBMPH250	166	32
EBMPH315	176	42
EBMPH400	186	52

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)

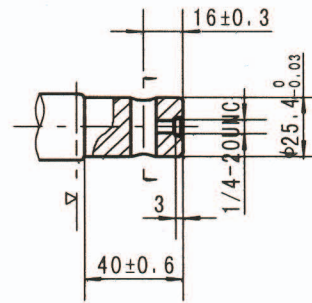
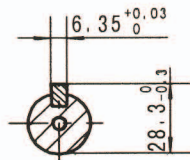
Shaft Extensions

EBMPH

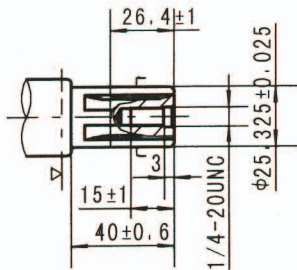
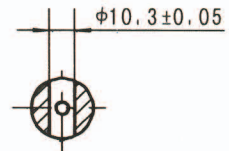
EBMPH



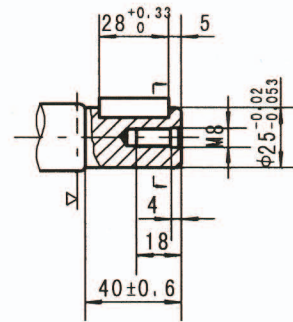
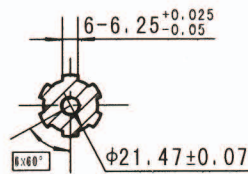
Shaft K: Cylindrical shaft Ø25.4
Woodruff key Ø25.4x6.35



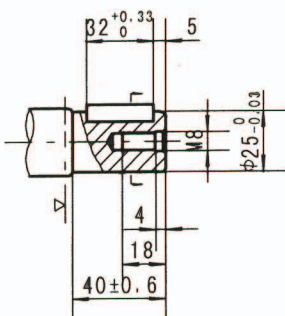
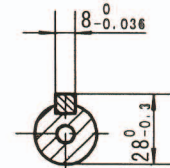
Shaft H: Cylindrical shaft Ø25.4
Pin hole Ø10.3



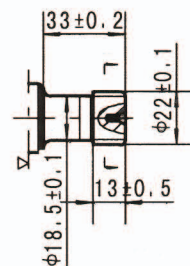
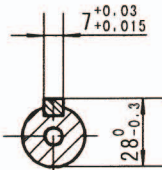
Shaft S: Splined SAE 6B



Shaft P: Cylindrical shaft Ø25
Parallel key 8x7x28



Shaft J: Cylindrical shaft Ø25
Parallel key 7x7x32

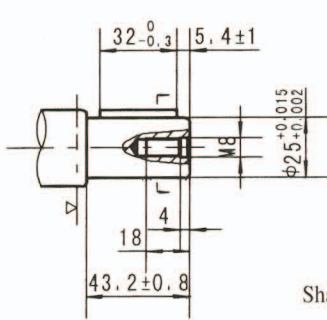


Shaft I: Splined 13-DP12/24

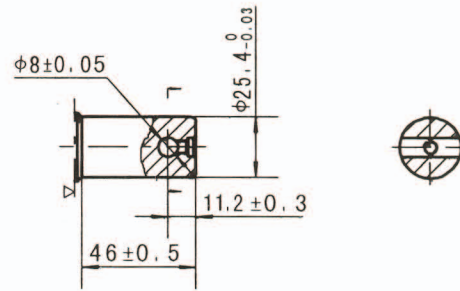


Shaft Extension:

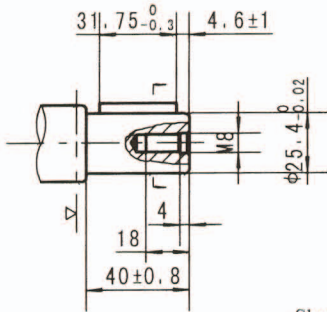
EBMPH



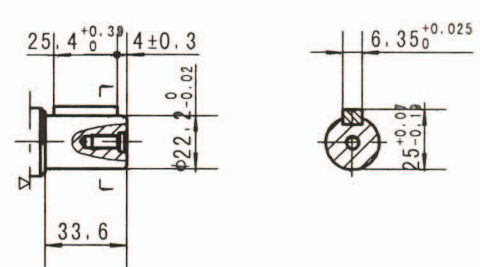
Shaft A: Cylindrical shaft $\phi 25$
Parallel key 8x8x30



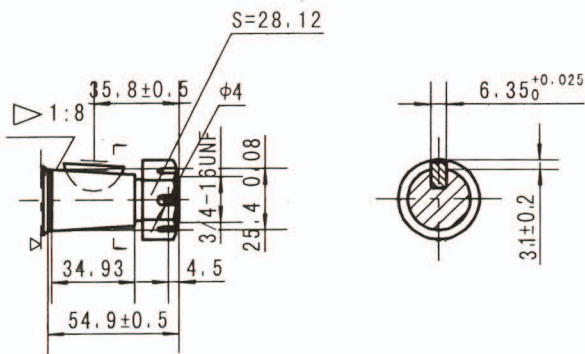
Shaft H1: Cylindrical shaft $\phi 25.4$
Pin hole $\phi 8$



Shaft R: Cylindrical shaft $\phi 25.4$
Parallel key 6.35x6.35x31.75



Shaft D: Cylindrical shaft $\phi 22.22$
Parallel key 6.35x6.35x25.4



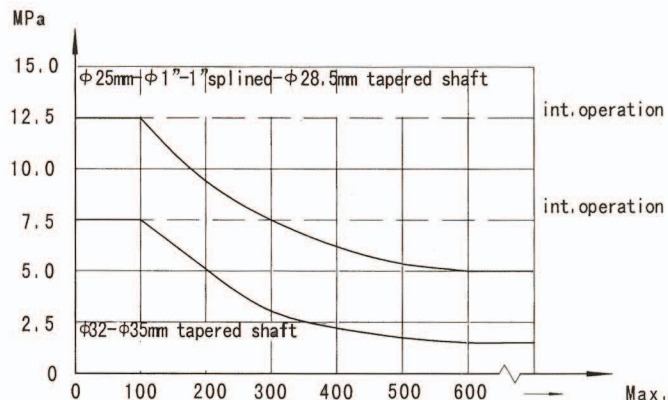
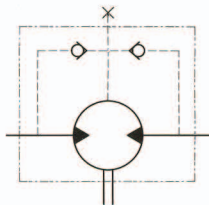
Shaft T2: Cone-shaft $\phi 25.4$
Parallel key $\phi 25.4 \times 6.35$

Tightening torque: $200 \pm 10 \text{ Nm}$

Motor Mounting Surface

Permissible Shaft Seal Pressure:

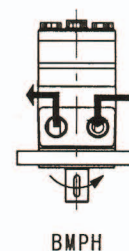
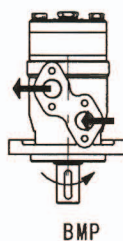
EBMPH



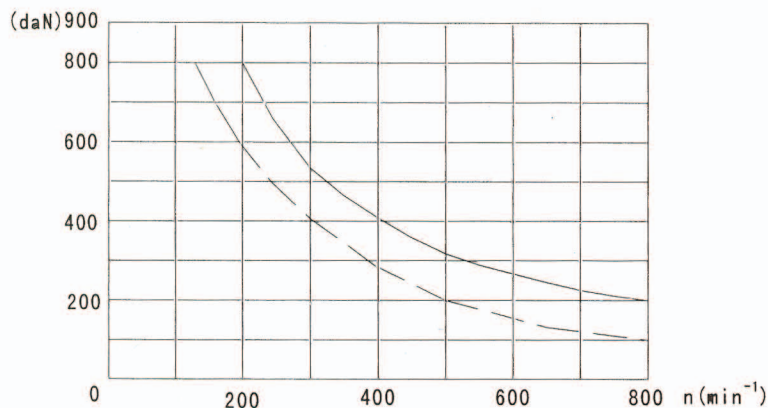
In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

Direction of Shaft Rotation

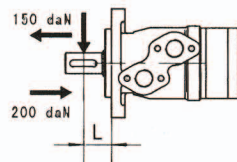
Direction of shaft rotation



Status of the shaft's radial force



$$F_r = \frac{800 \cdot 2500}{n \cdot 95 + 1} \text{ daN}$$



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

$L=30\text{mm}$ Rhomb-flange $L=30\text{mm}$
 $L=24\text{mm}$ Square-flange $L=24\text{mm}$

shaft $\phi 25\text{mm}$ and $\phi 1 \frac{1}{4}$ ($\phi 25.4\text{mm}$)
shaft $\phi 32\text{mm}$