

BMS-BMT-BMV



Usage Guide

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

1. Oil temperature :normal 20℃~60℃ upper limit 90℃ (no more than one hour).
2. Filtering and oil cleanliness :a return filter should be installed in the system with a fineness in the range of 10~30µm and a piece of magnet should be installed at the bottom of the tank to prevent grits into the system. The max solid contamination grade of the oil is no more than 19/16.
3. Viscosity: 42~74 mm²/s at 40℃ of oil temperature ,according to the condition to choose an applicable hydraulic oil.
4. The motors can be operated in parallel or series. When the pressure of the back exceeds 2MPa,it is necessary to install an external drain line to the tank.
5. For BMS、BMT and BMV series motors, the output shaft permit high axial and radial forces. The optimal operation situation should be at the 1/3~2/3 of the rated operation situation.
6. In order to obtain a longer life of operating motor should operate motors at first for one hour under 30% of rated pressure. In any case, be sure to fill up with hydraulic oil inside motor before increasing load.

Specification Data of Hydraulic Motor

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

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BMS Series Hydraulic Motor

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

Characteristic features:

* Advanced manufacturing devices for the Geroler gear set, which use low pressure of start-up, provide smooth and 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 high 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.

Main Specification

Type		BMS 80	BMS 100	BMS 125	BMS 160	BMS 200	BMS 250	BMS 315	BMS 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.

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PERFORMANCE DATA

BMS 80 [80.6cm³/rev.]

		Pressure (MPa)						
					Max.cont.	Max.int.		
		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
	30	35	80	120	158	195	240	260
		362	352	346	338	330	322	310
	40	35	79	119	155	193	234	250
		482	473	464	453	444	434	415
	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
	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

BMS 100 [100.8cm³/rev.]

		Pressure (MPa)						
					Max.cont.	Max.int.		
		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
	30	45	94	146	198	250	295	317
		291	289	278	274	269	258	242
	40	43	89	142	196	248	293	316
		387	384	374	359	350	335	320
	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
	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

BMS 125 [125cm³/rev.]

		Pressure (MPa)						
					Max.cont.	Max.int.		
		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
	30	55	120	175	250	324	375	408
		222	220	217	208	200	199	190
	40	55	120	175	250	324	370	408
		302	298	292	284	276	268	260
	50	50	115	176	248	320	370	406
		379	373	368	363	350	339	328
Max.cont.	60	45	113	171	245	324	368	406
		456	448	443	439	425	406	393
	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

BMS 160 [157.2cm³/rev.]

		Pressure (MPa)						
					Max.cont.	Max.int.		
		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
	30	75	150	214	321	380	427	490
		185	182	176	168	164	162	152
	40	70	150	215	320	378	425	488
		248	244	239	229	224	217	204
	50	65	145	215	316	378	425	482
		312	308	304	294	288	280	270
Max.cont.	60	65	145	214	315	375	424	482
		375	371	365	357	346	336	323
	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	

BMS 200 [200cm³/rev.]

		Pressure (MPa)					
					Max.cont.	Max.int.	
		3.5	7	10.5	14	17.5	22.5
Flow (L/min)	15	89	190	295	400	484	608
		73	71	68	64	60	52
	30	87	190	294	399	485	600
		148	146	143	140	135	127
	40	86	188	292	397	483	594
		193	191	189	186	181	172
	50	80	184	290	395	480	590
		247	245	243	240	235	226
	60	74	178	286	390	475	582
		298	295	293	290	284	273
Max.cont.	75	58	160	275	375	460	570
		372	369	365	362	358	346
Max.int.	90	49	148	260	355	445	555
		440	435	430	422	411	401

BMS 250 [252cm³/rev.]

		Pressure (MPa)					
					Max.cont.	Max.int.	
		3.5	7	10.5	14	17.5	22.5
Flow (L/min)	15	117	230	355	450	554	652
		58	55	52	51	47	46
	30	117	225	350	446	560	657
		118	117	112	109	107	106
	40	115	225	348	442	552	650
		160	156	152	150	146	142
	50	110	220	345	438	546	645
		202	200	198	196	195	192
Max.cont.	60	105	220	340	435	542	642
		242	239	237	234	231	229
	75	95	215	338	430	537	638
		300	296	293	286	282	278
Max.int.	90	90	205	337	420	530	632
		360	354	348	340	332	326

BMS 315 [314.5cm³/rev.]

		Pressure (MPa)					
					Max.cont.	Max.int.	
		3.5	7	10.5	12	14	18.5
Flow (L/min)	15	160	320	465	555	650	748
		48	47	45	43	40	38
	30	165	322	468	560	658	752
		94	92	90	89	86	85
	40	160	310	457	546	642	741
		125	123	120	118	116	115
	50	155	305	450	538	637	736
		158	156	153	150	147	145
Max.cont.	60	152	302	442	532	632	732
		175	174	170	164	162	159
	75	145	295	436	525	628	726
		236	234	230	227	225	222
Max.int.	90	132	280	430	520	622	723
		285	282	280	276	273	270

BMS 375 [370cm³/rev.]

		Pressure (MPa)					
					Max.cont.	Max.int.	
		3.5	7	9	10	12	14
Flow (L/min)	15	185	362	474	512	588	660
		40	39	38	37	35	33
	30	184	364	475	514	590	661
		80	78	77	76	74	72
	40	180	362	473	513	588	659
		106	104	103	102	100	97
	50	160	360	472	511	586	658
		133	131	130	129	128	125
Max.cont.	60	150	359	471	510	585	657
		157	156	155	154	152	150
	75	130	353	465	504	580	651
		200	198	196	195	225	193
Max.int.	90	105	350	462	500	584	647
		238	235	234	232	230	227

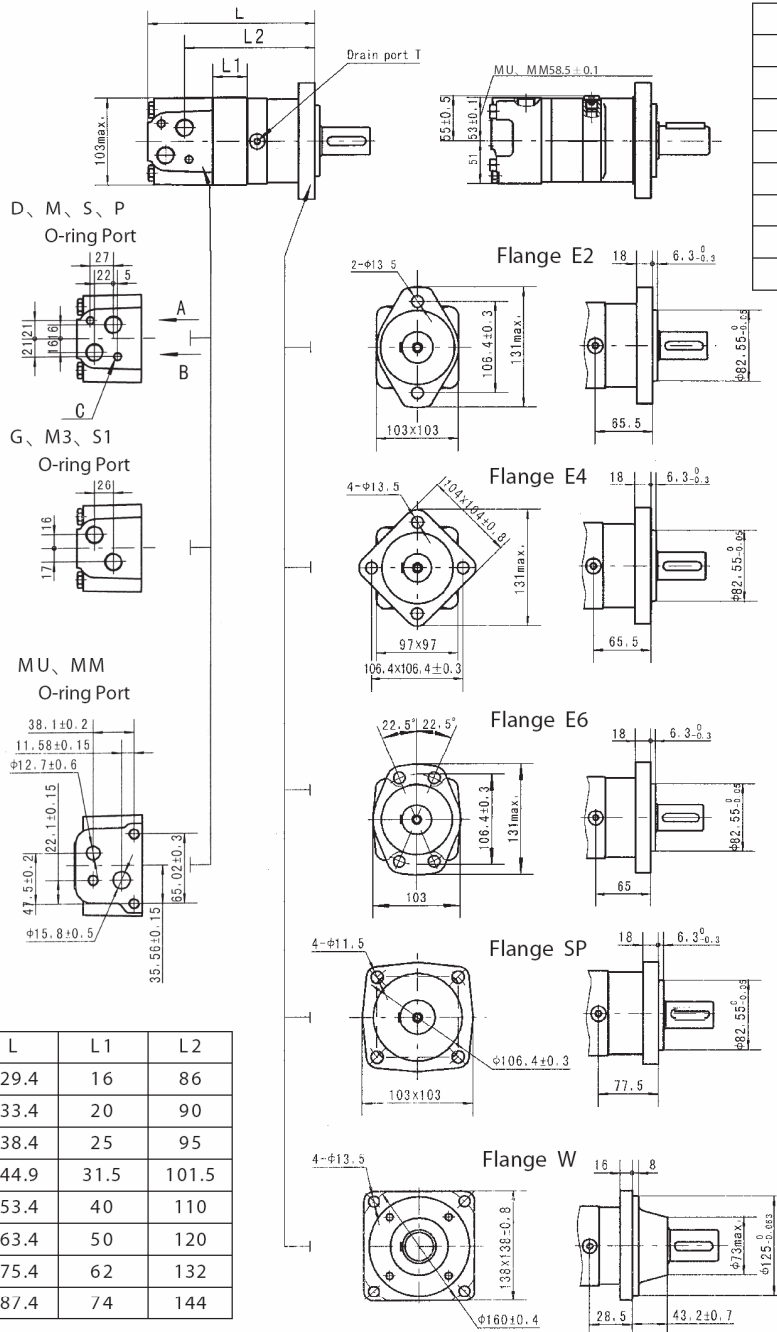
Torque (N·m) 520
Speed (rpm) 278

□ cont.
■ int.

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BMS MOUNTING DATA



Model	L	L1	L2
BMS80	167	16	123.2
BMS100	171	20	127.2
BMS125	176	25	132.2
BMS160	182	31.5	138.7
BMS200	191	40	147.2
BMS250	201	50	157.2
BMS315	213	62	169.2
BMS375	225	74	181.2

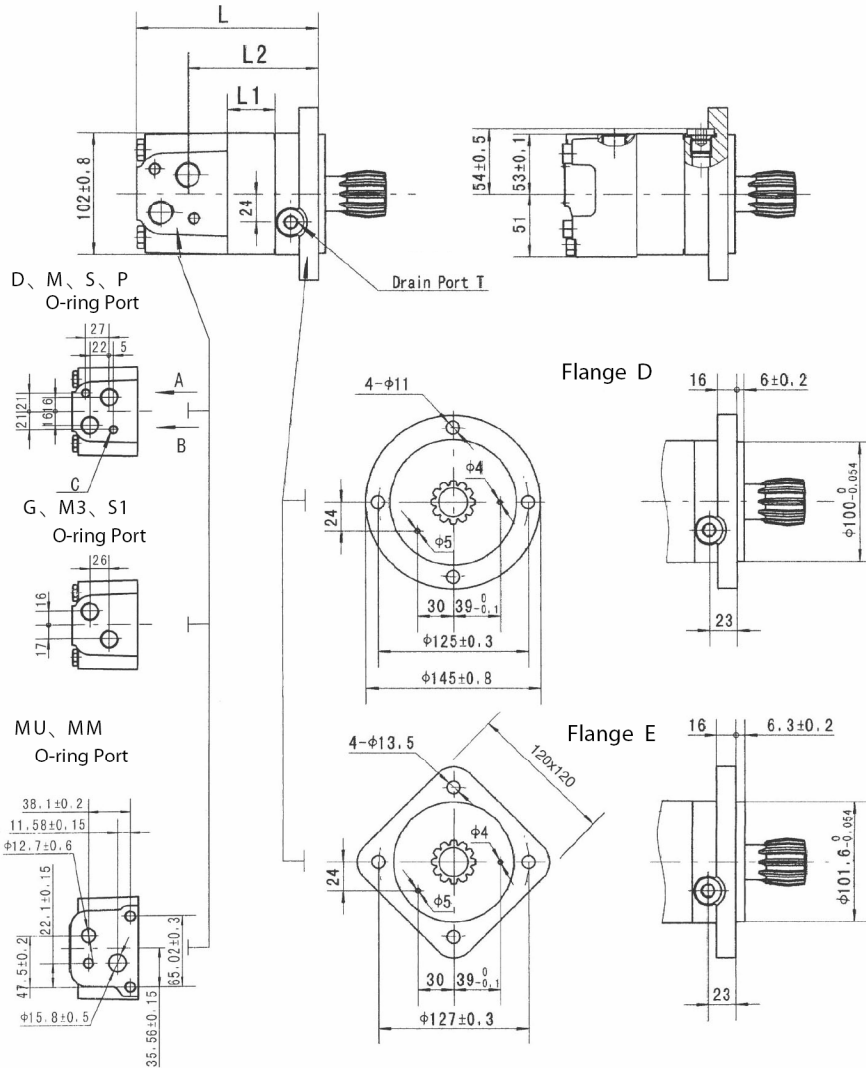
Model	L	L1	L2
BMSW80	129.4	16	86
BMSW100	133.4	20	90
BMSW125	138.4	25	95
BMSW160	144.9	31.5	101.5
BMSW200	153.4	40	110
BMSW250	163.4	50	120
BMSW315	175.4	62	132
BMSW375	187.4	74	144

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)	-	-	-

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BMSS MOUNTING DATA



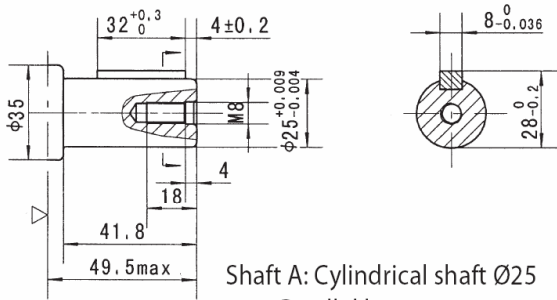
Model	L	L1	L2
BMSS80	125	16	82.5
BMSS100	134	20	90
BMSS125	139	25	95
BMSS160	145.5	31.5	101.5
BMSS200	154	40	110
BMSS250	164	50	120
BMSS315	176	62	132
BMSS375	188	74	144

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)	-	-	-

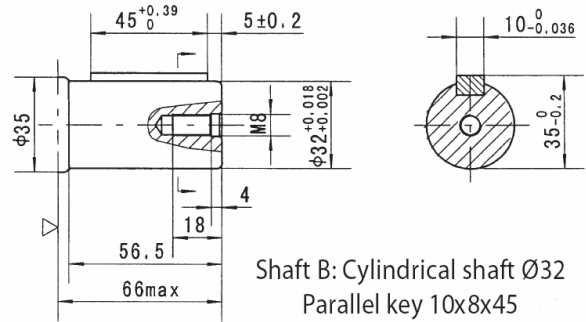
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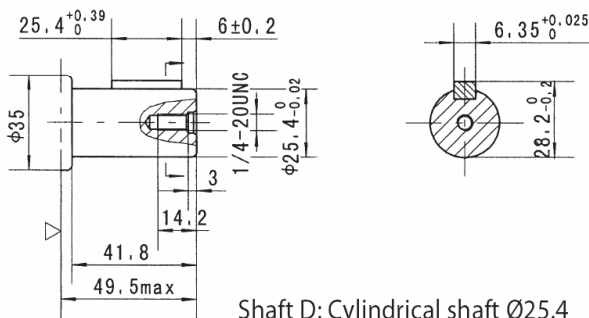
SHAFT EXTENSIONS FOR BMS MOTORS



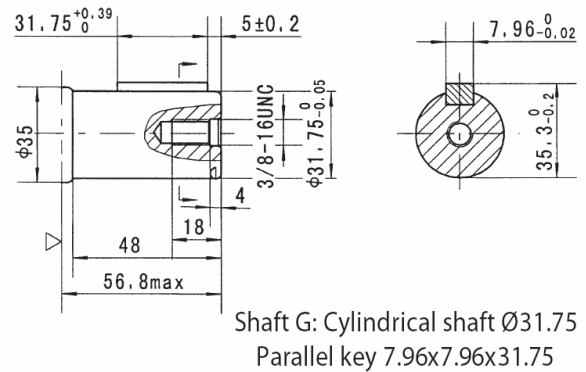
Shaft A: Cylindrical shaft Ø25
Parallel key 8x7x32



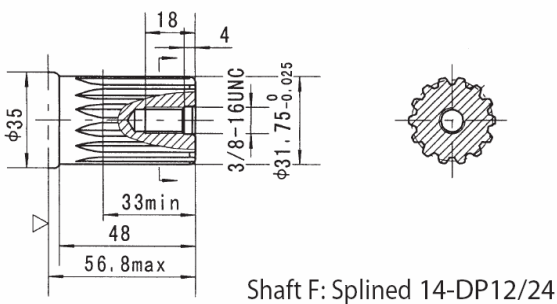
Shaft B: Cylindrical shaft Ø32
Parallel key 10x8x45



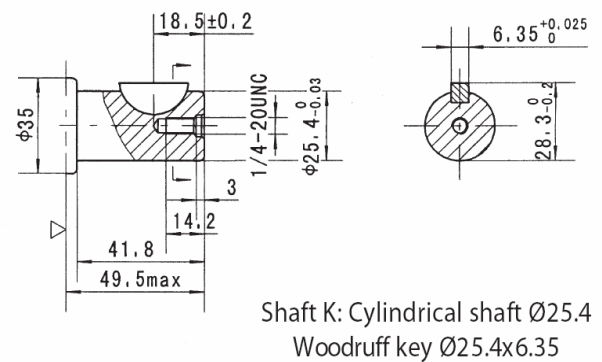
Shaft D: Cylindrical shaft Ø25.4
Parallel key 6.35x6.35x25.4



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



Shaft F: Splined 14-DP12/24



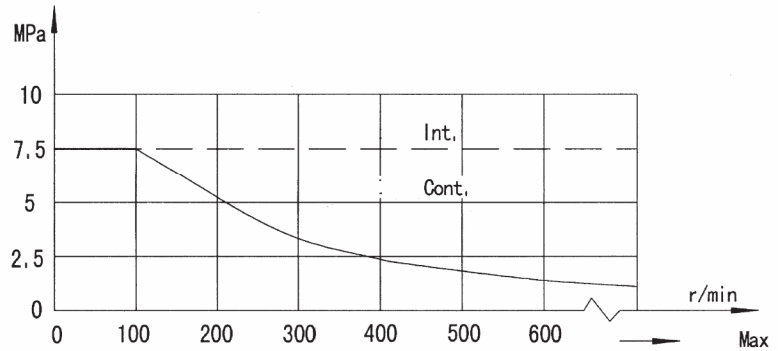
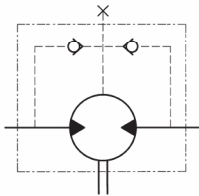
Shaft K: Cylindrical shaft Ø25.4
Woodruff key Ø25.4x6.35

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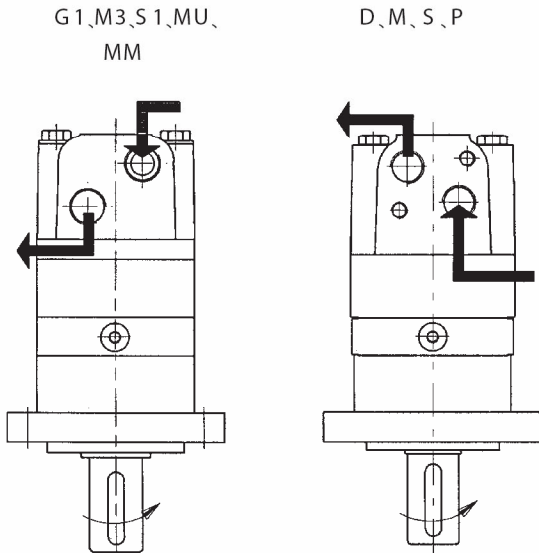
BMS Series Hydraulic Motor

Permissible shaft seal pressure

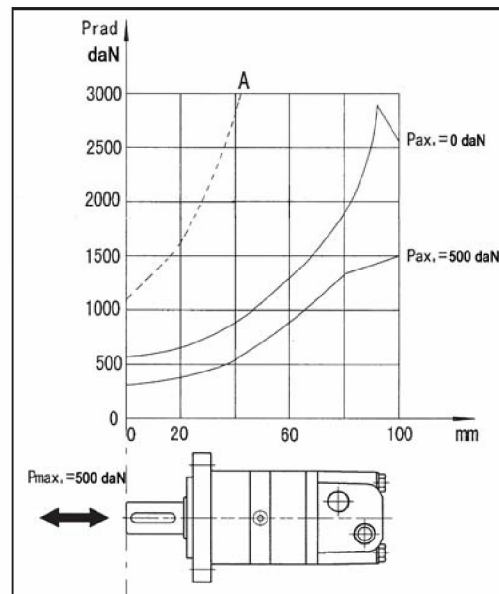


In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

Direction of shaft rotation



Axial and Radial forces

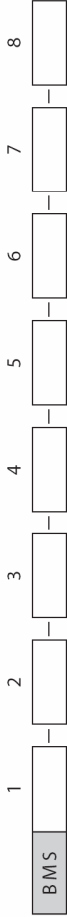


The output shaft runs in tapered bearings that permit high axial and radial forces, Curve "A" shows max radial shaft load, Any shaft loads exceeding the values quoted in the curve will involve a risk of breakage, The two other curves apply to a B10 bearing life of 3000 hours at 200 RPM.

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Order Information



Pos.1	2	3	4	5	6	7	8
Code	Disp.	Flange	Output Shaft	Port and Drain Port	Rotation Direction	Paint	Unusually Function
None or (T)	80	E2 2-Ø13.5Rhomb-flange, pilot Ø82.5 × 6.3	A Shaft Ø25,parallel Key 8 × 7 × 32	D G1/2 Manifold Mount	None	00	None
	100	E4 4-Ø13.5Rhomb-flange, pilot Ø82.5 × 6.3	B Shaft Ø32,parallel Key 10 × 8 × 45	2-M10, G1/4			
	125	E6 4-Ø13.5 Rhomb-flange ,pilot Ø82.5 × 6.3	D Shaft Ø25.4,parallel Key 6.35 × 6.35 × 25.4	M M22 × 1.5 Manifold Mount			
	160	S P 4-Ø11.5Square-flange, pilot Ø82.5 × 6.3	G Shaft Ø31.75,parallel Key 7.96 × 7.96 × 31.75	2-M10, M14 × 1.5			
	200	W 4-Ø13.5Wheel-flange, pilot Ø125 × 8	F Shaft Ø31.75,splined Key 14-DP12/24	7/8-14 O-ring manifold			
	250		FD Long Shaft Ø31.75 ,splined key 14-DP12/24	2-3/8-16UNC, 7/16-20UNF			
	315		S L Shaft Ø34.85 ,Splined Key 6-34.85 × 28.14 × 8.64	1/2-14 NPTF Manifold			
	375		T1 Cone-shaft Ø35, parallel Key B6 × 6 × 20	2-3/8-16UNC, 7/16-20UNF			
				G G1/2 , G1/4			
				M3 M22* 1.5, M14 × 1.5			
				S1 7/8-14 O-ring, 7/16-20 UNF			
				MU Crosshole Manifold 3 × 3/8-16UNC, 7/16-20UNF			
				MM Crosshole Manifold 3 × M10, G1/4			
S		D 4-Ø13.5Circle-flange Ø125, pilot Ø100 × 6 E 4-Ø13.5Square-flange Ø127, pilot Ø101.6 × 6.3	I Sub-shaft Ø22 splined key 13-DP16/32 None Short shaft DP12/24			S	

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.

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