



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 Specification

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	1618.8	1665
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.

Performance Data

BMT 160 [161.1cm³/rev.]

		Pressure (MPa)					
		Max.cont.			Max.int.		
		4	8	10	12	16	20
Flow (L/min)	10	88	176	228	275	361	447
	20	60	59	58	56	54	50
	40	121	120	117	114	109	103
	60	91	180	235	277	381	471
	80	249	246	243	236	230	223
Max.cont.	100	82	178	235	277	381	470
	125	371	367	362	356	349	340
	150	78	173	229	276	379	466
	175	492	489	485	478	470	462
	200	70	160	218	269	370	455
Max.int.	225	614	611	606	598	590	582
	250	58	148	211	261	359	448
	275	770	764	758	750	741	731
	300						

BMT 200 [201.4cm³/rev.]

		Pressure (MPa)					
		Max.cont.			Max.int.		
		4	8	10	12	16	20
Flow (L/min)	10	124	233	289	340	454	560
	20	47	46	45	42	39	37
	40	125	239	298	347	468	576
	60	95	94	92	90	87	84
	80	120	241	296	352	475	589
Max.cont.	100	195	193	191	187	183	178
	125	116	237	295	352	478	589
	150	297	295	292	287	282	276
	175	108	231	289	350	474	586
	200	395	393	389	384	377	370
Max.int.	225	99	227	286	344	471	580
	250	493	490	486	482	475	467
	275	84	208	276	333	459	566
	300	615	611	607	602	595	588
	325	70	194	260	324	447	554
	350	743	740	735	727	717	706

BMT 250 [251.8cm³/rev.]

		Pressure (MPa)					
		Max.cont.			Max.int.		
		4	8	10	12	16	20
Flow (L/min)	10	138	286	355	419	559	689
	20	38	38	37	36	34	32
	40	143	296	364	432	580	708
	60	76	75	74	72	70	67
	80	139	301	372	440	593	723
Max.cont.	100	156	154	152	149	146	142
	125	132	294	372	441	592	727
	150	237	236	233	229	224	219
	175	128	283	364	433	587	721
	200	317	316	314	308	303	299
Max.int.	225	126	282	355	427	582	716
	250	396	394	391	387	381	373
	275	116	260	340	414	568	703
	300	495	492	488	483	476	469
	325	88	242	320	397	552	686
	350	592	589	585	580	572	565

BMT 315 [326.3cm³/rev.]

		Pressure (MPa)					
		Max.cont.			Max.int.		
		4	8	10	12	16	20
Flow (L/min)	10	184	363	453	545	734	891
	20	30	29	28	27	26	25
	40	189	380	472	562	757	917
	60	60	59	58	56	54	52
	80	191	381	484	570	774	954
Max.cont.	100	121	120	118	115	112	109
	125	189	376	493	573	772	962
	150	183	181	179	175	172	168
	175	179	369	479	565	768	954
	200	244	242	239	236	231	227
Max.int.	225	169	357	467	562	758	942
	250	305	304	301	298	294	289
	275	147	336	447	544	745	920
	300	380	378	375	371	367	362
	325	119	318	432	526	713	894
	350	458	456	453	449	444	431

Torque (N·m) 552
Speed (rpm) 572

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 24	367 23	560 22	715 21	885 20	1050 19	1209 18
	20	179 49	370 48	565 47	726 44	899 42	1071 40	1236 38
	40	176 96	370 95	567 93	733 90	919 87	1091 83	1263 79
	60	174 145	361 143	563 139	729 135	920 131	1095 127	1269 121
	80	166 193	353 191	553 188	719 184	912 180	1084 176	1263 170
	100	150 242	339 240	538 238	708 234	896 228	1067 224	1252 218
	Max.cont. 125	135 302	309 300	524 298	688 294	873 289	1045 285	1221 278
	Max.int. 150	126 364	292 362	508 358	666 354	852 350	1020 346	1197 339

BMT 500 [523.6cm³/rev.]

Pressure (MPa)

		Max.cont.					Max.int.	
		3	6	9	12	14	16	18

Flow (L/min)	10	222 18	451 18	692 18	892 17	1050 16	1193 15	1340 13
	20	231 37	464 36	714 35	918 34	1070 33	1220 32	1377 30
	40	230 75	466 74	727 73	941 72	1094 70	1244 68	1422 64
	60	225 113	457 112	714 111	941 109	1088 107	1245 105	1409 101
	80	213 151	431 150	696 149	927 147	1076 145	1244 143	1401 138
	100	194 189	420 188	680 187	901 185	1063 183	1224 181	1383 177
	Max.cont. 125	182 237	398 236	641 235	877 233	1024 231	1199 229	1352 225
	Max.int. 150	147 284	369 283	618 282	853 280	1004 278	1167 276	1325 272

BMT 630 [629.1cm³/rev.]

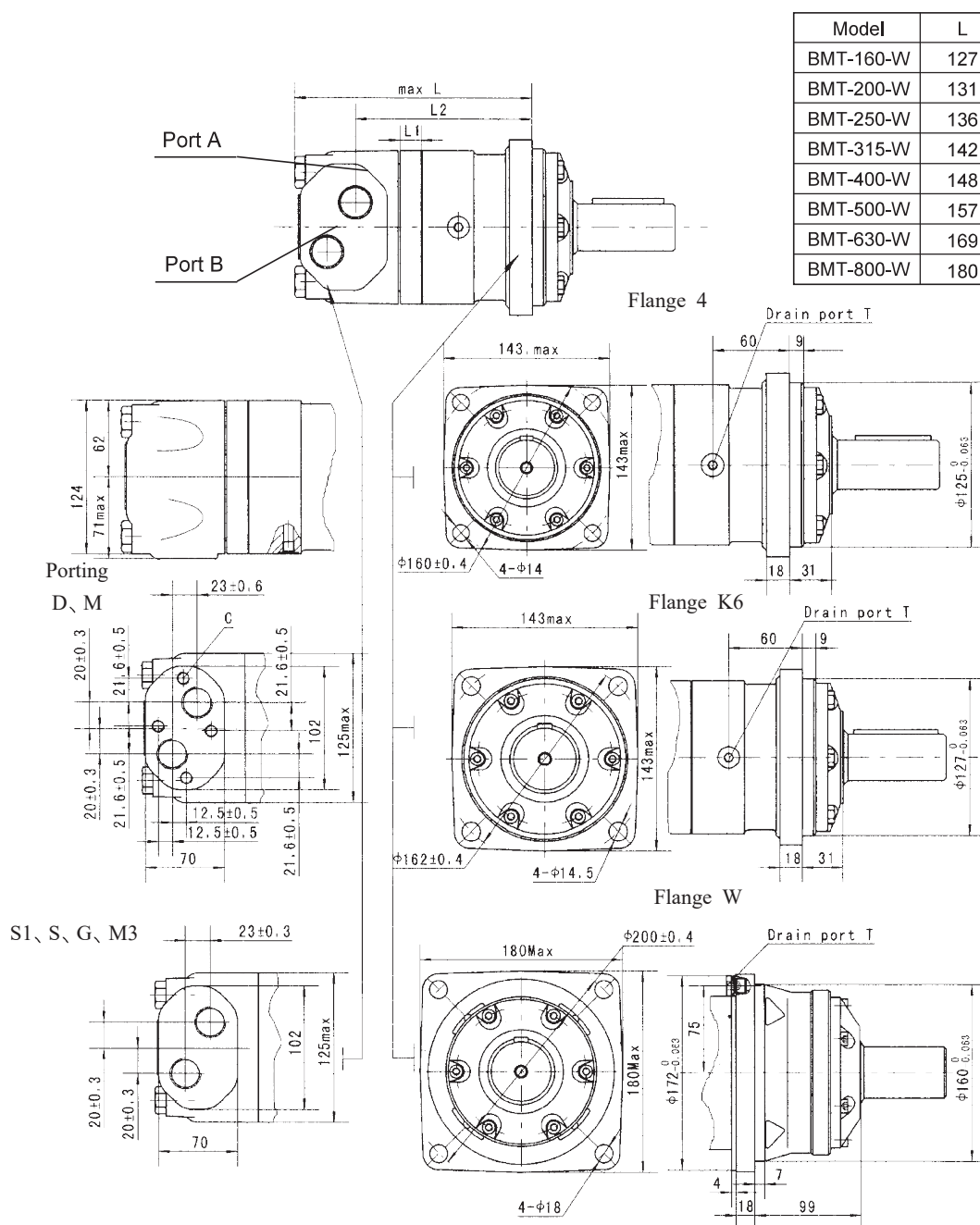
Pressure (MPa)

		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
		62	62	61	60	59	56	54
	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	
	156	155	153	152	150	147	142	
Max.cont. 125	201	499	810	931	1137	1292	1472	
	196	196	194	192	191	187	183	
Max.int. 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
		50	50	49	48	46	40
	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
Max.cont.	100	305	654	1025	1207	1445	1506
		125	123	123	121	118	110
	125	280	622	989	1181	1422	1487
		154	153	153	150	149	140
	Max.int.	150	247	590	953	1156	1406
185			184	183	181	179	172

Torque (N·m) 1121
Speed (rpm) 227

BMT DIMENSIONS AND MOUNTING DATA



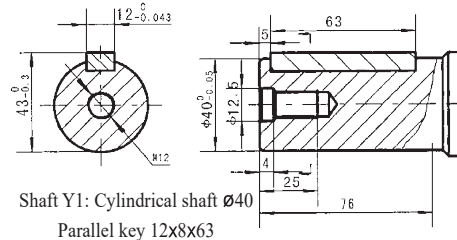
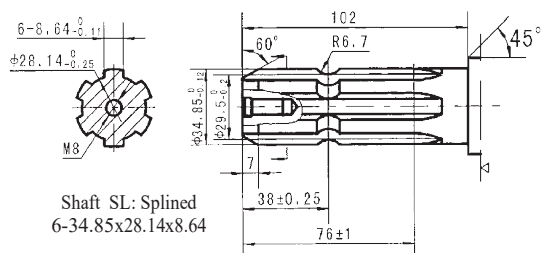
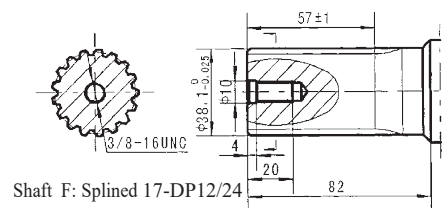
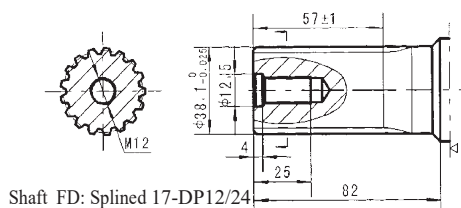
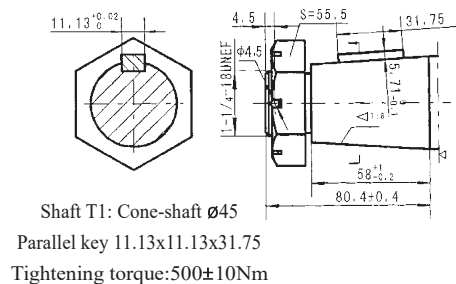
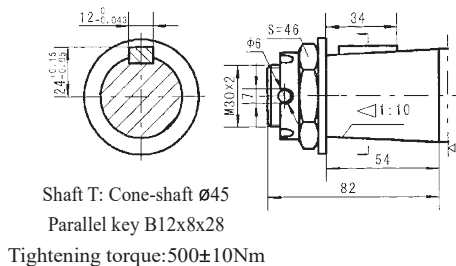
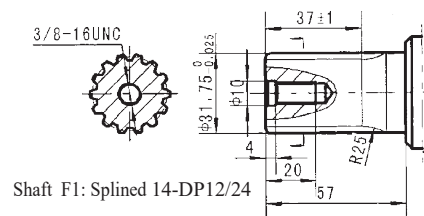
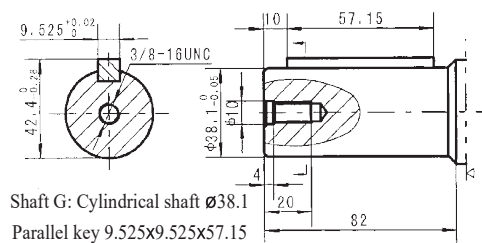
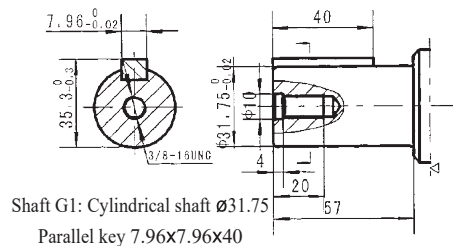
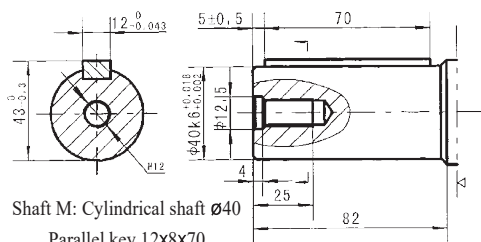
Model	L	L1	L2
BMT-160-W	127	17	77
BMT-200-W	131	21	81
BMT-250-W	136	14	86
BMT-315-W	142	20	91
BMT-400-W	148	27	98
BMT-500-W	157	35	106
BMT-630-W	169	47	118
BMT-800-W	180	58	129

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					
	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.

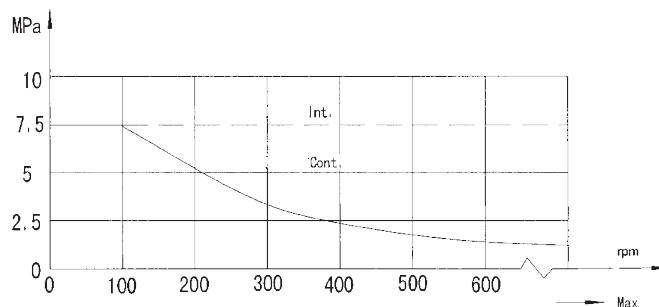
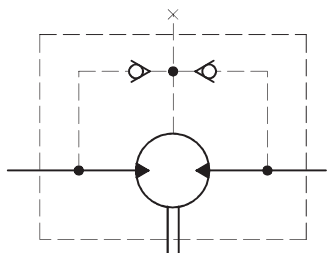
SHAFT EXTENSIONS FOR BMT(E) MOTORS



▷ Motor Mounting Surface

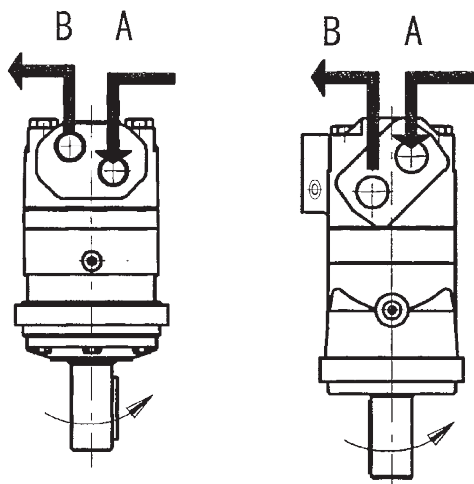
BMT Series Hydraulic Motor

Permissible shaft seal pressure



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.

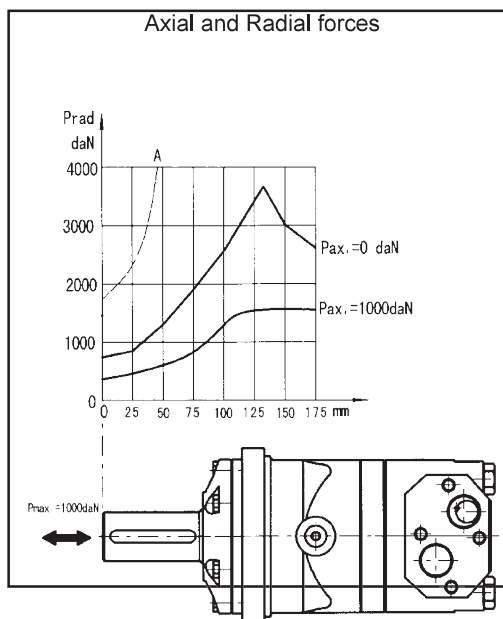


In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

Oil flow in drain line

The table shows the Max. oil flow in the drain line at a return pressure less than 0.5-1MPa.

Pressure drop (MPa)	Viscosity (mm ² /s)	Oil flow in the drain line (L/min.)
14	20	2.5
	35	1.5
21	20	5
	35	3



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.

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-Ø14 Square-flange Ø160, pilot Ø125 × 9	M Shaft Ø40, parallel key 12 × 8 × 70	D G3/4 Manifold Mount, 4-M10, G1/4	Omit	00 No paint	Omit
	200		G Shaft Ø38.1, parallel key 9.52 × 9.52 × 57.15				
	250		F Shaft Ø38.1, splined tooth 17-DP12/24				
	315		FD Shaft Ø38.1, splined tooth 17-DP12/24				
	400	4-Ø14.5 Square-flange Ø162, pilot Ø127 × 9	T Cone-shaft 1:10 Ø45, parallel key B12 × 8 × 28	M M27 × 2 Manifold Mount, 4-M10, M14 × 1.5	Standard	Omit	F Free Running
	500		T1 Cone-shaft 1:8 Ø45, parallel key 11.13 × 11.13 × 31.75				
	630		SL shaft Ø34.85, Splined key				
	800		G1 Splined key 6-34.85 × 28.14 × 8.64				
BMTS		4-Ø18 Wheel-flange Ø200, pilot Ø160 × 7	F1 parallel key 7.96 × 7.96 × 40	S1 1-1/16-12UN O-ring, 7/16-20UNF	Opposite	Black	LS Low Speed
				G G3/4, G1/4			
				M3 M27 × 2, M14 × 1.5			
		4-Ø14 Circle-flange Ø160, pilot Ø125 × 8					
			Short shaft 16-DP12/24				
		4-Ø14.5 Square-flange Ø162, pilot Ø127 × 10	Omit				