



Hanjiu Hydraulic

石家庄寒九科技有限公司

SHIJIAZHUANG HANJIU TECHNOLOGY CO.,LTD



BMT 系列液压马达 BMT SERIES HYDRAULIC MOTOR

BMT 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. 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 Specificaion

Type		BMT 160	BMT 200	BMT 230	BMT 250	BMT 315	BMT 400	BMT 500	BMT 630	BMT 800
Geometric displacement (cm ³ /rev.)		161.1	201.4	232.5	251.8	326.3	410.9	523.6	629.1	801.8
Max. speed (rpm)	cont.	625	625	536	500	380	305	240	196	154
	int.	780	750	643	600	460	365	285	233	185
Max. torque (N·m)	cont.	470	590	670	730	950	1080	1220	1318	1464
	int.	560	710	821	880	1140	1260	1370	1498	1520
	peak	669	838	958	1036	1346.3	1450.3	1643.8	1818.8	1865
Max. output (kW)	cont.	27.7	34.9	34.7	34.5	34.9	31.2	28.8	25.3	22.2
	int.	32	40	40	40	40	35	35	27.5	26.8
Max. pressure drop (MPa)	cont.	20	20	20	20	20	18	16	14	12.5
	int.	24	24	24	24	24	21	18	16	13
	peak	28	28	28	28	28	24	21	19	16
Max. flow (L/min)	cont.	100	125	125	125	125	125	125	125	125
	int.	125	150	150	150	150	150	150	150	150
Max. inlet pressure (MPa)	cont.	21	21	21	21	21	21	21	21	21
	int.	25	25	25	25	25	25	25	25	25
	peak	30	30	30	30	30	30	30	30	30
Weight (kg)		19.5	20	20.4	20.5	21	22	23	24	25

- * 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

		BMT 160 [161.1cm³/rev.]						
		Pressure (MPa)						
		Max.cont.					Max.int.	
		4	8	10	12	16	20	24
Flow (L/min)	10	88	176	228	275	361	447	535
		60	59	58	56	54	50	44
	20	89	181	234	277	372	459	557
		121	120	117	114	109	103	95
	40	91	180	235	277	381	471	573
Max.cont.	60	249	246	243	236	230	223	212
		82	178	235	277	381	470	572
	80	371	367	362	356	349	340	330
		78	173	229	276	379	466	567
	100	492	489	485	478	470	462	447
Max.int.		70	160	218	269	370	455	558
	125	614	611	606	598	590	582	570
		58	148	211	261	359	448	552
		770	764	758	750	741	731	715

		BMT 200 [201.4cm³/rev.]						
		Pressure (MPa)						
		Max.cont.					Max.int.	
		4	8	10	12	16	20	24
Flow (L/min)	10	124	233	289	340	454	560	669
		47	46	45	42	39	37	33
	20	125	239	298	347	468	576	696
		95	94	92	90	87	84	75
	40	120	241	296	352	475	589	716
Max.cont.	60	195	193	191	187	183	178	167
		116	237	295	352	478	589	718
	80	297	295	292	287	282	276	263
		108	231	289	350	474	586	716
	100	395	393	389	384	377	370	359
Max.int.		99	227	286	344	471	580	712
	125	493	490	486	482	475	467	460
		84	208	276	333	459	566	697
		70	194	260	324	447	554	682
		743	740	735	727	717	706	682

		BMT 250 [251.8cm³/rev.]						
		Pressure (MPa)						
		Max.cont.					Max.int.	
		4	8	10	12	16	20	24
Flow (L/min)	10	138	286	355	419	559	689	824
		38	38	37	36	34	32	31
	20	143	296	364	432	580	708	853
		76	75	74	72	70	67	62
	40	139	301	372	440	593	723	884
Max.cont.	60	156	154	152	149	146	142	134
		132	294	372	441	592	727	888
	80	237	236	233	229	224	219	207
		128	283	364	433	587	721	887
	100	317	316	314	308	303	299	284
Max.int.		126	282	355	427	582	716	879
	125	396	394	391	387	381	373	359
		116	260	340	414	568	703	864
		495	492	488	483	476	469	454
		88	242	320	397	552	686	847
		592	589	585	580	572	565	545

		BMT 315 [326.3cm³/rev.]						
		Pressure (MPa)						
		Max.cont.					Max.int.	
		4	8	10	12	16	20	24
Flow (L/min)	10	184	363	453	545	734	891	1062
		30	29	28	27	26	25	23
	20	189	380	472	562	757	917	1109
		60	59	58	56	54	52	50
	40	191	381	484	570	774	954	1149
Max.cont.	60	121	120	118	115	112	109	104
		189	376	493	573	772	962	1154
	80	183	181	179	175	172	168	158
		179	369	479	565	768	954	1153
	100	244	242	239	236	231	227	217
Max.int.		169	357	467	562	758	942	1143
	125	305	304	301	298	294	289	276
		147	336	447	544	745	920	1127
		380	378	375	371	367	362	349
		119	318	432	526	713	894	1097
		458	456	453	449	444	431	425

Torque (N·m) 552
Speed (rpm) 672

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Performance Data

BMT 400 [410.9cm³/rev.]

Pressure (MPa)

		Max.cont.						Max.int.
		3	6	9	12	15	18	21
Flow (L/min)	10	176	367	560	715	885	1050	1209
		24	23	22	21	20	19	18
	20	179	370	565	726	899	1071	1236
		49	48	47	44	42	40	38
	40	176	370	567	733	919	1091	1263
Max.cont.	60	174	361	563	729	920	1095	1269
		145	143	139	135	131	127	121
	80	166	353	553	719	912	1084	1263
		193	191	188	184	180	176	170
	100	150	339	538	708	896	1067	1252
Max.int.	125	135	309	524	688	873	1045	1221
		302	300	298	294	289	285	278
	150	126	292	508	666	852	1020	1197
		364	362	358	354	350	346	339

BMT 500 [523.6cm³/rev.]

Pressure (MPa)

		Max.cont.						Max.int.
		3	6	9	12	14	16	18
Flow (L/min)	10	222	451	692	892	1050	1193	1340
		18	18	18	17	16	15	13
	20	231	464	714	918	1070	1220	1377
		37	36	35	34	33	32	30
	40	230	466	727	941	1094	1244	1422
Max.cont.	60	225	457	714	941	1088	1245	1409
		113	112	111	109	107	105	101
	80	213	431	696	927	1076	1244	1401
		151	150	149	147	145	143	138
	100	194	420	680	901	1063	1224	1383
Max.int.	125	182	398	641	877	1024	1199	1352
		237	236	235	233	231	229	225
	150	147	369	618	853	1004	1167	1325
		284	283	282	280	278	276	272

BMT 630 [629.1cm³/rev.]

Pressure (MPa)

		Max.cont.						Max.int.
		3	6	9	10.5	12	14	16
Flow (L/min)	10	233	520	795	902	1074	1194	1363
		14	14	13	13	13	11	11
	20	237	554	837	953	1117	1239	1407
		28	27	27	26	26	24	22
	40	239	553	860	987	1171	1308	1483
Max.cont.	60	223	544	863	978	1172	1318	1498
		94	94	92	91	90	86	82
	80	220	537	854	965	1172	1314	1497
		123	122	121	119	118	114	110
	100	208	522	832	945	1156	1303	1488
Max.int.	125	156	499	810	931	1137	1292	1472
		196	196	194	192	191	187	183
	150	174	492	785	921	1121	1277	1454
		233	232	231	230	227	223	217

BMT 800 [801.8cm³/rev.]

Pressure (MPa)

		Max.cont.						Max.int.
		3	6	9	10.5	12.5	13	
Flow (L/min)	10	346	677	1003	1159	1365	1390	
		12	12	11	11	11	10	
	20	356	692	1034	1183	1404	1458	
		24	24	24	23	22	18	
	40	365	703	1066	1236	1459	1516	
Max.cont.	60	354	703	1060	1237	1464	1520	
		74	73	71	71	68	63	
	80	332	686	1050	1226	1464	1514	
		99	98	98	96	93	86	
	100	305	654	1025	1207	1445	1506	
Max.int.	125	125	123	123	121	118	110	
		280	622	989	1181	1422	1487	
	150	247	590	953	1156	1406	1476	
		185	184	183	181	179	172	

Torque (N·m) 1121
Speed (rpm) 227

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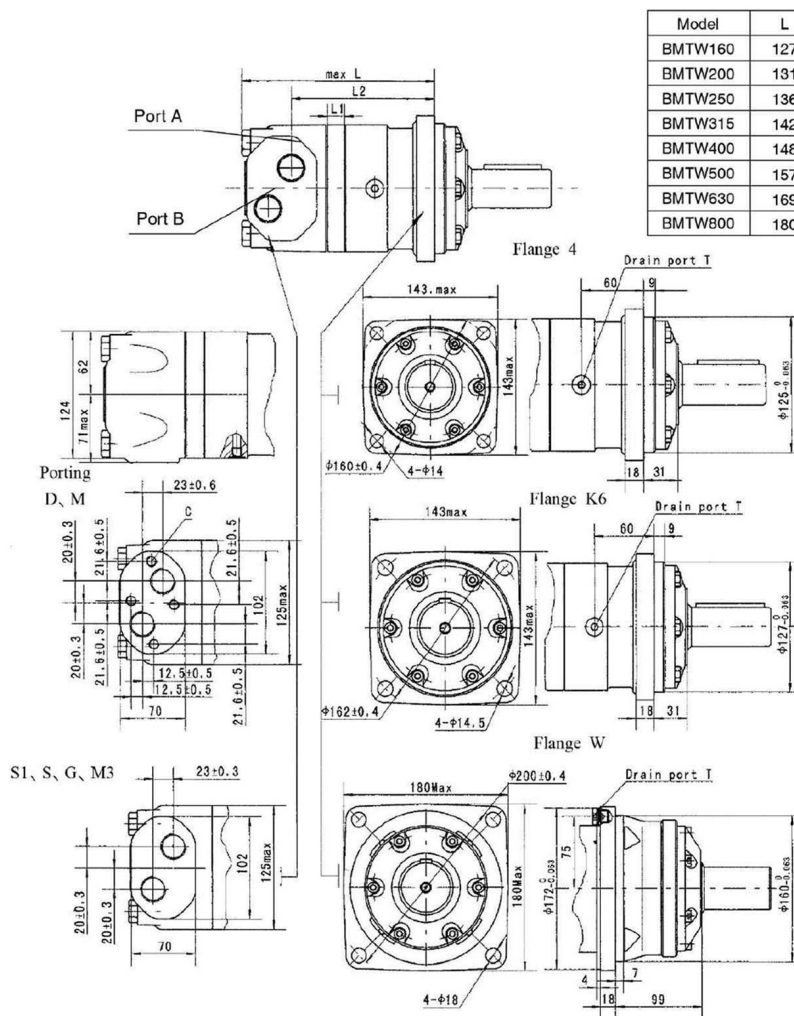
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BMT DIMENSIONS AND MOUNTING DATA



Model	L	L1	L2
BMTW160	127	17	77
BMTW200	131	21	81
BMTW250	136	14	86
BMTW315	142	20	91
BMTW400	148	27	98
BMTW500	157	35	106
BMTW630	169	47	118
BMTW800	180	58	129

Model	L	L1	L2
BMT160	193	17	142.5
BMT200	197	21	146.5
BMT250	204	14	152.5
BMT315	210	20	158.5
BMT400	217	27	165.5
BMT500	225	35	173.5
BMT630	237	47	185.5
BMT800	248	58	196.5

Content	Code					
Mounting	D (depth)	M (depth)	S (depth)	G (depth)	M3 (depth)	S1 (depth)
P(A,B)	G3/4 (18)	M27 x 2 (18)	1-1/16-12UN (18)	G3/4 (18)	M27 x 2 (18)	1-1/16-12UN (18)
T	G1/4 (12)	M14 x 1.5 (12)	9/16-18UNF (12)	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF (12)
C	4-M10(10)	4-M10(10)	--	--	--	--

Note: 1) The thickness of the stator and rotor for disp. from 160 to 200 is the dimension of L1 adding on 3mm.
2) The thickness of the stator and rotor for disp. from 250 to 800 is the dimension of L1 adding on 7mm.

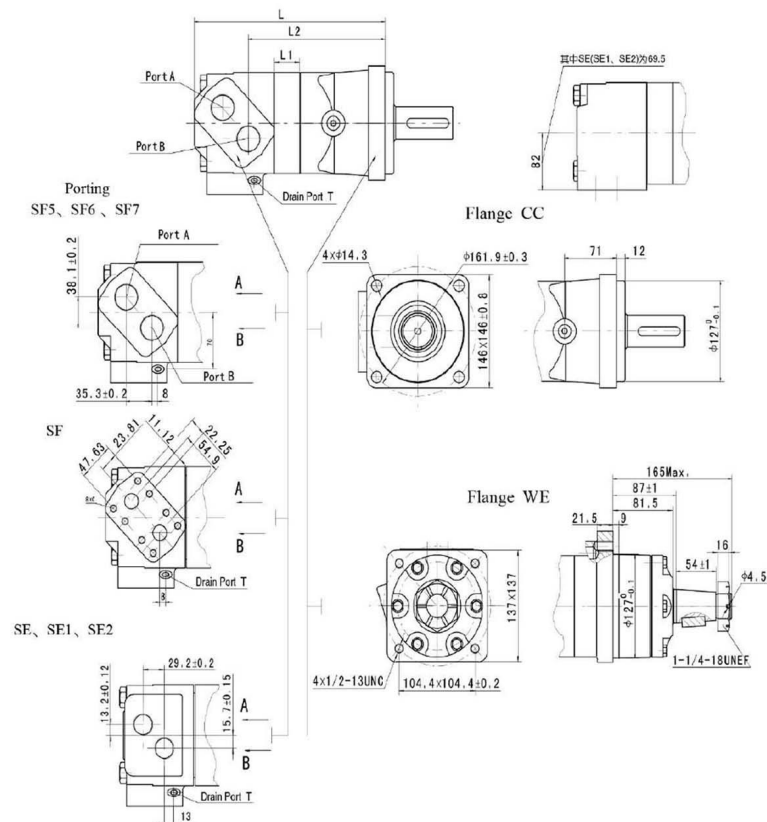
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BMT 系列液压马达

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BMTE DIMENSIONS AND MOUNTING DATA



Model	L	L1	L2
BMTE230	238.5	12	164.5
BMTE250	240.5	14	166.5
BMTE315	246.5	20	172.5
BMTE400	253.5	27	179.5
BMTE500	261.5	35	187.5
BMTE630	273.5	47	199.5
BMTE800	284.5	58	210.5

Note:1)The data for the port of SF (SF5 and SF6and sf7)
2)The data for the port of SE (SE1 and SE2) and
flange WE:L-70 and L2-59.
3)The thickness of the stator and rotor for disp,from
315 to 800 is the dimension of L1 adding on 7mm.

Content	Code						
Mounting	SF5(depth)	SF6 (depth)	SF7 (depth)	SF (depth)	SE (depth)	SE1 (depth)	SE2(depth)
P (A,B)	1-5/16-12UN (18)	M33 x 2 (18)	G1 (18)	3/4" (18)	1-1/16-12UN (18)	1-1/16-12UN (18)	G3/4 (18)
T	7/16-20UNF (12)	M14 x 1.5 (12)	G1/4 (12)	7/16-20UNF (12)	9/16-18UNF (12)	7/16-20UNF (12)	G1/4 (12)
C	--	--	--	8 x 3/8-16 UNC	--	--	--



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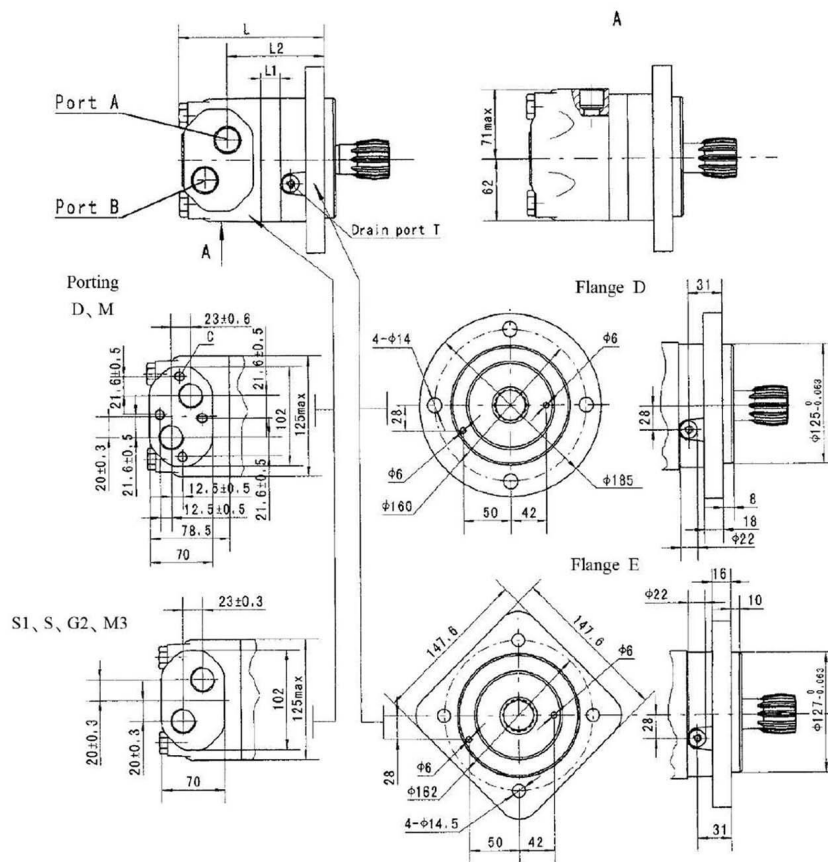
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BMTS DIMENSIONS AND MOUNTING DATA



Model	L	L1	L2
BMT160	148	17	96.5
BMT200	152	21	100.5
BMT250	157	14	109
BMT315	163	20	115
BMT400	170	27	122
BMT500	178	35	130
BMT630	190	47	142
BMT800	201	58	153

Content	Code					
Mounting	D (depth)	M (depth)	S (depth)	G (depth)	M3 (depth)	S1 (depth)
P(A,B)	G3/4 (18)	M27 x 2 (18)	1-1/16-12UN (18)	G3/4 (18)	M27 x 2 (18)	1-1/16-12UN (18)
T	G1/4 (12)	M14 x 1.5 (12)	9/16-18UNF (12)	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF (12)
C	4-M10(10)	4-M10(10)	--	--	--	--

Note: 1) The thickness of the stator and rotor for disp. from 160 to 200 is the dimension of L1 adding on 3mm.
2) The thickness of the stator and rotor for disp. from 250 to 800 is the dimension of L1 adding on 7mm.

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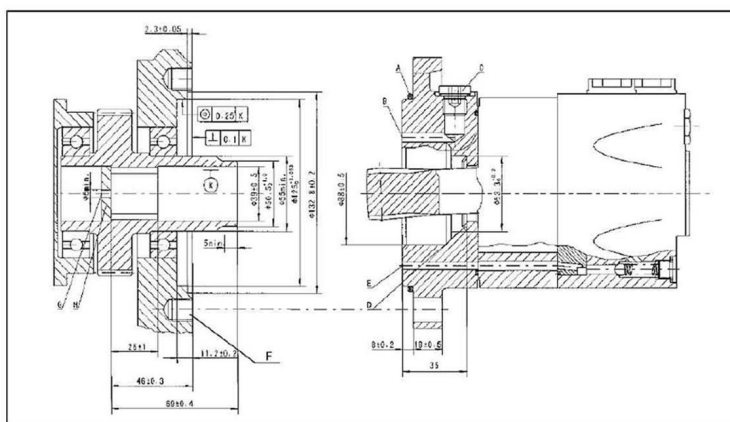
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BMT 系列液压马达

BMT SERIES HYDRAULIC MOTOR

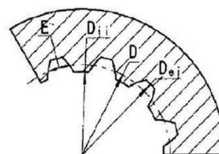
BMTS MOUNTING DATA



- A: O-ring:125x3
- B: External drain channel
- C: Drain connection G 1/4;12 mm deep
- D: Conical seal ring
- E: Internal drain channel
- F: M12;min. 18mm deep
- G: Oil circulation hole
- H: Hardened stop plate

INTERNAL SPLINE DATA FOR THE ATTACHED COMPONENT

Fillet Root Side Fit		mm
Number of Teeth	Z	16
Diametral Pitch	DP	12/24
Pressure Angle	α_D	30°
Pitch Dia.	D	$\phi 33.8656$
Major Dia.	D_{ei}	$\phi 38.4^{+0.20}_0$
Minor Dia.	D_i	$\phi 32.15^{+0.04}_0$
Space Width [Circular]	E	4.516 ± 0.037



Hardening Specification: HRC 62 $\pm$ 2
Effective case depth 0.7 $\pm$ 0.2

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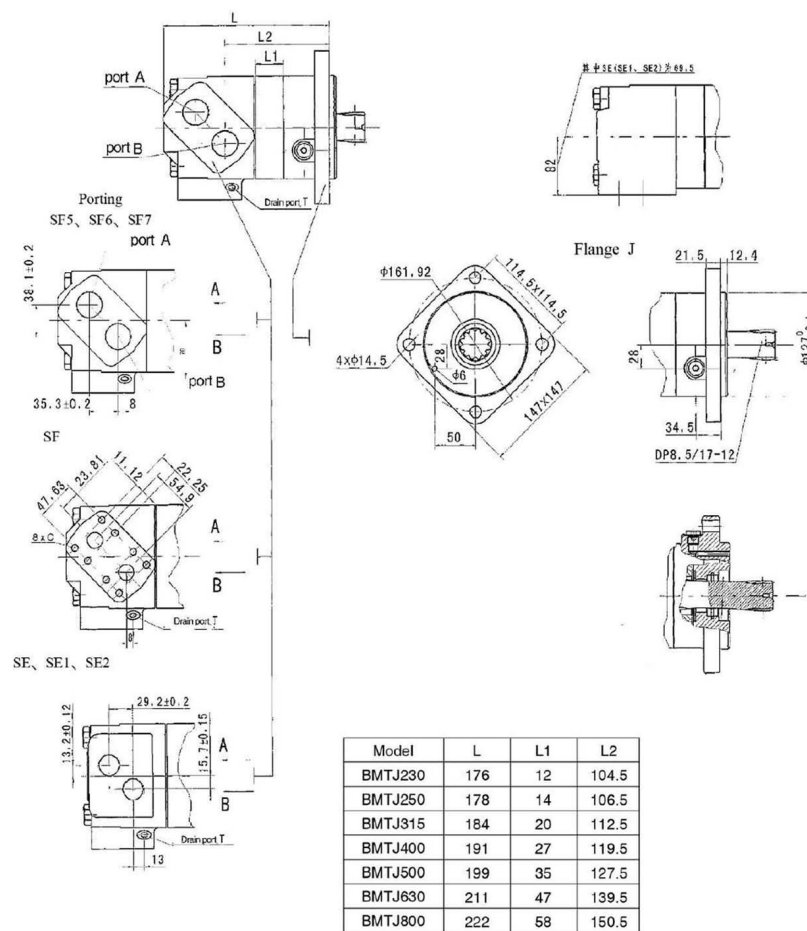
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BMTJ DIMENSIONS AND MOUNTING DATA



Note:1)The data for the port of SF (SF5 and SF6 andSF7).

2)The data for the port of SE (SE1 and SE2) and flange WE:L-70 and L2-59.

3)The thickness of the stator and rotor is the dimension of L1 adding on 7mm.

Content	Code					
Mounting	SF5 (depth)	SF6 (depth)	SF7 (depth)	SF (depth)	SE (depth)	SE1 (depth) SE2 (depth)
P(A,B)	1-5/16-12UN (18)	M33 x 2 (18)	G1 (18)	3/4" (18)	1-1/16-12UN (18)	1-1/16-12UN (18) G3/4 (18)
T	7/16-20UNF (12)	M14 x 1.5 (12)	G1/4 (12)	7/16-20UNF (12)	9/16-18UNF (12)	7/16-20UNF (12) G1/4 (12)
C	--	--	--	8 x 3/8-16UNC	--	--

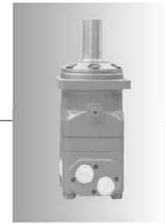
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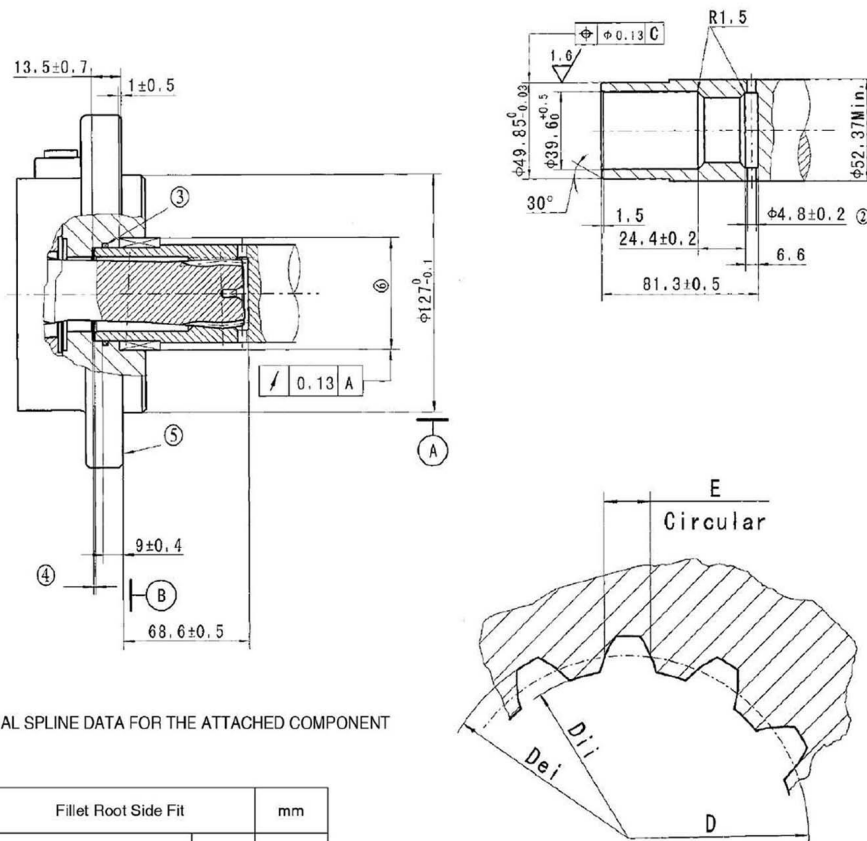
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BMTJ DIMENSIONS AND MOUNTING DATA



INTERNAL SPLINE DATA FOR THE ATTACHED COMPONENT

Fillet Root Side Fit		mm
Number of Teeth	Z	12
Diametral Pitch	DP	8.5/17
Pressure Angle	D	30°
Pitch Dia.	α_0	$\phi 35.858823$
Major Dia.	D_{ϕ}	$\phi 38.97^{+0.20}_{-0}$
Minor Dia.	D_i	$\phi 33.3^{+0.18}_{-0}$
Space Width [Circular]	E	5.886 ± 0.032
Dimension between two pins (ø4)	M_{ϕ}	$26.929-27.084$

- ① Internal spline in mating part to be as follows: Material to be ASTM A304, 8620H. Carborize to a hardness of 60-64HRC with case depth (to 50HRC) of 0.75-1 [0.030-0.040] (dimensions apply after heat treat).
- ② Mating part to have critical dimensions as shown, Oil holes must be provided and open for proper oil circulation.
- ③ Some means of maintaining clearance between shaft and mounting flange must be provided.
- ④ Seal to be furnished with motor for proper oil circulation thru splines.
- ⑤ Similar to SAE "C" Four Bolt Flange
- ⑥ Counterbore designed to adapt to a standard sleeve bearing 50.010-50.038 [1.9689-1.9700] ID by 60.51-60.079 [2.3642-2.3653] O.D. (Oilite bronze sleeve bearing).
- C This surface to be diameter of output shaft.

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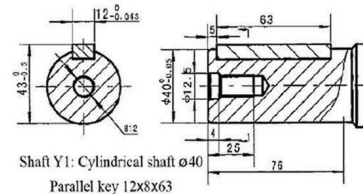
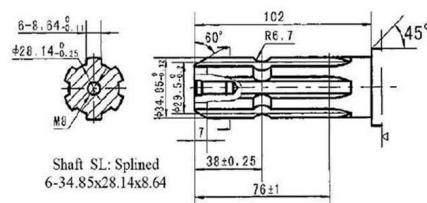
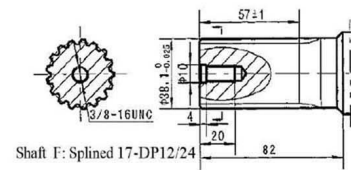
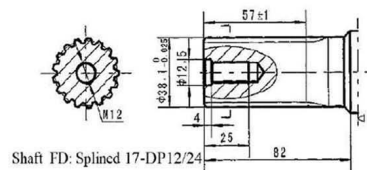
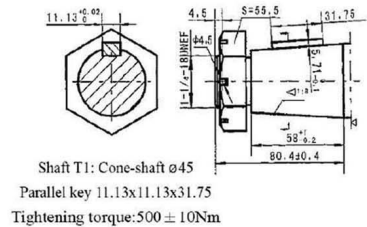
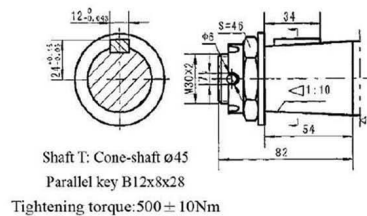
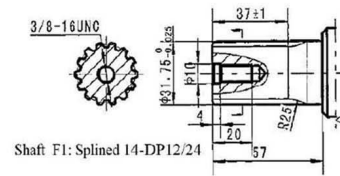
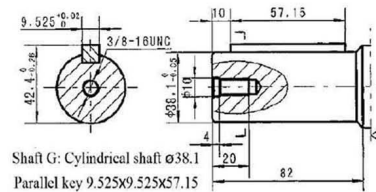
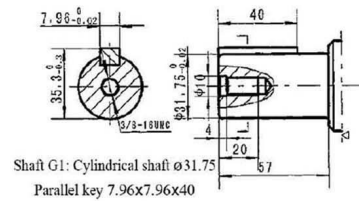
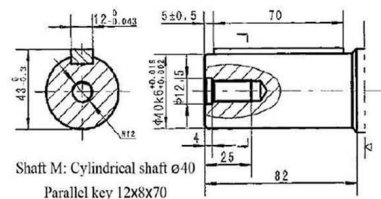
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BMT 系列液压马达 BMT SERIES HYDRAULIC MOTOR

SHAFT EXTENSIONS FOR BMT(E) MOTORS



▷ Motor Mounting Surface

Hanjiu Hydraulic



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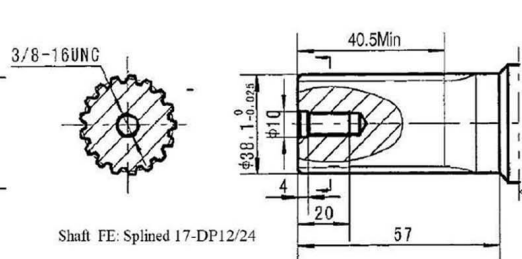
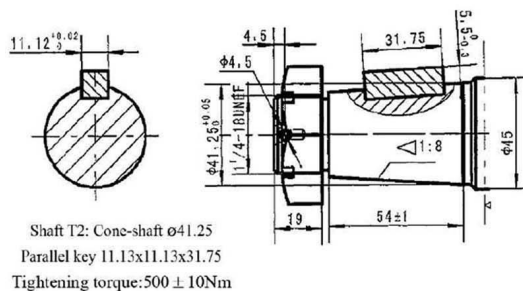
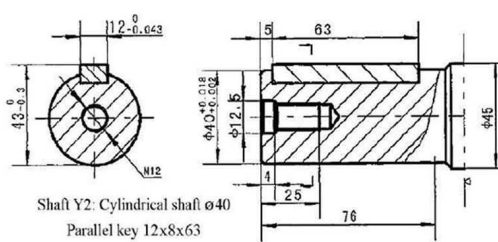
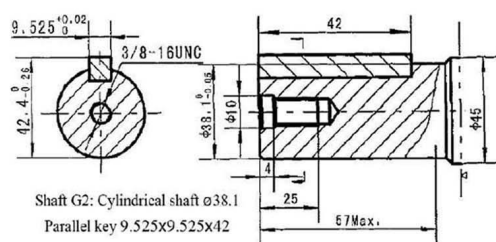
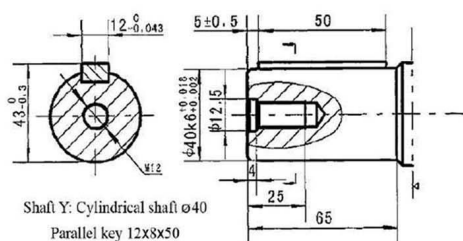
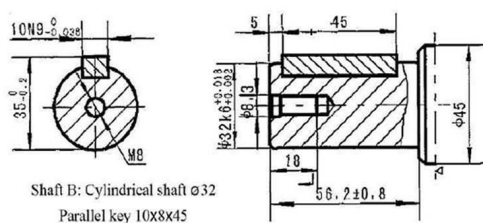
石家庄寒九科技有限公司

SHIJIAZHUANG HANJIU TECHNOLOGY CO.,LTD



BMT 系列液压马达 BMT SERIES HYDRAULIC MOTOR

SHAFT EXTENSIONS FOR BMT(E) MOTORS



▷ Motor Mounting Surface

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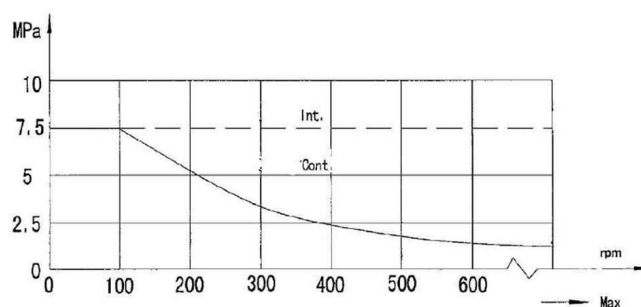
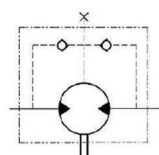
SHIJIAZHUANG HANJIU TECHNOLOGY CO.,LTD



BMT 系列液压马达

BMT SERIES HYDRAULIC MOTOR

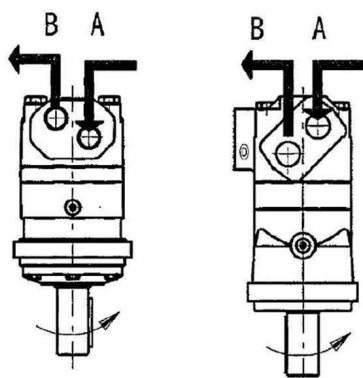
Permissible shaft seal pressure



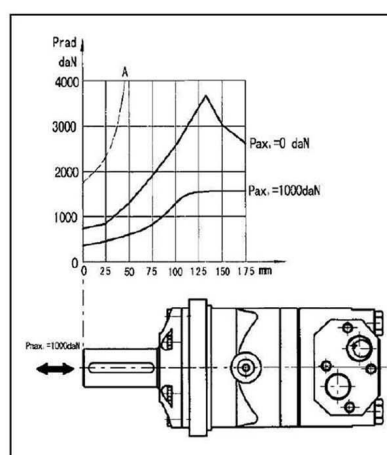
In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

Standard direction of shaft rotation: Standard

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



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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BMT 系列液压马达 BMT SERIES HYDRAULIC MOTOR

Order Information

1	2	3	4	5	6	7	8
BMT							
1	2	3	4	5	6	7	8
BMTS							

Pos.1	2	3	4	5	6	7	8
Code	Disp.	Flange	Output Shaft	Ports and Drain Port	Rotation Direction	Paint	Unusually Function
BMT	160	4 4-Ø14 Square-flangeØ160, pilotØ125 × 9	M Shaft Ø40 , parallel key 12 × 8 × 70	D G3/4 Manifold Mount,4-M10 , G1/4	Omit R	Standard Opposite	Omit F LS
	200	KS 4-Ø14.5Square-flangeØ162, pilotØ127 × 9	G Shaft Ø38.1 ,parallel key 9.52 × 9.52 × 57.15				
	250		F Shaft Ø38.1 ,splined tooth 17-DP12/24				
	315	W 4-Ø18 Wheel-flangeØ200, pilotØ160 × 7	FD Shaft Ø38.1 ,splined tooth 17-DP12/24				
	400		T Cone-shaft 1:10 Ø45 ,parallel key B12 × 8 × 28				
	500		T1 Cone-shaft 1:8 Ø45 , parallel key 11.13 × 11.13 × 31.75	M M27 × 2 Manifold Mount,4-M10, M14 × 1.5			
BMTS	630		SL shaft Ø34.85,Splined key Splined key 6-34.85 × 28.14 × 8.64	S 1-1/16-12UN O-ring, 9/16-18UNF	Omit R	Omit B S	Standard Free Running Low Speed
	800		G1 Splined key Ø31.75 , parallel key 7.96 × 7.96 × 40	S1 1-1/16-12UN O-ring, 7/16-20UNF			
			F1 Shaft Ø31.75,splined tooth 14-DP12/24	G G3/4,G1/4			
		D 4-Ø14 Circle-flange Ø160, pilot Ø125 × 8	Omit Short shaft 16-DP12/24	M3 M27 × 2,M14 × 1.5			
		E 4-Ø14.5 Square-flange Ø162, pilot Ø127 × 10					

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BMT 系列液压马达 BMT SERIES HYDRAULIC MOTOR

Order Information

1 2 3 4 5 6 7 8
BMT E - - - - - - -

1 2 3 4 5 6 7 8
BMT J - - - - - - -

Pos.1	2	3		4		5		6		7		8	
Code	Disp.	Flange		Output Shaft		Ports and Drain Port		Rotation Direction		Paint		Unusually Function	
BMTE	230	CC	4-Ø14.3 Square-flange Ø161.9, pilotØ127 × 12	G2	Shaft Ø38.1 ,parallel key 9.52 × 9.52 × 42	SF	3/4" , Manifold Mount,8-3/8-16UNC, 7/16-20UNF	Omit	Standard	00	No paint	Omit	Standard
	FE			Shaft Ø38.1 ,splined tooth 17-DP12/24	SF5 1-5/16-12UN O-ring,7/16-20 UNF SF6 M33 × 2,M14 × 1.5 SF7 G1,G1/4 SE 1-1/16-12UN O-ring,9/16-18UNF SE1 1-1/16-12UN O-ring,7/16-20 UNF SE2 G3/4,G1/4								
	Y1			ShaftØ40,parallel key 12 × 8 × 63									
	Y2			ShaftØ40,parallel key 12 × 8 × 63									
	T2			Cone-shaft 1:8 Ø41.25 , parallel key 11.13 × 11.13 × 31.75									
250	WE	4-1/2-13UNC Wheel- flangeØ147.6, pilotØ127 × 9	T3	Cone-shaft 1:8 Ø41.25 , parallel key 11.13 × 11.13 × 31.75			Opposite	B	S	Silver grey	F	Low Speed	
315													
400													
500													
630	800	J	4-Ø14.5 Square-flange Ø161.9 pilot Ø127 × 12.4	Omit	Short shaft 12-DP8.5/17								
BMTJ													

Note:When the table is used, please fill the code of left rows in the table 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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